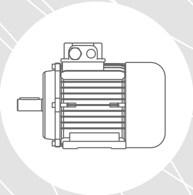
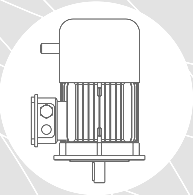
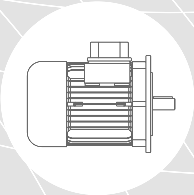
# ELECTRONIC
Motive







CATALOGO TECNICO
TECHNICAL CATALOGUE

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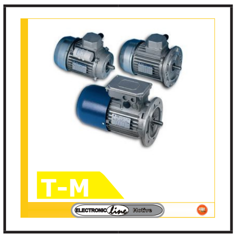
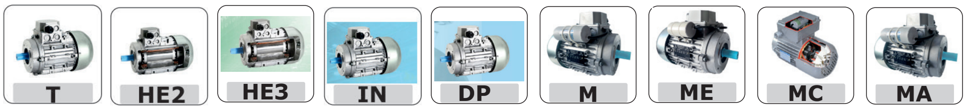
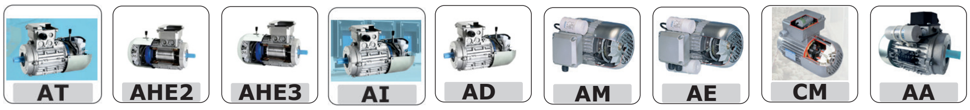



MOTORI ELETTRICI TRIFASE E MONOFASE
*THREE-PHASE AND SINGLE-PHASE ELECTRIC MOTORS*
DREH- UND WECHSELSTROMMOTOREN





## B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# INHALTSVERZEICHNIS

## SIMBOLOGIA

## *SYMBOLS*

## VERWENDETE SYMBOLE

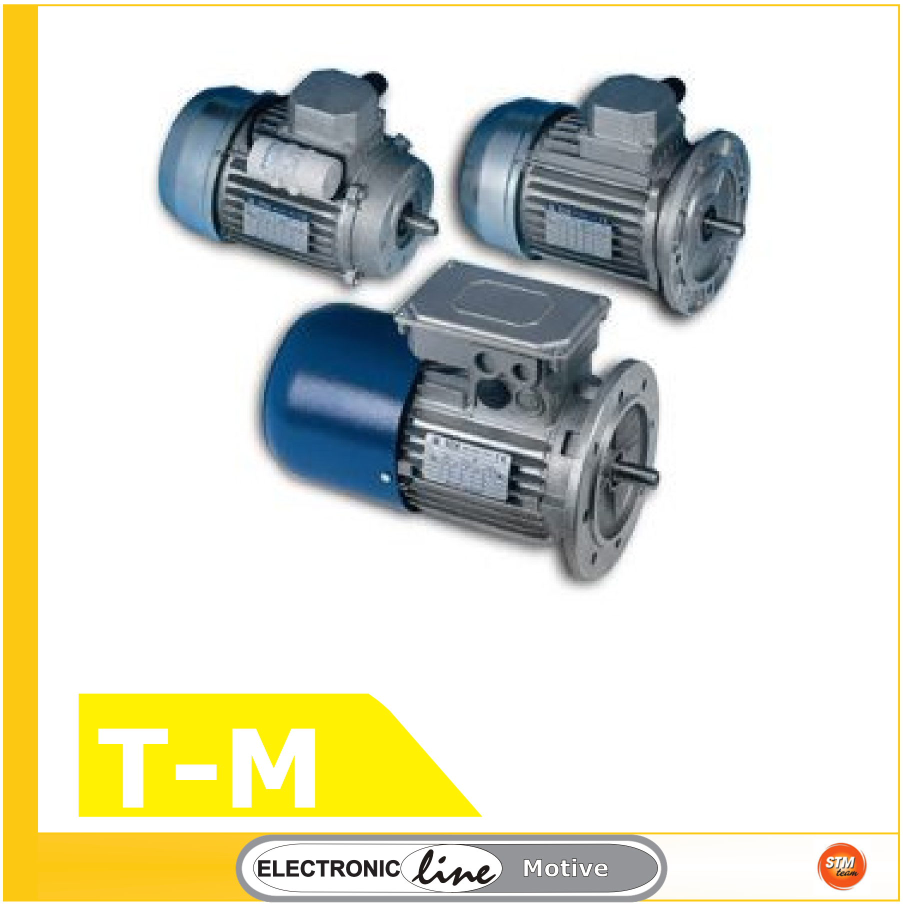
| Simbolo<br>*Symbols*<br>Symbol | Unità di misura<br>*Unit of measurement*<br>Maßeinheit | DEFINIZIONE | *DEFINITION* | DEFINITION |
|---|---|---|---|---|
| **C** | [Nm] | Coppia | *Torque* | Moment |
| **$C_a$** | [Nm] | Coppia di avviamento | *Starting torque* | Anlaufdrehmoment |
| **$C_B$** | [Nm] | Coppia base | *Base torque* | Basisdrehmoment |
| **$C_F$** | [Nm] | Coppia frenante | *Brake torque* | Bremsmoment |
| **$C_L$** | [Nm] | Coppia limite | *Limit torque* | Grenzdrehmoment |
| **$C_{max}$** | [Nm] | Coppia massima | *Max. torque* | Max. Drehmoment |
| **Cn** | [Nm] | Coppia nominale | *Rated torque* | Nenndrehmoment |
| **cosφ** | — | Fattore di potenza | *Power factor* | Leistungsfaktor |
| **Cr** | [Nm] | Coppia resistente | *Counter-torque during acceleration* | Lastmoment |
| **$C_{VF}$** | [μF] | Capacità condensatore | *Capacitor capacity* | Kondensatorkapazität |
| **$F_a$** | [N] | Carico assiale | *Axial Load* | Axiallast |
| **f** | [Hz] | Frequenza | *Frequency* | Frequenz |
| **$f_B$** | [Hz] | Frequenza base | *Base frequency* | Grundfrequenz |
| **$f_L$** | [Hz] | Frequenza limite | *Limit frequency* | Frequenzgrenzwert |
| **$f_{max}$** | [Hz] | Frequenza massima | *Max. frequency* | Max.Frequenz |
| **$F_r$** | [N] | Carico radiale | *Radial load* | Radiallast |
| η | — | Rendimento | *Efficiency* | Wirkungsgrad |
| **Ia** | [A] | Corrente di spunto | *Starting current* | Anlaufstrom |
| **In** | [A] | Corrente nominale | *Rated current* | Nennstrom |
| **Jc** | [$Kgm^2$] | Momento di inerzia del carico | *Load moment of inertia* | Massenträgheitsmoment der Last |
| **Jm** | [$Kgm^2$] | Momento di inerzia motore | *Moment of inertia* | Trägheitsmoment |
| **$n_B$** | [$min^{-1}$] | Velocità base | *Base speed* | Basisdrehzahl |
| **$n_L$** | [$min^{-1}$] | Velocità limite | *Limit speed* | Drehzahlgrenze |
| **nmax** | [$min^{-1}$] | Velocità massima | *Max. speed* | Max. Drehzahl |
| **$n_n$** | [$min^{-1}$] | Velocità nominale | *Rated speed* | Nenndrehzahl |
| **PB** | [W] | Potenza assorbita dal freno a 20° C | *Power drawn by the brake at 20°C* | Leistungsaufnahme der Bremse bei 20°C |
| **P** | [kW] | Potenza | *Power* | Leistung |
| **$P_b$** | [kW] | Potenza base | *Base power* | Grundleistung |
| **$P_L$** | [kW] | Potenza limite | *Limit power* | Grenzleistung |
| **Pmax** | [kW] | Potenza massima | *Max. power* | Max. Leistung |
| **Pn** | [kW, HP] | Potenza nominale motore | *Motor rated power* | Nennleistung Motor |
| **$A_v$** | [A] | Corrente assorbita servoventilazione | *Cooling fan current* | Stromaufnahme Servobelüftung |
| **$S_C$** | — | Capacità di spunto | *Starting capacity* | Anlaufkapazität |
| **VB** | [$m^3$/min] | Portata aria di raffreddamento | *Cooling air flow rate* | Kühlluftdurchsatz |
| **Vn** | [V] | Tensione nominale | *Nominal voltage* | Nennspannung |
| **$Z_C$** | [1/h] | N° di avviamenti ammissibili a carico | *Max permissible loaded startings* | Anz. zulässigen Starts mit Last |
| **$Z_0$** | [1/h] | N° di avviamenti ammissibili a vuoto<br>(I = 50%) | *Max.permissible no-load startings*<br>*(I=50%)* | Anz. zulässigen Starts mit Last (I=50%) |
| Kg | [Kg] | Peso | *Weight* | Maße |

**1.0** **MOTORI TRIFASE E MONOFASE**
***THREE-PHASE AND SINGLE-PHASE ELECTRIC MOTORS***
**DREHSTROM- UND EINPHASENMOTOREN**

# T-IN-HE2-HE3-DP-M-ME-MA-MC-AT-AI-AHE2-AHE3-AD-AM-AE-AA-CM-TGD







## 1.1 GENERALITÀ

## *1.1 GENERAL INFORMATION*

## 1.1 ALLGEMEINE ANGABEN

### Norme di riferimento

### *Reference standards*

### Bezugsnormen

| **Norme** ***Standards*** ***Standards*** | **IEC** (World) | **CENELEC** (Europe) | **CEI** (Italy) | **DIN** (Germany) | **BS** (U.K.) | **UL*** (USA) | **CAN-CSA*** (Canada) |
|---|---|---|---|---|---|---|---|
| **Caratteristiche elettriche** ***Electrical specifications*** **Elektrische Eigenschaften** | IEC 60034-1 | HD 53.1.S2 | CEI EN 60034-1 | | BS EN 60034-1 | UL 1004 | CSA C22.2 No.100 |
| **Grado di protezione** ***Protection class*** **Schutzart** | IEC 60034-5 | EN 60034-5 | CEI EN 60034-5 | DIN EN 60529; VDE 0470-1 | BS EN 60034-5 IEC 60034-5 | UL 1004 | CSA C22.2 No.100 |
| **Metodo ventilazione motori** ***Motor ventilation system*** **Motorbelüftungsmethode** | IEC 60034-6 | EN 60034-6 | | DIN EN 60034-6 | BS EN. 60034-6 IEC 60034-6" | | |
| **Forme costruttive** ***Configurations*** **Bauformen** | IEC 60034-7 | HD 53.7" | CEI EN 60034-7 | DIN IEC 60034-7 | | | |
| **Limiti di rumorosità** ***Noise limits*** **Geräuschgrenzwerte** | IEC 60034-9 | | CEI EN 60034-9 | | | | |
| **Voltaggi unificati** ***Standardized voltages*** **Genormte Spannungen** | IEC 60038 | | CEI EN 60038-6 | | | UL 1004 | CSA C22.2 No.100 |
| **Caratteristiche dimensionali** ***Sizes and dimensions*** **Abmessungen** | IEC 60072-1 | | CEI IEC 60072-1 ED.6 | DIN V 42673-3 DIN EN 50347 | BS EN 3979 | | |
| **Sicurezza del macchinario equipaggiamento elettricodelle macchine** ***Safety of machinery and electric equipment of the machines*** **Sicherheit der Anlage und der elektrichen Ausrüstung der Maschinen** | IEC 60204-1 | | CEI EN 60204-1 ED.6 | | | | |
| **Efficienza energetica** ***Energy efficiency*** **Energieeffizienz** | IEC 60034-30-1 | | CEI EN 60034-30-1 | | | | |

* a richiesta / ** upon request* / * auf Anfrage

### Marcatura CE

I motori industriali del presente catalogo sono costruiti in conformità alla normativa IEC 60034 la quale include la Direttiva Bassa Tensione 2014-35-EU e succesive modifiche e la direttiva EMC 2014-30-EU.
I nostri motori sono conformi inoltre alla Direttiva Macchine 2006-42-EU (allegato IIB) rilevando che **il componente motore non potrà essere messo in servizio prima che la macchina, in cui esso sarà incorporato, sia stata dichiarata conforme alle disposizioni della direttiva.**
Ai fini della sicurezza è applicata la norma EN 60204-1 (Equipaggiamento elettrico delle macchine) e delle avvertenze generali sulla sicurezza riportate nel manuale d'uso del costruttore.

### *CE mark*

*The industrial motors in this catalogue are manufactured conforming to IEC 60034 standard which includes the Low Voltage Directive 2014-35-EU and following changes and the EMC* 2014-30-EU *directive.*
*Our motors also comply with Machinery Directive 2006-42-EU (Annex IIB), which states that the motor component may not be put into service until* ***the machine into which it is incorporated has been declared to comply with the rules of the directive.***
*In the interests of safety, standard EN 60204-1 (Machine electrical equipment) is applied as well as general safety warnings given in the manufacturer's User manual.*

### CE Markierung

Die in diesem Katalog aufgeführten Motoren für den industriellen Einsatz werden gemäß der Norm IEC 60034 gebaut, die die Niederspannungsrichtlinie 2014-35-EU in der aktuellen Version und Richtlinie EMC 2014-30-EU umfasst.
Unsere Motoren stimmen ferner mit der Maschinenrichtlinie 2006-42-EU (Anhang IIB) überein. Hierbei wird unterstrichen, dass das **Bauteil Motor erst in Betrieb genommen werden kann, nachdem die Maschine, in die er eingebaut werden wird, als mit den Bestimmungen der Richtlinie als konform erklärt wurde.**
Für die Sicherheit kommen die Norm EN 60204-1 (Elektrische Ausrüstung von Maschinen) und die allgemeinen Sicherheitshinweise aus der Betriebsanleitung des Herstellers zur Anwendung.

### Omologazione opzionali

Su richiesta sono possibili, previo accordo sulle quantità con la STM SpA, forniture di motori marcati secondo:

### *Optional approval*

*Upone request, and after agreeing the quantities with STM SpA, supplies of motors with the following brands are possible:*

### Optionale Zulassungen

Auf Anfrage sind, nach Absprache mit STM SpA bezüglich der entsprechenden Mengen, Lieferungen von Motoren mit folgenden Kennzeichnungen möglich:

**UL/CSA** **ATEX**

class
Insulation System Designated

E201235 E194304 LR231199

## 1.1 GENERALITÀ (CONTINUA)

## *1.1 GENERAL INFORMATION (TO BE CONTINUED)*

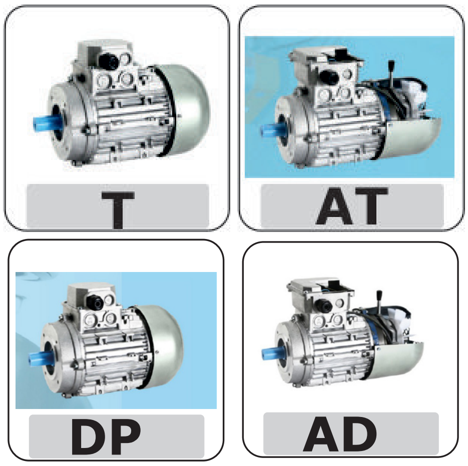
## 1.1 ALLGEMEINE ANGABEN (FORTSETZUNG)

# MOTORI TRIFASE / *THREE-PHASE MOTORS* / DREHSTROMMOTOREN

### Motori asincroni trifase

### *Three-phase induction motors*

### Drehstrom-Asynchronmotoren

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I motori asincroni sono con rotore a gabbia di scoiattolo pressofusa, statore avvolto, chiusi, ventilati esternamente secondo IEC 34-6.

**T** Motore asincrono trifase IE1

**AT** Motore asincrono trifase autofrenante IE1

**DP** Motore asincrono trifase doppia polarità

**AD** Motore asincrono trifase autofrenante doppia polarità

*The induction motors we produce are made up of a die-cast squirrel cage rotor, wound stator, they are closed and with external ventilation according to IEC 34-6.*

***T*** ***Three-phase induction motor IE1***

***AT*** ***Three-phase induction brake motor IE1***

***DP*** ***Two-pole three-phase induction motors***

***AD*** ***Two-pole three-phase induction brake motor***

Alle unsere Asynchronmotoren haben einen druckgegossenen Käfigläufer, gewickelten Stator und sind geschlossen und außenbelüftet nach IEC 34-6.

**T** Drehstrom-Asynchronmotoren IE1

**AT** Drehstrom-Asynchron-Bremsmotoren IE1

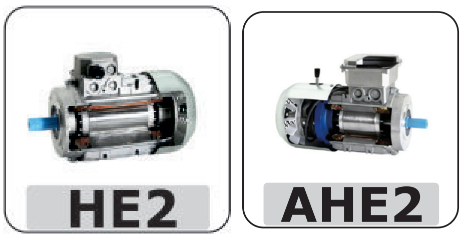
**DP** Polumschaltbare Drehstrom-Asynchronmotoren

**AD** Polumschaltbare Drehstrom-Asynchron-Bremsmotoren

### Motori ad alta efficienza (IE2)

### *High efficiency motors (IE2)*

### Motoren mit hohem Wirkungsgrad (IE2)




Grandezza / *Size* / Größe = 80...200



Progetto di elevato contenuto tecnologico e di caratteristiche innovative per quanto riguarda la tecnologia utilizzata, studiato per applicazioni generali. Sono conformi alla direttiva 2005/32/CE classe di efficenza IE2

**HE2** Motore asincrono trifase IE2

**AHE2** Motore asincrono trifase autofrenante IE2

*Design with high level of technology, with new characteristics of construction, and designed for general applications*
*They comply with Directive 2005/32 / EC of efficiency class IE2*

***HE2*** ***Three-phase induction motor IE2***

***AHE2*** ***Three-phase induction brake motor IE2***

Für allgemeine Anwendungen entwickeltes Projekt auf hohem technologischem Niveau mit innovativen Merkmalen hinsichtlich der verwendeten Technologie. Entsprechen der Richtlinie 2005/32/EG, Effizienzklasse IE2

**HE2** Drehstrom-Asynchron-Bremsmotoren IE2

**AHE2** Drehstrom-Asynchronmotoren IE2

## 1.1 GENERALITÀ (CONTINUA)

## *1.1 GENERAL INFORMATION (TO BE CONTINUED)*

## 1.1 ALLGEMEINE ANGABEN (FORTSETZUNG)

### Motori ad alta efficienza (IE3)

### *High efficiency motors (IE3)*

### Motoren mit hohem Wirkungsgrad (IE3)


Grandezza / *Size* / Größe = 80...200

| | | | |
|---|---|---|---|
| Designazione | *Designation* | Bezeichnung | A6 |
| Caratteristiche meccaniche | *Mechanical characteristics* | Mechanische Eigenschaften | A20 |
| Caratteristiche elettriche | *Electrical characteristics* | Elektrische Eigenschaften | A29 |
| Opzioni | *Options* | Optionen | A33 |
| Freno | *Brake* | Bremse | A58 |
| Dati tecnici | *Technical specifications* | Technische Daten | A68 |
| Dimensioni | *Dimensions* | Abmessungen | A128 |

Progetto di elevato contenuto tecnologico e di caratteristiche innovative per quanto riguarda la tecnologia utilizzata, studiato per applicazioni generali. Sono conformi alla direttiva 2005/32/CE classe di efficenza IE3

**HE3 Motore asincrono trifase IE3**

**AHE3 Motore asincrono trifase autofrenante IE3**

*Design with high level of technology, with new characteristics of construction, designed for general applications. They comply with Directive 2005/32 / EC of efficiency class IE3*

***HE3 Three-phase induction motor IE3***

***AHE3 Three-phase induction brake motor IE3***

Für allgemeine Anwendungen entwickeltes Projekt auf hohem technologischem Ni-veau mit innovativen Merkmalen hinsichtlich der verwendeten Technologie. Entsprechen der Richtlinie 2005/32/EG, Effizienzklasse IE3

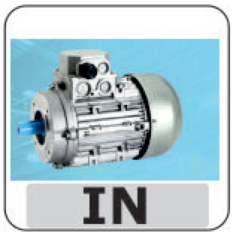
**HE3 Drehstrom-Asynchronmotoren IE3**

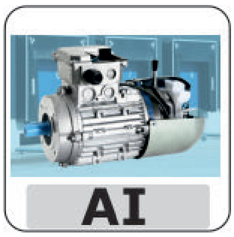
**AHE3 Drehstrom-Asynchron-Bremsmotoren IE3**

### Motori per inverter

### *Inverter motors*

### Motoren für Frequenzumrichter






Grandezza / *Size* / Größe = 80...200

| | | | |
|---|---|---|---|
| Designazione | *Designation* | Bezeichnung | A6 |
| Caratteristiche meccaniche | *Mechanical characteristics* | Mechanische Eigenschaften | A20 |
| Caratteristiche elettriche | *Electrical characteristics* | Elektrische Eigenschaften | A29 |
| Opzioni | *Options* | Optionen | A33 |
| Freno | *Brake* | Bremse | A58 |
| Dati tecnici | *Technical specifications* | Technische Daten | A68 |
| Dimensioni | *Dimensions* | Abmessungen | A128 |

Dal punto di vista elettrico si vuole ancora fare presente che molti motori sono realizzati con avvolgimenti speciali a doppio strato e passo raccorciato, con lo scopo di eliminare armoniche indesiderate di coppia, per soddisfare le esigenze di controlli a velocità variabile.

**IN Motore asincrono trifase IE1 per inverter**

**AI Motore asincrono trifase autofrenante IE1 per inverter**

*From an electrical standpoint, we also wish to point out that many motors are built with double layer and shorter pitch special windings with the purpose of satisfying undesired torque harmonics and satisfy the need for variable-speed controls.*

***IN Three-phase induction motor IE1 for inverter***

***AI Asynchrone Drehstrombrems-motoren IE1 for inverter***

Was die Elektrik anbelangt, soll erneut darauf hingewiesen werden, dass viele Motoren mit Spezialwicklungen mit doppelter Lackschicht und gekürzter Wicklungssteigung mit dem Ziel hergestellt werden, unerwünschte Drehmoment-Oberschwingungen zu vermeiden und den an die Steuerung mit variierbarer Drehzahl gestellten Ansprüchen gerecht zu werden.

**IN Drehstrom-Asynchronmotoren IE1 für Frequenzumrichter**

**AI Drehstrom-Asynchron-Bremsmotoren IE1 für Frequenzumrichter**

A

## 1.1 GENERALITÀ (CONTINUA)

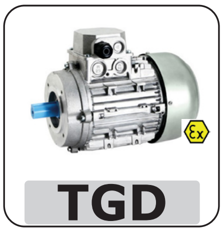
## *1.1 GENERAL INFORMATION (TO BE CONTINUED)*

## 1.1 ALLGEMEINE ANGABEN (FORTSETZUNG)

**Motore asincrono trifase atex o trifase autofrenante atex (certificazione ente terzo)**

***Three-phase induction Atex motor or three-phase Atex brake motor (third party certification)***

**Drehstrom-Asynchronmotor Atex oder Drehstrombremsmotor Atex (Zertifizierung durch externe Einrichtung)**




Grandezza / *Size* / Größe = 80...200



Sono motori trifasi o trifasi autofrenanti conformi alle normative Atex (certificabili CE ATEX Ex II 2GD T3/T4 IP65 Zone 1/21) certificati da ente terzo.
Contattare ufficio tecnico per le caratteristiche.

*The three-phase motors or three-phase brake motors comply with comply with Atex regulations (CE certified ATEX Ex II 2 GD T3 / T4 IP65 Zone 1/21) certified by a third party.*
*Contact technical department for the characteristics.*

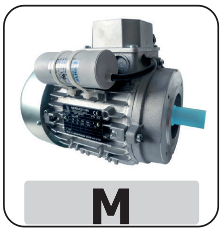
Sie sind Drei-Phasen- oder Dreiphasen - Bremsmotoren erfüllen ATEX-Richtlinien (CE-zertifiziert ATEX Ex II 2 GD T3 / T4 IP65 Zone 1/21) von einem Dritten zertifiziert.
Kontaktieren Sie den technischen Abteilung für die Merkmale

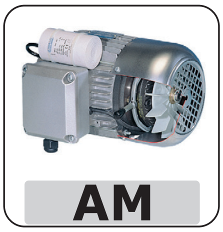
## MOTORI MONOFASE / *SINGLE-PHASE MOTORS* / EINPHASENMOTOREN

**Motori monofase**

***Single-phase motors***

**Einphasenmotoren**




Grandezza / *Size* / Größe = 50...200



I motori asincroni monofasi sono con rotore a gabbia di scoiattolo pressofusa, statore avvolto, chiusi, ventilati esternamente secondo IEC 34-6.

**M** **Motore asincrono monofase**

**AM** **Motore asincrono monofase autofrenante**

*Single-phase motors are made up of a die-cast squirrel cage rotor, wound stator, they are closed and with external ventilation according to IEC 34-6.*

***M*** ***Single-phase induction motor***

***AM*** ***Single-phase induction brake motor***

Alle unsere Einphasen-Asynchronmotoren weisen einen druckgegossenen Käfigläufer sowie einen gewickelten Stator auf und sind geschlossen und werden extern gemäß IEC 34-6 belüftet.

**M** **Einphasen-Asynchronmotoren**
**AM** **Einphasen-Asynchron-Bremsmotoren**

## 1.1 GENERALITÀ (CONTINUA)

### Motori monofase ad alta coppia di spunto

Sono motori provvisti di dispositivi che hanno lo scopo di connettere, in parallelo al condensatore di marcia, un condensatore di spunto che, una volta avviato il motore, viene disinserito automaticamente rilevando diverse grandezze in funzione del dispositivo utilizzato.
Le coppie motrici ottenibili allo spunto [Nm], sono paragonabili a quelle di un motore trifase equivalente.

## *1.1 GENERAL INFORMATION (TO BE CONTINUED)*

### *Single-phase motors with high starting torque*

*These motors are equipped with devices for connecting a starting capacitor in parallel with the run capacitor, which is shut off automatically once the motor is started and measures various parameters based on the device in question. The drive torque that may be achieved during starting [Nm] is comparable to that of an equivalent three-phase motor.*

## 1.1 ALLGEMEINE ANGABEN (FORTSETZUNG)

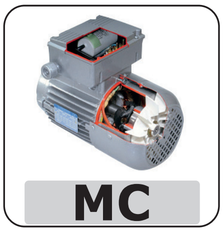
### Einphasenmotoren mit hohem Anlaufmoment

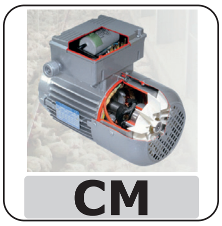
Motoren, die über Vorrichtungen für die Parallelschaltung des Betriebskondensators mit einem Anlaufkondensator verfügen, der, sobald der Motor läuft, automatisch ausgeschaltet wird und wobei die verschiedenen Größen in Abhänigkeit von der verwendeten Vorrichtung erfasst werden. Die beim Anlauf erzielbaren Antriebsmomente [Nm] sind mit denen eines gleichwertigen Drehstrommotoren vergleichbar.

### Motori monofase con disgiuntore centrifugo

### *Single-phase motors with centrifugal circuit breaker*

### Einphasenmotoren mit Fliehkraftschalter




Grandezza / *Size* / Größe = 50...200



**MC Motore asincrono monofase (alta coppia di spunto) con disgiuntore centrifugo**
**CM Motore asincrono monofase (alta coppia di spunto) autofrenante con disgiuntore centrifugo**

È un dispositivo molto stabile in quanto rileva i giri al minuto del motore. È composto da una parte rotante calettata sull'albero motore, da una parte elettrica debitamente isolata, calettata sullo scudo posteriore al motore e da una calotta in alluminio di protezione meccanica, con guarnizioni di tenuta, che assicurano una protezione IP 55 all'insieme. La protezione completa del motore con disgiuntore centrifugo in IP 55 tramite calotta in alluminio (fornibile a richiesta).
Senza calotta di protezione (standard):
- disgiuntore IP20
- motore IP55.

**A richiesta disgiuntore interno al motore (eccetto IEC 100).**
Questo dispositivo ha un contatto normalmente chiuso tramite molla; quando il motore inizia a girare, la forza centrifuga, agendo su due masse rotanti sull'albero, esercita una forza che raggiunto il numero di giri nominali vince l'opposizione della molla aprendo il contatto e sconnettendo il condensatore di spunto servito per ottenere l'alta coppia motrice di avviamento. È omologabile secondo norme UL o CSA (a richiesta).

***MC Single-phase induction motors (high starting torque) with centrifugal circuit breaker***
***CM Single-phase induction brake motors (high starting torque) with centrifugal circuit breaker***

*This is a highly stable device, as it detects the rpm of the motor. It consists of a rotary part keyed to the motor shaft, a duly insulated electrical part keyed to the rear motor shield, and an aluminum cap for mechanical protection, with sealing gaskets that ensure an IP 55 protection rating for the unit. Only STM can offer complete motor protection with centrifugal circuit breaker at IP 55 through an aluminum cap (on request). Without protection cap (standard):*
*- Centrifugal switch IP20*
*- Motor IP55.*

***Upon request internal circuit breaker (except IEC 100).***
*This device has a normally closed spring-loaded contact. When the motor begins to turn, the centrifugal force acts on two masses rotating on the shaft and exerts a force that overcomes the opposition of the spring once the rated rpm is reached. This opens the contact and disconnects the starting capacitor used to achieve the high starting drive torque.*
*It may be approved by UL and CSA standards.dards (on request).*

**MC Einphasen-Asynchronmotoren mit Fliehkraftschalter (hohes Anlaufmoment)**
**CM Einphasen-Asynchron-Bremsmotoren mit Fliehkraftschalter (hohes Anlaufmoment)**

Es handelt sich um eine Vorrichtung die sehr stabil ist, da sie die Motordrehzahl erfasst. Besteht aus einem auf die Welle aufgezogenen Drehteil, einem entsprechend isolierten elektrischen Teil, der am hinteren Lagerschild am Motor angebracht ist, und einer Haube aus Aluminium für den mechanischen Schutz, mit Dichtungen, die der Einheit die Schutzart IP55 gewährleisten. Der komplette Schutz des Motors mit Fliehkraftschalter in IP55 ist bei Vorhandensein der Haube aus Aluminium (auf Anfrage lieferbar) gegeben.
Ohne Schutzkalotte (Standard):
- Abschalter IP20
- Motor IP55.

**Auf Anfrage eingebauter Fliehkraftschalter im Motor (außer IEC 100).**
Diese Vorrichtung hat einen normalerweise von einer Feder geschlossenen Kontakt. Wenn der Motor zu drehen beginnt, übt die Fliehkraft, durch Einwirken auf die beiden sich auf der Welle drehenden Massen, eine Kraft aus, die bei Erreichen der Nenndrehzahl die Gegenkraft der Feder überwindet und den Kontakt so öffnet, wobei der zum Erreichen des hohen Antriebmoments dienende Anlaufkondensator getrennt wird. Kann den Normen UL oder CSA entsprechen zugelassen werden (auf Anfrage).

## 1.1 GENERALITÀ (CONTINUA)

## *1.1 GENERAL INFORMATION (TO BE CONTINUED)*

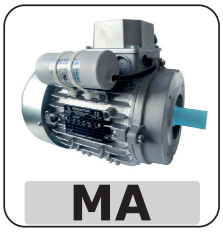
## 1.1 ALLGEMEINE ANGABEN (FORTSETZUNG)

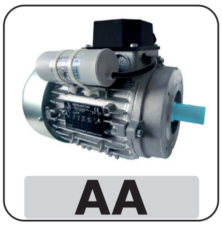
### Motori monofase con Relè amperometrico (Klixon)

### *Single-phase motor with Current relay (Klixon)*

### Einphasenmotoren mit Stromrelais (Klixon)








Grandezza / *Size* / Größe = 50...200



È un relay amperometrico, il quale quando la corrente allo spunto è elevata, agendo tramite una bobina e un'ancora mobile con contatto elettrico, vince la forza di una molla antagonista, connettendo in parallelo al condensatore di marcia quello di avviamento.
Nel momento in cui il motore si è avviato, la corrente assorbita cala e la molla antagonista questa volta è in grado di vincere la forza elettromagnetica della bobina per cui disconette il condensatore di spunto. Tale dispositivo è disponibile in varie portate amperometriche, ed è omologato secondo norme UL e CSA.
Si sconsiglia l'uso in Europa perchè troppo sensibile alle tensioni di alimentazione o al carico in quanto il meccanismo di funzionamento si basa sulla misura della corrente assorbita

**MA** **Motore asincrono monofase (alta coppia di spunto) con relè amperometrico**

**AA** **Motore asincrono monofase (alta coppia di spunto) autofrenante con relè amperometrico**

*This is an current relay which overcomes the force of an antagonist spring when the starting torque is high, working through a coil and mobile armature with electrical contact, to connect the starting capacitor in parallel with to the run capacitor.*
*When the motor has started the absorbed current drops and the antagonist spring is then able to overcome the electromagnetic force of the coil, thereby disconnecting the starting capacitor.*
*This device is available in various ampere capacities and is approved per UL and CSA standards.*
*It is not recommended for use in Europe because too sensitive to supply voltages or load because the mechanism of operation is based on measuring the current drawn*

***MA*** ***Single-phase induction motors (high starting torque) with current relay***

***AA*** ***Single-phase induction brake motors (high starting torque) with current relay***

Es handelt sich dabei um ein amperometrisches Relais. Wenn der Anlaufstrom hoch ist, überwindet dieses Relais durch eine Spule und einen beweglichen Anker mit Schaltkontakt die Kraft einer Gegenfeder und schaltet den Anlaufkondensator und den Betriebskondensator parallel. Sobald der Motor läuft, sinkt die Stromaufnahme und die Gegenfeder überwindet die elektromagnetische Kraft der Spule und schaltet den Anlaufkondensator aus. Diese Vorrichtung, die über eine UL- bzw. CSA-Zulassung verfügt, ist für unterschiedliche Amperwerte lieferbar.
Von einem Einsatz in Europa wird abgeraten, da sie zu empfindlich auf die Versorgungsspannungen oder die Last reagiert, da der Betriebsmechanismus auf der Messung des aufgenommenen Stroms basiert.

**MA** **Einphasen-Asynchronmotoren (hohes Anlaufdrehmoment) mit stromgesteuertem Relais**

**AA** **Einphasen-Asynchron-Bremsmotoren (hohes Anlaufdrehmoment) stromgesteuertem Relais**

## 1.1 GENERALITÀ (FINE)

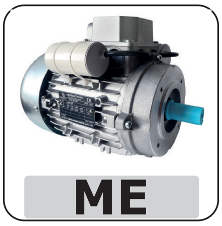
## *1.1 GENERAL INFORMATION (THE END)*

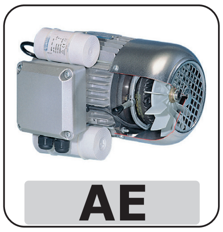
## 1.1 ALLGEMEINE ANGABEN (ENDE)

### Motori monofase con condensatore elettronico

### *Single/phase motors with electronic capacitor*

### Einphasen-Asynchronmotoren mit elektronischem Kondensator




Grandezza / *Size* / Größe = 50...200



### Motori asincroni monofase con condensatore elettronico

È un dispositivo elettronico temporizzato integrato nell'involucro di un condensatore a carta impregnata.
Questo dispositivo, al momento dell'alimentazione del motore, quando il condensatore di spunto è in parallelo a quello di marcia, fa partire un timer che dopo un certo periodo di tempo disconnette il condensatore di spunto stesso, ottenendo così l'alta coppia di spunto, consente cicli start-stop ogni 6 secondi.

**ME** **Motore asincrono monofase (alta coppia di spunto) con condensatore elettronico dispunto**

**AE** **Motore asincrono monofase (alta coppia di spunto) autofrenante con condensatore elettronico dispunto**

### *Single/phase motors with electronic capacitor*

*This is a timed electronic device built into the housing of an impregnated-paper capacitor.*
*This device starts a timer when the motor is powered, when the starting capacitor is parallel to the run capacitor; after a certain period of time, the timer disconnects the starting capacitor to achieve a high starting torque, allowing start-stop cycles every 6 seconds.*

***ME*** ***Single-phase induction motors (high starting torque) with starting electronic capacitor***

***AE*** ***Single-phase induction brake motors (high starting torque) with starting electronic capacitor***

### Einphasen-Asynchronmotoren mit elektronischem Kondensator

Es handelt sich um eine zeitgesteuerte, elektronische Vorrichtung, die sich in der Hülle eines Kondensators aus imprägniertem Papier befindet.
Sobald der Motor mit Strom versorgt wird und wenn der Anlaufkondensator parallel zum Betriebskondensator geschaltet ist, schaltet diese Vorrichtung einen Timer ein, der nach Ablauf einer bestimmten Zeit den Anlaufkondensator ausschaltet. Auf diese Weise wird ein hohes Anlaufmoment erreicht. Ermöglicht alle 6 Sekunden die Start.Stopp-Zyklen.

**ME** **Einphasen-Asynchronmotoren (hohes Anlaufmoment) mit elektronischem Kondensator**

**AE** **Einphasen-Asynchron-Bremsmotoren (hohes Anlaufmoment) mit elektronischem Kondensator**

## 1.2 DESIGNAZIONE

## *1.2 DESIGNATION*

## 1.2 BEZEICHNUNGEN

| Parameter | Descrizione | *Description* | Beschreibung |
|---|---|---|---|
| CER | Certificazione | *Certification* | Zertifizierung |
| MAR | Marcatura | *Marking* | Markierung |
| TYP | Tipo | *Type* | Typ |
| IN | Opzione inverter | *Inverter option* | Option Inverter |
| BF | Opzione avvolgimento equilibrato (bifase) | *Option of balanced (two-phase)* | Option ausgewogene Wicklung |
| POL | Numero poli | *Number of poles* | Polzahl |
| TOW | Tipo d'avvolgimento | *Winding type* | Wicklungsart |
| SIZEM | Grandezza | *Size* | Größe |
| LEN | Lunghezza | *Length* | Läge |
| DV | Forma | *Design version* | Bauform |
| PTB | Posizione morsettiera | *Terminal board position* | Position Klemmenkasten |
| MF | Piedi modulari | *Modular feet* | Modular Feet |
| AVC | Forma costruttiva | *Available configurations* | Bauformen |
| SDM | Diametro albero | *Shaft diameter* | Wellendurchmesser |
| F | Flangia | *Flange* | Flansch |
| HB14 | Numero fori flangia B14 | *Number of holes in B14 flange* | Anzahl Bohrungen Flansch B14 |
| CS | Condensatore speciale | *Special capacitor* | Spezieller Kondensator |
| CL | Classe di isolamento | *Insulation class* | Isolierklasse |
| ALHTM | Range di temperatura ambiente | *Ambient temperature range* | Umgebungstemperaturbereich |
| TR | Tropicalizzato (Protezione umidità) | *Tropicalized (Damp protection)* | Tropenfest (Feuchtigkeitsschutz) |
| IP | Grado di protezione | *Protection level* | Schutzart |
| RES | Resinatura | *Resin* | Harzbeschichtung |
| VOLT | Tensione | *Voltage* | Spannung |
| FREQ | Frequenza | *Frequency* | Frequenz |
| PLATE | Targa | *Plate* | Typenschild |
| POW50 | Potenza a 50Hz | *Power 50Hz* | Leistung 50Hz |
| POW60 | Potenza a 60Hz | *Power 60Hz* | Leistung 60Hz |
| POW | Potenza | *Power* | Leistung |
| CEP1 | Posizione pressacavo 1 motore | *Position of cable entry 1 for motor* | Position der Kabelverschraubung 1 für Motor |
| CEP2 | Posizione pressacavo 2 motore | *Position of cable entry 2 for motor* | Position der Kabelverschraubung 2 für Motor |
| TOD | Tipo di servizio | *Type of duty* | Betriebsart |
| FPL | Prima targhetta | *First plate* | Erstes Typenschild |
| SPL | Seconda targhetta | *Second plate* | Zweites Typenschild |
| TOB | Tipo di freno | *Brake type* | Bremsentyp |
| BTV | Valore coppia freno | *Brake torque value* | Bremsmomentwert |
| RLP | Posizione leva di sblocco | *Release lever position* | Position des Entsperrhebels |
| SASD | Alimentazione separata freno | *Brake separate power supply* | Separate Stromversorgung Bremse |
| VSASD | Valore alimentazione separata freno | *Value of separate brake power supply* | Wert separate Stromversporgung der Bremse |
| BOT | Tempo intervento freno | *Brake Operating time* | Bremsenansprechzeit |
| IPF | Grado di Protezione del freno | *Protection level of brake* | Schutzart der Bremse |
| CEPB | Posizione pressacavo freno | *Brake cable entry position* | Position Kabelverschraubunh der Bremse |
| DES | Albero bisporgente | *Double ended shaft* | Zweiseitige Welle |
| TDES | Tipo di Albero bisporgente | *Type of double ended shaft* | Typ zweiseitiger Welle |
| PC | Ventilazione | *Ventilation* | Lüfter |
| SAVE | Alimentazione separata servoventilazione | *Forced ventilation separate power supply* | Separate Stromversorgung der Servobelüftung |
| VSAVE | Alimentazione esterna ventola | *External fan power supply* | Externes Netzteil - Lüfter |
| PSAVE | Posizione morsettiera separata ventola | *Fan separate terminal board position* | Position separates Klemmenbrett Lüfter |
| CEPV | Posizione pressacavo servoventilazione | *Forced ventilation cable entry position* | Position der Kabelverschraubung für Servobelüftung |
| IPS | Grado di Protezione della servoventilazione | *Forced ventilation protection level* | Schutzklasse der Servobelüftung |
| RS | Tettuccio parapioggia | *Rain shield cover* | Regenschutzdach |
| SC | Scaldiglie anticondensa | *Anti-condensation heaters* | Kondensschutz-Heizelemente |

## 1.2 DESIGNAZIONE (CONTINUA)

## *1.2 DESIGNATION (TO BE CONTINUED)*

## 1.2 BEZEICHNUNGEN (FORTSETZUNG)

| Parameter | Descrizione | *Description* | Beschreibung |
|---|---|---|---|
| ASC | Valore alimentazione scaldiglia | *Heater power value* | Versorgungswert des Heizelements |
| CEPS | Posizione pressacavo scaldiglia | *Heater cable entry position* | Position der Kabelverschraubung für Heizelement |
| CD | Scarico Condensa | *Condensation drain hole* | Kondenswasserablauf |
| CDAVC | Posizione spaziale motore (posizione morsettiera) | Motor space position (terminal box position) | Raumposition Motor (Position Klemmenbrett) |
| TO | Protezione termiche | *Thermal breakers* | Überhitzungsschutz |
| CEPT | Posizione pressacavo termica | *Thermal braker cable entry position* | Position der Kabelverschraubung für Wärmeschutz |
| PA | Verniciatura | *Painting* | Lackierung |
| EN | Encoder | *Encoder* | Encoder |
| MOEM | Encoder - Company | *Encoder - Company* | Encoder - Company |
| MOE | Modello di Encoder | *Encoder model* | Encoder-Modell |
| CEPE | Posizione pressacavo encoder | *encoder cable entry position* | Position der Kabelverschraubung für Encoder |
| SBF | Cuscinetto speciale anteriore | *Special front bearing* | Vorderes Speziallager |
| SBR | Cuscinetto speciale posteriore | *Special rear bearing* | Hinteres Speziallager |
| TCEP1 | Tipo pressacavo 1 motore | *Type 1 cable entry for motor* | Typ der Kabelverschraubung 1 für Motor |
| TCEP2 | Tipo pressacavo 2 motore | *Type 2 cable entry for motorr* | Typ der Kabelverschraubung 2 für Motor |
| TECPB | Tipo pressacavo freno | *Brake cable entry type* | Typ der Kabelverschraubung für Bremse |
| TCEPV | Tipo pressacavo servoventilazione | *Forced ventilation cable entry type* | Typ der Kabelverschraubung für Servobelüftung |
| TCEPS | Tipo pressacavo scaldiglia | *cable entry type heater* | Typ der Kabelverschraubung für Heizelement |
| TCEPT | Tipo pressacavo termica | *Thermal breaker cable entry type* | Typ der Kabelverschraubung für Wärmeschutz |
| TCEPE | Tipo pressacavo encoder | *Encoder cable entry type* | Typ der Kabelverschraubung für Encoder |

## 1.2 DESIGNAZIONE (CONTINUA) — *1.2 DESIGNATION (TO BE CONTINUED)* — 1.2 BEZEICHNUNGEN (FORTSETZUNG)

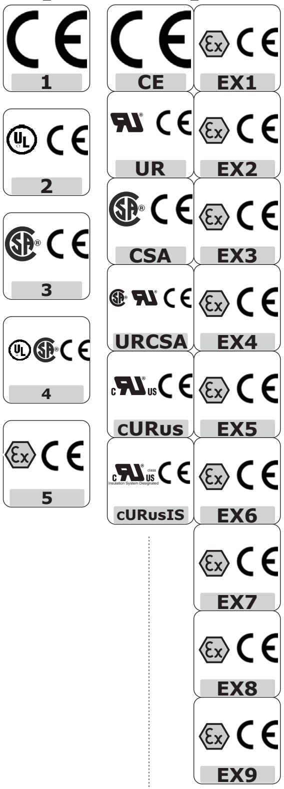
| 1 | - | - | CE | T | I | - | 4 | - | 80 | 2 | B5 | - | - | B5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**CODE:** Example of Order

**WEB:** Reference Designation

**BASIC_CODE_MGB**

| Certification | | Family selection | | | Power settlement | | | | Mounting | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CER-M | | SF-M | | | PS-M | | | | F-M | | | |
| Certification | Marking | Type | Inverter options | Option of balanced winding | Number of poles | Winding type | Size | Length | Design version | Terminal box position | Modular feet | Available configurations |
| 01 CER | 02 MAR | 03 TYP | 04 IN | 05 BF | 06 POL | 07 TOW | 08 SIZEM | 09 LEN | 10 DV | 11 PTB | 12 MF | 13 AVC |




04 IN: I, -

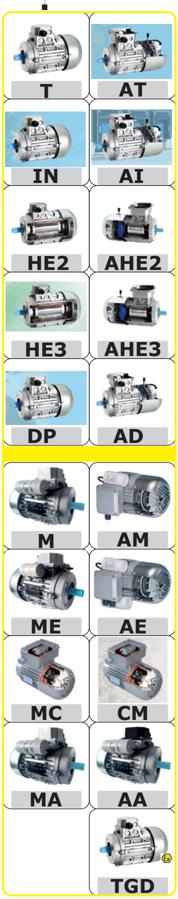
05 BF: B, -

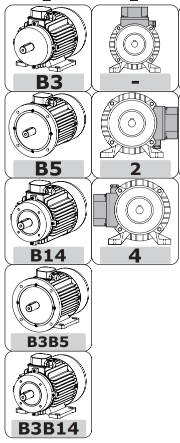
06 POL: 2, 4, 6, 8, 12, 16, 32, 2/4, 4/8, 4/6, 6/8, 2/6, 2/8, 2/12, 2/16, 4/16, 4/32

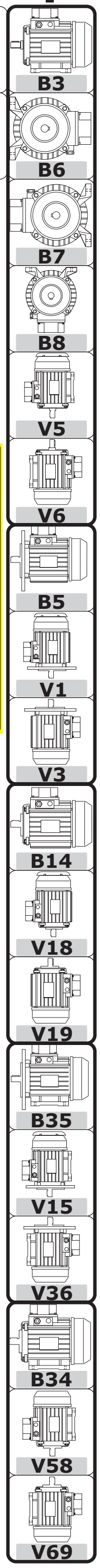
07 TOW: S, D, -

08 SIZEM: 50, 56, 63, 71, 80, 90, 100, 112, 132, 160, 180, 200

09 LEN: A, B, BL, BLA, C, D, L, LA, LB, M, MA, MB, ML, MLL, S, SL




| | |
|---|---|
| 50 | 50 = IEC50 |
| 56 | 56 = IEC56 |
| 63 | 63 = IEC63 |
| 71 | 71 = IEC71 |
| 80 | 80 = IEC80 |
| 90 | 90 = IEC90 |
| 100 | 100 = IEC100 |
| 112 | 112 = IEC112 |
| 132 | 132 = IEC132 |
| 160 | 160 = IEC160 |
| 180 | 180 = IEC180 |
| 200 | 200 = IEC200 |

| | |
|---|---|
| - | - |
| S | S = Motor with single winding |
| D | D = Motor with double winding |

| | |
|---|---|
| 2 | 2 = 2 Poles = 3000 rpm |
| 4 | 4 = 4 Poles = 1500 rpm |
| 6 | 6 = 6 Poles = 1000 rpm |
| 8 | 8 = 8 Poles = 750 rpm |
| 12 | 12 = 12 Poles = 500 rpm |
| 16 | 16 = 16 Poles = 375 rpm |
| 32 | 32 = 32 Poles = 187 rpm |
| 2/4 | 2/4 = 2/4 Poles = 3000/1500 rpm |
| 4/8 | 4/8 = 4/8 Poles = 1500/750 rpm |
| 4/6 | 4/6 = 4/6 Poles = 1500/1000 rpm |
| 6/8 | 6/8 = 6/8 Poles = 1000/750 rpm |
| 2/6 | 2/6 = 2/6 Poles = 3000/1000 rpm |
| 2/8 | 2/8 = 2/8 Poles = 3000/750 rpm |
| 2/12 | 2/12 = 2/12 Poles = 3000/500 rpm |
| 2/16 | 2/16 = 2/16 Poles = 3000/375 rpm |
| 4/16 | 4/16 = 4/16 Poles = 1500/375 rpm |
| 4/32 | 4/32 = 4/32 Poles = 1500/187 rpm |

| | |
|---|---|
| CE | CE |
| UR | UR |
| CSA | CSA |
| UR/CSA | UR/CSA |
| cURus | cURus |
| cURus_IS | cURus_IS |
| EX1 | EX1 = Ex II3G -EExnAIIT3X -BODY4J |
| EX2 | EX2 = Ex II3G-EExnAIIT4X -BODY4J |
| EX3 | EX3 = Ex II3DT4 -BODY4J |
| EX4 | EX4 = Ex II3D T4 - Ex II3G -EExnAIIT3X -BODY4J |
| EX5 | EX5 = Ex II3GD - EExnAIIT4X -BODY4J |
| EX6 | EX6 = Ex II3DT4 -BODY4J |
| EX7 | EX7 = Ex II3DT4 - Ex II3G -EExnAIIT3X -BODY4J |
| EX8 | EX8 = Ex II3GD-EExnAIIT4X -BODY4J |
| EX9 | EX9 = Ex II 3GD Ex nA IIC T3 Gc Ex tc IIIC T135°C Dc |

| | |
|---|---|
| - | - = Standard single-phase motor |
| B | B = Single-phase motor with balanced winding |

| | |
|---|---|
| - | - = Standard motor |
| I | I = Winding with extra insulation for inverter |

## 1.2 DESIGNAZIONE (CONTINUA)

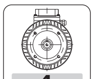
## 1.2 *DESIGNATION (TO BE CONTINUED)*

## 1.2 BEZEICHNUNGEN (FORTSETZUNG)

| 19 | 80 | - | - | F | 3 | - | 55 | - | 1 | 1 | 1 | 0,75 | 0,09 | 0,75/0,9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**BASIC_CODE_MGB**

| Mounting | | | Special capacito | Insulation class | | | Protection level | | Supply and duty | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F-M | | | CS-M | CL-M | | | IP-M | | S-M | | | | | |
| Shaft diameter | Flange | Number of holes in B14 flange | Special capacitor | Insulation class | Range temperature ambient | Tropicalized Damp protection | Protection level | Resin | Voltage | Frequency | Plate | Power 50Hz | Power 60Hz | Power |
| 14 SDM | 15 F | 16 HB14 | 17 CS | 18 CL | 19 ALHTM | 20 TR | 21 IP | 22 RES | 23 VOLT | 24 FREQ | 25 PLATE | 26 POW50 | 27 POW60 | 28 POW |
| 9 | 56 | | - | F | 1 | - | 55 | - | 1 | 1 | 1 | ... 0,09 ... | ... 0,11 ... | ... 0,09/0,11 ... |
| 11 | 63 | | | H | 2 | T | 56 | B | ... | 2 | ... | | | |
| 14 | 71 | - | | | 3 | | 65 | M | 20 | | 18 | | | |
| 19 | 80 | 4 | | | 4 | | 66 | | | | | | | |
| 24 | 90 | 8 | | | 5 | | 67 | | | | | | | |
| 28 | 100 | | | | | | | | | | | | | |
| 38 | 112 | | | | | | | | | | | | | |
| 42 | 132 | | | | | | | | | | | | | |
| 48 | 160 | | | | | | | | | | | | | |
| 55 | 180 | | | | | | | | | | | | | |
| | 200 | | | | | | | | | | | | | |
| | - | | | | | | | | | | | | | |



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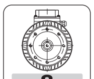


8

**KW - VALUE**

| | |
|---|---|
| 1 | 1 = 230/400_50_MULTI |
| 2 | 2 = 400/690_50_MULTI |
| 3 | 3 = 400_50_MULTI_TRI |
| 4 | 4 = 230/400_50 240/415_50 |
| 5 | 5 = 400/690_50 |
| 6 | 6 = 460_60 |
| 7 | 7 = 400_50 |
| 8 | 8 = 400/690_50 460/795_60 |
| 9 | 9 = 230/400_50 266/460_60 |
| 10 | 10 = 400_50 460_60 TRI |
| 11 | 11 = 230/400_50 |
| 12 | 12 = 266/460_60 |
| 13 | 13 = 460/795_60 |
| 14 | 14 = 460_60_TRI |
| 15 | 15 = 400_50_TRI |
| 16 | 16 = 230M_50 |
| 17 | 17 = 230M_60 |
| 18 | 18 = 127/220_50 |

| | |
|---|---|
| 1 | 1 = 50 |
| 2 | 2 = 60 |

| | |
|---|---|
| - | - = Standard motor |
| B | B = Motor with resined terminal box |
| M | M = Fully resined motor |

| | |
|---|---|
| 55 | 55 = IP5X=Protected against dust; IPX5=Protected against water jets |
| 56 | 56 = IP5X=Protected against dust; IPX6=Protected against powerful water jets |
| 65 | 65 = IP6X=Fully protected against dust; IPX5=Protected against water jets |
| 66 | 66 = IP6X=Fully protected against dust; IPX6=Protected against powerful water jets |
| 67 | 67 = IP6X=Fully protected against dust; IPX7=Protected against the effects of temporary immersion |

| | |
|---|---|
| - | - = Standard motor |
| T | T = Tropicalized motor (for places with moisture content >60%(R.H.) |

| | |
|---|---|
| 1 | 1 = 0°C ÷ 60°C |
| 2 | 2 = 0°C ÷ 40°C |
| 3 | 3 = -15°C ÷ 40°C |
| 4 | 4 = -20°C ÷ 40°C |
| 5 | 5 = -30°C ÷ 60°C |

| | |
|---|---|
| F | F |
| H | H |

| | |
|---|---|
| - | - |

| | |
|---|---|
| 9 | 9 = ø 9 IEC (Std Size 50 & 56) |
| 11 | 11 = ø 11 IEC (Std Size 63) |
| 14 | 14 = ø 14 IEC (Std Size 71) |
| 19 | 19 = ø 19 IEC (Std Size 80) |
| 24 | 24 = ø 24 IEC (Std Size 90) |
| 28 | 28 = ø 28 IEC (Std Size 100 & 112) |
| 38 | 38 = ø 38 IEC (Std Size 132) |
| 42 | 42 = ø 42 IEC (Std Size 160) |
| 48 | 48 = ø 48 IEC (Std Size 180) |
| 55 | 55 = ø 55 IEC (Std Size 200) |

| | |
|---|---|
| - | - |
| 56 | 56 = Reduced flange at IEC56 - Warning! feet dimensions were not reduced |
| 63 | 63 = Reduced flange at IEC63 - Warning! feet dimensions were not reduced |
| 71 | 71 = Reduced flange at IEC71 - Warning! feet dimensions were not reduced |
| 80 | 80 = Reduced flange at IEC80 - Warning! feet dimensions were not reduced |
| 90 | 90 = Reduced flange at IEC90 - Warning! feet dimensions were not reduced |
| 100 | 100 = Reduced flange at IEC100 - Warning! feet dimensions were not reduced |
| 112 | 112 = Reduced flange at IEC112 - Warning! feet dimensions were not reduced |
| 132 | 132 = Reduced flange at IEC132 - Warning! feet dimensions were not reduced |
| 160 | 160 = Reduced flange at IEC160 - Warning! feet dimensions were not reduced |
| 180 | 180 = Reduced flange at IEC180 - Warning! feet dimensions were not reduced |
| 200 | 200 = Reduced flange at IEC200 - Warning! feet dimensions were not reduced |

| | |
|---|---|
| 1 | 1 = Δ230/Y400 |
| 2 | 2 = Δ260/Y440 |
| 3 | 3 = Δ400/Y690 |
| 4 | 4 = Δ240/Y415 |
| 5 | 5 = Δ280/Y480 |
| 6 | 6 = Δ415/Y720 |
| 7 | 7 = Δ440/Y760 |
| 8 | 8 = Δ480/Y830 |
| 9 | 9 = Δ400 |
| 10 | 10 = Δ480 |
| 11 | 11 = Δ440 |
| 12 | 12 = Δ415 |
| 13 | 13 = 460 |
| 14 | 14 = 400 |
| 15 | 15 = Δ460/Y795 |
| 16 | 16 = Δ265/Y460 |
| 17 | 17 = Δ460 |
| 18 | 18 = Δ266/Y400 |
| 19 | 19 = 230 |
| 20 | 20 = Δ127/Y220 |

## 1.2 DESIGNAZIONE (CONTINUA) 1.2 *DESIGNATION (TO BE CONTINUED)* 1.2 BEZEICHNUNGEN (FORTSETZUNG)

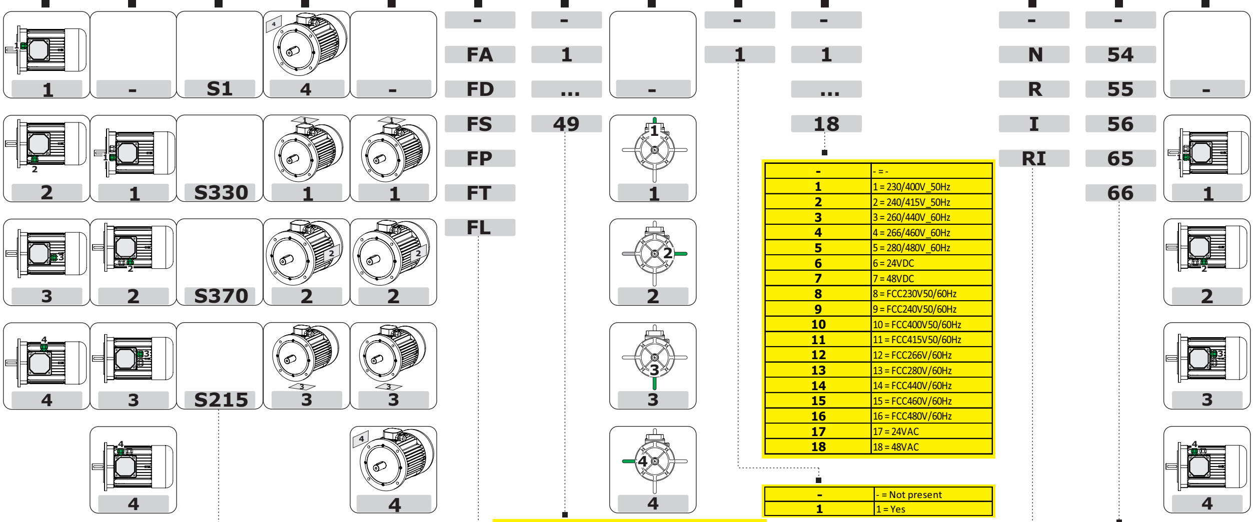
| 2 | - | S370 | 4 | - | - | - | - | - | - | - | - | - |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**CODE:** Example of Order

**WEB:** Reference Designation

**BASIC_CODE_MGB**

| Supply and duty | | | Additional rating plate | | Suitable type of brake | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-M | | | SPL-M | | TOB-M | | | | | | | |
| cable entry 1 position motor | cable entry 2 position motor | Type of duty | First plate | Second plate | Brake type | Braking torque value | Release lever position | Separate voltage supply | Value separate power brakes | Brake Operating time | Protection level of brake | cable entry position brake |
| 29 CEP1 | 30 CEP2 | 31 TOD | 32 FPL | 33 SPL | 34 TOB | 35 BTV | 36 RLP | 37 SASD | 38 VSASD | 39 BOT | 40 IPF | 41 CEPB |



| CEP1 | CEP2 | TOD | FPL | SPL | TOB | BTV | RLP | SASD | VSASD | BOT | IPF | CEPB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | - | S1 | 4 | - | - | - | - | - | - | - | - | - |
| 2 | 1 | S330 | 1 | 1 | FA | 1 | 1 | 1 | 1 | N | 54 | 1 |
| 3 | 2 | S370 | 2 | 2 | FD | ... | 2 | | ... | R | 55 | 2 |
| 4 | 3 | S215 | 3 | 3 | FS | 49 | 3 | | 18 | I | 56 | 3 |
| | 4 | | | 4 | FP | | 4 | | | RI | 65 | 4 |
| | | | | | FT | | | | | | 66 | |
| | | | | | FL | | | | | | | |

| | |
|---|---|
| - | - = - |
| 1 | 1 = 230/400V_50Hz |
| 2 | 2 = 240/415V_50Hz |
| 3 | 3 = 260/440V_60Hz |
| 4 | 4 = 266/460V_60Hz |
| 5 | 5 = 280/480V_60Hz |
| 6 | 6 = 24VDC |
| 7 | 7 = 48VDC |
| 8 | 8 = FCC230V50/60Hz |
| 9 | 9 = FCC240V50/60Hz |
| 10 | 10 = FCC400V50/60Hz |
| 11 | 11 = FCC415V50/60Hz |
| 12 | 12 = FCC266V/60Hz |
| 13 | 13 = FCC280V/60Hz |
| 14 | 14 = FCC440V/60Hz |
| 15 | 15 = FCC460V/60Hz |
| 16 | 16 = FCC480V/60Hz |
| 17 | 17 = 24VAC |
| 18 | 18 = 48VAC |

| | |
|---|---|
| - | - = Not present |
| 1 | 1 = Yes |

| | |
|---|---|
| - | - |
| 1 | 1 = 0,5_Nm |
| 2 | 2 = 1_Nm |
| 3 | 3 = 1,25_Nm |
| 4 | 4 = 2_Nm |
| 5 | 5 = 2,5_Nm |
| 6 | 6 = 3,75_Nm |
| 7 | 7 = 4_Nm |
| 8 | 8 = 5_Nm |
| 9 | 9 = 7,5_Nm |
| 10 | 10 = 8_Nm |
| 11 | 11 = 9_Nm |
| 12 | 12 = 10_Nm |
| 13 | 13 = 12_Nm |
| 14 | 14 = 13_Nm |
| 15 | 15 = 15_Nm |
| 16 | 16 = 16_Nm |
| 17 | 17 = 17_Nm |
| 18 | 18 = 20_Nm |
| 19 | 19 = 30_Nm |
| 20 | 20 = 32_Nm |
| 21 | 21 = 40_Nm |
| 22 | 22 = 60_Nm |
| 23 | 23 = 80_Nm |
| 24 | 24 = 90_Nm |
| 25 | 25 = 120_Nm |
| 26 | 26 = 150_Nm |
| 27 | 27 = 200_Nm |
| 28 | 28 = 240_Nm |
| 29 | 29 = 260_Nm |
| 30 | 30 = 400_Nm |
| 31 | 31 = 480_Nm |
| 32 | 32 = 1,75+1,75_Nm |
| 33 | 33 = 125+125_Nm |
| 34 | 34 = 13+13_Nm |
| 35 | 35 = 150+150_Nm |
| 36 | 36 = 2,5+2,5_Nm |
| 37 | 37 = 25+25_Nm |
| 38 | 38 = 2x150_Nm |
| 39 | 39 = 2x16_Nm |
| 40 | 40 = 2x260_Nm |
| 41 | 41 = 2x32_Nm |
| 42 | 42 = 2x4_Nm |
| 43 | 43 = 2x400_Nm |
| 44 | 44 = 2x60_Nm |
| 45 | 45 = 2x8_Nm |
| 46 | 46 = 2x80_Nm |
| 47 | 47 = 37,5+37,5_Nm |
| 48 | 48 = 5+5_Nm |
| 49 | 49 = 50+50_Nm |

| | |
|---|---|
| - | -Braking and fast start |
| 54 | 54 = IP5X=Protected against dust; IPX4=Protected against water splashes |
| 55 | 55 = IP5X=Protected against dust; IPX5=Protected against water jets |
| 56 | 56 = IP5X=Protected against dust; IPX6=Protected against powerful water jets |
| 65 | 65 = IP6X=Fully protected against dust; IPX5=Protected against water jets |
| 66 | 66 = IP6X=Fully protected against dust; IPX6=Protected against powerful water jets |

| | |
|---|---|
| - | - = Models not brakemotor |
| N | N = Braking and normal starting |
| R | R = Only fast braking |
| I | I = Only fast start |
| RI | RI = Braking and fast start |

| | |
|---|---|
| - | - = Models not brakemotor |
| FA | FA = brake a.c. |
| FD | FD = d.c. brake |
| FS | FS = parking d.c. brake |
| FP | FP = d.c. brake positive action |
| FT | FT = in theater application (double brake) |
| FL | FL = in lift application EN81 |

| | |
|---|---|
| S1 | S1 = S1 - Continuous duty |
| S330 | S330 = S3 30% - Intermittent duty: cycle 3 min ON then 7 min STOP |
| S370 | S370 = S3 70% - Intermittent duty: cycle 7 min ON then 3 min STOP |
| S215 | S215 = S2 15min - Limited duration duty: 15 min ON then STOP until cooling to ambient temperature |

# 1.2 DESIGNAZIONE (CONTINUA) 1.2 DESIGNATION (TO BE CONTINUED) 1.2 BEZEICHNUNGEN (FORTSETZUNG)

| - | - | AV | - | - | - | - | - | - | - | - | - | - | - |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

## CUSTOM_MGB

| Mechanical | | Ventilation system | Separate power servoventilation | | | | Insulation class cooling | Mechanical protection | Humidity protection | | | Condensation protection | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M-M | | V-M | SAVE-M | | | | IPS-M | PM-M | HP-M | | | CP-M | |
| Double ended shaft | Type of double ended shaft | Cooling | Separate power servoventilation | External power supply fan | Separate fan terminal position | cable entry position servoventilation | Degree protection of cooling forced | Rain shield | Anti condensation heaters | Heater power value | cable entry position heater | Condensation drainage | Posizione spaziale motore (posizione morsettiera) |
| 42 DES | 43 TDES | 44 PC | 45 SAVE | 46 VSAVE | 47 PSAVE | 48 CEPV | 49 IPS | 50 RS | 51 SC | 52 ASC | 53 CEPS | 54 CD | 55 CDAVC |
| - | - | AV | - | - | - | - | - | - | - | - | - | - | - |
| 1 | 9 | VC | 1 | 1 | 1 | 1 | 55 | P | 1 | 1 | | C | 1 |
| | 11 | VF | | 2 | 2 | 2 | 56 | T | | | | | 2 |
| | 14 | VW | | 3 | 3 | 3 | 65 | | | | | | 3 |
| | 19 | SV | | 4 | 4 | 4 | 66 | | | | | | 4 |
| | 24 | | | 5 | | V1 | | | | | | | 5 |
| | 28 | | | 6 | | V2 | | | | | | | 6 |
| | 38 | | | 7 | | V3 | | | | | | | 7 |
| | 42 | | | 8 | | V4 | | | | | | | 8 |
| | 48 | | | | | | | | | | | | |
| | 55 | | | | | | | | | | | | |

Without fan

textile

| | |
|---|---|
| - | - = Not present |
| C | C = Condensation drainage. The position of the drain holes depends on the mounting position (AVC parameter) The position of the drain holes depends on the mounting |

| | |
|---|---|
| - | - = Not present |

| | |
|---|---|
| - | - = Not present |
| 1 | 1 = 230VAC 50/60HZ |

| | |
|---|---|
| - | - = Not present |
| 1 | 1 = Yes |

| | |
|---|---|
| - | - |
| 55 | 55 = IP5X=Protected against dust; IPX5=Protected against water jets |
| 56 | 56 = IP5X=Protected against dust; IPX6=Protected against powerful water jets |
| 65 | 65 = IP6X=Fully protected against dust; IPX5=Protected against water jets |
| 66 | 66 = IP6X=Fully protected against dust; IPX6=Protected against powerful water jets |

| | |
|---|---|
| AV | AV = selfventilated |
| VW | VW = Flywheel fan |
| VF | VF = Cooling forced |
| VC | VC = cast iron fan |
| SV | SV = Without fan |

| | |
|---|---|
| - | - = |
| 1 | 1 = 230/400_50 280/480_60 |
| 2 | 2 = 400_50_3PH |
| 3 | 3 = 24VDC |
| 4 | 4 = 24VDC_KIT |
| 5 | 5 = 230VAC_50/60Hz |
| 6 | 6 = 230VAC_50/60Hz_KIT |
| 7 | 7 = 400_50_2PH |
| 8 | 8 = 400_50_2PH_KIT |

| | |
|---|---|
| - | - |
| 1 | 1 = Yes |

| | |
|---|---|
| - | - |
| 9 | 9 = ø 9 IEC |
| 11 | 11 = ø 11 IEC |
| 14 | 14 = ø 14 IEC |
| 19 | 19 = ø 19 IEC |
| 24 | 24 = ø 24 IEC |
| 28 | 28 = ø 28 IEC |
| 38 | 38 = ø 38 IEC |
| 42 | 42 = ø 42 IEC |
| 48 | 48 = ø 48 IEC |
| 55 | 55 = ø 55 IEC |

| | |
|---|---|
| - | - = Standard motor |
| 1 | 1 = Double ended motor |

A

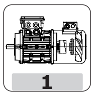
## 1.2 DESIGNAZIONE (CONTINUA) 1.2 DESIGNATION (TO BE CONTINUED) 1.2 BEZEICHNUNGEN (FORTSETZUNG)

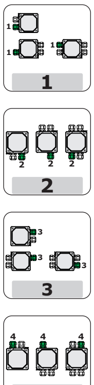
| - | - | NPA | - | - | - | - | S | S | | | | | CODE: Example of Order |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**CUSTOM_MGB**

| Thermal protection | | Colour | Encoder | | | | Bearings | | WEB: Reference Designation |
|---|---|---|---|---|---|---|---|---|---|
| TO-M | | PA-M | EN-M | | | | B-M | | |
| Thermal overload cut out switches | Thermal cable entry position | Painting | Encoder | Encoder Company | Encoder model | encoder cable entry position | Special front bearing | Special rear bearing | |
| 56 TO | 57 CEPT | 58 PA | 59 EN | 60 MOEM | 61 MOE | 62 CEPE | 63 SBF | 64 SBR | |

| 56 TO | 57 CEPT | 58 PA | 59 EN | 60 MOEM | 61 MOE | 62 CEPE | 63 SBF | 64 SBR |
|---|---|---|---|---|---|---|---|---|
| - | - | Without Painting NPA | - | - | - | - | Z | Z |
| 1 | | 6003 | 1 | S | S1 | 1 | S | S |
| 2 | | 9001 | | E | S2 | 2 | | |
| 3 | | 1003 | | | S3 | 3 | | |
| 4 | | 6005 | | | S4 | 4 | | |
| 5 | | 9003 | | | S5 | | | |
| 6 | | 1014 | | | S6 | | | |
| 7 | | 6010 | | | S7 | | | |
| 8 | | 9005 | | | S8 | | | |
| 9 | | 1018 | | | S9 | | | |
| 10 | | 6029 | | | S10 | | | |
| 11 | | 9006 | | | S11 | | | |
| 12 | | 1021 | | | S12 | | | |
| 13 | | 7000 | | | E1 | | | |
| | | 9010 | | | E2 | | | |
| | | 9017 | | | E3 | | | |
| | | 3000 | | | E4 | | | |
| | | 7012 | | | E5 | | | |
| | | 9018 | | | E6 | | | |
| | | 3020 | | | E7 | | | |
| | | 7016 | | | E8 | | | |
| | | 7021 | | | | | | |
| | | 5001 | | | | | | |
| | | 7023 | | | | | | |
| | | 5009 | | | | | | |
| | | 7030 | | | | | | |
| | | 5010 | | | | | | |
| | | 7031 | | | | | | |
| | | 5012 | | | | | | |
| | | 7032 | | | | | | |
| | | 5013 | | | | | | |
| | | 7035 | | | | | | |
| | | 5017 | | | | | | |
| | | 7038 | | | | | | |
| | | 7043 | | | | | | |





| | |
|---|---|
| Z | Z = Radial bearing type ZZ |
| S | S = Bearing for high/low temperatures |

| | |
|---|---|
| Z | Z = Radial bearing type ZZ |
| S | S = Bearing for high/low temperatures |

| | |
|---|---|
| - | -=Not present |
| S1 | S1=Sick DFS60 TTL 1 Cable 1,5m |
| S2 | S2=Sick DFS60 TTL 512 Cable 1,5m |
| S3 | S3=Sick DFS60 TTL 1024 Cable 1,5m |
| S4 | S4=Sick DFS60 TTL 2048 Cable 1,5m |
| S5 | S5=Sick DFS60 TTL 4096 Cable 1,5m |
| S6 | S6=Sick DFS60 TTL 10000 Cable 1,5m |
| S7 | S7=Sick DFS60 HTL 1 Cable 1,5m |
| S8 | S8=Sick DFS60 HTL 512 Cable 1,5m |
| S9 | S9=Sick DFS60 HTL 1024 Cable 1,5m |
| S10 | S10=Sick DFS60 HTL 2048 Cable 1,5m |
| S11 | S11=Sick DFS60 HTL 4096 Cable 1,5m |
| S12 | S12=Sick DFS60 HTL 10000 Cable 1,5m |
| E1 | E1=Eltra EX80A 1024 Z 5 L PR CO1 |
| E2 | E2=Eltra EX80A 1024 Z 5 L PR CO2 |
| E3 | E3=Eltra EX80A 1024 Z 5 L PR CO3 |
| E4 | E4=Eltra EX80A 1024 Z 5 L PR CO4 |
| E5 | E5=Eltra EX80A 1024 Z 8/24 PC PR CO1 |
| E6 | E6=Eltra EX80A 1024 Z 8/24 PC PR CO2 |
| E7 | E7=Eltra EX80A 1024 Z 8/24 PC PR CO3 |
| E8 | E8=Eltra EX80A 1024 Z 8/24 PC PR CO4 |

| | |
|---|---|
| - | - = Not present |
| 1 | 1=PTO - 1 bimetallic sensorTP111 |
| 2 | 2=2PTO - 2 bimetallic sensorTP111 |
| 3 | 3=2PTO_S - 2 bimetallic sensors in series TP111 |
| 4 | 4=3PTO - 3 bimetallic sensorTP111 |
| 5 | 5=3PTO_S - 3 bimetallic sensors in series TP111 |
| 6 | 6=PTC - 1 sensor thermistor TP111 |
| 7 | 7=2PTC - 2 sensors thermistor TP111 |
| 8 | 8=2PTC_S - 2 sensors thermistor in series TP111 |
| 9 | 9=3PTC - 3 sensors thermistor TP111 |
| 10 | 10=3PTC_S - 3 sensors thermistor in series TP111 |
| 11 | 11=PT100 - 1 sensor PT100 |
| 12 | 12=2PT100 - 2 sensors PT100 |
| 13 | 13=3PT100 - 3 sensors PT100 |

| | |
|---|---|
| - | -=Not present |
| S | S=Sick DFS60 |
| E | E=Eltra EX80A |

## 1.2 DESIGNAZIONE (FINE) 1.2 *DESIGNATION (THE END)* 1.2 BEZEICHNUNGEN (ENDE)

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| - | B | - | - | - | - | - | | | | | | | | |

**CUSTOM_MGB**

**cable entry type motor**

**TP-M**

| Drive cable entry type | cable entry type 1 motor | cable entry type 2 motor | cable entry type brake | cable entry type servoventilation | cable entry type heater | Thermal cable entry type | cable entry type encoder |
|---|---|---|---|---|---|---|---|
| **65 TCEPA** | **66 TCEP1** | **67 TCEP2** | **68 TECPB** | **69 TCEPV** | **70 TCEPS** | **71 TCEPT** | **72 TCEPE** |
| - | A | - | - | - | - | - | - |
| | B | A | A | A | | | A |
| | C | B | B | B | | | B |
| | D | C | C | C | | | C |
| | | D | D | D | | | D |
| | | | | E | | | E |
| | | | | | | | F |

| | |
|---|---|
| **-** | - = Not present |
| **A** | A = M16 x 1,5 |
| **B** | B = M20 x 1,5 |
| **C** | C = M25 x 1,5 |
| **D** | D = RID32/16+M16 x 1,5 |
| **E** | E = MIL_10P |
| **F** | F = M23_12P |

| | |
|---|---|
| **-** | - = Not present |

| | |
|---|---|
| **-** | - = Not present |

| | |
|---|---|
| **-** | - = Not present |
| **A** | A = M16 x 1,5 |
| **B** | B = M20 x 1,5 |
| **C** | C = M25 x 1,5 |
| **D** | D = RID32/16+M16 x 1,5 |
| **E** | E = MIN-TEC |

| | |
|---|---|
| **-** | - = Not present |
| **A** | A = M16 x 1,5 |
| **B** | B = M20 x 1,5 |
| **C** | C = M25 x 1,5 |
| **D** | D = RID32/16+M16 x 1,5 |

| | |
|---|---|
| **-** | - = Not present |
| **A** | A = M16 x 1,5 |
| **B** | B = M20 x 1,5 |
| **C** | C = M25 x 1,5 |
| **D** | D = M32 x 1,5 |

| | |
|---|---|
| **A** | A = M16 x 1,5 |
| **B** | B = M20 x 1,5 |
| **C** | C = M25 x 1,5 |
| **D** | D = M32 x 1,5 |

## 1.3 CARATTERISTICHE MECCANICHE

### Forme costruttive - Fissaggio

Nella tabella seguente sono riportate le forme costruttive dei motori e le posizioni di montaggio secondo IEC 34-7. Versioni B3, B5, B14.

## *1.3 MECHANICAL CHARACTERISTICS*

### *Available configurations - Mounting*

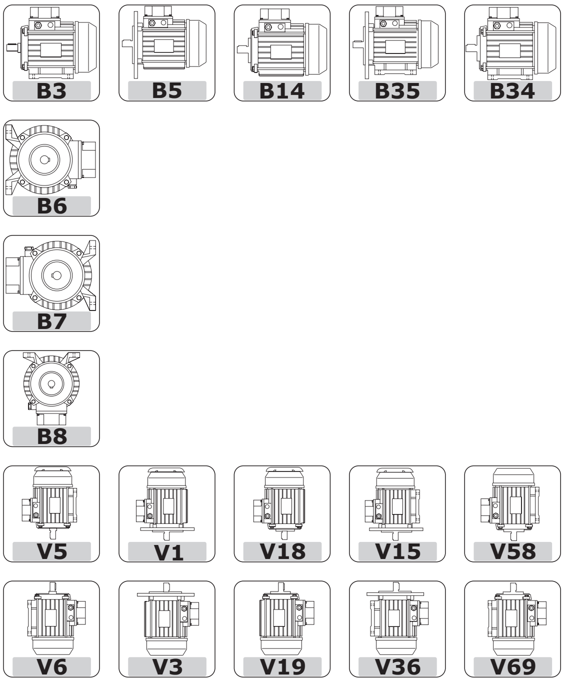
*Available configurations Table shows the available motor configurations and installation positions per IEC 34-7. Versions B3,B5, B14.*

## 1.3 MECHANISCHE

### Bauformen

In der Tabelle sind die Baufor-men der Motoren und die Einbaupositionen nach IEC 34-7 aufgeführt. Ausführungen: B3, B5, B14.

Tab. 1.1




**Carcassa (secondo CEI-IEC 72-1)**
È in alluminio pressofuso, ad elevata capacità meccanica, con buona conducibilità termica, ed elevata leggerezza.
È disponibile in versione con borchie standard e a richiesta con tiranti (eccetto size 50).
E' disponibile con piedi in fusione e per l'installazione dei piedi modulari in 3 posizioni rispetto alla scatola morsettiera.

***Frame (per CEI-IEC 72-1)***
*Die-cast aluminum with high mechanical capacity, good thermal conductivity, and very lightweight.*
*It is available with standard studs and on request with tie rods (except size 50).*
*It is available with cast feet and for the installation of modular feet in 3 positions with respect to the terminal box*

**Gehäuse (nach CEI-IEC 72-1)**
Aus Aluminium-Druckguß mit hoher Widerstandsfähigkeit, guter Wärmeleitfähigkeit und geringem Gewicht.
Es ist mit Standardbolzen und auf Anfrage mit Spannstangen erhältlich (außer Größe 50).
Es ist mit gegossenen Füßen und für den Einbau von modularen Füßen in 3 Positionen in Bezug auf den Klemmenkasten erhältlich

## 1.3 CARATTERISTICHE MECCANICHE (CONTINUA)

**I cuscinetti** utilizzati da STM sono ad una corona di sfere radiali.
I motori sono costruiti per un servizio S1 standard, altre esecuzioni a richiesta.

## *1.3 MECHANICAL CHARACTERISTICS (TO BE CONTINUED)*

*STM uses radial **ball berings**.*
*Motors are manufactured for standard S1 service, other executions on request.*

## 1.3 MECHANISCHE (FORTSETZUNG)

STM verwendet hier vorgespannte einreihige **Radialkugellager**. Die Motoren sind für die Betriebsart S1 Standard ausgelegt.
Andere Ausführungen auf Anfrage.

### Cuscinetti

### *Bearings*

### Lager

Tab. 1.3

| Grandezza / *Size* / Baugröße | 50 | 56 | 63 | 71 | 80 | 90 | 100 | 112 | 132 | 160 | 180 | 200 | 200 B5 200B3/B5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lato comando / *Front* / Vorne | 6000-ZZ | 6201-ZZ | 6202-ZZ | 6203-ZZ | 6204-ZZ | 6205-ZZ | 6206-ZZ | 6206-ZZ | 6308-ZZ | 6309-ZZ | 6310-ZZ | 6310-ZZ | 6312-ZZ |
| * Lato opposto comando / *Back* / Hhinten | 6000-ZZ | 6201-ZZ | 6202-ZZ | 6203-ZZ | 6204-ZZ | 6205-ZZ | 6206-ZZ | 6206-ZZ | 6308-ZZ | 6309-ZZ | 6310-ZZ | 6310-ZZ | 6310-ZZ |

* 2RS a richiesta
cuscinetti C2/CM da size 50 a 122
C3 da size 132 a 200

** 2RS upon request*
*C2/CM bearings from size 50 to 122*
*C3 from size 132 to 200*

* 2RS auf Anfrage
Lager C2/CM von Größe 50 bis 122
C3 von Größe 132 bis 200

Sono del tipo ZZ anteriormente e posteriormente (2RS stagni a richiesta), con due schermi metallici, e prelubrificati con grasso al litio con range di temperature da -10 °C a +110 °C.
Possono essere applicati cuscinetti stagni anteriori, cuscinetti a gioco maggiorato C3 o con grasso speciale per alte temperature (-30 °C a +140 °C) - grassi sintetici.
Per eliminare i giochi residui a freddo del cuscinetto si utilizza un anello ondulato in acciaio temprato

*Bearings are type ZZ front and back (2RS upon request), with two metal screens, pre-lubrificated with lithium grease with a temperature range from -10° C to +110° C. Waterproof front bearings, C3 bearings with increased clearance, or bearings with special grease for high temperatures (-30 ° C to +140 ° C)/synthetic grease may be applied.*
*To eliminate the cold residual clearance of the bearing using a corrugated ring made of hardened steel*

Vorn und hinten vom Typ ZZ (abgedichtete 2RS-Lager auf Anfrage), ausgestattet mit zwei metallenen Schutzkappen, vorgeschmiert mit Lithiumfett und geeignet für einen Temperaturbereich von -10 °C bis +110 °C.
Auf Wunsch sind wasserfeste vordere Lager, Lager mit vergrößertem Spiel (C3) oder mit Spezialfett für extreme Temperaturbereiche von -30° C bis +140° C (synthetische Fette) lieferbar.
Zur Beseitigung der Restspiels des Lagers im kalten Zustand wird einWellring aus gehärtetem Stahl verwendet.

### Alberi motore

Gli alberi motore e le chiavette di serie sono conformi, per quanto riguarda dimensioni e tolleranze, alla CEI IEC 72-1. Gli alberi di serie sono costruiti con acciaio

### *Drive shafts*

*As standard, the drive shafts and keys have dimensions and tolerances to CEI IEC 72-1.*
*Standard shafts are made in steel.*

### Antriebswellen

Die serienmäßigen Antriebswellen und Federkeile entsprechen in den Abmessungen und der Toleranz der Norm CEI IEC 72-1. Die serienmäßigen Wellen sind aus Stahl hergestellt.

### Tolleranze geometriche

Nella tabella sono riportate le tolleranze meccaniche della parte di calettaggio del motore con il carico.

### *Geometric tolerances*

*The table shows the mechanical tolerances where the motor is keyed with the load.*

### Geometrische Toleranzen

In der Tabelle sind die mechanischen Toleranzen auf der Seite der Verkeilung des Motors mit der Last aufgeführt.

Tab. 1.4

| **Descrizione** *Description* **Beschreibung** | **Dimensioni** *Dimensions* **Abmessungen** | | **Tolleranza** *Tolerance* **Toleranz** |
|---|---|---|---|
| Diametro albero *Shaft diameter* Wellendurchmesser | **D** | ø 9 ÷ 28 mm<br>ø 32 ÷ 48 mm<br>ø 55 ÷ 110 mm | **j6**<br>**k6**<br>**m6** |
| | | Gioco assiale *Axial backlash* Axialspiel | **≤ 0,5 mm (MEC 50 ÷ MEC100 mm)**<br>**≤ 1 mm (MEC 112 ÷ MEC 200 mm)** |
| Linguetta CEI IEC 72-1 *CEI IEC 72-1 Standardized key* Nach CEI IEC 72-1 genormte Paßfedern | **F** | | **h9** |
| | **GA** | 2 ÷ 6 mm<br>7 ÷ 16 mm | **h9**<br>**h11** |
| Flange unificate CEI IEC 72-1 *CEI IEC 72-1 Standardized flanges* Nach CEI IEC 72-1 genormte Flansche | **N** | ø ≤ 450 mm | **j6** |
| Altezza d'asse secondo CEI IEC 72-1 *Axis height per CEI IEC 72-1* Achsenhöhe nach CEI IEC 72-1 | **H** | 50 ÷ 200 mm | **+0 ÷ -0.5 mm** |
| Battuta albero *Shaft stop* Wellenansatz | **E - EA** | | **+0 ÷ -0.2 mm** |
| | **GA** | | **+0 ÷ +0.1 mm** |

## 1.3 CARATTERISTICHE MECCANICHE (CONTINUA)

**Flange e scudi**
Sono in lega di alluminio pressofuso, di dimensioni unificate secondo CEI IEC 72-1, su disegno del cliente, ridotte o maggiorate. Nella grandezza 160, 180 e 200 le flange B5 e B14 sono in ghisa.
Attenzione nelle flange B14 chiudere i fori di fissaggio non usati e non utilizzare viti troppo lunghe per il rischio di gravi pericoli elettrici

## *1.3 MECHANICAL CHARACTERISTICS (TO BE CONTINUED)*

***Flanges and shields***
*These are made of die-cast aluminium alloy , with standard dimensions per CEI-IEC 72-1 or based on customer drawings, reduced or enlarged.*
*Flanges B5 and B14 with sizes 160, 180 e 200 are in cast iron.*
*For flanges B14, close the unused fixing holes and do not use screws that are too long as there might be the risk of serious electric hazards.*

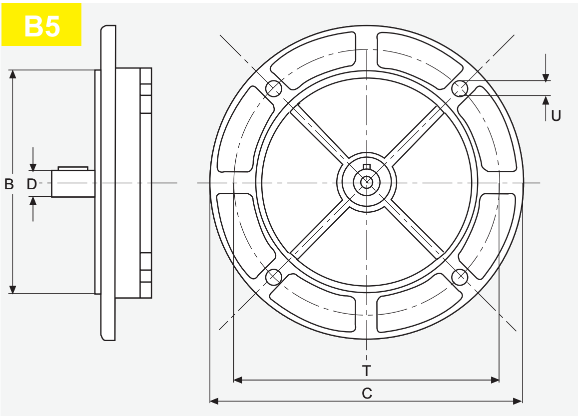
## 1.3 MECHANISCHE (FORTSETZUNG)

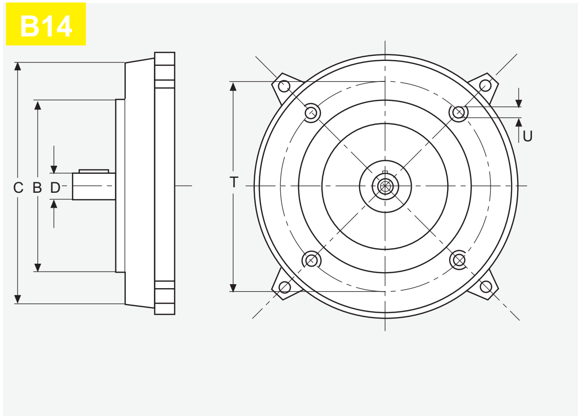
**Flansche und Lagerschilder**
Die Flansche und Lagerschilder sind aus Aluminium-Druckguß und sind mit genormten Abmessungen nach CEI-IEC 72-1 oder nach Kundenzeichnung in größerer oder kleinerer Ausführung lieferbar. In der Größe 160, 180 und 200 sind die Flansche B5 und B14 aus Gußeisen.
Achtung, bei den Flanschen B14 die nicht verwendeten Befestigungsbohrungen schließen und keine zu langen Schrauben wegen dem Risiko schwerer elektrischer Gefahren verwenden

### Dimensioni delle forme costruttive con flangia

### *Dimensions of design versions with flange*

### Abmessungen der Bauformen mit Flansch




Tab 1.5

| Grandezza motore<br>*Motor size*<br>Baugröße | IEC 72_1 | ø albero<br>*Shaft diam.*<br>ø Welle | ø flangia B5<br>*B5 Flange diam.*<br>ø Flansch B5 | | | | ø flangia B14<br>*B14 Flange diam.*<br>ø Flansch B14 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | D | U ** | C | T | B | U | C *** | T | B |
| 50 | IEC 56 Standard | 9 | — | — | — | — | M5 | 80 | 65 | 50 |
| 56 | IEC 56 Standard | 9 | 7,0 | 120 | 100 | 80 | M5 | 80 | 65 | 50 |
| | IEC 63 | 11 | — | — | — | — | M5 | 90 | 75 | 60 |
| | IEC 71 | 14 | — | — | — | — | M6 | 105 | 85 | 70 |
| 63 | IEC 56 | 9 | 7 | 120 | 100 | 80 | M5 | 90 | 65 | 50 |
| | IEC 63 Standard | 11 | 9,5 | 140 | 115 | 95 | M5 | 90 | 75 | 60 |
| | IEC 71 | 14 | — | — | — | — | M6 | 105 | 85 | 70 |
| | IEC 80 | — | — | — | — | — | M6 | 125 | 100 | 80 |
| 71 | IEC 56 | 9 | 7 | 120 | 100 | 80 | — | — | — | — |
| | IEC 63 | 11 | 9,5 | 140 | 115 | 95 | M5 | 105 | 75 | 60 |
| | IEC 71 Standard | 14 | 9,5 | 160 | 130 | 110 | M6 | 105 | 85 | 70 |
| | IEC 80 | 19 | — | — | — | — | M6 | 125 | 100 | 80 |
| | IEC 90 | — | — | — | — | — | M8 | 140 | 115 | 95 |
| 80 | IEC 63 | 11 | 9,5 | 140 | 115 | 95 | — | — | — | — |
| | IEC 71 | 14 | 9,5 | 160 | 130 | 110 | M6 | 125 | 85 | 70 |
| | IEC 80 Standard | 19 | 11,5 | 200 | 165 | 130 | M6 | 125 | 100 | 80 |
| | IEC 90 | 24 | 11,5 | 200 | 165 | 130 | M8 | 140 | 115 | 95 |
| | IEC 100/112 | — | — | — | — | — | M8 | 160 | 130 | 110 |
| 90 | IEC 71 | 14 | 9,5 | 160 | 130 | 110 | — | — | — | — |
| | IEC 80 | 19 | 11,5 | 200 | 165 | 130 | M6 | 140 | 100 | 80 |
| | IEC 90 Standard | 24 | 11,5 | 200 | 165 | 130 | M8 | 140 | 115 | 95 |
| | IEC 100/112 | 28 | — | — | — | — | M8 | 160 | 130 | 110 |
| 100 | IEC 71 | 14 | 9,5 | 160 | 130 | 110 | — | — | — | — |
| | IEC 80 | 19 | 11,5 | 200 | 165 | 130 | — | — | — | — |
| | IEC 90 | 24 | 11,5 | 200 | 165 | 130 | M8 | 160 | 115 | 95 |
| | IEC 100/112 Standard | 28 | 14,5 | 250 | 215 | 180 | M8 | 160 | 130 | 110 |
| | IEC 132 | — | — | — | — | — | M10 | 200 | 165 | 130 |
| 112 | IEC 90 | 24 | 11,5 | 200 | 165 | 130 | — | — | — | — |
| | IEC 100/112 Standard | 28 | 14,5 | 250 | 215 | 180 | M8 | 160 | 130 | 110 |
| | IEC 132 | — | — | — | — | — | M10 | 200 | 165 | 130 |
| 132 | IEC 100/112 | 28 | 14,5 | 250 | 215 | 180 | — | — | — | — |
| | IEC 132 Standard | 38 | 14,5 | 300 | 265 | 230 | M10 | 200 | 165 | 130 |
| 160 | IEC 132 | 38 | 18,5 | 300 | 265 | 230 | — | — | — | — |
| | IEC 160 Standard | 42 | 18,5 | 350 | 300 | 250 | M12 | 250 | 215 | 180 |
| 180 | IEC 180 Standard | 48 | 19 | 350 | 300 | 250 | * | * | * | * |
| 200 | IEC 200 Standard | 52 | 19 | 400 | 350 | 300 | * | * | * | * |

## 1.3 CARATTERISTICHE MECCANICHE (CONTINUA)

* a richiesta
** +/- 0,5 mm
*** la quota C può subire variazioni essendo una quota grezza.

## *1.3 MECHANICAL CHARACTERISTICS (TO BE CONTINUED)*

* *upon request*
** *+/- 0,5 mm*
*** *the dimension C can be changed being a raw dimension.*

## 1.3 MECHANISCHE (FORTSETZUNG)

* auf Anfrage
** +/- 0,5 mm
*** das Maß C kann Änderungen unterliegen, da es ein unbearbeitetes Maß ist.

A

### Gradi di protezione (IP)

Il grado di protezione standard dei motori è IP55 (IP54 per il freno). Sono possibili esecuzioni speciali per ambienti aggressivi con protezione maggiorata o specifica, salvo diverse indicazioni in targa motore.
Il grado di protezione è stabilito in accordo alla IEC 60034-5 ed è indicato dalla dicitura IP seguita da due cifre caratte ristiche.
**Se le flange sono usate per contenere olio o acqua, va specificato in fase d'ordine commerciale (motore speciale compatto)**

### *Housing protection level (IP)*

*IP55 standard (IP54 for brake) protection rating of the motors. Special executions are possible for harsh environments with greater or specific protection except for other indications on motor rating plate.*
*The protection level is set in accordance with IEC 60034-5 and is indicated by the letters IP followed by two characteri-stic numbers*
***If the flanges are used to contain oil or water, it must be specified at time of order (special compact motorgearbox)***

### Schutzarten (IP)

Die Motoren verfügen über die Standard-Schutzart IP55 (IP54 für Bremse). Sonderausführungen für aggressive Umgebungen mit verstärktem oder spezifischem Schutz sind, sofern auf dem Typenschild des Motors nicht anders angegeben, lieferbar.
Die Schutzart in gemäß IEC 60034-5 festgelegt und durch die Kennzeichnung IP gefolgt von zwei Ziffern angegeben.
**Wenn die Flansche verwendet werden, um Öl oder Wasser zu enthalten, muss dies bei der Bestellung (spezieller Kompaktmotor) angegeben werden.**

| IP | Definizione / Definition / Erklärung | IP | Definizione / Definition / Erklärung |
|---|---|---|---|
| 0 | Nessuna protezione speciale<br>*No special protection*<br>Kein besonderer Schutz | 0 | Nessuna protezione speciale<br>*No special protection*<br>Kein besonderer Schutz |
| 1 | Protezione contro i corpi solidi superiori a 50 mm<br>(esempio: contatti involontari della mano)<br>*Protection from solid bodies larger than 50 mm*<br>*(e.g.: accidental hand contact)*<br>Schutz gegen feste Fremdkörper > 50 mm<br>(Beispiel: zufälliges Berühren mit der Hand) | 1 | Protezione contro la caduta verticale di gocce d'acqua (condensa)<br>*Protection from drops of water falling vertically (condensation)*<br>Schutz gegen senkrecht fallendes Tropfwasser (Kondenswasser) |
| 2 | Protezione contro i corpi solidi superiori a 12 mm<br>(esempio: contatti involontari delle dita della mano)<br>*Protection from solid bodies larger than 12 mm*<br>*(e.g.: accidental contact with fingers)*<br>Schutz gegen feste Fremdkörper > 12 mm<br>(Beispiel: zufälliges Berühren mit den Fingern) | 2 | Protezione contro la caduta verticale di gocce d'acqua con un'inclinazionefino a 15°<br>*Protection from drops of water falling vertically at angles up to 15°*<br>Schutz gegen senkrecht fallendes Tropfwasser mit einem Schrägwinkel bis 15° |
| 3 | Protezione contro i corpi solidi superiori a 2.5 mm<br>(esempio: fili utensili)<br>*Protection from solid bodies larger than 2.5 mm*<br>*(e.g.: tool cables)*<br>Schutz gegen feste Fremdkörper > 2,5 mm<br>(Beispiel: Drähte, Werkzeuge) | 3 | Protezione contri gli spruzzi d' acqua con inclinazione fino a 60°<br>*Protection from sprayed water at angles of up to 60°.*<br>Schutz gegen Sprühwasser mit einem Schrägwinkel bis 60° |
| 4 | Protezione contro i corpi solidi superioria 1mm<br>*Protection from solid bodies larger than 1 mm*<br>Schutz gegen feste Fremdkörper > 1 mm | 4 | Protezione contri gli getti d'acqua provenienti da tutte le direzioni<br>*Protection from water spray coming from all direction*<br>Schutz gegen Spritzwasser, das aus allen Richtungen gegen die Maschine spritzt |
| 5 | Protezione contro la polvere<br>(non deve penetrare in quantità dannosa)<br>*Protection from dust*<br>*(must not penetrate in dangerous quantities)*<br>Schutz gegen Staubablagerungen<br>(darf nicht in schädlichen Mengen eindringen) | 5 | Protezione contro l'acqua proiettata con un ugello sul motore da tutte ledirezioni<br>*Protection from water sprayed with a nozzle on the motor from all directions*<br>Schutz gegen Strahlwasser, das mit einer Düse aus allen Richtungen auf den Motor gerichtet wird. |
| 6 | Protezione completa contro la polvere<br>*Complete protection from dust*<br>Vollständiger Schutz gegen Staubablagerung | 6 | Protezione contri gli getti d'acqua potenti da tutte le direzioni<br>(non deve penetrare in quantità dannosa)<br>*Protection from water spray coming from all directions*<br>*(must not penetrate in dangerous quantities)*<br>Schutz gegen starkes Strahlwasser, das aus allen Richtungen gegen die Maschine gerichtet ist (darf nicht in schädlichen Mengen eindringen) |
| | | 7 | Protezione contro gli effetti dell'immersione tra 0,15 1 m<br>*Protection from the effects of immersion between 0,15 and 1 m*<br>Schutz beim Eintauchen zwischen 0,15 und 1 m |
| | | 8 | Protezione contro gli effetti prolungati dell'mmersione in acqua allecondizioni concordate tra il produttore e l'utilizzatore<br>*Protection from the effects of prolonged immersion in water at conditionsagreed between the manufacturer and user*<br>Schutz bei verlängertem Untertauchen zu zwischen Hersteller und Anwender vereinbarten Bedingungen |

Tab. 1.6

## 1.3 CARATTERISTICHE MECCANICHE (CONTINUA)

### Caratteristiche nominali e di funzionamento (secondo CEI EN 60034-1/IEC 34-1)

**Pn - Potenza nominale [kW]:**
È la potenza meccanica resa all'albero, espressa secondo le norme internazionali in kW, la troverete nelle tabelle anche espresse in HP.

**Vn - Tensione nominale [Volt]:**
la tensione da applicare in entrata, ai morsetti dei motori nelle configurazioni standard 230V / 400V / 50Hz / S1.
Nei motori asicroni trifasi è tollerabile una variazione di tensione fino a 10% dei valori nominali.

**Ca - Coppia di avviamento [Nm]:**
coppia minima che fornisce il motore a rotore bloccato, alimentato con tensione e frequenza nominali.

**Cmax - Coppia massima [Nm]:**
È la coppia massima che il motore può sviluppare durante durante il suo funzionamento alimentato con tensione e frequenza nominali, senza arrestarsi o ralentare bruscamente.

**Cn - Coppia nominale [Nm]:**
È la coppia risultante della potenza nominale ai giri nominali. Il valore della coppia nominale è dato dalla formula:

**Pn =** potenza nominale espressa in kW
**n =** velocità di rotazione nominale espressa in giri/minuto
**ns - Velocità di sincronismo:**
la velocità di sincronismo (vedi grafico) è data dalla formula:

## *1.3 MECHANICAL CHARACTERISTICS (TO BE CONTINUED)*

### *Nominal and operating specifications (per CEI EN 60034-1/IEC 34-1)*

***Pn - Rated power [kW]:***
*This is the mechanical power supplied to the shaft, expressed in kW according to international standards. You will also find it expressed in HP in the tables.*

***Vn - Rated voltage [Volt]:***
*This is the incoming voltage to be applied to the motor terminals in standard configurations 230 V/400V/ 50 Hz/S1. In induction three-phase motors, a voltage variation of up to 10% of rated values is tolerable.*

***Ca - Starting torque [Nm]:***
*Minimum torque provided by the motor with the rotor blocked, powered at the rated voltage and frequency.*

***Cmax - Maximum torque [Nm]:***
*this is the maximum torque that the motor can develop during operation when powered at the rated voltage and frequency, without brusquely stopping or slowing down.*

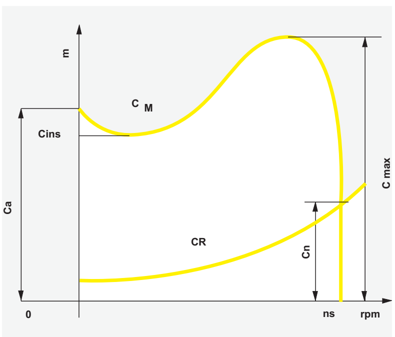
***Cn - Rated torque [Nm]:***
*This is the torque resulting from the rated power at the rated rpm. The rated torque value is determined by the formula:*

$$Cn = 9740 \cdot \frac{Pn}{n} \text{ [Nm]}$$

***Pn =** rated power expressed in kW*
***n =** rated rotation speed in rpm*

***ns -Synchronous speed:***
*The synchronous speed (see graph) is determined by the formula:*

$$ns = \frac{f \cdot 120}{p} \text{ [rpm]}$$




## 1.3 MECHANISCHE (FORTSETZUNG)

### Nenn- und Betriebseigenschaften (nach CEI EN 60034-1/IEC 34-1)

**Pn - Nennleistung [kW]:**
Ist die an die Welle abgegebene mechanische Leistung, die nach den internationalen Normen in kW ausgedrückt wird. In einigen Tabellen wird sie auch in PS angegeben.

**Vn - Nennspannung [Volt]:**
Ist die Spannung, die an den Klemmen von Motoren in der Standardausführung 230V/400V/ 50Hz/S1 am Eingang angelegt werden muss. Bei Drehstrom-Asynchronmotoren ist eine Abweichung von 10% von den Nennwer-ten akzeptabel.

**Ca - Anlaufmoment [Nm]:**
Kleinstes Moment, das der Motor mit Nennspannung und -frequenz bei blockiertem Läufer liefert.

**Cmax - Max. Drehmoment [Nm]:**
Maximales Drehmoment, das der Motor während seines Betrieb bei Nennspannung und -frequenz, ohne anzuhalten und ohne abruptes Abbremsen, entwickeln kann.

**Cn - Nenndrehmoment [Nm]:**
Ist das Moment, das sich aus der Nennleistung bei Nenndrehzahl ergibt. Der Wert des Nenndrehmoment wird mit der folgenden Formel berechnet:

**Pn =** Nennleistung in kW
**n =** Nenndrehzahl in U/min

**ns - Synchrongeschwindigkeit:**
Die Synchrongeschwindigkeit (siehe Schaubild) wird mit der folgenden Formel berechnet:

| | | | |
|---|---|---|---|
| **f** | frequenza di alimentazione espressa in Hz | *supply frequency expressed in Hz* | Versorgungsfrequenz in Hz |
| **p** | numero di poli | *number of poles* | Anzahl der Pole |
| $C_R$ | coppia resistente | *resistance torque* | Widerstandsmoment |
| $C_a$ | coppia di avviamento | *starting torque* | Anlaufmoment |
| $C_{max}$ | coppia massima | *maximum torque* | Max. Drehmoment |
| **Cn** | coppia nominale | *rated torque* | Nenndrehmoment |
| **rpm** | velocità in giri/min. | *speed (revolution per minutes)* | Geschwindigkeit in U/min |
| $C_M$ | coppia motrice | *drive torque* | Antriebsmoment |
| $C_{ins}$ | coppia minima durante l'avviamento | *minimum torque during start* | Min. Drehmoment beim Anlauf |

## 1.3 CARATTERISTICHE MECCANICHE (CONTINUA)

### Altitudine e temperatura

I motori sono progettati per il funzionamento alle seguenti caratteristiche nominali:
1) altitudine inferiore a 1000 m s.l.m..
2) massima temperatura ambiente di funzionamento inferiore a 40 °C
3) minima temperatura ambiente dell'aria -15 °C (+0 °C per motori di potenza nominale inferiore a 600 W).
4) U.R. 60% (senza condensa)

Per condizioni ambientali diverse da quelle nominali, le potenze variano come indicato nel seguente diagramma:

## *1.3 MECHANICAL CHARACTERISTICS (TO BE CONTINUED)*

### *Altitude and temperature*

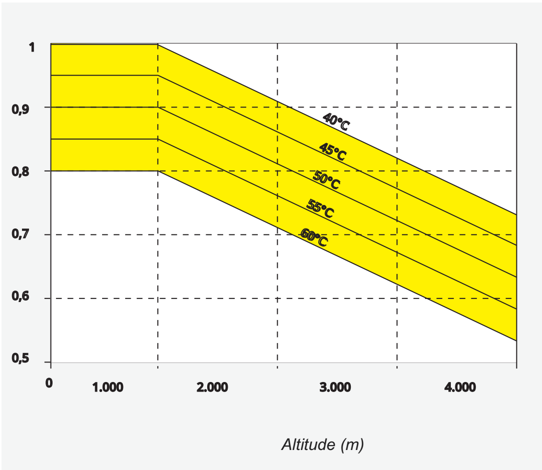
*The machines are designed to run under the following nominal conditions:*
*1) Altitude below 1000 m a.s.l.*
*2) Maximum ambient running temperature below 40 °C*
*3) Minimum ambient air temperature -15 °C (+0 °C for motors with a rated power below 600W).*
*4) R.H. = 60% (without condensation)*
*For ambient conditions other than those stated above, the powers vary as indicated in the following diagram:*

## 1.3 MECHANISCHE (FORTSETZUNG)

### Höhe und Temperatur

Die Motoren werden für die folgenden Einsatz-Nennbedingungen ausgelegt:
1) Höhe unter 1000 m ü.d.M.
2) max. Umgebungstemperatur unter 40°C.
3) min. Umgebungslufttemperatur -15°C (+0°C bei Motoren mit einer Nennleistung unter 600W).
4) relative Luftfeuchtigkeit = 60% (kondensfrei)
Bei von den Nennwerten abweichenden Umgebungsbedingungen ändern sich die Leistungen gemäß folgendem Diagramm:

**Preale=coeff.xPn**




### Tipi di servizio

I motori riportati a catalogo hanno la potenza riferita ad un servizio S1.
Per condizioni applicative diverse è necessario identificare il tipo di servizio facendo riferimento alle Norme CEI EN 60034-1. A titolo esemplificativo riportiamo le condizioni di funzionamento relative ai tipi S1 e S3.

### *Type of duty*

*The power of the motors shown in the catalogue refers to S1 duty.*
*For different applicational conditions the type of duty must be identified by referring to CEI EN 60034-1 standards.*
*As an example the following are the operating conditions for S1 and S3 types.*

### Betriebsarten

Für die im Katalog aufgeführten Motoren bezieht sich die Leistungsangabe auf die Betriebsart S1.
Für abweichende Einsatz-Nennbedingungen ist die Betriebsart nach CEI EN 60034-1 anzugeben.
Als Beispiel führen wir die Betriebsbedingungen für die Betriebsarten S1 und S3 an.

### S1 - S9

**Attenzione**
Per quanto riguarda i motori monofase, si raccomanda di specificare correttamente il servizio termico di funzionamento. Esempio: S3 30%, in quanto in questo particolare motore assume grande importanza la marcia a vuoto ai fini del riscaldamento.

**S1 - Servizio continuo:**
Funzionamento del motore a carico costante per un periodo di tempo indefinito, comunque sufficiente a raggiungere l'equilibrio termico.

**S3 - Servizio intermittente periodico:**
Funzionamento del motore secondo un ciclo comprendente un periodo di tempo a carico costante (N) ed un periodo di tempo di riposo (R).
La corrente di avviamento non influisce sulle temperature.

### *S1 - S9*

***Attention***
*For single-phase motors, the thermal operating duty must be correctly specified. Example: S3 30%, as for this motor no-load operation is quite important for heating purposes.*

***S1 - Continuous duty:***
*motor operating at a constant load for an indefinite period of time, in any case enough to reach thermal balance.*

***S3 - Periodic intermittent duty:***
*Motor operation according to a cycle that includes a steady load time (N) and a rest time (R).*
*The starting current does not affect the temperature.*

### S1 - S9

**Achtung**
Bei Einphasenmotoren ist eine genaue Angabe des thermischen Verhaltens sehr wichtig (z.B. S3 30%), da bei dieser Art von Motor der Leerlauf eine wichtige Rolle im Hinblick auf Erwärmung spielt.

**S1 - Dauerbetrieb:**
Betrieb des Motors mit konstanter Last über einen unbestimmten Zeitraum, der für die Erreichung des Temperaturgleichgewichts ausreichend ist.

**S3 - Intervallbetrieb:**
Betrieb des Motors in einem Zyklus, der eine Betriebszeit mit konstanter Last (N) und eine Stillstandzeit (R) einschließt.
Die Temperatur wird nicht vom Anlaufstrom beeinflußt.

## 1.3 CARATTERISTICHE MECCANICHE (CONTINUA)

### Carichi Assiali

La seguente tabella riporta i valori dei carichi massimi [N] assiali a 50Hz applicabili, calcolati per una durata di funzionamento di:
- 20.000 ore* per motore a 2 poli
- 40.000 ore* per motore a 4-6-8-12 poli

Per motori a 60 Hz. ridurre il valore di circa un 6%.

* ore indicative non garantite

## *1.3 MECHANICAL CHARACTERISTICS (TO BE CONTINUED)*

### *Axial loads*

*The table below shows the maximum applicable axial loads [N] at 50 Hz, calculated for a running life of:*
*-20,000 hours* for 2-pole motors*
*-40,000 hours* for 4-6-8-12 pole motors*
*Reduce values by approximately 6% for 60-Hz motors.*

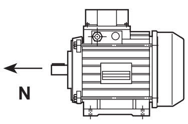
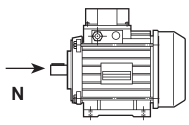
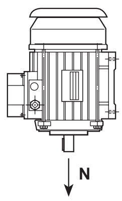
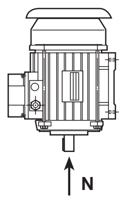
** to be intended as indicative and not guaranteed hours*

## 1.3 MECHANISCHE (FORTSETZUNG)

### Axiallasten

In der nachfolgenden Tabelle sind die max. bei 50 Hz zulässigen Axiallasten [N] aufgeführt für eine Betriebsdauer von:
-20.000 Stunden* bei 2-poligen Motoren
-40.000 Stunden* bei 4-6-8-12 poligen Motoren. Bei Frequenzen von 60Hz müssen die angegebenen Werte um ca. 6% herabgesetzt werden.

* Stunden indikativ nicht garantiert

| Grandezza *Size* Baugröße | Motori orizzontali / *Horizontaly- mounted motors* / Waagerechter Einbau | | | | | | | | Motori verticali / *Vertically- mounted motors* / Senkrechter Einbau | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| |  | | | |  | | | |  | | | |  | | | |
| | Velocità / *Speed* / Drehzahl (rpm$^{-1}$) | | | | | | | | Velocità / *Speed* / Drehzahl (rpm$^{-1}$) | | | | | | | |
| | **750** | **1000** | **1500** | **3000** | **750** | **1000** | **1500** | **3000** | **750** | **1000** | **1500** | **3000** | **750** | **1000** | **1500** | **3000** |
| **50** | - | - | 120 | 100 | - | - | 120 | 100 | - | - | 100 | 80 | - | - | 110 | 90 |
| **56** | 230 | 200 | 160 | 120 | 230 | 200 | 160 | 120 | 220 | 160 | 120 | 100 | 230 | 170 | 130 | 110 |
| **63** | 320 | 300 | 250 | 200 | 320 | 300 | 250 | 200 | 300 | 290 | 240 | 190 | 320 | 310 | 260 | 210 |
| **71** | 380 | 360 | 300 | 240 | 380 | 360 | 300 | 240 | 365 | 345 | 285 | 230 | 395 | 375 | 315 | 250 |
| **80** | 480 | 430 | 370 | 300 | 880 | 730 | 600 | 600 | 450 | 400 | 340 | 280 | 510 | 460 | 400 | 320 |
| **90** | 650 | 600 | 510 | 400 | 950 | 900 | 810 | 800 | 600 | 550 | 470 | 360 | 700 | 650 | 550 | 440 |
| **100** | 850 | 750 | 580 | 500 | 1150 | 1050 | 1000 | 1000 | 770 | 670 | 500 | 430 | 930 | 830 | 660 | 570 |
| **112** | 1300 | 1250 | 950 | 700 | 1150 | 1050 | 1000 | 1000 | 1200 | 1150 | 850 | 620 | 1100 | 1000 | 850 | 680 |
| **132** | 1800 | 1700 | 1350 | 800 | 2000 | 1800 | 1400 | 1400 | 1600 | 1500 | 1150 | 650 | 1500 | 1300 | 1100 | 850 |
| **160** | 2300 | 2000 | 1600 | 1400 | 2800 | 2500 | 2200 | 2200 | 2000 | 1700 | 1400 | 1300 | 2000 | 2000 | 2000 | 1500 |
| **180** | 2600 | 2300 | 1800 | 1600 | 3300 | 3000 | 2500 | 2500 | 2200 | 1900 | 1500 | 1400 | 3000 | 3000 | 3000 | 2500 |
| **200** | 3400 | 3000 | 2400 | 2400 | 4200 | 3800 | 3200 | 3200 | 2800 | 2500 | 2000 | 2000 | 4000 | 4000 | 3800 | 3500 |

## 1.3 CARATTERISTICHE MECCANICHE (CONTINUA)

### Carichi Radiali

Da questi diagrammi è possibile ricavare i valori dei carichi massimi Fr [N] applicabili (senza l'applicazione di un carico assiale supplementare, in funzione del punto di applicazione del carico X), calcolati per una durata di funzionamento di:
- 20.000 ore per motore a 2 poli
- 40.000 ore per motore a 4-6-8-12-16-32 poli

## *1.3 MECHANICAL CHARACTERISTICS (TO BE CONTINUED)*

### *Radial loads*

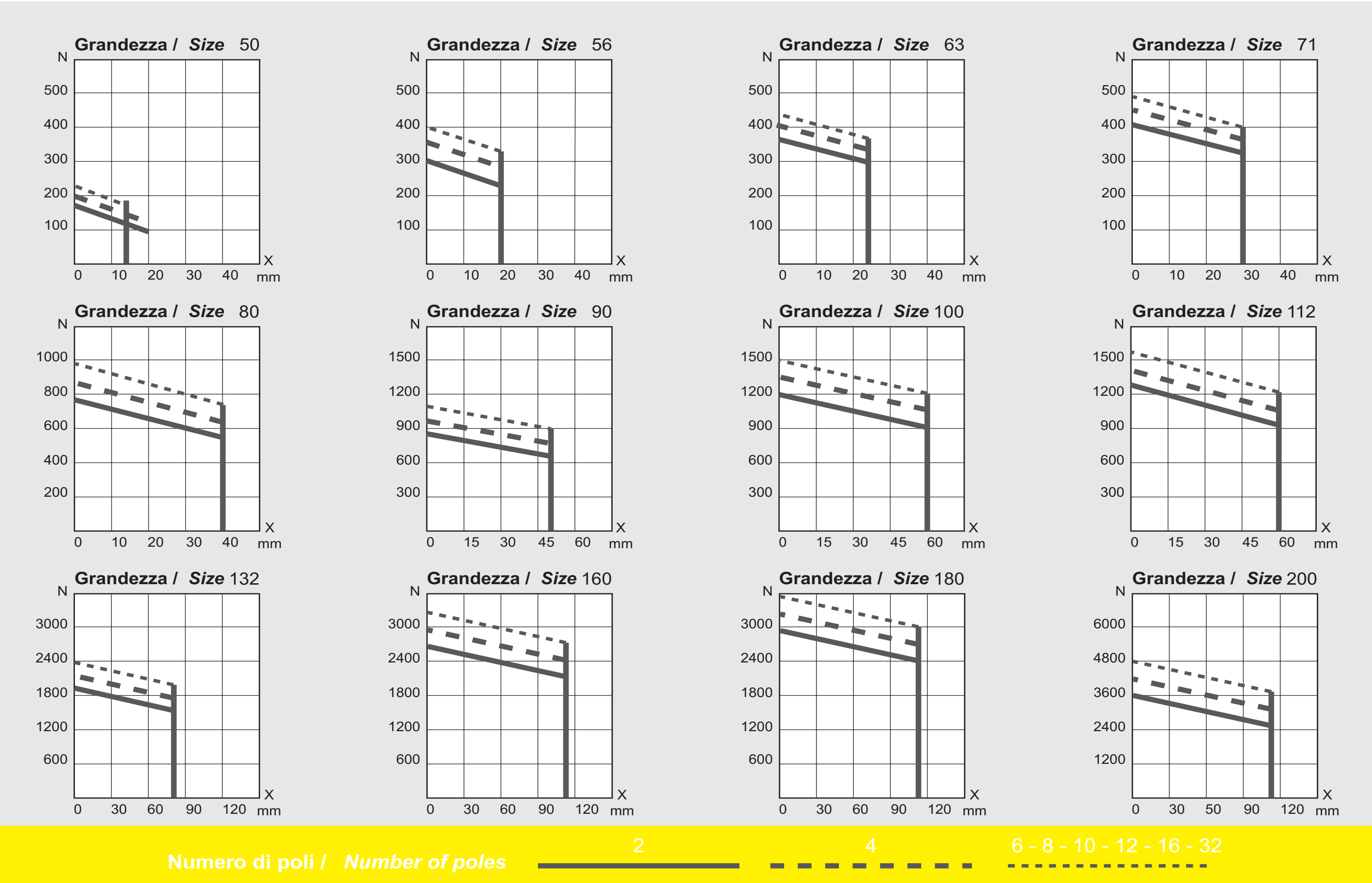
*These diagrams make it possible to determine the maximum applicable loads Fr [N] (without the application of a supplementary axial load, depending on the point of application of the X load), calculated for a running life of:*
- *20,000 hours for 2-pole motors*
- *40,000 hours for 4-6-8-12-16-32 pole motors*

## 1.3 MECHANISCHE (FORTSETZUNG)

### Radiallasten

Den nachfolgenden Diagrammen können die max. zulässigen Radiallasten Fr [N] (ohne zusätzliche Axiallast, in Abhängigkeit vom Lastaufbringspunkt X), entnommen werden, die für folgende Betriebsdauern berechnet wurden:
-20.000 Stunden bei 2-poligen Motoren
-40.000 Stunden bei 4-6-8-12-16-32 poligen Motoren.

A




### Carichi radiali nel caso di utilizzo di pulegge e cinghie

Qualora l'accoppiamento del motore avvenga mediante cinghie, occorre verificare che il carico radiale gravante sull'albero non superi i valori massimi consentiti.
Tale verifica può essere effettuata utilizzando la seguente formula:

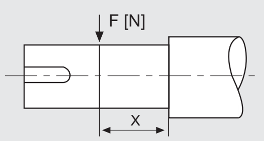
### *Radial load when using pulleys and belts*

*If the motor is coupled by belts, make sure the radial load on the shaft does not exceed the maximum allowed values. This may be checked using the following formula:*

### Radiallasten bei Einsatz von Riemenscheiben und Riemen

Erfolgt die Kupplung des Motors über Riemen muss geprüft werden, dass die auf die Welle wirkende Radiallast die max. zulässigen Werte nicht überschreitet. Diese Prüfung kann mit Hilfe der folgenden Formel erfolgen:

$$F = \frac{19.100 \times P \times K}{n \times D} \; N$$




→ **F < N**

### 1.3 CARATTERISTICHE MECCANICHE (FINE)

**$F_r$** = Carico radiale sull'albero in N
**$P_n$** = Potenza in kW
**$n_n$** = Velocità dell'albero in rpm
**D** = Diametro puleggia in m
**K** = Coefficiente di tensione della cinghia i cui valori indicativi sono:

**2** pulegge piane con rullo tendicinghia
**2.25** pulegge a gola trapezoidale
**2.5-3** per servizi gravosi e altre pulegge

### *1.3 MECHANICAL CHARACTERISTICS (THE END)*

***$F_r$*** *= Radial load on shaft in N*
**Pn**= *Power in kW*
***$n_n$*** *= Shaft speed in rpm*
**D** = *Pulley diameter in metres*
***K*** *= Belt tension coefficient whose indicative values are:*

***2*** *flat pulleys with belt stretcher roller*
***2.25*** *for trapezoid groove pulleys*
***2.5-3*** *for heavy duty and other pulleys*

### 1.3 MECHANISCHE (ENDE)

**$F_r$** = Radiallast auf Welle
**$P_n$** = Leistung in kW
**$n_n$** = Drehzahl der Welle in U/min
**D** = Ø der Riemenscheibe in Metern
**K** = Spannungskoeffizient des Riemen, dessen Richtwerte wie folgt lauten:

**2** flache Riemenscheiben mit Spannrolle
**2.25** Riemenscheiben mit Keilnut
**2.5-3** für harte Einsätze und andere Riemenscheiben

### Rumorosità (CEI EN 60034-9)

Le misure della pressione sonora e della potenza sonora sono state eseguite sui motori monofase e trifase, ad un metro di distanza dalla macchina, ponderati secondo la curva A (ISO R 1680).
Questi valori misurati a 50 Hz si aumentano mediamente di 4 dBA per 60 Hz.

### *Noise level (CEI EN 60034-9)*

*Le misure della pressione sonora e della potenza sonora sono state eseguite sui mo-tori monofase e trifase, ad un metro di di-stanza dalla macchina, ponderati secondo la curva A (ISO R 1680).*
*Questi valori misurati a 50 Hz si aumentano mediamente di 4 dBA per 60 Hz.*

### Geräuschpegel (CEI EN 60034-9)

Bei den Einphasen- und Drehstrommotoren wurden der Schalldruck und die Schallei-stung in einem Abstand von einem Meter von der Geräuschquelle gemessen und gemäß Kurve A gewichtet (ISO R 1680). Die bei 50 Hz gemessenen Werte erhöhen sich bei 4 dBA für 60 Hz.

## 1.4 CARATTERISTICHE ELETTRICHE

**Rotori**
Sono a gabbia di scoiattolo in pressofusione di alluminio o lega di (Al-Si) Silumin.

**Statori avvolti**
Per la maggior parte della produzione sono utilizzate lamiere magnetiche con elevata qualità, tali da assicurare comunque una costanza di prestazioni ed elevati rendimenti.
Il rame utilizzato è impregnato con un doppio strato di smalto isolante per assicurare un'elevata tenuta alle sollecitazioni elettriche, termiche e meccaniche.
La temperatura ambiente considerata è di 40° C. Sono disponibili processi di tropicalizzazione con impregnazione tramite vernici di elevate qualità idrorepellenti.
Per installazioni con possibilità di condensa (campo TR=T).

### Classe di isolamento

La classe di isolamento standard del motore è classe F.
Per particolari applicazioni è possibile fornire (a richiesta) l'isolamento in classe H e motori sottoposti a trattamenti speciali per renderli atti a funzionare in ambienti umidi e corrosivi.

## *1.4 ELECTRICAL SPECIFICATIONS*

***Rotors***
*These are die-cast aluminum or Silumin alloy (Al-Si) squirrel-cage rotors.*

***Wound Stators***
*High-quality magnetic sheet metals are used for most of the production, to ensure constant high performance.*
*The copper used is impregnated with a double layer of insulating enamel to ensure high resistance to electrical, thermal and mechanical stress.*
*The ambient temperature considered is 40° C. Tropicalization processes are available through impregnation with paints having high water-repellent qualities.*
*For installations with risk of condensation (choose field TR = T).*

### *Insulation class*

*The standard motor insulation class is class F.*
*For particular applications it is possible to supply (upon request) class H insulated motors.*
*Specially treated motors suitable to operate in humid and corrosive ambients are also available upon request.*

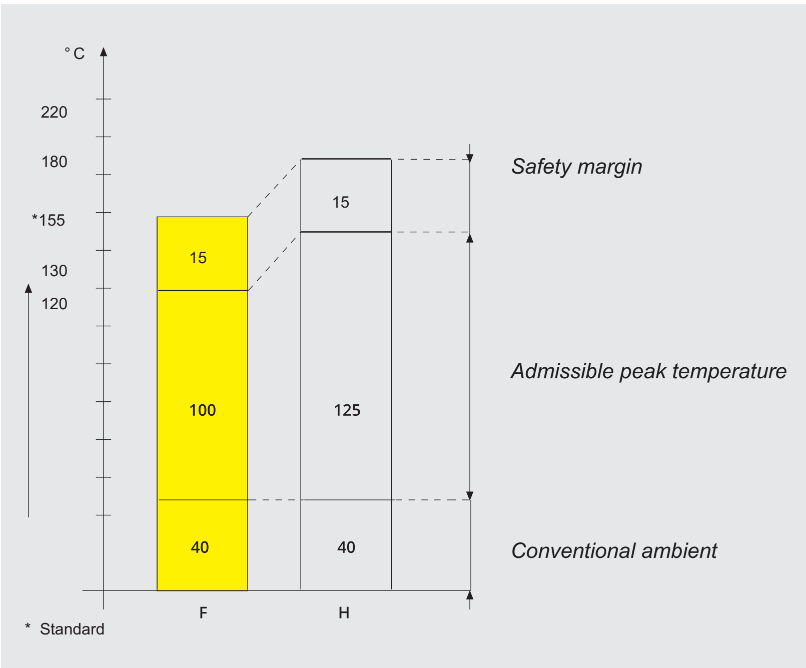
## 1.4 ELEKTRISCHE EIGENSCHAFTEN

**Läufer**
Es handelt sich dabei um Käfigläufer aus Aluminium-Druckguß oder Silumin-Legierung (Al-Si).

**Statorwicklungen**
Zum größten Teil werden in der Produktion hochqualitative Magnetbleche eingesetzt, die gleichmäßige Leistung und einen hohen Wirkungsgrad gewährleisten. Der verwendete Kupferdraht ist mit einer doppelten Lackschicht isoliert, die eine äußerst hohe Festigkeit gegenüber elektrischen, thermischen und mechanischen Belastungen gewährleistet. Es wird eine Umgebungstemperatur von 40 °C berücksichtigt. Die Tropenausführung sieht die Impregnierung mit hochqualitativen, wasserabstoßenden Lacken vor.
Für Installationen mit Kondensationsmöglichkeit (Feld TR = T).

### Isolationsklasse

Die Standard-Motor Isolationsklasse ist die Klasse F
Für besondere Anforderungen können die Motoren auf Anfrage mit einer Isolierung nach Klasse H und speziellen Schutz behandlungen für feuchte und korrosive Arbeitsumgebungen geliefert werden.



## 1.4 CARATTERISTICHE ELETTRICHE

### Tensioni e frequenze (secondo CEI EN 60034-1)

I motori della ditta STM possono funzionare ad una tensione diversa da quella nominale compresa in una fascia ± 10% (rispetto al dato di targa) per i motori monofase e ± 5% (rispetto al dato di targa) per brevi periodi in accordo con la normativa EN 60034-1 (vedere figura) e IEC 60038.
I motori STM assicurano in accordo alla IEC 60034-1 la loro funzione principale (l'erogazione della coppia nominale) in maniera continua all'interno della zona A, ma non necessariamente soddisfano completamente le proprie caratteristiche di funzionamento a tensione e frequenza nominale e possono presentare degli scostamenti. Le sovratemperature possono essere superiori a quelle corrispondenti a tensione e frequenza nominale.
All'interno della zona B il motore è in grado di assicurare la sua funzione principale (erogare coppia) ma può presentare scostamenti nelle prestazioni, rispetto a quelle a tensione e frequanza nominali, maggiori che nella zona A. Le sovratemperature possono essere maggiori di quelle corrispondenti a tensione e frequenza nominali e possono superare quelle della zona A. Il funzionamento prolungato ai limiti periferici della zona B è sconsigrgliato.

Il valore di tensione e frequenza della rete di alimentazione deve essere presente sulla targa motore.
Non far funzionare i motori STM a tensioni e frequanze non presenti in targa.

## *1.4 ELECTRICAL SPECIFICATIONS*

### *Voltages and frequencies (according to CEI EN 60034-1)*

*The company STM motors can operate at a voltage other than the rated range in a band ± 10% (compared to the nameplate) for single-phase motors, and ± 5% (compared to the nameplate) for short periods in accordance with the EN 60034-1 (see fi gure) and IEC 60038.*
*The STM motors provide in accordance with IEC 60034-1 to their main function (supply the rated torque) continuously within zone A, but not necessarily fully meet their operating characteristics at rated voltage and frequency, and can present deviations. Overtemperatures may be greater than those corresponding to the rated voltage and frequency.*
*Within the area B, the motor is capable of performing its primary function (delivering torque) but can present deviations in performance, higher than in zone A, compared to those at rated voltage and frequency,*
*Overtemperatures can be greater than those corresponding to the nominal voltage and frequency and very probably exceed those of the zone A. The extended operation to the peripheral limits of the B area is not recommended.*

*The voltage and frequency of the electric line must be present on the motor nameplate.*
*Do not operate the STM motors with voltage and frequency values not shown on nameplate.*

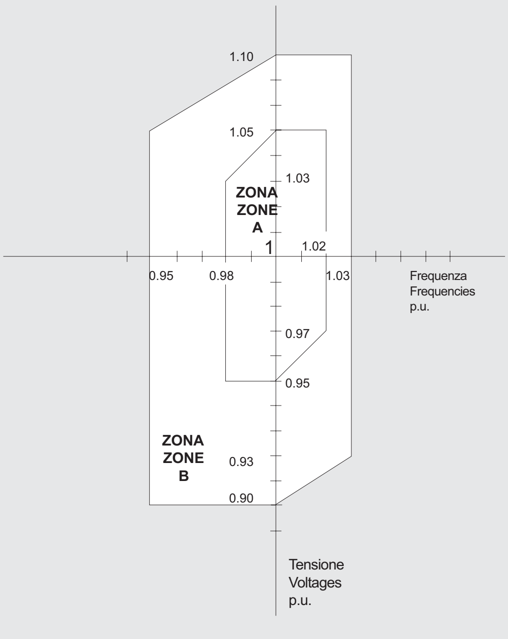
## 1.4 ELEKTRISCHE EIGENSCHAFTEN

### Spannungen und Frequenzen (gemäß CEI EN 60034-1)

Die Motoren der STM können in Übereinstimmung mit der Richtlinie EN 60034-1 (siehe Abbildung) und IEC 60038 für eine kurz Zeit mit einer Spannung betrieben werden, die von der Nennspannung abweicht und, die bei Einphasenmotoren, innerhalb eines Bereichs von ± 10 % (im Vergleich zu den Typenschildwerten) und ± 5 % (im Vergleich zu den Typenschildwerten) liegt.
Die STM-Motoren gewährleisten gemäß IEC 60034-1 ihre Hauptfunktion (Abgabe des Nenndrehmoments) kontinuierlich innerhalb des Bereichs A, doch werden nicht unbedingt ihren Betriebseigenschaften bei Nennspannung und Frequenz gerecht und können Abweichungen aufweisen. Die Übertemperaturen können über den Werten liegen, die der Nennspannung und -frequenz entsprechen.
Im Bereich B ist der Motor in der Lage, seine Hauptfunktion (Abgabe des Drehmoments) zu erfüllen, kann jedoch Abweichungen in der Leistung, im Vergleich zu denen bei Nennspannung und -frequenz aufweisen, die im über denen im Bereich A liegen.
Die Übertemperaturen können über denen liegen, die der Nennspannung und -frequenz entsprechen und die des Bereichs A übersteigen. Von einem längeren Betrieb unter den peripheren Grenzwerten des Bereichs B wird abgeraten.

Die Spannung und die Frequenz des Versorgungsnetzes muss auf dem Typenschild des Motors angegeben sein.
Die STM-Motoren nicht mit Spannungen und Frequenzen betreiben, die nicht auf dem Typenschild angegeben werden.

**CEI EN 60034-1**




**ZONA / *ZONE*A:**
*Normal duty*

**ZONA / *ZONE*B:**

*Heavy service limited over time*

**PUNTO / *POINT*1:**

*Main function guaranteed (nominal torque)*

## 1.4 CARATTERISTICHE ELETTRICHE (CONTINUA)

### Funzionamento dei motori a 50 Hz alimentati con frequenza 60 Hz

In questo catalogo tutti i dati elettrici sono riferiti a motori trifasi avvolti a 50 Hz. Questi possono essere collegati a 60 Hz tenendo conto dei coefficienti moltiplicativi della tabella seguente:

## *1.4 ELECTRICAL SPECIFICATIONS (TO BE CONTINUED)*

### *Operation of 50 Hz motors supplied with 60 Hz frequency*

*All electrical data in this catalogue refer to three-phase wound motors at 50 Hz. These may be connected at 60 Hz, taking into account the multiplier coefficients in the table below:*

## 1.4 ELEKTRISCHE EIGENSCHAFTEN (FORTSETZUNG)

### Betrieb von 50 Hz Motoren mit 60 Hz Frequenz

Alle in diesem Katalog aufgeführten elektrischen Daten beziehen sich auf Drehstrommotoren mit einer Frequenz von 50 Hz. Sie können an 60 Hz angeschlossen werden, wobei die in der folgenden Tabelle angegebenen Multiplikationsfaktoren berücksichtigt wer-den müssen.

A

| **Targa - Plate - Typenschild** | | | |
|---|---|---|---|
| IE1<br>TYP=T<br>POL=2, 4 | 230/400 V - 50Hz | Pn | η100 |
| | 240/415 V - 50Hz | Pn | η100 |
| | 260/440 V - 60Hz | 1,2 Pn | η100 |
| | 280/480 V - 60Hz | 1,2 Pn | η100 |
| IE2 | 230/400 V - 50Hz | Pn | η100 η75 η50 |
| | 265/460 V - 60Hz | Pn | η100 η75 η50 |
| IE3 | 230/400 V - 50Hz (standard) | Pn | η100 η75 η50 |
| | 265/460 V - 60Hz (upon request) | Pn | η100 η75 η50 |

## 1.4 CARATTERISTICHE ELETTRICHE (FINE)

## *1.4 ELECTRICAL SPECIFICATIONS (THE END)*

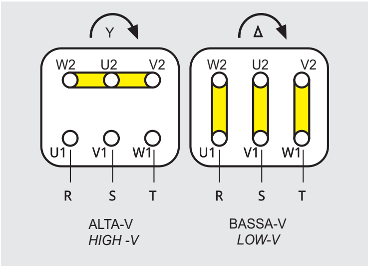
## 1.4 ELEKTRISCHE EIGENSCHAFTEN (ENDE)

### Schemi di collegamento di motori trifase

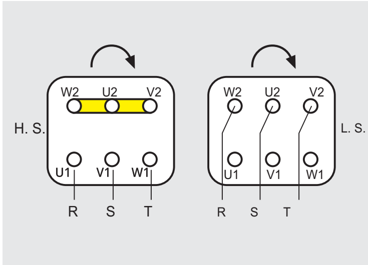
### *Three-phase motor wiring diagrams*

### Anschlusspläne für Drehstrommotoren

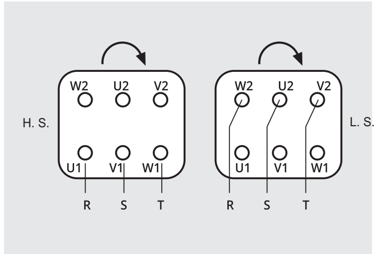
**TYP=T-HE2-HE3-AHE2-AHE3-IN-AI**




**TYP=DP-AD 2/4-4/8-4/6SW**




**TYP=DP-AD 4/6DW-6/8-2/6-2/8-2/12-2/16-4/16-4/32**

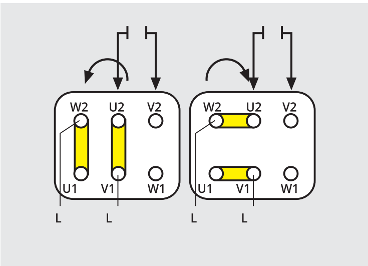



### Schemi di collegamento di motori monofase

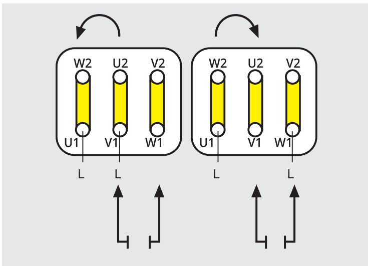
### *Single-phase motor diagrams*

### Anschlusspläne für Einphasenmotoren

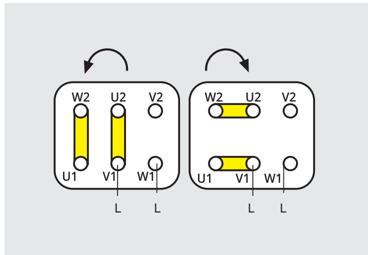
**TYP=M-MC-ME-AM-AE-CM BF=-**




**M-MC-ME-AM-AE-CM BF=B**




**TYP=MA -AA**




Avvolgimento simmetrico
*Symmetrical winding*
Symmetrische Wicklung


Sensi di rotazione lato presa di forza
*Drive side rotation directions*
Drehsinn auf der Abtriebsseite

### Coprimorsettiera

Il coprimorsettiera è in alluminio pressofuso in esecuzione standard nella versione monoblocco IP55, a richiesta versione a due componenti in IP65, versione a due componenti da motori autofrenanti in IP65 di dimensione maggiorata.

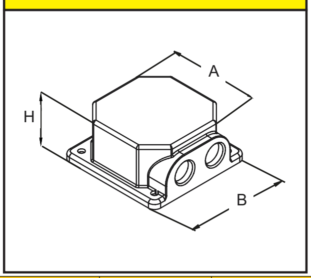
### *Terminal box*

*Made of die-cast aluminum in the standard version, as a single unit at IP55. Available upon request in the two-component version for brake motors at IP65 in enlarged size.*

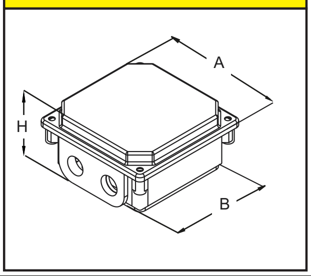
### Klemmenkasten

Der Klemmenkasten ist aus einem Aluminium-Druckguß in der Monoblock-Standardausführung mit Schutzart IP55 gefertigt. Auf Anfrage kann er auch zweiteilig mit IP65 und für Bremsmotoren vergrößert, ebenfalls mit IP65 geliefert werden.

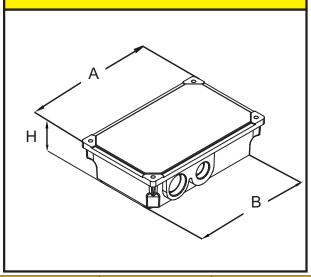
**IP55**




**IP65**




**IP65L**




| | IP55 | | | IP65 | | | IP65L | | |
|---|---|---|---|---|---|---|---|---|---|
| **SIZE** | **A** | **B** | **H** | **A** | **B** | **H** | **A** | **B** | **H** |
| **50** | 56 | 64 | 30 | 101 | 85 | 48 | - | - | - |
| **56-71** | 66 | 75 | 34 | 101 | 85 | 48 | 138 | 84 | 40 |
| **80-112** | 78 | 92 | 39 | 115 | 98 | 55 | 154 | 99 | 47 |
| **132** | 91 | 105 | 46 | 124 | 106 | 64 | 206 | 113 | 61 |
| **160/180 /200** | | | | 185 | 161 | 84 | | | |

## 1.5 OPZIONI

## *1.5 OPTIONS*

## 1.5 OPTIONEN



TR Opzione *Option* Option

**Tropicalizzazione** (secondo CEI EN 60034-1/IEC 34-1)
Se i motori vanno installati all'aperto o in ambienti con alto tasso di umidità > 60% (U.R.) e comunque dove è prevista la formazione di condensa, si esegue su richiesta un processo di tropicalizzazione degli avvolgimenti tramite verniciatura a freddo con prodotto di elevate qualità idrorepellenti che migliora la protezione del motore dalla penetrazione della condensa nei materiali isolanti.

***Tropicalization** (in accordance with CEI EN 60034-1/IEC 34-1)*
*If the motors are installed outdoors or in rooms with a high percentage of humidity > 60% (R.H.) and in any case where it is condensation is likely to form, upon request a tropicalization treatment can be carried out on the windings by cold painting with a product having high water-repellent qualities, which improves motor protection by preventing condensation from penetrating in the insulation material.*

**Tropenfestigkeit** (gemäß CEI EN 60034-1/IEC 34-1)
Wenn die Motoren im Freien oder in Umgebungen mit hohem Feuchtigkeitsgehalt > 60 % (rel. F.)
und in jedem Fall , wo es für die Bildung von Kondensat vorgesehen, installiert werden, können auf Anfrage die Wicklungen durch eine spezielle Kaltlackierung mit einem stark wasserabweisenden Produkt tropenfest ausgelegt werden, das den Motor vor dem Eindringen von Kondenswasser in die Isolierstoffe schützt.

CD Opzione *Option* Option

**Fori per scarico condensa**
Su richiesta si eseguono fori di scarico condensa chiusi da tappi che verranno tolti una volta posti in servizio i motori.
La posizione deve favorire l'espulsione della condensa

***Drain holes for condensation***
*On request, drain holes for condensation closed with plugs can be supplied which can be removed once the motors have been put into service.*
*The position should facilitate the expulsion of the condensate*

**Kondenswasserabflusslöcher**
Auf Anfrage werden Kondenswasserabflusslöcher ausgeführt. Diese werden von Stopfen verschlossen, die nach Installation der Motoren entfernt werden.
Die Position muss den Ablauf des Kondensats erleichtern.

SC Opzione *Option* Option

**Scaldiglia anticondensa (secondo CEI EN 60034-1/IEC 34-1)**
Su richiesta è possibile, in quelle applicazioni nelle quali la temperatura ambiente è estremamente bassa (0 °C), o dove il tasso di umidità è elevato > 60% (U.R.), installare sulle testate degli avvolgimenti una resistenza speciale di preriscaldamento della macchina quando questa non è funzionante.
In questo modo si evita che le parti meccaniche quali i cuscinetti o gli isolamenti vengano danneggiati dalla condensa.
Le potenze riscaldanti della scaldiglia sono in funzione della grandezza di motore, le tensioni a.c. di alimentazione sono a richiesta.
I terminali sono liberi o, su richiesta, fissati in morsettiera.

***Anti-condensation heater (according to CEI EN 60034-1/IEC 34-1)***
*In applications where the ambient temperature is extremely low (0 ° C) or where the humidity is high (> 60% R.H.), it is possible to install a special pre-heating element on the winding heads for the machine when not running.*
*This prevents mechanical parts such as bearings or isolations from being damaged by condensation.*
*The heating power of the heater depends on the motor size; AC supply voltages upon request.*
*The terminals are free or fixed to the terminal board upon request.*

**Kondensschutz-Heizelement (nach CEI EN 60034-1/IEC 34-1)**
Bei Motoren, die in Umgebungen mit besonders niedrigen Temperaturen (0° C) oder hoher relativer Luftfeuchtigkeit (> 60%) betrieben werden, kann auf Wunsch an den Wicklungsköpfen ein besonderes Heizelement eingebaut werden. Dieses Heizelement sorgt dafür, daß der Motor während des Stillstands vorgewärmt wird. Damit soll eine Beschädigung der mechanischen Teile wie Lager und Isoliermaterial durch zuniedr ige Temperaturen vermieden werden. Die Heizleistung der Heizelemente wird auf die Größe des Motors ausgelegt.
Die Wechselspannungen sind auf Anfrage erhältlich.
Die Kabelenden sind frei oder werden auf Wunsch am Klemmbrett befestigt.

Tab1.11

| **Grandezza motore** ***Motor size*** **Motorbaugröße** **MEC-IEC** | **Potenza riscaldante** ***Heating power*** **Heizleistung** | **Assorbimenti [ A ]** ***Absorptions [ A ]*** **Stromaufnahmen [ A]** | **Alimentazione AC [V]*** ***AC [V] power supply*** **Wechselstromversorgung [V]*** |
|---|---|---|---|
| 50 - 71 | 8 | 0,03 | 230 |
| 80 - 90 | 22 | 0,10 | 230 |
| 100 - 112 | 26 | 0,11 | 230 |
| 132 | 46 | 0,20 | 230 |
| 160 | 30 | 0,13 | 230 |
| 180 | 30 | 0,13 | 230 |
| 200 | 30 | 0,13 | 230 |

* altre tensioni a richiesta / ** other voltage values upon request/* * andere Spannungen auf Anfrage

## 1.5 OPZIONI (CONTINUA)

## *1.5 OPTIONS (TO BE CONTINUED)*

## 1.5 OPTIONEN (FORTSETZUNG)

PC Opzione *Option* Option

**Ventilazione** (secondo IEC 34-6 e CEI EN 60034-6)

***Cooling** (in accordance with IEC34-6 and CEI EN 60034-6)*

**Belüftung** (gemäß IEC 34-6 und CEI EN 60034-6)

AV

Si ottiene tramite una ventola girante a pale radiali bidirezionale calettata sull'albero motore IC 41.
E' la ventilazione standard

*This is obtained using a revolving fan with two-way radial blades coupled to the IC 41 motor shaft.*
*It is the standard ventilation*

Die Belüftung wird mittels eines richtungsumkehrbaren Lüfterrades mit Radialschaufeln erzielt, das auf die Motorwelle IC 41 aufgezogen wird.
Dies ist die Standard-Belüftung

SV

A richiesta è disponibile l'opzione SV che prevede la fornitura del motore privo di ventola.

*Upon request the SV option is available whereby the motor is supplied without a fan.*

Auf Anfrage ist die Option SV für die Lieferung des Motors ohne Lüfterrad erhältlich.

VC

Indicando la variante VC, verrà sostituita la ventola standard con una in metallo.

*If the VC option is selected, the standard fan will be replaced with a metal one.*

Unter Angabe der Variante VC wird das Lüfterrad in der Standardausführung durch eines aus Metall ersetzt.

VW

La ventola volano serve per l'avviamento progressivo.
Sono motori nei quali viene installata una ventola/disco speciale in ghisa, che funge da volano energetico, ritardando al momento dell'avviamento il raggiungimento della velocità di regime.
Questo perché essendo l'energia cinetica del corpo ventola Ec = $(1/2)J\omega^2$ [J], al momento dell'avviamento il motore deve spendere lavoro per avviare il volano supplementare e ciò implica l'impiego del tempo di avviamento a parità di tutte le altre condizioni.

*The flywheel fan is used for progressive starting*
*These are motors in which a special cast-iron fan/disc is installed, which acts as an energy flywheel, delaying the standard speed at start-up time.*
*Being this the kinetic energy of the fan assembly Ec = (1/2)Jω2 [J], upon start up, the motor must run to start the additional flywheel; this involves using the starting time with all other conditions being equal.*

Das Schwungrad des Lüfterrad dient dem progressiven Start.
Es handelt sich um Motoren, die über ein spezielles Lüfterrad / Scheibe aus Gußeisen verfügen.
Das Lüfterrad übernimmt die Funktion eines Schwungrads und zögert beim Anlaufen des Motors das Erreichen der Betriebsdrehzahl hinaus. Da die kinetische Energie des Lüfterradkörpers Ec = $(1/2)J\omega^2$ [J] ist, muss der Motor beim Starten zusätzliche Energie aufbringen, um das zusätzliche Schwungrad in Bewegung zu setzen. Dadurch wird die Anlaufzeit
verlängert, alle anderen Bedingungen bleiben jedoch gleich.

| | Grandezza<br>*Size*<br>Baugröße | Peso volano (Kg)<br>*Flywheel weight (Kg)*<br>Gewicht Schwungrad (Kg) | Inzerzia volano (Kgm²)<br>*Fly-wheel inertia (Kgm²)*<br>Trägheitsmoment Schwungrad Kgm²) |
|---|---|---|---|
| | 63 / 71 | 1,0 | 0,00101 |
| * | 80 / 90 | 2,8 | 0,00347 |
| * | 100 / 112 | 4,7 | 0,00991 |
| * | 132 | 7,1 | 0,02270 |
| | 160 | 9,0 | 0,06390 |
| | 180 / 200 | 9,0 | 0,06390 |

* Ventola pesante in ghisa — *Cast-Iron heavy fan* — Schweres Lüfterrad aus Gusseisen

## 1.5 OPZIONI (CONTINUA)

## *1.5 OPTIONS (TO BE CONTINUED)*

## 1.5 OPTIONEN (FORTSETZUNG)

A

EN Opzione *Option* Option

### Encoder

L'encoder standard installato è di tipo incrementale con numero di impulsi giro e logica definita in sede d'ordine.
Viene fornito cavo di lunghezza 1,5m con fili liberi; a rischiesta è possibile fornirlo con connettore.
In questo caso, si può anche avere la servoventilazione assistita, sostenuta con staffe sul copriventola.

### *Encoder*

*The installed standard encoder is incremental with the number of prevolution pulses and logic defined in the order.*
*It comes with a cable long 1.5m with free wires; upon request, you can provide it with the connector .*
*In this case , it may even have assisted forced vetilation, supported by brackets on the fan cover .*

### Encoder

Der installierte Standard-Encoder ist ein inkrementaler Typ mit werksseitig definierter Impulsanzahl/Drehung und Logik.
Wirdn mit 1,5 m langem Kabel mit freien Adern geliefert. Auf Anfrage kann er auch mit einer unterstützten Servobelüftung ausgestattet werden, die mit Bügeln an der Lüfterradabdeckung abgestützt wird.

VF Opzione *Option* Option

**Servoventilazione**

**Tensioni di alimentazione:**

| | |
|---|---|
| **DC:** | **24 VDC**<br>**24 VDC_KIT** |
| **Trifase:** | **400_50_3PH**<br>**230/400_50 28/480_60** |
| **Bifasi:** | **400_50_2PH**<br>**400_50_2PH_KIT** |
| **Monofase:** | **230V 50Hz/60Hz_n**<br>**230V 50Hz/60Hz_KIT** |

**Classe di isolamento: IP 55 standard**

Per applicazioni con inverter, è disponibile la servoventilazione garantisce il servizio continuo S1 a basse velocità.

***Forced ventilation***

***Supply voltages:***

| | |
|---|---|
| ***DC:*** | ***24 VDC***<br>***24 VDC_KIT*** |
| ***Three-phase:*** | ***400_50_3PH***<br>***230/400_50 28/480_60*** |
| ***Two-phase:*** | ***400_50_2PH***<br>***400_50_2PH_KIT*** |
| ***Single-phase:*** | ***230V 50Hz/60Hz_n***<br>***230V 50Hz/60Hz_KIT*** |

***Insulation class: IP 55 standard***

*For applications with inverters, forced ventilation provides for the continuous service S1 at low speed.*

**Servobelüftung**

**Versorgungsspannungen:**

| | |
|---|---|
| **DC:** | **24 VDC**<br>**24 VDC_KIT** |
| **Dreiphasig:** | **400_50_3PH**<br>**230/400_50 28/480_60** |
| **Zweiphasig:** | **400_50_2PH**<br>**400_50_2PH_KIT** |
| **Einphasig:** | **230V 50Hz/60Hz_n**<br>**230V 50Hz/60Hz_KIT** |

**Isolationsklasse: IP 55 standard**

Für Anwendungen mit Wechselrichter (Inverter) ist die Servobelüftung verfügbar, die den Dauerbetrieb S1 bei niedriger Drehzahl gewährleistet.

Tab 1.12

| **Grandezza** ***Size*** **Baugröße** | **Portata aria [m³/min]** ***Air flow rate [m³/min]*** **Luftdurchsatz [m³/min]** | | | **Assorbimento [A]** ***Absorptions [A]*** **Stromaufnahmen [A]** | | |
|---|---|---|---|---|---|---|
| | **1ph_230V50Hz** old version 2016 | **24 VDC 24 VDC_KIT** | **400_50_3PH 230/400_50 280/480_60** | **1ph_230V50Hz** old version 2016 | **24 VDC 24 VDC_KIT** | **400_50_3PH 230/400_50 280/480_60** |
| | | | | 230V 50Hz | 24 Vdc | 400V 50Hz |
| **56** | 0,7 | 0,68 | - | 0,09 | 0,13 | - |
| **63** | 2,6 | 5,8 | - | 0,1 | 0,3 | - |
| **71** | 2,6 | 5,8 | 4 | 0,1 | 0,3 | 0,26 |
| **80** | 5,4 | 5,8 | 7 | 0,25 | 0,3 | 0,26 |
| **90** | 5,4 | 5,8 | 10 | 0,25 | 0,3 | 0,4 |
| **100** | 5,4 | 5,8 | 14 | 0,25 | 0,3 | 0,4 |
| **112** | 5,4 | 5,8 | 14 | 0,25 | 0,3 | 0,4 |
| **132** | 13 | - | 28 | 0,2 | - | 0,4 |
| **160** | 13 | - | 28 | 0,2 | - | 0,4 |
| **180** | - | - | 28 | - | - | 1,3 |
| **200** | - | - | 28 | - | - | 1,3 |

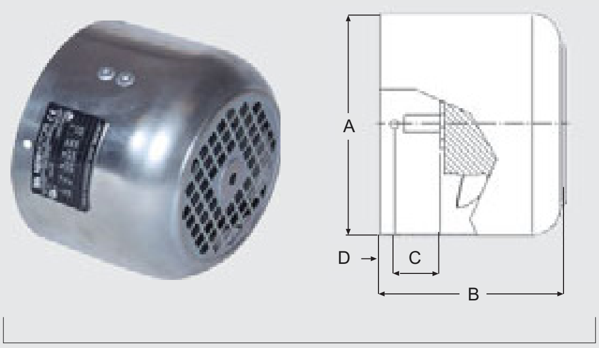
## 1.5 OPZIONI (CONTINUA)

## *1.5 OPTIONS (TO BE CONTINUED)*

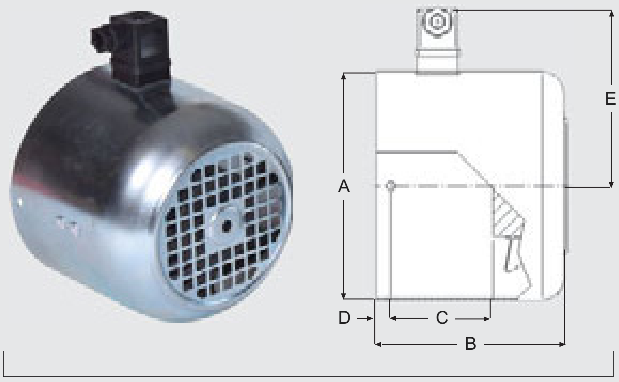
## 1.5 OPTIONEN (FORTSETZUNG)

**Monofase**
***Single-phase***
**Einphasig**

**230V 50Hz/60Hz** **230V 50Hz/60Hz_KIT**




230V 50Hz/60Hz




230V 50Hz/60Hz_KIT

| SIZE+LEN | 230V 50Hz/60Hz_n | | | | 230V 50Hz/60Hz_KIT | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | A | B | C | D | E |
| 56 | 110 | 90 | 41 | 5 | 110 | 90 | 41 | 5 | 99,5 |
| 63 | 123 | 102 | 38 | 6 | 123 | 115 | 51 | 8 | 104 |
| 71 | 138 | 95 | 35 | 6 | 138 | 115 | 59 | 6 | 112 |
| 80 | 156 | 115 | 55 | 10 | 156 | 130 | 69 | 10 | 120,5 |
| 90S | 176 | 100 | 33 | 10 | 176 | 140 | 72 | 6 | 131 |
| 90L | 176 | 100 | 33 | 10 | 176 | 140 | 72 | 6 | 131 |
| 100 | 195 | 125 | 53 | 10 | 195 | 155 | 89 | 6 | 140 |
| 112 | 220 | 120 | 50 | 10 | 220 | 175 | 98 | 15 | 151,5 |
| 132S | 258 | 220 | 109 | 10 | 258 | 220 | 109 | 10 | 171 |
| 132M | 258 | 220 | 109 | 10 | 258 | 220 | 109 | 10 | 171 |
| 160M | 315 | 270 | 155 | 15 | 315 | 270 | 155 | 15 | 196,5 |
| 160L | 315 | 270 | 155 | 15 | 315 | 270 | 155 | 15 | 196,5 |
| 180 | 350 | 350 | 205 | 75 | 350 | 350 | 205 | 25 | 215,5 |
| 200 | 350 | 350 | 155 | 25 | 350 | 350 | 155 | 25 | 215,5 |

| SIZE | Volt | Freq | Portata aria<br>*Air flow rate*<br>Luftdurchsatz | A | P [kw] | Rpm | IP |
|---|---|---|---|---|---|---|---|
| 56 | 230 | 50 | 1,2 | 0,10 | 0,011 | 2650 | IP55 |
| 63 | 230 | 50 | 2,6 | 0,16 | 0,017 | 2750 | IP55 |
| 71 | 230 | 50 | 2,6 | 0,16 | 0,017 | 2750 | IP55 |
| 80 | 230 | 50 | 3,3 | 0,15 | 0,016 | 2400 | IP55 |
| 90 | 230 | 50 | 5,2 | 0,28 | 0,03 | 2500 | IP55 |
| 100 | 230 | 50 | 5,2 | 0,28 | 0,03 | 2500 | IP55 |
| 112 | 230 | 50 | 5,2 | 0,28 | 0,03 | 2500 | IP55 |
| 132 | 230 | 50 | 15,9 | 0,29 | 0,032 | 1600 | IP55 |
| 160 | 230 | 50 | 15,9 | 0,29 | 0,032 | 1600 | IP55 |
| 180 | 230 | 50 | 28,3 | 0,87 | 0,095 | 2400 | IP55 |
| 200 | 230 | 50 | 28,3 | 0,87 | 0,095 | 2400 | IP55 |

| SIZE | Volt | Freq | Portata aria<br>*Air flow rate*<br>Luftdurchsatz | A | P [kw] | Rpm | IP |
|---|---|---|---|---|---|---|---|
| 56 | 230 | 60 | 1,5 | 0,09 | 0,009 | 3100 | IP55 |
| 63 | 230 | 60 | 3,1 | 0,14 | 0,015 | 2950 | IP55 |
| 71 | 230 | 60 | 3,1 | 0,14 | 0,015 | 2950 | IP55 |
| 80 | 230 | 60 | 3,7 | 0,13 | 0,014 | 2300 | IP55 |
| 90 | 230 | 60 | 5,9 | 0,24 | 0,026 | 2800 | IP55 |
| 100 | 230 | 60 | 5,9 | 0,24 | 0,026 | 2800 | IP55 |
| 112 | 230 | 60 | 5,9 | 0,24 | 0,026 | 2800 | IP55 |
| 132 | 230 | 60 | 14,2 | 0,37 | 0,04 | 1500 | IP55 |
| 160 | 230 | 60 | 14,2 | 0,37 | 0,04 | 1500 | IP55 |
| 180 | 230 | 60 | 29,7 | 1,00 | 0,11 | 2500 | IP55 |
| 200 | 230 | 60 | 29,7 | 1,00 | 0,11 | 2500 | IP55 |

| | | |
|---|---|---|
| MAR = CE RLP = - | MAR = CE RLP = - | MAR = CE RLP = - |

## 1.5 OPZIONI (CONTINUA)

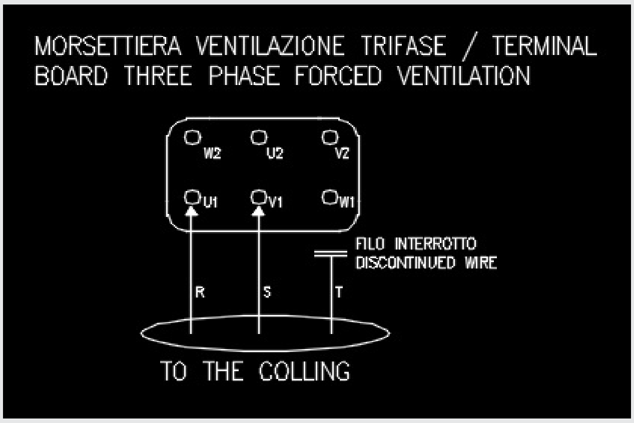
## *1.5 OPTIONS (TO BE CONTINUED)*

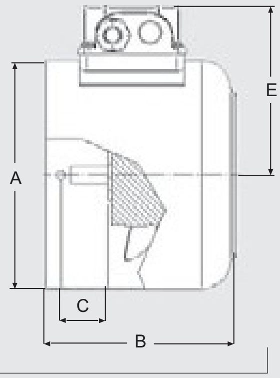
## 1.5 OPTIONEN (FORTSETZUNG)

**Monofase**
***Single-phase***
**Einphasig**

**400_50_2PH**

**400_50_2PH_KIT**




400_50_2PH / 400_50_2PH_KIT

| SIZE+LEN | 400_50_2PH | | | | | 400_50_2PH_KIT | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | A | B | C | D | E |
| **56** | 110 | 90 | 41 | 5 | 92 | 110 | 90 | 41 | 5 | 92 |
| **63** | 123 | 102 | 40 | 6 | 100 | 123 | 115 | 51 | 8 | 100 |
| **71** | 138 | 95 | 33 | 45 | 106 | 138 | 115 | 54 | 6 | 106 |
| **80** | 156 | 115 | 32 | 10 | 117 | 156 | 130 | 57 | 5 | 117 |
| **90S** | 176 | 100 | 34 | 6 | 129,5 | 176 | 140 | 86 | 6 | 129,5 |
| **90L** | 176 | 100 | 34 | 6 | 129,5 | 176 | 140 | 86 | 6 | 129,5 |
| **100** | 195 | 125 | 39 | 5 | 139 | 195 | 155 | 94 | 10 | 139 |
| **112** | 220 | 120 | 38 | 15 | 151 | 220 | 175 | 115 | 10 | 151 |
| **132S** | 258 | 220 | 120 | 10 | 172 | 258 | 220 | 120 | 10 | 172 |
| **132M** | 258 | 220 | 120 | 10 | 172 | 258 | 220 | 120 | 10 | 172 |
| **160M** | 315 | 270 | 160 | 15 | 203 | 315 | 270 | 160 | 15 | 203 |
| **160L** | 315 | 270 | 160 | 15 | 203 | 315 | 270 | 160 | 15 | 203 |
| **180** | 350 | 350 | 185 | 25 | 216,5 | 350 | 350 | 230 | 25 | 216,5 |
| **200** | 350 | 350 | 185 | 25 | 216,5 | 350 | 350 | 185 | 25 | 216,5 |

| SIZE | Volt | Freq | Portata aria *Air flow rate* Luftdurchsatz | A | P [kw] | Rpm | IP |
|---|---|---|---|---|---|---|---|
| **56** | 400 | 50 | 0,8 | 0,04 | 0,015 | 2750 | IP55 |
| **63** | 400 | 50 | 2,6 | 0,06 | 0,02 | 2750 | IP55 |
| **71** | 400 | 50 | 2,6 | 0,06 | 0,02 | 2750 | IP55 |
| **80** | 400 | 50 | 5,2 | 0,14 | 0,047 | 2750 | IP55 |
| **90** | 400 | 50 | 9,6 | 0,18 | 0,06 | 2800 | IP55 |
| **100** | 400 | 50 | 9,6 | 0,18 | 0,06 | 2800 | IP55 |
| **112** | 400 | 50 | 9,6 | 0,18 | 0,06 | 2800 | IP55 |
| **132** | 400 | 50 | 15,9 | 0,28 | 0,095 | 2800 | IP55 |
| **160** | 400 | 50 | 15,9 | 0,28 | 0,095 | 2800 | IP55 |
| **180** | 400 | 50 | 15,9 | 0,28 | 0,095 | 2800 | IP55 |
| **200** | 400 | 50 | 15,9 | 0,28 | 0,095 | 2800 | IP55 |

| SIZE | Volt | Freq | Portata aria *Air flow rate* Luftdurchsatz | A | P [kw] | Rpm | IP |
|---|---|---|---|---|---|---|---|
| **56** | 400 | 60 | 0,9 | 0,03 | 0,013 | 3200 | IP55 |
| **63** | 400 | 60 | 3 | 0,06 | 0,021 | 3100 | IP55 |
| **71** | 400 | 60 | 3 | 0,06 | 0,021 | 3100 | IP55 |
| **80** | 400 | 60 | 5,9 | 0,12 | 0,042 | 3200 | IP55 |
| **90** | 400 | 60 | 11,6 | 0,24 | 0,08 | 3250 | IP55 |
| **100** | 400 | 60 | 11,6 | 0,24 | 0,08 | 3250 | IP55 |
| **112** | 400 | 50 | 11,6 | 0,24 | 0,08 | 3250 | IP55 |
| **132** | 400 | 60 | 17,8 | 0,31 | 0,105 | 3150 | IP55 |
| **160** | 400 | 60 | 17,8 | 0,31 | 0,105 | 3150 | IP55 |
| **180** | 400 | 60 | 17,8 | 0,31 | 0,105 | 3150 | IP55 |
| **200** | 400 | 60 | 17,8 | 0,31 | 0,105 | 3150 | IP55 |

| | | |
|---|---|---|
| MAR = CE RLP = - | MAR = CE RLP = - | MAR = CE RLP = - |

## 1.5 OPZIONI (CONTINUA)

## *1.5 OPTIONS (TO BE CONTINUED)*

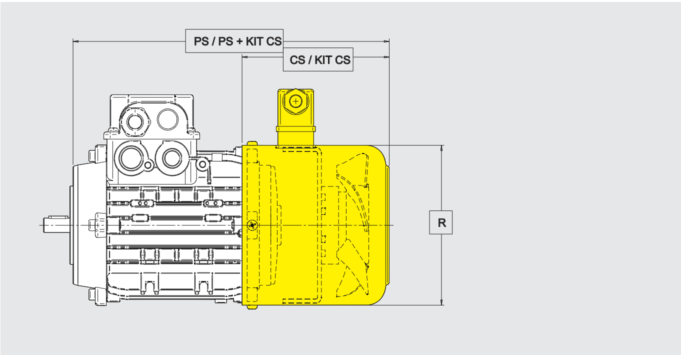
## 1.5 OPTIONEN (FORTSETZUNG)

Tab. 1.13

Ventilazione forzata monofase
*Single phase forced ventilation*
Zwangsbelüftung einphasig

TYP = T IN HE2 HE3 DP M ME MC MA PC = VF VSAVE = 230VAC_50/60Hz_n
TYP = T IN HE2 HE3 DP M ME MC MA PC = VF VSAVE = 230VAC_50/60Hz_KIT

MAR = CE



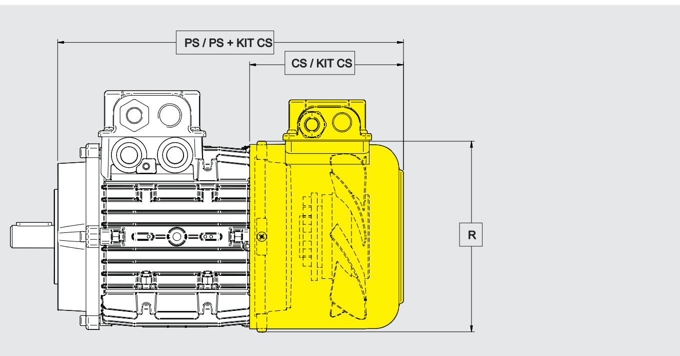

| | | SIZE+LEN | R | CS | PS | KIT CS | PS+ KIT CS |
|---|---|---|---|---|---|---|---|
| | | 50B | - | - | - | - | - |
| | | 56 | 110 | 90 | 200 | 90 | 200 |
| | | 63 | 123 | 102 | 235 | 115 | 248 |
| | | 71 | 138 | 95 | 247 | 115 | 267 |
| | | 80 | 156 | 115 | 278 | 130 | 293 |
| | | 90S | 176 | 100 | 274 | 140 | 314 |
| | | 90L | 176 | 100 | 300 | 140 | 340 |
| | | 100 | 195 | 125 | 344 | 155 | 374 |
| | | 112 | 220 | 120 | 354 | 175 | 409 |
| | | 132S | 258 | 220 | 483 | 220 | 483 |
| CS | Servoventilazione senza connettore | 132M | 258 | 220 | 521 | 220 | 521 |
| | Forced ventilation without connector | 160M | 315 | 270 | 626 | 270 | 626 |
| | Zwangsbelüftung ohne Stecker | 160L | 315 | 270 | 671 | 270 | 671 |
| Kit CS | Kit per motore standard con connettore per alimentazione separata | 180M | 350 | 350 | 792 | 350 | 792 |
| | Kit for Standard Motor with connector for the separated supply | 180L | 350 | 350 | 792 | 350 | 792 |
| | Kit für Standard Motor mit Stecker für die getrennte Versorgung | 200 | 350 | 350 | 803 | 350 | 803 |

Tab. 1.14

Ventilazione forzata trifase
*Three.phase forced ventilation*
Zwangsbelüftung dreiphasig

TYP = T IN HE2 HE3 DP M ME MC MA PC = VF VSAVE = 400_50_2PH
TYP = T IN HE2 HE3 DP M ME MC MA PC = VF VSAVE = 400_50_2PH_KIT

MAR = CE




| | | SIZE+LEN | R | CS | PS | KIT CS | PS + KIT CS |
|---|---|---|---|---|---|---|---|
| | | 50B | - | - | - | - | - |
| | | 56 | 110 | 90 | 208 | 90 | 208 |
| | | 63 | 123 | 102 | 236 | 115 | 249 |
| | | 71 | 138 | 95 | 245 | 115 | 267 |
| | | 80 | 156 | 130 | 293 | 140 | 308 |
| | | 90S | 176 | 140 | 318 | 180 | 358 |
| | | 90L | 176 | 140 | 343 | 180 | 383 |
| | | 100 | 195 | 155 | 378 | 195 | 419 |
| | | 112 | 220 | 175 | 404 | 215 | 451 |
| | | 132S | 258 | 220 | 483 | 220 | 483 |
| CS | Servoventilazione senza connettore | 132M | 258 | 220 | 521 | 220 | 521 |
| | Forced ventilation without connector | 160M | 315 | 270 | 625 | 270 | 625 |
| | Zwangsbelüftung ohne Stecker | 160L | 315 | 270 | 670 | 270 | 670 |
| Kit CS | Kit per motore standard con connettore per alimentazione separata | 180M | 350 | 350 | 792 | 350 | 792 |
| | Kit for Standard Motor with connector for the separated supply | 180L | 350 | 350 | 792 | 350 | 792 |
| | Kit für Standard Motor mit Stecker für die getrennte Versorgung | 200 | 350 | 350 | 803 | 350 | 803 |

## 1.5 OPZIONI (CONTINUA)

## *1.5 OPTIONS (TO BE CONTINUED)*

## 1.5 OPTIONEN (FORTSETZUNG)

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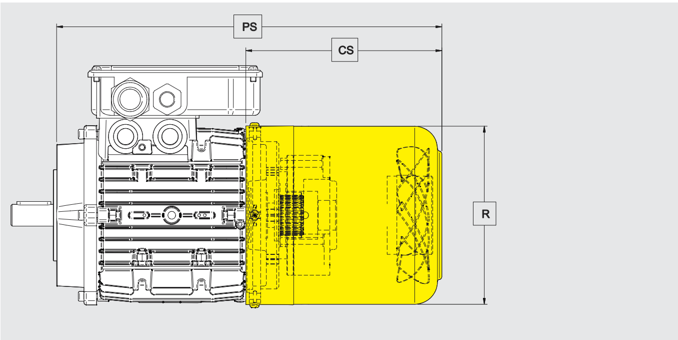
Tab. 1.15

Ventilazione forzata monofase ed encoder
*Encoders without ventilation*
Zwangsbelüftung einphasig und Encoder

TYP = T IN HE2 HE3 DP M ME MC MA PC = VF | VSAVE = 230VAC_50/60Hz_n EN = EN MAR = CE

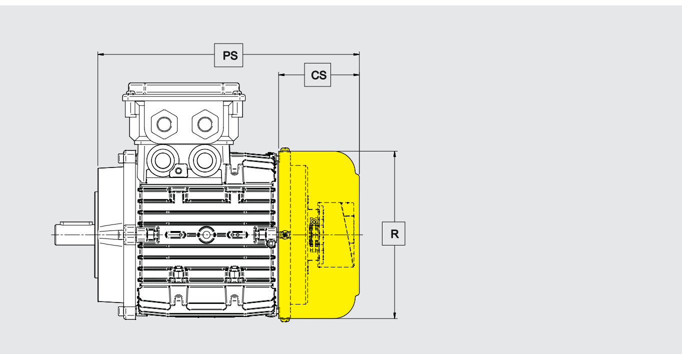



| SIZE+LEN | R | CS | PS |
|---|---|---|---|
| 50B | - | - | - |
| 56 | 110 | 155 (90+F.A.) | 265 |
| 63 | 123 | 148 (102+F.B.) | 280 |
| 71 | 138 | 139 (95+F.B.) | 290 |
| 80 | 156 | 157 (115+F.B.) | 323 |
| 90S | 176 | 180 | 345 |
| 90L | 176 | 180 | 370 |
| 100 | 195 | 155 | 378 |
| 112 | 220 | 175 | 406 |
| 132S | 258 | 220 | 482 |
| 132M | 258 | 220 | 520 |
| 160M | 315 | 270 | 633 |
| 160L | 315 | 270 | 678 |
| 180M | 350 | 350 | 792 |
| 180L | 350 | 350 | 792 |
| 200 | 350 | 350 | 802 |

Tab. 1.16

Encoder senza ventilazione
*Encoders without force cooling*
Encoder ohne Belüftung

TYP = T IN HE2HE3 DP M ME MC MA PC = SV EN = EN MAR = CE




| SIZE+LEN | R | CS | PS |
|---|---|---|---|
| 50B | 104 | 75 | 175 |
| 56 | 110 | 90 | 200 |
| 63 | 123 | 70 | 190 |
| 71 | 138 | 70 | 220 |
| 80 | 156 | 75 | 243 |
| 90S | 176 | 86 | 256 |
| 90L | 176 | 86 | 281 |
| 100 | 195 | 95 | 312 |
| 112 | 220 | 105 | 330 |
| 132S | 258 | 115 | 380 |
| 132M | 258 | 115 | 418 |
| 160M | 315 | 135 | 492 |
| 160L | 315 | 135 | 536 |
| 180M | 350 | 155 | 600 |
| 180L | 350 | 155 | 600 |
| 200 | 350 | 155 | 631 |

| F.A. | Fascia prolunga alta<br>*calendering high*<br>Verlängerungsbereich hoch | F.B. | Fascia prolunga corta<br>*calendering low*<br>Verlängerungsbereich kurz |
|---|---|---|---|

## 1.5 OPZIONI (CONTINUA)

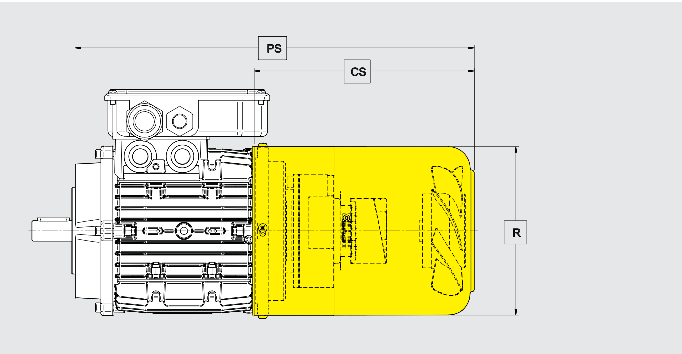
## *1.5 OPTIONS (TO BE CONTINUED)*

## 1.5 OPTIONEN (FORTSETZUNG)

Tab. 1.17

Ventilazione forzata monofase con encoder e freno
*Single-phase forced ventilation with encoder and brake*
Zwangsbelüftung einphasig mit Encoder und Bremse

TYP = AT AI AHE2 AHE3 AD AM AE CM AA PC = VF VSAVE = 230VAC_50/60Hz_n EN = EN MAR = CE RLP = -

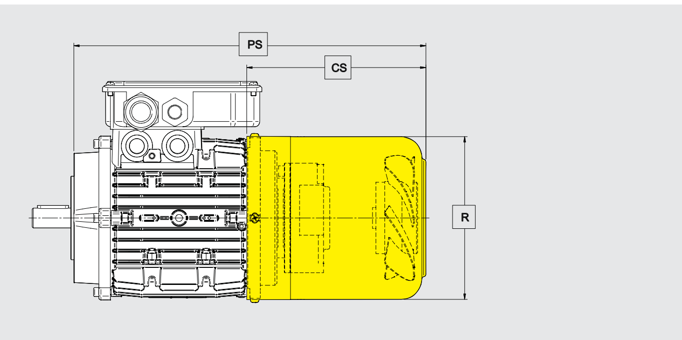



| SIZE+LEN | R | CS | PS |
|---|---|---|---|
| 50B | - | - | - |
| 56 | 110 | 155 (90+F.A.) | 265 |
| 63 | 123 | 195 (115+F.A.) | 325 |
| 71 | 138 | 195 (115+F.A.) | 344 |
| 80 | 156 | 204 (130+F.A.) | 370 |
| 90S | 176 | 215 (140+F.A.) | 387 |
| 90L | 176 | 215 (140+F.A.) | 412 |
| 100 | 195 | 230 (155+F.A.) | 452 |
| 112 | 220 | 267 (175+F.A.) | 506 |
| 132S | 258 | 312 (220+F.A.) | 570 |
| 132M | 258 | 312 (220+F.A.) | 608 |
| 160M | 315 | 408 (270+F.A.) | 766 |
| 160L | 315 | 408 (270+F.A.) | 810 |
| 180M | 350 | 475 (350 + F) | 916 |
| 180L | 350 | 475 (350 + F) | 916 |
| 200 | 350 | 475 (350 + F) | 916 |

Tab. 1.18

Ventilazione forzata monofase con freno
*Brake and single-phase forced ventilation*
Zwangsbelüftung einphasig mit Bremse

TYP = AT AI AHE2 AHE3 AD AM AE CM AA PC = VF VSAVE = 230VAC_50/60Hz_n MAR = CE RLP = -




| SIZE+LEN | R | CS | PS |
|---|---|---|---|
| 50B | - | - | - |
| 56 | 110 | 155 (90+F.A.) | 265 |
| 63 | 123 | 147 (102+F.B.) | 279 |
| 71 | 138 | 159 (115+F.B.) | 309 |
| 80 | 156 | 172 (130+F.B.) | 338 |
| 90S | 176 | 185 (140+F.B.) | 355 |
| 90L | 176 | 185 (140+F.B.) | 380 |
| 100 | 195 | 195 (155+F.B.) | 418 |
| 112 | 220 | 215 (175+F.B.) | 456 |
| 132S | 258 | 262 (220+F.B.) | 522 |
| 132M | 258 | 262 (220+F.B.) | 560 |
| 160M | 315 | 408 (270+F.A.) | 764 |
| 160L | 315 | 408 (270+F.A.) | 808 |
| 180M | 350 | 475 (350 + F.) | 916 |
| 180L | 350 | 475 (350 + F.) | 916 |
| 200 | 350 | 475 (350 + F.) | 927 |

| | | | |
|---|---|---|---|
| F.A. | Fascia prolunga alta<br>*calendering high*<br>Verlängerungsbereich hoch | F.B. | Fascia prolunga corta<br>*calendering low*<br>Verlängerungsbereich kurz |

A

## 1.5 OPZIONI (CONTINUA)

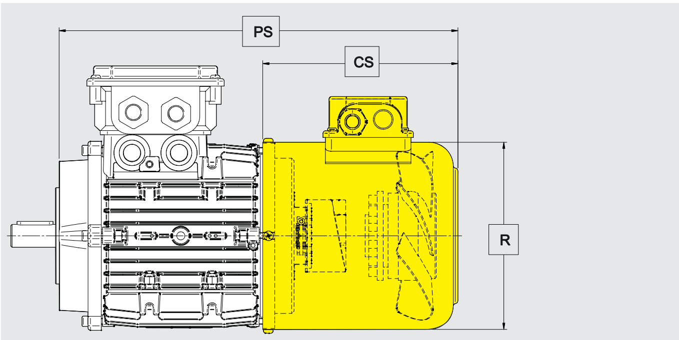
## *1.5 OPTIONS (TO BE CONTINUED)*

## 1.5 OPTIONEN (FORTSETZUNG)

Tab. 1.19

Ventilazione forzata trifase con encoder
*Three-phase forced ventilation and encoder*
Zwangsbelüftung dreiphasig mit Encoder

TYP = T IN HE2 HE3 DP M ME MC MA PC = VF VSAVE = 400_50_2PH EN = EN MAR = CE

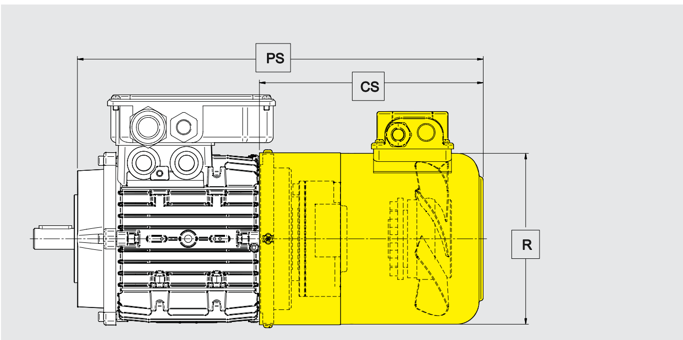



| SIZE+LEN | R | CS | PS |
|---|---|---|---|
| 50B | - | - | - |
| 56 | 110 | 155 (90+F) | 275 |
| 63 | 123 | 148 (102+F.B.) | 279 |
| 71 | 138 | 139 (95+F.B.) | 289 |
| 80 | 156 | 162 | 331 |
| 90S | 176 | 180 | 355 |
| 90L | 176 | 180 | 380 |
| 100 | 195 | 195 | 415 |
| 112 | 220 | 215 | 452 |
| 132S | 258 | 220 | 483 |
| 132M | 258 | 220 | 521 |
| 160M | 315 | 270 | 626 |
| 160L | 315 | 270 | 670 |
| 180M | 350 | 350 | 792 |
| 180L | 350 | 350 | 792 |
| 200 | 350 | 350 | 802 |

Tab. 1.20

Ventilazione forzata trifase con freno
*Three-phase forced ventilation and brake*
Zwangsbelüftung einphasig mit Bremse

TYP = AT AI AHE2 AHE3 AD AM AE CM AA PC = VF VSAVE = 400_50_2PH MAR = CE RLP = -




| SIZE+LEN | R | CS | PS |
|---|---|---|---|
| 50B | - | - | - |
| 56 | 110 | 155 (90+F) | 275 |
| 63 | 123 | 182 (115+F.A.) | 324 |
| 71 | 138 | 139 (95+F.B) | 289 |
| 80 | 156 | 204 (130+F.A.) | 370 |
| 90S | 176 | 225 (180+f.B.) | 395 |
| 90L | 176 | 225 (180+F.B.) | 420 |
| 100 | 195 | 195 (115+F.A.) | 452 |
| 112 | 220 | 215 | 456 |
| 132S | 258 | 262 (220+F.B.) | 519 |
| 132M | 258 | 262 (220+F.B.) | 557 |
| 160M | 315 | 350 (270+F.B.) | 706 |
| 160L | 315 | 350 (270+F.B.) | 750 |
| 180M | 350 | 475 (350+F) | 915 |
| 180L | 350 | 475 (350+F) | 915 |
| 200 | 350 | 475 (350+F) | 927 |

| | | | |
|---|---|---|---|
| F.A. | Fascia prolunga alta<br>*calendering high*<br>Verlängerungsbereich hoch | F.B. | Fascia prolunga corta<br>*calendering low*<br>Verlängerungsbereich kurz |

## 1.5 OPZIONI (CONTINUA)

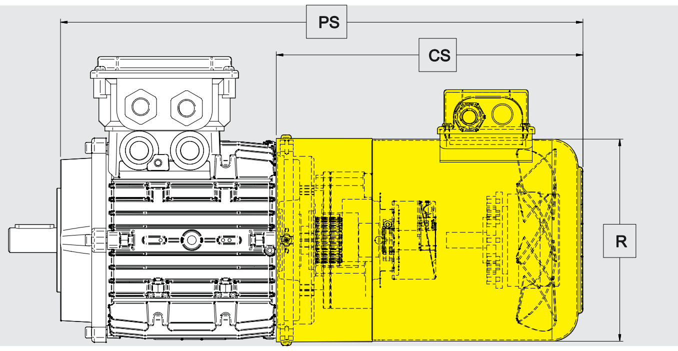
## *1.5 OPTIONS (TO BE CONTINUED)*

## 1.5 OPTIONEN (FORTSETZUNG)

Tab. 1.21

Ventilazione forzata trifase con encoder e freno
*Three-phase forced ventilation with encoder and brake*
Zwangsbelüftung dreiphasig mit Encoder und Bremse

TYP = AT AI AHE2 AHE3 AD AM AE CM AA PC = VF | VSAVE = 400_50_2PH | EN = EN | MAR = CE RLP = -




| SIZE+LEN | R | CS | PS |
|---|---|---|---|
| 50B | - | - | - |
| 56 | 110 | 155 (90+F) | 275 |
| 63 | 123 | 182 (115+F.A.) | 324 |
| 71 | 138 | 175 (95+F.A.) | 324 |
| 80 | 156 | 228 (162+F.A.) | 402 |
| 90S | 176 | 256 (180+F.A.) | 427 |
| 90L | 176 | 256 (180+F.A.) | 452 |
| 100 | 195 | 270 (195+F.A.) | 493 |
| 112 | 220 | 267 (175+F.A.) | 507 |
| 132S | 258 | 312 (275+F.A.) | 573 |
| 132M | 258 | 312 (220+F.A.) | 611 |
| 160M | 315 | 350 (270+F.A.) | 706 |
| 160L | 315 | 350 (270+F.A.) | 750 |
| 180M | 350 | 475 (350+F) | 915 |
| 180M | 350 | 475 (350+F) | 915 |
| 200 | 350 | 475 (350+F.) | 927 |

| | | | |
|---|---|---|---|
| F.A. | Fascia prolunga alta<br>*calendering high*<br>Verlängerungsbereich hoch | F.B. | Fascia prolunga corta<br>*calendering low*<br>Verlängerungsbereich kurz |

## 1.5 OPZIONI (CONTINUA)

## *1.5 OPTIONS (TO BE CONTINUED)*

## 1.5 OPTIONEN (FORTSETZUNG)

DES Opzione *Option* Option

### Albero bisporgente

Il motore può essere fornito a richiesta con doppia estremità d'albero; le dimensioni sono disponibili nelle tabelle dimensionali.

NOTA: Non può essere fornito per i motori servoventilati o con scudo parapioggia

### *Double ended shaft*

*Upon request the motor can be supplied with a double ended shaft; the dimensions are shown in the size tables.*

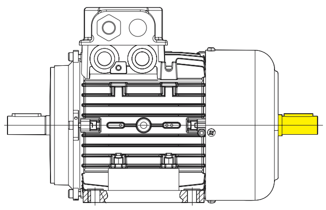
*NOTE: It can not be provided for the forced ventilated motors or with rain shield cover*

### Zweiseitige Welle

Der Motor kann auf Anfrage mit zweiseitig austretender Welle geliefert werden. Die Abmessungen sind in den Maßtabellen angegeben.

HINWEIS: Kann nicht für die servobelüftete odr Motoren mit Regenschutzschild geliefert werden.

A



TO Opzione *Option* Option

### Protezioni termiche Standard TP111 (secondo IEC 34 - 11)

Le protezioni elettriche presenti sulla linea di alimentazione del motore possono essere insufficienti ad assicurare la protezione dai sovraccarichi. Infatti, se peggiorano le condizioni di ventilazione, il motore si surriscalda ma le condizioni elettriche non si modificano e ciò inibisce le protezioni sulle linea.
Si ovvia a questo inconveniente installando protezioni sugli avvolgimenti.

### *Thermal cutouts Standard TP111 (per IEC 34 - 11)*

*The electrical protections on the motor power line may not be sufficient to protect against overloads. If the ventilation conditions worsen, the motor overheats but the electrical conditions do not change, thus inhibiting line protections.*
*Installing built-in protections on the windings solves this problem:*

### Standardüberhitzungsschutz TP111 (nach IEC 34 - 11)

Die in der Zuleitung des Motors vorhandenen Sicherungen gewährleisten nicht in allen Fällen einen ausreichenden Schutz vor Überlastungen. Wenn sich die Belüftung verschlechtert, wird der Motor zu heiß. Da jedoch keine Änderung der elektrischen Bedingungen erfolgt, sprechen die Sicherungen nicht an und es ist kein Schutz der Leitungen gegeben. Dieser Nachteil kann durch den Einbau von Schutzeinrichtungen an den Wicklungen vermieden werden.

PTO
2PTO
3PTO

### Dispositivo bimetallico PTO

E' un dispositivo elettromeccanico che, normalmente chiuso, una volta raggiunta la temperatura di scatto si apre elettronicamente; si ripristina automaticamente quando la temperatura scende sotto il limite di scatto.
Sono disponibili bimetallici con diverse temperature di intervento e senza ripristino automatico, secondo EN-60204-1.
Possono essere installate una per ogni avvolgimento (opzione 3 PTO)

### *Bimetallic device PTO*

*This is a normally-closed electromechanical device that opens electrically when the threshold temperature is reached; it automatically resets when the temperature falls below the threshold level. Bimetallic devices are available with various intervention temperatures and without automatic reset, per EN 60204-1.*
*They can installed one for each winding (option 3 PTO)*

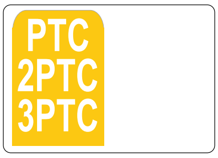
### Bimetall-Schalter PTO

Es handelt sich um einen in Ruhestellung geschlossenen elektromechanischen Schalter, der sich bei Erreichen der Ansprechtemperatur automatisch öffnet. Bei Absenkung der Temperatur kehrt der Schaltkontakt selbständig in die Ruhestellung zurück. Die Bimetall- Schalter sind für verschiedene Ansprechtemperaturen und auf Wunsch auch ohne automatische Rückstellung, nach EN 60204-1 lieferbar.
Kann man für jede Wicklung (Option 3 PTO) installiert werden

## 1.5 OPZIONI (CONTINUA)

## *1.5 OPTIONS (TO BE CONTINUED)*

## 1.5 OPTIONEN (FORTSETZUNG)




### Dispositivo termistore PTC

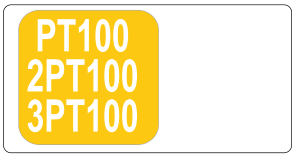
Questo dispositivo varia la sua resistenza in modo repentino e positivo una volta raggiunta la temperarura di intervento.
Possono essere installate una per ogni avvolgimento (opzione 3 PTO)

### *PTC thermistor device*

*This device adjusts its resistance in a prompt and positive manner once the threshold temperature is reached.*
*They can installed one for each winding (option 3 PTO)*

### PTC Thermistor

Diese Vorrichtung variiert ihren Widerstandswert beim Erreichen der Ansprechtemperatur plötzlich und positiv sobald die Ansprechtemperatur erreicht ist.
Kann man für jede Wicklung (Option 3 PTO) installiert werden.




### Dispositivo PT100

È un dispositivo che varia con continuità, e in modo crescente, la sua resistenza in funzione della temperatura.
Si presta al rilievo continuo di temperatura degli avvolgimenti tramite apparecchiature elettroniche.

### *P100 device*

*This device adjusts its resistance in a continous and increasing manner according to the temperature.*
*It is useful for constant measuring of the winding temperatures using electronic equipment.*

### Vorrichtung P100

Diese Vorrichtung ändert ihren Widerstandswert kontinuierlich und ansteigend in Abhängigkeit von der Temperatur.
Sie eignet sich für die kontinuierliche Messung der Temperaturen in der Wicklung mit Hilfe von elektronischen Geräten.

## 1.5 OPZIONI (FINE)

## *1.5 OPTIONS (THE END)*

## 1.5 OPTIONEN (ENDE)

A

RS Opzione *Option* Option

### Scudo parapioggia

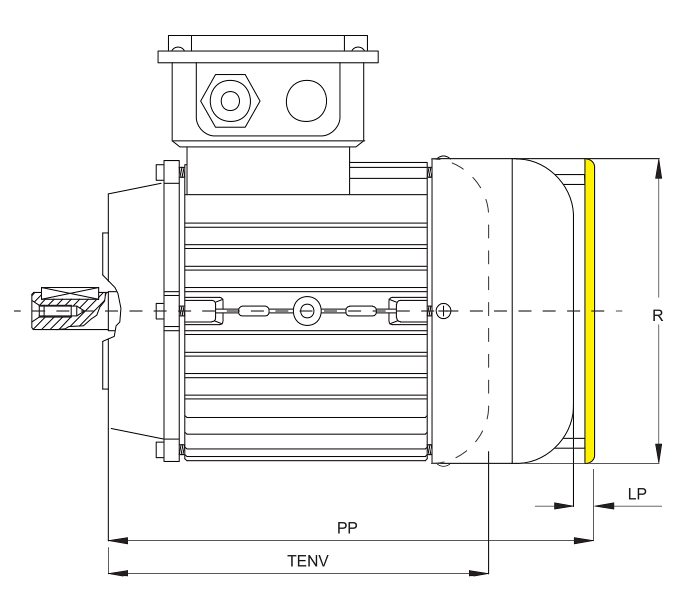
Per applicazioni esterne con montaggio in forma V5 - V3 - V19 - V15 - V18 - V1 - V36 - V6, è consigliabile montare un scudo parapioggia (PP), questa esecuzione si può utilizzare per lavorazioni tessili (PPT) con una variante a richiesta.

### *Rain shield cover*

*For outdoor applications with V5 V3 - V19 - V15 - V18 - V1 - V36 - V6 installation (see Table 6), we recommend installing a rain shield cover (PP). This configuration may also be used in the textiles processing industry (PP), this embodiment can be used for textile processes (PPT) with a variant on request.*

### Regenschutzdach

Für Einsätze im Freien in den Einbaupositionen V5 - V3 - V19 - V15 - V18 - V1 - V36 - V6 sollte ein Regenschutzdach (P) verwendet werden. Das Regenschutzdach ist auch für Einsätze in der Textilverarbeitungsindustrie geeignet (PPT) mit einer auf Anfrage erhältlichen Variante verwendet werden.




| Grandezza *Size* Baugröße | PP | R | LP | TENV |
|---|---|---|---|---|
| **56** | 189 | 116 | 9 | 133,5 |
| **63** | 215 | 122 | 10 | 162,5 |
| **71** | 237 | 140 | 11 | 184 |
| **80** | 257 | 158 | 15 | 198 |
| **90 S** | 270 | 178 | 16 | 208 |
| **90 L** | 298 | 178 | 16 | 233 |
| **100** | 330 | 196 | 13 | 263 |
| **112** | 350 | 221 | 11 | 278,5 |
| **132 S** | 410 | 260 | 15 | 313,5 |
| **132 L** | 437 | 260 | 15 | 351,5 |
| **160M** | 526 | 315 | 30 | 422 |
| **160 L** | 580 | 315 | 30 | 466,5 |
| **180** | 630 | 348 | 30 | 520 |
| **200** | 661 | 348 | 30 | 520 |

Tab 1.22

BF Opzione *Option* Option

### Avvolgimento simmetrico

Avvolgimento bifase distribuito simmetricamente sulla circonferenza di macchina, fatto funzionare in regime monofase con condensatore sempre inserito.
E' usato dove è necessario invertire il senso di rotazione del motore in modo circuitalmente semplice.
In genere ha il funzionamento più silenzioso rispetto un avvolgimento monofase tradizionale, a scapito di una minore coppia di spunto % (-20%).

### *Symmetrical winding*

*Two-phase winding distributed symmetrically around the machine circumference, run in single-phase mode with the capacitor always working.*
*This is used where it is necessary to reverse the motor rotation direction with simple circuits. It generally offers more noiseless operation than a traditional single-phase winding, though at the cost of reducing the starting torque (-20%).*

### Symmetrische Wicklung

Es handelt sich dabei um eine am Motorumfang symmetrisch verteilte Zweiphasenwicklung, die im Einphasenbetrieb mit ständig eingeschalteten Kondensator verwendet wird. .
Sie wird eingesetzt, wenn eine Umkehrung der Drehrichtung des Motors, ohne den Schaltkreis zu komplizieren, notwendig ist. Diese Wicklung ist geräuschärmer als die herkömmliche Einphasenwicklung, hat jedoch ein geringeres Anlaufmoment (-20%).

## 1.6 MOTORI ASINCRONI AUTOFRENANTI

**Generalità**
Prevedono l'impiego di freni elettromagnetici a pressione di molle, calettati saldamente su uno scudo in ghisa nella parte posteriore del motore. L'azione frenante si manifesta in assenza di alimentazione alla bobina freno, eccetto freno positivo.
**Nei motori con freno FS lo scudo può essere in alluminio.**
La classe di isolamento di questi freni è la "Classe F".

## *1.6 BRAKE MOTORS*

***General notes***
*These use sspring-pressure electromagnetic brakes, firmly spliced onto a cast iron shield at the back of the motor. The braking action appears in the absence of power supply to the brake coil; except positive brake.*
***In motors with FS brake the shield may be in aluminium.***
*The insulation class of these brakes is "Class F".*

## 1.6 ASYNCHRON-BREMSMOTOREN

**Allgemeine Angaben**
Bei den Bremsmotoren werden elektromagnetische Federdruckbremsen eingesetzt, die fest an einem Gusseisenschild hinten am Motor aufgezogen sind.
Die Bremsung wird ausgelöst, wenn die Bremsspule nicht mehr mit Strom versorgt wird, mit Ausnahme der positiven Bremse.
**Bei Motoren mit Bremse FS kann das Schild auch aus Aluminium gefertigt werden.**
Die Isolationsklasse dieser Bremsen ist die Klasse "F".

Tab. 1.23

| Freni disponibili | *Brakes available* | Erhältliche Bremsen | | Page/Seite |
|---|---|---|---|---|
| Freno in C.A. | *AC Brake* | Wechselstrombrems | **FA** | A50 |
| Freno in C.C. | *DC Brake* | Gleichstrombremse | **FD** | A52 |
| Freno di stazionamento | *Parking brake* | Haltebremse | **FS** | A54 |
| Freno ad azione positiva | *Positive action brake* | Arbeitsstrombremse | **FP** | A56 |

Per quanto riguarda i motori, di tipo monofase, trifase e a doppia polarità, questi seguono fedelmente le caratteristiche già illustrate in questo catalogo dal punto di vista meccanico ed elettrico, ad esclusione dell'ingombro assiale, che aumenta per la presenza del freno.
La guarnizione di attrito (ferodo) dei nostri freni è priva di amianto, secondo le più recenti Direttive Comunitarie in materia di Igiene e Sicurezza del Lavoro.
Tutti i corpi freno sono protetti contro le aggressioni atmosferiche tramite verniciature e/o zincatura a caldo. Le parti più soggette ad usura sono trattate in atmosfere speciali che conferiscono proprietà notevoli di resistenza all'usura delle parti.
L'albero motore autofrenante standard ha la cava esagonale posteriore.
Poichè i ferodi sono soggetti ad usura occorre prevedere il controllo periodico, eventualmente taratura della coppia frenante o la sostituzione.

### Tensione di alimentazione
Per quanto riguarda le tensioni di alimentazione standard dei freni, queste sono 230/400 V ± 5% / 50 Hz per freni trifase, mentre per freni in corrente continua sono di 230V± 10% 50/60 Hz dal lato A.C. dell'alimentatore freno. Infatti i freni in corrente continua necessitano di un alimentatore per funzionare su rete A.C.
Comunicare in sede d'ordine tensioni e frequenze differenti dagli standard.
L'alimentazione standard del freno è sempre connessa alla morsettiera motore: comunicare in sede d'ordine l'opzione di alimentazione separata (opz. SA) ed indicare tensione e frequenza.

### Ambiente di installazione
Il grado di protezione elettrica del freno è IP54 standard. Il grado di protezione meccanica del freno montato sul motore è IP54. Particolare attenzione deve essere posta nella scelta della protezione del freno, in funzione dell'ambiente di utilizzazione; infatti, in ambienti con acqua nebulizzata o molto umidi, o dove sono

*For single-phase, three-phase and dual-polarity motors, these faithfully follow the specifications already illustrated in this catalogue from a mechanical and electrical standpoint, with the exception of axial dimensions which increase due to the presence of the brake.*
*The lining of our brakes is asbestos-free, according to the most recent EEC Directives on health and safety at the work.*
*All brake assemblies are protected against atmospheric aggression by painting and/or hot-dip galvanisation*
*The parts most subject to wear are treated in special atmospheres that provide considerable wear resistance to the parts.*
*The standard brake motor shaft has the rear hexagon socket. Since the brake linings are subject to wear it is necessary to provide for periodic inspections, any required calibration of the braking torque or replacement.*

***Supply voltage***
*The standard supply voltages for the brakes are 230/400V V ± 5%/50 Hz for three-phase brakes, and 230V ± 10% 50/60 Hz for direct current brakes on the AC side of the brake power supply unit. Direct current brakes require a power supply unit in order to operate on an AC mains.*
*Communicate when ordering voltages and frequencies different from the standard ones. The standard brake power is always connected to the terminal board: communicate when ordering the separate power supply option (opt. SA) and indicate voltage and frequency*

***Installation site***
*The standard electrical protection rating for the brake is IP54, while the mechanical protection for the brake installed on the motor is IP54. Choosing the brake protection requires special attention based on the user environment: in places with misted water or high humidity, where dust is present in the air, or where oily atmospheres are*

Die mechanischen und elektrischen Daten der Einphasen, Drehstrom- und polumschaltbaren Bremsmotoren entsprechen denen der im Katalog aufgeführten Standardmotoren, dies mit Ausnahme der Außenabmessungen, die aufgrund der Bremse größer sind.
Der Reibbelag unserer Bremsen ist, entsprechend den neusten europäischen Gesundheits- und Arbeitsschutzvorschriften asbestfrei.
Alle Bremskörper sind durch Lack und/oder Warmverzinkung vor schädlichen Umwelteinflüssen geschützt. Die Verschleißteile werden Behandlungen in speziellen Atmosphären unterzogen, um ihre Festigkeit zu erhöhen.
Die Welle des Standard-Bremsmotors hat die Inbusanschluss hinten. Da die Bremsbeläge einem Verschleiß unterliegen, ist eine regelmäßige Inspektion, eine eventuelle Einstellung des Bremsmoment oder der Ersatz erforderlich.

**Versorgungsspannung**
Bei Drehstrombremsen beträgt die Standard-Versorgungsspannung der Bremsen 230/400 V ± 5 %/50 Hz, bei Gleichstrombremsen 230V± 10% 50/60 Hz auf der Wechselstromseite des Netzgeräts der Bremse. Letztere erfordern ein Netzgerät, um innerhalb eines A.C.-Netzes betrieben werden zu können.
Bei anderen Spannungen und Frequenzen als den Standardwerten ist dies im Auftrag anzugeben.
Die Standardversorgung der Bremse ist immer an die Klemmleiste des Motors geschlossen: im Auftrag daher die Option der getrennten Versorgung (Opt. SA) sowie die Spannung und Frequenz angeben.

**Umfeld der Installation**
Die Standardschutzart für die Elektrik und Mechanik der Bremse ist IP54. Der Schutz der Bremse muss in Abhängigkeit von Einsatzumfeld mit besonderer Sorgfalt gewählt werden. In Umgebungen mit Sprühwasser, besonders hoher Feuchtigkeit, viel Staub oder ölhaltiger Luft müssen, wie nachfol-

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

presenti polveri in atmosfera, o dove sono presenti atmosfere oleose, è obbligatorio il montaggio di protezioni meccaniche aggiuntive come successivamente specificato (anello antipolvere).
Il grado di protezione non standard (es IP55) è da specificare in sede d'ordine

### Tempi di intervento dei freni D.C.

Gli alimentatori del freno possono essere scelti in funzione dei tempi di frenata desiderati. Infatti, a causa della rotazione inerziale del motore, i morsetti del freno ricevono energia anche dopo l'interruzione dell'alimentazione dalla rete (se collegati in morsettiera). Questo comporta un tempo di ritardo della frenata che può risultare indesiderato. Per eliminare questo ritardo si ricorre all'interruzione del circuito di alimentazione freno direttamente sulla bobina dello stesso, impedendo così all'energia inerziale del motore di mantenere il freno in tensione. Si può quindi effettuare la scelta dei tempi di frenata desiderati dalle tabelle successive.

### Rumorosità

I freni utilizzati per le grandezze di motore da noi prodotti rimangono ampiamente al di sotto dei limiti imposti dalle Direttive Comunitarie in materia di Protezione dei lavoratori contro i rischi di esposizione al rumore durante il lavoro.
Tale limite si può sommariamente identificare in 140 dB per pressione acustica istantanea non ponderata.

**Coppie frenanti maggiorate:**

È possibile, a richiesta, avere freni con coppie frenanti maggiorate, FAM e FDM. Occorre comunicare in sede d'ordine i valori non standard.

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

*present, additional mechanical protections must be installed as specified below (dust protection ring).*
*The non-standard degree of protection (eg. IP55) has to be specified when ordering*

### *DC brake intervention times*

*The power supply units of brake may be chosen based on the desired braking times. Due to the inertial rotation of the motor, the brake terminals receive energy even after the mains power supply is shut off (if connected via terminal board). This causes a braking delay that may be undesirable.*
*To eliminate this delay, the brake power supply circuit may be interrupted directly on its coil, thereby preventing the inertial energy of the motor from keeping the brake powered. The table below shows the parameters for the selection of the desired braking times.*

### *Noise levels*

*The brakes used for motor sizes we produce remain well within the limits set by the EEC Directives in terms of Worker Protection against the risk of exposure to noise at the workplace.*
*This limit may be briefly identified as 140 dB for non-weighted instantaneous acoustic pressure.*

***Increased braking torque:***
*Upon request brakes with increased braking torque can be supplied, (FAM and FDM). Non-standard values must be communicated when ordering.*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

gend aufgeführt, zusätzliche mechanische Schutzvorrichtungen (Staubschutzring) vorgesehen werden.
Der vom Standard abweichtende Schutzgrad (z. B. IP55) muss im Auftrag angegeben werden.

### Ansprechzeiten der Gleichstrombremsen

Bei der Wahl des Netzgerätes die Bremse müssen die gewünschten Ansprechzeiten berücksichtigt werden. Durch das Nachlaufen des Motors werden die Klemmen der Bremse (falls sie im Klemmenkasten angeschlossen sind) auch nach Unterbrechung der Stromversorgung noch mit Strom versorgt. Dadurch wird die Bremsung verzögert, was oftmals unerwünscht ist. Um diese Verzögerung zu verhindern, wird die Stromversorgung der Bremse direkt an der Bremsspule unterbrochen, so dass die Bremse nicht mehr durch den Nachlaufstrom des Motors mit Spannung beaufschlagt wird. In den nachfolgenden Tabellen können die gewünschten Ansprechzeiten der Bremse gewählt werden.

### Geräuschpegel

Die Werte der Bremsen der von uns hergestellten Motorbaugrößen liegen weit unter den von den EG-Richtlinien für den Lärmschutz der Arbeitnehmer am Arbeitsplatz vorgeschriebenen Grenzwerten.
Dieser Grenzwert lässt sich pauschal in einen momentanen nicht gewichteten. Schalldruckpegel von 140 dB ermitteln.

**Höheres Bremsmoment:**
Auf Anfrage sind Bremsen mit erhöhten Bremsmomenten, FAM und FDM, erhältlich.
Die vom Standard abweichenden Werte müssen im Auftrag angegeben werden.

# OPZIONI FRENI / *BRAKE OPTIONS* / BREMSENOPTIONEN

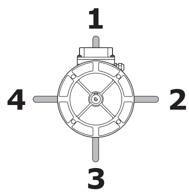
LS Opzione / *Option* / Option

### Leva di sblocco manuale:

Consente, mediante lo spostamento della leva, in direzione lato copriventola del motore, lo sblocco del freno e la possibilità di manovra tramite chiave a brugola esagonale. Infatti, dal lato copriventola, è presente un foro passante che permette di raggiungere la testa dell'albero motore in cui è ricavato il foro esagonale di manovra. Essa può essere montata in 4 diverse posizioni come indicato nella seguente illustrazione.
Se non comunicato in sede d'ordine la posizione standard è LS1.

### *Hand release lever:*

*Moving the level towards the fan cover of the motor releases the brake, making it possible to use the hexagonal Allen wrench to move the unit. A through hole is available on the fan cover side to access the head of the motor shaft, containing the hexagonal movement hole.*
*It can be fitted in 4 different positions as shown in the following illustration.*
*If not notified when ordering the standard position is LS1.*




### Entsperrhebel

Wenn man diesen Hebel in Richtung Lüfterhaube schiebt, wird die Bremse entriegelt und kann mit einem Inbusschlüssel betätigt werden. An der Seite der Lüfterhaube befindet sich eine durchgehende Bohrung, über die man an das Ende der Motorwelle gelangt, in der sich die Sechskantbohrung für die Betätigung der Bremse befindet. Die Bremse kann in vier verschiedenen Einbaulagen gemäß der nachstehenden Abbildung montiert werden.
Wenn im Auftrag nicht anderweitig angegeben ist die Standardposition die LS1.

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

SASD Opzione *Option* Option

### Alimentazione separata del freno:

Si ottiene tramite una morsettiera ausiliaria, con fissati i morsetti delle bobine freno, posizionata all'interno del coprimorsettiera motore. Sono disponibili a richiesta coprimorsettiera maggiorati da autofrenanti IP65.
Nei motori doppia polarità autofrenanti, servoventilati, tensione motore 400V/600V, tensione freno 24V, serie IN l'alimentazione separata è standard.

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

### *Separate brake power supply:*

*Achieved by means of an auxiliary terminal board, with fixed brake coil terminals, located inside the motor terminal box. Increased terminal boxes for IP65 brake motors are available upon request. Separate power supply is standard for dual-polarity brake motors.*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

### Separate Stromversorgung der Bremse:

Die Bremse wird über ein zusätzliches Klemmbrett, an dem die Klemmen der Bremsenspule angeschlossen sind, mit Strom versorgt. Dieses Klemmbrett befindet sich im Klemmenkasten des Motors. Auf Wunsch sind größere Klemmenkästen (Ausführung wie für die Bremsmotoren) in IP 65 lieferbar.
Bei servobelüfteten, polumschaltbaren Bremsmotoren, Motorspannung 400V/600V, Bremsenspannung 24V, Serie IN gehört die separate Stromversorgung zum Standard.

| Tensioni di alimentazione speciali / *Special supply voltages* / Sonderspannungen | |
|---|---|
| Tensioni A.C. / *AC voltages* / Wechselstromspannungen | Tensioni D.C. / *DC voltages* / Gleichstromspannungen |
| Range 24-690 V 50/60 Hz | Range 24-205V |

Tab 1.24

PC=VW Opzione *Option* Option

### Avviamento progressivo

Sono motori nei quali viene installata una ventola speciale in ghisa/disco, che funge da volano energetico, ritardando al momento il raggiungimento della velocità di regime. Questo perchè essendo l'energia cinetica del corpo ventola Ec = (1/2) J $\omega^2$ [J], al momento dell'avviamento il motore deve spendere lavoro per avviare il volano supplementare e ciò implica l'impiego del tempo di avviamento a parità di tutte le altre condizioni.

### *Progressive starting*

*These are motors in which a special cast-iron fan/disc is installed, which acts as an energy flywheel, delaying the standard speed at start-up time. Being this the kinetic energy of the fan assembly Ec = (1/2) J $\omega^2$ [J], upon start up, the motor must run to start the additional flywheel; this involves using the starting time with all other conditions being equal.*
*Separate power supply is standard for dual-polarity, forced ventilated brake motors, with a voltage of 400V/600V, brake voltage 24V, IN series.*

### Anlaufverzögerte Motoren

Es handelt sich um Motoren, die über ein spezielles Lüfterrad/Scheibe aus Gusseisen verfügen. Das Lüfterrad übernimmt die Funktion eines Schwungrads und zögert beim Anlauf des Motors das Erreichen der Betriebsdrehzahl hinaus. Da die kinetische Energie des Lüfterradkörpers Ec = (1/2) J $\omega^2$ [J] ist, muss der Motor beim Starten zusätzliche Energie aufbringen, um das Schwungrad in Bewegung zu setzen. Dadurch wird die Anlaufzeit verlängert, alle anderen Bedingungen bleiben jedoch gleich.

**Tab1.25a Volani per motori / *Flywheels for motors* / Schwungräder für Motoren**

| | Tipo / *Type* / Type | Peso volano / *Flywheel weight* / Gewicht Schwungrad (Kg) | Inerzia volano / *Flywheel inertia* Trägheitsmoment Schwungrad (Kgm$^2$) |
|---|---|---|---|
| | 63 / 71 | 1,0 | 0,00101 |
| * | 80 / 90 | 2,8 | 0,00347 |
| * | 100 / 112 | 4,7 | 0,00991 |
| * | 132 | 7,1 | 0,02270 |
| | 160 | 9,0 | 0,06390 |
| | 180 / 200 | 9,0 | 0,06390 |

*** Ventola pesante in ghisa / *Cast-Iron heavy fan* / Schweres Schwungras aus Gußeisen**

### Gradi di protezione superiori:

Sono disponibili a richiesta due ulteriori gradi di protezione IP:
- il primo prevede l'utilizzo di un anello antipolvere, di un disco in acciaio INOX, di un anello di tenuta, che porta il grado di protezione a IP 65, consigliato in ambienti polverosi e leggermente umidi UR < 60%.
- il secondo prevede l'utilizzo di una calotta in Alluminio con anello di tenuta che porta il grado di protezione a IP 56, consigliato in quegli ambienti dove è presente una forte umidità UR ≥ 60%, o sono presenti oli nebulizzati o getti d'acqua (tipici esempi sono macchine automatiche o macchine alimentari per il cui lavaggio si ricorre al getto in pressione d'acqua).

### *Increased protection levels:*

*We can supply other two protection levels, available upon request.*
*- The first one needs a dust seal, a stainless steel disc and a sealing ring to bring the protection level to the protection level to IP 65, which should be used in very dusty and slightly humid areas, RH<60%.*
*- The second needs an aluminium cap with a sealing ring to bring the protection to IP 56, adviced for areas where the humidity is very high R.H. ≥ 60%, or where there are water jets and sprayed oils. (typical examples are automatic machines or food machines cleaned by using water sprayed under pressure).*

### Höhere Schutzart:

Auf Wunsch sind zwei weitere Schutzarten verfügbar.
- Die erste Schutzart sieht den Einsatz eines Staubschutzringes, einer Edelstahscheibe und eines Dichtungsringes vor, womit die in staubiger und schwach feuchter Umgebung (relative Luftfeuchtigkeit < 60%) empfohlene Schutzart IP65 erreicht wird.
- Die zweite Schutzart sieht eine Aluminiumkappe mit Dichtungsring vor, womit die in sehr feuchten Umgebungen (relative Luftfeuchtigkeit ≥ 60%) oder in Umgebungen mit ölhaltiger Luft oder Spritzwasser empfohlene Schutzart IP56 erreicht wird. (wie z.B. bei automatischen Maschinen oder Lebensmittelmaschinen, die mit Wasser abgespritzt werden).

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

### Scelta del freno

### Calcolo interventi a carico possibili:

Si considerano il numero di avviamenti possibili a vuoto $Z_0$, riportati nelle tabelle riguardanti le caratteristiche dei motori, per rimanere nei limiti di sovratemperatura, imposta dalla classe di isolamento del freno "IC. F", e sovratemperatura massima ammissibile per il mantenimento della coppia frenante nominale dalla guarnizione di attrito (ferodo), si ricavano il numero di avviamenti orari a carico dalla seguente formula sperimentale:

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

### *Choosing the brake*

### *Calculating possible load interventions:*

*The number of no-load starts $Z_0$, listed in the tables containing the motor specifications, is taken into account to remain within the overtemperature limits set by the brake "IC. F" insulation class and the maximum admissible overtemperature value to maintain the rated braking torque of the lining.*
*This makes it possible to determine the number of starts per hour under load through the following experimental formula:*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

### Wahl der Bremse

### Berechnung der zulässigen Bremsfrequenz unter Last:

Damit die max zulässige Übertemperatur der Isolationsklasse "IC.F" der Bremse und die max. zulässige Übertemperatur der Bremsbeläge für die Erhaltung des Nennbremsmoments nicht überschritten werden, muss von der zulässigen Einschaltfrequenz Zo des Motors ohne Last, die in den Tabellen der Motordaten angegeben ist, ausgegangen werden. Die Einschaltfrequenz des Motors pro Stunde unter Last kann mit der folgenden experimentellen Formel ermittelt werden:

$$\omega c = \omega o \cdot \xi \cdot \gamma$$

Contattatare STM per avere il valore di $\omega o$

*Contact STM for the value of $\omega o$*

Wenden Sie sich an STM, um den Wert von $\omega o$ zu erfahren

dove $\xi$ e $\gamma$ si ricavano dai grafici sperimentali seguenti in funzione rispettivamente, dalle coppie [Nm] e dalle masse [kg] in questione.
Infatti il coefficiente adimensionale $\gamma$ è funzione del rapporto fra i momenti di inerzia del carico applicato Jc [kg m$^2$] e delle masse rotanti del motore primo Jm [kg m$^2$] $\gamma$ =f (Jc/Jm), mentre il coefficiente adimensionale $\xi$ è funzione del rapporto fra la coppia resistente Cr [Nm] e la coppia di avviamento del motore primo Ca [Nm], $\xi$ = f (Cr/Ca).

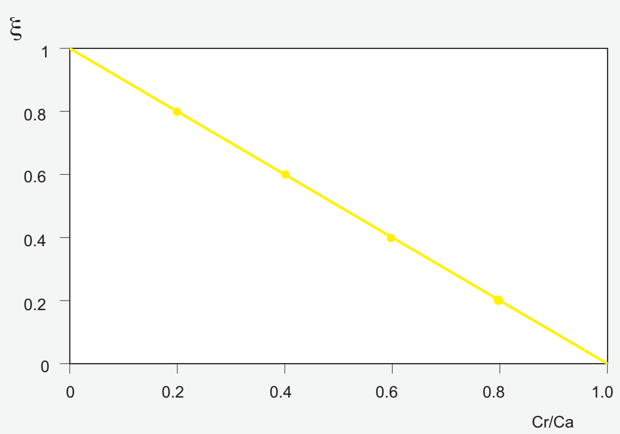
Dove:
Jc = momento di inerzia del carico [kg m$^2$]
Jm = momento di inerzia del motore primo [kg m$^2$]
Cr = coppia resistente del carico [Nm]
Ca = coppia di avviamento del motore [Nm]
$\gamma$ = f (Jc/Jm)
$\xi$ = f (Cr/Ca)

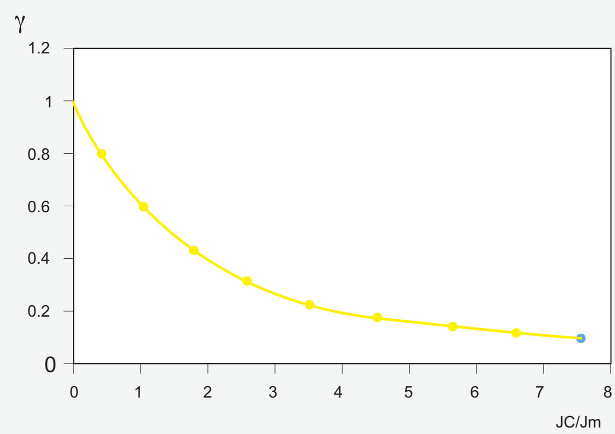
*where $\xi$ and $\gamma$ are determined from the following experimental graphs, based respectively on the torque [Nm] and mass [kg] in question.*
*The $\gamma$ dimensionless coefficient is a function of the ratio between the inertia moments of the applied load Jc [kg m$^2$] and the rotating masses of the first motor Jm [kg m$^2$] $\gamma$=f(Jc/Jm), while the dimensionless coefficient $\xi$ is a function of the ratio between the resistance torque Cr [Nm] and the starting torque of the first motor Ca [Nm] $\xi$= f (Cr/Ca).*

*Where:*
*Jc = load inertia moment [kg m$^2$]*
*Jm = first motor inertia moment [kg m$^2$]*
*Cr = resistance torque of the load [Nm]*
*Ca = starting torque of the motor [Nm]*
*$\gamma$ = f (Jc/Jm)*
*$\xi$ = f (Cr/Ca)*

wobei $\xi$ und $\gamma$ in Abhängigkeit von den Drehmomenten [Nm] bzw. den Massen [kg] den nachfolgenden graphischen Darstellungen entnommen werden können.
Der dimensionslose Koeffizient $\gamma$ ist abhängig vom Verhältnis der Trägheitsmomente der aufgebrachten Last Jc [kg m2] un der rotierenden Massen des Motors Jm [kg m$^2$], $\gamma$=f(Jc/Jm), während der dimensionslose Koeffizient $\xi$ vom Verhältnis des Widerstandsmoments Cr [Nm] und des Anlaufmoments des ersten Motors Ca [Nm] ist:

Dabei ist:
Jc = Trägheitsmoment der Last [kg m$^2$]
Jm = Trägheitsmoment des ersten Motors [kg m$^2$]
Cr = Widerstandsmoment der Last [Nm]
Ca = Anlaufmoment des Motors [Nm]
$\gamma$ = f (Jc/Jm)
$\xi$ = f (Cr/Ca)



## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

Per masse con cilindriche il momento di inerzia J si calcola tramite la formula:

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

*For masses with cylindrical symmetry, the inertia moment J is calculated according to the formula:*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

Für Massen mit zylindrischer Symmetrie wird das Trägheitsmoment mit der folgenden Formel berechnet:

$$J = (1/2) \cdot M (R^2)$$

dove M [kg] è la massa della massa rotante,
mentre R [m] è il raggio del volume a simmetria cilindrica.
Un classico esempio è quello del rotore e dell'albero di un motore elettrico asincrono. Se consideriamo i momenti di inerzia dell'albero $J_1$ e del rotore $J_2$, questi si sommano algebricamente a ricavare il momento di inerzia totale $J = J_1 + J_2$ [kg m$^2$], in quanto ruotanti attorno il medesimo asse di rotazione. Se l'asse di rotazione non è il medesimo, esempio tipico delle pulegge e cinghie di trasmissione, è necessario considerare un termine di trasporto.

**Calcolo del tempo di frenatura $t_f$[s]**
Per una determinazione indicativa del tempo di frenatura, si può fare uso della seguente formula:

*where M [kg] is the mass of the rotating mass, while R [m] is the radius of the cylindrical symmetry volume.*
*A classical example is that of the rotor and shaft of an induction electric motor. If we consider the inertia moments of the shaft J1and the rotor J2, these are added algebraically to determine the total inertia moment J =J1+J2[kg m2] as they rotate around the same rotation axis. If the rotation axis is not the same (a typical example is that of transmission belts and pulleys), it is necessary to consider a transport end.*

***Calculating the braking time $t_f$[s]***
*To arrive at an approximate braking time, the following formula may be used:*

wo M [kg] die Masse des Drehkörpers und R [m] der Radius des Volumens mit zylindrischer Symmetrie ist.
Ein klassisches Beispiel dafür ist der Läufer und der Welle eines elektrischen Asynchronmotors. Werden die Trägheitsmomente der Welle J1 und des Läufers J2 berücksichtigt und algebraisch addiert, erhält man das Gesamtträgheitsmoment J =J1+J2[kg m2], da sie sich um dieselbe Drehachse drehen. Ist die Drehachse nicht dieselbe, wie zum Beispiel bei Riemenscheiben und Antriebsriemen, muss ein Förderende berücksichtigt werden.

**Berechnung der Bremszeit $t_f$[s]**
Die ungefähre Bremszeit kann mit der folgenden Formel berechnet werden:

$$t_f = \frac{J_{tot} \cdot n}{9.55\,(CF \pm Cr)} + t_B$$

dove:
Jtot = Momento d'inerzia complessivo all'albero motore [kg m$^2$]
n = Velocità di rotazione motore [min$^{-1}$]
CF = Momento frenante [Nm]
Cr = Momento resistente del carico applicato [Nm] con segno + se di segno concorde al momento frenante, - nel caso opposto
$t_B$= Tempo di risposta elettrica del freno [s]
- 7 ms freno in A.C.
- 20 ms freno in D.C. (Rapida)
- 80 ms per freno D.C. (Normale standard)

*where:*
*Jtot = Overall inertia moment at the motor shaft [kg m$^2$]*
*n = Motor rotation speed [rpm]*
*CF= Braking moment [Nm]*
*Cr = Resistance moment of the applied load [Nm] with a + sign if the sign agrees with the braking moment, or – if not*
*$t_B$= Electrical brake response time [s]*
*- 7 ms AC brake*
*- 20 ms DC brake (rapid)*
*- 80 ms for DC brake (normal standard)*

Dabei ist:
Jtot = Gesamtträgheitsmoment an der Motorwelle [kg m$^2$]
n = Motordrehzahl [min$^{-1}$]
CF= Bremsmoment [Nm]
Cr = Widerstandsmoment der Last [Nm], positiv bei Übereinstimmung des Vorzeichens mit dem des Bremsmoment, negativ im gegenteiligen Fall
-$t_B$= elektrische Ansprechzeit der Bremse [s]
- 7 ms Wechselstrombremse
- 20 ms Gleichstrombremse (Schnellbrem sung)
- 80 ms Gleichstrombremse (Normal Standard)

Quindi si sceglierà il freno in funzione delle due variabili $\omega_c$ e $t_f$.

*Then select the brake based on the two variables $\omega_c$ and $t_f$*

Die Bremse muss also abhängig von den beiden Variablen $\omega_c$ und tf gewählt werden.

**Rodaggio ferodo**
Il funzionamento nominale del freno si raggiunge dopo alcuni cicli di intervento, tali da permettere alla guarnizione di attrito di assestarsi.
Le coppie frenanti indicate sono quelle statiche medie e possono subire piccole variazioni di natura tecnica (range da considerare ±20% a ferodo rodato).

***Lining break-in***
*The nominal brake operation is achieved after a few cycles, to allow the lining to settle.*
*The braking torques indicated are the average static ones and may be subject to small technical variations (range ± 20% to be considered with run-in lining)*

**Einlauf der Bremsbeläge**
Die Bremse erreicht ihre Nennleistung erst nach einigen Bremszyklen, da sich die Bremsbeläge erst einlaufen müssen.
Die angegebenen Bremsmomente sind die statischen Durchschnittswerte und können geringfügigen technischen Änderungen unterliegen (zu berücksichtigender Bereich ± 20 % bei eingelaufenem Bremsbelag).

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

### Cave esagonali

L'albero dei motori autofrenanti ha di serie la cava esagonale posteriore (tab 1.25b)

N.B. freni Atex solo di stazionamento

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

### *Hexagonal ends*

*As standard, the shaft of the brake motors features a rear hexagonal end (tab. 1.25b).*

*N.B.: Atex brakes are parking brakes only.*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

### Sechskantnuten

Die Welle der Bremsmotoren ist serienmäßig hinten mit einer Sechskantnut versehen (Tab- 1,25b).
Hinweis: Atex-Bremsen sind nur Parkbremsen.

A

**Tab1.25b Cave esagonali / *Hexagonal ends* /** Hexagonal Enden

| Grandezza<br>*Size*<br>Größe | Tipo cava<br>*Type of end*<br>Nuttyp | Dimensioni<br>*Dimensions*<br>Maße | Profondità<br>*Depth*<br>Tiefe |
|---|---|---|---|
| 56 | esagonale<br>*hexagonal*<br>Hexagonal | 4 | 8 |
| 63 | | 5 | 8 |
| 71 ÷ 112 | | 6 | 15 |
| 132S / 132M | | 14 | 15 |
| 160 ÷ 200 | | 14 | 12 |

### Velocità massima di funzionamento

La velocità massima dei freni standard è riportata nelle tabelle dei relativi freni.
Se i freni lavorano a velocità variabile non superare il limite di velocità massima indicati nelle tabelle (per chiarimenti chiedere a UT)

### *Maximum operating speed*

*The maximum speed of the standard brakes is show in the tables of the relevant brakes.*
*If the brakes are working at variable speed do not exceed the maximum speed limit indicated in the tables (ask UT for clarifications)*

### Maximale Betriebsgeschwindigkeit

Die maximale Drehzahl der Standard-Bremsen wird in den Tabellen der entsprechenden Bremsen gegeben. Wenn die Bremsen bei variabler Drehzahl arbeiten, dürfen die zulässigen, in den Tabellen angebebenen maximalen Drehzahlen nicht überschritten werden (bei UT Klarstellungen anfragen).

### CERTIFICAZIONE FRENI

Per quanto riguarda i freni standard esistono le seguenti limitazioni:

**CE**
Tutti quelli prresenti nel capitolo 1.7

**UL/CSA**
Tutti quelli presenzi nel capitolo 1.7 da SIZE 63 in poi (eccetto size 50 e 56). Contattare STM per verificare le marcature possibili.

**ATEX CE**
Solo i freni standard FD del capitolo 1.7 da SIZE 63 in poi (eccetto size 50 e 56) sono omologabili per zona 2 e zona 22.
Il grado di protezioner IPF deve essere almeno IP55 (no IP54).
I freni atex sono fornibili solo con alimentazione separata (SASD=1)
***Attenzione: i freni Atex standard devo essere usati solo per lo stazionamento non possono essere usati per frenare il carico.***

### *BRAKE CERTIFICATION*

*As regards the standard brakes the following limitations exist:*

***CE***
*All those in Chapter 1.7*

***UL / CSA***
*All those in chapter 1.7 from SIZE 63 onwards (except for size 50 and 56).*
*Contact STM to verify the possible markings.*

***EC ATEX***
*Only FD standard brakes Chapter 1.7 SIZE from 63 onwards (except for size 50 and 56) can be approved for Zone 2 and Zone 22.*
*The degree of IP protection is IP55 (not IP54).*
*The ATEX brakes are only configured with separate power supply (SASD = 1)*
***Attention: the standard Atex brakes must only be used as parking brakes and can not be used to decelerate the load.***

### ZERTIFIZIERUNG DER BREMSEN

Für die Standard-Bremsen bestehen Einschränkungen laut folgenden Zertifizierungen:

**CE**
Alle, die im Kapitel 1.7 angegeben werden

**UL / CSA**
Alle, die in Kapitel 1.7 ab GRÖSSE 63 angegebenen (mit Ausnahme der Größen 50 und 56). Setzen Sie sich mit STM in Verbindung, um die mögliche Kennzeichnungen zu überprüfen.

**EG ATEX**
Nur Bremsen FD Standard Kapitel 1.7 Größe von 63 ab (mit Ausnahme der Größe 50 und 56) können für Zone 2 und Zone 22 zugelassen werden.
Die IP-Schutzart muss mindestens IP55 (nicht IP54) betragen.
Die ATEX-Bremsen sind nur mit separater Stromversorgung lieferbar (SASD = 1)
**Achtung: Die Atex Standard-Bremsen dürfen nur als Feststellbremsen und nicht zum Abbremsen der Last verwendet werden.**

**Nota:**

Nei motori autofrenanti, con tensione di alimentazione 400/690 V, il freno è ad alimentazione separata (e 230/400V se trifase TOB=FA)

***Note:***

*In brake motors with power supply voltage 400/690 V, the brake has separate power supply (230 / 400V if three-phase TOB = FA)*

**Hinweis:**

Bei Bremsmotoren mit Versorgungsspannung 400/690 V wird die Bremse getrennt versorgt (und 230/400 V, wenn die Bremse TOB = FA dreiphasig ist).

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

## FRENO FT / *FT BRAKE* / BREMSE FT

I freno per applicazione teatro conformi a DIN 56921 e DIN5625 sono freni a molla in esecuzione doppia idonei.
La costruzione meccanica è con due freni a molla completamente indipendenti.

*The brakes for theatre applications are dual spring brakes compliant to DIN 56921 and DIN 5625. The mechanical construction features two independent spring brakes.*

Die Bremse für den Einsatz in Theateranwendungen laut DIN 56921 und DIN5625 ist unter den angemessenen Federbremsen in doppelter Ausführung zu wählen.
Der mechanische Aufbau erfolgt mit zwei vollkommen voneinander unabhängigen Federbremsen.

| SIZE | Nm | Velocità Max [min$^{-1}$]<br>*Speed max [rpm]*<br>Max. Drehzahl D [min$^{-1}$] |
|---|---|---|
| 71 | 8 (2x4) | 3600 |
| 80 | 16 (2x8) | 3600 |
| 90 | 32 (2x16) | 3600 |
| 100 | 64 (2x32) | 3600 |
| 112 | 120 (2x60) | 3600 |
| 132 | 160 (2x80) | 3600 |
| 160 | 300 (2x150) | 1800 |
| 180 | 520 (2x260) | 1800 |
| 200 | 800 (2x400) | 1800 |

* Velocità maggiorata per freni intorq (Lenze) contattare ufficio tecnico

* *Increased speed for INTORQ brakes (Lenze) contact technical department*

* Erhöhte Drehzahl bei INTORQ Bremsen (Lenze). Setzen Sie sich mit der Technischen Abteilung in Verbindung.

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)



# FRENO FL / *FL BRAKE* / BREMSE FL

Freni indonei all'utilizzo in applicazioni ascensoristiche (norma EN 81-1)

*Brake suitable for use in lift applications (in compliance with EN 81-1)*

Für den Einsatz in Lift-Anwendungen geeignete Bremsen (Norm EN 81-1)

| **SIZE** | **Grandezza freno**<br>***Brake size***<br>**Größe Bremse** | **Nm** | **Velocità Max [min$^{-1}$]**<br>***Speed max [rpm]***<br>**Max. Drehzahl D [min$^{-1}$]** |
|---|---|---|---|
| 71 | 02 | 1,75 + 1,75 | 3600 |
| 80 | 03 | 2,50 + 2,50 | 3600 |
| 90 | 04 | 5,00 + 5,00 | 3600 |
| 100 | 05 | 13,00 + 13,00 | 3600 |
| 112 | 06S | 25,00 + 25,00 | 3600 |
| 132 | 06 | 37,50 + 37,50 | 3000 |
| 160 | 07 | 50,00 + 50,00 | 3000 |
| 180 | 08 | 125,00 + 125,00 | 1500 |
| 200 | 09 | 150,00 + 150,00 | 1500 |

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

# FRENO FA / *FA BRAKE* / BREMSE FA

### Freno elettromagnetico in corrente alternata.

**Descrizione e funzionamento**
Freno elettromagnetico con funzionamento negativo (positivo a richiesta).
L’alimentazione della bobina freno è prevista nell’esecuzione standard con collegamento in morsettiera motore.
La tensione standard di alimentazione trifase del gruppo freno è 230/400V ±10% 50Hz. L’azione frenante si esercita in assenza di alimentazione; quando si interrompe l’alimentazione la bobina di eccitazione (1), non essendo più alimentata, non esercita la forza elettromagnetica necessaria a trattenere l’ancora mobile (2), la quale spinta dalle molle di pressione (14) comprime il disco (3) da una parte sulla flangia del motore, dall’altra sull’ancora stessa, esercitando così l’azione frenante.
N.B.: Nel caso il motore sia alimentato da inverter occorre l'opzione alimentazione separata

**Regolazione**
Si possono effettuare due tipi diversi di regolazione:

**Regolazione del traferro**
Per un corretto funzionamento, il traferro S fra elettromagnete (1) e ancora mobile (2) deve essere compreso nei limiti di valori indicati in tabella (Snom-Smax); la regolazione si effettua agendo sulle viti di fissaggio (10) e sui dadi di bloccaggio (11), controllando mediante spessimetro che sia raggiunto il valore di traferro desiderato Snom.

**Regolazione della coppia frenante**
Si ottiene agendo sulle viti senza testa (12), secondo le indicazioni della tabella (Cn = coppia nominale - ΔC = variazione coppia per un quarto di di giro di vite).
In presenza di leva di sblocco manuale (5), una volta regolata la coppia frenante, occorre regolare la corsa libera della leva prima dell’inizio sblocco, agendo sui dadi di fissaggio della leva stessa.

### *Electromagnetic brake in alternated current*

***Description and operation***
*Electromagnetic brake with negative operation (positive upon request).*
*The brake coil is powered through a connection to the motor terminal board in the standard version.*
*The standard three-phase supply voltage for the braking unit is 230/400V ± 10% 50 Hz.*
*The braking action is exercised in the absence of power supply. When the power supply is interrupted, the excitation coil (1) is no longer powered and therefore does not exert the magnetic force necessary to restrain the mobile armature (2) which, pushed by the pressure spring (14), compresses the brake disk (3) against the motor flange on one side and the armature itself on the other, thereby creating a braking action.*
*Note: If the motor is powered by inverter, the separate power supply option is required*

***Adjustment***
*Two different types of adjustment are possible.*

***Air gap adjustment***
*For proper operation, the air gap S between the electromagnet (1) and the mobile armature (2) must be between the limits indicated in the table (Snom-Smax); adjust the holding screws (10) and nuts (11), using a feeler gauge to make sure that the desired air gap Smon value is reached.*

***Braking torque adjustment***
*This is done using the headless screw (12) according to the instructions in the table (Cn = rated torque; ΔC = torque variation for a quarter of a turn of the screw). If the hand release lever (5) is present, once the braking torque is adjusted it is also necessary to adjust the free stroke of the lever before release begins, using the holding nuts of the lever itself.*

### Elektromagnetische Wechselstrombremse

**Beschreibung und Betrieb**
Die elektromagnetische Wechselstrom-bremse ist eine Ruhestrombremse (auf Wunsch als Arbeitsstrombremse lieferbar).
In der serienmäßigen Ausführung wird die Versorgung der Bremsspule am Klemmbrett des Motors angeschlossen. Die Standard-spannung dreiphasig der Bremsgruppe ist 230/400 V ± 10% bei 50 Hz. Die Bremsung erfolgt bei Versorgungsausfall.
Bei Unterbrechung der Stromversorgung übt die Erregerspule (1), da sie nicht mehr gespeist wird, die elektromagnetische Kraft, die erforderlich ist, um den beweglichen Anker (2) zu halten, nicht mehr aus. Der Anker presst dann die Bremsscheibe (3) durch den Schub der Druckfedern (14) von einer Seite auf den Motorflansch (6) und von der anderen Seite wird auf den Anker selbst eingewirkt, wodurch der Bremseffekt erzielt wird.
Hinweis: Wird der Motor von einem Inverter versorgt, muss die Option der separaten Stromversorgung gewählt werden.

**Einstellung**
Es können zwei verschiedene Einstellungen vorgenommen werden.

**Luftspalteinstellung**
Der Abstand des Luftspalts S zwischen dem Elektromagneten (1) und dem beweglichen Anker (2) muss innerhalb der in der Tabelle angegebenen Grenzwerte (Snom-Smax) liegen. Die Einstellung wird an den Befestigungs-schrauben (10) und Blockiermuttern (11) vorgenommen. Mit einer Fühlerlehre muss dann geprüft werden, ob der gewünschte Luftspaltwert Snom erreicht wurde.

**Einstellung des Bremsmoments**
Die Einstellung des Bremsmoments erfolgt über den Bolzen (12) gemäß Angaben in der Tabelle (Cn = Nenndrehmoment -ΔC = Änderung um eine viertel Schraubendrehung). Ist der manuelle Entsperrhebel (5) vorhanden, muss vor Beginn des Lösens, nach dem Einstellen des Bremsmoments, der freie Hebelweg über die Befestigungsmuttern des Hebels eingestellt werden.

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

A

# FRENO FA / *FA BRAKE* / BREMSE FA

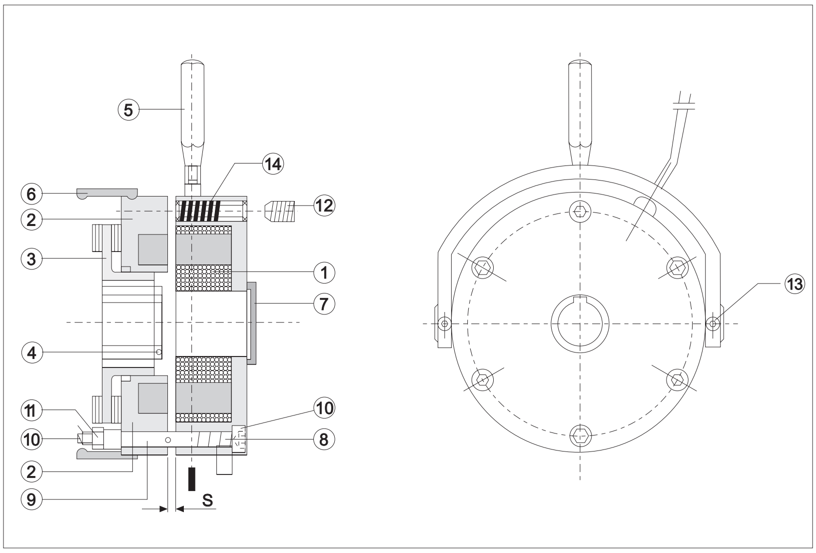
Tab. 1.26a

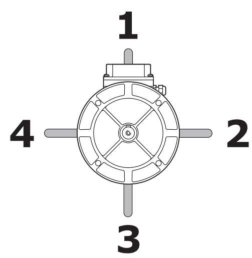
| **Freno / *Brake* / Bremse 230/400 V - 50Hz** (marca / *brand* / Marke OEG) | **63** | **71** | **80** | **90** | **100** | **112** | **132** | **160** | **180** | **200** |
|---|---|---|---|---|---|---|---|---|---|---|
| Snom [mm] | 0,20 | 0,20 | 0,20 | 0,20 | 0,30 | 0,30 | 0,30 | 0,30 | 0,40 | 0,40 |
| Smax [mm] | 0,40 | 0,40 | 0,40 | 0,45 | 0,45 | 0,45 | 0,55 | 0,55 | 0,60 | 0,60 |
| CF [Nm] * | 5,00 | 5,00 | 10,00 | 20,00 | 40,00 | 60,00 | 90,00 | 200,00 | 400,0** | 400,0** |
| ΔC [Nm] | - | - | - | - | - | - | - | - | - | - |
| Tempo frenata [ms]<br>*Braking time [ms]*<br>Bremszeit [ms] | 5,00 | 5,00 | 5,00 | 6,00 | 6,00 | 6,00 | 8,00 | 8,00 | 10,00 | 10,00 |
| Tempo frenata rapida [ms]<br>*Rapid braking time [ms]*<br>Schnellbremszeit [ms] | - | - | - | - | - | - | - | - | - | - |
| Tempo di rilascio [ms]<br>*Release time [ms]*<br>Rücklasszeit [ms] | 20,00 | 20,00 | 35,00 | 60,00 | 90,00 | 90,00 | 100,00 | 150,00 | 180,00 | 180,00 |
| Potenza assorbita [W]<br>*Absorbed power [W]*<br>Aufgenommene Leistung [W] | 55,00 | 55,00 | 95,00 | 150,00 | 185,00 | 380,00 | 500,00 | 650,00 | 650,00 | 650,00 |
| Corrente assorbita a 230V (Δ) [A]<br>*absorption current at 230V (Δ) [A]*<br>Aufgenommener Strom bei 230V (Δ) [A] | 0,17 | 0,17 | 0,21 | 0,28 | 0,63 | 1,18 | 1,38 | 1,50 | 1,91 | 1,91 |
| Corrente assorbita a 400V (Y) [A]<br>*Absorption current at 400V (Y) [A]*<br>Aufgenommener Strom bei 400V (Y) [A] | 0,10 | 0,10 | 0,12 | 0,16 | 0,36 | 0,68 | 0,79 | 0,87 | 1,1 | 1,1 |
| Rumore [dB] *<br>*Noise level [dB] **<br>Geräuschpegel [dB] * | 68,0 | 68,0 | 69,0 | 69,0 | 70,0 | 70,0 | 70,0 | 70,0 | 70,0 | 70,0 |
| Max velocità [rpm]<br>*Max speed [rpm]*<br>Max. Geschwindigkeit [rpm] | 3600,0 | 3600,0 | 3600,0 | 3600,0 | 3600,0 | 3600,0 | 3600,0 | 1800,0 | 1800,0 | 1800,0 |
| Peso [kg]<br>*Weight [kg]*<br>Gewicht [kg] | 1,3 | 1,3 | 1,9 | 3,0 | 9,7 | 9,7 | 10,3 | 14,7 | 24,5 | 36,0 |

* Coppia di stazionamento / *Braking torque* / Feststellmoment

** Freno doppio disco / *Double disk brake* / Doppelscheibenbremse

*** Valori indicativi per la frenata / *Indicative values for braking* / Richtwerte für Bremsung




Disegno di principio
*Drawing principle*
Prinzipzeichnung

| | | | |
|---|---|---|---|
| 1 | Elettromagnete | *Electromagnet* | Elektromagnet |
| 2 | Ancora mobile | *Mobile armature* | Beweglicher Anker |
| 3 | Disco freno | *Brake disc* | Bremsscheibe |
| 4 | Trascinatore | *Toothed hub* | Mitnehmer |
| 5 | Leva di sblocco | *Release lever* | Entsperrhebel |
| 6 | Anello antipolvere | *Dust seal* | Staubschutzring |
| 7 | Anello di protezione IP65 | *IP65 protection ring* | Schutzring nach IP65 |
| 8 | Molla antagonista | *Antagonist spring* | Gegenfeder |
| 9 | Tubetto distanziale | *Spacer tube* | Abstandsrohr |
| 10 | Vite di fissaggio freno | *Brake holding screw* | Bremsenbefestigungsschraube |
| 11 | Dado di bloccaggio | *Holding nut* | Blockiermutter |
| 12 | Vite senza testa | *Headless screw* | Bolzen |
| 13 | Vite di fissaggio leva di sblocco | *Release lever holding screw* | Befestigungsschrauben des Entsperrhebels |
| 14 | Molla di pressione | *Pressure spring* | Druckfeder |
| S | Traferro | *Air gap* | Luftspalt |

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

# FRENO FA / *FA BRAKE* / BREMSE FA

Tab. 1.26b

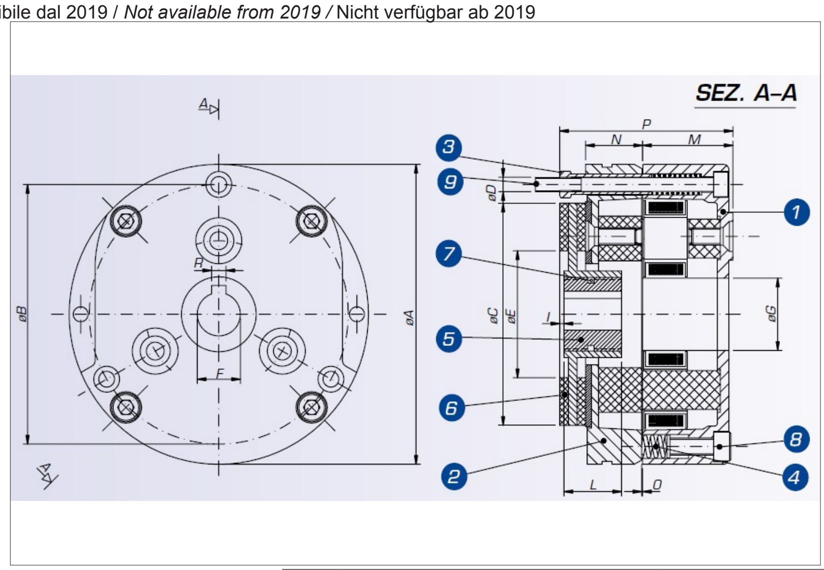
| **Freno / *Brake* / Bremse 230/400 V - 50Hz** (marca / *brand* / Marke Temporiti) | 63 | 71 | 80 | 90 | 100 | 112 | 132 | 160 | 180 | 200 |
|---|---|---|---|---|---|---|---|---|---|---|
| Snom [mm] | 0,20 | 0,20 | 0,20 | 0,20 | 0,30 | 0,30 | 0,30 | 0,30 | 0,40 | 0,40 |
| Smax [mm] | 0,40 | 0,40 | 0,40 | 0,45 | 0,45 | 0,45 | 0,55 | 0,55 | 0,60 | 0,60 |
| CF [Nm] * | 5,00 | 5,00 | 10,00 | 20,00 | 40,00 | 60,00 | 90,00 | 200,00 | 400,0** | 400,0** |
| ∆C [Nm] | - | - | - | - | - | - | - | - | - | - |
| Tempo frenata [ms] *Braking time [ms]* Bremszeit [ms] | 5,00 | 5,00 | 5,00 | 6,00 | 6,00 | 6,00 | 8,00 | 8,00 | 10,00 | 10,00 |
| Tempo frenata rapida [ms] *Rapid braking time [ms]* Schnellbremszeit [ms] | - | - | - | - | - | - | - | - | - | - |
| Tempo di rilascio [ms] *Release time [ms]* Rücklasszeit [ms] | 20,00 | 20,00 | 35,00 | 60,00 | 90,00 | 90,00 | 100,00 | 150,00 | 180,00 | 180,00 |
| Potenza assorbita [W] *Absorbed power [W]* Aufgenommene Leistung [W] | 55,00 | 55,00 | 95,00 | 150,00 | 185,00 | 380,00 | 500,00 | 650,00 | 650,00 | 650,00 |
| Corrente assorbita a 230V (∆) [A] *absorption current at 230V (∆) [A]* Aufgenommener Strom bei 230V (∆) [A] | 0,11 | 0,11 | 0,21 | 0,33 | 0,43 | 0,83 | 0,87 | 1,52 | 1,52 | 1,52 |
| Corrente assorbita a 400V (Y) [A] *Absorption current at 400V (Y) [A]* Aufgenommener Strom bei 400V (Y) [A] | 0,06 | 0,06 | 0,12 | 0,19 | 0,25 | 0,48 | 0,50 | 0,88 | 0,88 | 0,88 |
| Rumore [dB] *** *Noise level [dB] **** Geräuschpegel [dB] *** | 68,0 | 68,0 | 69,0 | 69,0 | 70,0 | 70,0 | 70,0 | 70,0 | 70,0 | 70,0 |
| Max velocità [rpm] *Max speed [rpm]* Max. Geschwindigkeit [rpm] | 3600,0 | 3600,0 | 3600,0 | 3600,0 | 3600,0 | 3600,0 | 3600,0 | 1800,0 | 1800,0 | 1800,0 |
| Peso [kg] *Weight [kg]* Gewicht [kg] | 1,3 | 1,3 | 1,9 | 3,0 | 9,7 | 9,7 | 10,3 | 14,7 | 24,5 | 36,0 |

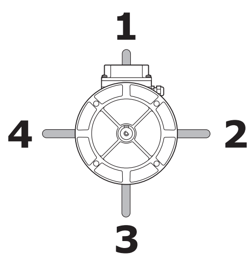
* Coppia di stazionamento / *Braking torque* / Feststellmoment

** Freno doppio disco / *Double disk brake* / Doppelscheibenbremse

*** Valori indicativi per la frenata / *Indicative values for braking* / Richtwerte für Bremsung

Non fornibile dal 2019 / *Not available from 2019* / Nicht verfügbar ab 2019




Disegno di principio
*Drawing principle*
Prinzipzeichnung

| | | | |
|---|---|---|---|
| 1 | Elettromagnete | *Electromagnet* | Elektromagnet |
| 2 | Ancora mobile | *Mobile armature* | Beweglicher Anker |
| 3 | Vite di registro | *Adjusting screw* | Einstellschraube |
| 4 | Molle di coppia | *Torque springs* | Bremsfedern |
| 5 | Mozzo | *Splined hub* | Nabe |
| 6 | Disco | *Brake* | Scheibe |
| 7 | O-ring | O-ring | O-ring |
| 8 | Vite di regolazione coppia | *Braking torque adjusting screw* | Regulierschraube für das Bremsmoment |
| 9 | Vite di fissaggio | *Fixing screws* | Faststellschrauben |

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

# FRENO FD / *FD BRAKE* / BREMSE FD

### Freno elettromagnetico in corrente continua

**Descrizione e funzionamento**
Freno elettromagnetico con funzionamento negativo, la cui azione frenante si esercita in assenza di alimentazione; quando si interrompe l'alimentazione, la bobina di eccitazione (7), non essendo più alimentata, non esercita la forza magnetica necessaria a trattenere l'ancora mobile (1), la quale, spinta dalle molle di pressione (2), comprime il disco del freno (3) da una parte sulla flangia del motore (6), dall'altra sull'ancora stessa, esercitando così l'azione frenante. Variazione tensione d'alimentazione nominale freno consentita ±10%.

**Regolazione**
Si possono effettuare due tipi diversi di regolazione.

**Regolazione del traferro**
Per un corretto funzionamento, il traferro S fra elettromagnete (7) e ancora mobile (1), dev'essere compreso nei limiti di valori indicati in tabella (Snom - Smax); la regolazione si effettua agendo sulle bussole filettate (12) controllando mediante spessimetro che si sia raggiunto il valore di traferro desiderato Snom.

**Regolazione della coppia frenante**
Si ottiene agendo sulla ghiera di regolazione (9), secondo le indicazioni della tabella (Cn = coppia nominale - ΔC = variazione di coppia per dentatura). In presenza di leva di sblocco manuale (8), una volta regolata la coppia frenante, occorre regolare la corsa libera della leva prima dell'inizio sblocco, agendo sui dati di fissaggio della leva stessa.

**Tempo d'intervento freno**
In caso di freno in D.C. è possibile migliorare il tempo di frenata, interrompendo direttamente l'alimentazione del freno tramite interruttore.

Nota: L'alimentazione standard del freno è collegata alla morsettiere del motore (tramite un alimentatore AC/DC)
Se il motore è alimentato da inverter occorre l'opzione alimentazione separata.

### *Electromagnetic brake in direct current*

***Description and operation***
*Electromagnetic brake with negative operation, whose braking action is exercised in the absence of power supply. When the power supply (7) is interrupted, the excitation coil is no longer powered and therefore does not exert the magnetic force necessary to restrain the mobile armature (1) which, pushed by the pressure spring (2), compresses the brake disk (3) against the motor flange (6) on one side and the armature itself on the other, thereby creating a braking action. The allowed rated supply voltage variation for the brake is ± 10%.*

***Adjustment***
*Two different types of adjustment are possible.*

***Air gap adjustment***
*For proper operation, the air gap S between the electromagnet (7) and the mobile armature (1) must be between the limits indicated in the table (Snom- Smax); adjust using the threaded bushes (12), using a feeler gauge to make sure that the desired air gap Snom is reached.*

***Braking torque adjustment***
*This is done using the adjuster ring nut (9) ac-cording to the instructions in the table (Cn = rated torque; ΔC = torque variation per toothing). If the hand release lever (8) is pres-ent, once the braking torque is adjusted it is also necessary to adjust the free stroke of the lever before release begins, using the holding nuts of the lever itself.*

***Brake intervention time***
*For the DC brake, it is possible to improve the braking time by directly interrupting the brake power supply via the switch.*

*Note: The standard brake power is connected to the motor terminal (via an AC / DC power supply unit)*
*If the motor is powered by inverter, the separate power supply option is required.*

### Elektromagnetische Gleichstrombremse

**Beschreibung und Betrieb**
Die elektromagnetische Gleichstrombrem-se ist eine Ruhestrombremse, d. h. sie bremst bei fehlender Versorung. Bei Unterbrechung der Stromversorgung übt die Erregerspule (7), da sie nicht mehr gespeist wird, die elektromagnetische Kraft, die erforderlich ist, um den beweglichen Anker (1) zu halten, nicht mehr aus. Der Anker presst dann die Bremsscheibe (3) durch den Schub der Druckfedern (2) von einer Seite auf den Motorflansch (6) und von der anderen Seite wird auf den Anker selbst eingewirkt, wodurch der Bremseffekt erzielt wird. Die zulässige Abweichung von der Nennspannung beträgt ± 10%.

**Einstellung**
Es können zwei verschiedene Einstellun-gen vorgenommen werden.

**Luftspalteinstellung**
Der Abstand des Luftspalts S zwischen dem Elektromagneten (7) und dem beweglichen Anker (1) muss innerhalb der in der Tabelle angegebenen Werte (Snom- Smax) liegen. Die Einstellung erfolgt über die Gewindebuchsen (12). Mit einer Fühlerlehre Dickenmesser muss dann geprüft werden, ob der gewünschte Luftspaltwert Snom erreicht wurde.

**Einstellung des Bremsmoments**
Die Einstellung des Bremsmoments erfolgt über den Einstellring (9) gemäß Angaben in der Tabelle (Cn = Nenndrehmoment -ΔC = Drehmomentänderung über Verzahnung). Ist der manuelle Entsperrhebel (8) vorhanden, muss vor Beginn des Lösens, nach dem Einstellen des Bremsmoments, der freie Hebelweg über die Befestigungsmuttern des Hebels eingestellt werden.

**Ansprechzeit der Bremse**
Bei Gleichstrombremsen kann die An-sprechzeit durch direkte Unterbrechung der Stromversorgung mittels Schalter verbes-sert werden.

Hinweis: Die Standard-Versorgung der Bremse ist mit der Klemmleiste des Motors verbunden (über eine AC / DC-Netzteil) verbunden.
Wird der Motor von einem Inverter versorgt, muss die Option einer separaten Versorgung gewählt werden.

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

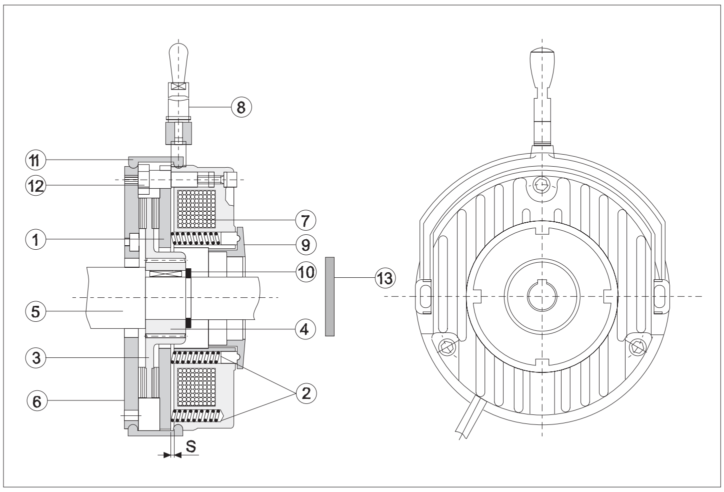


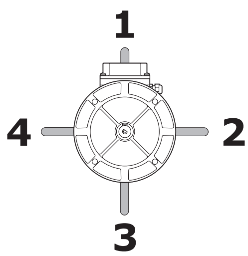
# FRENO FD / *FD BRAKE* / BREMSE FD

Tab. 1.27

| **Freno** / ***Brake*** / **Bremse**<br>(marca / *brand* / Marke Lenze-INTORQ) | **56** | **63** | **71** | **80** | **90** | **100** | **112** | **132** | **160** | **180** | **200** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Snom [mm] | 0,15 | 0,2 | 0,2 | 0,2 | 0,2 | 0,3 | 0,3 | 0,3 | 0,4 | 0,6 | 0,6 |
| Smax [mm] | - | 0,5 | 0,5 | 0,5 | 0,5 | 0,7 | 0,8 | 1 | 1 | 1 | 1 |
| CF [Nm] * | 1 | 4 | 4 | 8 | 16 | 32 | 60 | 80 | 150 | 260 | 400 |
| ∆C [Nm] | - | 0,1 | 0,1 | 0,36 | 0,6 | 1,2 | 1,5 | 2,1 | 2,1 | 2,5 | 2,5 |
| Tempo frenata [ms]<br>*Braking time [ms]*<br>Bremszeit [ms] | 30 | 45 | 50 | 70 | 90 | 120 | 180 | 210 | 230 | 250 | 250 |
| Tempo di rilascio [ms]<br>*Release time [ms]*<br>Bremslösezeit [ms] | 12 | 15 | 30 | 35 | 50 | 65 | 75 | 90 | 110 | 130 | 130 |
| Tempo frenata rapida [ms]<br>*Rapid braking time [ms]*<br>Schnellbremszeit [ms] | 20 | 25 | 30 | 40 | 45 | 60 | 110 | 140 | 180 | 220 | 220 |
| Tempo di rilascio rapido [ms]<br>*Rapid release time [ms]*<br>Schnellbremslösezeit [ms] | 8 | 12 | 20 | 25 | 35 | 45 | 60 | 70 | 90 | 110 | 110 |
| Potenza assorbita [W]<br>*Absorbed power [W]*<br>Aufgenommene Leistung [W] | 20 | 20 | 20 | 25 | 35 | 55 | 55 | 65 | 65 | 70 | 70 |
| Corrente assorbita a 230V 50/60Hz [A]<br>*Absorption current at 230V 50/60Hz [A]*<br>Aufgenommener Strom bei 230V 50/60Hz [A] | 0,09 | 0,11 | 0,11 | 0,13 | 0,18 | 0,2 | 0,26 | 0,28 | 0,42 | 0,5 | 0,5 |
| Corrente assorbita a 400V 50/60Hz [A]<br>*Absorption current at 400V 50/60Hz [A]*<br>Aufgenommener Strom bei 400V 50/60Hz [A] | 0,05 | 0,06 | 0,06 | 0,08 | 0,1 | 0,12 | 0,15 | 0,16 | 0,24 | 0,29 | 0,29 |
| Rumore [dB] **<br>*Noise level [dB] ***<br>Geräuschpegel [dB] ** | 39 | 36 | 36 | 37 | 37 | 38 | 38 | 39 | 42 | 45 | 45 |
| Max velocità [rpm] ***<br>*Max speed [rpm] ****<br>Max Geschwindigkeit [rpm] *** | 3600 | 3600 | 3600 | 3600 | 3600 | 3600 | 3600 | 3600 | 1800 | 1800 | 1800 |
| Peso [kg]<br>*Weight [kg]*<br>Gewicht [kg] | 1,5 | 1,5 | 1,5 | 2,2 | 3,1 | 8,3 | 8,3 | 12 | 14,3 | 24,8 | 36 |

** Coppia di stazionamento / *Braking Torque* / Bremsmoment
** Valori indicativi per la frenata / *Indicative values for braking* / Richtwerte für Bremsung
*** Velocità maggiorata per freni intorq (lenze) contattare UT / *Increased speed for intorq brakes (lenze) contact UT* / Erhöhte Drehzahl fpr Intorq-Bremsen (Lenze). TA kontaktieren




Disegno di principio
*Drawing principle*
Prinzipzeichnung

| | | | |
|---|---|---|---|
| 1 | Ancora mobile | *Mobile armature* | Beweglicher Anker |
| 2 | Molle | *Springs* | Federn |
| 3 | Disco freno | *Brake disc* | Bremsscheibe |
| 4 | Trascinatore | *Toothed hub* | Mitnehmer |
| 5 | Albero motore | *Motor shaft* | Motorwelle |
| 6 | Flanfia motore | *Motor flange* | Motorflansch |
| 7 | Elettromagnete | *Eletromagnet* | Elektromagnet |
| 8 | Leva di sblocco | *Release lever* | Entsperrhebe |
| 9 | Ghiera di regolazione | *Adjuster ring nut* | Einstellring |
| 10 | Seeger | *Circlip* | Seeger-Ring |
| 11 | Anello antipolvere | *Dust seal* | Staubschutzring |
| 12 | Bussola filettata | *Threaded bush* | Gewindebuchse |
| 13 | Anello di protezione IP65 | *IP65 protection ring* | Schutzring nach IP65 |
| S | Traferro | *Air gap* | Luftspalt |

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

### Fornitura standard freno in C.C.

Il motore autofrenante con freno in corrente continua di standard vine fornito con freno 205Vdc e alimentatore in corrente alternata di standard 230V 50/60Hz.

**Esempio di configurazione**

**Alimentazione diretta** (dai morsetti del motore è lo standard SASD= -)

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

### *Standard supply of brake in D.C.*

*The brake motor with brake in direct current is supplied as standard with 205Vdc brake and standard 230V 50/60Hz power supply unit in alternating current.*

***Configuration example***

***Direct power supply** (from the motor terminals is the standard SASD = -)*

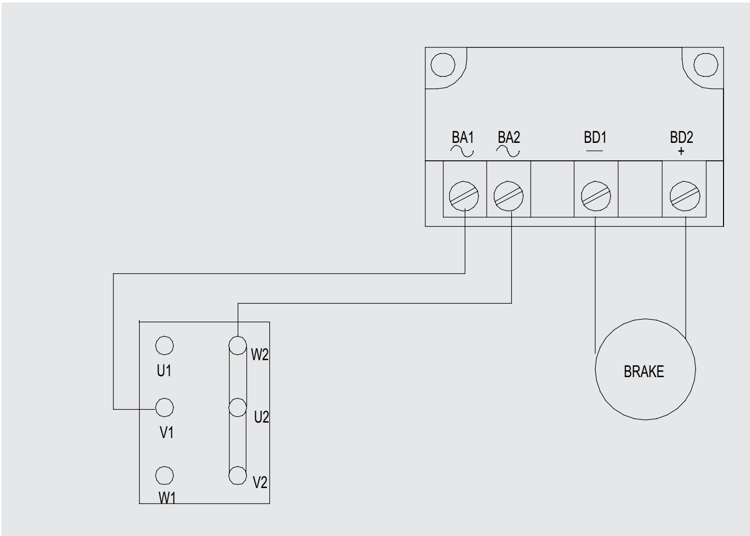
## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

### Lieferstandard der Gleichstrombremse

Der Bremsmotor mit Standard-Gleichstrombremse wird mit einer 205 Vdc Bremse und Standard-Wechselstrom-Netzteil 230V 50/60 Hz geliefert.

**Konfigurationsbeispiel**

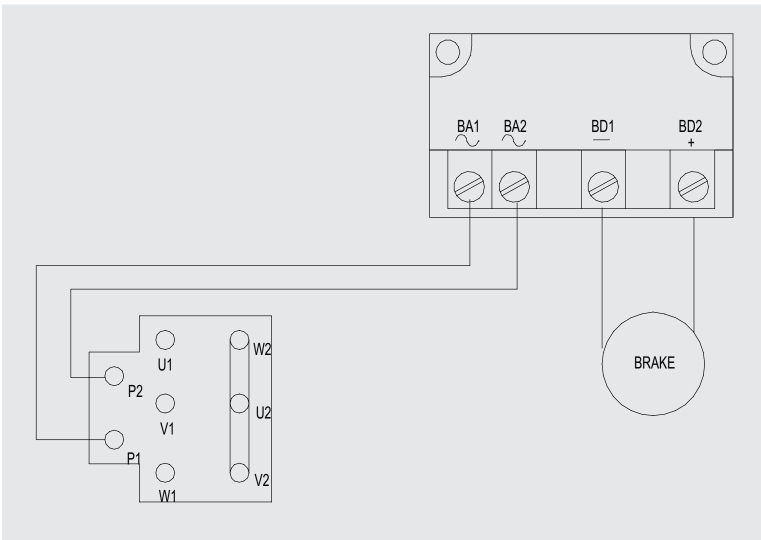
**Gleichstromversorgung** (von den Motoranschlüssen ist die Standard SASD= -)




**Alimentazione separata 230V 50/60Hz**
(SASD = 1
VSAVE = FCC230V50/60Hz)
sempre utilizzata in caso di motore utilizzato siotto inveter

***Separate power supply 230V 50/60Hz***
*(SASD= SASD
VSAVE=FCC230V50/60Hz)
always used if the motor is used with inverter*

**Separate Stromversorgung 230V 50/60Hz**
(SASD= SASD
VSAVE= FCC230V 50/60Hz)
immer verwendet, wenn der Motor unter dem Inverter verwendet wird



## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

**Alimentazione separata 400V 50/60Hz**
(SASD = 1
VSAVE = FCC400V50/60Hz)
sempre utilizzata in caso di motore utilizzato siotto inveter

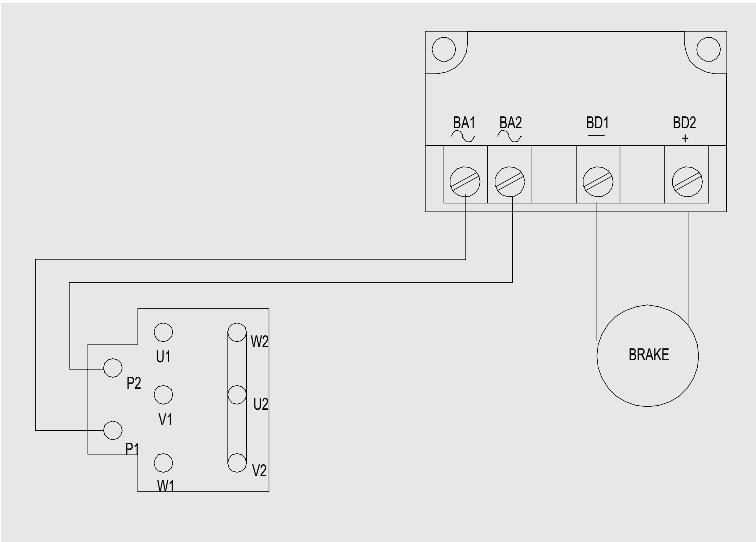
## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

***Separate power supply 400V 50 / 60Hz***
*(SASD = SASD*
*SAVE = FCC400V50 / 60Hz)*
*always used in case of motor used with inverter*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

**Separate Stromversorgung 400V 50 / 60Hz**
(SASD = SASD
VSAVE= FCC400V 50/60Hz)
immer verwendet, wenn der Motor unter dem Inverter verwendet wird

A



## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

# FRENO FS / *BRAKE FS* / BREMSE FS

### Freno elettromagnetico di stazionamento in C.C.

**Descrizione e funzionamento**
Freno elettromagnetico con funzionamento negativo la cui azione frenante si esercita in assenza di alimentazione: se l'alimentazione dell'elettromagnete (1) è presente essendo l'ancora mobile (2) richiamata dalla forza magnetica, permette la rotazione libera dell'albero; quando si interrompe l'alimentazione, la bobina di eccitazione, non essendo più alimentata, non esercita la forza magnetica necessaria a trattenere l'ancora mobile (2), la quale spinta dalle molle di coppia (3) comprime la guarnizione di attrito, solidale con l'ancora mobile contro la ventola in ghisa (4), solidale con l'albero motore tramite la chiavetta (5), esercitando così l'azione frenante.
La tensione standard per questo tipo di freno è 230V/ 50Hz/60Hz con variazioni possibili del ±10% del valore nominale di tensione.

**Regolazione traferro**
Per un corretto funzionamento, il traferro S [mm] fra elettromagnete (1) e ancora mobile (2) dev'essere compreso nei limiti dei valori indicati in tabella (Snom-Smax); la regolazione si effettua, una volta fissato saldamente il corpo freno al motore, agendo sulla vite (6), registrandola e controllando mediante spessimetro che si sia raggiunto il valore di traferro desiderato. Questa operazione va eseguita con freno a temperatura ambiente.

**Tempo di intervento freno**
In caso di freno in corrente continua, alimentato tramite un ponte di diodi in alternata, è possibile ottenere degli interventi superapidi in frenata, tramite alimentatori speciali.

Nota: L'alimentazione standard del freno è collegata alla moresettiere del motore (tramite un alimentatore AC/DC)
Se il motore è alimentato da inverter occorre l'opzione alimentazione separata

### *DC electromagnetic parking brake*

***Description and operation***
*Electromagnetic brake with negative operation, whose braking action is exercised in the absence of power supply. If the electromagnet (1) is powered, the mobile armature (2) is drawn by the magnetic force and allows the shaft to rotate freely. When the power supply is interrupted, the excitation coil is no longer powered and therefore does not exert the magnetic force necessary to restrain the mobile armature (2). The latter, pushed by the pressure spring (3), compresses the lining attached to the mobile armature against the cast-iron fan (4), in turn attached to the motor shaft through the key (5), thereby creating a braking action. The standard voltage for this type of brake is 230V/50Hz/ 60Hz with possible variations of ± 10% in the rated voltage.*

***Air gap adjustment***
*For proper operation, the air gap S [mm] between the electromagnet (1) and the mobile armature (2) must be between the limits indicated in the table (Snom-Smax). Once the brake assembly is firmly attached to the motor, adjust using the screw (6), setting and checking with a feeler gauge to make sure that the desired air gap is reached. This should be done with the brake at ambient temperature.*

***Braking intervention times***
*For the alternating current brake, powered by an alternatingcurrent diode jumper, it is possible to achieve extra-rapid braking intervention using special power supply units.*

*Note: The standard brake power is connected to the motor terminal (via an AC / DC power supply unit)*
*If the motor is powered by inverter, the separate power supply option is required.*

### Elektromagnetische Gleichstromfeststellbremse

**Beschreibung und Betrieb**
Die elektromagnetische Gleichstromfeststellbremse ist eine Ruhestrombremse, d.h sie bremst bei fehlender Spannung. Wenn der Elektromagnet (1) mit Strom versorgt wird, kann sich die Welle ohne Behinderung drehen, da die Kraft des Magneten den beweglichen Anker (2) zurückhält. Bei Unterbrechung der Stromversorgung übt die Erregerspule, da sie nicht mehr gespeist wird, keine Kraft mehr auf den beweglichen Anker (2) aus. Dieser drückt den an ihm befestigten Belag mit Hilfe der Drehmomentfeder (3) gegen das mit der Motorwelle verkeilte (5) Lüfterrad aus Gusseisen (4). Dadurch wird der Bremseffekt erzielt. Die Standardspannung für diesen Bremsentyp beträgt 230V/50Hz/60Hz mit einer Toleranz von ± 10% der Nennspannung.

**Luftspalteinstellung**
Der Abstand des Luftspalts S [mm] zwischen dem Elektromagneten (1) und dem mobilen Anker (2) muss innerhalb der in der Tabelle angegebenen Werte (Snom-Smax) liegen. Die Einstellung wird, sobald der Bremsenkörper am Motor befestigt wurde, an der Schraube (6) vorgenommen. Mit einer Fühlerlehre dann geprüft werden, ob der gewünschte Wert für den Luftspalt erreicht wurde. Diese Einstellung muss an einer Bremse mit Umgebungstemperatur erfolgen.

**Ansprechzeit der Bremse**
Bei Gleichstrombremsen, die über eine Diodenbrücke mit Wechselstrom gespeist werden, kann die Ansprechzeit durch den Einsatz von besonderen Netzteilen merklich verbessert werden.

Hinweis: Die Standard-Versorgung der Bremse ist an das Klemmbrett des Motors geschlossen (mit einem AC-/DC-Netzteil).
Wird der Motor von einem Inverter versorgt, muss die Option einer separaten Versorgung gewählt werden.

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

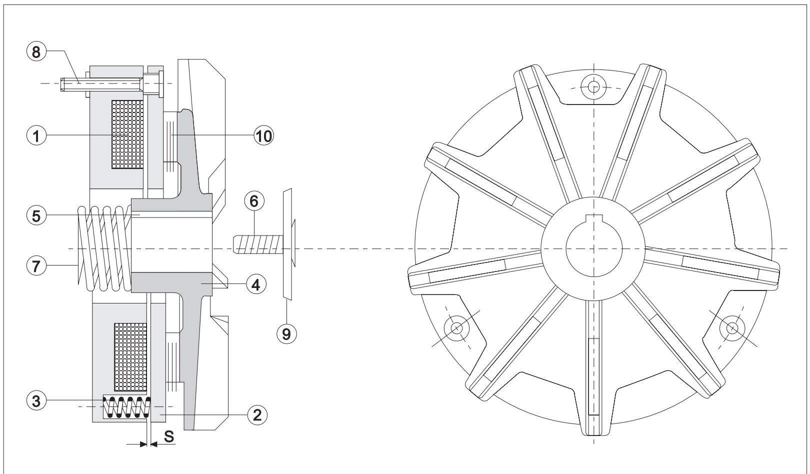
A

# FRENO FS / *BRAKE FS* / BREMSE FS

Tab. 1.28

| **Freno / *Brake* / Bremse** | **63** | **71** | **80** | **90** | **100** | **112** | **132** | **160** |
|---|---|---|---|---|---|---|---|---|
| Snom [mm] | 0,20 | 0,20 | 0,20 | 0,20 | 0,30 | 0,30 | 0,30 | 0,50 |
| Smax [mm] | 0,4 | 0,4 | 0,4 | 0,5 | 0,5 | 0,7 | 0,7 | 0,8 |
| CF [Nm] * | 2,5 | 4,0 | 9,0 | 10,0 | 12,0 | 13,0 | 17,0 | 30,0 |
| Tempo frenata [ms]<br>*Braking time [ms]*<br>Bremszeit [ms] | 40,0 | 100,0 | 120,0 | 120,0 | 200,0 | 200,0 | 200,0 | 215,0 |
| Tempo frenata rapida [ms]<br>*Rapid braking time [ms]*<br>Schnellbremszeit [ms] | 30,0 | 30,0 | 45,0 | 45,0 | 55,0 | 55,0 | 55,0 | 65,0 |
| Tempo di rilascio [ms]<br>*Release time [ms]*<br>Bremslösezeit [ms] | 15,0 | 15,0 | 15,0 | 15,0 | 10,0 | 10,0 | 10,0 | 13,0 |
| Potenza assorbita [W]<br>*Absorbed power [W]*<br>Aufgenommene Leistung [W] | 18,0 | 18,0 | 25,0 | 25,0 | 35,0 | 35,0 | 35,0 | 65,0 |
| Corrente assorbita a 230V 50/60Hz [A]<br>*Absorption current at 230V 50/60Hz [A]*<br>Aufgenommener Strom bei 230V 50/60Hz [A] | 0,1 | 0,1 | 0,13 | 0,13 | 0,2 | 0,2 | 0,2 | 0,35 |
| Corrente assorbita a 400V 50/60Hz [A]<br>*Absorption current at 400V 50/60Hz [A]*<br>Aufgenommener Strom bei 400V 50/60Hz [A] | 0,06 | 0,06 | 0,08 | 0,08 | 0,12 | 0,12 | 0,12 | 0,2 |
| Rumore [dB] **<br>*Noise level [dB]* **<br>Geräuschpegel [dB] ** | 68,0 | 68,0 | 69,0 | 69,0 | 66,0 | 66,0 | 66,0 | 67,0 |
| Max velocità [rpm]<br>*Max speed [rpm]*<br>Max Geschwindigkeit [rpm] | 3600 | 3600 | 3600 | 3600 | 3600 | 3600 | 3600 | 3600 |

** Coppia di stazionamento / *Braking Torque* / Bremsmoment
** Valori indicativi per la frenata / *Indicative values for braking* / Richtwerte für Bremsung




Disegno di principio
*Drawing principle*
Prinzip-Zeichnung

| | | | |
|---|---|---|---|
| 1 | Elettromagnete | *Eletromagnet* | Elektromagnet |
| 2 | Ancora mobile | *Mobile armature* | Beweglicher Anker |
| 3 | Molla di coppia | *Torque spring* | Dremomentfeder |
| 4 | Ventola in ghisa | *Cast-iron fan* | Lüfterrad aus Guß |
| 5 | Chiavetta | *Key* | Keil |
| 6 | Vite | *Screwe* | Schraube |
| 7 | Molla di precarico | *Pre-loading screw* | Vorspannfeder |
| 8 | Bussole filettate | *Threaded bushes* | Gewindebuchsen |
| 9 | Rondella | *Washer* | Unterlegscheibe |
| 10 | Guarnizione di frizione | *Clutch lining* | Bremsbelag |
| S | Traferro | *Air gap* | Luftspalt |

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

# FRENO FP / *BRAKE FP* / BREMSE FP

### Freno elettromagnetico ad azione positiva in C.C.

**Descrizione e funzionamento**
Freno elettromagnetico con funzionamento positivo la cui azione frenante si esercita in presenza di alimentazione: infatti, se l'alimentazione dell'elettromagnete (6) è assente, essendo l'ancora mobile (1) trattenuta dalla forza esercitata dalla molla anulare (4), permette la rotazione libera dell'albero (5).
Quando si alimenta la bobina di eccitazione (6), questa esercita la forza magnetica necessaria ad attrarre l'ancora mobile (1), la quale, vincendo la forza della molla annulare (4), impegna la guarnizione di attrito (3) solidale con lo statore; ancora essendo la (1) solidale con l'albero motore (5) tramite la chiavetta (8), esercita così l'azione frenante.
La tensione standard per questo tipo di freno è 24 VDC con variazioni possibili (±10% del valore nominale di tensione). Questo tipo di freno è isolato in classe "B".
Per questo tipo di freno l'alimentazione standard è separata.

### *DC electromagnetic positive-action brake*

***Description and operation***
*Electromagnetic brake with positive operation, whose braking action is exercised in the presence of power supply. If the electro-magnet (6) power supply is absent, the mo-bile armature (1) is drawn by the force exerted by the anular spring (4) and allows the shaft (5) to rotate freely.*
*When the excitation coil (6) is powered power, it exerts the magnetic force needed to attract the mobile armature (1). The latter overcomes the force of the anular spring (4) and engages the lining (3) attached to the stator, in turn (1) attached to the motor shaft (5) by the key (8), thereby creating a brak-ing action.*
*The standard voltage for this type of brake is 24 VDC with possible variations of ± 10% in the rated voltage. This type of brake is in-sulated for class "B".*
*For this type of brake the standard power supply is separate*

### Elektromagnetische Arbeitsstrombremse für Gleichstrom

**Beschreibung und Betrieb**
Die elektromagnetische Gleichstrombremse ist eine Arbeitsstrombremse, d. h. sie bremst bei anliegender Versorgung. Wenn der Elektromagnet (6) nicht mit Strom versorgt wird, kann sich die Welle (5) frei drehen, da die Kraft der Ringfeder (4) den beweglichen Anker (1) zurückhält.
Wenn die Erregerspule (6) mit versorgt wird, zieht sie den beweglichen Anker (1) durch ihre magnetische Kraft an. Dadurch überwindet der bewegliche Anker die Kraft der Ringfeder (4) und wirkt auf den am Stator befestigten Bremsbelag (3) ein. Da der bewegliche Anker (1) mit der Motorwelle (5) mittels Passfeder (8) verkeilt ist, wird der Bremseffekt erzielt. Die Standard-Spannung für diesen Bremstyp beträgt 24V (mit Toleranzen von ± 10% der Nennspannung). Die Isolationsklasse dieser Bremse ist "B".
Bei diesem Bremstyp ist die Standard-Versorgung getrennt.

**Regolazione traferro**
Per un corretto funzionamento, il traferro S [mm] fra statore elettromagnete [(3)+(6)] e ancora mobile (1), dev'essere compreso nei limiti di valori indicati in tabella (Snom-Smax); la regolazione si effettua, una volta fissato saldamente il corpo freno al motore, agendo sul dado autobloccante (7) registrazione traferro, e controllando mediante spessimetro che si sia raggiunto il valore di traferro desiderato.
Questa operazione va eseguita con freno a temperatura ambiente.

***Air gap adjustment***
*For proper operation, the air gap S [mm] between the electromagnet stator [(3)+(6)] and the mobile armature (1) must be between the limits indicated in the table (Snom- Smax). Once the brake assembly is firmly attached to the motor, adjust using the self-locking air gap setting nut (7), checking with a thickness gauge to make sure that the desired air gap is reached. This should be done with the brake at ambient temperature.*

**Luftspalteinstellung**
Der Abstand des Luftspalts S [mm] zwischen dem Stator / Elektromagneten [(3)+(6)] und dem mobilen Anker (1) muss innerhalb der in der Tabelle angegebenen Werte (Snom-Smax) liegen. Die Einstellung wird, sobald der Körper der Bremse am Motor befestigt wurde, an der selbstblockierenden Luftspalteinstellmutter (7) vorgenommen. Mit einer Fühlerlehre muss dann geprüft werden, ob der gewünschte Wert für den Luftspalt erreicht wurde. Diese Einstellung muss an einer Bremse mit Umgebungstemperatur erfolgen.

**Tempo di intervento freno**
In caso di freno in corrente continua, alimentato tramite un ponte di diodi in alternata, è possibile ottenere degli interventi rapidi in frenata, tramite alimentatori speciali come indicato in tabella 24.

***Braking intervention times***
*For the direct current brake, powered by an alternating-current diode jumper, it is possible to achieve extra-rapid braking intervention using special power packs as indicated in the table 24.*

**Ansprechzeit der Bremse**
Bei Gleichstrombremsen, die über eine Diodenbrücke mit Wechselstrom gespeist werden, kann die Ansprechzeit durch den Einsatz von besonderen Netzteilen (Tab. 24) merklich verbessert werden.

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (CONTINUA)

## *1.6 BRAKE MOTORS (TO BE CONTINUED)*

## 1.6 ASYNCHRON-BREMSMOTOREN (FORTSETZUNG)

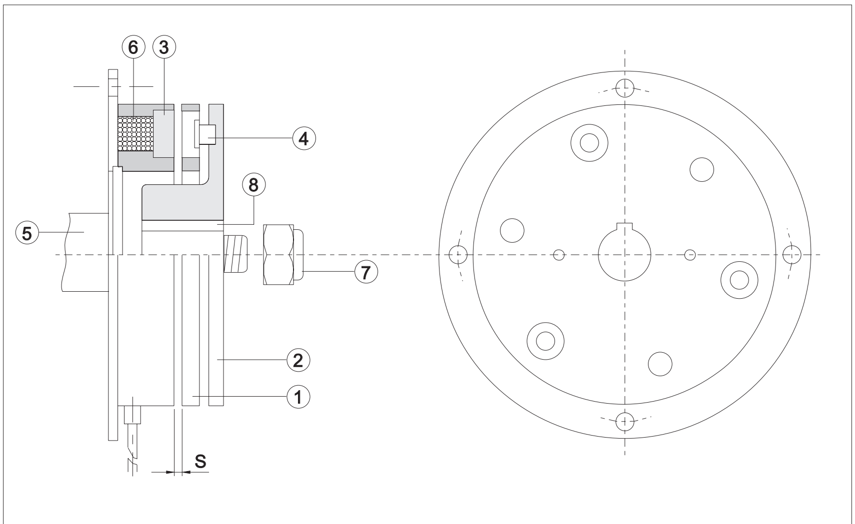


# FRENO FP / *BRAKE FP* / BREMSE FP

Tab. 1.29

| **Freno / *Brake* / Bremse** | **63** | **71** | **80** | **90** | **100** | **112** | **132** | **160** | **180** | **200** |
|---|---|---|---|---|---|---|---|---|---|---|
| Snom [mm] | 0,2 | 0,2 | 0,2 | 0,2 | 0,3 | 0,3 | 0,3 | 0,5 | 0,5 | 0,5 |
| Smax [mm] | 0,4 | 0,4 | 0,4 | 0,4 | 0,6 | 0,6 | 0,6 | 1,0 | 1,0 | 1,0 |
| CF [Nm] * | 7,5 | 7,5 | 15,0 | 30,0 | 60,0 | 60,0 | 120,0 | 240,0 | 480,0 | 480,0 |
| Tempo frenata [ms]<br>*Braking time [ms]*<br>Bremszeit [ms] | 40,0 | 100,0 | 120,0 | 140,0 | 200,0 | 230,0 | 280,0 | 340,0 | 340,0 | 340,0 |
| Tempo frenata rapida [ms]<br>*Rapid braking time [ms]*<br>Schnellbremszeit [ms] | 30,0 | 45,0 | 60,0 | 70,0 | 85,0 | 100,0 | 115,0 | 140,0 | 140,0 | 140,0 |
| Tempo di rilascio [ms]<br>*Release time [ms]*<br>Bremslösezeit [ms] | 20,0 | 20,0 | 16,0 | 16,0 | 13,0 | 13,0 | 12,0 | 10,0 | 10,0 | 10,0 |
| Potenza assorbita [W]<br>*Absorbed power [W]*<br>Aufgenommene Leistung [W] | 11,5 | 11,5 | 16,0 | 21,0 | 28,0 | 28,0 | 38,0 | 45,0 | 70,0 | 70,0 |
| Corrente assorbita a 230V 50/60Hz [A]<br>*Absorption current at 230V 50/60Hz [A]*<br>Aufgenommener Strom bei 230V 50/60Hz [A] | 0,06 | 0,06 | 0,085 | 0,11 | 0,145 | 0,145 | 0,2 | 0,23 | 0,35 | 0,35 |
| Corrente assorbita a 400V 50/60Hz [A]<br>*Absorption current at 400V 50/60Hz [A]*<br>Aufgenommener Strom bei 400V 50/60Hz [A] | 0,03 | 0,03 | 0,05 | 0,06 | 0,08 | 0,08 | 0,12 | 0,13 | 0,2 | 0,2 |
| Corrente assorbita a 24VDC [A]<br>*Absorption current at 24VDC [A]*<br>Aufgenommener Strom bei 24VDC [A] | 0,53 | 0,53 | 0,75 | 0,97 | 1,28 | 1,28 | 1,75 | 2,06 | 3,2 | 3,2 |
| Rumore [dB] **<br>*Noise level [dB] ***<br>Geräuschpegel [dB] ** | 35,5 | 35,5 | 36,0 | 36,0 | 38,0 | 38,0 | 38,0 | 44,5 | 44,5 | 44,5 |
| Max velocità [rpm]<br>*Max speed [rpm]*<br>Max Geschwindigkeit [rpm] | 6000 | 6000 | 5000 | 4000 | 3600 | 3600 | 3600 | 3600 | 3600 | 3600 |

** Coppia di stazionamento / *Braking Torque* / Bremsmoment
** Valori indicativi per la frenata / *Indicative values for braking* / Richtwerte für Bremsung




Disegno di principio
*Drawing principle*
Prinzipzeichnung

| | | | |
|---|---|---|---|
| 1 | Ancora mobile | *Mobile armature* | Beweglicher Anker |
| 2 | Flangia di mozzo | *Hub flange* | Nabenflansch |
| 3 | Guarnizione di frizione | *Clutch lining* | Bremsbelag |
| 4 | Molla anullare | *Anular spring* | Ringfeder |
| 5 | Albero | *Shaft* | Welle |
| 6 | Bobina | *Coil* | Spule |
| 7 | Dado regolazione traferro | *Air gap setting nut* | Luftspalteinstellmutter |
| 8 | Chiavetta | *Key* | Keil |
| S | Traferro | *Air gap* | Luftspalt |

## 1.6 MOTORI ASINCRONI AUTOFRENANTI (FINE)

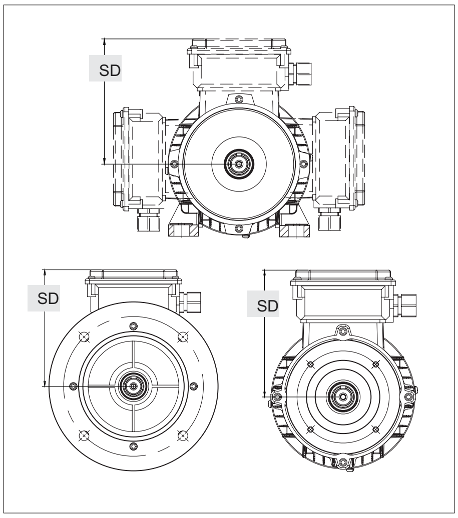
## *1.6 BRAKE MOTORS (THE END)*

## 1.6 ASYNCHRON-BREMSMOTOREN (ENDE)

**Coprimorsettiera (quota AD)**

***Terminal box (quote AD)***

**Klemmenkasten (Höhe AD)**




| | SIZE | 63 | 71 | 80 | 90S | 90L | 100 | 112 | 132S | 132M | 160M | 160L | 180 | 200 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Autofrenante - Freno C.A.<br>*Brake motor with AC Brake*<br>Bremsmotor mit Drehstrombremse | IP55 * | 100 | 109 | 120 | 128 | 128 | 140 | 149 | 177 | 177 | | | | |
| | IP65 * doppio / *double* / doppelt | | | | | | | | | | 246 | 246 | 260 | 260 |
| Autofrenante - Freno C.A. - Alimentazione Separata<br>*Brake motor with AC Brake Separate Brake Supply*<br>Bremsmotor mit Drehstrombremse - Getrennte Bremsenversorgung | IP65 * lungo / *long* / entlang | 110 | 117 | 137 | 147 | 147 | 155 | 168 | 188 | 188 | | | | |
| | IP65 * doppio / *double* / doppelt | | | | | | | | | | 246 | 246 | 260 | 260 |
| Autofrenante - Freno C.C. (STANDARD)<br>*Brake motor with DC Brake (STANDARD)*<br>Bremsmotor mit Gleichstrombremse (STANDARD) | IP65 * doppio / *double* / doppelt) | 112 | 119 | 139 | 148 | 148 | 157 | 170 | 190 | 190 | 246 | 246 | 260 | 260 |
| Autofrenante - Freno C.C. - Alimentazione Separata<br>*Brake motor with DC Brake - Separate Brake Supply*<br>Bremsmotor mit Gleichstrombremse - Getrennte Bremsenversorgung | IP65 * doppio / *double* / doppelt | 112 | 119 | 139 | 148 | 148 | 157 | 170 | 190 | 190 | 246 | 246 | 260 | 260 |
| Autofrenante Doppia Polarita sempre Alimentazione Separata<br>*Double Speed Brake motor always Separate Brake Supply*<br>Polumschaltbare asynchrone Drehstrombrems immer *Getrennte Bremsenversorgung* | IP65 * lungo / *long* / entlang | 110 | 117 | 137 | 147 | 147 | 155 | 168 | 188 | 188 | | | | |
| | IP65 * doppio / *double* / doppelt | | | | | | | | | | 246 | 246 | 260 | 260 |

*Quote complete pagina A118 / *full sizes page A118* / vollständige Angebotsseite A118


## 1.7 DATI TECNICI | *1.7 TECHNICAL SPECIFICATIONS* | 1.7 TECHNISCHE DATEN

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# T

## 2 P 3000 min$^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **T 50 B** | 0,09 | 0,12 | 2750 | 0,39 | 49,0 | 0,71 | 2,8 | 2,4 | 2,5 | 0,32 | 0,00010 | 2,4 |
| **T 56 A** | 0,09 | 0,12 | 2730 | 0,40 | 44,4 | 0,75 | 3,0 | 3,1 | 3,9 | 0,32 | 0,00012 | 2,6 |
| **T 56 B** | 0,13 | 0,18 | 2750 | 0,60 | 52,4 | 0,61 | 3,0 | 4,1 | 4,0 | 0,46 | 0,00015 | 3,2 |
| **T 63 A** | 0,18 | 0,25 | 2770 | 0,60 | 58,0 | 0,74 | 3,7 | 3,3 | 3,5 | 0,63 | 0,00025 | 3,7 |
| **T 63 B** | 0,25 | 0,35 | 2820 | 0,80 | 63,6 | 0,77 | 4,0 | 2,8 | 3,2 | 0,90 | 0,00030 | 4,3 |
| **T 63 C** | 0,37 | 0,5 | 2800 | 1,1 | 66,5 | 0,77 | 4,1 | 3,0 | 2,9 | 1,3 | 0,00035 | 5,6 |
| **T 71 A** | 0,37 | 0,5 | 2860 | 1,2 | 64,1 | 0,72 | 4,6 | 3,5 | 5,2 | 1,3 | 0,00038 | 5,8 |
| **T 71 B** | 0,55 | 0,75 | 2860 | 1,6 | 68,5 | 0,72 | 5,4 | 4,0 | 5,3 | 1,8 | 0,00046 | 6,2 |
| **T 71 C** | 0,75 | 1,0 | 2810 | 2,0 | 70,7 | 0,79 | 4,3 | 2,8 | 3,7 | 2,6 | 0,00057 | 7,4 |
| **T 80 A** | 0,75 | 1,0 | 2860 | 2,0 | 71,2 | 0,78 | 4,8 | 2,8 | 3,3 | 2,5 | 0,00080 | 8,5 |
| **T 80 B** | 1,1 | 1,5 | 2850 | 2,6 | 78,0 | 0,8 | 6,1 | 3,5 | 3,0 | 3,8 | 0,00097 | 9,8 |
| **T 80 C** | 1,5 | 2,0 | 2870 | 3,4 | 80,0 | 0,8 | 6,4 | 4,1 | 3,5 | 5,0 | 0,00120 | 10,5 |
| **T 80 D** | 1,8 | 2,5 | 2800 | 4,0 | 78,3 | 0,85 | 5,1 | 2,7 | 2,9 | 6,2 | 0,00130 | 11,5 |
| **T 90 S** | 1,5 | 2,0 | 2880 | 3,4 | 79,8 | 0,82 | 6,2 | 2,9 | 2,7 | 5,1 | 0,00150 | 12,0 |
| **T 90 L** | 2,2 | 3,0 | 2850 | 5,0 | 78,7 | 0,81 | 5,1 | 2,8 | 2,7 | 7,5 | 0,00230 | 13,5 |
| **T 90 LB** | 3,0 | 4,0 | 2880 | 7,1 | 77,8 | 0,79 | 5,9 | 3,2 | 2,8 | 10,0 | 0,00280 | 15,5 |
| **T 100 A** | 3,0 | 4,0 | 2910 | 6,2 | 83,0 | 0,84 | 7,1 | 3,0 | 2,8 | 9,9 | 0,00530 | 18,5 |
| **T 100 B** | 4,0 | 5,5 | 2920 | 8,6 | 83,3 | 0,81 | 7,2 | 2,7 | 3,5 | 13,2 | 0,00850 | 21,0 |
| **T 112 A** | 4,0 | 5,5 | 2930 | 8,7 | 84,0 | 0,81 | 6,7 | 3,1 | 3,5 | 13,2 | 0,00900 | 27,0 |
| **T 112 B** | 5,5 | 7,5 | 2920 | 12,0 | 79,7 | 0,83 | 5,1 | 3,2 | 2,9 | 18,1 | 0,01200 | 32,0 |
| **T 112 BL** | 7,5 | 10 | 2930 | 15,8 | 82,9 | 0,83 | 3,7 | 2,6 | 2,6 | 24,5 | 0,01300 | 34,0 |
| **T 132 S** | 5,5 | 7,5 | 2930 | 11,9 | 84,0 | 0,82 | 5,4 | 3,4 | 3,2 | 18,0 | 0,01300 | 45,0 |
| **T 132 SL** | 7,5 | 10 | 2920 | 14,6 | 85,5 | 0,88 | 4,7 | 2,4 | 2,5 | 24,5 | 0,02000 | 48,0 |
| **T 132 M** | 11 | 15 | 2940 | 21,5 | 87,1 | 0,85 | 4,9 | 2,6 | 2,4 | 36,0 | 0,02800 | 54,0 |
| **T 132 ML** | 15 | 20 | 2940 | 28,6 | 88,6 | 0,85 | 3,9 | 2,2 | 2,3 | 48,8 | 0,03000 | 58,0 |
| **T 160 MA** | 11 | 15 | 2970 | 22,4 | 87,0 | 0,83 | 5,7 | 3,8 | 3,9 | 35,4 | 0,03200 | 75,0 |
| **T 160 MB** | 15 | 20 | 2960 | 28,6 | 88,5 | 0,87 | 4,5 | 2,8 | 2,9 | 48,5 | 0,03600 | 88,0 |
| **T 160 L** | 18,5 | 25 | 2960 | 35,4 | 89,3 | 0,85 | 4,5 | 2,6 | 2,7 | 60,2 | 0,04000 | 99,0 |
| **T 180 M** | 22 | 30 | 2940 | 39,0 | 91,0 | 0,90 | 7,1 | 2,3 | 3,0 | 71,5 | 0,07500 | 110,0 |
| **T 200 LA** | 30 | 40 | 2945 | 53,0 | 92,0 | 0,89 | 7,2 | 2,3 | 2,7 | 97,3 | 0,14000 | 130,0 |
| **T 200 LB** | 37 | 50 | 2940 | 65,0 | 92,0 | 0,89 | 7,5 | 2,3 | 2,7 | 120 | 0,16000 | 150,0 |

## 4 P 1500 min$^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **T 50 B** | 0,06 | 0,08 | 1265 | 0,35 | 36,6 | 0,67 | 1,7 | 1,3 | 1,5 | 0,45 | 0,00010 | 2,4 |
| **T 56 A** | 0,06 | 0,08 | 1410 | 0,38 | 45,0 | 0,55 | 3,0 | 5,0 | 3,6 | 0,43 | 0,00015 | 2,5 |
| **T 56 B** | 0,09 | 0,12 | 1346 | 0,40 | 51,9 | 0,66 | 2,6 | 3,2 | 2,4 | 0,65 | 0,00015 | 2,6 |
| **T 56 C** | 0,11 | 0,15 | 1310 | 0,50 | 48,7 | 0,69 | 2,1 | 2,2 | 2,3 | 0,80 | 0,00020 | 3,2 |
| **T 56 D** | 0,18 | 0,25 | 1330 | 0,90 | 50,0 | 0,55 | 2,7 | 2,9 | 2,9 | 1,3 | 0,00020 | 3,3 |
| **T 63 A** | 0,13 | 0,18 | 1340 | 0,50 | 51,5 | 0,75 | 2,0 | 1,5 | 1,9 | 0,95 | 0,00028 | 3,7 |
| **T 63 B** | 0,18 | 0,25 | 1360 | 0,70 | 54,3 | 0,68 | 2,6 | 2,2 | 2,2 | 1,3 | 0,00040 | 3,9 |
| **T 63 C** | 0,22 | 0,3 | 1360 | 0,80 | 59,2 | 0,69 | 2,5 | 2,3 | 2 | 1,6 | 0,00040 | 4,3 |
| **T 63 D** | 0,37 | 0,5 | 1340 | 1,3 | 58,4 | 0,74 | 2,6 | 2,1 | 2 | 2,7 | 0,00050 | 5,3 |
| **T 71 A** | 0,25 | 0,35 | 1410 | 0,80 | 60,1 | 0,78 | 3,5 | 1,8 | 2,9 | 1,7 | 0,00050 | 5,8 |
| **T 71 B** | 0,37 | 0,5 | 1370 | 1,0 | 63,8 | 0,84 | 3,4 | 1,7 | 1,9 | 2,6 | 0,00080 | 6,2 |
| **T 71 C** | 0,55 | 0,75 | 1400 | 1,5 | 70,0 | 0,78 | 3,6 | 2,0 | 2,4 | 3,8 | 0,00090 | 7,4 |
| **T 80 A** | 0,55 | 0,75 | 1430 | 1,6 | 64,3 | 0,76 | 4,3 | 2,1 | 2,7 | 3,7 | 0,00140 | 8,5 |
| **T 80 B** | 0,75 | 1,0 | 1430 | 2,0 | 72,0 | 0,75 | 5,0 | 2,7 | 2,7 | 5,1 | 0,00170 | 9,8 |
| **T 80 C** | 0,88 | 1,2 | 1410 | 2,2 | 69,0 | 0,83 | 4,7 | 2,3 | 2,2 | 6,0 | 0,00200 | 10,5 |
| **T 80 D** | 1,1 | 1,5 | 1400 | 2,7 | 72,0 | 0,83 | 4,2 | 2,3 | 2,6 | 7,5 | 0,00230 | 11,0 |
| **T 90 S** | 1,1 | 1,5 | 1430 | 2,8 | 77,6 | 0,75 | 4,6 | 2,3 | 2,6 | 7,5 | 0,00330 | 12,0 |
| **T 90 L** | 1,5 | 2,0 | 1430 | 3,7 | 78,6 | 0,77 | 4,8 | 2,1 | 2,9 | 10,2 | 0,00400 | 13,5 |
| **T 90 LB** | 1,8 | 2,5 | 1430 | 4,6 | 78,3 | 0,75 | 4,6 | 2,4 | 2,8 | 12,5 | 0,00500 | 15,5 |
| **T 100 A** | 2,2 | 3,0 | 1430 | 4,8 | 82,0 | 0,81 | 5,3 | 2,1 | 2,8 | 14,8 | 0,00750 | 19 |
| **T 100 B** | 3,0 | 4,0 | 1430 | 6,4 | 82,9 | 0,83 | 5,6 | 2,4 | 2,8 | 20,2 | 0,00850 | 21 |
| **T 100 BL** | 4,0 | 5,5 | 1430 | 8,5 | 84,3 | 0,81 | 5,4 | 2,3 | 2,5 | 26,9 | 0,00110 | 23 |
| **T 112 A** | 4,0 | 5,5 | 1440 | 8,2 | 84,4 | 0,84 | 5,6 | 2,0 | 2,4 | 26,8 | 0,01300 | 29 |
| **T 112 BL** | 5,5 | 7,5 | 1440 | 11,0 | 88,1 | 0,82 | 6,0 | 2,2 | 2,4 | 36,5 | 0,01600 | 35 |
| **T 132 S** | 5,5 | 7,5 | 1460 | 11,3 | 86,4 | 0,82 | 5,8 | 2,3 | 2,2 | 36,4 | 0,02400 | 43 |
| **T 132 M** | 7,5 | 10 | 1460 | 14,9 | 87,9 | 0,83 | 5,5 | 2,3 | 2,1 | 49,5 | 0,03300 | 52 |
| **T 132 ML** | 9,2 | 12,5 | 1460 | 18,0 | 89,1 | 0,82 | 4,2 | 2,4 | 2,1 | 60,4 | 0,03400 | 54 |
| **T 160 M** | 11 | 15 | 1470 | 25,0 | 87,0 | 0,77 | 4,1 | 2,3 | 2,2 | 74,3 | 0,06200 | 90 |
| **T 160 L** | 15 | 20 | 1480 | 32,5 | 88,0 | 0,78 | 5,0 | 2,3 | 2,2 | 98,3 | 0,07400 | 100 |
| **T 180 M** | 18,5 | 25 | 1470 | 36,6 | 89,5 | 0,82 | 5,2 | 2,2 | 2,3 | 121 | 0,13000 | 120 |
| **T 180 L** | 22 | 30 | 1480 | 44,3 | 91,5 | 0,79 | 5,3 | 1,9 | 2,1 | 143 | 0,15000 | 135 |
| **T 200 L** | 30 | 40 | 1460 | 56,0 | 91,4 | 0,85 | 7,2 | 2,1 | 2,5 | 196 | 0,24000 | 155 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# T



### 2 P 3600 min$^{-1}$

Standard: Size ≤132 V 280/480/60 Hz Size≥160 V 480/830/60 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (480V 60Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm²] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T50B | 0,11 | 0,14 | 3300 | 0,39 | 49,0 | 0,71 | 2,8 | 2,4 | 2,5 | 0,31 | 0,00010 | 2,4 |
| T56A | 0,11 | 0,14 | 3275 | 0,40 | 44,4 | 0,75 | 3,0 | 3,1 | 3,9 | 0,31 | 0,00012 | 2,6 |
| T56B | 0,16 | 0,22 | 3300 | 0,60 | 52,4 | 0,61 | 3,0 | 4,1 | 4,0 | 0,45 | 0,00015 | 3,2 |
| T63A | 0,22 | 0,3 | 3325 | 0,60 | 58,0 | 0,74 | 3,7 | 3,3 | 3,5 | 0,62 | 0,00025 | 3,7 |
| T63B | 0,3 | 0,42 | 3385 | 0,80 | 63,6 | 0,77 | 4,0 | 2,8 | 3,2 | 0,85 | 0,00030 | 4,3 |
| T63C | 0,44 | 0,6 | 3360 | 1,1 | 66,5 | 0,77 | 4,1 | 3,0 | 2,9 | 1,26 | 0,00035 | 5,6 |
| T71A | 0,44 | 0,6 | 3430 | 1,2 | 64,1 | 0,72 | 4,6 | 3,5 | 5,2 | 1,24 | 0,00038 | 5,8 |
| T71B | 0,66 | 0,9 | 3430 | 1,6 | 68,5 | 0,72 | 5,4 | 4,0 | 5,3 | 1,84 | 0,00046 | 6,2 |
| T71C | 0,9 | 1,2 | 3370 | 2,0 | 70,7 | 0,79 | 4,3 | 2,8 | 3,7 | 2,55 | 0,00057 | 7,4 |
| T80A | 0,9 | 1,2 | 3430 | 2,0 | 71,2 | 0,78 | 4,8 | 2,8 | 3,3 | 2,51 | 0,00080 | 8,5 |
| T80B | 1,32 | 1,8 | 3420 | 2,6 | 78,0 | 0,80 | 6,1 | 3,5 | 3,0 | 3,69 | 0,00097 | 9,8 |
| T80C | 1,8 | 2,4 | 3445 | 3,4 | 80,0 | 0,80 | 6,4 | 4,1 | 3,5 | 4,99 | 0,00120 | 10,5 |
| T80D | 2,16 | 3 | 3360 | 4,0 | 78,3 | 0,85 | 5,1 | 2,7 | 2,9 | 6,14 | 0,00130 | 11,5 |
| T90S | 1,8 | 2,4 | 3455 | 3,4 | 79,8 | 0,82 | 6,2 | 2,9 | 2,7 | 4,98 | 0,00150 | 12,0 |
| T90L | 2,64 | 3,6 | 3420 | 5,0 | 78,7 | 0,81 | 5,1 | 2,8 | 2,7 | 7,37 | 0,00230 | 13,5 |
| T90LB | 3,6 | 4,8 | 3455 | 7,1 | 77,8 | 0,79 | 5,9 | 3,2 | 2,8 | 9,95 | 0,00280 | 15,5 |
| T100A | 3,6 | 4,8 | 3490 | 6,2 | 83,0 | 0,84 | 7,1 | 3,0 | 2,8 | 9,85 | 0,00530 | 18,5 |
| T100B | 4,8 | 6,6 | 3505 | 8,6 | 83,3 | 0,81 | 7,2 | 2,7 | 3,5 | 13,08 | 0,00850 | 21,0 |
| T112A | 4,8 | 6,6 | 3515 | 8,7 | 84,0 | 0,81 | 6,7 | 3,1 | 3,5 | 13,04 | 0,00900 | 27,0 |
| T112B | 6,6 | 9 | 3505 | 12,0 | 79,7 | 0,83 | 5,1 | 3,2 | 2,9 | 17,98 | 0,01200 | 32,0 |
| T112BL | 9 | 12 | 3515 | 15,8 | 82,9 | 0,83 | 3,7 | 2,6 | 2,6 | 24,45 | 0,01300 | 34,0 |
| T132S | 6,6 | 9 | 3515 | 11,9 | 84,0 | 0,82 | 5,4 | 3,4 | 3,2 | 17,93 | 0,01300 | 45,0 |
| T132SL | 9 | 12 | 3505 | 14,6 | 85,5 | 0,88 | 4,7 | 2,4 | 2,5 | 24,52 | 0,02000 | 48,0 |
| T132M | 13,2 | 18 | 3530 | 21,5 | 87,1 | 0,85 | 4,9 | 2,6 | 2,4 | 35,71 | 0,02800 | 54,0 |
| T132ML | 18 | 24 | 3530 | 28,6 | 88,6 | 0,85 | 3,9 | 2,2 | 2,3 | 48,69 | 0,03000 | 58,0 |
| T160MA | 13,2 | 18 | 3565 | 22,4 | 87,0 | 0,83 | 5,7 | 3,8 | 3,9 | 35,36 | 0,03200 | 75,0 |
| T160MB | 18 | 24 | 3550 | 28,6 | 88,5 | 0,87 | 4,5 | 2,8 | 2,9 | 48,42 | 0,03600 | 88,0 |
| T160L | 22,2 | 30 | 3550 | 35,4 | 89,3 | 0,85 | 4,5 | 2,6 | 2,7 | 59,72 | 0,04000 | 99,0 |
| T180M | 26,4 | 36 | 3530 | 39,0 | 91,0 | 0,90 | 7,1 | 2,3 | 3,0 | 71,42 | 0,07500 | 110,0 |
| T200LA | 36 | 48 | 3535 | 53,0 | 92,0 | 0,89 | 7,2 | 2,3 | 2,7 | 97,25 | 0,14000 | 130,0 |
| T200LB | 44,4 | 60 | 3530 | 65,0 | 92,0 | 0,89 | 7,5 | 2,3 | 2,7 | 120,11 | 0,16000 | 150,0 |

### 4 P 1800 min$^{-1}$

Standard: Size ≤132 V 280/480/60 Hz Size≥160 V 480/830/60 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (480V 60Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm²] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T 50 B | 0,07 | 0,1 | 1518 | 0,40 | 35,6 | 0,64 | 1,5 | 1,4 | 1,5 | 0,47 | 0,00010 | 2,4 |
| T 56 A | 0,07 | 0,1 | 1690 | 0,38 | 45,0 | 0,55 | 3 | 5 | 3,6 | 0,43 | 0,00015 | 2,5 |
| T 56 B | 0,11 | 0,1 | 1615 | 0,40 | 51,9 | 0,66 | 2,6 | 3,2 | 2,4 | 0,65 | 0,00015 | 2,6 |
| T 56 C | 0,13 | 0,18 | 1570 | 0,50 | 48,7 | 0,69 | 2,1 | 2,2 | 2,3 | 0,8 | 0,00020 | 3,2 |
| T 56 D | 0,22 | 0,3 | 1596 | 0,90 | 50,0 | 0,55 | 2,7 | 2,9 | 2,9 | 1,25 | 0,00020 | 3,3 |
| T 63 A | 0,16 | 0,22 | 1610 | 0,50 | 51,5 | 0,75 | 2 | 1,5 | 1,9 | 0,95 | 0,00028 | 3,7 |
| T 63 B | 0,22 | 0,3 | 1630 | 0,70 | 54,3 | 0,68 | 2,6 | 2,2 | 2,2 | 1,3 | 0,00040 | 3,9 |
| T 63 C | 0,26 | 0,36 | 1630 | 0,80 | 59,2 | 0,69 | 2,5 | 2,3 | 2,0 | 1,6 | 0,00040 | 4,3 |
| T 63 D | 0,44 | 0,6 | 1610 | 1,3 | 58,4 | 0,74 | 2,6 | 2,1 | 2,0 | 2,7 | 0,00050 | 5,3 |
| T 71 A | 0,3 | 0,42 | 1690 | 0,80 | 60,1 | 0,78 | 3,5 | 1,8 | 2,9 | 1,7 | 0,00050 | 5,8 |
| T 71 B | 0,44 | 0,6 | 1645 | 1,0 | 63,8 | 0,84 | 3,4 | 1,7 | 1,9 | 2,6 | 0,00080 | 6,2 |
| T 71 C | 0,66 | 0,9 | 1680 | 1,5 | 70,0 | 0,78 | 3,6 | 2 | 2,4 | 3,8 | 0,00090 | 7,4 |
| T 80 A | 0,66 | 0,9 | 1715 | 1,6 | 64,3 | 0,76 | 4,3 | 2,1 | 2,7 | 3,7 | 0,00140 | 8,5 |
| T 80 B | 0,9 | 1,2 | 1715 | 2,0 | 72,0 | 0,75 | 5 | 2,7 | 2,7 | 5,1 | 0,00170 | 9,8 |
| T 80 C | 1,06 | 1,44 | 1690 | 2,2 | 69,0 | 0,83 | 4,7 | 2,3 | 2,2 | 6,0 | 0,00200 | 10,5 |
| T 80 D | 1,32 | 1,8 | 1680 | 2,7 | 72,0 | 0,83 | 4,2 | 2,3 | 2,6 | 7,5 | 0,00230 | 11,0 |
| T 90 S | 1,32 | 1,8 | 1715 | 2,8 | 77,6 | 0,75 | 4,6 | 2,3 | 2,6 | 7,5 | 0,00330 | 12,0 |
| T 90 L | 1,8 | 2,4 | 1715 | 3,7 | 78,6 | 0,77 | 4,8 | 2,1 | 2,9 | 10,2 | 0,00400 | 13,5 |
| T 90 LB | 2,16 | 3 | 1715 | 4,6 | 78,3 | 0,75 | 4,6 | 2,4 | 2,8 | 12,5 | 0,00500 | 15,5 |
| T 100 A | 2,64 | 3,6 | 1715 | 4,8 | 82,0 | 0,81 | 5,3 | 2,1 | 2,8 | 14,8 | 0,00750 | 19,0 |
| T 100 B | 3,6 | 4,8 | 1715 | 6,4 | 82,9 | 0,83 | 5,6 | 2,4 | 2,8 | 20,2 | 0,00850 | 21,0 |
| T 100 BL | 4,8 | 6,6 | 1715 | 8,5 | 84,3 | 0,81 | 5,4 | 2,3 | 2,5 | 26,9 | 0,00110 | 23,0 |
| T 112 A | 4,8 | 6,6 | 1730 | 8,2 | 84,4 | 0,84 | 5,6 | 2,0 | 2,4 | 26,8 | 0,01300 | 29,0 |
| T 112 BL | 6,6 | 9 | 1730 | 11,0 | 88,1 | 0,82 | 6,0 | 2,2 | 2,4 | 36,5 | 0,01600 | 35,0 |
| T 132 S | 6,6 | 9 | 1750 | 11,3 | 86,4 | 0,82 | 5,8 | 2,3 | 2,2 | 36,4 | 0,02400 | 43,0 |
| T 132 M | 9 | 12 | 1750 | 14,9 | 87,9 | 0,83 | 5,5 | 2,3 | 2,1 | 49,5 | 0,03300 | 52,0 |
| T 132 ML | 11 | 15 | 1750 | 18,0 | 89,1 | 0,82 | 4,2 | 2,4 | 2,1 | 60,4 | 0,03400 | 54,0 |
| T 160 M | 13,2 | 18 | 1765 | 25,0 | 87,0 | 0,77 | 4,1 | 2,3 | 2,2 | 74,3 | 0,06200 | 90,0 |
| T 160 L | 18 | 24 | 1775 | 32,5 | 88,0 | 0,78 | 5,0 | 2,3 | 2,2 | 98,3 | 0,07400 | 100,0 |
| T 180 M | 22,2 | 30 | 1765 | 36,6 | 89,5 | 0,82 | 5,2 | 2,2 | 2,3 | 121 | 0,13000 | 120,0 |
| T 180 L | 26,4 | 36 | 1775 | 44,3 | 91,5 | 0,79 | 5,3 | 1,9 | 2,1 | 143,3 | 0,15000 | 135,0 |
| T 200 L | 36 | 48 | 1750 | 56,0 | 91,4 | 0,85 | 7,2 | 2,1 | 2,5 | 196,32 | 0,24000 | 155,0 |


## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**T**

### 6 P 1000 $min^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [$min^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [$Kgm^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **T 56 B** | 0,03 | 0,05 | 900 | 0,30 | 26,1 | 0,64 | 1,3 | 2,1 | 2,2 | 0,35 | 0,0002 | 2,6 |
| **T 56 C** | 0,06 | 0,08 | 860 | 0,44 | 31,8 | 0,61 | 1,4 | 2,1 | 2,2 | 0,65 | 0,0002 | 3,0 |
| **T 63 B** | 0,09 | 0,12 | 860 | 0,50 | 39,7 | 0,65 | 1,6 | 1,6 | 1,7 | 1,0 | 0,0003 | 3,8 |
| **T 63 C** | 0,13 | 0,18 | 880 | 0,70 | 45,8 | 0,57 | 2,0 | 2,2 | 2,3 | 1,4 | 0,0004 | 4,0 |
| **T 71 A** | 0,18 | 0,25 | 930 | 0,70 | 56,0 | 0,70 | 3,0 | 2,1 | 2,2 | 1,9 | 0,0006 | 5,7 |
| **T 71 B** | 0,25 | 0,35 | 880 | 0,80 | 55,3 | 0,81 | 2,5 | 1,5 | 1,6 | 2,7 | 0,0008 | 6,0 |
| **T 71 C** | 0,37 | 0,5 | 910 | 1,3 | 58,2 | 0,75 | 2,5 | 1,7 | 1,8 | 3,9 | 0,0010 | 6,5 |
| **T 80 A** | 0,37 | 0,5 | 940 | 1,2 | 61,5 | 0,71 | 3,6 | 2,1 | 2,3 | 3,8 | 0,0020 | 8,7 |
| **T 80 B** | 0,55 | 0,75 | 930 | 1,6 | 66,0 | 0,75 | 3,5 | 1,9 | 2,1 | 5,7 | 0,0025 | 10,5 |
| **T 80 C** | 0,75 | 1,0 | 920 | 2,2 | 66,4 | 0,75 | 3,4 | 1,9 | 2,1 | 7,9 | 0,0026 | 11 |
| **T 90 S** | 0,75 | 1,0 | 930 | 2,3 | 65,7 | 0,72 | 3,5 | 1,9 | 2,3 | 7,8 | 0,0035 | 12 |
| **T 90 L** | 1,1 | 1,5 | 920 | 3,0 | 68,8 | 0,79 | 3,4 | 1,7 | 2,1 | 11,6 | 0,0045 | 14 |
| **T 90 LB** | 1,5 | 2,0 | 940 | 4,5 | 70,0 | 0,68 | 4,0 | 2,2 | 2,3 | 15,2 | 0,0050 | 16 |
| **T 100 A** | 1,5 | 2,0 | 940 | 3,9 | 74,3 | 0,76 | 4,3 | 2,0 | 2,4 | 15,5 | 0,0090 | 19,5 |
| **T 100 B** | 1,85 | 2,5 | 940 | 4,7 | 75,5 | 0,76 | 4,6 | 2,2 | 2,5 | 18,7 | 0,0100 | 21 |
| **T 100 BL** | 2,2 | 3,0 | 940 | 5,5 | 75,9 | 0,76 | 4,5 | 2,1 | 2,4 | 22,4 | 0,0110 | 23 |
| **T 112 A** | 2,2 | 3,0 | 960 | 5,2 | 81,2 | 0,76 | 5,4 | 1,8 | 2,4 | 22,0 | 0,0150 | 30 |
| **T 112 B** | 3,0 | 4,0 | 960 | 6,8 | 81,9 | 0,79 | 5,4 | 1,6 | 2,3 | 30,1 | 0,0180 | 37 |
| **T 132 S** | 3,0 | 4,0 | 970 | 6,9 | 82,3 | 0,78 | 5,2 | 1,5 | 2,3 | 30,0 | 0,0300 | 43 |
| **T 132 M** | 4,0 | 5,5 | 970 | 9,4 | 84,8 | 0,73 | 5,8 | 1,8 | 2,5 | 39,6 | 0,0400 | 52 |
| **T 132 ML** | 5,5 | 7,5 | 970 | 12,2 | 85,0 | 0,77 | 5,0 | 1,6 | 2,2 | 54,4 | 0,0420 | 55 |
| **T 160 M** | 7,5 | 10 | 960 | 15,0 | 85,0 | 0,85 | 5,2 | 2,1 | 2,2 | 74,6 | 0,0880 | 70 |
| **T 160 L** | 11 | 15 | 960 | 21,9 | 87,9 | 0,85 | 4,7 | 1,6 | 1,8 | 112 | 0,1060 | 90 |
| **T 180 L** | 15 | 20 | 970 | 30,0 | 88,0 | 0,82 | 5,4 | 2,0 | 2,3 | 148 | 0,1500 | 125 |
| **T 200 LA** | 18,5 | 25 | 975 | 36,0 | 88,0 | 0,84 | 5,6 | 2,3 | 2,5 | 181 | 0,2400 | 140 |
| **T 200 LB** | 22 | 30 | 975 | 43,0 | 89,0 | 0,83 | 5,6 | 2,2 | 2,4 | 216 | 0,2800 | 160 |

### 8 P 750 $min^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [$min^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [$Kgm^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **T 56 B** | 0,03 | 0,05 | 670 | 0,46 | 19,0 | 0,51 | 1,3 | 3,1 | 2,7 | 0,45 | 0,00010 | 3,2 |
| **T 63 B** | 0,05 | 0,07 | 680 | 0,55 | 30,4 | 0,45 | 1,4 | 3,1 | 3,0 | 0,70 | 0,00030 | 3,9 |
| **T 63 C** | 0,07 | 0,1 | 680 | 0,70 | 29,4 | 0,51 | 1,6 | 3,0 | 3,1 | 1,0 | 0,00060 | 4,3 |
| **T 71 B** | 0,09 | 0,12 | 710 | 0,80 | 38,3 | 0,43 | 2,5 | 4,1 | 4,2 | 1,3 | 0,00080 | 5,7 |
| **T 71 C** | 0,12 | 0,17 | 700 | 0,80 | 44,0 | 0,49 | 2,5 | 3,0 | 3,2 | 1,7 | 0,00100 | 6,4 |
| **T 80 A** | 0,18 | 0,25 | 710 | 1,0 | 48,5 | 0,56 | 2,7 | 2,4 | 2,6 | 2,5 | 0,00200 | 8,8 |
| **T 80 B** | 0,25 | 0,35 | 700 | 1,1 | 55,0 | 0,62 | 2,9 | 1,9 | 2,5 | 3,5 | 0,00250 | 10,5 |
| **T 80 C** | 0,37 | 0,5 | 690 | 1,5 | 55,0 | 0,66 | 2,5 | 1,6 | 1,9 | 5,2 | 0,00280 | 11 |
| **T 90 S** | 0,37 | 0,5 | 700 | 1,5 | 58,4 | 0,6 | 2,9 | 2,0 | 2,3 | 5,1 | 0,00350 | 12 |
| **T 90 L** | 0,55 | 0,75 | 700 | 2,1 | 61,1 | 0,62 | 3,1 | 2,0 | 2,4 | 7,6 | 0,00450 | 14 |
| **T 90 LB** | 0,75 | 1,0 | 700 | 2,9 | 61,1 | 0,61 | 3,2 | 2,2 | 2,4 | 10,3 | 0,00550 | 16 |
| **T 100 A** | 0,75 | 1,0 | 710 | 2,4 | 69,2 | 0,66 | 3,4 | 1,9 | 2,0 | 10,2 | 0,00900 | 19,8 |
| **T 100 B** | 1,1 | 1,5 | 700 | 3,5 | 67,4 | 0,68 | 3,1 | 1,8 | 1,9 | 15,4 | 0,01000 | 22 |
| **T 100 BL** | 1,3 | 1,8 | 690 | 3,9 | 69,8 | 0,7 | 2,8 | 1,7 | 2,0 | 18,1 | 0,01200 | 24 |
| **T 112 A** | 1,5 | 2,0 | 710 | 4,6 | 74,2 | 0,65 | 3,6 | 1,5 | 2,0 | 20,4 | 0,01500 | 32 |
| **T 132 S** | 2,2 | 3,0 | 720 | 6,4 | 75,4 | 0,66 | 3,8 | 1,3 | 2,0 | 29,5 | 0,03000 | 44 |
| **T 132 M** | 3,0 | 4,0 | 710 | 8,2 | 76,2 | 0,69 | 3,8 | 1,3 | 1,8 | 40,0 | 0,04000 | 53 |
| **T 132 ML** | 4,0 | 5,5 | 720 | 11,0 | 78,1 | 0,67 | 3,9 | 1,2 | 1,9 | 53,5 | 0,05000 | 58 |
| **T 160 MA** | 4,0 | 5,5 | 720 | 11,4 | 84,0 | 0,61 | 4,5 | 2,2 | 2,6 | 53,4 | 0,08000 | 64 |
| **T 160 MB** | 5,5 | 7,5 | 720 | 13,8 | 85,2 | 0,68 | 3,8 | 1,6 | 2,0 | 72,6 | 0,09200 | 72 |
| **T 160 L** | 7,5 | 10 | 720 | 17,5 | 84,0 | 0,76 | 3,7 | 1,4 | 2,0 | 101 | 0,11200 | 86 |
| **T 180 L** | 11 | 15 | 725 | 26,3 | 86,0 | 0,74 | 5,0 | 2,0 | 2,0 | 145 | 0,21000 | 120 |
| **T 200 L** | 15 | 20 | 725 | 33 | 87,0 | 0,76 | 5,0 | 2,0 | 2,1 | 198 | 0,37000 | 145 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# T



### 6 P 1200 min$^{-1}$

Standard: Size ≤132 V 280/480/60 Hz Size≥160 V 480/830/60 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (480V 60Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T56B | 0,036 | 0,06 | 1080 | 0,30 | 26,1 | 0,64 | 1,3 | 2,1 | 2,2 | 0,35 | 0,0002 | 2,6 |
| T56C | 0,072 | 0,096 | 1030 | 0,44 | 31,8 | 0,61 | 1,4 | 2,1 | 2,2 | 0,65 | 0,0002 | 3,0 |
| T63B | 0,108 | 0,144 | 1030 | 0,50 | 39,7 | 0,65 | 1,6 | 1,6 | 1,7 | 1,00 | 0,0003 | 3,8 |
| T63C | 0,156 | 0,216 | 1055 | 0,70 | 45,8 | 0,57 | 2,0 | 2,2 | 2,3 | 1,40 | 0,0004 | 4,0 |
| T71A | 0,216 | 0,3 | 1115 | 0,70 | 56,0 | 0,70 | 3,0 | 2,1 | 2,2 | 1,90 | 0,0006 | 5,7 |
| T71B | 0,3 | 0,42 | 1055 | 0,80 | 55,3 | 0,81 | 2,5 | 1,5 | 1,6 | 2,70 | 0,0008 | 6,0 |
| T71C | 0,444 | 0,6 | 1090 | 1,3 | 58,2 | 0,75 | 2,5 | 1,7 | 1,8 | 3,90 | 0,0010 | 6,5 |
| T80A | 0,444 | 0,6 | 1130 | 1,2 | 61,5 | 0,71 | 3,6 | 2,1 | 2,3 | 3,80 | 0,0020 | 8,7 |
| T80B | 0,66 | 0,9 | 1115 | 1,6 | 66,0 | 0,75 | 3,5 | 1,9 | 2,1 | 5,70 | 0,0025 | 10,5 |
| T80C | 0,9 | 1,2 | 1105 | 2,2 | 66,4 | 0,75 | 3,4 | 1,9 | 2,1 | 7,90 | 0,0026 | 11,0 |
| T90S | 0,9 | 1,2 | 1115 | 2,3 | 65,7 | 0,72 | 3,5 | 1,9 | 2,3 | 7,80 | 0,0035 | 12,0 |
| T90L | 1,32 | 1,8 | 1105 | 3,0 | 68,8 | 0,79 | 3,4 | 1,7 | 2,1 | 11,60 | 0,0045 | 14,0 |
| T90LB | 1,8 | 2,4 | 1130 | 4,5 | 70,0 | 0,68 | 4,0 | 2,2 | 2,3 | 15,20 | 0,0050 | 16,0 |
| T100A | 1,8 | 2,4 | 1130 | 3,9 | 74,3 | 0,76 | 4,3 | 2,0 | 2,4 | 15,50 | 0,0090 | 19,5 |
| T100B | 2,22 | 3 | 1130 | 4,7 | 75,5 | 0,76 | 4,6 | 2,2 | 2,5 | 18,70 | 0,0100 | 21,0 |
| T100BL | 2,64 | 3,6 | 1130 | 5,5 | 75,9 | 0,76 | 4,5 | 2,1 | 2,4 | 22,40 | 0,0110 | 23,0 |
| T112A | 2,64 | 3,6 | 1150 | 5,2 | 81,2 | 0,76 | 5,4 | 1,8 | 2,4 | 22,00 | 0,0150 | 30,0 |
| T112B | 3,6 | 4,8 | 1150 | 6,8 | 81,9 | 0,79 | 5,4 | 1,6 | 2,3 | 30,10 | 0,0180 | 37,0 |
| T132S | 3,6 | 4,8 | 1165 | 6,9 | 82,3 | 0,78 | 5,2 | 1,5 | 2,3 | 30,00 | 0,0300 | 43,0 |
| T132M | 4,8 | 6,6 | 1165 | 9,4 | 84,8 | 0,73 | 5,8 | 1,8 | 2,5 | 39,60 | 0,0400 | 52,0 |
| T132ML | 6,6 | 9 | 1165 | 12,2 | 85,0 | 0,77 | 5,0 | 1,6 | 2,2 | 54,40 | 0,0420 | 55,0 |
| T160M | 9 | 12 | 1150 | 15,0 | 85,0 | 0,85 | 5,2 | 2,1 | 2,2 | 74,60 | 0,0880 | 70,0 |
| T160L | 13,2 | 18 | 1150 | 21,9 | 87,9 | 0,85 | 4,7 | 1,6 | 1,8 | 112,00 | 0,1060 | 90,0 |
| T180L | 18 | 24 | 1165 | 30,0 | 88,0 | 0,82 | 5,4 | 2,0 | 2,3 | 147,74 | 0,1500 | 125,0 |
| T200LA | 22,2 | 30 | 1170 | 36,0 | 88,0 | 0,84 | 5,6 | 2,3 | 2,5 | 181,28 | 0,2400 | 140,0 |
| T200LB | 26,4 | 36 | 1170 | 43,0 | 89,0 | 0,83 | 5,6 | 2,2 | 2,4 | 215,58 | 0,2800 | 160,0 |

### 8 P 900 min$^{-1}$

Standard: Size ≤132 V 280/480/60 Hz Size≥160 V 480/830/60 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (480V 60Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T56B | 0,036 | 0,06 | 805 | 0,46 | 19,0 | 0,51 | 1,3 | 3,1 | 2,7 | 0,45 | 0,0001 | 3,2 |
| T63B | 0,06 | 0,084 | 815 | 0,55 | 30,4 | 0,45 | 1,4 | 3,1 | 3,0 | 0,70 | 0,0003 | 3,9 |
| T63C | 0,084 | 0,12 | 815 | 0,70 | 29,4 | 0,51 | 1,6 | 3,0 | 3,1 | 1,00 | 0,0006 | 4,3 |
| T71B | 0,108 | 0,144 | 850 | 0,80 | 38,3 | 0,43 | 2,5 | 4,1 | 4,2 | 1,25 | 0,0008 | 5,7 |
| T71C | 0,144 | 0,204 | 840 | 0,80 | 44,0 | 0,49 | 2,5 | 3,0 | 3,2 | 1,70 | 0,0010 | 6,4 |
| T80A | 0,216 | 0,3 | 850 | 1,0 | 48,5 | 0,56 | 2,7 | 2,4 | 2,6 | 2,50 | 0,0020 | 8,8 |
| T80B | 0,3 | 0,42 | 840 | 1,1 | 55,0 | 0,62 | 2,9 | 1,9 | 2,5 | 3,50 | 0,0025 | 10,5 |
| T80C | 0,444 | 0,6 | 830 | 1,5 | 55,0 | 0,66 | 2,5 | 1,6 | 1,9 | 5,20 | 0,0028 | 11,0 |
| T90S | 0,444 | 0,6 | 840 | 1,5 | 58,4 | 0,6 | 2,9 | 2,0 | 2,3 | 5,10 | 0,0035 | 12,0 |
| T90L | 0,66 | 0,9 | 840 | 2,1 | 61,1 | 0,62 | 3,1 | 2,0 | 2,4 | 7,60 | 0,0045 | 14,0 |
| T90LB | 0,9 | 1,2 | 840 | 2,9 | 61,1 | 0,61 | 3,2 | 2,2 | 2,4 | 10,30 | 0,0055 | 16,0 |
| T100A | 0,9 | 1,2 | 850 | 2,4 | 69,2 | 0,66 | 3,4 | 1,9 | 2,0 | 10,20 | 0,0090 | 19,8 |
| T100B | 1,32 | 1,8 | 840 | 3,5 | 67,4 | 0,68 | 3,1 | 1,8 | 1,9 | 15,40 | 0,0100 | 22,0 |
| T100BL | 1,56 | 2,16 | 830 | 3,9 | 69,8 | 0,7 | 2,8 | 1,7 | 2,0 | 18,10 | 0,0120 | 24,0 |
| T112A | 1,8 | 2,4 | 850 | 4,6 | 74,2 | 0,65 | 3,6 | 1,5 | 2,0 | 20,40 | 0,0150 | 32,0 |
| T132S | 2,64 | 3,6 | 865 | 6,4 | 75,4 | 0,66 | 3,8 | 1,3 | 2,0 | 29,50 | 0,0300 | 44,0 |
| T132M | 3,6 | 4,8 | 850 | 8,2 | 76,2 | 0,69 | 3,8 | 1,3 | 1,8 | 40,00 | 0,0400 | 53,0 |
| T132ML | 4,8 | 6,6 | 865 | 11,0 | 78,1 | 0,67 | 3,9 | 1,2 | 1,9 | 53,50 | 0,0500 | 58,0 |
| T160MA | 4,8 | 6,6 | 865 | 11,4 | 84,0 | 0,61 | 4,5 | 2,2 | 2,6 | 53,40 | 0,0800 | 64,0 |
| T160MB | 6,6 | 9 | 865 | 13,8 | 85,2 | 0,68 | 3,8 | 1,6 | 2,0 | 72,60 | 0,0920 | 72,0 |
| T160L | 9 | 12 | 865 | 17,5 | 84,0 | 0,76 | 3,7 | 1,4 | 2,0 | 101,00 | 0,1120 | 86,0 |
| T180L | 13,2 | 18 | 870 | 26,3 | 86,0 | 0,74 | 5,0 | 2,0 | 2,0 | 144,96 | 0,2100 | 120,0 |
| T200L | 18 | 24 | 870 | 33 | 87,0 | 0,76 | 5,0 | 2,0 | 2,1 | 197,67 | 0,3700 | 145,0 |


## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# T

### 12 P 500 $min^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | Pn | | $n_n$ | In (400V 50Hz) | η | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn | $J_m$ | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [kW] | [HP] | [$min^{-1}$] | [A] | % | | | | | [Nm] | [$Kgm^2$] | |
| **T 71 C** | 0,09 | 0,12 | 420 | 0,60 | 33,9 | 0,61 | 1,5 | 1,9 | 2,1 | 2,0 | 0,00120 | 6,5 |
| **T 80 C** | 0,18 | 0,25 | 430 | 1,0 | 42,0 | 0,62 | 1,8 | 1,4 | 1,6 | 4,1 | 0,00300 | 11 |
| **T 90 L** | 0,25 | 0,35 | 420 | 1,8 | 41,6 | 0,49 | 1,4 | 1,4 | 1,3 | 5,8 | 0,00500 | 15 |
| **T 100 B** | 0,37 | 0,5 | 470 | 2,1 | 53,8 | 0,48 | 2,4 | 2,2 | 2,6 | 7,6 | 0,01000 | 21 |
| **T 100 BL** | 0,55 | 0,75 | 460 | 2,7 | 57,7 | 0,52 | 2,5 | 1,7 | 2,3 | 11,7 | 0,01300 | 23 |
| **T 112 B** | 0,75 | 1,0 | 470 | 3,1 | 64,9 | 0,55 | 2,7 | 1,1 | 1,9 | 15,7 | 0,01600 | 28 |
| **T 132 S** | 1,1 | 1,5 | 470 | 4,2 | 66,3 | 0,58 | 2,4 | 0,9 | 1,6 | 23 | 0,03000 | 55 |
| **T 132 M** | 1,5 | 2,0 | 460 | 5,6 | 67,1 | 0,59 | 2,2 | 0,9 | 1,4 | 31,8 | 0,03800 | 66 |
| **T 132 ML** | 1,85 | 2,5 | 455 | 6,9 | 63,0 | 0,62 | 2,5 | 1,2 | 1,7 | 38,9 | 0,04700 | 66 |
| **T 160 M** | 3,0 | 4,0 | 470 | 10,0 | 75,9 | 0,60 | 2,7 | 1,3 | 1,8 | 61,5 | 0,09000 | 80 |
| **T 160 L** | 4,0 | 5,5 | 470 | 12,0 | 76,9 | 0,63 | 2,5 | 1,2 | 1,7 | 83,4 | 0,13000 | 90 |
| **T 180 L** | 5,5 | 7,5 | 450 | 18,0 | 70,0 | 0,63 | 3,5 | 1,5 | 1,9 | 117 | 0,21000 | 120 |
| **T 200 L** | 7,5 | 10 | 440 | 23,0 | 73,0 | 0,65 | 3,8 | 1,6 | 1,8 | 163 | 0,37000 | 150 |

### 16 P 375 $min^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | Pn | | $n_n$ | In (400V 50Hz) | η | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn | $J_m$ | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [kW] | [HP] | [$min^{-1}$] | [A] | % | | | | | [Nm] | [$Kgm^2$] | |
| **T 132 S** | 0,55 | 0,75 | 360 | 3,5 | 52,0 | 0,44 | 1,8 | 1,1 | 1,6 | 14,6 | 0,03000 | 55 |
| **T 132 M** | 0,75 | 1,0 | 355 | 4,2 | 56,0 | 0,46 | 1,9 | 1,1 | 1,5 | 20,2 | 0,03800 | 66 |
| **T 160 M** | 1,1 | 1,5 | 360 | 5,5 | 59,0 | 0,49 | 2,5 | 1,2 | 1,5 | 29,2 | 0,09000 | 80 |
| **T 160 L** | 1,5 | 2,0 | 355 | 7,0 | 61,0 | 0,51 | 2,6 | 1,3 | 1,4 | 40,4 | 0,13000 | 90 |
| **T 180 L** | 2,2 | 3,0 | 360 | 10,0 | 62,0 | 0,51 | 2,8 | 1,4 | 1,4 | 58,4 | 0,21000 | 120 |
| **T 200 L** | 3,0 | 4,0 | 350 | 13,0 | 65,0 | 0,51 | 3,1 | 1,5 | 1,4 | 81,9 | 0,37000 | 150 |

### 32 P 187 $min^{-1}$

Standard: Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | Pn | | $n_n$ | In (400V 50Hz) | η | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn | $J_m$ | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [kW] | [HP] | [$min^{-1}$] | [A] | % | | | | | [Nm] | [$Kgm^2$] | |
| **T 180 L** | 1,5 | 2,0 | 160 | 9,0 | 58,0 | 0,42 | 2,6 | 1,3 | 1,5 | 89,6 | 0,21 | 120 |
| **T 200 L** | 2,2 | 3,0 | 155 | 12,0 | 60,0 | 0,44 | 2,8 | 1,3 | 1,5 | 136 | 0,37 | 150 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**T**



### 12 P 600 min$^{-1}$

Standard: Size ≤132 V 280/480/60 Hz Size≥160 V 480/830/60 Hz

| Tipo *Type* Typ | Pn | | $n_n$ | In (480V 60Hz) | η | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn | $J_m$ | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [kW] | [HP] | [min$^{-1}$] | [A] | % | | | | | [Nm] | [Kgm$^2$] | |
| **T 71 C** | 0,108 | 0,144 | 505 | 0,60 | 33,9 | 0,61 | 1,5 | 1,9 | 2,1 | 2,0 | 0,00120 | 6,5 |
| **T 80 C** | 0,216 | 0,3 | 515 | 1,0 | 42,0 | 0,62 | 1,8 | 1,4 | 1,6 | 4,1 | 0,00300 | 11 |
| **T 90 L** | 0,3 | 0,42 | 505 | 1,8 | 41,6 | 0,49 | 1,4 | 1,4 | 1,3 | 5,8 | 0,00500 | 15 |
| **T 100 B** | 0,444 | 0,6 | 565 | 2,1 | 53,8 | 0,48 | 2,4 | 2,2 | 2,6 | 7,6 | 0,01000 | 21 |
| **T 100 BL** | 0,66 | 0,9 | 550 | 2,7 | 57,7 | 0,52 | 2,5 | 1,7 | 2,3 | 11,7 | 0,01300 | 23 |
| **T 112 B** | 0,9 | 1,2 | 565 | 3,1 | 64,9 | 0,55 | 2,7 | 1,1 | 1,9 | 15,7 | 0,01600 | 28 |
| **T 132 S** | 1,32 | 1,8 | 565 | 4,2 | 66,3 | 0,58 | 2,4 | 0,9 | 1,6 | 23 | 0,03000 | 55 |
| **T 132 M** | 1,8 | 2,4 | 550 | 5,6 | 67,1 | 0,59 | 2,2 | 0,9 | 1,4 | 31,8 | 0,03800 | 66 |
| **T 132 ML** | 2,22 | 3 | 545 | 6,9 | 63,0 | 0,62 | 2,5 | 1,2 | 1,7 | 38,9 | 0,04700 | 66 |
| **T 160 M** | 3,6 | 4,8 | 565 | 10,0 | 75,9 | 0,60 | 2,7 | 1,3 | 1,8 | 61,5 | 0,09000 | 80 |
| **T 160 L** | 4,8 | 6,6 | 565 | 12,0 | 76,9 | 0,63 | 2,5 | 1,2 | 1,7 | 83,4 | 0,13000 | 90 |
| **T 180 L** | 6,6 | 9 | 540 | 18,0 | 70,0 | 0,63 | 3,5 | 1,5 | 1,9 | 117 | 0,21000 | 120 |
| **T 200 L** | 9 | 12 | 530 | 23,0 | 73,0 | 0,65 | 3,8 | 1,6 | 1,8 | 163 | 0,37000 | 150 |

### 16 P 450 min$^{-1}$

Standard: Size ≤132 V 280/480/60 Hz Size≥160 V 480/830/60 Hz

| Tipo *Type* Typ | Pn | | $n_n$ | In (480V 60Hz) | η | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn | $J_m$ | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [kW] | [HP] | [min$^{-1}$] | [A] | % | | | | | [Nm] | [Kgm$^2$] | |
| **T 132 S** | 0,66 | 0,9 | 430 | 3,5 | 52,0 | 0,44 | 1,8 | 1,1 | 1,6 | 14,6 | 0,03000 | 55 |
| **T 132 M** | 0,9 | 1,2 | 425 | 4,2 | 56,0 | 0,46 | 1,9 | 1,1 | 1,5 | 20,2 | 0,03800 | 66 |
| **T 160 M** | 1,32 | 1,8 | 430 | 5,5 | 59,0 | 0,49 | 2,5 | 1,2 | 1,5 | 29,2 | 0,09000 | 80 |
| **T 160 L** | 1,8 | 2,4 | 425 | 7,0 | 61,0 | 0,51 | 2,6 | 1,3 | 1,4 | 40,4 | 0,13000 | 90 |
| **T 180 L** | 2,64 | 3,6 | 430 | 10,0 | 62,0 | 0,51 | 2,8 | 1,4 | 1,4 | 58,4 | 0,21000 | 120 |
| **T 200 L** | 3,6 | 4,8 | 425 | 13,0 | 65,0 | 0,51 | 3,1 | 1,5 | 1,4 | 81,9 | 0,37000 | 150 |

### 32 P 224 min$^{-1}$

Standard: Size≥160 V 480/830/60 Hz

| Tipo *Type* Typ | Pn | | $n_n$ | In (480V 60Hz) | η | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn | $J_m$ | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [kW] | [HP] | [min$^{-1}$] | [A] | % | | | | | [Nm] | [Kgm$^2$] | |
| **T 180 L** | 1,8 | 2,4 | 190 | 9,0 | 58,0 | 0,42 | 2,6 | 1,3 | 1,5 | 89,6 | 0,21 | 120 |
| **T 200 L** | 2,64 | 3,6 | 185 | 12,0 | 60,0 | 0,44 | 2,8 | 1,3 | 1,5 | 136 | 0,37 | 150 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**HE2**

Classe di efficienza
*Efficiency class*
Wirkungsgradklasse

**IE2**

### 2 P 3000 $min^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [$min^{-1}$] | In (400V 50Hz) [A] | η100 % | η75 % | η50 % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [$Kgm^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HE2 80 B** | 0,75 | 1,0 | 2874 | 1,87 | 77,4 | 74 | 71 | 0,75 | 7,0 | 4,5 | 5,0 | 2,5 | 0,00097 | 9,8 |
| **HE2 80 C** | 1,1 | 1,5 | 2871 | 2,6 | 79,6 | 77 | 75 | 0,77 | 6,8 | 2,9 | 3,2 | 3,7 | 0,00120 | 10,5 |
| **HE2 90 S** | 1,5 | 2,0 | 2858 | 3,2 | 81,3 | 78 | 76 | 0,83 | 5,6 | 2,8 | 3,1 | 5,0 | 0,00230 | 13,5 |
| **HE2 90 L** | 2,2 | 3,0 | 2875 | 4,46 | 83,2 | 80 | 78 | 0,86 | 7,6 | 2,7 | 3,0 | 7,3 | 0,00280 | 15,5 |
| **HE2 100 B** | 3,0 | 4,0 | 2918 | 6,42 | 84,6 | 82 | 80 | 0,80 | 6,4 | 2,4 | 2,6 | 9,8 | 0,00850 | 21,0 |
| **HE2 112 A** | 4,0 | 5,5 | 2903 | 7,77 | 85,8 | 83 | 81 | 0,87 | 7,7 | 2,7 | 3,0 | 13,2 | 0,01200 | 32,0 |
| **HE2 112 B** | 5,5 | 7,5 | 2930 | 11,0 | 87,0 | 84 | 82 | 0,83 | 7,7 | 2,7 | 3,0 | 18,2 | 0,01200 | 34,0 |
| **HE2 132 S** | 5,5 | 7,5 | 2930 | 11,0 | 87,0 | 84 | 82 | 0,83 | 6,0 | 2,2 | 2,4 | 18,2 | 0,02000 | 50,0 |
| **HE2 132 SL** | 7,5 | 10 | 2940 | 14,5 | 88,1 | 85 | 83 | 0,85 | 6,4 | 2,8 | 3,1 | 24,4 | 0,02500 | 54,0 |
| **HE2 132 ML** | 11,0 | 15 | 2950 | 22,0 | 89,4 | 86 | 84 | 0,81 | 6,0 | 2,2 | 2,4 | 35,6 | 0,02800 | 62,0 |
| **HE2 160 MA** | 11,0 | 15 | 2900 | 21,0 | 89,4 | 86 | 84 | 0,85 | 6,4 | 2,2 | 2,4 | 36,2 | 0,03200 | 75,0 |
| **HE2 160 L** | 15,0 | 20 | 2970 | 27,7 | 90,3 | 87 | 85 | 0,87 | 7,4 | 2,2 | 2,4 | 48,9 | 0,03600 | 88,0 |
| **HE2 160 LB** | 18,5 | 25 | 2910 | 35,0 | 90,9 | 88 | 86 | 0,84 | 7,6 | 2,3 | 2,5 | 60,7 | 0,04000 | 99,0 |
| **HE2 180 L** | 22 | 30 | 2920 | 43,0 | 91,3 | 88 | 86 | 0,81 | 7,6 | 2,3 | 2,5 | 72,0 | 0,07000 | 140,0 |
| **HE2 200 L** | 30 | 40 | 2930 | 56 | 92,0 | 89 | 87 | 0,84 | 7,6 | 2,3 | 2,5 | 97,8 | 0,14000 | 160,0 |

### 4 P 1500 $min^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [$min^{-1}$] | In (400V 50Hz) [A] | η100 % | η75 % | η50 % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [$Kgm^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HE2 80 D** | 0,75 | 1,0 | 1445 | 1,91 | 79,6 | 77 | 75 | 0,71 | 4,2 | 2,6 | 2,9 | 5,0 | 0,00230 | 11,0 |
| **HE2 90 S** | 1,1 | 1,5 | 1438 | 2,71 | 81,4 | 79 | 77 | 0,72 | 4,2 | 2,5 | 2,8 | 7,3 | 0,00400 | 13,5 |
| **HE2 90 L** | 1,5 | 2,0 | 1430 | 3,73 | 82,8 | 80 | 78 | 0,70 | 4,6 | 2,6 | 2,9 | 10,0 | 0,00500 | 15,5 |
| **HE2 100 B** | 2,2 | 3,0 | 1434 | 5,12 | 84,3 | 81 | 79 | 0,74 | 4,9 | 2,5 | 2,8 | 14,7 | 0,00850 | 21,0 |
| **HE2 100 BL** | 3,0 | 4,0 | 1420 | 7,8 | 85,5 | 82 | 80 | 0,72 | 5,0 | 2,5 | 2,8 | 20,2 | 0,01100 | 23,0 |
| **HE2 112 B** | 4,0 | 5,5 | 1449 | 9,0 | 86,6 | 83 | 81 | 0,74 | 5,3 | 2,6 | 2,9 | 26,4 | 0,01600 | 35,0 |
| **HE2 112 BBL** | 5,5 | 7,5 | 1440 | 11,4 | 87,7 | 84 | 82 | 0,78 | 6,8 | 2,4 | 2,8 | 36,1 | 0,01700 | 38,0 |
| **HE2 132 S** | 5,5 | 7,5 | 1440 | 12,0 | 87,7 | 84 | 82 | 0,76 | 5,8 | 2,5 | 2,8 | 36,5 | 0,02400 | 52,0 |
| **HE2 132 ML** | 7,5 | 10 | 1440 | 16,0 | 88,7 | 85 | 83 | 0,76 | 6,2 | 2,6 | 2,9 | 49,8 | 0,03400 | 54,0 |
| **HE2 132 MLL** | 9,2 | 12,5 | 1460 | 18,45 | 88,7 | 85 | 83 | 0,80 | 6,2 | 2,6 | 2,9 | 61,0 | 0,03500 | 58,0 |
| **HE2 160 M** | 11 | 15 | 1455 | 24,0 | 89,8 | 86 | 84 | 0,74 | 5,3 | 2,3 | 2,5 | 72,2 | 0,06200 | 90,0 |
| **HE2 160 L** | 15 | 20 | 1455 | 32,0 | 90,6 | 87 | 85 | 0,75 | 5,6 | 2,2 | 2,4 | 98,5 | 0,07400 | 100,0 |
| **HE2 180 M** | 18,5 | 25 | 1455 | 42,0 | 91,2 | 88 | 86 | 0,70 | 5,6 | 2,2 | 2,4 | 121 | 0,16000 | 125,0 |
| **HE2 180 L** | 22 | 30 | 1455 | 48,0 | 91,6 | 88 | 86 | 0,78 | 5,6 | 2,2 | 2,4 | 144 | 0,16000 | 140,0 |
| **HE2 200 L** | 30 | 40 | 1455 | 54,0 | 92,3 | 89 | 87 | 0,87 | 5,6 | 2,2 | 2,4 | 197 | 0,26000 | 170,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**HE2**

Classe di efficienza
*Efficiency class*
Wirkungsgradklasse

**IE2**

A

### 2 P 3600 min$^{-1}$

Standard: Size ≤132 V 265/460/60 Hz Size≥160 V 460/795/60 Hz

| Tipo *Type* Typ | Pn | | $n_n$ | In (460V 60Hz) | η100 | η75 | η50 | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn | $J_m$ | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [kW] | [HP] | [min$^{-1}$] | [A] | % | % | % | | | | | [Nm] | [Kgm$^2$] | |
| **HE2 80 B** | 0,75 | 1,0 | 3510 | 1,7 | 75,5 | 72 | 69 | 0,74 | 7,0 | 4,5 | 5,0 | 2,0 | 0,00097 | 9,8 |
| **HE2 80 C** | 1,1 | 1,5 | 3490 | 2,1 | 82,5 | 79 | 77 | 0,8 | 6,8 | 2,9 | 3,2 | 3,0 | 0,00120 | 10,5 |
| **HE2 90 S** | 1,5 | 2,0 | 3500 | 2,8 | 84,0 | 81 | 79 | 0,84 | 5,6 | 2,8 | 3,1 | 4,1 | 0,00230 | 13,5 |
| **HE2 90 L** | 2,2 | 3,0 | 3510 | 4 | 85,5 | 82 | 80 | 0,84 | 7,6 | 2,7 | 3,0 | 6,0 | 0,00280 | 15,5 |
| **HE2 100 B** | 3,0 | 4,0 | 3550 | 5,5 | 87,5 | 84 | 82 | 0,8 | 6,4 | 2,4 | 2,6 | 8,1 | 0,00850 | 21,0 |
| **HE2 112 A** | 4,0 | 5,5 | 3530 | 6,7 | 87,5 | 84 | 82 | 0,84 | 7,7 | 2,7 | 3,0 | 10,8 | 0,01200 | 32,0 |
| **HE2 112 B** | 5,5 | 7,5 | 3540 | 9,3 | 88,5 | 85 | 83 | 0,8 | 7,7 | 2,7 | 3,0 | 14,8 | 0,01200 | 34,0 |
| **HE2 132 S** | 5,5 | 7,5 | 3560 | 9,5 | 88,5 | 85 | 83 | 0,83 | 6,0 | 2,2 | 2,4 | 14,8 | 0,02000 | 50,0 |
| **HE2 132 SL** | 7,5 | 10,0 | 3550 | 12 | 89,5 | 86 | 84 | 0,87 | 6,4 | 2,8 | 3,1 | 20,2 | 0,02500 | 54,0 |
| **HE2 132 ML** | 11,0 | 15,0 | 3538 | 17,3 | 90,2 | 87 | 85 | 0,88 | 6,0 | 2,2 | 2,4 | 29,7 | 0,02800 | 62,0 |
| **HE2 160 MA** | 11,0 | 15,0 | 3560 | 17,8 | 90,2 | 87 | 85 | 0,85 | 6,4 | 2,2 | 2,4 | 29,5 | 0,03200 | 75,0 |
| **HE2 160 L** | 15,0 | 20,0 | 3550 | 24,1 | 90,2 | 87 | 85 | 0,88 | 7,4 | 2,2 | 2,4 | 40,4 | 0,03600 | 88,0 |
| **HE2 160 LB** | 18,5 | 25,0 | 3492 | | | | | | | | | 50,6 | 0,04000 | 99,0 |
| **HE2 180 L** | 22,0 | 30,0 | 3504 | | | | | | | | | 60,0 | 0,07000 | 140,0 |
| **HE2 200 L** | 30,0 | 40,0 | 3516 | | | | | | | | | 81,5 | 0,14000 | 160,0 |

### 4 P 1800 min$^{-1}$

Standard: Size ≤132 V 265/460/60 Hz Size≥160 V 460/795/60 Hz

| Tipo *Type* Typ | Pn | | $n_n$ | In (460V 60Hz) | η100 | η75 | η50 | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn | $J_m$ | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [kW] | [HP] | [min$^{-1}$] | [A] | % | % | % | | | | | [Nm] | [Kgm$^2$] | |
| **HE2 80 D** | 0,75 | 1,0 | 1730 | 1,7 | 82,5 | 79 | 77 | 0,67 | 4,2 | 2,6 | 2,9 | 4,1 | 0,00230 | 11,0 |
| **HE2 90 S** | 1,1 | 1,5 | 1750 | 2,4 | 84,0 | 81 | 79 | 0,71 | 4,2 | 2,5 | 2,8 | 6,0 | 0,00400 | 13,5 |
| **HE2 90 L** | 1,5 | 2,0 | 1750 | 3,2 | 84,0 | 81 | 79 | 0,68 | 4,6 | 2,6 | 2,9 | 8,2 | 0,00500 | 15,5 |
| **HE2 100 B** | 2,2 | 3,0 | 1740 | 4,3 | 87,5 | 84 | 82 | 0,76 | 4,9 | 2,5 | 2,8 | 12,1 | 0,00850 | 21,0 |
| **HE2 100 BL** | 3,0 | 4,0 | 1750 | 5,8 | 87,5 | 84 | 82 | 0,75 | 5,0 | 2,5 | 2,8 | 16,4 | 0,01100 | 23,0 |
| **HE2 112 B** | 4,0 | 5,5 | 1760 | 8,0 | 87,5 | 84 | 82 | 0,75 | 5,3 | 2,6 | 2,9 | 21,7 | 0,01600 | 35,0 |
| **HE2 112 BBL** | 5,5 | 7,5 | 1772 | 9,8 | 89,5 | 86 | 84 | 0,78 | 6,8 | 2,4 | 2,8 | 29,6 | 0,01700 | 38,0 |
| **HE2 132 S** | 5,5 | 7,5 | 1770 | 10,3 | 89,5 | 86 | 84 | 0,76 | 5,8 | 2,5 | 2,8 | 29,7 | 0,02400 | 52,0 |
| **HE2 132 ML** | 7,5 | 10 | 1760 | 13,4 | 89,5 | 86 | 84 | 0,76 | 6,2 | 2,6 | 2,9 | 40,7 | 0,03400 | 54,0 |
| **HE2 132 MLL** | 9,2 | 12,5 | 1750 | 16,0 | 89,5 | 86 | 84 | 0,80 | 6,2 | 2,6 | 2,9 | 50,2 | 0,03500 | 58,0 |
| **HE2 160 M** | 11 | 15 | 1746 | 19,0 | 91,0 | 88 | 86 | 0,80 | 5,3 | 2,3 | 2,5 | 60,2 | 0,06200 | 90,0 |
| **HE2 160 L** | 15 | 20 | 1760 | 27,0 | 91,0 | 88 | 86 | 0,76 | 5,6 | 2,2 | 2,4 | 81,4 | 0,07400 | 100,0 |
| **HE2 180 M** | 18,5 | 25 | | | | | | | | | | | 0,16000 | 125,0 |
| **HE2 180 L** | 22 | 30 | 1760 | 41,3 | 92,4 | 89 | 87 | 0,72 | 5,6 | 2,2 | 2,4 | 119 | 0,16000 | 140,0 |
| **HE2 200 L** | 30 | 40 | 1760 | 47,0 | 93,0 | 90 | 88 | 0,75 | 5,6 | 2,2 | 2,4 | 163 | 0,26000 | 170,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**HE2**

Classe di efficienza
*Efficiency class*
Wirkungsgradklasse

**IE2**

### 6 P 1000 min$^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo / *Type* / Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η100 % | η75 % | η50 % | cos φ (50 Hz) | Ia/In (50 Hz) | Ca/Cn (50 Hz) | Cmax/Cn (50 Hz) | Cn [Nm] (50 Hz) | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HE2 90 LB** | 0,75 | 1,0 | 933 | 2,0 | 75,9 | 72 | 69 | 0,71 | 4,3 | 2,1 | 2,3 | 7,7 | 0,00450 | 14,0 |
| **HE2 90 LBB** | 1,1 | 1,5 | 943 | 2,9 | 78,1 | 75 | 73 | 0,70 | 4,4 | 2,5 | 2,8 | 11,1 | 0,01000 | 21,0 |
| **HE2 100 BL** | 1,5 | 2,0 | 943 | 3,72 | 79,8 | 77 | 75 | 0,73 | 4,4 | 2,5 | 2,8 | 15,2 | 0,01100 | 23,0 |
| **HE2 112 A** | 2,2 | 3,0 | 956 | 4,93 | 81,8 | 79 | 77 | 0,79 | 4,9 | 2,6 | 2,9 | 22,0 | 0,01800 | 37,0 |
| **HE2 132 S** | 3,0 | 4,0 | 960 | 7,2 | 83,3 | 80 | 78 | 0,72 | 5,4 | 2,5 | 2,8 | 31,2 | 0,04000 | 52,0 |
| **HE2 132 M** | 4,0 | 5,5 | 960 | 9,8 | 84,6 | 81 | 79 | 0,70 | 5,6 | 2,6 | 2,9 | 41,1 | 0,04200 | 55,0 |
| **HE2 132 ML** | 5,5 | 7,5 | 960 | 13,0 | 86,0 | 83 | 81 | 0,71 | 5,7 | 2,3 | 2,5 | 55,9 | 0,05000 | 70,0 |
| **HE2 160 M** | 7,5 | 10 | 950 | 16,0 | 87,2 | 84 | 82 | 0,78 | 5,7 | 2,2 | 2,4 | 75,4 | 0,10600 | 90,0 |
| **HE2 160 L** | 11 | 15 | 960 | 25,0 | 88,7 | 86 | 84 | 0,72 | 5,7 | 2,2 | 2,4 | 109 | 0,12000 | 100,0 |
| **HE2 180 L** | 15 | 20 | 970 | 32,0 | 89,7 | 87 | 85 | 0,76 | 5,7 | 2,2 | 2,4 | 148 | 0,16000 | 140,0 |
| **HE2 200 L** | 18,5 | 25 | 960 | 37,0 | 90,4 | 87 | 85 | 0,80 | 6,0 | 2,0 | 2,1 | 185 | 0,28000 | 170,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**HE2**

Classe di efficienza
*Efficiency class*
Wirkungsgradklasse

**IE2**

A

## 6 P 1000 min$^{-1}$

Standard: Size ≤132 V 265/460/60 Hz Size≥160 V 460/795/60 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (460V 60Hz) [A] | η100 % | η75 % | η50 % | cos φ (50 Hz) | Ia/In (50 Hz) | Ca/Cn (50 Hz) | Cmax/Cn (50 Hz) | Cn [Nm] (50 Hz) | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HE2 90 LB** | 0,75 | 1,0 | | | | | | | | | | | 0,00450 | 14,0 |
| **HE2 100 A** | 1,1 | 1,5 | | | | | | | | | | | | |
| **HE2 100 BL** | 1,5 | 2,0 | | | | | | | | | | | 0,01100 | 23,0 |
| **HE2 112 A** | 2,2 | 3,0 | | | | | | | | | | | 0,01800 | 37,0 |
| **HE2 132 S** | 3,0 | 4,0 | | | | | | | | | | | 0,04000 | 52,0 |
| **HE2 132 M** | 4,0 | 5,5 | | | | | | | | | | | 0,04200 | 55,0 |
| **HE2 132 ML** | 5,5 | 7,5 | | | | | | | | | | | 0,05000 | 70,0 |
| **HE2 160 M** | 7,5 | 10 | | | | | | | | | | | 0,10600 | 90,0 |
| **HE2 160 L** | 11 | 15 | | | | | | | | | | | 0,12000 | 100,0 |
| **HE2 180 L** | 15 | 20 | | | | | | | | | | | 0,16000 | 140,0 |
| **HE2 200 L** | 18,5 | 25 | | | | | | | | | | | 0,28000 | 170,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**HE3**

Classe di efficienza
*Efficiency class*
Wirkungsgradklasse

**IE3**

### 2 P 3000 $min^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [$min^{-1}$] | In (400V 50Hz) [A] | η100 % | η75 % | η50 % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [$Kgm^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HE3 80 B** | 0,75 | 1,0 | 2905 | 1,87 | 80,7 | 78 | 76 | 0,73 | 7,0 | 3,9 | 4,2 | 2,5 | 0,00097 | 9,8 |
| **HE3 80 D** | 1,1 | 1,5 | 2900 | 2,3 | 82,7 | 80 | 78 | 0,85 | 6,7 | 2,8 | 3,1 | 3,7 | 0,00200 | 11,5 |
| **HE3 90 LA** | 1,5 | 2,0 | 2910 | 2,95 | 84,2 | 81 | 79 | 0,87 | 5,5 | 2,8 | 3,1 | 5,0 | 0,00280 | 15,5 |
| **HE3 90 LB** | 2,2 | 3,0 | 2910 | 4,45 | 85,9 | 83 | 81 | 0,83 | 7,6 | 2,6 | 3,0 | 7,4 | 0,00330 | 17,5 |
| **HE3 100 B** | 3,0 | 4,0 | 2920 | 6,45 | 87,1 | 84 | 82 | 0,79 | 6,3 | 2,4 | 2,5 | 10,0 | 0,00850 | 21,0 |
| **HE3 112 A** | 4,0 | 5,5 | 2920 | 7,56 | 88,1 | 85 | 83 | 0,87 | 7,8 | 2,7 | 3,0 | 13,3 | 0,01200 | 32,0 |
| **HE3 112 B** | 5,5 | 7,5 | 2920 | 10,8 | 89,2 | 86 | 84 | 0,84 | 8,3 | 1,9 | 1,9 | 17,8 | 0,01485 | 33,0 |
| **HE3 132 SL** | 5,5 | 7,5 | 2960 | 10,6 | 89,2 | 86 | 83 | 0,84 | 6,0 | 2,3 | 2,4 | 17,9 | 0,02500 | 62,0 |
| **HE3 132 M** | 7,5 | 10 | 2965 | 14,65 | 90,1 | 87 | 85 | 0,82 | 6,5 | 2,8 | 3,0 | 24,3 | 0,02800 | 54,0 |
| **HE3 132 ML** | 11 | 15 | 2950 | 20,25 | 91,2 | 88 | 86 | 0,85 | 6,1 | 2,3 | 2,4 | 35,4 | 0,02800 | 54,0 |
| **HE3 160 M** | 11 | 15 | 2965 | 20,4 | 91,2 | 88 | 86 | 0,86 | 6,4 | 2,2 | 2,2 | 35,7 | 0,03250 | 75,5 |
| **HE3 160 LA** | 15 | 20 | 2950 | 27,1 | 91,9 | 89 | 87 | 0,87 | 6,4 | 2,2 | 2,2 | 48,6 | 0,03400 | 89,0 |
| **HE3 160 LB** | 18,5 | 25 | 2930 | 32,85 | 92,4 | 89 | 87 | 0,88 | 7,5 | 2,2 | 2,5 | 60,3 | 0,04000 | 99,0 |
| **HE3 180 L** | 22 | 30 | 2960 | 40,3 | 92,7 | 89 | 87 | 0,85 | 7,5 | 2,2 | 2,5 | 71,0 | 0,07000 | 140,0 |
| **HE3 200 L** | 30 | 40 | 2940 | 53,95 | 93,3 | 90 | 88 | 0,86 | 7,6 | 2,3 | 2,5 | 97,5 | 0,16000 | 175,0 |

### 4 P 1500 $min^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [$min^{-1}$] | In (400V 50Hz) [A] | η100 % | η75 % | η50 % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [$Kgm^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HE3 80 D** | 0,75 | 1,0 | 1450 | 1,82 | 82,5 | 79 | 77 | 0,72 | 4,2 | 2,6 | 2,9 | 5,0 | 0,00260 | 13,0 |
| **HE3 90 L** | 1,1 | 1,5 | 1430 | 2,5 | 84,1 | 81 | 79 | 0,78 | 4,2 | 2,5 | 2,8 | 7,8 | 0,00500 | 15,5 |
| **HE3 90 LB** | 1,5 | 2,0 | 1440 | 3,29 | 85,3 | 82 | 80 | 0,78 | 4,5 | 2,6 | 2,8 | 10,2 | 0,00650 | 16,1 |
| **HE3 100 BL** | 2,2 | 3,0 | 1450 | 4,95 | 86,7 | 83 | 81 | 0,75 | 4,9 | 2,5 | 2,8 | 15,0 | 0,01100 | 23,0 |
| **HE3 100 BLA** | 3,0 | 4,0 | 1440 | 6,87 | 87,7 | 84 | 82 | 0,73 | 5,1 | 2,5 | 2,9 | 20,0 | 0,01600 | 30,0 |
| **HE3 112 BL** | 4,0 | 5,5 | 1460 | 8,6 | 88,6 | 86 | 84 | 0,76 | 5,3 | 2,5 | 2,9 | 26,6 | 0,01900 | 40,0 |
| **HE3 132 M** | 5,5 | 7,5 | 1470 | 11,35 | 89,6 | 87 | 85 | 0,78 | 5,8 | 2,5 | 2,8 | 36,0 | 0,02900 | 53,0 |
| **HE3 132 ML** | 7,5 | 10 | 1460 | 15,15 | 90,4 | 87 | 85 | 0,79 | 6,1 | 2,5 | 2,8 | 49,2 | 0,03500 | 58,0 |
| **HE3 160 L** | 11 | 15 | 1480 | 21,6 | 91,4 | 88 | 86 | 0,80 | 5,3 | 2,3 | 2,5 | 71,3 | 0,07400 | 100,0 |
| **HE3 160 LB** | 15 | 20 | 1480 | 28,8 | 92,1 | 89 | 87 | 0,82 | 5,5 | 2,2 | 2,4 | 97,3 | 0,08000 | 115,0 |
| **HE3 180 LA** | 18,5 | 25 | 1480 | 36,2 | 92,6 | 89 | 87 | 0,80 | 5,5 | 2,2 | 2,4 | 121 | 0,14000 | 132,0 |
| **HE3 180 LB** | 22 | 30 | 1480 | 47 | 93,0 | 90 | 88 | 0,73 | 5,5 | 2,2 | 2,4 | 142 | 0,16000 | 140,0 |
| **HE3 200 L** | 30 | 40 | 1480 | 53 | 93,6 | 90 | 88 | 0,87 | 5,5 | 2,2 | 2,4 | 194 | 0,27000 | 180,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

| TRIFASE<br>*THREE-PHASE*<br>DREHSTROM | HE3 | Classe di efficienza<br>*Efficiency class*<br>Wirkungsgradklasse | IE3 |
|---|---|---|---|

A

### 2 P 36000 min$^{-1}$

Standard: Size ≤132 V 265/460/60 Hz Size≥160 V 460/795/60 Hz

| Tipo<br>*Type*<br>Typ | Pn<br>[kW] | <br>[HP] | $n_n$<br>[min$^{-1}$] | In<br>(460V 60Hz)<br>[A] | η100<br>% | η75<br>% | η50<br>% | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn<br>[Nm] | $J_m$<br>[Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HE3 80 B | 0,75 | 1 | 3530 | 1,63 | 77 | 74 | 71 | 0,75 | 7,0 | 3,9 | 4,2 | 2 | 0,00097 | 9,8 |
| HE3 80 D | 1,1 | 1,5 | 3530 | 2,1 | 84 | 81 | 79 | 0,8 | 6,7 | 2,8 | 3,1 | 3 | 0,00200 | 11,5 |
| HE3 90 LA | 1,5 | 2 | 3540 | 2,6 | 85,5 | 82 | 80 | 0,85 | 5,5 | 2,8 | 3,1 | 4,1 | 0,00280 | 15,5 |
| HE3 90 LB | 2,2 | 3 | 3520 | 3,87 | 86,5 | 83 | 81 | 0,83 | 7,6 | 2,6 | 3,0 | 6 | 0,00330 | 17,5 |
| HE3 100 B | 3 | 4 | 3545 | 5,5 | 88,5 | 85 | 83 | 0,79 | 6,3 | 2,4 | 2,5 | 8,1 | 0,00850 | 21,0 |
| HE3 112 A | 4 | 5,5 | 3530 | 6,5 | 89,5 | 86 | 84 | 0,86 | 7,8 | 2,7 | 3,0 | 10,8 | 0,01200 | 32,0 |
| HE3 112 B | 5,5 | 7,5 | 3540 | 9,3 | 89,5 | 86 | 84 | 0,83 | 8,3 | 1,9 | 1,9 | 14,8 | 0,01485 | 33,0 |
| HE3 132 SL | 5,5 | 7,5 | 3580 | 9,5 | 89,5 | 86 | 83 | 0,83 | 6,0 | 2,3 | 2,4 | 14,7 | 0,02500 | 62,0 |
| HE3 132 M | 7,5 | 10 | 3570 | 12,7 | 90,2 | 87 | 85 | 0,82 | 6,5 | 2,8 | 3,0 | 20,1 | 0,02800 | 54,0 |
| HE3 132 ML | 11 | 15 | 3538 | 17,3 | 91 | 88 | 86 | 0,88 | 6,1 | 2,3 | 2,4 | 29,7 | 0,02800 | 54,0 |
| HE3 160 M | 11 | 15 | 3560 | 17,8 | 91 | 88 | 86 | 0,85 | 6,4 | 2,2 | 2,2 | 29,5 | 0,03250 | 75,5 |
| HE3 160 LA | 15 | 20 | 3560 | 25,6 | 91 | 88 | 86 | 0,82 | 6,4 | 2,2 | 2,2 | 40,2 | 0,03400 | 89,0 |
| HE3 160 LB | 18,5 | 25 | 3516 | | | | | | | | | 50,3 | 0,04000 | 99,0 |
| HE3 180 L | 22 | 30 | 3552 | | | | | | | | | 59,2 | 0,07000 | 140,0 |
| HE3 200 L | 30 | 40 | 3528 | | | | | | | | | 81,2 | 0,16000 | 175,0 |

### 4 P 1800 min$^{-1}$

Standard: Size ≤132 V 265/460/60 Hz Size≥160 V 460/795/60 Hz

| Tipo<br>*Type*<br>Typ | Pn<br>[kW] | <br>[HP] | $n_n$<br>[min$^{-1}$] | In<br>(460V 60Hz)<br>[A] | η100<br>% | η75<br>% | η50<br>% | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn<br>[Nm] | $J_m$<br>[Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HE3 80 D | 0,75 | 1 | 1740 | | | | | | | | | 4,1 | 0,00260 | 13,0 |
| HE3 90 L | 1,1 | 1,5 | 1760 | 2,4 | 86,5 | 83 | 81 | 0,74 | 4,2 | 2,5 | 2,8 | 6 | 0,00500 | 15,5 |
| HE3 90 LB | 1,5 | 2 | 1750 | 2,9 | 86,5 | 83 | 81 | 0,79 | 4,5 | 2,6 | 2,8 | 8,2 | 0,00650 | 16,1 |
| HE3 100 BL | 2,2 | 3 | 1740 | | | | | | | | | 12,1 | 0,01100 | 23,0 |
| HE3 100 BLA | 3 | 4 | 1750 | 6 | 89,5 | 86 | 84 | 0,7 | 5,1 | 2,5 | 2,9 | 16,4 | 0,01600 | 30,0 |
| HE3 112 BL | 4 | 5,5 | 1765 | 7,5 | 89,5 | 86 | 84 | 0,75 | 5,3 | 2,5 | 2,9 | 21,6 | 0,01900 | 40,0 |
| HE3 132 M | 5,5 | 7,5 | 1760 | 10,7 | 91,7 | 89 | 87 | 0,77 | 5,8 | 2,5 | 2,8 | 29,8 | 0,02900 | 53,0 |
| HE3 132 ML | 7,5 | 10 | 1170 | 13,82 | 91,7 | 89 | 87 | 0,77 | 6,1 | 2,5 | 2,8 | 61,2 | 0,03500 | 58,0 |
| HE3 160 L | 11 | 15 | 1770 | 18,9 | 92,4 | 89 | 87 | 0,76 | 5,3 | 2,3 | 2,5 | 59,4 | 0,07400 | 100,0 |
| HE3 160 LB | 15 | 20 | 1730 | 25,3 | 93,0 | 90 | 88 | 0,8 | 5,5 | 2,2 | 2,4 | 82,8 | 0,08000 | 115,0 |
| HE3 180 LA | 18,5 | 25 | 1744 | 33 | 93,6 | 91 | 89 | 0,89 | 5,5 | 2,2 | 2,4 | 101 | 0,14000 | 132,0 |
| HE3 180 LB | 22 | 30 | 1776 | | | | | | | | | 118 | 0,16000 | 140,0 |
| HE3 200 L | 30 | 40 | 1776 | | | | | | | | | 161 | 0,27000 | 180,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**HE3**

Classe di efficienza
*Efficiency class*
Wirkungsgradklasse

**IE3**

## 6 P 1000 min$^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η100 % | η75 % | η50 % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HE3 90 LB** | 0,75 | 1,0 | 940 | 2,0 | 78,9 | 76 | 74 | 0,69 | 5,1 | 2,3 | 2,5 | 7,6 | 0,00500 | 18,0 |
| **HE3 90 LBB** | 1,1 | 1,5 | 950 | 2,84 | 81,0 | 78 | 76 | 0,69 | 5,1 | 2,4 | 2,6 | 11,1 | 0,00600 | 20,0 |
| **HE3 100 B** | 1,1 | 1,5 | 960 | 2,92 | 81,0 | 78 | 76 | 0,69 | 5,2 | 2,7 | 3,0 | 11,0 | 0,01250 | 25,0 |
| **HE3 100 BL** | 1,5 | 2,0 | 950 | 3,4 | 82,5 | 79 | 77 | 0,71 | 5,7 | 2,4 | 2,8 | 15,1 | 0,01250 | 25,0 |
| **HE3 112 A** | 2,2 | 3,0 | 955 | 4,9 | 84,3 | 81 | 79 | 0,71 | 4,9 | 2,4 | 2,8 | 22,0 | 0,02000 | 38,0 |
| **HE3 132 S** | 3,0 | 4,0 | 972 | 7,1 | 85,6 | 82 | 80 | 0,73 | 6,2 | 1,9 | 2,4 | 29,5 | 0,04200 | 55,0 |
| **HE3 132 M** | 4,0 | 5,5 | 971 | 9,67 | 86,8 | 84 | 82 | 0,75 | 6,5 | 1,7 | 1,9 | 39,4 | 0,05000 | 70,0 |
| **HE3 132 ML** | 5,5 | 7,5 | 975 | 12,8 | 88,0 | 85 | 83 | 0,70 | 6,5 | 2,2 | 2,4 | 53,9 | 0,05800 | 78,0 |
| **HE3 160 M** | 5,5 | 7,5 | 980 | 12,55 | 88,0 | 85 | 83 | 0,72 | 6,6 | 2,3 | 2,5 | 53,6 | 0,10600 | 90,0 |
| **HE3 160 L** | 7,5 | 10 | 984 | 18,4 | 89,1 | 86 | 84 | 0,65 | 6,6 | 2,2 | 2,4 | 72,8 | 0,12000 | 100,0 |
| **HE3 160 LB** | 11 | 15 | 980 | 22,3 | 90,3 | 87 | 85 | 0,77 | 6,6 | 2,2 | 2,4 | 107 | 0,16000 | 140,0 |
| **HE3 180 ML** | 15 | 20 | 980 | 29,3 | 91,2 | 88 | 86 | 0,78 | 6,7 | 2,2 | 2,4 | 146 | 0,28000 | 170,0 |
| **HE3 200 L** | 18,5 | 25 | 980 | 36,1 | 91,7 | 89 | 87 | 0,78 | 6,7 | 2,1 | 2,2 | 180 | 0,32000 | 200,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**HE3**

Classe di efficienza
*Efficiency class*
Wirkungsgradklasse

**IE3**

A

### 6 P 1200 min$^{-1}$

Standard: Size ≤132 V 265/460/60 Hz Size≥160 V 460/795/60 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (460V 60Hz) [A] | η100 % | η75 % | η50 % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HE3 90 LB** | 0,75 | 1,0 | | | | | | | | | | | 0,00500 | 18,0 |
| **HE3 90 LBB** | 1,1 | 1,5 | | | | | | | | | | | 0,00600 | 20,0 |
| **HE3 100 B** | 1,1 | 1,5 | | | | | | | | | | | 0,01250 | 25,0 |
| **HE3 100 BL** | 1,5 | 2,0 | | | | | | | | | | | 0,01250 | 25,0 |
| **HE3 112 A** | 2,2 | 3,0 | | | | | | | | | | | 0,02000 | 38,0 |
| **HE3 132 S** | 3,0 | 4,0 | | | | | | | | | | | 0,04200 | 55,0 |
| **HE3 132 M** | 4,0 | 5,5 | | | | | | | | | | | 0,05000 | 70,0 |
| **HE3 132 ML** | 5,5 | 7,5 | | | | | | | | | | | 0,05800 | 78,0 |
| **HE3 160 M** | 5,5 | 7,5 | | | | | | | | | | | 0,10600 | 90,0 |
| **HE3 160 L** | 7,5 | 10 | | | | | | | | | | | 0,12000 | 100,0 |
| **HE3 160 LB** | 11 | 15 | | | | | | | | | | | 0,16000 | 140,0 |
| **HE3 180 ML** | 15 | 20 | | | | | | | | | | | 0,28000 | 170,0 |
| **HE3 200 L** | 18,5 | 25 | | | | | | | | | | | 0,32000 | 200,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# IN

## 2 P 3000 min$^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | $n_n$ [min$^{-1}$] | | | P [kW] | | | C [Nm] | | | In (400V 50Hz) [A] | f [Hz] | | | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $n_B$ | $n_{max}$ | $n_L$ | $P_B$ | $P_{max}$ | $P_L$ | $C_B$ | $C_{max}$ | $C_L$ | | $f_B$ | $f_{max}$ | $f_L$ | | |
| **IN 56 A** | 3000 | 4800 | 6000 | 0,09 | 0,09 | 0,05 | 0,29 | 0,18 | 0,07 | 0,4 | 50 | 80 | 100 | 0,00012 | 2,6 |
| **IN 56 B** | 3000 | 4800 | 6000 | 0,13 | 0,13 | 0,07 | 0,41 | 0,26 | 0,21 | 0,6 | 50 | 80 | 100 | 0,00015 | 3,2 |
| **IN 63 A** | 3000 | 4800 | 6000 | 0,18 | 0,18 | 0,09 | 0,57 | 0,36 | 0,14 | 0,6 | 50 | 80 | 100 | 0,00025 | 3,7 |
| **IN 63 B** | 3000 | 4800 | 6000 | 0,25 | 0,25 | 0,13 | 0,80 | 0,50 | 0,20 | 0,8 | 50 | 80 | 100 | 0,00030 | 4,3 |
| **IN 63 C** | 3000 | 4800 | 6000 | 0,37 | 0,37 | 0,19 | 1,2 | 0,74 | 0,29 | 1,1 | 50 | 80 | 100 | 0,00035 | 5,6 |
| **IN 71 A** | 3000 | 6000 | 7200 | 0,37 | 0,37 | 0,19 | 1,2 | 0,74 | 0,29 | 1,2 | 50 | 100 | 120 | 0,00038 | 5,8 |
| **IN 71 B** | 3000 | 6000 | 7200 | 0,55 | 0,55 | 0,28 | 1,8 | 0,88 | 0,36 | 1,6 | 50 | 100 | 120 | 0,00046 | 6,2 |
| **IN 71 C** | 3000 | 6000 | 7200 | 0,75 | 0,75 | 0,38 | 2,4 | 1,2 | 0,5 | 2,0 | 50 | 100 | 120 | 0,00057 | 7,4 |
| **IN 80 B** | 3000 | 6000 | 7200 | 1,10 | 1,10 | 0,55 | 3,5 | 1,8 | 0,73 | 2,6 | 50 | 100 | 120 | 0,00097 | 9,8 |
| **IN 80 C** | 3000 | 6000 | 7200 | 1,50 | 1,50 | 0,75 | 4,8 | 2,4 | 1,0 | 3,4 | 50 | 100 | 120 | 0,00120 | 10,5 |
| **IN 80 D** | 3000 | 6000 | 7200 | 1,85 | 1,85 | 0,93 | 5,9 | 3,0 | 1,2 | 4,0 | 50 | 100 | 120 | 0,00130 | 11,5 |
| **IN 90 S** | 3000 | 6000 | 7200 | 1,50 | 1,50 | 0,75 | 4,8 | 2,4 | 1,0 | 3,4 | 50 | 100 | 120 | 0,00150 | 12,0 |
| **IN 90 L** | 3000 | 6000 | 7200 | 2,20 | 2,20 | 1,10 | 7,0 | 3,5 | 1,5 | 5,0 | 50 | 100 | 120 | 0,00230 | 13,5 |
| **IN 90 LB** | 3000 | 6000 | 7200 | 3,00 | 3,00 | 1,50 | 9,6 | 4,8 | 2,0 | 7,1 | 50 | 100 | 120 | 0,00280 | 15,5 |
| **IN 100 A** | 3000 | 6000 | 7200 | 3,00 | 3,00 | 1,50 | 9,6 | 4,8 | 2,0 | 7,0 | 50 | 100 | 120 | 0,00530 | 18,5 |
| **IN 100 B** | 3000 | 6000 | 7200 | 4,00 | 4,00 | 2,00 | 12,7 | 6,4 | 2,7 | 8,6 | 50 | 100 | 120 | 0,00850 | 21,0 |
| **IN 112 A** | 3000 | 6000 | 7200 | 4,00 | 4,00 | 2,00 | 12,7 | 6,4 | 2,7 | 8,7 | 50 | 100 | 120 | 0,00900 | 27,0 |
| **IN 112 B** | 3000 | 6000 | 7200 | 5,50 | 5,50 | 2,75 | 17,5 | 8,8 | 3,7 | 11,8 | 50 | 100 | 120 | 0,01200 | 32,0 |
| **IN 112 BL** | 3000 | 6000 | 7200 | 7,50 | 7,50 | 3,75 | 23,9 | 11,9 | 5,0 | 15,8 | 50 | 100 | 120 | 0,01300 | 34,0 |
| **IN 132 S** | 3000 | 5600 | 5600 | 5,50 | 5,50 | 2,75 | 17,5 | 9,4 | 4,7 | 11,9 | 50 | 90 | 90 | 0,02800 | 54,0 |
| **IN 132 SL** | 3000 | 5600 | 5600 | 7,50 | 7,50 | 3,75 | 23,9 | 12,8 | 6,4 | 14,6 | 50 | 90 | 90 | 0,02800 | 54,0 |
| **IN 132 M** | 3000 | 5600 | 5600 | 11,00 | 11,00 | 5,50 | 35,0 | 18,8 | 9,4 | 21,5 | 50 | 90 | 90 | 0,02800 | 54,0 |
| **IN 132 ML** | 3000 | 5600 | 5600 | 15,00 | 15,00 | 7,50 | 47,8 | 25,6 | 12,8 | 28,6 | 50 | 90 | 90 | 0,03000 | 58,0 |
| **IN 160 MA** | 3000 | 4500 | 4500 | 11,00 | 11,00 | 5,5 | 35,4 | 23,6 | 11,1 | 22,4 | 50 | 80 | 80 | 0,03200 | 75,0 |
| **IN 160 MB** | 3000 | 4500 | 4500 | 15,00 | 15,00 | 7,5 | 47,8 | 31,9 | 15,9 | 28,6 | 50 | 80 | 80 | 0,03600 | 88,0 |
| **IN 160 L** | 3000 | 4800 | 4800 | 18,50 | 18,50 | 9,25 | 58,9 | 36,8 | 18,4 | 35,0 | 50 | 80 | 80 | 0,04000 | 99,0 |
| **IN 180 M** | 3000 | 4600 | 4600 | 22,00 | 22,00 | 11,00 | 70,1 | 45,7 | 22,9 | 39,0 | 50 | 75 | 75 | 0,07500 | 110,0 |
| **IN 200 LA** | 3000 | 4500 | 4500 | 30,00 | 30,00 | 15,00 | 95,5 | 63,7 | 31,9 | 53,0 | 50 | 75 | 75 | 0,14000 | 130,0 |
| **IN 200 LB** | 3000 | 4500 | 4500 | 37,00 | 37,00 | 18,50 | 118 | 78,6 | 39,3 | 65,0 | 50 | 75 | 75 | 0,16000 | 150,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# IN

A

### 4 P 1500 min$^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | $n_n$ [min$^{-1}$] | | | P [kW] | | | C [Nm] | | | In (400V 50Hz) | f [Hz] | | | $J_m$ | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $n_B$ | $n_{max}$ | $n_L$ | $P_B$ | $P_{max}$ | $P_L$ | $C_B$ | $C_{max}$ | $C_L$ | [A] | $f_B$ | $f_{max}$ | $f_L$ | [Kgm$^2$] | |
| **IN 56 A** | 1500 | 2400 | 3000 | 0,06 | 0,06 | 0,03 | 0,38 | 0,24 | 0,10 | 0,38 | 50 | 80 | 100 | 0,00015 | 2,5 |
| **IN 56 B** | 1500 | 2400 | 3000 | 0,09 | 0,09 | 0,04 | 0,58 | 0,36 | 0,13 | 0,4 | 50 | 80 | 100 | 0,00015 | 2,6 |
| **IN 56 C** | 1500 | 2400 | 3000 | 0,11 | 0,11 | 0,05 | 0,70 | 0,44 | 0,16 | 0,5 | 50 | 80 | 100 | 0,00020 | 3,2 |
| **IN 56 D** | 1500 | 2400 | 3000 | 0,18 | 0,18 | 0,09 | 1,15 | 0,72 | 0,28 | 0,9 | 50 | 80 | 100 | 0,00020 | 3,3 |
| **IN 63 A** | 1500 | 2400 | 3000 | 0,13 | 0,13 | 0,06 | 0,83 | 0,52 | 0,19 | 0,5 | 50 | 80 | 100 | 0,00028 | 3,7 |
| **IN 63 B** | 1500 | 2400 | 3000 | 0,18 | 0,18 | 0,09 | 1,2 | 0,72 | 0,28 | 0,7 | 50 | 80 | 100 | 0,00040 | 4,3 |
| **IN 63 C** | 1500 | 2400 | 3000 | 0,22 | 0,22 | 0,11 | 1,41 | 0,88 | 0,35 | 0,8 | 50 | 80 | 100 | 0,00040 | 4,3 |
| **IN 63 D** | 1500 | 2400 | 3000 | 0,37 | 0,37 | 0,18 | 2,36 | 1,31 | 0,52 | 1,3 | 50 | 80 | 100 | 0,00050 | 5,3 |
| **IN 71 A** | 1500 | 2700 | 3300 | 0,25 | 0,25 | 0,12 | 1,6 | 0,88 | 0,35 | 0,8 | 50 | 90 | 110 | 0,00050 | 5,8 |
| **IN 71 B** | 1500 | 2700 | 3300 | 0,37 | 0,37 | 0,18 | 2,4 | 1,3 | 0,52 | 1,0 | 50 | 90 | 110 | 0,00080 | 6,2 |
| **IN 71 C** | 1500 | 2700 | 3300 | 0,55 | 0,55 | 0,27 | 3,5 | 1,95 | 0,78 | 1,5 | 50 | 90 | 110 | 0,00090 | 7,4 |
| **IN 80 A** | 1500 | 2700 | 3300 | 0,55 | 0,55 | 0,27 | 3,5 | 1,95 | 0,78 | 1,6 | 50 | 90 | 110 | 0,00140 | 8,5 |
| **IN 80 B** | 1500 | 2700 | 3300 | 0,75 | 0,75 | 0,38 | 4,8 | 2,7 | 1,1 | 2,0 | 50 | 90 | 110 | 0,00170 | 9,8 |
| **IN 80 C** | 1500 | 2700 | 3300 | 0,88 | 0,88 | 0,44 | 5,6 | 3,1 | 1,3 | 2,6 | 50 | 90 | 110 | 0,00200 | 10,5 |
| **IN 80 D** | 1500 | 2700 | 3300 | 1,10 | 1,10 | 0,55 | 7,0 | 3,9 | 1,6 | 2,7 | 50 | 90 | 110 | 0,00230 | 11,0 |
| **IN 90 S** | 1500 | 2700 | 3300 | 1,10 | 1,10 | 0,55 | 7,0 | 3,9 | 1,6 | 2,8 | 50 | 90 | 110 | 0,00330 | 12,0 |
| **IN 90 L** | 1500 | 2700 | 3300 | 1,50 | 1,50 | 0,75 | 9,6 | 5,3 | 2,2 | 3,7 | 50 | 90 | 110 | 0,00400 | 13,5 |
| **IN 90 LB** | 1500 | 2700 | 3300 | 1,80 | 1,80 | 0,90 | 11,5 | 6,4 | 2,6 | 4,6 | 50 | 90 | 110 | 0,00500 | 15,5 |
| **IN 100 A** | 1500 | 2700 | 3300 | 2,20 | 2,20 | 1,10 | 14 | 7,8 | 3,2 | 4,8 | 50 | 90 | 110 | 0,00750 | 19,0 |
| **IN 100 B** | 1500 | 2700 | 3300 | 3,00 | 3,00 | 1,50 | 19,1 | 10,6 | 4,3 | 6,4 | 50 | 90 | 110 | 0,00850 | 21,0 |
| **IN 100 BL** | 1500 | 2700 | 3300 | 4,00 | 4,00 | 2,00 | 25,5 | 14,2 | 5,8 | 8,5 | 50 | 90 | 110 | 0,01100 | 23,0 |
| **IN 112 A** | 1500 | 2700 | 3300 | 4,00 | 4,00 | 2,00 | 25,5 | 14,2 | 5,8 | 8,2 | 50 | 90 | 110 | 0,01300 | 29,0 |
| **IN 112 BL** | 1500 | 2700 | 3300 | 5,5 | 5,5 | 2,30 | 35,0 | 19,5 | 6,7 | 11,0 | 50 | 90 | 110 | 0,01600 | 35,0 |
| **IN 132 S** | 1500 | 2700 | 3300 | 5,50 | 5,50 | 2,30 | 35,0 | 19,5 | 6,7 | 11,3 | 50 | 90 | 110 | 0,02400 | 43,0 |
| **IN 132 M** | 1500 | 2700 | 3300 | 7,50 | 7,50 | 3,80 | 47,8 | 26,5 | 11,0 | 14,9 | 50 | 90 | 110 | 0,03300 | 52,0 |
| **IN 132 ML** | 1500 | 2700 | 3300 | 9,20 | 9,20 | 4,60 | 58,6 | 32,6 | 13,3 | 18,0 | 50 | 90 | 110 | 0,03400 | 54,0 |
| **IN 160 M** | 1500 | 2700 | 3300 | 11,00 | 11,00 | 5,50 | 70,1 | 38,9 | 15,9 | 25,0 | 50 | 90 | 110 | 0,06200 | 90,0 |
| **IN 160 L** | 1500 | 2700 | 3300 | 15,00 | 15,00 | 7,50 | 95,5 | 53,1 | 21,7 | 32,5 | 50 | 90 | 110 | 0,07400 | 100,0 |
| **IN 180 M** | 1500 | 2700 | 3300 | 18,50 | 18,50 | 9,25 | 118 | 65,5 | 26,8 | 36,6 | 50 | 90 | 110 | 0,13000 | 120,0 |
| **IN 180 L** | 1500 | 2700 | 3300 | 22,00 | 22,00 | 11,00 | 140 | 77,9 | 31,9 | 44,3 | 50 | 90 | 110 | 0,15000 | 135,0 |
| **IN 200 L** | 1500 | 2700 | 3300 | 30,00 | 30,00 | 15,00 | 191 | 106 | 43,4 | 56,0 | 50 | 90 | 110 | 0,24000 | 155,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

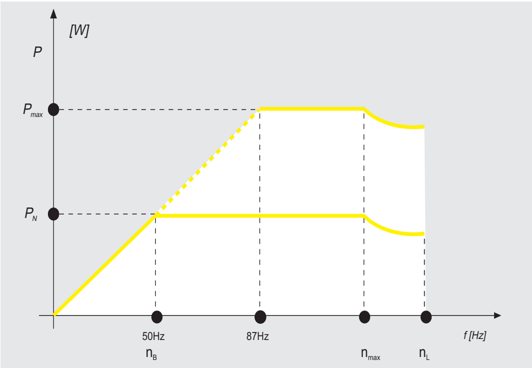
TRIFASE
*THREE-PHASE*
DREHSTROM

# IN

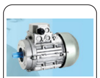
## 6 P 1000 min$^{-1}$

Standard: Size ≤132 V 230/400/50 Hz Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | $n_n$ [min$^{-1}$] | | | P [kW] | | | C [Nm] | | | In (400V 50Hz) [A] | f [Hz] | | | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $n_B$ | $n_{max}$ | $n_L$ | $P_B$ | $P_{max}$ | $P_L$ | $C_B$ | $C_{max}$ | $C_L$ | | $f_B$ | $f_{max}$ | $f_L$ | | |
| **IN 56 B** | 1000 | 1400 | 1800 | 0,03 | 0,03 | 0,02 | 0,29 | 0,2 | 0,08 | 0,3 | 50 | 70 | 90 | 0,00020 | 2,6 |
| **IN 56 C** | 1000 | 1400 | 1800 | 0,06 | 0,06 | 0,03 | 0,58 | 0,41 | 0,16 | 0,4 | 50 | 70 | 90 | 0,00020 | 3,0 |
| **IN 63 B** | 1000 | 1400 | 1800 | 0,09 | 0,09 | 0,05 | 0,86 | 0,61 | 0,24 | 0,5 | 50 | 70 | 90 | 0,00030 | 3,8 |
| **IN 63 C** | 1000 | 1400 | 1800 | 0,13 | 0,13 | 0,06 | 1,3 | 0,89 | 0,32 | 0,7 | 50 | 70 | 90 | 0,00040 | 4,0 |
| **IN 71 A** | 1000 | 1600 | 2000 | 0,18 | 0,18 | 0,09 | 1,7 | 1,1 | 0,43 | 0,7 | 50 | 80 | 100 | 0,00060 | 5,7 |
| **IN 71 B** | 1000 | 1600 | 2000 | 0,25 | 0,25 | 0,13 | 2,4 | 1,5 | 0,60 | 0,8 | 50 | 80 | 100 | 0,00080 | 6,0 |
| **IN 71 C** | 1000 | 1600 | 2000 | 0,37 | 0,37 | 0,19 | 3,5 | 2,2 | 0,88 | 1,3 | 50 | 80 | 100 | 0,00100 | 6,5 |
| **IN 80 A** | 1000 | 1600 | 2000 | 0,37 | 0,37 | 0,19 | 3,5 | 2,2 | 0,88 | 1,2 | 50 | 80 | 100 | 0,00200 | 8,7 |
| **IN 80 B** | 1000 | 1600 | 2000 | 0,55 | 0,55 | 0,28 | 5,3 | 3,3 | 1,3 | 1,6 | 50 | 80 | 100 | 0,00250 | 10,5 |
| **IN 80 C** | 1000 | 1600 | 2000 | 0,75 | 0,75 | 0,38 | 7,2 | 4,5 | 1,8 | 2,2 | 50 | 80 | 100 | 0,00260 | 11,0 |
| **IN 90 S** | 1000 | 1600 | 2000 | 0,75 | 0,75 | 0,38 | 7,2 | 4,5 | 1,8 | 2,3 | 50 | 80 | 100 | 0,00350 | 12,0 |
| **IN 90 L** | 1000 | 1600 | 2000 | 1,10 | 1,10 | 0,55 | 10,5 | 6,6 | 2,6 | 3,0 | 50 | 80 | 100 | 0,00450 | 14,0 |
| **IN 90 LB** | 1000 | 1600 | 2000 | 1,50 | 1,50 | 0,75 | 14,3 | 9,0 | 3,6 | 4,5 | 50 | 80 | 100 | 0,00500 | 16,0 |
| **IN 100 A** | 1000 | 1600 | 2000 | 1,50 | 1,50 | 0,75 | 14,3 | 9,0 | 3,6 | 3,9 | 50 | 80 | 100 | 0,00900 | 19,5 |
| **IN 100 B** | 1000 | 1600 | 2000 | 1,85 | 1,85 | 0,93 | 17,7 | 11,1 | 4,4 | 4,7 | 50 | 80 | 100 | 0,01000 | 21,0 |
| **IN 100 BL** | 1000 | 1600 | 2000 | 2,20 | 2,20 | 1,10 | 21,0 | 13,1 | 5,3 | 5,5 | 50 | 80 | 100 | 0,01100 | 23,0 |
| **IN 112 A** | 1000 | 1600 | 2000 | 2,20 | 2,20 | 1,10 | 21,0 | 13,1 | 5,3 | 5,2 | 50 | 80 | 100 | 0,01500 | 30,0 |
| **IN 112 B** | 1000 | 1600 | 2000 | 3,00 | 3,00 | 1,50 | 28,7 | 17,9 | 7,2 | 6,8 | 50 | 80 | 100 | 0,01800 | 37,0 |
| **IN 132 S** | 1000 | 1600 | 2000 | 3,00 | 3,00 | 1,50 | 28,7 | 17,9 | 7,2 | 6,9 | 50 | 80 | 100 | 0,03000 | 43,0 |
| **IN 132 M** | 1000 | 1600 | 2000 | 4,00 | 4,00 | 2,00 | 38,2 | 23,9 | 9,6 | 9,4 | 50 | 80 | 100 | 0,04000 | 52,0 |
| **IN 132 ML** | 1000 | 1600 | 2000 | 5,50 | 5,50 | 2,75 | 52,6 | 32,8 | 13,1 | 12,2 | 50 | 80 | 100 | 0,04200 | 55,0 |
| **IN 160 M** | 1000 | 1600 | 2000 | 7,50 | 7,50 | 3,75 | 71,7 | 44,8 | 17,9 | 15,0 | 50 | 80 | 100 | 0,08800 | 70,0 |
| **IN 160 L** | 1000 | 1600 | 2000 | 11,00 | 11,00 | 5,50 | 105 | 65,7 | 26,3 | 21,9 | 50 | 80 | 100 | 0,10600 | 90,0 |
| **IN 180 L** | 1000 | 1600 | 2000 | 15,00 | 15,00 | 7,50 | 143 | 89,6 | 35,8 | 30,00 | 50 | 80 | 100 | 0,15000 | 125,0 |
| **IN 200 LA** | 1000 | 1600 | 2000 | 18,50 | 18,50 | 9,25 | 177 | 110 | 44,2 | 36,00 | 50 | 80 | 100 | 0,24000 | 140,0 |
| **IN 200 LB** | 1000 | 1600 | 2000 | 22,00 | 22,00 | 11,00 | 210 | 131 | 52,6 | 43,00 | 50 | 80 | 100 | 0,28000 | 160,0 |




| | | | | |
|---|---|---|---|---|
| **f** | [Hz] | Frequenza | *Frequency* | Frequenz |
| **$n_B$** | [$min^{-1}$] | Velocità base | *Basic speed* | Basisdrehzahl |
| **$n_L$** | [$min^{-1}$] | Velocità limite | *Limit speed* | Drehzahlgrenze |
| **$n_{max}$** | [$min^{-1}$] | Velocità massima | *Max. speed* | Max. Drehzahl |
| **$n_n$** | [$min^{-1}$] | Velocità nominale | *Rated speed* | Nenndrehzahl |
| **P** | [kW] | Potenza | *Power* | Leistung |
| **$P_b$** | [kW] | Potenza base | *Basic power* | Grundleistung |
| **$P_L$** | [kW] | Potenza limite | *Limit power* | Grenzleistung |
| **Pmax** | [kW] | Potenza massima | *Max. power* | Max. Leistung |
| **Pn** | [kW, HP] | Potenza nominale motore | *Motor rated power* | Nennleistung |




## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# DP

## 2/4 P 3000/1500 min$^{-1}$

**Unico avvolgimento**
***Single winding***
**Einlagige Wicklung**

Standard V 400/50 Hz

| Tipo *Type* Typ DAH | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP 56 B | 2 | 0,11 | 0,15 | 2751 | 0,40 | 53,0 | 0,76 | 3,0 | 1,3 | 0,38 | 0,00015 | 2,7 |
| | 4 | 0,07 | 0,10 | 1376 | 0,36 | 42,8 | 0,66 | 2,6 | 1,5 | 0,49 | 0,00015 | 2,7 |
| DP 63 C | 2 | 0,22 | 0,30 | 2861 | 0,79 | 59,4 | 0,68 | 3,2 | 1,4 | 0,73 | 0,00040 | 4,4 |
| | 4 | 0,14 | 0,20 | 1435 | 0,78 | 49,5 | 0,52 | 2,8 | 1,6 | 0,93 | 0,00040 | 4,4 |
| DP 71 A | 2 | 0,33 | 0,45 | 2865 | 1,4 | 51,0 | 0,66 | 3,8 | 1,8 | 1,1 | 0,00050 | 5,9 |
| | 4 | 0,22 | 0,30 | 1439 | 0,96 | 57,0 | 0,58 | 3,2 | 1,9 | 1,5 | 0,00050 | 5,9 |
| DP 71 B | 2 | 0,45 | 0,60 | 2822 | 1,5 | 55,1 | 0,77 | 4,2 | 1,8 | 1,5 | 0,00080 | 6,3 |
| | 4 | 0,30 | 0,40 | 1407 | 1,0 | 59,0 | 0,71 | 3,3 | 1,9 | 2,0 | 0,00080 | 6,3 |
| DP 71 C | 2 | 0,55 | 0,75 | 2775 | 1,7 | 57,8 | 0,82 | 4,2 | 1,8 | 1,9 | 0,00090 | 7,5 |
| | 4 | 0,37 | 0,50 | 1416 | 1,3 | 61,0 | 0,69 | 3,3 | 1,9 | 2,5 | 0,00090 | 7,5 |
| DP 80 A | 2 | 0,60 | 0,80 | 2864 | 2,5 | 49,8 | 0,69 | 4,0 | 2,0 | 2,0 | 0,00140 | 8,7 |
| | 4 | 0,45 | 0,60 | 1437 | 1,5 | 61,0 | 0,72 | 3,9 | 1,9 | 3,0 | 0,00140 | 8,7 |
| DP 80 B | 2 | 0,80 | 1,20 | 2843 | 2,2 | 68,7 | 0,78 | 4,8 | 2,1 | 2,7 | 0,00170 | 9,9 |
| | 4 | 0,60 | 0,90 | 1411 | 1,7 | 68,8 | 0,73 | 4,2 | 2,0 | 4,1 | 0,00170 | 9,9 |
| DP 80 C | 2 | 1,10 | 1,50 | 2866 | 2,7 | 65,1 | 0,89 | 4,8 | 1,9 | 3,7 | 0,00230 | 11,2 |
| | 4 | 0,80 | 1,10 | 1343 | 2,2 | 65,5 | 0,82 | 4,3 | 1,9 | 5,7 | 0,00230 | 11,2 |
| DP 90 S | 2 | 1,40 | 1,91 | 2857 | 3,7 | 67,9 | 0,80 | 4,9 | 2,0 | 4,7 | 0,00330 | 12,5 |
| | 4 | 1,00 | 1,36 | 1428 | 2,7 | 70,8 | 0,75 | 4,6 | 1,9 | 6,7 | 0,00330 | 12,5 |
| DP 90 L | 2 | 1,70 | 2,30 | 2837 | 4,7 | 67,3 | 0,78 | 5,2 | 2,2 | 5,7 | 0,00400 | 14,0 |
| | 4 | 1,30 | 1,80 | 1413 | 3,5 | 70,9 | 0,76 | 4,9 | 2,1 | 8,8 | 0,00400 | 14,0 |
| DP 90 LB | 2 | 2,20 | 3,00 | 2864 | 5,3 | 73,0 | 0,82 | 5,3 | 2,1 | 7,3 | 0,00500 | 16,0 |
| | 4 | 1,50 | 2,00 | 1435 | 3,8 | 74,5 | 0,76 | 5,0 | 2,0 | 10,0 | 0,00500 | 16,0 |
| DP 100 A | 2 | 2,40 | 3,50 | 2840 | 5,7 | 77,0 | 0,79 | 5,8 | 2,3 | 8,1 | 0,00750 | 20,3 |
| | 4 | 1,80 | 2,50 | 1420 | 4,5 | 74,0 | 0,78 | 5,6 | 2,1 | 12,1 | 0,00750 | 20,3 |
| DP 100 B | 2 | 3,30 | 4,50 | 2860 | 7,9 | 75,9 | 0,80 | 6,8 | 2,4 | 11,0 | 0,00850 | 22,5 |
| | 4 | 2,50 | 3,50 | 1421 | 5,8 | 79,8 | 0,78 | 6,3 | 2,2 | 16,8 | 0,00850 | 22,5 |
| DP 100 BLA | 2 | 4,5 | 6,00 | 2880 | 10,4 | 79,9 | 0,78 | 5,4 | 2,3 | 14,8 | 0,00950 | 25,0 |
| | 4 | 3,3 | 3,30 | 1420 | 7,8 | 81,2 | 0,77 | 4,9 | 2,1 | 22,0 | 0,00950 | 25,0 |
| DP 112 A | 2 | 4,50 | 6,00 | 2890 | 10,3 | 78,2 | 0,81 | 6,9 | 2,3 | 14,9 | 0,01300 | 33,0 |
| | 4 | 3,30 | 4,60 | 1440 | 7,4 | 81,7 | 0,79 | 6,3 | 2,1 | 21,9 | 0,01300 | 33,0 |
| DP 112 B | 2 | 5,50 | 7,60 | 2850 | 14,0 | 70,0 | 0,81 | 7,2 | 2,1 | 18,4 | 0,01600 | 36,0 |
| | 4 | 4,50 | 6,00 | 1430 | 10,8 | 80,0 | 0,76 | 6,7 | 2,0 | 30,1 | 0,01600 | 36,0 |
| DP 132 S | 2 | 5,50 | 7,60 | 2890 | 13,8 | 86,0 | 0,67 | 7,0 | 2,4 | 18,2 | 0,02400 | 44,0 |
| | 4 | 4,50 | 6,00 | 1450 | 10,8 | 69,5 | 0,87 | 6,4 | 2,2 | 29,7 | 0,02400 | 44,0 |
| DP 132 M | 2 | 7,50 | 10,00 | 2900 | 18,6 | 74,0 | 0,79 | 7,3 | 2,4 | 24,7 | 0,03300 | 53,0 |
| | 4 | 6,00 | 8,00 | 1450 | 15,5 | 76,0 | 0,74 | 6,2 | 2,4 | 39,5 | 0,03300 | 53,0 |
| DP 132 ML | 2 | 9,00 | 12,00 | 2940 | 19,6 | 85,0 | 0,78 | 7,3 | 2,4 | 29,3 | 0,03500 | 53,0 |
| | 4 | 7,00 | 9,30 | 1460 | 14,8 | 85,0 | 0,80 | 6,2 | 2,4 | 45,8 | 0,03500 | 53,0 |
| DP 160 M | 2 | 11,00 | 15,00 | 2948 | 24,0 | 81,0 | 0,82 | 5,6 | 2,4 | 36,5 | 0,06200 | 90,0 |
| | 4 | 9,00 | 12,00 | 1450 | 18,0 | 88,0 | 0,84 | 5,3 | 2,3 | 59,3 | 0,06200 | 90,0 |
| DP 160 L | 2 | 15,00 | 20,00 | 2950 | 34,0 | 85,0 | 0,75 | 6,2 | 2,6 | 48,6 | 0,07400 | 101,0 |
| | 4 | 12,50 | 18,50 | 1450 | 26,0 | 86,0 | 0,81 | 5,8 | 2,5 | 82,4 | 0,07400 | 101,0 |
| DP 160 LB | 2 | 18,50 | 25,00 | 2950 | 35,8 | 84,9 | 0,87 | 6,7 | 1,9 | 59,6 | 0,08000 | 110,0 |
| | 4 | 14,00 | 20,00 | 1470 | 27,1 | 89,3 | 0,84 | 5,7 | 1,8 | 91,8 | 0,08000 | 110,0 |
| DP 180 M | 2 | 18,50 | 25,00 | 2920 | 36,0 | 85,0 | 0,87 | 6,2 | 2,6 | 60,5 | 0,13000 | 115,0 |
| | 4 | 15,00 | 18,50 | 1450 | 28,0 | 86,0 | 0,90 | 5,8 | 2,5 | 98,8 | 0,13000 | 115,0 |
| DP 180 L | 2 | 22,00 | 30,00 | 2920 | 39,0 | 93,0 | 0,88 | 6,3 | 2,2 | 72,0 | 0,15000 | 130,0 |
| | 4 | 18,50 | 25,00 | 1450 | 33,0 | 92,0 | 0,88 | 5,9 | 2,0 | 122 | 0,15000 | 130,0 |
| DP 200 L | 2 | 30,00 | 40,00 | 2900 | 55,0 | 88,0 | 0,90 | 7,0 | 2,5 | 98,8 | 0,20000 | 160,0 |
| | 4 | 25,00 | 34,00 | 1430 | 47,0 | 87,0 | 0,88 | 6,5 | 2,5 | 167 | 0,20000 | 160,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)



**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# DP

## 4/8 P 1500/750 min$^{-1}$

**Unico avvolgimento**
**Single winding**
**Einlagige Wicklung**

Standard V 400/50 Hz

| Tipo *Type* Typ DAH | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP 63 C | 4 | 0,09 | 0,12 | 1360 | 0,6 | 40,0 | 0,54 | 3,3 | 1,0 | 0,63 | 0,00090 | 4,4 |
| | 8 | 0,04 | 0,06 | 660 | 0,9 | 30,0 | 0,21 | 2,3 | 1,3 | 0,58 | 0,00090 | 4,4 |
| DP 71 B | 4 | 0,18 | 0,25 | 1370 | 0,8 | 42,9 | 0,76 | 3,4 | 1,1 | 1,3 | 0,00180 | 6,3 |
| | 8 | 0,11 | 0,15 | 670 | 0,9 | 54,9 | 0,32 | 2,4 | 1,4 | 1,6 | 0,00180 | 6,3 |
| DP 71 C | 4 | 0,30 | 0,40 | 1393 | 0,83 | 63,7 | 0,82 | 3,5 | 1,4 | 2,1 | 0,00200 | 7,5 |
| | 8 | 0,15 | 0,20 | 677 | 0,87 | 40,5 | 0,62 | 2,4 | 1,6 | 2,1 | 0,00200 | 7,5 |
| DP 80 A | 4 | 0,37 | 0,50 | 1434 | 0,99 | 69,8 | 0,77 | 3,5 | 1,5 | 2,5 | 0,00250 | 8,7 |
| | 8 | 0,18 | 0,25 | 717 | 1,1 | 50,0 | 0,47 | 2,4 | 1,6 | 2,4 | 0,00250 | 8,7 |
| DP 80 B | 4 | 0,55 | 0,75 | 1439 | 1,5 | 73,4 | 0,73 | 3,6 | 1,6 | 3,7 | 0,00280 | 9,9 |
| | 8 | 0,30 | 0,40 | 704 | 1,8 | 45,1 | 0,55 | 2,5 | 1,9 | 4,1 | 0,00280 | 9,9 |
| DP 80 C | 4 | 0,75 | 1,00 | 1360 | 1,8 | 71,0 | 0,87 | 4,0 | 1,6 | 5,3 | 0,00300 | 10,5 |
| | 8 | 0,37 | 0,50 | 670 | 1,9 | 51,0 | 0,56 | 3,3 | 1,8 | 5,3 | 0,00300 | 10,5 |
| DP 90 S | 4 | 0,75 | 1,00 | 1422 | 2,0 | 68,1 | 0,78 | 4,0 | 1,7 | 5,0 | 0,00430 | 12,5 |
| | 8 | 0,37 | 0,50 | 702 | 1,8 | 51,9 | 0,58 | 3,2 | 2,0 | 5,0 | 0,00430 | 12,5 |
| DP 90 L | 4 | 0,90 | 1,30 | 1425 | 2,3 | 69,9 | 0,81 | 4,4 | 1,8 | 6,0 | 0,00550 | 14,0 |
| | 8 | 0,50 | 0,70 | 693 | 2,0 | 55,9 | 0,65 | 3,5 | 2,3 | 6,9 | 0,00550 | 14,0 |
| DP 90 LB | 4 | 1,10 | 1,50 | 1434 | 3,2 | 69,2 | 0,71 | 4,2 | 1,7 | 7,3 | 0,00550 | 16,5 |
| | 8 | 0,60 | 0,80 | 698 | 2,9 | 55,2 | 0,54 | 3,6 | 2,1 | 8,2 | 0,00550 | 16,5 |
| DP 100 A | 4 | 1,40 | 1,90 | 1369 | 3,4 | 66,8 | 0,88 | 4,0 | 1,8 | 9,8 | 0,00770 | 20,3 |
| | 8 | 0,70 | 0,90 | 674 | 2,5 | 61,6 | 0,66 | 3,3 | 1,9 | 9,9 | 0,00770 | 20,3 |
| DP 100 B | 4 | 1,60 | 2,20 | 1432 | 3,5 | 80,1 | 0,84 | 5,0 | 2,0 | 10,7 | 0,00860 | 22,0 |
| | 8 | 0,90 | 1,20 | 692 | 3,4 | 66,0 | 0,58 | 4,0 | 1,7 | 12,4 | 0,00860 | 22,0 |
| DP 112 A | 4 | 1,70 | 2,40 | 1461 | 3,6 | 79,0 | 0,85 | 5,5 | 1,7 | 11,1 | 0,01200 | 32,0 |
| | 8 | 1,00 | 1,40 | 722 | 3,3 | 69,0 | 0,64 | 4,1 | 1,9 | 13,2 | 0,01200 | 32,0 |
| DP112 B | 4 | 2,20 | 3,00 | 1464 | 4,8 | 83,0 | 0,79 | 5,3 | 1,5 | 14,4 | 0,01500 | 37,0 |
| | 8 | 1,40 | 1,90 | 720 | 5,0 | 71,5 | 0,56 | 4,0 | 1,7 | 18,6 | 0,01500 | 37,0 |
| DP 132 S | 4 | 3,70 | 5,00 | 1423 | 7,3 | 81,0 | 0,91 | 5,0 | 2,0 | 24,8 | 0,03000 | 46,0 |
| | 8 | 2,20 | 3,00 | 723 | 6,7 | 76,2 | 0,62 | 3,5 | 2,1 | 29,1 | 0,03000 | 46,0 |
| DP 132 M | 4 | 5,10 | 7,00 | 1440 | 11,1 | 80,0 | 0,83 | 5,1 | 1,9 | 33,8 | 0,04000 | 56,0 |
| | 8 | 3,00 | 4,00 | 712 | 8,7 | 74,0 | 0,68 | 3,6 | 2,0 | 40,3 | 0,04000 | 56,0 |
| DP 132 ML | 4 | 6,10 | 8,30 | 1440 | 12,0 | 78,0 | 0,90 | 5,3 | 1,8 | 41,3 | 0,05000 | 58,0 |
| | 8 | 3,60 | 4,90 | 710 | 11,0 | 78,0 | 0,66 | 3,9 | 1,7 | 50,0 | 0,05000 | 58,0 |
| DP 160 M | 4 | 7,00 | 9,50 | 1430 | 14,0 | 83,0 | 0,87 | 5,2 | 2,0 | 46,8 | 0,08800 | 74,0 |
| | 8 | 5,00 | 6,60 | 710 | 13,0 | 78,0 | 0,71 | 4,0 | 2,1 | 67,3 | 0,08800 | 74,0 |
| DP 160 L | 4 | 10,00 | 13,50 | 1430 | 20,5 | 86,0 | 0,82 | 5,3 | 2,0 | 66,8 | 0,11200 | 90,0 |
| | 8 | 7,00 | 9,50 | 710 | 17,5 | 78,0 | 0,74 | 4,4 | 2,2 | 94,2 | 0,11200 | 90,0 |
| DP 160 LB | 4 | 12,00 | 16,00 | 1440 | 24,5 | 87,0 | 0,81 | 5,3 | 2,0 | 79,6 | 0,13000 | 110,0 |
| | 8 | 8,00 | 10,50 | 720 | 20,0 | 80,0 | 0,72 | 4,4 | 2,2 | 106 | 0,13000 | 110,0 |
| DP 180 L | 4 | 18,50 | 25,00 | 1440 | 34,0 | 90,0 | 0,87 | 6,2 | 2,0 | 123 | 0,21000 | 125,0 |
| | 8 | 11,00 | 15,00 | 720 | 27,0 | 83,0 | 0,71 | 5,8 | 1,8 | 146 | 0,21000 | 125,0 |
| DP 200 L | 4 | 25,00 | 34,00 | 1420 | 49,0 | 90,0 | 0,82 | 6,6 | 2,3 | 168 | 0,25000 | 150,0 |
| | 8 | 17,00 | 23,00 | 710 | 39,0 | 86,0 | 0,73 | 5,8 | 2,2 | 229 | 0,25000 | 150,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# DP

### 4/6 P 1500/1000 min$^{-1}$

**Doppio avvolgimento**
***Double winding***
**Doppellagige Wicklung**

Standard V 400/50 Hz

| Tipo *Type* Typ DAV | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP 71 B | 4 | 0,30 | 0,40 | 1380 | 1,1 | 71,5 | 0,55 | 3,4 | 1,2 | 2,1 | 0,00090 | 6,3 |
| | 6 | 0,20 | 0,30 | 870 | 1,0 | 72,5 | 0,40 | 2,8 | 1,0 | 2,2 | 0,00090 | 6,3 |
| DP 71 C | 4 | 0,37 | 0,50 | 1405 | 1,1 | 61,0 | 0,78 | 3,4 | 1,3 | 2,5 | 0,00100 | 7,5 |
| | 6 | 0,22 | 0,30 | 926 | 0,97 | 50,0 | 0,66 | 2,7 | 1,1 | 2,3 | 0,00100 | 7,5 |
| DP 80 A | 4 | 0,37 | 0,50 | 1400 | 1,3 | 62,8 | 0,65 | 3,8 | 1,3 | 2,5 | 0,00200 | 8,7 |
| | 6 | 0,25 | 0,35 | 900 | 1,2 | 49,3 | 0,61 | 3,0 | 1,2 | 2,7 | 0,00200 | 8,7 |
| DP 80 B | 4 | 0,55 | 0,75 | 1419 | 1,6 | 61,0 | 0,80 | 3,8 | 1,3 | 3,7 | 0,00200 | 9,9 |
| | 6 | 0,45 | 0,60 | 913 | 1,5 | 57,4 | 0,77 | 3,1 | 1,3 | 4,7 | 0,00200 | 9,9 |
| DP 90 S | 4 | 0,75 | 1,00 | 1385 | 2,1 | 61,0 | 0,85 | 4,2 | 1,5 | 5,2 | 0,00350 | 12,5 |
| | 6 | 0,50 | 0,70 | 900 | 1,7 | 55,3 | 0,75 | 3,2 | 1,4 | 5,3 | 0,00350 | 12,5 |
| DP 90 L | 4 | 0,95 | 1,30 | 1448 | 3,2 | 60,0 | 0,72 | 4,5 | 1,6 | 6,3 | 0,00450 | 14,0 |
| | 6 | 0,60 | 0,80 | 938 | 2,7 | 51,0 | 0,63 | 3,5 | 1,5 | 6,1 | 0,00450 | 14,0 |
| DP 90 LB | 4 | 1,10 | 1,50 | 1430 | 3,4 | 71,8 | 0,66 | 4,5 | 1,6 | 7,4 | 0,00500 | 16,0 |
| | 6 | 0,75 | 1,00 | 930 | 2,9 | 62,5 | 0,61 | 3,6 | 1,6 | 7,7 | 0,00500 | 16,0 |
| DP 100 A | 4 | 1,30 | 1,80 | 1405 | 3,2 | 70,4 | 0,84 | 5,3 | 1,7 | 8,8 | 0,00900 | 19,0 |
| | 6 | 0,90 | 1,20 | 908 | 2,9 | 61,6 | 0,73 | 4,2 | 1,6 | 9,5 | 0,00900 | 19,0 |
| DP100B | 4 | 1,50 | 2,00 | 1446 | 3,4 | 81,0 | 0,79 | 5,4 | 1,9 | 9,9 | 0,01000 | 22,0 |
| | 6 | 1,10 | 1,50 | 938 | 3,3 | 68,1 | 0,70 | 4,4 | 1,5 | 11,2 | 0,01000 | 22,0 |
| DP 112 A | 4 | 1,80 | 2,50 | 1459 | 4,9 | 71,8 | 0,74 | 6,2 | 1,8 | 11,8 | 0,01500 | 32,0 |
| | 6 | 1,30 | 1,80 | 961 | 3,7 | 72,7 | 0,69 | 4,8 | 1,7 | 12,9 | 0,01500 | 32,0 |
| DP 112 B | 4 | 2,60 | 3,50 | 1469 | 6,8 | 78,6 | 0,70 | 5,5 | 1,6 | 16,9 | 0,01600 | 38,0 |
| | 6 | 1,80 | 2,50 | 973 | 4,7 | 76,0 | 0,73 | 4,0 | 1,4 | 17,7 | 0,01600 | 38,0 |
| DP 132 S | 4 | 3,70 | 5,00 | 1442 | 7,9 | 81,3 | 0,84 | 5,8 | 1,9 | 24,5 | 0,03000 | 44,0 |
| | 6 | 2,80 | 3,80 | 964 | 7,0 | 77,6 | 0,74 | 4,5 | 1,7 | 27,8 | 0,03000 | 44,0 |
| DP 132 M | 4 | 5,50 | 7,50 | 1450 | 12,0 | 83,0 | 0,80 | 6,0 | 2,0 | 36,2 | 0,03300 | 52,0 |
| | 6 | 4,00 | 5,50 | 950 | 10,0 | 80,0 | 0,72 | 5,0 | 2,0 | 40,2 | 0,03300 | 52,0 |
| DP 160 M | 4 | 7,50 | 10,00 | 1450 | 15,5 | 86,0 | 0,81 | 6,2 | 1,8 | 49,4 | 0,09000 | 80,0 |
| | 6 | 4,80 | 6,50 | 950 | 11,0 | 81,0 | 0,78 | 5,5 | 1,4 | 48,3 | 0,09000 | 80,0 |
| DP 160 L | 4 | 9,50 | 13,00 | 1430 | 19,0 | 87,0 | 0,83 | 6,5 | 2,0 | 63,5 | 0,11000 | 90,0 |
| | 6 | 6,60 | 9,00 | 940 | 15,0 | 82,0 | 0,78 | 5,0 | 1,4 | 67,1 | 0,11000 | 90,0 |
| DP 160 LB | 4 | 11,00 | 15,00 | 1430 | 22,0 | 87,0 | 0,83 | 6,5 | 2,0 | 73,5 | 0,13000 | 110,0 |
| | 6 | 7,50 | 10,00 | 940 | 17,0 | 82,0 | 0,78 | 5,0 | 1,4 | 76,2 | 0,13000 | 110,0 |
| DP 180 M | 4 | 12,50 | 15,00 | 1420 | 24,0 | 88,0 | 0,86 | 6,8 | 1,8 | 84,1 | 0,15000 | 115,0 |
| | 6 | 9,60 | 13,00 | 940 | 20,0 | 85,0 | 0,82 | 5,8 | 1,4 | 97,6 | 0,15000 | 115,0 |
| DP 180 L | 4 | 15,00 | 17,00 | 1420 | 28,0 | 91,0 | 0,85 | 7,0 | 1,7 | 101 | 0,17000 | 130,0 |
| | 6 | 11,00 | 15,00 | 930 | 23,0 | 86,0 | 0,80 | 5,8 | 1,4 | 113 | 0,17000 | 130,0 |
| DP 200 L | 4 | 22,00 | 30,00 | 1420 | 40,0 | 91,0 | 0,87 | 7,0 | 1,6 | 148 | 0,18000 | 150,0 |
| | 6 | 13,50 | 18,00 | 940 | 28,0 | 86,0 | 0,81 | 6,0 | 1,4 | 137 | 0,18000 | 150,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# DP

A

### 4/6 P 1500/1000 min$^{-1}$

**Unico avvolgimento**
***Single winding***
**Einlagige Wicklung**

Standard V 400/50 Hz

| Tipo *Type* Typ PAM | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP 71 A | 4 | 0,25 | 0,34 | 1380 | 1,1 | 71,5 | 0,46 | 3,4 | 1,2 | 1,7 | 0,00090 | 6,3 |
| | 6 | 0,15 | 0,20 | 870 | 1,0 | 72,5 | 0,30 | 2,8 | 1,0 | 1,7 | 0,00090 | 6,3 |
| DP 71 B | 4 | 0,37 | 0,50 | 1380 | 1,2 | 63,2 | 0,74 | 3,4 | 1,3 | 2,6 | 0,00100 | 7,5 |
| | 6 | 0,22 | 0,30 | 880 | 1,0 | 53,4 | 0,59 | 2,7 | 1,1 | 2,4 | 0,00100 | 7,5 |
| DP 80 A | 4 | 0,50 | 0,68 | 1400 | 1,5 | 60,0 | 0,80 | 3,8 | 1,3 | 3,4 | 0,00200 | 8,7 |
| | 6 | 0,37 | 0,50 | 900 | 1,6 | 49,3 | 0,68 | 3,0 | 1,2 | 3,9 | 0,00200 | 8,7 |
| DP 80 B | 4 | 0,66 | 0,90 | 1410 | 1,8 | 64,0 | 0,83 | 3,8 | 1,3 | 4,5 | 0,00200 | 9,9 |
| | 6 | 0,48 | 0,65 | 910 | 1,7 | 57,4 | 0,71 | 3,1 | 1,3 | 5,0 | 0,00200 | 9,9 |
| DP 90 S | 4 | 0,95 | 1,30 | 1420 | 2,3 | 73,0 | 0,82 | 4,2 | 1,5 | 6,4 | 0,00350 | 12,5 |
| | 6 | 0,60 | 0,82 | 920 | 2,0 | 60,0 | 0,72 | 3,2 | 1,4 | 6,2 | 0,00350 | 12,5 |
| DP 90 L | 4 | 1,30 | 1,77 | 1430 | 3,1 | 74,0 | 0,82 | 4,5 | 1,6 | 8,7 | 0,00450 | 14,0 |
| | 6 | 0,95 | 1,29 | 930 | 2,9 | 62,0 | 0,76 | 3,5 | 1,5 | 9,8 | 0,00450 | 14,0 |
| DP 90 LB | 4 | 1,50 | 2,00 | 1435 | 4,2 | 74,0 | 0,69 | 4,5 | 1,6 | 10,0 | 0,00500 | 16,0 |
| | 6 | 1,10 | 1,50 | 924 | 3,1 | 67,0 | 0,77 | 3,6 | 1,6 | 11,4 | 0,00500 | 16,0 |
| DP 100 A | 4 | 1,50 | 2,00 | 1430 | 3,5 | 75,0 | 0,83 | 5,3 | 1,7 | 10,0 | 0,00900 | 19,0 |
| | 6 | 1,10 | 1,50 | 940 | 3,1 | 63,0 | 0,81 | 4,2 | 1,6 | 11,2 | 0,00900 | 19,0 |
| DP 100 LB | 4 | 2,20 | 3,00 | 1430 | 5,0 | 77,0 | 0,83 | 5,4 | 1,9 | 14,7 | 0,01000 | 22,0 |
| | 6 | 1,50 | 2,00 | 940 | 4,2 | 71,0 | 0,81 | 4,4 | 1,5 | 15,3 | 0,01000 | 22,0 |
| DP 112 A | 4 | 3,00 | 4,00 | 1450 | 7,4 | 77,0 | 0,84 | 6,2 | 1,8 | 19,8 | 0,01500 | 32,0 |
| | 6 | 1,85 | 2,50 | 940 | 5,0 | 65,0 | 0,82 | 4,8 | 1,7 | 18,8 | 0,01500 | 32,0 |
| DP 112 B | 4 | 4,00 | 5,50 | 1440 | 8,7 | 79,0 | 0,84 | 5,5 | 1,6 | 26,5 | 0,01600 | 38,0 |
| | 6 | 2,20 | 3,00 | 950 | 5,2 | 74,0 | 0,83 | 4,0 | 1,4 | 22,1 | 0,01600 | 38,0 |
| DP 132S | 4 | 4,40 | 6,00 | 1430 | 10,0 | 80,0 | 0,85 | 5,8 | 1,9 | 31,4 | 0,03000 | 44,0 |
| | 6 | 3,30 | 4,40 | 940 | 8,0 | 77,6 | 0,82 | 4,5 | 1,7 | 30,5 | 0,03000 | 44,0 |
| DP 132 M | 4 | 6,00 | 8,16 | 1450 | 12,0 | 83,0 | 0,87 | 6,0 | 2,0 | 39,5 | 0,03300 | 52,0 |
| | 6 | 3,70 | 5,03 | 950 | 8,0 | 80,0 | 0,84 | 5,0 | 2,0 | 37,2 | 0,03300 | 52,0 |
| DP 160 M | 4 | 9,50 | 12,50 | 1450 | 19,0 | 84,0 | 0,86 | 6,2 | 1,8 | 59,3 | 0,09000 | 80,0 |
| | 6 | 6,60 | 8,80 | 950 | 15,0 | 84,0 | 0,82 | 5,5 | 1,4 | 60,3 | 0,09000 | 80,0 |
| DP 160 L | 4 | 11,00 | 14,96 | 1430 | 22,0 | 85,0 | 0,85 | 6,5 | 2,0 | 73,5 | 0,11000 | 90,0 |
| | 6 | 7,50 | 10,20 | 940 | 16,0 | 82,0 | 0,83 | 5,0 | 1,4 | 76,2 | 0,11000 | 90,0 |
| DP 180 M | 4 | 15,00 | 20,40 | 1410 | 29,0 | 88,0 | 0,85 | 6,8 | 1,8 | 102 | 0,15000 | 115,0 |
| | 6 | 10,00 | 13,60 | 950 | 21,0 | 83,0 | 0,83 | 5,8 | 1,4 | 101 | 0,15000 | 115,0 |
| DP 180 L | 4 | 18,50 | 25,16 | 1420 | 34,0 | 90,0 | 0,87 | 7,0 | 1,7 | 124 | 0,17000 | 130,0 |
| | 6 | 13,00 | 17,68 | 940 | 26,0 | 85,0 | 0,85 | 5,8 | 1,4 | 132 | 0,17000 | 130,0 |
| DP 200 L | 4 | 25,00 | 34,00 | 1460 | 48,0 | 90,0 | 0,84 | 7,0 | 1,6 | 164 | 0,18000 | 150,0 |
| | 6 | 15,00 | 20,40 | 910 | 32,0 | 86,0 | 0,79 | 6,0 | 1,4 | 157 | 0,18000 | 150,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# DP

### 6/8 P 1000/750 min$^{-1}$

**Doppio avvolgimento**
***Double winding***
**Doppellagige Wicklung**

Standard V 400/50 Hz

| Tipo *Type* Typ DAV | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | $\frac{Ia}{In}$ | $\frac{Ca}{Cn}$ | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP 63 C | 6 | 0,07 | 0,10 | 890 | 0,5 | 26,0 | 0,78 | 2,2 | 1,8 | 0,75 | 0,00060 | 4,4 |
| | 8 | 0,03 | 0,05 | 660 | 0,4 | 34,0 | 0,32 | 1,8 | 1,8 | 0,43 | 0,00060 | 4,4 |
| DP 71 C | 6 | 0,18 | 0,25 | 900 | 0,9 | 47,0 | 0,61 | 2,3 | 1,9 | 1,9 | 0,00100 | 6,6 |
| | 8 | 0,09 | 0,12 | 670 | 0,8 | 36,1 | 0,45 | 1,9 | 1,9 | 1,3 | 0,00100 | 6,6 |
| DP 80 A | 6 | 0,20 | 0,28 | 963 | 0,88 | 50,0 | 0,66 | 2,5 | 2,0 | 2,0 | 0,00220 | 8,7 |
| | 8 | 0,11 | 0,15 | 718 | 0,7 | 41,0 | 0,55 | 2,0 | 2,0 | 1,5 | 0,00220 | 8,7 |
| DP 80 B | 6 | 0,37 | 0,50 | 900 | 1,8 | 53,0 | 0,56 | 3,5 | 2,0 | 3,9 | 0,00250 | 11,0 |
| | 8 | 0,25 | 0,35 | 670 | 1,4 | 44,0 | 0,59 | 2,4 | 1,5 | 3,6 | 0,00250 | 11,0 |
| DP 90 S | 6 | 0,37 | 0,50 | 920 | 1,6 | 54,0 | 0,62 | 3,4 | 2,2 | 3,8 | 0,00360 | 12,5 |
| | 8 | 0,25 | 0,35 | 690 | 1,3 | 46,0 | 0,60 | 2,2 | 1,7 | 3,5 | 0,00360 | 12,5 |
| DP 90 L | 6 | 0,55 | 0,75 | 920 | 2,1 | 48,6 | 0,78 | 3,4 | 2,1 | 5,7 | 0,00450 | 14,0 |
| | 8 | 0,37 | 0,50 | 690 | 1,8 | 55,3 | 0,54 | 2,2 | 2,0 | 5,1 | 0,00450 | 14,0 |
| DP 90 LB | 6 | 0,75 | 1,00 | 946 | 2,4 | 63,8 | 0,71 | 3,6 | 3,6 | 7,6 | 0,00500 | 18,0 |
| | 8 | 0,55 | 0,75 | 691 | 2,2 | 57,0 | 0,64 | 2,3 | 2,3 | 7,6 | 0,00500 | 18,0 |
| DP 100 A | 6 | 0,75 | 1,00 | 930 | 2,8 | 68,0 | 0,57 | 3,0 | 1,8 | 7,7 | 0,00900 | 19,0 |
| | 8 | 0,55 | 0,75 | 700 | 2,1 | 43,0 | 0,88 | 2,1 | 1,6 | 7,5 | 0,00900 | 19,0 |
| DP 100 B | 6 | 0,90 | 1,30 | 940 | 3,2 | 71,0 | 0,57 | 2,6 | 1,9 | 9,2 | 0,01000 | 22,0 |
| | 8 | 0,75 | 1,00 | 710 | 2,8 | 46,0 | 0,84 | 1,9 | 1,7 | 10,1 | 0,01000 | 22,0 |
| DP 112 A | 6 | 1,20 | 1,70 | 940 | 4,0 | 44,1 | 0,98 | 3,6 | 2,1 | 12,2 | 0,01500 | 32,0 |
| | 8 | 0,90 | 1,30 | 710 | 3,5 | 42,1 | 0,88 | 2,4 | 1,9 | 12,1 | 0,01500 | 32,0 |
| DP 132 S | 6 | 2,20 | 3,00 | 971 | 5,7 | 78,0 | 0,72 | 4,4 | 1,9 | 21,6 | 0,03000 | 45,0 |
| | 8 | 1,30 | 1,80 | 724 | 4,4 | 67,0 | 0,63 | 3,5 | 1,4 | 17,2 | 0,03000 | 45,0 |
| DP 132 M | 6 | 3,00 | 4,00 | 960 | 7,0 | 80,0 | 0,77 | 5,0 | 2,0 | 29,9 | 0,04200 | 55,0 |
| | 8 | 1,50 | 2,00 | 715 | 5,0 | 70,0 | 0,62 | 4,0 | 1,8 | 20,0 | 0,04200 | 55,0 |
| DP 160 M | 6 | 5,50 | 7,30 | 960 | 12,5 | 81,0 | 0,78 | 5,6 | 2,1 | 54,7 | 0,08800 | 70,0 |
| | 8 | 2,50 | 3,30 | 730 | 7,0 | 72,0 | 0,72 | 4,5 | 2,1 | 32,7 | 0,08800 | 70,0 |
| DP 160 L | 6 | 7,50 | 10,00 | 970 | 15,5 | 82,0 | 0,85 | 5,8 | 2,0 | 73,9 | 0,10600 | 90,0 |
| | 8 | 4,00 | 5,30 | 720 | 9,2 | 73,0 | 0,86 | 4,5 | 2,0 | 53,1 | 0,10600 | 90,0 |
| DP 180 L | 6 | 11,00 | 15,00 | 930 | 23,0 | 86,0 | 0,80 | 5,8 | 1,4 | 113 | 0,17000 | 130,0 |
| | 8 | 5,50 | 7,50 | 725 | 25,0 | 86,0 | 0,37 | 5,0 | 2,0 | 72,5 | 0,17000 | 130,0 |
| DP 200 L | 6 | 13,50 | 18,00 | 940 | 28,0 | 86,0 | 0,81 | 6,0 | 1,4 | 137 | 0,18000 | 150,0 |
| | 8 | 7,50 | 10,00 | 725 | 33,0 | 87,0 | 0,38 | 5,0 | 2,0 | 98,8 | 0,18000 | 150,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**DP**

A

### 2/6 P 3000/1000 min$^{-1}$

**Doppio avvolgimento**
***Double winding***
**Doppellagige Wicklung**

Standard V 400/50 Hz

| Tipo *Type* Typ DAV | Poli *Poles* Polzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP 63 C | 2 | 0,18 | 0,25 | 2760 | 0,8 | 58,0 | 0,56 | 3,0 | 1,8 | 0,62 | 0,00040 | 4,5 |
| | 6 | 0,09 | 0,12 | 770 | 0,7 | 32,5 | 0,57 | 1,3 | 1,5 | 1,1 | 0,00040 | 4,5 |
| DP 71 C | 2 | 0,25 | 0,35 | 2800 | 0,9 | 63,0 | 0,64 | 3,2 | 1,9 | 0,85 | 0,00090 | 6,3 |
| | 6 | 0,15 | 0,20 | 760 | 0,85 | 46,0 | 0,55 | 1,4 | 1,6 | 1,9 | 0,00090 | 6,3 |
| DP 80 A | 2 | 0,55 | 0,75 | 2800 | 1,4 | 74,8 | 0,76 | 3,8 | 2,0 | 1,9 | 0,00140 | 8,7 |
| | 6 | 0,20 | 0,30 | 770 | 1,2 | 39,5 | 0,61 | 1,5 | 1,6 | 2,5 | 0,00140 | 8,7 |
| DP 80 B | 2 | 0,75 | 1,00 | 2895 | 1,6 | 92,0 | 0,72 | 4,1 | 2,2 | 2,5 | 0,00170 | 9,9 |
| | 6 | 0,30 | 0,40 | 940 | 1,2 | 52,0 | 0,68 | 1,6 | 2,0 | 3,1 | 0,00170 | 9,9 |
| DP 90 S | 2 | 1,00 | 1,40 | 2705 | 2,7 | 58,0 | 0,91 | 4,4 | 2,1 | 3,5 | 0,00330 | 12,5 |
| | 6 | 0,48 | 0,65 | 920 | 1,7 | 60,0 | 0,69 | 1,8 | 2,1 | 5,0 | 0,00330 | 12,5 |
| DP 90 L | 2 | 1,35 | 1,80 | 2849 | 3,2 | 72,7 | 0,85 | 5,1 | 2,3 | 4,5 | 0,00450 | 14,0 |
| | 6 | 0,65 | 0,90 | 922 | 2,2 | 62,4 | 0,69 | 1,9 | 2,0 | 6,7 | 0,00450 | 14,0 |
| DP 90 LB | 2 | 1,80 | 2,50 | 2850 | 4,3 | 73,0 | 0,83 | 5,7 | 2,0 | 6,0 | 0,00500 | 16,0 |
| | 6 | 0,90 | 1,20 | 860 | 3,1 | 64,0 | 0,66 | 2,1 | 2,0 | 10,0 | 0,00500 | 16,0 |
| DP 100 A | 2 | 1,80 | 2,50 | 2877 | 4,1 | 71,0 | 0,89 | 5,5 | 2,2 | 6,0 | 0,00900 | 19,0 |
| | 6 | 0,90 | 1,20 | 937 | 2,7 | 69,0 | 0,71 | 1,9 | 2,1 | 9,2 | 0,00900 | 19,0 |
| DP 100 B | 2 | 2,20 | 3,00 | 2780 | 5,1 | 66,0 | 0,95 | 6,4 | 2,3 | 7,6 | 0,01000 | 22,0 |
| | 6 | 1,10 | 1,50 | 920 | 3,4 | 65,2 | 0,71 | 2,0 | 2,1 | 11,4 | 0,01000 | 22,0 |
| DP 112 A | 2 | 3,00 | 4,00 | 2900 | 6,8 | 74,0 | 0,86 | 6,7 | 2,4 | 9,9 | 0,01500 | 32,0 |
| | 6 | 1,50 | 2,00 | 910 | 4,6 | 53,0 | 0,89 | 2,1 | 2,0 | 15,8 | 0,01500 | 32,0 |
| DP 132 S | 2 | 4,00 | 5,40 | 2940 | 12,0 | 70,0 | 0,69 | 7,0 | 2,6 | 13,0 | 0,03000 | 44,0 |
| | 6 | 1,80 | 2,40 | 900 | 6,5 | 64,0 | 0,63 | 2,2 | 2,0 | 19,1 | 0,03000 | 44,0 |
| DP 132 M | 2 | 5,90 | 8,00 | 2934 | 12,6 | 79,0 | 0,85 | 7,2 | 2,8 | 19,2 | 0,04000 | 53,0 |
| | 6 | 2,60 | 3,50 | 969 | 6,8 | 80,0 | 0,69 | 2,6 | 2,0 | 25,6 | 0,04000 | 53,0 |
| DP 160 M | 2 | 7,50 | 10,00 | 2900 | 19,0 | 78,0 | 0,73 | 7,0 | 2,6 | 24,7 | 0,08800 | 70,0 |
| | 6 | 3,00 | 4,00 | 960 | 12,5 | 72,0 | 0,48 | 5,6 | 2,1 | 29,9 | 0,08800 | 70,0 |
| DP 160 L | 2 | 11,00 | 15,00 | 2900 | 24,0 | 82,0 | 0,81 | 7,0 | 2,8 | 36,2 | 0,10600 | 90,0 |
| | 6 | 7,50 | 10,00 | 970 | 15,5 | 82,0 | 0,85 | 5,8 | 2,3 | 73,9 | 0,10600 | 90,0 |
| DP 180 M | 2 | 15,00 | 20,00 | 2920 | 36,0 | 85,0 | 0,71 | 6,2 | 2,6 | 49,1 | 0,13000 | 115,0 |
| | 6 | 9,60 | 13,00 | 940 | 20,0 | 85,0 | 0,82 | 5,8 | 1,4 | 97,6 | 0,13000 | 115,0 |
| DP 180 L | 2 | 18,50 | 25,00 | 2920 | 39,0 | 87,0 | 0,79 | 6,3 | 2,2 | 60,5 | 0,15000 | 130,0 |
| | 6 | 11,00 | 15,00 | 930 | 23,0 | 86,0 | 0,80 | 5,8 | 1,4 | 113 | 0,15000 | 130,0 |
| DP 200 L | 2 | 25,00 | 35,00 | 2900 | 55,0 | 88,0 | 0,75 | 7,0 | 2,5 | 82,4 | 0,20000 | 150,0 |
| | 6 | 13,50 | 18,00 | 940 | 28,0 | 86,0 | 0,81 | 6,0 | 1,4 | 137 | 0,20000 | 150,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# DP

**2/8 P 3000/750 min$^{-1}$**

**Doppio avvolgimento**
***Double winding***
**Doppellagige Wicklung**

Standard V 400/50 Hz

| Tipo *Type* Typ DAV | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm²] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP 63 C | 2 | 0,18 | 0,25 | 2780 | 0,8 | 55,0 | 0,59 | 3,5 | 1,1 | 0,62 | 0,00040 | 4,4 |
| | 8 | 0,06 | 0,08 | 660 | 0,5 | 21,4 | 0,81 | 2,2 | 1,7 | 0,87 | 0,00040 | 4,4 |
| DP 71 C | 2 | 0,30 | 0,40 | 2847 | 0,96 | 52,0 | 0,87 | 4,1 | 1,1 | 1,0 | 0,00080 | 6,3 |
| | 8 | 0,09 | 0,12 | 673 | 0,52 | 37,8 | 0,66 | 2,3 | 1,8 | 1,3 | 0,00080 | 6,3 |
| DP 80 A | 2 | 0,55 | 0,75 | 2800 | 1,8 | 74,7 | 0,59 | 4,2 | 1,4 | 1,9 | 0,00140 | 8,7 |
| | 8 | 0,11 | 0,15 | 680 | 1,1 | 41,2 | 0,35 | 2,4 | 1,9 | 1,6 | 0,00140 | 8,7 |
| DP 80 B | 2 | 0,75 | 1,00 | 2813 | 2,0 | 63,0 | 0,88 | 4,5 | 1,3 | 2,6 | 0,00170 | 9,9 |
| | 8 | 0,15 | 0,20 | 702 | 0,96 | 34,7 | 0,65 | 2,4 | 1,9 | 2,0 | 0,00170 | 9,9 |
| DP 90 S | 2 | 1,00 | 1,40 | 2817 | 2,5 | 64,0 | 0,90 | 4,8 | 1,4 | 3,4 | 0,00350 | 12,5 |
| | 8 | 0,25 | 0,33 | 692 | 1,3 | 46,7 | 0,60 | 2,5 | 1,7 | 3,5 | 0,00350 | 12,5 |
| DP 90 L | 2 | 1,35 | 1,80 | 2870 | 3,8 | 65,0 | 0,78 | 4,8 | 1,4 | 4,5 | 0,00450 | 14,0 |
| | 8 | 0,33 | 0,45 | 696 | 1,7 | 45,0 | 0,62 | 2,6 | 1,7 | 4,5 | 0,00450 | 14,0 |
| DP 90 LB | 2 | 1,70 | 2,30 | 2860 | 4,9 | 74,0 | 0,68 | 5,6 | 1,3 | 5,7 | 0,00550 | 16,0 |
| | 8 | 0,40 | 0,55 | 680 | 2,5 | 39,3 | 0,59 | 2,9 | 1,6 | 5,6 | 0,00550 | 16,0 |
| DP 100 A | 2 | 1,80 | 2,50 | 2880 | 5,0 | 75,0 | 0,69 | 5,8 | 1,5 | 6,0 | 0,00900 | 19,0 |
| | 8 | 0,50 | 0,70 | 700 | 2,4 | 39,1 | 0,77 | 3,0 | 1,7 | 6,8 | 0,00900 | 19,0 |
| DP 100 B | 2 | 2,20 | 3,00 | 2880 | 5,0 | 76,0 | 0,84 | 6,2 | 1,6 | 7,3 | 0,01000 | 22,0 |
| | 8 | 0,60 | 0,80 | 700 | 2,3 | 55,0 | 0,69 | 3,6 | 1,9 | 8,2 | 0,01000 | 22,0 |
| DP 112 A | 2 | 3,00 | 4,00 | 2939 | 6,8 | 80,7 | 0,79 | 6,5 | 1,7 | 9,8 | 0,01500 | 33,0 |
| | 8 | 0,75 | 1,00 | 710 | 3,3 | 66,2 | 0,52 | 3,6 | 1,9 | 10,1 | 0,01500 | 33,0 |
| DP 132 S | 2 | 3,70 | 5,00 | 2923 | 8,6 | 73,1 | 0,85 | 7,0 | 1,8 | 12,1 | 0,03000 | 44,0 |
| | 8 | 1,10 | 1,50 | 714 | 4,1 | 65,4 | 0,60 | 4,2 | 1,9 | 14,7 | 0,03000 | 44,0 |
| DP 132 M | 2 | 5,50 | 7,50 | 2935 | 11,9 | 78,8 | 0,85 | 7,5 | 2,0 | 17,9 | 0,04000 | 52,0 |
| | 8 | 1,30 | 1,75 | 726 | 4,8 | 75,0 | 0,54 | 4,8 | 1,9 | 14,5 | 0,04000 | 52,0 |
| DP 160 M | 2 | 7,50 | 10,00 | 2900 | 17,0 | 78,0 | 0,80 | 7,0 | 2,6 | 24,7 | 0,08800 | 70,0 |
| | 8 | 2,20 | 3,00 | 720 | 10,0 | 66,0 | 0,50 | 5,0 | 1,8 | 29,2 | 0,08800 | 70,0 |
| DP 160 L | 2 | 11,00 | 15,00 | 2900 | 22,0 | 82,0 | 0,85 | 7,0 | 2,8 | 36,2 | 0,10600 | 90,0 |
| | 8 | 4,00 | 5,30 | 725 | 13,5 | 77,0 | 0,58 | 5,5 | 1,8 | 52,7 | 0,10600 | 90,0 |
| DP 180 L | 2 | 18,50 | 25,00 | 2920 | 39,0 | 87,0 | 0,79 | 6,3 | 2,2 | 60,5 | 0,15000 | 130,0 |
| | 8 | 5,50 | 7,50 | 725 | 25,0 | 86,0 | 0,37 | 5,0 | 2,0 | 72,5 | 0,15000 | 130,0 |
| DP 200 L | 2 | 25,00 | 35,00 | 2900 | 55,0 | 88,0 | 0,75 | 7,0 | 2,5 | 82,4 | 0,20000 | 160,0 |
| | 8 | 7,50 | 10,00 | 725 | 33,0 | 87,0 | 0,38 | 5,0 | 2,0 | 98,8 | 0,20000 | 160,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# DP

A

### 2/12 P 3000/500 min$^{-1}$

Doppio avvolgimento
*Double winding*
Doppellagige Wicklung

Standard V 400/50 Hz

| Tipo / *Type* / Typ DAV | Poli / *Poles* / Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP 71 C | 2 | 0,37 | 0,50 | 2740 | 1,1 | 63,0 | 0,77 | 3,0 | 1,5 | 1,3 | 0,00090 | 7,8 |
| | 12 | 0,05 | 0,07 | 440 | 0,90 | 15,9 | 0,50 | 1,4 | 2,0 | 1,1 | 0,00090 | 7,8 |
| DP 80 B | 2 | 0,37 | 0,50 | 2780 | 1,0 | 68,0 | 0,79 | 3,2 | 1,7 | 1,3 | 0,00140 | 8,8 |
| | 12 | 0,07 | 0,10 | 440 | 0,88 | 14,4 | 0,80 | 1,5 | 2,1 | 1,5 | 0,00140 | 8,8 |
| DP 80 C | 2 | 0,55 | 0,75 | 2741 | 1,3 | 63,0 | 0,96 | 3,4 | 1,8 | 1,9 | 0,00170 | 10,5 |
| | 12 | 0,09 | 0,12 | 460 | 1,1 | 22,0 | 0,55 | 1,8 | 2,7 | 1,9 | 0,00170 | 10,5 |
| DP 90 L | 2 | 0,75 | 1,00 | 2850 | 2,0 | 68,0 | 0,80 | 4,8 | 1,9 | 2,5 | 0,00180 | 12,0 |
| | 12 | 0,11 | 0,15 | 460 | 1,4 | 20,2 | 0,56 | 2,0 | 2,9 | 2,3 | 0,00180 | 12,0 |
| DP 90 LB | 2 | 1,10 | 1,50 | 2880 | 2,9 | 70,0 | 0,78 | 4,6 | 1,9 | 3,6 | 0,00260 | 14,0 |
| | 12 | 0,15 | 0,20 | 470 | 1,5 | 25,0 | 0,58 | 2,0 | 2,9 | 3,0 | 0,00260 | 14,0 |
| DP 100 BL | 2 | 1,80 | 2,50 | 2850 | 4,1 | 75,0 | 0,85 | 5,0 | 3,0 | 6,0 | 0,01300 | 22,0 |
| | 12 | 0,37 | 0,50 | 450 | 2,0 | 40,0 | 0,67 | 2,1 | 2,8 | 7,9 | 0,01300 | 22,0 |
| DP 112 B | 2 | 3,00 | 4,00 | 2900 | 6,8 | 80,7 | 0,79 | 6,5 | 1,7 | 9,9 | 0,01800 | 33,0 |
| | 12 | 0,45 | 0,60 | 450 | 3,0 | 45,0 | 0,48 | 3,0 | 2,8 | 9,6 | 0,01800 | 33,0 |
| DP 132 S | 2 | 3,70 | 5,00 | 2963 | 9,3 | 73,1 | 0,78 | 7,0 | 1,8 | 11,9 | 0,03000 | 44,0 |
| | 12 | 0,88 | 1,10 | 468 | 4,5 | 60,1 | 0,47 | 4,0 | 2,5 | 18,0 | 0,03000 | 44,0 |
| DP 132 M | 2 | 5,50 | 7,50 | 2920 | 12,0 | 78,8 | 0,84 | 7,5 | 2,0 | 18,0 | 0,04000 | 52,0 |
| | 12 | 1,10 | 1,50 | 455 | 6,1 | 64,0 | 0,41 | 4,0 | 2,2 | 23,1 | 0,04000 | 52,0 |
| DP 160 M | 2 | 7,50 | 10,00 | 2940 | 10,0 | 72,0 | 0,94 | 7,0 | 1,4 | 24,7 | 0,08800 | 80,0 |
| | 12 | 1,50 | 2,00 | 480 | 7,0 | 66,0 | 0,46 | 3,4 | 1,1 | 31,2 | 0,08800 | 80,0 |
| DP 160 L | 2 | 11,00 | 15,00 | 2900 | 24,0 | 82,0 | 0,81 | 7,0 | 2,8 | 36,2 | 0,10600 | 90,0 |
| | 12 | 3,00 | 4,00 | 460 | 16,5 | 60,0 | 0,44 | 4,0 | 2,0 | 62,3 | 0,10600 | 90,0 |
| DP 180 L | 2 | 15,00 | 20,00 | 2920 | 39,0 | 87,0 | 0,64 | 6,3 | 2,2 | 49,1 | 0,15000 | 130,0 |
| | 12 | 4,00 | 5,50 | 450 | 18,0 | 70,0 | 0,46 | 3,5 | 1,5 | 84,9 | 0,15000 | 130,0 |
| DP 200 L | 2 | 18,50 | 25,00 | 2900 | 55,0 | 88,0 | 0,55 | 7,0 | 2,5 | 60,9 | 0,20000 | 160,0 |
| | 12 | 5,50 | 7,50 | 440 | 23,0 | 73,0 | 0,47 | 3,8 | 1,6 | 119 | 0,20000 | 160,0 |

### 2/16 P 3000/375 min$^{-1}$

Doppio avvolgimento
*Double winding*
Doppellagige Wicklung

Standard V 400/50 Hz

| Tipo / *Type* / Typ DAV | Poli / *Poles* / Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP 132 S | 2 | 3,70 | 5,00 | 2920 | 10,0 | 73,1 | 0,73 | 7,0 | 1,8 | 12,1 | 0,03000 | 44,0 |
| | 16 | 0,55 | 0,75 | 360 | 3,5 | 52,0 | 0,44 | 1,8 | 1,1 | 14,6 | 0,03000 | 44,0 |
| DP 132 M | 2 | 5,50 | 7,50 | 2920 | 12,0 | 78,8 | 0,84 | 7,5 | 2,0 | 18,0 | 0,04000 | 52,0 |
| | 16 | 0,75 | 1,00 | 355 | 4,2 | 56,0 | 0,46 | 1,9 | 1,1 | 20,2 | 0,03800 | 52,0 |
| DP 160 M | 2 | 7,50 | 10,00 | 2900 | 19,0 | 78,0 | 0,73 | 7,0 | 2,6 | 24,7 | 0,08800 | 80,0 |
| | 16 | 1,10 | 1,50 | 360 | 5,5 | 59,0 | 0,49 | 2,5 | 1,2 | 29,2 | 0,09000 | 80,0 |
| DP 160 L | 2 | 13,00 | 18,00 | 2900 | 24,0 | 82,0 | 0,95 | 7,0 | 2,8 | 42,8 | 0,10600 | 90,0 |
| | 16 | 1,50 | 2,00 | 355 | 7,0 | 61,0 | 0,51 | 2,6 | 1,3 | 40,4 | 0,13000 | 90,0 |
| DP 180 L | 2 | 15,00 | 20,00 | 2920 | 39,0 | 87,0 | 0,64 | 6,3 | 2,2 | 49,1 | 0,15000 | 130,0 |
| | 16 | 2,20 | 3,00 | 360 | 10,0 | 62,0 | 0,51 | 2,8 | 1,4 | 58,4 | 0,15000 | 130,0 |
| DP 200 L | 2 | 18,50 | 25,00 | 2900 | 55,0 | 88,0 | 0,55 | 7,0 | 2,5 | 60,9 | 0,20000 | 160,0 |
| | 16 | 3,00 | 4,00 | 350 | 13,0 | 65,0 | 0,51 | 3,1 | 1,5 | 81,9 | 0,20000 | 160,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# DP

### 4/16 P 3000/375 min$^{-1}$

**Doppio avvolgimento**
***Double winding***
**Doppellagige Wicklung**

Standard V 400/50 Hz

| Tipo *Type* Typ DAV | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP 132 S | 4 | 3,70 | 5,00 | 1430 | 8,3 | 81,3 | 0,80 | 5,8 | 1,9 | 24,7 | 0,03000 | 44,0 |
| | 16 | 0,55 | 0,75 | 360 | 3,5 | 52,0 | 0,44 | 1,8 | 1,1 | 14,6 | 0,03000 | 44,0 |
| DP 132 M | 4 | 5,50 | 7,50 | 1450 | 12,0 | 83,0 | 0,80 | 6,0 | 2,0 | 36,2 | 0,03300 | 52,0 |
| | 16 | 0,75 | 1,00 | 355 | 4,2 | 56,0 | 0,46 | 1,9 | 1,1 | 20,2 | 0,03300 | 52,0 |
| DP 160 M | 4 | 7,50 | 10,00 | 1450 | 15,5 | 86,0 | 0,81 | 6,2 | 1,8 | 49,4 | 0,09000 | 80,0 |
| | 16 | 1,10 | 1,50 | 360 | 5,5 | 59,0 | 0,49 | 2,5 | 1,2 | 29,2 | 0,09000 | 80,0 |
| DP 160 L | 4 | 9,50 | 13,00 | 1430 | 19,0 | 87,0 | 0,83 | 6,5 | 2,0 | 63,5 | 0,11000 | 90,0 |
| | 16 | 1,50 | 2,00 | 355 | 7,0 | 61,0 | 0,51 | 2,6 | 1,3 | 40,4 | 0,11000 | 90,0 |
| DP 180 M | 4 | 12,50 | 15,00 | 1420 | 24,0 | 88,0 | 0,86 | 6,8 | 1,8 | 84,1 | 0,15000 | 115,0 |
| | 16 | 1,87 | 2,50 | 360 | 8,5 | 62,0 | 0,51 | 2,8 | 1,4 | 49,6 | 0,15000 | 115,0 |
| DP 180 L | 4 | 15,00 | 17,00 | 1420 | 28,0 | 91,0 | 0,85 | 7,0 | 1,7 | 101 | 0,17000 | 130,0 |
| | 16 | 2,20 | 3,00 | 360 | 10,0 | 62,0 | 0,51 | 2,8 | 1,4 | 58,4 | 0,17000 | 130,0 |
| DP 200 L | 4 | 25,00 | 34,00 | 1420 | 40,0 | 91,0 | 0,99 | 7,0 | 1,6 | 168 | 0,18000 | 150,0 |
| | 16 | 4,50 | 6,20 | 350 | 13,0 | 65,0 | 0,77 | 3,1 | 1,5 | 123 | 0,18000 | 150,0 |

### 4/32 P 3000/187 min$^{-1}$

**Doppio avvolgimento**
***Double winding***
**Doppellagige Wicklung**

Standard V 400/50 Hz

| Tipo *Type* Typ DAV | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DP 180 M | 4 | 12,50 | 15,00 | 1420 | 24,0 | 88,0 | 0,86 | 6,8 | 1,8 | 84,1 | 0,15000 | 115,0 |
| | 32 | 1,10 | 1,50 | 160 | 8,0 | 58,0 | 0,34 | 2,6 | 1,3 | 65,7 | 0,15000 | 115,0 |
| DP 180 L | 4 | 15,00 | 17,00 | 1420 | 28,0 | 91,0 | 0,85 | 7,0 | 1,7 | 101 | 0,17000 | 130,0 |
| | 32 | 1,50 | 2,20 | 160 | 9,0 | 58,0 | 0,42 | 2,6 | 1,3 | 89,6 | 0,17000 | 130,0 |
| DP 200 L | 4 | 25,00 | 34,00 | 1420 | 40,0 | 91,0 | 0,99 | 7,0 | 1,6 | 168 | 0,18000 | 150,0 |
| | 32 | 2,20 | 3,00 | 155 | 12,0 | 60,0 | 0,44 | 2,8 | 1,3 | 136 | 0,18000 | 150,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

MONOFASE
*SINGLE-PHASE*
EINPHASEN

# M

## 2 P 3000 min$^{-1}$

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | $\frac{Ia}{In}$ | $\frac{Ca}{Cn}$ | Cn [Nm] | $C_{VF}$ [μF] | $J_m$ [Kgm²] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **M 50 B** | 0,08 | 0,10 | 2810 | 0,9 | 45,0 | 0,99 | 1,8 | 0,6 | 0,3 | 12,5 | 0,00010 | 2,1 |
| **M 56 A** | 0,08 | 0,10 | 2880 | 1,1 | 44,0 | 0,80 | 2,8 | 0,8 | 0,3 | 16,0 | 0,00012 | 2,7 |
| **M 56 B** | 0,12 | 0,16 | 2810 | 1,2 | 53,4 | 0,90 | 2,5 | 0,5 | 0,4 | 16,0 | 0,00015 | 3,3 |
| **M 63 B** | 0,18 | 0,25 | 2900 | 1,9 | 50,0 | 0,96 | 3,2 | 0,7 | 0,6 | 10,0 | 0,00030 | 4,2 |
| **M 63 C** | 0,25 | 0,35 | 2850 | 2,2 | 58,0 | 0,97 | 2,9 | 0,5 | 0,9 | 10,0 | 0,00035 | 4,4 |
| **M 71 B** | 0,37 | 0,50 | 2810 | 4,3 | 52,5 | 0,80 | 2,4 | 0,9 | 1,3 | 16,0 | 0,00046 | 6,0 |
| **M 71 C** | 0,55 | 0,75 | 2700 | 4,9 | 59,0 | 0,90 | 2,2 | 0,8 | 2,0 | 20,0 | 0,00057 | 6,3 |
| **M 80 B** | 0,75 | 1,00 | 2800 | 5,1 | 70,0 | 0,97 | 3,2 | 0,7 | 2,6 | 25,0 | 0,00097 | 10,7 |
| **M 80 C** | 1,10 | 1,50 | 2830 | 9,1 | 70,0 | 0,80 | 2,9 | 0,6 | 3,8 | 30,0 | 0,00120 | 11,3 |
| **M 80 D** | 1,50 | 2,00 | 2700 | 10,7 | 71,0 | 0,90 | 2,7 | 0,6 | 5,3 | 35,0 | 0,00130 | 12,0 |
| **M 90 S** | 1,50 | 2,00 | 2770 | 10,8 | 69,0 | 0,93 | 2,8 | 0,7 | 5,2 | 40,0 | 0,00150 | 13,2 |
| **M 90 L** | 1,80 | 2,50 | 2850 | 12,0 | 73,6 | 0,96 | 3,2 | 0,5 | 6,2 | 50,0 | 0,00230 | 13,7 |
| **M 90 LB** | 2,20 | 3,00 | 2790 | 14,5 | 73,0 | 0,95 | 3,0 | 0,6 | 7,6 | 50,0 | 0,00280 | 16,0 |
| **M 100 B** | 2,20 | 3,00 | 2890 | 14,4 | 72,7 | 0,98 | 3,3 | 0,5 | 7,4 | 60,0 | 0,00530 | 22,2 |
| **M 100 BL** | 3,00 | 4,00 | 2830 | 18,5 | 75,5 | 0,98 | 2,7 | 0,4 | 10,2 | 60,0 | 0,00530 | 24,0 |

## 4 P 1500 min$^{-1}$

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | $\frac{Ia}{In}$ | $\frac{Ca}{Cn}$ | Cn [Nm] | $C_{VF}$ [μF] | $J_m$ [Kgm²] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **M 50 B** | 0,06 | 0,08 | 1300 | 0,7 | 45,0 | 0,90 | 1,3 | 0,6 | 0,4 | 10,0 | 0,00010 | 2,5 |
| **M 56B** | 0,09 | 0,12 | 1350 | 0,9 | 49,0 | 0,98 | 1,7 | 0,6 | 0,7 | 6,3 | 0,00015 | 3,3 |
| **M 56 C** | 0,11 | 0,15 | 1320 | 1,0 | 49,0 | 0,99 | 1,5 | 0,6 | 0,8 | 8,0 | 0,00020 | 3,4 |
| **M 56 D** | 0,15 | 0,20 | 1330 | 1,5 | 5,1 | 0,90 | 1,9 | 0,6 | 1,0 | 16,0 | 0,00020 | 3,5 |
| **M 63 B** | 0,12 | 0,16 | 1380 | 1,3 | 49,0 | 0,95 | 1,9 | 0,6 | 0,9 | 8,0 | 0,00040 | 4,3 |
| **M 63 C** | 0,18 | 0,25 | 1300 | 1,6 | 53,0 | 0,99 | 1,6 | 0,5 | 1,4 | 10,0 | 0,00040 | 4,8 |
| **M 63 D** | 0,22 | 0,30 | 1330 | 1,9 | 55,0 | 0,99 | 1,6 | 0,6 | 1,6 | 12,5 | 0,00050 | 5,2 |
| **M 71 B** | 0,25 | 0,35 | 1350 | 2,2 | 57,0 | 0,93 | 2,3 | 0,9 | 1,8 | 12,5 | 0,00080 | 6,8 |
| **M 71 C** | 0,37 | 0,50 | 1320 | 3,2 | 62,0 | 0,96 | 1,9 | 0,7 | 2,7 | 12,5 | 0,00090 | 7,8 |
| **M 80 A** | 0,55 | 0,75 | 1350 | 4,4 | 60,0 | 0,96 | 2,0 | 0,7 | 4,0 | 20,0 | 0,00140 | 10,0 |
| **M 80 B** | 0,75 | 1,00 | 1370 | 5,6 | 62,4 | 0,96 | 2,7 | 0,7 | 5,3 | 25,0 | 0,00170 | 11,4 |
| **M 80 C** | 0,88 | 1,20 | 1360 | 6,5 | 63,0 | 0,97 | 2,5 | 0,7 | 6,2 | 30,0 | 0,00230 | 11,0 |
| **M 90 S** | 1,10 | 1,50 | 1390 | 8,7 | 68,3 | 0,86 | 3,0 | 0,6 | 7,7 | 30,0 | 0,00330 | 13,8 |
| **M 90 L** | 1,50 | 2,00 | 1380 | 10,7 | 70,9 | 0,90 | 3,1 | 0,6 | 10,6 | 40,0 | 0,00400 | 14,5 |
| **M 90 LB** | 1,80 | 2,50 | 1350 | 12,0 | 71,5 | 0,92 | 2,8 | 0,6 | 12,6 | 45,0 | 0,00500 | 15,8 |
| **M 100 BL** | 2,20 | 3,00 | 1410 | 15,2 | 75,4 | 0,90 | 3,1 | 0,4 | 15,2 | 50,0 | 0,00850 | 23,0 |

## 6 P 1000 min$^{-1}$

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | $\frac{Ia}{In}$ | $\frac{Ca}{Cn}$ | Cn [Nm] | $C_{VF}$ [μF] | $J_m$ [Kgm²] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **M 56 B** | 0,03 | 0,05 | 910 | 0,8 | 28,0 | 0,80 | 1,3 | 0,8 | 0,37 | 8 | 0,00020 | 3,3 |
| **M 63 B** | 0,09 | 0,12 | 910 | 1,1 | 39,0 | 0,99 | 1,5 | 0,9 | 1,0 | 10 | 0,00025 | 4,3 |
| **M 63 C** | 0,12 | 0,16 | 900 | 1,4 | 43,0 | 0,99 | 1,3 | 1,0 | 1,3 | 10 | 0,00040 | 4,6 |
| **M 71 B** | 0,18 | 0,25 | 900 | 2,1 | 45,0 | 0,90 | 1,9 | 0,9 | 2,0 | 14 | 0,00080 | 6,7 |
| **M 71 C** | 0,25 | 0,35 | 860 | 2,4 | 50,5 | 0,97 | 1,7 | 0,8 | 2,8 | 16 | 0,00010 | 7,6 |
| **M 80 B** | 0,37 | 0,50 | 900 | 3,2 | 57,5 | 0,95 | 2,1 | 0,7 | 4,0 | 14 | 0,00250 | 9,2 |
| **M 80 C** | 0,45 | 0,60 | 850 | 3,8 | 55,4 | 0,96 | 1,7 | 0,6 | 5,2 | 16 | 0,00260 | 11,0 |
| **M 90 L** | 0,55 | 0,75 | 920 | 5,0 | 59,8 | 0,84 | 2,4 | 0,9 | 5,7 | 25 | 0,00450 | 14,0 |
| **M 90 LB** | 0,75 | 1,00 | 890 | 5,9 | 62,8 | 0,92 | 2,2 | 0,7 | 8,1 | 30 | 0,00500 | 16,0 |
| **M 100 B** | 1,10 | 1,50 | 930 | 8,3 | 68,6 | 0,91 | 2,5 | 0,5 | 11,6 | 40 | 0,00900 | 22,0 |
| **M 100 BL** | 1,50 | 2,00 | 890 | 10,7 | 67,1 | 0,96 | 2,0 | 0,5 | 16,3 | 50 | 0,00950 | 24,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**MONOFASE**
***SINGLE-PHASE***
**EINPHASEN**

# ME

Alta coppia di spunto
*High starting torque*
Hohes Anlaufmoment

## 2 P 3000 min$^{-1}$

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $C_{VF}$ [μF] | Sc Capacità di spunto/ *Starting capacity /* Startkapazität [μF] | $J_m$ [Kgm²] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ME 50 B | 0,08 | 0,10 | 2810 | 0,9 | 45,0 | 0,99 | 2,0 | 1,2 | 2,3 | 0,3 | 12,5 | 10 | 0,00010 | 2,1 |
| ME 56 A | 0,08 | 0,10 | 2880 | 1,1 | 44,0 | 0,80 | 3,0 | 2,5 | 2,4 | 0,3 | 16,0 | 20 | 0,00012 | 2,7 |
| ME 56 B | 0,12 | 0,16 | 2810 | 1,2 | 53,4 | 0,90 | 2,8 | 1,8 | 2,4 | 0,4 | 16,0 | 20 | 0,00015 | 3,3 |
| ME 63 B | 0,18 | 0,25 | 2900 | 1,9 | 50,0 | 0,96 | 3,4 | 1,7 | 2,6 | 0,6 | 10,0 | 10 | 0,00030 | 4,2 |
| ME 63 C | 0,25 | 0,35 | 2850 | 2,2 | 58,0 | 0,97 | 3,0 | 1,2 | 2,5 | 0,9 | 10,0 | 10 | 0,00035 | 4,4 |
| ME 71 B | 0,37 | 0,50 | 2810 | 4,3 | 52,5 | 0,80 | 2,4 | 2,3 | 3,0 | 1,3 | 16,0 | 20 | 0,00046 | 6,0 |
| ME 71 C | 0,55 | 0,75 | 2700 | 4,9 | 59,0 | 0,90 | 2,3 | 1,7 | 2,6 | 2,0 | 20,0 | 20 | 0,00057 | 6,3 |
| ME 80 B | 0,75 | 1,00 | 2800 | 5,1 | 70,0 | 0,97 | 3,3 | 2,0 | 3,0 | 2,6 | 25,0 | 30 | 0,00097 | 10,7 |
| ME 80 C | 1,10 | 1,50 | 2830 | 9,1 | 70,0 | 0,80 | 2,9 | 1,7 | 2,8 | 3,8 | 30,0 | 30 | 0,00120 | 11,3 |
| ME 80 D | 1,50 | 2,00 | 2700 | 10,7 | 71,0 | 0,90 | 2,7 | 1,4 | 2,7 | 5,3 | 35,0 | 40 | 0,00130 | 12,0 |
| ME 90 S | 1,50 | 2,00 | 2770 | 10,8 | 69,0 | 0,93 | 2,6 | 1,6 | 2,9 | 5,2 | 40,0 | 40 | 0,00150 | 13,2 |
| ME 90 L | 1,80 | 2,50 | 2850 | 12,0 | 73,6 | 0,96 | 3,1 | 1,4 | 2,8 | 6,2 | 50,0 | 50 | 0,00230 | 13,7 |
| ME 90 LB | 2,20 | 3,00 | 2790 | 14,5 | 73,0 | 0,95 | 2,8 | 1,2 | 2,4 | 7,6 | 50,0 | 50 | 0,00280 | 16,0 |
| ME 100 B | 2,20 | 3,00 | 2890 | 14,4 | 72,7 | 0,98 | 3,3 | 1,4 | 2,7 | 7,4 | 60,0 | 60 | 0,00530 | 22,2 |
| ME 100 BL | 3,00 | 4,00 | 2830 | 18,5 | 75,5 | 0,98 | 2,6 | 1,1 | 2,3 | 10,2 | 60,0 | 60 | 0,00530 | 24,0 |

## 4 P 1500 min$^{-1}$

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $C_{VF}$ [μF] | Sc Capacità di spunto/ *Starting capacity /* Startkapazität [μF] | $J_m$ [Kgm²] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ME 50 B | 0,06 | 0,08 | 1300 | 0,7 | 45,0 | 0,90 | 1,5 | 1,1 | 2,0 | 0,4 | 10,0 | 10 | 0,00010 | 2,5 |
| ME 56 B | 0,09 | 0,12 | 1350 | 0,9 | 49,0 | 0,98 | 2,5 | 1,9 | 2,0 | 0,7 | 6,3 | 10 | 0,00015 | 3,3 |
| ME 56 C | 0,11 | 0,15 | 1320 | 1,0 | 49,0 | 0,99 | 2,4 | 1,6 | 2,1 | 0,8 | 8,0 | 10 | 0,00020 | 3,4 |
| ME 63 B | 0,12 | 0,16 | 1380 | 1,3 | 49,0 | 0,95 | 2,3 | 1,7 | 2,0 | 0,9 | 8,0 | 10 | 0,00040 | 4,3 |
| ME 63 C | 0,18 | 0,25 | 1300 | 1,6 | 53,0 | 0,99 | 1,9 | 1,2 | 2,0 | 1,4 | 10,0 | 10 | 0,00040 | 4,8 |
| ME 63 D | 0,22 | 0,30 | 1330 | 1,9 | 55,0 | 0,99 | 1,9 | 1,3 | 2,0 | 1,6 | 12,5 | 10 | 0,00050 | 5,2 |
| ME 71 B | 0,25 | 0,35 | 1350 | 2,2 | 57,0 | 0,93 | 2,9 | 2,4 | 2,2 | 1,8 | 12,5 | 20 | 0,00080 | 6,8 |
| ME 71 C | 0,37 | 0,50 | 1320 | 3,2 | 62,0 | 0,96 | 2,3 | 1,9 | 2,1 | 2,7 | 12,5 | 20 | 0,00090 | 7,8 |
| ME 80 A | 0,55 | 0,75 | 1350 | 4,4 | 60,0 | 0,96 | 2,5 | 1,8 | 2,2 | 4,0 | 20,0 | 30 | 0,00140 | 10,0 |
| ME 80 B | 0,75 | 1,00 | 1370 | 5,6 | 62,4 | 0,96 | 2,8 | 1,5 | 2,1 | 5,3 | 25,0 | 30 | 0,00170 | 11,4 |
| ME 80 C | 0,88 | 1,20 | 1360 | 6,5 | 63,0 | 0,97 | 2,7 | 1,4 | 2,0 | 6,2 | 30,0 | 30 | 0,00230 | 11,0 |
| ME 90 S | 1,10 | 1,50 | 1390 | 8,7 | 68,3 | 0,86 | 2,9 | 1,5 | 2,3 | 7,7 | 30,0 | 40 | 0,00330 | 13,8 |
| ME 90 L | 1,50 | 2,00 | 1380 | 10,7 | 70,9 | 0,90 | 3,0 | 1,3 | 2,2 | 10,6 | 40,0 | 40 | 0,00400 | 14,5 |
| ME 90 LB | 1,80 | 2,50 | 1350 | 12,0 | 71,5 | 0,92 | 2,8 | 1,4 | 2,0 | 12,6 | 45,0 | 50 | 0,00500 | 15,8 |
| ME 100 BL | 2,20 | 3,00 | 1410 | 15,2 | 75,4 | 0,90 | 3,1 | 1,2 | 2,6 | 15,2 | 50,0 | 50 | 0,00850 | 23,0 |

## 6 P 1000 min$^{-1}$

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $C_{VF}$ [μF] | Sc Capacità di spunto/ *Starting capacity /* Startkapazität [μF] | $J_m$ [Kgm²] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ME 56 B | 0,03 | 0,05 | 910 | 0,8 | 28 | 0,80 | 1,5 | 1,9 | 1,7 | 0,37 | 8 | 10 | 0,00020 | 3,3 |
| ME 63 B | 0,09 | 0,12 | 910 | 1,1 | 39 | 0,99 | 2,3 | 2,2 | 1,8 | 1,0 | 10 | 10 | 0,00025 | 4,3 |
| ME 63 C | 0,12 | 0,16 | 900 | 1,4 | 43 | 0,99 | 2,1 | 2,1 | 1,9 | 1,3 | 10 | 10 | 0,00040 | 4,6 |
| ME 71 B | 0,18 | 0,25 | 900 | 2,1 | 45 | 0,90 | 2,5 | 2,5 | 2,0 | 2,0 | 14 | 20 | 0,00080 | 6,7 |
| ME 71 C | 0,25 | 0,35 | 860 | 2,4 | 50,5 | 0,97 | 2,2 | 1,9 | 2,1 | 2,8 | 16 | 20 | 0,00010 | 7,6 |
| ME 80 B | 0,37 | 0,50 | 900 | 3,2 | 57,5 | 0,95 | 2,5 | 1,9 | 2,2 | 4,0 | 14 | 20 | 0,00250 | 9,2 |
| ME 80 C | 0,45 | 0,60 | 850 | 3,8 | 55,4 | 0,96 | 2,4 | 1,7 | 2,0 | 5,2 | 16 | 30 | 0,00260 | 11,0 |
| ME 90 L | 0,55 | 0,75 | 920 | 5,0 | 59,8 | 0,84 | 2,8 | 2,5 | 2,3 | 5,7 | 25 | 30 | 0,00450 | 14,0 |
| ME 90 LB | 0,75 | 1,00 | 890 | 5,9 | 62,8 | 0,92 | 2,5 | 2,0 | 2,3 | 8,1 | 30 | 40 | 0,00500 | 16,0 |
| ME 100 B | 1,10 | 1,50 | 930 | 8,3 | 68,6 | 0,91 | 2,8 | 1,8 | 2,4 | 11,6 | 40 | 50 | 0,00900 | 22,0 |
| ME 100 BL | 1,50 | 2,00 | 890 | 10,7 | 67,1 | 0,96 | 2,3 | 1,5 | 2,3 | 16,3 | 50 | 50 | 0,00950 | 24,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**MONOFASE**
***SINGLE-PHASE***
**EINPHASEN**

# MC

Alta coppia di spunto
*High starting torque*
Hohes Anlaufmoment

A

### 2 P 3000 min$^{-1}$

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | CMCax/Cn | Cn [Nm] | $C_{VF}$ [µF] | Sc Capacità di spunto/ *Starting capacity /* Startkapazität [µF] | $J_{MC}$ [Kgm²] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MC 63 B** | 0,18 | 0,25 | 2900 | 1,9 | 50,0 | 0,96 | 3,4 | 1,7 | 2,6 | 0,6 | 10,0 | 63÷80 | 0,00030 | 4,2 |
| **MC 63 C** | 0,25 | 0,35 | 2850 | 2,2 | 58,0 | 0,97 | 3,0 | 1,2 | 2,5 | 0,9 | 10,0 | 63÷80 | 0,00035 | 4,4 |
| **MC 71 B** | 0,37 | 0,50 | 2810 | 4,3 | 52,5 | 0,80 | 2,4 | 2,3 | 3,0 | 1,3 | 16,0 | 63÷80 | 0,00046 | 6,0 |
| **MC 71 C** | 0,55 | 0,75 | 2700 | 4,9 | 59,0 | 0,90 | 2,3 | 1,7 | 2,6 | 2,0 | 20,0 | 63÷80 | 0,00057 | 6,3 |
| **MC 80 B** | 0,75 | 1,00 | 2800 | 5,1 | 70,0 | 0,97 | 3,3 | 2,0 | 3,0 | 2,6 | 25,0 | 63÷80 | 0,00097 | 10,7 |
| **MC 80 C** | 1,10 | 1,50 | 2830 | 9,1 | 70,0 | 0,80 | 2,9 | 1,7 | 2,8 | 3,8 | 30,0 | 63÷80 | 0,00120 | 11,3 |
| **MC 80 D** | 1,50 | 2,00 | 2700 | 10,7 | 71,0 | 0,90 | 2,7 | 1,4 | 2,7 | 5,3 | 35,0 | 63÷80 | 0,00130 | 12,0 |
| **MC 90 S** | 1,50 | 2,00 | 2770 | 10,8 | 69,0 | 0,93 | 2,6 | 1,6 | 2,9 | 5,2 | 40,0 | 100÷130 | 0,00150 | 13,2 |
| **MC 90 L** | 1,80 | 2,50 | 2850 | 12,0 | 73,6 | 0,96 | 3,1 | 1,4 | 2,8 | 6,2 | 50,0 | 100÷130 | 0,00230 | 13,7 |
| **MC 90 LB** | 2,20 | 3,00 | 2790 | 14,5 | 73,0 | 0,95 | 2,8 | 1,2 | 2,4 | 7,6 | 50,0 | 100÷130 | 0,00280 | 16,0 |
| **MC 100 B** | 2,20 | 3,00 | 2890 | 14,4 | 72,7 | 0,98 | 3,3 | 1,4 | 2,7 | 7,4 | 60,0 | 100÷130 | 0,00530 | 22,2 |
| **MC 100 BL** | 3,00 | 4,00 | 2830 | 18,5 | 75,5 | 0,98 | 2,6 | 1,1 | 2,3 | 10,2 | 60,0 | 100÷130 | 0,00530 | 24,0 |

### 4 P 1500 min$^{-1}$

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $C_{VF}$ [µF] | Sc Capacità di spunto/ *Starting capacity /* Startkapazität [µF] | $J_m$ [Kgm²] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MC 63 B** | 0,12 | 0,16 | 1380 | 1,3 | 49,0 | 0,95 | 2,3 | 1,7 | 2,0 | 0,9 | 8,0 | 63÷80 | 0,00040 | 4,3 |
| **MC 63 C** | 0,18 | 0,25 | 1300 | 1,6 | 53,0 | 0,99 | 1,9 | 1,2 | 2,0 | 1,4 | 10,0 | 63÷80 | 0,00040 | 4,8 |
| **MC 63D** | 0,22 | 0,30 | 1330 | 1,9 | 55,0 | 0,99 | 1,9 | 1,3 | 2,0 | 1,6 | 12,5 | 63÷80 | 0,00050 | 5,2 |
| **MC 71 B** | 0,25 | 0,35 | 1350 | 2,2 | 57,0 | 0,93 | 2,9 | 2,4 | 2,2 | 1,8 | 12,5 | 63÷80 | 0,00080 | 6,8 |
| **MC 71 C** | 0,37 | 0,50 | 1320 | 3,2 | 62,0 | 0,96 | 2,3 | 1,9 | 2,1 | 2,7 | 12,5 | 63÷80 | 0,00090 | 7,8 |
| **MC 80 A** | 0,55 | 0,75 | 1350 | 4,4 | 60,0 | 0,96 | 2,5 | 1,8 | 2,2 | 4,0 | 20,0 | 63÷80 | 0,00140 | 10,0 |
| **MC 80 B** | 0,75 | 1,00 | 1370 | 5,6 | 62,4 | 0,96 | 2,8 | 1,5 | 2,1 | 5,3 | 25,0 | 63÷80 | 0,00170 | 11,4 |
| **MC 80 C** | 0,88 | 1,20 | 1360 | 6,5 | 63,0 | 0,97 | 2,7 | 1,4 | 2,0 | 6,2 | 30,0 | 100÷130 | 0,00230 | 11,0 |
| **MC 90 S** | 1,10 | 1,50 | 1390 | 8,7 | 68,3 | 0,86 | 2,9 | 1,5 | 2,3 | 7,7 | 30,0 | 100÷130 | 0,00330 | 13,8 |
| **MC 90 L** | 1,50 | 2,00 | 1380 | 10,7 | 70,9 | 0,90 | 3,0 | 1,3 | 2,2 | 10,6 | 40,0 | 100÷130 | 0,00400 | 14,5 |
| **MC 90 LB** | 1,80 | 2,50 | 1350 | 12,0 | 71,5 | 0,92 | 2,8 | 1,4 | 2,0 | 12,6 | 45,0 | 100÷130 | 0,00500 | 15,8 |
| **MC 100 BL** | 2,20 | 3,00 | 1410 | 15,2 | 75,4 | 0,90 | 3,1 | 1,2 | 2,6 | 15,2 | 50,0 | 100÷130 | 0,00850 | 23,0 |

### 6 P 1000 min$^{-1}$

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $C_{VF}$ [µF] | Sc Capacità di spunto/ *Starting capacity /* Startkapazität [µF] | $J_m$ [Kgm²] | Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MC 63 C** | 0,12 | 0,16 | 900 | 1,4 | 43 | 0,99 | 2,1 | 2,1 | 1,9 | 1,3 | 10 | 63÷80 | 0,00040 | 4,6 |
| **MC 71 B** | 0,18 | 0,25 | 900 | 2,1 | 45 | 0,90 | 2,5 | 2,5 | 2,0 | 2,0 | 14 | 63÷80 | 0,00080 | 6,7 |
| **MC 71 C** | 0,25 | 0,35 | 860 | 2,4 | 50,5 | 0,97 | 2,2 | 1,9 | 2,1 | 2,8 | 16 | 63÷80 | 0,00010 | 7,6 |
| **MC 80 B** | 0,37 | 0,50 | 900 | 3,2 | 57,5 | 0,95 | 2,5 | 1,9 | 2,2 | 4,0 | 14 | 63÷80 | 0,00250 | 9,2 |
| **MC 80 C** | 0,45 | 0,60 | 850 | 3,8 | 55,4 | 0,96 | 2,4 | 1,7 | 2,0 | 5,2 | 16 | 63÷80 | 0,00260 | 11,0 |
| **MC 90 L** | 0,55 | 0,75 | 920 | 5,0 | 59,8 | 0,84 | 2,8 | 2,5 | 2,3 | 5,7 | 25 | 63÷80 | 0,00450 | 14,0 |
| **MC 90 LB** | 0,75 | 1,00 | 890 | 5,9 | 62,8 | 0,92 | 2,5 | 2,0 | 2,3 | 8,1 | 30 | 63÷80 | 0,00500 | 16,0 |
| **MC 100 B** | 1,10 | 1,50 | 930 | 8,3 | 68,6 | 0,91 | 2,8 | 1,8 | 2,4 | 11,6 | 40 | 63÷80 | 0,00900 | 22,0 |
| **MC 100 BL** | 1,50 | 2,00 | 890 | 10,7 | 67,1 | 0,96 | 2,3 | 1,5 | 2,3 | 16,3 | 50 | 63÷80 | 0,00950 | 24,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# AT

**2 P 3000 min$^{-1}$**

Standard:

Size ≤132 V 230/400/50 Hz

Size≥160 V 400/690/50 Hz

**FD** – Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

**FA** – Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor

**FS** – Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

**FP** – Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AT 56 A** | 0,09 | 0,12 | 2730 | 0,4 | 44,4 | 0,75 | 3,0 | 3,1 | 3,9 | 0,32 | 0,00012 | 1 | 4,0 | - | - | - | - | - | - | - |
| **AT 56 B** | 0,13 | 0,18 | 2750 | 0,6 | 52,4 | 0,61 | 3,0 | 4,1 | 4,0 | 0,46 | 0,00015 | 1 | 5,0 | - | - | - | - | - | - | - |
| **AT 63 A** | 0,18 | 0,25 | 2770 | 0,6 | 58,0 | 0,74 | 3,7 | 3,3 | 3,5 | 0,63 | 0,00025 | 4 | 5,0 | 5 | 5,0 | 4,0 | 5,0 | 7,5 | 8100 | 4,3 |
| **AT 63 B** | 0,25 | 0,35 | 2820 | 0,8 | 63,6 | 0,77 | 4,0 | 2,8 | 3,2 | 0,90 | 0,00030 | 4 | 6,0 | 5 | 6,0 | 4,0 | 6,0 | 7,5 | 6750 | 4,9 |
| **AT 63 C** | 0,37 | 0,50 | 2800 | 1,1 | 66,5 | 0,77 | 4,1 | 3,0 | 2,9 | 1,3 | 0,00035 | 4 | 7,0 | 5 | 7,0 | 4,0 | 7,0 | 7,5 | 5400 | 6,2 |
| **AT 71 A** | 0,37 | 0,50 | 2860 | 1,2 | 64,1 | 0,72 | 4,6 | 3,5 | 5,2 | 1,3 | 0,00038 | 4 | 8,0 | 5 | 8,0 | 4,0 | 7,0 | 7,5 | 5400 | 6,4 |
| **AT 71 B** | 0,55 | 0,75 | 2860 | 1,6 | 68,5 | 0,72 | 5,4 | 4,0 | 5,3 | 1,8 | 0,00046 | 4 | 8,0 | 5 | 8,0 | 4,0 | 8,0 | 7,5 | 5400 | 6,8 |
| **AT 71 C** | 0,75 | 1,00 | 2810 | 2,0 | 70,7 | 0,79 | 4,3 | 2,8 | 3,7 | 2,6 | 0,00057 | 4 | 9,0 | 5 | 9,0 | 4,0 | 9,0 | 7,5 | 5500 | 8,0 |
| **AT 80 A** | 0,75 | 1,00 | 2860 | 2,0 | 71,2 | 0,78 | 4,8 | 2,8 | 3,3 | 2,5 | 0,00080 | 8 | 11,0 | 10 | 11,0 | 9,0 | 11,0 | 15,0 | 5400 | 9,6 |
| **AT 80 B** | 1,10 | 1,50 | 2850 | 2,6 | 78,0 | 0,80 | 6,1 | 3,5 | 3,0 | 3,8 | 0,00097 | 8 | 12,0 | 10 | 12,0 | 9,0 | 12,0 | 15,0 | 5400 | 10,9 |
| **AT 80 C** | 1,50 | 2,00 | 2870 | 3,4 | 80,0 | 0,80 | 6,4 | 4,1 | 3,5 | 5,0 | 0,00120 | 8 | 13,0 | 10 | 13,0 | 9,0 | 13,0 | 15,0 | 5100 | 11,6 |
| **AT 80 D** | 1,80 | 2,50 | 2800 | 4,0 | 78,3 | 0,85 | 5,1 | 2,7 | 2,9 | 6,2 | 0,00130 | 8 | 14,0 | 10 | 14,0 | 9,0 | 14,0 | 15,0 | 4900 | 12,6 |
| **AT 90 S** | 1,50 | 2,00 | 2880 | 3,4 | 79,8 | 0,82 | 6,2 | 2,9 | 2,7 | 5,1 | 0,00150 | 16 | 17,0 | 20 | 17,0 | 10,0 | 14,0 | 30,0 | 4000 | 14,0 |
| **AT 90 L** | 2,20 | 3,00 | 2850 | 5,0 | 78,7 | 0,81 | 5,1 | 2,8 | 2,7 | 7,5 | 0,00230 | 16 | 18,0 | 20 | 18,0 | 10,0 | 15,0 | 30,0 | 4000 | 15,5 |
| **AT 90 LB** | 3,00 | 4,00 | 2880 | 7,1 | 77,8 | 0,79 | 5,9 | 3,2 | 2,8 | 10,0 | 0,00280 | 16 | 20,0 | 20 | 20,0 | 10,0 | 18,0 | 30,0 | 3800 | 17,5 |
| **AT 100 A** | 3,00 | 4,00 | 2910 | 6,2 | 83,0 | 0,84 | 7,1 | 3,0 | 2,8 | 9,9 | 0,00530 | 32 | 25,0 | 40 | 27,0 | 12,0 | 22,0 | 60,0 | 2500 | 22,0 |
| **AT 100 B** | 4,00 | 5,50 | 2920 | 8,6 | 83,3 | 0,81 | 7,2 | 2,7 | 3,5 | 13,2 | 0,00850 | 32 | 28,0 | 40 | 30,0 | 12,0 | 25,0 | 60,0 | 2400 | 24,5 |
| **AT 112 A** | 4,00 | 5,50 | 2930 | 8,7 | 84,0 | 0,81 | 6,7 | 3,1 | 3,5 | 13,2 | 0,00900 | 60 | 36,0 | 60 | 36,0 | 13,0 | 31,0 | 60,0 | 1500 | 33,0 |
| **AT 112 B** | 5,50 | 7,50 | 2920 | 12,0 | 79,7 | 0,83 | 5,1 | 3,2 | 2,9 | 18,1 | 0,01200 | 60 | 41,0 | 60 | 41,0 | 13,0 | 36,0 | 60,0 | 1400 | 38,0 |
| **AT 112 BL** | 7,50 | 10,00 | 2930 | 15,8 | 82,9 | 0,83 | 3,7 | 2,6 | 2,6 | 24,5 | 0,01300 | 60 | 43,0 | 60 | 43,0 | 13,0 | 38,0 | 60,0 | 1300 | 40,0 |
| **AT 132 S** | 5,50 | 7,50 | 2930 | 11,9 | 84,0 | 0,82 | 5,4 | 3,4 | 3,2 | 18,0 | 0,01300 | 80 | 58,0 | 90 | 59,0 | 17,0 | 50,0 | 120,0 | 430 | 57,0 |
| **AT 132 SL** | 7,50 | 10,00 | 2920 | 14,6 | 85,5 | 0,88 | 4,7 | 2,4 | 2,5 | 24,5 | 0,02000 | 80 | 61,0 | 90 | 62,0 | 17,0 | 58,0 | 120,0 | 430 | 60,0 |
| **AT 132 M** | 11,00 | 15,00 | 2940 | 21,5 | 87,1 | 0,85 | 4,9 | 2,6 | 2,4 | 36,0 | 0,02800 | 80 | 67,0 | 90 | 68,0 | 17,0 | 59,0 | 120,0 | 400 | 66,0 |
| **AT 132 ML** | 15,00 | 20,00 | 2940 | 28,6 | 88,6 | 0,85 | 3,9 | 2,2 | 2,3 | 48,8 | 0,03000 | 80 | 71,0 | 90 | 72,0 | 17,0 | 63,0 | 120,0 | 400 | 70,0 |
| **AT 160 MA** | 11,00 | 15,00 | 2970 | 22,4 | 87,0 | 0,83 | 5,7 | 3,8 | 3,9 | 35,4 | 0,03200 | 150 | 95,0 | - | - | 30,0 | 82,0 | 240,0 | 300 | 96,0 |
| **AT 160 MB** | 15,00 | 20,00 | 2960 | 28,6 | 88,5 | 0,87 | 4,5 | 2,8 | 2,9 | 48,5 | 0,03600 | 150 | 108,0 | - | - | 30,0 | 95,0 | 240,0 | 300 | 109,0 |
| **AT 160 L** | 18,50 | 25,00 | 2960 | 35,4 | 89,3 | 0,85 | 4,5 | 2,6 | 2,7 | 60,2 | 0,04000 | 150 | 111,0 | - | - | 30,0 | 106,0 | 240,0 | 300 | 120,0 |
| **AT 180 M** | 22,00 | 30,00 | 2940 | 39,0 | 91,0 | 0,90 | 7,1 | 2,3 | 3,0 | 71,5 | 0,07500 | 260 | 119,0 | - | - | - | - | 480,0 | 200 | 131,0 |
| **AT 200 LA** | 30,00 | 40,00 | 2945 | 53,0 | 92,0 | 0,89 | 7,2 | 2,3 | 2,7 | 97,3 | 0,14000 | 400 | 149,0 | - | - | - | - | 480,0 | 100 | 151,0 |
| **AT 200 LB** | 37,00 | 50,00 | 2940 | 65,0 | 92,0 | 0,89 | 7,5 | 2,3 | 2,7 | 120 | 0,16000 | 400 | 169,0 | - | - | - | - | 480,0 | 100 | 171,0 |

| Size 50 e 56 no freni UL/CSA | *Size 50 and 56 no brakes UL/CSA* | Größe 50 e 56 keine Bremsen UL / CSA |
|---|---|---|

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# AT

**A**

**2 P 3600 min$^{-1}$**

Standard:

Size ≤132 V 280/480/60 Hz

Size≥160 V 480/830/60 Hz

| | | | | | | | | | | | | FD Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FA Autofrenante in A.C. *Brake motor In A.C.* Drehstrom-Bremsmotor | | FS Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FP Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (480V 60Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | CF [Nm] | Kg | CF [Nm] | Kg | CF [Nm] | Kg | CF [Nm] | $Z_0$ [1/h] | Kg |
| **AT 56 A** | 0,09 | 0,12 | 3275 | 0,4 | 44,4 | 0,75 | 3,0 | 3,1 | 3,9 | 0,32 | 0,00012 | 1 | 4,0 | - | - | - | - | - | - | - |
| **AT 56 B** | 0,13 | 0,18 | 3300 | 0,6 | 52,4 | 0,61 | 3,0 | 4,1 | 4,0 | 0,46 | 0,00015 | 1 | 5,0 | - | - | - | - | - | - | - |
| **AT 63 A** | 0,18 | 0,25 | 3325 | 0,6 | 58,0 | 0,74 | 3,7 | 3,3 | 3,5 | 0,63 | 0,00025 | 4 | 5,0 | 5 | 5,0 | 4,0 | 5,0 | 7,5 | 8100 | 4,3 |
| **AT 63 B** | 0,25 | 0,35 | 3385 | 0,8 | 63,6 | 0,77 | 4,0 | 2,8 | 3,2 | 0,90 | 0,00030 | 4 | 6,0 | 5 | 6,0 | 4,0 | 6,0 | 7,5 | 6750 | 4,9 |
| **AT 63 C** | 0,37 | 0,50 | 3360 | 1,1 | 66,5 | 0,77 | 4,1 | 3,0 | 2,9 | 1,3 | 0,00035 | 4 | 7,0 | 5 | 7,0 | 4,0 | 7,0 | 7,5 | 5400 | 6,2 |
| **AT 71 A** | 0,37 | 0,50 | 3430 | 1,2 | 64,1 | 0,72 | 4,6 | 3,5 | 5,2 | 1,3 | 0,00038 | 4 | 8,0 | 5 | 8,0 | 4,0 | 7,0 | 7,5 | 5400 | 6,4 |
| **AT 71 B** | 0,55 | 0,75 | 3430 | 1,6 | 68,5 | 0,72 | 5,4 | 4,0 | 5,3 | 1,8 | 0,00046 | 4 | 8,0 | 5 | 8,0 | 4,0 | 8,0 | 7,5 | 5400 | 6,8 |
| **AT 71 C** | 0,75 | 1,00 | 3370 | 2 | 70,7 | 0,79 | 4,3 | 2,8 | 3,7 | 2,6 | 0,00057 | 4 | 9,0 | 5 | 9,0 | 4,0 | 9,0 | 7,5 | 5500 | 8,0 |
| **AT 80 A** | 0,75 | 1,00 | 3430 | 2 | 71,2 | 0,78 | 4,8 | 2,8 | 3,3 | 2,5 | 0,00080 | 8 | 11,0 | 10 | 11,0 | 9,0 | 11,0 | 15,0 | 5400 | 9,6 |
| **AT 80 B** | 1,10 | 1,50 | 3420 | 2,6 | 78,0 | 0,80 | 6,1 | 3,5 | 3,0 | 3,8 | 0,00097 | 8 | 12,0 | 10 | 12,0 | 9,0 | 12,0 | 15,0 | 5400 | 10,9 |
| **AT 80 C** | 1,50 | 2,00 | 3445 | 3,4 | 80,0 | 0,80 | 6,4 | 4,1 | 3,5 | 5,0 | 0,00120 | 8 | 13,0 | 10 | 13,0 | 9,0 | 13,0 | 15,0 | 5100 | 11,6 |
| **AT 80 D** | 1,80 | 2,50 | 3360 | 4 | 78,3 | 0,85 | 5,1 | 2,7 | 2,9 | 6,2 | 0,00130 | 8 | 14,0 | 10 | 14,0 | 9,0 | 14,0 | 15,0 | 4900 | 12,6 |
| **AT 90 S** | 1,50 | 2,00 | 3455 | 3,4 | 79,8 | 0,82 | 6,2 | 2,9 | 2,7 | 5,1 | 0,00150 | 16 | 17,0 | 20 | 17,0 | 10,0 | 14,0 | 30,0 | 4000 | 14,0 |
| **AT 90 L** | 2,20 | 3,00 | 3420 | 5 | 78,7 | 0,81 | 5,1 | 2,8 | 2,7 | 7,5 | 0,00230 | 16 | 18,0 | 20 | 18,0 | 10,0 | 15,0 | 30,0 | 4000 | 15,5 |
| **AT 90 LB** | 3,00 | 4,00 | 3455 | 7,1 | 77,8 | 0,79 | 5,9 | 3,2 | 2,8 | 10,0 | 0,00280 | 16 | 20,0 | 20 | 20,0 | 10,0 | 18,0 | 30,0 | 3800 | 17,5 |
| **AT 100 A** | 3,00 | 4,00 | 3490 | 6,2 | 83,0 | 0,84 | 7,1 | 3,0 | 2,8 | 9,9 | 0,00530 | 32 | 25,0 | 40 | 27,0 | 12,0 | 22,0 | 60,0 | 2500 | 22,0 |
| **AT 100 B** | 4,00 | 5,50 | 3505 | 8,6 | 83,3 | 0,81 | 7,2 | 2,7 | 3,5 | 13,2 | 0,00850 | 32 | 28,0 | 40 | 30,0 | 12,0 | 25,0 | 60,0 | 2400 | 24,5 |
| **AT 112 A** | 4,00 | 5,50 | 3515 | 8,7 | 84,0 | 0,81 | 6,7 | 3,1 | 3,5 | 13,2 | 0,00900 | 60 | 36,0 | 60 | 36,0 | 13,0 | 31,0 | 60,0 | 1500 | 33,0 |
| **AT 112 B** | 5,50 | 7,50 | 3505 | 12 | 79,7 | 0,83 | 5,1 | 3,2 | 2,9 | 18,1 | 0,01200 | 60 | 41,0 | 60 | 41,0 | 13,0 | 36,0 | 60,0 | 1400 | 38,0 |
| **AT 112 BL** | 7,50 | 10,00 | 3515 | 15,8 | 82,9 | 0,83 | 3,7 | 2,6 | 2,6 | 24,5 | 0,01300 | 60 | 43,0 | 60 | 43,0 | 13,0 | 38,0 | 60,0 | 1300 | 40,0 |
| **AT 132 S** | 5,50 | 7,50 | 3515 | 11,9 | 84,0 | 0,82 | 5,4 | 3,4 | 3,2 | 18,0 | 0,01300 | 80 | 58,0 | 90 | 59,0 | 17,0 | 50,0 | 120,0 | 430 | 57,0 |
| **AT 132 SL** | 7,50 | 10,00 | 3505 | 14,6 | 85,5 | 0,88 | 4,7 | 2,4 | 2,5 | 24,5 | 0,02000 | 80 | 61,0 | 90 | 62,0 | 17,0 | 58,0 | 120,0 | 430 | 60,0 |
| **AT 132 M** | 11,00 | 15,00 | 3530 | 21,5 | 87,1 | 0,85 | 4,9 | 2,6 | 2,4 | 36,0 | 0,02800 | 80 | 67,0 | 90 | 68,0 | 17,0 | 59,0 | 120,0 | 400 | 66,0 |
| **AT 132 ML** | 15,00 | 20,00 | 3530 | 28,6 | 88,6 | 0,85 | 3,9 | 2,2 | 2,3 | 48,8 | 0,03000 | 80 | 71,0 | 90 | 72,0 | 17,0 | 63,0 | 120,0 | 400 | 70,0 |
| **AT 160 MA** | 11,00 | 15,00 | 3565 | 22,4 | 87,0 | 0,83 | 5,7 | 3,8 | 3,9 | 35,4 | 0,03200 | 150 | 95,0 | - | - | 30,0 | 82,0 | 240,0 | 300 | 96,0 |
| **AT 160 MB** | 15,00 | 20,00 | 3550 | 28,6 | 88,5 | 0,87 | 4,5 | 2,8 | 2,9 | 48,5 | 0,03600 | 150 | 108,0 | - | - | 30,0 | 95,0 | 240,0 | 300 | 109,0 |
| **AT 160 L** | 18,50 | 25,00 | 3550 | 35,4 | 89,3 | 0,85 | 4,5 | 2,6 | 2,7 | 60,2 | 0,04000 | 150 | 111,0 | - | - | 30,0 | 106,0 | 240,0 | 300 | 120,0 |
| **AT 180 M** | 22,00 | 30,00 | 3530 | 39 | 91,0 | 0,90 | 7,1 | 2,3 | 3,0 | 71,5 | 0,07500 | 260 | 119,0 | - | - | - | - | 480,0 | 200 | 131,0 |
| **AT 200 LA** | 30,00 | 40,00 | 3535 | 53 | 92,0 | 0,89 | 7,2 | 2,3 | 2,7 | 97,3 | 0,14000 | 400 | 149,0 | - | - | - | - | 480,0 | 100 | 151,0 |
| **AT 200 LB** | 37,00 | 50,00 | 3530 | 65 | 92,0 | 0,89 | 7,5 | 2,3 | 2,7 | 120 | 0,16000 | 400 | 169,0 | - | - | - | - | 480,0 | 100 | 171,0 |

| Size 50 e 56 no freni UL/CSA | *Size 50 and 56 no brakes UL/CSA* | Größe 50 e 56 keine Bremsen UL / CSA |
|---|---|---|

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# AT

**4 P 1500 min$^{-1}$**

Standard:

Size ≤132 V 230/400/50 Hz

Size≥160 V 400/690/50 Hz

**FD** — Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

**FA** — Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor

**FS** — Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

**FP** — Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AT 50 B** | 0,06 | 0,08 | 1265 | 0,35 | 36,6 | 0,67 | 1,7 | 1,3 | 1,5 | 0,45 | 0,00010 | 1 | 3,9 | - | - | - | - | - | - | - |
| **AT 56 A** | 0,06 | 0,08 | 1410 | 0,38 | 44,0 | 0,55 | 2,8 | 4,8 | 3,6 | 0,43 | 0,00015 | 1 | 4,0 | - | - | - | - | - | - | - |
| **AT 56 B** | 0,09 | 0,08 | 1346 | 0,4 | 51,9 | 0,66 | 2,6 | 3,2 | 2,4 | 0,65 | 0,00015 | 1 | 5,0 | - | - | - | - | - | - | - |
| **AT 56 C** | 0,11 | 0,15 | 1310 | 0,5 | 48,7 | 0,69 | 2,1 | 2,2 | 2,3 | 0,80 | 0,00020 | 1 | 5,0 | - | - | - | - | - | - | - |
| **AT 63 A** | 0,13 | 0,18 | 1340 | 0,5 | 51,5 | 0,75 | 2,0 | 1,5 | 1,9 | 0,95 | 0,00028 | 4 | 5,0 | 5 | 5,0 | 4 | 5,0 | 7,5 | 10500 | 4,3 |
| **AT 63 B** | 0,18 | 0,25 | 1360 | 0,7 | 54,3 | 0,68 | 2,6 | 2,2 | 2,2 | 1,3 | 0,00040 | 4 | 7,0 | 5 | 7,0 | 4 | 6,0 | 7,5 | 10500 | 4,9 |
| **AT 63 C** | 0,22 | 0,30 | 1360 | 0,8 | 59,2 | 0,69 | 2,5 | 2,3 | 2,0 | 1,6 | 0,00040 | 4 | 7,0 | 5 | 7,0 | 4 | 6,0 | 7,5 | 10500 | 4,9 |
| **AT 63 D** | 0,37 | 0,50 | 1340 | 1,3 | 58,4 | 0,74 | 2,6 | 2,1 | 2,0 | 2,7 | 0,00050 | 4 | 8,0 | 5 | 8,0 | 4 | 7,0 | 7,5 | 10500 | 5,9 |
| **AT 71 A** | 0,25 | 0,35 | 1410 | 0,8 | 60,1 | 0,78 | 3,5 | 1,8 | 2,9 | 1,7 | 0,00050 | 4 | 8,0 | 5 | 8,0 | 4 | 7,0 | 7,5 | 18000 | 6,4 |
| **AT 71 B** | 0,37 | 0,50 | 1370 | 1,0 | 63,8 | 0,84 | 3,4 | 1,7 | 2,3 | 2,6 | 0,00080 | 4 | 8,0 | 5 | 8,0 | 4 | 8,0 | 7,5 | 17000 | 6,8 |
| **AT 71 C** | 0,55 | 0,75 | 1400 | 1,5 | 70,0 | 0,78 | 3,6 | 2,0 | 2,4 | 3,8 | 0,00090 | 4 | 9,0 | 5 | 9,0 | 4 | 9,0 | 7,5 | 16000 | 8,0 |
| **AT 80 A** | 0,55 | 0,75 | 1430 | 1,6 | 64,3 | 0,76 | 4,3 | 2,1 | 2,7 | 3,7 | 0,00140 | 8 | 11,0 | 10 | 11,0 | 9 | 11,0 | 15,0 | 9000 | 9,6 |
| **AT 80 B** | 0,75 | 1,00 | 1430 | 2,0 | 72,0 | 0,75 | 5,0 | 2,7 | 2,7 | 5,1 | 0,00170 | 8 | 13,0 | 10 | 13,0 | 9 | 12,0 | 15,0 | 9000 | 10,9 |
| **AT 80 C** | 0,88 | 1,20 | 1410 | 2,2 | 69,0 | 0,83 | 4,7 | 2,3 | 2,2 | 6,0 | 0,00200 | 8 | 13,5 | 10 | 13,5 | 9 | 13,5 | 15,0 | 9000 | 11,6 |
| **AT 80 D** | 1,10 | 1,50 | 1400 | 2,7 | 72,0 | 0,83 | 4,2 | 2,3 | 2,6 | 7,5 | 0,00230 | 8 | 14,0 | 10 | 14,0 | 9 | 14,0 | 15,0 | 9000 | 12,1 |
| **AT 90 S** | 1,10 | 1,50 | 1430 | 2,8 | 77,6 | 0,75 | 4,6 | 2,3 | 2,6 | 7,5 | 0,00330 | 16 | 17,0 | 20 | 17,0 | 10 | 15,0 | 30,0 | 13500 | 14,0 |
| **AT 90 L** | 1,50 | 2,00 | 1430 | 3,7 | 78,6 | 0,77 | 4,8 | 2,1 | 2,9 | 10,2 | 0,00400 | 16 | 18,0 | 20 | 18,0 | 10 | 16,0 | 30,0 | 11000 | 15,5 |
| **AT 90 LB** | 1,80 | 2,50 | 1430 | 4,6 | 78,3 | 0,75 | 4,6 | 2,4 | 2,8 | 12,5 | 0,00500 | 16 | 20,0 | 20 | 20,0 | 10 | 18,0 | 30,0 | 8000 | 17,5 |
| **AT 100 A** | 2,20 | 3,00 | 1430 | 4,8 | 82,0 | 0,81 | 5,3 | 2,1 | 2,8 | 14,8 | 0,00750 | 32 | 25,5 | 40 | 27,5 | 12 | 22,5 | 60,0 | 7200 | 22,5 |
| **AT 100 B** | 3,00 | 4,00 | 1430 | 6,4 | 82,9 | 0,83 | 5,6 | 2,4 | 2,8 | 20,2 | 0,00850 | 32 | 28,0 | 40 | 30,0 | 12 | 25,0 | 60,0 | 6300 | 24,5 |
| **AT 100 BL** | 4,00 | 5,50 | 1430 | 8,5 | 84,3 | 0,81 | 5,4 | 2,3 | 2,5 | 26,9 | 0,00110 | 32 | 30,0 | 40 | 32,0 | 12 | 27,0 | 60,0 | 6000 | 26,5 |
| **AT 112 A** | 4,00 | 5,50 | 1440 | 8,2 | 84,4 | 0,84 | 5,6 | 2,0 | 2,4 | 26,8 | 0,01300 | 60 | 38,0 | 60 | 38,0 | 13 | 33,0 | 60,0 | 3600 | 35,0 |
| **AT 112 BL** | 5,50 | 7,50 | 1440 | 11,0 | 88,1 | 0,82 | 6,0 | 2,2 | 2,4 | 36,5 | 0,01600 | 60 | 44,0 | 60 | 44,0 | 13 | 39,0 | 60,0 | 3400 | 41,0 |
| **AT 132 S** | 5,50 | 7,50 | 1460 | 11,3 | 86,4 | 0,82 | 5,8 | 2,3 | 2,2 | 36,4 | 0,02400 | 80 | 56,0 | 90 | 57,0 | 17 | 48,0 | 120,0 | 1100 | 55,0 |
| **AT 132 M** | 7,50 | 10,00 | 1460 | 14,9 | 87,9 | 0,83 | 5,5 | 2,3 | 2,1 | 49,5 | 0,03300 | 80 | 66,0 | 90 | 67,0 | 17 | 57,0 | 120,0 | 850 | 64,0 |
| **AT 132 ML** | 9,20 | 12,50 | 1460 | 18,0 | 89,1 | 0,82 | 4,2 | 2,4 | 2,1 | 60,4 | 0,03400 | 80 | 68,0 | 90 | 69,0 | 17 | 59,0 | 120,0 | 800 | 66,0 |
| **AT 160 M** | 11,00 | 15,00 | 1470 | 25,0 | 87,0 | 0,77 | 4,1 | 2,3 | 2,2 | 74,3 | 0,06200 | 150 | 109,0 | 200 | 105,0 | 30 | 97,0 | 240,0 | 750 | 111,0 |
| **AT 160 L** | 15,00 | 20,00 | 1480 | 32,5 | 88,0 | 0,78 | 5,0 | 2,3 | 2,2 | 98,3 | 0,07400 | 150 | 112,0 | 200 | 115,0 | 30 | 107,0 | 240,0 | 750 | 121,0 |
| **AT 180 M** | 18,50 | 25,00 | 1470 | 36,6 | 89,5 | 0,82 | 5,2 | 2,2 | 2,3 | 121 | 0,13000 | 260 | 129,0 | 400 | 140,0 | - | - | 480,0 | 200 | 141,0 |
| **AT 180 L** | 22,00 | 30,00 | 1480 | 44,3 | 91,5 | 0,79 | 5,3 | 1,9 | 2,1 | 143 | 0,15000 | 260 | 154,0 | 400 | 155,0 | - | - | 480,0 | 200 | 156,0 |
| **AT 200 L** | 30,00 | 40,00 | 1460 | 56,0 | 91,4 | 0,85 | 7,2 | 2,1 | 2,5 | 196 | 0,24000 | 400 | 174,0 | 400 | 175,0 | - | - | 480,0 | 100 | 176,0 |

| Size 50 e 56 no freni UL/CSA | *Size 50 and 56 no brakes UL/CSA* | Größe 50 e 56 keine Bremsen UL / CSA |
|---|---|---|

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# AT

A

**4 P 1800 $min^{-1}$**

Standard:

Size ≤132 V 280/480/60 Hz

Size≥160 V 480/830/60 Hz

| Tipo *Type* Typ | Pn | | $n_n$ | In (480V 60Hz) | η | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn | $J_m$ | FD Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FA Autofrenante in A.C. *Brake motor In A.C.* Drehstrom-Bremsmotor | | FS Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FP Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [kW] | [HP] | [$min^{-1}$] | [A] | % | | | | | [Nm] | [$Kgm^2$] | CF [Nm] | Kg | CF [Nm] | Kg | CF [Nm] | Kg | CF [Nm] | $Z_0$ [1/h] | Kg |
| **AT 50 B** | 0,06 | 0,08 | 1518 | 0,4 | 35,6 | 0,64 | 1,5 | 1,4 | 1,5 | 0,47 | 0,00010 | 1 | 3,9 | - | - | - | - | - | - | - |
| **AT 56 A** | 0,06 | 0,08 | 1690 | 0,38 | 44,0 | 0,55 | 2,8 | 4,8 | 3,6 | 0,43 | 0,00015 | 1 | 4,0 | - | - | - | - | - | - | - |
| **AT 56 B** | 0,09 | 0,08 | 1615 | 0,4 | 51,9 | 0,66 | 2,6 | 3,2 | 2,4 | 0,65 | 0,00015 | 1 | 5,0 | - | - | - | - | - | - | - |
| **AT 56 C** | 0,11 | 0,15 | 1570 | 0,5 | 48,7 | 0,69 | 2,1 | 2,2 | 2,3 | 0,80 | 0,00020 | 1 | 5,0 | - | - | - | - | - | - | - |
| **AT 63 A** | 0,13 | 0,18 | 1610 | 0,5 | 51,5 | 0,75 | 2,0 | 1,5 | 1,9 | 0,95 | 0,00028 | 4 | 5,0 | 5 | 5,0 | 4 | 5,0 | 7,5 | 10500 | 4,3 |
| **AT 63 B** | 0,18 | 0,25 | 1630 | 0,7 | 54,3 | 0,68 | 2,6 | 2,2 | 2,2 | 1,3 | 0,00040 | 4 | 7,0 | 5 | 7,0 | 4 | 6,0 | 7,5 | 10500 | 4,9 |
| **AT 63 C** | 0,22 | 0,30 | 1630 | 0,8 | 59,2 | 0,69 | 2,5 | 2,3 | 2,0 | 1,6 | 0,00040 | 4 | 7,0 | 5 | 7,0 | 4 | 6,0 | 7,5 | 10500 | 4,9 |
| **AT 63 D** | 0,37 | 0,50 | 1610 | 1,3 | 58,4 | 0,74 | 2,6 | 2,1 | 2,0 | 2,7 | 0,00050 | 4 | 8,0 | 5 | 8,0 | 4 | 7,0 | 7,5 | 10500 | 5,9 |
| **AT 71 A** | 0,25 | 0,35 | 1690 | 0,8 | 60,1 | 0,78 | 3,5 | 1,8 | 2,9 | 1,7 | 0,00050 | 4 | 8,0 | 5 | 8,0 | 4 | 7,0 | 7,5 | 18000 | 6,4 |
| **AT 71 B** | 0,37 | 0,50 | 1645 | 1 | 63,8 | 0,84 | 3,4 | 1,7 | 2,3 | 2,6 | 0,00080 | 4 | 8,0 | 5 | 8,0 | 4 | 8,0 | 7,5 | 17000 | 6,8 |
| **AT 71 C** | 0,55 | 0,75 | 1680 | 1,5 | 70,0 | 0,78 | 3,6 | 2,0 | 2,4 | 3,8 | 0,00090 | 4 | 9,0 | 5 | 9,0 | 4 | 9,0 | 7,5 | 16000 | 8,0 |
| **AT 80 A** | 0,55 | 0,75 | 1715 | 1,6 | 64,3 | 0,76 | 4,3 | 2,1 | 2,7 | 3,7 | 0,00140 | 8 | 11,0 | 10 | 11,0 | 9 | 11,0 | 15,0 | 9000 | 9,6 |
| **AT 80 B** | 0,75 | 1,00 | 1715 | 2 | 72,0 | 0,75 | 5,0 | 2,7 | 2,7 | 5,1 | 0,00170 | 8 | 13,0 | 10 | 13,0 | 9 | 12,0 | 15,0 | 9000 | 10,9 |
| **AT 80 C** | 0,88 | 1,20 | 1690 | 2,2 | 69,0 | 0,83 | 4,7 | 2,3 | 2,2 | 6,0 | 0,00200 | 8 | 13,5 | 10 | 13,5 | 9 | 13,5 | 15,0 | 9000 | 11,6 |
| **AT 80 D** | 1,10 | 1,50 | 1680 | 2,7 | 72,0 | 0,83 | 4,2 | 2,3 | 2,6 | 7,5 | 0,00230 | 8 | 14,0 | 10 | 14,0 | 9 | 14,0 | 15,0 | 9000 | 12,1 |
| **AT 90 S** | 1,10 | 1,50 | 1715 | 2,8 | 77,6 | 0,75 | 4,6 | 2,3 | 2,6 | 7,5 | 0,00330 | 16 | 17,0 | 20 | 17,0 | 10 | 15,0 | 30,0 | 13500 | 14,0 |
| **AT 90 L** | 1,50 | 2,00 | 1715 | 3,7 | 78,6 | 0,77 | 4,8 | 2,1 | 2,9 | 10,2 | 0,00400 | 16 | 18,0 | 20 | 18,0 | 10 | 16,0 | 30,0 | 11000 | 15,5 |
| **AT 90 LB** | 1,80 | 2,50 | 1715 | 4,6 | 78,3 | 0,75 | 4,6 | 2,4 | 2,8 | 12,5 | 0,00500 | 16 | 20,0 | 20 | 20,0 | 10 | 18,0 | 30,0 | 8000 | 17,5 |
| **AT 100 A** | 2,20 | 3,00 | 1715 | 4,8 | 82,0 | 0,81 | 5,3 | 2,1 | 2,8 | 14,8 | 0,00750 | 32 | 25,5 | 40 | 27,5 | 12 | 22,5 | 60,0 | 7200 | 22,5 |
| **AT 100 B** | 3,00 | 4,00 | 1715 | 6,4 | 82,9 | 0,83 | 5,6 | 2,4 | 2,8 | 20,2 | 0,00850 | 32 | 28,0 | 40 | 30,0 | 12 | 25,0 | 60,0 | 6300 | 24,5 |
| **AT 100 BL** | 4,00 | 5,50 | 1715 | 8,5 | 84,3 | 0,81 | 5,4 | 2,3 | 2,5 | 26,9 | 0,00110 | 32 | 30,0 | 40 | 32,0 | 12 | 27,0 | 60,0 | 6000 | 26,5 |
| **AT 112 A** | 4,00 | 5,50 | 1730 | 8,2 | 84,4 | 0,84 | 5,6 | 2,0 | 2,4 | 26,8 | 0,01300 | 60 | 38,0 | 60 | 38,0 | 13 | 33,0 | 60,0 | 3600 | 35,0 |
| **AT 112 BL** | 5,50 | 7,50 | 1730 | 11 | 88,1 | 0,82 | 6,0 | 2,2 | 2,4 | 36,5 | 0,01600 | 60 | 44,0 | 60 | 44,0 | 13 | 39,0 | 60,0 | 3400 | 41,0 |
| **AT 132 S** | 5,50 | 7,50 | 1750 | 11,3 | 86,4 | 0,82 | 5,8 | 2,3 | 2,2 | 36,4 | 0,02400 | 80 | 56,0 | 90 | 57,0 | 17 | 48,0 | 120,0 | 1100 | 55,0 |
| **AT 132 M** | 7,50 | 10,00 | 1750 | 14,9 | 87,9 | 0,83 | 5,5 | 2,3 | 2,1 | 49,5 | 0,03300 | 80 | 66,0 | 90 | 67,0 | 17 | 57,0 | 120,0 | 850 | 64,0 |
| **AT 132 ML** | 9,20 | 12,50 | 1750 | 18 | 89,1 | 0,82 | 4,2 | 2,4 | 2,1 | 60,4 | 0,03400 | 80 | 68,0 | 90 | 69,0 | 17 | 59,0 | 120,0 | 800 | 66,0 |
| **AT 160 M** | 11,00 | 15,00 | 1765 | 25 | 87,0 | 0,77 | 4,1 | 2,3 | 2,2 | 74,3 | 0,06200 | 150 | 109,0 | 200 | 105,0 | 30 | 97,0 | 240,0 | 750 | 111,0 |
| **AT 160 L** | 15,00 | 20,00 | 1775 | 32,5 | 88,0 | 0,78 | 5,0 | 2,3 | 2,2 | 98,3 | 0,07400 | 150 | 112,0 | 200 | 115,0 | 30 | 107,0 | 240,0 | 750 | 121,0 |
| **AT 180 M** | 18,50 | 25,00 | 1765 | 36,6 | 89,5 | 0,82 | 5,2 | 2,2 | 2,3 | 121 | 0,13000 | 260 | 129,0 | 400 | 140,0 | - | - | 480,0 | 200 | 141,0 |
| **AT 180 L** | 22,00 | 30,00 | 1775 | 44,3 | 91,5 | 0,79 | 5,3 | 1,9 | 2,1 | 143 | 0,15000 | 260 | 154,0 | 400 | 155,0 | - | - | 480,0 | 200 | 156,0 |
| **AT 200 L** | 30,00 | 40,00 | 1750 | 56 | 91,4 | 0,85 | 7,2 | 2,1 | 2,5 | 196 | 0,24000 | 400 | 174,0 | 400 | 175,0 | - | - | 480,0 | 100 | 176,0 |

| Size 50 e 56 no freni UL/CSA | *Size 50 and 56 no brakes UL/CSA* | Größe 50 e 56 keine Bremsen UL / CSA |
|---|---|---|

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# AT

**6 P 1000 min$^{-1}$**

Standard:

Size ≤132 V 230/400/50 Hz

Size≥160 V 400/690/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD – Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor: CF [Nm] | FD: Kg | FA – Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor: CF [Nm] | FA: Kg | FS – Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor: CF [Nm] | FS: Kg | FP – Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor: CF [Nm] | FP: $Z_0$ [1/h] | FP: Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AT 56 B | 0,03 | 0,05 | 900 | 0,3 | 26,1 | 0,64 | 1,3 | 2,1 | 2,2 | 0,35 | 0,0002 | 1 | 4,0 | - | - | - | - | - | - | - |
| AT 56 C | 0,06 | 0,08 | 860 | 0,44 | 31,8 | 0,61 | 1,4 | 2,1 | 2,2 | 0,65 | 0,0002 | 1 | 5,0 | - | - | - | - | - | - | - |
| AT 63 B | 0,09 | 0,12 | 860 | 0,5 | 39,7 | 0,65 | 1,6 | 1,6 | 1,7 | 1,0 | 0,0003 | 4 | 5,0 | 5 | 5,0 | 4 | 5,0 | 7,5 | 18000 | 4,4 |
| AT 63 C | 0,13 | 0,18 | 880 | 0,7 | 45,8 | 0,57 | 2,0 | 2,2 | 2,3 | 1,4 | 0,0004 | 4 | 6,0 | 5 | 6,0 | 4 | 6,0 | 7,5 | 18000 | 4,6 |
| AT 71 A | 0,18 | 0,25 | 930 | 0,7 | 56,0 | 0,70 | 3,0 | 2,1 | 2,2 | 1,9 | 0,0006 | 4 | 7,0 | 5 | 7,0 | 4 | 7,0 | 7,5 | 25000 | 6,3 |
| AT 71 B | 0,25 | 0,35 | 880 | 0,8 | 55,3 | 0,81 | 2,5 | 1,5 | 1,6 | 2,7 | 0,0008 | 4 | 8,0 | 5 | 8,0 | 4 | 8,0 | 7,5 | 25000 | 6,6 |
| AT 71 C | 0,37 | 0,50 | 910 | 1,3 | 58,2 | 0,75 | 2,5 | 1,7 | 1,8 | 3,9 | 0,0010 | 4 | 8,0 | 5 | 8,0 | 4 | 8,0 | 7,5 | 24000 | 7,1 |
| AT 80 A | 0,37 | 0,50 | 940 | 1,2 | 61,5 | 0,71 | 3,6 | 2,1 | 2,3 | 3,8 | 0,0020 | 8 | 11,0 | 10 | 11,0 | 9 | 11,0 | 15,0 | 16000 | 9,8 |
| AT 80 B | 0,55 | 0,75 | 930 | 1,6 | 66,0 | 0,75 | 3,5 | 1,9 | 2,1 | 5,7 | 0,0025 | 8 | 13,0 | 10 | 13,0 | 9 | 13,0 | 15,0 | 16000 | 11,6 |
| AT 80 C | 0,75 | 1,00 | 920 | 2,2 | 66,4 | 0,75 | 3,4 | 1,9 | 2,1 | 7,9 | 0,0026 | 8 | 14,0 | 10 | 14,0 | 9 | 14,0 | 15,0 | 15000 | 12,1 |
| AT 90 S | 0,75 | 1,00 | 930 | 2,3 | 65,7 | 0,72 | 3,5 | 1,9 | 2,3 | 7,8 | 0,0035 | 16 | 17,0 | 20 | 17,0 | 10 | 15,0 | 30,0 | 15000 | 14,0 |
| AT 90 L | 1,10 | 1,50 | 920 | 3,0 | 68,8 | 0,79 | 3,4 | 1,7 | 2,1 | 11,6 | 0,0045 | 16 | 18,0 | 20 | 18,0 | 10 | 17,0 | 30,0 | 13500 | 16,0 |
| AT 90 LB | 1,50 | 2,00 | 940 | 4,5 | 70,0 | 0,68 | 4,0 | 2,2 | 2,3 | 15,2 | 0,0050 | 16 | 19,5 | 20 | 19,5 | 10 | 18,5 | 30,0 | 13000 | 18,0 |
| AT 100A | 1,50 | 2,00 | 940 | 3,9 | 74,3 | 0,76 | 4,3 | 2,0 | 2,4 | 15,5 | 0,0090 | 32 | 26,0 | 40 | 28,0 | 12 | 23,0 | 60,0 | 10000 | 23,0 |
| AT 100 B | 1,85 | 2,50 | 940 | 4,7 | 75,5 | 0,76 | 4,6 | 2,2 | 2,5 | 18,7 | 0,0100 | 32 | 28,0 | 40 | 30,0 | 12 | 25,0 | 60,0 | 7500 | 24,5 |
| AT 100 BL | 2,20 | 3,00 | 940 | 5,5 | 75,9 | 0,76 | 4,5 | 2,1 | 2,4 | 22,4 | 0,0110 | 32 | 30,0 | 40 | 32,0 | 12 | 27,0 | 60,0 | 7000 | 26,5 |
| AT 112 A | 2,20 | 3,00 | 960 | 5,2 | 81,2 | 0,76 | 5,4 | 1,8 | 2,4 | 22,0 | 0,0150 | 60 | 39,0 | 60 | 39,0 | 13 | 40,0 | 60,0 | 6000 | 36,0 |
| AT 112 B | 3,00 | 4,00 | 960 | 6,8 | 81,9 | 0,79 | 5,4 | 1,6 | 2,3 | 30,1 | 0,0180 | 60 | 46,0 | 60 | 46,0 | 13 | 41,0 | 60,0 | 5500 | 43,0 |
| AT 132 S | 3,00 | 4,00 | 970 | 6,9 | 82,3 | 0,78 | 5,2 | 1,5 | 2,3 | 30,0 | 0,0300 | 80 | 56,0 | 90 | 57,0 | 17 | 48,0 | 120,0 | 1600 | 55,0 |
| AT 132 M | 4,00 | 5,50 | 970 | 9,4 | 84,8 | 0,73 | 5,8 | 1,8 | 2,5 | 39,6 | 0,0400 | 80 | 65,0 | 90 | 66,0 | 17 | 57,0 | 120,0 | 1350 | 64,0 |
| AT 132 ML | 5,50 | 7,50 | 970 | 12,2 | 85,0 | 0,77 | 5,0 | 1,6 | 2,2 | 54,4 | 0,0420 | 80 | 68,0 | 90 | 69,0 | 17 | 60,0 | 120,0 | 1100 | 67,0 |
| AT 160 M | 7,50 | 10,00 | 960 | 15,0 | 85,0 | 0,85 | 5,2 | 2,1 | 2,2 | 74,6 | 0,0880 | 150 | 89,0 | 200 | 85,0 | 30 | 77,0 | 240,0 | 1000 | 91,0 |
| AT 160 L | 11,00 | 15,00 | 960 | 21,9 | 87,9 | 0,85 | 4,7 | 1,6 | 1,8 | 112 | 0,1060 | 150 | 102,0 | 200 | 105,0 | 30 | 97,0 | 240,0 | 850 | 111,0 |
| AT 180 L | 15,00 | 20,00 | 970 | 30,0 | 88,0 | 0,82 | 5,4 | 2,0 | 2,3 | 148 | 0,1500 | 260 | 144,0 | 400 | 144,0 | - | - | 480,0 | 650 | 146,0 |
| AT 200 LA | 18,50 | 25,00 | 975 | 36,0 | 88,0 | 0,84 | 5,6 | 2,3 | 2,5 | 181 | 0,2400 | 400 | 159,0 | 400 | 159,0 | - | - | 480,0 | 450 | 161,0 |
| AT 200 LB | 22,00 | 30,00 | 975 | 43,0 | 89,0 | 0,83 | 5,6 | 2,2 | 2,4 | 216 | 0,2800 | 400 | 179,0 | 400 | 179,0 | - | - | 480,0 | 450 | 181,0 |

| Size 50 e 56 no freni UL/CSA | *Size 50 and 56 no brakes UL/CSA* | Größe 50 e 56 keine Bremsen UL / CSA |
|---|---|---|

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DRESTROM

# AT

A

**6 P** 1200 $min^{-1}$

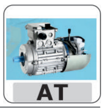
Standard:

Size ≤132 V 280/480/60 Hz

Size≥160 V 480/830/60 Hz

| | | | | | | | | | | | | FD | | FA | | FS | | FP | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Autofrenante in D.C.<br>*Brake motor In D.C.*<br>Gleichstrom-Bremsmotor | | Autofrenante in A.C.<br>*Brake motor In A.C.*<br>Drehstrom-Bremsmotor | | Autofrenante in D.C.<br>*Brake motor In D.C.*<br>Gleichstrom-Bremsmotor | | Autofrenante in D.C.<br>*Brake motor In D.C.*<br>Gleichstrom-Bremsmotor | | |
| Tipo<br>*Type*<br>Typ | Pn<br>[kW] | <br>[HP] | $n_n$<br>[$min^{-1}$] | In (480V 60Hz)<br>[A] | η<br>% | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn<br>[Nm] | $J_m$<br>[$Kgm^2$] | CF<br>[Nm] | Kg | CF<br>[Nm] | Kg | CF<br>[Nm] | Kg | CF<br>[Nm] | $Z_0$<br>[1/h] | Kg |
| **AT 56 B** | 0,03 | 0,05 | 1080 | 0,3 | 26,1 | 0,64 | 1,3 | 2,1 | 2,2 | 0,35 | 0,0002 | 1 | 4,0 | - | - | - | - | - | - | - |
| **AT 56 C** | 0,06 | 0,08 | 1030 | 0,44 | 31,8 | 0,61 | 1,4 | 2,1 | 2,2 | 0,65 | 0,0002 | 1 | 5,0 | - | - | - | - | - | - | - |
| **AT 63 B** | 0,09 | 0,12 | 1030 | 0,5 | 39,7 | 0,65 | 1,6 | 1,6 | 1,7 | 1,0 | 0,0003 | 4 | 5,0 | 5 | 5,0 | 4 | 5,0 | 7,5 | 18000 | 4,4 |
| **AT 63 C** | 0,13 | 0,18 | 1055 | 0,7 | 45,8 | 0,57 | 2,0 | 2,2 | 2,3 | 1,4 | 0,0004 | 4 | 6,0 | 5 | 6,0 | 4 | 6,0 | 7,5 | 18000 | 4,6 |
| **AT 71 A** | 0,18 | 0,25 | 1115 | 0,7 | 56,0 | 0,70 | 3,0 | 2,1 | 2,2 | 1,9 | 0,0006 | 4 | 7,0 | 5 | 7,0 | 4 | 7,0 | 7,5 | 25000 | 6,3 |
| **AT 71 B** | 0,25 | 0,35 | 1055 | 0,8 | 55,3 | 0,81 | 2,5 | 1,5 | 1,6 | 2,7 | 0,0008 | 4 | 8,0 | 5 | 8,0 | 4 | 8,0 | 7,5 | 25000 | 6,6 |
| **AT 71 C** | 0,37 | 0,50 | 1090 | 1,3 | 58,2 | 0,75 | 2,5 | 1,7 | 1,8 | 3,9 | 0,0010 | 4 | 8,0 | 5 | 8,0 | 4 | 8,0 | 7,5 | 24000 | 7,1 |
| **AT 80 A** | 0,37 | 0,50 | 1130 | 1,2 | 61,5 | 0,71 | 3,6 | 2,1 | 2,3 | 3,8 | 0,0020 | 8 | 11,0 | 10 | 11,0 | 9 | 11,0 | 15,0 | 16000 | 9,8 |
| **AT 80 B** | 0,55 | 0,75 | 1115 | 1,6 | 66,0 | 0,75 | 3,5 | 1,9 | 2,1 | 5,7 | 0,0025 | 8 | 13,0 | 10 | 13,0 | 9 | 13,0 | 15,0 | 16000 | 11,6 |
| **AT 80 C** | 0,75 | 1,00 | 1105 | 2,2 | 66,4 | 0,75 | 3,4 | 1,9 | 2,1 | 7,9 | 0,0026 | 8 | 14,0 | 10 | 14,0 | 9 | 14,0 | 15,0 | 15000 | 12,1 |
| **AT 90 S** | 0,75 | 1,00 | 1115 | 2,3 | 65,7 | 0,72 | 3,5 | 1,9 | 2,3 | 7,8 | 0,0035 | 16 | 17,0 | 20 | 17,0 | 10 | 15,0 | 30,0 | 15000 | 14,0 |
| **AT 90 L** | 1,10 | 1,50 | 1105 | 3 | 68,8 | 0,79 | 3,4 | 1,7 | 2,1 | 11,6 | 0,0045 | 16 | 18,0 | 20 | 18,0 | 10 | 17,0 | 30,0 | 13500 | 16,0 |
| **AT 90 LB** | 1,50 | 2,00 | 1130 | 4,5 | 70,0 | 0,68 | 4,0 | 2,2 | 2,3 | 15,2 | 0,0050 | 16 | 19,5 | 20 | 19,5 | 10 | 18,5 | 30,0 | 13000 | 18,0 |
| **AT 100 A** | 1,50 | 2,00 | 1130 | 3,9 | 74,3 | 0,76 | 4,3 | 2,0 | 2,4 | 15,5 | 0,0090 | 32 | 26,0 | 40 | 28,0 | 12 | 23,0 | 60,0 | 10000 | 23,0 |
| **AT 100 B** | 1,85 | 2,50 | 1130 | 4,7 | 75,5 | 0,76 | 4,6 | 2,2 | 2,5 | 18,7 | 0,0100 | 32 | 28,0 | 40 | 30,0 | 12 | 25,0 | 60,0 | 7500 | 24,5 |
| **AT 100 BL** | 2,20 | 3,00 | 1130 | 5,5 | 75,9 | 0,76 | 4,5 | 2,1 | 2,4 | 22,4 | 0,0110 | 32 | 30,0 | 40 | 32,0 | 12 | 27,0 | 60,0 | 7000 | 26,5 |
| **AT 112 A** | 2,20 | 3,00 | 1150 | 5,2 | 81,2 | 0,76 | 5,4 | 1,8 | 2,4 | 22,0 | 0,0150 | 60 | 39,0 | 60 | 39,0 | 13 | 40,0 | 60,0 | 6000 | 36,0 |
| **AT 112 B** | 3,00 | 4,00 | 1150 | 6,8 | 81,9 | 0,79 | 5,4 | 1,6 | 2,3 | 30,1 | 0,0180 | 60 | 46,0 | 60 | 46,0 | 13 | 41,0 | 60,0 | 5500 | 43,0 |
| **AT 132 S** | 3,00 | 4,00 | 1165 | 6,9 | 82,3 | 0,78 | 5,2 | 1,5 | 2,3 | 30,0 | 0,0300 | 80 | 56,0 | 90 | 57,0 | 17 | 48,0 | 120,0 | 1600 | 55,0 |
| **AT 132 M** | 4,00 | 5,50 | 1165 | 9,4 | 84,8 | 0,73 | 5,8 | 1,8 | 2,5 | 39,6 | 0,0400 | 80 | 65,0 | 90 | 66,0 | 17 | 57,0 | 120,0 | 1350 | 64,0 |
| **AT 132 ML** | 5,50 | 7,50 | 1165 | 12,2 | 85,0 | 0,77 | 5,0 | 1,6 | 2,2 | 54,4 | 0,0420 | 80 | 68,0 | 90 | 69,0 | 17 | 60,0 | 120,0 | 1100 | 67,0 |
| **AT 160 M** | 7,50 | 10,00 | 1150 | 15 | 85,0 | 0,85 | 5,2 | 2,1 | 2,2 | 74,6 | 0,0880 | 150 | 89,0 | 200 | 85,0 | 30 | 77,0 | 240,0 | 1000 | 91,0 |
| **AT 160 L** | 11,00 | 15,00 | 1150 | 21,9 | 87,9 | 0,85 | 4,7 | 1,6 | 1,8 | 112 | 0,1060 | 150 | 102,0 | 200 | 105,0 | 30 | 97,0 | 240,0 | 850 | 111,0 |
| **AT 180 L** | 15,00 | 20,00 | 1165 | 30 | 88,0 | 0,82 | 5,4 | 2,0 | 2,3 | 148 | 0,1500 | 260 | 144,0 | 400 | 144,0 | - | - | 480,0 | 650 | 146,0 |
| **AT 200 LA** | 18,50 | 25,00 | 1170 | 36 | 88,0 | 0,84 | 5,6 | 2,3 | 2,5 | 181 | 0,2400 | 400 | 159,0 | 400 | 159,0 | - | - | 480,0 | 450 | 161,0 |
| **AT 200 LB** | 22,00 | 30,00 | 1170 | 43 | 89,0 | 0,83 | 5,6 | 2,2 | 2,4 | 216 | 0,2800 | 400 | 179,0 | 400 | 179,0 | - | - | 480,0 | 450 | 181,0 |

| Size 50 e 56 no freni UL/CSA | *Size 50 and 56 no brakes UL/CSA* | Größe 50 e 56 keine Bremsen UL / CSA |
|---|---|---|




## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# AT

**8 P 750 min$^{-1}$**

Standard:

Size ≤132 V 230/400/50 Hz

Size≥160 V 400/690/50 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

FA: Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor

FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AT 56 B** | 0,03 | 0,05 | 670 | 0,46 | 19,0 | 0,51 | 1,3 | 3,1 | 2,7 | 0,45 | 0,0001 | 1 | 5,0 | - | - | - | - | - | - | - |
| **AT 63 B** | 0,05 | 0,07 | 680 | 0,55 | 30,4 | 0,45 | 1,4 | 3,1 | 3,0 | 0,70 | 0,0003 | 4 | 6,0 | 5 | 6,0 | 4 | 5,0 | 7,5 | 22500 | 4,5 |
| **AT 63 C** | 0,07 | 0,10 | 680 | 0,70 | 29,4 | 0,51 | 1,6 | 3,0 | 3,1 | 1,0 | 0,0006 | 4 | 6,0 | 5 | 6,0 | 4 | 6,0 | 7,5 | 22500 | 4,9 |
| **AT 71 B** | 0,09 | 0,12 | 710 | 0,80 | 38,3 | 0,43 | 2,5 | 4,1 | 4,2 | 1,3 | 0,0008 | 4 | 7,0 | 5 | 7,0 | 4 | 7,0 | 7,5 | 27000 | 6,3 |
| **AT 71 C** | 0,12 | 0,17 | 700 | 0,80 | 44,0 | 0,49 | 2,5 | 3,0 | 3,2 | 1,7 | 0,0010 | 4 | 8,0 | 5 | 8,0 | 4 | 8,0 | 7,5 | 27000 | 7,0 |
| **AT 80 A** | 0,18 | 0,25 | 710 | 1,0 | 48,5 | 0,56 | 2,7 | 2,4 | 2,6 | 2,5 | 0,0020 | 8 | 11,0 | 10 | 11,0 | 9 | 10,0 | 15,0 | 27000 | 9,9 |
| **AT 80 B** | 0,25 | 0,35 | 700 | 1,1 | 55,0 | 0,62 | 2,9 | 1,9 | 2,5 | 3,5 | 0,0025 | 8 | 13,0 | 10 | 13,0 | 9 | 13,0 | 15,0 | 27000 | 11,6 |
| **AT 80 C** | 0,37 | 0,50 | 690 | 1,5 | 55,0 | 0,66 | 2,5 | 1,6 | 1,9 | 5,2 | 0,0028 | 8 | 14,0 | 10 | 14,0 | 9 | 14,0 | 15,0 | 25500 | 12,1 |
| **AT 90 S** | 0,37 | 0,50 | 700 | 1,5 | 58,4 | 0,60 | 2,9 | 2,0 | 2,3 | 5,1 | 0,0035 | 16 | 17,0 | 20 | 17,0 | 10 | 15,0 | 30,0 | 18000 | 14,0 |
| **AT 90 L** | 0,55 | 0,75 | 700 | 2,1 | 61,1 | 0,62 | 3,1 | 2,0 | 2,4 | 7,6 | 0,0045 | 16 | 18,0 | 20 | 18,0 | 10 | 17,0 | 30,0 | 15000 | 16,0 |
| **AT 90 LB** | 0,75 | 1,00 | 700 | 2,9 | 61,1 | 0,61 | 3,2 | 2,2 | 2,4 | 10,3 | 0,0055 | 16 | 20,0 | 20 | 20,0 | 10 | 19,0 | 30,0 | 14500 | 18,0 |
| **AT 100 A** | 0,75 | 1,00 | 710 | 2,4 | 69,2 | 0,66 | 3,4 | 1,9 | 2,0 | 10,2 | 0,0090 | 32 | 26,0 | 40 | 28,0 | 12 | 24,0 | 60,0 | 12500 | 23,3 |
| **AT 100 B** | 1,10 | 1,50 | 700 | 3,5 | 67,4 | 0,68 | 3,1 | 1,8 | 1,9 | 15,4 | 0,0100 | 32 | 29,0 | 40 | 31,0 | 12 | 26,0 | 60,0 | 8500 | 25,5 |
| **AT 100 BL** | 1,30 | 1,80 | 690 | 3,9 | 69,8 | 0,70 | 2,8 | 1,7 | 2,0 | 18,1 | 0,0120 | 32 | 31,0 | 40 | 33,0 | 12 | 28,0 | 60,0 | 8000 | 27,5 |
| **AT 112 A** | 1,50 | 2,00 | 710 | 4,6 | 74,2 | 0,65 | 3,6 | 1,5 | 2,0 | 20,4 | 0,0150 | 60 | 41,0 | 60 | 41,0 | 13 | 36,0 | 60,0 | 6500 | 38,0 |
| **AT 132 S** | 2,20 | 3,00 | 720 | 6,4 | 75,4 | 0,66 | 3,8 | 1,3 | 2,0 | 29,5 | 0,0300 | 80 | 57,0 | 90 | 58,0 | 17 | 49,0 | 120,0 | 1900 | 56,0 |
| **AT 132 M** | 3,00 | 4,00 | 710 | 8,2 | 76,2 | 0,69 | 3,8 | 1,3 | 1,8 | 40,0 | 0,0400 | 80 | 66,0 | 90 | 67,0 | 17 | 58,0 | 120,0 | 1900 | 65,0 |
| **AT 132 ML** | 4,00 | 5,50 | 720 | 11,0 | 78,1 | 0,67 | 3,9 | 1,2 | 1,9 | 53,5 | 0,0500 | 80 | 71,0 | 90 | 72,0 | 17 | 63,0 | 120,0 | 1900 | 70,0 |
| **AT 160 MA** | 4,00 | 5,50 | 720 | 11,4 | 84,0 | 0,61 | 4,5 | 2,2 | 2,6 | 53,4 | 0,0800 | 150 | 83,0 | 200 | 81,0 | 30 | 71,0 | 240,0 | 1600 | 85,0 |
| **AT 160 MB** | 5,50 | 7,50 | 720 | 13,8 | 85,2 | 0,68 | 3,8 | 1,6 | 2,0 | 72,6 | 0,0920 | 150 | 91,0 | 200 | 89,0 | 30 | 79,0 | 240,0 | 1600 | 93,0 |
| **AT 160 L** | 7,50 | 10,00 | 720 | 17,5 | 84,0 | 0,76 | 3,7 | 1,4 | 2,0 | 101 | 0,1120 | 150 | 105,0 | 200 | 103,0 | 30 | 93,0 | 240,0 | 1600 | 107,0 |
| **AT 180 L** | 11,00 | 15,00 | 725 | 26,3 | 86,0 | 0,74 | 5,0 | 2,0 | 2,0 | 145 | 0,2100 | 260 | 119,0 | 400 | 139,0 | - | - | 480,0 | 1300 | 141,0 |
| **AT 200 L** | 15,00 | 20,00 | 725 | 33,0 | 87,0 | 0,76 | 5,0 | 2,0 | 2,1 | 198 | 0,3700 | 400 | 149,0 | 400 | 164,0 | - | - | 480,0 | 900 | 166,0 |

| Size 50 e 56 no freni UL/CSA | *Size 50 and 56 no brakes UL/CSA* | Größe 50 e 56 keine Bremsen UL / CSA |
|---|---|---|

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# AT

A

**8 P 900 $min^{-1}$**

Standard:

Size ≤132 V 280/480/60 Hz

Size≥160 V 480/830/60 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

FA: Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor

FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ | Pn | | $n_n$ | In (480V 60Hz) | η | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn | $J_m$ | FD CF | FD Kg | FA CF | FA Kg | FS CF | FS Kg | FP CF | FP $Z_0$ | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [kW] | [HP] | [$min^{-1}$] | [A] | % | | | | | [Nm] | [$Kgm^2$] | [Nm] | | [Nm] | | [Nm] | | [Nm] | [1/h] | |
| **AT 56 B** | 0,03 | 0,05 | 805 | 0,46 | 19,0 | 0,51 | 1,3 | 3,1 | 2,7 | 0,45 | 0,0001 | 1 | 5,0 | - | - | - | - | - | - | - |
| **AT 63 B** | 0,05 | 0,07 | 815 | 0,55 | 30,4 | 0,45 | 1,4 | 3,1 | 3,0 | 0,70 | 0,0003 | 4 | 6,0 | 5 | 6,0 | 4 | 5,0 | 7,5 | 22500 | 4,5 |
| **AT 63 C** | 0,07 | 0,10 | 815 | 0,7 | 29,4 | 0,51 | 1,6 | 3,0 | 3,1 | 1,0 | 0,0006 | 4 | 6,0 | 5 | 6,0 | 4 | 6,0 | 7,5 | 22500 | 4,9 |
| **AT 71 B** | 0,09 | 0,12 | 850 | 0,8 | 38,3 | 0,43 | 2,5 | 4,1 | 4,2 | 1,3 | 0,0008 | 4 | 7,0 | 5 | 7,0 | 4 | 7,0 | 7,5 | 27000 | 6,3 |
| **AT 71 C** | 0,12 | 0,17 | 840 | 0,8 | 44,0 | 0,49 | 2,5 | 3,0 | 3,2 | 1,7 | 0,0010 | 4 | 8,0 | 5 | 8,0 | 4 | 8,0 | 7,5 | 27000 | 7,0 |
| **AT 80 A** | 0,18 | 0,25 | 850 | 1 | 48,5 | 0,56 | 2,7 | 2,4 | 2,6 | 2,5 | 0,0020 | 8 | 11,0 | 10 | 11,0 | 9 | 10,0 | 15,0 | 27000 | 9,9 |
| **AT 80 B** | 0,25 | 0,35 | 840 | 1,1 | 55,0 | 0,62 | 2,9 | 1,9 | 2,5 | 3,5 | 0,0025 | 8 | 13,0 | 10 | 13,0 | 9 | 13,0 | 15,0 | 27000 | 11,6 |
| **AT 80 C** | 0,37 | 0,50 | 830 | 1,5 | 55,0 | 0,66 | 2,5 | 1,6 | 1,9 | 5,2 | 0,0028 | 8 | 14,0 | 10 | 14,0 | 9 | 14,0 | 15,0 | 25500 | 12,1 |
| **AT 90 S** | 0,37 | 0,50 | 840 | 1,5 | 58,4 | 0,60 | 2,9 | 2,0 | 2,3 | 5,1 | 0,0035 | 16 | 17,0 | 20 | 17,0 | 10 | 15,0 | 30,0 | 18000 | 14,0 |
| **AT 90 L** | 0,55 | 0,75 | 840 | 2,1 | 61,1 | 0,62 | 3,1 | 2,0 | 2,4 | 7,6 | 0,0045 | 16 | 18,0 | 20 | 18,0 | 10 | 17,0 | 30,0 | 15000 | 16,0 |
| **AT 90 LB** | 0,75 | 1,00 | 840 | 2,9 | 61,1 | 0,61 | 3,2 | 2,2 | 2,4 | 10,3 | 0,0055 | 16 | 20,0 | 20 | 20,0 | 10 | 19,0 | 30,0 | 14500 | 18,0 |
| **AT 100 A** | 0,75 | 1,00 | 850 | 2,4 | 69,2 | 0,66 | 3,4 | 1,9 | 2,0 | 10,2 | 0,0090 | 32 | 26,0 | 40 | 28,0 | 12 | 24,0 | 60,0 | 12500 | 23,3 |
| **AT 100 B** | 1,10 | 1,50 | 840 | 3,5 | 67,4 | 0,68 | 3,1 | 1,8 | 1,9 | 15,4 | 0,0100 | 32 | 29,0 | 40 | 31,0 | 12 | 26,0 | 60,0 | 8500 | 25,5 |
| **AT 100 BL** | 1,30 | 1,80 | 830 | 3,9 | 69,8 | 0,70 | 2,8 | 1,7 | 2,0 | 18,1 | 0,0120 | 32 | 31,0 | 40 | 33,0 | 12 | 28,0 | 60,0 | 8000 | 27,5 |
| **AT 112 A** | 1,50 | 2,00 | 850 | 4,6 | 74,2 | 0,65 | 3,6 | 1,5 | 2,0 | 20,4 | 0,0150 | 60 | 41,0 | 60 | 41,0 | 13 | 36,0 | 60,0 | 6500 | 38,0 |
| **AT 132 S** | 2,20 | 3,00 | 865 | 6,4 | 75,4 | 0,66 | 3,8 | 1,3 | 2,0 | 29,5 | 0,0300 | 80 | 57,0 | 90 | 58,0 | 17 | 49,0 | 120,0 | 1900 | 56,0 |
| **AT 132 M** | 3,00 | 4,00 | 850 | 8,2 | 76,2 | 0,69 | 3,8 | 1,3 | 1,8 | 40,0 | 0,0400 | 80 | 66,0 | 90 | 67,0 | 17 | 58,0 | 120,0 | 1900 | 65,0 |
| **AT 132 ML** | 4,00 | 5,50 | 865 | 11 | 78,1 | 0,67 | 3,9 | 1,2 | 1,9 | 53,5 | 0,0500 | 80 | 71,0 | 90 | 72,0 | 17 | 63,0 | 120,0 | 1900 | 70,0 |
| **AT 160 MA** | 4,00 | 5,50 | 865 | 11,4 | 84,0 | 0,61 | 4,5 | 2,2 | 2,6 | 53,4 | 0,0800 | 150 | 83,0 | 200 | 81,0 | 30 | 71,0 | 240,0 | 1600 | 85,0 |
| **AT 160 MB** | 5,50 | 7,50 | 865 | 13,8 | 85,2 | 0,68 | 3,8 | 1,6 | 2,0 | 72,6 | 0,0920 | 150 | 91,0 | 200 | 89,0 | 30 | 79,0 | 240,0 | 1600 | 93,0 |
| **AT 160 L** | 7,50 | 10,00 | 865 | 17,5 | 84,0 | 0,76 | 3,7 | 1,4 | 2,0 | 101 | 0,1120 | 150 | 105,0 | 200 | 103,0 | 30 | 93,0 | 240,0 | 1600 | 107,0 |
| **AT 180 L** | 11,00 | 15,00 | 870 | 26,3 | 86,0 | 0,74 | 5,0 | 2,0 | 2,0 | 145 | 0,2100 | 260 | 119,0 | 400 | 139,0 | - | - | 480,0 | 1300 | 141,0 |
| **AT 200 L** | 15,00 | 20,00 | 870 | 33 | 87,0 | 0,76 | 5,0 | 2,0 | 2,1 | 198 | 0,3700 | 400 | 149,0 | 400 | 164,0 | - | - | 480,0 | 900 | 166,0 |

| Size 50 e 56 no freni UL/CSA | *Size 50 and 56 no brakes UL/CSA* | Größe 50 e 56 keine Bremsen UL / CSA |
|---|---|---|

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# AT

### 12 P 500 min$^{-1}$

Standard:
Size ≤132 V 230/400/50 Hz
Size≥160 V 400/690/50 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor
FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm²] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AT 71 C | 0,09 | 0,12 | 420 | 0,6 | 33,9 | 0,61 | 1,5 | 1,9 | 2,1 | 2,0 | 0,0012 | 4 | 8,0 | 5 | 8,0 | 4 | 8,0 | 7,5 | 21500 | 7,1 |
| AT 80 C | 0,18 | 0,25 | 430 | 1,0 | 42,0 | 0,62 | 1,8 | 1,4 | 1,6 | 4,1 | 0,0030 | 8 | 14,0 | 10 | 14,0 | 9 | 14,0 | 15,0 | 21500 | 12,1 |
| AT 90 L | 0,25 | 0,35 | 420 | 1,8 | 41,6 | 0,49 | 1,4 | 1,4 | 1,3 | 5,8 | 0,0050 | 16 | 19,0 | 20 | 19,0 | 10 | 18,0 | 30,0 | 27000 | 17,0 |
| AT 100B | 0,37 | 0,50 | 470 | 2,1 | 53,8 | 0,48 | 2,4 | 2,2 | 2,6 | 7,6 | 0,0100 | 32 | 25,0 | 40 | 29,0 | 12 | 25,0 | 60,0 | 13500 | 24,5 |
| AT 100 BL | 0,55 | 0,75 | 460 | 2,7 | 57,7 | 0,52 | 2,5 | 1,7 | 2,3 | 11,7 | 0,0130 | 32 | 27,0 | 40 | 32,0 | 12 | 27,0 | 60,0 | 11500 | 26,5 |
| AT 112 B | 0,75 | 1,00 | 470 | 3,1 | 64,9 | 0,55 | 2,7 | 1,1 | 1,9 | 15,7 | 0,0160 | 60 | 35,0 | 60 | 37,0 | 13 | 33,0 | 60,0 | 11000 | 34,0 |
| AT 132 S | 1,10 | 1,50 | 470 | 4,2 | 66,3 | 0,58 | 2,4 | 0,9 | 1,6 | 23,0 | 0,0300 | 80 | 66,0 | 90 | 69,0 | 17 | 64,0 | 120,0 | 2000 | 67,0 |
| AT 132 M | 1,50 | 2,00 | 460 | 5,6 | 67,1 | 0,59 | 2,2 | 0,9 | 1,4 | 31,8 | 0,0380 | 80 | 79,0 | 90 | 83,0 | 17 | 75,0 | 120,0 | 2000 | 78,0 |
| AT 132 ML | 1,85 | 2,50 | 455 | 6,9 | 63,0 | 0,62 | 2,5 | 1,2 | 1,7 | 38,9 | 0,0470 | 80 | 71,0 | 90 | 72,0 | 17 | 63,0 | 120,0 | 1900 | 78,0 |
| AT 160 M | 3,00 | 4,00 | 450 | 10,0 | 75,9 | 0,62 | 2,7 | 1,3 | 1,8 | 61,5 | 0,0900 | 150 | 99,0 | 200 | 95,0 | 30 | 87,0 | 240,0 | 1650 | 101,0 |
| AT 160 L | 4,00 | 5,50 | 470 | 12,0 | 76,9 | 0,63 | 2,5 | 1,2 | 1,7 | 83,4 | 0,1300 | 150 | 109,0 | 200 | 105,0 | 30 | 97,0 | 240,0 | 1650 | 111,0 |
| AT 180 L | 5,50 | 7,50 | 450 | 18,0 | 70,0 | 0,63 | 3,5 | 1,5 | 1,9 | 117 | 0,2100 | 260 | 119,0 | 400 | 139,0 | - | - | 480,0 | 1400 | 141,0 |
| AT 200 L | 7,50 | 10,00 | 440 | 23,0 | 73,0 | 0,65 | 3,8 | 1,6 | 1,8 | 163 | 0,3700 | 400 | 149,0 | 400 | 169,0 | - | - | 480,0 | 1100 | 171,0 |

### 16 P 375 min$^{-1}$

Standard:
Size ≤132 V 230/400/50 Hz
Size≥160 V 400/690/50 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor
FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm²] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AT 132 S | 0,55 | 0,75 | 360 | 3,5 | 52,0 | 0,44 | 1,8 | 1,1 | 1,6 | 14,6 | 0,0300 | 80 | 66,0 | 90 | 69,0 | 17 | 64,0 | 120,0 | 2000 | 67,0 |
| AT 132 M | 0,75 | 1,00 | 355 | 4,2 | 56,0 | 0,46 | 1,9 | 1,1 | 1,5 | 20,2 | 0,0380 | 80 | 79,0 | 90 | 83,0 | 17 | 75,0 | 120,0 | 2000 | 78,0 |
| AT 160 M | 1,10 | 1,50 | 360 | 5,5 | 59,0 | 0,49 | 2,5 | 1,2 | 1,5 | 29,2 | 0,0900 | 150 | 99,0 | 200 | 95,0 | 30 | 87,0 | 240,0 | 1650 | 101,0 |
| AT 160 L | 1,50 | 2,00 | 355 | 7,0 | 61,0 | 0,51 | 2,6 | 1,3 | 1,4 | 40,4 | 0,1300 | 150 | 109,0 | 200 | 105,0 | 30 | 97,0 | 240,0 | 1650 | 111,0 |
| AT 180 L | 2,20 | 3,00 | 360 | 10,0 | 62,0 | 0,51 | 2,8 | 1,4 | 1,4 | 58,4 | 0,2100 | 260 | 119,0 | 400 | 139,0 | - | - | 480,0 | 1400 | 141,0 |
| AT 200 L | 3,00 | 4,00 | 350 | 13,0 | 65,0 | 0,51 | 3,1 | 1,5 | 1,4 | 81,9 | 0,3700 | 400 | 149,0 | 400 | 169,0 | - | - | 480,0 | 1100 | 171,0 |

### 32 P 187 min$^{-1}$

Standard:
Size≥160 V 400/690/50 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor
FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm²] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AT 180 L | 1,50 | 2,00 | 160 | 9,0 | 58,0 | 0,42 | 2,6 | 1,3 | 1,5 | 89,6 | 0,2100 | 260 | 119,0 | 400 | 139,0 | - | - | 480,0 | 1400 | 141,0 |
| AT 200 L | 2,20 | 3,00 | 155 | 12,0 | 60,0 | 0,44 | 2,8 | 1,3 | 1,5 | 136 | 0,3700 | 400 | 149,0 | 400 | 169,0 | - | - | 480,0 | 1100 | 171,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# AT



### 12 P 600 min$^{-1}$

Standard:

Size ≤132 V 280/480/60 Hz

Size≥160 V 480/830/60 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor
FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (480V 60Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AT 71 C | 0,09 | 0,12 | 505 | 0,6 | 33,9 | 0,61 | 1,5 | 1,9 | 2,1 | 2,0 | 0,0012 | 4 | 8,0 | 5 | 8,0 | 4 | 8,0 | 7,5 | 21500 | 7,1 |
| AT 80 C | 0,18 | 0,25 | 515 | 1,0 | 42,0 | 0,62 | 1,8 | 1,4 | 1,6 | 4,1 | 0,0030 | 8 | 14,0 | 10 | 14,0 | 9 | 14,0 | 15,0 | 21500 | 12,1 |
| AT 90 L | 0,25 | 0,35 | 505 | 1,8 | 41,6 | 0,49 | 1,4 | 1,4 | 1,3 | 5,8 | 0,0050 | 16 | 19,0 | 20 | 19,0 | 10 | 18,0 | 30,0 | 27000 | 17,0 |
| AT 100 B | 0,37 | 0,50 | 565 | 2,1 | 53,8 | 0,48 | 2,4 | 2,2 | 2,6 | 7,6 | 0,0100 | 32 | 25,0 | 40 | 29,0 | 12 | 25,0 | 60,0 | 13500 | 24,5 |
| AT 100 BL | 0,55 | 0,75 | 550 | 2,7 | 57,7 | 0,52 | 2,5 | 1,7 | 2,3 | 11,7 | 0,0130 | 32 | 27,0 | 40 | 32,0 | 12 | 27,0 | 60,0 | 11500 | 26,5 |
| AT 112 B | 0,75 | 1,00 | 565 | 3,1 | 64,9 | 0,55 | 2,7 | 1,1 | 1,9 | 15,7 | 0,0160 | 60 | 35,0 | 60 | 37,0 | 13 | 33,0 | 60,0 | 11000 | 34,0 |
| AT 132 S | 1,10 | 1,50 | 565 | 4,2 | 66,3 | 0,58 | 2,4 | 0,9 | 1,6 | 23,0 | 0,0300 | 80 | 66,0 | 90 | 69,0 | 17 | 64,0 | 120,0 | 2000 | 67,0 |
| AT 132 M | 1,50 | 2,00 | 550 | 5,6 | 67,1 | 0,59 | 2,2 | 0,9 | 1,4 | 31,8 | 0,0380 | 80 | 79,0 | 90 | 83,0 | 17 | 75,0 | 120,0 | 2000 | 78,0 |
| AT 132 ML | 1,85 | 2,50 | 545 | 6,9 | 63,0 | 0,62 | 2,5 | 1,2 | 1,7 | 38,9 | 0,0470 | 80 | 71,0 | 90 | 72,0 | 17 | 63,0 | 120,0 | 1900 | 78,0 |
| AT 160 M | 3,00 | 4,00 | 540 | 10,0 | 75,9 | 0,62 | 2,7 | 1,3 | 1,8 | 61,5 | 0,0900 | 150 | 99,0 | 200 | 95,0 | 30 | 87,0 | 240,0 | 1650 | 101,0 |
| AT 160 L | 4,00 | 5,50 | 565 | 12,0 | 76,9 | 0,63 | 2,5 | 1,2 | 1,7 | 83,4 | 0,1300 | 150 | 109,0 | 200 | 105,0 | 30 | 97,0 | 240,0 | 1650 | 111,0 |
| AT 180 L | 5,50 | 7,50 | 540 | 18,0 | 70,0 | 0,63 | 3,5 | 1,5 | 1,9 | 117 | 0,2100 | 260 | 119,0 | 400 | 139,0 | - | - | 480,0 | 1400 | 141,0 |
| AT 200 L | 7,50 | 10,00 | 530 | 23,0 | 73,0 | 0,65 | 3,8 | 1,6 | 1,8 | 163 | 0,3700 | 400 | 149,0 | 400 | 169,0 | - | - | 480,0 | 1100 | 171,0 |

### 16 P 450 min$^{-1}$

Standard:

Size ≤132 V 280/480/60 Hz

Size≥160 V 480/830/60 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor
FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (480V 60Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AT 132 S | 0,55 | 0,75 | 430 | 3,5 | 52,0 | 0,44 | 1,8 | 1,1 | 1,6 | 14,6 | 0,0300 | 80 | 66,0 | 90 | 69,0 | 17 | 64,0 | 120,0 | 2000 | 67,0 |
| AT 132 M | 0,75 | 1,00 | 425 | 4,2 | 56,0 | 0,46 | 1,9 | 1,1 | 1,5 | 20,2 | 0,0380 | 80 | 79,0 | 90 | 83,0 | 17 | 75,0 | 120,0 | 2000 | 78,0 |
| AT 160 M | 1,10 | 1,50 | 430 | 5,5 | 59,0 | 0,49 | 2,5 | 1,2 | 1,5 | 29,2 | 0,0900 | 150 | 99,0 | 200 | 95,0 | 30 | 87,0 | 240,0 | 1650 | 101,0 |
| AT 160 L | 1,50 | 2,00 | 425 | 7 | 61,0 | 0,51 | 2,6 | 1,3 | 1,4 | 40,4 | 0,1300 | 150 | 109,0 | 200 | 105,0 | 30 | 97,0 | 240,0 | 1650 | 111,0 |
| AT 180 L | 2,20 | 3,00 | 430 | 10 | 62,0 | 0,51 | 2,8 | 1,4 | 1,4 | 58,4 | 0,2100 | 260 | 119,0 | 400 | 139,0 | - | - | 480,0 | 1400 | 141,0 |
| AT 200 L | 3,00 | 4,00 | 425 | 13 | 65,0 | 0,51 | 3,1 | 1,5 | 1,4 | 81,9 | 0,3700 | 400 | 149,0 | 400 | 169,0 | - | - | 480,0 | 1100 | 171,0 |

### 32 P 224 min$^{-1}$

Standard:

Size≥160 V 480/830/60 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor
FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (480V 60Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AT 180 L | 1,50 | 2,00 | 190 | 9 | 58,0 | 0,42 | 2,6 | 1,3 | 1,5 | 89,6 | 0,2100 | 260 | 119,0 | 400 | 139,0 | - | - | 480,0 | 1400 | 141,0 |
| AT 200 L | 2,20 | 3,00 | 185 | 12 | 60,0 | 0,44 | 2,8 | 1,3 | 1,5 | 136 | 0,3700 | 400 | 149,0 | 400 | 169,0 | - | - | 480,0 | 1100 | 171,0 |


## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**AHE2**

Classe di efficienza
*Efficiency class*
Wirkungsgradklasse

**IE2**

### 2 P 3000 min$^{-1}$

Standard:
Size ≤132 V 230/400/50 Hz
Size≥160 V 400/690/50 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor
FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AHE2 80 B | 0,75 | 1,0 | 2874 | 1,87 | 77,4 | 0,75 | 7,0 | 4,5 | 5,0 | 2,5 | 0,00097 | 8 | 12 | 10 | 12 | 9 | 12 | 15 | 5400 | 10,9 |
| AHE2 80 C | 1,10 | 1,5 | 2871 | 2,6 | 79,6 | 0,77 | 6,8 | 2,9 | 3,2 | 3,7 | 0,00120 | 8 | 13 | 10 | 13 | 9 | 13 | 15 | 5100 | 11,6 |
| AHE2 90 S | 1,50 | 2,0 | 2858 | 3,2 | 81,3 | 0,83 | 5,6 | 2,8 | 3,1 | 5,0 | 0,00230 | 16 | 17 | 20 | 17 | 10 | 14 | 30 | 4000 | 14,0 |
| AHE2 90 L | 2,20 | 3,0 | 2875 | 4,46 | 83,2 | 0,86 | 7,6 | 2,7 | 3,0 | 7,3 | 0,00280 | 16 | 18 | 20 | 18 | 10 | 15 | 30 | 4000 | 15,5 |
| AHE2 100 B | 3,00 | 4,0 | 2918 | 6,42 | 84,6 | 0,80 | 6,4 | 2,4 | 2,6 | 9,8 | 0,00850 | 32 | 28 | 40 | 30 | 12 | 25 | 60 | 2400 | 24,5 |
| AHE2 112 A | 4,00 | 5,5 | 2903 | 7,77 | 85,8 | 0,87 | 7,7 | 2,7 | 3,0 | 13,2 | 0,01200 | 60 | 36 | 60 | 36 | 13 | 31 | 60 | 1500 | 33,0 |
| AHE2 112 B | 5,50 | 7,5 | 2930 | 11,0 | 87,0 | 0,83 | 7,7 | 2,7 | 3,0 | 18,2 | 0,01200 | 60 | 38 | 60 | 38 | 13 | 33 | 60 | 1500 | 35,0 |
| AHE2 132 S | 5,50 | 7,5 | 2930 | 11,0 | 87,0 | 0,83 | 6,0 | 2,2 | 2,4 | 18,2 | 0,02000 | 80 | 63 | 90 | 64 | 17 | 60 | 120 | 430 | 62,0 |
| AHE2 132 SL | 7,50 | 10,0 | 2940 | 14,5 | 88,1 | 0,85 | 6,4 | 2,8 | 3,1 | 24,4 | 0,02500 | 80 | 75 | 90 | 76 | 17 | 72 | 120 | 430 | 74,0 |
| AHE2 132 ML | 11,00 | 15,0 | 2950 | 22,0 | 89,4 | 0,81 | 6,0 | 2,2 | 2,4 | 35,6 | 0,02800 | 80 | 71 | 90 | 72 | 17 | 63 | 120 | 400 | 70,0 |
| AHE2 160 MA | 11,00 | 15,0 | 2900 | 21,0 | 89,4 | 0,85 | 6,4 | 2,2 | 2,4 | 36,2 | 0,03200 | 150 | 95 | - | - | 30 | 82 | 240 | 300 | 96,0 |
| AHE2 160 L | 15,00 | 20,0 | 2970 | 27,7 | 90,3 | 0,87 | 7,4 | 2,2 | 2,4 | 48,9 | 0,03600 | 150 | 111 | - | - | 30 | 106 | 240 | 300 | 120,0 |
| AHE2 160 LB | 18,50 | 25,0 | 2910 | 35,0 | 90,9 | 0,84 | 7,6 | 2,3 | 2,5 | 60,7 | 0,04000 | 150 | 122 | - | - | 30 | 127 | 240 | 300 | 131,0 |
| AHE2 180 L | 22,00 | 30,0 | 2920 | 43,0 | 91,3 | 0,81 | 7,6 | 2,3 | 2,5 | 72,0 | 0,07000 | 260 | 159 | - | - | - | - | 480 | 200 | 161,0 |
| AHE2 200 L | 30,00 | 40,0 | 2930 | 56,0 | 92,0 | 0,84 | 7,6 | 2,3 | 2,5 | 97,8 | 0,14000 | 400 | 179 | - | - | - | - | 480 | 100 | 181,0 |

### 4 P 1500 min$^{-1}$

Standard:
Size ≤132 V 230/400/50 Hz
Size≥160 V 400/690/50 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor
FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AHE2 80 D | 0,75 | 1,0 | 1445 | 1,9 | 79,6 | 0,71 | 4,2 | 2,6 | 2,9 | 5,0 | 0,00230 | 8 | 14 | 10 | 14 | 9 | 14 | 15 | 9000 | 12,1 |
| AHE2 90 S | 1,10 | 1,5 | 1438 | 2,7 | 81,4 | 0,72 | 4,2 | 2,5 | 2,8 | 7,3 | 0,00400 | 16 | 17 | 20 | 17 | 10 | 15 | 30 | 13500 | 14,0 |
| AHE2 90 L | 1,50 | 2,0 | 1430 | 3,7 | 82,8 | 0,70 | 4,6 | 2,6 | 2,9 | 10,0 | 0,00500 | 16 | 18 | 20 | 18 | 10 | 16 | 30 | 11000 | 15,5 |
| AHE2 100 B | 2,20 | 3,0 | 1434 | 5,1 | 84,3 | 0,74 | 4,9 | 2,5 | 2,8 | 14,7 | 0,00850 | 32 | 28 | 40 | 30 | 12 | 25 | 60 | 6300 | 24,5 |
| AHE2 100 BL | 3,00 | 4,0 | 1420 | 7,8 | 85,5 | 0,72 | 5,0 | 2,5 | 2,8 | 20,2 | 0,01100 | 32 | 30 | 40 | 32 | 12 | 27 | 60 | 6000 | 26,5 |
| AHE2 112 B | 4,00 | 5,5 | 1449 | 9,0 | 86,6 | 0,74 | 5,3 | 2,6 | 2,9 | 26,4 | 0,01600 | 60 | 44 | 60 | 44 | 13 | 39 | 60 | 3400 | 41,0 |
| AHE2 112 BBL | 5,50 | 7,5 | 1440 | 11,4 | 87,7 | 0,78 | 6,8 | 2,4 | 2,8 | 36,1 | 0,01700 | 60 | 44 | 60 | 44 | 13 | 39 | 60 | 3400 | 41,0 |
| AHE2 132 M | 5,50 | 7,5 | 1440 | 12,0 | 87,7 | 0,76 | 5,8 | 2,5 | 2,8 | 36,5 | 0,02400 | 80 | 66 | 90 | 67 | 17 | 57 | 120 | 850 | 64,0 |
| AHE2 132 ML | 7,50 | 10,0 | 1440 | 16,0 | 88,7 | 0,76 | 6,2 | 2,6 | 2,9 | 49,8 | 0,03400 | 80 | 68 | 90 | 69 | 17 | 59 | 120 | 800 | 66,0 |
| AHE2 132 MLL | 9,20 | 12,5 | 1460 | 18,5 | 88,7 | 0,80 | 6,2 | 2,6 | 2,9 | 61,0 | 0,03500 | 80 | 72 | 90 | 73 | 17 | 63 | 120 | 800 | 70,0 |
| AHE2 160 M | 11,00 | 15,0 | 1455 | 24,0 | 89,8 | 0,74 | 5,3 | 2,3 | 2,5 | 72,2 | 0,06200 | 150 | 110 | 200 | 108 | 30 | 97 | 240 | 750 | 111,0 |
| AHE2 160 L | 15,00 | 20,0 | 1455 | 32,0 | 90,6 | 0,75 | 5,6 | 2,2 | 2,4 | 98,5 | 0,07400 | 150 | 123 | 200 | 129 | 30 | 118 | 240 | 750 | 132,0 |
| AHE2 180 M | 18,50 | 25,0 | 1455 | 42,0 | 91,2 | 0,70 | 5,6 | 2,2 | 2,4 | 121 | 0,16000 | 260 | 144 | 400 | 145 | - | - | 480 | 200 | 146,0 |
| AHE2 180 L | 22,00 | 30,0 | 1455 | 48,0 | 91,6 | 0,83 | 5,6 | 2,2 | 2,4 | 144 | 0,16000 | 260 | 159 | 400 | 160 | - | - | 480 | 200 | 161,0 |
| AHE2 200 L | 30,00 | 40,0 | 1455 | 54,0 | 92,3 | 0,87 | 5,6 | 2,2 | 2,4 | 197 | 0,26000 | 400 | 174 | 400 | 175 | - | - | 480 | 100 | 176,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**AHE2**

Classe di efficienza
*Efficiency class*
Wirkungsgradklasse

**IE2**

A

### 2 P 3600 min$^{-1}$

Standard:

Size ≤132 V 265/460/50 Hz

Size≥160 V 460/795/50 Hz

| Tipo *Type* Typ | Pn | | nₙ | In (460V 60Hz) | η | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn | $J_m$ | FD Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FA Autofrenante in A.C. *Brake motor In A.C.* Drehstrom-Bremsmotor | | FS Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FP Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [kW] | [HP] | [min$^{-1}$] | [A] | % | | | | | [Nm] | [Kgm²] | CF [Nm] | Kg | CF [Nm] | Kg | CF [Nm] | Kg | CF [Nm] | $Z_0$ [1/h] | Kg |
| AHE2 80 B | 0,75 | 1,0 | 3510 | 1,7 | 77,4 | 0,75 | 7,0 | 4,5 | 5,0 | 2 | 0,00097 | 8 | 12 | 10 | 12 | 9 | 12 | 15 | 5400 | 10,9 |
| AHE2 80 C | 1,10 | 1,5 | 3490 | 2,1 | 79,6 | 0,77 | 6,8 | 2,9 | 3,2 | 3 | 0,00120 | 8 | 13 | 10 | 13 | 9 | 13 | 15 | 5100 | 11,6 |
| AHE2 90 S | 1,50 | 2,0 | 3500 | 2,8 | 81,3 | 0,83 | 5,6 | 2,8 | 3,1 | 4,1 | 0,00230 | 16 | 17 | 20 | 17 | 10 | 14 | 30 | 4000 | 14,0 |
| AHE2 90 L | 2,20 | 3,0 | 3510 | 4,’ | 83,2 | 0,86 | 7,6 | 2,7 | 3,0 | 6 | 0,00280 | 16 | 18 | 20 | 18 | 10 | 15 | 30 | 4000 | 15,5 |
| AHE2 100 B | 3,00 | 4,0 | 3550 | 5,5 | 84,6 | 0,80 | 6,4 | 2,4 | 2,6 | 8,1 | 0,00850 | 32 | 28 | 40 | 30 | 12 | 25 | 60 | 2400 | 24,5 |
| AHE2 112 A | 4,00 | 5,5 | 3530 | 6,7 | 85,8 | 0,87 | 7,7 | 2,7 | 3,0 | 10,8 | 0,01200 | 60 | 36 | 60 | 36 | 13 | 31 | 60 | 1500 | 33,0 |
| AHE2 112 B | 5,50 | 7,5 | 3540 | 9,3 | 87,0 | 0,83 | 7,7 | 2,7 | 3,0 | 14,8 | 0,01200 | 60 | 38 | 60 | 38 | 13 | 33 | 60 | 1500 | 35,0 |
| AHE2 132 S | 5,50 | 7,5 | 3560 | 9,5 | 87,0 | 0,83 | 6,0 | 2,2 | 2,4 | 14,8 | 0,02000 | 80 | 63 | 90 | 64 | 17 | 60 | 120 | 430 | 62,0 |
| AHE2 132 SL | 7,50 | 10,0 | 3550 | 12,0 | 88,1 | 0,85 | 6,4 | 2,8 | 3,1 | 20,2 | 0,02500 | 80 | 75 | 90 | 76 | 17 | 72 | 120 | 430 | 74,0 |
| AHE2 132 ML | 11,00 | 15,0 | 3538 | 17,3 | 89,4 | 0,81 | 6,0 | 2,2 | 2,4 | 29,7 | 0,02800 | 80 | 71 | 90 | 72 | 17 | 63 | 120 | 400 | 70,0 |
| AHE2 160 MA | 11,00 | 15,0 | 3560 | 17,8 | 89,4 | 0,85 | 6,4 | 2,2 | 2,4 | 29,5 | 0,03200 | 150 | 95 | - | - | 30 | 82 | 240 | 300 | 96,0 |
| AHE2 160 L | 15,00 | 20,0 | 3550 | 24,1 | 90,3 | 0,87 | 7,4 | 2,2 | 2,4 | 40,4 | 0,03600 | 150 | 111 | - | - | 30 | 106 | 240 | 300 | 120,0 |
| AHE2 160 LB | 18,50 | 25,0 | 3492 | | | | | | | 50,6 | 0,04000 | 150 | 122 | - | - | 30 | 127 | 240 | 300 | 131,0 |
| AHE2 180 L | 22,00 | 30,0 | 3504 | | | | | | | 60 | 0,07000 | 260 | 159 | - | - | - | - | 480 | 200 | 161,0 |
| AHE2 200 L | 30,00 | 40,0 | 3516 | | | | | | | 81,5 | 0,14000 | 400 | 179 | - | - | - | - | 480 | 100 | 181,0 |

### 4 P 1800 min$^{-1}$

Standard:

Size ≤132 V 265/460/50 Hz

Size≥160 V 460/795/50 Hz

| Tipo *Type* Typ | Pn | | nₙ | In (460V 60Hz) | η | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn | $J_m$ | FD Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FA Autofrenante in A.C. *Brake motor In A.C.* Drehstrom-Bremsmotor | | FS Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FP Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [kW] | [HP] | [min$^{-1}$] | [A] | % | | | | | [Nm] | [Kgm²] | CF [Nm] | Kg | CF [Nm] | Kg | CF [Nm] | Kg | CF [Nm] | $Z_0$ [1/h] | Kg |
| AHE2 80 D | 0,75 | 1,0 | 1730 | 1,7 | 79,6 | 0,71 | 4,2 | 2,6 | 2,9 | 4,1 | 0,00230 | 8 | 14 | 10 | 14 | 9 | 14 | 15 | 9000 | 12,1 |
| AHE2 90 S | 1,10 | 1,5 | 1750 | 2,4 | 81,4 | 0,72 | 4,2 | 2,5 | 2,8 | 6 | 0,00400 | 16 | 17 | 20 | 17 | 10 | 15 | 30 | 13500 | 14,0 |
| AHE2 90 L | 1,50 | 2,0 | 1750 | 3,2 | 82,8 | 0,70 | 4,6 | 2,6 | 2,9 | 8,2 | 0,00500 | 16 | 18 | 20 | 18 | 10 | 16 | 30 | 11000 | 15,5 |
| AHE2 100 B | 2,20 | 3,0 | 1740 | 4,3 | 84,3 | 0,74 | 4,9 | 2,5 | 2,8 | 12,1 | 0,00850 | 32 | 28 | 40 | 30 | 12 | 25 | 60 | 6300 | 24,5 |
| AHE2 100 BL | 3,00 | 4,0 | 1750 | 5,8 | 85,5 | 0,72 | 5,0 | 2,5 | 2,8 | 16,4 | 0,01100 | 32 | 30 | 40 | 32 | 12 | 27 | 60 | 6000 | 26,5 |
| AHE2 112 B | 4,00 | 5,5 | 1760 | 8,0 | 86,6 | 0,74 | 5,3 | 2,6 | 2,9 | 21,7 | 0,01600 | 60 | 44 | 60 | 44 | 13 | 39 | 60 | 3400 | 41,0 |
| AHE2 112 BBL | 5,50 | 7,50 | 1772 | 9,8 | 87,7 | 0,78 | 6,8 | 2,4 | 2,8 | 29,6 | 0,01700 | 60 | 44 | 60 | 44 | 13 | 39 | 60 | 3400 | 41,0 |
| AHE2 132 M | 5,50 | 7,5 | 1770 | 10,3 | 87,7 | 0,76 | 5,8 | 2,5 | 2,8 | 29,7 | 0,02400 | 80 | 66 | 90 | 67 | 17 | 57 | 120 | 850 | 64,0 |
| AHE2 132 ML | 7,50 | 10,0 | 1760 | 13,4 | 88,7 | 0,76 | 6,2 | 2,6 | 2,9 | 40,7 | 0,03400 | 80 | 68 | 90 | 69 | 17 | 59 | 120 | 800 | 66,0 |
| AHE2 132 MLL | 9,20 | 12,5 | 1750 | 16,0 | 88,7 | 0,80 | 6,2 | 2,6 | 2,9 | 50,2 | 0,03500 | 80 | 72 | 90 | 73 | 17 | 63 | 120 | 800 | 70,0 |
| AHE2 160 M | 11,00 | 15,0 | 1746 | 19,0 | 89,8 | 0,74 | 5,3 | 2,3 | 2,5 | 60,2 | 0,06200 | 150 | 110 | 200 | 108 | 30 | 97 | 240 | 750 | 111,0 |
| AHE2 160 L | 15,00 | 20,0 | 1760 | 27,0 | 90,6 | 0,75 | 5,6 | 2,2 | 2,4 | 81,4 | 0,07400 | 150 | 123 | 200 | 129 | 30 | 118 | 240 | 750 | 132,0 |
| AHE2 180 M | 18,50 | 25,0 | | | | | | | | | 0,16000 | 260 | 144 | 400 | 145 | - | - | 480 | 200 | 146,0 |
| AHE2 180 L | 22,00 | 30,0 | 1760 | 41,3 | 91,6 | 0,83 | 5,6 | 2,2 | 2,4 | 119 | 0,16000 | 260 | 159 | 400 | 160 | - | - | 480 | 200 | 161,0 |
| AHE2 200 L | 30,00 | 40,0 | 1760 | 47,0 | 92,3 | 0,87 | 5,6 | 2,2 | 2,4 | 163 | 0,26000 | 400 | 174 | 400 | 175 | - | - | 480 | 100 | 176,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**AHE2**

Classe di efficienza
*Efficiency class*
Wirkungsgradklasse

**IE2**

**6 P 1000 min$^{-1}$**

Standard:
Size ≤132 V 230/400/50 Hz
Size≥160 V 400/690/50 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor
FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo / *Type* / Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AHE2 90LB** | 0,75 | 1,0 | 933 | 2,0 | 75,9 | 0,71 | 4,3 | 2,1 | 2,3 | 7,7 | 0,00450 | 16 | 19,5 | 20 | 19,5 | 10 | 18,5 | 30 | 13000 | 18,0 |
| **AHE2 90LBB** | 1,10 | 1,5 | 943 | 1,7 | 78,1 | 0,70 | 4,4 | 2,5 | 2,8 | 11,1 | 0,01000 | 32 | 26,0 | 40 | 28,0 | 12 | 23,0 | 60 | 10000 | 23,0 |
| **AHE2 100BL** | 1,50 | 2,0 | 943 | 3,7 | 79,8 | 0,73 | 4,4 | 2,5 | 2,8 | 15,2 | 0,01100 | 32 | 30,0 | 40 | 32,0 | 12 | 27,0 | 60 | 7000 | 26,5 |
| **AHE2 112A** | 2,20 | 3,0 | 956 | 4,9 | 81,8 | 0,79 | 4,9 | 2,6 | 2,9 | 22,0 | 0,01800 | 60 | 41,0 | 60 | 41,0 | 13 | 36,0 | 60 | 6000 | 38,0 |
| **AHE2 132S** | 3,00 | 4,0 | 920 | 7,2 | 83,3 | 0,72 | 5,4 | 2,5 | 2,8 | 31,2 | 0,04000 | 80 | 65,0 | 90 | 66,0 | 17 | 62,0 | 120 | 1600 | 64,0 |
| **AHE2 132M** | 4,00 | 5,5 | 930 | 9,8 | 84,6 | 0,70 | 5,6 | 2,6 | 2,9 | 41,1 | 0,04200 | 80 | 69,0 | 90 | 70,0 | 17 | 60,0 | 120 | 1350 | 67,0 |
| **AHE2 132ML** | 5,50 | 7,5 | 940 | 13,0 | 86,0 | 0,71 | 5,7 | 2,3 | 2,5 | 55,9 | 0,05000 | 80 | 84,0 | 90 | 85,0 | 17 | 75,0 | 120 | 1100 | 82,0 |
| **AHE2 160M** | 7,50 | 10,0 | 950 | 16,0 | 87,2 | 0,78 | 5,7 | 2,2 | 2,4 | 75,4 | 0,10600 | 150 | 110,0 | 200 | 108,0 | 30 | 97,0 | 240 | 1000 | 111,0 |
| **AHE2 160L** | 11,00 | 15,0 | 960 | 25,0 | 88,7 | 0,72 | 5,7 | 2,2 | 2,4 | 109 | 0,12000 | 150 | 123,0 | 200 | 129,0 | 30 | 118,0 | 240 | 850 | 132,0 |
| **AHE2 180L** | 15,00 | 20,0 | 970 | 32,0 | 89,7 | 0,76 | 5,7 | 2,2 | 2,4 | 148 | 0,16000 | 260 | 159,0 | 400 | 160,0 | - | - | 480 | 650 | 161,0 |
| **AHE2 200L** | 18,50 | 25,0 | 960 | 37,0 | 90,4 | 0,80 | 6,0 | 2,0 | 2,1 | 185 | 0,28000 | 400 | 189,0 | 400 | 190,0 | - | - | 480 | 100 | 191,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

**AHE2**

Classe di efficienza
*Efficiency class*
Wirkungsgradklasse

**IE2**



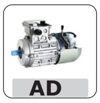
**6 P** **1200 min$^{-1}$**

Standard:

Size ≤132 V 265/460/50 Hz

Size≥160 V 460/795/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (460V 60Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor CF [Nm] | FD Kg | FA Autofrenante in A.C. *Brake motor In A.C.* Drehstrom-Bremsmotor CF [Nm] | FA Kg | FS Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor CF [Nm] | FS Kg | FP Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AHE2 90LB** | 0,75 | 1,0 | 933 | 2 | 75,9 | 0,71 | 4,3 | 2,1 | 2,3 | 7,7 | 0,00450 | 16 | 19,5 | 20 | 19,5 | 10 | 18,5 | 30 | 13000 | 18,0 |
| **AHE2 100A** | 1,10 | 1,5 | | | | | | | | | 0,01000 | 32 | 26,0 | 40 | 28,0 | 12 | 23,0 | 60 | 10000 | 23,0 |
| **AHE2 100BL** | 1,50 | 2,0 | | | | | | | | | 0,01100 | 32 | 30,0 | 40 | 32,0 | 12 | 27,0 | 60 | 7000 | 26,5 |
| **AHE2 112A** | 2,20 | 3,0 | | | | | | | | | 0,01800 | 60 | 41,0 | 60 | 41,0 | 13 | 36,0 | 60 | 6000 | 38,0 |
| **AHE2 132S** | 3,00 | 4,0 | | | | | | | | | 0,04000 | 80 | 65,0 | 90 | 66,0 | 17 | 62,0 | 120 | 1600 | 64,0 |
| **AHE2 132M** | 4,00 | 5,5 | | | | | | | | | 0,04200 | 80 | 69,0 | 90 | 70,0 | 17 | 60,0 | 120 | 1350 | 67,0 |
| **AHE2 132ML** | 5,50 | 7,5 | | | | | | | | | 0,05000 | 80 | 84,0 | 90 | 85,0 | 17 | 75,0 | 120 | 1100 | 82,0 |
| **AHE2 160M** | 7,50 | 10,0 | | | | | | | | | 0,10600 | 150 | 110,0 | 200 | 108,0 | 30 | 97,0 | 240 | 1000 | 111,0 |
| **AHE2 160L** | 11,00 | 15,0 | | | | | | | | | 0,12000 | 150 | 123,0 | 200 | 129,0 | 30 | 118,0 | 240 | 850 | 132,0 |
| **AHE2 180L** | 15,00 | 20,0 | | | | | | | | | 0,16000 | 260 | 159,0 | 400 | 160,0 | - | - | 480 | 650 | 161,0 |
| **AHE2 200L** | 18,50 | 25,0 | | | | | | | | | 0,28000 | 400 | 189,0 | 400 | 190,0 | - | - | 480 | 100 | 191,0 |




## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# AD

**2/4 P 3000/1500 min$^{-1}$**

**Unico avvolgimento**
***Single winding***
**Einlagige Wicklung**

Standard
V 400/50 Hz

**FD** – Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
**FA** – Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor
**FS** – Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
**FP** – Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ DAH | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AD 56 B | 2 | 0,11 | 0,15 | 2751 | 0,40 | 53,0 | 0,76 | 3,0 | 1,3 | 0,38 | 0,00015 | 1 | 4,0 | - | - | - | - | - | - | - |
| | 4 | 0,07 | 0,10 | 1376 | 0,36 | 42,8 | 0,66 | 2,6 | 1,5 | 0,49 | 0,00015 | 1 | 4,0 | - | - | - | - | - | - | - |
| AD 63 C | 2 | 0,22 | 0,30 | 2861 | 0,79 | 59,4 | 0,68 | 3,2 | 1,4 | 0,73 | 0,00040 | 4 | 6,0 | 5 | 6,0 | 4 | 5,4 | 7,5 | 4500 | 4,75 |
| | 4 | 0,14 | 0,20 | 1435 | 0,78 | 49,5 | 0,52 | 2,8 | 1,6 | 0,93 | 0,00040 | 4 | 6,0 | 5 | 6,0 | 4 | 5,4 | 7,5 | 5500 | 4,75 |
| AD 71 A | 2 | 0,33 | 0,45 | 2865 | 1,4 | 51,0 | 0,66 | 3,8 | 1,8 | 1,1 | 0,00050 | 4 | 8,0 | 5 | 8,0 | 4 | 7,2 | 7,5 | 7500 | 6,25 |
| | 4 | 0,22 | 0,30 | 1439 | 0,96 | 57,0 | 0,58 | 3,2 | 1,9 | 1,5 | 0,00050 | 4 | 8,0 | 5 | 8,0 | 4 | 7,2 | 7,5 | 16000 | 6,25 |
| AD 71 B | 2 | 0,45 | 0,60 | 2822 | 1,5 | 55,1 | 0,77 | 4,2 | 1,8 | 1,5 | 0,00080 | 4 | 8,0 | 5 | 8,0 | 4 | 7,6 | 7,5 | 6000 | 6,55 |
| | 4 | 0,30 | 0,40 | 1407 | 1,0 | 59,0 | 0,71 | 3,3 | 1,9 | 2,0 | 0,00080 | 4 | 8,0 | 5 | 8,0 | 4 | 7,6 | 7,5 | 14500 | 6,55 |
| AD 71 C | 2 | 0,55 | 0,75 | 2775 | 1,7 | 57,8 | 0,82 | 4,2 | 1,8 | 1,9 | 0,00090 | 4 | 9,0 | 5 | 9,0 | 4 | 8,8 | 7,5 | 5500 | 8,00 |
| | 4 | 0,37 | 0,50 | 1416 | 1,3 | 61,0 | 0,69 | 3,3 | 1,9 | 2,5 | 0,00090 | 4 | 9,0 | 5 | 9,0 | 4 | 8,8 | 7,5 | 14000 | 8,00 |
| AD 80 A | 2 | 0,60 | 0,80 | 2864 | 2,5 | 49,8 | 0,69 | 4,0 | 2,0 | 2,0 | 0,00140 | 8 | 11,0 | 10 | 11,0 | 9 | 10,9 | 15,0 | 2700 | 9,70 |
| | 4 | 0,45 | 0,60 | 1437 | 1,5 | 61,0 | 0,72 | 3,9 | 1,9 | 3,0 | 0,00140 | 8 | 11,0 | 10 | 11,0 | 9 | 10,9 | 15,0 | 9000 | 9,70 |
| AD 80 B | 2 | 0,80 | 1,20 | 2843 | 2,2 | 68,7 | 0,78 | 4,8 | 2,1 | 2,7 | 0,00170 | 8 | 13,0 | 10 | 13,0 | 9 | 12,1 | 15,0 | 2700 | 11,00 |
| | 4 | 0,60 | 0,90 | 1411 | 1,7 | 68,8 | 0,73 | 4,2 | 2,0 | 4,1 | 0,00170 | 8 | 13,0 | 10 | 13,0 | 9 | 12,1 | 15,0 | 9000 | 11,00 |
| AD 80 C | 2 | 1,10 | 1,50 | 2866 | 2,7 | 65,1 | 0,89 | 4,8 | 1,9 | 3,7 | 0,00230 | 8 | 14,0 | 10 | 14,0 | 9 | 13,4 | 15,0 | 2500 | 12,20 |
| | 4 | 0,80 | 1,10 | 1343 | 2,2 | 65,5 | 0,82 | 4,3 | 1,9 | 5,7 | 0,00230 | 8 | 14,0 | 10 | 14,0 | 9 | 13,4 | 15,0 | 8500 | 12,20 |
| AD 90 S | 2 | 1,40 | 1,91 | 2857 | 3,7 | 67,9 | 0,80 | 4,9 | 2,0 | 4,7 | 0,00330 | 16 | 17,0 | 20 | 17,0 | 10 | 14,7 | 30,0 | 2500 | 14,30 |
| | 4 | 1,00 | 1,36 | 1428 | 2,7 | 70,8 | 0,75 | 4,6 | 1,9 | 6,7 | 0,00330 | 16 | 17,0 | 20 | 17,0 | 10 | 14,7 | 30,0 | 8500 | 14,30 |
| AD 90 L | 2 | 1,70 | 2,30 | 2837 | 4,7 | 67,3 | 0,78 | 5,2 | 2,2 | 5,7 | 0,00400 | 16 | 19,0 | 20 | 19,0 | 10 | 16,2 | 30,0 | 2300 | 15,80 |
| | 4 | 1,30 | 1,80 | 1413 | 3,5 | 70,9 | 0,76 | 4,9 | 2,1 | 8,8 | 0,00400 | 16 | 19,0 | 20 | 19,0 | 10 | 16,2 | 30,0 | 8000 | 15,80 |
| AD 90 LB | 2 | 2,20 | 3,00 | 2864 | 5,3 | 73,0 | 0,82 | 5,3 | 2,1 | 7,3 | 0,00500 | 16 | 21,0 | 20 | 21,0 | 10 | 18,2 | 30,0 | 2300 | 17,80 |
| | 4 | 1,50 | 2,00 | 1435 | 3,8 | 74,5 | 0,76 | 5,0 | 2,0 | 10,0 | 0,00500 | 16 | 21,0 | 20 | 21,0 | 10 | 18,2 | 30,0 | 7800 | 17,80 |
| AD 100 A | 2 | 2,40 | 3,50 | 2840 | 5,7 | 77,0 | 0,79 | 5,8 | 2,3 | 8,1 | 0,00750 | 32 | 27,0 | 40 | 29,0 | 12 | 23,8 | 60,0 | 1600 | 23,60 |
| | 4 | 1,80 | 2,50 | 1420 | 4,5 | 74,0 | 0,78 | 5,6 | 2,1 | 12,1 | 0,00750 | 32 | 27,0 | 40 | 29,0 | 12 | 23,8 | 60,0 | 6000 | 23,60 |
| AD 100 B | 2 | 3,30 | 4,50 | 2860 | 7,9 | 75,9 | 0,80 | 6,8 | 2,4 | 11,0 | 0,00850 | 32 | 29,5 | 40 | 31,5 | 12 | 26,0 | 60,0 | 1500 | 25,80 |
| | 4 | 2,50 | 3,50 | 1421 | 5,8 | 79,8 | 0,78 | 6,3 | 2,2 | 16,8 | 0,00850 | 32 | 29,5 | 40 | 31,5 | 12 | 26,0 | 60,0 | 5500 | 25,80 |
| AD 100 BLA | 2 | 4,5 | 6,0 | 2880 | 10,4 | 79,9 | 0,78 | 5,4 | 2,3 | 14,8 | 0,00950 | 32 | 30,0 | 40 | 31,5 | 12 | 26,5 | 60,0 | 1500 | 26,3 |
| | 4 | 3,3 | 4,6 | 1420 | 7,5 | 81,2 | 0,77 | 4,9 | 2,1 | 22,0 | 0,00950 | 32 | 30,0 | 40 | 31,5 | 12 | 26,5 | 60,0 | 5500 | 26,3 |
| AD 112 A | 2 | 4,50 | 6,00 | 2890 | 10,3 | 78,2 | 0,81 | 6,9 | 2,3 | 14,9 | 0,01300 | 60 | 40,0 | 60 | 42,0 | 13 | 26,7 | 60,0 | 800 | 39,00 |
| | 4 | 3,30 | 4,60 | 1440 | 7,4 | 81,7 | 0,79 | 6,3 | 2,1 | 21,9 | 0,01300 | 60 | 40,0 | 60 | 42,0 | 13 | 26,7 | 60,0 | 3400 | 39,00 |
| AD 112 B | 2 | 5,50 | 7,60 | 2850 | 14,0 | 70,0 | 0,81 | 7,2 | 2,1 | 18,4 | 0,01600 | 60 | 43,0 | 60 | 45,0 | 13 | 39,7 | 60,0 | 750 | 42,00 |
| | 4 | 4,50 | 6,00 | 1430 | 10,8 | 80,0 | 0,76 | 6,7 | 2,0 | 30,1 | 0,01600 | 60 | 43,0 | 60 | 45,0 | 13 | 39,7 | 60,0 | 3200 | 42,00 |
| AD 132 S | 2 | 5,50 | 7,60 | 2890 | 13,8 | 86,0 | 0,67 | 7,0 | 2,4 | 18,2 | 0,02400 | 80 | 57,0 | 90 | 58,0 | 17 | 48,5 | 120,0 | 350 | 55,50 |
| | 4 | 4,50 | 6,00 | 1450 | 10,8 | 69,5 | 0,87 | 6,4 | 2,2 | 29,7 | 0,02400 | 80 | 57,0 | 90 | 58,0 | 17 | 48,5 | 120,0 | 900 | 55,50 |
| AD 132 M | 2 | 7,50 | 10,00 | 2900 | 18,6 | 74,0 | 0,79 | 7,3 | 2,4 | 24,7 | 0,03300 | 80 | 66,0 | 90 | 67,0 | 17 | 57,5 | 120,0 | 350 | 64,50 |
| | 4 | 6,00 | 8,00 | 1450 | 15,5 | 76,0 | 0,74 | 6,2 | 2,4 | 39,5 | 0,03300 | 80 | 66,0 | 90 | 67,0 | 17 | 57,5 | 120,0 | 850 | 64,50 |
| AD 132 ML | 2 | 9,00 | 12,00 | 2940 | 19,6 | 85,0 | 0,78 | 7,3 | 2,4 | 29,3 | 0,03500 | 80 | 66,0 | 90 | 67,0 | 17 | 57,5 | 120,0 | 350 | 64,50 |
| | 4 | 7,00 | 9,30 | 1460 | 14,8 | 85,0 | 0,80 | 6,2 | 2,4 | 45,8 | 0,03500 | 80 | 66,0 | 90 | 67,0 | 17 | 57,5 | 120,0 | 850 | 64,50 |
| AD 160 M | 2 | 11,00 | 15,00 | 2948 | 24,0 | 81,0 | 0,82 | 5,6 | 2,4 | 36,5 | 0,06200 | 150 | 110,0 | - | - | 30 | 97,0 | 240,0 | 270 | 110,50 |
| | 4 | 9,00 | 12,00 | 1450 | 18,0 | 88,0 | 0,84 | 5,3 | 2,3 | 59,3 | 0,06200 | 150 | 110,0 | - | - | 30 | 97,0 | 240,0 | 720 | 110,50 |
| AD 160 L | 2 | 15,00 | 20,00 | 2950 | 34,0 | 85,0 | 0,75 | 6,2 | 2,6 | 48,6 | 0,07400 | 150 | 121,0 | - | - | 30 | 108,0 | 240,0 | 225 | 121,50 |
| | 4 | 12,50 | 18,50 | 1450 | 26,0 | 88,0 | 0,81 | 5,8 | 2,5 | 82,4 | 0,07400 | 150 | 121,0 | - | - | 30 | 108,0 | 240,0 | 675 | 121,50 |
| AD 180 M | 2 | 18,50 | 25,00 | 2920 | 36,0 | 85,0 | 0,87 | 6,2 | 2,6 | 60,5 | 0,13000 | 260 | 134,0 | - | - | - | - | 480,0 | 200 | 135,50 |
| | 4 | 15,00 | 18,50 | 1450 | 28,0 | 86,0 | 0,90 | 5,8 | 2,5 | 98,8 | 0,13000 | 260 | 134,0 | - | - | - | - | 480,0 | 200 | 135,50 |
| AD 180 L | 2 | 22,00 | 30,00 | 2920 | 39,0 | 93,0 | 0,88 | 6,3 | 2,2 | 72,0 | 0,15000 | 260 | 149,0 | - | - | - | - | 480,0 | 200 | 150,50 |
| | 4 | 18,50 | 25,00 | 1450 | 33,0 | 92,0 | 0,88 | 5,9 | 2,0 | 122 | 0,15000 | 260 | 149,0 | - | - | - | - | 480,0 | 200 | 150,50 |
| AD 200 L | 2 | 30,00 | 40,00 | 2900 | 55,0 | 88,0 | 0,90 | 7,0 | 2,5 | 98,8 | 0,20000 | 400 | 179,0 | - | - | - | - | 480,0 | 100 | 180,50 |
| | 4 | 25,00 | 34,00 | 1430 | 47,0 | 87,0 | 0,88 | 6,5 | 2,5 | 167 | 0,20000 | 400 | 179,0 | - | - | - | - | 480,0 | 100 | 180,50 |

| Size 50 e 56 no freni UL/CSA | *Size 50 and 56 no brakes UL/CSA* | Größe 50 e 56 keine Bremsen UL / CSA |
|---|---|---|

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DRESHSTROM**

# AD

**A**

## 4/8 P 1500/750 min$^{-1}$

**Unico avvolgimento**
***Single winding***
**Einlagige Wicklung**

Standard

V 400/50 Hz

**FD** Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor

**FA** Autofrenante in A.C. *Brake motor In A.C.* Drehstrom-Bremsmotor

**FS** Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor

**FP** Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor

| Tipo *Type* Typ DAH | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AD 63 C | 4 | 0,09 | 0,12 | 1360 | 0,60 | 40,0 | 0,54 | 3,3 | 1,0 | 0,63 | 0,00090 | 4 | 6,0 | 5 | 6,0 | 4 | 5,4 | 7,5 | 9900 | 5,0 |
| | 8 | 0,04 | 0,06 | 660 | 0,90 | 30,0 | 0,21 | 2,3 | 1,3 | 0,58 | 0,00090 | 4 | 6,0 | 5 | 6,0 | 4 | 5,4 | 7,5 | 27000 | 5,0 |
| AD 71 B | 4 | 0,18 | 0,25 | 1370 | 0,80 | 42,9 | 0,76 | 3,4 | 1,1 | 1,3 | 0,00180 | 4 | 8,0 | 5 | 8,0 | 4 | 7,6 | 7,5 | 9900 | 7,0 |
| | 8 | 0,11 | 0,15 | 670 | 0,90 | 54,9 | 0,32 | 2,4 | 1,4 | 1,6 | 0,00180 | 4 | 8,0 | 5 | 8,0 | 4 | 7,6 | 7,5 | 27000 | 7,0 |
| AD 71 C | 4 | 0,30 | 0,40 | 1393 | 0,83 | 63,7 | 0,82 | 3,5 | 1,4 | 2,1 | 0,00200 | 4 | 9,0 | 5 | 9,0 | 4 | 8,8 | 7,5 | 9000 | 8,0 |
| | 8 | 0,15 | 0,20 | 677 | 0,87 | 40,5 | 0,62 | 2,4 | 1,6 | 2,1 | 0,00200 | 4 | 9,0 | 5 | 9,0 | 4 | 8,8 | 7,5 | 25000 | 8,0 |
| AD 80 A | 4 | 0,37 | 0,50 | 1434 | 0,99 | 69,8 | 0,77 | 3,5 | 1,5 | 2,5 | 0,00250 | 8 | 11,0 | 10 | 11,0 | 9 | 10,9 | 15,0 | 8000 | 9,7 |
| | 8 | 0,18 | 0,25 | 717 | 1,1 | 50,0 | 0,47 | 2,4 | 1,6 | 2,4 | 0,00250 | 8 | 11,0 | 10 | 11,0 | 9 | 10,9 | 15,0 | 20000 | 9,7 |
| AD 80 B | 4 | 0,55 | 0,75 | 1439 | 1,5 | 73,4 | 0,73 | 3,6 | 1,6 | 3,7 | 0,00280 | 8 | 15,0 | 10 | 15,0 | 9 | 12,1 | 15,0 | 8000 | 11,0 |
| | 8 | 0,30 | 0,40 | 704 | 1,8 | 45,1 | 0,55 | 2,5 | 1,9 | 4,1 | 0,00280 | 8 | 15,0 | 10 | 15,0 | 9 | 12,1 | 15,0 | 20000 | 11,0 |
| AD 80 C | 4 | 0,75 | 1,00 | 1360 | 1,8 | 71,0 | 0,87 | 4,0 | 1,6 | 5,3 | 0,00300 | 8 | 15,6 | 10 | 15,6 | 9 | 12,7 | 15,0 | 7500 | 11,5 |
| | 8 | 0,37 | 0,50 | 670 | 1,9 | 51,0 | 0,56 | 3,3 | 1,8 | 5,3 | 0,00300 | 8 | 15,6 | 10 | 15,6 | 9 | 12,7 | 15,0 | 19000 | 11,5 |
| AD 90 S | 4 | 0,75 | 1,00 | 1422 | 2,0 | 68,1 | 0,78 | 4,0 | 1,7 | 5,0 | 0,00430 | 16 | 17,0 | 20 | 17,0 | 10 | 14,7 | 30,0 | 9000 | 14,5 |
| | 8 | 0,37 | 0,50 | 702 | 1,8 | 51,9 | 0,58 | 3,2 | 2,0 | 5,0 | 0,00430 | 16 | 17,0 | 20 | 17,0 | 10 | 14,7 | 30,0 | 13500 | 14,5 |
| AD 90 L | 4 | 0,90 | 1,30 | 1425 | 2,3 | 69,9 | 0,81 | 4,4 | 1,8 | 6,0 | 0,00550 | 16 | 19,0 | 20 | 19,0 | 10 | 16,2 | 30,0 | 7500 | 16,0 |
| | 8 | 0,50 | 0,70 | 693 | 2,0 | 55,9 | 0,65 | 3,5 | 2,3 | 6,9 | 0,00550 | 16 | 19,0 | 20 | 19,0 | 10 | 16,2 | 30,0 | 11500 | 16,0 |
| AD 90 LB | 4 | 1,10 | 1,50 | 1434 | 3,2 | 69,2 | 0,71 | 4,2 | 1,7 | 7,3 | 0,00550 | 16 | 21,5 | 20 | 21,5 | 10 | 18,2 | 30,0 | 7000 | 18,5 |
| | 8 | 0,60 | 0,80 | 698 | 2,9 | 55,2 | 0,54 | 3,6 | 2,1 | 8,2 | 0,00550 | 16 | 21,5 | 20 | 21,5 | 10 | 18,2 | 30,0 | 10500 | 18,5 |
| AD 100 A | 4 | 1,40 | 1,90 | 1369 | 3,4 | 66,8 | 0,88 | 4,0 | 1,8 | 9,8 | 0,00770 | 32 | 27,0 | 40 | 29,0 | 12 | 23,8 | 60,0 | 3700 | 23,6 |
| | 8 | 0,70 | 0,90 | 674 | 2,5 | 61,6 | 0,66 | 3,3 | 1,9 | 9,9 | 0,00770 | 32 | 27,0 | 40 | 29,0 | 12 | 23,8 | 60,0 | 7700 | 23,6 |
| AD 100 B | 4 | 1,60 | 2,20 | 1432 | 3,5 | 80,1 | 0,84 | 5,0 | 2,0 | 10,7 | 0,00860 | 32 | 29,0 | 40 | 31,0 | 12 | 25,5 | 60,0 | 3500 | 25,3 |
| | 8 | 0,90 | 1,20 | 692 | 3,4 | 66,0 | 0,58 | 4,0 | 1,7 | 12,4 | 0,00860 | 32 | 29,0 | 40 | 31,0 | 12 | 25,5 | 60,0 | 7400 | 25,3 |
| AD 112 A | 4 | 1,70 | 2,40 | 1461 | 3,6 | 79,0 | 0,85 | 5,5 | 1,7 | 11,1 | 0,01200 | 60 | 41,0 | 60 | 41,0 | 13 | 35,7 | 60,0 | 3400 | 38,0 |
| | 8 | 1,00 | 1,40 | 722 | 3,3 | 69,0 | 0,64 | 4,1 | 1,9 | 13,2 | 0,01200 | 60 | 41,0 | 60 | 41,0 | 13 | 35,7 | 60,0 | 7200 | 38,0 |
| AD 112 B | 4 | 2,20 | 3,00 | 1464 | 4,8 | 83,0 | 0,79 | 5,3 | 1,5 | 14,4 | 0,01500 | 60 | 46,0 | 60 | 46,0 | 13 | 40,7 | 60,0 | 3200 | 43,0 |
| | 8 | 1,40 | 1,90 | 720 | 5,0 | 71,5 | 0,56 | 4,0 | 1,7 | 18,6 | 0,01500 | 60 | 46,0 | 60 | 46,0 | 13 | 40,7 | 60,0 | 6800 | 43,0 |
| AD 132 S | 4 | 3,70 | 5,00 | 1423 | 7,3 | 81,0 | 0,91 | 5,0 | 2,0 | 24,8 | 0,03000 | 80 | 59,0 | 90 | 60,0 | 17 | 50,5 | 120,0 | 900 | 57,5 |
| | 8 | 2,20 | 3,00 | 723 | 6,7 | 76,2 | 0,62 | 3,5 | 2,1 | 29,1 | 0,03000 | 80 | 59,0 | 90 | 60,0 | 17 | 50,5 | 120,0 | 1600 | 57,5 |
| AD 132 M | 4 | 5,10 | 7,00 | 1440 | 11,1 | 80,0 | 0,83 | 5,1 | 1,9 | 33,8 | 0,04000 | 80 | 69,0 | 90 | 70,0 | 17 | 60,5 | 120,0 | 900 | 67,5 |
| | 8 | 3,60 | 4,00 | 712 | 8,7 | 74,0 | 0,68 | 3,6 | 2,0 | 40,3 | 0,04000 | 80 | 69,0 | 90 | 70,0 | 17 | 60,5 | 120,0 | 1600 | 67,5 |
| AD 132 ML | 4 | 6,10 | 8,30 | 1440 | 12,0 | 78,0 | 0,90 | 5,3 | 1,8 | 41,3 | 0,05000 | 80 | 71,0 | 90 | 72,0 | 17 | 62,5 | 120,0 | 900 | 69,5 |
| | 8 | 3,60 | 4,90 | 710 | 11,0 | 78,0 | 0,66 | 3,9 | 1,7 | 50,0 | 0,05000 | 80 | 71,0 | 90 | 72,0 | 17 | 62,5 | 120,0 | 1600 | 69,5 |
| AD 160 M | 4 | 7,00 | 9,50 | 1430 | 14,0 | 83,0 | 0,87 | 5,2 | 2,0 | 46,8 | 0,08800 | 150 | 93,0 | 200 | 91,0 | 30 | 81,0 | 240,0 | 850 | 94,5 |
| | 8 | 5,00 | 6,60 | 710 | 13,0 | 78,0 | 0,71 | 4,0 | 2,1 | 67,3 | 0,08800 | 150 | 93,0 | 200 | 91,0 | 30 | 81,0 | 240,0 | 1500 | 94,5 |
| AD 160 L | 4 | 10,00 | 13,50 | 1430 | 20,5 | 86,0 | 0,82 | 5,3 | 2,0 | 66,8 | 0,11200 | 150 | 109,0 | 200 | 107,0 | 30 | 97,0 | 240,0 | 850 | 110,5 |
| | 8 | 7,00 | 9,50 | 710 | 17,5 | 78,0 | 0,74 | 4,4 | 2,2 | 94,2 | 0,11200 | 150 | 109,0 | 200 | 107,0 | 30 | 97,0 | 240,0 | 1500 | 110,5 |
| AD 160 LB | 4 | 12,00 | 16,00 | 1440 | 24,5 | 87,0 | 0,81 | 5,3 | 2,0 | 79,6 | 0,13000 | 150 | 129,0 | 200 | 127,0 | 30 | 117,0 | 240,0 | 850 | 130,5 |
| | 8 | 8,00 | 10,50 | 720 | 20,0 | 80,0 | 0,72 | 4,4 | 2,2 | 106 | 0,13000 | 150 | 129,0 | 200 | 127,0 | 30 | 117,0 | 240,0 | 1500 | 130,5 |
| AD 180 L | 4 | 18,50 | 25,00 | 1440 | 34,0 | 90,0 | 0,87 | 6,2 | 2,0 | 123 | 0,21000 | 260 | 145,0 | 400 | 144,0 | - | - | 480,0 | 200 | 145,5 |
| | 8 | 11,00 | 15,00 | 720 | 27,0 | 83,0 | 0,71 | 5,8 | 1,8 | 146 | 0,21000 | 260 | 145,0 | 400 | 144,0 | - | - | 480,0 | 200 | 145,5 |
| AD 200 L | 4 | 25,00 | 34,00 | 1420 | 49,0 | 90,0 | 0,82 | 6,6 | 2,3 | 168 | 0,25000 | 400 | 170,0 | 400 | 169,0 | - | - | 480,0 | 100 | 170,5 |
| | 8 | 17,00 | 23,00 | 710 | 39,0 | 86,0 | 0,73 | 5,8 | 2,2 | 229 | 0,25000 | 400 | 170,0 | 400 | 169,0 | - | - | 480,0 | 100 | 170,5 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# AD

**4/6 P 1500/1000 min$^{-1}$**

**Doppio avvolgimento**
***Double winding***
**Doppellagige Wicklung**

Standard

V 400/50 Hz

| | | | | | | | | | | | | FD Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FA Autofrenante in A.C. *Brake motor In A.C.* Drehstrom-Bremsmotor | | FS Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FP Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tipo *Type* Typ DAV | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | CF [Nm] | Kg | CF [Nm] | Kg | CF [Nm] | Kg | CF [Nm] | $Z_0$ [1/h] | Kg |
| **AD 71 B** | 4 | 0,30 | 0,40 | 1380 | 1,1 | 71,5 | 0,55 | 3,4 | 1,2 | 2,1 | 0,00090 | 4 | 8,0 | 5 | 8,0 | 4 | 7,6 | 7,5 | 6700 | 7,0 |
| | 6 | 0,20 | 0,30 | 870 | 1,0 | 72,5 | 0,40 | 2,8 | 1,0 | 2,2 | 0,00090 | 4 | 8,0 | 5 | 8,0 | 4 | 7,6 | 7,5 | 13500 | 7,0 |
| **AD 71 C** | 4 | 0,37 | 0,50 | 1405 | 1,1 | 61,0 | 0,78 | 3,4 | 1,3 | 2,5 | 0,00100 | 4 | 9,0 | 5 | 9,0 | 4 | 8,80 | 7,5 | 6700 | 8,0 |
| | 6 | 0,22 | 0,30 | 926 | 0,97 | 50,0 | 0,66 | 2,7 | 1,1 | 2,3 | 0,00100 | 4 | 9,0 | 5 | 9,0 | 4 | 8,80 | 7,5 | 13500 | 8,0 |
| **AD 80 A** | 4 | 0,37 | 0,50 | 1400 | 1,3 | 62,8 | 0,65 | 3,8 | 1,3 | 2,5 | 0,00200 | 8 | 11,0 | 10 | 11,0 | 9 | 10,90 | 7,5 | 6300 | 9,7 |
| | 6 | 0,25 | 0,35 | 900 | 1,2 | 49,3 | 0,61 | 3,0 | 1,2 | 2,7 | 0,00200 | 8 | 11,0 | 10 | 11,0 | 9 | 10,90 | 7,5 | 13500 | 9,7 |
| **AD 80 B** | 4 | 0,55 | 0,75 | 1419 | 1,6 | 61,0 | 0,80 | 3,8 | 1,3 | 3,7 | 0,00200 | 8 | 13,0 | 10 | 13,0 | 9 | 12,10 | 15,0 | 6300 | 11,0 |
| | 6 | 0,45 | 0,60 | 913 | 1,5 | 57,4 | 0,77 | 3,1 | 1,3 | 4,7 | 0,00200 | 8 | 13,0 | 10 | 13,0 | 9 | 12,10 | 15,0 | 13500 | 11,0 |
| **AD 90 S** | 4 | 0,75 | 1,00 | 1385 | 2,1 | 61,0 | 0,85 | 4,2 | 1,5 | 5,2 | 0,00350 | 16 | 17,0 | 20 | 17,0 | 10 | 14,70 | 30,0 | 5400 | 14,5 |
| | 6 | 0,50 | 0,70 | 900 | 1,7 | 55,3 | 0,75 | 3,2 | 1,4 | 5,3 | 0,00350 | 16 | 17,0 | 20 | 17,0 | 10 | 14,70 | 30,0 | 11000 | 14,5 |
| **AD 90 L** | 4 | 0,95 | 1,30 | 1448 | 3,2 | 60,0 | 0,72 | 4,5 | 1,6 | 6,3 | 0,00450 | 16 | 19,0 | 20 | 19,0 | 10 | 16,20 | 30,0 | 5000 | 16,0 |
| | 6 | 0,60 | 0,80 | 938 | 2,7 | 51,0 | 0,63 | 3,5 | 1,5 | 6,1 | 0,00450 | 16 | 19,0 | 20 | 19,0 | 10 | 16,20 | 30,0 | 9000 | 16,0 |
| **AD 90 LB** | 4 | 1,10 | 1,50 | 1430 | 3,4 | 71,8 | 0,66 | 4,5 | 1,6 | 7,4 | 0,00500 | 16 | 21,0 | 20 | 21,0 | 10 | 18,20 | 30,0 | 4500 | 18,0 |
| | 6 | 0,75 | 1,00 | 930 | 2,9 | 62,5 | 0,61 | 3,6 | 1,6 | 7,7 | 0,00500 | 16 | 21,0 | 20 | 21,0 | 10 | 18,20 | 30,0 | 8000 | 18,0 |
| **AD 100 A** | 4 | 1,30 | 1,80 | 1405 | 3,2 | 70,4 | 0,84 | 5,3 | 1,7 | 8,8 | 0,00900 | 32 | 25,5 | 40 | 27,5 | 12 | 22,50 | 60,0 | 1800 | 22,3 |
| | 6 | 0,90 | 1,20 | 908 | 2,9 | 61,6 | 0,73 | 4,2 | 1,6 | 9,5 | 0,00900 | 32 | 25,5 | 40 | 27,5 | 12 | 22,50 | 60,0 | 4500 | 22,3 |
| **AD 100 B** | 4 | 1,50 | 2,00 | 1446 | 3,4 | 81,0 | 0,79 | 5,4 | 1,9 | 9,9 | 0,01000 | 32 | 29,0 | 40 | 33,0 | 12 | 25,50 | 60,0 | 1600 | 25,3 |
| | 6 | 1,10 | 1,50 | 938 | 3,3 | 68,1 | 0,70 | 4,4 | 1,5 | 11,2 | 0,01000 | 32 | 29,0 | 40 | 33,0 | 12 | 25,50 | 60,0 | 4000 | 25,3 |
| **AD 112 A** | 4 | 1,80 | 2,50 | 1459 | 4,9 | 71,8 | 0,74 | 6,2 | 1,8 | 11,8 | 0,01500 | 60 | 41,0 | 60 | 41,0 | 13 | 35,70 | 60,0 | 1500 | 38,0 |
| | 6 | 1,30 | 1,80 | 961 | 3,7 | 72,7 | 0,69 | 4,8 | 1,7 | 12,9 | 0,01500 | 60 | 41,0 | 60 | 41,0 | 13 | 35,70 | 60,0 | 3600 | 38,0 |
| **AD 112 B** | 4 | 2,60 | 3,50 | 1469 | 6,8 | 78,6 | 0,70 | 5,5 | 1,6 | 16,9 | 0,01600 | 60 | 45,0 | 60 | 47,0 | 13 | 41,73 | 60,0 | 1500 | 44,0 |
| | 6 | 1,80 | 2,50 | 973 | 4,7 | 76,0 | 0,73 | 4,0 | 1,4 | 17,7 | 0,01600 | 60 | 45,0 | 60 | 47,0 | 13 | 41,73 | 60,0 | 3600 | 44,0 |
| **AD 132 S** | 4 | 3,70 | 5,00 | 1442 | 7,9 | 81,3 | 0,84 | 5,8 | 1,9 | 24,5 | 0,03000 | 80 | 57,0 | 90 | 58,0 | 17 | 48,50 | 120,0 | 540 | 55,5 |
| | 6 | 2,80 | 3,80 | 964 | 7,0 | 77,6 | 0,74 | 4,5 | 1,7 | 27,8 | 0,03000 | 80 | 57,0 | 90 | 58,0 | 17 | 48,50 | 120,0 | 900 | 55,5 |
| **AD 132 M** | 4 | 5,50 | 7,50 | 1450 | 12,0 | 83,0 | 0,80 | 6,0 | 2,0 | 36,2 | 0,03300 | 80 | 65,0 | 90 | 66,0 | 17 | 56,50 | 120,0 | 540 | 63,5 |
| | 6 | 4,00 | 5,50 | 950 | 10,0 | 80,0 | 0,72 | 5,0 | 2,0 | 40,2 | 0,03300 | 80 | 65,0 | 90 | 66,0 | 17 | 56,50 | 120,0 | 900 | 63,5 |
| **AD 160 M** | 4 | 7,50 | 10,00 | 1450 | 15,5 | 86,0 | 0,81 | 6,2 | 1,8 | 49,4 | 0,09000 | 150 | 93,0 | 200 | 98,0 | 30 | 81,00 | 240,0 | 450 | 100,5 |
| | 6 | 4,80 | 6,50 | 950 | 11,0 | 81,0 | 0,78 | 5,5 | 1,4 | 48,3 | 0,09000 | 150 | 93,0 | 200 | 98,0 | 30 | 81,00 | 240,0 | 800 | 100,5 |
| **AD 160 L** | 4 | 9,50 | 13,00 | 1430 | 19,0 | 87,0 | 0,83 | 6,5 | 2,0 | 63,5 | 0,11000 | 150 | 109,0 | 200 | 107,0 | 30 | 97,00 | 240,0 | 450 | 110,5 |
| | 6 | 6,60 | 9,00 | 940 | 15,0 | 82,0 | 0,78 | 5,0 | 1,4 | 67,1 | 0,11000 | 150 | 109,0 | 200 | 107,0 | 30 | 97,00 | 240,0 | 800 | 110,5 |
| **AD 160 LB** | 4 | 11,00 | 15,00 | 1430 | 22,0 | 87,0 | 0,83 | 6,5 | 2,0 | 73,5 | 0,13000 | 150 | 129,0 | 200 | 127,0 | 30 | 117,00 | 240,0 | 450 | 130,5 |
| | 6 | 7,50 | 10,00 | 940 | 17,0 | 82,0 | 0,78 | 5,0 | 1,4 | 76,2 | 0,13000 | 150 | 129,0 | 200 | 127,0 | 30 | 117,00 | 240,0 | 800 | 130,5 |
| **AD 180 M** | 4 | 12,50 | 15,00 | 1420 | 24,0 | 88,0 | 0,86 | 6,8 | 1,8 | 84,1 | 0,15000 | 260 | 134,0 | 400 | 134,0 | - | - | 480,0 | 200 | 135,5 |
| | 6 | 9,60 | 13,00 | 940 | 20,0 | 85,0 | 0,82 | 5,8 | 1,4 | 97,6 | 0,15000 | 260 | 134,0 | 400 | 134,0 | - | - | 480,0 | 200 | 135,5 |
| **AD 180 L** | 4 | 15,00 | 17,00 | 1420 | 28,0 | 91,0 | 0,85 | 7,0 | 1,7 | 101 | 0,17000 | 260 | 149,0 | 400 | 149,0 | - | - | 480,0 | 200 | 150,5 |
| | 6 | 11,00 | 15,00 | 930 | 23,0 | 86,0 | 0,80 | 5,8 | 1,4 | 113 | 0,17000 | 260 | 149,0 | 400 | 149,0 | - | - | 480,0 | 200 | 150,5 |
| **AD 200 L** | 4 | 22,00 | 30,00 | 1420 | 40,0 | 91,0 | 0,87 | 7,0 | 1,6 | 148 | 0,18000 | 400 | 169,0 | 400 | 169,0 | - | - | 480,0 | 100 | 170,5 |
| | 6 | 13,50 | 18,00 | 940 | 28,0 | 86,0 | 0,81 | 6,0 | 1,4 | 137 | 0,18000 | 400 | 169,0 | 400 | 169,0 | - | - | 480,0 | 100 | 170,5 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# AD

A

**4/6 P 1500/1000 min$^{-1}$**

**Unico avvolgimento**
**Single winding**
**Einlagige Wicklung**

Standard
V 400/50 Hz

| Tipo *Type* Typ | | Pn | | $n_n$ | In (400V 50Hz) | η | cos φ | Ia/In | Ca/Cn | Cn | $J_m$ | FD Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FA Autofrenante in A.C. *Brake motor In A.C.* Drehstrom-Bremsmotor | | FS Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FP Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PAM | Poli *Poles* Plzahl | [kW] | [HP] | [min$^{-1}$] | [A] | % | | | | [Nm] | [Kgm$^2$] | CF [Nm] | Kg | CF [Nm] | Kg | CF [Nm] | Kg | CF [Nm] | $Z_0$ [1/h] | Kg |
| **AD 71 B** | 4 | 0,25 | 0,34 | 1380 | 1,1 | 71,5 | 0,46 | 3,4 | 1,2 | 1,7 | 0,00090 | 4 | 8,0 | 5 | 8,0 | 4 | 7,6 | 7,5 | 6700 | 7,0 |
| | 6 | 0,15 | 0,20 | 870 | 1,0 | 72,5 | 0,30 | 2,8 | 1,0 | 1,7 | 0,00090 | 4 | 8,0 | 5 | 8,0 | 4 | 7,6 | 7,5 | 13500 | 7,0 |
| **AD 71 C** | 4 | 0,37 | 0,50 | 1380 | 1,2 | 63,2 | 0,74 | 3,4 | 1,3 | 2,6 | 0,00100 | 4 | 9,0 | 5 | 9,0 | 4 | 8,80 | 7,5 | 6700 | 8,0 |
| | 6 | 0,22 | 0,30 | 880 | 1,0 | 53,4 | 0,59 | 2,7 | 1,1 | 2,4 | 0,00100 | 4 | 9,0 | 5 | 9,0 | 4 | 8,80 | 7,5 | 13500 | 8,0 |
| **AD 80 A** | 4 | 0,50 | 0,68 | 1400 | 1,5 | 60,0 | 0,80 | 3,8 | 1,3 | 3,4 | 0,00200 | 8 | 11,0 | 10 | 11,0 | 9 | 10,90 | 7,5 | 6300 | 9,7 |
| | 6 | 0,37 | 0,50 | 900 | 1,6 | 49,3 | 0,68 | 3,0 | 1,2 | 3,9 | 0,00200 | 8 | 11,0 | 10 | 11,0 | 9 | 10,90 | 15,0 | 13500 | 9,7 |
| **AD 80 B** | 4 | 0,66 | 0,90 | 1410 | 1,8 | 64,0 | 0,83 | 3,8 | 1,3 | 4,5 | 0,00200 | 8 | 13,0 | 10 | 13,0 | 9 | 12,10 | 15,0 | 6300 | 11,0 |
| | 6 | 0,48 | 0,65 | 910 | 1,7 | 57,4 | 0,71 | 3,1 | 1,3 | 5,0 | 0,00200 | 8 | 13,0 | 10 | 13,0 | 9 | 12,10 | 15,0 | 13500 | 11,0 |
| **AD 90 S** | 4 | 0,95 | 1,30 | 1420 | 2,3 | 73,0 | 0,82 | 4,2 | 1,5 | 6,4 | 0,00350 | 16 | 17,0 | 20 | 17,0 | 10 | 14,70 | 30,0 | 5400 | 14,5 |
| | 6 | 0,60 | 0,82 | 920 | 2,0 | 60,0 | 0,72 | 3,2 | 1,4 | 6,2 | 0,00350 | 16 | 17,0 | 20 | 17,0 | 10 | 14,70 | 30,0 | 11000 | 14,5 |
| **AD 90 L** | 4 | 1,30 | 1,77 | 1430 | 3,1 | 74,0 | 0,82 | 4,5 | 1,6 | 8,7 | 0,00450 | 16 | 19,0 | 20 | 19,0 | 10 | 16,20 | 30,0 | 5000 | 16,0 |
| | 6 | 0,95 | 1,29 | 930 | 2,9 | 62,0 | 0,76 | 3,5 | 1,5 | 9,8 | 0,00450 | 16 | 19,0 | 20 | 19,0 | 10 | 16,20 | 30,0 | 9000 | 16,0 |
| **AD 90 LB** | 4 | 1,50 | 2,00 | 1435 | 4,2 | 74,0 | 0,69 | 4,5 | 1,6 | 10,0 | 0,00500 | 16 | 21,0 | 20 | 21,0 | 10 | 18,20 | 30,0 | 4500 | 18,0 |
| | 6 | 1,10 | 1,50 | 924 | 3,1 | 67,0 | 0,77 | 3,6 | 1,6 | 11,4 | 0,00500 | 16 | 21,0 | 20 | 21,0 | 10 | 18,20 | 30,0 | 8000 | 18,0 |
| **AD 100 A** | 4 | 1,50 | 2,00 | 1430 | 3,5 | 75,0 | 0,83 | 5,3 | 1,7 | 10,0 | 0,00900 | 32 | 25,5 | 40 | 27,5 | 12 | 22,50 | 60,0 | 1800 | 22,3 |
| | 6 | 1,10 | 1,50 | 940 | 3,1 | 63,0 | 0,81 | 4,2 | 1,6 | 11,2 | 0,00900 | 32 | 25,5 | 40 | 27,5 | 12 | 22,50 | 60,0 | 4500 | 22,3 |
| **AD 100 B** | 4 | 2,20 | 3,00 | 1430 | 5,0 | 77,0 | 0,83 | 5,4 | 1,9 | 14,7 | 0,01000 | 32 | 29,0 | 40 | 33,0 | 12 | 25,50 | 60,0 | 1600 | 25,3 |
| | 6 | 1,50 | 2,00 | 940 | 4,2 | 71,0 | 0,81 | 4,4 | 1,5 | 15,3 | 0,01000 | 32 | 29,0 | 40 | 33,0 | 12 | 25,50 | 60,0 | 4000 | 25,3 |
| **AD 112 A** | 4 | 3,00 | 4,00 | 1450 | 7,4 | 77,0 | 0,84 | 6,2 | 1,8 | 19,8 | 0,01500 | 60 | 41,0 | 60 | 41,0 | 13 | 35,70 | 60,0 | 1500 | 38,0 |
| | 6 | 1,85 | 2,50 | 940 | 5,0 | 65,0 | 0,82 | 4,8 | 1,7 | 18,8 | 0,01500 | 60 | 41,0 | 60 | 41,0 | 13 | 35,70 | 60,0 | 3600 | 38,0 |
| **AD 112 B** | 4 | 4,00 | 5,50 | 1440 | 8,7 | 79,0 | 0,84 | 5,5 | 1,6 | 26,5 | 0,01600 | 60 | 45,0 | 60 | 47,0 | 13 | 41,73 | 60,0 | 1500 | 44,0 |
| | 6 | 2,20 | 3,00 | 950 | 5,2 | 74,0 | 0,83 | 4,0 | 1,4 | 22,1 | 0,01600 | 60 | 45,0 | 60 | 47,0 | 13 | 41,73 | 60,0 | 3600 | 44,0 |
| **AD 132 S** | 4 | 4,40 | 6,00 | 1430 | 10,0 | 80,0 | 0,85 | 5,8 | 1,9 | 31,4 | 0,03000 | 80 | 57,0 | 90 | 58,0 | 17 | 48,50 | 120,0 | 540 | 55,5 |
| | 6 | 3,30 | 4,40 | 940 | 8,0 | 77,6 | 0,82 | 4,5 | 1,7 | 30,5 | 0,03000 | 80 | 57,0 | 90 | 58,0 | 17 | 48,50 | 120,0 | 900 | 55,5 |
| **AD 132 M** | 4 | 6,00 | 8,16 | 1450 | 12,0 | 83,0 | 0,87 | 6,0 | 2,0 | 39,5 | 0,03300 | 80 | 65,0 | 90 | 66,0 | 17 | 56,50 | 120,0 | 540 | 63,5 |
| | 6 | 3,70 | 5,03 | 950 | 8,0 | 80,0 | 0,84 | 5,0 | 2,0 | 37,2 | 0,03300 | 80 | 65,0 | 90 | 66,0 | 17 | 56,50 | 120,0 | 900 | 63,5 |
| **AD 160 M** | 4 | 9,50 | 12,50 | 1450 | 19,0 | 84,0 | 0,86 | 6,2 | 1,8 | 59,3 | 0,09000 | 150 | 93,0 | 200 | 98,0 | 30 | 81,00 | 240,0 | 450 | 100,5 |
| | 6 | 6,60 | 8,80 | 950 | 15,0 | 84,0 | 0,82 | 5,5 | 1,4 | 60,3 | 0,09000 | 150 | 93,0 | 200 | 98,0 | 30 | 81,00 | 240,0 | 800 | 100,5 |
| **AD 160 L** | 4 | 11,00 | 14,96 | 1430 | 22,0 | 85,0 | 0,85 | 6,5 | 2,0 | 73,5 | 0,11000 | 150 | 109,0 | 200 | 114,0 | 30 | 97,00 | 240,0 | 450 | 110,5 |
| | 6 | 7,50 | 10,20 | 940 | 16,0 | 82,0 | 0,83 | 5,0 | 1,4 | 76,2 | 0,11000 | 150 | 109,0 | 200 | 114,0 | 30 | 97,00 | 240,0 | 800 | 110,5 |
| **AD 180 M** | 4 | 15,00 | 20,40 | 1410 | 29,0 | 88,0 | 0,85 | 6,8 | 1,8 | 102 | 0,15000 | 260 | 134,0 | 400 | 134,0 | - | - | 480,0 | 200 | 135,5 |
| | 6 | 10,00 | 13,60 | 950 | 21,0 | 83,0 | 0,83 | 5,8 | 1,4 | 101 | 0,15000 | 260 | 134,0 | 400 | 134,0 | - | - | 480,0 | 200 | 135,5 |
| **AD 180 L** | 4 | 18,50 | 25,16 | 1420 | 34,0 | 90,0 | 0,87 | 7,0 | 1,7 | 124 | 0,17000 | 260 | 149,0 | 400 | 149,0 | - | - | 480,0 | 200 | 150,5 |
| | 6 | 13,00 | 17,68 | 940 | 26,0 | 85,0 | 0,85 | 5,8 | 1,4 | 132 | 0,17000 | 260 | 149,0 | 400 | 149,0 | - | - | 480,0 | 200 | 150,5 |
| **AD 200 L** | 4 | 25,00 | 34,00 | 1460 | 48,0 | 90,0 | 0,84 | 7,0 | 1,6 | 164 | 0,18000 | 400 | 169,0 | 400 | 169,0 | - | - | 480,0 | 100 | 170,5 |
| | 6 | 15,00 | 20,40 | 910 | 32,0 | 86,0 | 0,79 | 6,0 | 1,4 | 157 | 0,18000 | 400 | 169,0 | 400 | 169,0 | - | - | 480,0 | 100 | 170,5 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# AD

**6/8 P 1000/750 min$^{-1}$**

**Doppio avvolgimento** ***Double winding*** **Doppellagige Wicklung**

Standard V 400/50 Hz

FD: Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor

FA: Autofrenante in A.C. *Brake motor In A.C.* Drehstrom-Bremsmotor

FS: Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor

FP: Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor

| Tipo *Type* Typ DAV | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AD 63 C | 6 | 0,07 | 0,10 | 890 | 0,5 | 26,0 | 0,78 | 2,2 | 1,8 | 0,75 | 0,00060 | 4 | 6,0 | 5 | 7,0 | 4 | 5,7 | 7,5 | 4500 | 4,8 |
| | 8 | 0,03 | 0,05 | 660 | 0,4 | 34,0 | 0,32 | 1,8 | 1,8 | 0,43 | 0,00060 | 4 | 6,0 | 5 | 7,0 | 4 | 5,7 | 7,5 | 5500 | 4,8 |
| AD 71 C | 6 | 0,18 | 0,25 | 900 | 0,9 | 47,0 | 0,61 | 2,3 | 1,9 | 1,9 | 0,00100 | 4 | 8,0 | 5 | 8,4 | 4 | 7,9 | 7,5 | 5500 | 7,6 |
| | 8 | 0,09 | 0,12 | 670 | 0,8 | 36,1 | 0,45 | 1,9 | 1,9 | 1,3 | 0,00100 | 4 | 8,0 | 5 | 8,4 | 4 | 7,9 | 7,5 | 14000 | 7,6 |
| AD 80 A | 6 | 0,20 | 0,28 | 963 | 0,9 | 50,0 | 0,66 | 2,5 | 2,0 | 2,0 | 0,00220 | 8 | 10,7 | 10 | 11,0 | 9 | 10,9 | 15,0 | 2700 | 10,7 |
| | 8 | 0,11 | 0,15 | 718 | 0,7 | 41,0 | 0,55 | 2,0 | 2,0 | 1,5 | 0,00220 | 8 | 10,7 | 10 | 11,0 | 9 | 10,9 | 15,0 | 9000 | 10,7 |
| AD 80 B | 6 | 0,37 | 0,50 | 900 | 1,8 | 53,0 | 0,56 | 3,5 | 2,0 | 3,9 | 0,00250 | 8 | 13,0 | 10 | 12,2 | 9 | 12,1 | 15,0 | 2500 | 13,0 |
| | 8 | 0,25 | 0,35 | 670 | 1,4 | 44,0 | 0,59 | 2,4 | 1,5 | 3,6 | 0,00250 | 8 | 13,0 | 10 | 12,2 | 9 | 12,1 | 15,0 | 8500 | 13,0 |
| AD 90 S | 6 | 0,37 | 0,50 | 920 | 1,6 | 54,0 | 0,62 | 3,4 | 2,2 | 3,8 | 0,00360 | 16 | 15,5 | 20 | 17,0 | 10 | 14,7 | 30,0 | 2500 | 15,5 |
| | 8 | 0,25 | 0,35 | 690 | 1,3 | 46,0 | 0,60 | 2,2 | 1,7 | 3,5 | 0,00360 | 16 | 15,5 | 20 | 17,0 | 10 | 14,7 | 30,0 | 8500 | 15,5 |
| AD 90 L | 6 | 0,55 | 0,75 | 920 | 2,1 | 48,6 | 0,78 | 3,4 | 2,1 | 5,7 | 0,00450 | 16 | 17,0 | 20 | 18,0 | 10 | 16,2 | 30,0 | 2300 | 14,6 |
| | 8 | 0,37 | 0,50 | 690 | 1,8 | 55,3 | 0,54 | 2,2 | 2,0 | 5,1 | 0,00450 | 16 | 17,0 | 20 | 18,0 | 10 | 16,2 | 30,0 | 8000 | 14,6 |
| AD 90 LB | 6 | 0,75 | 1,00 | 946 | 2,4 | 63,8 | 0,71 | 3,6 | 3,6 | 7,6 | 0,00500 | 16 | 21,0 | 20 | 22,0 | 10 | 20,2 | 30,0 | 2300 | 16,6 |
| | 8 | 0,55 | 0,75 | 691 | 2,2 | 57,0 | 0,64 | 2,3 | 2,3 | 7,6 | 0,00500 | 16 | 21,0 | 20 | 22,0 | 10 | 20,2 | 30,0 | 7800 | 16,6 |
| AD 100 A | 6 | 0,75 | 1,00 | 930 | 2,8 | 68,0 | 0,57 | 3,0 | 1,8 | 7,7 | 0,00900 | 32 | 23,0 | 40 | 25,5 | 12 | 22,5 | 60,0 | 1600 | 23,0 |
| | 8 | 0,55 | 0,75 | 700 | 2,1 | 43,0 | 0,88 | 2,1 | 1,6 | 7,5 | 0,00900 | 32 | 23,0 | 40 | 25,5 | 12 | 22,5 | 60,0 | 6000 | 23,0 |
| AD 100 B | 6 | 0,90 | 1,30 | 940 | 3,2 | 71,0 | 0,57 | 2,6 | 1,9 | 9,2 | 0,01000 | 32 | 26,0 | 40 | 29,0 | 12 | 25,5 | 60,0 | 1500 | 25,0 |
| | 8 | 0,75 | 1,00 | 710 | 2,8 | 46,0 | 0,84 | 1,9 | 1,7 | 10,1 | 0,01000 | 32 | 26,0 | 40 | 29,0 | 12 | 25,5 | 60,0 | 5500 | 25,0 |
| AD 112 A | 6 | 1,20 | 1,70 | 940 | 4,0 | 44,1 | 0,98 | 3,6 | 2,1 | 12,2 | 0,01500 | 60 | 38,0 | 60 | 41,0 | 13 | 35,7 | 60,0 | 1200 | 39,0 |
| | 8 | 0,90 | 1,30 | 710 | 3,5 | 42,1 | 0,88 | 2,4 | 1,9 | 12,1 | 0,01500 | 60 | 38,0 | 60 | 41,0 | 13 | 35,7 | 60,0 | 3400 | 39,0 |
| AD 132 S | 6 | 2,20 | 3,00 | 971 | 5,7 | 78,0 | 0,72 | 4,4 | 1,9 | 21,6 | 0,03000 | 60 | 54,0 | 90 | 60,0 | 17 | 49,5 | 120,0 | 900 | 57,0 |
| | 8 | 1,30 | 1,80 | 724 | 4,4 | 67,0 | 0,63 | 3,5 | 1,4 | 17,2 | 0,03000 | 60 | 54,0 | 90 | 60,0 | 17 | 49,5 | 120,0 | 1600 | 57,0 |
| AD 132 M | 6 | 3,00 | 4,00 | 960 | 7,0 | 80,0 | 0,77 | 5,0 | 2,0 | 29,9 | 0,04200 | 80 | 64,0 | 90 | 69,0 | 17 | 60,0 | 120,0 | 900 | 67,0 |
| | 8 | 1,50 | 2,00 | 715 | 5,0 | 70,0 | 0,62 | 4,0 | 1,8 | 20,0 | 0,04200 | 80 | 64,0 | 90 | 69,0 | 17 | 60,0 | 120,0 | 1600 | 67,0 |
| AD 160 M | 6 | 5,50 | 7,30 | 960 | 12,5 | 81,0 | 0,78 | 5,6 | 2,1 | 54,7 | 0,08800 | 150 | 84,0 | 200 | 87,0 | 30 | 75,0 | 240,0 | 800 | 92,0 |
| | 8 | 2,50 | 3,30 | 730 | 7,0 | 72,0 | 0,72 | 4,5 | 2,1 | 32,7 | 0,08800 | 150 | 84,0 | 200 | 87,0 | 30 | 75,0 | 240,0 | 1500 | 92,0 |
| AD 160 L | 6 | 7,50 | 10,00 | 970 | 15,5 | 82,0 | 0,85 | 5,8 | 2,0 | 73,9 | 0,10600 | 150 | 104,0 | 200 | 107,0 | 30 | 95,0 | 240,0 | 600 | 112,0 |
| | 8 | 4,00 | 5,30 | 720 | 9,2 | 73,0 | 0,86 | 4,5 | 2,0 | 53,1 | 0,10600 | 150 | 104,0 | 200 | 107,0 | 30 | 95,0 | 240,0 | 1000 | 112,0 |
| AD 180 L | 6 | 11,00 | 15,00 | 930 | 23,0 | 86,0 | 0,80 | 5,8 | 1,4 | 113 | 0,17000 | 260 | 150,0 | 400 | 149,0 | - | - | 480,0 | 200 | 150,5 |
| | 8 | 5,50 | 7,50 | 725 | 25,0 | 86,0 | 0,37 | 5,0 | 2,0 | 72,5 | 0,17000 | 260 | 150,0 | 400 | 149,0 | - | - | 480,0 | 200 | 150,5 |
| AD 200 L | 6 | 13,50 | 18,00 | 940 | 28,0 | 86,0 | 0,81 | 6,0 | 1,4 | 137 | 0,18000 | 400 | 170,0 | 400 | 169,0 | - | - | 480,0 | 100 | 170,5 |
| | 8 | 7,50 | 10,00 | 725 | 33,0 | 87,0 | 0,38 | 5,0 | 2,0 | 98,8 | 0,18000 | 400 | 170,0 | 400 | 169,0 | - | - | 480,0 | 100 | 170,5 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DRESHTROM

# AD

**2/6 P 3000/1000 min$^{-1}$**

**Doppio avvolgimento** ***Double winding*** **Doppellagige Wicklung**

Standard V 400/50 Hz

FD: Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. *Brake motor In A.C.* Drehstrom-Bremsmotor
FS: Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor

| Tipo *Type* Typ DAV | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AD 63 C | 2 | 0,18 | 0,25 | 2760 | 0,8 | 58,0 | 0,56 | 3,0 | 1,8 | 0,62 | 0,00040 | 4 | 6,1 | 5 | 6,1 | 4 | 5,8 | 7,5 | 2800 | 4,8 |
| | 6 | 0,09 | 0,12 | 770 | 0,7 | 32,5 | 0,57 | 1,3 | 1,5 | 1,1 | 0,00040 | 4 | 6,1 | 5 | 6,1 | 4 | 5,8 | 7,5 | 12000 | 4,8 |
| AD 71 C | 2 | 0,25 | 0,35 | 2800 | 0,9 | 63,0 | 0,64 | 3,2 | 1,9 | 0,85 | 0,00090 | 4 | 8,0 | 5 | 8,0 | 4 | 7,6 | 7,5 | 2700 | 7,3 |
| | 6 | 0,15 | 0,20 | 760 | 0,85 | 46,0 | 0,55 | 1,4 | 1,6 | 1,9 | 0,00090 | 4 | 8,0 | 5 | 8,0 | 4 | 7,6 | 7,5 | 11000 | 7,3 |
| AD 80 A | 2 | 0,55 | 0,75 | 2800 | 1,4 | 74,8 | 0,76 | 3,8 | 2,0 | 1,9 | 0,00140 | 8 | 11,0 | 10 | 11,0 | 9 | 10,9 | 15,0 | 1800 | 9,7 |
| | 6 | 0,20 | 0,30 | 770 | 1,2 | 39,5 | 0,61 | 1,5 | 1,6 | 2,5 | 0,00140 | 8 | 11,0 | 10 | 11,0 | 9 | 10,9 | 15,0 | 13500 | 9,7 |
| AD 80 B | 2 | 0,75 | 1,00 | 2895 | 1,6 | 92,0 | 0,72 | 4,1 | 2,2 | 2,5 | 0,00170 | 8 | 13,0 | 10 | 13,0 | 9 | 11,2 | 15,0 | 1800 | 11,0 |
| | 6 | 0,30 | 0,40 | 940 | 1,2 | 52,0 | 0,68 | 1,6 | 2,0 | 3,1 | 0,00170 | 8 | 13,0 | 10 | 13,0 | 9 | 11,2 | 15,0 | 13500 | 11,0 |
| AD 90 S | 2 | 1,00 | 1,40 | 2705 | 2,7 | 58,0 | 0,91 | 4,4 | 2,1 | 3,5 | 0,00330 | 16 | 17,0 | 20 | 17,0 | 10 | 14,7 | 30,0 | 1600 | 15,0 |
| | 6 | 0,48 | 0,65 | 920 | 1,7 | 60,0 | 0,69 | 1,8 | 2,1 | 5,0 | 0,00330 | 16 | 17,0 | 20 | 17,0 | 10 | 14,7 | 30,0 | 13500 | 15,0 |
| AD 90 L | 2 | 1,35 | 1,80 | 2849 | 3,2 | 72,7 | 0,85 | 5,1 | 2,3 | 4,5 | 0,00450 | 16 | 19,0 | 20 | 19,0 | 10 | 16,2 | 30,0 | 1600 | 16,5 |
| | 6 | 0,65 | 0,90 | 922 | 2,2 | 62,4 | 0,69 | 1,9 | 2,0 | 6,7 | 0,00450 | 16 | 19,0 | 20 | 19,0 | 10 | 16,2 | 30,0 | 12000 | 16,5 |
| AD 90 LB | 2 | 1,80 | 2,50 | 2850 | 4,3 | 73,0 | 0,83 | 5,7 | 2,0 | 6,0 | 0,00500 | 16 | 21,0 | 20 | 21,0 | 10 | 18,2 | 30,0 | 1600 | 18,5 |
| | 6 | 0,90 | 1,20 | 860 | 3,1 | 64,0 | 0,66 | 2,1 | 2,0 | 10,0 | 0,00500 | 16 | 21,0 | 20 | 21,0 | 10 | 18,2 | 30,0 | 11000 | 18,5 |
| AD 100 A | 2 | 1,80 | 2,50 | 2877 | 4,1 | 71,0 | 0,89 | 5,5 | 2,2 | 6,0 | 0,00900 | 32 | 25,5 | 40 | 27,5 | 12 | 22,5 | 60,0 | 1600 | 23,0 |
| | 6 | 0,90 | 1,20 | 937 | 2,7 | 69,0 | 0,71 | 1,9 | 2,1 | 9,2 | 0,00900 | 32 | 25,5 | 40 | 27,5 | 12 | 22,5 | 60,0 | 13000 | 23,0 |
| AD 100 B | 2 | 2,20 | 3,00 | 2780 | 5,1 | 66,0 | 0,95 | 6,4 | 2,3 | 7,6 | 0,01000 | 32 | 29,0 | 40 | 31,0 | 12 | 25,5 | 60,0 | 900 | 26,0 |
| | 6 | 1,10 | 1,50 | 920 | 3,4 | 65,2 | 0,71 | 2,0 | 2,1 | 11,4 | 0,01000 | 32 | 29,0 | 40 | 31,0 | 12 | 25,5 | 60,0 | 13000 | 26,0 |
| AD 112 A | 2 | 3,00 | 4,00 | 2900 | 6,8 | 74,0 | 0,86 | 6,7 | 2,4 | 9,9 | 0,01500 | 60 | 41,0 | 60 | 41,0 | 13 | 35,7 | 60,0 | 900 | 39,0 |
| | 6 | 1,50 | 2,00 | 910 | 4,6 | 53,0 | 0,89 | 2,1 | 2,0 | 15,8 | 0,01500 | 60 | 41,0 | 60 | 41,0 | 13 | 35,7 | 60,0 | 7700 | 39,0 |
| AD 132 S | 2 | 4,00 | 5,40 | 2940 | 12,0 | 70,0 | 0,69 | 7,0 | 2,6 | 13,0 | 0,03000 | 80 | 57,0 | 90 | 58,0 | 13 | 58,5 | 120,0 | 300 | 56,0 |
| | 6 | 1,80 | 2,40 | 900 | 6,5 | 64,0 | 0,63 | 2,2 | 2,0 | 19,1 | 0,03000 | 80 | 57,0 | 90 | 58,0 | 13 | 58,5 | 120,0 | 1500 | 56,0 |
| AD 132 M | 2 | 5,90 | 8,00 | 2934 | 12,6 | 79,0 | 0,85 | 7,2 | 2,8 | 19,2 | 0,04000 | 80 | 66,0 | 90 | 67,0 | 17 | 57,5 | 120,0 | 300 | 65,0 |
| | 6 | 2,60 | 3,50 | 969 | 6,8 | 80,0 | 0,69 | 2,6 | 2,0 | 25,6 | 0,04000 | 80 | 66,0 | 90 | 67,0 | 17 | 57,5 | 120,0 | 1500 | 65,0 |
| AD 160 M | 2 | 7,50 | 10,00 | 2900 | 19,0 | 78,0 | 0,73 | 7,0 | 2,6 | 24,7 | 0,08800 | 150 | 108,0 | - | - | 30 | 95,0 | 240,0 | 300 | 91,0 |
| | 6 | 3,00 | 4,00 | 960 | 12,5 | 72,0 | 0,48 | 5,6 | 2,1 | 29,9 | 0,08800 | 150 | 108,0 | - | - | 30 | 95,0 | 240,0 | 800 | 91,0 |
| AD 160 L | 2 | 11,00 | 15,00 | 2900 | 24,0 | 82,0 | 0,81 | 7,0 | 2,8 | 36,2 | 0,10600 | 150 | 119,0 | - | - | 30 | 106,0 | 240,0 | 300 | 101,0 |
| | 6 | 7,50 | 10,00 | 970 | 15,5 | 82,0 | 0,85 | 5,8 | 2,3 | 73,9 | 0,10600 | 150 | 119,0 | - | - | 30 | 106,0 | 240,0 | 600 | 101,0 |
| AD 180 M | 2 | 15,00 | 20,00 | 2920 | 36,0 | 85,0 | 0,71 | 6,2 | 2,6 | 49,1 | 0,13000 | 260 | 134,0 | - | - | - | - | 480,0 | 200 | 135,5 |
| | 6 | 9,60 | 13,00 | 940 | 20,0 | 85,0 | 0,82 | 5,8 | 1,4 | 97,6 | 0,13000 | 260 | 134,0 | - | - | - | - | 480,0 | 200 | 135,5 |
| AD 180 L | 2 | 18,50 | 25,00 | 2920 | 39,0 | 87,0 | 0,79 | 6,3 | 2,2 | 60,5 | 0,15000 | 260 | 149,0 | - | - | - | - | 480,0 | 200 | 150,5 |
| | 6 | 11,00 | 15,00 | 930 | 23,0 | 86,0 | 0,80 | 5,8 | 1,4 | 113 | 0,15000 | 260 | 149,0 | - | - | - | - | 480,0 | 200 | 150,5 |
| AD 200 L | 2 | 25,00 | 35,00 | 2900 | 55,0 | 88,0 | 0,75 | 7,0 | 2,5 | 82,4 | 0,20000 | 400 | 169,0 | - | - | - | - | 480,0 | 100 | 170,5 |
| | 6 | 13,50 | 18,00 | 940 | 28,0 | 86,0 | 0,81 | 6,0 | 1,4 | 137 | 0,20000 | 400 | 169,0 | - | - | - | - | 480,0 | 100 | 170,5 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# AD

**2/8 P** 3000/750 min$^{-1}$

| | | | | | | | | | | | | FD | | FA | | FS | | FP | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2/8 P 3000/750 min$^{-1}$ | | Doppio avvolgimento *Double winding* Doppellagige Wicklung | | | | | | | Standard V 400/50 Hz | | | Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | Autofrenante in A.C. *Brake motor In A.C.* Drehstrom-Bremsmotor | | Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | |
| Tipo *Type* Typ | | Pn | | $n_n$ | In (400V 50Hz) | η | cos φ | Ia/In | Ca/Cn | Cn | $J_m$ | CF | Kg | CF | Kg | CF | Kg | CF | $Z_0$ | Kg |
| DAV | Poli *Poles* Plzahl | [kW] | [HP] | [min$^{-1}$] | [A] | % | | | | [Nm] | [Kgm$^2$] | [Nm] | | [Nm] | | [Nm] | | [Nm] | [1/h] | |
| AD 63 C | 2 | 0,18 | 0,25 | 2780 | 0,8 | 55,0 | 0,59 | 3,5 | 1,1 | 0,62 | 0,00040 | 4 | 6,0 | 5 | 6,0 | 4 | 5,4 | 7,5 | 2250 | 5,4 |
| | 8 | 0,06 | 0,08 | 660 | 0,5 | 21,4 | 0,81 | 2,2 | 1,7 | 0,87 | 0,00040 | 4 | 6,0 | 5 | 6,0 | 4 | 5,4 | 7,5 | 16000 | 5,4 |
| AD 71 C | 2 | 0,30 | 0,40 | 2847 | 0,96 | 52,0 | 0,87 | 4,1 | 1,1 | 1,0 | 0,00080 | 4 | 8,0 | 5 | 8,0 | 4 | 7,6 | 7,5 | 2700 | 7,3 |
| | 8 | 0,09 | 0,12 | 673 | 0,52 | 37,8 | 0,66 | 2,3 | 1,8 | 1,3 | 0,00080 | 4 | 8,0 | 5 | 8,0 | 4 | 7,6 | 7,5 | 20000 | 7,3 |
| AD 80 A | 2 | 0,55 | 0,75 | 2800 | 1,8 | 74,7 | 0,59 | 4,2 | 1,4 | 1,9 | 0,00140 | 8 | 11,0 | 10 | 11,0 | 9 | 10,9 | 15,0 | 1800 | 10,0 |
| | 8 | 0,11 | 0,15 | 680 | 1,1 | 41,2 | 0,35 | 2,4 | 1,9 | 1,6 | 0,00140 | 8 | 11,0 | 10 | 11,0 | 9 | 10,9 | 15,0 | 18000 | 10,0 |
| AD 80 B | 2 | 0,75 | 1,00 | 2813 | 2,0 | 63,0 | 0,88 | 4,5 | 1,3 | 2,6 | 0,00170 | 8 | 13,0 | 10 | 13,0 | 9 | 12,1 | 15,0 | 1800 | 11,0 |
| | 8 | 0,15 | 0,20 | 702 | 0,96 | 34,7 | 0,65 | 2,4 | 1,9 | 2,0 | 0,00170 | 8 | 13,0 | 10 | 13,0 | 9 | 12,1 | 15,0 | 18000 | 11,0 |
| AD 90 S | 2 | 1,00 | 1,40 | 2817 | 2,5 | 64,0 | 0,90 | 4,8 | 1,4 | 3,4 | 0,00350 | 16 | 17,0 | 20 | 17,0 | 10 | 14,7 | 30,0 | 1600 | 15,0 |
| | 8 | 0,25 | 0,33 | 692 | 1,3 | 46,7 | 0,60 | 2,5 | 1,7 | 3,5 | 0,00350 | 16 | 17,0 | 20 | 17,0 | 10 | 14,7 | 30,0 | 16000 | 15,0 |
| AD 90 L | 2 | 1,35 | 1,80 | 2870 | 3,8 | 65,0 | 0,78 | 4,8 | 1,4 | 4,5 | 0,00450 | 16 | 19,0 | 20 | 19,0 | 10 | 16,2 | 30,0 | 1600 | 16,0 |
| | 8 | 0,33 | 0,45 | 696 | 1,7 | 45,0 | 0,62 | 2,6 | 1,7 | 4,5 | 0,00450 | 16 | 19,0 | 20 | 19,0 | 10 | 16,2 | 30,0 | 15000 | 16,0 |
| AD 90 LB | 2 | 1,70 | 2,30 | 2860 | 4,9 | 74,0 | 0,68 | 5,6 | 1,3 | 5,7 | 0,00550 | 16 | 21,0 | 20 | 21,0 | 10 | 18,2 | 30,0 | 1600 | 18,0 |
| | 8 | 0,40 | 0,55 | 680 | 2,5 | 39,3 | 0,59 | 2,9 | 1,6 | 5,6 | 0,00550 | 16 | 21,0 | 20 | 21,0 | 10 | 18,2 | 30,0 | 14000 | 18,0 |
| AD 100 A | 2 | 1,80 | 2,50 | 2880 | 5,0 | 75,0 | 0,69 | 5,8 | 1,5 | 6,0 | 0,00900 | 32 | 25,5 | 40 | 27,5 | 12 | 22,5 | 60,0 | 900 | 23,0 |
| | 8 | 0,50 | 0,70 | 700 | 2,4 | 39,1 | 0,77 | 3,0 | 1,7 | 6,8 | 0,00900 | 32 | 25,5 | 40 | 27,5 | 12 | 22,5 | 60,0 | 9000 | 23,0 |
| AD 100 B | 2 | 2,20 | 3,00 | 2880 | 5,0 | 76,0 | 0,84 | 6,2 | 1,6 | 7,3 | 0,01000 | 32 | 29,0 | 40 | 31,0 | 12 | 25,5 | 60,0 | 900 | 26,0 |
| | 8 | 0,60 | 0,80 | 700 | 2,3 | 55,0 | 0,69 | 3,6 | 1,9 | 8,2 | 0,01000 | 32 | 29,0 | 40 | 31,0 | 12 | 25,5 | 60,0 | 9000 | 26,0 |
| AD 112 A | 2 | 3,00 | 4,00 | 2939 | 6,8 | 80,7 | 0,79 | 6,5 | 1,7 | 9,8 | 0,01500 | 60 | 42,0 | 60 | 42,0 | 13 | 36,7 | 60,0 | 950 | 40,0 |
| | 8 | 0,75 | 1,00 | 710 | 3,3 | 66,2 | 0,52 | 3,6 | 1,9 | 10,1 | 0,01500 | 60 | 42,0 | 60 | 42,0 | 13 | 36,7 | 60,0 | 8000 | 40,0 |
| AD 132 S | 2 | 3,70 | 5,00 | 2923 | 8,6 | 73,1 | 0,85 | 7,0 | 1,8 | 12,1 | 0,03000 | 80 | 57,0 | 90 | 58,0 | 17 | 46,5 | 120,0 | 400 | 56,0 |
| | 8 | 1,10 | 1,50 | 714 | 4,1 | 65,4 | 0,60 | 4,2 | 1,9 | 14,7 | 0,03000 | 80 | 57,0 | 90 | 58,0 | 17 | 46,5 | 120,0 | 1600 | 56,0 |
| AD 132 M | 2 | 5,50 | 7,50 | 2935 | 11,9 | 78,8 | 0,85 | 7,5 | 2,0 | 17,9 | 0,04000 | 80 | 66,0 | 90 | 67,0 | 17 | 56,5 | 120,0 | 350 | 64,0 |
| | 8 | 1,30 | 1,75 | 726 | 4,8 | 75,0 | 0,54 | 4,8 | 1,9 | 14,5 | 0,04000 | 80 | 66,0 | 90 | 67,0 | 17 | 56,5 | 120,0 | 1600 | 64,0 |
| AD 160 M | 2 | 7,50 | 10,00 | 2900 | 17,0 | 78,0 | 0,80 | 7,0 | 2,6 | 24,7 | 0,08800 | 150 | 108,0 | - | - | 30 | 95,0 | 240,0 | 300 | 91,0 |
| | 8 | 2,20 | 3,00 | 720 | 10,0 | 66,0 | 0,50 | 5,0 | 1,8 | 29,2 | 0,08800 | 150 | 108,0 | - | - | 30 | 95,0 | 240,0 | 1500 | 91,0 |
| AD 160 L | 2 | 11,00 | 15,00 | 2900 | 22,0 | 82,0 | 0,85 | 7,0 | 2,8 | 36,2 | 0,10600 | 150 | 119,0 | - | - | 30 | 106,0 | 240,0 | 300 | 111,0 |
| | 8 | 4,00 | 5,30 | 725 | 13,5 | 77,0 | 0,58 | 5,5 | 1,8 | 52,7 | 0,10600 | 150 | 119,0 | - | - | 30 | 106,0 | 240,0 | 1000 | 111,0 |
| AD 180 L | 2 | 18,50 | 25,00 | 2920 | 39,0 | 87,0 | 0,79 | 6,3 | 2,2 | 60,5 | 0,15000 | 260 | 149,0 | - | - | - | - | 480,0 | 200 | 150,5 |
| | 8 | 5,50 | 7,50 | 725 | 25,0 | 86,0 | 0,37 | 5,0 | 2,0 | 72,5 | 0,15000 | 260 | 149,0 | - | - | - | - | 480,0 | 200 | 150,5 |
| AD 200 L | 2 | 25,00 | 35,00 | 2900 | 55,0 | 88,0 | 0,75 | 7,0 | 2,5 | 82,4 | 0,20000 | 400 | 169,0 | - | - | - | - | 480,0 | 100 | 181,0 |
| | 8 | 7,50 | 10,00 | 725 | 33,0 | 87,0 | 0,38 | 5,0 | 2,0 | 98,8 | 0,20000 | 400 | 169,0 | - | - | - | - | 480,0 | 100 | 181,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# AD



### 2/12 P 3000/500 min$^{-1}$

Doppio avvolgimento
*Double winding*
Doppellagige Wicklung

Standard
V 400/50 Hz

FD: Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. *Brake motor In A.C.* Drehstrom-Bremsmotor
FS: Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor

| Tipo *Type* Typ DAV | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AD 71 C | 2 | 0,37 | 0,50 | 2740 | 1,1 | 63,0 | 0,77 | 3,0 | 1,5 | 1,3 | 0,00090 | 4 | 9,3 | 5 | 9,3 | 4 | 9,1 | 7,5 | 24000 | 8,8 |
| | 12 | 0,05 | 0,07 | 440 | 0,9 | 15,9 | 0,50 | 1,4 | 2,0 | 1,1 | 0,00090 | 4 | 9,3 | 5 | 9,3 | 4 | 9,1 | 7,5 | 27000 | 8,8 |
| AD 80 B | 2 | 0,37 | 0,50 | 2780 | 1,0 | 68,0 | 0,79 | 3,2 | 1,7 | 1,3 | 0,00140 | 8 | 11,0 | 10 | 12,0 | 9 | 11,0 | 15,0 | 16000 | 10,8 |
| | 12 | 0,07 | 0,10 | 440 | 0,88 | 14,4 | 0,80 | 1,5 | 2,1 | 1,5 | 0,00140 | 8 | 11,0 | 10 | 12,0 | 9 | 11,0 | 15,0 | 27000 | 10,8 |
| AD 80 C | 2 | 0,55 | 0,75 | 2741 | 1,3 | 63,0 | 0,96 | 3,4 | 1,8 | 1,9 | 0,00170 | 8 | 13,0 | 10 | 12,5 | 9 | 12,7 | 15,0 | 15000 | 12,5 |
| | 12 | 0,09 | 0,12 | 460 | 1,1 | 22,0 | 0,55 | 1,8 | 2,7 | 1,9 | 0,00170 | 8 | 13,0 | 10 | 12,5 | 9 | 12,7 | 15,0 | 25500 | 12,5 |
| AD 90 L | 2 | 0,75 | 1,00 | 2850 | 2,0 | 68,0 | 0,80 | 4,8 | 1,9 | 2,5 | 0,00180 | 16 | 15,0 | 20 | 16,0 | 10 | 14,2 | 30,0 | 15000 | 15,0 |
| | 12 | 0,11 | 0,15 | 460 | 1,4 | 20,2 | 0,56 | 2,0 | 2,9 | 2,3 | 0,00180 | 16 | 15,0 | 20 | 16,0 | 10 | 14,2 | 30,0 | 18000 | 15,0 |
| AD 90 LB | 2 | 1,10 | 1,50 | 2880 | 2,9 | 70,0 | 0,78 | 4,6 | 1,9 | 3,6 | 0,00260 | 16 | 17,0 | 20 | 18,0 | 10 | 16,2 | 30,0 | 13000 | 17,0 |
| | 12 | 0,15 | 0,20 | 470 | 1,5 | 25,0 | 0,58 | 2,0 | 2,9 | 3,0 | 0,00260 | 16 | 17,0 | 20 | 18,0 | 10 | 16,2 | 30,0 | 14500 | 17,0 |
| AD 100 BL | 2 | 1,80 | 2,50 | 2850 | 4,1 | 75,0 | 0,85 | 5,0 | 3,0 | 6,0 | 0,01300 | 32 | 28,5 | 40 | 28,5 | 12 | 25,5 | 60,0 | 7500 | 26,0 |
| | 12 | 0,37 | 0,50 | 450 | 2,0 | 40,0 | 0,67 | 2,1 | 2,8 | 7,9 | 0,01300 | 32 | 28,5 | 40 | 28,5 | 12 | 25,5 | 60,0 | 8500 | 26,0 |
| AD 112 B | 2 | 3,00 | 4,00 | 2900 | 6,8 | 80,7 | 0,79 | 6,5 | 1,7 | 9,9 | 0,01800 | 60 | 41,0 | 60 | 41,0 | 13 | 36,0 | 60,0 | 1400 | 40,0 |
| | 12 | 0,45 | 0,60 | 450 | 3,0 | 45,0 | 0,48 | 3,0 | 2,8 | 9,6 | 0,01800 | 60 | 41,0 | 60 | 41,0 | 13 | 36,0 | 60,0 | 6000 | 40,0 |
| AD 132 S | 2 | 3,70 | 5,00 | 2963 | 9,3 | 73,1 | 0,78 | 7,0 | 1,8 | 11,9 | 0,03000 | 80 | 54,0 | 90 | 57,0 | 17 | 58,0 | 120,0 | 430 | 58,0 |
| | 12 | 0,88 | 1,10 | 468 | 4,5 | 60,1 | 0,47 | 4,0 | 2,5 | 18,0 | 0,03000 | 80 | 54,0 | 90 | 57,0 | 17 | 58,0 | 120,0 | 2000 | 58,0 |
| AD 132 M | 2 | 5,50 | 7,50 | 2920 | 12,0 | 78,8 | 0,84 | 7,5 | 2,0 | 18,0 | 0,04000 | 80 | 62,0 | 90 | 65,0 | 17 | 59,0 | 120,0 | 400 | 66,0 |
| | 12 | 1,10 | 1,50 | 455 | 6,1 | 64,0 | 0,41 | 4,0 | 2,2 | 23,1 | 0,04000 | 80 | 62,0 | 90 | 65,0 | 17 | 59,0 | 120,0 | 2000 | 66,0 |
| AD 160 M | 2 | 7,50 | 10,00 | 2940 | 10,0 | 72,0 | 0,94 | 7,0 | 1,4 | 24,7 | 0,08800 | 150 | 95,0 | - | - | 30 | 95,0 | 240,0 | 300 | 102,0 |
| | 12 | 1,50 | 2,00 | 480 | 7,0 | 66,0 | 0,46 | 3,4 | 1,1 | 31,2 | 0,08800 | 150 | 95,0 | - | - | 30 | 95,0 | 240,0 | 1650 | 102,0 |
| AD 160 L | 2 | 11,00 | 15,00 | 2900 | 24,0 | 82,0 | 0,81 | 7,0 | 2,8 | 36,2 | 0,10600 | 150 | 105,0 | - | - | 30 | 106,0 | 240,0 | 300 | 112,0 |
| | 12 | 3,00 | 4,00 | 460 | 16,5 | 60,0 | 0,44 | 4,0 | 2,0 | 62,3 | 0,10600 | 150 | 105,0 | - | - | 30 | 106,0 | 240,0 | 1650 | 112,0 |
| AD 180 L | 2 | 15,00 | 20,00 | 2920 | 39,0 | 87,0 | 0,64 | 6,3 | 2,2 | 49,1 | 0,15000 | 260 | 150,0 | - | - | - | - | 480,0 | 200 | 152,0 |
| | 12 | 4,00 | 5,50 | 450 | 18,0 | 70,0 | 0,46 | 3,5 | 1,5 | 84,9 | 0,15000 | 260 | 150,0 | - | - | - | - | 480,0 | 200 | 152,0 |
| AD 200 L | 2 | 18,50 | 25,00 | 2900 | 55,0 | 88,0 | 0,55 | 7,0 | 2,5 | 60,9 | 0,20000 | 400 | 170,0 | - | - | - | - | 480,0 | 100 | 182,0 |
| | 12 | 5,50 | 7,50 | 440 | 23,0 | 73,0 | 0,47 | 3,8 | 1,6 | 119 | 0,20000 | 400 | 170,0 | - | - | - | - | 480,0 | 100 | 182,0 |

### 2/16 P 3000/375 min$^{-1}$

Doppio avvolgimento
*Double winding*
Doppellagige Wicklung

Standard
V 400/50 Hz

FD: Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. *Brake motor In A.C.* Drehstrom-Bremsmotor
FS: Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor

| Tipo *Type* Typ DAV | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AD 132 S | 2 | 3,70 | 5,00 | 2920 | 10,0 | 73,1 | 0,73 | 7,0 | 1,8 | 12,1 | 0,03000 | 80 | 54 | 90 | 57 | 17 | 58 | 120 | 430 | 58,0 |
| | 16 | 0,55 | 0,75 | 360 | 3,5 | 52,0 | 0,44 | 1,8 | 1,1 | 14,6 | 0,03000 | 80 | 54 | 90 | 57 | 17 | 58 | 120 | 2000 | 58,0 |
| AD 132 M | 2 | 5,50 | 7,50 | 2920 | 12,0 | 78,8 | 0,84 | 7,5 | 2,0 | 18,0 | 0,04000 | 80 | 62 | 90 | 65 | 17 | 59 | 120 | 400 | 66,0 |
| | 16 | 0,75 | 1,00 | 355 | 4,2 | 56,0 | 0,46 | 1,9 | 1,1 | 20,2 | 0,03800 | 80 | 62 | 90 | 65 | 17 | 59 | 120 | 2000 | 66,0 |
| AD 160 M | 2 | 7,50 | 10,00 | 2900 | 19,0 | 78,0 | 0,73 | 7,0 | 2,6 | 24,7 | 0,08800 | 150 | 95 | - | - | 30 | 95 | 240 | 300 | 102,0 |
| | 16 | 1,10 | 1,50 | 360 | 5,5 | 59,0 | 0,49 | 2,5 | 1,2 | 29,2 | 0,09000 | 150 | 95 | - | - | 30 | 95 | 240 | 1650 | 102,0 |
| AD 160 L | 2 | 13,00 | 18,00 | 2900 | 24,0 | 82,0 | 0,95 | 7,0 | 2,8 | 42,8 | 0,10600 | 150 | 105 | - | - | 30 | 106 | 240 | 300 | 112,0 |
| | 16 | 1,50 | 2,00 | 355 | 7,0 | 61,0 | 0,51 | 2,6 | 1,3 | 40,4 | 0,13000 | 150 | 105 | - | - | 30 | 106 | 240 | 1650 | 112,0 |
| AD 180 L | 2 | 15,00 | 20,00 | 2920 | 39,0 | 87,0 | 0,64 | 6,3 | 2,2 | 49,1 | 0,15000 | 260 | 150 | - | - | - | - | 480 | 200 | 152,0 |
| | 16 | 2,20 | 3,00 | 360 | 10,0 | 62,0 | 0,51 | 2,8 | 1,4 | 58,4 | 0,15000 | 260 | 150 | - | - | - | - | 480 | 200 | 152,0 |
| AD 200 L | 2 | 18,50 | 25,00 | 2900 | 55,0 | 88,0 | 0,55 | 7,0 | 2,5 | 60,9 | 0,20000 | 400 | 170 | - | - | - | - | 480 | 100 | 182,0 |
| | 16 | 3,00 | 4,00 | 350 | 13,0 | 65,0 | 0,51 | 3,1 | 1,5 | 81,9 | 0,20000 | 400 | 170 | - | - | - | - | 480 | 100 | 182,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# AD

### 4/16 P 3000/375 min$^{-1}$

**Doppio avvolgimento** ***Double winding*** **Doppellagige Wicklung**

Standard V 400/50 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor
FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ DAV | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AD 132 S | 4 | 3,70 | 5,00 | 1430 | 8,3 | 81,3 | 0,80 | 5,8 | 1,9 | 24,7 | 0,03000 | 80 | 54 | 90 | 57 | 17 | 58 | 120 | 430 | 58,0 |
| | 16 | 0,55 | 0,75 | 360 | 3,5 | 52,0 | 0,44 | 1,8 | 1,1 | 14,6 | 0,03000 | 80 | 54 | 90 | 57 | 17 | 58 | 120 | 2000 | 58,0 |
| AD 132 M | 4 | 5,50 | 7,50 | 1450 | 12,0 | 83,0 | 0,80 | 6,0 | 2,0 | 36,2 | 0,03300 | 80 | 62 | 90 | 65 | 17 | 59 | 120 | 400 | 66,0 |
| | 16 | 0,75 | 1,00 | 355 | 4,2 | 56,0 | 0,46 | 1,9 | 1,1 | 20,2 | 0,03300 | 80 | 62 | 90 | 65 | 17 | 59 | 120 | 2000 | 66,0 |
| AD 160 M | 4 | 7,50 | 10,00 | 1450 | 15,5 | 86,0 | 0,81 | 6,2 | 1,8 | 49,4 | 0,09000 | 150 | 95 | 200 | 96 | 30 | 95 | 240 | 300 | 102,0 |
| | 16 | 1,10 | 1,50 | 360 | 5,5 | 59,0 | 0,49 | 2,5 | 1,2 | 29,2 | 0,09000 | 150 | 95 | 200 | 96 | 30 | 95 | 240 | 1650 | 102,0 |
| AD 160 L | 4 | 9,50 | 13,00 | 1430 | 19,0 | 87,0 | 0,83 | 6,5 | 2,0 | 63,5 | 0,11000 | 150 | 105 | 200 | 106 | 30 | 106 | 240 | 300 | 112,0 |
| | 16 | 1,50 | 2,00 | 355 | 7,0 | 61,0 | 0,51 | 2,6 | 1,3 | 40,4 | 0,11000 | 150 | 105 | 200 | 106 | 30 | 106 | 240 | 1650 | 112,0 |
| AD 180 M | 4 | 12,50 | 15,00 | 1420 | 24,0 | 88,0 | 0,86 | 6,8 | 1,8 | 84,1 | 0,15000 | 260 | 134 | 400 | 134 | - | - | 480 | 200 | 135,5 |
| | 16 | 1,87 | 2,50 | 360 | 8,5 | 62,0 | 0,51 | 2,8 | 1,4 | 49,6 | 0,15000 | 260 | 134 | 400 | 134 | - | - | 480 | 200 | 135,5 |
| AD 180 L | 4 | 15,00 | 17,00 | 1420 | 28,0 | 91,0 | 0,85 | 7,0 | 1,7 | 101 | 0,17000 | 260 | 150 | 400 | 150 | - | - | 480 | 200 | 152,0 |
| | 16 | 2,20 | 3,00 | 360 | 10,0 | 62,0 | 0,51 | 2,8 | 1,4 | 58,4 | 0,17000 | 260 | 150 | 400 | 150 | - | - | 480 | 200 | 152,0 |
| AD 200 L | 4 | 25,00 | 34,00 | 1420 | 40,0 | 91,0 | 0,99 | 7,0 | 1,6 | 168 | 0,18000 | 400 | 170 | 400 | 180 | - | - | 480 | 100 | 182,0 |
| | 16 | 4,50 | 6,20 | 350 | 13,0 | 65,0 | 0,77 | 3,1 | 1,5 | 123 | 0,18000 | 400 | 170 | 400 | 180 | - | - | 480 | 100 | 182,0 |

### 4/32 P 3000/187 min$^{-1}$

**Doppio avvolgimento** ***Double winding*** **Doppellagige Wicklung**

Standard V 400/50 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FA: Autofrenante in A.C. / *Brake motor In A.C.* / Drehstrom-Bremsmotor
FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo *Type* Typ DAV | Poli *Poles* Plzahl | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (400V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $J_m$ [Kgm$^2$] | FD CF [Nm] | FD Kg | FA CF [Nm] | FA Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AD 180 M | 4 | 12,50 | 15,00 | 1420 | 24,0 | 88,0 | 0,86 | 6,8 | 1,8 | 84,1 | 0,15000 | 260 | 134 | 400 | 134 | - | - | 480 | 200 | 135,5 |
| | 32 | 1,10 | 1,50 | 160 | 8,0 | 58,0 | 0,34 | 2,6 | 1,3 | 65,7 | 0,15000 | 260 | 134 | 400 | 134 | - | - | 480 | 200 | 135,5 |
| AD 180 L | 4 | 15,00 | 17,00 | 1420 | 28,0 | 91,0 | 0,85 | 7,0 | 1,7 | 101 | 0,17000 | 260 | 150 | 400 | 150 | - | - | 480 | 200 | 152,0 |
| | 32 | 1,50 | 2,20 | 160 | 9,0 | 58,0 | 0,42 | 2,6 | 1,3 | 89,6 | 0,17000 | 260 | 150 | 400 | 150 | - | - | 480 | 200 | 152,0 |
| AD 200 L | 4 | 25,00 | 34,00 | 1420 | 40,0 | 91,0 | 0,99 | 7,0 | 1,6 | 168 | 0,18000 | 400 | 170 | 400 | 180 | - | - | 480 | 100 | 182,0 |
| | 32 | 2,20 | 3,00 | 155 | 12,0 | 60,0 | 0,44 | 2,8 | 1,3 | 136 | 0,18000 | 400 | 170 | 400 | 180 | - | - | 480 | 100 | 182,0 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**MONOFASE**
***SINGLE-PHASE***
**EINPHASEN**

# AM

A

### 2 P 3000 min$^{-1}$

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $C_{VF}$ [µF] | $J_m$ [Kgm$^2$] | FD – Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor: CF [Nm] | FD: Kg | FS – Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor: CF [Nm] | FS: Kg | FP – Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor: CF [Nm] | FP: $Z_0$ [1/h] | FP: Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AM 50 B** | 0,08 | 0,10 | 2810 | 0,9 | 45,0 | 0,99 | 1,8 | 0,6 | 0,3 | 12,5 | 0,00010 | | | - | - | - | - | - |
| **AM 56 A** | 0,08 | 0,10 | 2880 | 1,1 | 44,0 | 0,80 | 2,8 | 0,8 | 0,3 | 16,0 | 0,00012 | 1 | 4 | - | - | - | - | - |
| **AM 56 B** | 0,12 | 0,16 | 2810 | 1,2 | 53,4 | 0,90 | 2,5 | 0,5 | 0,4 | 16,0 | 0,00015 | 1 | 5 | - | - | - | - | - |
| **AM 63 B** | 0,18 | 0,25 | 2900 | 1,9 | 50,0 | 0,96 | 3,2 | 0,7 | 0,6 | 10,0 | 0,00030 | 4 | 6 | 2,5 | 6 | 7,5 | 6750 | 4,55 |
| **AM 63 C** | 0,25 | 0,35 | 2850 | 2,2 | 58,0 | 0,97 | 2,9 | 0,5 | 0,9 | 10,0 | 0,00035 | 4 | 6 | 2,5 | 6 | 7,5 | 5400 | 4,75 |
| **AM 71 B** | 0,37 | 0,50 | 2810 | 4,3 | 52,5 | 0,80 | 2,4 | 0,9 | 1,3 | 16,0 | 0,00046 | 4 | 8 | 4 | 7 | 7,5 | 5400 | 6,35 |
| **AM 71 C** | 0,55 | 0,75 | 2700 | 4,9 | 59,0 | 0,90 | 2,2 | 0,8 | 2,0 | 20,0 | 0,00057 | 4 | 8 | 4 | 8 | 7,5 | 5300 | 6,65 |
| **AM 80 B** | 0,75 | 1,00 | 2800 | 5,1 | 70,0 | 0,97 | 3,2 | 0,7 | 2,6 | 25,0 | 0,00097 | 8 | 13 | 9 | 13 | 15,0 | 5300 | 11,30 |
| **AM 80 C** | 1,10 | 1,50 | 2830 | 9,1 | 70,0 | 0,80 | 2,9 | 0,6 | 3,8 | 30,0 | 0,00120 | 8 | 14 | 9 | 14 | 15,0 | 5100 | 11,90 |
| **AM 80 D** | 1,50 | 2,00 | 2700 | 10,7 | 71,0 | 0,90 | 2,7 | 0,6 | 5,3 | 35,0 | 0,00130 | 8 | 15 | 9 | 15 | 15,0 | 4900 | 13,00 |
| **AM 90 S** | 1,50 | 2,00 | 2770 | 10,8 | 69,0 | 0,93 | 2,8 | 0,7 | 5,2 | 40,0 | 0,00150 | 16 | 18 | 10 | 16 | 30,0 | 4000 | 13,80 |
| **AM 90 L** | 1,80 | 2,50 | 2850 | 12,0 | 73,6 | 0,96 | 3,2 | 0,5 | 6,2 | 50,0 | 0,00230 | 16 | 18 | 10 | 16 | 30,0 | 4000 | 14,30 |
| **AM 90 LB** | 2,20 | 3,00 | 2790 | 14,5 | 73,0 | 0,95 | 3,0 | 0,6 | 7,6 | 50,0 | 0,00280 | 16 | 21 | 10 | 18 | 30,0 | 3800 | 16,60 |
| **AM 100 B** | 2,20 | 3,00 | 2890 | 14,4 | 72,7 | 0,98 | 3,3 | 0,5 | 7,4 | 60,0 | 0,00530 | 32 | 29 | 12 | 26 | 60,0 | 2500 | 23,10 |
| **AM 100 BL** | 3,00 | 4,00 | 2830 | 18,5 | 75,5 | 0,98 | 2,7 | 0,4 | 10,2 | 60,0 | 0,00530 | 32 | 31 | 12 | 28 | 60,0 | 2500 | 24,90 |

### 4 P 1500 min$^{-1}$

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cn [Nm] | $C_{VF}$ [µF] | $J_m$ [Kgm$^2$] | FD – Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor: CF [Nm] | FD: Kg | FS – Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor: CF [Nm] | FS: Kg | FP – Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor: CF [Nm] | FP: $Z_0$ [1/h] | FP: Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AM 50 B** | 0,06 | 0,08 | 1300 | 0,7 | 45,0 | 0,90 | 1,3 | 0,0 | 0,4 | 10,0 | 0,00010 | | | | | | | |
| **AM 56 B** | 0,09 | 0,12 | 1350 | 0,9 | 49,0 | 0,98 | 1,7 | 0,6 | 0,7 | 6,3 | 0,00015 | 1 | 5,0 | - | - | - | - | - |
| **AM 56 C** | 0,11 | 0,15 | 1320 | 1,0 | 49,0 | 0,99 | 1,5 | 0,6 | 0,8 | 8,0 | 0,00020 | 1 | 5,0 | - | - | - | - | - |
| **AM 63 B** | 0,12 | 0,16 | 1380 | 1,3 | 49,0 | 0,95 | 1,9 | 0,6 | 0,9 | 8,0 | 0,00040 | 4 | 6,0 | 2,5 | 6,0 | 7,5 | 10500 | 4,65 |
| **AM 63 C** | 0,18 | 0,25 | 1300 | 1,6 | 53,0 | 0,99 | 1,6 | 0,5 | 1,4 | 10,0 | 0,00040 | 4 | 6,0 | 2,5 | 6,0 | 7,5 | 10500 | 5,15 |
| **AM 63 D** | 0,22 | 0,30 | 1330 | 1,9 | 55,0 | 0,99 | 1,6 | 0,6 | 1,6 | 12,5 | 0,00050 | 4 | 6,4 | 2,5 | 6,4 | 7,5 | 8400 | 5,55 |
| **AM 71 B** | 0,25 | 0,35 | 1350 | 2,2 | 57,0 | 0,93 | 2,3 | 0,9 | 1,8 | 12,5 | 0,00080 | 4 | 9,0 | 4 | 8,0 | 7,5 | 17000 | 7,15 |
| **AM 71 C** | 0,37 | 0,50 | 1320 | 3,2 | 62,0 | 0,96 | 1,9 | 0,7 | 2,7 | 12,5 | 0,00090 | 4 | 11,0 | 4 | 9,0 | 7,5 | 16000 | 8,15 |
| **AM 80 A** | 0,55 | 0,75 | 1350 | 4,4 | 60,0 | 0,96 | 2,0 | 0,7 | 4,0 | 20,0 | 0,00140 | 8 | 13,0 | 9 | 13,0 | 15,0 | 9000 | 10,60 |
| **AM 80 B** | 0,75 | 1,00 | 1370 | 5,6 | 62,4 | 0,96 | 2,7 | 0,7 | 5,3 | 25,0 | 0,00170 | 8 | 14,0 | 9 | 14,0 | 15,0 | 9000 | 12,00 |
| **AM 80 C** | 0,88 | 1,20 | 1360 | 6,5 | 63,0 | 0,97 | 2,5 | 0,7 | 6,2 | 30,0 | 0,00230 | 8 | 13,2 | 9 | 13,2 | 15,0 | 9000 | 11,60 |
| **AM 90 S** | 1,10 | 1,50 | 1390 | 8,7 | 68,3 | 0,86 | 3,0 | 0,6 | 7,7 | 30,0 | 0,00330 | 16 | 18,0 | 10 | 16,0 | 30,0 | 13500 | 14,40 |
| **AM 90 L** | 1,50 | 2,00 | 1380 | 10,7 | 70,9 | 0,90 | 3,1 | 0,6 | 10,6 | 40,0 | 0,00400 | 16 | 19,0 | 10 | 17,0 | 30,0 | 11000 | 15,10 |
| **AM 90 LB** | 1,80 | 2,50 | 1350 | 12,0 | 71,5 | 0,92 | 2,8 | 0,6 | 12,6 | 45,0 | 0,00500 | 16 | 20,0 | 10 | 18,0 | 30,0 | 8000 | 16,40 |
| **AM 100 BL** | 2,20 | 3,00 | 1410 | 15,2 | 75,4 | 0,90 | 3,1 | 0,4 | 15,2 | 50,0 | 0,00850 | 32 | 29,5 | 12 | 27,5 | 60,0 | 6000 | 23,90 |

| Size 50 e 56 no freni UL/CSA | *Size 50 and 56 no brakes UL/CSA* | Größe 50 e 56 keine Bremsen UL / CSA |
|---|---|---|


## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

MONOFASE
*SINGLE-PHASE*
EINPHASEN

# AM

**6 P 3000 min$^{-1}$**

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn | | $n_n$ | In (230V 50Hz) | η | cos φ | Ia/In | Ca/Cn | Cn | $C_{VF}$ | $J_m$ | FD Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FS Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FP Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | CF | Kg | CF | Kg | CF | $Z_0$ | Kg |
| | [kW] | [HP] | [min$^{-1}$] | [A] | % | | | | [Nm] | [µF] | [Kgm$^2$] | [Nm] | | [Nm] | | [Nm] | [1/h] | |
| **AM 56 B** | 0,03 | 0,05 | 910 | 0,8 | 28,0 | 0,80 | 1,3 | 0,8 | 0,37 | 8 | 0,00020 | 1 | 5,0 | - | - | - | - | - |
| **AM 63 B** | 0,09 | 0,12 | 910 | 1,1 | 39,0 | 0,99 | 1,5 | 0,9 | 1,00 | 10 | 0,00025 | 4 | 6,0 | 2,5 | 6,0 | 7,5 | 18000 | 4,65 |
| **AM 63 C** | 0,12 | 0,16 | 900 | 1,4 | 43,0 | 0,99 | 1,3 | 1,0 | 1,30 | 10 | 0,00040 | 4 | 6,0 | 2,5 | 6,0 | 7,5 | 18000 | 4,95 |
| **AM 71 B** | 0,18 | 0,25 | 900 | 2,1 | 45,0 | 0,90 | 1,9 | 0,9 | 2,00 | 14 | 0,00080 | 4 | 9,0 | 4 | 8,0 | 7,5 | 25000 | 7,05 |
| **AM 71 C** | 0,25 | 0,35 | 860 | 2,4 | 50,5 | 0,97 | 1,7 | 0,8 | 2,80 | 16 | 0,00010 | 4 | 9,0 | 4 | 9,0 | 7,5 | 24000 | 7,95 |
| **AM 80 B** | 0,37 | 0,50 | 900 | 3,2 | 57,5 | 0,95 | 2,1 | 0,7 | 4,00 | 14 | 0,00250 | 8 | 11,0 | 9 | 12,0 | 15,0 | 16000 | 9,80 |
| **AM 80 C** | 0,45 | 0,60 | 850 | 3,8 | 55,4 | 0,96 | 1,7 | 0,6 | 5,20 | 16 | 0,00260 | 8 | 14,0 | 9 | 13,0 | 15,0 | 15000 | 11,60 |
| **AM 90 L** | 0,55 | 0,75 | 920 | 5,0 | 59,8 | 0,84 | 2,4 | 0,9 | 5,70 | 25 | 0,00450 | 16 | 19,0 | 10 | 17,0 | 30,0 | 13500 | 14,60 |
| **AM 90 LB** | 0,75 | 1,00 | 890 | 5,9 | 62,8 | 0,92 | 2,2 | 0,7 | 8,10 | 30 | 0,00500 | 16 | 24,0 | 10 | 19,0 | 30,0 | 13000 | 16,60 |
| **AM 100 B** | 1,10 | 1,50 | 930 | 8,3 | 68,6 | 0,91 | 2,5 | 0,5 | 11,60 | 40 | 0,00900 | 32 | 28,5 | 12 | 26,5 | 60,0 | 7000 | 22,90 |
| **AM 100 BL** | 1,50 | 2,00 | 890 | 10,7 | 67,1 | 0,96 | 2,0 | 0,5 | 16,30 | 50 | 0,00950 | 32 | 30,5 | 12 | 28,5 | 60,0 | 7000 | 24,90 |

| Size 50 e 56 no freni UL/CSA | *Size 50 and 56 no brakes UL/CSA* | Größe 50 e 56 keine Bremsen UL / CSA |
|---|---|---|

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

MONOFASE
*SINGLE-PHASE*
EINPHASEN

**CM**

Alta coppia di spunto
High starting torque
Hohes Anlaufmoment

A

### 2 P 3000 min$^{-1}$ Standard V 230/50 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo / *Type* / Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $C_{VF}$ [µF] | Sc Capacità di spunto/ *Starting capacity* / Startkapazität [µF] | $J_m$ [Kgm²] | FD CF [Nm] | FD Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CM 63 B** | 0,18 | 0,25 | 2900 | 1,9 | 50,0 | 0,96 | 3,4 | 1,7 | 2,6 | 0,6 | 10,0 | 63÷80 | 0,00030 | 4 | 6 | 2,5 | 6 | 7,5 | 6750 | 4,55 |
| **CM 63 C** | 0,25 | 0,35 | 2850 | 2,2 | 58,0 | 0,97 | 3,0 | 1,2 | 2,5 | 0,9 | 10,0 | 63÷80 | 0,00035 | 4 | 6 | 2,5 | 6 | 7,5 | 5400 | 4,75 |
| **CM 71 B** | 0,37 | 0,50 | 2810 | 4,3 | 52,5 | 0,80 | 2,4 | 2,3 | 3,0 | 1,3 | 16,0 | 63÷80 | 0,00046 | 4 | 8 | 4 | 7 | 7,5 | 5400 | 6,35 |
| **CM 71 C** | 0,55 | 0,75 | 2700 | 4,9 | 59,0 | 0,90 | 2,3 | 1,7 | 2,6 | 2,0 | 20,0 | 63÷80 | 0,00057 | 4 | 8 | 4 | 8 | 7,5 | 5300 | 6,65 |
| **CM 80 B** | 0,75 | 1,00 | 2800 | 5,1 | 70,0 | 0,97 | 3,3 | 2,0 | 3,0 | 2,6 | 25,0 | 63÷80 | 0,00097 | 8 | 13 | 9 | 13 | 15,0 | 5300 | 11,30 |
| **CM 80 C** | 1,10 | 1,50 | 2830 | 9,1 | 70,0 | 0,80 | 2,9 | 1,7 | 2,8 | 3,8 | 30,0 | 63÷80 | 0,00120 | 8 | 14 | 9 | 14 | 15,0 | 5100 | 11,90 |
| **CM 80 D** | 1,50 | 2,00 | 2700 | 10,7 | 71,0 | 0,90 | 2,7 | 1,4 | 2,7 | 5,3 | 35,0 | 63÷80 | 0,00130 | 8 | 15 | 9 | 15 | 15,0 | 4900 | 13,00 |
| **CM 90 S** | 1,50 | 2,00 | 2770 | 10,8 | 69,0 | 0,93 | 2,6 | 1,6 | 2,9 | 5,2 | 40,0 | 100÷130 | 0,00150 | 16 | 18 | 10 | 16 | 30,0 | 4000 | 13,80 |
| **CM 90 L** | 1,80 | 2,50 | 2850 | 12,0 | 73,6 | 0,96 | 3,1 | 1,4 | 2,8 | 6,2 | 50,0 | 100÷130 | 0,00230 | 16 | 18 | 10 | 16 | 30,0 | 4000 | 14,30 |
| **CM 90 LB** | 2,20 | 3,00 | 2790 | 14,5 | 73,0 | 0,95 | 2,8 | 1,2 | 2,4 | 7,6 | 50,0 | 100÷130 | 0,00280 | 16 | 21 | 10 | 18 | 30,0 | 3800 | 16,60 |
| **CM 100 B** | 2,20 | 3,00 | 2890 | 14,4 | 72,7 | 0,98 | 3,3 | 1,4 | 2,7 | 7,4 | 60,0 | 100÷130 | 0,00530 | 32 | 29 | 12 | 26 | 60,0 | 2500 | 23,10 |
| **CM 100 BL** | 3,00 | 4,00 | 2830 | 18,5 | 75,5 | 0,98 | 2,6 | 1,1 | 2,3 | 10,2 | 60,0 | 100÷130 | 0,00530 | 32 | 31 | 12 | 28 | 60,0 | 2500 | 24,90 |

### 4 P 1500 min$^{-1}$ Standard V 230/50 Hz

FD: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FS: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor
FP: Autofrenante in D.C. / *Brake motor In D.C.* / Gleichstrom-Bremsmotor

| Tipo / *Type* / Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $C_{VF}$ [µF] | Sc Capacità di spunto/ *Starting capacity* / Startkapazität [µF] | $J_m$ [Kgm²] | FD CF [Nm] | FD Kg | FS CF [Nm] | FS Kg | FP CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CM 63 B** | 0,12 | 0,16 | 1380 | 1,3 | 49,0 | 0,95 | 2,3 | 1,7 | 2,0 | 0,9 | 8,0 | 63÷80 | 0,00040 | 4 | 6,0 | 2,5 | 6,0 | 7,5 | 10500 | 4,65 |
| **CM 63 C** | 0,18 | 0,25 | 1300 | 1,6 | 53,0 | 0,99 | 1,9 | 1,2 | 2,0 | 1,4 | 10,0 | 63÷80 | 0,00040 | 4 | 6,0 | 2,5 | 6,0 | 7,5 | 10500 | 5,15 |
| **CM 63 D** | 0,22 | 0,30 | 1330 | 1,9 | 55,0 | 0,99 | 1,9 | 1,3 | 2,0 | 1,6 | 12,5 | 63÷80 | 0,00050 | 4 | 6,4 | 2,5 | 6,4 | 7,5 | 8400 | 5,55 |
| **CM 71 B** | 0,25 | 0,35 | 1350 | 2,2 | 57,0 | 0,93 | 2,9 | 2,4 | 2,2 | 1,8 | 12,5 | 63÷80 | 0,00080 | 4 | 9,0 | 4 | 8,0 | 7,5 | 17000 | 7,15 |
| **CM 71 C** | 0,37 | 0,50 | 1320 | 3,2 | 62,0 | 0,96 | 2,3 | 1,9 | 2,1 | 2,7 | 12,5 | 63÷80 | 0,00090 | 4 | 11,0 | 4 | 9,0 | 7,5 | 16000 | 8,15 |
| **CM 80 A** | 0,55 | 0,75 | 1350 | 4,4 | 60,0 | 0,96 | 2,5 | 1,8 | 2,2 | 4,0 | 20,0 | 63÷80 | 0,00140 | 8 | 13,0 | 9 | 13,0 | 15,0 | 9000 | 10,60 |
| **CM 80 B** | 0,75 | 1,00 | 1370 | 5,6 | 62,4 | 0,96 | 2,8 | 1,5 | 2,1 | 5,3 | 25,0 | 63÷80 | 0,00170 | 8 | 14,0 | 9 | 14,0 | 15,0 | 9000 | 12,00 |
| **CM 80 C** | 0,88 | 1,20 | 1360 | 6,5 | 63,0 | 0,97 | 2,7 | 1,4 | 2,0 | 6,2 | 30,0 | 100÷130 | 0,00230 | 8 | 13,2 | 9 | 13,2 | 15,0 | 9000 | 11,60 |
| **CM 90 S** | 1,10 | 1,50 | 1390 | 8,7 | 68,3 | 0,86 | 2,9 | 1,5 | 2,3 | 7,7 | 30,0 | 100÷130 | 0,00330 | 16 | 18,0 | 10 | 16,0 | 30,0 | 13500 | 14,40 |
| **CM 90 L** | 1,50 | 2,00 | 1380 | 10,7 | 70,9 | 0,90 | 3,0 | 1,3 | 2,2 | 10,6 | 40,0 | 100÷130 | 0,00400 | 16 | 19,0 | 10 | 17,0 | 30,0 | 11000 | 15,10 |
| **CM 90 LB** | 1,80 | 2,50 | 1350 | 12,0 | 71,5 | 0,92 | 2,8 | 1,4 | 2,0 | 12,6 | 45,0 | 100÷130 | 0,00500 | 16 | 20,0 | 10 | 18,0 | 30,0 | 8000 | 16,40 |
| **CM 100 BL** | 2,20 | 3,00 | 1410 | 15,2 | 75,4 | 0,90 | 3,1 | 1,2 | 2,6 | 15,2 | 50,0 | 100÷130 | 0,00850 | 32 | 29,5 | 12 | 27,5 | 60,0 | 6000 | 23,90 |

## 1.7 DATI TECNICI (FINE)

## *1.7 TECHNICAL SPECIFICATIONS (THE END)*

## 1.7 TECHNISCHE DATEN (ENDE)

MONOFASE
*SINGLE-PHASE*
EINPHASEN

**CM**

Alta coppia di spunto
High starting torque
Hohes Anlaufmoment

**6 P 1000 min$^{-1}$** Standard V 230/50 Hz

| | | | | | | | | | | | | | | FD Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FS Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FP Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Tipo** *Type* **Typ** | **Pn** [kW] | [HP] | $n_n$ [min$^{-1}$] | **In** (230V 50Hz) [A] | η % | **cos φ** | **Ia/In** | **Ca/Cn** | **Cmax/Cn** | **Cn** [Nm] | $C_{VF}$ [μF] | **Sc** Capacità di spunto/ *Starting capacity* / Startkapazität [μF] | $J_m$ [Kgm²] | **CF** [Nm] | Kg | **CF** [Nm] | Kg | **CF** [Nm] | $Z_0$ [1/h] | Kg |
| **CM 63 C** | 0,12 | 0,16 | 900 | 1,4 | 43,0 | 0,99 | 2,1 | 2,1 | 1,9 | 1,3 | 10 | 63÷80 | 0,00040 | 4 | 6,0 | 2,5 | 6,0 | 7,5 | 18000 | 4,95 |
| **CM 71 B** | 0,18 | 0,25 | 900 | 2,1 | 45,0 | 0,90 | 2,5 | 2,5 | 2,0 | 2,0 | 14 | 63÷80 | 0,00080 | 4 | 9,0 | 4 | 8,0 | 7,5 | 25000 | 7,05 |
| **CM 71 C** | 0,25 | 0,35 | 860 | 2,4 | 50,5 | 0,97 | 2,2 | 1,9 | 2,1 | 2,8 | 16 | 63÷80 | 0,00010 | 4 | 9,0 | 4 | 9,0 | 7,5 | 24000 | 7,95 |
| **CM 80 B** | 0,37 | 0,50 | 900 | 3,2 | 57,5 | 0,95 | 2,5 | 1,9 | 2,2 | 4,0 | 14 | 63÷80 | 0,00250 | 8 | 11,0 | 9 | 12,0 | 15,0 | 16000 | 9,80 |
| **CM 80 C** | 0,45 | 0,60 | 850 | 3,8 | 55,4 | 0,96 | 2,4 | 1,7 | 2,0 | 5,2 | 16 | 63÷80 | 0,00260 | 8 | 14,0 | 9 | 13,0 | 15,0 | 15000 | 11,60 |
| **CM 90 L** | 0,55 | 0,75 | 920 | 5,0 | 59,8 | 0,84 | 2,8 | 2,5 | 2,3 | 5,7 | 25 | 63÷80 | 0,00450 | 16 | 19,0 | 10 | 17,0 | 30,0 | 13500 | 14,60 |
| **CM 90 LB** | 0,75 | 1,00 | 890 | 5,9 | 62,8 | 0,92 | 2,5 | 2,0 | 2,3 | 8,1 | 30 | 63÷80 | 0,00500 | 16 | 24,0 | 10 | 19,0 | 30,0 | 13000 | 16,60 |
| **CM 100 B** | 1,10 | 1,50 | 930 | 8,3 | 68,6 | 0,91 | 2,8 | 1,8 | 2,4 | 11,6 | 40 | 63÷80 | 0,00900 | 32 | 28,5 | 12 | 26,5 | 60,0 | 7000 | 22,90 |
| **CM 100 BL** | 1,50 | 2,00 | 890 | 10,7 | 67,1 | 0,96 | 2,3 | 1,5 | 2,3 | 16,3 | 50 | 63÷80 | 0,00950 | 32 | 30,5 | 12 | 28,5 | 60,0 | 7000 | 24,90 |

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

MONOFASE
*SINGLE-PHASE*
EINPHASEN

# AE

A

### 2 P 3000 min$^{-1}$

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $C_{VF}$ [µF] | Sc Capacità di spunto/ *Starting capacity* / Startkapazität [µF] | $J_m$ [Kgm²] | FD Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor CF [Nm] | FD Kg | FS Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor CF [Nm] | FS Kg | FP Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AM 50 B** | 0,08 | 0,10 | 2810 | 0,9 | 45,0 | 0,99 | 2,0 | 1,2 | 2,3 | 0,3 | 12,5 | 10 | 0,00010 | | | - | - | - | - | - |
| **AM 56 A** | 0,08 | 0,10 | 2880 | 1,1 | 44,0 | 0,80 | 3,0 | 2,5 | 2,4 | 0,3 | 16,0 | 20 | 0,00012 | 1 | 4 | - | - | - | - | - |
| **AM 56 B** | 0,12 | 0,16 | 2810 | 1,2 | 53,4 | 0,90 | 2,8 | 1,8 | 2,4 | 0,4 | 16,0 | 20 | 0,00015 | 1 | 5 | - | - | - | - | - |
| **AM 63 B** | 0,18 | 0,25 | 2900 | 1,9 | 50,0 | 0,96 | 3,4 | 1,7 | 2,6 | 0,6 | 10,0 | 10 | 0,00030 | 4 | 6 | 2,5 | 6 | 7,5 | 6750 | 4,55 |
| **AM 63 C** | 0,25 | 0,35 | 2850 | 2,2 | 58,0 | 0,97 | 3,0 | 1,2 | 2,5 | 0,9 | 10,0 | 10 | 0,00035 | 4 | 6 | 2,5 | 6 | 7,5 | 5400 | 4,75 |
| **AM 71 B** | 0,37 | 0,50 | 2810 | 4,3 | 52,5 | 0,80 | 2,4 | 2,3 | 3,0 | 1,3 | 16,0 | 20 | 0,00046 | 4 | 8 | 4 | 7 | 7,5 | 5400 | 6,35 |
| **AM 71 C** | 0,55 | 0,75 | 2700 | 4,9 | 59,0 | 0,90 | 2,3 | 1,7 | 2,6 | 2,0 | 20,0 | 20 | 0,00057 | 4 | 8 | 4 | 8 | 7,5 | 5300 | 6,65 |
| **AM 80 B** | 0,75 | 1,00 | 2800 | 5,1 | 70,0 | 0,97 | 3,3 | 2,0 | 3,0 | 2,6 | 25,0 | 30 | 0,00097 | 8 | 13 | 9 | 13 | 15,0 | 5300 | 11,30 |
| **AM 80 C** | 1,10 | 1,50 | 2830 | 9,1 | 70,0 | 0,80 | 2,9 | 1,7 | 2,8 | 3,8 | 30,0 | 30 | 0,00120 | 8 | 14 | 9 | 14 | 15,0 | 5100 | 11,90 |
| **AM 80 D** | 1,50 | 2,00 | 2700 | 10,7 | 71,0 | 0,90 | 2,7 | 1,4 | 2,7 | 5,3 | 35,0 | 40 | 0,00130 | 8 | 15 | 9 | 15 | 15,0 | 4900 | 13,00 |
| **AM 90 S** | 1,50 | 2,00 | 2770 | 10,8 | 69,0 | 0,93 | 2,6 | 1,6 | 2,9 | 5,2 | 40,0 | 40 | 0,00150 | 16 | 18 | 10 | 16 | 30,0 | 4000 | 13,80 |
| **AM 90 L** | 1,80 | 2,50 | 2850 | 12,0 | 73,6 | 0,96 | 3,1 | 1,4 | 2,8 | 6,2 | 50,0 | 50 | 0,00230 | 16 | 18 | 10 | 16 | 30,0 | 4000 | 14,30 |
| **AM 90 LB** | 2,20 | 3,00 | 2790 | 14,5 | 73,0 | 0,95 | 2,8 | 1,2 | 2,4 | 7,6 | 50,0 | 50 | 0,00280 | 16 | 21 | 10 | 18 | 30,0 | 3800 | 16,60 |
| **AM 100 B** | 2,20 | 3,00 | 2890 | 14,4 | 72,7 | 0,98 | 3,3 | 1,4 | 2,7 | 7,4 | 60,0 | 60 | 0,00530 | 32 | 29 | 12 | 26 | 60,0 | 2500 | 23,10 |
| **AM 100 BL** | 3,00 | 4,00 | 2830 | 18,5 | 75,5 | 0,98 | 2,6 | 1,1 | 2,3 | 10,2 | 60,0 | 60 | 0,00530 | 32 | 31 | 12 | 28 | 60,0 | 2500 | 24,90 |

### 4 P 1500 min$^{-1}$

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn [kW] | Pn [HP] | $n_n$ [min$^{-1}$] | In (230V 50Hz) [A] | η % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $C_{VF}$ [µF] | Sc Capacità di spunto/ *Starting capacity* / Startkapazität [µF] | $J_m$ [Kgm²] | FD Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor CF [Nm] | FD Kg | FS Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor CF [Nm] | FS Kg | FP Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor CF [Nm] | FP $Z_0$ [1/h] | FP Kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **AM 50 B** | 0,06 | 0,08 | 1300 | 0,7 | 45,0 | 0,90 | 1,5 | 1,1 | 2,0 | 0,4 | 10,0 | 10 | 0,00010 | | | | | | | |
| **AM 56 B** | 0,09 | 0,12 | 1350 | 0,9 | 49,0 | 0,98 | 2,5 | 1,9 | 2,0 | 0,7 | 6,3 | 10 | 0,00015 | 1 | 5,0 | - | - | - | - | - |
| **AM 56 C** | 0,11 | 0,15 | 1320 | 1,0 | 49,0 | 0,99 | 2,4 | 1,6 | 2,1 | 0,8 | 8,0 | 10 | 0,00020 | 1 | 5,0 | - | - | - | - | - |
| **AM 63 B** | 0,12 | 0,16 | 1380 | 1,3 | 49,0 | 0,95 | 2,3 | 1,7 | 2,1 | 0,9 | 8,0 | 10 | 0,00040 | 4 | 6,0 | 2,5 | 6,0 | 7,5 | 10500 | 4,65 |
| **AM 63 C** | 0,18 | 0,25 | 1300 | 1,6 | 53,0 | 0,99 | 1,9 | 1,2 | 2,0 | 1,4 | 10,0 | 10 | 0,00040 | 4 | 6,0 | 2,5 | 6,0 | 7,5 | 10500 | 5,15 |
| **AM 63 D** | 0,22 | 0,30 | 1330 | 1,9 | 55,0 | 0,99 | 1,9 | 1,3 | 2,0 | 1,6 | 12,5 | 10 | 0,00050 | 4 | 6,4 | 2,5 | 6,4 | 7,5 | 8400 | 5,55 |
| **AM 71 B** | 0,25 | 0,35 | 1350 | 2,2 | 57,0 | 0,93 | 2,9 | 2,4 | 2,2 | 1,8 | 12,5 | 20 | 0,00080 | 4 | 9,0 | 4 | 8,0 | 7,5 | 17000 | 7,15 |
| **AM 71 C** | 0,37 | 0,50 | 1320 | 3,2 | 62,0 | 0,96 | 2,3 | 1,9 | 2,1 | 2,7 | 12,5 | 20 | 0,00090 | 4 | 11,0 | 4 | 9,0 | 7,5 | 16000 | 8,15 |
| **AM 80 A** | 0,55 | 0,75 | 1350 | 4,4 | 60,0 | 0,96 | 2,5 | 1,8 | 2,2 | 4,0 | 20,0 | 30 | 0,00140 | 8 | 13,0 | 9 | 13,0 | 15,0 | 9000 | 10,60 |
| **AM 80 B** | 0,75 | 1,00 | 1370 | 5,6 | 62,4 | 0,96 | 2,8 | 1,5 | 2,1 | 5,3 | 25,0 | 30 | 0,00170 | 8 | 14,0 | 9 | 14,0 | 15,0 | 9000 | 12,00 |
| **AM 80 C** | 0,88 | 1,20 | 1360 | 6,5 | 63,0 | 0,97 | 2,7 | 1,4 | 2,0 | 6,2 | 30,0 | 30 | 0,00230 | 8 | 13,2 | 9 | 13,2 | 15,0 | 9000 | 11,60 |
| **AM 90 S** | 1,10 | 1,50 | 1390 | 8,7 | 68,3 | 0,86 | 2,9 | 1,5 | 2,3 | 7,7 | 30,0 | 40 | 0,00330 | 16 | 18,0 | 10 | 16,0 | 30,0 | 13500 | 14,40 |
| **AM 90 L** | 1,50 | 2,00 | 1380 | 10,7 | 70,9 | 0,90 | 3,0 | 1,3 | 2,2 | 10,6 | 40,0 | 40 | 0,00400 | 16 | 19,0 | 10 | 17,0 | 30,0 | 11000 | 15,10 |
| **AM 90 LB** | 1,80 | 2,50 | 1350 | 12,0 | 71,5 | 0,92 | 2,8 | 1,4 | 2,0 | 12,6 | 45,0 | 50 | 0,00500 | 16 | 20,0 | 10 | 18,0 | 30,0 | 8000 | 16,40 |
| **AM 100 BL** | 2,20 | 3,00 | 1410 | 15,2 | 75,4 | 0,90 | 3,1 | 1,2 | 2,6 | 15,2 | 50,0 | 50 | 0,00850 | 32 | 29,5 | 12 | 27,5 | 60,0 | 6000 | 23,90 |

| Size 50 e 56 no freni UL/CSA | *Size 50 and 56 no brakes UL/CSA* | Größe 50 e 56 keine Bremsen UL / CSA |
|---|---|---|

## 1.7 DATI TECNICI (CONTINUA)

## *1.7 TECHNICAL SPECIFICATIONS (TO BE CONTINUED)*

## 1.7 TECHNISCHE DATEN (FORTSETZUNG)

**MONOFASE**
***SINGLE-PHASE***
**EINPHASEN**

# AE

**6 P 3000 min$^{-1}$**

Standard V 230/50 Hz

| Tipo *Type* Typ | Pn | | $n_n$ | In (230V 50Hz) | η | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn | $C_{VF}$ | Sc Capacità di spunto/ *Starting capacity* / Startkapazität | $J_m$ | FD Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FS Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | FP Autofrenante in D.C. *Brake motor In D.C.* Gleichstrom-Bremsmotor | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | [kW] | [HP] | [min$^{-1}$] | [A] | % | | | | | [Nm] | [µF] | [µF] | [Kgm²] | CF [Nm] | Kg | CF [Nm] | Kg | CF [Nm] | $Z_0$ [1/h] | Kg |
| **AM 56 B** | 0,03 | 0,05 | 910 | 0,8 | 28,0 | 0,80 | 1,5 | 1,9 | 1,7 | 0,37 | 8 | 10 | 0,00020 | 1 | 5,0 | - | - | - | - | - |
| **AM 63 B** | 0,09 | 0,12 | 910 | 1,1 | 39,0 | 0,99 | 2,3 | 2,2 | 1,8 | 1,0 | 10 | 10 | 0,00025 | 4 | 6,0 | 2,5 | 6,0 | 7,5 | 18000 | 4,65 |
| **AM 63 C** | 0,12 | 0,16 | 900 | 1,4 | 43,0 | 0,99 | 2,1 | 2,1 | 1,9 | 1,3 | 10 | 10 | 0,00040 | 4 | 6,0 | 2,5 | 6,0 | 7,5 | 18000 | 4,95 |
| **AM 71 B** | 0,18 | 0,25 | 900 | 2,1 | 45,0 | 0,90 | 2,5 | 2,5 | 2,0 | 2,0 | 14 | 20 | 0,00080 | 4 | 9,0 | 4 | 8,0 | 7,5 | 25000 | 7,05 |
| **AM 71 C** | 0,25 | 0,35 | 860 | 2,4 | 50,5 | 0,97 | 2,2 | 1,9 | 2,1 | 2,8 | 16 | 20 | 0,00010 | 4 | 9,0 | 4 | 9,0 | 7,5 | 24000 | 7,95 |
| **AM 80 B** | 0,37 | 0,50 | 900 | 3,2 | 57,5 | 0,95 | 2,5 | 1,9 | 2,2 | 4,0 | 14 | 20 | 0,00250 | 8 | 11,0 | 9 | 12,0 | 15,0 | 16000 | 9,80 |
| **AM 80 C** | 0,45 | 0,60 | 850 | 3,8 | 55,4 | 0,96 | 2,4 | 1,7 | 2,0 | 5,2 | 16 | 30 | 0,00260 | 8 | 14,0 | 9 | 13,0 | 15,0 | 15000 | 11,60 |
| **AM 90 L** | 0,55 | 0,75 | 920 | 5,0 | 59,8 | 0,84 | 2,8 | 2,5 | 2,3 | 5,7 | 25 | 30 | 0,00450 | 16 | 19,0 | 10 | 17,0 | 30,0 | 13500 | 14,60 |
| **AM 90 LB** | 0,75 | 1,00 | 890 | 5,9 | 62,8 | 0,92 | 2,5 | 2,0 | 2,3 | 8,1 | 30 | 40 | 0,00500 | 16 | 24,0 | 10 | 19,0 | 30,0 | 13000 | 16,60 |
| **AM 100 B** | 1,10 | 1,50 | 930 | 8,3 | 68,6 | 0,91 | 2,8 | 1,8 | 2,4 | 11,6 | 40 | 50 | 0,00900 | 32 | 28,5 | 12 | 26,5 | 60,0 | 7000 | 22,90 |
| **AM 100 BL** | 1,50 | 2,00 | 890 | 10,7 | 67,1 | 0,96 | 2,3 | 1,5 | 2,3 | 16,3 | 50 | 50 | 0,00950 | 32 | 30,5 | 12 | 28,5 | 60,0 | 7000 | 24,90 |

| Size 50 e 56 no freni UL/CSA | *Size 50 and 56 no brakes UL/CSA* | Größe 50 e 56 keine Bremsen UL / CSA |
|---|---|---|


## 1.8 DIMENSIONI

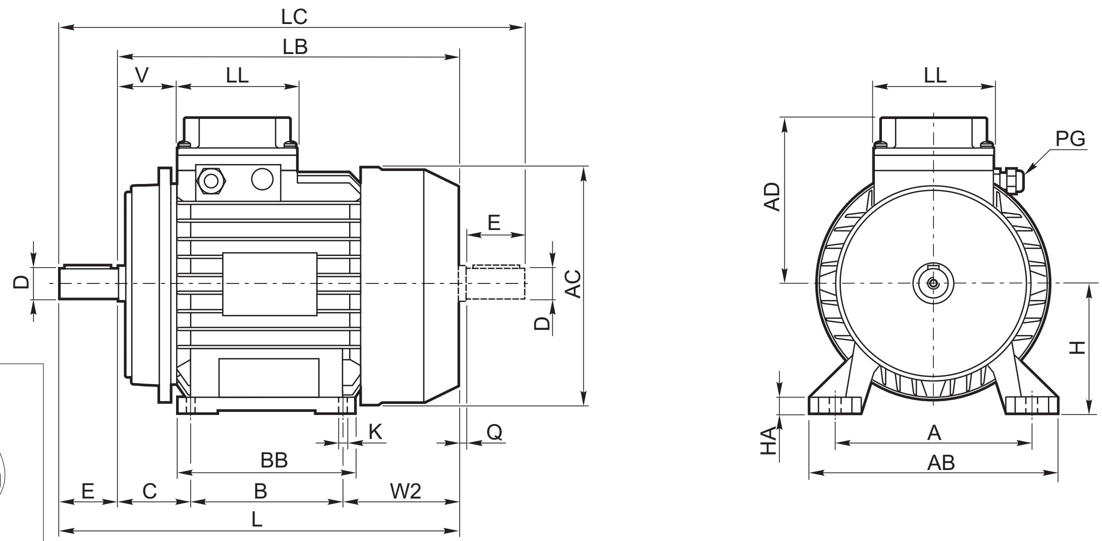
## *1.8 DIMENSIONS*

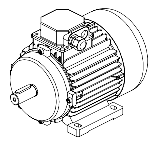
## 1.8 ABMESSUNGEN

TRIFASE
*THREE-PHASE*
DREHSTROM

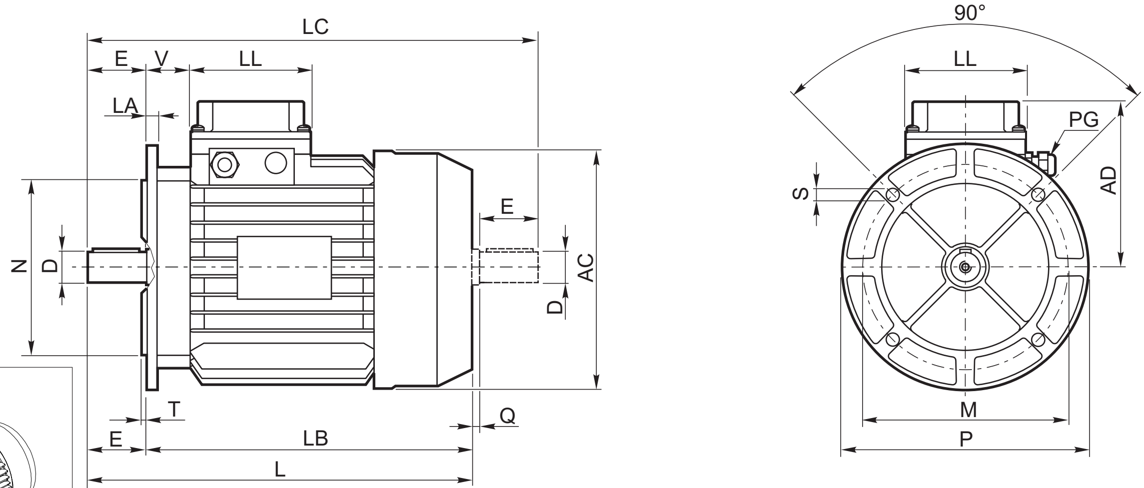
# T - DP - HE2 - HE3 - IN

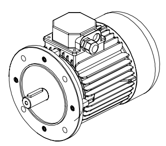
**B3**



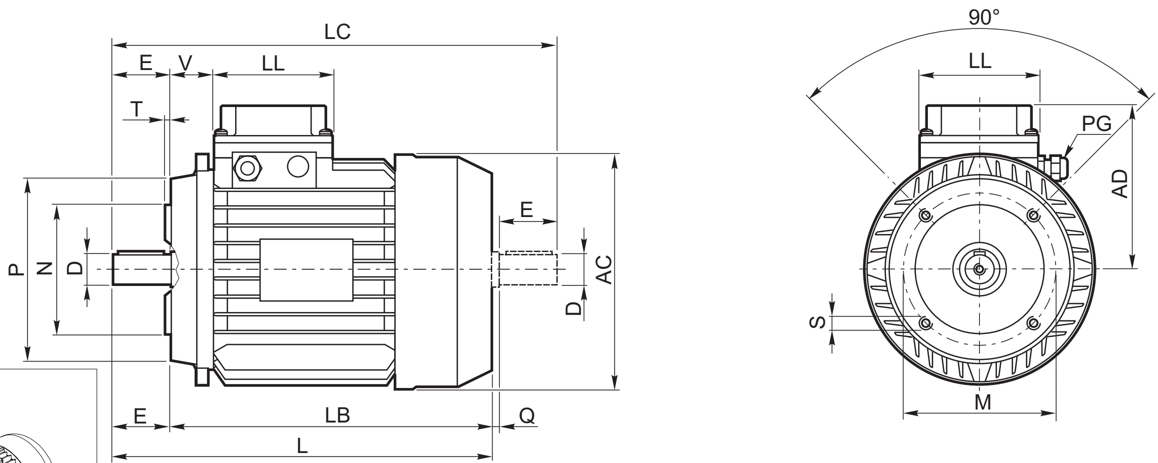



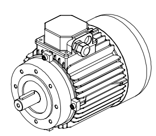
**B5**



**B14**






## 1.8 DIMENSIONI (CONTINUA)

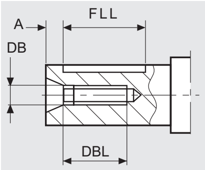
## *1.8 DIMENSIONS (TO BE CONTINUED)*

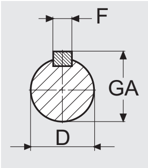
## 1.8 ABMESSUNGEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# T - DP - HE2 - HE3 - IN






| Grandezza *Size* Größe | Albero / *Shaft* / Welle | | | | | | | | | Cassa / *Box* / Gehäuse | | | | | | | | | Motore / *Motor* / Motor | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | DB | DBL | E | F | FA | FLL | GA | Q | A | AB | B | BB | C | H | HA | K | W2 | AC | AD | L** | LB** | LC** | LL | PG | V |
| **56** | 9 | M4 | 13 | 20 | 3 | 2,5 | 15 | 10,2 | 3 | 90 | 108 | 71 | 90 | 36 | 56 | 10 | 6 | 59,5 | 110 | 95 | 186,5 | 166,5 | 209,5 | 75 | M16 | 24 |
| **63** | 11 | M4 | 18 | 23 | 4 | 4 | 15 | 12,5 | 3 | 100 | 120 | 80 | 105 | 41 | 63 | 10 | 7 | 70 | 123 | 100 | 211,5 | 188,5 | 237,5 | 75 | M16 | 28 |
| **71** | 14 | M5 | 18 | 30 | 5 | 5 | 20 | 16 | 3 | 112 | 136 | 90 | 108 | 48 | 71 | 11 | 8 | 82 | 137 | 109 | 250 | 220 | 283 | 75 | M16 | 36 |
| **80** | 19 | M6 | 18 | 40 | 6 | 5 | 30 | 21,5 | 4 | 125 | 154 | 100 | 125 | 51 | 80 | 13-14 | 9 | 88 | 156 | 120 | 280 | 240 | 324 | 91 | M20 | 35 |
| **90S** | 24 | M8 | 25 | 50 | 8 | 5 | 40 | 27 | 3 | 140 | 170 | 100 | 130 | 57,5 | 90 | 13-15 | 10 | 97,5 | 176 | 128 | 305 | 255 | 358 | 91 | M20 | 40 |
| **90L** | 24 | M8 | 25 | 50 | 8 | 5 | 40 | 27 | 3 | 140 | 170 | 125 | 155 | 57,5 | 90 | 13-15 | 10 | 97,5 | 176 | 128 | 330 | 280 | 383 | 91 | M20 | 40 |
| **100** | 28 | M10 | 30 | 60 | 8 | 5 | 50 | 31 | 5 | 160 | 192 | 140 | 175 | 63 | 100 | 15-16 | 13 | 114 | 194 | 140 | 377 | 317 | 442 | 91 | M20 | 45 |
| **112** | 28 | M10 | 30 | 60 | 8 | 5 | 50 | 31 | 5 | 190 | 224 | 140 | 176 | 71 | 112 | 15 | 13 | 128 | 218 | 149 | 399 | 339 | 464 | 91 | M20 | 47 |
| **132S** | 38 | M12 | 30 | 80 | 10 | 10 | 60 | 41 | 6 | 216 | 260 | 140 | 180 | 89,5 | 132 | 16-18 | 14 | 146 | 258 | 177 | 455,5 | 375,5 | 541,5 | 106 | M32 | 57 |
| **132M** | 38 | M12 | 30 | 80 | 10 | 10 | 60 | 41 | 6 | 216 | 260 | 178 | 218 | 89,5 | 132 | 16-18 | 14 | 146 | 258 | 177 | 493,5 | 413,5 | 579,5 | 106 | M32 | 57 |
| **160M** | 42 | M16 | 40 | 110 | 12 | 5 | 100 | 45 | 7 | 254 | 318 | 210 | 260 | 110 | 160 | 18 | 16 | 171 | 309 | 220 | 601 | 491 | 718 | 165 | M32 | 118 |
| **160L** | 42 | M16 | 40 | 110 | 12 | 5 | 100 | 45 | 7 | 254 | 318 | 254 | 304 | 110 | 160 | 18 | 16 | 171 | 309 | 220 | 645 | 535 | 762 | 165 | M32 | 118 |
| **180** | 48 | M16 | 40 | 110 | 14 | 10 | 90 | 51,5 | - | 280 | 346 | 280 | 330 | 128,5 | 180 | 24 | 16 | 204,5 | 346 | 260 | 723 | 613 | - | 187 | M32 | 51 |
| **200** | 55 | M20 | 45 | 110 | 16 | 5 | 100 | 59 | - | 318 | 398 | 305 | 355 | 118 | 200 | 26 | 18 | 200 | 348 | 260 | 733 | 623 | - | 187 | M32 | 62 |

| Grandezza *Size* Größe | Albero / *Shaft* / Welle | | | | | | | | | Motore / *Motor* / Motor | | | | | | | | Flangia / *Flange* / Flansch | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | DB | DBL | E | F | FA | FLL | GA | Q | AC | AD | L** | LB** | LC** | LL | PG | V | LA | M | N | P | S*** | T |
| **56** | 9 | M4 | 13 | 20 | 3 | 2,5 | 15 | 10,2 | 3 | 110 | 95 | 186,5 | 166,5 | 209,5 | 75 | M16 | 24 | 8,5 | 100 | 80 | 120 | 7 | 2,5 |
| **63** | 11 | M4 | 18 | 23 | 4 | 4 | 15 | 12,5 | 3 | 123 | 100 | 211,5 | 188,5 | 237,5 | 75 | M16 | 28 | 10 | 115 | 95 | 140 | 9,5 | 3 |
| **71** | 14 | M5 | 18 | 30 | 5 | 5 | 20 | 16 | 3 | 137 | 109 | 250 | 220 | 283 | 75 | M16 | 36 | 10 | 130 | 110 | 160 | 9,5 | 3 |
| **80** | 19 | M6 | 18 | 40 | 6 | 5 | 30 | 21,5 | 4 | 156 | 120 | 280 | 240 | 324 | 91 | M20 | 35 | 11 | 165 | 130 | 200 | 11,5 | 3,5 |
| **90S** | 24 | M8 | 25 | 50 | 8 | 5 | 40 | 27 | 3 | 176 | 128 | 305 | 255 | 358 | 91 | M20 | 40 | 10 | 165 | 130 | 200 | 11,5 | 3,5 |
| **90L** | 24 | M8 | 25 | 50 | 8 | 5 | 40 | 27 | 3 | 176 | 128 | 330 | 280 | 383 | 91 | M20 | 40 | 10 | 165 | 130 | 200 | 11,5 | 3,5 |
| **100** | 28 | M10 | 30 | 60 | 8 | 5 | 50 | 31 | 5 | 194 | 140 | 377 | 317 | 442 | 91 | M20 | 45 | 14 | 215 | 180 | 250 | 14 | 4 |
| **112** | 28 | M10 | 30 | 60 | 8 | 5 | 50 | 31 | 5 | 218 | 149 | 399 | 339 | 464 | 91 | M20 | 47 | 14 | 215 | 180 | 250 | 14 | 4 |
| **132S** | 38 | M12 | 30 | 80 | 10 | 10 | 60 | 41 | 6 | 258 | 177 | 455,5 | 375,5 | 541,5 | 106 | M32 | 57 | 20 | 265 | 230 | 300 | 14 | 4 |
| **132M** | 38 | M12 | 30 | 80 | 10 | 10 | 60 | 41 | 6 | 258 | 177 | 493,5 | 413,5 | 579,5 | 106 | M32 | 57 | 20 | 265 | 230 | 300 | 14 | 4 |
| **160M** | 42 | M16 | 40 | 110 | 12 | 5 | 100 | 45 | 7 | 309 | 220 | 601 | 491 | 718 | 165 | M32 | 118 | 20 | 300 | 250 | 350 | 18,5 | 5 |
| **160L** | 42 | M16 | 40 | 110 | 12 | 5 | 100 | 45 | 7 | 309 | 220 | 645 | 535 | 762 | 165 | M32 | 118 | 20 | 300 | 250 | 350 | 18,5 | 5 |
| **180** | 48 | M16 | 40 | 110 | 14 | 10 | 90 | 51,5 | - | 346 | 260 | 723 | 613 | - | 187 | M32 | 51 | 20 | 300 | 250 | 350 | 19 | 5 |
| **200** | 55 | M20 | 45 | 110 | 16 | 5 | 100 | 59 | - | 348 | 260 | 733 | 623 | - | 187 | M32 | 62 | 20 | 350 | 300 | 400 | 19 | 5 |

| Grandezza *Size* Größe | Albero / *Shaft* / Welle | | | | | | | | | Motore / *Motor* / Motor | | | | | | | | Flangia / *Flange* / Flansch | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | DB | DBL | E | F | FA | FLL | GA | Q | AC | AD | L** | LB** | LC** | LL | PG | V | M | N | P* | S | T |
| **50B** | 9 | - | - | 20 | 3 | 2,5 | 15 | 10,2 | 3 | 98 | 77 | 161 | 141 | 184 | 64 | M16 | 23 | 65 | 50 | 80 | M5 | 2,5 |
| **56** | 9 | M4 | 13 | 20 | 3 | 2,5 | 15 | 10,2 | 3 | 110 | 95 | 186,5 | 166,5 | 209,5 | 75 | M16 | 24 | 65 | 50 | 80 | M5 | 2,5 |
| **63** | 11 | M4 | 18 | 23 | 4 | 4 | 15 | 12,5 | 3 | 123 | 100 | 211,5 | 188,5 | 237,5 | 75 | M16 | 28 | 75 | 60 | 90 | M5 | 2,5 |
| **71** | 14 | M5 | 18 | 30 | 5 | 5 | 20 | 16 | 3 | 137 | 109 | 250 | 220 | 283 | 75 | M16 | 36 | 85 | 70 | 105 | M6 | 3 |
| **80** | 19 | M6 | 18 | 40 | 6 | 5 | 30 | 21,5 | 4 | 156 | 120 | 280 | 240 | 324 | 91 | M20 | 35 | 100 | 80 | 120 | M6 | 3 |
| **90S** | 24 | M8 | 25 | 50 | 8 | 5 | 40 | 27 | 3 | 176 | 128 | 305 | 255 | 358 | 91 | M20 | 40 | 115 | 95 | 140 | M8 | 3 |
| **90L** | 24 | M8 | 25 | 50 | 8 | 5 | 40 | 27 | 3 | 176 | 128 | 330 | 280 | 383 | 91 | M20 | 40 | 115 | 95 | 140 | M8 | 3 |
| **100** | 28 | M10 | 30 | 60 | 8 | 5 | 50 | 31 | 5 | 194 | 140 | 377 | 317 | 442 | 91 | M20 | 45 | 130 | 110 | 160 | M8 | 4 |
| **112** | 28 | M10 | 30 | 60 | 8 | 5 | 50 | 31 | 5 | 218 | 149 | 399 | 339 | 464 | 91 | M20 | 47 | 130 | 110 | 160 | M8 | 4 |
| **132S** | 38 | M12 | 30 | 80 | 10 | 10 | 60 | 41 | 6 | 258 | 177 | 455,5 | 375,5 | 541,5 | 106 | M32 | 57 | 165 | 130 | 200 | M10 | 4 |
| **132M** | 38 | M12 | 30 | 80 | 10 | 10 | 60 | 41 | 6 | 258 | 177 | 493,5 | 413,5 | 579,5 | 106 | M32 | 57 | 165 | 130 | 200 | M10 | 4 |
| **160M** | 42 | M16 | 40 | 110 | 12 | 5 | 100 | 45 | 7 | 309 | 220 | 601 | 491 | 718 | 165 | M32 | 118 | 215 | 180 | 250 | M12 | 4 |
| **160L** | 42 | M16 | 40 | 110 | 12 | 5 | 100 | 45 | 7 | 309 | 220 | 645 | 535 | 762 | 165 | M32 | 118 | 215 | 180 | 250 | M12 | 4 |

* la quota P può subire variazoni essendo una quota grezza.

** I motori HE3 grandezza 90LB, 90LBB e 132ML a 6 poli sono più lunghi di circa 50 mm

*** tolleranza ±0,5

* *Dimension P may change being a raw dimension.*

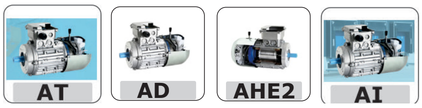
** *The HE3 6-pole motors with size 90LB, 90LBB and 132ML are approx. 50 mm longer*

*** *±0,5 tollerance*

* das Maß P kann Variatione unterliegen, da es ein "Rohmaß" ist.

** Die HE3-Motoren der Baugrößen 90LB, 90LBB und 132ML 6-polig sind länger als ca. 50mm

*** Toleranz ± 0,5




## 1.8 DIMENSIONI (CONTINUA)

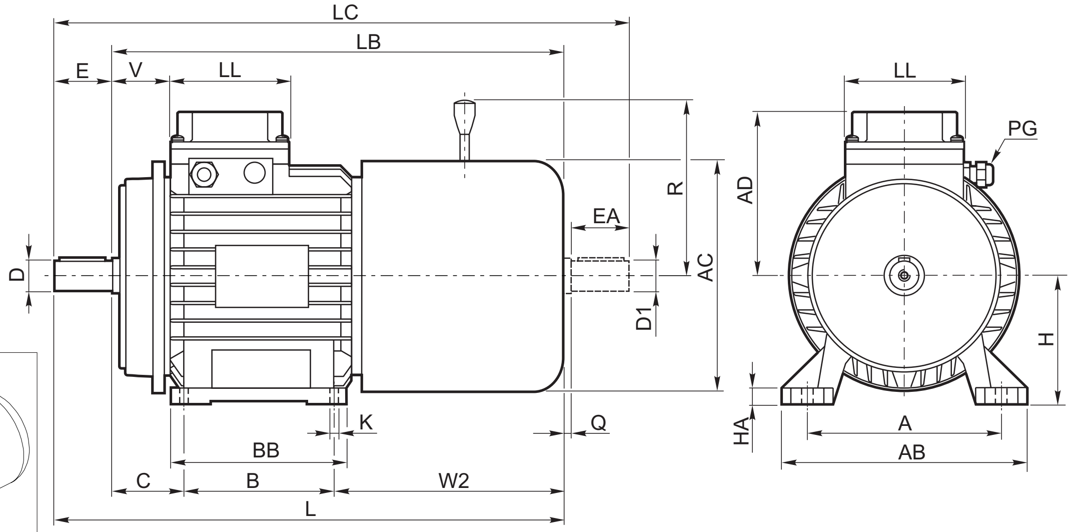
## *1.8 DIMENSIONS (TO BE CONTINUED)*

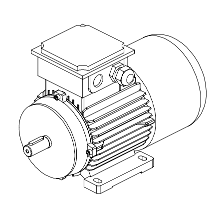
## 1.8 ABMESSUNGEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

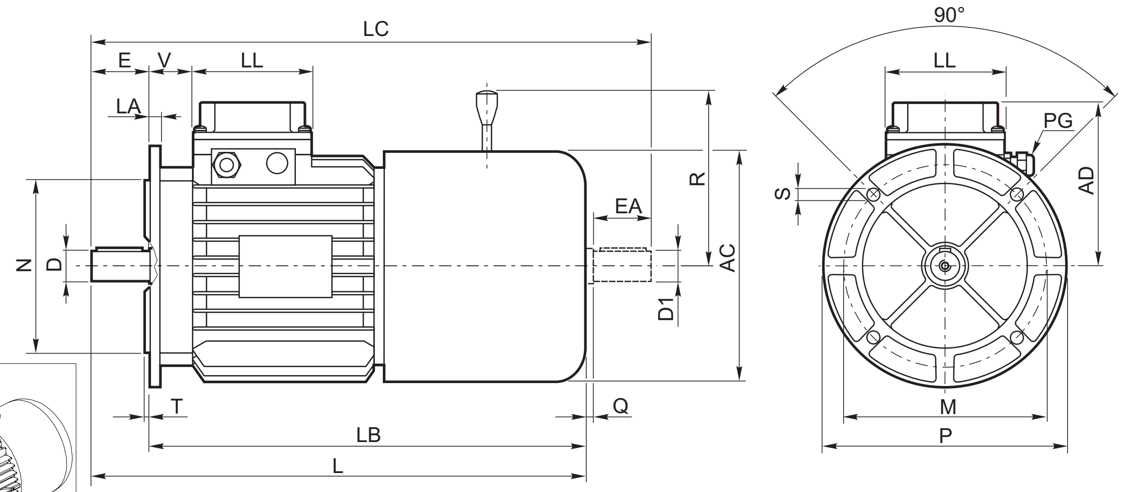
# AT - AD - AHE2 - AI

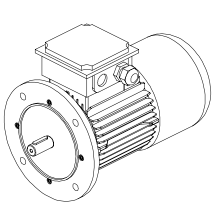
**B3**



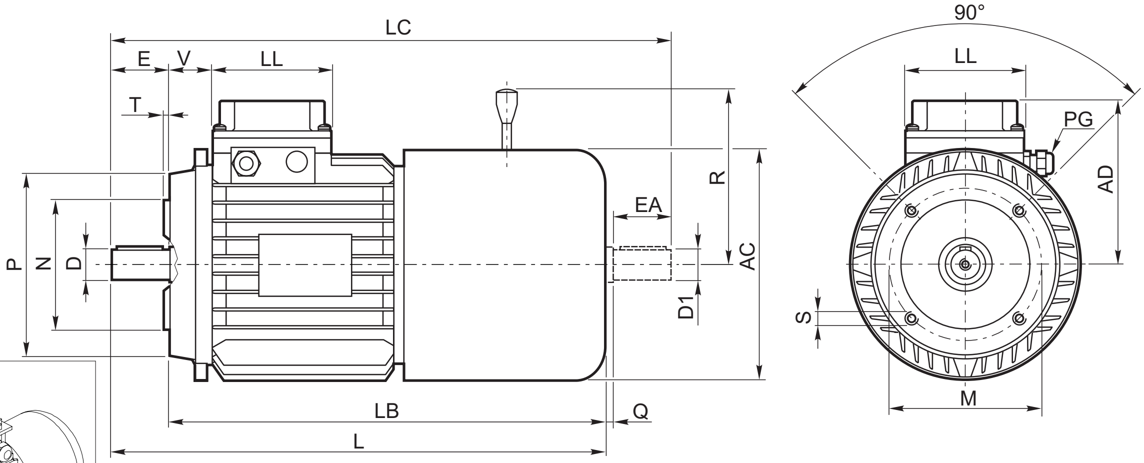



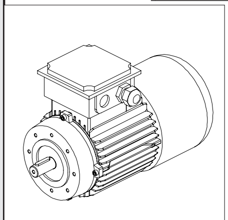
**B5**

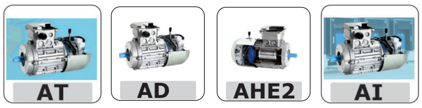


**B14**








## 1.8 DIMENSIONI (CONTINUA)

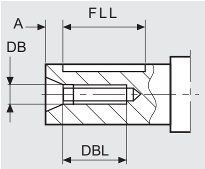
## *1.8 DIMENSIONS (TO BE CONTINUED)*

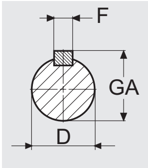
## 1.8 ABMESSUNGEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# AT - AD - AHE2 - AI






| Grandezza *Size* Größe | Albero / *Shaft* / Welle | | | | | | | | | | | Cassa / *Box* / Gehäuse | | | | | | | | | Motore / *Motor* / Motor | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | D1 | DB | DBL | E | EA | F | FA | FLL | GA | Q | A | AB | B | BB | C | H | HA | K | W2 | AC | AD | L | L* | LB | LC | LL | PG | R | V |
| **56** | 9 | 9 | M4 | 13 | 20 | 20 | 3 | 2,5 | 15 | 10,2 | 3 | 90 | 108 | 71 | 90 | 36 | 56 | 10 | 6 | 105 | 110 | 103 | 232 | - | 212 | 255 | 101 | M16 | - | 11 |
| **63** | 11 | 11 | M4 | 18 | 23 | 23 | 4 | 4 | 15 | 12,5 | 3 | 100 | 120 | 80 | 105 | 41 | 63 | 10 | 7 | 122 | 123 | 112 | 266 | 258 | 243 | 292 | 101 | M16 | 98 | 14 |
| **71** | 14 | 11 | M5 | 18 | 30 | 23 | 5 | 5 | 20 | 16 | 3 | 112 | 136 | 90 | 108 | 48 | 71 | 11 | 8 | 108 | 137 | 119 | 276 | 245 | 246 | 322 | 101 | M16 | 98 | 14 |
| **80** | 19 | 14 | M6 | 18 | 40 | 30 | 6 | 5 | 30 | 21,5 | 3 | 125 | 154 | 100 | 125 | 51 | 80 | 13-14 | 9 | 133 | 156 | 145 | 324 | 278 | 284 | 357 | 115 | M20 | 111 | 23 |
| **90S** | 24 | 14 | M8 | 25 | 50 | 30 | 8 | 5 | 40 | 27 | 5 | 140 | 170 | 100 | 130 | 57,5 | 90 | 13-15 | 10 | 153,5 | 176 | 148 | 361 | 325 | 311 | 396 | 115 | M20 | 129 | 28 |
| **90L** | 24 | 14 | M8 | 25 | 50 | 30 | 8 | 5 | 40 | 27 | 5 | 140 | 170 | 125 | 155 | 57,5 | 90 | 13-15 | 10 | 153,5 | 176 | 148 | 391 | 350 | 341 | 421 | 115 | M20 | 129 | 28 |
| **100** | 28 | 24 | M10 | 30 | 60 | 50 | 8 | 5 | 50 | 31 | 5 | 160 | 192 | 140 | 175 | 63 | 100 | 15-16 | 13 | 179 | 194 | 159 | 442 | 404 | 382 | 497 | 115 | M20 | 139 | 33 |
| **112** | 28 | 24 | M10 | 30 | 60 | 50 | 8 | 5 | 50 | 31 | 6 | 190 | 224 | 140 | 176 | 71 | 112 | 15 | 13 | 198 | 218 | 171 | 469 | 388 | 409 | 525 | 115 | M20 | 161 | 35 |
| **132S** | 38 | 28 | M12 | 30 | 80 | 60 | 10 | 10 | 60 | 41 | 6 | 216 | 260 | 140 | 180 | 89,5 | 132 | 16-18 | 14 | 256,5 | 258 | 190 | 566 | 463 | 486 | 632 | 125 | M32 | 186 | 46 |
| **132M** | 38 | 28 | M12 | 30 | 80 | 60 | 10 | 10 | 60 | 41 | 6 | 216 | 260 | 178 | 218 | 89,5 | 132 | 16-18 | 14 | 256,5 | 258 | 190 | 604 | 500 | 524 | 670 | 125 | M32 | 186 | 46 |
| **160M** | 42 | 42 | M16 | 40 | 110 | 110 | 12 | 5 | 100 | 45 | 9 | 254 | 318 | 210 | 260 | 110 | 160 | 18 | 16 | 306 | 309 | 246 | 736 | 602 | 626 | 855 | 186 | M32 | 242 | 54 |
| **160L** | 42 | 42 | M16 | 40 | 110 | 110 | 12 | 5 | 100 | 45 | 9 | 254 | 318 | 254 | 304 | 110 | 160 | 18 | 16 | 306 | 309 | 246 | 780 | 645 | 670 | 899 | 186 | M32 | 242 | 54 |
| **180** | 48 | - | M16 | 40 | 110 | - | 14 | 10 | 90 | 51,5 | - | 280 | 346 | 280 | 330 | 128,5 | 180 | 24 | 16 | 318,5 | 346 | 260 | 837 | - | 727 | - | 186 | M32 | 320 | 52 |

| Grandezza *Size* Größe | Albero / *Shaft* / Welle | | | | | | | | | | | Motore / *Motor* / Motor | | | | | | | | | | Flangia / *Flange* / Flansch | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | D1 | DB | DBL | E | EA | F | FA | FLL | GA | Q | AC | AD | L | L* | LB | LC | LL | PG | R | V | LA | M | N | P | S*** | T |
| **56** | 9 | 9 | M4 | 13 | 20 | 20 | 3 | 2,5 | 15 | 10,2 | 3 | 110 | 103 | 232 | - | 212 | 255 | 101 | M16 | - | 11 | 8,5 | 100 | 80 | 120 | 7 | 2,5 |
| **63** | 11 | 11 | M4 | 18 | 23 | 23 | 4 | 4 | 15 | 12,5 | 3 | 123 | 112 | 266 | 258 | 243 | 292 | 101 | M16 | 98 | 14 | 10 | 115 | 95 | 140 | 9,5 | 2,5 |
| **71** | 14 | 11 | M5 | 18 | 30 | 23 | 5 | 5 | 20 | 16 | 3 | 137 | 119 | 276 | 245 | 246 | 322 | 101 | M16 | 98 | 14 | 10 | 130 | 110 | 160 | 9,5 | 3 |
| **80** | 19 | 14 | M6 | 18 | 40 | 30 | 6 | 5 | 30 | 21,5 | 3 | 156 | 145 | 324 | 278 | 284 | 357 | 115 | M20 | 111 | 23 | 11 | 165 | 130 | 200 | 12 | 3 |
| **90S** | 24 | 14 | M8 | 25 | 50 | 30 | 8 | 5 | 40 | 27 | 5 | 176 | 148 | 361 | 325 | 311 | 396 | 115 | M20 | 129 | 28 | 10 | 165 | 130 | 200 | 12 | 3,5 |
| **90L** | 24 | 14 | M8 | 25 | 50 | 30 | 8 | 5 | 40 | 27 | 5 | 176 | 148 | 391 | 350 | 341 | 421 | 115 | M20 | 129 | 28 | 10 | 165 | 130 | 200 | 12 | 3,5 |
| **100** | 28 | 24 | M10 | 30 | 60 | 50 | 8 | 5 | 50 | 31 | 5 | 194 | 159 | 442 | 404 | 382 | 497 | 115 | M20 | 139 | 33 | 14 | 215 | 180 | 250 | 14 | 4 |
| **112** | 28 | 24 | M10 | 30 | 60 | 50 | 8 | 5 | 50 | 31 | 6 | 218 | 171 | 469 | 388 | 409 | 525 | 115 | M20 | 161 | 35 | 14 | 215 | 180 | 250 | 14 | 4 |
| **132S** | 38 | 28 | M12 | 30 | 80 | 60 | 10 | 10 | 60 | 41 | 6 | 258 | 190 | 566 | 463 | 486 | 632 | 125 | M32 | 186 | 46 | 20 | 265 | 230 | 300 | 14 | 4 |
| **132M** | 38 | 28 | M12 | 30 | 80 | 60 | 10 | 10 | 60 | 41 | 6 | 258 | 190 | 604 | 500 | 524 | 670 | 125 | M32 | 186 | 46 | 20 | 265 | 230 | 300 | 14 | 4 |
| **160M** | 42 | 42 | M16 | 40 | 110 | 110 | 12 | 5 | 100 | 45 | 9 | 309 | 246 | 736 | 602 | 626 | 855 | 186 | M32 | 242 | 54 | 20 | 300 | 250 | 350 | 18,5 | 5 |
| **160L** | 42 | 42 | M16 | 40 | 110 | 110 | 12 | 5 | 100 | 45 | 9 | 309 | 246 | 780 | 645 | 670 | 899 | 186 | M32 | 242 | 54 | 20 | 300 | 250 | 350 | 18,5 | 5 |
| **180** | 48 | - | M16 | 40 | 110 | - | 14 | 10 | 90 | 51,5 | - | 346 | 260 | 837 | - | 727 | - | 186 | M32 | 320 | 52 | 20 | 300 | 250 | 350 | 19 | 5 |

| Grandezza *Size* Größe | Albero / *Shaft* / Welle | | | | | | | | | | | Motore / *Motor* / Motor | | | | | | | | | | Flangia / *Flange* / Flansch | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | D1 | DB | DBL | E | EA | F | FA | FLL | Q | GA | AC | AD | L | L* | LB | LC | LL | PG | R | V | M | N | P** | S | T |
| **50B** | 9 | - | - | - | 20 | - | 3 | 2,5 | 15 | - | 10,2 | 100 | 100 | 200 | - | 180 | - | 101 | M16 | - | 3,5 | 65 | 50 | 80 | M5 | 2,5 |
| **56** | 9 | 9 | M4 | 13 | 20 | 20 | 3 | 2,5 | 15 | 3 | 10,2 | 110 | 103 | 232 | - | 212 | 255 | 101 | M16 | - | 11 | 65 | 50 | 80 | M5 | 2,5 |
| **63** | 11 | 11 | M4 | 18 | 23 | 23 | 4 | 4 | 15 | 3 | 12,5 | 123 | 112 | 266 | 258 | 243 | 292 | 101 | M16 | 98 | 14 | 75 | 60 | 90 | M5 | 2,5 |
| **71** | 14 | 11 | M5 | 18 | 30 | 23 | 5 | 5 | 20 | 3 | 16 | 137 | 119 | 276 | 245 | 246 | 322 | 101 | M20 | 98 | 14 | 85 | 70 | 105 | M6 | 3 |
| **80** | 19 | 14 | M6 | 18 | 40 | 30 | 6 | 5 | 30 | 3 | 21,5 | 156 | 145 | 324 | 278 | 284 | 357 | 115 | M20 | 111 | 23 | 100 | 80 | 120 | M6 | 3 |
| **90S** | 24 | 14 | M8 | 25 | 50 | 30 | 8 | 5 | 40 | 5 | 27 | 176 | 148 | 361 | 325 | 311 | 396 | 115 | M20 | 129 | 28 | 115 | 95 | 140 | M8 | 3 |
| **90L** | 24 | 14 | M8 | 25 | 50 | 30 | 8 | 5 | 40 | 5 | 27 | 176 | 148 | 391 | 350 | 341 | 421 | 115 | M20 | 129 | 28 | 115 | 95 | 140 | M8 | 3 |
| **100** | 28 | 24 | M10 | 30 | 60 | 50 | 8 | 5 | 50 | 5 | 31 | 194 | 159 | 442 | 404 | 382 | 497 | 115 | M20 | 139 | 33 | 130 | 110 | 160 | M8 | 4 |
| **112** | 28 | 24 | M10 | 30 | 60 | 50 | 8 | 5 | 50 | 6 | 31 | 218 | 171 | 469 | 388 | 409 | 525 | 115 | M32 | 161 | 35 | 130 | 110 | 160 | M8 | 4 |
| **132S** | 38 | 28 | M12 | 30 | 80 | 60 | 10 | 10 | 60 | 6 | 41 | 258 | 190 | 566 | 463 | 486 | 632 | 125 | M32 | 186 | 46 | 165 | 130 | 200 | M10 | 4 |
| **132M** | 38 | 28 | M12 | 30 | 80 | 60 | 10 | 10 | 60 | 6 | 41 | 258 | 190 | 604 | 500 | 524 | 670 | 125 | M32 | 186 | 46 | 165 | 130 | 200 | M10 | 4 |
| **160M** | 42 | 42 | M16 | 40 | 110 | 110 | 12 | 5 | 100 | 9 | 45 | 309 | 246 | 736 | 602 | 626 | 855 | 186 | M32 | 242 | 54 | 215 | 180 | 250 | M12 | 4 |
| **160L** | 42 | 42 | M16 | 40 | 110 | 110 | 12 | 5 | 100 | 9 | 45 | 309 | 246 | 780 | 645 | 670 | 899 | 186 | M32 | 242 | 54 | 215 | 180 | 250 | M12 | 4 |

L* = Quota per freno serie FS

** la quota P può subire variazoni essendo una quota grezza.

*** tolleranza ±0,5

L* = Value for series FS

** Dimension P may change being a raw dimension.

*** ±0,5 tollerance

L * = Wert für Bremse Serie FS

** das Maß P kann Variatione unterliegen, da es ein “Rohmaß” ist.

*** Toleranz ± 0,5


## 1.8 DIMENSIONI (CONTINUA)

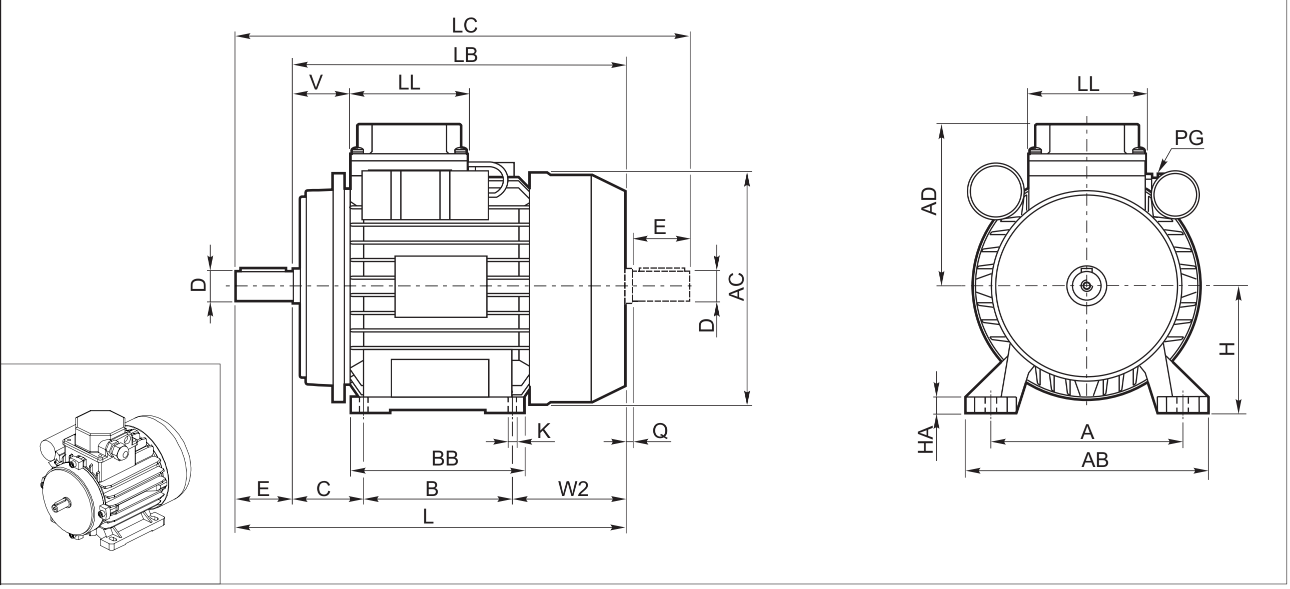
## *1.8 DIMENSIONS (TO BE CONTINUED)*

## 1.8 ABMESSUNGEN (FORTSETZUNG)

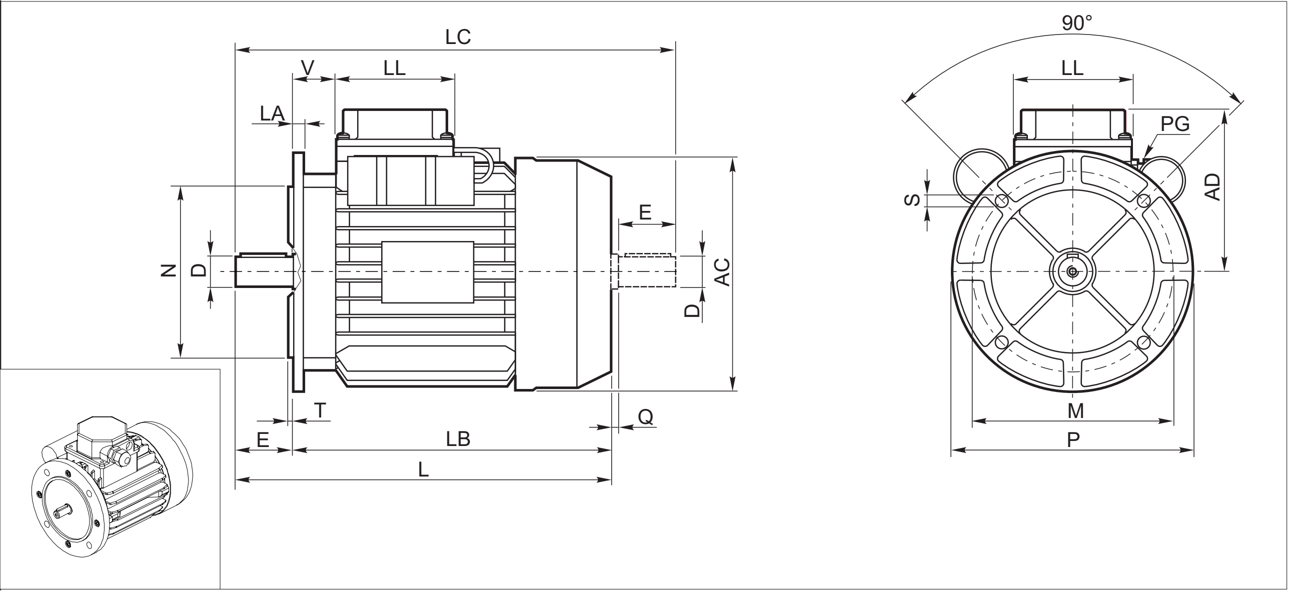
MONOFASE
*SINGLE-PHASE*
EINPHASEN

# M - ME - MC

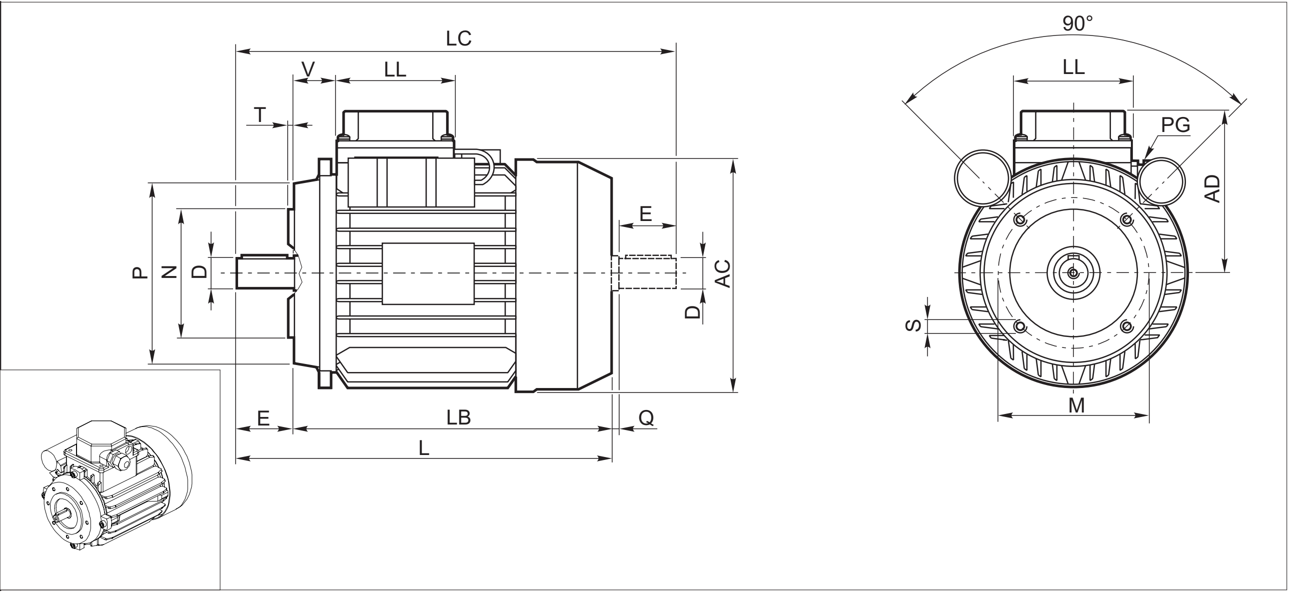
**B3**

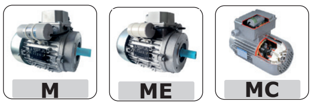



**B5**




**B14**








## 1.8 DIMENSIONI (CONTINUA)

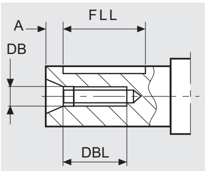
## *1.8 DIMENSIONS (TO BE CONTINUED)*

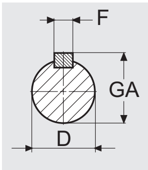
## 1.8 ABMESSUNGEN (FORTSETZUNG)



MONOFASE
*SINGLE-PHASE*
EINPHASEN

# M - ME - MC




| Grandezza *Size* Größe | Albero / *Shaft* / Welle | | | | | | | | | Cassa / *Box* / Gehäuse | | | | | | | | | | Motore / *Motor* / Motor | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | DB | DBL | E | F | FA | FLL | GA | Q | A | AB | B | BB | C | H | HA | K | W2 | AC | AD | L | LB | LC | LL | PG | V |
| **56** | 9 | M4 | 13 | 20 | 3 | 2,5 | 15 | 10,2 | 3 | 90 | 108 | 71 | 90 | 36 | 56 | 10 | 6 | 59,5 | 110 | 95 | 186,5 | 166,5 | 209,5 | 75 | M16 | 24 |
| **63** | 11 | M4 | 18 | 23 | 4 | 4 | 15 | 12,5 | 3 | 100 | 120 | 80 | 105 | 41 | 63 | 10 | 7 | 70 | 123 | 100 | 211,5 | 188,5 | 237,5 | 75 | M16 | 28 |
| **71** | 14 | M5 | 18 | 30 | 5 | 5 | 20 | 16 | 3 | 112 | 136 | 90 | 108 | 48 | 71 | 11 | 8 | 82 | 137 | 109 | 250 | 220 | 283 | 75 | M16 | 36 |
| **80** | 19 | M6 | 18 | 40 | 6 | 5 | 30 | 21,5 | 4 | 125 | 154 | 100 | 125 | 51 | 80 | 13/14 | 9 | 88 | 156 | 120 | 280 | 240 | 324 | 91 | M20 | 35 |
| **90S** | 24 | M8 | 25 | 50 | 8 | 5 | 40 | 27 | 3 | 140 | 170 | 100 | 130 | 57,5 | 90 | 13/15 | 10 | 97,5 | 176 | 128 | 305 | 255 | 358 | 91 | M20 | 40 |
| **90L** | 24 | M8 | 25 | 50 | 8 | 5 | 40 | 27 | 3 | 140 | 170 | 125 | 155 | 57,5 | 90 | 13/15 | 10 | 97,5 | 176 | 128 | 330 | 280 | 383 | 91 | M20 | 40 |
| **100** | 28 | M10 | 30 | 60 | 8 | 5 | 50 | 31 | 5 | 160 | 192 | 140 | 175 | 63 | 100 | 15/16 | 13 | 114 | 194 | 140 | 377 | 317 | 442 | 91 | M20 | 45 |

| Grandezza *Size* Größe | Albero / *Shaft* / Welle | | | | | | | | | Motore / *Motor* / Motor | | | | | | | | Flangia / *Flange* / Flansch | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | DB | DBL | E | F | FA | FLL | GA | Q | AC | AD | L | LB | LC | LL | PG | V | LA | M | N | P | S*** | T |
| **56** | 9 | M4 | 13 | 20 | 3 | 2,5 | 15 | 10,2 | 3 | 110 | 95 | 186,5 | 166,5 | 209,5 | 75 | M16 | 24 | 8,5 | 100 | 80 | 120 | 7 | 2,5 |
| **63** | 11 | M4 | 18 | 23 | 4 | 4 | 15 | 12,5 | 3 | 123 | 100 | 211,5 | 188,5 | 237,5 | 75 | M16 | 28 | 10 | 115 | 95 | 140 | 9,5 | 3 |
| **71** | 14 | M5 | 18 | 30 | 5 | 5 | 20 | 16 | 3 | 137 | 109 | 250 | 220 | 283 | 75 | M16 | 36 | 10 | 130 | 110 | 160 | 9,5 | 3 |
| **80** | 19 | M6 | 18 | 40 | 6 | 5 | 30 | 21,5 | 4 | 156 | 120 | 280 | 240 | 324 | 91 | M20 | 35 | 11 | 165 | 130 | 200 | 11,5 | 3,5 |
| **90S** | 24 | M8 | 25 | 50 | 8 | 5 | 40 | 27 | 3 | 176 | 128 | 305 | 255 | 358 | 91 | M20 | 40 | 10 | 165 | 130 | 200 | 11,5 | 3,5 |
| **90L** | 24 | M8 | 25 | 50 | 8 | 5 | 40 | 27 | 3 | 176 | 128 | 330 | 280 | 383 | 91 | M20 | 40 | 10 | 165 | 130 | 200 | 11,5 | 3,5 |
| **100** | 28 | M10 | 30 | 60 | 8 | 5 | 50 | 31 | 5 | 194 | 140 | 377 | 317 | 442 | 91 | M20 | 45 | 14 | 215 | 180 | 250 | 14 | 4 |

| Grandezza *Size* Größe | Albero / *Shaft* / Welle | | | | | | | | | Motore / *Motor* / Motor | | | | | | | | Flangia / *Flange* / Flansch | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | DB | DBL | E | F | FA | FLL | GA | Q | AC | AD | L | LB | LC | LL | PG | V | M | N | P* | S | T |
| **50B** | 9 | - | - | 20 | 3 | 2,5 | 15 | 10,2 | 3 | 98 | 77 | 161 | 141 | 184 | 64 | M16 | 23 | 65 | 50 | 80 | M5 | 2,5 |
| **56** | 9 | M4 | 13 | 20 | 3 | 2,5 | 15 | 10,2 | 3 | 110 | 95 | 186,5 | 166,5 | 209,5 | 75 | M16 | 24 | 65 | 50 | 80 | M5 | 2,5 |
| **63** | 11 | M4 | 18 | 23 | 4 | 4 | 15 | 12,5 | 3 | 123 | 100 | 211,5 | 188,5 | 237,5 | 75 | M16 | 28 | 75 | 60 | 90 | M5 | 2,5 |
| **71** | 14 | M5 | 18 | 30 | 5 | 5 | 20 | 16 | 3 | 137 | 109 | 250 | 220 | 283 | 75 | M16 | 36 | 85 | 70 | 105 | M6 | 3 |
| **80** | 19 | M6 | 18 | 40 | 6 | 5 | 30 | 21,5 | 4 | 156 | 120 | 280 | 240 | 324 | 91 | M20 | 35 | 100 | 80 | 120 | M6 | 3 |
| **90S** | 24 | M8 | 25 | 50 | 8 | 5 | 40 | 27 | 3 | 176 | 128 | 305 | 255 | 358 | 91 | M20 | 40 | 115 | 95 | 140 | M8 | 3 |
| **90L** | 24 | M8 | 25 | 50 | 8 | 5 | 40 | 27 | 3 | 176 | 128 | 330 | 280 | 383 | 91 | M20 | 40 | 115 | 95 | 140 | M8 | 3 |
| **100** | 28 | M10 | 30 | 60 | 8 | 5 | 50 | 31 | 5 | 194 | 140 | 377 | 317 | 442 | 91 | M20 | 45 | 130 | 110 | 160 | M8 | 4 |

* la quota P può subire variazoni essendo una quota grezza.

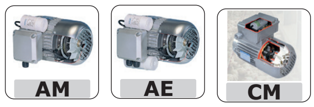
*** tolleranza ±0,5

* Dimension P may change being a raw dimension.

*** ±0,5 tollerance

* das Maß P kann Variatione unterliegen, da es ein "Rohmaß" ist.

*** Toleranz ± 0,5




## 1.8 DIMENSIONI (CONTINUA)

## *1.8 DIMENSIONS (TO BE CONTINUED)*

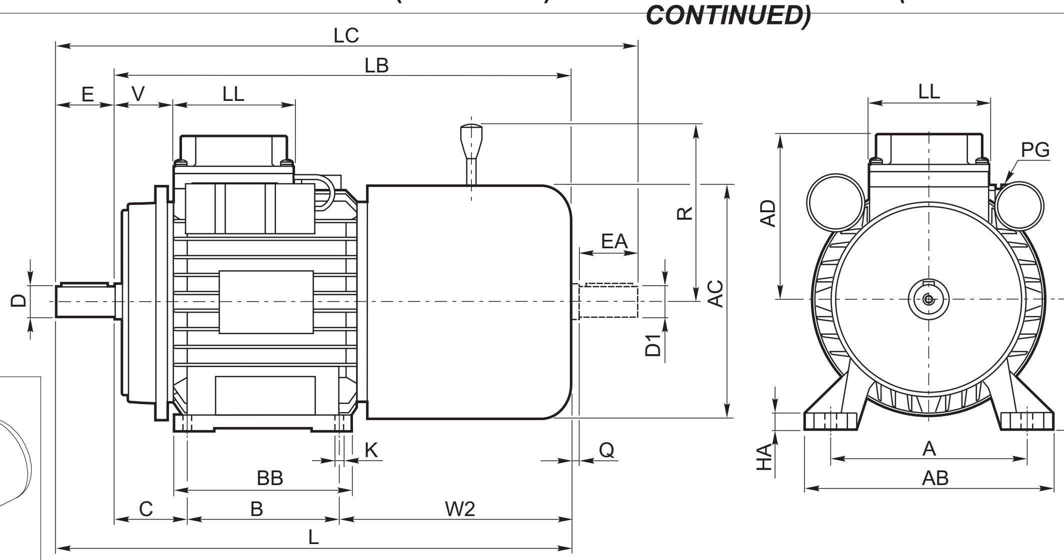
## 1.8 ABMESSUNGEN (FORTSETZUNG)

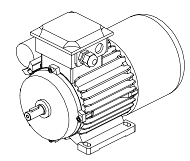
MONOFASE
*SINGLE-PHASE*
EINPHASEN

# AM - AE - CM

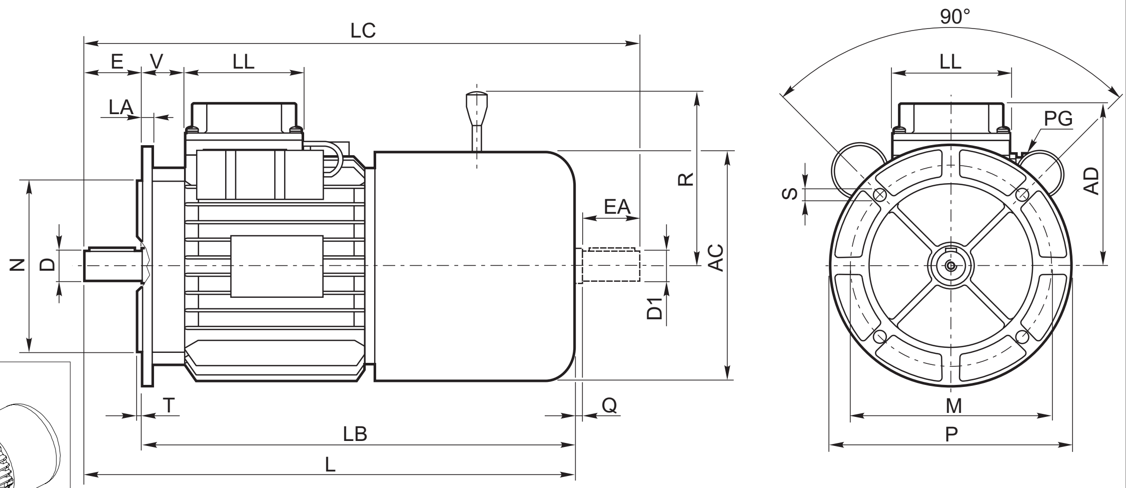
1.8 DIMENSIONI (CONTINUA)
*1.8 DIMENSIONS (TO BE CONTINUED)*
1.8 (FOR

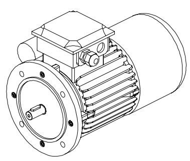
**B3**



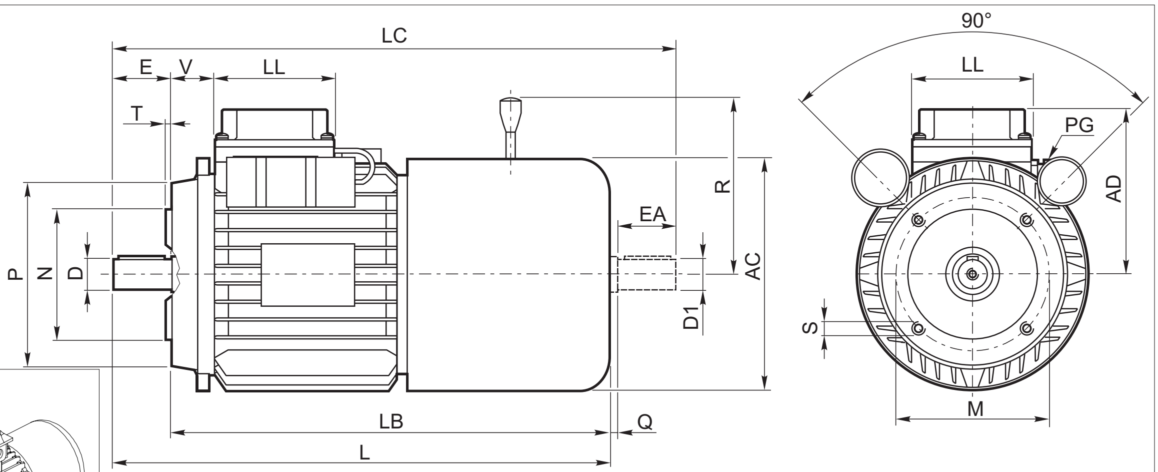



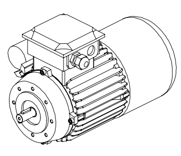
**B5**



**B14**



## 1.8 DIMENSIONI (FINE)

## *1.8 DIMENSIONS (THE END)*

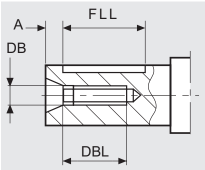
## 1.8 ABMESSUNGEN (ENDE)

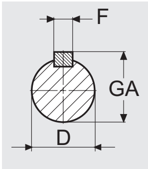
MONOFASE
*SINGLE-PHASE*
EINPHASEN

# AM - AE - CM

ABMESSUNGEN
RTSETZUNG)

A




| Grandezza *Size* Größe | Albero / *Shaft* / Welle | | | | | | | | | | | Cassa / *Box* / Gehäuse | | | | | | | | | Motore / *Motor* / Motor | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | D1 | DB | DBL | E | EA | F | FA | FLL | GA | Q | A | AB | B | BB | C | H | HA | K | W2 | AC | AD | L | L* | LB | LC | LL | PG | R | V |
| **56** | 9 | 9 | M4 | 13 | 20 | 20 | 3 | 2,5 | 15 | 10,2 | 3 | 90 | 108 | 71 | 90 | 36 | 56 | 10 | 6 | 105 | 110 | 103 | 232 | - | 212 | 255 | 101 | M16 | - | 11 |
| **63** | 11 | 11 | M4 | 18 | 23 | 23 | 4 | 4 | 15 | 12,5 | 3 | 100 | 120 | 80 | 105 | 41 | 63 | 10 | 7 | 122 | 123 | 112 | 266 | 258 | 243 | 292 | 101 | M16 | 98 | 14 |
| **71** | 14 | 11 | M5 | 18 | 30 | 23 | 5 | 5 | 20 | 16 | 3 | 112 | 136 | 90 | 108 | 48 | 71 | 11 | 8 | 108 | 137 | 119 | 276 | 245 | 246 | 302 | 101 | M16 | 98 | 14 |
| **80** | 19 | 14 | M6 | 18 | 40 | 30 | 6 | 5 | 30 | 21,5 | 3 | 125 | 154 | 100 | 125 | 51 | 80 | 13-14 | 9 | 133 | 156 | 145 | 324 | 278 | 284 | 357 | 115 | M20 | 111 | 23 |
| **90S** | 24 | 14 | M8 | 25 | 50 | 30 | 8 | 5 | 40 | 27 | 5 | 140 | 170 | 100 | 130 | 57,5 | 90 | 13-15 | 10 | 153,5 | 176 | 148 | 361 | 325 | 311 | 396 | 115 | M20 | 129 | 28 |
| **90L** | 24 | 14 | M8 | 25 | 50 | 30 | 8 | 5 | 40 | 27 | 5 | 140 | 170 | 125 | 155 | 57,5 | 90 | 13-15 | 10 | 153,5 | 176 | 148 | 386 | 350 | 341 | 421 | 115 | M20 | 129 | 28 |
| **100** | 28 | 24 | M10 | 30 | 60 | 50 | 8 | 5 | 50 | 31 | 5 | 160 | 192 | 140 | 175 | 63 | 100 | 15-16 | 13 | 179 | 194 | 159 | 442 | 404 | 382 | 497 | 115 | M20 | 139 | 33 |

| Grandezza *Size* Größe | Albero / *Shaft* / Welle | | | | | | | | | | | Motore / *Motor* / Motor | | | | | | | | | | Flangia / *Flange* / Flansch | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | D1 | DB | DBL | E | EA | F | FA | FLL | GA | Q | AC | AD | L | L* | LB | LC | LL | PG | R | V | LA | M | N | P | S*** | T |
| **56** | 9 | 9 | M4 | 13 | 20 | 20 | 3 | 2,5 | 15 | 10,2 | 3 | 110 | 103 | 232 | - | 212 | 255 | 101 | M16 | - | 11 | 8,5 | 100 | 80 | 120 | 7 | 2,5 |
| **63** | 11 | 11 | M4 | 18 | 23 | 23 | 4 | 4 | 15 | 12,5 | 3 | 123 | 112 | 266 | 258 | 243 | 292 | 101 | M16 | 98 | 14 | 10 | 115 | 95 | 140 | 9,5 | 2,5 |
| **71** | 14 | 11 | M5 | 18 | 30 | 23 | 5 | 5 | 20 | 16 | 3 | 137 | 119 | 276 | 245 | 246 | 302 | 101 | M16 | 98 | 14 | 10 | 130 | 110 | 160 | 9,5 | 3 |
| **80** | 19 | 14 | M6 | 18 | 40 | 30 | 6 | 5 | 30 | 21,5 | 3 | 156 | 145 | 324 | 278 | 284 | 357 | 115 | M20 | 111 | 23 | 11 | 165 | 130 | 200 | 12 | 3 |
| **90S** | 24 | 14 | M8 | 25 | 50 | 30 | 8 | 5 | 40 | 27 | 5 | 176 | 148 | 361 | 325 | 311 | 396 | 115 | M20 | 129 | 28 | 10 | 165 | 130 | 200 | 12 | 3,5 |
| **90L** | 24 | 14 | M8 | 25 | 50 | 30 | 8 | 5 | 40 | 27 | 5 | 176 | 148 | 386 | 350 | 341 | 421 | 115 | M20 | 129 | 28 | 10 | 165 | 130 | 200 | 12 | 3,5 |
| **100** | 28 | 24 | M10 | 30 | 60 | 50 | 8 | 5 | 50 | 31 | 5 | 194 | 159 | 442 | 404 | 382 | 497 | 115 | M20 | 139 | 33 | 14 | 215 | 180 | 250 | 14,5 | 4 |

| Grandezza *Size* Größe | Albero / *Shaft* / Welle | | | | | | | | | | | Motore / *Motor* / Motor | | | | | | | | | | Flangia / *Flange* / Flansch | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | D1 | DB | DBL | E | EA | F | FA | FLL | GA | Q | AC | AD | L | L* | LB | LC | LL | PG | R | V | M | N | P** | S | T |
| **50B** | 9 | - | - | - | 20 | - | 3 | 2,5 | 15 | 10,2 | - | 100 | 100 | 200 | - | 180 | - | 101 | M16 | - | 3,5 | 65 | 50 | 80 | M5 | 2,5 |
| **56** | 9 | 9 | M4 | 13 | 20 | 20 | 3 | 2,5 | 15 | 10,2 | 3 | 110 | 103 | 232 | - | 212 | 255 | 101 | M16 | - | 11 | 65 | 50 | 80 | M5 | 2,5 |
| **63** | 11 | 11 | M4 | 18 | 23 | 23 | 4 | 4 | 15 | 12,5 | 3 | 123 | 112 | 266 | 233 | 243 | 292 | 101 | M16 | 98 | 14 | 75 | 60 | 90 | M5 | 2,5 |
| **71** | 14 | 11 | M5 | 18 | 30 | 23 | 5 | 5 | 20 | 16 | 3 | 137 | 119 | 276 | 245 | 246 | 302 | 101 | M20 | 98 | 14 | 85 | 70 | 105 | M6 | 3 |
| **80** | 19 | 14 | M6 | 18 | 40 | 30 | 6 | 5 | 30 | 21,5 | 3 | 156 | 145 | 324 | 278 | 284 | 357 | 115 | M20 | 111 | 23 | 100 | 80 | 120 | M6 | 3 |
| **90S** | 24 | 14 | M8 | 25 | 50 | 30 | 8 | 5 | 40 | 27 | 5 | 176 | 148 | 361 | 325 | 311 | 396 | 115 | M20 | 129 | 28 | 115 | 95 | 140 | M8 | 3 |
| **90L** | 24 | 14 | M8 | 25 | 50 | 30 | 8 | 5 | 40 | 27 | 5 | 176 | 148 | 386 | 350 | 341 | 421 | 115 | M20 | 129 | 28 | 115 | 95 | 140 | M8 | 3 |
| **100** | 28 | 24 | M10 | 30 | 60 | 50 | 8 | 5 | 50 | 31 | 5 | 194 | 159 | 442 | 404 | 382 | 497 | 115 | M20 | 139 | 33 | 130 | 110 | 160 | M8 | 4 |

L* = Quota per freno serie FS

** la quota P può subire variazoni essendo una quota grezza.

*** tolleranza ±0,5

*L* = Value for series FS*

** *Dimension P may change being a raw dimension.*

*** *±0,5 tollerance*

L * = Wert für die Bremse der Serie FS

** das Maß P kann Variatione unterliegen, da es ein “Rohmaß” ist.

*** Toleranz ± 0,5

# B


MOTORI ELETTRICI SERIE VL2
*VL2 SERIES ELECTRIC MOTORS*
ELEKTROMOTOREN SERIE VL2



MOTORI ELETTRICI TRIFASE
*THREE-PHASE ELECTRIC MOTORS*
DREHSTROMMOTOREN


MOTORI ELETTRICI TRIFASE IE2
*IE2 HREE-PHASE ELECTRIC MOTORS*
DREHSTROMMOTOREN IE2


MOTORI ELETTRICI TRIFASE IE3
*IE3 THREE-PHASE ELECTRIC MOTORS*
DREHSTROMMOTOREN IE3


MOTORI ELETTRICI TRIFASE CCC
*THREE-PHASE ELECTRIC MOTORS CCC*
DREHSTROMMOTOREN CCC


MOTORI ELETTRICI MONOFASI
*SINGLE-PHASE ELECTRIC MOTORS*
WECHSELSTROMMOTOREN

## SIMBOLOGIA *SYMBOLS* SYMBOLE

| Simbolo<br>*Simbolo*<br>Simbolo | Unità di misura<br>*Unità di misura*<br>Unità di misura | DEFINIZIONE | *DEFINITION* | DEFINITION |
|---|---|---|---|---|
| **C** | [Nm] | Coppia | *Torque* | Moment |
| **$C_a$** | [Nm] | Coppia di avviamento | *Starting torque* | Dremmoment |
| **$C_{max}$** | [Nm] | Coppia massima | *Max. torque* | Höchstmoment |
| **$C_n$** | [Nm] | Coppia nominale | *Rated torque* | Nennmoment |
| **cosφ** | — | Fattore di potenza | *Power factor* | Leistungsfaktor |
| **$C_r$** | [Nm] | Coppia resistente | *Counter-torque during acceleration* | Lastmoment |
| **$C_{VF}$** | [μF] | Capacità condensatore | *Capacitor capacity* | Kondensatorkapazität |
| **$F_a$** | [N] | Carico assiale | *Axial Load* | Axialbelastung |
| **f** | [Hz] | Frequenza | *Frequency* | Frequenz |
| **$F_r$** | [N] | Carico radiale | *Radial load* | Radialbelastung |
| η | — | Rendimento | *Efficiency* | Wirkungsgrad |
| **$I_a$** | [A] | Corrente di spunto | *Starting current* | Anlaufstrom |
| **$I_n$** | [A] | Corrente nominale | *Rated current* | Nennstrom |
| **$J_c$** | [$Kgm^2$] | Momento di inerzia del carico | *Load moment of inertia* | Massenträgheitsmoment der externen Massen |
| **$J_m$** | [$Kgm^2$] | Momento di inerzia motore | *Moment of inertia motor* | Trägheitsmoment motoren |
| **$n_n$** | [$min^{-1}$] | Velocità nominale | *Rated speed* | Nenndrehzahl |
| **P** | [kW] | Potenza | *Power* | Leistung |
| **$P_n$** | [kW, HP] | Potenza nominale motore | *Motor rated power* | Nennleistung |
| **$A_v$** | [A] | Corrente assorbita servoventilazione | *Cooling fan current* | Servolelüftung Strom |
| **$S_C$** | — | Capacità di spunto | *Starting capacity* | Startkapazität |
| **$V_B$** | [$m^3$/min] | Portata aria di raffreddamento | *Capacity cooling air* | Kühlluft der Kapazität |
| **$V_n$** | [V] | Tensione nominale | *Nominal voltage* | Nennspannung |
| **$Z_C$** | [1/h] | N° di avviamenti ammissibili a carico | *Max permissible loaded startings frequency* | Anzahl der Starts die unterhaltsberechtigten |
| **$Z_0$** | [1/h] | N° di avviamenti ammissibili a vuoto (I = 50%) | *Max.permissible no-load starting frequency (I=50%)* | Max. Schalthäufigkeitim Leerl auf (relative Einschalt-dauerI=50%) |
| Kg | [Kg] | Peso | *Weight* | Maße |

**1.0** **MOTORI TRIFASE**
***THREE-PHASE MOTORS***
**DREHSTROMMOTOREN**

# VL2 - VL2 Y3
# VL2 IE2 - VL2 IE3
# MS - MYT



B

## 1.1 GENERALITÀ

### Norme di riferimento

## *1.1 GENERAL INFORMATION*

### *Reference standards*

## 1.1 ALLGEMEINE ANGABEN

### Bezugsnormen

| **Norme / *Standards*/ Normen** | **IEC** (World) | **CENELEC** (Europe) | **CEI** (Italy) |
|---|---|---|---|
| **Caratteristiche elettriche**<br>***Electric features***<br>**Eigenschaften des elektrischen Teils** | IEC 34-1 | HD 53.1.S2 | CEI EN 60034-1 |
| **Grado di protezione**<br>***Protection level***<br>**Schutzart** | IEC 34-5 | EN 60034-5 | CEI EN 60034-5 |
| **Metodo ventilazione motori**<br>***Motor ventilation method***<br>**Motorbelüftungsmethode** | IEC 34-6 | EN 60034-6 | |
| **Forme costruttive**<br>***Available configurations***<br>**Bauformen** | IEC 34-7 | HD 53.7 | CEI EN 60034-7 |
| **Limiti di rumorosità**<br>***Noise limits***<br>**Geräuschpegelgrenzwerte** | IEC 34-9 | | CEI EN 60034-9 |
| **Voltaggi unificati**<br>***Unified voltages***<br>**Vereinheitlichte Spannungswerte** | IEC 38 | | CEI 8-6 |
| **Caratteristiche dimensionali**<br>***Dimensional features***<br>**Abmessungen** | IEC 72-1 | | CEI IEC 72-1 |
| **Sicurezza del macchinario equipaggiamento elettrico delle macchine**<br>***Safety of machinery - Electrical equipment of machines***<br>**Sicherheit der Anlage und der elektrischen Ausrüstung der Maschinen** | | | CEI EN 60204-1 |
| **Efficienza energetica**<br>***Power efficiency***<br>**Energieeffizienz** | IEC 60034-30 | | CEI EN 60034-30 |
| **Normativa Atex**<br>***Atex regulation***<br>**ATEX-Richtlinie** | IEC 60079-0<br>IEC 60079-31 | | CEI EN 60079-0<br>CEI EN 60079-31 |

* a richiesta / ** upon request* / * auf Anfrage

### Marcatura CE

I motori elettrici del presente catalogo sono conformi alle direttive europee Bassa Tensione 2014/35/UE, compatibilità elettromagnetica 2014/30/UE , macchine 2006/42/UE e alle norme armonizzate di prodotto IEC60034.
L'installazione in sicurezza è realizzata applicando la norma EN60204-1 (Equipaggiamento elettrico delle macchine) e delle avvertenze generali sulla sicurezza riportate nel manuale d'uso del costruttore.
Sono motori di moderna concezione disponibili anche nelle versioni ad alta efficienza secondo IEC 60034-30
Sono motori realizzati per poter essere comandati da convertitore di frequenza.

### *CE Marking*

*The electric motors in this catalogue comply with the European Directives on Low Voltage 2014/35/EU, Electromagnetic Compatibility 2014/30/EU and Machinery 2006/42/EU, and with the product harmonised standards IEC60034.*
*A safe installation is ensured by applying the standard EN60204-1 (Electrical equipment of machines) and the general safety warnings indicated on the manufacturer's user manual.*
*These modern motors are also available in high-efficiency versions according to IEC 60034-30*
*They were designed to be controlled with a frequency inverter.*

### CE-Zeichen

Die in diesem Katalog enthaltenen Elektromotoren entsprechen den europäischen Richtlinien bezüglich der Niederspannung 2014/35/EU, Elektromagnetischen Verträglichkeit 2014/30/EU der Maschinenrichtlinie M2006/42/EU sowie den harmonisierten Normen IEC60034.
Die Sicherheitsinstallation erfolgt durch Anwendung der EN60204-1 (Elektrotechnische Ausrüstung der Maschinen) und der allgemeinen Sicherheitshinweise in der Betriebsanleitung des Herstellers.
Es handelt sich um nach neusten Konzepten gefertigte Motoren, die auch in Hochleistungs-Ausführungen nach IEC 60034-30 erhältlich sind.
Diese Motoren können von einem Frequenzumrichter gesteuert werden.

## 1.1 GENERALITÀ (CONTINUA)

### Motori elettrici per ambienti potenzialmente esplosivi in zona ATEX

Motore in conformita alla direttiva ATEX 2014/34/UE, ambiente con polveri potenzialmente infiammabili categoria II 3D.

Le possibili varianti sono in base al tipo di polvere :
EX10 = II 3D - Ex tc IIIA T4 Dc
EX11 = II 3D - Ex tc IIIB T4 Dc
EX12 = II 3D - Ex tc IIIC T4 Dc

### Marcatura CCC

Motori conformi alla normativa CCC (China Compulsory Certificate), è un marchio di sicurezza obbligatorio per molti prodotti venduti sul mercato cinese e in particolare per alcuni taglie di motori. I motori elettrici devono soddisfare opportuni requisiti di sicurezza elettrica.

## *1.1 GENERAL INFORMATION (TO BE CONTINUED)*

### *Electric motors for potentially explosive atmospheres in ATEX area*

*Motor complying with ATEX 2014/34/EU directive, environment with potentially flammable dust, category II 3D.*

*The possible variants depend on the type of dust:*
*EX10 = II 3D - Ex tc IIIA T4 Dc*
*EX11 = II 3D - Ex tc IIIB T4 Dc*
*EX12 = II 3D - Ex tc IIIC T4 Dc*

### *CCC Marking*

*Motors complying with the CCC regulation (China Compulsory Certificate), which is a compulsory safety marking for many products sold on the Chinese market and in particular for some motor sizes. Electric motors must meet the applicable electric safety requirements.*

## 1.1 ALLGEMEINE ANGABEN (FORTSETZUNG)

### Elektromotoren für Bereiche mit explosiver Atmosphäre in ATEX-Zonen

Der ATEX 2014/34/EU-Richtlinie konformer Motor, Raum mit potenziell entflammbaren Stäuben der Kategorie II 3D.

Die möglichen Varianten basieren auf der Staubart:
EX10 = II 3D - Ex tc IIIA T4 Dc
EX11 = II 3D - Ex tc IIIB T4 Dc
EX12 = II 3D - Ex tc IIIC T4 Dc

### CCC-Zeichen

Der CCC-Richtlinie (China Compulsory Certificate) konforme Motoren. Hierbei handelt es sich um eine für viele, auf dem chinesischen Markt verkaufte Produkte und insbesondere für einige Motoren Größen obligatorische Sicherheitskennzeichnung. Die Elektromotoren müssen die entsprechenden elektrischen Sicherheitsanforderungen erfüllen.

## 1.1 GENERALITÀ (CONTINUA)

## *1.1 GENERAL INFORMATION (TO BE CONTINUED)*

## 1.1 ALLGEMEINE ANGABEN (FORTSETZUNG)

# MOTORI TRIFASE / *THREE-PHASE MOTORS* / DREHSTROMMOTOREN

### Motori asincroni trifase

### *Three-phase induction motors*

### Drehstrom-Asynchronmotor


Grand. / *Size* / Größe 56...132

| | | | |
|---|---|---|---|
| Designazione | *Designation* | Bezeichnung | B8 |
| Cuscinetti e Materiali | *Bearings and Materials* | Lager und Materialen | B16 |
| Dati tecnici | *Technical data* | Technische Daten | B22 |
| Dimensioni | *Dimensions* | Abmessungen | 42 |

I motori asincroni sono con rotore a gabbia di scoiattolo pressofusa, statore avvolto, chiusi, ventilati esternamente secondo IEC 34-6.
La carcassa è in alluminio.

*Induction motors with a die-cast squirrel cage rotor, with wound stator, closed and externally ventilated according to IEC 34-6.*
*The frame is in aluminium.*

Die Asynchronmotoren verfügen über einen Druckguss-Käfigläufer, einen gewickelten Stator, sind geschlossen und extern belüftet gemäß IEC 34-6.
Das Gehäuse ist aus Aluminium.

### Motori asincroni trifase

### *Three-phase induction motors*

### Drehstrom-Asynchronmotor


Grand. / *Size* / Größe 160...315

| | | | |
|---|---|---|---|
| Designazione | *Designation* | Bezeichnung | B8 |
| Cuscinetti e Materiali | *Bearings and Materials* | Lager und Materialen | B16 |
| Dati tecnici | *Technical data* | Technische Daten | B22 |
| Dimensioni | *Dimensions* | Abmessungen | 47 |

I motori asincroni sono con rotore a gabbia di scoiattolo pressofusa, statore avvolto, chiusi, ventilati esternamente secondo IEC 34-6.
La carcassa è in ghisa.
Il rendimento è IE1 e il servizio è S3 70%.

*Induction motors with a die-cast squirrel cage rotor, with wound stator, closed and externally ventilated according to IEC 34-6.*
*The frame is in cast iron.*
*The efficiency is IE1 and the service is S3 70%.*

Die Asynchronmotoren verfügen über einen Druckguss-Käfigläufer, einen gewickelten Stator, sind geschlossen und extern belüftet gemäß IEC 34-6.
Das Gehäuse ist aus Gußeisen.
Der Wirkungsgrad ist IE1 und der Service S3 70 %.

### Motori ad alta efficienza (IE2)

### *High-efficiency motors (IE2)*

### Motoren mit hoher Leistungsfähigkeit (IE2)


Grand. / *Size* / Größe 80...315

| | | | |
|---|---|---|---|
| Designazione | *Designation* | Bezeichnung | B8 |
| Cuscinetti e Materiali | *Bearings and Materials* | Lager und Materialen | B16 |
| Dati tecnici | *Technical data* | Technische Daten | B28 |
| Dimensioni | *Dimensions* | Abmessungen | 50 |

Progetto di elevato contenuto tecnologico e di caratteristiche innovative per quanto riguarda la tecnologia utilizzata, studiato per applicazioni generali. Sono conformi alla direttiva 2005/32/CE classe di efficenza IE2

*Highly technological project with innovative features in terms of technology, designed for general applications. Compliant with directive 2005/32/EC, efficiency class IE2*

Projekt mit hohem technologischen Inhalt und innovativen Eigenschaften in Bezug auf die angewendete Technologie, die für allgemeineAnwendungenentwickeltwurde. Sie entsprechen der Richtlinie 2005/32/EG, Wirkungsgradklasse IE2

## 1.1 GENERALITÀ (FINE)

## *1.1 GENERAL INFORMATION (THE END)*

## 1.1 ALLGEMEINE ANGABEN (ENDE)

# MOTORI TRIFASE / *THREE-PHASE MOTORS* / DREHSTROMMOTOREN

### Motori ad alta efficienza (IE3)

### *High-efficiency motors (IE3)*

### Motoren mit hoher Leistungsfähigkeit (IE3)


Grand. / *Size* / Größe 80... 315

| | | | |
|---|---|---|---|
| Designazione | *Designation* | Bezeichnung | B8 |
| Cuscinetti e Materiali | *Bearings and Materials* | Lager und Materialen | B16 |
| Dati tecnici | *Technical data* | Technische Daten | B34 |
| Dimensioni | *Dimensions* | Abmessungen | 50 |

Progetto di elevato contenuto tecnologico e di caratteristiche innovative per quanto riguarda la tecnologia utilizzata, studiato per applicazioni generali. Sono conformi alla direttiva 2005/32/CE classe di efficenza IE3

*Highly technological project with innovative features in terms of technology used, designed for general applications. Compliant with directive 2005/32/EC, efficiency class IE3*

Projekt mit hohem technologischen Inhalt und innovativen Eigenschaften in Bezug auf die angewendete Technologie, die für allgemeineAnwendungenentwickeltwurde. Sie entsprechen der Richtlinie 2005/32/EG, Wirkungsgradklasse IE3

### Motori asincroni trifase CCC

### *Three-phase induction motors CCC*

### Drehstrom-Asynchronmotoren CCC


Grand. / *Size* / Größe 63...90

| | | | |
|---|---|---|---|
| Designazione | *Designation* | Bezeichnung | B8 |
| Cuscinetti e Materiali | *Bearings and Materials* | Lager und Materialen | B16 |
| Dati tecnici | *Technical data* | Technische Daten | B22 |
| Dimensioni | *Dimensions* | Abmessungen | 42 |

I motori asincroni sono con rotore a gabbia di scoiattolo pressofusa, statore avvolto, chiusi, ventilati esternamente secondo IEC 34-6.
Motori marcati CCC
Conforme ai requisiti di sicurezza richiesti dall'ente cinese

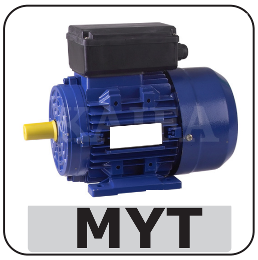
*Induction motors with a die-cast squirrel cage rotor, with wound stator, closed and externally ventilated according to IEC 34-6.*
*CCC marked motors*
*Compliant with the safety requirements of the Chinese authority*

Die Asynchronmotoren verfügen über einen Druckguss-Käfigläufer, einen gewickelten Stator, sind geschlossen und extern belüftet gemäß IEC 34-6.
Motoren mit CCC-Zeichen
Entsprechen den Sicherheitsanforderungen der chinesischen Behörde

### Motori asincroni monofasi

### *Single-phase induction motors*

### Wechselstrom-Asynchronmotoren




Grand. / *Size* / Größe 63...90

| | | | |
|---|---|---|---|
| Designazione | *Designation* | Bezeichnung | B8 |
| Cuscinetti e Materiali | *Bearings and Materials* | Lager und Materialen | B16 |
| Dati tecnici | *Technical data* | Technische Daten | B20 |

I motori asincroni sono con rotore a gabbia di scoiattolo pressofusa, statore avvolto, chiusi, ventilati esternamente secondo IEC 34-6.
Sono motori monofase asincroni ad avvolgimento assimmetrico.

*Induction motors with a die-cast squirrel cage rotor, with wound stator, closed and externally ventilated according to IEC 34-6.*
*Single-phase induction motors with asymmetric winding.*

Die Asynchronmotoren verfügen über einen Druckguss-Käfigläufer, einen gewickelten Stator, sind geschlossen und extern belüftet gemäß IEC 34-6.
Hierbei handelt es sich um Wechselstrom-Asynchronmotoren mit asymmetrischer Wicklung.

B

## 1.2 DESIGNAZIONE

## *1.2 DESIGNATION*

## 1.2 BEZEICHNUNG

| Parameter | Descrizione | *Description* | Beschreibung |
|---|---|---|---|
| **CER** | Certificazione | *Certification* | Zertifizierung |
| **MAR** | Marcatura | *Marking* | Markierung |
| **TYP** | Tipo | *Type* | Typ |
| **IN** | Opzione inverter | *Inverter options* | Option Inverter |
| **BF** | Opzione avvolgimento equilibrato (bifase) | *Option of balanced winding* | Option ausgewogene Wicklung |
| **POL** | Numero poli | *Number of poles* | Polzahl |
| **TOW** | Tipo d'avvolgimento | *Winding type* | Wicklungsart |
| **SIZEM** | Grandezza | *Size* | Größe |
| **LEN** | Lunghezza | *Length* | Läge |
| **DV** | Forma | *Design version* | Bauform |
| **PTB** | Posizione morsettiera | *Terminal box position* | Position Klemmenkasten |
| **MF** | Piedi modulari | *Modular feet* | Modular Feet |
| **AVC** | Forma costruttiva | *Available configurations* | Bauformen |
| **SDM** | Diametro albero | *Shaft diameter* | Wellendurchmesser |
| **F** | Flangia | *Flange* | Flansch |
| **HB14** | Numero fori flangia B14 | *Number of holes in B14 flange* | Nr. B14 Flanschbohrungen |
| **CS** | Condensatore speciale | *Special capacitor* | Spezieller Kondensator |
| **CL** | Classe di isolamento | *Insulation class* | Isolierklasse |
| **ALHTM** | Range di temperatura ambiente | *Range temperature ambient* | Umgebungstemperaturbereich |
| **TR** | Tropicalizzato (Protezione umidità) | *Tropicalized (Damp protection)* | Tropenfest (Feuchtigkeitsschutz) |
| **IP** | Grado di protezione | *Protection level* | Schutzart |
| **RES** | Resinatura | *Resin* | Harz |
| **VOLT** | Tensione | *Voltage* | Spannung |
| **FREQ** | Frequenza | *Frequency* | Frequenz |
| **PLATE** | Targa | *Plate* | Typenschild |
| **POW50** | Potenza a 50Hz | *Power 50Hz* | Leistung 50Hz |
| **POW60** | Potenza a 60Hz | *Power 60Hz* | Leistung 60Hz |
| **POW** | Potenza | *Power* | Leistung |
| **CEP1** | Posizione pressacavo 1 motore | *cable entry 1 position motor* | Position der Kabelverschraubung 1 für Motor |
| **CEP2** | Posizione pressacavo 2 motore | *cable entry 2 position motor* | Position der Kabelverschraubung 2 für Motor |
| **TOD** | Tipo di servizio | *Type of duty* | Betriebsart |
| **FPL** | Prima targhetta | *First plate* | Erstes Typenschild |
| **SPL** | Seconda targhetta | *Second plate* | Zweites Typenschild |
| **TOB** | Tipo di freno | *Brake type* | Bremsentyp |
| **BTV** | Valore coppia freno | *Braking torque value* | Bremsmomentwert |
| **RLP** | Posizione leva di sblocco | *Release lever position* | Position des Entsperrhebels |
| **SASD** | Alimentazione separata freno | *Separate voltage supply* | Separate Stromversorgung |
| **VSASD** | Valore alimentazione separata freno | *Value separate power brakes* | Wert separaten Bremskraftverstärkers |
| **BOT** | Tempo intervento freno | *Brake Operating time* | Zeit für Bremsvorgang |
| **IPF** | Grado di Protezione del freno | *Protection level of brake* | Schutzart der Bremse |
| **CEPB** | Posizione pressacavo freno | *cable entry position brake* | DESC D |
| **DES** | Albero bisporgente | *Double ended shaft* | Zweiseitige Welle |
| **TDES** | Tipo di Albero bisporgente | *Type of double ended shaft* | Typ zweiseitiger Welle |
| **PC** | Ventilazione | *Cooling* | Lüfter |
| **SAVE** | Alimentazione separata servoventilazione | *Separate power forced ventilation* | Separate Stromversorgung der Servobelüftung |
| **VSAVE** | Alimentazione esterna ventola | *External power supply fan* | Externes Netzteil-Lüfter |
| **PSAVE** | Posizione morsettiera separata ventola | *Separate fan terminal position* | Fremdlüfter Endstellung |
| **CEPV** | Posizione pressacavo servoventilazione | *cable entry position forced ventilation* | Position der Kabelverschraubung für Servobelüftung |
| **IPS** | Grado di Protezione della servoventilazione | *Degree protection of cooling forced* | Schutzklasse der Servobelüftung |
| **RS** | Tettuccio parapioggia | *Rain shield cover* | Regenschutzdach |
| **SC** | Scaldiglie anticondensa | *Anti condensation heaters* | Wicklungsheizung |

## 1.2 DESIGNAZIONE (CONTINUA)

## *1.2 DESIGNATION (TO BE CONTINUED)*

## 1.2 BEZEICHNUNG (FORTSETZUNG)

| Parameter | Descrizione | *Description* | Beschreibung |
|---|---|---|---|
| ASC | Valore alimentazione scaldiglia | *Heater power value* | Wert der Heizleistung |
| CEPS | Posizione pressacavo scaldiglia | *cable entry position heater* | Position der Kabelverschraubung für Wicklungsheizung |
| CD | Scarico Condensa | *Condensation drain hole* | Kondenswasserablauf |
| CDAVC | Posizione spaziale motore (posizione morsettiera) | Motor space position (terminal box position) | Raumposition Motor (Position Klemmenbrett) |
| TO | Protezione termiche | *Thermal overload cut out switches* | Überhitzungsschutz |
| CEPT | Posizione pressacavo termica | *Thermal cable entry position* | Position der Kabelverschraubung für Wärmeschutz |
| PA | Verniciatura | *Painting* | Anstrich |
| EN | Encoder | *Encoder* | Encoder |
| MOEM | Encoder - Company | *Encoder - Company* | Encoder - Company |
| MOE | Modello di Encoder | *Encoder model* | Encoder-Modell |
| CEPE | Posizione pressacavo encoder | *encoder cable entry position* | Position der Kabelverschraubung für Encoder |
| SBF | Cuscinetto speciale anteriore | *Special front bearing* | Lager vorne |
| SBR | Cuscinetto speciale posteriore | *Special rear bearing* | Lager hinten |
| TCEP1 | Tipo pressacavo 1 motore | *cable entry type 1 motor* | Typ der Kabelverschraubung 1 für Motor |
| TCEP2 | Tipo pressacavo 2 motore | *cable entry type 2 motor* | Typ der Kabelverschraubung 2 für Motor |
| TECPB | Tipo pressacavo freno | *cable entry type brake* | Typ der Kabelverschraubung für Bremse |
| TCEPV | Tipo pressacavo servoventilazione | *cable entry type forced ventilation* | Typ der Kabelverschraubung für Servobelüftung |
| TCEPS | Tipo pressacavo scaldiglia | *cable entry type heater* | Typ der Kabelverschraubung für Stillstandheizung |
| TCEPT | Tipo pressacavo termica | *Thermal cable entry type* | Typ der Kabelverschraubung für Wärmeschutz |
| TCEPE | Tipo pressacavo encoder | *cable entry type encoder* | Typ der Kabelverschraubung für Encoder |

## 1.2 DESIGNAZIONE (CONTINUA) 1.2 *DESIGNATION (TO BE CONTINUED)* 1.2 BEZEICHNUNG (FORTSETZUNG)

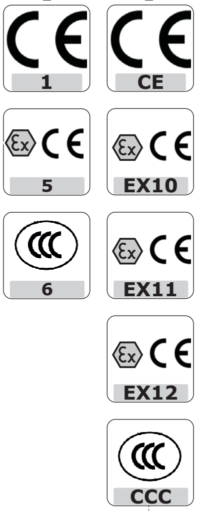
| 1 | - | - | CE | VL2 | I | - | 4 | - | 80 | 2 | B5 | - | - | B5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**CODE:** Example of Order

**BASIC_CODE_MGB**

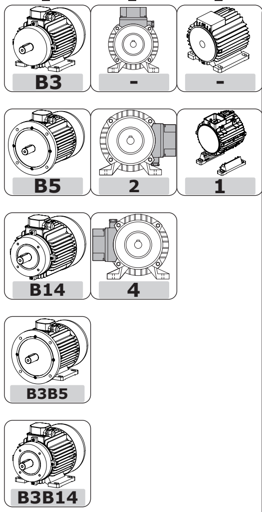
**WEB:** Reference Designation

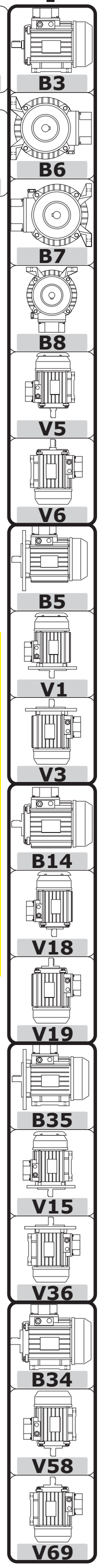
| Certification | | Family selection | | | Power settlement | | | | Mounting | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CER-M | | SF-M | | | PS-M | | | | F-M | | | |
| Certification | Marking | Type | Inverter options | Option of balanced winding | Number of poles | Winding type | Size | Length | Design version | Terminal box position | Modular feet | Available configurations |
| 01 CER | 02 MAR | 03 TYP | 04 IN | 05 BF | 06 POL | 07 TOW | 08 SIZEM | 09 LEN | 10 DV | 11 PTB | 12 MF | 13 AVC |





Inverter options: - ; I
Option of balanced winding: -
Number of poles: 2 ; 4 ; 6
Winding type: -
Size: 56 ; 63 ; 71 ; 80 ; 90 ; 100 ; 112 ; 132 ; 160 ; 180 ; 200 ; 225 ; 250 ; 280 ; 315
Length: 1 ; 2 ; 3 ; S ; S1 ; S2 ; L ; L1 ; L2 ; M ; M1 ; M2 ; M3




| | |
|---|---|
| 56 | 56 = IEC56 |
| 63 | 63 = IEC63 |
| 71 | 71 = IEC71 |
| 80 | 80 = IEC80 |
| 90 | 90 = IEC90 |
| 100 | 100 = IEC100 |
| 112 | 112 = IEC112 |
| 132 | 132 = IEC132 |
| 160 | 160 = IEC160 |
| 180 | 180 = IEC180 |
| 200 | 200 = IEC200 |
| 225 | 225 = IEC225 |
| 250 | 250 = IEC250 |
| 280 | 280 = IEC280 |
| 315 | 315 = IEC315 |

| | |
|---|---|
| - | - |

| | |
|---|---|
| 2 | 2 = 2 Poles = 3000 rpm |
| 4 | 4 = 4 Poles = 1500 rpm |
| 6 | 6 = 6 Poles = 1000 rpm |

| | |
|---|---|
| - | - = Standard single-phase motor |

| | |
|---|---|
| - | - = Standard motor |
| I | I = Winding with extra insulation for inverter |

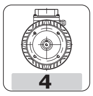
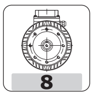
| | |
|---|---|
| CE | CE |
| EX10 | EX10 = II 3D - Ex tc IIIA T4 Dc |
| EX11 | EX11 = II 3D - Ex tc IIIB T4 Dc |
| EX12 | EX12 = II 3D - Ex tc IIIC T4 Dc |
| CCC | CCC |

## 1.2 DESIGNAZIONE (CONTINUA) *1.2 DESIGNATION (TO BE CONTINUED)* 1.2 BEZEICHNUNG (FORTSETZUNG)

| 19 | 80 | - | - | F | 3 | - | 55 | - | 1 | 1 | 19 | 0,75 | 0,09 | 0,75/0,9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**BASIC_CODE_MGB**

| Mounting F-M | | | Special capacito CS-M | Insulation class CL-M | | | Protection level IP-M | | Supply and duty S-M | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Shaft diameter | Flange | Number of holes in B14 flange | Special capacitor | Insulation class | Range temperature ambient | Tropicalized Damp protection | Protection level | Resin | Voltage | Frequency | Plate | Power 50Hz | Power 60Hz | Power |
| 14 SDM | 15 F | 16 HB14 | 17 CS | 18 CL | 19 ALHTM | 20 TR | 21 IP | 22 RES | 23 VOLT | 24 FREQ | 25 PLATE | 26 POW50 | 27 POW60 | 28 POW |
| 9 | 56 | - | - | F | 2 | - | 55 | - | 1 | 1 | 19 | 0,06 … 200 | 0,07 … 230 | 0,06/0,07 … 200/230 |
| 11 | 63 | 4 | | | 3 | | 65 | | 3 | 2 | 20 | KW - VALUE | | |
| 14 | 71 | 8 | | | 4 | | | | 15 | | 21 | | | |
| 19 | 80 | | | | | | | | 16 | | 22 | | | |
| 24 | 90 | | | | | | | | 21 | | 23 | | | |
| 28 | 100 | | | | | | | | 22 | | 24 | | | |
| 38 | 112 | | | | | | | | 23 | | 25 | | | |
| 42 | 132 | | | | | | | | 24 | | | | | |
| 48 | 160 | | | | | | | | 25 | | | | | |
| 55 | 180 | | | | | | | | | | | | | |
| 60 | 200 | | | | | | | | | | | | | |
| 65 | 225 | | | | | | | | | | | | | |
| 75 | 250 | | | | | | | | | | | | | |
| 80 | 280 | | | | | | | | | | | | | |
| | 315 | | | | | | | | | | | | | |
| | - | | | | | | | | | | | | | |

| | |
|---|---|
| 19 | 19 = 230/400_50 277/480_60 |
| 20 | 20 = 400/690_50 480/828_60 |
| 21 | 21 = 230/400_50 265/460_60 |
| 22 | 22 = 400/690_50 460/794_60 |
| 23 | 23 = 400/690_50 460/795_60 |
| 24 | 24 = 220/380_50 |
| 25 | 25 = 230_50 |

| | |
|---|---|
| 1 | 1 = 50 |
| 2 | 2 = 60 |

| | |
|---|---|
| 1 | 1 = Δ230/Y400 |
| 3 | 3 = Δ400/Y690 |
| 15 | 15 = Δ460/Y795 |
| 16 | 16 = Δ265/Y460 |
| 21 | 21 = Δ460/Y794 |
| 22 | 22 = Δ220/Y380 |
| 23 | 23 = 230 |
| 24 | 24 = Δ277/Y480 |
| 25 | 25 = Δ480/Y828 |

| | |
|---|---|
| - | - = Standard motor |

| | |
|---|---|
| 55 | 55 = IP5X=Protected against dust; IPX5=Protected against water jets |
| 65 | 65 = IP6X=Fully protected against dust; IPX5=Protected against water jets |

| | |
|---|---|
| - | - = Standard motor |

| | |
|---|---|
| 2 | 2 = 0°C ÷ 40°C |
| 3 | 3 = -15°C ÷ 40°C |
| 4 | 4 = -20°C ÷ 40°C |

| | |
|---|---|
| F | F |

| | |
|---|---|
| - | - |

| | |
|---|---|
| - | - |
| 56 | 56 = Reduced flange at IEC56 |
| 63 | 63 = Reduced flange at IEC63 |
| 71 | 71 = Reduced flange at IEC71 |
| 80 | 80 = Reduced flange at IEC80 |
| 90 | 90 = Reduced flange at IEC90 |
| 100 | 100 = Reduced flange at IEC100 |
| 112 | 112 = Reduced flange at IEC112 |
| 132 | 132 = Reduced flange at IEC132 |
| 160 | 160 = Reduced flange at IEC160 |
| 180 | 180 = Reduced flange at IEC180 |
| 200 | 200 = Reduced flange at IEC200 |
| 225 | 225 = Reduced flange at IEC225 |
| 250 | 250 = Reduced flange at IEC250 |
| 280 | 280 = Reduced flange at IEC280 |
| 315 | 315 = Reduced flange at IEC315 |

| | |
|---|---|
| 9 | 9 = ø 9 IEC (Std Size 50 & 56) |
| 11 | 11 = ø 11 IEC (Std Size 63) |
| 14 | 14 = ø 14 IEC (Std Size 71) |
| 19 | 19 = ø 19 IEC (Std Size 80) |
| 24 | 24 = ø 24 IEC (Std Size 90) |
| 28 | 28 = ø 28 IEC (Std Size 100 & 112) |
| 38 | 38 = ø 38 IEC (Std Size 132) |
| 42 | 42 = ø 42 IEC (Std Size 160) |
| 48 | 48 = ø 48 IEC (Std Size 180) |
| 55 | 55 = ø 55 IEC (Std Size 200) |
| 60 | 60 = ø 60 IEC |
| 65 | 65 = ø 65 IEC |
| 75 | 75 = ø 75 IEC |
| 80 | 80 = ø 80 IEC |

B

## 1.2 DESIGNAZIONE (CONTINUA)

## 1.2 *DESIGNATION (TO BE CONTINUED)*

## 1.2 BEZEICHNUNG (FORTSETZUNG)

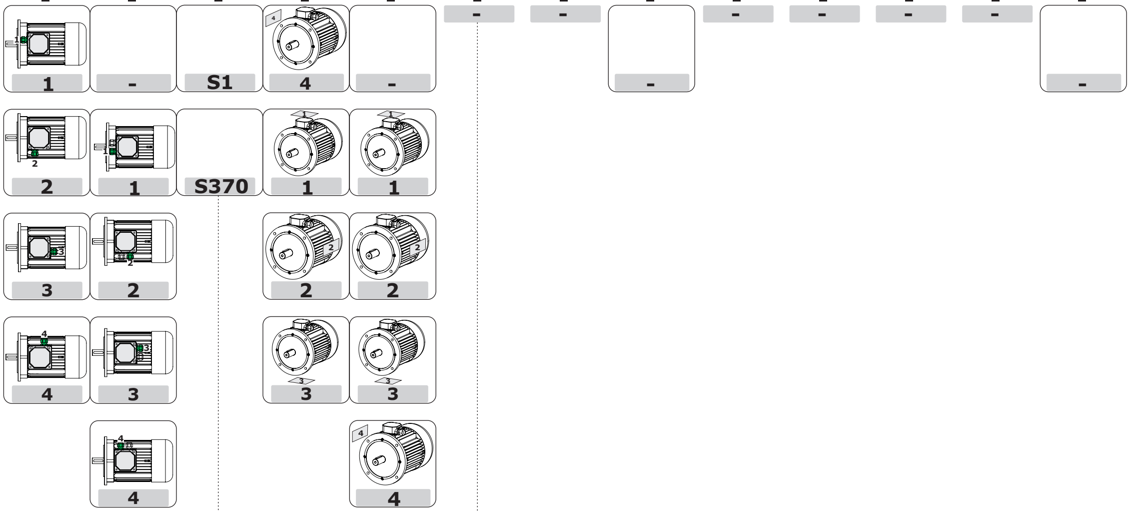
| 2 | - | S370 | 2 | - | - | - | - | - | - | - | - | - |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**CODE:** Example of Order

**BASIC_CODE_MGB**

**WEB:** Reference Designation

| Supply and duty | | | Additional rating plate | | Suitable type of brake | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-M | | | SPL-M | | TOB-M | | | | | | | |
| cable entry 1 position motor | cable entry 2 position motor | Type of duty | First plate | Second plate | Brake type | Braking torque value | Release lever position | Separate voltage supply | Value separate power brakes | Brake Operating time | Protection level of brake | cable entry position brake |
| 29 CEP1 | 30 CEP2 | 31 TOD | 32 FPL | 33 SPL | 34 TOB | 35 BTV | 36 RLP | 37 SASD | 38 VSASD | 39 BOT | 40 IPF | 41 CEPB |
| 1 | - | S1 | 4 | - | - | - | - | - | - | - | - | - |
| 2 | 1 | S370 | 1 | 1 | | | | | | | | |
| 3 | 2 | | 2 | 2 | | | | | | | | |
| 4 | 3 | | 3 | 3 | | | | | | | | |
| | 4 | | | 4 | | | | | | | | |




| | |
|---|---|
| - | - = Models not brakemotor |

| | |
|---|---|
| S1 | S1 = S1 - Continuous duty |
| S370 | S370 = S3 70% - Intermittent duty: cycle 7 min ON then 3 min STOP |

## 1.2 DESIGNAZIONE (CONTINUA)

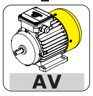
## 1.2 *DESIGNATION (TO BE CONTINUED)*

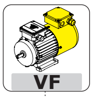
## 1.2 BEZEICHNUNG (FORTSETZUNG)

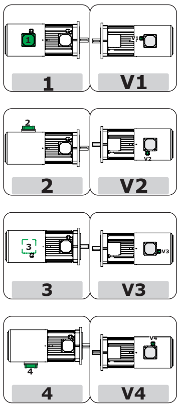
| - | - | AV | - | - | - | - | - | - | - | - | - | - | - |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

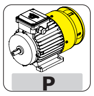
**CUSTOM_MGB**

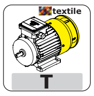
| Mechanical | | Ventilatio system | Separate power servoventilation | | | | Insulation class cooling | Mechanical protection | Humidity protection | | | Condensation protection | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M-M | | V-M | SAVE-M | | | | IPS-M | PM-M | HP-M | | | CP-M | |
| Double ended shaft | Type of double ended shaft | Cooling | Separate power servoventilation | External power supply fan | Separate fan terminal position | cable entry position servoventilation | Degree protection of cooling forced | Rain shield | Anti condensation heaters | Heater power value | cable entry position heater | Condensation drainage | Posizione spaziale motore (posizione morsettiera) |
| 42 DES | 43 TDES | 44 PC | 45 SAVE | 46 VSAVE | 47 PSAVE | 48 CEPV | 49 IPS | 50 RS | 51 SC | 52 ASC | 53 CEPS | 54 CD | 55 CDAVC |
| - | - | AV, VF | -, 1 | -, 5, 9 | -, 1, 2, 3, 4 | -, V1, V2, V3, V4 | -, 55 | -, P, T | -, 1 | -, 1 | - | - | - |


AV


VF


1 V1 2 V2 3 V3 4 V4


P



T

| | |
|---|---|
| AV | AV = selfventilated |
| VF | VF = Cooling forced |

| | |
|---|---|
| - | - |

| | |
|---|---|
| - | - = Not present |

| | |
|---|---|
| - | - = Not present |
| 1 | 1 = 230VAC 50/60HZ |

| | |
|---|---|
| - | - = Not present |
| 1 | 1 = Yes |

| | |
|---|---|
| - | - |
| 55 | 55 = IP5X=Protected against dust; IPX5=Protected against water jets |

| | |
|---|---|
| - | - = |
| 5 | 5 = 230VAC_50/60Hz |
| 9 | 9 = 230/400_50_MULT |

| | |
|---|---|
| - | - |
| 1 | 1 = Yes |

| | |
|---|---|
| - | - = Standard motor |

B

## 1.2 DESIGNAZIONE (CONTINUA) 1.2 *DESIGNATION (TO BE CONTINUED)* 1.2 BEZEICHNUNG (FORTSETZUNG)

| - | - | 5010 | - | - | - | - | 2RS | 2RS |
|---|---|---|---|---|---|---|---|---|

**CODE:** Example of Order

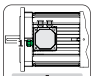
**CUSTOM_MGB**

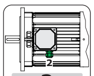
**WEB:** Reference Designation

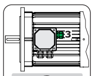
| Thermal protectic | | Colour | Encoder | | | | Bearings | |
|---|---|---|---|---|---|---|---|---|
| TO-M | | PA-M | EN-M | | | | B-M | |
| Thermal overload cut out switches | Thermal cable entry position | Painting | Encoder | Encoder Company | Encoder model | encoder cable entry position | Special front bearing | Special rear bearing |
| 56 TO | 57 CEPT | 58 PA | 59 EN | 60 MOEM | 61 MOE | 62 CEPE | 63 SBF | 64 SBR |

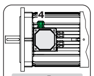
**56 TO:** -, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

**57 CEPT:** -


1


2


3


4

**58 PA:** 1003, 1014, 1018, 1021, 3000, 3020, 5001, 5009, 5010, 5012, 5013, 5017, 6003, 6005, 6010, 6029, 7000, 7012, 7016, 7021, 7023, 7030, 7031, 7032, 7035, 7038, 7043, 9001, 9003, 9005, 9006, 9010, 9017, 9018, 9005 5010

**59 EN:** -

**60 MOEM:** -

**61 MOE:** -

**62 CEPE:** -

**63 SBF:** 2RS, 2RZ, RA, RO

**64 SBR:** 2RS, 2RZ, RA

| | |
|---|---|
| 2RS | 2RS = Radial bearing type 2RS |
| 2RZ | 2RZ = Radial bearing type 2RZ |
| RA | RA = Radial bearing with greaser |

| | |
|---|---|
| 2RS | 2RS = Radial bearing type 2RS |
| 2RZ | 2RZ = Radial bearing type 2RZ |
| RA | RA = Radial bearing with greaser |
| RO | RO = Cylindrical roller bearings |

| | |
|---|---|
| - | - = Not present |
| 1 | 1=PTO - 1 bimetallic sensorTP111 |
| 2 | 2=2PTO - 2 bimetallic sensorTP111 |
| 3 | 3=2PTO_S - 2 bimetallic sensors in series TP111 |
| 4 | 4=3PTO - 3 bimetallic sensorTP111 |
| 5 | 5=3PTO_S - 3 bimetallic sensors in series TP111 |
| 6 | 6=PTC - 1 sensor thermistor TP111 |
| 7 | 7=2PTC - 2 sensors thermistor TP111 |
| 8 | 8=2PTC_S - 2 sensors thermistor in series TP111 |
| 9 | 9=3PTC - 3 sensors thermistor TP111 |
| 10 | 10=3PTC_S - 3 sensors thermistor in series TP111 |
| 11 | 11=PT100 - 1 sensor PT100 |
| 12 | 12=2PT100 - 2 sensors PT100 |
| 13 | 13=3PT100 - 3 sensors PT100 |

## 1.2 DESIGNAZIONE (FINE) — *1.2 DESIGNATION (THE END)* — 1.2 BEZEICHNUNG (ENDE)

| - | B | - | - | - | - | - |
|---|---|---|---|---|---|---|

**CUSTOM_MGB**

**cable entry type motor**

**TP-M**

| Drive cable entry type | cable entry type 1 motor | cable entry type 2 motor | cable entry type brake | cable entry type servoventilation | cable entry type heater | Thermal cable entry type | cable entry type encoder |
|---|---|---|---|---|---|---|---|
| 65 TCEPA | 66 TCEP1 | 67 TCEP2 | 68 TECPB | 69 TCEPV | 70 TCEPS | 71 TCEPT | 72 TCEPE |
| - | A | - | - | - | - | - | - |
| | B | | | B | | A | |
| | C | C | | | | | |
| | E | E | | | | | |
| | F | F | | | | | |
| | G | G | | | | | |
| | H | | | | | | |

| | |
|---|---|
| - | - = Not present |

| | |
|---|---|
| - | - = Not present |
| A | A = M16 x 1,5 |

| | |
|---|---|
| - | - = Not present |

| | |
|---|---|
| - | - = Not present |
| B | B = M20 x 1,5 |

| | |
|---|---|
| - | - = Not present |

| | |
|---|---|
| - | - = Not present |
| C | C = M25 x 1,5 |
| E | E = M40 x 1,5 |
| F | F = M50 x 1,5 |
| G | G = M63 x 1,5 |

| | |
|---|---|
| A | A = M16 x 1,5 |
| B | B = M20 x 1,5 |
| C | C = M25 x 1,5 |
| E | E = M40 x 1,5 |
| F | F = M50 x 1,5 |
| G | G = M63 x 1,5 |
| H | H = terminal box with fused cable gland |

B

## 1.3 CUSCINETTI E MATERIALI

I cuscinetti dei motori fino alla grandezza 160 sono del tipo autolubrificati e precaricati; per le grandezze superiori (180-315) sono previsti cuscinetti autolubrificati con la possibilità di introdurre del nuovo grasso il quale sostituirà parzialmente quello usato.
Per tutti i motori utilizzati nelle posizioni di montaggio orizzontali e in assenza di carichi radiali e assiali, la durata massima calcolata è di 40.000 ore. In presenza dei carichi massimi indicati la durata calcolata è di 20.000 ore.

## *1.3 BEARINGS AND MATERIALS*

*Motor bearings up to size 160 are self-lubricating and pre-filled; the self-lubricating bearings used for higher sizes (180-315) allow to add new grease that will partially replace the used one.*
*For all motors used in horizontal mounting position and without radial and axial loads, the maximum calculated duration is 40,000 hours. With the specified maximum loads, the calculated duration is 20,000 hours.*

## 1.3 LAGER UND MATERIALIEN

Die Lager der Motoren bis zur Baugröße 160 sind vom selbstgeschmierten und vorgespannten Typ. Für darüber liegende Größen (180-315) sind selbstgeschmierte Lager, mit der Möglichkeit frisches Fett einfügen zu können, das teilweise das aufgebrauchte ersetzt, vorgesehen.
Für alle Motoren, die in den Positionen einer horizontalen Montage und ohne radialen und axialen Lasten verwendet werden, beträgt die maximal berechnete Betriebsdauer 40.000 Stunden. Bei Vorliegen der angegebenen Höchstbelastungen beträgt die berechnete Betriebsdauer 20.000 Stunden.

| Grandezza *Size* Größe | Numero poli *Number of poles* Polzahl | Cuscinetti / *Bearings* / Lager | | | | | |
|---|---|---|---|---|---|---|---|
| | | Lato A (Cuscinetto Anteriore) *Side A (Front bearing)* Seite A (Vorderes Lager) | | | Lato B (Cuscuinetto Posteriore) *Side B (Rear bearing)* Seite B (Hinteres Lager) | | |
| **SIZE** | **POL** | Tipo *Type* Typ | Qta grasso *Grease q.ty* Fettmenge *q.ty* [g] | Ringrassare *Grease again* Fetten [h] | Tipo *Type* Typ | Qta grasso *Grease q.ty* Fettmenge *q.ty* [g] | Ringrassare *Grease again* Fetten [h] |
| 56 | 2 4 6 | 6201 2RS C3 | | | 6201 2RS C3 | | |
| 63 | 2 4 6 | 6201 2RS C3 | | | 6201 2RS C3 | | |
| 71 | 2 4 6 | 6202 2RS C3 | | | 6202 2RS C3 | | |
| 80 | 2 4 6 | 6204 2RS C3 | | | 6204 2RS C3 | | |
| 90 | 2 4 6 | 6205 2RS C3 | | | 6204 2RS C3 | | |
| 100 | 2 4 6 | 6206 2RS C3 | | | 6206 2RS C3 | | |
| 112 | 2 4 6 | 6206 2RS C3 | | | 6206 2RS C3 | | |
| 132 | 2 4 6 | 6208 2RS C3 | | | 6208 2RS C3 | | |
| 160 | 2 4 6 | 6309 2RZ C3 | | | 6309 2RZ C3 | | |
| 180 | 2 | 6311C3 | 18 | 2100 | 6311C3 | 18 | 2100 |
| | 4 | | | 3600 | | | 3600 |
| | 6 | | | 3800 | | | 3800 |
| 200 | 2 | 6312C3 | 20 | 2000 | 6312C3 | 20 | 2000 |
| | 4 | | | 3200 | | | 3200 |
| | 6 | | | 3700 | | | 3600 |
| 225 | 2 | 6313C3 | 25 | 1700 | 6313C3 | 25 | 1700 |
| | 4 | | | 3200 | | | 3200 |
| | 6 | | | 3600 | | | 3600 |
| 250 | 2 | 6314C3 | 28 | 1500 | 6314C3 | 28 | 1500 |
| | 4 | | | 3000 | | | 3000 |
| | 6 | | | 3500 | | | 3500 |
| 280 | 2 | 6314C3 | 28 | 1500 | 6314C3 | 28 | 1500 |
| | 4 | 6317C3 | 36 | 3000 | 6317C3 | 36 | 3000 |
| | 6 | | | 3400 | | | 3400 |
| 315 | 2 | 6317C3 | 36 | 1250 | 6317C3 | 36 | 1250 |
| | 4 | NU319C3 | 45 | 1100 | 6319C3 | 45 | 2250 |
| | 6 | | | 1300 | | | 3300 |

## 1.3 CUSCINETTI E MATERIALI (FINE)

## *1.3 BEARINGS AND MATERIALS (THE END)*

## 1.3 LAGER UND MATERIALIEN (ENDE)


<table>
<tr><td>Grandezza<br>Size<br>Größe</td><td colspan="7">Materiali<br>Materials<br>Materialien</td></tr>
<tr><td>SIZE</td><td>Cassa<br>Frame<br>Gehäuse</td><td>Flangia<br>Flange<br>Flansch</td><td colspan="2">Scudi<br>Shields<br>Schutzabdeckungen</td><td>Scatola morsettiera<br>Terminal box<br>Klemmenkasten</td><td>Ventola<br>Fan<br>Lüfterrad</td><td>Copriventola<br>Fan cover<br>Lüfterradabdeckung</td></tr>
<tr><td>56</td><td rowspan="9">Al</td><td rowspan="9">Al</td><td colspan="2" rowspan="3">Al</td><td rowspan="9">Al</td><td rowspan="16">Th</td><td rowspan="16">St</td></tr>
<tr><td>63</td></tr>
<tr><td>71</td></tr>
<tr><td rowspan="2">80</td><td>TYP = VL2<br>TYP = MS<br>TYP = MYT<br>TYP = VL2 IE2</td><td>Al</td></tr>
<tr><td>TYP = VL2 IE3</td><td>Ci</td></tr>
<tr><td>90</td><td colspan="2" rowspan="11">Ci</td></tr>
<tr><td>100</td></tr>
<tr><td>112</td></tr>
<tr><td>132</td></tr>
<tr><td>160</td><td rowspan="7">Ci</td><td rowspan="7">Ci</td><td rowspan="7">Ci</td></tr>
<tr><td>180</td></tr>
<tr><td>200</td></tr>
<tr><td>225</td></tr>
<tr><td>250</td></tr>
<tr><td>280</td></tr>
<tr><td>315</td></tr>
</table>

Al = Alluminio / *Aluminium* / Aluminium
Ci = Ghiasa / *Cast-iron* / Gusseisen
Th = Termoplastica / *Thermoplastic* / Thermokunststoff
St = Acciaio / *Steel* / Stahl


<table>
<tr><td>Grandezza<br>Size<br>Größe</td><td colspan="6">Materiali<br>Materials<br>Materialien</td></tr>
<tr><td>SIZE</td><td>Cassa<br>Frame<br>Gehäuse</td><td>Flangia<br>Flange<br>Flansch</td><td>Scudi<br>Shields<br>Schutzabdeckungen</td><td>Scatola morsettiera<br>Terminal box<br>Klemmenkasten</td><td>Ventola<br>Fan<br>Lüfterrad</td><td>Copriventola<br>Fan cover<br>Lüfterradabdeckung</td></tr>
<tr><td>63</td><td rowspan="4">Al</td><td rowspan="4">Al</td><td rowspan="3">Al</td><td rowspan="4">Th</td><td rowspan="4">Th</td><td rowspan="4">St</td></tr>
<tr><td>71</td></tr>
<tr><td>80</td></tr>
<tr><td>90</td><td>Ci</td></tr>
</table>

Al = Alluminio / *Aluminium* / Aluminium
Ci = Ghiasa / *Cast-iron* / Gusseisen
Th = Termoplastica / *Thermoplastic* / Thermokunststoff
St = Acciaio / *Steel* / Stahl

## 1.4 VENTILAZIONE

Per garantire una ventilazione efficace è necessario prevedere durante l'installazione del motore uno spazio S adeguato fra il copriventola e l'eventuale parete.

**PC=AV autoventilato IC411 (IEC34-6)**
Motore autoventilato.
Ventola esterna montata sull'albero del motore

**PC=VF servontilato IC416(IEC34-6)**
Motore con ventilazione assistita.
Ventilatore indipendente montato sul copriventola

## *1.4 VENTILATION*

*To ensure an efficient ventilation, provide a suitable S space between fan cover and wall during motor installation.*

***PC=AV self-ventilated IC411 (IEC34-6)***
*Self-ventilated motor.*
*External fan fitted on motor shaft*

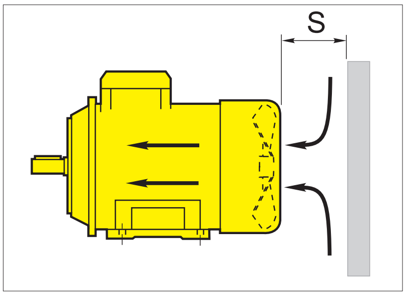
***PC=VF forcedventilated IC416(IEC34-6)***
*Motor with assisted ventilation.*
*Independent fan fitted on fan cover*

## 1.4 BELÜFTUNG

Um eine wirksame Belüftung zu gewährleisten, muss bei der Montage des Motors ausreichend Platz „S" zwischen Lüfterradabdeckung und einer eventuellen Wand vorgesehen werden.

**PC=AV selbstbelüftet IC411 (IEC34-6)**
Selbstbelüfteter Motor.
Externes, auf die Motorwelle montiertes Lüfterrad

**PC=VF selbstbelüftet IC416 (IEC34-6)**
Motor mit Servolüftung
Unabhängiges, auf Lüferradabdeckung montiertes Gebläse




**S=100mm minimo raccomandato**
Controllare la temperatura del motore.
Eseguire le indicazioni del manuale d'installazione motore.

***S=100mm minimum recommended***
*Check motor temperature.*
*Perform the operations listed in the motor installation manual.*

**S=100 mm Mindestempfehlung**
Die Motortemperatur kontrollieren.
Die Angaben im Installationshandbuch des Motors befolgen.

## 1.5 SENSO DI ROTAZIONE

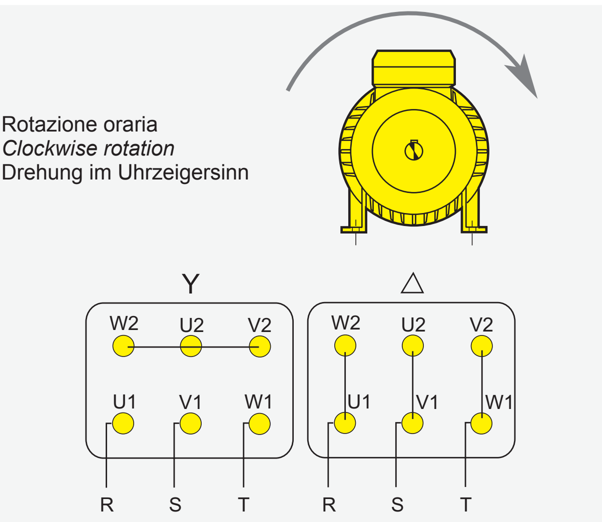
I motori VELA possono ruotare nei due sensi di marcia effettuando i collegamenti sottoriportati.
Di seguito un possibile collegamento

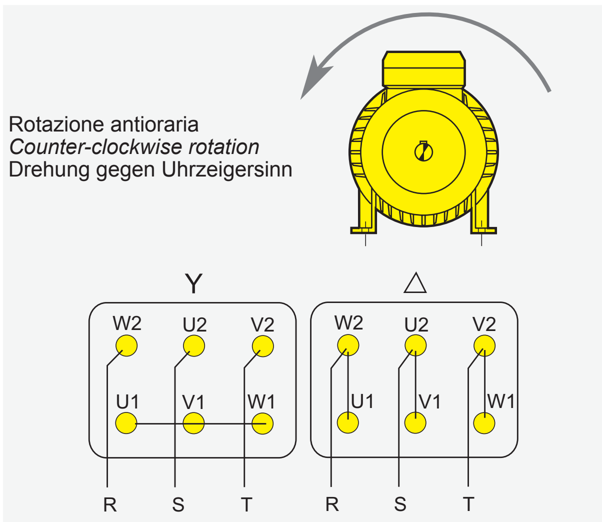
## *1.5 ROTATION DIRECTION*

*VELA motors can rotate in both directions by making the following connections.*
*An example of connection is provided below*

## 1.5 DREHSINN

Die Motoren VELA können entsprechend den nachstehend genannten Anschlüssen in beide Betriebsrichtungen drehen.
Nachstehend ein Anschlussbeispiel



## 1.6 LIVELLO DI PRESSIONE SONORA

Le tabelle riportano i valori medi (espressi in dB) del livello di pressione sonora LpA e potenza sonora LwA rilevati sulla scala di ponderazione (A), secondo le Norme IEC34-9 e riferiti ai motori funzionanti senza carico applicato (sui valori riportati è ammessa una tolleranza + 3%).

## *1.6 SOUND PRESSURE LEVEL*

*These tables list the average values (in dB) of the LpA sound pressure level and the LwA sound power detected on the weighting scale (A) according to IEC34-9 Standards and referred to motors operating without applied load (a tolerance of +3% is allowed on the listed values).*

## 1.6 SCHALLDRUCKPEGEL

Die Tabellen geben den Mittelwert (ausgedrückt in dB) des LpA-Schalldruckpegels und die nach den IEC34-9-Normen auf der Gewichtungsskala (A) gemessene LwA-Schallleistung an und beziehen sich auf die laufenden Motoren ohne Last (auf die angegebenen Werte ist eine Toleranz von + 3 % zulässig).

## 1.7 ISOLAMENTO

Tutti i motori sono costruiti nella versione standard con isolamento degli avvolgimenti in classe F.
In caso di funzionamento in ambienti con elevato tasso di umidità, su richiesta, è possibile eseguire un processo di tropicalizzazione sugli avvolgimenti.

## *1.7 INSULATION*

*All motors are manufactured in the standard version with class F winding insulation.*
*In case of operation in environments with high humidity rate, a tropicalisation process can be performed on the windings upon request.*

## 1.7 ISOLIERUNG

Alle Motoren werden in der Standard-Version mit einer Isolierung der Wicklungen in der Klasse F gebaut.
Bei Betrieb in Umgebungen mit hohem Feuchtigkeitsanteil können die Wicklungen einem Tropikalisierungsprozess unterzogen werden.

B

## 1.8 SERVOVENTILAZIONE

A richiesta è possibile avere motori servoventilati sia trifase sia monofase ad alimentazione separata (opzione PC=VF servoventilato IC416).

## *1.8 FORCED VENTILATION*

*Upon request, it is possible to have both three-phase and single-phase forced ventilated motors, with separated power supply (option PC=VF forced ventilated IC416).*

## 1.8 SERVOBELÜFTUNG

Auf Anfrage sind auch servobelüftete Motoren sowohl in der Wechselstrom- als auch in der Drehstromversion mit getrennter Stromversorgung (Option PC=VF servobelüftet IC416) erhältlich.

## 1.9 SCUDO PARAPIOGGIA

A richiesta è possibile avere motori dotati di tettuccio parapioggia anche per ambiente tessile.
Opzione RS= P o T

## *1.9 RAIN SHIELD COVER*

*Upon request, it is possible to equip the motors with a rain shield cover also for textile environments.*
*Option RS= P or T*

## 1.9 REGENSCHUTZ

Auf Anfrage können die Motoren mit einem Regenschutz, auch für textilverarbeitende Bereiche, ausgestattet werden.
Option RS= P oder T


## 1.10 DATI TECNICI

## *1.10 TECHNICAL DATA*

## 1.10 TECHNISCHE DATEN

**Motore asincrono monofase**
***Single-phase induction motor***
**Wechselstrom-Asynchronmotor**

# MYT

## 4 P 1500 rpm — 50Hz

| Tipo / *Type* / Typ | Pn [kW] | $n_n$ [rpm] | Freq [Hz] | Volt [V] | In [A] | η 100% % | cos φ | $\frac{Ia}{In}$ | $\frac{Ca}{Cn}$ | $\frac{Cmax}{Cn}$ | Cn [Nm] | $C_{VF}$ [μF] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MYT 63 2 4** | 0,18 | 1350 | 50 | 230 | 1,55 | 56,0 | 0,90 | 3,2 | 0,7 | 1,7 | 1,3 | 10 | 0,00050 | 5,3 | 65 |
| **MYT 71 1 4** | 0,25 | 1320 | 50 | 230 | 1,94 | 61,0 | 0,92 | 3,6 | 0,7 | 1,7 | 1,8 | | 0,00080 | 6,2 | 65 |
| **MYT 71 2 4** | 0,37 | 1325 | 50 | 230 | 2,82 | 62,0 | 0,92 | 3,5 | 0,7 | 1,7 | 2,7 | 20 | 0,00090 | 7,2 | 68 |
| **MYT 80 1 4** | 0,55 | 1340 | 50 | 230 | 4,06 | 64,0 | 0,92 | 3,7 | 0,7 | 1,7 | 3,9 | | 0,00140 | 10,05 | 73 |
| **MYT 80 2 4** | 0,75 | 1340 | 50 | 230 | 5,21 | 68,0 | 0,92 | 3,8 | 0,7 | 1,7 | 5,3 | 35 | 0,00170 | 11,6 | 73 |
| **MYT 90 S 4** | 1,1 | 1355 | 50 | 230 | 7,09 | 71,0 | 0,95 | 4,2 | 0,6 | 1,7 | 7,8 | | 0,00330 | 14,4 | 75 |
| **MYT 90 L 4** | 1,5 | 1360 | 50 | 230 | 9,4 | 73,0 | 0,95 | 4,8 | 0,6 | 1,7 | 10,5 | 60 | 0,00400 | 17,5 | 78 |

## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# MS

### 2 P 3000 rpm — 50Hz

| Tipo / *Type* / Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MS 63 1 2 | 0,18 | 2710 | 50 | 220/380 | 0,96/0,55 | 63,0 | 0,75 | 6,0 | 2,2 | 2,4 | 0,63 | 0,00022 | 3,5 | 61 |
| MS 63 2 2 | 0,25 | 2710 | 50 | 220/380 | 1,24/0,71 | 65,0 | 0,78 | 6,0 | 2,2 | 2,4 | 0,88 | 0,00030 | 3,8 | 61 |
| MS 71 1 2 | 0,37 | 2730 | 50 | 220/380 | 1,68/0,97 | 70,0 | 0,79 | 6,0 | 2,2 | 2,4 | 1,3 | 0,00050 | 5 | 64 |
| MS 71 2 2 | 0,55 | 2760 | 50 | 220/380 | 2,46/1,42 | 71,0 | 0,79 | 6,0 | 2,2 | 2,4 | 1,9 | 0,00063 | 5,8 | 64 |
| MS 80 1 2 | 0,75 | 2730 | 50 | 220/380 | 3,07/1,77 | 73,0 | 0,84 | 6,0 | 2,2 | 2,4 | 2,6 | 0,00083 | 9,4 | 67 |
| MS 80 2 2 | 1,1 | 2770 | 50 | 220/380 | 4,37/2,51 | 76,2 | 0,83 | 6,0 | 2,2 | 2,4 | 3,8 | 0,00100 | 11,7 | 67 |
| MS 90 S 2 | 1,5 | 2840 | 50 | 220/380 | 5,78/3,32 | 78,5 | 0,84 | 6,0 | 2,2 | 2,4 | 5 | 0,00120 | 13,7 | 72 |
| MS 90 L 2 | 2,2 | 2840 | 50 | 220/380 | 8,02/4,61 | 81,0 | 0,85 | 6,0 | 2,2 | 2,4 | 7,4 | 0,00140 | 16,5 | 72 |

### 4 P 1500 rpm — 50Hz

| Tipo / *Type* / Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MS 63 1 4 | 0,12 | 1350 | 50 | 220/380 | 0,83/0,47 | 57,0 | 0,64 | 6,0 | 2,2 | 2,4 | 0,85 | 0,00081 | 3,6 | 52 |
| MS 63 2 4 | 0,18 | 1350 | 50 | 220/380 | 1,18/0,68 | 59,0 | 0,65 | 6,0 | 2,2 | 2,4 | 1,3 | 0,00110 | 4,3 | 52 |
| MS 71 1 4 | 0,25 | 1350 | 50 | 220/380 | 1,45/0,84 | 60,0 | 0,72 | 6,0 | 2,2 | 2,4 | 1,8 | 0,00120 | 4,9 | 55 |
| MS 71 2 4 | 0,37 | 1370 | 50 | 220/380 | 1,93/1,11 | 65,0 | 0,74 | 6,0 | 2,2 | 2,4 | 2,6 | 0,00160 | 5,7 | 55 |
| MS 80 1 4 | 0,55 | 1370 | 50 | 220/380 | 2,75/1,58 | 67,0 | 0,75 | 6,0 | 2,2 | 2,4 | 3,8 | 0,00150 | 9,1 | 58 |
| MS 80 2 4 | 0,75 | 1380 | 50 | 220/380 | 3,35/1,93 | 72,0 | 0,78 | 6,0 | 2,2 | 2,4 | 5,2 | 0,00190 | 10 | 58 |
| MS 90 S 4 | 1,1 | 1400 | 50 | 220/380 | 4,59/2,64 | 76,2 | 0,79 | 6,0 | 2,2 | 2,4 | 7,5 | 0,00300 | 14,1 | 61 |

### 6 P 1000 rpm — 50Hz

| Tipo / *Type* / Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MS 71 1 6 | 0,18 | 880 | 50 | 220/380 | 1,22/0,7 | 56,0 | 0,66 | 4,0 | 1,6 | 1,7 | 2 | 0,00110 | 5,6 | 61 |
| MS 71 2 6 | 0,25 | 900 | 50 | 220/380 | 1,52/0,87 | 59,0 | 0,70 | 4,0 | 2,1 | 2,2 | 2,7 | 0,00120 | 6,1 | 61 |
| MS 80 1 6 | 0,37 | 900 | 50 | 220/380 | 2,14/1,23 | 62,0 | 0,70 | 4,0 | 1,9 | 1,9 | 3,9 | 0,00160 | 5,6 | 64 |
| MS 80 2 6 | 0,55 | 900 | 50 | 220/380 | 2,86/1,65 | 67,0 | 0,72 | 4,0 | 2,0 | 2,3 | 5,8 | 0,00200 | 6,1 | 64 |
| MS 90 S 6 | 0,75 | 920 | 50 | 220/380 | 3,79/2,18 | 69,0 | 0,72 | 5,5 | 2,2 | 2,2 | 7,8 | 0,00300 | 12,6 | 67 |

## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# VL2
# VL2 Y3

IE1

## 2 P 3000 rpm 50Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 56 1 2** | 0,09 | 2670 | 50 | 230/400 | 0,61/0,35 | 57,0 | 0,65 | 6,0 | 2,2 | 2,4 | 0,32 | 0,00011 | 2,8 | 58 |
| **VL2 56 2 2** | 0,12 | 2730 | 50 | 230/400 | 0,7/0,4 | 62,0 | 0,69 | 6,0 | 2,2 | 2,4 | 0,42 | 0,00014 | 3,2 | 58 |
| **VL2 63 1 2** | 0,18 | 2710 | 50 | 230/400 | 0,96/0,55 | 63,0 | 0,75 | 6,0 | 2,2 | 2,4 | 0,63 | 0,00022 | 3,5 | 61 |
| **VL2 63 2 2** | 0,25 | 2710 | 50 | 230/400 | 1,24/0,71 | 65,0 | 0,78 | 6,0 | 2,2 | 2,4 | 0,88 | 0,00030 | 3,8 | 61 |
| **VL2 63 3 2** | 0,37 | 2710 | 50 | 230/400 | 1,83/1,05 | 65,0 | 0,78 | 6,0 | 2,2 | 2,4 | 1,3 | 0,00050 | 4,9 | 62 |
| **VL2 71 1 2** | 0,37 | 2730 | 50 | 230/400 | 1,68/0,97 | 70,0 | 0,79 | 6,0 | 2,2 | 2,4 | 1,3 | 0,00050 | 5 | 64 |
| **VL2 71 2 2** | 0,55 | 2760 | 50 | 230/400 | 2,46/1,42 | 71,0 | 0,79 | 6,0 | 2,2 | 2,4 | 1,9 | 0,00063 | 5,8 | 64 |
| **VL2 71 3 2** | 0,75 | 2730 | 50 | 230/400 | 3,19/1,83 | 72,0 | 0,82 | 6,0 | 2,2 | 2,4 | 2,6 | 0,00076 | 7 | 65 |
| **VL2 80 1 2** | 0,75 | 2730 | 50 | 230/400 | 3,07/1,77 | 73,0 | 0,84 | 6,0 | 2,2 | 2,4 | 2,6 | 0,00083 | 9,4 | 67 |
| **VL2 80 2 2** | 1,1 | 2770 | 50 | 230/400 | 4,37/2,51 | 76,2 | 0,83 | 6,0 | 2,2 | 2,4 | 3,8 | 0,00100 | 11,7 | 67 |
| **VL2 80 3 2** | 1,5 | 2800 | 50 | 230/400 | 5,71/3,38 | 78,5 | 0,83 | 6,0 | 2,2 | 2,4 | 5,1 | 0,00120 | 11,7 | 70 |
| **VL2 90 S 2** | 1,5 | 2840 | 50 | 230/400 | 5,78/3,32 | 78,5 | 0,84 | 6,0 | 2,2 | 2,4 | 5 | 0,00120 | 13,7 | 72 |
| **VL2 90 L 2** | 2,2 | 2840 | 50 | 230/400 | 8,02/4,61 | 81,0 | 0,85 | 6,0 | 2,2 | 2,4 | 7,4 | 0,00140 | 16,5 | 72 |
| **VL2 90 L2 2** | 3 | 2840 | 50 | 230/400 | 10,6/6,1 | 82,6 | 0,86 | 6,0 | 2,2 | 2,4 | 10,1 | 0,00145 | 18,5 | 74 |
| **VL2 100 L 2** | 3 | 2840 | 50 | 230/400 | 10,5/6,03 | 82,6 | 0,87 | 7,0 | 2,2 | 2,3 | 10,1 | 0,00290 | 22,3 | 76 |
| **VL2 100 L2 2** | 4 | 2850 | 50 | 230/400 | 13,71/7,88 | 84,2 | 0,87 | 7,5 | 2,2 | 2,3 | 13,4 | 0,00390 | 25,2 | 77 |
| **VL2 112 M 2** | 4 | 2880 | 50 | 230/400 | 13,71/7,88 | 84,2 | 0,87 | 7,5 | 2,2 | 2,3 | 13,3 | 0,00500 | 28,2 | 77 |
| **VL2 112 M2 2** | 5,5 | 2880 | 50 | 230/400 | 18,3/10,5 | 85,7 | 0,88 | 7,5 | 2,2 | 2,3 | 18,2 | 0,00690 | 30,2 | 78 |
| **VL2 132 S1 2** | 5,5 | 2900 | 50 | 230/400 | 18,3/10,5 | 85,7 | 0,88 | 7,5 | 2,0 | 2,2 | 18,1 | 0,01010 | 40,2 | 80 |
| **VL2 132 S1 2** | 5,5 | 2900 | 50 | 400/690 | 10,5/6,1 | 85,7 | 0,88 | 7,5 | 2,0 | 2,2 | 18,1 | 0,01010 | 40,2 | 80 |
| **VL2 132 S2 2** | 7,5 | 2920 | 50 | 230/400 | 24,6/14,1 | 87,0 | 0,88 | 7,5 | 2,0 | 2,2 | 24,5 | 0,01780 | 42,2 | 80 |
| **VL2 132 S2 2** | 7,5 | 2920 | 50 | 400/690 | 14,1/8,2 | 87,0 | 0,88 | 7,5 | 2,0 | 2,2 | 24,5 | 0,01780 | 42,2 | 80 |
| **VL2 132 M1 2** | 9,2 | 2930 | 50 | 230/400 | 29,49/16,95 | 88,0 | 0,89 | 7,5 | 2,0 | 2,2 | 30 | 0,02183 | 51,4 | 81 |
| **VL2 132 M1 2** | 9,2 | 2930 | 50 | 400/690 | 16,98/9,8 | 88,0 | 0,89 | 7,5 | 2,0 | 2,2 | 30 | 0,02183 | 51,4 | 81 |
| **VL2 132 M2 2** | 11 | 2930 | 50 | 230/400 | 34,71/19,96 | 88,0 | 0,90 | 7,5 | 2,0 | 2,2 | 35,9 | 0,02610 | 58,8 | 83 |
| **VL2 132 M2 2** | 11 | 2930 | 50 | 400/690 | 19,96/11,54 | 88,0 | 0,90 | 7,5 | 2,0 | 2,2 | 35,9 | 0,02610 | 58,8 | 83 |
| | | | | | | | | | | | | | | |
| **VL2 Y3 160 M1 2** | 11 | 2930 | 50 | 400/690 | 20,2/11,7 | 88,4 | 0,89 | 7,5 | 2,2 | 2,3 | 35,9 | 0,03770 | 96 | 86 |
| **VL2 Y3 160 M2 2** | 15 | 2930 | 50 | 400/690 | 27,2/15,8 | 89,4 | 0,89 | 7,5 | 2,2 | 2,3 | 48,9 | 0,04990 | 104 | 86 |
| **VL2 Y3 160 L 2** | 18,5 | 2930 | 50 | 400/690 | 33,0/19,1 | 90,5 | 0,90 | 7,5 | 2,2 | 2,3 | 60,3 | 0,05500 | 133 | 86 |
| **VL2 Y3 180 M 2** | 22 | 2940 | 50 | 400/690 | 39,0/22,6 | 90,5 | 0,90 | 7,5 | 2,0 | 2,3 | 71,5 | 0,07500 | 156 | 89 |
| **VL2 Y3 200 L1 2** | 30 | 2950 | 50 | 400/690 | 52,6/30,5 | 91,4 | 0,90 | 7,5 | 2,0 | 2,3 | 97,1 | 0,12400 | 218 | 92 |
| **VL2 Y3 200 L2 2** | 37 | 2950 | 50 | 400/690 | 64,5/37,4 | 92,0 | 0,90 | 7,5 | 2,0 | 2,3 | 120 | 0,13900 | 230 | 92 |
| **VL2 Y3 225 M 2** | 45 | 2960 | 50 | 400/690 | 78,0/45,2 | 92,5 | 0,90 | 7,5 | 2,0 | 2,3 | 145 | 0,23300 | 290 | 92 |
| **VL2 Y3 250 M 2** | 55 | 2970 | 50 | 400/690 | 94,9/55,0 | 93,0 | 0,90 | 7,5 | 2,0 | 2,3 | 177 | 0,31200 | 359 | 93 |
| **VL2 Y3 280 S 2** | 75 | 2975 | 50 | 400/690 | 127/73,7 | 93,6 | 0,91 | 7,0 | 2,0 | 2,3 | 241 | 0,57900 | 494 | 94 |
| **VL2 Y3 280 M 2** | 90 | 2975 | 50 | 400/690 | 152/88,1 | 94,1 | 0,91 | 7,1 | 2,0 | 2,3 | 289 | 0,67500 | 510 | 94 |
| **VL2 Y3 315 S 2** | 110 | 2975 | 50 | 400/690 | 185/108 | 94,4 | 0,91 | 7,1 | 1,8 | 2,2 | 353 | 1,18000 | 875 | 96 |
| **VL2 Y3 315 M 2** | 132 | 2975 | 50 | 400/690 | 222/128 | 94,8 | 0,91 | 7,1 | 1,8 | 2,2 | 424 | 1,82000 | 963 | 96 |
| **VL2 Y3 315 L1 2** | 160 | 2975 | 50 | 400/690 | 265/154 | 95,0 | 0,92 | 7,1 | 1,8 | 2,2 | 514 | 2,08000 | 1010 | 99 |
| **VL2 Y3 315 L2 2** | 200 | 2975 | 50 | 400/690 | 331/192 | 95,0 | 0,92 | 7,1 | 1,8 | 2,2 | 642 | 2,38000 | 1138 | 99 |

## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# VL2
# VL2 Y3

IE1

## 2 P 3600 rpm

## 60Hz

| **Tipo** *Type* Typ | **Pn** [kW] | **$n_n$** [rpm] | **Freq** (Δ/Y) [Hz] | **Volt** (Δ/Y) [V] | **In** (Δ/Y) [A] | η 100% % | **cos φ** | **Ia/In** | **Ca/Cn** | **Cmax/Cn** | **Cn** [Nm] | **$J_m$** [$kgm^2$] | Kg | **LpA** **[dB]** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 56 1 2** | 0,11 | 3204 | 60 | 277/480 | 0,61/0,35 | 57,0 | 0,65 | 6,0 | 2,2 | 2,4 | 0,33 | 0,00011 | 2,8 | 58 |
| **VL2 56 2 2** | 0,14 | 3276 | 60 | 277/480 | 0,7/0,4 | 62,0 | 0,69 | 6,0 | 2,2 | 2,4 | 0,41 | 0,00014 | 3,2 | 58 |
| **VL2 63 1 2** | 0,22 | 3252 | 60 | 277/480 | 0,96/0,55 | 63,0 | 0,75 | 6,0 | 2,2 | 2,4 | 0,65 | 0,00022 | 3,5 | 61 |
| **VL2 63 2 2** | 0,3 | 3252 | 60 | 277/480 | 1,24/0,71 | 65,0 | 0,78 | 6,0 | 2,2 | 2,4 | 0,88 | 0,00030 | 3,8 | 61 |
| **VL2 63 3 2** | 0,44 | 3252 | 60 | 277/480 | 1,83/1,05 | 65,0 | 0,78 | 6,0 | 2,2 | 2,4 | 1,3 | 0,00050 | 4,9 | 62 |
| **VL2 71 1 2** | 0,44 | 3276 | 60 | 277/480 | 1,68/0,97 | 70,0 | 0,79 | 6,0 | 2,2 | 2,4 | 1,3 | 0,00050 | 5 | 64 |
| **VL2 71 2 2** | 0,66 | 3312 | 60 | 277/480 | 2,46/1,42 | 71,0 | 0,79 | 6,0 | 2,2 | 2,4 | 1,9 | 0,00063 | 5,8 | 64 |
| **VL2 71 3 2** | 0,9 | 3276 | 60 | 277/480 | 3,19/1,83 | 72,0 | 0,82 | 6,0 | 2,2 | 2,4 | 2,6 | 0,00076 | 7 | 65 |
| **VL2 80 1 2** | 0,9 | 3276 | 60 | 277/480 | 3,07/1,77 | 73,0 | 0,84 | 6,0 | 2,2 | 2,4 | 2,6 | 0,00083 | 9,4 | 67 |
| **VL2 80 2 2** | 1,32 | 3324 | 60 | 277/480 | 4,37/2,51 | 76,2 | 0,83 | 6,0 | 2,2 | 2,4 | 3,8 | 0,00100 | 11,7 | 67 |
| **VL2 80 3 2** | 1,8 | 3360 | 60 | 277/480 | 5,71/3,38 | 78,5 | 0,83 | 6,0 | 2,2 | 2,4 | 5,1 | 0,00120 | 11,7 | 70 |
| **VL2 90 S 2** | 1,8 | 3408 | 60 | 277/480 | 5,78/3,32 | 78,5 | 0,84 | 6,0 | 2,2 | 2,4 | 5 | 0,00120 | 13,7 | 72 |
| **VL2 90 L 2** | 2,64 | 3408 | 60 | 277/480 | 8,02/4,61 | 81,0 | 0,85 | 6,0 | 2,2 | 2,4 | 7,4 | 0,00140 | 16,5 | 72 |
| **VL2 90 L2 2** | 3,6 | 3408 | 60 | 277/480 | 10,6/6,1 | 82,6 | 0,86 | 6,0 | 2,2 | 2,4 | 10,1 | 0,00145 | 18,5 | 74 |
| **VL2 100 L 2** | 3,6 | 3408 | 60 | 277/480 | 10,5/6,03 | 82,6 | 0,87 | 7,0 | 2,2 | 2,3 | 10,1 | 0,00290 | 22,3 | 76 |
| **VL2 100 L2 2** | 4,8 | 3420 | 60 | 277/480 | 13,71/7,88 | 84,2 | 0,87 | 7,5 | 2,2 | 2,3 | 13,4 | 0,00390 | 25,2 | 77 |
| **VL2 112 M 2** | 4,8 | 3456 | 60 | 277/480 | 13,71/7,88 | 84,2 | 0,87 | 7,5 | 2,2 | 2,3 | 13,3 | 0,00500 | 28,2 | 77 |
| **VL2 112 M2 2** | 6,6 | 3456 | 60 | 277/480 | 18,3/10,5 | 85,7 | 0,88 | 7,5 | 2,2 | 2,3 | 18,2 | 0,00690 | 30,2 | 78 |
| **VL2 132 S1 2** | 6,6 | 3480 | 60 | 277/480 | 18,3/10,5 | 85,7 | 0,88 | 7,5 | 2,0 | 2,2 | 18,1 | 0,01010 | 40,2 | 80 |
| **VL2 132 S1 2** | 6,6 | 3480 | 60 | 480/828 | 10,5/6,1 | 85,7 | 0,88 | 7,5 | 2,0 | 2,2 | 18,1 | 0,01010 | 40,2 | 80 |
| **VL2 132 S2 2** | 9 | 3504 | 60 | 277/480 | 24,6/14,1 | 87,0 | 0,88 | 7,5 | 2,0 | 2,2 | 24,5 | 0,01780 | 42,2 | 80 |
| **VL2 132 S2 2** | 9 | 3504 | 60 | 480/828 | 14,1/8,2 | 87,0 | 0,88 | 7,5 | 2,0 | 2,2 | 24,5 | 0,01780 | 42,2 | 80 |
| **VL2 132 M1 2** | 11,04 | 3516 | 60 | 277/480 | 29,49/16,95 | 88,0 | 0,89 | 7,5 | 2,0 | 2,2 | 30 | 0,02183 | 51,4 | 81 |
| **VL2 132 M1 2** | 11,04 | 3516 | 60 | 480/828 | 16,98/9,8 | 88,0 | 0,89 | 7,5 | 2,0 | 2,2 | 30 | 0,02183 | 51,4 | 81 |
| **VL2 132 M2 2** | 13,2 | 3516 | 60 | 277/480 | 34,71/19,96 | 88,0 | 0,90 | 7,5 | 2,0 | 2,2 | 35,9 | 0,02610 | 58,8 | 83 |
| **VL2 132 M2 2** | 13,2 | 3516 | 60 | 480/828 | 19,96/11,54 | 88,0 | 0,90 | 7,5 | 2,0 | 2,2 | 35,9 | 0,02610 | 58,8 | 83 |
| | | | | | | | | | | | | | | |
| **VL2 Y3 160 M1 2** | 12,6 | 3516 | 60 | 460/795 | 20,4/11,8 | 87,1 | 0,89 | 7,5 | 2,2 | 2,3 | 34,2 | 0,03770 | 96 | 89 |
| **VL2 Y3 160 M2 2** | 17,3 | 3516 | 60 | 460/795 | 27,5/15,9 | 88,7 | 0,89 | 7,5 | 2,2 | 2,3 | 47 | 0,04990 | 104 | 89 |
| **VL2 Y3 160 L 2** | 21,3 | 3516 | 60 | 460/795 | 33,2/19,2 | 89,5 | 0,90 | 7,5 | 2,2 | 2,3 | 57,9 | 0,05500 | 133 | 89 |
| **VL2 Y3 180 M 2** | 25,3 | 3528 | 60 | 460/795 | 39,4/22,8 | 89,5 | 0,90 | 7,5 | 2,0 | 2,3 | 68,5 | 0,07500 | 156 | 92 |
| **VL2 Y3 200 L1 2** | 34,5 | 3540 | 60 | 460/795 | 52,6/30,4 | 91,5 | 0,90 | 7,5 | 2,0 | 2,3 | 93,1 | 0,12400 | 218 | 95 |
| **VL2 Y3 200 L2 2** | 42,5 | 3540 | 60 | 460/795 | 64,7/37,4 | 91,6 | 0,90 | 7,5 | 2,0 | 2,3 | 115 | 0,13900 | 230 | 95 |
| **VL2 Y3 225 M 2** | 52 | 3552 | 60 | 460/795 | 78,1/45,2 | 92,9 | 0,90 | 7,5 | 2,0 | 2,3 | 140 | 0,23300 | 290 | 95 |
| **VL2 Y3 250 M 2** | 63 | 3564 | 60 | 460/795 | 95,5/55,2 | 92,0 | 0,90 | 7,5 | 2,0 | 2,3 | 169 | 0,31200 | 359 | 96 |
| **VL2 Y3 280 S 2** | 86 | 3570 | 60 | 460/795 | 128/74,0 | 92,7 | 0,91 | 7,0 | 2,0 | 2,3 | 230 | 0,57900 | 494 | 97 |
| **VL2 Y3 280 M 2** | 104 | 3570 | 60 | 460/795 | 154/88,8 | 93,1 | 0,91 | 7,1 | 2,0 | 2,3 | 278 | 0,67500 | 510 | 97 |
| **VL2 Y3 315 S 2** | 127 | 3570 | 60 | 460/795 | 188/109 | 93,2 | 0,91 | 7,1 | 1,8 | 2,2 | 340 | 1,18000 | 875 | 99 |
| **VL2 Y3 315 M 2** | 152 | 3570 | 60 | 460/795 | 223/129 | 94,0 | 0,91 | 7,1 | 1,8 | 2,2 | 407 | 1,82000 | 963 | 99 |
| **VL2 Y3 315 L1 2** | 184 | 3570 | 60 | 460/795 | 267/154 | 94,0 | 0,92 | 7,1 | 1,8 | 2,2 | 492 | 2,08000 | 1010 | 102 |
| **VL2 Y3 315 L2 2** | 230 | 3570 | 60 | 460/795 | 333/193 | 94,2 | 0,92 | 7,1 | 1,8 | 2,2 | 615 | 2,38000 | 1138 | 102 |

**B**



## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# VL2
# VL2 Y3

IE1

## 4 P 1500 rpm    50Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VL2 56 1 4 | 0,06 | 1320 | 50 | 230/400 | 0,53/0,3 | 48,5 | 0,59 | 5,9 | 2,3 | 2,4 | 0,43 | 0,00040 | 3 | 50 |
| VL2 56 2 4 | 0,09 | 1320 | 50 | 230/400 | 0,74/0,43 | 50,0 | 0,61 | 6,0 | 2,3 | 2,4 | 0,65 | 0,00051 | 3,3 | 50 |
| VL2 63 1 4 | 0,12 | 1350 | 50 | 230/400 | 0,83/0,47 | 57,0 | 0,64 | 6,0 | 2,2 | 2,4 | 0,85 | 0,00081 | 3,6 | 52 |
| VL2 63 2 4 | 0,18 | 1350 | 50 | 230/400 | 1,18/0,68 | 59,0 | 0,65 | 6,0 | 2,2 | 2,4 | 1,3 | 0,00110 | 4,3 | 52 |
| VL2 63 3 4 | 0,25 | 1350 | 50 | 230/400 | 1,58/0,91 | 60,0 | 0,66 | 6,0 | 2,2 | 2,4 | 1,8 | 0,00110 | 4,8 | 54 |
| VL2 71 1 4 | 0,25 | 1350 | 50 | 230/400 | 1,45/0,84 | 60,0 | 0,72 | 6,0 | 2,2 | 2,4 | 1,8 | 0,00120 | 4,9 | 55 |
| VL2 71 2 4 | 0,37 | 1370 | 50 | 230/400 | 1,93/1,11 | 65,0 | 0,74 | 6,0 | 2,2 | 2,4 | 2,6 | 0,00160 | 5,7 | 55 |
| VL2 71 3 4 | 0,55 | 1380 | 50 | 230/400 | 2,79/1,6 | 66,0 | 0,75 | 6,0 | 2,2 | 2,4 | 3,8 | 0,00130 | 7,3 | 57 |
| VL2 80 1 4 | 0,55 | 1370 | 50 | 230/400 | 2,75/1,58 | 67,0 | 0,75 | 6,0 | 2,2 | 2,4 | 3,8 | 0,00150 | 9,1 | 58 |
| VL2 80 2 4 | 0,75 | 1380 | 50 | 230/400 | 3,35/1,93 | 72,0 | 0,78 | 6,0 | 2,2 | 2,4 | 5,2 | 0,00190 | 10 | 58 |
| VL2 80 3 4 | 1,1 | 1390 | 50 | 230/400 | 4,65/2,67 | 76,2 | 0,78 | 6,0 | 2,2 | 2,4 | 7,6 | 0,00200 | 12,3 | 60 |
| VL2 90 S 4 | 1,1 | 1400 | 50 | 230/400 | 4,59/2,64 | 76,2 | 0,79 | 6,0 | 2,2 | 2,4 | 7,5 | 0,00300 | 14,1 | 61 |
| VL2 90 L 4 | 1,5 | 1400 | 50 | 230/400 | 6/3,45 | 78,5 | 0,80 | 6,0 | 2,2 | 2,4 | 10,2 | 0,00390 | 17,5 | 61 |
| VL2 90 L1 4 | 1,85 | 1400 | 50 | 230/400 | 7,2/4,2 | 79,5 | 0,80 | 6,5 | 2,2 | 2,4 | 12,6 | 0,00480 | 19,8 | 62 |
| VL2 90 L2 4 | 2,2 | 1400 | 50 | 230/400 | 8,52/4,9 | 81,0 | 0,80 | 7,0 | 2,2 | 2,4 | 15 | 0,00540 | 18,3 | 63 |
| VL2 100 L1 4 | 2,2 | 1420 | 50 | 230/400 | 8,42/4,84 | 81,0 | 0,81 | 7,0 | 2,2 | 2,3 | 14,8 | 0,00670 | 21 | 64 |
| VL2 100 L2 4 | 3 | 1420 | 50 | 230/400 | 11,3/6,47 | 82,6 | 0,81 | 7,0 | 2,2 | 2,3 | 20,2 | 0,00690 | 24,2 | 64 |
| VL2 112 M 4 | 4 | 1430 | 50 | 230/400 | 14,4/8,26 | 84,2 | 0,83 | 7,0 | 2,2 | 2,2 | 26,7 | 0,00910 | 32,2 | 65 |
| VL2 112 M2 4 | 5,5 | 1440 | 50 | 230/400 | 19,4/11,2 | 85,7 | 0,83 | 7,0 | 2,2 | 2,2 | 36,5 | 0,01170 | 34,8 | 68 |
| VL2 132 S 4 | 5,5 | 1450 | 50 | 230/400 | 19,2/11,03 | 85,7 | 0,84 | 7,0 | 2,2 | 2,2 | 36,2 | 0,02050 | 40,4 | 71 |
| VL2 132 S 4 | 5,5 | 1450 | 50 | 400/690 | 11,03/6,38 | 85,7 | 0,84 | 7,0 | 2,2 | 2,2 | 36,2 | 0,02050 | 40,4 | 71 |
| VL2 132 M 4 | 7,5 | 1450 | 50 | 230/400 | 25,5/14,6 | 87,0 | 0,85 | 7,0 | 2,2 | 2,2 | 49,4 | 0,02960 | 53,4 | 71 |
| VL2 132 M 4 | 7,5 | 1450 | 50 | 400/690 | 14,6/8,4 | 87,0 | 0,85 | 7,0 | 2,2 | 2,2 | 49,4 | 0,02960 | 53,4 | 71 |
| VL2 132 M2 4 | 9,2 | 1460 | 50 | 230/400 | 31,1/17,9 | 87,5 | 0,85 | 7,5 | 2,2 | 2,2 | 60,2 | 0,03260 | 58,7 | 74 |
| VL2 132 M2 4 | 9,2 | 1460 | 50 | 400/690 | 17,9/10,3 | 87,5 | 0,85 | 7,5 | 2,2 | 2,2 | 60,2 | 0,03260 | 58,7 | 74 |
| VL2 132 M3 4 | 11 | 1460 | 50 | 230/400 | 36,32/20,88 | 88,0 | 0,86 | 7,5 | 2,2 | 2,2 | 72 | 0,03898 | 64 | 74 |
| VL2 132 M3 4 | 11 | 1460 | 50 | 400/690 | 20,88/12,07 | 88,0 | 0,86 | 7,5 | 2,2 | 2,2 | 72 | 0,03898 | 64 | 74 |
| | | | | | | | | | | | | | | |
| VL2 Y3 160 M 4 | 11 | 1460 | 50 | 400/690 | 21,4/12,4 | 89,2 | 0,84 | 7,0 | 2,2 | 2,3 | 72 | 0,07470 | 103 | 75 |
| VL2 Y3 160 L 4 | 15 | 1460 | 50 | 400/690 | 28,5/16,5 | 89,7 | 0,85 | 7,5 | 2,2 | 2,3 | 98,1 | 0,09180 | 122 | 75 |
| VL2 Y3 180 M 4 | 18,5 | 1470 | 50 | 400/690 | 34,5/20,0 | 90,7 | 0,86 | 7,5 | 2,2 | 2,3 | 120 | 0,13900 | 150 | 76 |
| VL2 Y3 180 L 4 | 22 | 1470 | 50 | 400/690 | 40,8/23,7 | 91,6 | 0,86 | 7,5 | 2,2 | 2,3 | 143 | 0,15800 | 170 | 76 |
| VL2 Y3 200 L 4 | 30 | 1470 | 50 | 400/690 | 55,1/31,9 | 92,6 | 0,86 | 7,2 | 2,2 | 2,3 | 195 | 0,26200 | 228 | 79 |
| VL2 Y3 225 S 4 | 37 | 1475 | 50 | 400/690 | 66,7/38,7 | 92,8 | 0,87 | 7,2 | 2,2 | 2,3 | 240 | 0,40600 | 268 | 81 |
| VL2 Y3 225 M 4 | 45 | 1475 | 50 | 400/690 | 80,7/46,8 | 93,4 | 0,87 | 7,2 | 2,2 | 2,3 | 291 | 0,46900 | 313 | 81 |
| VL2 Y3 250 M 4 | 55 | 1480 | 50 | 400/690 | 98,1/56,9 | 94,0 | 0,87 | 7,2 | 2,2 | 2,3 | 355 | 0,66000 | 366 | 83 |
| VL2 Y3 280 S 4 | 75 | 1480 | 50 | 400/690 | 131,4/76,2 | 94,0 | 0,88 | 6,8 | 2,2 | 2,3 | 484 | 1,12000 | 480 | 86 |
| VL2 Y3 280 M 4 | 90 | 1480 | 50 | 400/690 | 157/91,1 | 94,0 | 0,88 | 6,8 | 2,2 | 2,3 | 581 | 1,64000 | 560 | 86 |
| VL2 Y3 315 S 4 | 110 | 1480 | 50 | 400/690 | 191/111 | 94,4 | 0,88 | 6,9 | 2,1 | 2,2 | 710 | 3,10000 | 846 | 93 |
| VL2 Y3 315 M 4 | 132 | 1480 | 50 | 400/690 | 228/132 | 94,8 | 0,88 | 6,9 | 2,1 | 2,2 | 852 | 3,62000 | 940 | 93 |
| VL2 Y3 315 L1 4 | 160 | 1480 | 50 | 400/690 | 273/158 | 95,0 | 0,89 | 6,9 | 2,1 | 2,2 | 1032 | 4,13000 | 1044 | 97 |
| VL2 Y3 315 L2 4 | 200 | 1480 | 50 | 400/690 | 342/198 | 95,0 | 0,89 | 6,9 | 2,1 | 2,2 | 1290 | 4,73000 | 1162 | 97 |




## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# VL2
# VL2 Y3

IE1

## 4 P 1800 rpm

## 60Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% [%] | cos φ | $\frac{Ia}{In}$ | $\frac{Ca}{Cn}$ | $\frac{Cmax}{Cn}$ | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 56 1 4** | 0,07 | 1584 | 60 | 277/480 | 0,53/0,3 | 48,5 | 0,59 | 5,9 | 2,3 | 2,4 | 0,42 | 0,00040 | 3 | 50 |
| **VL2 56 2 4** | 0,11 | 1584 | 60 | 277/480 | 0,74/0,43 | 50,0 | 0,61 | 6,0 | 2,3 | 2,4 | 0,66 | 0,00051 | 3,3 | 50 |
| **VL2 63 1 4** | 0,14 | 1620 | 60 | 277/480 | 0,83/0,47 | 57,0 | 0,64 | 6,0 | 2,2 | 2,4 | 0,83 | 0,00081 | 3,6 | 52 |
| **VL2 63 2 4** | 0,22 | 1620 | 60 | 277/480 | 1,18/0,68 | 59,0 | 0,65 | 6,0 | 2,2 | 2,4 | 1,3 | 0,00110 | 4,3 | 52 |
| **VL2 63 3 4** | 0,3 | 1620 | 60 | 277/480 | 1,58/0,91 | 60,0 | 0,66 | 6,0 | 2,2 | 2,4 | 1,8 | 0,00110 | 4,8 | 54 |
| **VL2 71 1 4** | 0,3 | 1620 | 60 | 277/480 | 1,45/0,84 | 60,0 | 0,72 | 6,0 | 2,2 | 2,4 | 1,8 | 0,00120 | 4,9 | 55 |
| **VL2 71 2 4** | 0,44 | 1644 | 60 | 277/480 | 1,93/1,11 | 65,0 | 0,74 | 6,0 | 2,2 | 2,4 | 2,6 | 0,00160 | 5,7 | 55 |
| **VL2 71 3 4** | 0,66 | 1656 | 60 | 277/480 | 2,79/1,6 | 66,0 | 0,75 | 6,0 | 2,2 | 2,4 | 3,8 | 0,00130 | 7,3 | 57 |
| **VL2 80 1 4** | 0,66 | 1644 | 60 | 277/480 | 2,75/1,58 | 67,0 | 0,75 | 6,0 | 2,2 | 2,4 | 3,8 | 0,00150 | 9,1 | 58 |
| **VL2 80 2 4** | 0,9 | 1656 | 60 | 277/480 | 3,35/1,93 | 72,0 | 0,78 | 6,0 | 2,2 | 2,4 | 5,2 | 0,00190 | 10 | 58 |
| **VL2 80 3 4** | 1,32 | 1668 | 60 | 277/480 | 4,65/2,67 | 76,2 | 0,78 | 6,0 | 2,2 | 2,4 | 7,6 | 0,00200 | 12,3 | 60 |
| **VL2 90 S 4** | 1,32 | 1680 | 60 | 277/480 | 4,59/2,64 | 76,2 | 0,79 | 6,0 | 2,2 | 2,4 | 7,5 | 0,00300 | 14,1 | 61 |
| **VL2 90 L 4** | 1,8 | 1680 | 60 | 277/480 | 6/3,45 | 78,5 | 0,80 | 6,0 | 2,2 | 2,4 | 10,2 | 0,00390 | 17,5 | 61 |
| **VL2 90 L1 4** | 2,22 | 1680 | 60 | 277/480 | 7,2/4,2 | 79,5 | 0,80 | 6,5 | 2,2 | 2,4 | 12,6 | 0,00480 | 19,8 | 62 |
| **VL2 90 L2 4** | 2,64 | 1680 | 60 | 277/480 | 8,52/4,9 | 81,0 | 0,80 | 7,0 | 2,2 | 2,4 | 15 | 0,00540 | 18,3 | 63 |
| **VL2 100 L1 4** | 2,64 | 1704 | 60 | 277/480 | 8,42/4,84 | 81,0 | 0,81 | 7,0 | 2,2 | 2,3 | 14,8 | 0,00670 | 21 | 64 |
| **VL2 100 L2 4** | 3,6 | 1704 | 60 | 277/480 | 11,3/6,47 | 82,6 | 0,81 | 7,0 | 2,2 | 2,3 | 20,2 | 0,00690 | 24,2 | 64 |
| **VL2 112 M 4** | 4,8 | 1716 | 60 | 277/480 | 14,4/8,26 | 84,2 | 0,83 | 7,0 | 2,2 | 2,2 | 26,7 | 0,00910 | 32,2 | 65 |
| **VL2 112 M2 4** | 6,6 | 1728 | 60 | 277/480 | 19,4/11,2 | 85,7 | 0,83 | 7,0 | 2,2 | 2,2 | 36,5 | 0,01170 | 34,8 | 68 |
| **VL2 132 S 4** | 6,6 | 1740 | 60 | 277/480 | 19,2/11,03 | 85,7 | 0,84 | 7,0 | 2,2 | 2,2 | 36,2 | 0,02050 | 40,4 | 71 |
| **VL2 132 S 4** | 6,6 | 1740 | 60 | 480/828 | 11,03/6,38 | 85,7 | 0,84 | 7,0 | 2,2 | 2,2 | 36,2 | 0,02050 | 40,4 | 71 |
| **VL2 132 M 4** | 9 | 1740 | 60 | 277/480 | 25,5/14,6 | 87,0 | 0,85 | 7,0 | 2,2 | 2,2 | 49,4 | 0,02960 | 53,4 | 71 |
| **VL2 132 M 4** | 9 | 1740 | 60 | 480/828 | 14,6/8,4 | 87,0 | 0,85 | 7,0 | 2,2 | 2,2 | 49,4 | 0,02960 | 53,4 | 71 |
| **VL2 132 M2 4** | 11,04 | 1752 | 60 | 277/480 | 31,1/17,9 | 87,5 | 0,85 | 7,5 | 2,2 | 2,2 | 60,2 | 0,03260 | 58,7 | 74 |
| **VL2 132 M2 4** | 11,04 | 1752 | 60 | 480/828 | 17,9/10,3 | 87,5 | 0,85 | 7,5 | 2,2 | 2,2 | 60,2 | 0,03260 | 58,7 | 74 |
| **VL2 132 M3 4** | 13,2 | 1752 | 60 | 277/480 | 36,32/20,88 | 88,0 | 0,86 | 7,5 | 2,2 | 2,2 | 72 | 0,03898 | 64 | 74 |
| **VL2 132 M3 4** | 13,2 | 1752 | 60 | 480/828 | 20,88/12,07 | 88,0 | 0,86 | 7,5 | 2,2 | 2,2 | 72 | 0,03898 | 64 | 74 |
| | | | | | | | | | | | | | | |
| **VL2 Y3 160 M 4** | 12,6 | 1752 | 60 | 460/795 | 21,4/12,4 | 88,0 | 0,84 | 7,0 | 2,2 | 2,3 | 68,7 | 0,07470 | 103 | 78 |
| **VL2 Y3 160 L 4** | 17,3 | 1752 | 60 | 460/795 | 28,5/16,5 | 89,6 | 0,85 | 7,5 | 2,2 | 2,3 | 94,3 | 0,09180 | 122 | 78 |
| **VL2 Y3 180 M 4** | 21,3 | 1764 | 60 | 460/795 | 34,1/19,7 | 91,2 | 0,86 | 7,5 | 2,2 | 2,3 | 115 | 0,13900 | 150 | 79 |
| **VL2 Y3 180 L 4** | 25,3 | 1764 | 60 | 460/795 | 40,6/23,5 | 90,9 | 0,86 | 7,5 | 2,2 | 2,3 | 137 | 0,15800 | 170 | 79 |
| **VL2 Y3 200 L 4** | 34,5 | 1770 | 60 | 460/795 | 54,5/31,5 | 92,4 | 0,86 | 7,2 | 2,2 | 2,3 | 186 | 0,26200 | 228 | 82 |
| **VL2 Y3 225 S 4** | 42,5 | 1770 | 60 | 460/795 | 66,0/38,2 | 92,9 | 0,87 | 7,2 | 2,2 | 2,3 | 229 | 0,40600 | 268 | 84 |
| **VL2 Y3 225 M 4** | 52 | 1776 | 60 | 460/795 | 80,3/46,5 | 93,4 | 0,87 | 7,2 | 2,2 | 2,3 | 280 | 0,46900 | 313 | 84 |
| **VL2 Y3 250 M 4** | 63 | 1776 | 60 | 460/795 | 98,1/56,8 | 92,6 | 0,87 | 7,2 | 2,2 | 2,3 | 339 | 0,66000 | 366 | 86 |
| **VL2 Y3 280 S 4** | 86 | 1776 | 60 | 460/795 | 132/76,4 | 92,9 | 0,88 | 6,8 | 2,2 | 2,3 | 462 | 1,12000 | 480 | 89 |
| **VL2 Y3 280 M 4** | 104 | 1776 | 60 | 460/795 | 158/91,4 | 93,9 | 0,88 | 6,8 | 2,2 | 2,3 | 559 | 1,64000 | 560 | 89 |
| **VL2 Y3 315 S 4** | 127 | 1776 | 60 | 460/795 | 193/112 | 93,9 | 0,88 | 6,9 | 2,1 | 2,2 | 683 | 3,10000 | 846 | 96 |
| **VL2 Y3 315 M 4** | 152 | 1776 | 60 | 460/795 | 229/133 | 94,7 | 0,88 | 6,9 | 2,1 | 2,2 | 817 | 3,62000 | 940 | 96 |
| **VL2 Y3 315 L1 4** | 184 | 1776 | 60 | 460/795 | 275/159 | 94,4 | 0,89 | 6,9 | 2,1 | 2,2 | 989 | 4,13000 | 1044 | 100 |
| **VL2 Y3 315 L2 4** | 230 | 1776 | 60 | 460/795 | 343/199 | 94,6 | 0,89 | 6,9 | 2,1 | 2,2 | 1237 | 4,73000 | 1162 | 100 |

B


## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# VL2
# VL2 Y3

IE1

## 6 P 1000 rpm

## 50Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [$kgm^2$] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 71 1 6** | 0,18 | 880 | 50 | 230/400 | 1,22/0,7 | 56,0 | 0,66 | 4,0 | 1,6 | 1,7 | 2 | 0,00110 | 5,6 | 61 |
| **VL2 71 2 6** | 0,25 | 900 | 50 | 230/400 | 1,52/0,87 | 59,0 | 0,70 | 4,0 | 2,1 | 2,2 | 2,7 | 0,00120 | 6,1 | 61 |
| **VL2 71 3 6** | 0,37 | 890 | 50 | 230/400 | 2,21/1,27 | 61,0 | 0,69 | 4,0 | 2,0 | 2,1 | 4 | 0,00160 | 4,9 | 62 |
| **VL2 80 1 6** | 0,37 | 900 | 50 | 230/400 | 2,14/1,23 | 62,0 | 0,70 | 4,0 | 1,9 | 1,9 | 3,9 | 0,00160 | 5,6 | 64 |
| **VL2 80 2 6** | 0,55 | 900 | 50 | 230/400 | 2,86/1,65 | 67,0 | 0,72 | 4,0 | 2,0 | 2,3 | 5,8 | 0,00200 | 6,1 | 64 |
| **VL2 80 3 6** | 0,75 | 900 | 50 | 230/400 | 3,85/2,21 | 68,0 | 0,72 | 4,0 | 2,0 | 2,3 | 8 | 0,00300 | 7 | 65 |
| **VL2 90 S 6** | 0,75 | 920 | 50 | 230/400 | 3,79/2,18 | 69,0 | 0,72 | 5,5 | 2,2 | 2,2 | 7,8 | 0,00300 | 12,6 | 67 |
| **VL2 90 L 6** | 1,1 | 925 | 50 | 230/400 | 5,25/3,02 | 72,0 | 0,73 | 5,5 | 2,2 | 2,2 | 11,4 | 0,00400 | 14,9 | 67 |
| **VL2 100 L 6** | 1,5 | 945 | 50 | 230/400 | 6,7/3,85 | 74,0 | 0,76 | 6,0 | 2,2 | 2,2 | 15,2 | 0,00690 | 19 | 72 |
| **VL2 112 M 6** | 2,2 | 955 | 50 | 230/400 | 9,32/5,36 | 78,0 | 0,76 | 6,0 | 2,2 | 2,2 | 22 | 0,00710 | 25,5 | 72 |
| **VL2 132 S 6** | 3 | 960 | 50 | 400/690 | 7,21/4,17 | 79,0 | 0,76 | 6,5 | 2,0 | 2,0 | 29,8 | 0,02740 | 36,5 | 74 |
| **VL2 132 S 6** | 3 | 960 | 50 | 230/400 | 12,54/7,21 | 79,0 | 0,76 | 6,5 | 2,0 | 2,0 | 29,8 | 0,02740 | 36,5 | 74 |
| **VL2 132 M1 6** | 4 | 960 | 50 | 400/690 | 9,44/5,46 | 80,5 | 0,76 | 6,5 | 2,0 | 2,0 | 39,8 | 0,03430 | 22,3 | 76 |
| **VL2 132 M1 6** | 4 | 960 | 50 | 230/400 | 16,4/9,44 | 80,5 | 0,76 | 6,5 | 2,0 | 2,0 | 39,8 | 0,03430 | 22,3 | 76 |
| **VL2 132 M2 6** | 5,5 | 960 | 50 | 400/690 | 72,42/7,18 | 83,0 | 0,77 | 6,5 | 2,0 | 2,0 | 54,7 | 0,04310 | 52,1 | 77 |
| **VL2 132 M2 6** | 5,5 | 960 | 50 | 230/400 | 21,6/12,42 | 83,0 | 0,77 | 6,5 | 2,0 | 2,0 | 54,7 | 0,04310 | 52,1 | 77 |
| | | | | | | | | | | | | | | |
| **VL2 Y3 160 M 6** | 7,5 | 970 | 50 | 400/690 | 16,4/9,5 | 87,0 | 0,77 | 6,5 | 2,0 | 2,1 | 73,8 | 0,08100 | 106 | 73 |
| **VL2 Y3 160 L 6** | 11 | 970 | 50 | 400/690 | 23,3/13,5 | 89,0 | 0,78 | 6,5 | 2,0 | 2,1 | 108 | 0,11600 | 122 | 73 |
| **VL2 Y3 180 L 6** | 15 | 970 | 50 | 400/690 | 30,0/17,4 | 89,1 | 0,81 | 7,0 | 2,0 | 2,1 | 148 | 0,20700 | 154 | 73 |
| **VL2 Y3 200 L1 6** | 18,5 | 980 | 50 | 400/690 | 36,6/21,2 | 90,0 | 0,81 | 7,0 | 2,1 | 2,1 | 180 | 0,31500 | 202 | 73 |
| **VL2 Y3 200 L2 6** | 22 | 980 | 50 | 400/690 | 42,5/24,6 | 90,1 | 0,83 | 7,0 | 2,0 | 2,1 | 214 | 0,36000 | 216 | 73 |
| **VL2 Y3 225 M 6** | 30 | 980 | 50 | 400/690 | 56,3/32,7 | 91,8 | 0,84 | 7,0 | 2,0 | 2,1 | 292 | 0,54700 | 287 | 74 |
| **VL2 Y3 250 M 6** | 37 | 980 | 50 | 400/690 | 67,5/39,1 | 92,8 | 0,86 | 7,0 | 2,1 | 2,1 | 361 | 0,84300 | 355 | 78 |
| **VL2 Y3 280 S 6** | 45 | 980 | 50 | 400/690 | 81,7/47,3 | 93,0 | 0,86 | 7,0 | 2,1 | 2,0 | 438 | 1,39000 | 444 | 80 |
| **VL2 Y3 280 M 6** | 55 | 980 | 50 | 400/690 | 99,5/57,7 | 93,0 | 0,86 | 7,0 | 2,1 | 2,0 | 536 | 1,65000 | 498 | 80 |
| **VL2 Y3 315 S 6** | 75 | 985 | 50 | 400/690 | 134/78,1 | 94,0 | 0,86 | 6,7 | 2,0 | 2,0 | 727 | 4,11000 | 859 | 85 |
| **VL2 Y3 315 M 6** | 90 | 985 | 50 | 400/690 | 161/93,4 | 94,0 | 0,86 | 6,7 | 2,0 | 2,0 | 873 | 4,78000 | 950 | 85 |
| **VL2 Y3 315 L1 6** | 110 | 985 | 50 | 400/690 | 196/114 | 94,3 | 0,86 | 6,7 | 2,0 | 2,0 | 1066 | 5,45000 | 1031 | 85 |
| **VL2 Y3 315 L2 6** | 132 | 985 | 50 | 400/690 | 232/135 | 94,7 | 0,87 | 6,7 | 2,0 | 2,0 | 1280 | 6,12000 | 1107 | 85 |

## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# VL2
# VL2 Y3

IE1

## 6 P 1200 rpm — 60Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm$^2$] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VL2 71 1 6 | 0,22 | 1056 | 60 | 277/480 | 1,22/0,7 | 56,0 | 0,66 | 4,0 | 1,6 | 1,7 | 2 | 0,00110 | 5,6 | 61 |
| VL2 71 2 6 | 0,3 | 1080 | 60 | 277/480 | 1,52/0,87 | 59,0 | 0,70 | 4,0 | 2,1 | 2,2 | 2,7 | 0,00120 | 6,1 | 61 |
| VL2 71 3 6 | 0,44 | 1068 | 60 | 277/480 | 2,21/1,27 | 61,0 | 0,69 | 4,0 | 2,0 | 2,1 | 3,9 | 0,00160 | 4,9 | 62 |
| VL2 80 1 6 | 0,44 | 1080 | 60 | 277/480 | 2,14/1,23 | 62,0 | 0,70 | 4,0 | 1,9 | 1,9 | 3,9 | 0,00160 | 5,6 | 64 |
| VL2 80 2 6 | 0,66 | 1080 | 60 | 277/480 | 2,86/1,65 | 67,0 | 0,72 | 4,0 | 2,0 | 2,3 | 5,8 | 0,00200 | 6,1 | 64 |
| VL2 80 3 6 | 0,9 | 1080 | 60 | 277/480 | 3,85/2,21 | 68,0 | 0,72 | 4,0 | 2,0 | 2,3 | 8 | 0,00300 | 7 | 65 |
| VL2 90 S 6 | 0,9 | 1104 | 60 | 277/480 | 3,79/2,18 | 69,0 | 0,72 | 5,5 | 2,2 | 2,2 | 7,8 | 0,00300 | 12,6 | 67 |
| VL2 90 L 6 | 1,32 | 1110 | 60 | 277/480 | 5,25/3,02 | 72,0 | 0,73 | 5,5 | 2,2 | 2,2 | 11,4 | 0,00400 | 14,9 | 67 |
| VL2 100 L 6 | 1,8 | 1134 | 60 | 277/480 | 6,7/3,85 | 74,0 | 0,76 | 6,0 | 2,2 | 2,2 | 15,2 | 0,00690 | 19 | 72 |
| VL2 112 M 6 | 2,64 | 1146 | 60 | 277/480 | 9,32/5,36 | 78,0 | 0,76 | 6,0 | 2,2 | 2,2 | 22 | 0,00710 | 25,5 | 72 |
| VL2 132 S 6 | 3,6 | 1152 | 60 | 480/828 | 7,21/4,17 | 79,0 | 0,76 | 6,5 | 2,0 | 2,0 | 29,8 | 0,02740 | 36,5 | 74 |
| VL2 132 S 6 | 3,6 | 1152 | 60 | 277/480 | 12,54/7,21 | 79,0 | 0,76 | 6,5 | 2,0 | 2,0 | 29,8 | 0,02740 | 36,5 | 74 |
| VL2 132 M1 6 | 4,8 | 1152 | 60 | 480/828 | 9,44/5,46 | 80,5 | 0,76 | 6,5 | 2,0 | 2,0 | 39,8 | 0,03430 | 22,3 | 76 |
| VL2 132 M1 6 | 4,8 | 1152 | 60 | 277/480 | 16,4/9,44 | 80,5 | 0,76 | 6,5 | 2,0 | 2,0 | 39,8 | 0,03430 | 22,3 | 76 |
| VL2 132 M2 6 | 6,6 | 1152 | 60 | 480/828 | 72,42/7,18 | 83,0 | 0,77 | 6,5 | 2,0 | 2,0 | 54,7 | 0,04310 | 52,1 | 77 |
| VL2 132 M2 6 | 6,6 | 1152 | 60 | 277/480 | 21,6/12,42 | 83,0 | 0,77 | 6,5 | 2,0 | 2,0 | 54,7 | 0,04310 | 52,1 | 77 |
| | | | | | | | | | | | | | | |
| VL2 Y3 160 M 6 | 8,6 | 1164 | 60 | 460/795 | 16,4/9,5 | 85,7 | 0,77 | 6,5 | 2,0 | 2,1 | 70,6 | 0,08100 | 106 | 76 |
| VL2 Y3 160 L 6 | 12,6 | 1164 | 60 | 460/795 | 22,9/13,2 | 88,7 | 0,78 | 6,5 | 2,0 | 2,1 | 103 | 0,11600 | 122 | 76 |
| VL2 Y3 180 L 6 | 17,3 | 1164 | 60 | 460/795 | 29,9/17,3 | 89,7 | 0,81 | 7,0 | 2,0 | 2,1 | 142 | 0,20700 | 154 | 76 |
| VL2 Y3 200 L1 6 | 21,3 | 1176 | 60 | 460/795 | 36,2/21,0 | 91,1 | 0,81 | 7,0 | 2,1 | 2,1 | 173 | 0,31500 | 202 | 76 |
| VL2 Y3 200 L2 6 | 25,3 | 1176 | 60 | 460/795 | 42,0/24,3 | 91,0 | 0,83 | 7,0 | 2,0 | 2,1 | 205 | 0,36000 | 216 | 76 |
| VL2 Y3 225 M 6 | 34,5 | 1176 | 60 | 460/795 | 56,2/32,5 | 91,7 | 0,84 | 7,0 | 2,0 | 2,1 | 280 | 0,54700 | 287 | 77 |
| VL2 Y3 250 M 6 | 42,5 | 1176 | 60 | 460/795 | 67,7/39,2 | 91,6 | 0,86 | 7,0 | 2,1 | 2,1 | 345 | 0,84300 | 355 | 81 |
| VL2 Y3 280 S 6 | 52 | 1176 | 60 | 460/795 | 82,0/47,5 | 92,5 | 0,86 | 7,0 | 2,1 | 2,0 | 422 | 1,39000 | 444 | 83 |
| VL2 Y3 280 M 6 | 63 | 1176 | 60 | 460/795 | 100/58,0 | 91,7 | 0,86 | 7,0 | 2,1 | 2,0 | 512 | 1,65000 | 498 | 83 |
| VL2 Y3 315 S 6 | 86 | 1182 | 60 | 460/795 | 135/78,3 | 92,7 | 0,86 | 6,7 | 2,0 | 2,0 | 695 | 4,11000 | 859 | 88 |
| VL2 Y3 315 M 6 | 104 | 1182 | 60 | 460/795 | 161/92,9 | 94,5 | 0,86 | 6,7 | 2,0 | 2,0 | 840 | 4,78000 | 950 | 88 |
| VL2 Y3 315 L1 6 | 127 | 1182 | 60 | 460/795 | 196/114 | 94,5 | 0,86 | 6,7 | 2,0 | 2,0 | 1026 | 5,45000 | 1031 | 88 |
| VL2 Y3 315 L2 6 | 152 | 1182 | 60 | 460/795 | 233/135 | 94,2 | 0,87 | 6,7 | 2,0 | 2,0 | 1228 | 6,12000 | 1107 | 88 |

B


## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DRESHSTROM**

# VL2 IE2

IE2

## 2 P 3000 rpm

## 50Hz

| Tipo / *Type* / Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | η 75% % | η 50% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 IE2 80 1 2** | 0,75 | 2800 | 50 | 230/400 | 2,9/1,67 | 79,1 | 79,8 | 77,9 | 0,84 | 6,0 | 2,2 | 2,4 | 2,6 | 0,00110 | 9,1 | 67 |
| **VL2 IE2 80 2 2** | 1,1 | 2800 | 50 | 230/400 | 4,18/2,4 | 81,5 | 82,8 | 81,8 | 0,83 | 6,0 | 2,2 | 2,4 | 3,8 | 0,00130 | 10,2 | 67 |
| **VL2 IE2 90 S 2** | 1,5 | 2850 | 50 | 230/400 | 5,51/3,17 | 81,8 | 81,9 | 79,9 | 0,84 | 6,0 | 2,2 | 2,4 | 5 | 0,00180 | 12 | 72 |
| **VL2 IE2 90 L 2** | 2,2 | 2850 | 50 | 230/400 | 7,81/4,49 | 84,3 | 84,7 | 83,2 | 0,85 | 6,0 | 2,2 | 2,4 | 7,4 | 0,00220 | 15 | 72 |
| **VL2 IE2 100 L 2** | 3 | 2860 | 50 | 230/400 | 10,23/5,88 | 86,3 | 86,3 | 84,4 | 0,87 | 7,0 | 2,2 | 2,3 | 10 | 0,00420 | 22,3 | 76 |
| **VL2 IE2 112 M 2** | 4 | 2890 | 50 | 230/400 | 13,4/7,7 | 86,6 | 86,8 | 85,5 | 0,87 | 7,5 | 2,2 | 2,3 | 13,2 | 0,00650 | 26,7 | 77 |
| **VL2 IE2 132 S1 2** | 5,5 | 2910 | 50 | 230/400 | 18,0/10,4 | 88,8 | 88,5 | 86,3 | 0,88 | 7,5 | 2,0 | 2,2 | 18,1 | 0,01450 | 38,5 | 80 |
| **VL2 IE2 132 S1 2** | 5,5 | 2910 | 50 | 400/690 | 10,37/6,01 | 88,8 | 88,5 | 86,3 | 0,88 | 7,5 | 2,0 | 2,2 | 18,1 | 0,01450 | 38,5 | 80 |
| **VL2 IE2 132 S2 2** | 7,5 | 2910 | 50 | 230/400 | 24,2/14,0 | 89,1 | 88,9 | 87,3 | 0,88 | 7,5 | 2,0 | 2,2 | 24,6 | 0,01560 | 42,2 | 80 |
| **VL2 IE2 132 S2 2** | 7,5 | 2910 | 50 | 400/690 | 13,96/8,09 | 89,1 | 88,9 | 87,3 | 0,88 | 7,5 | 2,0 | 2,2 | 24,6 | 0,01560 | 42,2 | 80 |
| **VL2 IE2 160 M1 2** | 11 | 2940 | 50 | 400/690 | 20,0/11,5 | 90,0 | 90,2 | 88,9 | 0,89 | 7,9 | 2,2 | 2,3 | 35,7 | 0,04930 | 116 | 81 |
| **VL2 IE2 160 M2 2** | 15 | 2940 | 50 | 400/690 | 26,9/15,6 | 90,8 | 91,0 | 90,0 | 0,89 | 8,0 | 2,2 | 2,3 | 48,7 | 0,05640 | 123 | 81 |
| **VL2 IE2 160 L 2** | 18,5 | 2940 | 50 | 400/690 | 33,0/19,1 | 91,2 | 91,6 | 90,3 | 0,89 | 8,1 | 2,2 | 2,3 | 60,1 | 0,06540 | 140 | 81 |
| **VL2 IE2 180 M 2** | 22 | 2950 | 50 | 400/690 | 39,1/22,6 | 91,5 | 91,8 | 91,1 | 0,89 | 8,2 | 2,2 | 2,3 | 71,2 | 0,08150 | 180 | 83 |
| **VL2 IE2 200 L1 2** | 30 | 2960 | 50 | 400/690 | 52,9/30,6 | 92,1 | 92,4 | 91,1 | 0,89 | 7,5 | 2,2 | 2,3 | 96,8 | 0,16440 | 243 | 84 |
| **VL2 IE2 200 L2 2** | 37 | 2960 | 50 | 400/690 | 64,9/37,6 | 92,6 | 92,9 | 91,5 | 0,89 | 7,5 | 2,2 | 2,3 | 119 | 0,17350 | 263 | 84 |
| **VL2 IE2 225 M 2** | 45 | 2960 | 50 | 400/690 | 78,6/45,5 | 93,0 | 93,3 | 92,6 | 0,89 | 7,6 | 2,2 | 2,3 | 145 | 0,30460 | 312 | 86 |
| **VL2 IE2 250 M 2** | 55 | 2970 | 50 | 400/690 | 95,7/55,5 | 93,6 | 93,9 | 92,8 | 0,89 | 7,6 | 2,2 | 2,3 | 177 | 0,42360 | 407 | 89 |
| **VL2 IE2 280 S 2** | 75 | 2975 | 50 | 400/690 | 130/75,0 | 94,0 | 94,3 | 93,1 | 0,89 | 6,9 | 2,0 | 2,3 | 241 | 0,99440 | 536 | 91 |
| **VL2 IE2 280 M 2** | 90 | 2975 | 50 | 400/690 | 155/90,0 | 94,4 | 94,3 | 93,4 | 0,89 | 7,0 | 2,0 | 2,3 | 289 | 1,04900 | 609 | 91 |
| **VL2 IE2 315 S 2** | 110 | 2975 | 50 | 400/690 | 187/109 | 94,8 | 94,5 | 93,4 | 0,90 | 7,1 | 2,0 | 2,2 | 353 | 1,34100 | 875 | 92 |
| **VL2 IE2 315 M 2** | 132 | 2975 | 50 | 400/690 | 224/130 | 95,1 | 94,8 | 93,2 | 0,90 | 7,1 | 2,0 | 2,2 | 424 | 1,89300 | 940 | 92 |
| **VL2 IE2 315 L1 2** | 160 | 2975 | 50 | 400/690 | 268/155 | 95,4 | 95,1 | 94,0 | 0,91 | 7,1 | 2,0 | 2,2 | 514 | 2,14700 | 1004 | 92 |
| **VL2 IE2 315 L2 2** | 200 | 2975 | 50 | 400/690 | 334/194 | 95,7 | 95,4 | 94,2 | 0,91 | 7,1 | 2,0 | 2,2 | 642 | 2,38000 | 1080 | 92 |

## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# VL2 IE2

IE2

## 2 P 3600 rpm — 60Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | η 75% % | η 50% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 IE2 80 1 2** | 0,75 | 3360 | 60 | 265/460 | 2,5/1,44 | 82,1 | 81,9 | 79,1 | 0,84 | 6,0 | 2,2 | 2,4 | 2,1 | 0,00110 | 9,1 | 67 |
| **VL2 IE2 80 2 2** | 1,1 | 3360 | 60 | 265/460 | 3,6/2,08 | 83,4 | 83,3 | 80,9 | 0,83 | 6,0 | 2,2 | 2,4 | 3,1 | 0,00130 | 10,2 | 67 |
| **VL2 IE2 90 S 2** | 1,5 | 3420 | 60 | 265/460 | 4,76/2,74 | 84,0 | 83,4 | 80,8 | 0,84 | 6,0 | 2,2 | 2,4 | 4,2 | 0,00180 | 12 | 72 |
| **VL2 IE2 90 L 2** | 2,2 | 3420 | 60 | 265/460 | 6,74/3,88 | 86,4 | 86,1 | 83,9 | 0,85 | 6,0 | 2,2 | 2,4 | 6,1 | 0,00220 | 15 | 72 |
| **VL2 IE2 100 L 2** | 3 | 3432 | 60 | 265/460 | 8,83/5,09 | 87,9 | 87,4 | 85,1 | 0,87 | 7,0 | 2,2 | 2,3 | 8,4 | 0,00420 | 22,3 | 76 |
| **VL2 IE2 112 M 2** | 4 | 3458 | 60 | 265/460 | 11,6/6,7 | 88,2 | 87,9 | 86,0 | 0,87 | 7,5 | 2,2 | 2,3 | 11,1 | 0,00650 | 26,7 | 77 |
| **VL2 IE2 132 S1 2** | 5,5 | 3492 | 60 | 265/460 | 15,5/9,0 | 89,9 | 89,0 | 86,5 | 0,88 | 7,5 | 2,0 | 2,2 | 15 | 0,01450 | 38,5 | 80 |
| **VL2 IE2 132 S1 2** | 5,5 | 3492 | 60 | 460/794 | 8,97/5,19 | 89,9 | 89,0 | 86,5 | 0,88 | 7,5 | 2,0 | 2,2 | 15 | 0,01450 | 38,5 | 80 |
| **VL2 IE2 132 S2 2** | 7,5 | 3492 | 60 | 265/460 | 20,9/12,1 | 90,1 | 89,5 | 87,4 | 0,88 | 7,5 | 2,0 | 2,2 | 20,5 | 0,01560 | 42,2 | 80 |
| **VL2 IE2 132 S2 2** | 7,5 | 3492 | 60 | 460/794 | 12,07/6,99 | 90,1 | 89,5 | 87,4 | 0,88 | 7,5 | 2,0 | 2,2 | 20,5 | 0,01560 | 42,2 | 80 |
| **VL2 IE2 160 M1 2** | 12,6 | 3528 | 60 | 460/795 | 19,7/11,4 | 90,2 | 90,4 | 89,3 | 0,89 | 7,9 | 2,2 | 2,3 | 34,1 | 0,04930 | 116 | 84 |
| **VL2 IE2 160 M2 2** | 17,3 | 3528 | 60 | 460/795 | 27,1/15,6 | 90,2 | 90,4 | 89,6 | 0,89 | 8,0 | 2,2 | 2,3 | 46,8 | 0,05640 | 123 | 84 |
| **VL2 IE2 160 L 2** | 21,3 | 3528 | 60 | 460/795 | 32,8/19,0 | 91,6 | 92,0 | 91,1 | 0,89 | 8,1 | 2,2 | 2,3 | 57,7 | 0,06540 | 140 | 84 |
| **VL2 IE2 180 M 2** | 25,3 | 3540 | 60 | 460/795 | 39,2/22,6 | 91,0 | 91,3 | 90,9 | 0,89 | 8,2 | 2,2 | 2,3 | 68,3 | 0,08150 | 180 | 86 |
| **VL2 IE2 200 L1 2** | 34,5 | 3552 | 60 | 460/795 | 52,7/30,4 | 92,4 | 92,7 | 91,7 | 0,89 | 7,5 | 2,2 | 2,3 | 92,8 | 0,16440 | 243 | 87 |
| **VL2 IE2 200 L2 2** | 42,5 | 3552 | 60 | 460/795 | 64,5/37,2 | 93,0 | 93,3 | 92,2 | 0,89 | 7,5 | 2,2 | 2,3 | 114 | 0,17350 | 263 | 87 |
| **VL2 IE2 225 M 2** | 52 | 3552 | 60 | 460/795 | 78,9/45,5 | 93,0 | 93,3 | 92,9 | 0,89 | 7,6 | 2,2 | 2,3 | 140 | 0,30460 | 312 | 89 |
| **VL2 IE2 250 M 2** | 63 | 3564 | 60 | 460/795 | 95,5/55,0 | 93,0 | 93,3 | 92,5 | 0,89 | 7,6 | 2,2 | 2,3 | 169 | 0,42360 | 407 | 92 |
| **VL2 IE2 280 S 2** | 86 | 3570 | 60 | 460/795 | 128/74,0 | 94,5 | 94,8 | 93,9 | 0,89 | 6,9 | 2,0 | 2,3 | 230 | 0,99440 | 536 | 94 |
| **VL2 IE2 280 M 2** | 104 | 3570 | 60 | 460/795 | 155/89,6 | 94,5 | 94,4 | 93,4 | 0,89 | 7,0 | 2,0 | 2,3 | 278 | 1,04900 | 609 | 94 |
| **VL2 IE2 315 S 2** | 127 | 3570 | 60 | 460/795 | 187/108 | 94,5 | 94,2 | 92,8 | 0,90 | 7,1 | 2,0 | 2,2 | 340 | 1,34100 | 875 | 95 |
| **VL2 IE2 315 M 2** | 152 | 3570 | 60 | 460/795 | 223/129 | 95,0 | 94,7 | 92,8 | 0,90 | 7,1 | 2,0 | 2,2 | 407 | 1,89300 | 940 | 95 |
| **VL2 IE2 315 L1 2** | 184 | 3570 | 60 | 460/795 | 266/154 | 95,4 | 95,1 | 93,7 | 0,91 | 7,1 | 2,0 | 2,2 | 492 | 2,14700 | 1004 | 95 |
| **VL2 IE2 315 L2 2** | 230 | 3570 | 60 | 460/795 | 333/192 | 95,4 | 95,1 | 93,6 | 0,91 | 7,1 | 2,0 | 2,2 | 615 | 2,38000 | 1080 | 95 |


## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DRESHTROM

# VL2 IE2

IE2

## 4 P 1500 rpm

## 50Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | η 75% % | η 50% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [$kgm^2$] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 IE2 80 2 4** | 0,75 | 1390 | 50 | 230/400 | 3,03/1,74 | 80,8 | 82,2 | 81,3 | 0,78 | 6,0 | 2,2 | 2,4 | 5,2 | 0,00160 | 10 | 58 |
| **VL2 IE2 90 S 4** | 1,1 | 1410 | 50 | 230/400 | 4,29/2,47 | 82,4 | 82,7 | 80,9 | 0,79 | 6,0 | 2,2 | 2,4 | 7,5 | 0,00232 | 12,1 | 61 |
| **VL2 IE2 90 L 4** | 1,5 | 1410 | 50 | 230/400 | 5,68/3,27 | 83,5 | 83,7 | 81,9 | 0,80 | 6,0 | 2,2 | 2,4 | 10,2 | 0,00315 | 14,6 | 61 |
| **VL2 IE2 100 L1 4** | 2,2 | 1430 | 50 | 230/400 | 8,09/4,65 | 85,2 | 85,3 | 83,6 | 0,81 | 7,0 | 2,2 | 2,3 | 14,7 | 0,00790 | 21 | 64 |
| **VL2 IE2 100 L2 4** | 3 | 1430 | 50 | 230/400 | 10,87/6,25 | 86,6 | 86,9 | 85,6 | 0,81 | 7,0 | 2,2 | 2,3 | 20 | 0,00865 | 24,7 | 64 |
| **VL2 IE2 112 M 4** | 4 | 1440 | 50 | 230/400 | 13,9/8,0 | 86,6 | 86,8 | 86,0 | 0,83 | 7,0 | 2,2 | 2,2 | 26,5 | 0,01850 | 30,5 | 65 |
| **VL2 IE2 132 S 4** | 5,5 | 1460 | 50 | 230/400 | 18,7/10,8 | 88,0 | 88,5 | 87,7 | 0,84 | 7,0 | 2,2 | 2,2 | 36 | 0,03310 | 40,4 | 71 |
| **VL2 IE2 132 S 4** | 5,5 | 1460 | 50 | 400/690 | 10,78/6,25 | 88,0 | 88,5 | 87,7 | 0,84 | 7,0 | 2,2 | 2,2 | 36 | 0,03310 | 40,4 | 71 |
| **VL2 IE2 132 M 4** | 7,5 | 1460 | 50 | 230/400 | 24,9/14,4 | 89,1 | 89,5 | 88,7 | 0,85 | 7,0 | 2,2 | 2,2 | 49,1 | 0,04120 | 49,6 | 71 |
| **VL2 IE2 132 M 4** | 7,5 | 1460 | 50 | 400/690 | 14,36/8,32 | 89,1 | 89,5 | 88,7 | 0,85 | 7,0 | 2,2 | 2,2 | 49,1 | 0,04120 | 49,6 | 71 |
| **VL2 IE2 160 M 4** | 11 | 1470 | 50 | 400/690 | 21,3/12,4 | 90,1 | 90,3 | 89,4 | 0,83 | 7,5 | 2,2 | 2,3 | 71,5 | 0,07780 | 116 | 73 |
| **VL2 IE2 160 L 4** | 15 | 1470 | 50 | 400/690 | 28,5/16,5 | 91,0 | 91,2 | 90,6 | 0,84 | 7,5 | 2,2 | 2,3 | 97,4 | 0,10190 | 136 | 73 |
| **VL2 IE2 180 M 4** | 18,5 | 1470 | 50 | 400/690 | 34,5/20,0 | 91,3 | 91,7 | 90,8 | 0,85 | 7,7 | 2,2 | 2,3 | 120 | 0,15330 | 191 | 76 |
| **VL2 IE2 180 L 4** | 22 | 1470 | 50 | 400/690 | 40,8/23,6 | 91,8 | 92,1 | 91,5 | 0,85 | 7,8 | 2,2 | 2,3 | 143 | 0,18860 | 214 | 76 |
| **VL2 IE2 200 L 4** | 30 | 1470 | 50 | 400/690 | 55,2/32,0 | 92,4 | 92,7 | 90,0 | 0,85 | 7,2 | 2,2 | 2,3 | 195 | 0,28740 | 265 | 76 |
| **VL2 IE2 225 S 4** | 37 | 1480 | 50 | 400/690 | 67,0/38,8 | 92,9 | 93,0 | 92,5 | 0,86 | 7,3 | 2,2 | 2,3 | 239 | 0,47710 | 322 | 78 |
| **VL2 IE2 225 M 4** | 45 | 1480 | 50 | 400/690 | 81,1/47,0 | 93,2 | 93,3 | 92,7 | 0,86 | 7,4 | 2,2 | 2,3 | 290 | 0,55870 | 344 | 78 |
| **VL2 IE2 250 M 4** | 55 | 1480 | 50 | 400/690 | 99,0/57,0 | 93,7 | 94,0 | 93,4 | 0,86 | 7,4 | 2,2 | 2,3 | 355 | 0,75740 | 450 | 79 |
| **VL2 IE2 280 S 4** | 75 | 1480 | 50 | 400/690 | 132/77,0 | 94,3 | 94,5 | 93,5 | 0,87 | 6,7 | 2,2 | 2,3 | 484 | 1,93600 | 589 | 80 |
| **VL2 IE2 280 M 4** | 90 | 1480 | 50 | 400/690 | 157/91,0 | 94,6 | 94,7 | 93,6 | 0,88 | 6,9 | 2,2 | 2,3 | 581 | 2,34100 | 682 | 80 |
| **VL2 IE2 315 S 4** | 110 | 1480 | 50 | 400/690 | 188/109 | 94,9 | 95,0 | 93,8 | 0,89 | 6,9 | 2,2 | 2,3 | 710 | 3,25200 | 898 | 88 |
| **VL2 IE2 315 M 4** | 132 | 1480 | 50 | 400/690 | 226/131 | 95,3 | 95,2 | 93,8 | 0,89 | 6,9 | 2,2 | 2,3 | 852 | 3,77600 | 984 | 88 |
| **VL2 IE2 315 L1 4** | 160 | 1480 | 50 | 400/690 | 270/156 | 95,2 | 95,4 | 94,0 | 0,90 | 6,9 | 2,2 | 2,3 | 1032 | 4,13000 | 1053 | 88 |
| **VL2 IE2 315 L2 4** | 200 | 1480 | 50 | 400/690 | 337/195 | 95,5 | 95,4 | 94,0 | 0,90 | 6,9 | 2,2 | 2,3 | 1290 | 4,73000 | 1150 | 88 |

## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# VL2 IE2

IE2

## 4 P 1800 rpm 60Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | η 75% % | η 50% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 IE2 80 2 4** | 0,75 | 1668 | 60 | 265/460 | 2,62/1,51 | 83,9 | 84,1 | 82,4 | 0,78 | 6,0 | 2,2 | 2,4 | 4,3 | 0,00160 | 10 | 58 |
| **VL2 IE2 90 S 4** | 1,1 | 1692 | 60 | 265/460 | 3,7/2,13 | 84,4 | 84,1 | 81,4 | 0,79 | 6,0 | 2,2 | 2,4 | 6,2 | 0,00232 | 12,1 | 61 |
| **VL2 IE2 90 L 4** | 1,5 | 1692 | 60 | 265/460 | 4,9/2,83 | 85,2 | 84,8 | 82,3 | 0,80 | 6,0 | 2,2 | 2,4 | 8,5 | 0,00315 | 14,6 | 61 |
| **VL2 IE2 100 L1 4** | 2,2 | 1716 | 60 | 265/460 | 6,98/4,02 | 87,0 | 86,5 | 84,1 | 0,81 | 7,0 | 2,2 | 2,3 | 12,2 | 0,00790 | 21 | 64 |
| **VL2 IE2 100 L2 4** | 3 | 1716 | 60 | 265/460 | 9,38/5,41 | 88,3 | 88,1 | 86,1 | 0,81 | 7,0 | 2,2 | 2,3 | 16,7 | 0,00865 | 24,7 | 64 |
| **VL2 IE2 112 M 4** | 4 | 1728 | 60 | 265/460 | 12,0/6,9 | 88,4 | 88,4 | 87,0 | 0,83 | 7,0 | 2,2 | 2,2 | 22,1 | 0,01850 | 30,5 | 65 |
| **VL2 IE2 132 S 4** | 5,5 | 1752 | 60 | 265/460 | 16,1/9,3 | 89,7 | 89,7 | 88,4 | 0,84 | 7,0 | 2,2 | 2,2 | 30 | 0,03310 | 40,4 | 71 |
| **VL2 IE2 132 S 4** | 5,5 | 1752 | 60 | 460/794 | 9,32/5,4 | 89,7 | 89,7 | 88,4 | 0,84 | 7,0 | 2,2 | 2,2 | 30 | 0,03310 | 40,4 | 71 |
| **VL2 IE2 132 M 4** | 7,5 | 1752 | 60 | 265/460 | 21,5/12,4 | 90,5 | 90,5 | 89,3 | 0,85 | 7,0 | 2,2 | 2,2 | 40,9 | 0,04120 | 49,6 | 71 |
| **VL2 IE2 132 M 4** | 7,5 | 1752 | 60 | 460/794 | 12,42/7,19 | 90,5 | 90,5 | 89,3 | 0,85 | 7,0 | 2,2 | 2,2 | 40,9 | 0,04120 | 49,6 | 71 |
| **VL2 IE2 160 M 4** | 12,6 | 1764 | 60 | 460/795 | 20,9/12,1 | 91,0 | 91,2 | 90,5 | 0,83 | 7,5 | 2,2 | 2,3 | 68,2 | 0,07780 | 116 | 76 |
| **VL2 IE2 160 L 4** | 17,3 | 1764 | 60 | 460/795 | 28,4/16,4 | 91,0 | 91,2 | 90,8 | 0,84 | 7,5 | 2,2 | 2,3 | 93,7 | 0,10190 | 136 | 76 |
| **VL2 IE2 180 M 4** | 21,3 | 1764 | 60 | 460/795 | 34,0/19,7 | 92,4 | 92,8 | 92,3 | 0,85 | 7,7 | 2,2 | 2,3 | 115 | 0,15330 | 191 | 79 |
| **VL2 IE2 180 L 4** | 25,3 | 1764 | 60 | 460/795 | 40,4/23,4 | 92,4 | 92,7 | 92,4 | 0,85 | 7,8 | 2,2 | 2,3 | 137 | 0,18860 | 214 | 79 |
| **VL2 IE2 200 L 4** | 34,5 | 1764 | 60 | 460/795 | 54,8/31,7 | 93,0 | 93,3 | 90,9 | 0,85 | 7,2 | 2,2 | 2,3 | 187 | 0,28740 | 265 | 79 |
| **VL2 IE2 225 S 4** | 42,5 | 1776 | 60 | 460/795 | 66,3/38,3 | 93,6 | 93,7 | 93,3 | 0,86 | 7,3 | 2,2 | 2,3 | 229 | 0,47710 | 322 | 81 |
| **VL2 IE2 225 M 4** | 52 | 1776 | 60 | 460/795 | 80,7/46,7 | 94,1 | 94,2 | 93,7 | 0,86 | 7,4 | 2,2 | 2,3 | 280 | 0,55870 | 344 | 81 |
| **VL2 IE2 250 M 4** | 63 | 1776 | 60 | 460/795 | 97,7/56,5 | 94,1 | 94,4 | 94,1 | 0,86 | 7,4 | 2,2 | 2,3 | 339 | 0,75740 | 450 | 82 |
| **VL2 IE2 280 S 4** | 86 | 1776 | 60 | 460/795 | 131/76,0 | 94,5 | 94,7 | 93,9 | 0,87 | 6,7 | 2,2 | 2,3 | 462 | 1,93600 | 589 | 83 |
| **VL2 IE2 280 M 4** | 104 | 1776 | 60 | 460/795 | 156/90,4 | 95,0 | 95,1 | 94,1 | 0,88 | 6,9 | 2,2 | 2,3 | 559 | 2,34100 | 682 | 83 |
| **VL2 IE2 315 S 4** | 127 | 1776 | 60 | 460/795 | 189/109 | 95,0 | 95,1 | 94,0 | 0,89 | 6,9 | 2,2 | 2,3 | 683 | 3,25200 | 898 | 91 |
| **VL2 IE2 315 M 4** | 152 | 1776 | 60 | 460/795 | 226/131 | 95,0 | 94,9 | 93,4 | 0,89 | 6,9 | 2,2 | 2,3 | 817 | 3,77600 | 984 | 91 |
| **VL2 IE2 315 L1 4** | 184 | 1776 | 60 | 460/795 | 269/156 | 95,4 | 95,6 | 94,4 | 0,90 | 6,9 | 2,2 | 2,3 | 989 | 4,13000 | 1053 | 91 |
| **VL2 IE2 315 L2 4** | 230 | 1776 | 60 | 460/795 | 336/195 | 95,4 | 95,3 | 93,8 | 0,90 | 6,9 | 2,2 | 2,3 | 1237 | 4,73000 | 1150 | 91 |

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## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# VL2 IE2

IE2

## 6 P 1000 rpm 50Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | η 75% % | η 50% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VL2 IE2 90 S 6 | 0,75 | 930 | 50 | 230/400 | 3,45/1,98 | 76,1 | 76,8 | 74,5 | 0,72 | 5,5 | 2,2 | 2,2 | 7,7 | 0,00321 | 11,7 | 59 |
| VL2 IE2 90 L 6 | 1,1 | 930 | 50 | 230/400 | 4,84/2,78 | 78,9 | 79,2 | 76,0 | 0,73 | 5,5 | 2,2 | 2,2 | 11,3 | 0,00412 | 15,1 | 59 |
| VL2 IE2 100 L 6 | 1,5 | 950 | 50 | 230/400 | 6,21/3,57 | 80,8 | 82,1 | 80,9 | 0,76 | 6,0 | 2,2 | 2,2 | 15,1 | 0,00845 | 19,1 | 61 |
| VL2 IE2 112 M 6 | 2,2 | 950 | 50 | 230/400 | 8,88/5,11 | 82,5 | 84,3 | 81,7 | 0,76 | 6,0 | 2,2 | 2,2 | 22,1 | 0,01326 | 25,4 | 64 |
| VL2 IE2 132 S 6 | 3 | 960 | 50 | 230/400 | 11,9/6,84 | 84,1 | 84,6 | 83,1 | 0,76 | 6,5 | 2,0 | 2,0 | 29,8 | 0,03716 | 36,1 | 64 |
| VL2 IE2 132 S 6 | 3 | 960 | 50 | 400/690 | 6,8/3,9 | 84,1 | 84,6 | 83,1 | 0,76 | 6,5 | 2,0 | 2,0 | 29,8 | 0,03716 | 36,1 | 64 |
| VL2 IE2 132 M1 6 | 4 | 960 | 50 | 230/400 | 15,6/8,9 | 85,5 | 86,0 | 84,6 | 0,76 | 6,5 | 2,0 | 2,0 | 39,8 | 0,04889 | 45 | 68 |
| VL2 IE2 132 M1 6 | 4 | 960 | 50 | 400/690 | 8,98/5,21 | 85,5 | 86,0 | 84,6 | 0,76 | 6,5 | 2,0 | 2,0 | 39,8 | 0,04889 | 45 | 68 |
| VL2 IE2 132 M2 6 | 5,5 | 960 | 50 | 230/400 | 20,8/12,0 | 87,0 | 87,5 | 86,4 | 0,77 | 6,5 | 2,0 | 2,0 | 54,7 | 0,05845 | 55,5 | 68 |
| VL2 IE2 132 M2 6 | 5,5 | 960 | 50 | 400/690 | 11,99/6,95 | 87,0 | 87,5 | 86,4 | 0,77 | 6,5 | 2,0 | 2,0 | 54,7 | 0,05845 | 55,5 | 68 |
| VL2 IE2 160 M 6 | 7,5 | 970 | 50 | 400/690 | 15,9/9,2 | 87,4 | 87,6 | 86,3 | 0,78 | 6,7 | 2,1 | 2,1 | 73,8 | 0,09720 | 118 | 73 |
| VL2 IE2 160 L 6 | 11 | 970 | 50 | 400/690 | 22,7/13,1 | 89,0 | 89,1 | 88,2 | 0,79 | 6,9 | 2,1 | 2,1 | 108 | 0,12810 | 148 | 73 |
| VL2 IE2 180 L 6 | 15 | 980 | 50 | 400/690 | 29,8/17,3 | 89,9 | 90,1 | 89,1 | 0,81 | 7,2 | 2,1 | 2,1 | 146 | 0,22870 | 195 | 73 |
| VL2 IE2 200 L1 6 | 18,5 | 980 | 50 | 400/690 | 36,5/21,1 | 90,6 | 90,9 | 90,1 | 0,81 | 7,2 | 2,1 | 2,1 | 180 | 0,33780 | 234 | 73 |
| VL2 IE2 200 L2 6 | 22 | 980 | 50 | 400/690 | 43,1/25,0 | 91,0 | 91,3 | 90,5 | 0,81 | 7,3 | 2,1 | 2,1 | 214 | 0,38420 | 253 | 73 |
| VL2 IE2 225 M 6 | 30 | 980 | 50 | 400/690 | 57,6/33,4 | 91,9 | 92,0 | 91,4 | 0,82 | 7,1 | 2,1 | 2,1 | 292 | 0,56950 | 288 | 74 |
| VL2 IE2 250 M 6 | 37 | 980 | 50 | 400/690 | 69,8/40,5 | 92,4 | 92,6 | 91,9 | 0,83 | 7,1 | 2,1 | 2,0 | 361 | 0,88450 | 405 | 76 |
| VL2 IE2 280 S 6 | 45 | 980 | 50 | 400/690 | 82,4/47,8 | 93,2 | 93,0 | 92,4 | 0,85 | 7,2 | 2,0 | 2,0 | 438 | 1,74600 | 521 | 78 |
| VL2 IE2 280 M 6 | 55 | 980 | 50 | 400/690 | 100/58,2 | 93,6 | 93,5 | 92,8 | 0,85 | 7,2 | 2,0 | 2,0 | 536 | 2,13800 | 602 | 78 |
| VL2 IE2 315 S 6 | 75 | 990 | 50 | 400/690 | 135/79,0 | 94,1 | 94,0 | 93,4 | 0,85 | 6,7 | 2,0 | 2,0 | 723 | 4,11000 | 833 | 83 |
| VL2 IE2 315 M 6 | 90 | 990 | 50 | 400/690 | 162/94,0 | 94,4 | 94,3 | 93,7 | 0,85 | 6,7 | 2,0 | 2,0 | 868 | 4,78000 | 897 | 83 |
| VL2 IE2 315 L1 6 | 110 | 990 | 50 | 400/690 | 198/114 | 94,6 | 94,5 | 93,9 | 0,85 | 6,7 | 2,0 | 2,0 | 1061 | 5,45000 | 1004 | 83 |
| VL2 IE2 315 L2 6 | 132 | 990 | 50 | 400/690 | 234/135 | 95,0 | 94,9 | 94,0 | 0,86 | 6,7 | 2,0 | 2,0 | 1273 | 6,12000 | 1111 | 83 |

## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# VL2 IE2

IE2

### 6 P 1200 rpm — 60Hz

| Tipo / *Type* / Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | η 75% % | η 50% % | cos φ | $\frac{Ia}{In}$ | $\frac{Ca}{Cn}$ | $\frac{Cmax}{Cn}$ | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 IE2 90 S 6** | 0,75 | 1116 | 60 | 265/460 | 2,97/1,71 | 79,5 | 79,2 | 76,1 | 0,72 | 5,5 | 2,2 | 2,2 | 6,4 | 0,00321 | 11,7 | 59 |
| **VL2 IE2 90 L 6** | 1,1 | 1116 | 60 | 265/460 | 4,18/2,41 | 81,9 | 81,5 | 78,2 | 0,73 | 5,5 | 2,2 | 2,2 | 9,4 | 0,00412 | 15,1 | 59 |
| **VL2 IE2 100 L 6** | 1,5 | 1140 | 60 | 265/460 | 5,35/3,08 | 83,9 | 84,1 | 82,3 | 0,76 | 6,0 | 2,2 | 2,2 | 12,6 | 0,00845 | 19,1 | 61 |
| **VL2 IE2 112 M 6** | 2,2 | 1140 | 60 | 265/460 | 7,66/4,41 | 85,2 | 85,1 | 82,8 | 0,76 | 6,0 | 2,2 | 2,2 | 18,4 | 0,01326 | 25,4 | 64 |
| **VL2 IE2 132 S 6** | 3 | 1152 | 60 | 265/460 | 10,26/5,91 | 86,4 | 86,0 | 84,3 | 0,76 | 6,5 | 2,0 | 2,0 | 24,9 | 0,03716 | 36,1 | 64 |
| **VL2 IE2 132 S 6** | 3 | 1152 | 60 | 460/794 | 5,9/3,4 | 86,4 | 86,0 | 84,3 | 0,76 | 6,5 | 2,0 | 2,0 | 24,9 | 0,03716 | 36,1 | 64 |
| **VL2 IE2 132 M1 6** | 4 | 1152 | 60 | 265/460 | 13,4/7,8 | 87,5 | 87,3 | 85,5 | 0,76 | 6,5 | 2,0 | 2,0 | 33,2 | 0,04889 | 45 | 68 |
| **VL2 IE2 132 M1 6** | 4 | 1152 | 60 | 460/794 | 7,76/4,5 | 87,5 | 87,3 | 85,5 | 0,76 | 6,5 | 2,0 | 2,0 | 33,2 | 0,04889 | 45 | 68 |
| **VL2 IE2 132 M2 6** | 5,5 | 1152 | 60 | 265/460 | 17,9/10,4 | 88,7 | 88,7 | 87,0 | 0,77 | 6,5 | 2,0 | 2,0 | 45,6 | 0,05845 | 55,5 | 68 |
| **VL2 IE2 132 M2 6** | 5,5 | 1152 | 60 | 460/794 | 10,36/6 | 88,7 | 88,7 | 87,0 | 0,77 | 6,5 | 2,0 | 2,0 | 45,6 | 0,05845 | 55,5 | 68 |
| **VL2 IE2 160 M 6** | 8,6 | 1164 | 60 | 460/795 | 15,5/9,0 | 89,5 | 89,7 | 88,6 | 0,78 | 6,7 | 2,1 | 2,1 | 70,6 | 0,09720 | 118 | 76 |
| **VL2 IE2 160 L 6** | 12,6 | 1164 | 60 | 460/795 | 22,2/12,8 | 90,2 | 90,3 | 89,5 | 0,79 | 6,9 | 2,1 | 2,1 | 103 | 0,12810 | 148 | 76 |
| **VL2 IE2 180 L 6** | 17,3 | 1176 | 60 | 460/795 | 29,7/17,2 | 90,2 | 90,4 | 89,6 | 0,81 | 7,2 | 2,1 | 2,1 | 140 | 0,22870 | 195 | 76 |
| **VL2 IE2 200 L1 6** | 21,3 | 1176 | 60 | 460/795 | 36,0/20,8 | 91,7 | 92,0 | 91,5 | 0,81 | 7,2 | 2,1 | 2,1 | 173 | 0,33780 | 234 | 76 |
| **VL2 IE2 200 L2 6** | 25,3 | 1176 | 60 | 460/795 | 42,8/24,7 | 91,7 | 92,0 | 91,5 | 0,81 | 7,3 | 2,1 | 2,1 | 205 | 0,38420 | 253 | 76 |
| **VL2 IE2 225 M 6** | 34,5 | 1176 | 60 | 460/795 | 56,8/32,8 | 93,0 | 93,1 | 92,6 | 0,82 | 7,1 | 2,1 | 2,1 | 280 | 0,56950 | 288 | 77 |
| **VL2 IE2 250 M 6** | 42,5 | 1176 | 60 | 460/795 | 68,5/39,7 | 93,8 | 94,0 | 93,5 | 0,83 | 7,1 | 2,1 | 2,0 | 345 | 0,88450 | 405 | 79 |
| **VL2 IE2 280 S 6** | 52 | 1176 | 60 | 460/795 | 82,0/47,5 | 93,6 | 93,4 | 92,6 | 0,85 | 7,2 | 2,0 | 2,0 | 422 | 1,74600 | 521 | 81 |
| **VL2 IE2 280 M 6** | 63 | 1176 | 60 | 460/795 | 99,4/57,5 | 93,6 | 93,5 | 92,7 | 0,85 | 7,2 | 2,0 | 2,0 | 512 | 2,13800 | 602 | 81 |
| **VL2 IE2 315 S 6** | 86 | 1188 | 60 | 460/795 | 134/77,5 | 94,8 | 94,7 | 94,0 | 0,85 | 6,7 | 2,0 | 2,0 | 691 | 4,11000 | 833 | 86 |
| **VL2 IE2 315 M 6** | 104 | 1188 | 60 | 460/795 | 161/93,0 | 95,4 | 95,3 | 94,6 | 0,85 | 6,7 | 2,0 | 2,0 | 836 | 4,78000 | 897 | 86 |
| **VL2 IE2 315 L1 6** | 127 | 1188 | 60 | 460/795 | 197/113 | 95,0 | 94,9 | 94,2 | 0,85 | 6,7 | 2,0 | 2,0 | 1021 | 5,45000 | 1004 | 86 |
| **VL2 IE2 315 L2 6** | 152 | 1188 | 60 | 460/795 | 233/134 | 95,2 | 95,1 | 94,1 | 0,86 | 6,7 | 2,0 | 2,0 | 1222 | 6,12000 | 1111 | 86 |

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## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# VL2 IE3

IE3

## 2 P 3000 rpm

## 50Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | η 75% % | η 50% % | cos φ | $\frac{Ia}{In}$ | $\frac{Ca}{Cn}$ | $\frac{Cmax}{Cn}$ | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 IE3 80 1 2** | 0,75 | 2800 | 50 | 230/400 | 2,78/1,6 | 81,1 | 81,0 | 78,0 | 0,84 | 6,0 | 2,2 | 2,4 | 2,6 | 0,00093 | 9,1 | 67 |
| **VL2 IE3 80 2 2** | 1,1 | 2800 | 50 | 230/400 | 4,02/2,31 | 83,0 | 82,9 | 80,5 | 0,83 | 6,0 | 2,2 | 2,4 | 3,8 | 0,00100 | 10,2 | 67 |
| **VL2 IE3 90 S 2** | 1,5 | 2850 | 50 | 230/400 | 5,32/3,06 | 84,3 | 84,3 | 81,9 | 0,84 | 6,0 | 2,2 | 2,4 | 5 | 0,00200 | 12 | 72 |
| **VL2 IE3 90 L 2** | 2,2 | 2850 | 50 | 230/400 | 7,56/4,35 | 86,3 | 86,3 | 84,5 | 0,85 | 6,0 | 2,2 | 2,4 | 7,4 | 0,00300 | 15 | 72 |
| **VL2 IE3 100 L 2** | 3 | 2860 | 50 | 230/400 | 9,94/5,71 | 87,6 | 87,5 | 85,8 | 0,87 | 7,0 | 2,2 | 2,3 | 10 | 0,00500 | 22,3 | 76 |
| **VL2 IE3 112 M 2** | 4 | 2860 | 50 | 230/400 | 13,1/7,53 | 88,4 | 88,5 | 87,1 | 0,87 | 7,5 | 2,2 | 2,3 | 13,4 | 0,01300 | 26,7 | 77 |
| **VL2 IE3 132 S1 2** | 5,5 | 2910 | 50 | 230/400 | 17,59/10,11 | 89,3 | 89,4 | 88,2 | 0,88 | 7,5 | 2,0 | 2,2 | 18,1 | 0,02400 | 38,5 | 80 |
| **VL2 IE3 132 S1 2** | 5,5 | 2910 | 50 | 400/690 | 10,1/5,8 | 89,3 | 89,4 | 88,2 | 0,88 | 7,5 | 2,0 | 2,2 | 18,1 | 0,02400 | 38,5 | 80 |
| **VL2 IE3 132 S2 2** | 7,5 | 2910 | 50 | 230/400 | 23,74/13,65 | 90,3 | 90,4 | 89,3 | 0,88 | 7,5 | 2,0 | 2,2 | 24,6 | 0,02500 | 42,2 | 80 |
| **VL2 IE3 132 S2 2** | 7,5 | 2910 | 50 | 400/690 | 13,7/7,9 | 90,3 | 90,4 | 89,3 | 0,88 | 7,5 | 2,0 | 2,2 | 24,6 | 0,02500 | 42,2 | 80 |
| **VL2 IE3 160 M1 2** | 11 | 2950 | 50 | 400/690 | 19,6/11,6 | 91,3 | 91,5 | 89,9 | 0,89 | 8,1 | 2,0 | 2,3 | 35,6 | 0,05400 | 126 | 81 |
| **VL2 IE3 160 M2 2** | 15 | 2950 | 50 | 400/690 | 26,5/15,4 | 92,0 | 92,3 | 91,2 | 0,89 | 8,1 | 2,0 | 2,3 | 48,6 | 0,06176 | 136 | 81 |
| **VL2 IE3 160 L 2** | 18,5 | 2950 | 50 | 400/690 | 32,5/18,8 | 92,6 | 92,8 | 91,6 | 0,89 | 8,2 | 2,0 | 2,3 | 59,9 | 0,07161 | 161 | 81 |
| **VL2 IE3 180 M 2** | 22 | 2960 | 50 | 400/690 | 38,5/22,3 | 92,7 | 92,9 | 91,8 | 0,89 | 8,2 | 2,0 | 2,3 | 71 | 0,08924 | 202 | 83 |
| **VL2 IE3 200 L1 2** | 30 | 2970 | 50 | 400/690 | 52,2/30,2 | 93,4 | 93,6 | 92,2 | 0,89 | 7,6 | 2,0 | 2,3 | 96,5 | 0,18002 | 259 | 84 |
| **VL2 IE3 200 L2 2** | 37 | 2970 | 50 | 400/690 | 64,0/37,1 | 93,7 | 93,9 | 92,6 | 0,89 | 7,6 | 2,0 | 2,3 | 119 | 0,18998 | 276 | 84 |
| **VL2 IE3 225 M 2** | 45 | 2970 | 50 | 400/690 | 76,8/44,5 | 94,1 | 94,0 | 92,7 | 0,90 | 7,7 | 2,0 | 2,3 | 145 | 0,33354 | 359 | 86 |
| **VL2 IE3 250 M 2** | 55 | 2980 | 50 | 400/690 | 93,5/54,2 | 94,3 | 94,5 | 92,9 | 0,90 | 7,7 | 2,0 | 2,3 | 176 | 0,46384 | 394 | 89 |
| **VL2 IE3 280 S 2** | 75 | 2980 | 50 | 400/690 | 127/73,6 | 94,7 | 94,5 | 93,6 | 0,90 | 7,1 | 1,8 | 2,3 | 240 | 1,08887 | 537 | 91 |
| **VL2 IE3 280 M 2** | 90 | 2980 | 50 | 400/690 | 152/88,1 | 95,0 | 95,2 | 94,3 | 0,90 | 7,1 | 1,8 | 2,3 | 288 | 1,14866 | 583 | 91 |
| **VL2 IE3 315 S 2** | 110 | 2980 | 50 | 400/690 | 185/107 | 95,2 | 95,3 | 94,5 | 0,90 | 7,1 | 1,8 | 2,3 | 352 | 1,49522 | 861 | 92 |
| **VL2 IE3 315 M 2** | 132 | 2980 | 50 | 400/690 | 222/129 | 95,4 | 95,5 | 94,6 | 0,90 | 7,1 | 1,8 | 2,3 | 423 | 2,11070 | 948 | 92 |
| **VL2 IE3 315 L1 2** | 160 | 2980 | 50 | 400/690 | 265/154 | 95,7 | 95,6 | 94,8 | 0,91 | 7,2 | 1,8 | 2,3 | 513 | 2,39391 | 1020 | 92 |
| **VL2 IE3 315 L2 2** | 200 | 2980 | 50 | 400/690 | 331/192 | 95,9 | 95,8 | 94,9 | 0,91 | 7,2 | 1,8 | 2,3 | 641 | 2,65370 | 1112 | 92 |

## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# VL2 IE3

IE3

## 2 P 3600 rpm 60Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | η 75% % | η 50% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 IE3 80 1 2** | 0,75 | 3360 | 60 | 265/460 | 2,41/1,39 | 83,4 | 82,6 | 79,2 | 0,84 | 6,0 | 2,2 | 2,4 | 2,1 | 0,00093 | 9,1 | 67 |
| **VL2 IE3 80 2 2** | 1,1 | 3360 | 60 | 265/460 | 3,492/2,01 | 85,2 | 84,6 | 81,9 | 0,83 | 6,0 | 2,2 | 2,4 | 3,1 | 0,00100 | 10,2 | 67 |
| **VL2 IE3 90 S 2** | 1,5 | 3420 | 60 | 265/460 | 4,62/2,66 | 86,3 | 85,7 | 82,9 | 0,84 | 6,0 | 2,2 | 2,4 | 4,2 | 0,00200 | 12 | 72 |
| **VL2 IE3 90 L 2** | 2,2 | 3420 | 60 | 265/460 | 6,65/3,78 | 87,9 | 87,4 | 85,0 | 0,85 | 6,0 | 2,2 | 2,4 | 6,1 | 0,00300 | 15 | 72 |
| **VL2 IE3 100 L 2** | 3 | 3432 | 60 | 265/460 | 8,63/4,97 | 88,9 | 88,4 | 86,1 | 0,87 | 7,0 | 2,2 | 2,3 | 8,4 | 0,00500 | 22,3 | 76 |
| **VL2 IE3 112 M 2** | 4 | 3468 | 60 | 265/460 | 11,37/6,55 | 89,8 | 89,5 | 87,6 | 0,87 | 7,5 | 2,2 | 2,3 | 11 | 0,01300 | 26,7 | 77 |
| **VL2 IE3 132 S1 2** | 5,5 | 3492 | 60 | 265/460 | 15,27/8,79 | 90,5 | 90,2 | 88,4 | 0,88 | 7,5 | 2,0 | 2,2 | 15 | 0,02400 | 38,5 | 80 |
| **VL2 IE3 132 S1 2** | 5,5 | 3492 | 60 | 460/794 | 8,8/5,1 | 90,5 | 90,2 | 88,4 | 0,88 | 7,5 | 2,0 | 2,2 | 15 | 0,02400 | 38,5 | 80 |
| **VL2 IE3 132 S2 2** | 7,5 | 3492 | 60 | 265/460 | 20,61/11,87 | 91,4 | 91,1 | 89,5 | 0,88 | 7,5 | 2,0 | 2,2 | 20,5 | 0,02500 | 42,2 | 80 |
| **VL2 IE3 132 S2 2** | 7,5 | 3492 | 60 | 460/794 | 11,9/6,9 | 91,4 | 91,1 | 89,5 | 0,88 | 7,5 | 2,0 | 2,2 | 20,5 | 0,02500 | 42,2 | 80 |
| **VL2 IE3 160 M1 2** | 12,6 | 2540 | 60 | 460/795 | 19,5/11,3 | 91,7 | 91,9 | 90,3 | 0,89 | 8,1 | 2,0 | 2,3 | 47,4 | 0,05400 | 126 | 84 |
| **VL2 IE3 160 M2 2** | 17,3 | 3540 | 60 | 460/795 | 26,6/15,4 | 91,7 | 92,0 | 90,9 | 0,89 | 8,1 | 2,0 | 2,3 | 46,7 | 0,06176 | 136 | 84 |
| **VL2 IE3 160 L 2** | 21,3 | 3540 | 60 | 460/795 | 32,8/19,0 | 91,7 | 91,9 | 90,7 | 0,89 | 8,2 | 2,0 | 2,3 | 57,5 | 0,07161 | 161 | 84 |
| **VL2 IE3 180 M 2** | 25,3 | 3552 | 60 | 460/795 | 38,9/22,5 | 91,7 | 91,9 | 90,8 | 0,89 | 8,2 | 2,0 | 2,3 | 68 | 0,08924 | 202 | 86 |
| **VL2 IE3 200 L1 2** | 34,5 | 3564 | 60 | 460/795 | 52,3/30,3 | 93,0 | 93,2 | 91,8 | 0,89 | 7,6 | 2,0 | 2,3 | 92,4 | 0,18002 | 259 | 87 |
| **VL2 IE3 200 L2 2** | 42,5 | 3564 | 60 | 460/795 | 64,0/37,1 | 93,6 | 93,8 | 92,5 | 0,89 | 7,6 | 2,0 | 2,3 | 114 | 0,18998 | 276 | 87 |
| **VL2 IE3 225 M 2** | 52 | 3564 | 60 | 460/795 | 77,5/44,8 | 93,6 | 93,5 | 92,2 | 0,90 | 7,7 | 2,0 | 2,3 | 139 | 0,33354 | 359 | 89 |
| **VL2 IE3 250 M 2** | 63 | 3576 | 60 | 460/795 | 93,9/54,3 | 93,6 | 93,8 | 92,2 | 0,90 | 7,7 | 2,0 | 2,3 | 168 | 0,46384 | 394 | 92 |
| **VL2 IE3 280 S 2** | 86 | 3576 | 60 | 460/795 | 126/73,1 | 95,0 | 94,8 | 93,9 | 0,90 | 7,1 | 1,8 | 2,3 | 230 | 1,08887 | 537 | 94 |
| **VL2 IE3 280 M 2** | 104 | 3576 | 60 | 460/795 | 153/88,3 | 95,0 | 95,2 | 94,3 | 0,90 | 7,1 | 1,8 | 2,3 | 278 | 1,14866 | 583 | 94 |
| **VL2 IE3 315 S 2** | 127 | 3576 | 60 | 460/795 | 186/108 | 95,0 | 95,1 | 94,3 | 0,90 | 7,1 | 1,8 | 2,3 | 339 | 1,49522 | 861 | 95 |
| **VL2 IE3 315 M 2** | 152 | 3576 | 60 | 460/795 | 222/129 | 95,4 | 95,5 | 94,6 | 0,90 | 7,1 | 1,8 | 2,3 | 406 | 2,11070 | 948 | 95 |
| **VL2 IE3 315 L1 2** | 184 | 3576 | 60 | 460/795 | 265/153 | 95,8 | 95,7 | 94,9 | 0,91 | 7,2 | 1,8 | 2,3 | 491 | 2,39391 | 1020 | 95 |
| **VL2 IE3 315 L2 2** | 230 | 3576 | 60 | 460/795 | 331/192 | 95,8 | 95,7 | 94,8 | 0,91 | 7,2 | 1,8 | 2,3 | 614 | 2,65370 | 1112 | 95 |

B

## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

TRIFASE
*THREE-PHASE*
DREHSTROM

# VL2 IE3

IE3

## 4 P 1500 rpm 50Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | η 75% % | η 50% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 IE3 80 2 4** | 0,75 | 1390 | 50 | 230/400 | 2,93/1,68 | 82,6 | 82,5 | 80,1 | 0,78 | 6,0 | 2,2 | 2,4 | 5,2 | 0,00500 | 10 | 58 |
| **VL2 IE3 90 S 4** | 1,1 | 1410 | 50 | 230/400 | 4,16/2,39 | 84,6 | 84,3 | 81,5 | 0,79 | 6,0 | 2,2 | 2,4 | 7,5 | 0,00600 | 12,1 | 61 |
| **VL2 IE3 90 L 4** | 1,5 | 1410 | 50 | 230/400 | 5,52/3,17 | 86,0 | 85,9 | 83,7 | 0,80 | 6,0 | 2,2 | 2,4 | 10,2 | 0,00700 | 14,6 | 61 |
| **VL2 IE3 100 L1 4** | 2,2 | 1430 | 50 | 230/400 | 7,86/4,52 | 86,8 | 86,5 | 84,5 | 0,81 | 7,0 | 2,2 | 2,3 | 14,7 | 0,00800 | 21 | 64 |
| **VL2 IE3 100 L2 4** | 3 | 1430 | 50 | 230/400 | 10,6/6,1 | 87,9 | 87,9 | 86,2 | 0,81 | 7,0 | 2,2 | 2,3 | 20 | 0,00900 | 24,7 | 64 |
| **VL2 IE3 112 M 4** | 4 | 1440 | 50 | 230/400 | 13,65/7,85 | 88,7 | 88,8 | 87,3 | 0,83 | 7,0 | 2,2 | 2,2 | 26,5 | 0,01800 | 30,5 | 65 |
| **VL2 IE3 132 S 4** | 5,5 | 1460 | 50 | 230/400 | 18,34/10,55 | 89,8 | 89,8 | 88,5 | 0,84 | 7,0 | 2,2 | 2,2 | 36 | 0,03700 | 40,4 | 71 |
| **VL2 IE3 132 S 4** | 5,5 | 1460 | 50 | 400/690 | 10,6/6,1 | 89,8 | 89,8 | 88,5 | 0,84 | 7,0 | 2,2 | 2,2 | 36 | 0,03700 | 40,4 | 71 |
| **VL2 IE3 132 M 4** | 7,5 | 1460 | 50 | 230/400 | 24,52/14,2 | 90,7 | 90,7 | 89,5 | 0,85 | 7,0 | 2,2 | 2,2 | 49,1 | 0,04500 | 49,6 | 71 |
| **VL2 IE3 132 M 4** | 7,5 | 1460 | 50 | 400/690 | 14,2/8,2 | 90,7 | 90,7 | 89,5 | 0,85 | 7,0 | 2,2 | 2,2 | 49,1 | 0,04500 | 49,6 | 71 |
| **VL2 IE3 160 M 4** | 11 | 1470 | 50 | 400/690 | 20,4/11,9 | 91,4 | 91,7 | 90,8 | 0,85 | 7,7 | 2,2 | 2,3 | 71,5 | 0,08519 | 136 | 73 |
| **VL2 IE3 160 L 4** | 15 | 1470 | 50 | 400/690 | 27,3/15,9 | 92,2 | 92,5 | 91,5 | 0,86 | 7,8 | 2,2 | 2,3 | 97,4 | 0,11158 | 160 | 73 |
| **VL2 IE3 180 M 4** | 18,5 | 1475 | 50 | 400/690 | 33,5/19,4 | 92,7 | 93,0 | 92,1 | 0,86 | 7,8 | 2,0 | 2,3 | 120 | 0,16786 | 195 | 76 |
| **VL2 IE3 180 L 4** | 22 | 1475 | 50 | 400/690 | 39,7/23,0 | 93,0 | 93,3 | 92,4 | 0,86 | 7,8 | 2,0 | 2,3 | 142 | 0,20652 | 220 | 76 |
| **VL2 IE3 200 L 4** | 30 | 1480 | 50 | 400/690 | 53,8/31,2 | 93,6 | 93,4 | 92,4 | 0,86 | 7,8 | 2,0 | 2,3 | 194 | 0,31470 | 278 | 76 |
| **VL2 IE3 225 S 4** | 37 | 1485 | 50 | 400/690 | 66,1/38,3 | 93,9 | 94,0 | 93,2 | 0,86 | 7,4 | 2,0 | 2,3 | 238 | 0,52242 | 343 | 78 |
| **VL2 IE3 225 M 4** | 45 | 1485 | 50 | 400/690 | 80,2/46,5 | 94,3 | 94,6 | 93,4 | 0,86 | 7,4 | 2,0 | 2,3 | 289 | 0,61178 | 373 | 78 |
| **VL2 IE3 250 M 4** | 55 | 1485 | 50 | 400/690 | 97,6/56,6 | 94,6 | 94,8 | 93,6 | 0,86 | 7,4 | 2,0 | 2,3 | 354 | 0,82935 | 433 | 79 |
| **VL2 IE3 280 S 4** | 75 | 1485 | 50 | 400/690 | 129/75,1 | 95,0 | 95,1 | 94,2 | 0,88 | 6,9 | 2,0 | 2,3 | 482 | 2,11992 | 600 | 80 |
| **VL2 IE3 280 M 4** | 90 | 1485 | 50 | 400/690 | 155/89,9 | 95,2 | 95,4 | 94,5 | 0,88 | 6,9 | 2,0 | 2,3 | 579 | 2,56340 | 683 | 80 |
| **VL2 IE3 315 S 4** | 110 | 1485 | 50 | 400/690 | 187/108 | 95,5 | 95,4 | 94,7 | 0,89 | 7,0 | 2,0 | 2,2 | 707 | 3,62598 | 922 | 88 |
| **VL2 IE3 315 M 4** | 132 | 1485 | 50 | 400/690 | 224/130 | 95,7 | 95,6 | 94,8 | 0,89 | 7,0 | 2,0 | 2,2 | 849 | 4,21024 | 1020 | 88 |
| **VL2 IE3 315 L1 4** | 160 | 1485 | 50 | 400/690 | 271/157 | 95,9 | 95,8 | 94,9 | 0,89 | 7,1 | 2,0 | 2,2 | 1029 | 4,60495 | 1120 | 88 |
| **VL2 IE3 315 L2 4** | 200 | 1485 | 50 | 400/690 | 334/194 | 96,0 | 95,9 | 94,9 | 0,90 | 7,1 | 2,0 | 2,2 | 1286 | 5,27395 | 1194 | 88 |

## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DREHSTROM**

# VL2 IE3

IE3

## 4 P 1800 rpm

## 60Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | η 75% % | η 50% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 IE3 80 2 4** | 0,75 | 1668 | 60 | 265/460 | 2,54/1,46 | 84,6 | 83,8 | 80,8 | 0,78 | 6,0 | 2,2 | 2,4 | 4,3 | 0,00500 | 10 | 58 |
| **VL2 IE3 90 S 4** | 1,1 | 1692 | 60 | 265/460 | 3,61/2,08 | 86,3 | 85,4 | 82,2 | 0,79 | 6,0 | 2,2 | 2,4 | 6,2 | 0,00600 | 12,1 | 61 |
| **VL2 IE3 90 L 4** | 1,5 | 1692 | 60 | 265/460 | 4,79/2,76 | 87,5 | 86,8 | 84,0 | 0,80 | 6,0 | 2,2 | 2,4 | 8,5 | 0,00700 | 14,6 | 61 |
| **VL2 IE3 100 L1 4** | 2,2 | 1716 | 60 | 265/460 | 6,83/3,93 | 88,3 | 87,7 | 85,2 | 0,81 | 7,0 | 2,2 | 2,3 | 12,2 | 0,00800 | 21 | 64 |
| **VL2 IE3 100 L2 4** | 3 | 1716 | 60 | 265/460 | 9,2/5,3 | 89,3 | 88,8 | 86,6 | 0,81 | 7,0 | 2,2 | 2,3 | 16,7 | 0,00900 | 24,7 | 64 |
| **VL2 IE3 112 M 4** | 4 | 1728 | 60 | 265/460 | 11,85/6,83 | 90,1 | 89,7 | 87,8 | 0,83 | 7,0 | 2,2 | 2,2 | 22,1 | 0,01800 | 30,5 | 65 |
| **VL2 IE3 132 S 4** | 5,5 | 1752 | 60 | 265/460 | 15,92/9,17 | 91,0 | 90,6 | 88,8 | 0,84 | 7,0 | 2,2 | 2,2 | 30 | 0,03700 | 40,4 | 71 |
| **VL2 IE3 132 S 4** | 5,5 | 1752 | 60 | 460/794 | 9,2/5,3 | 91,0 | 90,6 | 88,8 | 0,84 | 7,0 | 2,2 | 2,2 | 30 | 0,03700 | 40,4 | 71 |
| **VL2 IE3 132 M 4** | 7,5 | 1752 | 60 | 265/460 | 21,27/12,25 | 91,7 | 91,3 | 89,6 | 0,85 | 7,0 | 2,2 | 2,2 | 40,9 | 0,04500 | 49,6 | 71 |
| **VL2 IE3 132 M 4** | 7,5 | 1752 | 60 | 460/794 | 12,3/7,1 | 91,7 | 91,3 | 89,6 | 0,85 | 7,0 | 2,2 | 2,2 | 40,9 | 0,04500 | 49,6 | 71 |
| **VL2 IE3 160 M 4** | 12,6 | 1764 | 60 | 460/795 | 20,1/11,7 | 92,4 | 92,7 | 91,8 | 0,85 | 7,7 | 2,2 | 2,3 | 68,2 | 0,08519 | 136 | 76 |
| **VL2 IE3 160 L 4** | 17,3 | 1764 | 60 | 460/795 | 27,2/15,7 | 93,0 | 93,3 | 92,3 | 0,86 | 7,8 | 2,2 | 2,3 | 93,7 | 0,11158 | 160 | 76 |
| **VL2 IE3 180 M 4** | 21,3 | 1770 | 60 | 460/795 | 33,2/19,2 | 93,6 | 93,9 | 93,0 | 0,86 | 7,8 | 2,0 | 2,3 | 115 | 0,16786 | 195 | 79 |
| **VL2 IE3 180 L 4** | 25,3 | 1770 | 60 | 460/795 | 39,5/22,8 | 93,6 | 93,9 | 93,0 | 0,86 | 7,8 | 2,0 | 2,3 | 137 | 0,20652 | 220 | 79 |
| **VL2 IE3 200 L 4** | 34,5 | 1776 | 60 | 460/795 | 53,3/30,8 | 94,5 | 94,3 | 93,3 | 0,86 | 7,8 | 2,0 | 2,3 | 186 | 0,31470 | 278 | 79 |
| **VL2 IE3 225 S 4** | 42,5 | 1782 | 60 | 460/795 | 65,3/37,8 | 95,0 | 95,1 | 94,3 | 0,86 | 7,4 | 2,0 | 2,3 | 228 | 0,52242 | 343 | 81 |
| **VL2 IE3 225 M 4** | 52 | 1782 | 60 | 460/795 | 79,6/46,0 | 95,4 | 95,7 | 94,5 | 0,86 | 7,4 | 2,0 | 2,3 | 279 | 0,61178 | 373 | 81 |
| **VL2 IE3 250 M 4** | 63 | 1782 | 60 | 460/795 | 96,4/55,8 | 95,4 | 95,6 | 94,4 | 0,86 | 7,4 | 2,0 | 2,3 | 338 | 0,82935 | 433 | 82 |
| **VL2 IE3 280 S 4** | 86 | 1782 | 60 | 460/795 | 129/74,4 | 95,4 | 95,5 | 94,6 | 0,88 | 6,9 | 2,0 | 2,3 | 461 | 2,11992 | 600 | 83 |
| **VL2 IE3 280 M 4** | 104 | 1782 | 60 | 460/795 | 155/89,6 | 95,8 | 96,0 | 95,1 | 0,88 | 6,9 | 2,0 | 2,3 | 557 | 2,56340 | 683 | 83 |
| **VL2 IE3 315 S 4** | 127 | 1782 | 60 | 460/795 | 187/108 | 95,8 | 95,7 | 95,0 | 0,89 | 7,0 | 2,0 | 2,2 | 681 | 3,62598 | 922 | 91 |
| **VL2 IE3 315 M 4** | 152 | 1782 | 60 | 460/795 | 223/129 | 96,2 | 96,1 | 95,3 | 0,89 | 7,0 | 2,0 | 2,2 | 815 | 4,21024 | 1020 | 91 |
| **VL2 IE3 315 L1 4** | 184 | 1782 | 60 | 460/795 | 270/156 | 96,2 | 96,1 | 95,2 | 0,89 | 7,1 | 2,0 | 2,2 | 986 | 4,60495 | 1120 | 91 |
| **VL2 IE3 315 L2 4** | 230 | 1782 | 60 | 460/795 | 333/193 | 96,2 | 96,1 | 95,1 | 0,90 | 7,1 | 2,0 | 2,2 | 1233 | 5,27395 | 1194 | 91 |

## 1.10 DATI TECNICI (CONTINUA)

## *1.10 TECHNICAL DATA (TO BE CONTINUED)*

## 1.10 TECHNISCHE DATEN (FORTSETZUNG)

**TRIFASE**
***THREE-PHASE***
**DRESHTROM**

# VL2 IE3

IE3

## 6 P 1000 rpm

## 50Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | η 75% % | η 50% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 IE3 90 S 6** | 0,75 | 930 | 50 | 230/400 | 3,31/1,91 | 79,0 | 79,3 | 77,0 | 0,72 | 5,5 | 2,2 | 2,2 | 7,7 | 0,00500 | 11,7 | 59 |
| **VL2 IE3 90 L 6** | 1,1 | 930 | 50 | 230/400 | 4,67/2,69 | 81,1 | 81,2 | 78,9 | 0,73 | 5,5 | 2,2 | 2,2 | 11,3 | 0,00600 | 15,1 | 59 |
| **VL2 IE3 100 L 6** | 1,5 | 950 | 50 | 230/400 | 6,01/3,45 | 83,3 | 83,2 | 80,9 | 0,76 | 6,0 | 2,2 | 2,2 | 15,1 | 0,00800 | 19,1 | 61 |
| **VL2 IE3 112 M 6** | 2,2 | 950 | 50 | 230/400 | 8,62/4,96 | 84,4 | 84,6 | 82,8 | 0,76 | 6,0 | 2,2 | 2,2 | 22,1 | 0,01500 | 25,4 | 64 |
| **VL2 IE3 132 S 6** | 3 | 960 | 50 | 230/400 | 11,58/6,66 | 86,0 | 85,8 | 83,6 | 0,76 | 6,5 | 2,0 | 2,0 | 29,8 | 0,05000 | 36,1 | 64 |
| **VL2 IE3 132 M1 6** | 4 | 960 | 50 | 230/400 | 15,22/8,75 | 87,0 | 87,0 | 85,1 | 0,76 | 6,5 | 2,0 | 2,0 | 39,8 | 0,06000 | 45 | 68 |
| **VL2 IE3 132 M1 6** | 4 | 960 | 50 | 400/690 | 8,8/5,1 | 87,0 | 87,0 | 85,1 | 0,76 | 6,5 | 2,0 | 2,0 | 39,8 | 0,06000 | 45 | 68 |
| **VL2 IE3 132 M2 6** | 5,5 | 960 | 50 | 230/400 | 20,38/11,72 | 88,1 | 88,0 | 86,3 | 0,77 | 6,5 | 2,0 | 2,0 | 54,7 | 0,13000 | 55,5 | 68 |
| **VL2 IE3 132 M2 6** | 5,5 | 960 | 50 | 400/690 | 11,7/6,8 | 88,1 | 88,0 | 86,3 | 0,77 | 6,5 | 2,0 | 2,0 | 54,7 | 0,13000 | 55,5 | 68 |
| **VL2 IE3 160 M 6** | 7,5 | 980 | 50 | 400/690 | 15,4/8,9 | 89,2 | 89,6 | 88,4 | 0,79 | 7,0 | 2,0 | 2,1 | 73,1 | 0,10643 | 124 | 73 |
| **VL2 IE3 160 L 6** | 11 | 980 | 50 | 400/690 | 22,0/12,7 | 90,4 | 90,9 | 89,6 | 0,80 | 7,2 | 2,0 | 2,1 | 107 | 0,14027 | 160 | 73 |
| **VL2 IE3 180 L 6** | 15 | 980 | 50 | 400/690 | 29,3/17,0 | 91,3 | 91,5 | 90,3 | 0,81 | 7,3 | 2,0 | 2,1 | 146 | 0,25043 | 211 | 73 |
| **VL2 IE3 200 L1 6** | 18,5 | 985 | 50 | 400/690 | 36,0/20,8 | 91,7 | 92,0 | 90,7 | 0,81 | 7,3 | 2,0 | 2,1 | 179 | 0,36989 | 260 | 73 |
| **VL2 IE3 200 L2 6** | 22 | 985 | 50 | 400/690 | 42,5/24,7 | 92,3 | 92,6 | 91,2 | 0,81 | 7,4 | 2,0 | 2,1 | 213 | 0,42070 | 282 | 73 |
| **VL2 IE3 225 M 6** | 30 | 985 | 50 | 400/690 | 56,2/32,6 | 92,9 | 93,2 | 92,2 | 0,83 | 6,9 | 2,0 | 2,1 | 291 | 0,62360 | 392 | 74 |
| **VL2 IE3 250 M 6** | 37 | 990 | 50 | 400/690 | 68,1/39,5 | 93,4 | 93,5 | 92,7 | 0,84 | 7,1 | 2,0 | 2,1 | 357 | 0,96853 | 416 | 76 |
| **VL2 IE3 280 S 6** | 45 | 990 | 50 | 400/690 | 81,6/47,3 | 93,8 | 93,7 | 92,9 | 0,85 | 7,3 | 2,0 | 2,0 | 434 | 1,91187 | 522 | 78 |
| **VL2 IE3 280 M 6** | 55 | 990 | 50 | 400/690 | 98,1/56,9 | 94,1 | 94,2 | 93,2 | 0,86 | 7,3 | 2,0 | 2,0 | 531 | 2,34111 | 585 | 78 |
| **VL2 IE3 315 S 6** | 75 | 990 | 50 | 400/690 | 136/79,0 | 94,7 | 94,6 | 93,4 | 0,84 | 6,6 | 2,0 | 2,0 | 723 | 4,58265 | 791 | 83 |
| **VL2 IE3 315 M 6** | 90 | 990 | 50 | 400/690 | 161/93,4 | 95,0 | 94,9 | 93,6 | 0,85 | 6,7 | 2,0 | 2,0 | 868 | 5,32970 | 901 | 83 |
| **VL2 IE3 315 L1 6** | 110 | 990 | 50 | 400/690 | 196/114 | 95,1 | 95,0 | 93,9 | 0,85 | 6,7 | 2,0 | 2,0 | 1061 | 6,07675 | 1009 | 83 |
| **VL2 IE3 315 L2 6** | 132 | 990 | 50 | 400/690 | 232/135 | 95,5 | 95,4 | 94,1 | 0,86 | 6,8 | 2,0 | 2,0 | 1273 | 6,82380 | 1102 | 83 |
| **VL2 IE3 315 L2 6** | 132 | 990 | 50 | 400/690 | 232/135 | 95,5 | 95,4 | 94,1 | 0,86 | 6,8 | 2,0 | 2,0 | 1273 | 6,82380 | 1102 | 83 |

## 1.10 DATI TECNICI (FINE)

## *1.10 TECHNICAL DATA (THE END)*

## 1.10 TECHNISCHE DATEN (ENDE)

TRIFASE
*THREE-PHASE*
DREHSTROM

# VL2 IE3

IE3

## 6 P 1200 rpm

## 60Hz

| Tipo *Type* Typ | Pn [kW] | $n_n$ [rpm] | Freq (Δ/Y) [Hz] | Volt (Δ/Y) [V] | In (Δ/Y) [A] | η 100% % | η 75% % | η 50% % | cos φ | Ia/In | Ca/Cn | Cmax/Cn | Cn [Nm] | $J_m$ [kgm²] | Kg | LpA [dB] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VL2 IE3 90 S 6** | 0,75 | 1116 | 60 | 265/460 | 2,88/1,66 | 81,8 | 81,2 | 78,0 | 0,72 | 5,5 | 2,2 | 2,2 | 6,4 | 0,00500 | 11,7 | 59 |
| **VL2 IE3 90 L 6** | 1,1 | 1116 | 60 | 265/460 | 4,05/2,33 | 81,1 | 81,2 | 78,9 | 0,73 | 5,5 | 2,2 | 2,2 | 9,4 | 0,00600 | 15,1 | 59 |
| **VL2 IE3 100 L 6** | 1,5 | 1140 | 60 | 265/460 | 5,21/3 | 85,3 | 84,6 | 81,6 | 0,76 | 6,0 | 2,2 | 2,2 | 12,6 | 0,00800 | 19,1 | 61 |
| **VL2 IE3 112 M 6** | 2,2 | 1140 | 60 | 265/460 | 7,48/4,31 | 86,4 | 86,0 | 83,5 | 0,76 | 6,0 | 2,2 | 2,2 | 18,4 | 0,01500 | 25,4 | 64 |
| **VL2 IE3 132 S 6** | 3 | 1152 | 60 | 265/460 | 10,05/5,79 | 87,8 | 87,1 | 84,6 | 0,76 | 6,5 | 2,0 | 2,0 | 24,9 | 0,05000 | 36,1 | 64 |
| **VL2 IE3 132 M1 6** | 4 | 1152 | 60 | 265/460 | 13,21/7,61 | 88,7 | 88,3 | 86,0 | 0,76 | 6,5 | 2,0 | 2,0 | 33,2 | 0,06000 | 45 | 68 |
| **VL2 IE3 132 M1 6** | 4 | 1152 | 60 | 460/794 | 7,6/4,4 | 88,7 | 88,3 | 86,0 | 0,76 | 6,5 | 2,0 | 2,0 | 33,2 | 0,06000 | 45 | 68 |
| **VL2 IE3 132 M2 6** | 5,5 | 1152 | 60 | 265/460 | 17,68/10,19 | 89,6 | 89,1 | 86,9 | 0,77 | 6,5 | 2,0 | 2,0 | 45,6 | 0,13000 | 55,5 | 68 |
| **VL2 IE3 132 M2 6** | 5,5 | 1152 | 60 | 460/794 | 10,2/5,9 | 89,6 | 89,1 | 86,9 | 0,77 | 6,5 | 2,0 | 2,0 | 45,6 | 0,13000 | 55,5 | 68 |
| **VL2 IE3 160 M 6** | 8,6 | 1176 | 60 | 460/795 | 15,0/8,7 | 91,0 | 91,4 | 90,2 | 0,79 | 7,0 | 2,0 | 2,1 | 69,8 | 0,10643 | 124 | 76 |
| **VL2 IE3 160 L 6** | 12,7 | 1176 | 60 | 460/795 | 21,7/12,6 | 91,7 | 92,2 | 90,9 | 0,80 | 7,2 | 2,0 | 2,1 | 103 | 0,14027 | 160 | 76 |
| **VL2 IE3 180 L 6** | 17,3 | 1176 | 60 | 460/795 | 28,8/16,7 | 93,0 | 93,2 | 92,0 | 0,81 | 7,3 | 2,0 | 2,1 | 140 | 0,25043 | 211 | 76 |
| **VL2 IE3 200 L1 6** | 21,3 | 1182 | 60 | 460/795 | 35,5/20,5 | 93,0 | 93,3 | 92,0 | 0,81 | 7,3 | 2,0 | 2,1 | 172 | 0,36989 | 260 | 76 |
| **VL2 IE3 200 L2 6** | 25,3 | 1182 | 60 | 460/795 | 42,2/24,4 | 93,0 | 93,3 | 91,9 | 0,81 | 7,4 | 2,0 | 2,1 | 204 | 0,42070 | 282 | 76 |
| **VL2 IE3 225 M 6** | 34,5 | 1182 | 60 | 460/795 | 55,4/32,1 | 94,1 | 94,4 | 93,4 | 0,83 | 6,9 | 2,0 | 2,1 | 279 | 0,62360 | 392 | 77 |
| **VL2 IE3 250 M 6** | 42,5 | 1188 | 60 | 460/795 | 67,2/38,9 | 94,5 | 94,6 | 93,8 | 0,84 | 7,1 | 2,0 | 2,1 | 342 | 0,96853 | 416 | 79 |
| **VL2 IE3 280 S 6** | 52 | 1188 | 60 | 460/795 | 81,3/47,0 | 94,5 | 94,4 | 93,6 | 0,85 | 7,3 | 2,0 | 2,0 | 418 | 1,91187 | 522 | 81 |
| **VL2 IE3 280 M 6** | 63 | 1188 | 60 | 460/795 | 97,3/56,3 | 94,5 | 94,6 | 93,6 | 0,86 | 7,3 | 2,0 | 2,0 | 506 | 2,34111 | 585 | 81 |
| **VL2 IE3 315 S 6** | 86 | 1188 | 60 | 460/795 | 135/78,3 | 95,0 | 94,9 | 93,7 | 0,84 | 6,6 | 2,0 | 2,0 | 691 | 4,58265 | 791 | 86 |
| **VL2 IE3 315 M 6** | 104 | 1188 | 60 | 460/795 | 160/92,8 | 95,8 | 95,7 | 94,4 | 0,85 | 6,7 | 2,0 | 2,0 | 836 | 5,32970 | 901 | 86 |
| **VL2 IE3 315 L1 6** | 127 | 1188 | 60 | 460/795 | 196/113 | 95,8 | 95,7 | 94,6 | 0,85 | 6,7 | 2,0 | 2,0 | 1021 | 6,07675 | 1009 | 86 |
| **VL2 IE3 315 L2 6** | 152 | 1188 | 60 | 460/795 | 232/134 | 95,8 | 95,7 | 94,4 | 0,86 | 6,8 | 2,0 | 2,0 | 1222 | 6,82380 | 1102 | 86 |
| **VL2 IE3 315 L2 6** | 152 | 1188 | 60 | 460/795 | 232/134 | 95,8 | 95,7 | 94,4 | 0,86 | 6,8 | 2,0 | 2,0 | 1273 | 6,82380 | 1102 | 86 |

B

## 1.11 DATI TECNICI SERVOVENTILAZIONI

### 1.11.1 Servoventilazioni Monofasi VSAVE=5 (230VAC_50/60Hz)

## *1.11 FORCED VENTILATION TECHNICAL DATA*

### *1.11.1 Single-phase forced ventilations VSAVE=5 (230VAC_50/60Hz)*

## 1.11 TECHNISCHE DATEN - SERVOBELÜFTUNGEN

### 1.11.1 Servobelüftungen - Wechselstrommotoren VSAVE=5 (230VAC_50/60Hz)

| SIZE | Volt [V] | Freq [Hz] | Pn [kW] | In [A] | Kg |
|---|---|---|---|---|---|
| **56** | 220-240 | 50 | 0,0046 | 0,215 | 0.8 |
| | 220-240 | 60 | 0,0046 | 0,225 | |
| **63** | 220-240 | 50 | 0,022 | 0,14 | 1.1 |
| | 220-240 | 60 | 0,021 | 0,12 | |
| **71** | 220-240 | 50 | 0,022 | 0,14 | 1.2 |
| | 220-240 | 60 | 0,021 | 0,12 | |
| **80** | 220-240 | 50 | 0,039 | 0,28 | 1.7 |
| | 220-240 | 60 | 0,036 | 0,24 | |
| **90** | 220-240 | 50 | 0,039 | 0,28 | 1.8 |
| | 220-240 | 60 | 0,036 | 0,24 | |
| **100** | 220-240 | 50 | 0,039 | 0,28 | 2.1 |
| | 220-240 | 60 | 0,036 | 0,24 | |
| **112** | 230 | 50 | 0,065 | 0,29 | 2.7 |
| | 230 | 60 | 0,075 | 0,33 | |
| **132** | 230 | 50 | 0,065 | 0,29 | 3.2 |
| | 230 | 60 | 0,075 | 0,33 | |
| **160** | 230 | 50 | 0,105 | 0,48 | 5.0 |
| | 230 | 60 | 0,14 | 0,62 | |

## 1.11 DATI TECNICI SERVOVENTILAZIONI (FINE)

### 1.11.2 Servoventilazioni Trifasi VSAVE=9 (230/400_50_MULT)

## *1.11 FORCED VENTILATION TECHNICAL DATA (THE END)*

### *1.11.2 Three-phase forced ventilations VSAVE=9 (230/400_50_MULT)*

## 1.11 TECHNISCHE DATEN - SERVOBELÜFTUNGEN (ENDE)

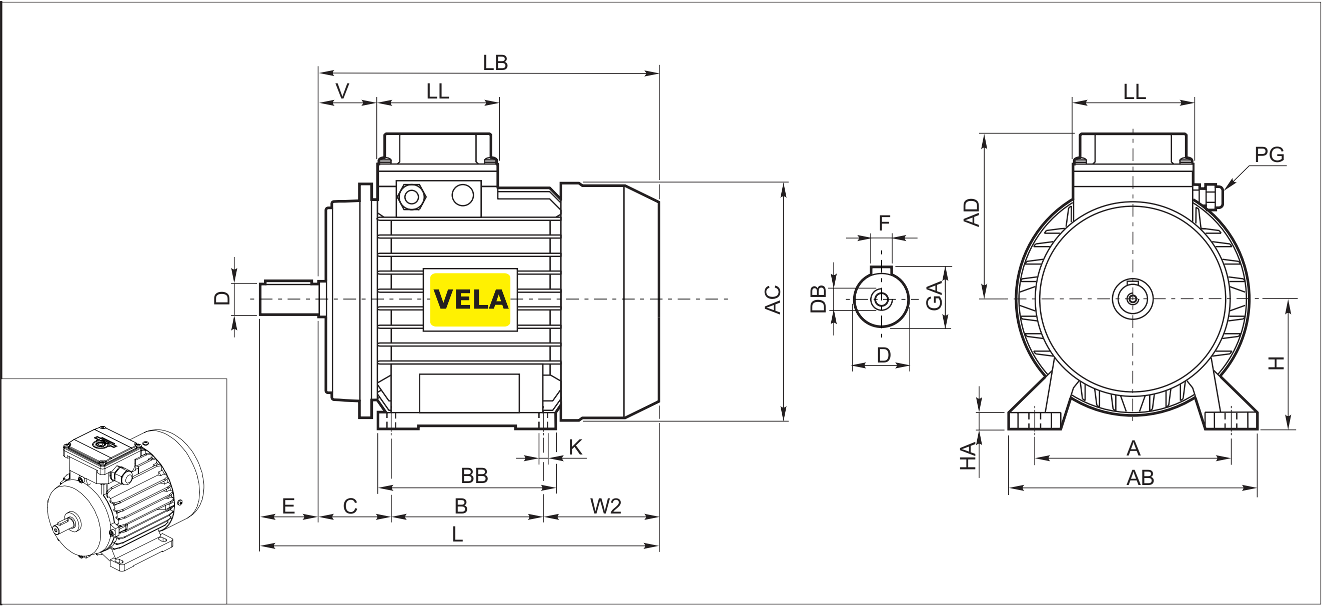
### 1.11.2 Servobelüftungen - Drehstrommotoren VSAVE=9 (230/400_50_MULT)

| SIZE | Volt (Δ/Y) [V] | Freq [Hz] | Pn [kW] | In (Δ/Y) [A] | Kg |
|---|---|---|---|---|---|
| **71** | 230/400 | 50 | 0,08 | 0,41/0,24 | 2.2 |
| | 265/460 | 60 | 0,08 | 0,39/0,23 | |
| | 280/480 | 60 | 0,1 | 0,43/0,25 | |
| **80** | 230/400 | 50 | 0,08 | 0,41/0,24 | 2.4 |
| | 265/460 | 60 | 0,08 | 0,39/0,23 | |
| | 280/480 | 60 | 0,1 | 0,43/0,25 | |
| **90** | 230/400 | 50 | 0,08 | 0,41/0,24 | 2.6 |
| | 265/460 | 60 | 0,08 | 0,39/0,23 | |
| | 280/480 | 60 | 0,1 | 0,43/0,25 | |
| **100** | 230/400 | 50 | 0,09 | 0,37/0,21 | 2.9 |
| | 265/460 | 60 | 0,11 | 0,36/0,21 | |
| | 280/480 | 60 | 0,13 | 0,41/0,24 | |
| **112** | 230/400 | 50 | 0,09 | 0,37/0,21 | 3.1 |
| | 265/460 | 60 | 0,11 | 0,36/0,21 | |
| | 280/480 | 60 | 0,13 | 0,41/0,24 | |
| **132** | 230/400 | 50 | 0,09 | 0,37/0,21 | 3.2 |
| | 265/460 | 60 | 0,11 | 0,36/0,21 | |
| | 280/480 | 60 | 0,13 | 0,41/0,24 | |
| **160** | 230/400 | 50 | 0,1 | 0,35/0,20 | 5.0 |
| | 230/400 | 60 | 0,14 | 0,40/0,23 | |
| **180** | 230/400 | 50 | 0,1 | 0,35/0,20 | 6.2 |
| | 230/400 | 60 | 0,14 | 0,40/0,23 | |
| **200** | 230/400 | 50 | 0,21 | 0,62/0,36 | 7.7 |
| | 230/400 | 60 | 0,32 | 0,83/0,48 | |
| **225** | 230/400 | 50 | 0,21 | 0,62/0,36 | 9.0 |
| | 230/400 | 60 | 0,32 | 0,83/0,48 | |

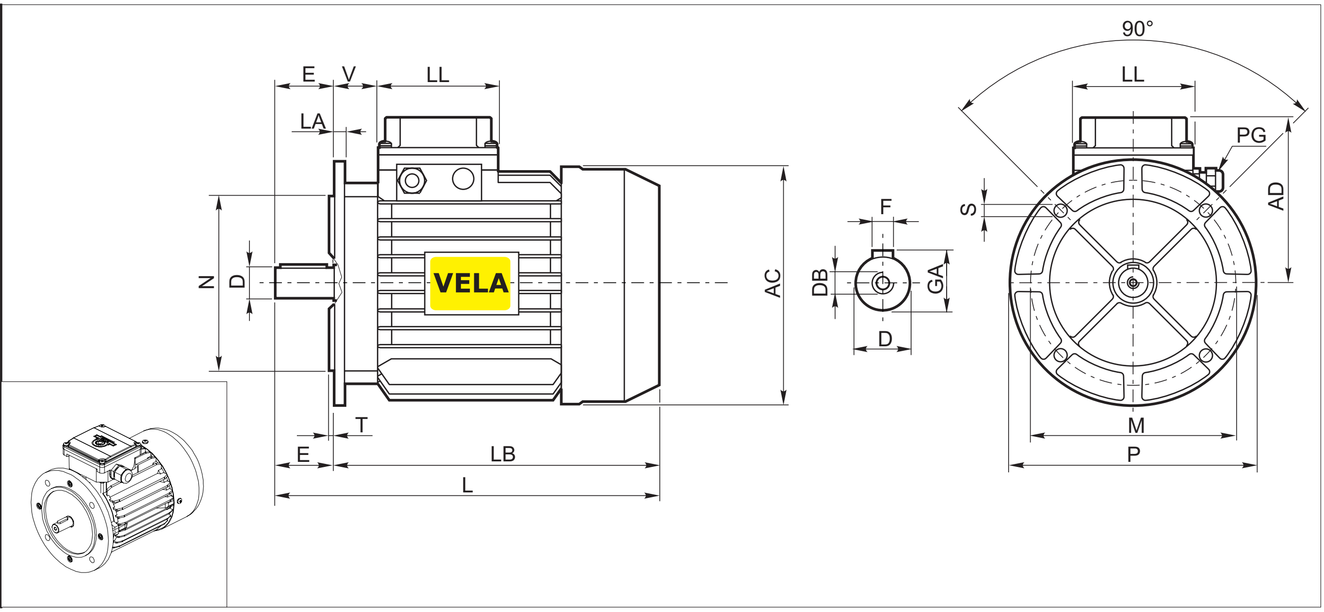
B

## 1.12 DIMENSIONI    *1.12 DIMENSIONS*    1.12 ABMESSUNGEN

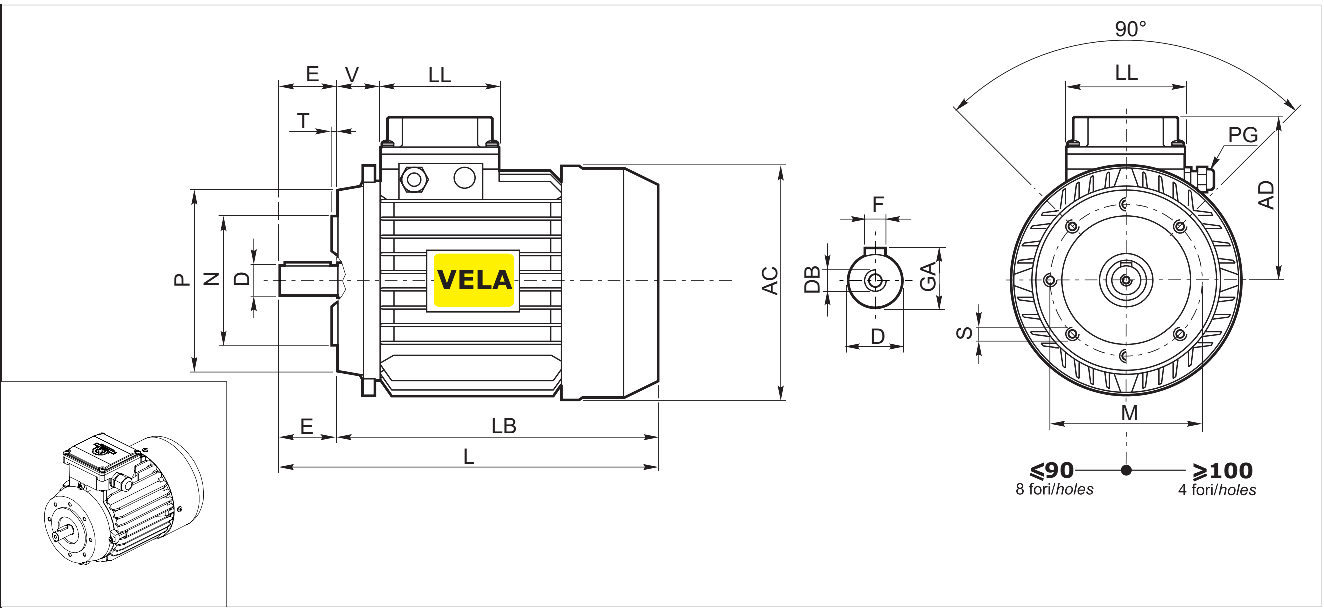
**B3**




**B5**




**B14**



## 1.12 DIMENSIONI (CONTINUA)

## *1.12 DIMENSIONS (TO BE CONTINUED)*

## 1.12 ABMESSUNGEN (FORTSETZUNG)

| DV | SIZE + LEN | SHAFT | | | | | B3 - Version | | | | | | | | | TERMINAL BOX | | | | FAN COVER | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | A | AB | B | BB | C | H | HA | K | W2 | AD | LL | PG | V | AC | L | LB |
| B3 | 56 | 9 | M4 | 20 | 3 | 10,2 | 90 | 108 | 71 | 90 | 36 | 56 | 10 | 6 | 66 | 91 | 77 | M16 | 22 | 112 | 193 | 173 |
| | 63 | 11 | M4 | 23 | 4 | 12,5 | 100 | 120 | 80 | 105 | 40 | 63 | 10 | 7 | 78 | 100 | 84 | M16 | 20 | 120 | 221 | 198 |
| | 71 | 14 | M5 | 30 | 5 | 16 | 112 | 136 | 90 | 108 | 45 | 71 | 11 | 8 | 84 | 107 | 84 | M16 | 25 | 140 | 249 | 219 |
| | 80 | 19 | M6 | 40 | 6 | 21,5 | 125 | 154 | 100 | 125 | 50 | 80 | 14 | 9 | 95 | 129 | 102 | M20 | 30 | 158 | 285 | 245 |
| | 90S | 24 | M8 | 50 | 8 | 27 | 140 | 170 | 100 | 130 | 56 | 90 | 15 | 10 | 95 | 134 | 102 | M20 | 31,5 | 176 | 301 | 251 |
| | 90L | 24 | M8 | 50 | 8 | 27 | 140 | 170 | 125 | 155 | 56 | 90 | 15 | 10 | 119 | 134 | 102 | M20 | 31,5 | 176 | 350 | 300 |
| | 100 | 28 | M10 | 60 | 8 | 31 | 160 | 192 | 140 | 175 | 63 | 100 | 16 | 13 | 112 | 148 | 102 | M20 | 31 | 197 | 375 | 315 |
| | 112 | 28 | M10 | 60 | 8 | 31 | 190 | 224 | 140 | 176 | 70 | 112 | 15 | 13 | 122 | 166 | 111 | 2xM20 | 35 | 225 | 392 | 332 |
| | 132S | 38 | M12 | 80 | 10 | 41 | 216 | 260 | 140 | 180 | 89 | 132 | 18 | 14 | 150 | 188 | 111 | 2xM25 | 44 | 258 | 459 | 379 |
| | 132M | 38 | M12 | 80 | 10 | 41 | 216 | 260 | 178 | 218 | 89 | 132 | 18 | 14 | 150 | 188 | 111 | 2xM25 | 44 | 258 | 497 | 417 |

B

| DV | SIZE + LEN | SHAFT | | | | | B5 - Version | | | | | | TERMINAL BOX | | | | FAN COVER | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | LA | M | N | P | S | T | AD | LL | PG | V | AC | L | LB |
| B5 | 56 | 9 | M4 | 20 | 3 | 10,2 | 8,5 | 100 | 80 | 120 | 7 | 2,5 | 91 | 77 | M16 | 22 | 112 | 193 | 173 |
| | 63 | 11 | M4 | 23 | 4 | 12,5 | 10 | 115 | 95 | 140 | 9,5 | 2,5 | 100 | 84 | M16 | 20 | 120 | 221 | 198 |
| | 71 | 14 | M5 | 30 | 5 | 16 | 10 | 130 | 110 | 160 | 9,5 | 3 | 107 | 84 | M16 | 25 | 140 | 249 | 219 |
| | 80 | 19 | M6 | 40 | 6 | 21,5 | 11 | 165 | 130 | 200 | 12 | 3 | 129 | 102 | M20 | 30 | 158 | 285 | 245 |
| | 90S | 24 | M8 | 50 | 8 | 27 | 10 | 165 | 130 | 200 | 12 | 3,5 | 134 | 102 | M20 | 31,5 | 176 | 301 | 251 |
| | 90L | 24 | M8 | 50 | 8 | 27 | 10 | 165 | 130 | 200 | 12 | 3,5 | 134 | 102 | M20 | 31,5 | 176 | 350 | 300 |
| | 100 | 28 | M10 | 60 | 8 | 31 | 14 | 215 | 180 | 250 | 14,5 | 4 | 148 | 102 | M20 | 31 | 197 | 375 | 315 |
| | 112 | 28 | M10 | 60 | 8 | 31 | 14 | 215 | 180 | 250 | 14,5 | 4 | 166 | 111 | 2xM20 | 35 | 225 | 392 | 332 |
| | 132S | 38 | M12 | 80 | 10 | 41 | 20 | 265 | 230 | 300 | 14,5 | 4 | 188 | 111 | 2xM25 | 44 | 258 | 459 | 379 |
| | 132M | 38 | M12 | 80 | 10 | 41 | 20 | 265 | 230 | 300 | 14,5 | 4 | 188 | 111 | 2xM25 | 44 | 258 | 497 | 417 |

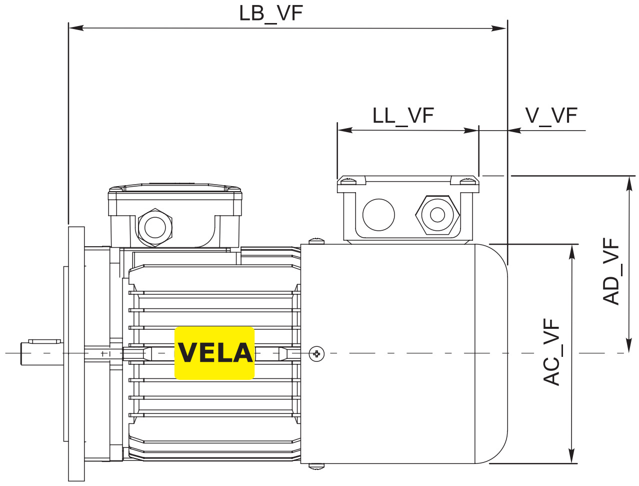
| DV | SIZE + LEN | SHAFT | | | | | B14 - Version | | | | | | TERMINAL BOX | | | | FAN COVER | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | LA | M | N | P | S | T | AD | LL | PG | V | AC | L | LB |
| B14 | 56 | 9 | M4 | 20 | 3 | 10,2 | - | 65 | 50 | 80 | M5 | 2,5 | 91 | 77 | M16 | 22 | 112 | 193 | 173 |
| | 63 | 11 | M4 | 23 | 4 | 12,5 | - | 75 | 60 | 90 | M5 | 3 | 100 | 84 | M16 | 20 | 120 | 221 | 198 |
| | 71 | 14 | M5 | 30 | 5 | 16 | - | 85 | 70 | 105 | M6 | 3,5 | 107 | 84 | M16 | 25 | 140 | 249 | 219 |
| | 80 | 19 | M6 | 40 | 6 | 21,5 | - | 100 | 80 | 120 | M6 | 3,5 | 129 | 102 | M20 | 30 | 158 | 285 | 245 |
| | 90S | 24 | M8 | 50 | 8 | 27 | - | 115 | 95 | 140 | M8 | 3,5 | 134 | 102 | M20 | 31,5 | 176 | 301 | 251 |
| | 90L | 24 | M8 | 50 | 8 | 27 | - | 115 | 95 | 140 | M8 | 3,5 | 134 | 102 | M20 | 31,5 | 176 | 350 | 300 |
| | 100 | 28 | M10 | 60 | 8 | 31 | - | 130 | 110 | 160 | M8 | 4 | 148 | 102 | M20 | 31 | 197 | 375 | 315 |
| | 112 | 28 | M10 | 60 | 8 | 31 | - | 130 | 110 | 160 | M8 | 4 | 166 | 111 | 2xM20 | 35 | 225 | 392 | 332 |
| | 132S | 38 | M12 | 80 | 10 | 41 | - | 165 | 130 | 200 | M10 | 4 | 188 | 111 | 2xM25 | 44 | 258 | 459 | 379 |
| | 132M | 38 | M12 | 80 | 10 | 41 | - | 165 | 130 | 200 | M10 | 4 | 188 | 111 | 2xM25 | 44 | 258 | 497 | 417 |

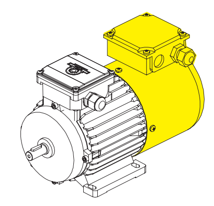
## 1.12 DIMENSIONI (CONTINUA)

## *1.12 DIMENSIONS (TO BE CONTINUED)*

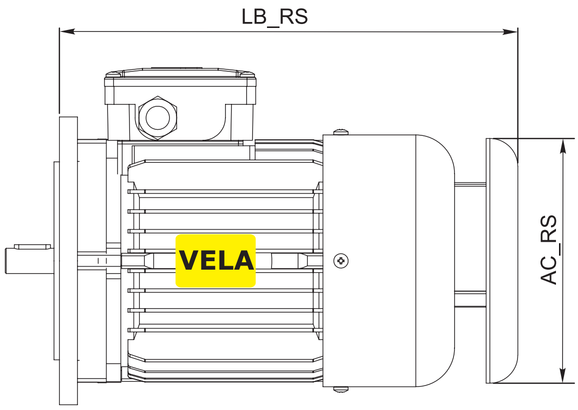
## 1.12 ABMESSUNGEN (FORTSETZUNG)

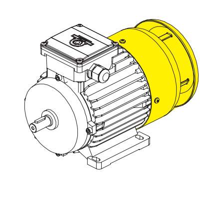
**VF**



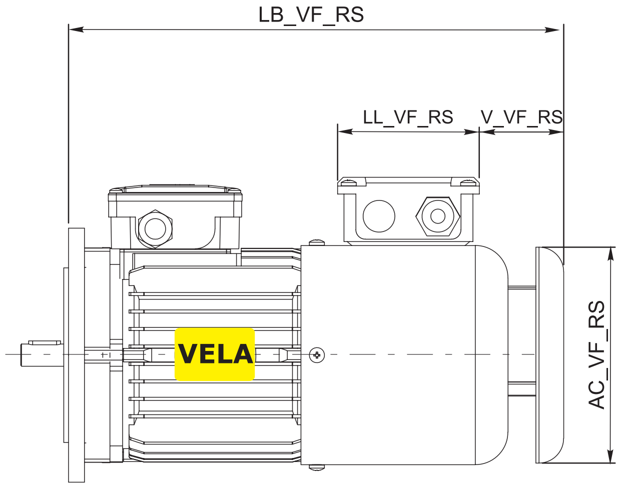



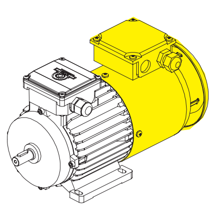
**RS**



**VF RS**



## 1.12 DIMENSIONI (CONTINUA)

## *1.12 DIMENSIONS (TO BE CONTINUED)*

## 1.12 ABMESSUNGEN (FORTSETZUNG)

| SIZE + LEN | VSAVE | POWER COOLING | | | | |
|---|---|---|---|---|---|---|
| | | AC_VF | AD_VF | LB_VF | LL_VF | V_VF |
| 56 | 5 (230VAC_50/60Hz) | 109 | 97,5 | 224 | 89 | 10 |
| 63 | | 122,5 | 105 | 248 | 89 | 16 |
| 71 | | 138 | 112 | 276 | 89 | 18 |
| 80 | | 156 | 121 | 313 | 89 | 42 |
| 90S | | 177 | 131,5 | 315 | 89 | 35 |
| 90L | | 177 | 131,5 | 364 | 89 | 35 |
| 100 | | 195 | 140,5 | 401,5 | 89 | 59 |
| 112 | | 220 | 153 | 435 | 89 | 56,5 |
| 132S | | 258 | 172 | 502 | 89 | 89 |
| 132M | | 258 | 172 | 540 | 89 | 89 |
| 71 | 9 (230/400_50_MULT) | 139 | 112,5 | 340 | 89 | 83 |
| 80 | | 156 | 121 | 365 | 89 | 84,5 |
| 90S | | 177 | 131,5 | 348 | 89 | 69 |
| 90L | | 177 | 131,5 | 397 | 89 | 69 |
| 90L1 | | 177 | 131,5 | 440 | 89 | 69 |
| 90L2 | | 177 | 131,5 | 440 | 89 | 69 |
| 100 | | 195 | 140,5 | 461,5 | 89 | 99 |
| 112 | | 220 | 153 | 482 | 89 | 66 |
| 132S | | 258 | 172 | 502 | 89 | 89 |
| 132M | | 258 | 172 | 540 | 89 | 89 |

B

| SIZE + LEN | RAIN SHIELD COVER | |
|---|---|---|
| | AC_RS | LB_RS |
| 56 | 111 | 201 |
| 63 | 124 | 233 |
| 71 | 136 | 254 |
| 80 | 155 | 280 |
| 90S | 176 | 286 |
| 90L | 176 | 335 |
| 100 | 199 | 350 |
| 112 | 214 | 367 |
| 132S | 259 | 414 |
| 132M | 259 | 452 |

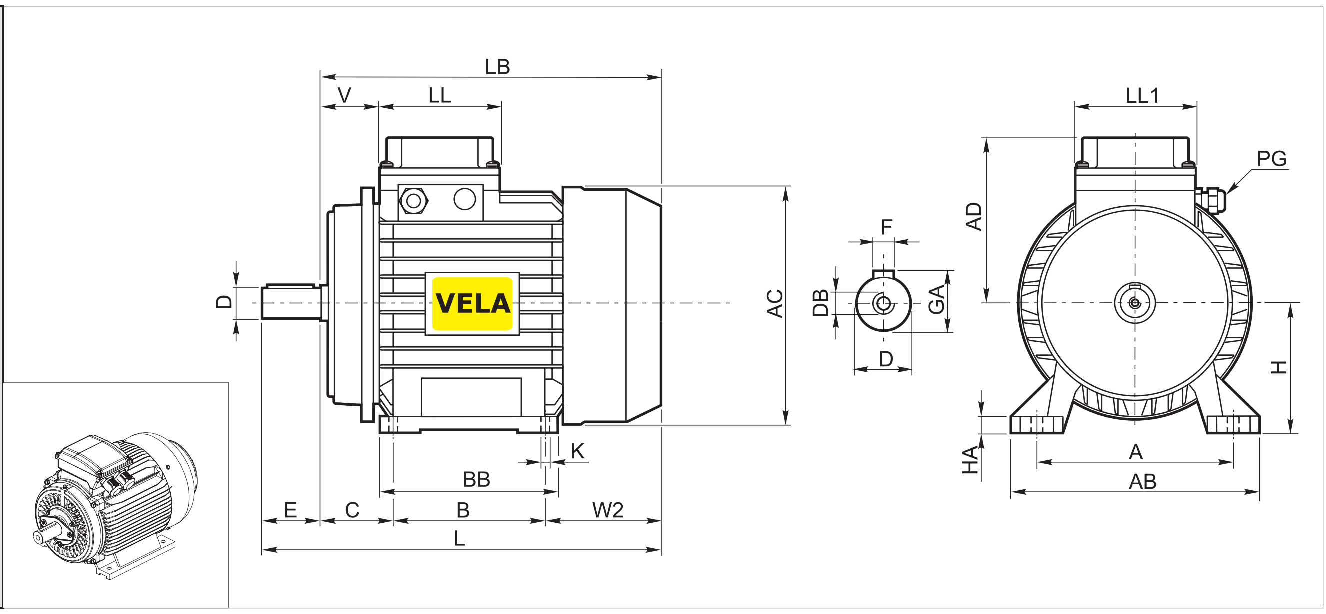
| SIZE + LEN | VSAVE | RAIN SHIELD COVER+ POWER COOLING | | | |
|---|---|---|---|---|---|
| | | AC_VF_RS | LB_VF_RS | LL_VF_RS | V_VF_RS |
| 56 | 5 (230VAC_50/60Hz) | 111 | 252 | 89 | 38 |
| 63 | | 124 | 283 | 89 | 51 |
| 71 | | 136 | 311 | 89 | 53 |
| 80 | | 155 | 348 | 89 | 77 |
| 90S | | 176 | 350 | 89 | 70 |
| 90L | | 176 | 399 | 89 | 70 |
| 100 | | 199 | 436,5 | 89 | 94 |
| 112 | | 214 | 470 | 89 | 91,5 |
| 132S | | 259 | 537 | 89 | 124 |
| 132M | | 259 | 575 | 89 | 124 |
| 71 | 9 (230/400_50_MULT) | 136 | 375 | 89 | 118 |
| 80 | | 155 | 400 | 89 | 119,5 |
| 90S | | 176 | 383 | 89 | 104 |
| 90L | | 176 | 432 | 89 | 104 |
| 90L1 | | 176 | 475 | 89 | 104 |
| 90L2 | | 176 | 475 | 89 | 104 |
| 100 | | 199 | 496,5 | 89 | 134 |
| 112 | | 214 | 517 | 89 | 101 |
| 132S | | 259 | 537 | 89 | 124 |
| 132M | | 259 | 575 | 89 | 124 |

## 1.12 DIMENSIONI (CONTINUA)

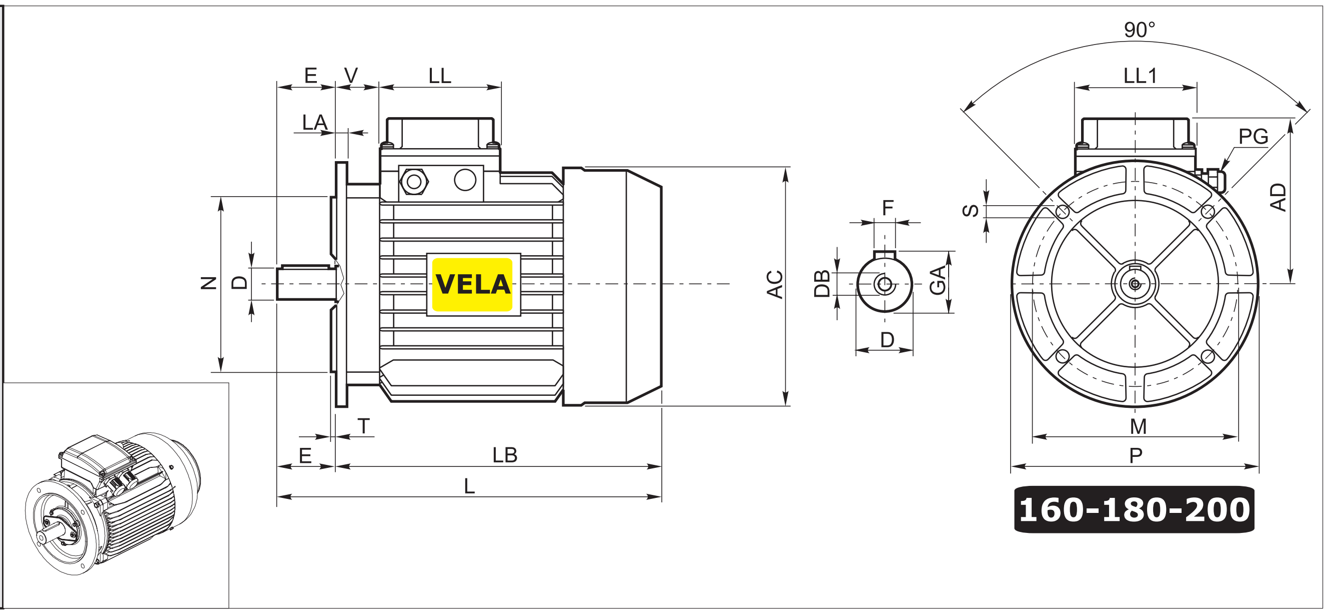
## *1.12 DIMENSIONS (TO BE CONTINUED)*

## 1.12 ABMESSUNGEN (FORTSETZUNG)

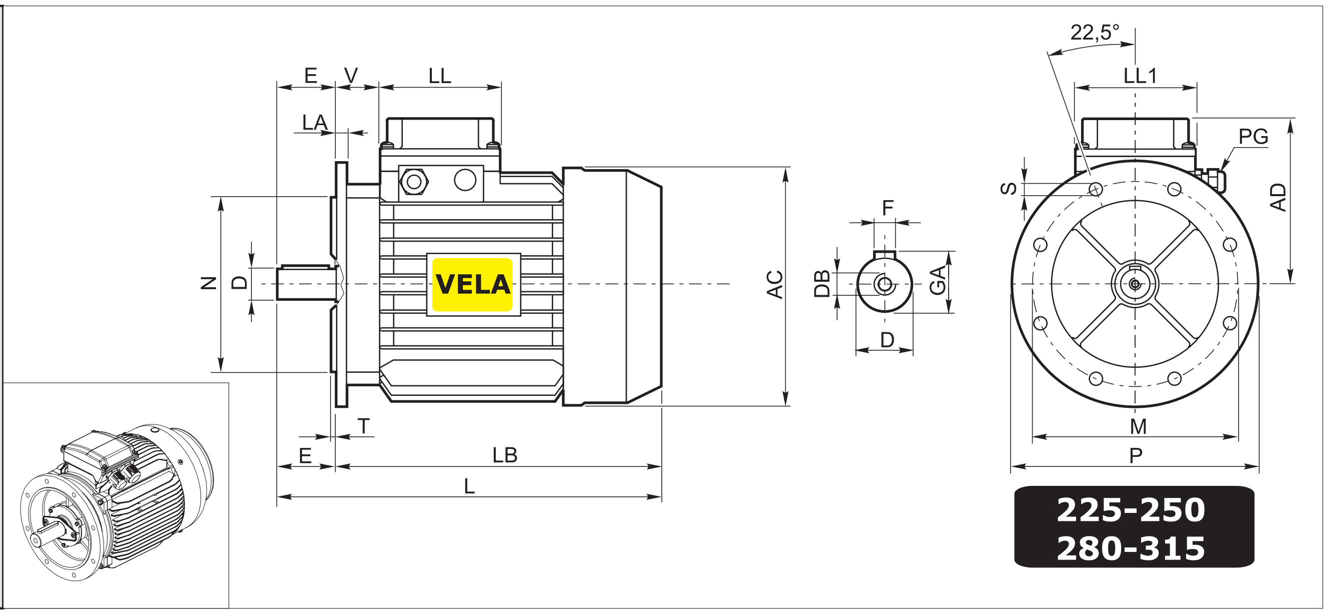
**B3**




**B5**




**B5**



## 1.12 DIMENSIONI (CONTINUA)

## *1.12 DIMENSIONS (TO BE CONTINUED)*

## 1.12 ABMESSUNGEN (FORTSETZUNG)

| DV | SIZE + LEN | POL | SHAFT | | | | | B3 - Version | | | | | | | | | TERMINAL BOX | | | | | FAN COVER | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | D | DB | E | F | GA | A | AB | B | BB | C | H | HA | K | W2 | AD | LL | LL1 | PG | V | AC | L | LB |
| B3 | 160M | 2 4 6 | 42 | M16 | 110 | 12 | 45 | 254 | 314 | 210 | 260 | 108 | 160 | 20 | 15 | 184 | 251 | 158 | 158 | 2XM40 | 68 | 315 | 612 | 502 |
| | 160L | 2 4 6 | 42 | M16 | 110 | 12 | 45 | 254 | 314 | 254 | 304 | 108 | 160 | 20 | 15 | 185 | 251 | 158 | 158 | 2XM40 | 68 | 315 | 657 | 547 |
| | 180M | 2 4 6 | 48 | M16 | 110 | 14 | 51,5 | 279 | 349 | 241 | 304 | 121 | 180 | 22 | 15 | 226 | 269 | 158 | 158 | 2XM40 | 90 | 355 | 698 | 588 |
| | 180L | 2 4 6 | 48 | M16 | 110 | 14 | 51,5 | 279 | 349 | 279 | 340 | 121 | 180 | 22 | 15 | 224 | 269 | 158 | 158 | 2XM40 | 90 | 355 | 734 | 624 |
| | 200 | 2 4 6 | 55 | M20 | 110 | 16 | 59 | 318 | 388 | 305 | 368 | 133 | 200 | 25 | 19 | 228 | 301 | 196 | 196 | 2XM50 | 85 | 397 | 776 | 666 |
| | 225S | 4 | 60 | M20 | 140 | 18 | 64 | 356 | 431 | 286 | 368 | 149 | 225 | 28 | 19 | 235 | 321 | 196 | 196 | 2XM50 | 100 | 445 | 810 | 670 |
| | 225M | 2 | 55 | M20 | 110 | 16 | 59 | 356 | 431 | 311 | 393 | 149 | 225 | 28 | 19 | 240 | 321 | 196 | 196 | 2XM50 | 98 | 445 | 810 | 700 |
| | 225M | 4 6 | 60 | M20 | 140 | 18 | 64 | 356 | 431 | 311 | 393 | 149 | 225 | 28 | 19 | 240 | 321 | 196 | 196 | 2XM50 | 98 | 445 | 840 | 700 |
| | 250M | 2 | 60 | M20 | 140 | 18 | 64 | 406 | 484 | 349 | 445 | 168 | 250 | 30 | 24 | 268 | 361,5 | 225 | 225 | 2XM63 | 96,5 | 485 | 925 | 785 |
| | 250M | 4 6 | 65 | M20 | 140 | 18 | 69 | 406 | 484 | 349 | 445 | 168 | 250 | 30 | 24 | 268 | 361,5 | 225 | 225 | 2XM63 | 96,5 | 485 | 925 | 785 |
| | 280S | 2 | 65 | M20 | 140 | 18 | 69 | 457 | 542 | 368 | 485 | 190 | 280 | 35 | 24 | 293 | 385 | 225 | 225 | 2XM63 | 100 | 545 | 991 | 851 |
| | 280S | 4 6 | 75 | M20 | 140 | 20 | 79,5 | 457 | 542 | 368 | 485 | 190 | 280 | 35 | 24 | 293 | 385 | 225 | 225 | 2XM63 | 100 | 545 | 991 | 851 |
| | 280M | 2 | 65 | M20 | 140 | 18 | 69 | 457 | 542 | 419 | 536 | 190 | 280 | 35 | 24 | 297 | 385 | 225 | 225 | 2XM63 | 98,5 | 545 | 1046 | 906 |
| | 280M | 4 6 | 75 | M20 | 140 | 20 | 79,5 | 457 | 542 | 419 | 536 | 190 | 280 | 35 | 24 | 297 | 385 | 225 | 225 | 2XM63 | 98,5 | 545 | 1046 | 906 |
| | 315S | 2 | 65 | M20 | 140 | 18 | 69 | 508 | 628 | 406 | 570 | 216 | 315 | 45 | 28 | 424 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1186 | 1046 |
| | 315S | 4 6 | 80 | M20 | 170 | 22 | 85 | 508 | 628 | 406 | 570 | 216 | 315 | 45 | 28 | 424 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1216 | 1046 |
| | 315M | 2 | 65 | M20 | 140 | 18 | 69 | 508 | 628 | 457 | 680 | 216 | 315 | 45 | 28 | 480 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1293 | 1153 |
| | 315M | 4 6 | 80 | M20 | 170 | 22 | 85 | 508 | 628 | 457 | 680 | 216 | 315 | 45 | 28 | 480 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1323 | 1153 |
| | 315L | 2 | 65 | M20 | 140 | 18 | 69 | 508 | 628 | 508 | 680 | 216 | 315 | 45 | 28 | 427 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1291 | 1151 |
| | 315L | 4 6 | 80 | M20 | 170 | 22 | 85 | 508 | 628 | 508 | 680 | 216 | 315 | 45 | 28 | 427 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1321 | 1151 |

B

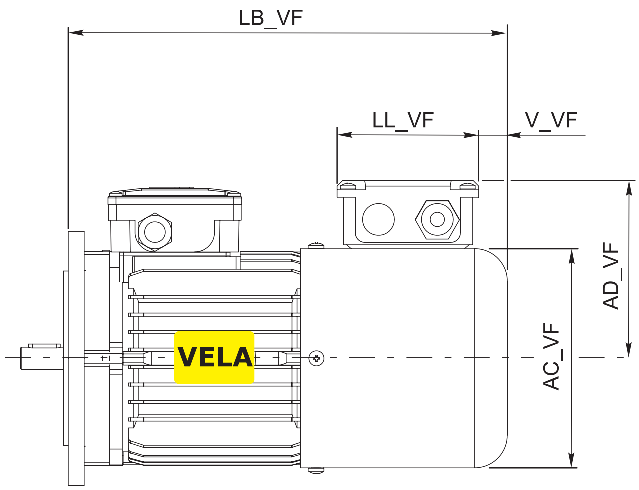
| DV | SIZE + LEN | POL | SHAFT | | | | | B5 - Version | | | | | | TERMINAL BOX | | | | | FAN COVER | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | D | DB | E | F | GA | LA | M | N | P | S | T | AD | LL | LL1 | PG | V | AC | L | LB |
| B5 | 160M | 2 4 6 | 42 | M16 | 110 | 12 | 45 | 16 | 300 | 250 | 350 | 19 | 5 | 251 | 158 | 158 | 2XM40 | 68 | 315 | 612 | 502 |
| | 160L | 2 4 6 | 42 | M16 | 110 | 12 | 45 | 16 | 300 | 250 | 350 | 19 | 5 | 251 | 158 | 158 | 2XM40 | 68 | 315 | 657 | 547 |
| | 180M | 2 4 6 | 48 | M16 | 110 | 14 | 51,5 | 13 | 300 | 250 | 350 | 19 | 5 | 269 | 158 | 158 | 2XM40 | 90 | 355 | 698 | 588 |
| | 180L | 2 4 6 | 48 | M16 | 110 | 14 | 51,5 | 13 | 300 | 250 | 350 | 19 | 5 | 269 | 158 | 158 | 2XM40 | 90 | 355 | 734 | 624 |
| | 200 | 2 4 6 | 55 | M20 | 110 | 16 | 59 | 15 | 350 | 300 | 400 | 19 | 5 | 301 | 196 | 196 | 2XM50 | 85 | 397 | 776 | 666 |
| | 225S | 4 | 60 | M20 | 140 | 18 | 64 | 19 | 400 | 350 | 450 | 19 | 5 | 321 | 196 | 196 | 2XM50 | 100 | 445 | 810 | 670 |
| | 225M | 2 | 55 | M20 | 110 | 16 | 59 | 19 | 400 | 350 | 450 | 19 | 5 | 321 | 196 | 196 | 2XM50 | 98 | 445 | 810 | 700 |
| | 225M | 4 6 | 60 | M20 | 140 | 18 | 64 | 19 | 400 | 350 | 450 | 19 | 5 | 321 | 196 | 196 | 2XM50 | 98 | 445 | 840 | 700 |
| | 250M | 2 | 60 | M20 | 140 | 18 | 64 | 19 | 500 | 450 | 550 | 19 | 5 | 361,5 | 225 | 225 | 2XM63 | 96,5 | 485 | 925 | 785 |
| | 250M | 4 6 | 65 | M20 | 140 | 18 | 69 | 19 | 500 | 450 | 550 | 19 | 5 | 361,5 | 225 | 225 | 2XM63 | 96,5 | 485 | 925 | 785 |
| | 280S | 2 | 65 | M20 | 140 | 18 | 69 | 18 | 500 | 450 | 550 | 19 | 5 | 385 | 225 | 225 | 2XM63 | 100 | 545 | 991 | 851 |
| | 280S | 4 6 | 75 | M20 | 140 | 20 | 79,5 | 18 | 500 | 450 | 550 | 19 | 5 | 385 | 225 | 225 | 2XM63 | 100 | 545 | 991 | 851 |
| | 280M | 2 | 65 | M20 | 140 | 18 | 69 | 18 | 500 | 450 | 550 | 19 | 5 | 385 | 225 | 225 | 2XM63 | 98,5 | 545 | 1046 | 906 |
| | 280M | 4 6 | 75 | M20 | 140 | 20 | 79,5 | 18 | 500 | 450 | 550 | 19 | 5 | 385 | 225 | 225 | 2XM63 | 98,5 | 545 | 1046 | 906 |
| | 315S | 2 | 65 | M20 | 140 | 18 | 69 | 22 | 600 | 550 | 660 | 24 | 6 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1186 | 1046 |
| | 315S | 4 6 | 80 | M20 | 170 | 22 | 85 | 22 | 600 | 550 | 660 | 24 | 6 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1216 | 1046 |
| | 315M | 2 | 65 | M20 | 140 | 18 | 69 | 22 | 600 | 550 | 660 | 24 | 6 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1293 | 1153 |
| | 315M | 4 6 | 80 | M20 | 170 | 22 | 85 | 22 | 600 | 550 | 660 | 24 | 6 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1323 | 1153 |
| | 315L | 2 | 65 | M20 | 140 | 18 | 69 | 22 | 600 | 550 | 660 | 24 | 6 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1291 | 1151 |
| | 315L | 4 6 | 80 | M20 | 170 | 22 | 85 | 22 | 600 | 550 | 660 | 24 | 6 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1321 | 1151 |

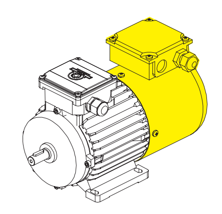
## 1.12 DIMENSIONI (CONTINUA)

## *1.12 DIMENSIONS (TO BE CONTINUED)*

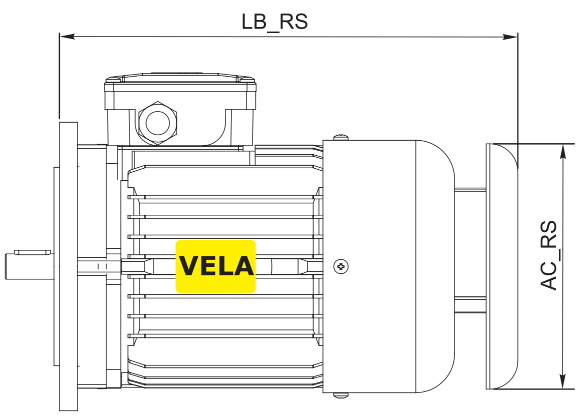
## 1.12 ABMESSUNGEN (FORTSETZUNG)

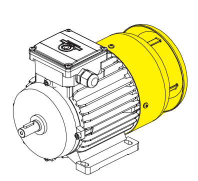
**VF**



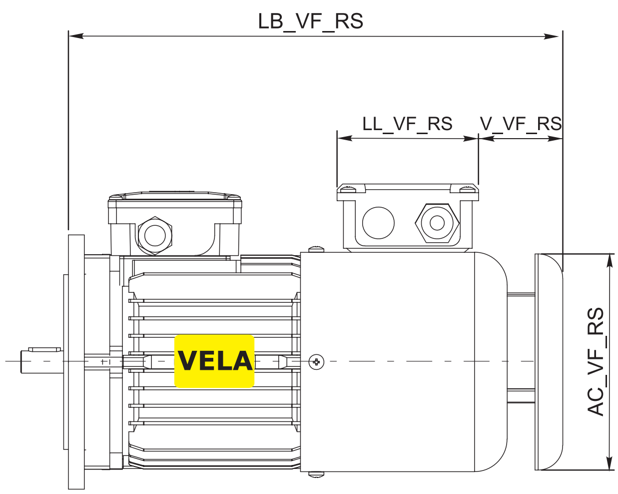



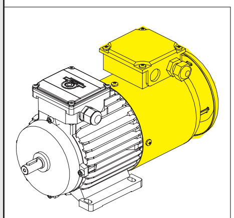
**RS**



**VF RS**



## 1.12 DIMENSIONI (CONTINUA)

## *1.12 DIMENSIONS (TO BE CONTINUED)*

## 1.12 ABMESSUNGEN (FORTSETZUNG)

| SIZE + LEN | POL | VSAVE | POWER COOLING | | | | |
|---|---|---|---|---|---|---|---|
| | | | AC_VF | AD_VF | LB_VF | LL_VF | V_VF |
| 160M | 2 4 6 | 5 (230VAC_50/60Hz) | 310 | 198 | 604 | 89 | 87 |
| 160L | 2 4 6 | | 310 | 198 | 649 | 89 | 87 |
| 160M | 2 4 6 | 9 (230/400_50_MULT) | 310 | 198 | 604 | 89 | 87 |
| 160L | 2 4 6 | | 310 | 198 | 649 | 89 | 87 |
| 180M | 2 4 6 | | 356 | 229 | 667 | 93 | 98 |
| 180L | 2 4 6 | | 356 | 229 | 703 | 93 | 98 |
| 200 | 2 4 6 | | 399 | 250,5 | 788,5 | 93 | 133 |
| 225S | 4 | | 445 | 273,5 | 794 | 93 | 122 |
| 225M | 2 | | 445 | 273,5 | 822 | 93 | 122 |
| 225M | 4 6 | | 445 | 273,5 | 822 | 93 | 122 |

| SIZE | RAIN SHIELD COVER | |
|---|---|---|
| | AC_RS | LB_RS |
| 160 | A richiesta<br>*Upon request*<br>Auf Anfrage | |
| 180 | | |
| 200 | | |
| 225 | | |
| 250 | | |
| 280 | | |
| 315 | | |

| SIZE | VSAVE | RAIN SHIELD COVER + POWER COOLING | | | |
|---|---|---|---|---|---|
| | | AC_VF_RS | LB_VF_RS | LL_VF_RS | V_VF_RS |
| 160 | 5 (230VAC_50/60Hz) | A richiesta<br>*Upon request*<br>Auf Anfrage | | | |
| 160 | 9 (230/400_50_MULT) | A richiesta<br>*Upon request*<br>Auf Anfrage | | | |
| 180 | | | | | |
| 200 | | | | | |
| 225 | | | | | |
| 250 | | | | | |
| 280 | | | | | |
| 315 | | | | | |

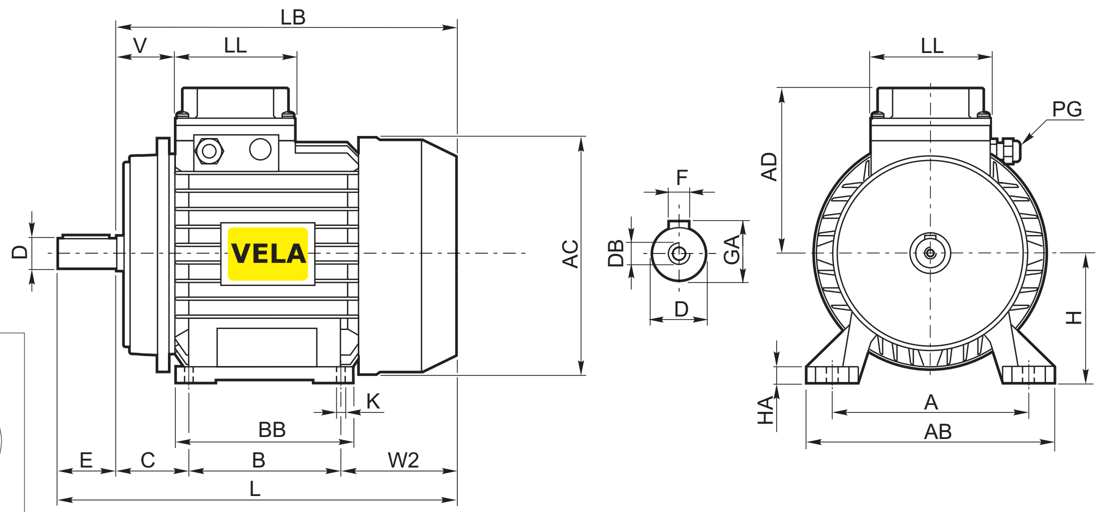
B

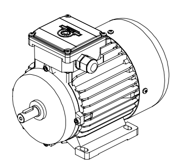
## 1.12 DIMENSIONI (CONTINUA)

## *1.12 DIMENSIONS (TO BE CONTINUED)*

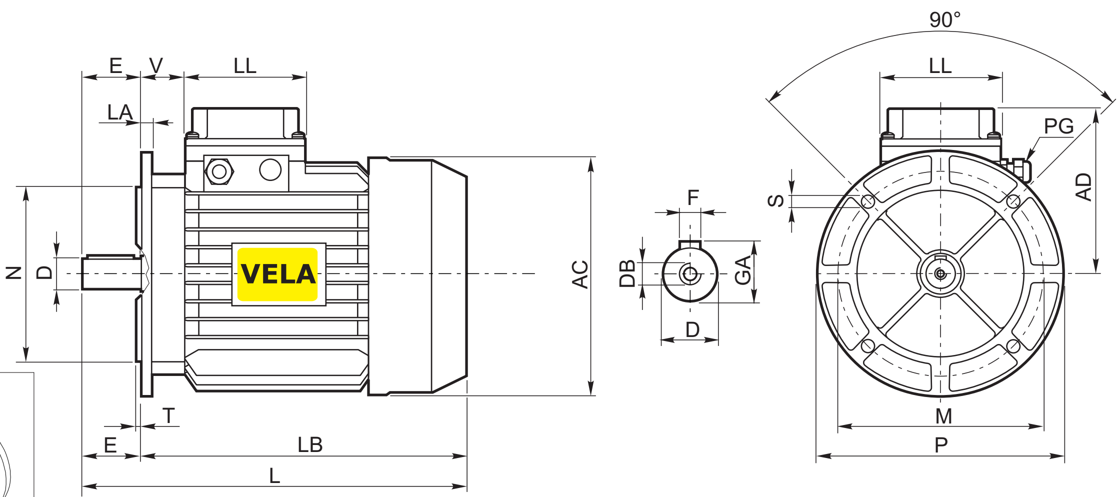
## 1.12 ABMESSUNGEN (FORTSETZUNG)

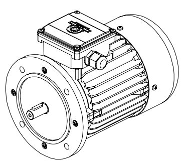
**B3**



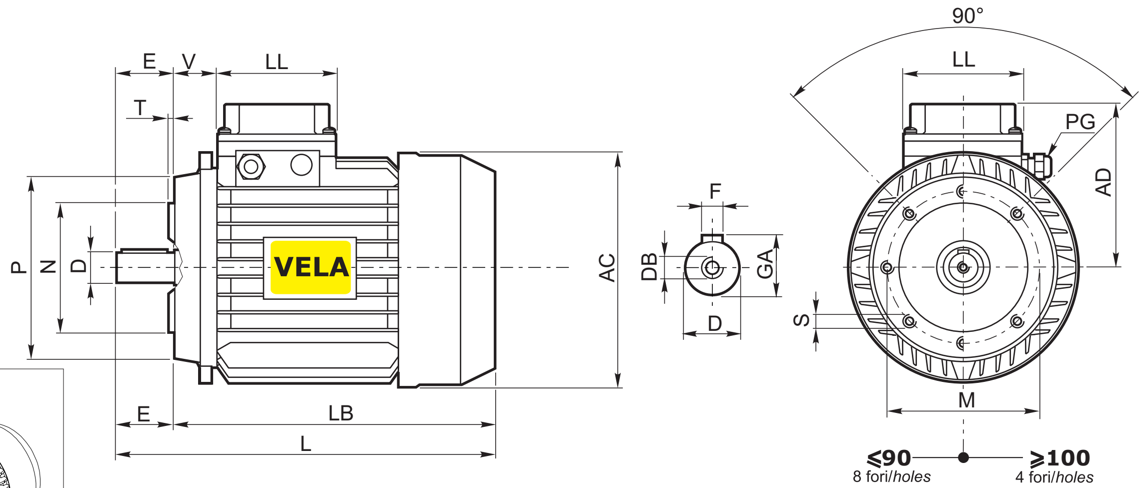



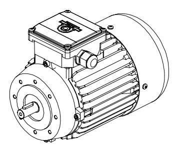
**B5**



**B14**



## 1.12 DIMENSIONI (CONTINUA)

## *1.12 DIMENSIONS (TO BE CONTINUED)*

## 1.12 ABMESSUNGEN (FORTSETZUNG)

| DV | SIZE + LEN | SHAFT | | | | | B3 - Version | | | | | | | | | TERMINAL BOX | | | | FAN COVER | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | A | AB | B | BB | C | H | HA | K | W2 | AD | LL | PG | V | AC | L | LB |
| B3 | 80 | 19 | M6 | 40 | 6 | 21,5 | 125 | 154 | 100 | 125 | 50 | 80 | 14 | 9 | 100 | 129 | 102 | M20 | 30 | 158 | 290 | 250 |
| | 90S | 24 | M8 | 50 | 8 | 27 | 140 | 170 | 100 | 130 | 56 | 90 | 15 | 10 | 91 | 134 | 102 | M20 | 31,5 | 176 | 297 | 247 |
| | 90L | 24 | M8 | 50 | 8 | 27 | 140 | 170 | 125 | 155 | 56 | 90 | 15 | 10 | 115 | 134 | 102 | M20 | 31,5 | 176 | 346 | 296 |
| | 100 | 28 | M10 | 60 | 8 | 31 | 160 | 192 | 140 | 175 | 63 | 100 | 16 | 13 | 117 | 148 | 102 | M20 | 31 | 197 | 380 | 320 |
| | 112 | 28 | M10 | 60 | 8 | 31 | 190 | 224 | 140 | 176 | 70 | 112 | 15 | 13 | 135 | 166 | 111 | 2xM20 | 35 | 225 | 405 | 345 |
| | 132S | 38 | M12 | 80 | 10 | 41 | 216 | 260 | 140 | 180 | 89 | 132 | 18 | 14 | 162 | 188 | 111 | 2xM25 | 44 | 258 | 471 | 391 |
| | 132M | 38 | M12 | 80 | 10 | 41 | 216 | 260 | 178 | 218 | 89 | 132 | 18 | 14 | 161 | 188 | 111 | 2xM25 | 44 | 258 | 508 | 428 |

B

| DV | SIZE + LEN | SHAFT | | | | | B5 - Version | | | | | | TERMINAL BOX | | | | FAN COVER | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | LA | M | N | P | S | T | AD | LL | PG | V | AC | L | LB |
| B5 | 80 | 19 | M6 | 40 | 6 | 21,5 | 11 | 165 | 130 | 200 | 12 | 3 | 129 | 102 | M20 | 30 | 158 | 290 | 250 |
| | 90S | 24 | M8 | 50 | 8 | 27 | 10 | 165 | 130 | 200 | 12 | 3,5 | 134 | 102 | M20 | 31,5 | 176 | 297 | 247 |
| | 90L | 24 | M8 | 50 | 8 | 27 | 10 | 165 | 130 | 200 | 12 | 3,5 | 134 | 102 | M20 | 31,5 | 176 | 346 | 296 |
| | 100 | 28 | M10 | 60 | 8 | 31 | 14 | 215 | 180 | 250 | 14,5 | 4 | 148 | 102 | M20 | 31 | 197 | 380 | 320 |
| | 112 | 28 | M10 | 60 | 8 | 31 | 14 | 215 | 180 | 250 | 14,5 | 4 | 166 | 111 | 2xM20 | 35 | 225 | 405 | 345 |
| | 132S | 38 | M12 | 80 | 10 | 41 | 20 | 265 | 230 | 300 | 14,5 | 4 | 188 | 111 | 2xM25 | 44 | 258 | 471 | 391 |
| | 132M | 38 | M12 | 80 | 10 | 41 | 20 | 265 | 230 | 300 | 14,5 | 4 | 188 | 111 | 2xM25 | 44 | 258 | 508 | 428 |

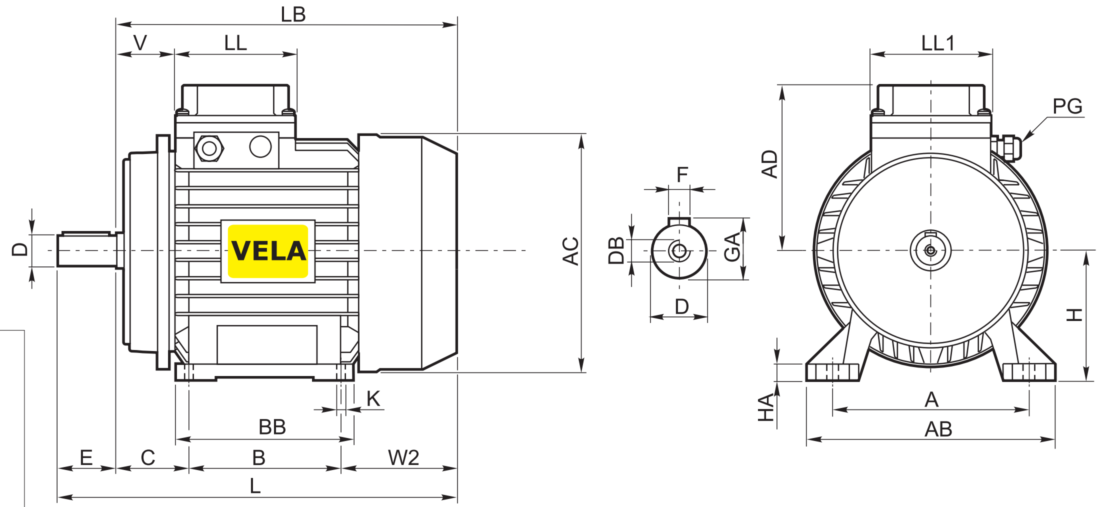
| DV | SIZE + LEN | SHAFT | | | | | B14 - Version | | | | | | TERMINAL BOX | | | | FAN COVER | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | LA | M | N | P | S | T | AD | LL | PG | V | AC | L | LB |
| B14 | 80 | 19 | M6 | 40 | 6 | 21,5 | - | 100 | 80 | 120 | M6 | 3,5 | 129 | 102 | M20 | 30 | 158 | 290 | 250 |
| | 90S | 24 | M8 | 50 | 8 | 27 | - | 115 | 95 | 140 | M8 | 3,5 | 134 | 102 | M20 | 31,5 | 176 | 297 | 247 |
| | 90L | 24 | M8 | 50 | 8 | 27 | - | 115 | 95 | 140 | M8 | 3,5 | 134 | 102 | M20 | 31,5 | 176 | 346 | 296 |
| | 100 | 28 | M10 | 60 | 8 | 31 | - | 130 | 110 | 160 | M8 | 4 | 148 | 102 | M20 | 31 | 197 | 380 | 320 |
| | 112 | 28 | M10 | 60 | 8 | 31 | - | 130 | 110 | 160 | M8 | 4 | 166 | 111 | 2xM20 | 35 | 225 | 405 | 345 |
| | 132S | 38 | M12 | 80 | 10 | 41 | - | 165 | 130 | 200 | M10 | 4 | 188 | 111 | 2xM25 | 44 | 258 | 471 | 391 |
| | 132M | 38 | M12 | 80 | 10 | 41 | - | 165 | 130 | 200 | M10 | 4 | 188 | 111 | 2xM25 | 44 | 258 | 508 | 428 |

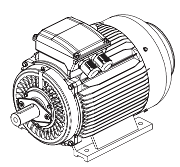
## 1.12 DIMENSIONI (CONTINUA)

## *1.12 DIMENSIONS (TO BE CONTINUED)*

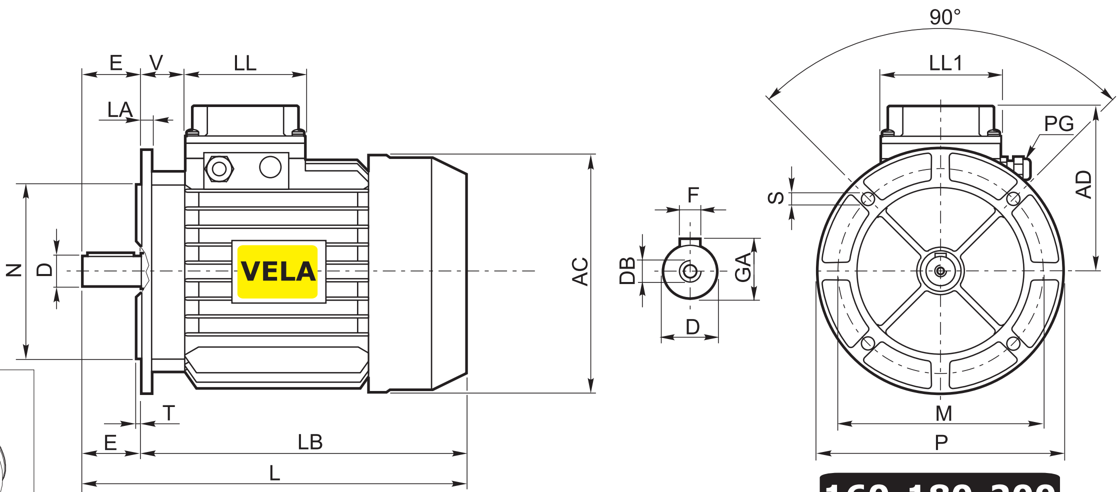
## 1.12 ABMESSUNGEN (FORTSETZUNG)

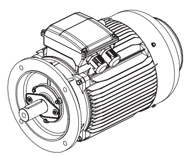
**B3**



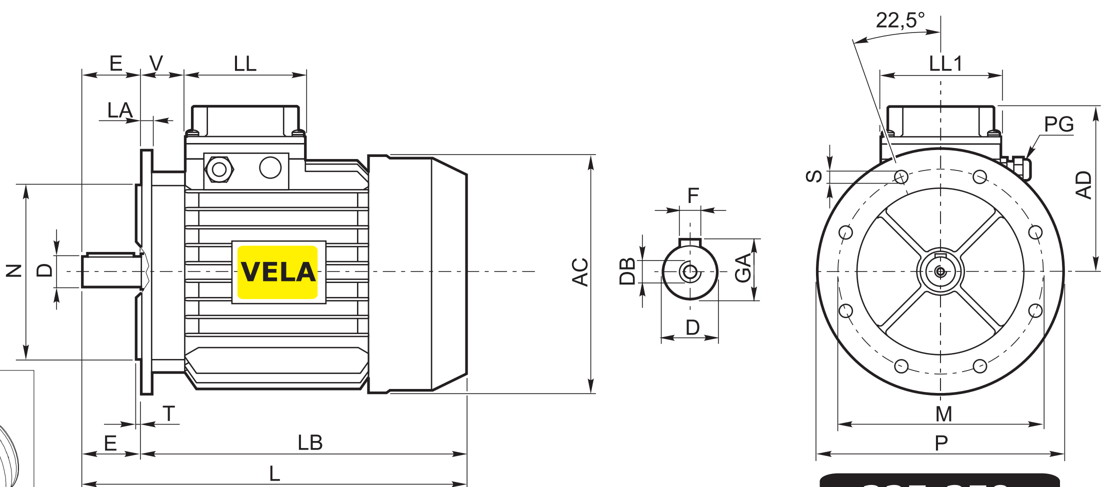
**B5**

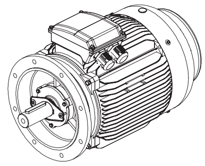


**160-180-200**

**B5**



**225-250**
**280-315**

## 1.12 DIMENSIONI (CONTINUA)

## *1.12 DIMENSIONS (TO BE CONTINUED)*

## 1.12 ABMESSUNGEN (FORTSETZUNG)

| DV | SIZE + LEN | POL | SHAFT | | | | | B3 - Version | | | | | | | | | TERMINAL BOX | | | | | FAN COVER | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | D | DB | E | F | GA | A | AB | B | BB | C | H | HA | K | W2 | AD | LL | LL1 | PG | V | AC | L | LB |
| B3 | 160M | 2 4 6 | 42 | M16 | 110 | 12 | 45 | 254 | 314 | 210 | 304 | 108 | 160 | 20 | 15 | 227 | 255 | 152 | 213 | 2XM40 | 71 | 315 | 655 | 545 |
| | 160L | 2 4 6 | 42 | M16 | 110 | 12 | 45 | 254 | 314 | 254 | 340 | 108 | 160 | 20 | 15 | 251 | 255 | 152 | 213 | 2XM40 | 69 | 315 | 723 | 613 |
| | 180M | 2 4 6 | 48 | M16 | 110 | 14 | 51,5 | 279 | 349 | 241 | 350 | 121 | 180 | 22 | 15 | 258 | 270 | 152 | 213 | 2XM40 | 83 | 355 | 730 | 620 |
| | 180L | 2 4 6 | 48 | M16 | 110 | 14 | 51,5 | 279 | 349 | 279 | 370 | 121 | 180 | 22 | 15 | 288 | 270 | 152 | 213 | 2XM40 | 91 | 355 | 798 | 688 |
| | 200 | 2 4 6 | 55 | M20 | 110 | 16 | 59 | 318 | 388 | 305 | 369 | 133 | 200 | 25 | 19 | 226 | 300 | 188 | 254 | 2XM50 | 88 | 397 | 774 | 664 |
| | 225S | 4 | 60 | M20 | 140 | 18 | 64 | 356 | 431 | 286 | 393 | 149 | 225 | 28 | 19 | 270 | 323 | 188 | 254 | 2XM50 | 104 | 445 | 845 | 705 |
| | 225M | 2 | 55 | M20 | 110 | 16 | 59 | 356 | 431 | 311 | 440 | 149 | 225 | 28 | 19 | 310 | 323 | 188 | 254 | 2XM50 | 104 | 445 | 880 | 770 |
| | 225M | 4 6 | 60 | M20 | 140 | 18 | 64 | 356 | 431 | 311 | 440 | 149 | 225 | 28 | 19 | 310 | 323 | 188 | 254 | 2XM50 | 104 | 445 | 910 | 770 |
| | 250M | 2 | 60 | M20 | 140 | 18 | 64 | 406 | 484 | 349 | 445 | 168 | 250 | 30 | 24 | 268 | 380 | 217 | 300 | 2XM63 | 100 | 485 | 925 | 785 |
| | 250M | 4 6 | 65 | M20 | 140 | 18 | 69 | 406 | 484 | 349 | 445 | 168 | 250 | 30 | 24 | 268 | 380 | 217 | 300 | 2XM63 | 100 | 485 | 925 | 785 |
| | 280S | 2 | 65 | M20 | 140 | 18 | 69 | 457 | 542 | 368 | 485 | 190 | 280 | 35 | 24 | 293 | 385 | 225 | 255 | 2XM63 | 100 | 545 | 991 | 851 |
| | 280S | 4 6 | 75 | M20 | 140 | 20 | 79,5 | 457 | 542 | 368 | 485 | 190 | 280 | 35 | 24 | 293 | 385 | 225 | 255 | 2XM63 | 100 | 545 | 991 | 851 |
| | 280M | 2 | 65 | M20 | 140 | 18 | 69 | 457 | 542 | 419 | 536 | 190 | 280 | 35 | 24 | 297 | 385 | 225 | 255 | 2XM63 | 98,5 | 545 | 1046 | 906 |
| | 280M | 4 6 | 75 | M20 | 140 | 20 | 79,5 | 457 | 542 | 419 | 536 | 190 | 280 | 35 | 24 | 297 | 385 | 225 | 255 | 2XM63 | 98,5 | 545 | 1046 | 906 |
| | 315S | 2 | 65 | M20 | 140 | 18 | 69 | 508 | 628 | 406 | 570 | 216 | 315 | 45 | 28 | 424 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1186 | 1046 |
| | 315S | 4 6 | 80 | M20 | 170 | 22 | 85 | 508 | 628 | 406 | 570 | 216 | 315 | 45 | 28 | 424 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1216 | 1046 |
| | 315M | 2 | 65 | M20 | 140 | 18 | 69 | 508 | 628 | 457 | 680 | 216 | 315 | 45 | 28 | 480 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1293 | 1153 |
| | 315M | 4 6 | 80 | M20 | 170 | 22 | 85 | 508 | 628 | 457 | 680 | 216 | 315 | 45 | 28 | 480 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1323 | 1153 |
| | 315L | 2 | 65 | M20 | 140 | 18 | 69 | 508 | 628 | 508 | 680 | 216 | 315 | 45 | 28 | 429 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1293 | 1153 |
| | 315L | 4 6 | 80 | M20 | 170 | 22 | 85 | 508 | 628 | 508 | 680 | 216 | 315 | 45 | 28 | 429 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1323 | 1153 |

B

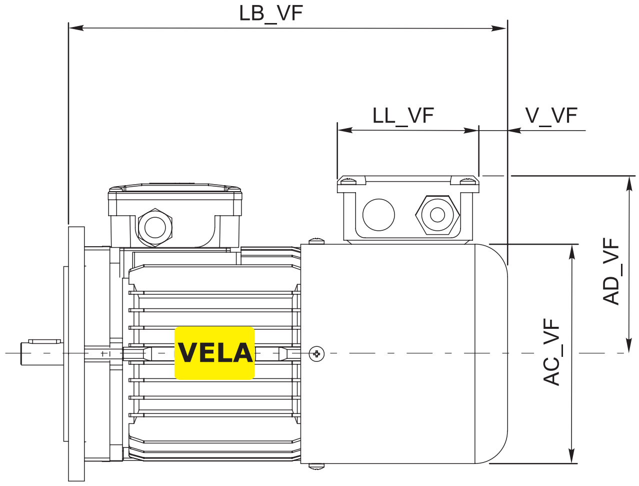
| DV | SIZE + LEN | POL | SHAFT | | | | | B5 - Version | | | | | | TERMINAL BOX | | | | | FAN COVER | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | D | DB | E | F | GA | LA | M | N | P | S | T | AD | LL | LL1 | PG | V | AC | L | LB |
| B5 | 160M | 2 4 6 | 42 | M16 | 110 | 12 | 45 | 16 | 300 | 250 | 350 | 19 | 5 | 255 | 152 | 213 | 2XM40 | 71 | 315 | 655 | 545 |
| | 160L | 2 4 6 | 42 | M16 | 110 | 12 | 45 | 16 | 300 | 250 | 350 | 19 | 5 | 255 | 152 | 213 | 2XM40 | 69 | 315 | 723 | 613 |
| | 180M | 2 4 6 | 48 | M16 | 110 | 14 | 51,5 | 13 | 300 | 250 | 350 | 19 | 5 | 270 | 152 | 213 | 2XM40 | 83 | 355 | 730 | 620 |
| | 180L | 2 4 6 | 48 | M16 | 110 | 14 | 51,5 | 13 | 300 | 250 | 350 | 19 | 5 | 270 | 152 | 213 | 2XM40 | 91 | 355 | 798 | 688 |
| | 200 | 2 4 6 | 55 | M20 | 110 | 16 | 59 | 16 | 350 | 300 | 400 | 19 | 5 | 300 | 188 | 254 | 2XM50 | 88 | 397 | 774 | 664 |
| | 225S | 4 | 60 | M20 | 140 | 18 | 64 | 20 | 400 | 350 | 450 | 19 | 5 | 323 | 188 | 254 | 2XM50 | 104 | 445 | 845 | 705 |
| | 225M | 2 | 55 | M20 | 110 | 16 | 59 | 20 | 400 | 350 | 450 | 19 | 5 | 323 | 188 | 254 | 2XM50 | 104 | 445 | 880 | 770 |
| | 225M | 4 6 | 60 | M20 | 140 | 18 | 64 | 20 | 400 | 350 | 450 | 19 | 5 | 323 | 188 | 254 | 2XM50 | 104 | 445 | 910 | 770 |
| | 250M | 2 | 60 | M20 | 140 | 18 | 64 | 24 | 500 | 450 | 550 | 19 | 5 | 380 | 217 | 300 | 2XM63 | 100 | 485 | 925 | 785 |
| | 250M | 4 6 | 65 | M20 | 140 | 18 | 69 | 24 | 500 | 450 | 550 | 19 | 5 | 380 | 217 | 300 | 2XM63 | 100 | 485 | 925 | 785 |
| | 280S | 2 | 65 | M20 | 140 | 18 | 69 | 22 | 500 | 450 | 550 | 19 | 5 | 385 | 225 | 255 | 2XM63 | 100 | 545 | 991 | 851 |
| | 280S | 4 6 | 75 | M20 | 140 | 20 | 79,5 | 22 | 500 | 450 | 550 | 19 | 5 | 385 | 225 | 255 | 2XM63 | 100 | 545 | 991 | 851 |
| | 280M | 2 | 65 | M20 | 140 | 18 | 69 | 22 | 500 | 450 | 550 | 19 | 5 | 385 | 225 | 255 | 2XM63 | 98,5 | 545 | 1046 | 906 |
| | 280M | 4 6 | 75 | M20 | 140 | 20 | 79,5 | 22 | 500 | 450 | 550 | 19 | 5 | 385 | 225 | 255 | 2XM63 | 98,5 | 545 | 1046 | 906 |
| | 315S | 2 | 65 | M20 | 140 | 18 | 69 | 24 | 600 | 550 | 660 | 24 | 6 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1186 | 1046 |
| | 315S | 4 6 | 80 | M20 | 170 | 22 | 85 | 24 | 600 | 550 | 660 | 24 | 6 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1216 | 1046 |
| | 315M | 2 | 65 | M20 | 140 | 18 | 69 | 24 | 600 | 550 | 660 | 24 | 6 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1293 | 1153 |
| | 315M | 4 6 | 80 | M20 | 170 | 22 | 85 | 24 | 600 | 550 | 660 | 24 | 6 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1323 | 1153 |
| | 315L | 2 | 65 | M20 | 140 | 18 | 69 | 24 | 600 | 550 | 660 | 24 | 6 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1293 | 1153 |
| | 315L | 4 6 | 80 | M20 | 170 | 22 | 85 | 24 | 600 | 550 | 660 | 24 | 6 | 541 | 281 | 281 | 2XM63 | 120 | 620 | 1323 | 1153 |

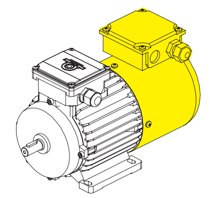
## 1.12 DIMENSIONI (CONTINUA)

## *1.12 DIMENSIONS (TO BE CONTINUED)*

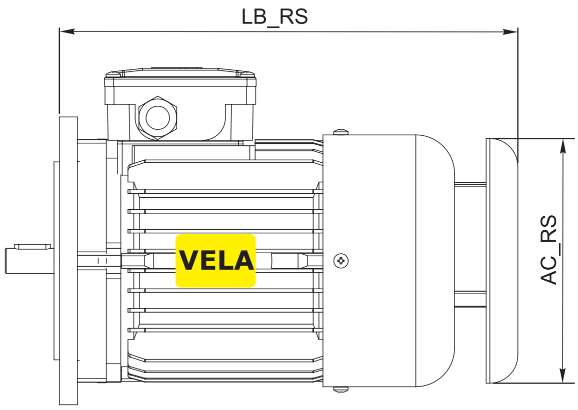
## 1.12 ABMESSUNGEN (FORTSETZUNG)

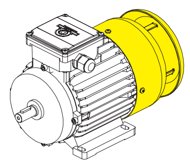
**VF**



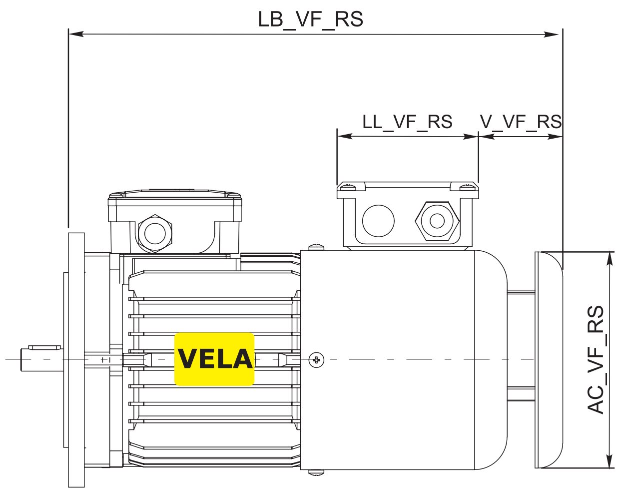



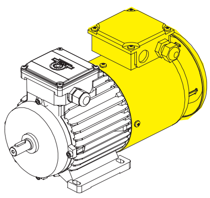
**RS**



**VF RS**



## 1.12 DIMENSIONI (CONTINUA)

## *1.12 DIMENSIONS (TO BE CONTINUED)*

## 1.12 ABMESSUNGEN (FORTSETZUNG)

| SIZE + LEN | VSAVE | POWER COOLING | | | | |
|---|---|---|---|---|---|---|
| | | AC_VF | AD_VF | LB_VF | LL_VF | V_VF |
| 80 | 5 (230VAC_50/60Hz) | 156 | 121 | 313 | 89 | 42 |
| 90S | | 177 | 131,5 | 315 | 89 | 35 |
| 90L | | 177 | 131,5 | 364 | 89 | 35 |
| 100 | | 195 | 140,5 | 401,5 | 89 | 59 |
| 112 | | 220 | 153 | 435 | 89 | 56,5 |
| 132S | | 258 | 172 | 502 | 89 | 89 |
| 132M | | 258 | 172 | 540 | 89 | 89 |
| 80 | 9 (230/400_50_MULT) | 156 | 121 | 365 | 89 | 84,5 |
| 90S | | 177 | 131,5 | 348 | 89 | 69 |
| 90L | | 177 | 131,5 | 397 | 89 | 69 |
| 100 | | 195 | 140,5 | 461,5 | 89 | 99 |
| 112 | | 220 | 153 | 482 | 89 | 66 |
| 132S | | 258 | 172 | 502 | 89 | 89 |
| 132M | | 258 | 172 | 540 | 89 | 89 |

| SIZE + LEN | RAIN SHIELD COVER | |
|---|---|---|
| | AC_RS | LB_RS |
| 80 | 155 | 285 |
| 90S | 176 | 282 |
| 90L | 176 | 331 |
| 100 | 199 | 355 |
| 112 | 214 | 380 |
| 132S | 259 | 426 |
| 132M | 259 | 463 |

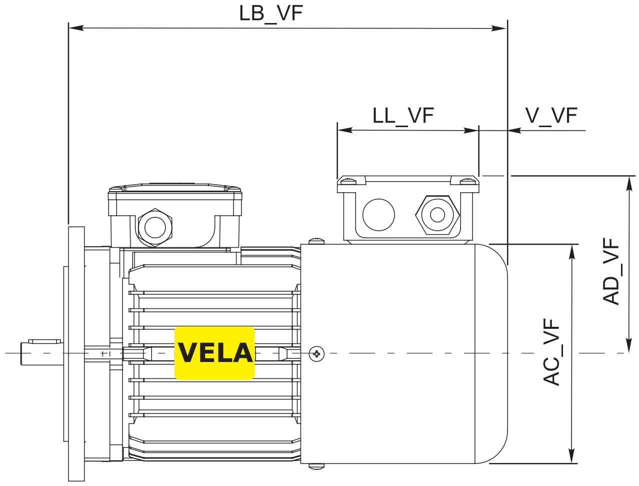
| SIZE + LEN | VSAVE | RAIN SHIELD COVER + POWER COOLING | | | |
|---|---|---|---|---|---|
| | | AC_VF_RS | LB_VF_RS | LL_VF_RS | V_VF_RS |
| 80 | 5 (230VAC_50/60Hz) | 155 | 348 | 89 | 77 |
| 90S | | 176 | 350 | 89 | 70 |
| 90L | | 176 | 399 | 89 | 70 |
| 100 | | 199 | 436,5 | 89 | 94 |
| 112 | | 214 | 470 | 89 | 91,5 |
| 132S | | 259 | 537 | 89 | 124 |
| 132M | | 259 | 575 | 89 | 124 |
| 80 | 9 (230/400_50_MULT) | 155 | 400 | 89 | 119,5 |
| 90S | | 176 | 383 | 89 | 104 |
| 90L | | 176 | 432 | 89 | 104 |
| 100 | | 199 | 496,5 | 89 | 134 |
| 112 | | 214 | 517 | 89 | 101 |
| 132S | | 259 | 537 | 89 | 124 |
| 132M | | 259 | 575 | 89 | 124 |

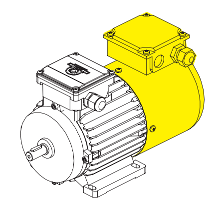
## 1.12 DIMENSIONI (CONTINUA)

## *1.12 DIMENSIONS (TO BE CONTINUED)*

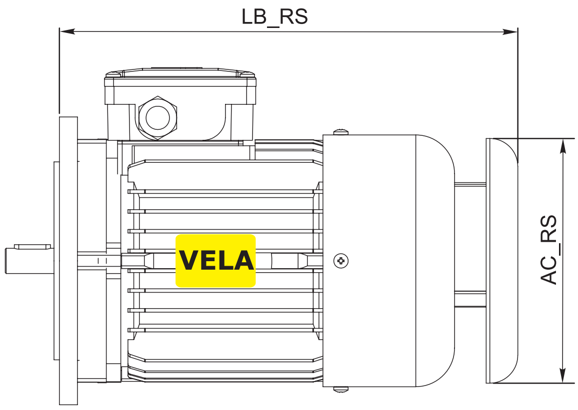
## 1.12 ABMESSUNGEN (FORTSETZUNG)

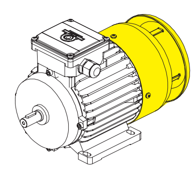
**VF**



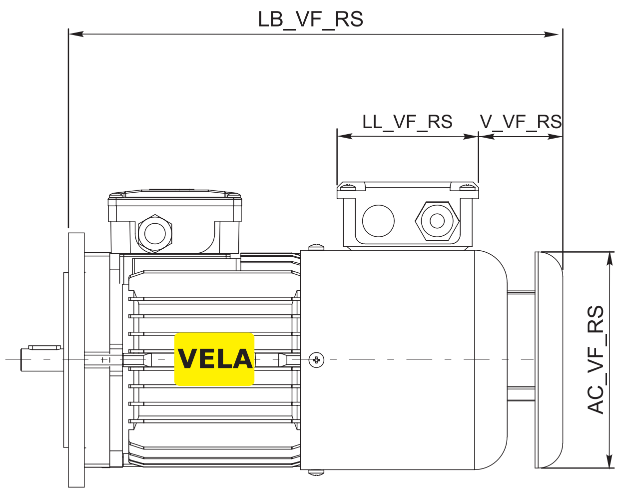



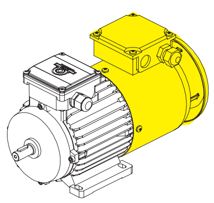
**RS**



**VF RS**



## 1.12 DIMENSIONI (FINE)

## *1.12 DIMENSIONS (THE END)*

## 1.12 ABMESSUNGEN (ENDE)

| SIZE + LEN | POL | VSAVE | POWER COOLING | | | | |
|---|---|---|---|---|---|---|---|
| | | | AC_VF | AD_VF | LB_VF | LL_VF | V_VF |
| 160M | 2 4 6 | 5 (230VAC_50/60Hz) | 310 | 198 | 650 | 89 | 87 |
| 160L | 2 4 6 | | 310 | 198 | 718 | 89 | 87 |
| 160M | 2 4 6 | 9 (230/400_50_MULT) | 310 | 198 | 650 | 89 | 87 |
| 160L | 2 4 6 | | 310 | 198 | 718 | 89 | 87 |
| 180M | 2 4 6 | | 356 | 229 | 706 | 93 | 98 |
| 180L | 2 4 6 | | 356 | 229 | 775 | 93 | 98 |
| 200 | 2 4 6 | | 399 | 250,5 | 789 | 93 | 133 |
| 225S | 4 | | 445 | 273,5 | 820 | 93 | 122 |
| 225M | 2 | | 445 | 273,5 | 886 | 93 | 122 |
| 225M | 4 6 | | 445 | 273,5 | 886 | 93 | 122 |

| SIZE | RAIN SHIELD COVER | |
|---|---|---|
| | AC_RS | LB_RS |
| 160 | A richiesta<br>*Upon request*<br>Auf Anfrage | |
| 180 | | |
| 200 | | |
| 225 | | |
| 250 | | |
| 280 | | |
| 315 | | |

| SIZE | VSAVE | RAIN SHIELD COVER + POWER COOLING | | | |
|---|---|---|---|---|---|
| | | AC_VF_RS | LB_VF_RS | LL_VF_RS | V_VF_RS |
| 160 | 5 (230VAC_50/60Hz) | A richiesta<br>*Upon request*<br>Auf Anfrage | | | |
| 160 | 9 (230/400_50_MULT) | A richiesta<br>*Upon request*<br>Auf Anfrage | | | |
| 180 | | | | | |
| 200 | | | | | |
| 225 | | | | | |
| 250 | | | | | |
| 280 | | | | | |
| 315 | | | | | |

B

# D


ESV
*ESV*
ESV


ESV CAPACITORLESS
*ESV CAPACITORLESS*
ESV CAPACITORLESS


ESV CAPACITORLESS ALFA
*ESV CAPACITORLESS ALFA*
ESV CAPACITORLESS ALFA


ESV SERIE S
*ESV SERIE S*
ESV SERIE S


ESV SERIE SLIM
*ESV SERIE SLIM*
ESV SERIE SLIM

## SIMBOLOGIA

## *SYMBOLS*

## VERWENDETE SYMBOLE

| Simbolo *Symbols* Symbol | Unità di misura *Unit of measurement* Maßeinheit | DEFINIZIONE | *DEFINITION* | DEFINITION |
|---|---|---|---|---|
| **C** | [Nm] | Coppia | *Torque* | Moment |
| **$C_a$** | [Nm] | Coppia di avviamento | *Starting torque* | Dremmoment |
| **$C_B$** | [Nm] | Coppia base | *Basetorque* | Grundmoment |
| **$C_F$** | [Nm] | Coppia frenante | *Brake torque* | Bremsemoment |
| **$C_L$** | [Nm] | Coppia limite | *Limit torque* | Grenzemoment |
| **$C_{max}$** | [Nm] | Coppia massima | *Max. torque* | Höchstmoment |
| **$C_n$** | [Nm] | Coppia nominale | *Rated torque* | Nennmoment |
| **$\cos\varphi$** | — | Fattore di potenza | *Power factor* | Leistungsfaktor |
| **$C_r$** | [Nm] | Coppia resistente | *Counter-torque during acceleration* | Lastmoment |
| **$C_{VF}$** | [μF] | Capacità condensatore | *Capacitor capacity* | Kondensatorkapazität |
| **$F_a$** | [N] | Carico assiale | *Axial Load* | Axialbelastung |
| **f** | [Hz] | Frequenza | *Frequency* | Frequenz |
| **$f_B$** | [Hz] | Frequenza base | *Base frequency* | Grund frequenz |
| **$f_L$** | [Hz] | Frequenza limite | *Limit frequency* | Grenze frequenz |
| **$f_{max}$** | [Hz] | Frequenza massima | *Max. frequency* | Höchst frequenz |
| **$F_r$** | [N] | Carico radiale | *Radial load* | Radialbelastung |
| $\eta$ | — | Rendimento | *Efficiency* | Wirkungsgrad |
| **$I_a$** | [A] | Corrente di spunto | *Starting current* | Anlaufstrom |
| **$I_n$** | [A] | Corrente nominale | *Rated current* | Nennstrom |
| **$J_c$** | [Kgm²] | Momento di inerzia del carico | *Load moment of inertia* | Massenträgheitsmoment der externen Massen |
| **$J_m$** | [Kgm²] | Momento di inerzia motore | *Moment of inertia* | Trägheitsmoment |
| **$n_B$** | [min⁻¹] | Velocità base | *Base speed* | Grund drehzahl |
| **$n_L$** | [min⁻¹] | Velocità limite | *Limit speed* | Grenze drehzahl |
| **$n_{max}$** | [min⁻¹] | Velocità massima | *Max. speed* | Höchst drehzahl |
| **$n_n$** | [min⁻¹] | Velocità nominale | *Rated speed* | Nenndrehzahl |
| **$P_B$** | [W] | Potenza assorbita dal freno a 20° C | *Power drawn by the brake at 20°C* | Leistungs auf nahme der Bremse bei 20°C |
| **P** | [kW] | Potenza | *Power* | Leistung |
| **$P_b$** | [kW] | Potenza base | *Base power* | Basis leistung |
| **$P_L$** | [kW] | Potenza limite | *Limit power* | Grenzeleistung |
| **$P_{max}$** | [kW] | Potenza massima | *Max. power* | Max. Leistung |
| **$P_n$** | [kW, HP] | Potenza nominale motore | *Motor rated power* | Nennleistung |
| **$A_v$** | [A] | Corrente assorbita servoventilazione | *Cooling fan current* | Servolelüftung Strom |
| **$S_c$** | — | Capacità di spunto | *Starting capacity* | Startkapazität |
| **$V_B$** | [m³/min] | Portata aria di raffreddamento | *Capacity cooling air* | Kühlluft der Kapazität |
| **$V_n$** | [V] | Tensione nominale | *Nominal voltage* | Nennspannung |
| **$Z_c$** | [1/h] | N° di avviamenti ammissibili a carico | *Max permissible loaded startings frequency* | Anzahl der Starts die unterhaltsberechtigten |
| **$Z_0$** | [1/h] | N° di avviamenti ammissibili a vuoto (I = 50%) | *Max.permissible no-load starting frequency (I=50%)* | Max. Schalthäufigkeitim Leerl auf (relative Einschalt-dauerI=50%) |
|  | [Kg] | Peso | *Weight* | Maße |

## 1.0 ESV *ESV* ESV

## ESV ... C ...
## ESV ...CA ...




D

## 1.1 GENERALITÀ

**Presentazione del prodotto**

La STM s.p.a., da sempre propositiva verso il mercato, è stata pioniere nel connubio tra elettronica e meccanica realizzando l'ESV Electronic Speed Variator.
ESV nasce come sostituto del variatore meccanico di velocità e ne è l'erede tecnologicicamente all'avanguardia: alta efficenza ed attenzione all'ambiente.
L'ESV "the new intelligent system", risponde ad un mercato esigente e selettivo combinando le prestazioni del variatore meccanico con l'affidabilità e soprattutto la flessibilità del controllo elettronico.
Lo speciale controllo di velocità vettoriale consente la coppia costante pari al valore nominale del motore e scorrimenti di velocità estremamente bassi su tutto il campo di velocità.
Il motore elettrico è protetto elettronicamente da sovraccarichi e sovratemperature segnalate sul display con appositi codici di errore.
Il controllo di velocità integrato ridurce lo spazio sul quadro di controllo e ne semplifica il suo allacciamento.
L'assenza di cablaggio tra motore e controllo elettronico elimina i problemi di compatibilità elettromagnetica e di instabilità elettrica riducendo così la messa in servizio al solo allacciamento in rete.
Il variatore elettronico è un prodotto progettato per l'ambiente industriale e possiede le seguenti caratteristiche:
• prestazioni meccaniche comparabili al variatore meccanico
• grado di protezione IP55 standard
• soddisfa le linee guida della direttiva EU sulla compatibilità elettromagnetica EMC (filtro di rete incorporato di serie) in tema di emissione e immunità dei disturbi
• conforme alla direttiva EU sulla bassa tensione LVD e norme tecniche armonizzate sulla sicurezza elettrica
• facile interfacciabilità con i sistemi di controllo come PLC o controlli a microprocessore grazie al sistema di ingressi e uscite digitali e analogiche disponibili
• interfaccia seriale:
standard
RS485 (MODBUS)
Bus di campo opzionali
SERCOS III, ETHERCAT, CAN BUS (CAN OPEN , DEVICE NET), PROFIBUS (PROFIBUS DP, PROFIDRIVE)

## *1.1 GENERAL INFORMATION*

**Product Presentation**

*S.T.M. S.p.A., always innovative towards the market, has been a pioneer in the union between electronics and mechanics by realising ESV Electronic Speed Variator.*
*ESV was created as a replacement for the mechanical speed variator with cutting-edge technology: high efficiency and attention to the environment.*
*ESV the new intelligent system, meets the requirements of an exigent and selective market by combining the performances of the mechanical variator and the reliability and most of all flexibility of the electronic control.*
*The special vector speed control enables the constant torque equal to the nominal value of the motor and very low speed sliding all over the speed renge.*
*The electronic motor is protected from overloads and over-temperatures which are displayed with appropriate error codes.*
*The integrated speed control enables reduction of control panel dimension and makes installation easier.*
*The absence of wiring between the motor and the electronic control avoids electromagnetic compatibility problems and electric instability, by simplifying the commissioning.*
*The electronic variator is a product which suite to the industrial environment and has the following characteristics:*
*• mechanical performances comparable to mechanic variator*
*• protection degree IP55 standard*
*• satisfy the guidelines of CEE directive on electromagnetic compatibility EMC (serial incorporated network filter) on the sending out and immunity of the bothers*
*• in conformity with CEE directive on low voltage LVD and with the technical norms in force on electric safety*
*• easy to interface with control systems such as PLC or microprocessors controls, thanks to the availability of an appropriate system of digital and analog inputs and outputs*
*• serial interface:*
*standard RS485 (MODBUS)*
Optional field buses
SERCOS III, ETHERCAT
*CAN BUS (CAN OPEN , DEVICE NET)*
*PROFIBUS (PROFIBUS DP, PROFIDRIVE*

## 1.1 ALLGEMEINES

**Produktbeschreibung**

Schon immer auf die Bedürfnisse des Marktes ausgerichtet, war die STM spa auch bei der Realisierung des Electronic Speed Variator führend, indem Elektronik und Mechanik kombiniert wurden.
ESV wurde als Ersatz des mechanischen Drehzahlwandels entwickelt und ist der technologisch fortschrittliche Erbe: hohe Effizienz und Wahrung der Umwelt.
Der ESV vereint die Leistungen eines mechanischen Verstellgetriebes mit der Zuverlässigkeit und vor allem mit der Flexibilität elektronischer Regeleinheiten.
Die elektronische Regeleinheit ermöglicht ein konstantes Drehmoment gleich dem Nennwert des Motors und sehr geringe Drehzahlschwankungen im gesamten Drehzahlbereich.
Der Elektromotor ist elektronisch vor Überlastung und Überhitzung geschützt, die auf dem Anzeiger mit vorgesehene Fehlercoden angezeichnet sind.
Die integrierte Drehzahlkontrolle reduziert den Platzbedarf im Schaltschrank und vereinfacht den Anschluß.
Das Fehlen einer Verkabelung zwischen Motor und Kontrolleinheit beseitigt die Probleme der elektro-magnetischen Kompatibilität und der elektrischen Instabilität, wodurch sich die Inbetriebnahme auf den reinen Netzanschluss reduziert Der elektronische Drehzahlwandler ist ein Produkt, welches für den industriellen Einsatz konstruiert wurde und die folgenden Eigenschaften besitzt:
• Mechanische Leistungen vergleichbar mit dem mechanischen Drehzahlwandler
• Schutzgrad IP55 standard
• erfüllt die Richtlinien der CEE-Vorschrift hinsichtlich der elektromagnetischen Kompatibilität EMC (serienmäßig eingebauter Netzfilter) in Bezug auf Störungsemission und -immunität.
• entspricht der CEE-Vorschrift hinsichtlich Niederspannung LVD und den auf die elektrische Sicherheit abgestimmten technischen Normen
• einfache Schnittstellenbildung mit Kontrollsystemen wie SPS oder Mikroprozessorkontrollen dank an einem digital und analog Eingangs und Ausgangssystem
• serienschnittstelle:
standard RS485 (MODBUS)
Optionale Feldbusse
SERCOS III, ETHERCAT, CAN BUS (CAN OPEN , DEVICE NET), PROFIBUS (PROFIBUS DP, PROFIDRIVE)

## 1.1 GENERALITÀ (CONTINUA)

**Installazione, messa in servizio, uso e manutenzione**

Gli aspetti relativi alle modalità di installazione, messa in servizio, uso e manutenzione dell'ESV sulle sue diverse tipologie e configurazioni sono riportati sul "manuale di uso e manutenzione".
Il manuale è fornito allegato al prodotto ed è relativo alla sua configurazione.
Prima di installare, mettere in servizio o manutenere qualunque tipo di ESV in qualunque configurazione consultare il manuale allegato.
Qualora sia stato smarrito lo stesso richiedere copia all'ufficio tecnico STM.

## *1.1 GENERAL INFORMATION (TO BE CONTINUED)*

***Installation, start up, use and maintenance***

*The modalities of ESV installation, start up, use and maintenance and its different features and configuration are listed in the "use and maintenance manual".*
*The manual is supplied together with the product and it is about its configuration.*
*Before starting the installation, the start up or maintenance of any kind and configuration of ESV look the manual up enclosed.*
*In case it has been lost please ask a copy to S.T.M. Technical Dept.*

## 1.1 ALLGEMEINES (FORTSETZUNG)

**Installation, Inbetriebnahme, Gebrauch und Instandhaltung**

Die verschiedenen Ausführungen und Konfigurationen bezüglich Installation, Inbetriebnahme, Gebrauch und Instandhaltung des ESV sind im „Gebrauchs- und Instandhaltungshandbuch" aufgeführt.
Das Handbuch ist typspezifisch und wird zusammen mit dem Produkt ausgeliefert Für jede Ausführung des ESV ist vor Installation, Inbetriebnahme oder Instandhaltungsmaßnahmen irgendwelcher Art das jeweils beigefügte Handbuch durchzulesen.
Sollte das Handbuch nicht mehr vorhanden sein, so fordern Sie bitte im technischen Büro von STM eine neue Ausführung an.

**Direttive CEE- marcatura CE**

1

Direttiva bassa tensione 2014-35-EU
Gli ESV sono conformi alle prescrizioni della direttiva bassa tensione.
Direttiva compatibilità elettromagnetica 2004/108/EU.
Gli ESV sono conformi alle specifiche della direttiva di compatibilità elettromagnetica.
Direttiva macchine 2014/30/EU.
Gli ESV non sono macchine ma organi da installare o da assemblare nelle macchine.
Marcatura CE, dichiarazione del fabbricante e dichiarazione di conformità
Gli ESV hanno marcatura CE.
Questa marcatura indica la loro conformità alla direttiva bassa tensione e alla direttiva compatibilità elettromagnetica.
Su richiesta STM può fornire la dichiarazione di conformità dei prodotti e la dichiarazione del fabbricante secondo la direttiva macchine

***EC directives - CE mark***

1

*Low voltage directive* 2014-35-EU
*The ESV meet the specification of the low voltage directive.*
*EMC directive* 2004/108/EU.
*The ESV correspond to the specifications of the EMC directive.*
*Machine directive* 2014/30/EU.
*The ESV are not application-ready in reference to the above mentioned directive on individual machines.*
*It is exclusively for installation into a machine or for assembly into a machine.*
*CE mark, conformity declarations and manufacturer's declaration*
*ESV carry the CE mark. Herewith is conformity to the low voltage directive documented.*
*STM supplies on request both the conformity declarations and the manufacturer declaration to the machine directives.*

**EC Richtlinien –CE Marckierung**

1

Niederspannungsrichtlinie 2014-35-EU.
Die ESV ist erfullen die Vorschriften der Niederspann-ungrichtlinie.
EMV-Richtlinie 2004/108/EU.
Der ESV entsprechen den Vorschriften der EMV-richtlinie.
Machinenrichtlkinie 2014/30/EU.
Der ESV ist Einzelmaschinen, sie sind nicht verwendungsfertig.
Er ist ausschliesslich zum Einbau in eine Maschine oder zum Zusammenbau zu einer Maschine bestimmt.
CE-Markierung,Konformitäts-und Hersteller-Erklärung.
Der ESV trage die CE-Markierung, womit die Konformnität mit der Niederspannungrichtlinie dokumentiert ist.
STM stellt auf Wunsch sowohl die Konformitatserklärung als auch die Hertstellererklärung zu.

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## 1.1 GENERALITÀ (FINE)

## *1.1 GENERAL INFORMATION (THE END)*

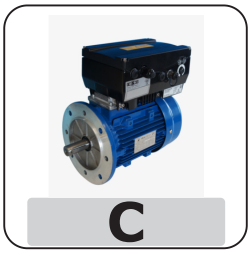
## 1.1 ALLGEMEINES (ENDE)

# ESV

### ESV trifasi serie C

### *ESV three-phase C-series*

### ESV dreiphasig C-Serie




| | | | |
|---|---|---|---|
| Designazione | *Designation* | Bezeichnungen | D7 |
| Accessori | *Accessories* | Zubehör | D20 |
| Dati Tecnici | *Technical data* | Technische Daten | D37 |

alimentazione 400-480V 50/60Hz
potenza fino a 22 kW

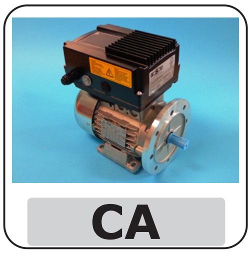
*400-480V 50 / 60Hz power supply*
*power up to 22 kW*

400-480V 50 / 60Hz Stromversorgung
Leistung bis 22 kW

### ESV monofase serie CA

### *ESV single-phase CA-series*

### ESV einphasig CA-Serie




| | | | |
|---|---|---|---|
| Designazione | *Designation* | Bezeichnungen | D7 |
| Accessori | *Accessories* | Zubehör | D20 |
| Dati Tecnici | *Technical data* | Technische Daten | D37 |

alimentazione 200-230V 50/60Hz
potenza fino a 0,75 kW

*200-230V 50/60Hz power supply*
*power up to 0,75 kW*

200-230V 50/60Hz Stromversorgung.
Leistung bis 0,75 kW

### ESV monofase serie S

### *ESV single-phase S-series*

### ESV einphasie S-Serie


| | | | |
|---|---|---|---|
| Designazione | *Designation* | Bezeichnungen | D7 |
| Accessori | *Accessories* | Zubehör | D20 |
| Dati Tecnici | *Technical data* | Technische Daten | D37 |

alimentazione 220-230V 50/60Hz
potenza fino a 4 kW

*200-230V 50/60Hz power supply*
*power up to 4 kW*

200-230V 50/60Hz Stromversorgung.
Leistung bis 4 kW

## 1.2 DESIGNAZIONE

## *1.2 DESIGNATION*

## 1.2 BEZEICHNUNGEN

| Parameter | Descrizione | *Description* | Beschreibung |
|---|---|---|---|
| **CERA** | Certificazione - Azionamento | *Certification - Electronic Control* | Zertifizierung - Electronic Control |
| **MARA** | Marcatura - Azionamento | *Marking - Electronic Control* | Markierung - Electronic Control |
| **HPA** | Taglia ESV | *Size ESV* | Größe ESV |
| **TYPA** | Tipo | *Type* | Typ |
| **IO** | Ingressi / Uscite | *Input / Output* | Input / Output |
| **KB** | Tastiera | *Keyboard* | Tastatur |
| **SIZEA** | Involucro - ESV | *Terminal BOX - ESV* | Terminal BOX - ESV |
| **FR** | Frenatura | *Braking* | Bremsung |
| **PCA** | Ventilazione azionamento | *Ventilation of the drive* | Antriebsbelüftung |
| **CEPA** | Predisposizione ingresso segnali | *cable entry drive* | Auslegung Signaleingang |
| **CEPAP** | Posizione potenziometro regolazione velocità | *Position Speed Potentiometer* | Potentiometerposition Geschwindigkeitseinstellung |
| **CEPAI** | Interruttore FWD STOP REV | *Switch FWD STOP REV* | FWD STOP REV Schalter |
| **VOLTA** | Tensione | *Voltage* | Spannung |
| **FREQA** | Frequenza | *Frequency* | Frequenz |
| **PLATEA** | Targa | *Plate* | Typenschild |
| **MM** | Modello motore | *Motor model* | Motormodell |
| **ALHTA** | Range di temperatura ambiente | *Range temperature ambient* | Umgebungstemperaturbereich |
| **IPA** | Grado protezione Azionamento | *Protection level Drive* | Schutzart des Antriebs |
| **FPA** | Targhetta Azionamento | *Drive plate* | Antriebstypenschild |
| **CERM** | Certificazione Motore | *Certification Motor* | Motorzertifizierung |
| **MARM** | Marcatura Motore | *Motor Marking* | Motormarkierung |
| **CER** | Certificazione | *Certification* | Zertifizierung |
| **MAR** | Marcatura | *Marking* | Markierung |
| **TYP** | Tipo | *Type* | Typ |
| **IN** | Opzione inverter | *Inverter options* | Option Inverter |
| **BF** | Opzione avvolgimento equilibrato (bifase) | *Option of balanced winding* | Option ausgewogene Wicklung |
| **TYPM** | Tipo Motore | *Type Motor* | Typmotor |
| **POL** | Numero poli | *Number of poles* | Polzahl |
| **TOW** | Tipo d'avvolgimento | *Winding type* | Wicklungsart |
| **SIZEM** | Grandezza | *Size* | Größe |
| **LEN** | Lunghezza | *Length* | Läge |
| **DV** | Forma | *Design version* | Bauform |
| **PTB** | Posizione morsettiera | *Terminal box position* | Position Klemmenkasten |
| **MF** | Piedi modulari | *Modular feet* | Modular Feet |
| **AVC** | Forma costruttiva | *Available configurations* | Bauformen |
| **SDM** | Diametro albero | *Shaft diameter* | Wellendurchmesser |
| **F** | Flangia | *Flange* | Flansch |
| **HB14** | Numero fori flangia B14 | *Number of holes in B14 flange* | Nr. B14 Flanschbohrungen |
| **CS** | Condensatore speciale | *Special capacitor* | Spezieller Kondensator |
| **CL** | Classe di isolamento | *Insulation class* | Isolierklasse |
| **ALHTM** | Range di temperatura ambiente | *Range temperature ambient* | Umgebungstemperaturbereich |
| **TR** | Tropicalizzato (Protezione umidità) | *Tropicalized (Damp protection)* | Tropenfest (Feuchtigkeitsschutz) |
| **IP** | Grado di protezione | *Protection level* | Schutzart |
| **RES** | Resinatura | *Resin* | Harz |
| **VOLT** | Tensione | *Voltage* | Spannung |
| **FREQ** | Frequenza | *Frequency* | Frequenz |

D

## 1.2 DESIGNAZIONE (CONTINUA)

## *1.2 DESIGNATION (TO BE CONTINUED)*

## 1.2 BEZEICHNUNGEN (FORTSETZUNG)

| Parameter | Descrizione | *Description* | Beschreibung |
|---|---|---|---|
| **PLATE** | Targa | *Plate* | Typenschild |
| **POW50** | Potenza a 50Hz | *Power 50Hz* | Leistung 50Hz |
| **POW60** | Potenza a 60Hz | *Power 60Hz* | Leistung 60Hz |
| **POW** | Potenza | *Power* | Leistung |
| **CEP1** | Posizione pressacavo 1 motore | *cable entry 1 position motor* | Position der Kabelverschraubung 1 für Motor |
| **CEP2** | Posizione pressacavo 2 motore | *cable entry 2 position motor* | Position der Kabelverschraubung 2 für Motor |
| **TOD** | Tipo di servizio | *Type of duty* | Betriebsart |
| **FPL** | Prima targhetta | *First plate* | Erstes Typenschild |
| **SPL** | Seconda targhetta | *Second plate* | Zweites Typenschild |
| **TOB** | Tipo di freno | *Brake type* | Bremsentyp |
| **BTV** | Valore coppia freno | *Braking torque value* | Bremsmomentwert |
| **RLP** | Posizione leva di sblocco | *Release lever position* | Position des Entsperrhebels |
| **SASD** | Alimentazione separata freno | *Separate voltage supply* | Separate Stromversorgung |
| **VSASD** | Valore alimentazione separata freno | *Value separate power brakes* | Wert separaten Bremskraftverstärkers |
| **BOT** | Tempo intervento freno | *Brake Operating time* | Zeit für Bremsvorgang |
| **IPF** | Grado di Protezione del freno | *Protection level of brake* | Schutzart der Bremse |
| **CEPB** | Posizione pressacavo freno | *cable entry position brake* | DESC D |
| **DES** | Albero bisporgente | *Double ended shaft* | Zweiseitige Welle |
| **TDES** | Tipo di Albero bisporgente | *Type of double ended shaft* | Typ zweiseitiger Welle |
| **PC** | Ventilazione | *Cooling* | Lüfter |
| **SAVE** | Alimentazione separata servoventilazione | *Separate power forced ventilation* | Separate Stromversorgung der Servobelüftung |
| **VSAVE** | Alimentazione esterna ventola | *External power supply fan* | Externes Netzteil-Lüfter |
| **PSAVE** | Posizione morsettiera separata ventola | *Separate fan terminal position* | Fremdlüfter Endstellung |
| **CEPV** | Posizione pressacavo servoventilazione | *cable entry position forced ventilation* | Position der Kabelverschraubung für Servobelüftung |
| **IPS** | Grado di Protezione della servoventilazione | *Degree protection of cooling forced* | Schutzklasse der Servobelüftung |
| **RS** | Tettuccio parapioggia | *Rain shield* | Regenschutzdach |
| **SC** | Scaldiglie anticondensa | *Anti condensation heaters* | Wicklungsheizung |
| **ASC** | Valore alimentazione scaldiglia | *Heater power value* | Wert der Heizleistung |
| **CEPS** | Posizione pressacavo scaldiglia | *cable entry position heater* | Position der Kabelverschraubung für Wicklungsheizung |
| **CD** | Scarico Condensa | *Condensation drain hole* | Kondenswasserablauf |
| **CDAVC** | Posizione spaziale motore (posizione morsettiera) | *Position of the motor (Terminal board position)* | Position des Motors (Klemmenkastenposition) |
| **TO** | Protezione termiche | *Thermal overload cut out switches* | Überhitzungsschutz |
| **CEPT** | Posizione pressacavo termica | *Thermal cable entry position* | Position der Kabelverschraubung für Wärmeschutz |
| **PA** | Verniciatura | *Painting* | Anstrich |
| **EN** | Encoder | *Encoder* | Encoder |
| **MOEM** | Encoder - Company | *Encoder - Company* | Encoder - Company |
| **MOE** | Modello di Encoder | *Encoder model* | Encoder-Modell |
| **CEPE** | Posizione pressacavo encoder | *encoder cable entry position* | Position der Kabelverschraubung für Encoder |
| **SBF** | Cuscinetto speciale anteriore | *Special front bearing* | Lager vorne |
| **SBR** | Cuscinetto speciale posteriore | *Special rear bearing* | Lager hinten |

## 1.2 DESIGNAZIONE (FINE) 1.2 DESIGNATION (THE END) 1.2 BEZEICHNUNGEN (ENDE)

| Parameter | Descrizione | *Description* | Beschreibung |
|---|---|---|---|
| **TCEPA** | Tipo pressacavi azionamento | *Drive cable entry type* | Typ der Kabelverschraubungen |
| **TCEP1** | Tipo pressacavo 1 motore | *cable entry type 1 motor* | Typ der Kabelverschraubung 1 für Motor |
| **TCEP2** | Tipo pressacavo 2 motore | *cable entry type 2 motor* | Typ der Kabelverschraubung 2 für Motor |
| **TECPB** | Tipo pressacavo freno | *cable entry type brake* | Typ der Kabelverschraubung für Bremse |
| **TCEPV** | Tipo pressacavo servoventilazione | *cable entry type forced ventilation* | Typ der Kabelverschraubung für Servobelüftung |
| **TCEPS** | Tipo pressacavo scaldiglia | *cable entry type heater* | Typ der Kabelverschraubung für Stillstandheizung |
| **TCEPT** | Tipo pressacavo termica | *Thermal cable entry type* | Typ der Kabelverschraubung für Wärmeschutz |
| **TCEPE** | Tipo pressacavo encoder | *cable entry type encoder* | Typ der Kabelverschraubung für Encoder |
| **ACCP** | Accessorio potenziometro CA | *Accessories - Potentiometer CA* | Accessories - Potentiometer CA |
| **ACCC** | Accessorio connettore CANopen CA | *Accessories - CANopen CA* | Accessories - CANopen CA |
| **ACCM12** | Accessorio connettore MMI M12 CA | *Accessories - MMI M12 CA* | Accessories - MMI M12 CA |
| **ACCQC** | Acessorio connettore quadro controllo | *Accessories - Control panel* | Zubehör - Bedienfeld |
| **ACCD** | Acessorio Tastiera | *Accessories - Display* | Zubehör - Anzeige |
| **ACCDCBL** | Acessorio cavo Tastiera | *Accessories - Cable of Display* | Zubehör - Displaykabel |

D

## 1.2 DESIGNAZIONE | *1.2 DESIGNATION* | 1.2 BEZEICHNUNGEN

**CODE:** Example of Order

| ESV | 1 | CE | 10 | C | - | - | A | - | - | AC |
|---|---|---|---|---|---|---|---|---|---|---|

**WEB:** Reference Designation

**BASIC_CODE_ESV**

| Riferimento Series | Certification | Family selection |
|---|---|---|
| SERIES_PMG | CERA-M | SFA-M |

| Serie - Prodotto | Certification Electronic Control | Marking Electronic Control | Size ESV | Type | Input Output | Keyboard | Terminal BOX - ESV | Braking | Ventilation of the drive | cable entry drive |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 REFSIZESERIES | 02 CERA | 03 MARA | 04 HPA | 05 TYPA | 06 IO | 07 KB | 08 SIZEA | 09 FR | 10 PCA | 11 CEPA |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|
| ESV | 1, 4 | CE, cULus | 01, 02, 03, 05, 07, 10, 15, 20, 30, 40, 50, 75, 100, 150, 200, 250, 300 | C, CA, S | -1, -C, Y, -, C, E, N, STO, S3, P, C STO, E STO, N STO, S3 STO, P STO, -2, P, I, PI, R, PR, IR, PIR, D, PD, ID, PID, -3 | -, M, D | A, B, C, D, 03, 05, 20, 50, CA1, CA2 | -, B | -, VF | AC, BC, S1, S2, S20, CA, CC, DC, S3, S4, S50 |


C


CA


S

| | |
|---|---|
| AC | AC |
| BC | BC |
| CC | CC |
| DC | DC |
| S1 | S1 = cable gland - position 1 |
| S2 | S2 = cable gland - position 2 |
| S3 | S3 = cable gland - position 3 |
| S4 | S4 = cable gland - position 4 |
| S20 | S20 |
| S50 | S50 |
| CA | CA |

| | |
|---|---|
| - | - |
| VF | VF = ventilazione azionamento |

| | |
|---|---|
| - | - |
| B | B = con chopper di frenatura |

| | |
|---|---|
| A | A |
| B | B |
| C | C |
| D | D |
| 03 | 03 |
| 05 | 05 |
| 20 | 20 |
| 50 | 50 |
| CA1 | CA1 |
| CA2 | CA2 |

| | |
|---|---|
| - | - |
| M | M = Membrana |
| D | D = Display |

| | |
|---|---|
| -1 | -1 = 2DI+1DO+1AI+1Relais+ModbusRTU |
| -C | -C = 2DI+1DO+1AI+1Relais+CAN |
| Y | Y = 2DI+DO+1AI |
| - | - = 4DI+2DO+2AI+1AO+2Relais+ModbusRTU |
| C | C = 4DI+2DO+2AI+1AO+2Relais+CANopen |
| E | E = 4DI+2DO+2AI+1AO+2Relais+EtherCAT |
| N | N = 4DI+2DO+2AI+1AO+2Relais+EtherCAT |
| STO | STO = 2STO+4DI+2DO+2AI+1AO+ModbusRTU |
| S3 | S3 = 4DI+2DO+2AI+1AO+2Relais+SercossIII |
| P | P = 4DI+2DO+2AI+1AO+2Relais+Profibus |
| C STO | C STO = 2STO+4DI+2DO+2AI+1AO+CANopen |
| E STO | E STO = 2STO+4DI+2DO+2AI+1AO+Ethercat |
| N STO | N STO = 2STO+4DI+2DO+2AI+1AO+Profinet |
| S3 STO | S3 STO = 2STO+4DI+2DO+2AI+1AO+SercossIII |
| P STO | P STO = 2STO+4DI+2DO+2AI+1AO+Profibus |
| -2 | -2 = 4DI+1AI+Modbus |
| P | P = 4DI+Modbus |
| I | I = 1DI+1AI+Modbus |
| PI | PI = 1DI+Modbus |
| R | R = 4DI+1AI+1Relais+Modbus |
| PR | PR = 4DI+1Relais+Modbus |
| IR | IR = 1DI+1AI+1Relais+Modbus |
| PIR | PIR = 1DI+1Relais+Modbus |
| D | D = 4DI+1AI+1DO+Modbus |
| PD | PD = 4DI+1DO+Modbus |
| ID | ID = 1DI+1AI+1DO+Modbus |
| PID | PID = 1DI+1DO+Modbus |
| -3 | -3 = 4DI+1AI+1Relais+Modbus |

ESV = electronic speed variator

| | |
|---|---|
| 01 | 01 = kW ≤ 0,09 |
| 02 | 02 = 0,09 < kW ≤ 0,18 |
| 03 | 03 = 0,18 < kW ≤ 0,25 |
| 05 | 05 = 0,25 < kW ≤ 0,37 |
| 07 | 07 = 0,37 < kW ≤ 0,55 |
| 10 | 10 = 0,55 < kW ≤ 0,75 |
| 15 | 15 = 0,75 < kW ≤ 1,1 |
| 20 | 20 = 1,1 < kW ≤ 1,5 |
| 30 | 30 = 1,5 < kW ≤ 2,2 |
| 40 | 40 = 2,2 < kW ≤ 3 |
| 50 | 50 = 3 < kW ≤ 4 |
| 75 | 75 = 4 < kW ≤ 5,5 |
| 100 | 100 = 5,5 < kW ≤ 7,5 |
| 150 | 150 = 7,5 < kW ≤ 11 |
| 200 | 200 = 11 < kW ≤ 15 |
| 250 | 250 = 15 < kW ≤ 18,5 |
| 300 | 300 = 18,5 < kW ≤ 22 |

## 1.2 DESIGNAZIONE (CONTINUA)

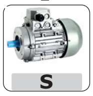
## 1.2 DESIGNATION (TO BE CONTINUED)

## 1.2 BEZEICHNUNGEN (FORTSETZUNG)

| - | - | - | - | 4T | S | 6 | 65 | 2 |
|---|---|---|---|---|---|---|---|---|

**BASIC_CODE_ESV**

| Family selection | | | | | | Insulation class | Protection level | Additional rating plate |
|---|---|---|---|---|---|---|---|---|
| SFA-M | | | | | | CLA-M | IPA-M | SPLA-M |
| Position Speed Potentiometer | Switch FWD STOP REV | Voltage | Frequency | Plate | Modello motore | Range temperature ambient | Protection level Drive | Drive plate |
| 12 CEPAP | 13 CEPAI | 14 VOLTA | 15 FREQA | 16 PLATEA | 17 MM | 18 ALHTA | 19 IPA | 20 FPA |
| - | - | 26 | 3 | 2M | S | 2 | 55 | 2 |
| 1 | 1 | 27 | | 4T | A | 6 | 65 | 4 |
| 2 | 2 | 28 | | | | 7 | | S |
| 3 | 3 | | | | | | | |
| 4 | 4 | | | | | | | |
| S | S | | | | | | | |



| | |
|---|---|
| 2 | 2 = position 2 |
| 4 | 4 = position 4 |
| S | S = up cover - position |

| | |
|---|---|
| 55 | 55 = IP5X=Protected against dust; IPX5=Protected against water jets |
| 65 | 65 = IP6X=Fully protected against dust; IPX5=Protected against water jets |

| | |
|---|---|
| 2 | 2 = 0°C ÷ 40°C |
| 6 | 6 = -25 ÷ 50°C |
| 7 | 7 = -10 ÷ 40°C |

| | |
|---|---|
| 2M | 2M = Single -phase 230V 50/60Hz |
| 4T | 4T = Three-phase 400-480V 50/60Hz |

| | |
|---|---|
| 3 | 3 = 50/60 Hz |

| | |
|---|---|
| 26 | 26 = 200-230 V Single -phase |
| 27 | 27 = 400-480 V Three-phase |
| 28 | 28 = 220-230 V Single -phase |

| | |
|---|---|
| - | - |
| 1 | 1 = position 1 |
| 2 | 2 = position 2 |
| 3 | 3 = position 3 |
| 4 | 4 = position 4 |
| S | S = up cover - position |

| | |
|---|---|
| - | - |
| 1 | 1 = position 1 |
| 2 | 2 = position 2 |
| 3 | 3 = position 3 |
| 4 | 4 = position 4 |
| S | S = up cover - position |

D

## 1.2 DESIGNAZIONE (CONTINUA)

## 1.2 DESIGNATION (TO BE CONTINUED)

## 1.2 BEZEICHNUNGEN (FORTSETZUNG)

| 1 | - | - | CE | VL2 | - | - | 4 | - | 80 | 2 | B5 | - | - | B5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

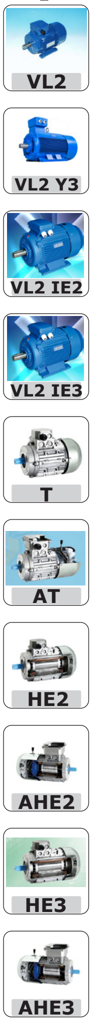
**CODE:** Example of Order

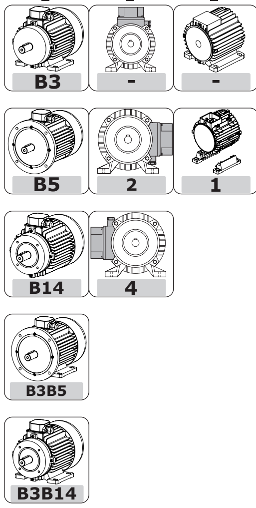
**BASIC_CODE_MGB**

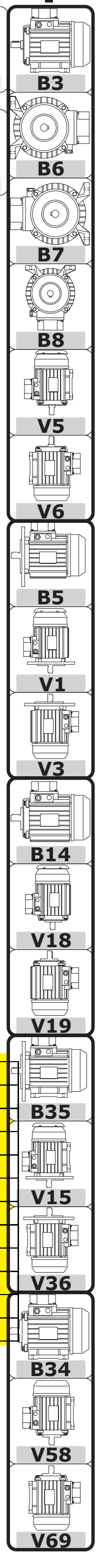
**WEB:** Reference Designation

| Certification | | Family selection | | | Power settlement | | | | Mounting | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CER-M | | SF-M | | | PS-M | | | | F-M | | | |
| Certification Motor | Marking Motor | Type Motor | Inverter options | Option of balanced winding | Number of poles | Winding type | Size | Length | Design version | Terminal box position | Modular feet | Available configurations |
| 21 CERM | 22 MARM | 23 TYPM | 24 IN | 25 BF | 26 POL | 27 TOW | 28 SIZEM | 29 LEN | 30 DV | 31 PTB | 32 MF | 33 AVC |

| 21 CERM | 22 MARM | 23 TYPM | 24 IN | 25 BF | 26 POL | 27 TOW | 28 SIZEM | 29 LEN |
|---|---|---|---|---|---|---|---|---|
| 1 | CE | VL2 | - | - | 2 | - | 50 | A |
| 2 | UR | VL2 Y3 | | | 4 | | 56 | B |
| 3 | CSA | VL2 IE2 | | | 6 | | 63 | BL |
| 4 | UL/CSA | VL2 IE3 | | | 8 | | 71 | BLA |
| | cURus | T | | | 12 | | 80 | C |
| | cURusIS | AT | | | 16 | | 90 | D |
| | | HE2 | | | 32 | | 100 | L |
| | | AHE2 | | | | | 112 | LA |
| | | HE3 | | | | | 132 | LB |
| | | AHE3 | | | | | 160 | M |
| | | | | | | | 180 | MA |
| | | | | | | | 200 | MB |
| | | | | | | | | ML |
| | | | | | | | | MLL |
| | | | | | | | | S |
| | | | | | | | | SL |
| | | | | | | | | 1 |
| | | | | | | | | 2 |
| | | | | | | | | 3 |
| | | | | | | | | S1 |
| | | | | | | | | S2 |
| | | | | | | | | L1 |
| | | | | | | | | L2 |
| | | | | | | | | M1 |
| | | | | | | | | M2 |
| | | | | | | | | M3 |
| | | | | | | | | BBL |
| | | | | | | | | LBB |




| | |
|---|---|
| 50 | 50 = IEC50 |
| 56 | 56 = IEC56 |
| 63 | 63 = IEC63 |
| 71 | 71 = IEC71 |
| 80 | 80 = IEC80 |
| 90 | 90 = IEC90 |
| 100 | 100 = IEC100 |
| 112 | 112 = IEC112 |
| 132 | 132 = IEC132 |
| 160 | 160 = IEC160 |
| 180 | 180 = IEC180 |
| 200 | 200 = IEC200 |

| | |
|---|---|
| 2 | 2 = 2 Poles = 3000 rpm |
| 4 | 4 = 4 Poles = 1500 rpm |
| 6 | 6 = 6 Poles = 1000 rpm |
| 8 | 8 = 8 Poles = 750 rpm |
| 12 | 12 = 12 Poles = 500 rpm |
| 16 | 16 = 16 Poles = 375 rpm |
| 32 | 32 = 32 Poles = 187 rpm |

## 1.2 DESIGNAZIONE (CONTINUA)

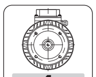
## *1.2 DESIGNATION (TO BE CONTINUED)*

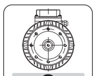
## 1.2 BEZEICHNUNGEN (FORTSETZUNG)

| 19 | 80 | - | - | F | 3 | - | 55 | - | - | - | - | 0.75 | - | - |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**BASIC_CODE_MGB**

| Mounting F-M | | | Special capacitor CS-M | Insulation class CL-M | | | Protection level IP-M | | Supply and duty S-M | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Shaft diameter | Flange | Number of holes in B14 flange | Special capacitor | Insulation class | Range temperature ambient | Tropicalized Damp protection | Protection level | Resin | Voltage | Frequency | Plate | Power 50Hz | Power 60Hz | Power |
| 34 SDM | 35 F | 36 HB14 | 37 CS | 38 CL | 39 ALHTM | 40 TR | 41 IP | 42 RES | 43 VOLT | 44 FREQ | 45 PLATE | 46 POW50 | 47 POW60 | 48 POW |
| 9 | 56 | - | - | F | 1 | - | 55 | - | - | - | - | 0.03 ... 22 | - | - |
| 11 | 63 | 4 | | H | 2 | T | 56 | B | | | | | | |
| 14 | 71 | 8 | | | 3 | | 65 | M | | | | | | |
| 19 | 80 | | | | 5 | | 66 | | | | | | | |
| 24 | 90 | | | | | | 67 | | | | | | | |
| 28 | 100 | | | | | | | | | | | | | |
| 38 | 112 | | | | | | | | | | | | | |
| 42 | 132 | | | | | | | | | | | | | |
| 48 | 160 | | | | | | | | | | | | | |
| 55 | 180 | | | | | | | | | | | | | |
| | 200 | | | | | | | | | | | | | |
| | - | | | | | | | | | | | | | |





**KW - VALUE**

| | |
|---|---|
| - | - = Standard motor |
| B | B = Motor with resined terminal box |
| M | M = Fully resined motor |

| | |
|---|---|
| 55 | 55 = IP5X=Protected against dust; IPX5=Protected against water jets |
| 56 | 56 = IP5X=Protected against dust; IPX6=Protected against powerful water jets |
| 65 | 65 = IP6X=Fully protected against dust; IPX5=Protected against water jets |
| 66 | 66 = IP6X=Fully protected against dust; IPX6=Protected against powerful water jets |
| 67 | 67 = IP6X=Fully protected against dust; IPX7=Protected against the effects of temporary immersion |

| | |
|---|---|
| - | - = Standard motor |
| T | T = Tropicalized motor (for places with moisture content >60%(R.H.) |

| | |
|---|---|
| 1 | 1 = 0°C ÷ 60°C |
| 2 | 2 = 0°C ÷ 40°C |
| 3 | 3 = -15°C ÷ 40°C |
| 5 | 5 = -30°C ÷ 60°C |

| | |
|---|---|
| F | F |
| H | H |

| | |
|---|---|
| 9 | 9 = ø 9 IEC (Std Size 50 & 56) |
| 11 | 11 = ø 11 IEC (Std Size 63) |
| 14 | 14 = ø 14 IEC (Std Size 71) |
| 19 | 19 = ø 19 IEC (Std Size 80) |
| 24 | 24 = ø 24 IEC (Std Size 90) |
| 28 | 28 = ø 28 IEC (Std Size 100 & 112) |
| 38 | 38 = ø 38 IEC (Std Size 132) |
| 42 | 42 = ø 42 IEC (Std Size 160) |
| 48 | 48 = ø 48 IEC (Std Size 180) |
| 55 | 55 = ø 55 IEC (Std Size 200) |

| | |
|---|---|
| - | - |
| 56 | 56 = Reduced flange at IEC56 - Warning! feet dimensions were not reduced |
| 63 | 63 = Reduced flange at IEC63 - Warning! feet dimensions were not reduced |
| 71 | 71 = Reduced flange at IEC71 - Warning! feet dimensions were not reduced |
| 80 | 80 = Reduced flange at IEC80 - Warning! feet dimensions were not reduced |
| 90 | 90 = Reduced flange at IEC90 - Warning! feet dimensions were not reduced |
| 100 | 100 = Reduced flange at IEC100 - Warning! feet dimensions were not reduced |
| 112 | 112 = Reduced flange at IEC112 - Warning! feet dimensions were not reduced |
| 132 | 132 = Reduced flange at IEC132 - Warning! feet dimensions were not reduced |
| 160 | 160 = Reduced flange at IEC160 - Warning! feet dimensions were not reduced |
| 180 | 180 = Reduced flange at IEC180 - Warning! feet dimensions were not reduced |
| 200 | 200 = Reduced flange at IEC200 - Warning! feet dimensions were not reduced |

D

## 1.2 DESIGNAZIONE (CONTINUA)

## 1.2 DESIGNATION (TO BE CONTINUED)

## 1.2 BEZEICHNUNGEN (FORTSETZUNG)

| 1 | - | - | CE | VL2 | - | - | 4 | - | 80 | 2 | B5 | - | - | B5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**CODE:** Example of Order

**WEB:** Reference Designation

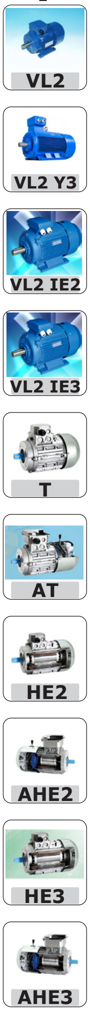
**BASIC_CODE_MGB**

| Certification (CER-M) | | Family selection (SF-M) | | | Power settlement (PS-M) | | | | Mounting (F-M) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Certification Motor | Marking Motor | Type Motor | Inverter options | Option of balanced winding | Number of poles | Winding type | Size | Length | Design version | Terminal box position | Modular feet | Available configurations |
| 21 CERM | 22 MARM | 23 TYPM | 24 IN | 25 BF | 26 POL | 27 TOW | 28 SIZEM | 29 LEN | 30 DV | 31 PTB | 32 MF | 33 AVC |

**21 CERM:** 1, 2, 3, 4

**22 MARM:** CE, UR, CSA, UL/CSA, cURus, cURusIS

**23 TYPM:**



VL2, VL2 Y3, VL2 IE2, VL2 IE3, T, AT, HE2, AHE2, HE3, AHE3

**24 IN:** -

**25 BF:** -

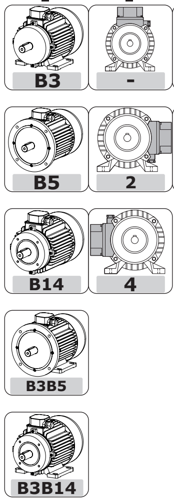
**26 POL:** 2, 4, 6, 8, 12, 16, 32

**27 TOW:** -

**28 SIZEM:** 50, 56, 63, 71, 80, 90, 100, 112, 132, 160, 180, 200

**29 LEN:** A, B, BL, BLA, C, D, L, LA, LB, M, MA, MB, ML, MLL, S, SL, 1, 2, 3, S1, S2, L1, L2, M1, M2, M3, BBL, LBB

**30 DV / 31 PTB / 32 MF:**

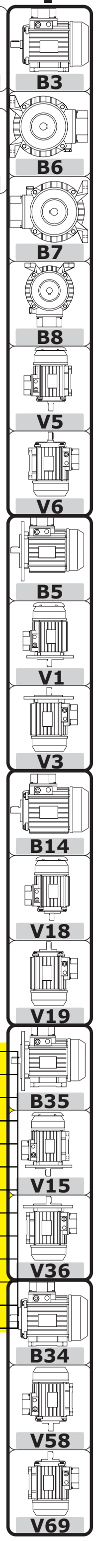


30 DV: B3, B5, B14, B3B5, B3B14

31 PTB: -, 2, 4

32 MF: -, 1

**33 AVC:**



B3, B6, B7, B8, V5, V6, B5, V1, V3, B14, V18, V19, B35, V15, V36, B34, V58, V69

| | |
|---|---|
| 50 | 50 = IEC50 |
| 56 | 56 = IEC56 |
| 63 | 63 = IEC63 |
| 71 | 71 = IEC71 |
| 80 | 80 = IEC80 |
| 90 | 90 = IEC90 |
| 100 | 100 = IEC100 |
| 112 | 112 = IEC112 |
| 132 | 132 = IEC132 |
| 160 | 160 = IEC160 |
| 180 | 180 = IEC180 |
| 200 | 200 = IEC200 |

| | |
|---|---|
| 2 | 2 = 2 Poles = 3000 rpm |
| 4 | 4 = 4 Poles = 1500 rpm |
| 6 | 6 = 6 Poles = 1000 rpm |
| 8 | 8 = 8 Poles = 750 rpm |
| 12 | 12 = 12 Poles = 500 rpm |
| 16 | 16 = 16 Poles = 375 rpm |
| 32 | 32 = 32 Poles = 187 rpm |

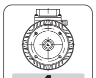
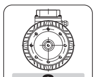
## 1.2 DESIGNAZIONE (CONTINUA)

## 1.2 DESIGNATION (TO BE CONTINUED)

## 1.2 BEZEICHNUNGEN (FORTSETZUNG)

| 19 | 80 | - | - | F | 3 | - | 55 | - | - | - | - | 0.75 | - | - |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**BASIC_CODE_MGB**

| Mounting | | | Special capacitor | Insulation class | | | Protection level | | Supply and duty | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| F-M | | | CS-M | CL-M | | | IP-M | | S-M | | | | | |
| Shaft diameter | Flange | Number of holes in B14 flange | Special capacitor | Insulation class | Range temperature ambient | Tropicalized Damp protection | Protection level | Resin | Voltage | Frequency | Plate | Power 50Hz | Power 60Hz | Power |
| 34 SDM | 35 F | 36 HB14 | 37 CS | 38 CL | 39 ALHTM | 40 TR | 41 IP | 42 RES | 43 VOLT | 44 FREQ | 45 PLATE | 46 POW50 | 47 POW60 | 48 POW |
| 9 | 56 | - | - | F | 1 | - | 55 | - | - | - | - | 0.03 ... 22 | - | - |
| 11 | 63 |  4 | | H | 2 | T | 56 | B | | | | | | |
| 14 | 71 |  8 | | | 3 | | 65 | M | | | | | | |
| 19 | 80 | | | | 5 | | 66 | | | | | | | |
| 24 | 90 | | | | | | 67 | | | | | | | |
| 28 | 100 | | | | | | | | | | | | | |
| 38 | 112 | | | | | | | | | | | | | |
| 42 | 132 | | | | | | | | | | | | | |
| 48 | 160 | | | | | | | | | | | | | |
| 55 | 180 | | | | | | | | | | | | | |
| | 200 | | | | | | | | | | | | | |
| | - | | | | | | | | | | | | | |

**KW - VALUE**

| | |
|---|---|
| - | - = Standard motor |
| B | B = Motor with resined terminal box |
| M | M = Fully resined motor |

| | |
|---|---|
| 55 | 55 = IP5X=Protected against dust; IPX5=Protected against water jets |
| 56 | 56 = IP5X=Protected against dust; IPX6=Protected against powerful water jets |
| 65 | 65 = IP6X=Fully protected against dust; IPX5=Protected against water jets |
| 66 | 66 = IP6X=Fully protected against dust; IPX6=Protected against powerful water jets |
| 67 | 67 = IP6X=Fully protected against dust; IPX7=Protected against the effects of temporary immersion |

| | |
|---|---|
| - | - = Standard motor |
| T | T = Tropicalized motor (for places with moisture content >60%(R.H.) |

| | |
|---|---|
| 1 | 1 = 0°C ÷ 60°C |
| 2 | 2 = 0°C ÷ 40°C |
| 3 | 3 = -15°C ÷ 40°C |
| 5 | 5 = -30°C ÷ 60°C |

| | |
|---|---|
| F | F |
| H | H |

| | |
|---|---|
| 9 | 9 = ø 9 IEC (Std Size 50 & 56) |
| 11 | 11 = ø 11 IEC (Std Size 63) |
| 14 | 14 = ø 14 IEC (Std Size 71) |
| 19 | 19 = ø 19 IEC (Std Size 80) |
| 24 | 24 = ø 24 IEC (Std Size 90) |
| 28 | 28 = ø 28 IEC (Std Size 100 & 112) |
| 38 | 38 = ø 38 IEC (Std Size 132) |
| 42 | 42 = ø 42 IEC (Std Size 160) |
| 48 | 48 = ø 48 IEC (Std Size 180) |
| 55 | 55 = ø 55 IEC (Std Size 200) |

| | |
|---|---|
| - | - |
| 56 | 56 = Reduced flange at IEC56 - Warning! feet dimensions were not reduced |
| 63 | 63 = Reduced flange at IEC63 - Warning! feet dimensions were not reduced |
| 71 | 71 = Reduced flange at IEC71 - Warning! feet dimensions were not reduced |
| 80 | 80 = Reduced flange at IEC80 - Warning! feet dimensions were not reduced |
| 90 | 90 = Reduced flange at IEC90 - Warning! feet dimensions were not reduced |
| 100 | 100 = Reduced flange at IEC100 - Warning! feet dimensions were not reduced |
| 112 | 112 = Reduced flange at IEC112 - Warning! feet dimensions were not reduced |
| 132 | 132 = Reduced flange at IEC132 - Warning! feet dimensions were not reduced |
| 160 | 160 = Reduced flange at IEC160 - Warning! feet dimensions were not reduced |
| 180 | 180 = Reduced flange at IEC180 - Warning! feet dimensions were not reduced |
| 200 | 200 = Reduced flange at IEC200 - Warning! feet dimensions were not reduced |

D

## 1.2 DESIGNAZIONE (CONTINUA)

## 1.2 DESIGNATION (TO BE CONTINUED)

## 1.2 BEZEICHNUNGEN (FORTSETZUNG)

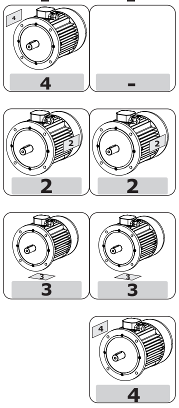
| - | - | - | 2 | - | - | - | - | - | - | - | - | - |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

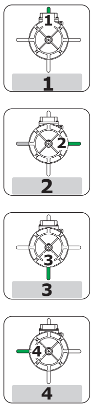
**CODE:** Example of Order

**WEB:** Reference Designation

**BASIC_CODE_MGB**

| Supply and duty | | | Additional rating plate | | Suitable type of brake | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-M | | | SPL-M | | TOB-M | | | | | | | |
| cable entry 1 position motor | cable entry 2 position motor | Type of duty | First plate | Second plate | Brake type | Braking torque value | Release lever position | Separate voltage supply | Value separate power brakes | Brake Operating time | Protection level of brake | cable entry position brake |
| 49 CEP1 | 50 CEP2 | 51 TOD | 52 FPL | 53 SPL | 54 TOB | 55 BTV | 56 RLP | 57 SASD | 58 VSASD | 59 BOT | 60 IPF | 61 CEPB |
| - | - | - | 4 | - | - | - | - | - | - | - | - | - |
| | | | 2 | 2 | FD | 1 | 1 | 1 | 6 | N | 54 | |
| | | | 3 | 3 | FS | ... | 2 | | 7 | R | 55 | |
| | | | | 4 | | 30 | 3 | | 8 | I | 56 | |
| | | | | | | | 4 | | 9 | RI | 65 | |
| | | | | | | | | | 10 | | 66 | |
| | | | | | | | | | 11 | | | |
| | | | | | | | | | 12 | | | |
| | | | | | | | | | 13 | | | |
| | | | | | | | | | 14 | | | |
| | | | | | | | | | 15 | | | |
| | | | | | | | | | 16 | | | |
| | | | | | | | | | 17 | | | |
| | | | | | | | | | 18 | | | |




| | |
|---|---|
| - | - |
| 1 | 1 = 0,5_Nm |
| 2 | 2 = 1_Nm |
| 3 | 3 = 1,25_Nm |
| 5 | 5 = 2,5_Nm |
| 7 | 7 = 4_Nm |
| 10 | 10 = 8_Nm |
| 11 | 11 = 9_Nm |
| 12 | 12 = 10_Nm |
| 13 | 13 = 12_Nm |
| 14 | 14 = 13_Nm |
| 16 | 16 = 16_Nm |
| 17 | 17 = 17_Nm |
| 19 | 19 = 30_Nm |
| 20 | 20 = 32_Nm |
| 22 | 22 = 60_Nm |
| 23 | 23 = 80_Nm |
| 26 | 26 = 150_Nm |
| 29 | 29 = 260_Nm |
| 30 | 30 = 400_Nm |

| | |
|---|---|
| - | - = Models not brakemotor |
| 54 | 54 = IP5X=Protected against dust; IPX4=Protected against water splashes |
| 55 | 55 = IP5X=Protected against dust; IPX5=Protected against water jets |
| 56 | 56 = IP5X=Protected against dust; IPX6=Protected against powerful water jets |
| 65 | 65 = IP6X=Fully protected against dust; IPX5=Protected against water jets |
| 66 | 66 = IP6X=Fully protected against dust; IPX6=Protected against powerful water jets |

| | |
|---|---|
| - | - = Models not brakemotor |
| N | N = Braking and normal starting |
| R | R = Only fast braking |
| I | I = Only fast start |
| RI | RI = Braking and fast start |

| | |
|---|---|
| - | - = Not present |
| 6 | 6 = 24VDC |
| 7 | 7 = 48VDC |
| 8 | 8 = FCC230V50/60Hz |
| 9 | 9 = FCC240V50/60Hz |
| 10 | 10 = FCC400V50/60Hz |
| 11 | 11 = FCC415V50/60Hz |
| 12 | 12 = FCC266V/60Hz |
| 13 | 13 = FCC280V/60Hz |
| 14 | 14 = FCC440V/60Hz |
| 15 | 15 = FCC460V/60Hz |
| 16 | 16 = FCC480V/60Hz |
| 17 | 17 = 24VAC |
| 18 | 18 = 48VAC |

| | |
|---|---|
| - | - = Models not brakemotor |
| FD | FD = d.c. brake |
| FS | FS = parking d.c. brake |

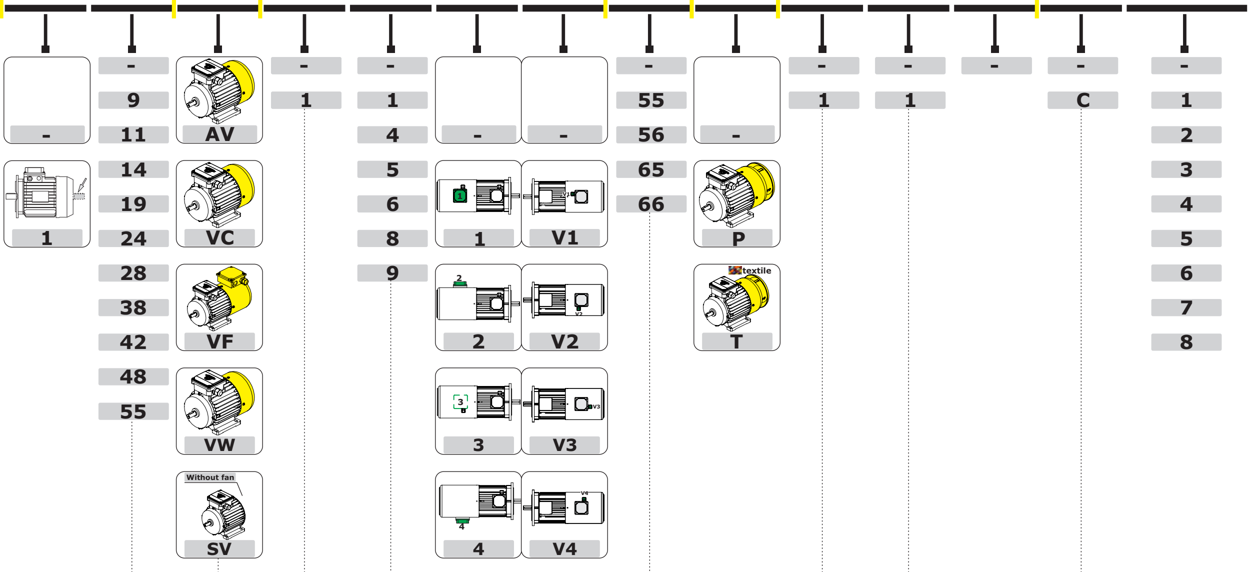
| | |
|---|---|
| - | - = Not present |
| 1 | 1 = Yes |

## 1.2 DESIGNAZIONE (CONTINUA)
## 1.2 DESIGNATION (TO BE CONTINUED)
## 1.2 BEZEICHNUNGEN (FORTSETZUNG)

| - | - | AV | - | - | - | - | - | - | - | - | - | - | - |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**CUSTOM_MGB**

| Mechanical | | Ventilation system | Separate power servoventilation | | | | Insulation class cooling | Mechanical protection | Humidity protection | | | Condensation protection | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M-M | | V-M | SAVE-M | | | | IPS-M | PM-M | HP-M | | | CP-M | |
| Double ended shaft | Type of double ended shaft | Cooling | Separate power servoventilation | External power supply fan | Separate fan terminal position | cable entry position servoventilation | Degree protection of cooling forced | Rain shield | Anti condensation heaters | Heater power value | cable entry position heater | Condensation drainage | Posizione spaziale motore (posizione morsettiera) |
| 62 DES | 63 TDES | 64 PC | 65 SAVE | 66 VSAVE | 67 PSAVE | 68 CEPV | 69 IPS | 70 RS | 71 SC | 72 ASC | 73 CEPS | 74 CD | 75 CDAVC |




| | |
|---|---|
| - | - = Not present |
| C | C = Condensation drainage. |

| | |
|---|---|
| - | - = Not present |
| 1 | 1 = 230VAC 50/60HZ |

| | |
|---|---|
| - | - = Not present |
| 1 | 1 = Yes |

| | |
|---|---|
| - | - |
| 55 | 55 = IP5X=Protected against dust; IPX5=Protected against water jets |
| 56 | 56 = IP5X=Protected against dust; IPX6=Protected against powerful water jets |
| 65 | 65 = IP6X=Fully protected against dust; IPX5=Protected against water jets |
| 66 | 66 = IP6X=Fully protected against dust; IPX6=Protected against powerful water jets |

| | |
|---|---|
| - | - = Not present |
| 1 | 1 = 230/400_50 280/480_60 |
| 4 | 4 = 24VDC_KIT |
| 5 | 5 = 230VAC_50/60Hz |
| 6 | 6 = 230VAC_50/60Hz_KIT |
| 8 | 8 = 400_50_2PH_KIT |
| 9 | 9 = 230/400_50_MULT |

| | |
|---|---|
| - | - |
| 1 | 1 = Yes |

| | |
|---|---|
| AV | AV = selfventilated |
| VW | VW = Flywheel fan |
| VF | VF = Cooling forced |
| VC | VC = cast iron fan |
| SV | SV = Without fan |

| | |
|---|---|
| - | - |
| 9 | 9 = ø 9 IEC |
| 11 | 11 = ø 11 IEC |
| 14 | 14 = ø 14 IEC |
| 19 | 19 = ø 19 IEC |
| 24 | 24 = ø 24 IEC |
| 28 | 28 = ø 28 IEC |
| 38 | 38 = ø 38 IEC |
| 42 | 42 = ø 42 IEC |
| 48 | 48 = ø 48 IEC |
| 55 | 55 = ø 55 IEC |

D

## 1.2 DESIGNAZIONE (CONTINUA) | 1.2 DESIGNATION (TO BE CONTINUED) | 1.2 BEZEICHNUNGEN (FORTSETZUNG)

| - | - | 5010 | - | - | - | - | 2RS | 2RS |
|---|---|---|---|---|---|---|---|---|

CODE: Example of Order

WEB: Reference Designation

**CUSTOM_MGB**

| Thermal protection | | Colour | Encoder | | | | Bearings | |
|---|---|---|---|---|---|---|---|---|
| TO-M | | PA-M | EN-M | | | | B-M | |
| Thermal overload cut out switches | Thermal cable entry position | Painting | Encoder | Encoder Company | Encoder model | encoder cable entry position | Special front bearing | Special rear bearing |
| 76 TO | 77 CEPT | 78 PA | 79 EN | 80 MOEM | 81 MOE | 82 CEPE | 83 SBF | 84 SBR |
| -, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 | - | Without Painting NPA, 1003, 1014, 1018, 1021, 3000, 3020, 5001, 5009, 5010, 5012, 5013, 5017, 6003, 6005, 6010, 6029, 7000, 7012, 7016, 7021, 7023, 7030, 7031, 7032, 7035, 7038, 7043, 9001, 9003, 9005, 9006, 9010, 9017, 9018, 9005 5010, 9005 NPA, 5010 NPA, 9005 5010 NPA | - | - | - | - | Z, S, 2RS, 2RZ, RA | Z, S, 2RS, 2RZ, RA |

| | |
|---|---|
| Z | Z = Radial bearing type ZZ |
| S | S = Bearing for high/low temperatures |
| 2RS | 2RS = Radial bearing type 2RS |
| 2RZ | 2RZ = Radial bearing type 2RZ |
| RA | RA = Radial bearing with greaser |

| | |
|---|---|
| Z | Z = Radial bearing type ZZ |
| S | S = Bearing for high/low temperatures |
| 2RS | 2RS = Radial bearing type 2RS |
| 2RZ | 2RZ = Radial bearing type 2RZ |
| RA | RA = Radial bearing with greaser |

| | |
|---|---|
| - | - = Not present |
| 1 | 1=PTO - 1 bimetallic sensorTP111 |
| 2 | 2=2PTO - 2 bimetallic sensorTP111 |
| 3 | 3=2PTO_S - 2 bimetallic sensors in series TP111 |
| 4 | 4=3PTO - 3 bimetallic sensorTP111 |
| 5 | 5=3PTO_S - 3 bimetallic sensors in series TP111 |
| 6 | 6=PTC - 1 sensor thermistor TP111 |
| 7 | 7=2PTC - 2 sensors thermistor TP111 |
| 8 | 8=2PTC_S - 2 sensors thermistor in series TP111 |
| 9 | 9=3PTC - 3 sensors thermistor TP111 |
| 10 | 10=3PTC_S - 3 sensors thermistor in series TP111 |
| 11 | 11=PT100 - 1 sensor PT100 |
| 12 | 12=2PT100 - 2 sensors PT100 |
| 13 | 13=3PT100 - 3 sensors PT100 |

| AC | - | - | - | - | - | - | - | - | - | - | - | - | - |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

**CUSTOM_MGB** — cable entry type motor — TP-M

**ACC_ESV** — Accessori ESV CA — ACC-CA; Accessori ESV C - CA - S — ACC-SCCA

| Drive cable entry type | cable entry type 1 motor | cable entry type 2 motor | cable entry type brake | cable entry type servoventilation | cable entry type heater | Thermal cable entry type | cable entry type encoder | Accessories Potentiometer CA | Accessories CANopen CA | Accessories MMI M12 CA | Accessories Control panel | Accessories Display | Accessories Cable of Display |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 85 TCEPA | 86 TCEP1 | 87 TCEP2 | 88 TECPB | 89 TCEPV | 90 TCEPS | 91 TCEPT | 92 TCEPE | 93 ACCP | 94 ACCC | 95 ACCM12 | 96 ACCOC | 97 ACCD | 98 ACCDCBL |
| AC | - | - | - | - | - | - | - | - | - | - | - | - | - |
| BC | | | | A | | | | 1 | 1 | 1 | 1 | 1 | 1 |
| CC | | | | B | | | | 4 | 4 | 4 | | 2 | 2 |
| DC | | | | E | | | | 5 | 5 | 5 | | 3 | 3 |
| CA | | | | | | | | | | | | | 4 |
| S31 | | | | | | | | | | | | | 5 |
| S32 | | | | | | | | | | | | | 6 |
| S52 | | | | | | | | | | | | | |
| S21 | | | | | | | | | | | | | |
| S22 | | | | | | | | | | | | | |
| S71 | | | | | | | | | | | | | |
| S72 | | | | | | | | | | | | | |


| | |
|---|---|
| - | - = Not present |
| A | A = M16 x 1,5 |
| B | B = M20 x 1,5 |
| E | E = MIN-TEC |

| | |
|---|---|
| - | - = Not present |
| 1 | 1 = CBL-MMI-M12 |
| 2 | 2 = C-CBLD-3M |
| 3 | 3 = S-CBLD-3M |
| 4 | 4 = C-CBLD-3M+CBL-MMI-M12 |
| 5 | 5 = C-USB-MMI |
| 6 | 6 = C-USB-MMI+CBL-MMI-M12 |

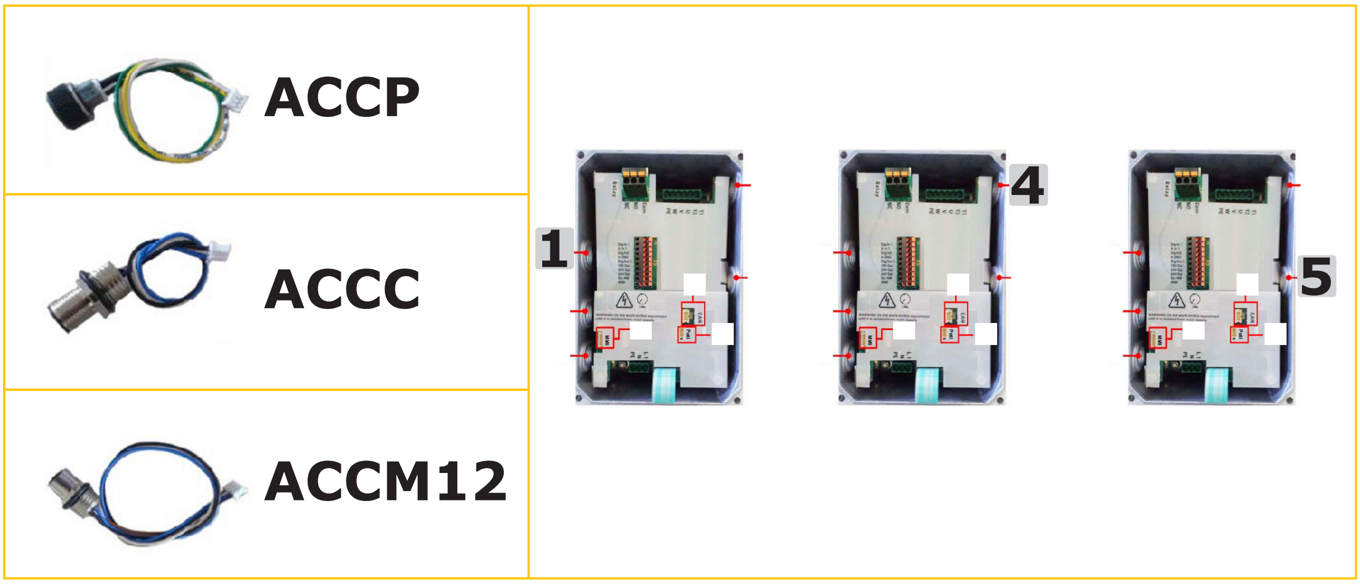
| | |
|---|---|
| AC | AC |
| BC | BC |
| CC | CC |
| DC | DC |
| CA | CA |
| S31 | S31 = 1 cable gland M20, 1 closed cap M20 |
| S32 | S32 = 2 cable gland M20 |
| S21 | S21 = 1 cable gland M20, 3 closed caps M20 |
| S22 | S22 = 2 cable gland M20, 2 closed caps M20 |
| S52 | S52 = 2 cable gland M20, 2 closed caps M25 |
| S72 | S72 = 2 cable gland M20 |
| S71 | S71 = 1 cable gland M20, 1 closed cap M20 |

D

## 1.3 ACCESSORI

## *1.3 ACCESSORIES*

## 1.3 ZUBEHÖR




### 1.3.1 ACCP

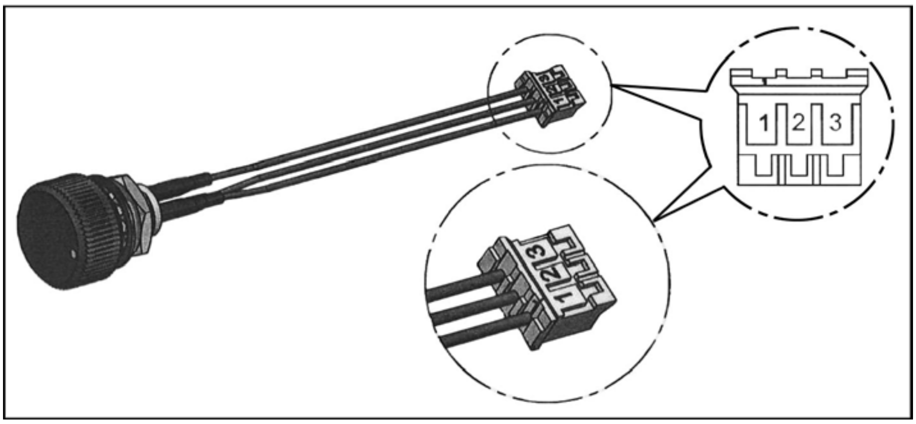
Accessorio potenziomentro per ESV serie CA.
Questo accessorio serve per impostare la velocità di riferimento.

### *1.3.1 ACCP*

*Potentiometer accessory for ESV, CA series.*
*This accessory is used to set the reference speed.*

### 1.3.1 ACCP

Zubehör Potentiometer für ESV Serie CA.
Dieses Zubehör dient der Einstellung der Bezugsgeschwindigkeit.




### 1.3.2 ACCC

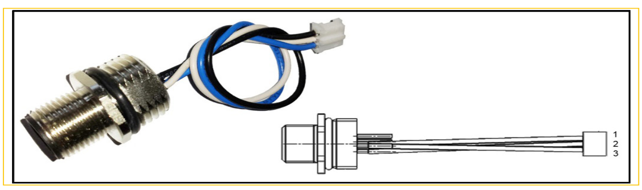
Accessorio connettore esterno CANopen per ESV serie CA.
Tramite il collegamento è possibile allacciare un regolatore di velocità ad un sistema bus CANopen.

### *1.3.2 ACCC*

*CANopen external connector accessory for ESV, CA series.*
*Through the connection it is possible to connect a speed regulator to a CANopen bus system.*

### 1.3.2 ACCC.

Zubehör externer Verbinder CANopen für ESV Serie CA.
Über diese Verbindung kann ein Geschwindigkeitsregler an ein Bus CANopen-System gekoppelt werden.



| PIN JST | Colori / *Color* / Farbe | Segnale / *Signal* / Signal | PIN M12 |
|---|---|---|---|
| 1 | nero / *black* / | CAN_L | 5 |
| 2 | bianco / *white* / | CAN_H | 4 |
| 3 | blu / *blue* / | GND | 3 |

## 1.3 ACCESSORI (CONTINUA)

### 1.3.2 ACCM12

Accessorio connettore esterno M12 per ESV serie CA.
Il connettore serve per realizzare il collegamento della tastiera ESV TST MMI o del cavo di programazione.
E' necessario per utilizzare l'esv in un sistemama MOD-BUS.
Nota: l'interfaccia MMI/PC non è prevista per il collegamento di più dispositivi di controllo.

## *1.3 ACCESSORIES (TO BE CONTINUED)*

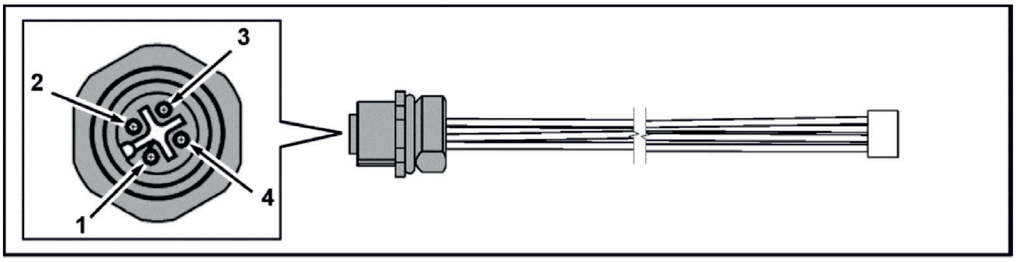
### *1.3.2 ACCM12*

*M12 external connector accessory for ESV, CA series.*
*The connector is used to connect the ESV TST MMI keyboard or the programming cable.*
*It is necessary to use the ESV in a MOD-BUS system.*
*Note: the MMI/PC interface is not designed to be connected to several control devices.*

## 1.3 ZUBEHÖR (FORTSETZUNG)

### *1.3.2 ACCM12*

*Zubehör externer Verbinder M12 für ESV Serie CA.*
*Dieser Verbinder dient der Verbindung der Tastatur ESV TST MMI oder dem Anschluss des Programmierkabels.*
*Ist erforderlich, wenn der ESV in einem MOD-BUS-System verwendet werden soll.*
*Hinweis: die Schnittstelle MMI/PC ist nicht für den Anschluss mehrerer Steuersysteme vorgesehen.*




| Connettore M12<br>*Connector M12*<br>Stecker M12 | Segnale<br>*Signal*<br>Signal |
|---|---|
| 1 | 24V |
| 2 | RS485 - A |
| 3 | GND |
| 4 | RS485 - B |

### 1.3.3 ACCQC

Accessorio quadro comandi.

Il quadro comandi PF3 (ACCQC=1) permette di impostare il riferimento di velocità e dare mancia avanti, indietro e stop.

### *1.3.3 ACCQC*

*Control panel accessory.*

*The PF3 control panel (ACCQC=1) allows setting the speed reference value and to activate the forward/backward/stop movements.*

### 1.3.3 ACCQC

Zubehör für Bedientafel.

Die Bedientafel PF3 (ACCQC=1) ermöglicht die Einstellung der Bezugsgeschwindigkeit und der Steuerung vorwärts, zurück und Stopp.


1

D

## 1.3 ACCESSORI (CONTINUA)

### 1.3.4 ACCD

**ACCD=1**
L'accessorio display è la tastiera di programmazione **TST MMI** compatibile con gli esv serie C e CA.
La tastiera è utilizzabile solo per la programmazione in quanto il grado di protezione è IP21

## *1.3 ACCESSORIES (TO BE CONTINUED)*

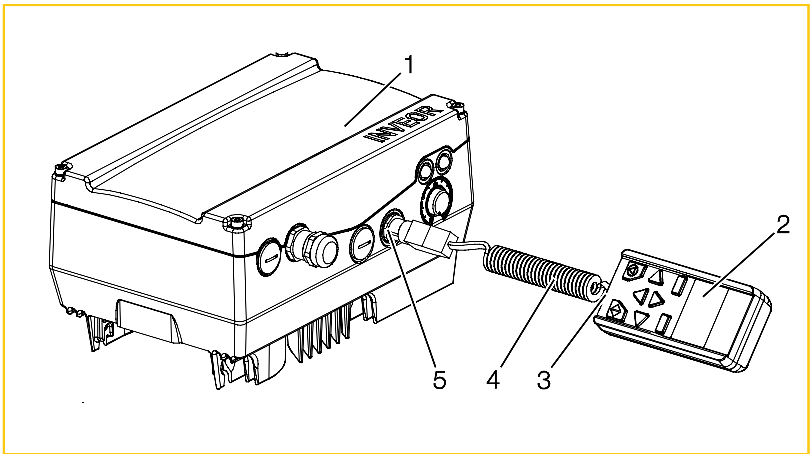
### *1.3.4 ACCD*

***ACCD=1***
*The display accessory is the programming keyboard **TST MMI** which is compatible with the ESVs of the C and CA series.*
*The keyboard can only be used for programming operations since its protection class is IP21.*

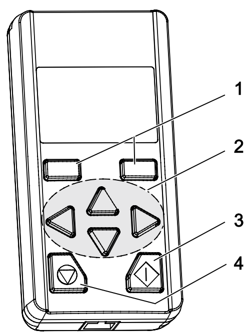
## 1.3 ZUBEHÖR (FORTSETZUNG)

### 1.3.4 ACCD

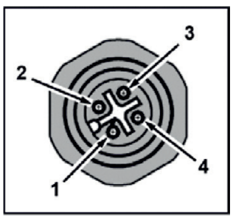
**ACCD=1**
Das Zubehör für das Display ist die Programmiertastatur **TST MMI**, die mit den ESV der Serien C und CA kompatibel ist.
Diese Tastatur kann nur für das Programmieren verwendet werden, da mit Schutzart IP21



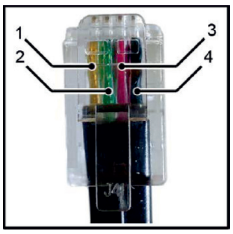

| | | |
|---|---|---|
| 1 | Azionamento<br>*drive control*<br>Antrieb |
| 2 | TST MMI: Tastiera di controllo<br>*TST MMI: manual control unit*<br>TST MMI: Steuertastatur |
| 3 | Presa RJ11<br>*RJ11 socket*<br>Anschluss RJ11 |
| 4 | Cavo di comunicazione<br>*Communication cable*<br>Kommunikationskabel |
| 5 | Connettore M12<br>*M12 socket*<br>Verbinder M12 |




| | |
|---|---|
| 1 | Pulsante di conferma<br>*Confirm buttons*<br>Bestätigungstaste |
| 2 | Pulsante "SU"/"GIÙ"<br>Pulsante "SINISTRA"/"DESTA"<br><br>*"UP"/"DOWN" buttons*<br>*"LEFT" / "RIGHT" buttons*<br><br>Taste „AUF"/„AB"<br>Taste „LINKS"/„RECHTS" |
| 3 | Pulsante di Start<br>*Start button*<br>START-Taste |
| 4 | Pulsante di Stop<br>*Stop button*<br>STOP-Taste |




| Connettore M12<br>*M12 connector*<br>Verbinder M12 | Segnale<br>*Signal*<br>Signal |
|---|---|
| 1 | 24V |
| 2 | RS485 - A |
| 3 | GND |
| 4 | RS485 - B |




| Connettore RJ9<br>*RJ9 connector*<br>Verbinder RJ9 | Segnale<br>*Signal*<br>Signal |
|---|---|
| 1 | giallo / *Yellow* / Gelb |
| 2 | verde / *Green* / Grün |
| 3 | rosso / *Red* / Rot |
| 4 | marrone / *Brown* / Braun |

Attenzione i colori possono essere diversi
*Attention: colours can be different*
Achtung! Die Farben können unterschiedlich ausfallen

## 1.3 ACCESSORI (CONTINUA)

**ACCD=2**

L’accessorio display è la tastiera di programmazione **TST SLIM** compatibile con gli esv serie S.
La tastiera è utilizzabile solo per la programmazione in quanto il grado di protezione è IP21.

## *1.3 ACCESSORIES (TO BE CONTINUED)*

***ACCD=2***

*The display accessory is the programming keyboard **TST SLIM** which is compatible with the ESVs of the S series.*
*The keyboard can only be used for programming operations since its protection class is IP21.*

## 1.3 ZUBEHÖR (FORTSETZUNG)

**ACCD=2**

Das Zubehör für das Display ist die Programmiertastatur **TST SLIM**, die mit den ESV der Serie S kompatibel ist.
Diese Tastatur kann nur für das Programmieren verwendet werden, da mit Schutzart IP21.


2

**ACCD=3**

L’accessorio display è la tastiera di programmazione e remotazione **REM C S** compatibile con gli esv serie C, CA e S.
La tastiera è studiata per essere installata in un quadro elttrico in quanto è IP55.

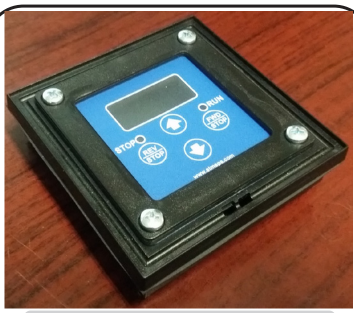
***ACCD=3***

*The display accessory is the programming and remote control keyboard REM C S which is compatible with the ESVs of the C, CA and S series.*
*The keyboard is designed to be installed in an electric panel since its protection class is IP55.*

**ACCD=3**

Das Zubehör für das Display ist die Programmier- und Fernbedienungstastatur REM C S, die mit den ESV der Serien C, CA und S kompatibel ist.
Diese Tastatur wurde für die Installation in einer Schalttafel entwickelt und weist daher die Schutzart IP55 auf.

D




3

La scatola è DIN 43700
Il massimo spessore del pannello su cui è installabile è 4mm.
L'ingombro esterno della tstiera è 96x96 mm.
Il foro sul quadro elettrico deve essere di 92x92 mm.
L'ingombro interno la quadro deve essere minimo 116x116 mm (consigliato 130x130)

## 1.3 ACCESSORI (CONTINUA)

### 1.3.5 ACCDCBL

**ACCDCBL=1**

Il cavo **CBL-MMI-M12** è compatibile con la serie CA.
E' l'adattatore da utilizzare quando si collegata il cavo di programmazione o la tastiera **TST MMI** all' ESV senza il connettore M12 MMI a bordo (accessorio ACCM12).

## *1.3 ACCESSORIES (TO BE CONTINUED)*

### *1.3.5 ACCDCBL*

***ACCDCBL=1***

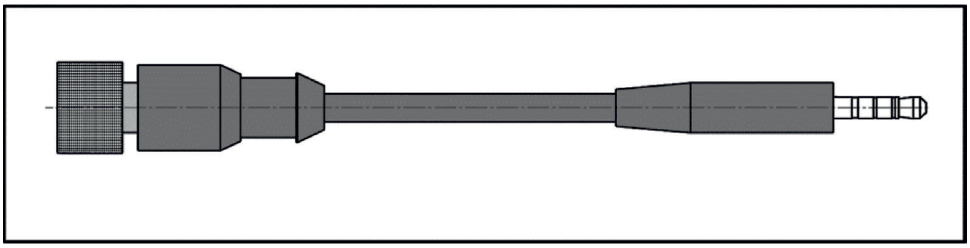
*The **CBL-MMI-M12** cable is compatible with the CA series.*
*It is the adapter to be used when connecting the programming cable or the **TST MMI** keyboard to the ESV without the on-board M12 MMI connector (ACCM12 accessory).*

## 1.3 ZUBEHÖR (FORTSETZUNG)

### 1.3.5 ACCDCBL

**ACCDCBL=1**

Das Kabel **CBL-MMI-M12** ist mit der Serie CA kompatibel.
Hierbei handelt es sich um den Adapter, der zu verwenden ist, wenn das Programmierkabel oder die Tastatur **TST MMI** an den ESV ohne installierten Verbinder M12 MMI (Zubehör ACCM12) angeschlossen wird.



**ACCDCBL=2**

Il cavo **C-CBLD-3M** è compatibile con la serie C e CA ed è il cavo da utilizzare per collegare lil display **REM C S** all'ESV.
Il cavo è lungo 3 metri; altre lunghezze a richiesta.
**Nota:** per la serie CA è utilizzabile solo con connettore M12 a bordo (accessorio ACCM12).

***ACCDCBL=2***

*The **C-CBLD-3M** cable is compatible with the C and CA series and it is the cable to be used to connect the **REM C S** display to the ESV.*
*The cable is 3-m long; other lengths are available upon request.*
***Note**: for the CA series it can only be used with the on-board M12 connector (ACCM12 accessory).*

**ACCDCBL=2**

Das Kabel **C-CBLD-3M** ist mit der Serie C und CA kompatibel und ist das Kabel, das für den Anschluss des Displays **REM C S** an den ESV zu verwenden ist.
Das Kabel hat eine Länge von 3 Metern. Andere Längen sind auf Anfrage erhältlich.
**Hinweis**: Bei der Serie CA kann es nur mit am Gerät installierten Verbinder M12 (Zubehör ACCM12) verwendet werden.

**ACCDCBL=3**

Il cavo **S-CBLD-3M** è compatibile con la serie S ed è il cavo da utilizzare per collegare lil display **REM C S** all'ESV.
Il cavo è lungo 3 metri; altre lunghezze a richiesta.

***ACCDCBL=3***

*The **S-CBLD-3M** cable is compatible with the S series and it is the cable to be used to connect the **REM C S** display to the ESV.*
*The cable is 3-m long; other lengths are available upon request.*

**ACCDCBL=3**

Das Kabel ***S-CBLD-3M*** ist mit der Serie S kompatibel und ist das Kabel, dass für den Anschluss des Displays **REM C S** an den ESV zu verwenden ist.
Das Kabel hat eine Länge von 3 Metern. Andere Längen sind auf Anfrage erhältlich.

**ACCDCBL=4**

Il cavo **C-CBLD-3M+CBL-MMI-M12** è compatibile con la serie CA ed è il cavo da utilizzare per collegare il display **REM C S** all'ESV se non si scelto il connettore M12 a bordo (accessorio ACCM12).
Il cavo è lungo 3 metri; alttre lunghezze a richiesta.
Il cavo è costituito da **C-CBLD-3M** più **CBL-MMI-M12**.

***ACCDCBL=4***

*The **C-CBLD-3M+CBL-MMI-M12** cable is compatible with the CA series and it is the cable to be used to connect the **REM C S** display to the ESV if you do not use the on-board M12 connector (ACCM12 accessory).*
*The cable is 3-m long; other lengths are available upon request.*
*The cable consists of **C-CBLD-3M** with **CBL-MMI-M12.***

**ACCDCBL=4**

Das Kabel **C-CBLD-3M+CBL-MMI-M12** ist mit der Serie CA kompatibel und ist das Kabel, dass für den Anschluss des Displays **REM C S** an den ESV zu verwenden ist, wenn man sich nicht für die Installation des Verbinders M12 (Zubehör ACCM12) am Gerät entschieden hat.
Das Kabel hat eine Länge von 3 Metern. Andere Längen sind auf Anfrage erhältlich.
Das Kabel besteht aus dem **C-CBLD-3M** mit **CBL-MMI-M12.**

## 1.3 ACCESSORI (FINE)

**ACCDCBL=5**

Il cavo **C-USB-MMI** è compatibile con la serie C e CA è il cavo per programmare l'ESV con il PC.
**Nota:** per la serie CA è utilizzabile solo con connettore M12 a bordo (accessorio ACCM12) .

## *1.3 ACCESSORIES (THE END)*

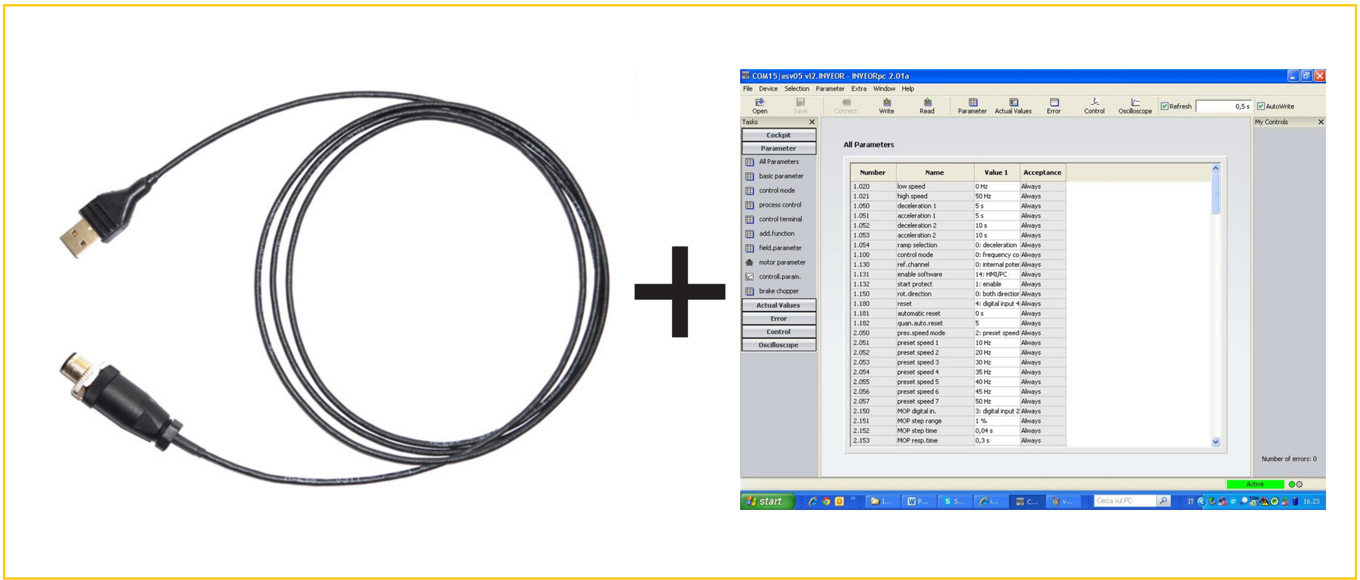
***ACCDCBL=5***

*The **C-USB-MMI** cable is compatible with the C and CA series and it is the cable to programme the ESV with the PC.*
***Note**: for the CA series it can only be used with the on-board M12 connector (ACCM12 accessory).*

## 1.3 ZUBEHÖR (ENDE)

**ACCDCBL=5**

Das Kabel **C-USB-MMI** ist mit der Serie C und CA kompatibel und ist das Kabel, dass für die Programmierung des ESV mit dem PC zu verwenden ist.
**Hinweis**: Bei der Serie CA kann es nur mit am Gerät installierten Verbinder M12 (Zubehör ACCM12) verwendet werden.



**ACCDCBL=6**

Il cavo **C-USB-MMI+CBL-MMI-M12** è compatibile con la serie CA è il cavo per programmare l'ESV con il PC.
**Nota:** questo cavo si usa quando non si è scelto l'accessorio ACCM12 (senza connettore M12 a bordo).

Il cavo è costituito da **C-USB-MMI** più **CBL-MMI-M12**.

***ACCDCBL=6***

*The **C-USB-MMI+CBL-MMI-M12** cable is compatible with the CA series and it is the cable to programme the ESV with the PC.*
***Note**: this cable must be used when you do not choose the ACCM12 accessory (without on-board M12 connector).*
*The cable consists of **C-USB-MMI** with **CBL-MMI-M12.***

**ACCDCBL=6**

Das Kabel **C-USB-MMI+CBL-MMI-M12** ist mit der Serie CA kompatibel und ist das Kabel, dass für die Programmierung des ESV mit dem PC zu verwenden ist.
**Hinweis**: Dieses Kabel ist zu verwenden, wenn das Zubehör ACCM12 (ohne installierten Verbinder M12) gewählt wurde.
Das Kabel besteht aus dem **C-USB-MMI** mit **CBL-MMI-M12**.

D

## 1.4 ARRESTO DI SICUREZZA (IO=STO)

Arresto uscite motore in sicurezza tipo PLe secondo IEC13849 e Level SIL 3 secondo IEC EN 62061.

## *1.4 SAFETORQUE OFF (IO=STO)*

*Safe stop motor outputs PLe type according to IEC13849 Level and SIL 3 according to IEC EN 62061*

## 1.4 SICHERES ABSCHALTMOMENT (IO=STO)

Sicherer Halt Motor gibt PLe -Typ gemäß IEC13849 Ebene und SIL 3 nach IEC EN 62061

## 1.5 BUS DI CAMPO

Sono disponiobili vari bus di campo.

## *1.5 FIELD BUS*

*Different field buses are available.*

## 1.5 FELDBUS

Es sind verschiedene Feldbusse verfügbar.

| IO | | BUS |
|---|---|---|
| - | MODBUS RTU | MOD BUS RTU |
| -P | PROFI BUS | PROFIBUS DP |
| N | PROFI NET | PROFINET |
| C | CANopen | CAN BUS |
| S3 | sercos the automation bus | SERCOS III |
| E | EtherCAT | ETHERCAT |

## 1.6 CONETTORI PROFIBUS

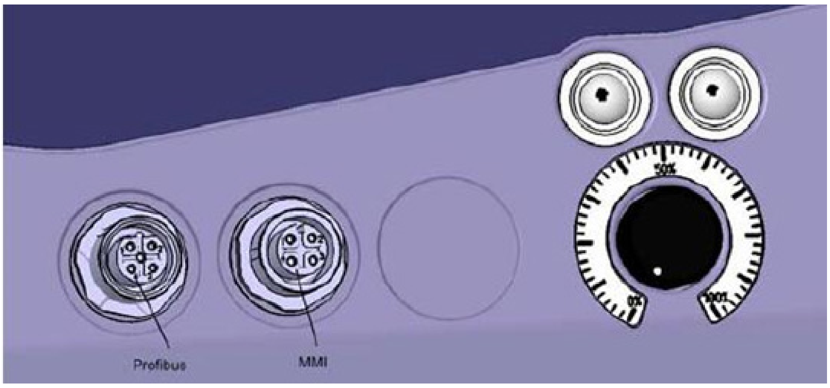
L'opzione profibus (**IO = -P**) oltre al connettore MMI ha un altro connettore quello dedicato al Bus di campo Profibus.

## *1.6 PROFIBUS CONNECTORS*

*The profibus option **(IO = -P)** has an MMI connector and another connector dedicated to the Profibus field bus.*

## 1.6 PROFIBUS-VERBINDER

Die Option Profibus **(IO = -P)** weist über den Verbinder MMI hinaus einen weiteren Verbinder auf, der für den Feldbus Profibus bestimmt ist.




Per facilitare il cablaggio della rete profibus sono fornibili i seguenti connettori commerciali:

*To facilitate the profibus network wiring, the following commercial connectors can be supplied:*

Zur Erleichterung der Verkabelung des Profibus-Netzes werden die folgenden handelsüblichen Verbinder geliefert:

**Conettori Profibus Y**

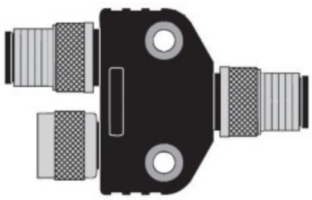
***Profibus Y connectors***

**Verbinder Profibus Y**

L'ESV è compatibile con gli sdoppiatori a Y commerciali

*The ESV is compatible with the commercial Y-splitters.*

Der ESV ist mit handelsüblichen Y-Stromteilern kompatibel



Produttore,codice prodotto:
*Manufacturer, product code:*
Hersteller, Produktcode:

1)TURCK, Type VB2-FSW-FKW-FSW-45,Art.-No.: 6996009
2) BECKHOFF Art.-No.: ZS1000-2600
3) ESCHA Art.-No.: 8011228

D

**Resistenze di terminazione**

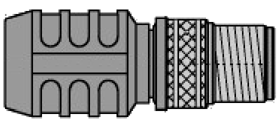
***Termination resistors***

**Abschlusswiderstände**

L'ESV è compatibile con i terminatori commerciali

*The ESV is compatible with the commercial termination resistors.*

Der ESV ist mit handelsüblichen Abschlusswiderständen kompatibel



Produttore,codice prodotto:
*Manufacturer, product code:*
Hersteller, Produktcode:

1)TURCK, Type RSS4.5-PDP-TR, Art.-No.: 6601590
2) BECKHOFF Art.-No.: ZS1000-1610
3) ESCHA Art.-No.: 8043520

## 1.7 UNITÀ DI FRENATURA (FR=B)

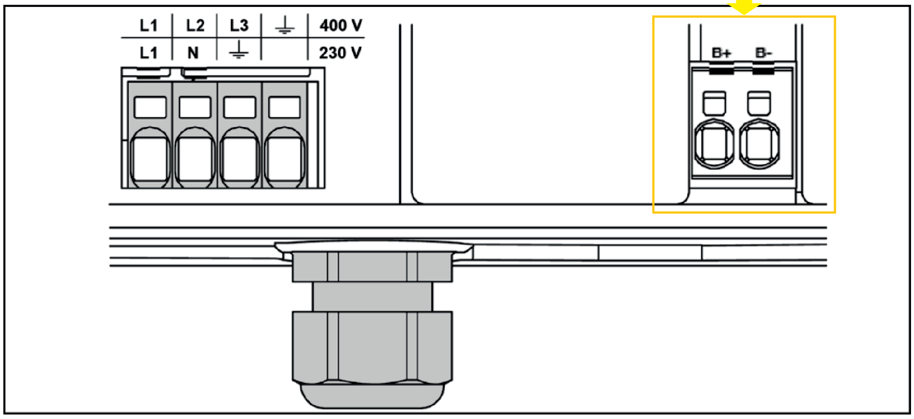
E' possibile (solo per TYP=C) avere l'unità di frenatura per il pilotaggio della ristenza esterna che permette di dissipare l'energia in eccesso qundo l'albero motore è trasciato ovvero il motore è usato da freno come ad esempio se l'ESV fa scendere un peso.

## *1.7 BRAKING UNIT (FR=B)*

*It is possible (only for TYP=C) to have a braking unit to control the external resistor that allows dissipating the surplus energy when the motor shaft is driven, i.e. when the motor is used as brake like for example when the ESV lowers a weight.*

## 1.7 BREMSEINHEIT (FR=B)

Es ist möglich (nur für TYP = C), die Bremseinheit zum Ansteuern des externen Widerstands zu erhalten, die es ermöglicht, die überschüssige Energie zu streuen, wenn die Motorwelle mitgenommen oder der Motor beispielsweise als Bremse verwendet wird, wenn der ESV ein Gewicht senkt.




**Resistenza minima installabile**

***Minimal resistor that can be installed***

**Installierbarer Mindestwiderstand**

| TYP | HPA | Ohm min | Pmax [kW] |
|---|---|---|---|
| C | 01<br>02<br>03<br>05<br>07<br>10<br>15<br>20 | 100 | 5 |
| | 30<br>40<br>50<br>75<br>100 | 50 | 10 |
| | 150<br>200<br>250<br>300 | 30 | 15 |

## 1.8 INTERFACCE DI COMANDO A BORDO ESV

Di seguito alcune configurazioni

### 1.8.1 TYP=C e IO=- e KB=- (prodotto standard)

Questi modelli dispongono di 2 led per la segnalazione dello stato e un potenziometro per la regolazione della velocità (oltre alle morsettiere interne)

## *1.8 ESV ON-BOARD CONTROL INTERFACES*

*Following are some possible configurations.*

### *1.8.1 TYP=C and IO=- and KB=- (standard product)*

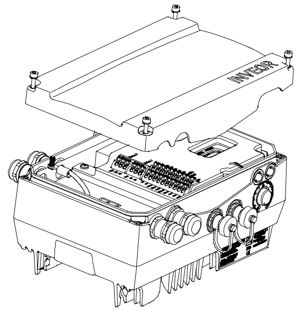
*These models feature 2 LEDs to indicate the status and a potentiometer for the speed adjustment (besides the internal terminal boards).*

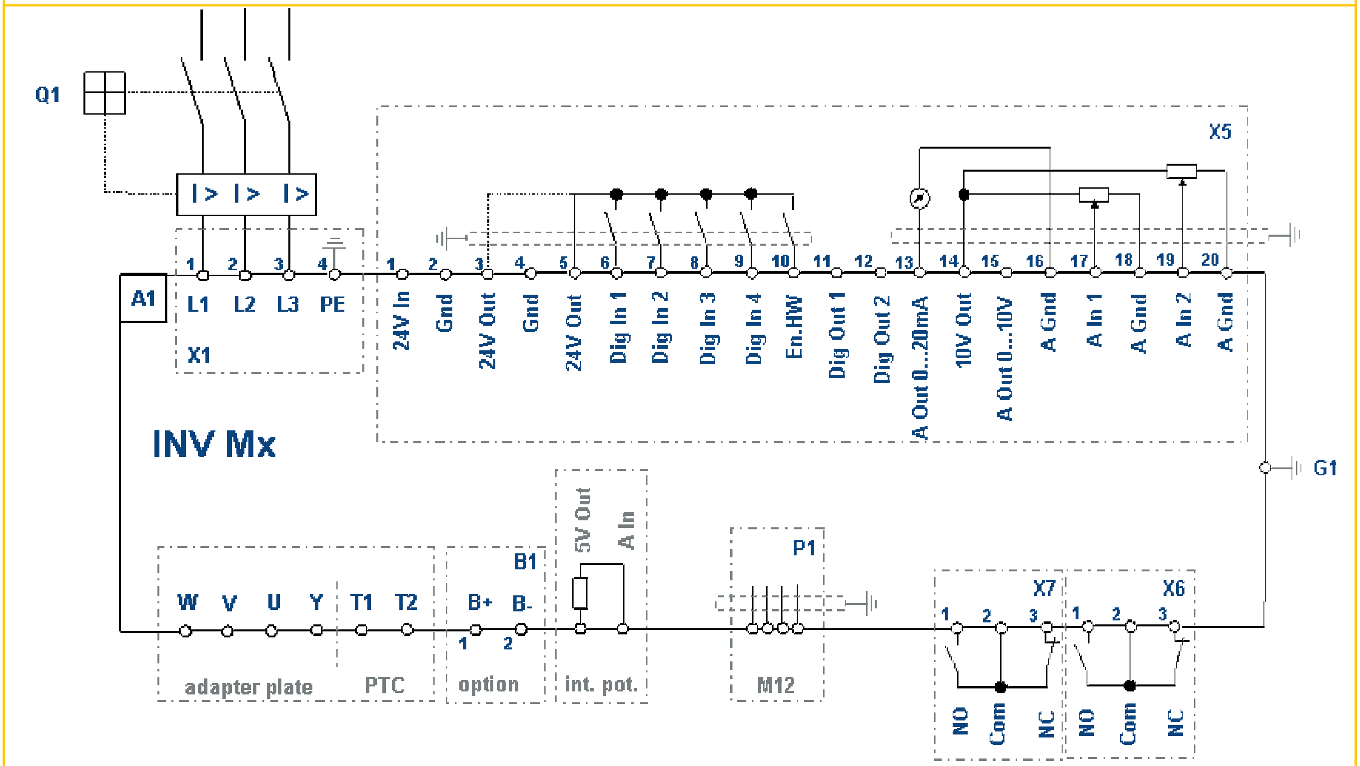
## 1.8 STEUERSCHNITTSTELLEN AM ESV

Nachstehend einige Konfigurationen

### 1.8.1 TYP=C und IO=- und KB=- (Standard-Produkt)

Diese Modelle verfügen über 2 LEDs zur Statusanzeige und einen Potentiometer zur Drehzahlregelung (zusätzlich zu den internen Klemmen).





## 1.8 INTERFACCE DI COMANDO A BORDO ESV (CONTINUA)

### 1.8.3 TYP=C e IO=Y e KB=M (Tastiera Membrana)

Questo modello ha sul coperchio superiore la tastiera a membrata con il potenziometro per la regolazione della velocità di rotazione.
Sulla membrana, inoltre, ci sono i pulsanti di marcia, stop, direzione, reset e 2 programmabili con varie funzioni.
I pulsanti sono abilitabili anche separatamente.

Questo modello ha una morsettiera ridotta rispetto allo standard.

## *1.8 ESV ON-BOARD CONTROL INTERFACES (TO BE CONTINUED)*

### *1.8.3 TYP=C and IO=Y and KB=M (Membrane Keyboard)*

*This model's top cover features a membrane keyboard with a potentiometer for the rotation speed adjustment.*

*The membrane also features the Run, Stop, Direction and Reset buttons and 2 further buttons that can be programmed for different functions.*

*The buttons are enabled also separately.*

*This model has a smaller terminal board than the standard one.*

## 1.8 STEUERSCHNITTSTELLEN AM ESV (FORTSETZUNG)

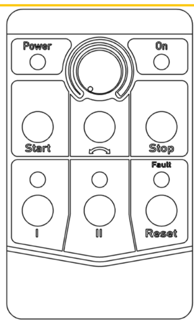
### *1.8.3 TYP=C und IO=Y und KB=M (Membran-Tastatur)*

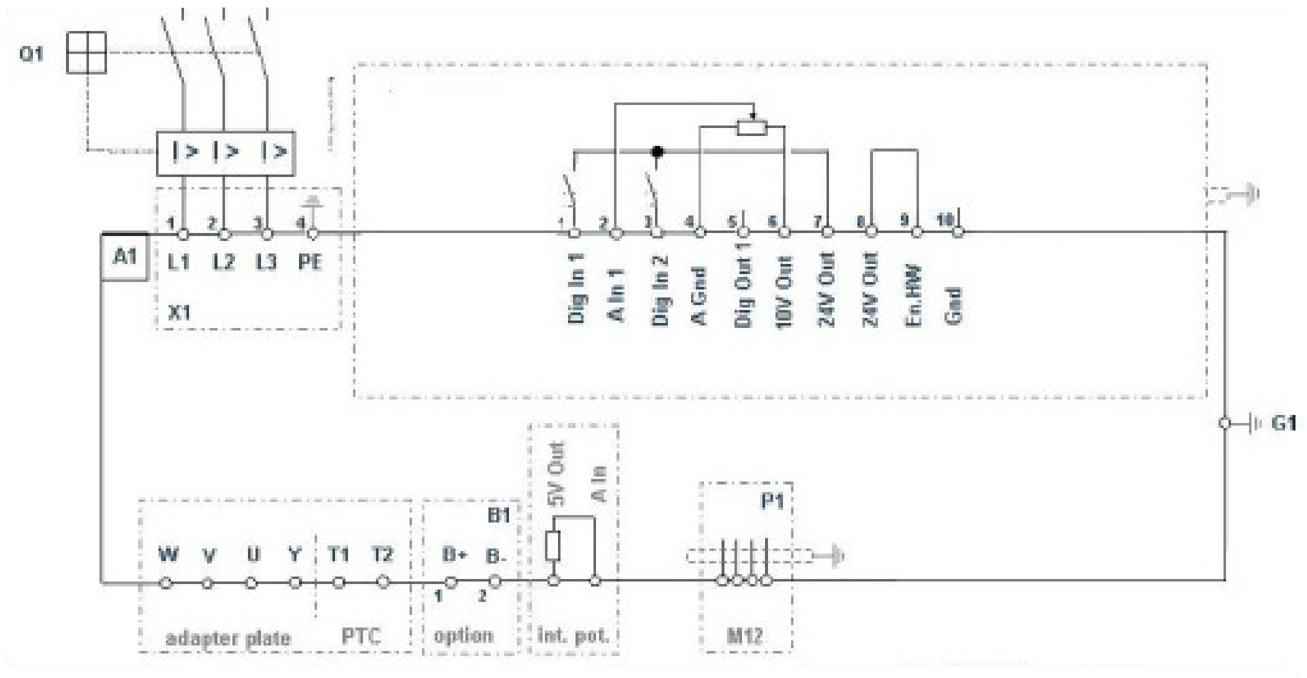
*Dieses Modell hat auf der oberen Abdeckung die Membran-Tastatur mit dem Potentiometer zur Einstellung der Drehgeschwindigkeit.*

*Auf der Membran befinden sich darüber hinaus die Betriebs-, Stopp- und Reset-Tasten und 2 programmierbare Tasten mit verschiedenen Funktionen.*

*Die Tasten können auch separat freigeschaltet werden.*

*Dieses Modell weist einen dem Standard gegenüber reduzierten Klemmenkasten auf.*



## 1.8 INTERFACCE DI COMANDO A BORDO ESV (CONTINUA)

### 1.8.4 TYP=C e IO=- e KB=D (display a bordo)

Sul coprechio è installata una tastiera che replica tutte le funzioони della TST MMI.

La tastiera integrata, ozionale, permette la configurazione dell'ESV e le regolazioni con estrema facilità , il display consente di visualizzare in modo semplice la velocità e variabili del controllo.

## *1.8 ESV ON-BOARD CONTROL INTERFACES (TO BE CONTINUED)*

### *1.8.4 TYP=C and IO=- and KB=D- (on-board display)*

*On the cover there is a keyboard that reproduces all the TST MMI functions.*

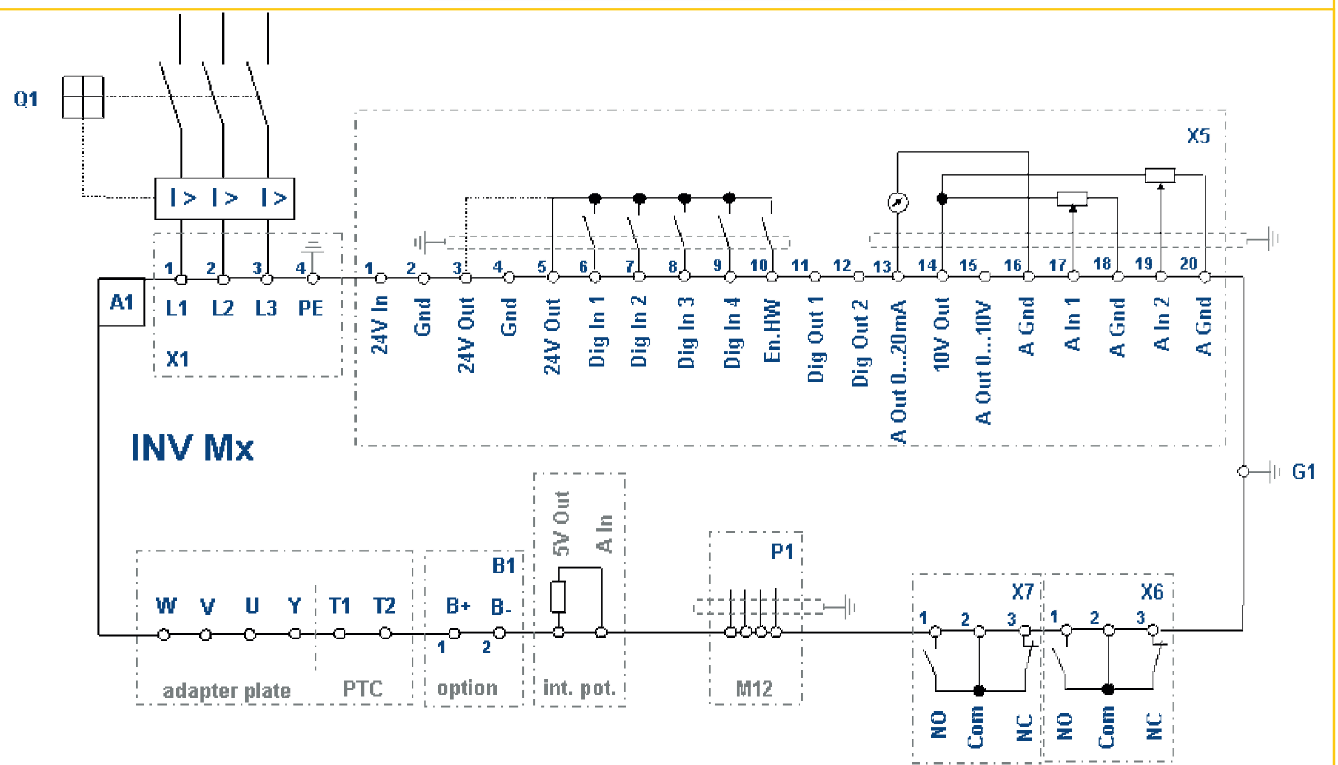
*The built-in digital keyboard allows easy and quick ESV configuration and setting. The built-in display enables to display speed and control settings extremely easily.*

## 1.8 STEUERSCHNITTSTELLEN AM ESV (FORTSETZUNG)

### 1.8.4 TYP=C und IO=- und KB=D (installiertes Display)

Auf der Abdeckung ist eine Tastatur installiert, die alle Funktionen des TST MMI aufweist.

Die integrierte Bedieneinheit erlaubt eine einfache und schnelle Programmierung von ESV. Der digitale Anzeiger erlaubt eine einfache Anzeigung des Geschwindigkeites und der Steuerungregelungen.



## 1.8 INTERFACCE DI COMANDO A BORDO ESV (CONTINUA)

### 1.8.2 TYP=CA e IO=-1 e KB=- (prodotto standard)

Questi modelli dispongono di 2 led per la segnalazione dello stato (oltre alle morsettiere interne)

## *1.8 ESV ON-BOARD CONTROL INTERFACES (TO BE CONTINUED)*

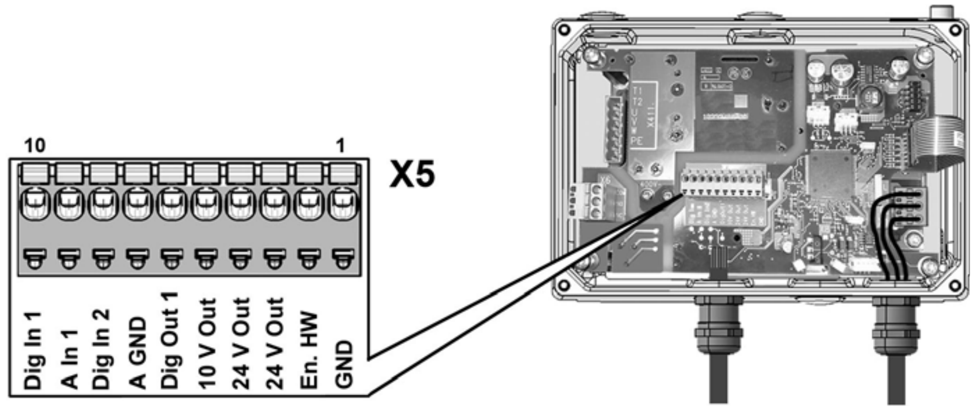
### *1.8.2 TYP=CA and IO=-1 and KB=- (standard product)*

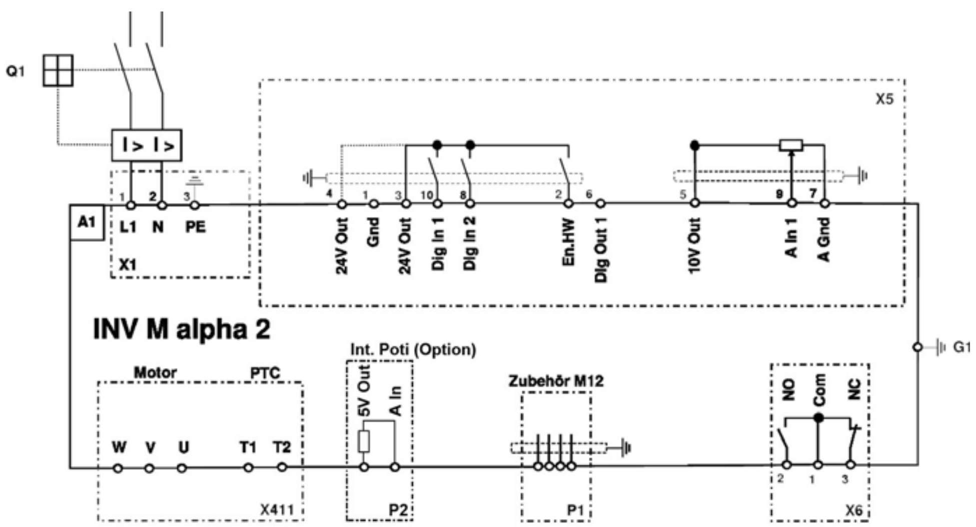
*These models feature 2 LEDs to indicate the status (besides the internal terminal boards).*

## 1.8 STEUERSCHNITTSTELLEN AM ESV (FORTSETZUNG)

### 1.8.2 TYP=CA und IO=-1 und KB=- (Standard-Produkt)

Diese Modelle verfügen über 2 LEDs zur Signalisierung des Status (zusätzlich zu den internen Klemmenkästen)



## 1.8 INTERFACCE DI COMANDO A BORDO ESV (CONTINUA)

### 1.8.3 TYP=CA e IO=-1 e KB=M (tastiera membrana)

Questi modelli dispongono di 2 led per la segnalazione dello stato (oltre alle morsettiere interne)

I pulsanti sono abilitabili anche separatamente.

## *1.8 ESV ON-BOARD CONTROL INTERFACES (TO BE CONTINUED)*

### *1.8.3 TYP=CA and IO=-1 and KB=M (membrane keyboard)*

*These models feature 2 LEDs to indicate the status (besides the internal terminal boards).*

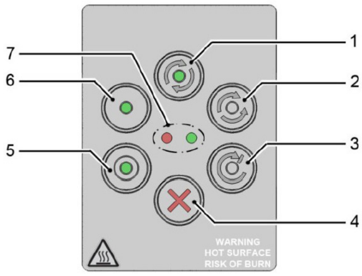
*The buttons are enabled also separately.*

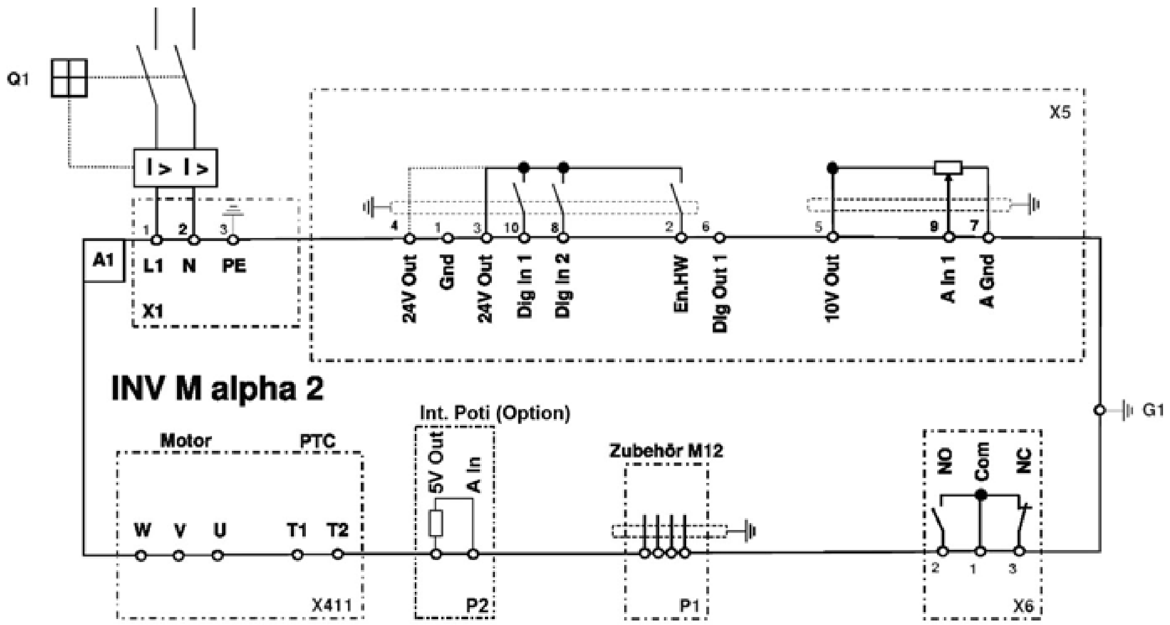
## 1.8 STEUERSCHNITTSTELLEN AM ESV (FORTSETZUNG)

### 1.8.3 TYP=CA und IO=-1 und KB=M (Membran-Tastatur)

*Diese Modelle verfügen über 2 LEDs zur Signalisierung des Status (zusätzlich zu den internen Klemmenkästen)*

Die Tasten können auch separat freigeschaltet werden.




| | | | |
|---|---|---|---|
| 1 | Start | *Start* | Start |
| 2 | Cambio di rotazione | *Change of rotation* | Drehrichtungswechsel |
| 3 | Stop | *Stop* | Stop |
| 4 | Reset | *Reset* | Reset |
| 5 | Rotazione Oraria(ESV in start) | *Clockwise rotation (ESV in start)* | Drehung im Uhrzeigersinn (ESV auf Start) |
| 6 | Rotazione Antioraria(ESV in start) | *Counter-clockwise rotation (ESV in start)* | Drehung gegen Uhrzeigersinn (ESV auf Start) |
| 7 | LED | *LED* | LED |

## 1.8 INTERFACCE DI COMANDO A BORDO ESV (CONTINUA)

### 1.8.4 TYP=S e HPA=01 o 02 o 03

Il prodotto può avere varie personalizzazioni:

- potenziometro
- interruttore
- uscita digitale
- uscita relè

Nota: alcune di queste sono in alternativa
Di seguito alcune combinazioni:

## *1.8 ESV ON-BOARD CONTROL INTERFACES (TO BE CONTINUED)*

### *1.8.4 TYP=S and HPA=01 or 02 or 03*

*The product has features that can be customised:*

- *potentiometer*
- *switch*
- *digital output*
- *relay output*

*Note: some of these features are as an alternative*
*Following are some possible combinations:*

## 1.8 STEUERSCHNITTSTELLEN AM ESV (FORTSETZUNG)

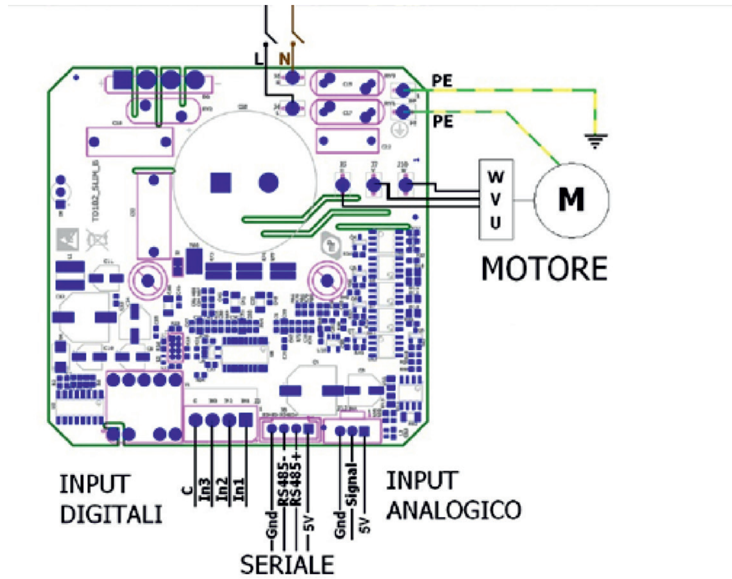
### 1.8.4 TYP=S und HPA=01 oder 02 oder 03

Das Produkt kann unterschiedlich personalisiert sein:

- Potentiometer
- Schalter
- Digitaler Ausgang
- Relais-Ausgang

Hinweis: Einige davon sind Alternativlösungen
Nachstehend einige Kombinationen*:*

IO = -2




IO = PI


Configurazione con potenziometro e interruttore marcia avanti/indietro e stop.
L'ingresso analogico e gli ingressi digitali 1 e 2 non sono più disponibili.

*Configuration with potentiometer and forward/backward/stop switch.*
*The analogue input and the digital inputs 1 and 2 are no longer available.*

Konfiguration mit Potentiometer und Schalter für Betrieb vorwärts/zurück und Stopp.
Der analoge Eingang und die digitalen Eingänge 1 und 2 sind hier nicht mehr verfügbar.

IO = R

Uscita digitale aggiuntiva a relè

*Relay supplementary digital output*

Zusätzlicher Digital-Ausgang mit Relais

IO = D

Uscita digitale aggiuntiva optoisolata

*Opto-isolated supplementary digital output*

Zusätzlicher optoisolierter, digitaler Ausgang

## 1.8 INTERFACCE DI COMANDO A BORDO ESV (CONTINUA)

### 1.8.4 TYP=S e HPA=05 o 07 o 10 o 15 o 20

Il prodotto può avere varie personalizzazioni:
- potenziometro
- interruttore

Di seguito alcune combinazioni:

## *1.8 ESV ON-BOARD CONTROL INTERFACES (TO BE CONTINUED)*

### *1.8.4 TYP=S and HPA=05 or 07 or 10 or 15 or 20*

The product has features that can be customised:
- *potentiometer*
- *switch*

*Following are some possible combinations:*

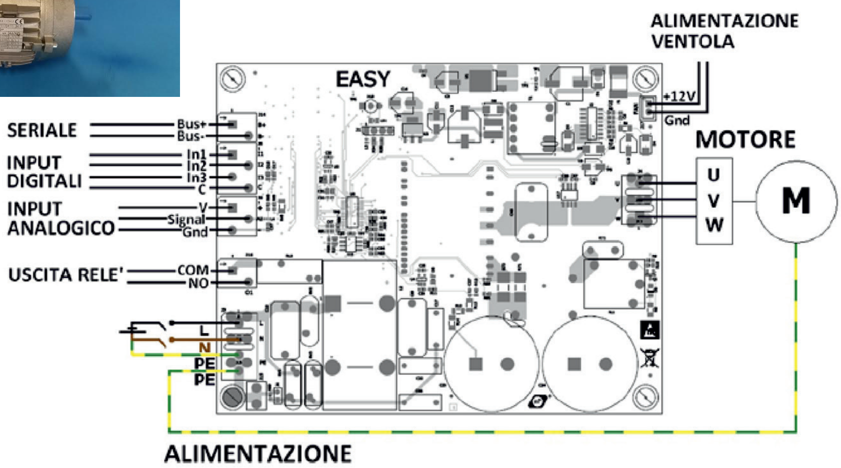
## 1.8 STEUERSCHNITTSTELLEN AM ESV (FORTSETZUNG)

### *1.8.4 TYP=S und HPA=05 oder 07 oder 10 oder 15 oder 20*

Das Produkt kann unterschiedlich personalisiert sein:
- *Potentiometer*
- Schalter

Nachstehend einige Kombinationen:

IO = -3




IO = PI

Configurazione con potenziometro e interruttore marcia avani/indietro e stop.
L'ingresso anaolgico e gli ingressi digitali 1 e 2 non sono più disponibili.

*Configuration with potentiometer and forward/backward/stop switch. The analogue input and the digital inputs 1 and 2 are no longer available.*

Konfiguration mit Potentiometer und Schalter für Betrieb vorwärts/zurück und Stopp.
Der analoge Eingang und die digitalen Eingänge 1 und 2 sind hier nicht mehr verfügbar.

D

## 1.8 INTERFACCE DI COMANDO A BORDO ESV (FINE)

### 1.8.4 TYP=S e HPA=30 o 40 o 50

Il prodotto è fornibile solo nella configurazione standard (IO=-3)

## *1.8 ESV ON-BOARD CONTROL INTERFACES (THE END)*

### *1.8.4 TYP=S and HPA=30 or 40 or 50*

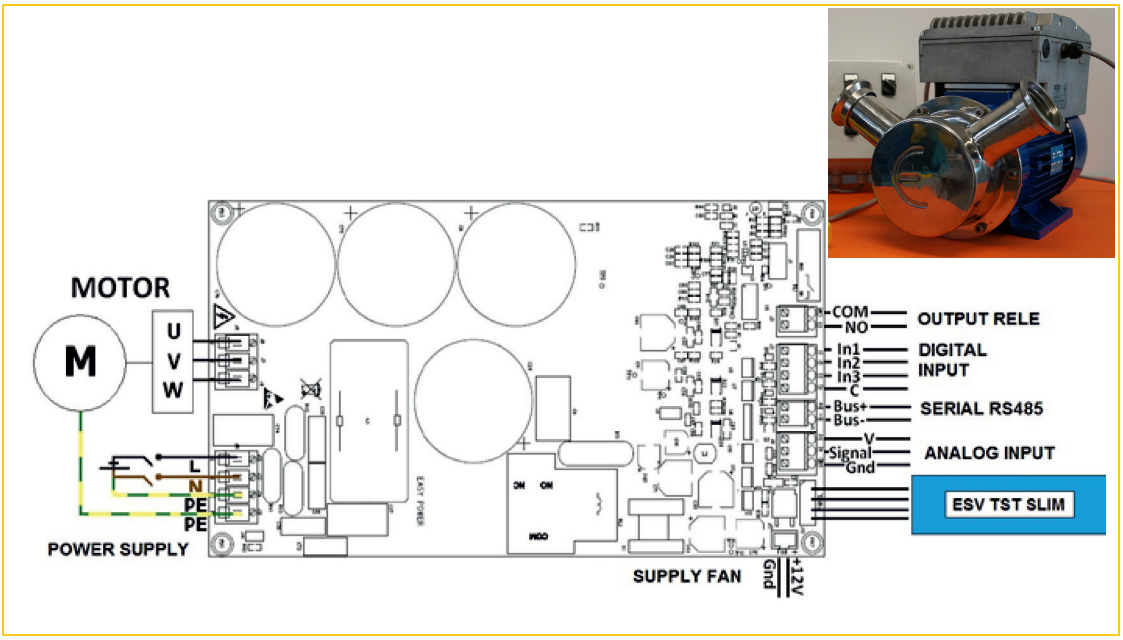
*The product can be supplied only in the standard configuration (IO=-3)*

## 1.8 STEUERSCHNITTSTELLEN AM ESV (ENDE)

### 1.8.4 TYP=S und HPA=30 oder 40 oder 50

Das Produkt kann nur in der Standard-Konfiguration (IO=-3) geliefert werden

IO = -3



## 1.9 DATI TECNICI

## *1.9 TECHNICAL DATA*

## 1.9 TECHNISCHE DATEN

### 1.9.1 Serie C

### *1.9.1 C Series*

### 1.9.1 Serie C

<table>
<tr><th>HPA</th><th>01</th><th>02</th><th>03</th><th>05</th><th>07</th><th>10</th><th>15</th><th>20</th><th>30</th><th>40</th><th>50</th><th>75</th><th>100</th><th>150</th><th>200</th><th>250</th><th>300</th></tr>
<tr><td>P[kW]</td><td>0,09</td><td>0,18</td><td>0,25</td><td>0,37</td><td>0,55</td><td>0,75</td><td>1,1</td><td>1,5</td><td>2,2</td><td>3</td><td>4</td><td>5,5</td><td>7,5</td><td>11</td><td>15</td><td>18,5</td><td>22</td></tr>
<tr><td>T[°C]</td><td colspan="17">0...40</td></tr>
<tr><td>V</td><td colspan="17">3~ 400-15% ... 480+10%</td></tr>
<tr><td>Hz</td><td colspan="17">47 ... 63</td></tr>
<tr><td>Rete<br>*Network*<br>Netz</td><td colspan="17">TN / TT</td></tr>
<tr><td>A</td><td colspan="5">1,4</td><td>1,9</td><td>2,6</td><td>3,3</td><td>4,6</td><td>6,2</td><td>7,9</td><td>10,8</td><td>14,8</td><td>23,2</td><td>28,2</td><td>33,2</td><td>39,8</td></tr>
<tr><td>Cn [Nm] - 2 Poli<br>*Cn [Nm] - 2 Poles*<br>Cn [Nm] - 2 Poligen</td><td>0,3</td><td>0,6</td><td>0,9</td><td>1,2</td><td>1,9</td><td>2,5</td><td>3,7</td><td>5</td><td>7,5</td><td>10</td><td>14</td><td>18</td><td>25</td><td>36</td><td>50</td><td>60</td><td>72</td></tr>
<tr><td>Cn [Nm] - 4 Poli<br>*Cn [Nm] - 4 Poles*<br>Cn [Nm] - 4 Poligen</td><td>0,4</td><td>1,25</td><td>1,8</td><td>2,5</td><td>3,8</td><td>5</td><td>7,5</td><td>10</td><td>15</td><td>20</td><td>27</td><td>37</td><td>50</td><td>74</td><td>100</td><td>120</td><td>135</td></tr>
<tr><td>Cn [Nm] - 6 Poli<br>*Cn [Nm] - 6 Poles*<br>Cn [Nm] - 6 Poligen</td><td>0,9</td><td>1,9</td><td>2,7</td><td>3,8</td><td>5,7</td><td>7,8</td><td>11,6</td><td>15</td><td>22</td><td>30</td><td>40</td><td>54</td><td>75</td><td>112</td><td>150</td><td>180</td><td>215</td></tr>
<tr><td>Resistenza di frenatura minima [Ω]<br><br>*Minimum braking resistance [Ω]*<br><br>Min. Bremswiderstand [Ω]</td><td colspan="8">100</td><td colspan="3">50</td><td colspan="2">50</td><td colspan="4">30</td></tr>
<tr><td>Campo di variazione [Hz]<br><br>*Variation range [Hz]*<br><br>Variationsbereich [Hz]</td><td colspan="17">3 ... 400</td></tr>
<tr><td>Frequenza di commutazione [kHz]<br><br>*Switching frequency [kHz]*<br><br>Schaltfrequenz [kHz]</td><td colspan="17">4<br>8 (standard)<br>16</td></tr>
<tr><td>Sovraccarico massimo<br><br>*Maximum overload*<br><br>Max. Überlastung</td><td colspan="16">150% della corrente nomianle per 60sec<br><br>*150 % of nominal current for 60 sec*<br><br>150 % des Nennstroms für 60 Sek.</td><td>130 %</td></tr>
</table>

## 1.9 DATI TECNICI (CONTINUA)

## *1.9 TECHNICAL DATA (TO BE CONTINUED)*

## 1.9 TECHNISCHE DATEN (FORTSETZUNG)

### 1.9.2 Serie CA

### *1.9.2 CA series*

### 1.9.2 Serie CA

| HPA | 01 | 02 | 03 | 05 | 07 | 10 |
|---|---|---|---|---|---|---|
| P[kW] | 0,09 | 0,18 | 0,25 | 0,37 | 0,55 | 0,75 |
| T[°C] | 0...40 | | | | | |
| V | 1~ 200-10% ... 230+10% | | | | | |
| Hz | 47 ... 63 | | | | | |
| Rete<br>*Network*<br>Netz | TN / TT<br>(Opzione IT / *Option IT* / Option IT) | | | | | |
| A | 3,1 | | | 4,5 | 5,6 | 7,3 |
| Cn [Nm] - 2 Poli<br>*Cn [Nm] - 2 Poles*<br>Cn [Nm] - 2 Poligen | 0,3 | 0,6 | 0,9 | 1,2 | 1,9 | 2,5 |
| Cn [Nm] - 4 Poli<br>*Cn [Nm] - 4 Poles*<br>Cn [Nm] - 4 Poligen | 0,4 | 1,25 | 1,8 | 2,5 | 3,8 | 5 |
| Cn [Nm] - 6 Poli<br>*Cn [Nm] - 6 Poles*<br>Cn [Nm] - 6 Poligen | 0,9 | 1,9 | 2,7 | 3,8 | 5,7 | 7,8 |
| Resistenza di frenatura minima [Ω]<br>*Minimum braking resistance [Ω]*<br>Min. Bremswiderstand [Ω] | non disponibile<br>*not available*<br>nicht verfügbar | | | | | |
| Campo di variazione [Hz]<br>*Variation range [Hz]*<br>Variationsbereich [Hz] | 3 ... 400 | | | | | |
| Frequenza di commutazione [kHz]<br>*Switching frequency [kHz]*<br>Schaltfrequenz [kHz] | 4<br>8 (standard)<br>16 | | | | | |
| Sovraccarico massimo<br>*Maximum overload*<br>Max. Überlastung | 150% della corrente nomianle per 60sec<br>*150 % of nominal current for 60 sec*<br>150 % des Nennstroms für 60 Sek. | | | | | |

## 1.9 DATI TECNICI (FINE)

## *1.9 TECHNICAL DATA (THE END)*

## 1.9 TECHNISCHE DATEN (ENDE)

### 1.9.2 Serie S

### *1.9.2 S series*

### 1.9.2 Serie S

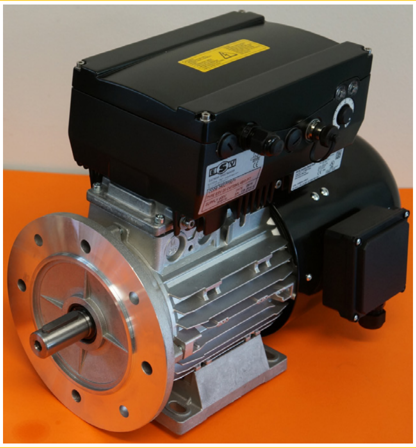
| HPA | 01 | 02 | 03 | 05 | 07 | 10 | 15 | 20 | 30 | 40 | 50 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **P[kW]** | 0,09 | 0,18 | 0,25 | 0,37 | 0,55 | 0,75 | 1,1 | 1,5 | 2,2 | 3 | 4 |
| **T[°C]** | 0...40 | | | | | | | | | | |
| **V** | 1~ 220-10% ... 230+10% | | | | | | | | | | |
| **Hz** | 47 ... 63 | | | | | | | | | | |
| **Rete**<br>***Network***<br>**Netz** | TN / TT | | | | | | | | | | |
| **A** | 2 | | | 10,5 | | | | | 22 | | |
| **Cn [Nm] - 2 Poli**<br>***Cn [Nm] - 2 Poles***<br>**Cn [Nm] - 2 Poligen** | 0,3 | 0,6 | 0,9 | 1,2 | 1,9 | 2,5 | 3,7 | 5 | 7,5 | 10 | 14 |
| **Cn [Nm] - 4 Poli**<br>***Cn [Nm] - 4 Poles***<br>**Cn [Nm] - 4 Poligen** | 0,4 | 1,25 | 1,8 | 2,5 | 3,8 | 5 | 7,5 | 10 | 15 | 20 | 27 |
| **Cn [Nm] - 6 Poli**<br>***Cn [Nm] - 6 Poles***<br>**Cn [Nm] - 6 Poligen** | 0,9 | 1,9 | 2,7 | 3,8 | 5,7 | 7,8 | 11,6 | 15 | 22 | 30 | 40 |
| **Resistenza di frenatura minima [Ω]**<br>***Minimum braking resistance [Ω]***<br>**Min. Bremswiderstand [Ω]** | non disponibile<br>*not available*<br>nicht verfügbar | | | | | | | | | | |
| **Campo di variazione [Hz]**<br>***Variation range [Hz]***<br>**Variationsbereich [Hz]** | 3 ... 400 | | | | | | | | | | |
| **Frequenza di commutazione [kHz]**<br>***Switching frequency [kHz]***<br>**Schaltfrequenz [kHz]** | 5 (standard)<br>6<br>7<br>8<br>9<br>10<br>11<br>12<br>13<br>14<br>15<br>16 | | | | | | | | | | |
| **Sovraccarico massimo**<br>***Maximum overload***<br>**Max. Überlastung** | 150% della corrente nomianle per 60sec<br>*150 % of nominal current for 60 sec*<br>150 % des Nennstroms für 60 Sek. | | | | | | | | | | |

D

## 2.0 SERVOVENTILAZIONE

## *2.0 FORCED VENTILATION*

## 2.0 SERVOBELÜFTUNG



Tutte le servoventilazioni sono ad alimentazione separata.

Tutte le servoventilazioni sono IP55

*All forced ventilations have a separated supply line.*

*All forced ventilations are IP55.*

Alle Servobelüftungen werden separat gespeist.

Alle Servobelüftungen sind in Schutzart IP55

### 2.0.1 Servoventilazione Monofase

VSAVE = 5 (230VAC_50/60Hz)

Nella sequente tabella si posso trovare i dati elettrici

### *2.0.1 Single-phase forced ventilation*

*VSAVE = 5 (230VAC_50/60Hz)*

*The electric data can be found in the following table*

### 2.0.1 Servobelüftung für einphasige Modelle

VSAVE = 5
(230 VAC_50/60 Hz)

In der nachstehenden Tabelle werden die elektrischen Daten angegeben

| SIZE | Volt [V] | Freq [Hz] | Pn [kW] | In [A] | Kg |
|---|---|---|---|---|---|
| **56** | 220-240 | 50 | 0,0046 | 0,215 | 0,8 |
| | 220-240 | 60 | 0,0046 | 0,225 | |
| **63** | 220-240 | 50 | 0,022 | 0,14 | 1,1 |
| | 220-240 | 60 | 0,021 | 0,12 | |
| **71** | 220-240 | 50 | 0,022 | 0,14 | 1,2 |
| | 220-240 | 60 | 0,021 | 0,12 | |
| **80** | 220-240 | 50 | 0,039 | 0,28 | 1,7 |
| | 220-240 | 60 | 0,036 | 0,24 | |
| **90** | 220-240 | 50 | 0,039 | 0,28 | 1,8 |
| | 220-240 | 60 | 0,036 | 0,24 | |
| **100** | 220-240 | 50 | 0,039 | 0,28 | 2,1 |
| | 220-240 | 60 | 0,036 | 0,24 | |
| **112** | 230 | 50 | 0,065 | 0,29 | 2,7 |
| | 230 | 60 | 0,075 | 0,33 | |
| **132** | 230 | 50 | 0,065 | 0,29 | 3,2 |
| | 230 | 60 | 0,075 | 0,33 | |
| **160** | 230 | 50 | 0,105 | 0,48 | 5,0 |
| | 230 | 60 | 0,14 | 0,62 | |

## 2.0 SERVOVENTILAZIONE (FINE)

### 2.0.2 Servoventilazione trifase

VSAVE = 9 (230/400V_50_MULT)

Nella sequente tabella ci sono si posso trovare i dati elettrrici

## *2.0 FORCED VENTILATION (THE END)*

### *2.0.2 Three-phase forced ventilation*

*VSAVE = 9 (230/400V_50_MULT)*

*The electric data can be found in the following table*

## 2.0 SERVOBELÜFTUNG (ENDE)

### 2.0.2 Servobelüftung für dreiphasige Modelle

VSAVE = 9 (230/400 V_50_MULT)

In der nachstehenden Tabelle werden die elektrischen Daten angegeben

| SIZE | Volt (Δ/Y) [V] | Freq [Hz] | Pn [kW] | In (Δ/Y) [A] | Kg |
|---|---|---|---|---|---|
| **71** | 230/400 | 50 | 0,08 | 0,41/0,24 | 2,2 |
| | 265/460 | 60 | 0,08 | 0,39/0,23 | |
| | 280/480 | 60 | 0,1 | 0,43/0,25 | |
| **80** | 230/400 | 50 | 0,08 | 0,41/0,24 | 2,4 |
| | 265/460 | 60 | 0,08 | 0,39/0,23 | |
| | 280/480 | 60 | 0,1 | 0,43/0,25 | |
| **90** | 230/400 | 50 | 0,08 | 0,41/0,24 | 2,6 |
| | 265/460 | 60 | 0,08 | 0,39/0,23 | |
| | 280/480 | 60 | 0,1 | 0,43/0,25 | |
| **100** | 230/400 | 50 | 0,09 | 0,37/0,21 | 2,9 |
| | 265/460 | 60 | 0,11 | 0,36/0,21 | |
| | 280/480 | 60 | 0,13 | 0,41/24 | |
| **112** | 230/400 | 50 | 0,09 | 0,37/0,21 | 3,1 |
| | 265/460 | 60 | 0,11 | 0,36/0,21 | |
| | 280/480 | 60 | 0,13 | 0,41/24 | |
| **132** | 230/400 | 50 | 0,09 | 0,37/0,21 | 3,2 |
| | 265/460 | 60 | 0,11 | 0,36/0,21 | |
| | 280/480 | 60 | 0,13 | 0,41/24 | |
| **160** | 230/400 | 50 | 0,1 | 0,35/0,20 | 5,0 |
| | 230/400 | 60 | 0,14 | 0,40/0,23 | |
| **180** | 230/400 | 50 | 0,1 | 0,35/0,20 | 6,2 |
| | 230/400 | 60 | 0,14 | 0,40/0,23 | |
| **200** | 230/400 | 50 | 0,21 | 0,62/0,36 | 7,7 |
| | 230/400 | 60 | 0,32 | 0,83/0,48 | |
| **225** | 230/400 | 50 | 0,21 | 0,62/0,36 | 9,0 |
| | 230/400 | 60 | 0,32 | 0,83/0,48 | |

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## 3.0 POTENZA (POW50) E Cn

## *3.0 POWER (POW50) AND Cn*

## 3.0 LEISTUNG (POW50) UND Cn

| kW | POL | TYPM | SIZEM | LEN | Nm |
|---|---|---|---|---|---|
| **0,03** | 6 | AT | 56 | B | 0,35 |
| **0,03** | 6 | T | 56 | B | 0,35 |
| **0,03** | 8 | AT | 56 | B | 0,45 |
| **0,03** | 8 | T | 56 | B | 0,45 |
| **0,05** | 8 | AT | 63 | B | 0,7 |
| **0,05** | 8 | T | 63 | B | 0,7 |
| **0,06** | 4 | AT | 50 | B | 0,47 |
| **0,06** | 4 | AT | 56 | A | 0,43 |
| **0,06** | 4 | T | 50 | B | 0,47 |
| **0,06** | 4 | T | 56 | A | 0,43 |
| **0,06** | 4 | VL2 | 56 | 1 | 0,43 |
| **0,06** | 6 | AT | 56 | C | 0,65 |
| **0,06** | 6 | T | 56 | C | 0,65 |
| **0,07** | 8 | AT | 63 | C | 1 |
| **0,07** | 8 | T | 63 | C | 1 |
| **0,09** | 2 | AT | 56 | A | 0,32 |
| **0,09** | 2 | T | 50 | B | 0,32 |
| **0,09** | 2 | T | 56 | A | 0,32 |
| **0,09** | 2 | VL2 | 56 | 1 | 0,32 |
| **0,09** | 4 | AT | 56 | B | 0,65 |
| **0,09** | 4 | T | 56 | B | 0,65 |
| **0,09** | 4 | VL2 | 56 | 2 | 0,65 |
| **0,09** | 6 | AT | 63 | B | 1 |
| **0,09** | 6 | T | 63 | B | 1 |
| **0,09** | 6 | VL2 | 63 | 1 | 0,98 |
| **0,09** | 8 | AT | 71 | B | 1,25 |
| **0,09** | 8 | T | 71 | B | 1,25 |
| **0,09** | 12 | AT | 71 | C | 2 |
| **0,09** | 12 | T | 71 | C | 2 |
| **0,11** | 4 | AT | 56 | C | 0,8 |
| **0,11** | 4 | T | 56 | C | 0,8 |
| **0,12** | 2 | VL2 | 56 | 2 | 0,42 |
| **0,12** | 4 | VL2 | 63 | 1 | 0,85 |
| **0,12** | 6 | VL2 | 63 | 2 | 1,3 |
| **0,12** | 8 | AT | 71 | C | 1,7 |
| **0,12** | 8 | T | 71 | C | 1,7 |
| **0,13** | 2 | AT | 56 | B | 0,46 |
| **0,13** | 2 | T | 56 | B | 0,46 |
| **0,13** | 4 | AT | 63 | A | 0,95 |
| **0,13** | 4 | T | 63 | A | 0,95 |
| **0,13** | 6 | AT | 63 | C | 1,4 |
| **0,13** | 6 | T | 63 | C | 1,4 |
| **0,18** | 2 | AT | 63 | A | 0,63 |
| **0,18** | 2 | T | 63 | A | 0,63 |
| **0,18** | 2 | VL2 | 63 | 1 | 0,63 |
| **0,18** | 4 | AT | 63 | B | 1,3 |
| **0,18** | 4 | T | 63 | B | 1,3 |
| **0,18** | 4 | VL2 | 63 | 2 | 1,3 |
| **0,18** | 6 | AT | 71 | A | 1,9 |
| **0,18** | 6 | T | 71 | A | 1,9 |

| kW | POL | TYPM | SIZEM | LEN | Nm |
|---|---|---|---|---|---|
| **0,18** | 6 | VL2 | 71 | 1 | 2 |
| **0,18** | 8 | AT | 80 | A | 2,5 |
| **0,18** | 8 | T | 80 | A | 2,5 |
| **0,18** | 12 | AT | 80 | C | 4,1 |
| **0,18** | 12 | T | 80 | C | 4,1 |
| **0,22** | 4 | AT | 63 | C | 1,6 |
| **0,22** | 4 | T | 63 | C | 1,6 |
| **0,25** | 2 | AT | 63 | B | 0,9 |
| **0,25** | 2 | T | 63 | B | 0,9 |
| **0,25** | 2 | VL2 | 63 | 2 | 0,88 |
| **0,25** | 4 | AT | 71 | A | 1,7 |
| **0,25** | 4 | T | 71 | A | 1,7 |
| **0,25** | 4 | VL2 | 63 | 3 | 1,8 |
| **0,25** | 4 | VL2 | 71 | 1 | 1,8 |
| **0,25** | 6 | AT | 71 | B | 2,7 |
| **0,25** | 6 | T | 71 | B | 2,7 |
| **0,25** | 6 | VL2 | 71 | 2 | 2,7 |
| **0,25** | 8 | AT | 80 | B | 3,5 |
| **0,25** | 8 | T | 80 | B | 3,5 |
| **0,25** | 12 | AT | 90 | L | 1,3 |
| **0,25** | 12 | T | 90 | L | 5,8 |
| **0,37** | 2 | AT | 63 | C | 1,3 |
| **0,37** | 2 | AT | 71 | A | 1,3 |
| **0,37** | 2 | T | 63 | C | 1,3 |
| **0,37** | 2 | T | 71 | A | 1,3 |
| **0,37** | 2 | VL2 | 63 | 3 | 1,3 |
| **0,37** | 2 | VL2 | 71 | 1 | 1,3 |
| **0,37** | 4 | AT | 63 | D | 2,7 |
| **0,37** | 4 | AT | 71 | B | 2,6 |
| **0,37** | 4 | T | 63 | D | 2,7 |
| **0,37** | 4 | T | 71 | B | 2,6 |
| **0,37** | 4 | VL2 | 71 | 2 | 2,6 |
| **0,37** | 6 | AT | 71 | C | 3,9 |
| **0,37** | 6 | AT | 80 | A | 3,8 |
| **0,37** | 6 | T | 71 | C | 3,9 |
| **0,37** | 6 | T | 80 | A | 3,8 |
| **0,37** | 6 | VL2 | 71 | 3 | 4 |
| **0,37** | 6 | VL2 | 80 | 1 | 3,9 |
| **0,37** | 8 | AT | 80 | C | 5,2 |
| **0,37** | 8 | AT | 90 | S | 5,1 |
| **0,37** | 8 | T | 80 | C | 5,2 |
| **0,37** | 8 | T | 90 | S | 5,1 |
| **0,37** | 12 | AT | 100 | B | 7,6 |
| **0,37** | 12 | T | 100 | B | 7,6 |
| **0,55** | 2 | AT | 71 | B | 1,8 |
| **0,55** | 2 | T | 71 | B | 1,8 |
| **0,55** | 2 | VL2 | 71 | 2 | 1,9 |
| **0,55** | 4 | AT | 71 | C | 3,8 |
| **0,55** | 4 | AT | 80 | A | 3,7 |
| **0,55** | 4 | T | 71 | C | 3,8 |

### 3.0 POTENZA (POW50) E Cn (CONTINUA)

### *3.0 POWER (POW50) AND Cn (TO BE CONTINUED)*

### 3.0 LEISTUNG (POW50) UND Cn (FORTSETZUNG)

| kW | POL | TYPM | SIZEM | LEN | Nm |
|---|---|---|---|---|---|
| **0,55** | 4 | T | 80 | A | 3,7 |
| **0,55** | 4 | VL2 | 71 | 3 | 3,8 |
| **0,55** | 4 | VL2 | 80 | 1 | 3,8 |
| **0,55** | 6 | AT | 80 | B | 5,7 |
| **0,55** | 6 | T | 80 | B | 5,7 |
| **0,55** | 6 | VL2 | 80 | 2 | 5,8 |
| **0,55** | 8 | AT | 90 | L | 7,6 |
| **0,55** | 8 | T | 90 | L | 7,6 |
| **0,55** | 12 | AT | 100 | BL | 11,7 |
| **0,55** | 12 | T | 100 | BL | 11,7 |
| **0,55** | 16 | AT | 132 | S | 14,6 |
| **0,55** | 16 | T | 132 | S | 14,6 |
| **0,75** | 2 | AHE2 | 80 | B | 2,49 |
| **0,75** | 2 | AHE3 | 80 | B | 5 |
| **0,75** | 2 | AT | 71 | C | 5 |
| **0,75** | 2 | AT | 80 | A | 3,7 |
| **0,75** | 2 | HE2 | 80 | B | 7,8 |
| **0,75** | 2 | HE3 | 80 | B | 5 |
| **0,75** | 2 | T | 71 | C | 10,2 |
| **0,75** | 2 | T | 80 | A | 7,4 |
| **0,75** | 2 | VL2 | 71 | 3 | 2,6 |
| **0,75** | 2 | VL2 | 80 | 1 | 2,6 |
| **0,75** | 2 | VL2 IE2 | 80 | 1 | 2,6 |
| **0,75** | 2 | VL2 IE3 | 80 | 1 | 2,6 |
| **0,75** | 4 | AHE2 | 80 | D | 26,6 |
| **0,75** | 4 | AHE3 | 80 | D | 24,3 |
| **0,75** | 4 | AT | 80 | B | 17,9 |
| **0,75** | 4 | HE2 | 80 | D | 36 |
| **0,75** | 4 | HE3 | 80 | D | 24,3 |
| **0,75** | 4 | T | 80 | B | 49,2 |
| **0,75** | 4 | VL2 | 80 | 2 | 5,2 |
| **0,75** | 4 | VL2 IE2 | 80 | 2 | 5,2 |
| **0,75** | 4 | VL2 IE3 | 80 | 2 | 5,2 |
| **0,75** | 6 | AHE2 | 90 | LB | 48,6 |
| **0,75** | 6 | AT | 80 | C | 97,3 |
| **0,75** | 6 | AT | 90 | S | 60,3 |
| **0,75** | 6 | HE2 | 90 | LB | 120,6 |
| **0,75** | 6 | T | 80 | C | 71 |
| **0,75** | 6 | T | 90 | S | 142 |
| **0,75** | 6 | VL2 | 80 | 3 | 8 |
| **0,75** | 6 | VL2 | 90 | S | 7,8 |
| **0,75** | 6 | VL2 IE2 | 90 | S | 7,7 |
| **0,75** | 6 | VL2 IE3 | 90 | S | 7,7 |
| **0,75** | 8 | AT | 90 | LB | 10,3 |
| **0,75** | 8 | AT | 100 | A | 10,2 |
| **0,75** | 8 | T | 90 | LB | 10,3 |
| **0,75** | 8 | T | 100 | A | 10,2 |
| **0,75** | 12 | AT | 112 | B | 15,7 |
| **0,75** | 12 | T | 112 | B | 15,7 |
| **0,75** | 16 | AT | 132 | M | 20,18 |

| kW | POL | TYPM | SIZEM | LEN | Nm |
|---|---|---|---|---|---|
| **0,75** | 16 | T | 132 | M | 20,18 |
| **0,88** | 4 | AT | 80 | C | 6 |
| **0,88** | 4 | T | 80 | C | 6 |
| **1,1** | 2 | AHE2 | 80 | C | 3,66 |
| **1,1** | 2 | AHE3 | 80 | D | 3,7 |
| **1,1** | 2 | AT | 80 | B | 3,8 |
| **1,1** | 2 | HE2 | 80 | C | 3,66 |
| **1,1** | 2 | HE3 | 80 | D | 3,7 |
| **1,1** | 2 | T | 80 | B | 3,8 |
| **1,1** | 2 | VL2 | 80 | 2 | 3,8 |
| **1,1** | 2 | VL2 IE2 | 80 | 2 | 3,8 |
| **1,1** | 2 | VL2 IE3 | 80 | 2 | 3,8 |
| **1,1** | 4 | AHE2 | 90 | S | 7,31 |
| **1,1** | 4 | AHE3 | 90 | L | 7,8 |
| **1,1** | 4 | AT | 80 | D | 7,5 |
| **1,1** | 4 | AT | 90 | S | 7,5 |
| **1,1** | 4 | HE2 | 90 | S | 7,31 |
| **1,1** | 4 | HE3 | 90 | L | 7,8 |
| **1,1** | 4 | T | 80 | D | 7,5 |
| **1,1** | 4 | T | 90 | S | 7,5 |
| **1,1** | 4 | VL2 | 80 | 3 | 7,6 |
| **1,1** | 4 | VL2 | 90 | S | 7,5 |
| **1,1** | 4 | VL2 IE2 | 90 | S | 7,5 |
| **1,1** | 4 | VL2 IE3 | 90 | S | 7,4 |
| **1,1** | 6 | AHE2 | 100 | A | 11,14 |
| **1,1** | 6 | AT | 90 | L | 11,6 |
| **1,1** | 6 | HE2 | 100 | A | 11,14 |
| **1,1** | 6 | T | 90 | L | 11,6 |
| **1,1** | 6 | VL2 | 90 | L | 11 |
| **1,1** | 6 | VL2 IE2 | 90 | L | 11,3 |
| **1,1** | 6 | VL2 IE3 | 90 | L | 11,3 |
| **1,1** | 8 | AT | 100 | B | 15,4 |
| **1,1** | 8 | T | 100 | B | 15,4 |
| **1,1** | 12 | AT | 132 | S | 23 |
| **1,1** | 12 | T | 132 | S | 23 |
| **1,1** | 16 | AT | 160 | M | 29,19 |
| **1,1** | 16 | T | 160 | M | 29,19 |
| 1,3 | 8 | AT | 100 | BL | 18,1 |
| **1,3** | 8 | T | 100 | BL | 18,1 |
| **1,5** | 2 | AHE2 | 90 | S | 5,01 |
| **1,5** | 2 | AHE3 | 90 | LA | 5 |
| **1,5** | 2 | AT | 80 | C | 5 |
| **1,5** | 2 | AT | 90 | S | 5,1 |
| **1,5** | 2 | HE2 | 90 | S | 5,01 |
| **1,5** | 2 | HE3 | 90 | LA | 5 |
| **1,5** | 2 | T | 80 | C | 5 |
| **1,5** | 2 | T | 90 | S | 6,2 |
| **1,5** | 2 | VL2 | 80 | 3 | 5,1 |
| **1,5** | 2 | VL2 | 90 | S | 5 |
| **1,5** | 2 | VL2 IE2 | 90 | S | 5 |

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## 3.0 POTENZA (POW50) E Cn (CONTINUA)

## *3.0 POWER (POW50) AND Cn (TO BE CONTINUED)*

## 3.0 LEISTUNG (POW50) UND Cn (FORTSETZUNG)

| kW | POL | TYPM | SIZEM | LEN | Nm |
|---|---|---|---|---|---|
| **1,5** | 2 | VL2 IE3 | 90 | S | 5 |
| **1,5** | 4 | AHE2 | 90 | L | 10,02 |
| **1,5** | 4 | AHE3 | 90 | LA | 10,2 |
| **1,5** | 4 | AT | 90 | L | 10,2 |
| **1,5** | 4 | HE2 | 90 | L | 10,02 |
| **1,5** | 4 | HE3 | 90 | LA | 10,2 |
| **1,5** | 4 | T | 90 | L | 10,2 |
| **1,5** | 4 | VL2 | 90 | L | 10 |
| **1,5** | 4 | VL2 IE2 | 90 | L | 10,2 |
| **1,5** | 4 | VL2 IE3 | 90 | L | 10,2 |
| **1,5** | 6 | AHE2 | 100 | BL | 15,2 |
| **1,5** | 6 | AT | 90 | LB | 15,2 |
| **1,5** | 6 | AT | 100 | A | 15,5 |
| **1,5** | 6 | HE2 | 100 | BL | 15,2 |
| **1,5** | 6 | T | 90 | LB | 15,2 |
| **1,5** | 6 | T | 100 | A | 15,5 |
| **1,5** | 6 | VL2 | 90 | L2 | 15 |
| **1,5** | 6 | VL2 | 100 | L | 15 |
| **1,5** | 6 | VL2 IE2 | 100 | L | 15,1 |
| **1,5** | 6 | VL2 IE3 | 100 | L | 15,1 |
| **1,5** | 8 | AT | 112 | A | 20,4 |
| **1,5** | 8 | T | 112 | A | 20,4 |
| **1,5** | 12 | AT | 132 | M | 31,8 |
| **1,5** | 12 | T | 132 | M | 31,8 |
| **1,5** | 16 | AT | 160 | L | 40,37 |
| **1,5** | 16 | T | 160 | L | 40,37 |
| **1,5** | 32 | AT | 180 | L | 29,19 |
| **1,5** | 32 | T | 180 | L | 89,57 |
| **1,8** | 2 | AT | 80 | D | 6,2 |
| **1,8** | 2 | T | 80 | D | 5,1 |
| **1,8** | 4 | AT | 90 | LB | 12,5 |
| **1,8** | 4 | T | 90 | LB | 12,5 |
| **1,85** | 4 | VL2 | 90 | L1 | 13 |
| **1,85** | 6 | AT | 100 | B | 18,7 |
| **1,85** | 6 | T | 100 | B | 18,7 |
| **1,85** | 12 | AT | 132 | ML | 38,9 |
| **1,85** | 12 | T | 132 | ML | 38,9 |
| **2,2** | 2 | AHE2 | 90 | L | 7,31 |
| **2,2** | 2 | AHE3 | 90 | LB | 7,4 |
| **2,2** | 2 | AT | 90 | L | 7,5 |
| **2,2** | 2 | HE2 | 90 | L | 7,31 |
| **2,2** | 2 | HE3 | 90 | LB | 7,4 |
| **2,2** | 2 | T | 90 | L | 7,5 |
| **2,2** | 2 | VL2 | 90 | L | 7,4 |
| **2,2** | 2 | VL2 IE2 | 90 | L | 7,4 |
| **2,2** | 2 | VL2 IE3 | 90 | L | 7,4 |
| **2,2** | 4 | AHE2 | 100 | B | 14,66 |
| **2,2** | 4 | AHE3 | 100 | BL | 15 |
| **2,2** | 4 | AT | 100 | A | 14,8 |
| **2,2** | 4 | HE2 | 100 | B | 14,66 |

| kW | POL | TYPM | SIZEM | LEN | Nm |
|---|---|---|---|---|---|
| **2,2** | 4 | HE3 | 100 | BL | 15 |
| **2,2** | 4 | T | 100 | A | 14,8 |
| **2,2** | 4 | VL2 | 90 | L2 | 15 |
| **2,2** | 4 | VL2 | 100 | L1 | 15 |
| **2,2** | 4 | VL2 IE2 | 100 | L1 | 14,7 |
| **2,2** | 4 | VL2 IE3 | 100 | L1 | 14,7 |
| **2,2** | 6 | AHE2 | 112 | A | 21,99 |
| **2,2** | 6 | AT | 100 | BL | 22,4 |
| **2,2** | 6 | AT | 112 | A | 22 |
| **2,2** | 6 | HE2 | 112 | A | 21,99 |
| **2,2** | 6 | T | 100 | BL | 22,4 |
| **2,2** | 6 | T | 112 | A | 22 |
| **2,2** | 6 | VL2 | 112 | M | 22 |
| **2,2** | 6 | VL2 IE2 | 112 | M | 22,1 |
| **2,2** | 6 | VL2 IE3 | 112 | M | 22,1 |
| **2,2** | 8 | AT | 132 | S | 29,5 |
| **2,2** | 8 | T | 132 | S | 29,5 |
| **2,2** | 16 | AT | 180 | L | 58,39 |
| **2,2** | 16 | T | 180 | L | 58,39 |
| **2,2** | 32 | AT | 200 | L | 40,37 |
| **2,2** | 32 | T | 200 | L | 135,61 |
| **3** | 2 | AHE2 | 100 | B | 9,82 |
| **3** | 2 | AHE3 | 100 | B | 10 |
| **3** | 2 | AT | 90 | LB | 10 |
| **3** | 2 | AT | 100 | A | 9,9 |
| **3** | 2 | HE2 | 100 | B | 9,82 |
| **3** | 2 | HE3 | 100 | B | 10 |
| **3** | 2 | T | 90 | LB | 10 |
| **3** | 2 | T | 100 | A | 9,9 |
| **3** | 2 | VL2 | 90 | L2 | 10 |
| **3** | 2 | VL2 | 100 | L | 10 |
| **3** | 2 | VL2 IE2 | 100 | L | 10 |
| **3** | 2 | VL2 IE3 | 100 | L | 10 |
| **3** | 4 | AHE2 | 100 | BL | 20,18 |
| **3** | 4 | AHE3 | 100 | BLA | 20 |
| **3** | 4 | AT | 100 | B | 20,2 |
| 3 | 4 | HE2 | 100 | BL | 20,18 |
| **3** | 4 | HE3 | 100 | BLA | 20 |
| **3** | 4 | T | 100 | B | 20,2 |
| **3** | 4 | VL2 | 100 | L2 | 20 |
| **3** | 4 | VL2 IE2 | 100 | L2 | 20 |
| **3** | 4 | VL2 IE3 | 100 | L2 | 20 |
| **3** | 6 | AHE2 | 132 | S | 31,15 |
| **3** | 6 | AT | 112 | B | 30,1 |
| **3** | 6 | AT | 132 | S | 30 |
| **3** | 6 | HE2 | 132 | S | 31,15 |
| **3** | 6 | T | 112 | B | 30,1 |
| **3** | 6 | T | 132 | S | 30 |
| **3** | 6 | VL2 | 132 | S | 30 |
| **3** | 6 | VL2 IE2 | 132 | S | 29,8 |

## 3.0 POTENZA (POW50) E Cn (CONTINUA)

## *3.0 POWER (POW50) AND Cn (TO BE CONTINUED)*

## 3.0 LEISTUNG (POW50) UND Cn (FORTSETZUNG)

| kW | POL | TYPM | SIZEM | LEN | Nm |
|---|---|---|---|---|---|
| 3 | 6 | VL2 IE3 | 132 | S | 29,8 |
| 3 | 8 | AT | 132 | M | 40 |
| 3 | 8 | T | 132 | M | 40 |
| 3 | 12 | AT | 160 | M | 61,5 |
| 3 | 12 | T | 160 | M | 61,5 |
| 3 | 16 | AT | 200 | L | 81,89 |
| 3 | 16 | T | 200 | L | 81,89 |
| 4 | 2 | AHE2 | 112 | A | 13,16 |
| 4 | 2 | AHE3 | 112 | A | 13,3 |
| 4 | 2 | AT | 100 | B | 13,2 |
| 4 | 2 | AT | 112 | A | 13,2 |
| 4 | 2 | HE2 | 112 | A | 13,16 |
| 4 | 2 | HE3 | 112 | A | 13,3 |
| 4 | 2 | T | 100 | B | 13,2 |
| 4 | 2 | T | 112 | A | 13,2 |
| 4 | 2 | VL2 | 100 | L2 | 13 |
| 4 | 2 | VL2 | 112 | M | 13 |
| 4 | 2 | VL2 IE2 | 112 | M | 13,2 |
| 4 | 2 | VL2 IE3 | 112 | M | 13,4 |
| 4 | 4 | AHE2 | 112 | B | 26,37 |
| 4 | 4 | AHE3 | 112 | BL | 26,6 |
| 4 | 4 | AT | 100 | BL | 26,9 |
| 4 | 4 | AT | 112 | A | 26,8 |
| 4 | 4 | HE2 | 112 | B | 26,37 |
| 4 | 4 | HE3 | 112 | BL | 26,6 |
| 4 | 4 | T | 100 | BL | 26,9 |
| 4 | 4 | T | 112 | A | 26,8 |
| 4 | 4 | VL2 | 112 | M | 27 |
| 4 | 4 | VL2 IE2 | 112 | M | 26,5 |
| 4 | 4 | VL2 IE3 | 112 | M | 26,5 |
| 4 | 6 | AHE2 | 132 | M | 41,09 |
| 4 | 6 | AT | 132 | M | 39,6 |
| 4 | 6 | HE2 | 132 | M | 41,09 |
| 4 | 6 | T | 132 | M | 39,6 |
| 4 | 6 | VL2 | 132 | M1 | 40 |
| 4 | 6 | VL2 IE2 | 132 | M1 | 39,8 |
| 4 | 6 | VL2 IE3 | 132 | M1 | 39,8 |
| 4 | 8 | AT | 132 | ML | 53,5 |
| 4 | 8 | AT | 160 | MA | 53,4 |
| 4 | 8 | T | 132 | ML | 53,5 |
| 4 | 8 | T | 160 | MA | 53,4 |
| 4 | 12 | AT | 160 | L | 83,4 |
| 4 | 12 | T | 160 | L | 83,4 |
| 5,5 | 2 | AHE2 | 112 | B | 18,18 |
| 5,5 | 2 | AHE2 | 132 | S | 18,18 |
| 5,5 | 2 | AHE3 | 112 | B | 17,8 |

| kW | POL | TYPM | SIZEM | LEN | Nm |
|---|---|---|---|---|---|
| 5,5 | 2 | AHE3 | 132 | SL | 17,9 |
| 5,5 | 2 | AT | 112 | B | 18,1 |
| 5,5 | 2 | AT | 132 | S | 18 |
| 5,5 | 2 | HE2 | 112 | B | 13,16 |
| 5,5 | 2 | HE2 | 132 | S | 18,18 |
| 5,5 | 2 | HE3 | 112 | B | 17,8 |
| 5,5 | 2 | HE3 | 132 | SL | 17,9 |
| 5,5 | 2 | T | 112 | B | 18,1 |
| 5,5 | 2 | T | 132 | S | 18 |
| 5,5 | 2 | VL2 | 112 | M2 | 18 |
| 5,5 | 2 | VL2 | 132 | S1 | 18 |
| 5,5 | 2 | VL2 IE2 | 132 | S1 | 18,1 |
| 5,5 | 2 | VL2 IE3 | 132 | S1 | 18 |
| 5,5 | 4 | AHE2 | 132 | M | 36,49 |
| 5,5 | 4 | AHE3 | 132 | M | 36 |
| 5,5 | 4 | AT | 112 | BL | 36,4 |
| 5,5 | 4 | AT | 132 | S | 36,5 |
| 5,5 | 4 | HE2 | 132 | M | 36,49 |
| 5,5 | 4 | HE3 | 132 | M | 36 |
| 5,5 | 4 | T | 112 | BL | 36,5 |
| 5,5 | 4 | T | 132 | S | 36,4 |
| 5,5 | 4 | VL2 | 112 | M2 | 36 |
| 5,5 | 4 | VL2 | 132 | S | 36 |
| 5,5 | 4 | VL2 IE2 | 132 | S | 36 |
| 5,5 | 4 | VL2 IE3 | 132 | S | 36 |
| 5,5 | 6 | AHE2 | 132 | ML | 55,9 |
| 5,5 | 6 | AT | 132 | ML | 54,4 |
| 5,5 | 6 | HE2 | 132 | ML | 55,9 |
| 5,5 | 6 | T | 132 | ML | 54,4 |
| 5,5 | 6 | VL2 | 132 | M2 | 55 |
| 5,5 | 6 | VL2 IE2 | 132 | M2 | 54,7 |
| 5,5 | 6 | VL2 IE3 | 132 | M2 | 54,7 |
| 5,5 | 8 | AT | 160 | MB | 72,6 |
| 5,5 | 8 | T | 160 | MB | 72,6 |
| 5,5 | 12 | AT | 180 | L | 116,77 |
| 5,5 | 12 | T | 180 | L | 116,77 |
| 7,5 | 2 | AHE2 | 132 | SL | 24,37 |
| 7,5 | 2 | AHE3 | 132 | M | 24,3 |
| 7,5 | 2 | AT | 112 | BL | 24,5 |
| 7,5 | 2 | AT | 132 | SL | 24,5 |
| 7,5 | 2 | HE2 | 132 | SL | 24,37 |
| 7,5 | 2 | HE3 | 132 | M | 24,3 |
| 7,5 | 2 | T | 112 | BL | 24,5 |
| 7,5 | 2 | T | 132 | SL | 24,5 |
| 7,5 | 2 | VL2 | 112 | M3 | 25 |
| 7,5 | 2 | VL2 | 132 | S2 | 25 |

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### 3.0 POTENZA (POW50) E Cn (CONTINUA)

### *3.0 POWER (POW50) AND CN (TO BE CONTINUED)*

### 3.0 LEISTUNG (POW50) UND Cn (FORTSETZUNG)

| kW | POL | TYPM | SIZEM | LEN | Nm |
|---|---|---|---|---|---|
| **7,5** | 2 | VL2 IE2 | 132 | S2 | 24,6 |
| **7,5** | 2 | VL2 IE3 | 132 | S2 | 24,6 |
| **7,5** | 4 | AHE2 | 132 | ML | 49,76 |
| **7,5** | 4 | AHE3 | 132 | ML | 49,2 |
| **7,5** | 4 | AT | 132 | M | 49,5 |
| **7,5** | 4 | HE2 | 132 | ML | 49,76 |
| **7,5** | 4 | HE3 | 132 | ML | 49,2 |
| **7,5** | 4 | T | 132 | M | 49,5 |
| **7,5** | 4 | VL2 | 132 | M | 49 |
| **7,5** | 4 | VL2 IE2 | 132 | M | 49,1 |
| **7,5** | 4 | VL2 IE3 | 132 | M | 49,1 |
| **7,5** | 6 | AHE2 | 160 | M | 75,43 |
| **7,5** | 6 | AT | 160 | M | 74,6 |
| **7,5** | 6 | HE2 | 160 | M | 75,43 |
| **7,5** | 6 | T | 160 | M | 74,6 |
| **7,5** | 6 | VL2 IE2 | 160 | M | 73,84 |
| **7,5** | 6 | VL2 IE3 | 160 | M | 73,09 |
| **7,5** | 6 | VL2 Y3 | 160 | M | 73,83 |
| **7,5** | 8 | AT | 160 | L | 101 |
| **7,5** | 8 | T | 160 | L | 101 |
| **7,5** | 12 | AT | 200 | L | 162,85 |
| **7,5** | 12 | T | 200 | L | 162,85 |
| **9,2** | 2 | VL2 | 132 | M1 | 30 |
| **9,2** | 4 | AHE2 | 132 | MLL | 61,04 |
| **9,2** | 4 | AT | 132 | ML | 60,4 |
| **9,2** | 4 | HE2 | 132 | MLL | 61,04 |
| **9,2** | 4 | T | 132 | ML | 60,4 |
| **9,2** | 4 | VL2 | 132 | M2 | 60 |
| **11** | 2 | AHE2 | 132 | ML | 35,63 |
| **11** | 2 | AHE2 | 160 | MA | 36,24 |
| **11** | 2 | AHE3 | 132 | ML | 35,4 |
| **11** | 2 | AHE3 | 160 | M | 35,7 |
| **11** | 2 | AT | 132 | M | 36 |
| **11** | 2 | AT | 160 | MA | 35,4 |
| **11** | 2 | HE2 | 132 | ML | 35,63 |
| **11** | 2 | HE2 | 160 | MA | 36,24 |
| **11** | 2 | HE3 | 132 | ML | 35,4 |
| **11** | 2 | HE3 | 160 | M | 35,7 |
| **11** | 2 | T | 132 | M | 36 |
| **11** | 2 | T | 160 | MA | 35,4 |
| **11** | 2 | VL2 | 132 | M2 | 36 |
| **11** | 2 | VL2 IE2 | 160 | M1 | 35,73 |
| **11** | 2 | VL2 IE3 | 160 | M1 | 35,61 |
| **11** | 2 | VL2 Y3 | 160 | M1 | 35,90 |
| **11** | 4 | AHE2 | 160 | M | 72,23 |
| **11** | 4 | AHE3 | 160 | L | 71,3 |
| **11** | 4 | AT | 160 | M | 74,3 |
| **11** | 4 | HE2 | 160 | M | 72,23 |
| **11** | 4 | HE3 | 160 | L | 71,3 |
| **11** | 4 | T | 160 | M | 74,3 |

| kW | POL | TYPM | SIZEM | LEN | Nm |
|---|---|---|---|---|---|
| **11** | 4 | VL2 | 132 | M3 | 72 |
| **11** | 4 | VL2 IE2 | 160 | M | 71,46 |
| **11** | 4 | VL2 IE3 | 160 | M | 71,46 |
| **11** | 4 | VL2 Y3 | 160 | M | 72,00 |
| **11** | 6 | AHE2 | 160 | L | 109,47 |
| **11** | 6 | AT | 160 | L | 112 |
| **11** | 6 | HE2 | 160 | L | 109,47 |
| **11** | 6 | T | 160 | L | 112 |
| **11** | 6 | VL2 IE2 | 160 | L | 108,30 |
| **11** | 6 | VL2 IE3 | 160 | L | 107,19 |
| **11** | 6 | VL2 Y3 | 160 | L | 108,29 |
| **11** | 8 | AT | 180 | L | 144,96 |
| **11** | 8 | T | 180 | L | 144,96 |
| **15** | 2 | AHE2 | 160 | L | 48,91 |
| **15** | 2 | AHE3 | 160 | LA | 48,6 |
| **15** | 2 | AT | 132 | ML | 48,8 |
| **15** | 2 | AT | 160 | MB | 48,5 |
| **15** | 2 | HE2 | 160 | L | 48,91 |
| **15** | 2 | HE3 | 160 | LA | 48,6 |
| **15** | 2 | T | 132 | ML | 48,8 |
| **15** | 2 | T | 160 | MB | 48,5 |
| **15** | 2 | VL2 | 132 | M3 | 49 |
| **15** | 2 | VL2 IE2 | 160 | M2 | 48,72 |
| **15** | 2 | VL2 IE3 | 160 | M2 | 48,56 |
| **15** | 2 | VL2 Y3 | 160 | M2 | 48,90 |
| **15** | 4 | AHE2 | 160 | L | 98,5 |
| **15** | 4 | AHE3 | 160 | LB | 97,3 |
| **15** | 4 | AT | 160 | L | 98,3 |
| **15** | 4 | HE2 | 160 | L | 98,5 |
| **15** | 4 | HE3 | 160 | LB | 97,3 |
| **15** | 4 | T | 160 | L | 98,3 |
| **15** | 4 | VL2 IE2 | 160 | L | 97,45 |
| **15** | 4 | VL2 IE3 | 160 | L | 97,45 |
| **15** | 4 | VL2 Y3 | 160 | L | 98,10 |
| **15** | 6 | AHE2 | 180 | L | 147,74 |
| 15 | 6 | AT | 180 | L | 147,74 |
| **15** | 6 | HE2 | 180 | L | 147,74 |
| **15** | 6 | T | 180 | L | 147,74 |
| **15** | 6 | VL2 IE2 | 180 | L | 146,17 |
| **15** | 6 | VL2 IE3 | 180 | L | 146,17 |
| **15** | 6 | VL2 Y3 | 180 | L | 147,67 |
| **15** | 8 | AT | 200 | L | 197,67 |
| **15** | 8 | T | 200 | L | 197,67 |
| **18,5** | 2 | AHE2 | 160 | LB | 60,74 |
| **18,5** | 2 | AHE3 | 160 | LB | 60,3 |
| **18,5** | 2 | AT | 160 | L | 60,2 |
| **18,5** | 2 | HE2 | 160 | LB | 60,74 |
| **18,5** | 2 | HE3 | 160 | LB | 60,3 |
| **18,5** | 2 | T | 160 | L | 60,2 |
| **18,5** | 2 | VL2 IE2 | 160 | L | 60,09 |

### 3.0 POTENZA (POW50) E Cn (FINE)

### *3.0 POWER (POW50) AND Cn (THE END)*

### 3.0 LEISTUNG (POW50) UND Cn (ENDE)

| kW | POL | TYPM | SIZEM | LEN | Nm |
|---|---|---|---|---|---|
| **18,5** | 2 | VL2 IE3 | 160 | L | 59,89 |
| **18,5** | 2 | VL2 Y3 | 160 | L | 60,30 |
| **18,5** | 4 | AHE2 | 180 | M | 121,48 |
| **18,5** | 4 | AHE3 | 180 | LA | 120,6 |
| **18,5** | 4 | AT | 180 | M | 121 |
| **18,5** | 4 | HE2 | 180 | M | 121,48 |
| **18,5** | 4 | HE3 | 180 | LA | 120,6 |
| **18,5** | 4 | T | 180 | M | 121 |
| **18,5** | 4 | VL2 IE2 | 180 | M | 120,19 |
| **18,5** | 4 | VL2 IE3 | 180 | M | 119,78 |
| **18,5** | 4 | VL2 Y3 | 180 | M | 120,00 |
| **18,5** | 6 | AHE2 | 200 | L | 185 |
| **18,5** | 6 | AT | 200 | LA | 181,28 |
| **18,5** | 6 | HE2 | 200 | L | 185 |
| **18,5** | 6 | T | 200 | LA | 181,28 |
| **18,5** | 6 | VL2 IE2 | 200 | L1 | 180,28 |
| **18,5** | 6 | VL2 IE3 | 200 | L1 | 179,37 |
| **18,5** | 6 | VL2 Y3 | 200 | L1 | 180,27 |
| **22** | 2 | AHE2 | 180 | L | 71,98 |
| **22** | 2 | AHE3 | 180 | L | 71 |
| **22** | 2 | AT | 180 | M | 71,49 |
| **22** | 2 | HE2 | 180 | L | 71,98 |
| **22** | 2 | HE3 | 180 | L | 71 |
| **22** | 2 | T | 180 | M | 71,49 |
| **22** | 2 | VL2 IE2 | 180 | M | 71,22 |
| **22** | 2 | VL2 IE3 | 180 | M | 70,98 |
| **22** | 2 | VL2 Y3 | 180 | M | 71,50 |
| **22** | 4 | AHE2 | 180 | L | 144,46 |
| **22** | 4 | AHE3 | 180 | LB | 142 |
| **22** | 4 | AT | 180 | L | 143,3 |
| **22** | 4 | HE2 | 180 | L | 144,46 |
| **22** | 4 | HE3 | 180 | LB | 142 |
| **22** | 4 | T | 180 | L | 143 |
| **22** | 4 | VL2 IE2 | 180 | L | 142,93 |
| **22** | 4 | VL2 IE3 | 180 | L | 142,44 |
| **22** | 4 | VL2 Y3 | 180 | L | 143,00 |
| **22** | 6 | AT | 200 | LB | 215,58 |
| **22** | 6 | T | 200 | LB | 215,58 |
| **22** | 6 | VL2 IE2 | 200 | L2 | 214,39 |
| **22** | 6 | VL2 IE3 | 200 | L2 | 213,3 |
| **22** | 6 | VL2 Y3 | 200 | L2 | 214,37 |

## 4.0 PESO DEL PRODOTTO IN KG 4.0 *PRODUCT WEIGHT IN KG* 4.0 PRODUCT WEIGHT IN KG

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| AHE2 | 80 | B | 2 | 0,75 | | 15,9 | CUT | 18,25 | - | - | - | - |
| AHE2 | 80 | C | 2 | 1,1 | | 16,9 | CUT | 19,25 | - | - | - | - |
| AHE2 | 80 | D | 4 | 0,75 | | 17,9 | CUT | 20,25 | - | - | - | - |
| AHE2 | 90 | L | 2 | 2,2 | | 23 | CUT | 25,6 | - | - | - | - |
| AHE2 | 90 | L | 4 | 1,5 | | 21,9 | CUT | 24,5 | - | - | - | - |
| AHE2 | 90 | LB | 6 | 0,75 | | 23,4 | CUT | 26 | - | - | - | - |
| AHE2 | 90 | S | 2 | 1,5 | | 20,9 | CUT | 23,5 | - | - | - | - |
| AHE2 | 90 | S | 4 | 1,1 | | 20,9 | CUT | 23,5 | - | - | - | - |
| AHE2 | 100 | A | 6 | 1,1 | | 29,9 | 32 | 32,75 | - | - | - | - |
| AHE2 | 100 | B | 2 | 3 | | 33 | 35,1 | 35,85 | - | - | - | - |
| AHE2 | 100 | B | 4 | 2,2 | | 33 | 35,1 | 35,85 | - | - | - | - |
| AHE2 | 100 | BL | 4 | 3 | | 35 | 37,1 | 37,85 | - | - | - | - |
| AHE2 | 100 | BL | 6 | 1,5 | | 33,9 | 36 | 36,75 | - | - | - | - |
| AHE2 | 112 | A | 2 | 4 | | 41 | CUT | CUT | - | - | - | - |
| AHE2 | 112 | A | 6 | 2,2 | | 46 | CUT | CUT | - | - | - | - |
| AHE2 | 112 | B | 2 | 5,5 | | 46,7 | CUT | CUT | - | - | - | - |
| AHE2 | 112 | B | 4 | 4 | | 49 | CUT | CUT | - | - | - | - |
| AHE2 | 132 | M | 4 | 5,5 | | 74,7 | CUT | CUT | - | - | - | - |
| AHE2 | 132 | M | 6 | 4 | | 74 | CUT | CUT | - | - | - | - |
| AHE2 | 132 | ML | 2 | 11 | | 92 | CUT | CUT | - | - | - | - |
| AHE2 | 132 | ML | 4 | 7,5 | | 76,7 | CUT | CUT | - | - | - | - |
| AHE2 | 132 | ML | 6 | 5,5 | | 92,7 | CUT | CUT | - | - | - | - |
| AHE2 | 132 | MLL | 4 | 9,2 | | 93 | CUT | CUT | - | - | - | - |
| AHE2 | 132 | S | 2 | 5,5 | | 71,7 | CUT | CUT | - | - | - | - |
| AHE2 | 132 | S | 6 | 3 | | 70 | CUT | CUT | - | - | - | - |
| AHE2 | 132 | SL | 2 | 7,5 | | 83,7 | CUT | CUT | - | - | - | - |
| AHE2 | 160 | L | 2 | 15 | | 132 | 137 | 137 | - | - | - | - |
| AHE2 | 160 | L | 4 | 15 | | 144 | 149 | 149 | - | - | - | - |
| AHE2 | 160 | L | 6 | 11 | | 144 | 149 | 149 | - | - | - | - |
| AHE2 | 160 | LB | 2 | 18,5 | | 143 | 148 | 148 | - | - | - | - |
| AHE2 | 160 | M | 4 | 11 | | 131 | 136 | 136 | - | - | - | - |
| AHE2 | 160 | M | 6 | 7,5 | | 118,7 | 123,7 | 123,7 | - | - | - | - |
| AHE2 | 160 | MA | 2 | 11 | | 116 | 121 | 121 | - | - | - | - |
| AHE2 | 180 | L | 2 | 22 | | 180 | - | CUT | - | - | - | - |
| AHE2 | 180 | L | 4 | 22 | | 180 | - | CUT | - | - | - | - |
| AHE2 | 180 | L | 6 | 15 | | 180 | - | CUT | - | - | - | - |
| AHE2 | 180 | M | 4 | 18,5 | | 165 | - | CUT | - | - | - | - |
| AHE2 | 200 | L | 6 | 18,5 | | 210 | - | CUT | - | - | - | - |
| AHE3 | 80 | B | 2 | 0,75 | | 15,9 | CUT | 18,25 | - | - | - | - |
| AHE3 | 80 | D | 2 | 1,1 | | 17,6 | CUT | 19,95 | - | - | - | - |
| AHE3 | 80 | D | 4 | 0,75 | | 19,9 | CUT | 22,25 | - | - | - | - |
| AHE3 | 90 | L | 4 | 1,1 | | 21,9 | CUT | 24,5 | - | - | - | - |
| AHE3 | 90 | LA | 2 | 1,5 | | 21,9 | CUT | 24,5 | - | - | - | - |

| Nota / *Note* / Hinweis | |
|---|---|
| CUT | Contattare ufficio tecnico / *Contact the technical office* / Verbindung mit der Technischen Abteilung aufnehmen |

## 4.0 PESO DEL PRODOTTO IN KG (CONTINUA)

## *4.0 PRODUCT WEIGHT IN KG (TO BE CONTINUED)*

## 4.0 PRODUKTGEWICHT IN KG (FORTSETZUNG)

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| AHE3 | 90 | LA | 4 | 1,5 | | 22,5 | CUT | 25,1 | - | - | - | - |
| AHE3 | 90 | LB | 2 | 2,2 | | 25 | CUT | 27,6 | - | - | - | - |
| AHE3 | 100 | B | 2 | 3 | | 33 | 35,1 | 35,85 | - | - | - | - |
| AHE3 | 100 | BL | 4 | 2,2 | | 35 | 37,1 | 37,85 | - | - | - | - |
| AHE3 | 100 | BLA | 4 | 3 | | 42 | 44,1 | 44,85 | - | - | - | - |
| AHE3 | 112 | A | 2 | 4 | | 41 | CUT | CUT | - | - | - | - |
| AHE3 | 112 | B | 2 | 5,5 | | 45,7 | CUT | CUT | - | - | - | - |
| AHE3 | 112 | BL | 4 | 4 | | 54 | CUT | CUT | - | - | - | - |
| AHE3 | 132 | M | 2 | 7,5 | | 79,7 | CUT | CUT | - | - | - | - |
| AHE3 | 132 | M | 4 | 5,5 | | 75,7 | CUT | CUT | - | - | - | - |
| AHE3 | 132 | ML | 2 | 11 | | 92 | CUT | CUT | - | - | - | - |
| AHE3 | 132 | ML | 4 | 7,5 | | 80,7 | CUT | CUT | - | - | - | - |
| AHE3 | 132 | SL | 2 | 5,5 | | 83,7 | CUT | CUT | - | - | - | - |
| AHE3 | 160 | L | 4 | 11 | | 144 | 149 | 149 | - | - | - | - |
| AHE3 | 160 | LA | 2 | 15 | | 133 | 138 | 138 | - | - | - | - |
| AHE3 | 160 | LB | 2 | 18,5 | | 143 | 148 | 148 | - | - | - | - |
| AHE3 | 160 | LB | 4 | 15 | | 159 | 164 | 164 | - | - | - | - |
| AHE3 | 160 | M | 2 | 11 | | 116,5 | 121,5 | 121,5 | - | - | - | - |
| AHE3 | 180 | L | 2 | 22 | | 180 | - | CUT | - | - | - | - |
| AHE3 | 180 | LA | 4 | 18,5 | | 172 | - | CUT | - | - | - | - |
| AHE3 | 180 | LB | 4 | 22 | | 180 | - | CUT | - | - | - | - |
| AT | 50 | B | 4 | 0,06 | | 7,8 | - | - | - | - | - | - |
| AT | 56 | A | 2 | 0,09 | | 7,9 | CUT | - | - | - | - | - |
| AT | 56 | A | 4 | 0,06 | | 7,9 | CUT | - | - | - | - | - |
| AT | 56 | B | 2 | 0,13 | | 8,9 | CUT | - | - | - | - | - |
| AT | 56 | B | 4 | 0,09 | | 8,9 | CUT | - | - | - | - | - |
| AT | 56 | B | 6 | 0,03 | | 7,9 | CUT | - | - | - | - | - |
| AT | 56 | B | 8 | 0,03 | | 8,9 | CUT | - | - | - | - | - |
| AT | 56 | C | 4 | 0,11 | | 8,9 | CUT | - | - | - | - | - |
| AT | 56 | C | 6 | 0,06 | | 8,9 | CUT | - | - | - | - | - |
| AT | 63 | A | 2 | 0,18 | | 8,9 | CUT | - | - | - | - | - |
| AT | 63 | A | 4 | 0,13 | | 8,9 | CUT | - | - | - | - | - |
| AT | 63 | B | 2 | 0,25 | | 9,9 | CUT | - | - | - | - | - |
| AT | 63 | B | 4 | 0,18 | | 10,9 | CUT | - | - | - | - | - |
| AT | 63 | B | 6 | 0,09 | | 8,9 | CUT | - | - | - | - | - |
| AT | 63 | B | 8 | 0,05 | | 9,9 | CUT | - | - | - | - | - |
| AT | 63 | C | 2 | 0,37 | | 10,9 | CUT | - | - | - | - | - |
| AT | 63 | C | 4 | 0,22 | | 10,9 | CUT | - | - | - | - | - |
| AT | 63 | C | 6 | 0,13 | | 9,9 | CUT | - | - | - | - | - |
| AT | 63 | C | 8 | 0,07 | | 9,9 | CUT | - | - | - | - | - |
| AT | 63 | D | 4 | 0,37 | | 11,9 | CUT | - | - | - | - | - |
| AT | 71 | A | 2 | 0,37 | | 11,9 | 13,1 | 14,1 | - | - | - | - |
| AT | 71 | A | 4 | 0,25 | | 11,9 | 13,1 | 14,1 | - | - | - | - |

| Nota / *Note* / Hinweis | |
|---|---|
| CUT | Contattare ufficio tecnico / *Contact the technical office* / Verbindung mit der Technischen Abteilung aufnehmen |

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## 4.0 PESO DEL PRODOTTO IN Kg (CONTINUA)

## *4.0 PRODUCT WEIGHT IN Kg (TO BE CONTINUED)*

## 4.0 PRODUKTGEWICHT IN Kg (FORTSETZUNG)

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| AT | 71 | A | 6 | 0,18 | | 10,9 | 12,1 | 13,1 | - | - | - | - |
| AT | 71 | B | 2 | 0,55 | | 11,9 | 13,1 | 14,1 | - | - | - | - |
| AT | 71 | B | 4 | 0,37 | | 11,9 | 13,1 | 14,1 | - | - | - | - |
| AT | 71 | B | 6 | 0,25 | | 11,9 | 13,1 | 14,1 | - | - | - | - |
| AT | 71 | B | 8 | 0,09 | | 10,9 | 12,1 | 13,1 | - | - | - | - |
| AT | 71 | C | 2 | 0,75 | | 12,9 | 14,1 | 15,1 | - | - | - | - |
| AT | 71 | C | 4 | 0,55 | | 12,9 | 14,1 | 15,1 | - | - | - | - |
| AT | 71 | C | 6 | 0,37 | | 11,9 | 13,1 | 14,1 | - | - | - | - |
| AT | 71 | C | 8 | 0,12 | | 11,9 | 13,1 | 14,1 | - | - | - | - |
| AT | 71 | C | 12 | 0,09 | | 11,9 | 13,1 | 14,1 | - | - | - | - |
| AT | 80 | A | 2 | 0,75 | | 14,9 | CUT | 17,25 | - | - | - | - |
| AT | 80 | A | 4 | 0,55 | | 14,9 | CUT | 17,25 | - | - | - | - |
| AT | 80 | A | 6 | 0,37 | | 14,9 | CUT | 17,25 | - | - | - | - |
| AT | 80 | A | 8 | 0,18 | | 14,9 | CUT | 17,25 | - | - | - | - |
| AT | 80 | B | 2 | 1,1 | | 15,9 | CUT | 18,25 | - | - | - | - |
| AT | 80 | B | 4 | 0,75 | | 16,9 | CUT | 19,25 | - | - | - | - |
| AT | 80 | B | 6 | 0,55 | | 16,9 | CUT | 19,25 | - | - | - | - |
| AT | 80 | B | 8 | 0,25 | | 16,9 | CUT | 19,25 | - | - | - | - |
| AT | 80 | C | 2 | 1,5 | | 16,9 | CUT | 19,25 | - | - | - | - |
| AT | 80 | C | 4 | 0,88 | | 17,4 | CUT | 19,75 | - | - | - | - |
| AT | 80 | C | 6 | 0,75 | | 17,9 | CUT | 20,25 | - | - | - | - |
| AT | 80 | C | 8 | 0,37 | | 17,9 | CUT | 20,25 | - | - | - | - |
| AT | 80 | C | 12 | 0,18 | | 17,9 | CUT | 20,25 | - | - | - | - |
| AT | 80 | D | 2 | 1,8 | | 17,6 | CUT | 19,95 | - | - | - | - |
| AT | 80 | D | 4 | 1,1 | | 17,9 | CUT | 20,25 | - | - | - | - |
| AT | 90 | L | 2 | 2,2 | | 20,5 | CUT | 23,1 | - | - | - | - |
| AT | 90 | L | 4 | 1,5 | | 21,9 | CUT | 24,5 | - | - | - | - |
| AT | 90 | L | 6 | 1,1 | | 21,9 | CUT | 24,5 | - | - | - | - |
| AT | 90 | L | 8 | 0,55 | | 21,9 | CUT | 24,5 | - | - | - | - |
| AT | 90 | L | 12 | 0,25 | | 22,9 | CUT | 25,5 | - | - | - | - |
| AT | 90 | LB | 2 | 3 | | 22,5 | CUT | 25,1 | - | - | - | - |
| AT | 90 | LB | 4 | 1,8 | | 25 | CUT | 27,6 | - | - | - | - |
| AT | 90 | LB | 6 | 1,5 | | 23,4 | CUT | 26 | - | - | - | - |
| AT | 90 | LB | 8 | 0,75 | | 23,9 | CUT | 26,5 | - | - | - | - |
| AT | 90 | S | 2 | 1,5 | | 17,9 | CUT | 20,5 | - | - | - | - |
| AT | 90 | S | 4 | 1,1 | | 20,9 | CUT | 23,5 | - | - | - | - |
| AT | 90 | S | 6 | 0,75 | | 20,9 | CUT | 23,5 | - | - | - | - |
| AT | 90 | S | 8 | 0,37 | | 20,9 | CUT | 23,5 | - | - | - | - |
| AT | 100 | A | 2 | 3 | | 30 | 32,1 | 32,85 | - | - | - | - |
| AT | 100 | A | 4 | 2,2 | | 30,5 | 32,6 | 33,35 | - | - | - | - |
| AT | 100 | A | 6 | 1,5 | | 29,9 | 32 | 32,75 | - | - | - | - |
| AT | 100 | A | 8 | 0,75 | | 29,9 | 32 | 32,75 | - | - | - | - |
| AT | 100 | B | 2 | 4 | | 33 | 35,1 | 35,85 | - | - | - | - |

| Nota / *Note* / Hinweis | |
|---|---|
| CUT | Contattare ufficio tecnico / *Contact the technical office* / Verbindung mit der Technischen Abteilung aufnehmen |

## 4.0 PESO DEL PRODOTTO IN Kg (CONTINUA)

## *4.0 PRODUCT WEIGHT IN Kg (TO BE CONTINUED)*

## 4.0 PRODUKTGEWICHT IN Kg (FORTSETZUNG)

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| AT | 100 | B | 4 | 3 | | 33 | 35,1 | 35,85 | - | - | - | - |
| AT | 100 | B | 6 | 1,85 | | 33 | 35,1 | 35,85 | - | - | - | - |
| AT | 100 | B | 8 | 1,1 | | 32,9 | 35 | 35,75 | - | - | - | - |
| AT | 100 | B | 12 | 0,37 | | 28,9 | 31 | 31,75 | - | - | - | - |
| AT | 100 | BL | 4 | 4 | | 35 | 37,1 | 37,85 | - | - | - | - |
| AT | 100 | BL | 6 | 2,2 | | 35 | 37,1 | 37,85 | - | - | - | - |
| AT | 100 | BL | 8 | 1,3 | | 34,9 | 37 | 37,75 | - | - | - | - |
| AT | 100 | BL | 12 | 0,55 | | 30,9 | 33 | 33,75 | - | - | - | - |
| AT | 112 | A | 2 | 4 | | 41 | CUT | CUT | - | - | - | - |
| AT | 112 | A | 4 | 4 | | 43 | CUT | CUT | - | - | - | - |
| AT | 112 | A | 6 | 2,2 | | 44 | CUT | CUT | - | - | - | - |
| AT | 112 | A | 8 | 1,5 | | 44,9 | CUT | CUT | - | - | - | - |
| AT | 112 | B | 2 | 5,5 | | 49,7 | CUT | CUT | - | - | - | - |
| AT | 112 | B | 6 | 3 | | 51 | CUT | CUT | - | - | - | - |
| AT | 112 | B | 12 | 0,75 | | 38,9 | CUT | CUT | - | - | - | - |
| AT | 112 | BL | 2 | 7,5 | | 51,7 | CUT | CUT | - | - | - | - |
| AT | 112 | BL | 4 | 5,5 | | 64,7 | CUT | CUT | - | - | - | - |
| AT | 132 | M | 2 | 11 | | 88 | CUT | CUT | - | - | - | - |
| AT | 132 | M | 4 | 7,5 | | 74,7 | CUT | CUT | - | - | - | - |
| AT | 132 | M | 6 | 4 | | 70 | CUT | CUT | - | - | - | - |
| AT | 132 | M | 8 | 3 | | 71 | CUT | CUT | - | - | - | - |
| AT | 132 | M | 12 | 1,5 | | 82,9 | CUT | CUT | - | - | - | - |
| AT | 132 | M | 16 | 0,75 | | 82,9 | CUT | CUT | - | - | - | - |
| AT | 132 | ML | 2 | 15 | | 92 | CUT | CUT | - | - | - | - |
| AT | 132 | ML | 4 | 9,2 | | 89 | CUT | CUT | - | - | - | - |
| AT | 132 | ML | 6 | 5,5 | | 76,7 | CUT | CUT | - | - | - | - |
| AT | 132 | ML | 8 | 4 | | 76 | CUT | CUT | - | - | - | - |
| AT | 132 | ML | 12 | 1,85 | | 76 | CUT | CUT | - | - | - | - |
| AT | 132 | S | 2 | 5,5 | | 66,7 | CUT | CUT | - | - | - | - |
| AT | 132 | S | 4 | 5,5 | | 52,7 | CUT | CUT | - | - | - | - |
| AT | 132 | S | 6 | 3 | | 61 | CUT | CUT | - | - | - | - |
| AT | 132 | S | 8 | 2,2 | | 62 | CUT | CUT | - | - | - | - |
| AT | 132 | S | 12 | 1,1 | | 69,9 | CUT | CUT | - | - | - | - |
| AT | 132 | S | 16 | 0,55 | | 69,9 | CUT | CUT | - | - | - | - |
| AT | 132 | SL | 2 | 7,5 | | 69,7 | CUT | CUT | - | - | - | - |
| AT | 160 | L | 2 | 18,5 | | 132 | 137 | 137 | - | - | - | - |
| AT | 160 | L | 4 | 15 | | 118 | 123 | 123 | - | - | - | - |
| AT | 160 | L | 6 | 11 | | 123 | 128 | 128 | - | - | - | - |
| AT | 160 | L | 8 | 7,5 | | 113,7 | 118,7 | 118,7 | - | - | - | - |
| AT | 160 | L | 12 | 4 | | 114 | 119 | 119 | - | - | - | - |
| AT | 160 | L | 16 | 1,5 | | 112,9 | 117,9 | 117,9 | - | - | - | - |
| AT | 160 | M | 4 | 11 | | 108 | 113 | 113 | - | - | - | - |
| AT | 160 | M | 6 | 7,5 | | 97,7 | 102,7 | 102,7 | - | - | - | - |

| Nota / *Note* / Hinweis | |
|---|---|
| CUT | Contattare ufficio tecnico / *Contact the technical office* / Verbindung mit der Technischen Abteilung aufnehmen |

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## 4.0 PESO DEL PRODOTTO IN Kg (CONTINUA)

## *4.0 PRODUCT WEIGHT IN Kg (TO BE CONTINUED)*

## 4.0 PRODUKTGEWICHT IN Kg (FORTSETZUNG)

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| AT | 160 | M | 12 | 3 | | 104 | 109 | 109 | - | - | - | - |
| AT | 160 | M | 16 | 1,1 | | 102,9 | 107,9 | 107,9 | - | - | - | - |
| AT | 160 | MA | 2 | 11 | | 116 | 121 | 121 | - | - | - | - |
| AT | 160 | MA | 8 | 4 | | 88 | 93 | 93 | - | - | - | - |
| AT | 160 | MB | 2 | 15 | | 129 | 134 | 134 | - | - | - | - |
| AT | 160 | MB | 8 | 5,5 | | 99,7 | 104,7 | 104,7 | - | - | - | - |
| AT | 180 | L | 4 | 22 | | 175 | - | CUT | - | - | - | - |
| AT | 180 | L | 6 | 15 | | 165 | - | CUT | - | - | - | - |
| AT | 180 | L | 8 | 11 | | 140 | - | CUT | - | - | - | - |
| AT | 180 | L | 12 | 5,5 | | 127,7 | - | CUT | - | - | - | - |
| AT | 180 | L | 16 | 2,2 | | 124 | - | CUT | - | - | - | - |
| AT | 180 | L | 32 | 1,5 | | 102,9 | - | CUT | - | - | - | - |
| AT | 180 | M | 2 | 22 | | 140 | - | CUT | - | - | - | - |
| AT | 180 | M | 4 | 18,5 | | 150 | - | CUT | - | - | - | - |
| AT | 200 | L | 8 | 15 | | 170 | - | CUT | - | - | - | - |
| AT | 200 | L | 12 | 7,5 | | 157,7 | - | CUT | - | - | - | - |
| AT | 200 | L | 16 | 3 | | 154 | - | CUT | - | - | - | - |
| AT | 200 | L | 32 | 2,2 | | 114 | - | CUT | - | - | - | - |
| AT | 200 | LA | 6 | 18,5 | | 180 | - | CUT | - | - | - | - |
| AT | 200 | LB | 6 | 22 | | 200 | - | CUT | - | - | - | - |
| HE2 | 80 | B | 2 | 0,75 | | 13,7 | 15,4 | 16,05 | 11,3 | 13 | 12,8 | 14,5 |
| HE2 | 80 | C | 2 | 1,1 | | 14,4 | 16,1 | 16,75 | - | - | 13,5 | 15,2 |
| HE2 | 80 | D | 4 | 0,75 | | 14,9 | 16,6 | 17,25 | 12,5 | 14,2 | 14 | 15,7 |
| HE2 | 90 | L | 2 | 2,2 | | 20,5 | 22,25 | 22,85 | - | - | 21,8 | 23,55 |
| HE2 | 90 | L | 4 | 1,5 | | 19,4 | 21,15 | 21,75 | - | - | 18,5 | 20,25 |
| HE2 | 90 | LB | 6 | 0,75 | | 17,9 | 19,65 | 20,25 | 15,5 | 17,25 | 17 | 18,75 |
| HE2 | 90 | S | 2 | 1,5 | | 17,4 | 19,15 | 19,75 | - | - | 16,5 | 18,25 |
| HE2 | 90 | S | 4 | 1,1 | | 17,4 | 19,15 | 19,75 | - | - | 16,5 | 18,25 |
| HE2 | 100 | A | 6 | 1,1 | | 24,9 | 27 | 27,75 | - | - | 24 | 26,1 |
| HE2 | 100 | B | 2 | 3 | | 26 | 28,1 | 28,85 | - | - | 27,3 | 29,4 |
| HE2 | 100 | B | 4 | 2,2 | | 26 | 28,1 | 28,85 | - | - | 27,3 | 29,4 |
| HE2 | 100 | BL | 4 | 3 | | 28 | 30,1 | 30,85 | - | - | 29,3 | 31,4 |
| HE2 | 100 | BL | 6 | 1,5 | | 26,9 | 29 | 29,75 | - | - | 26 | 28,1 |
| HE2 | 112 | A | 2 | 4 | | 37 | 39,7 | 40,1 | - | - | 38,3 | 41 |
| HE2 | 112 | A | 6 | 2,2 | | 42 | 44,7 | 45,1 | - | - | 43,3 | 46 |
| HE2 | 112 | B | 2 | 5,5 | | 42,7 | 45,4 | 45,8 | - | - | - | - |
| HE2 | 112 | B | 4 | 4 | | 40 | 42,7 | 43,1 | - | - | 41,3 | 44 |
| HE2 | 132 | M | 4 | 5,5 | | 60,7 | 63,9 | 63,9 | - | - | - | - |
| HE2 | 132 | M | 6 | 4 | | 60 | 63,2 | 63,2 | - | - | 61,3 | 64,5 |
| HE2 | 132 | ML | 2 | 11 | | 75 | 78,2 | 78,2 | - | - | - | - |
| HE2 | 132 | ML | 4 | 7,5 | | 62,7 | 65,9 | 65,9 | - | - | - | - |
| HE2 | 132 | ML | 6 | 5,5 | | 78,7 | 81,9 | 81,9 | - | - | - | - |
| HE2 | 132 | MLL | 4 | 9,2 | | 79 | 82,2 | 82,2 | - | - | - | - |

| Nota / *Note* / Hinweis | |
|---|---|
| CUT | Contattare ufficio tecnico / *Contact the technical office* / Verbindung mit der Technischen Abteilung aufnehmen |

## 4.0 PESO DEL PRODOTTO IN Kg (CONTINUA)

## *4.0 PRODUCT WEIGHT IN Kg (TO BE CONTINUED)*

## 4.0 PRODUKTGEWICHT IN Kg (FORTSETZUNG)

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| HE2 | 132 | S | 2 | 5,5 | | 58,7 | 61,9 | 61,9 | - | - | - | - |
| HE2 | 132 | S | 6 | 3 | | 57 | 60,2 | 60,2 | - | - | 58,3 | 61,5 |
| HE2 | 132 | SL | 2 | 7,5 | | 70,7 | 73,9 | 73,9 | - | - | - | - |
| HE2 | 160 | L | 2 | 15 | | 109 | 114 | 114 | - | - | - | - |
| HE2 | 160 | L | 4 | 15 | | 121 | 126 | 126 | - | - | - | - |
| HE2 | 160 | L | 6 | 11 | | 121 | 126 | 126 | - | - | - | - |
| HE2 | 160 | LB | 2 | 18,5 | | 120 | 125 | 125 | - | - | - | - |
| HE2 | 160 | M | 4 | 11 | | 111 | 116 | 116 | - | - | - | - |
| HE2 | 160 | M | 6 | 7,5 | | 98,7 | 103,7 | 103,7 | - | - | - | - |
| HE2 | 160 | MA | 2 | 11 | | 96 | 101 | 101 | - | - | - | - |
| HE2 | 180 | L | 2 | 22 | | 161 | - | 167,2 | - | - | - | - |
| HE2 | 180 | L | 4 | 22 | | 161 | - | 167,2 | - | - | - | - |
| HE2 | 180 | L | 6 | 15 | | 161 | - | 167,2 | - | - | - | - |
| HE2 | 180 | M | 4 | 18,5 | | 146 | - | 152,2 | - | - | - | - |
| HE2 | 200 | L | 6 | 18,5 | | 191 | - | 198,7 | - | - | - | - |
| HE3 | 80 | B | 2 | 0,75 | | 13,7 | 15,4 | 16,05 | 11,3 | 13 | 12,8 | 14,5 |
| HE3 | 80 | D | 2 | 1,1 | | 15,4 | 17,1 | 17,75 | - | - | 14,5 | 16,2 |
| HE3 | 80 | D | 4 | 0,75 | | 16,9 | 18,6 | 19,25 | 14,5 | 16,2 | 16 | 17,7 |
| HE3 | 90 | L | 4 | 1,1 | | 19,4 | 21,15 | 21,75 | - | - | 18,5 | 20,25 |
| HE3 | 90 | LA | 2 | 1,5 | | 19,4 | 21,15 | 21,75 | - | - | 18,5 | 20,25 |
| HE3 | 90 | LA | 4 | 1,5 | | 20 | 21,75 | 22,35 | - | - | 19,1 | 20,85 |
| HE3 | 90 | LB | 2 | 2,2 | | 22,5 | 24,25 | 24,85 | - | - | 23,8 | 25,55 |
| HE3 | 100 | B | 2 | 3 | | 26 | 28,1 | 28,85 | - | - | 27,3 | 29,4 |
| HE3 | 100 | BL | 4 | 2,2 | | 28 | 30,1 | 30,85 | - | - | 29,3 | 31,4 |
| HE3 | 100 | BLA | 4 | 3 | | 35 | 37,1 | 37,85 | - | - | 36,3 | 38,4 |
| HE3 | 112 | A | 2 | 4 | | 37 | 39,7 | 40,1 | - | - | 38,3 | 41 |
| HE3 | 112 | B | 2 | 5,5 | | 41,7 | 44,4 | 44,8 | - | - | - | - |
| HE3 | 112 | BL | 4 | 4 | | 45 | 47,7 | 48,1 | - | - | 46,3 | 49 |
| HE3 | 132 | M | 2 | 7,5 | | 62,7 | 65,9 | 65,9 | - | - | - | - |
| HE3 | 132 | M | 4 | 5,5 | | 61,7 | 64,9 | 64,9 | - | - | - | - |
| HE3 | 132 | ML | 2 | 11 | | 75 | 78,2 | 78,2 | - | - | - | - |
| HE3 | 132 | ML | 4 | 7,5 | | 66,7 | 69,9 | 69,9 | - | - | - | - |
| HE3 | 132 | SL | 2 | 5,5 | | 70,7 | 73,9 | 73,9 | - | - | - | - |
| HE3 | 160 | L | 4 | 11 | | 121 | 126 | 126 | - | - | - | - |
| HE3 | 160 | LA | 2 | 15 | | 110 | 115 | 115 | - | - | - | - |
| HE3 | 160 | LB | 2 | 18,5 | | 120 | 125 | 125 | - | - | - | - |
| HE3 | 160 | LB | 4 | 15 | | 136 | 141 | 141 | - | - | - | - |
| HE3 | 160 | M | 2 | 11 | | 96,5 | 101,5 | 101,5 | - | - | - | - |
| HE3 | 180 | L | 2 | 22 | | 161 | - | 167,2 | - | - | - | - |
| HE3 | 180 | LA | 4 | 18,5 | | 153 | - | 159,2 | - | - | - | - |
| HE3 | 180 | LB | 4 | 22 | | 161 | - | 167,2 | - | - | - | - |
| T | 50 | B | 2 | 0,09 | | 6,3 | - | - | 3,9 | - | 2,88 | - |
| T | 50 | B | 4 | 0,06 | | 6,3 | - | - | 3,9 | - | 2,88 | - |

| Nota / *Note* / Hinweis | |
|---|---|
| CUT | Contattare ufficio tecnico / *Contact the technical office* / Verbindung mit der Technischen Abteilung aufnehmen |

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## 4.0 PESO DEL PRODOTTO IN Kg (CONTINUA)

## *4.0 PRODUCT WEIGHT IN Kg (TO BE CONTINUED)*

## 4.0 PRODUKTGEWICHT IN Kg (FORTSETZUNG)

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| T | 56 | A | 2 | 0,09 | | 6,5 | 7,3 | - | 4,1 | 4,9 | 3,08 | 3,88 |
| T | 56 | A | 4 | 0,06 | | 6,4 | 7,2 | - | 4 | 4,8 | 2,98 | 3,78 |
| T | 56 | B | 2 | 0,13 | | 7,1 | 7,9 | - | 4,7 | 5,5 | 3,68 | 4,48 |
| T | 56 | B | 4 | 0,09 | | 6,5 | 7,3 | - | 4,1 | 4,9 | 3,08 | 3,88 |
| T | 56 | B | 6 | 0,03 | | 6,5 | 7,3 | - | 4,1 | 4,9 | 3,08 | 3,88 |
| T | 56 | B | 8 | 0,03 | | 7,1 | 7,9 | - | 4,7 | 5,5 | 3,68 | 4,48 |
| T | 56 | C | 4 | 0,11 | | 7,1 | 7,9 | - | 4,7 | 5,5 | 3,68 | 4,48 |
| T | 56 | C | 6 | 0,06 | | 6,9 | 7,7 | - | 4,5 | 5,3 | 3,48 | 4,28 |
| T | 63 | A | 2 | 0,18 | | 7,6 | 8,7 | 9,8 | 5,2 | 6,3 | 4,18 | 5,28 |
| T | 63 | A | 4 | 0,13 | | 7,6 | 8,7 | 9,8 | 5,2 | 6,3 | 4,18 | 5,28 |
| T | 63 | B | 2 | 0,25 | | 8,2 | 9,3 | 10,4 | 5,8 | 6,9 | 4,78 | 5,88 |
| T | 63 | B | 4 | 0,18 | | 8,2 | 9,3 | 10,4 | 5,8 | 6,9 | 4,78 | 5,88 |
| T | 63 | B | 6 | 0,09 | | 7,7 | 8,8 | 9,9 | 5,3 | 6,4 | 4,28 | 5,38 |
| T | 63 | B | 8 | 0,05 | | 7,86 | 8,96 | 10,06 | 5,46 | 6,56 | 4,44 | 5,54 |
| T | 63 | C | 2 | 0,37 | | 9,5 | 10,6 | 11,7 | 7,1 | 8,2 | 6,7 | 7,8 |
| T | 63 | C | 4 | 0,22 | | 8,2 | 9,3 | 10,4 | 5,8 | 6,9 | 4,78 | 5,88 |
| T | 63 | C | 6 | 0,13 | | 7,9 | 9 | 10,1 | 5,5 | 6,6 | 4,48 | 5,58 |
| T | 63 | C | 8 | 0,07 | | 8,2 | 9,3 | 10,4 | 5,8 | 6,9 | 4,78 | 5,88 |
| T | 63 | D | 4 | 0,37 | | 9,2 | 10,3 | 11,4 | 6,8 | 7,9 | 6,4 | 7,5 |
| T | 71 | A | 2 | 0,37 | | 9,7 | 10,9 | 11,9 | 7,3 | 8,5 | 6,9 | 8,1 |
| T | 71 | A | 4 | 0,25 | | 9,7 | 10,9 | 11,9 | 7,3 | 8,5 | 6,28 | 7,48 |
| T | 71 | A | 6 | 0,18 | | 9,6 | 10,8 | 11,8 | 7,2 | 8,4 | 6,18 | 7,38 |
| T | 71 | B | 2 | 0,55 | | 10,1 | 11,3 | 12,3 | 7,7 | 8,9 | 7,3 | 8,5 |
| T | 71 | B | 4 | 0,37 | | 10,1 | 11,3 | 12,3 | 7,7 | 8,9 | 7,3 | 8,5 |
| T | 71 | B | 6 | 0,25 | | 9,9 | 11,1 | 12,1 | 7,5 | 8,7 | 6,48 | 7,68 |
| T | 71 | B | 8 | 0,09 | | 9,6 | 10,8 | 11,8 | 7,2 | 8,4 | 6,18 | 7,38 |
| T | 71 | C | 2 | 0,75 | | 11,3 | 12,5 | 13,5 | 8,9 | 10,1 | 10,4 | 11,6 |
| T | 71 | C | 4 | 0,55 | | 11,3 | 12,5 | 13,5 | 8,9 | 10,1 | 8,5 | 9,7 |
| T | 71 | C | 6 | 0,37 | | 10,4 | 11,6 | 12,6 | 8 | 9,2 | 7,6 | 8,8 |
| T | 71 | C | 8 | 0,12 | | 10,3 | 11,5 | 12,5 | 7,9 | 9,1 | 6,88 | 8,08 |
| T | 71 | C | 12 | 0,09 | | 10,4 | 11,6 | 12,6 | 8 | 9,2 | 6,98 | 8,18 |
| T | 80 | A | 2 | 0,75 | | 12,4 | 14,1 | 14,75 | 10 | 11,7 | 11,5 | 13,2 |
| T | 80 | A | 4 | 0,55 | | 12,4 | 14,1 | 14,75 | 10 | 11,7 | 9,6 | 11,3 |
| T | 80 | A | 6 | 0,37 | | 12,6 | 14,3 | 14,95 | 10,2 | 11,9 | 9,8 | 11,5 |
| T | 80 | A | 8 | 0,18 | | 12,7 | 14,4 | 15,05 | 10,3 | 12 | 9,28 | 10,98 |
| T | 80 | B | 2 | 1,1 | | 13,7 | 15,4 | 16,05 | - | - | 12,8 | 14,5 |
| T | 80 | B | 4 | 0,75 | | 13,7 | 15,4 | 16,05 | 11,3 | 13 | 12,8 | 14,5 |
| T | 80 | B | 6 | 0,55 | | 14,4 | 16,1 | 16,75 | 12 | 13,7 | 11,6 | 13,3 |
| T | 80 | B | 8 | 0,25 | | 14,4 | 16,1 | 16,75 | 12 | 13,7 | 10,98 | 12,68 |
| T | 80 | C | 2 | 1,5 | | 14,4 | 16,1 | 16,75 | - | - | 13,5 | 15,2 |
| T | 80 | C | 4 | 0,88 | | 14,4 | 16,1 | 16,75 | - | - | 13,5 | 15,2 |
| T | 80 | C | 6 | 0,75 | | 14,9 | 16,6 | 17,25 | 12,5 | 14,2 | 14 | 15,7 |
| T | 80 | C | 8 | 0,37 | | 14,9 | 16,6 | 17,25 | 12,5 | 14,2 | 12,1 | 13,8 |

| Nota / *Note* / Hinweis | |
|---|---|
| CUT | Contattare ufficio tecnico / *Contact the technical office* / Verbindung mit der Technischen Abteilung aufnehmen |

## 4.0 PESO DEL PRODOTTO IN Kg (CONTINUA)

## *4.0 PRODUCT WEIGHT IN Kg (TO BE CONTINUED)*

## 4.0 PRODUKTGEWICHT IN Kg (FORTSETZUNG)

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| T | 80 | C | 12 | 0,18 | | 14,9 | 16,6 | 17,25 | 12,5 | 14,2 | 11,48 | 13,18 |
| T | 80 | D | 2 | 1,8 | | 17 | 18,7 | 19,35 | - | - | 18,3 | 20 |
| T | 80 | D | 4 | 1,1 | | 14,9 | 16,6 | 17,25 | - | - | 14 | 15,7 |
| T | 90 | L | 2 | 2,2 | | 18,5 | 20,25 | 20,85 | - | - | 19,8 | 21,55 |
| T | 90 | L | 4 | 1,5 | | 17,4 | 19,15 | 19,75 | - | - | 16,5 | 18,25 |
| T | 90 | L | 6 | 1,1 | | 17,9 | 19,65 | 20,25 | - | - | 17 | 18,75 |
| T | 90 | L | 8 | 0,55 | | 17,9 | 19,65 | 20,25 | 15,5 | 17,25 | 15,1 | 16,85 |
| T | 90 | L | 12 | 0,25 | | 18,9 | 20,65 | 21,25 | 16,5 | 18,25 | 15,48 | 17,23 |
| T | 90 | LB | 2 | 3 | | 20,5 | 22,25 | 22,85 | - | - | 21,8 | 23,55 |
| T | 90 | LB | 4 | 1,8 | | 20,5 | 22,25 | 22,85 | - | - | 21,8 | 23,55 |
| T | 90 | LB | 6 | 1,5 | | 19,9 | 21,65 | 22,25 | - | - | 19 | 20,75 |
| T | 90 | LB | 8 | 0,75 | | 19,9 | 21,65 | 22,25 | 17,5 | 19,25 | 19 | 20,75 |
| T | 90 | S | 2 | 1,5 | | 15,4 | 17,15 | 17,75 | - | - | 14,5 | 16,25 |
| T | 90 | S | 4 | 1,1 | | 15,9 | 17,65 | 18,25 | - | - | 15 | 16,75 |
| T | 90 | S | 6 | 0,75 | | 15,9 | 17,65 | 18,25 | 13,5 | 15,25 | 15 | 16,75 |
| T | 90 | S | 8 | 0,37 | | 15,9 | 17,65 | 18,25 | 13,5 | 15,25 | 13,1 | 14,85 |
| T | 100 | A | 2 | 3 | | 23,5 | 25,6 | 26,35 | - | - | 24,8 | 26,9 |
| T | 100 | A | 4 | 2,2 | | 24 | 26,1 | 26,85 | - | - | 25,3 | 27,4 |
| T | 100 | A | 6 | 1,5 | | 23,4 | 25,5 | 26,25 | - | - | 22,5 | 24,6 |
| T | 100 | A | 8 | 0,75 | | 23,7 | 25,8 | 26,55 | 21,3 | 23,4 | 22,8 | 24,9 |
| T | 100 | B | 2 | 4 | | 26 | 28,1 | 28,85 | - | - | 27,3 | 29,4 |
| T | 100 | B | 4 | 3 | | 26 | 28,1 | 28,85 | - | - | 27,3 | 29,4 |
| T | 100 | B | 6 | 1,85 | | 26 | 28,1 | 28,85 | - | - | 27,3 | 29,4 |
| T | 100 | B | 8 | 1,1 | | 25,9 | 28 | 28,75 | - | - | 25 | 27,1 |
| T | 100 | B | 12 | 0,37 | | 24,9 | 27 | 27,75 | 22,5 | 24,6 | 22,1 | 24,2 |
| T | 100 | BL | 4 | 4 | | 28 | 30,1 | 30,85 | - | - | 29,3 | 31,4 |
| T | 100 | BL | 6 | 2,2 | | 28 | 30,1 | 30,85 | - | - | 29,3 | 31,4 |
| T | 100 | BL | 8 | 1,3 | | 27,9 | 30 | 30,75 | - | - | 27 | 29,1 |
| T | 100 | BL | 12 | 0,55 | | 26,9 | 29 | 29,75 | 24,5 | 26,6 | 24,1 | 26,2 |
| T | 112 | A | 2 | 4 | | 32 | 34,7 | 35,1 | - | - | 33,3 | 36 |
| T | 112 | A | 4 | 4 | | 34 | 36,7 | 37,1 | - | - | 35,3 | 38 |
| T | 112 | A | 6 | 2,2 | | 35 | 37,7 | 38,1 | - | - | 36,3 | 39 |
| T | 112 | A | 8 | 1,5 | | 35,9 | 38,6 | 39 | - | - | 35 | 37,7 |
| T | 112 | B | 2 | 5,5 | | 40,7 | 43,4 | 43,8 | - | - | - | - |
| T | 112 | B | 6 | 3 | | 42 | 44,7 | 45,1 | - | - | 43,3 | 46 |
| T | 112 | B | 12 | 0,75 | | 31,9 | 34,6 | 35 | 29,5 | 32,2 | 31 | 33,7 |
| T | 112 | BL | 2 | 7,5 | | 42,7 | 45,4 | 45,8 | - | - | - | - |
| T | 112 | BL | 4 | 5,5 | | 43,7 | 46,4 | 46,8 | - | - | - | - |
| T | 132 | M | 2 | 11 | | 75 | 78,2 | 78,2 | - | - | - | - |
| T | 132 | M | 4 | 7,5 | | 60,7 | 63,9 | 63,9 | - | - | - | - |
| T | 132 | M | 6 | 4 | | 57 | 60,2 | 60,2 | - | - | 58,3 | 61,5 |
| T | 132 | M | 8 | 3 | | 58 | 61,2 | 61,2 | - | - | 59,3 | 62,5 |
| T | 132 | M | 12 | 1,5 | | 69,9 | 73,1 | 73,1 | - | - | 69 | 72,2 |

| Nota / *Note* / Hinweis | |
|---|---|
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## 4.0 PESO DEL PRODOTTO IN Kg (CONTINUA)

## *4.0 PRODUCT WEIGHT IN Kg (TO BE CONTINUED)*

## 4.0 PRODUKTGEWICHT IN Kg (FORTSETZUNG)

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| T | 132 | M | 16 | 0,75 | | 69,9 | 73,1 | 73,1 | 67,5 | 70,7 | 69 | 72,2 |
| T | 132 | ML | 2 | 15 | | 79 | 82,2 | 82,2 | - | - | - | - |
| T | 132 | ML | 4 | 9,2 | | 75 | 78,2 | 78,2 | - | - | - | - |
| T | 132 | ML | 6 | 5,5 | | 63,7 | 66,9 | 66,9 | - | - | - | - |
| T | 132 | ML | 8 | 4 | | 63 | 66,2 | 66,2 | - | - | 64,3 | 67,5 |
| T | 132 | ML | 12 | 1,85 | | 71 | 74,2 | 74,2 | - | - | 72,3 | 75,5 |
| T | 132 | S | 2 | 5,5 | | 53,7 | 56,9 | 56,9 | - | - | - | - |
| T | 132 | S | 4 | 5,5 | | 51,7 | 54,9 | 54,9 | - | - | - | - |
| T | 132 | S | 6 | 3 | | 48 | 51,2 | 51,2 | - | - | 49,3 | 52,5 |
| T | 132 | S | 8 | 2,2 | | 49 | 52,2 | 52,2 | - | - | 50,3 | 53,5 |
| T | 132 | S | 12 | 1,1 | | 58,9 | 62,1 | 62,1 | - | - | 58 | 61,2 |
| T | 132 | S | 16 | 0,55 | | 58,9 | 62,1 | 62,1 | 56,5 | 59,7 | 56,1 | 59,3 |
| T | 132 | SL | 2 | 7,5 | | 56,7 | 59,9 | 59,9 | - | - | - | - |
| T | 160 | L | 2 | 18,5 | | 120 | 125 | 125 | - | - | - | - |
| T | 160 | L | 4 | 15 | | 121 | 126 | 126 | - | - | - | - |
| T | 160 | L | 6 | 11 | | 111 | 116 | 116 | - | - | - | - |
| T | 160 | L | 8 | 7,5 | | 94,7 | 99,7 | 99,7 | - | - | - | - |
| T | 160 | L | 12 | 4 | | 95 | 100 | 100 | - | - | 96,3 | 101,3 |
| T | 160 | L | 16 | 1,5 | | 93,9 | 98,9 | 98,9 | - | - | 93 | 98 |
| T | 160 | M | 4 | 11 | | 111 | 116 | 116 | - | - | - | - |
| T | 160 | M | 6 | 7,5 | | 78,7 | 83,7 | 83,7 | - | - | - | - |
| T | 160 | M | 12 | 3 | | 85 | 90 | 90 | - | - | 86,3 | 91,3 |
| T | 160 | M | 16 | 1,1 | | 83,9 | 88,9 | 88,9 | - | - | 83 | 88 |
| T | 160 | MA | 2 | 11 | | 96 | 101 | 101 | - | - | - | - |
| T | 160 | MA | 8 | 4 | | 69 | 74 | 74 | - | - | 70,3 | 75,3 |
| T | 160 | MB | 2 | 15 | | 109 | 114 | 114 | - | - | - | - |
| T | 160 | MB | 8 | 5,5 | | 80,7 | 85,7 | 85,7 | - | - | - | - |
| T | 180 | L | 4 | 22 | | 156 | - | 162,2 | - | - | - | - |
| T | 180 | L | 6 | 15 | | 146 | - | 152,2 | - | - | - | - |
| T | 180 | L | 8 | 11 | | 141 | - | 147,2 | - | - | - | - |
| T | 180 | L | 12 | 5,5 | | 128,7 | - | 134,9 | - | - | - | - |
| T | 180 | L | 16 | 2,2 | | 125 | - | 131,2 | - | - | 126,3 | - |
| T | 180 | L | 32 | 1,5 | | 123,9 | - | 130,1 | - | - | 123 | - |
| T | 180 | M | 2 | 22 | | 131 | - | 137,2 | - | - | - | - |
| T | 180 | M | 4 | 18,5 | | 141 | - | 147,2 | - | - | - | - |
| T | 200 | L | 8 | 15 | | 166 | - | 173,7 | - | - | - | - |
| T | 200 | L | 12 | 7,5 | | 158,7 | - | 166,4 | - | - | - | - |
| T | 200 | L | 16 | 3 | | 155 | - | 162,7 | - | - | 156,3 | - |
| T | 200 | L | 32 | 2,2 | | 155 | - | 162,7 | - | - | 156,3 | - |
| T | 200 | LA | 6 | 18,5 | | 161 | - | 168,7 | - | - | - | - |
| T | 200 | LB | 6 | 22 | | 181 | - | 188,7 | - | - | - | - |
| VL2 | 56 | 1 | 2 | 0,09 | | 6,7 | 7,5 | - | 4,3 | 5,1 | 3,28 | 4,08 |
| VL2 | 56 | 1 | 4 | 0,06 | | 6,9 | 7,7 | - | 4,5 | 5,3 | 3,48 | 4,28 |

| Nota / *Note* / Hinweis | |
|---|---|
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## 4.0 PESO DEL PRODOTTO IN Kg (CONTINUA)

## *4.0 PRODUCT WEIGHT IN Kg (TO BE CONTINUED)*

## 4.0 PRODUKTGEWICHT IN Kg (FORTSETZUNG)

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| VL2 | 56 | 2 | 2 | 0,12 | | 7,1 | 7,9 | - | 4,7 | 5,5 | 3,68 | 4,48 |
| VL2 | 56 | 2 | 4 | 0,09 | | 7,2 | 8 | - | 4,8 | 5,6 | 3,78 | 4,58 |
| VL2 | 63 | 1 | 2 | 0,18 | | 7,9 | 9 | 10,1 | 5,5 | 6,6 | 4,48 | 5,58 |
| VL2 | 63 | 1 | 4 | 0,12 | | 7,8 | 8,9 | 10 | 5,4 | 6,5 | 4,38 | 5,48 |
| VL2 | 63 | 1 | 6 | 0,09 | | 7,9 | 9 | 10,1 | 5,5 | 6,6 | 4,48 | 5,58 |
| VL2 | 63 | 2 | 2 | 0,25 | | 8,3 | 9,4 | 10,5 | 5,9 | 7 | 4,88 | 5,98 |
| VL2 | 63 | 2 | 4 | 0,18 | | 8,2 | 9,3 | 10,4 | 5,8 | 6,9 | 4,78 | 5,88 |
| VL2 | 63 | 2 | 6 | 0,12 | | 8,5 | 9,6 | 10,7 | 6,1 | 7,2 | 5,08 | 6,18 |
| VL2 | 63 | 3 | 2 | 0,37 | | 8,8 | 9,9 | 11 | 6,4 | 7,5 | 6 | 7,1 |
| VL2 | 63 | 3 | 4 | 0,25 | | 8,7 | 9,8 | 10,9 | 6,3 | 7,4 | 5,28 | 6,38 |
| VL2 | 71 | 1 | 2 | 0,37 | | 9,5 | 10,7 | 11,7 | 7,1 | 8,3 | 6,7 | 7,9 |
| VL2 | 71 | 1 | 4 | 0,25 | | 9,3 | 10,5 | 11,5 | 6,9 | 8,1 | 5,88 | 7,08 |
| VL2 | 71 | 1 | 6 | 0,18 | | 9,9 | 11,1 | 12,1 | 7,5 | 8,7 | 6,48 | 7,68 |
| VL2 | 71 | 2 | 2 | 0,55 | | 10 | 11,2 | 12,2 | 7,6 | 8,8 | 7,2 | 8,4 |
| VL2 | 71 | 2 | 4 | 0,37 | | 10,1 | 11,3 | 12,3 | 7,7 | 8,9 | 7,3 | 8,5 |
| VL2 | 71 | 2 | 6 | 0,25 | | 10,4 | 11,6 | 12,6 | 8 | 9,2 | 6,98 | 8,18 |
| VL2 | 71 | 3 | 2 | 0,75 | | 10,9 | 12,1 | 13,1 | 8,5 | 9,7 | 10 | 11,2 |
| VL2 | 71 | 3 | 4 | 0,55 | | 11,2 | 12,4 | 13,4 | 8,8 | 10 | 8,4 | 9,6 |
| VL2 | 71 | 3 | 6 | 0,37 | | 11,1 | 12,3 | 13,3 | 8,7 | 9,9 | 8,3 | 9,5 |
| VL2 | 80 | 1 | 2 | 0,75 | | 13 | 14,7 | 15,35 | 10,6 | 12,3 | 12,1 | 13,8 |
| VL2 | 80 | 1 | 4 | 0,55 | | 12,9 | 14,6 | 15,25 | 10,5 | 12,2 | 10,1 | 11,8 |
| VL2 | 80 | 1 | 6 | 0,37 | | 12,1 | 13,8 | 14,45 | 9,7 | 11,4 | 9,3 | 11 |
| VL2 | 80 | 2 | 2 | 1,1 | | 14,1 | 15,8 | 16,45 | - | - | 13,2 | 14,9 |
| VL2 | 80 | 2 | 4 | 0,75 | | 13,9 | 15,6 | 16,25 | 11,5 | 13,2 | 13 | 14,7 |
| VL2 | 80 | 2 | 6 | 0,55 | | 13,8 | 15,5 | 16,15 | 11,4 | 13,1 | 11 | 12,7 |
| VL2 | 80 | 3 | 2 | 1,5 | | 15,6 | 17,3 | 17,95 | - | - | 14,7 | 16,4 |
| VL2 | 80 | 3 | 4 | 1,1 | | 16,2 | 17,9 | 18,55 | - | - | 15,3 | 17 |
| VL2 | 80 | 3 | 6 | 0,75 | | 15,2 | 16,9 | 17,55 | 12,8 | 14,5 | 14,3 | 16 |
| VL2 | 90 | L | 4 | 1,5 | | 18,5 | 20,25 | 20,85 | - | - | 17,6 | 19,35 |
| VL2 | 90 | L | 6 | 1,1 | | 19 | 20,75 | 21,35 | - | - | 18,1 | 19,85 |
| VL2 | 90 | L | 2 | 2,2 | | 20 | 21,75 | 22,6 | - | - | 21,3 | 23,05 |
| VL2 | 90 | L1 | 4 | 1,85 | | 21,6 | 23,35 | 24,2 | - | - | 22,9 | 24,65 |
| VL2 | 90 | L2 | 2 | 3 | | 23,5 | 25,25 | 26,1 | - | - | 24,8 | 26,55 |
| VL2 | 90 | L2 | 4 | 2,2 | | 23,3 | 25,05 | 25,9 | - | - | 24,6 | 26,35 |
| VL2 | 90 | L2 | 6 | 1,5 | | 23 | 24,75 | 25,6 | - | - | 22,1 | 23,85 |
| VL2 | 90 | S | 2 | 1,5 | | 15,9 | 17,65 | 18,25 | - | - | 15 | 16,75 |
| VL2 | 90 | S | 4 | 1,1 | | 16 | 17,75 | 18,35 | - | - | 15,1 | 16,85 |
| VL2 | 90 | S | 6 | 0,75 | | 15,6 | 17,35 | 17,95 | 13,2 | 14,95 | 14,7 | 16,45 |
| VL2 | 100 | L | 6 | 1,5 | | 23 | 25,1 | 25,85 | - | - | 22,1 | 24,2 |
| VL2 | 100 | L | 2 | 3 | | 27,3 | 29,4 | 30,15 | - | - | 28,6 | 30,7 |
| VL2 | 100 | L1 | 4 | 2,2 | | 26 | 28,1 | 28,85 | - | - | 27,3 | 29,4 |
| VL2 | 100 | L2 | 2 | 4 | | 30,2 | 32,3 | 33,05 | - | - | 31,5 | 33,6 |
| VL2 | 100 | L2 | 4 | 3 | | 29,7 | 31,8 | 32,55 | - | - | 31 | 33,1 |

| Nota / *Note* / Hinweis | |
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### 4.0 PESO DEL PRODOTTO IN Kg (CONTINUA)

### *4.0 PRODUCT WEIGHT IN Kg (TO BE CONTINUED)*

### 4.0 PRODUKTGEWICHT IN Kg (FORTSETZUNG)

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| VL2 | 112 | M2 | 4 | 5,5 | | 43,5 | 46,2 | 46,6 | - | - | - | - |
| VL2 | 112 | M | 2 | 4 | | 31,7 | 34,4 | 34,8 | - | - | 33 | 35,7 |
| VL2 | 112 | M | 4 | 4 | | 35,5 | 38,2 | 38,6 | - | - | 36,8 | 39,5 |
| VL2 | 112 | M | 6 | 2,2 | | 30,4 | 33,1 | 33,5 | - | - | 31,7 | 34,4 |
| VL2 | 112 | M2 | 2 | 5,5 | | 38,9 | 41,6 | 42 | - | - | - | - |
| VL2 | 112 | M3 | 2 | 7,5 | | 50,9 | 53,6 | 54 | - | - | - | - |
| VL2 | 132 | M3 | 4 | 11 | | 85 | 88,2 | 88,2 | - | - | - | - |
| VL2 | 132 | M1 | 2 | 9,2 | | 72,4 | 75,6 | 75,6 | - | - | - | - |
| VL2 | 132 | M | 4 | 7,5 | | 58,3 | 61,5 | 61,5 | - | - | - | - |
| VL2 | 132 | M1 | 6 | 4 | | 50 | 53,2 | 53,2 | - | - | 51,3 | 54,5 |
| VL2 | 132 | M2 | 2 | 11 | | 79,8 | 83 | 83 | - | - | - | - |
| VL2 | 132 | M2 | 4 | 9,2 | | 77,5 | 80,7 | 80,7 | - | - | - | - |
| VL2 | 132 | M2 | 6 | 5,5 | | 64,2 | 67,4 | 67,4 | - | - | - | - |
| VL2 | 132 | M3 | 2 | 15 | | 109 | 112,2 | 112,2 | - | - | - | - |
| VL2 | 132 | S | 4 | 5,5 | | 49,1 | 52,3 | 52,3 | - | - | - | - |
| VL2 | 132 | S | 6 | 3 | | 41,1 | 44,3 | 44,3 | - | - | 42,4 | 45,6 |
| VL2 | 132 | S1 | 2 | 5,5 | | 47,2 | 50,4 | 50,4 | - | - | - | - |
| VL2 | 132 | S2 | 2 | 7,5 | | 50,9 | 54,1 | 54,1 | - | - | - | - |
| VL2 IE2 | 80 | 1 | 2 | 0,75 | | 13 | 14,7 | 15,35 | 10,6 | 12,3 | 12,1 | 13,8 |
| VL2 IE2 | 80 | 2 | 2 | 1,1 | | 14,1 | 15,8 | 16,45 | - | - | 13,2 | 14,9 |
| VL2 IE2 | 80 | 2 | 4 | 0,75 | | 13,9 | 15,6 | 16,25 | 11,5 | 13,2 | 13 | 14,7 |
| VL2 IE2 | 90 | L | 2 | 2,2 | | 20 | 21,75 | 22,35 | - | - | 21,3 | 23,05 |
| VL2 IE2 | 90 | L | 4 | 1,5 | | 18,5 | 20,25 | 20,85 | - | - | 17,6 | 19,35 |
| VL2 IE2 | 90 | L | 6 | 1,1 | | 19 | 20,75 | 21,35 | - | - | 18,1 | 19,85 |
| VL2 IE2 | 90 | S | 2 | 1,5 | | 15,9 | 17,65 | 18,25 | - | - | 15 | 16,75 |
| VL2 IE2 | 90 | S | 4 | 1,1 | | 16 | 17,75 | 18,35 | - | - | 15,1 | 16,85 |
| VL2 IE2 | 90 | S | 6 | 0,75 | | 15,6 | 17,35 | 17,95 | 13,2 | 14,95 | 14,7 | 16,45 |
| VL2 IE2 | 100 | L | 2 | 3 | | 27,3 | 29,4 | 30,15 | - | - | 28,6 | 30,7 |
| VL2 IE2 | 100 | L | 6 | 1,5 | | 23 | 25,1 | 25,85 | - | - | 22,1 | 24,2 |
| VL2 IE2 | 100 | L1 | 4 | 2,2 | | 26 | 28,1 | 28,85 | - | - | 27,3 | 29,4 |
| VL2 IE2 | 100 | L2 | 4 | 3 | | 29,7 | 31,8 | 32,55 | - | - | 31 | 33,1 |
| VL2 IE2 | 112 | M | 2 | 4 | | 31,7 | 34,4 | 34,8 | - | - | 33 | 35,7 |

| Nota / *Note* / Hinweis | |
|---|---|
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## 4.0 PESO DEL PRODOTTO IN Kg (CONTINUA)

## *4.0 PRODUCT WEIGHT IN Kg (TO BE CONTINUED)*

## 4.0 PRODUKTGEWICHT IN Kg (FORTSETZUNG)

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| VL2 IE2 | 112 | M | 4 | 4 | | 35,5 | 38,2 | 38,6 | - | - | 36,8 | 39,5 |
| VL2 IE2 | 112 | M | 6 | 2,2 | | 30,4 | 33,1 | 33,5 | - | - | 31,7 | 34,4 |
| VL2 IE2 | 132 | M | 4 | 7,5 | | 58,3 | 61,5 | 61,5 | - | - | - | - |
| VL2 IE2 | 132 | M1 | 6 | 4 | | 50 | 53,2 | 53,2 | - | - | 51,3 | 54,5 |
| VL2 IE2 | 132 | M2 | 6 | 5,5 | | 64,2 | 67,4 | 67,4 | - | - | - | - |
| VL2 IE2 | 132 | S | 4 | 5,5 | | 49,1 | 52,3 | 52,3 | - | - | - | - |
| VL2 IE2 | 132 | S | 6 | 3 | | 41,1 | 44,3 | 44,3 | - | - | 42,4 | 45,6 |
| VL2 IE2 | 132 | S1 | 2 | 5,5 | | 47,2 | 50,4 | 50,4 | - | - | - | - |
| VL2 IE2 | 132 | S2 | 2 | 7,5 | | 50,9 | 54,1 | 54,1 | - | - | - | - |
| VL2 IE2 | 160 | L | 2 | 18,5 | | 161 | 166 | 166 | - | - | - | - |
| VL2 IE2 | 160 | L | 4 | 15 | | 157 | 162 | 162 | - | - | - | - |
| VL2 IE2 | 160 | L | 6 | 11 | | 169 | 174 | 174 | - | - | - | - |
| VL2 IE2 | 160 | M | 4 | 11 | | 137 | 142 | 142 | - | - | - | - |
| VL2 IE2 | 160 | M | 6 | 7,5 | | 126,7 | 131,7 | 131,7 | - | - | - | - |
| VL2 IE2 | 160 | M1 | 2 | 11 | | 137 | 142 | 142 | - | - | - | - |
| VL2 IE2 | 160 | M2 | 2 | 15 | | 144 | 149 | 149 | - | - | - | - |
| VL2 IE2 | 180 | L | 4 | 22 | | 235 | - | CUT | - | - | - | - |
| VL2 IE2 | 180 | L | 6 | 15 | | 216 | - | CUT | - | - | - | - |
| VL2 IE2 | 180 | M | 2 | 22 | | 201 | - | CUT | - | - | - | - |
| VL2 IE2 | 180 | M | 4 | 18,5 | | 212 | - | CUT | - | - | - | - |
| VL2 IE2 | 200 | L1 | 6 | 18,5 | | 255 | - | CUT | - | - | - | - |
| VL2 IE2 | 200 | L2 | 6 | 22 | | 274 | - | CUT | - | - | - | - |
| VL2 IE3 | 80 | 1 | 2 | 0,75 | | 13 | 14,7 | 15,35 | 10,6 | 12,3 | 12,1 | 13,8 |
| VL2 IE3 | 80 | 2 | 2 | 1,1 | | 14,1 | 15,8 | 16,45 | - | - | 13,2 | 14,9 |
| VL2 IE3 | 80 | 2 | 4 | 0,75 | | 13,9 | 15,6 | 16,25 | 11,5 | 13,2 | 13 | 14,7 |

| Nota / *Note* / Hinweis | |
|---|---|
| CUT | Contattare ufficio tecnico / *Contact the technical office* / Verbindung mit der Technischen Abteilung aufnehmen |

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## 4.0 PESO DEL PRODOTTO IN Kg (CONTINUA)

## *4.0 PRODUCT WEIGHT IN Kg (TO BE CONTINUED)*

## 4.0 PRODUKTGEWICHT IN Kg (FORTSETZUNG)

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| VL2 IE3 | 90 | L | 2 | 2,2 | | 20 | 21,75 | 22,35 | - | - | 21,3 | 23,05 |
| VL2 IE3 | 90 | L | 4 | 1,5 | | 18,5 | 20,25 | 20,85 | - | - | 17,6 | 19,35 |
| VL2 IE3 | 90 | L | 6 | 1,1 | | 19 | 20,75 | 21,35 | - | - | 18,1 | 19,85 |
| VL2 IE3 | 90 | S | 2 | 1,5 | | 15,9 | 17,65 | 18,25 | - | - | 15 | 16,75 |
| VL2 IE3 | 90 | S | 4 | 1,1 | | 16 | 17,75 | 18,35 | - | - | 15,1 | 16,85 |
| VL2 IE3 | 90 | S | 6 | 0,75 | | 15,6 | 17,35 | 17,95 | 13,2 | 14,95 | 14,7 | 16,45 |
| VL2 IE3 | 100 | L | 2 | 3 | | 27,3 | 29,4 | 30,15 | - | - | 28,6 | 30,7 |
| VL2 IE3 | 100 | L | 6 | 1,5 | | 23 | 25,1 | 25,85 | - | - | 22,1 | 24,2 |
| VL2 IE3 | 100 | L1 | 4 | 2,2 | | 26 | 28,1 | 28,85 | - | - | 27,3 | 29,4 |
| VL2 IE3 | 100 | L2 | 4 | 3 | | 29,7 | 31,8 | 32,55 | - | - | 31 | 33,1 |
| VL2 IE3 | 112 | M | 2 | 4 | | 31,7 | 34,4 | 34,8 | - | - | 33 | 35,7 |
| VL2 IE3 | 112 | M | 4 | 4 | | 35,5 | 38,2 | 38,6 | - | - | 36,8 | 39,5 |
| VL2 IE3 | 112 | M | 6 | 2,2 | | 30,4 | 33,1 | 33,5 | - | - | 31,7 | 34,4 |
| VL2 IE3 | 132 | M | 4 | 7,5 | | 58,3 | 61,5 | 61,5 | - | - | - | - |
| VL2 IE3 | 132 | M1 | 6 | 4 | | 50 | 53,2 | 53,2 | - | - | 51,3 | 54,5 |
| VL2 IE3 | 132 | M2 | 6 | 5,5 | | 64,2 | 67,4 | 67,4 | - | - | - | - |
| VL2 IE3 | 132 | S | 4 | 5,5 | | 49,1 | 52,3 | 52,3 | - | - | - | - |
| VL2 IE3 | 132 | S | 6 | 3 | | 41,1 | 44,3 | 44,3 | - | - | 42,4 | 45,6 |
| VL2 IE3 | 132 | S1 | 2 | 5,5 | | 47,2 | 50,4 | 50,4 | - | - | - | - |
| VL2 IE3 | 132 | S2 | 2 | 7,5 | | 50,9 | 54,1 | 54,1 | - | - | - | - |
| VL2 IE3 | 160 | L | 2 | 18,5 | | 182 | 187 | 187 | - | - | - | - |
| VL2 IE3 | 160 | L | 4 | 15 | | 181 | 186 | 186 | - | - | - | - |
| VL2 IE3 | 160 | L | 6 | 11 | | 181 | 186 | 186 | - | - | - | - |
| VL2 IE3 | 160 | M | 4 | 11 | | 157 | 162 | 162 | - | - | - | - |
| VL2 IE3 | 160 | M | 6 | 7,5 | | 132,7 | 137,7 | 137,7 | - | - | - | - |

| Nota / *Note* / Hinweis | |
|---|---|
| CUT | Contattare ufficio tecnico / *Contact the technical office* / Verbindung mit der Technischen Abteilung aufnehmen |

## 4.0 PESO DEL PRODOTTO IN Kg (FINE)

## *4.0 PRODUCT WEIGHT IN Kg (THE END)*

## 4.0 PRODUCT WEIGHT IN Kg (ENDE)

| TYPM | SIZEM | LEN | POL | kW | SE | C | | | CA | | S | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PC | AV | VF | VF | AV | VF | AV | VF |
| | | | | | VSAVE | - | 230VAC_50/60Hz | 230/400_50_MULTI | - | 230VAC_50/60Hz | - | 230VAC_50/60Hz |
| VL2 IE3 | 160 | M1 | 2 | 11 | | 147 | 152 | 152 | - | - | - | - |
| VL2 IE3 | 160 | M2 | 2 | 15 | | 157 | 162 | 162 | - | - | - | - |
| VL2 IE3 | 180 | L | 4 | 22 | | 241 | - | CUT | - | - | - | - |
| VL2 IE3 | 180 | L | 6 | 15 | | 232 | - | CUT | - | - | - | - |
| VL2 IE3 | 180 | M | 2 | 22 | | 223 | - | CUT | - | - | - | - |
| VL2 IE3 | 180 | M | 4 | 18,5 | | 216 | - | CUT | - | - | - | - |
| VL2 IE3 | 200 | L1 | 6 | 18,5 | | 281 | - | CUT | - | - | - | - |
| VL2 IE3 | 200 | L2 | 6 | 22 | | 303 | - | CUT | - | - | - | - |
| VL2 Y3 | 160 | L | 2 | 18,5 | | 154 | 159 | 159 | - | - | - | - |
| VL2 Y3 | 160 | L | 4 | 15 | | 143 | 148 | 148 | - | - | - | - |
| VL2 Y3 | 160 | L | 6 | 11 | | 143 | 148 | 148 | - | - | - | - |
| VL2 Y3 | 160 | M | 4 | 11 | | 124 | 129 | 129 | - | - | - | - |
| VL2 Y3 | 160 | M | 6 | 7,5 | | 114,7 | 119,7 | 119,7 | - | - | - | - |
| VL2 Y3 | 160 | M1 | 2 | 11 | | 117 | 122 | 122 | - | - | - | - |
| VL2 Y3 | 160 | M2 | 2 | 15 | | 125 | 130 | 130 | - | - | - | - |
| VL2 Y3 | 180 | L | 4 | 22 | | 191 | - | CUT | - | - | - | - |
| VL2 Y3 | 180 | L | 6 | 15 | | 175 | - | CUT | - | - | - | - |
| VL2 Y3 | 180 | M | 2 | 22 | | 177 | - | CUT | - | - | - | - |
| VL2 Y3 | 180 | M | 4 | 18,5 | | 171 | - | CUT | - | - | - | - |
| VL2 Y3 | 200 | L1 | 6 | 18,5 | | 223 | - | CUT | - | - | - | - |
| VL2 Y3 | 200 | L2 | 6 | 22 | | 237 | - | CUT | - | - | - | - |

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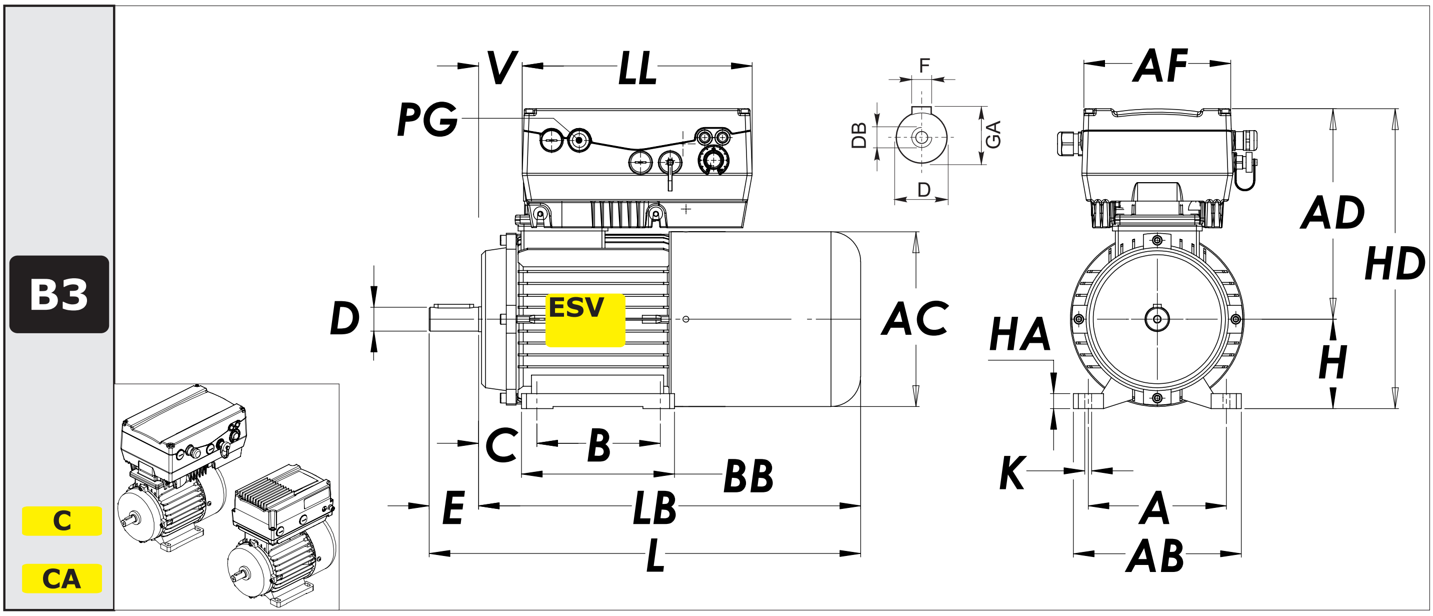
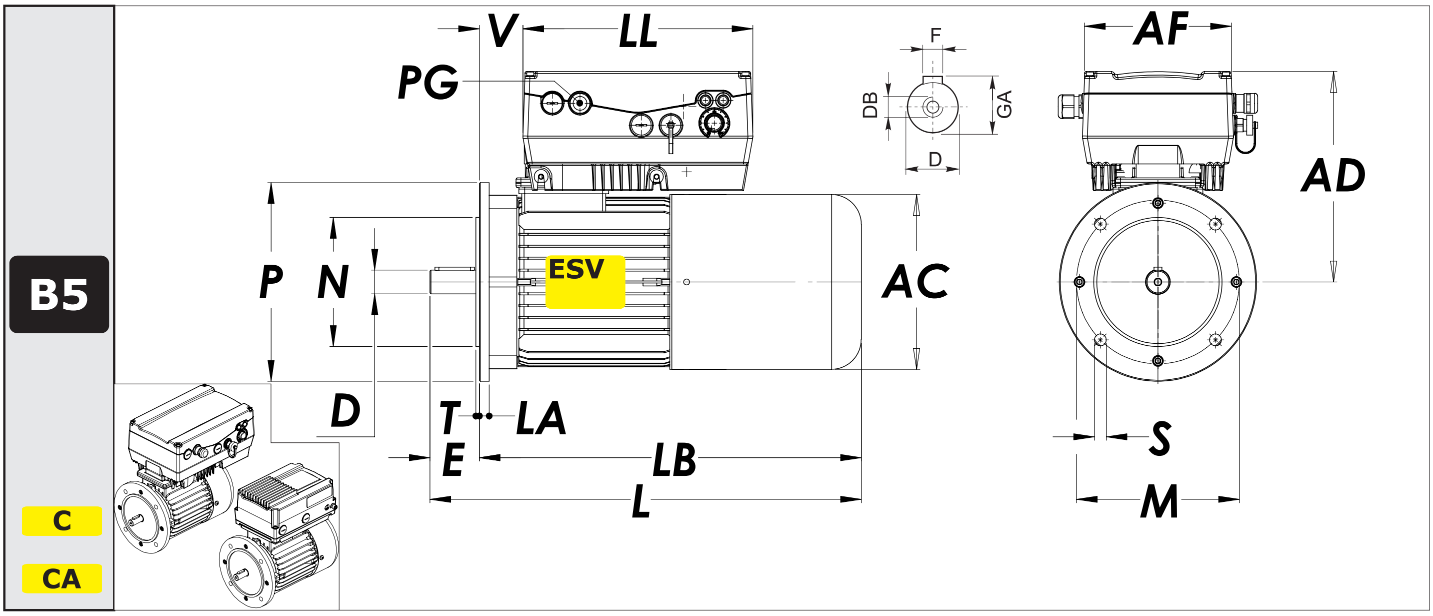
| Nota / *Note* / Hinweis | |
|---|---|
| CUT | Contattare ufficio tecnico / *Contact the technical office* / Verbindung mit der Technischen Abteilung aufnehmen |

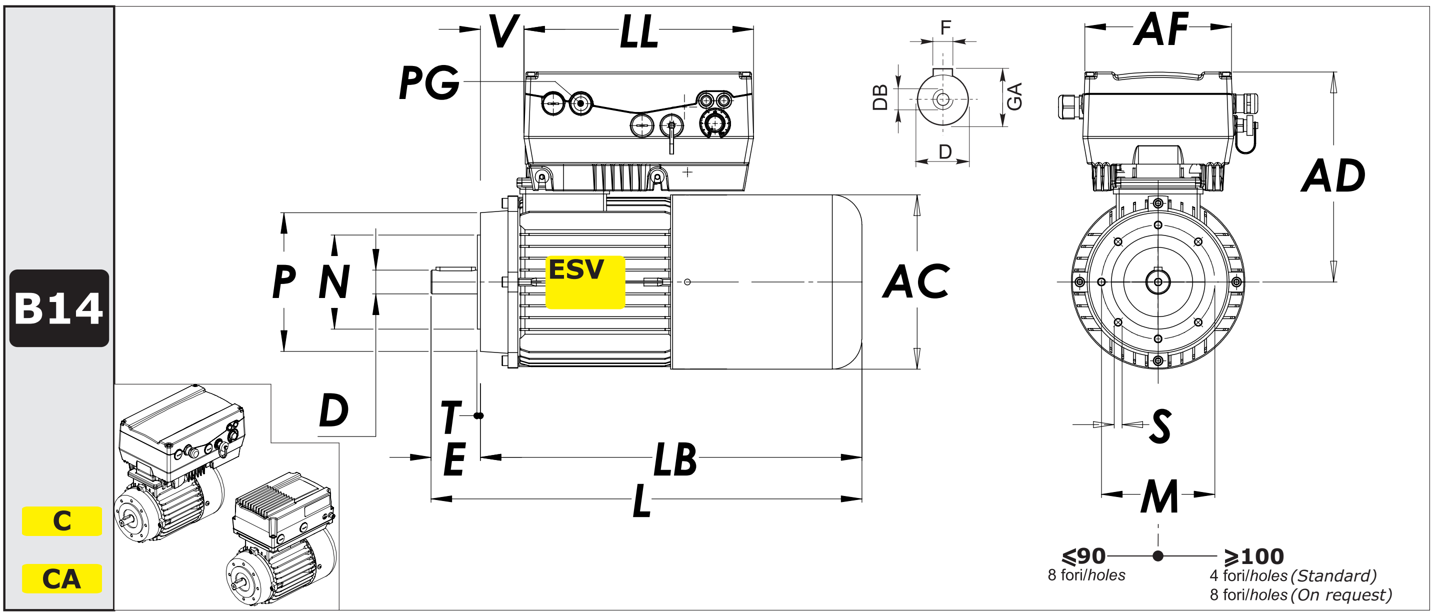

## 5.0 DIMENSIONE

## *5.0 DIMENSIONS*

## 4.0 ABMESSUNGEN



## 5.0 DIMENSIONE (CONTINUA)

## *5.0 DIMENSIONS (TO BE CONTINUED)*

## 5.0 ABMESSUNGEN (FORTSETZUNG)

| DV | SIZEM + LEN | Shaft | | | | | B3 - Version | | | | | | | | FANCOVER T HE2 HE3 | | | FANCOVER AT AHE2 AHE3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | A | AB | B | BB | C | H | HA | K | AC | L | LB | AC | L | LB |
| B3 | 56 | 9 | M4 | 20 | 3 | 10,2 | 90 | 108 | 71 | 90 | 36 | 56 | 10 | 6 | 113 | 186,5 | 166,5 | 110 | 232 | 212 |
| | 63 | 11 | M4 | 23 | 4 | 12,5 | 100 | 120 | 80 | 105 | 40 | 63 | 10 | 7 | 123 | 211,5 | 188,5 | 123 | 266 | 243 |
| | 71 | 14 | M5 | 30 | 5 | 16 | 112 | 136 | 90 | 108 | 48 | 71 | 11 | 8 | 137 | 250 | 220 | 137 | 276 | 246 |
| | 80 | 19 | M6 | 40 | 6 | 21,5 | 125 | 154 | 100 | 125 | 54 | 80 | 13/14 | 9 | 156 | 280 | 240 | 156 | 324 | 284 |
| | 90S | 24 | M8 | 50 | 8 | 27 | 140 | 170 | 100 | 130 | 59 | 90 | 13/15 | 10 | 176 | 305 | 255 | 176 | 361 | 311 |
| | 90L | 24 | M8 | 50 | 8 | 27 | 140 | 170 | 125 | 155 | 59 | 90 | 13/15 | 10 | 176 | 330 | 280 | 176 | 391 | 341 |
| | 100 | 28 | M10 | 60 | 8 | 31 | 160 | 192 | 140 | 175 | 63 | 100 | 15/16 | 13 | 194 | 377 | 317 | 194 | 442 | 382 |
| | 112 | 28 | M10 | 60 | 8 | 31 | 190 | 224 | 140 | 176 | 72 | 112 | 15 | 13 | 218 | 399 | 339 | 218 | 469 | 409 |
| | 132S | 38 | M12 | 80 | 10 | 41 | 216 | 260 | 140 | 180 | 89 | 132 | 16/18 | 14 | 259 | 455,5 | 375,5 | 258 | 566 | 486 |
| | 132M | 38 | M12 | 80 | 10 | 41 | 216 | 260 | 178 | 218 | 89 | 132 | 16/18 | 14 | 259 | 493,5 | 413,5 | 258 | 604 | 524 |
| | 160M | 42 | M16 | 110 | 12 | 45 | 254 | 318 | 210 | 260 | 108 | 160 | 18 | 16 | 309 | 601 | 491 | 309 | 736 | 626 |
| | 160L | 42 | M16 | 110 | 12 | 45 | 254 | 318 | 254 | 304 | 108 | 160 | 18 | 16 | 309 | 645 | 535 | 309 | 780 | 670 |
| | 180 | 48 | M16 | 110 | 14 | 51,5 | 280 | 346 | 280 | 330 | 120 | 180 | 24 | 16 | 345 | 723 | 613 | 346 | 837 | 727 |
| | 200 | 55 | M20 | 110 | 16 | 59 | 318 | 398 | 305 | 355 | 118 | 200 | 26 | 18 | 345 | 733 | 623 | CUT | CUT | CUT |

| DV | SIZEM + LEN | Shaft | | | | | B5 - Version | | | | | | FANCOVER T HE2 HE3 | | | FANCOVER AT AHE2 AHE3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | LA | M | N | P | S | T | AC | L | LB | AC | L | LB |
| B5 | 56 | 9 | M4 | 20 | 3 | 10,2 | 8,5 | 100 | 80 | 120 | 7 | 2,5 | 113 | 186,5 | 166,5 | 110 | 232 | 212 |
| | 63 | 11 | M4 | 23 | 4 | 12,5 | 10 | 115 | 95 | 140 | 9,5 | 2,5 | 123 | 211,5 | 188,5 | 123 | 266 | 243 |
| | 71 | 14 | M5 | 30 | 5 | 16 | 10 | 130 | 110 | 160 | 9,5 | 3 | 137 | 250 | 220 | 137 | 276 | 246 |
| | 80 | 19 | M6 | 40 | 6 | 21,5 | 11 | 165 | 130 | 200 | 12 | 3 | 156 | 280 | 240 | 156 | 324 | 284 |
| | 90S | 24 | M8 | 50 | 8 | 27 | 10 | 165 | 130 | 200 | 12 | 3,5 | 176 | 305 | 255 | 176 | 361 | 311 |
| | 90L | 24 | M8 | 50 | 8 | 27 | 10 | 165 | 130 | 200 | 12 | 3,5 | 176 | 330 | 280 | 176 | 391 | 341 |
| | 100 | 28 | M10 | 60 | 8 | 31 | 14 | 215 | 180 | 250 | 14,5 | 4 | 194 | 377 | 317 | 194 | 442 | 382 |
| | 112 | 28 | M10 | 60 | 8 | 31 | 14 | 215 | 180 | 250 | 14,5 | 4 | 218 | 399 | 339 | 218 | 469 | 409 |
| | 132S | 38 | M12 | 80 | 10 | 41 | 20 | 265 | 230 | 300 | 14,5 | 4 | 259 | 455,5 | 375,5 | 258 | 566 | 486 |
| | 132M | 38 | M12 | 80 | 10 | 41 | 20 | 265 | 230 | 300 | 14,5 | 4 | 259 | 493,5 | 413,5 | 258 | 604 | 524 |
| | 160M | 42 | M16 | 110 | 12 | 45 | 20 | 300 | 250 | 350 | 18,5 | 5 | 309 | 601 | 491 | 309 | 736 | 626 |
| | 160L | 42 | M16 | 110 | 12 | 45 | 20 | 300 | 250 | 350 | 18,5 | 5 | 309 | 645 | 535 | 309 | 780 | 670 |
| | 180 | 48 | M16 | 110 | 14 | 51,5 | 20 | 300 | 250 | 350 | 19 | 5 | 345 | 723 | 613 | 346 | 837 | 727 |
| | 200 | 55 | M20 | 110 | 16 | 59 | 20 | 350 | 300 | 400 | 19 | 5 | 345 | 733 | 623 | CUT | CUT | CUT |

| DV | SIZEM + LEN | Shaft | | | | | B14 - VERSION | | | | | FANCOVER T HE2 HE3 | | | FANCOVER AT AHE2 AHE3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | M | N | P* | S | T | AC | L | LB | AC | L | LB |
| B14 | 50B | 9 | - | 20 | 3 | 10,2 | 65 | 50 | 80 | M5 | 2,5 | 102 | 161 | 141 | 100 | 200 | 180 |
| | 56 | 9 | M4 | 20 | 3 | 10,2 | 65 | 50 | 80 | M5 | 2,5 | 113 | 186,5 | 166,5 | 110 | 232 | 212 |
| | 63 | 11 | M4 | 23 | 4 | 12,5 | 75 | 60 | 90 | M5 | 2,5 | 123 | 211,5 | 188,5 | 123 | 266 | 243 |
| | 71 | 14 | M5 | 30 | 5 | 16 | 85 | 70 | 105 | M6 | 3 | 137 | 250 | 220 | 137 | 276 | 246 |
| | 80 | 19 | M6 | 40 | 6 | 21,5 | 100 | 80 | 120 | M6 | 3 | 156 | 280 | 240 | 156 | 324 | 284 |
| | 90S | 24 | M8 | 50 | 8 | 27 | 115 | 95 | 140 | M8 | 3 | 176 | 305 | 255 | 176 | 361 | 311 |
| | 90L | 24 | M8 | 50 | 8 | 27 | 115 | 95 | 140 | M8 | 3 | 176 | 330 | 280 | 176 | 391 | 341 |
| | 100 | 28 | M10 | 60 | 8 | 31 | 130 | 110 | 160 | M8 | 4 | 194 | 377 | 317 | 194 | 442 | 382 |
| | 112 | 28 | M10 | 60 | 8 | 31 | 130 | 110 | 160 | M8 | 4 | 218 | 399 | 339 | 218 | 469 | 409 |
| | 132S | 38 | M12 | 80 | 10 | 41 | 165 | 130 | 200 | M10 | 4 | 259 | 455,5 | 375,5 | 258 | 566 | 486 |
| | 132M | 38 | M12 | 80 | 10 | 41 | 165 | 130 | 200 | M10 | 4 | 259 | 493,5 | 413,5 | 258 | 604 | 524 |
| | 160M | 42 | M16 | 110 | 12 | 45 | 215 | 180 | 250 | M12 | 4 | 309 | 601 | 491 | 309 | 736 | 626 |
| | 160L | 42 | M16 | 110 | 12 | 45 | 215 | 180 | 250 | M12 | 4 | 309 | 645 | 535 | 309 | 780 | 670 |

* la quota P può subire variazoni essendo una quota grezza.

* *Dimension P may suffer variazoni being a raw dimension.*

* Maß P kann leiden variazoni eine rohe Dimension zu sein.

| SIZEM | TYP | TYP = C | | | | TYP = CA | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | LL | AF | V | AD | LL | AF | V | AD |
| 50 | 01 | 233 | 152 | 23 | 170 | 187 | 126 | 10 | 151 |
| 56 | 01 02 | 233 | 152 | 22 | 184 | 187 | 126 | 10 | 164 |
| 63 | 01 02 03 05 | 233 | 152 | 29 | 188 | 187 | 126 | 19 | 169 |
| 71 | 02 03 05 07 10 | 233 | 152 | 36 | 197 | 187 | 126 | 26 | 178 |
| 80 | 05 07 10 | 233 | 152 | 42 | 206 | 187 | 126 | 26 | 187 |
| | 15 20 | | | | | - | - | - | - |
| | 30 | 270 | 190 | 39 | 220 | | | | |
| 90 | 10 | 233 | 152 | 46 | 211 | 187 | 126 | 30 | 192 |
| | 15 20 | | | | | - | - | - | - |
| | 30 40 | 270 | 190 | 42 | 225 | | | | |
| 100 | 15 20 | 233 | 190 | 52 | 223 | - | - | - | - |
| | 30 40 50 | 270 | 190 | 49 | 230 | | | | |
| 112 | 30 40 50 | 270 | 190 | 52 | 245 | - | - | - | - |
| | 75 100 | 307 | 223 | 56 | 287 | | | | |
| 132 | 40 50 | 270 | 190 | 65 | 267 | - | - | - | - |
| | 75 100 | 307 | 223 | 69 | 309 | | | | |
| | 150 200 | 414 | 294 | 17 | 375 | | | | |
| 160 | **100** | 307 | 223 | 85 | 341 | - | - | - | - |
| | 150 200 250 | 414 | 294 | 57 | 406 | - | - | -- | - |
| 180 | 200 250 300 | 414 | 294 | 59 | 420 | - | - | - | - |
| 200 | 250 300 | 414 | 294 | 59 | 420 | - | - | - | - |

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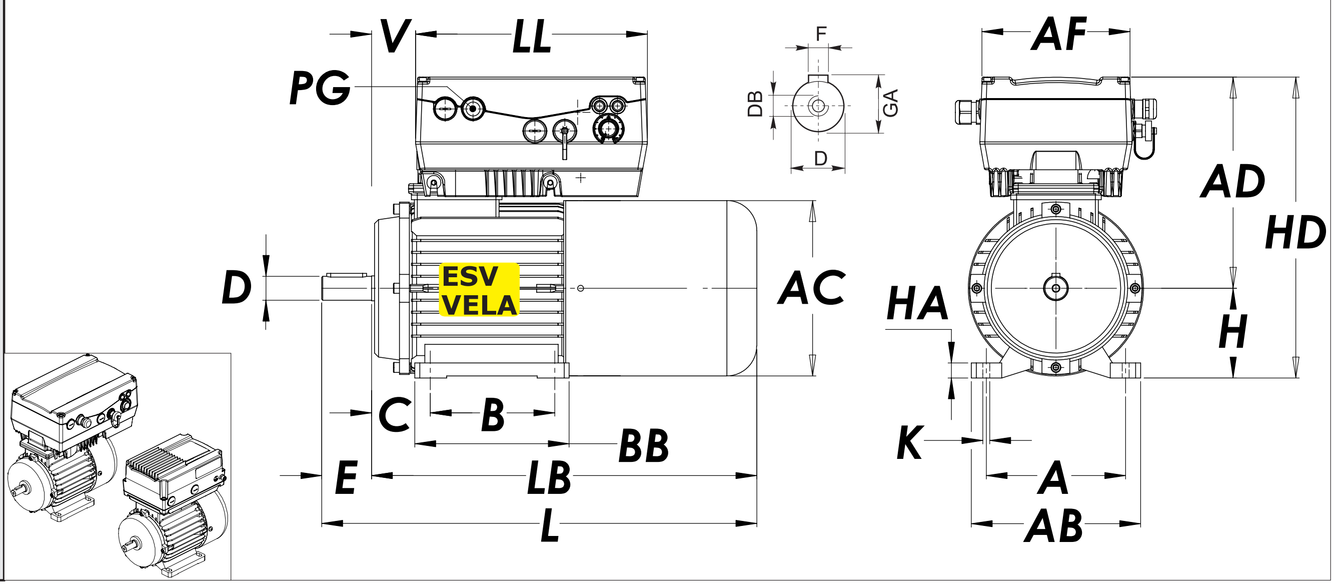
## 5.0 DIMENSIONE (CONTINUA)

## *5.0 DIMENSIONS (TO BE CONTINUED)*

## 5.0 ABMESSUNGEN (FORTSETZUNG)

**B3**

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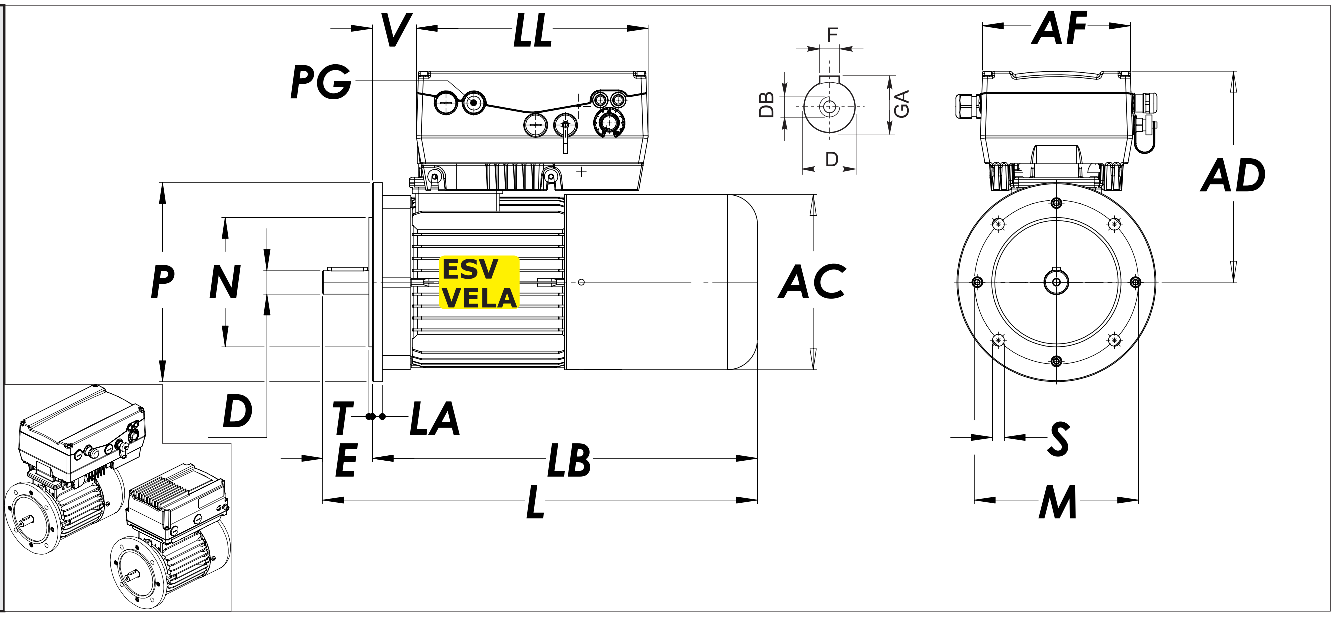
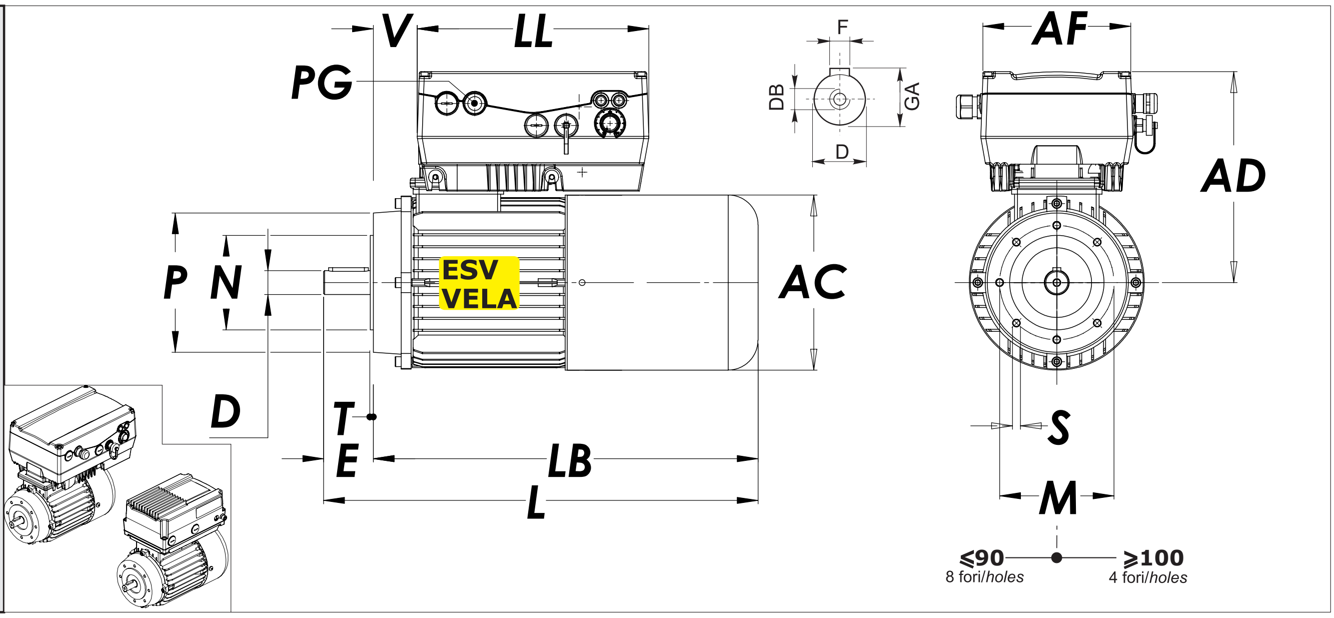
**B5**




C

CA

**B14**

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CA

## 5.0 DIMENSIONE (CONTINUA)

## *5.0 DIMENSIONS (TO BE CONTINUED)*

## 5.0 ABMESSUNGEN (FORTSETZUNG)

| DV | SIZEM + LEN | SHAFT | | | | | B3 - Version | | | | | | | | FANCOVER VL2 | | | FANCOVER VL2 IE2 VL2 IE3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | A | AB | B | BB | C | H | HA | K | AC | L | LB | AC | L | LB |
| **B3** | 56 | 9 | M4 | 20 | 3 | 10,2 | 90 | 108 | 71 | 90 | 36 | 56 | 10 | 6 | 112 | 193 | 173 | - | - | - |
| | 63 | 11 | M4 | 23 | 4 | 12,5 | 100 | 120 | 80 | 105 | 40 | 63 | 10 | 7 | 120 | 221 | 198 | - | - | - |
| | 71 | 14 | M5 | 30 | 5 | 16 | 112 | 136 | 90 | 108 | 45 | 71 | 11 | 8 | 140 | 249 | 219 | - | - | - |
| | 80 | 19 | M6 | 40 | 6 | 21,5 | 125 | 154 | 100 | 125 | 50 | 80 | 14 | 9 | 158 | 285 | 245 | 158 | 290 | 250 |
| | 90S | 24 | M8 | 50 | 8 | 27 | 140 | 170 | 100 | 130 | 56 | 90 | 15 | 10 | 176 | 301 | 251 | 176 | 297 | 247 |
| | 90L | 24 | M8 | 50 | 8 | 27 | 140 | 170 | 125 | 155 | 56 | 90 | 15 | 10 | 176 | 350 | 300 | 176 | 346 | 296 |
| | 100 | 28 | M10 | 60 | 8 | 31 | 160 | 192 | 140 | 175 | 63 | 100 | 16 | 13 | 197 | 375 | 315 | 197 | 380 | 320 |
| | 112 | 28 | M10 | 60 | 8 | 31 | 190 | 224 | 140 | 176 | 70 | 112 | 15 | 13 | 225 | 392 | 332 | 225 | 405 | 345 |
| | 132S | 38 | M12 | 80 | 10 | 41 | 216 | 260 | 140 | 180 | 89 | 132 | 18 | 14 | 258 | 459 | 379 | 258 | 471 | 391 |
| | 132M | 38 | M12 | 80 | 10 | 41 | 216 | 260 | 178 | 218 | 89 | 132 | 18 | 14 | 258 | 497 | 417 | 258 | 508 | 428 |

| DV | SIZEM + LEN | SHAFT | | | | | B5- Version | | | | | | FANCOVER VL2 | | | FANCOVER VL2 IE2 VL2 IE3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | LA | M | N | P | S | T | AC | L | LB | AC | L | LB |
| **B5** | 56 | 9 | M4 | 20 | 3 | 10,2 | 8,5 | 100 | 80 | 120 | 7 | 2,5 | 112 | 193 | 173 | - | - | - |
| | 63 | 11 | M4 | 23 | 4 | 12,5 | 10 | 115 | 95 | 140 | 9,5 | 2,5 | 120 | 221 | 198 | - | - | - |
| | 71 | 14 | M5 | 30 | 5 | 16 | 10 | 130 | 110 | 160 | 9,5 | 3 | 140 | 249 | 219 | - | - | - |
| | 80 | 19 | M6 | 40 | 6 | 21,5 | 11 | 165 | 130 | 200 | 12 | 3 | 158 | 285 | 245 | 158 | 290 | 250 |
| | 90S | 24 | M8 | 50 | 8 | 27 | 10 | 165 | 130 | 200 | 12 | 3,5 | 176 | 301 | 251 | 176 | 297 | 247 |
| | 90L | 24 | M8 | 50 | 8 | 27 | 10 | 165 | 130 | 200 | 12 | 3,5 | 176 | 350 | 300 | 176 | 346 | 296 |
| | 100 | 28 | M10 | 60 | 8 | 31 | 14 | 215 | 180 | 250 | 14,5 | 4 | 197 | 375 | 315 | 197 | 380 | 320 |
| | 112 | 28 | M10 | 60 | 8 | 31 | 14 | 215 | 180 | 250 | 14,5 | 4 | 225 | 392 | 332 | 225 | 405 | 345 |
| | 132S | 38 | M12 | 80 | 10 | 41 | 20 | 265 | 230 | 300 | 14,5 | 4 | 258 | 459 | 379 | 258 | 471 | 391 |
| | 132M | 38 | M12 | 80 | 10 | 41 | 20 | 265 | 230 | 300 | 14,5 | 4 | 258 | 497 | 417 | 258 | 508 | 428 |

| DV | SIZEM + LEN | SHAFT | | | | | B14 - Version | | | | | | FANCOVER VL2 | | | FANCOVER VL2 IE2 VL2 IE3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | LA | M | N | P | S | T | AC | L | LB | AC | L | LB |
| **B14** | 56 | 9 | M4 | 20 | 3 | 10,2 | - | 65 | 50 | 80 | M5 | 2,5 | 112 | 193 | 173 | - | - | - |
| | 63 | 11 | M4 | 23 | 4 | 12,5 | - | 75 | 60 | 90 | M5 | 3 | 120 | 221 | 198 | - | - | - |
| | 71 | 14 | M5 | 30 | 5 | 16 | - | 85 | 70 | 105 | M6 | 3,5 | 140 | 249 | 219 | - | - | - |
| | 80 | 19 | M6 | 40 | 6 | 21,5 | - | 100 | 80 | 120 | M6 | 3,5 | 158 | 285 | 245 | 158 | 290 | 250 |
| | 90S | 24 | M8 | 50 | 8 | 27 | - | 115 | 95 | 140 | M8 | 3,5 | 176 | 301 | 251 | 176 | 297 | 247 |
| | 90L | 24 | M8 | 50 | 8 | 27 | - | 115 | 95 | 140 | M8 | 3,5 | 176 | 350 | 300 | 176 | 346 | 296 |
| | 100 | 28 | M10 | 60 | 8 | 31 | - | 130 | 110 | 160 | M8 | 4 | 197 | 375 | 315 | 197 | 380 | 320 |
| | 112 | 28 | M10 | 60 | 8 | 31 | - | 130 | 110 | 160 | M8 | 4 | 225 | 392 | 332 | 225 | 405 | 345 |
| | 132S | 38 | M12 | 80 | 10 | 41 | - | 165 | 130 | 200 | M10 | 4 | 258 | 459 | 379 | 258 | 471 | 391 |
| | 132M | 38 | M12 | 80 | 10 | 41 | - | 165 | 130 | 200 | M10 | 4 | 258 | 497 | 417 | 258 | 508 | 428 |

| SIZEM | TYP | TYP = C | | | | TYP = CA | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | LL | AF | V | AD | LL | AF | V | AD |
| **56** | 01 02 | 233 | 152 | 25 | 175 | 187 | 126 | 11 | 155 |
| **63** | 01 02 03 05 | 233 | 152 | 28 | 180 | 187 | 126 | 15 | 161 |
| **71** | 02 03 05 07 10 | 233 | 152 | 34 | 189 | 187 | 126 | 20 | 170 |
| **80** | 05 07 10 | 233 | 152 | 38 | 203 | 187 | 126 | 26 | 184 |
| | 15 20 | | | | | - | - | - | - |
| **90** | 10 | 233 | 152 | 38 | 208 | 187 | 126 | 26 | 189 |
| | 15 20 | | | | | - | - | - | - |
| | 30 40 | 270 | 190 | 38 | 222 | - | - | - | - |
| **100** | 20 | 233 | 152 | 38 | 222 | - | - | - | - |
| | 30 40 50 | 270 | 190 | 38 | 236 | - | - | - | - |
| **112** | 30 40 | 270 | 190 | 43 | 242 | - | - | - | - |
| | 75 | 307 | 223 | 43 | 285 | | | | |
| **132** | 40 50 | 270 | 190 | 57 | 264 | - | - | - | - |
| | 75 100 | 307 | 223 | 57 | 306 | | | | |
| | 150 | 414 | 294 | 13 | 371 | | | | |

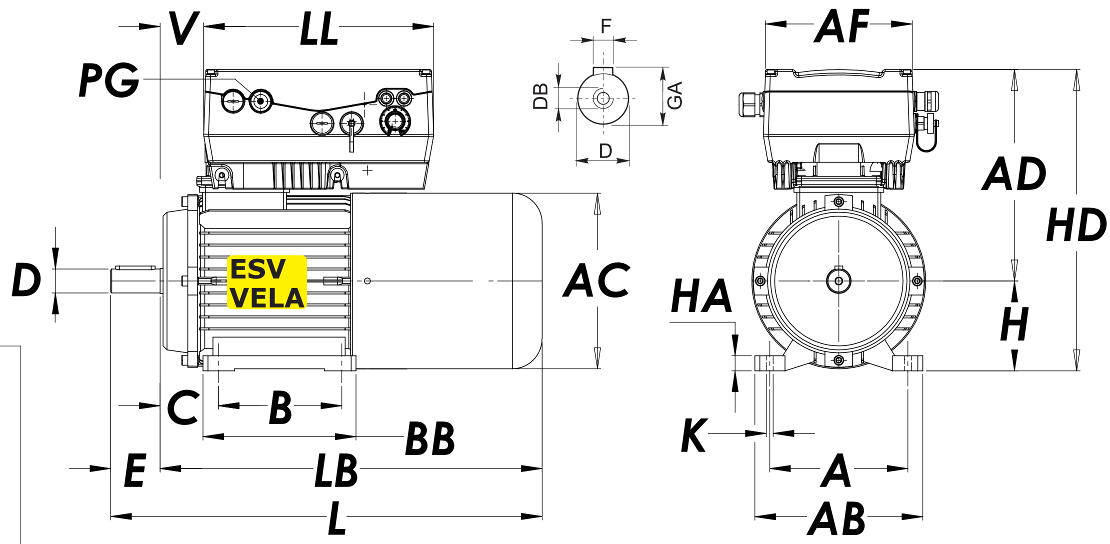
D

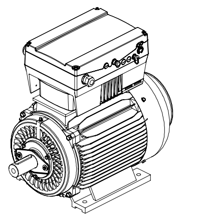
## 5.0 DIMENSIONE (CONTINUA)

## *5.0 DIMENSIONS (TO BE CONTINUED)*

## 5.0 ABMESSUNGEN (FORTSETZUNG)

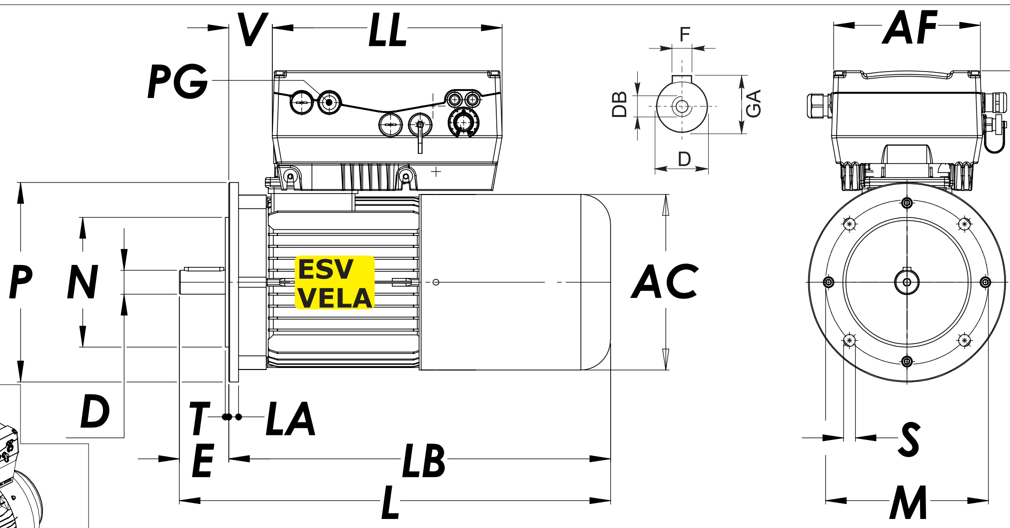
**B3**

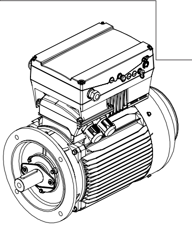


C

**B5**



C

**B14**

C

## 5.0 DIMENSIONE (CONTINUA)

## *5.0 DIMENSIONS (TO BE CONTINUED)*

## 5.0 ABMESSUNGEN (FORTSETZUNG)

| DV | SIZE + LEN | SHAFT | | | | | B3 - Version | | | | | | | | | FANCOVER | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | BB | | | | | | AC | | L | | LB | |
| | | D | DB | E | F | GA | A | AB | B | VL2 Y3 | VL2 IE2 VL2 IE3 | C | H | HA | K | VL2 Y3 | VL2 IE2 VL2 IE3 | VL2 Y3 | VL2 IE2 VL2 IE3 | VL2 Y3 | VL2 IE2 VL2 IE3 |
| B3 | 160M | 42 | M16 | 110 | 12 | 45 | 254 | 314 | 210 | 260 | 304 | 108 | 160 | 20 | 15 | 315 | 315 | 612 | 655 | 502 | 545 |
| | 160L | 42 | M16 | 110 | 12 | 45 | 254 | 314 | 254 | 304 | 340 | 108 | 160 | 20 | 15 | 315 | 315 | 657 | 723 | 547 | 613 |
| | 180M | 48 | M16 | 110 | 14 | 51,5 | 279 | 349 | 241 | 304 | 350 | 121 | 180 | 22 | 15 | 355 | 355 | 698 | 730 | 588 | 620 |
| | 180L | 48 | M16 | 110 | 14 | 51,5 | 279 | 349 | 279 | 340 | 370 | 121 | 180 | 22 | 15 | 355 | 355 | 734 | 798 | 624 | 688 |
| | 200 | 55 | M20 | 110 | 16 | 59 | 318 | 388 | 305 | 368 | 369 | 133 | 200 | 25 | 19 | 397 | 397 | 776 | 774 | 666 | 664 |

| DV | SIZE + LEN | SHAFT | | | | | B5- Version | | | | | | FANCOVER VL2 Y3 | | | FANCOVER VL2 IE2 VL2 IE3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | LA | M | N | P | S | T | AC | L | LB | AC | L | LB |
| B5 | 160M | 42 | M16 | 110 | 12 | 45 | 16 | 300 | 250 | 350 | 19 | 5 | 315 | 612 | 502 | 315 | 655 | 545 |
| | 160L | 42 | M16 | 110 | 12 | 45 | 16 | 300 | 250 | 350 | 19 | 5 | 315 | 657 | 547 | 315 | 723 | 613 |
| | 180M | 48 | M16 | 110 | 14 | 51,5 | 13 | 300 | 250 | 350 | 19 | 5 | 355 | 698 | 588 | 355 | 730 | 620 |
| | 180L | 48 | M16 | 110 | 14 | 51,5 | 13 | 300 | 250 | 350 | 19 | 5 | 355 | 734 | 624 | 355 | 798 | 688 |
| | 200 | 55 | M20 | 110 | 16 | 59 | 16 | 350 | 300 | 400 | 19 | 5 | 397 | 776 | 666 | 397 | 774 | 664 |

| SIZE + LEN | TYP | TYP = C | | | |
|---|---|---|---|---|---|
| | | LL | AF | V | AD |
| 160M | 100 | 307 | 223 | 90 | 345 |
| | 150 250 | 414 | 294 | 62 | 413 |
| 160L | 150 200 250 | 414 | 294 | 59 | 413 |
| 180M | 250 300 | 414 | 294 | 72 | 428 |
| 180L | 200 300 | 414 | 294 | 93 | 428 |
| 200 | 250 300 | 414 | 294 | 95 | 443 |

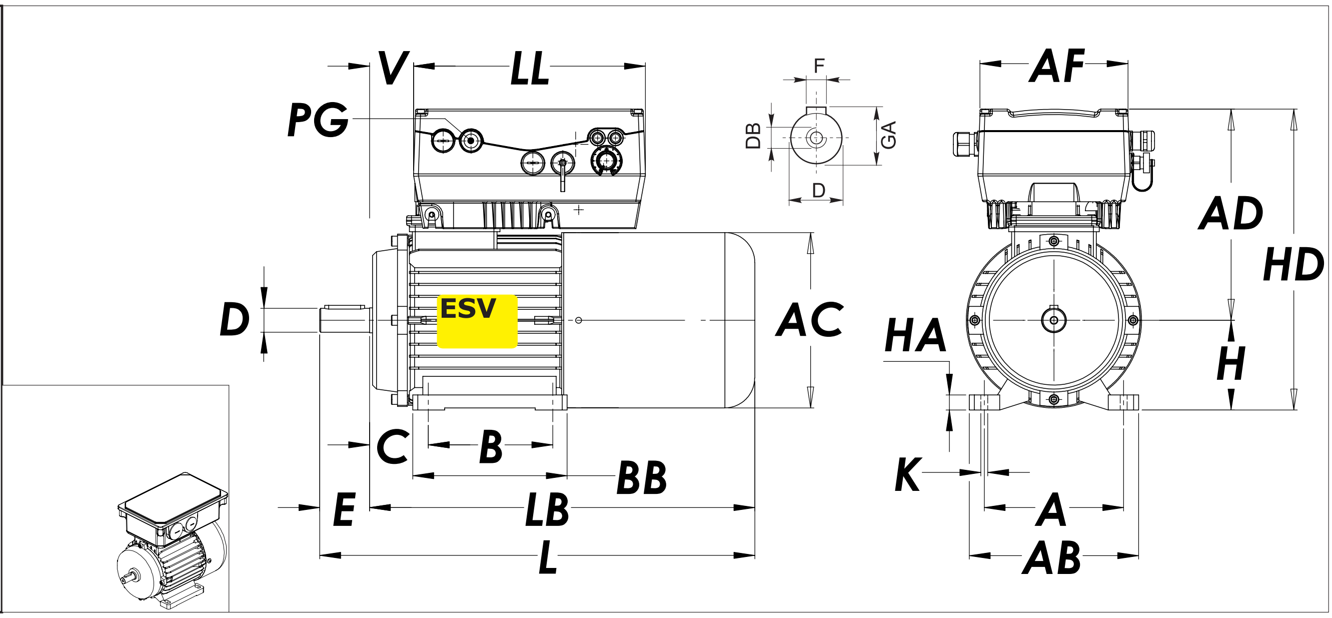
D

## 5.0 DIMENSIONE (CONTINUA)

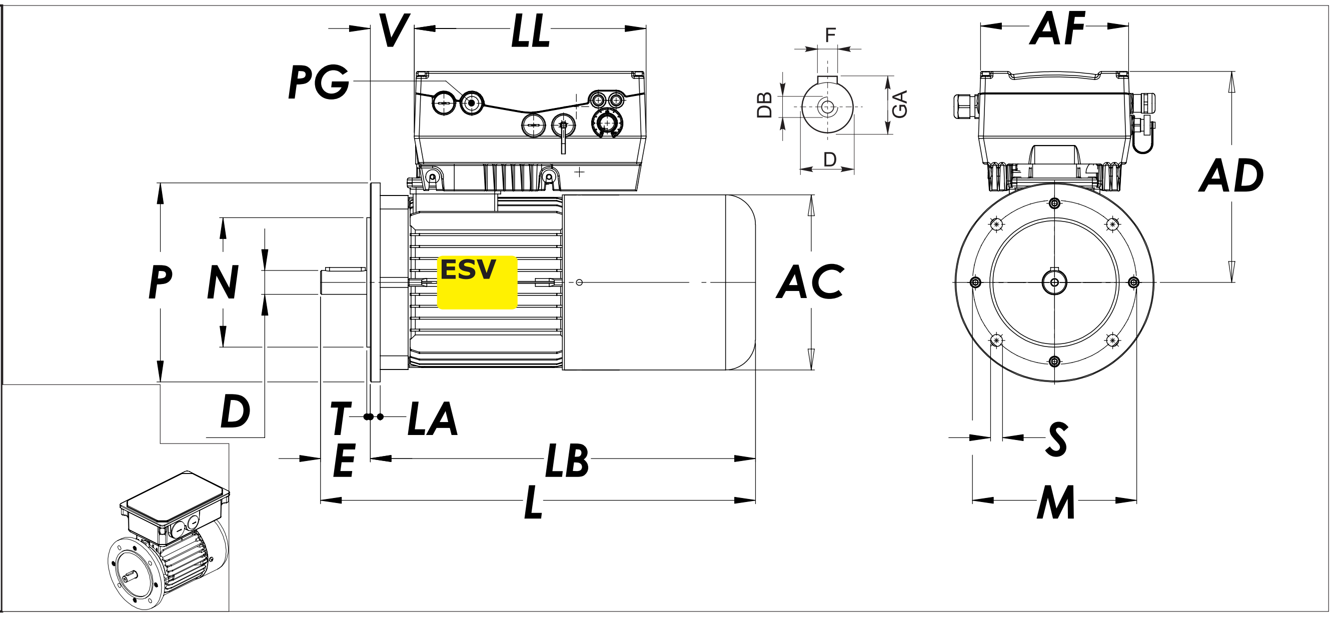
## *5.0 DIMENSIONS (TO BE CONTINUED)*

## 5.0 ABMESSUNGEN (FORTSETZUNG)

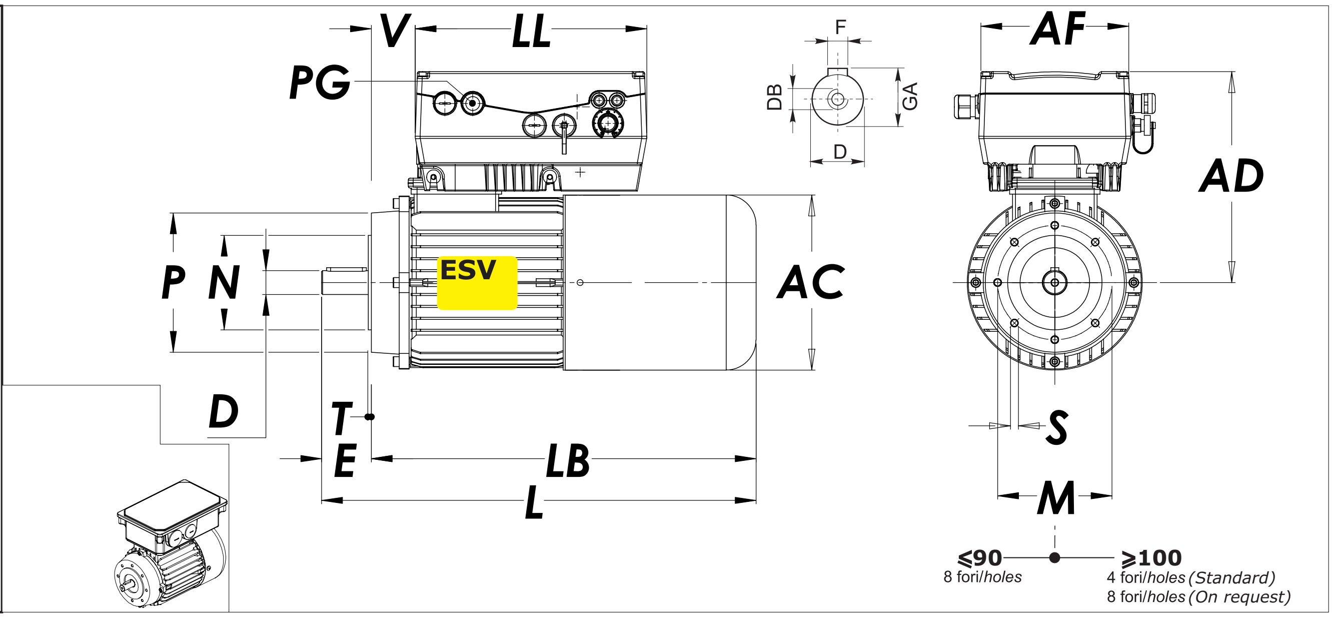
B3




B5




B14



## 5.0 DIMENSIONE (CONTINUA)

## *5.0 DIMENSIONS (TO BE CONTINUED)*

## 5.0 ABMESSUNGEN (FORTSETZUNG)

| DV | SIZEM + LEN | Shaft | | | | | B3 - Version | | | | | | | | FANCOVER T HE2 HE3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | A | AB | B | BB | C | H | HA | K | AC | L | LB |
| B3 | 56 | 9 | M4 | 20 | 3 | 10,2 | 90 | 108 | 71 | 90 | 36 | 56 | 10 | 6 | 113 | 186,5 | 166,5 |
| | 63 | 11 | M4 | 23 | 4 | 12,5 | 100 | 120 | 80 | 105 | 40 | 63 | 10 | 7 | 123 | 211,5 | 188,5 |
| | 71 | 14 | M5 | 30 | 5 | 16 | 112 | 136 | 90 | 108 | 48 | 71 | 11 | 8 | 137 | 250 | 220 |
| | 80 | 19 | M6 | 40 | 6 | 21,5 | 125 | 154 | 100 | 125 | 54 | 80 | 13/14 | 9 | 156 | 280 | 240 |
| | 90S | 24 | M8 | 50 | 8 | 27 | 140 | 170 | 100 | 130 | 59 | 90 | 13/15 | 10 | 176 | 305 | 255 |
| | 90L | 24 | M8 | 50 | 8 | 27 | 140 | 170 | 125 | 155 | 59 | 90 | 13/15 | 10 | 176 | 330 | 280 |
| | 100 | 28 | M10 | 60 | 8 | 31 | 160 | 192 | 140 | 175 | 63 | 100 | 15/16 | 13 | 194 | 377 | 317 |
| | 112 | 28 | M10 | 60 | 8 | 31 | 190 | 224 | 140 | 176 | 72 | 112 | 15 | 13 | 218 | 399 | 339 |
| | 132S | 38 | M12 | 80 | 10 | 41 | 216 | 260 | 140 | 180 | 89 | 132 | 16/18 | 14 | 259 | 455,5 | 375,5 |
| | 132M | 38 | M12 | 80 | 10 | 41 | 216 | 260 | 178 | 218 | 89 | 132 | 16/18 | 14 | 259 | 493,5 | 413,5 |

| DV | SIZEM + LEN | Shaft | | | | | B5 - Version | | | | | | FANCOVER T HE2 HE3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | LA | M | N | P | S | T | AC | L | LB |
| B5 | 56 | 9 | M4 | 20 | 3 | 10,2 | 8,5 | 100 | 80 | 120 | 7 | 2,5 | 113 | 186,5 | 166,5 |
| | 63 | 11 | M4 | 23 | 4 | 12,5 | 10 | 115 | 95 | 140 | 9,5 | 2,5 | 123 | 211,5 | 188,5 |
| | 71 | 14 | M5 | 30 | 5 | 16 | 10 | 130 | 110 | 160 | 9,5 | 3 | 137 | 250 | 220 |
| | 80 | 19 | M6 | 40 | 6 | 21,5 | 11 | 165 | 130 | 200 | 12 | 3 | 156 | 280 | 240 |
| | 90S | 24 | M8 | 50 | 8 | 27 | 10 | 165 | 130 | 200 | 12 | 3,5 | 176 | 305 | 255 |
| | 90L | 24 | M8 | 50 | 8 | 27 | 10 | 165 | 130 | 200 | 12 | 3,5 | 176 | 330 | 280 |
| | 100 | 28 | M10 | 60 | 8 | 31 | 14 | 215 | 180 | 250 | 14,5 | 4 | 194 | 377 | 317 |
| | 112 | 28 | M10 | 60 | 8 | 31 | 14 | 215 | 180 | 250 | 14,5 | 4 | 218 | 399 | 339 |
| | 132S | 38 | M12 | 80 | 10 | 41 | 20 | 265 | 230 | 300 | 14,5 | 4 | 259 | 455,5 | 375,5 |
| | 132M | 38 | M12 | 80 | 10 | 41 | 20 | 265 | 230 | 300 | 14,5 | 4 | 259 | 493,5 | 413,5 |

| DV | SIZEM + LEN | Shaft | | | | | B14 - VERSION | | | | | FANCOVER T HE2 HE3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | M | N | P* | S | T | AC | L | LB |
| B14 | 50B | 9 | - | 20 | 3 | 10,2 | 65 | 50 | 80 | M5 | 2,5 | 102 | 161 | 141 |
| | 56 | 9 | M4 | 20 | 3 | 10,2 | 65 | 50 | 80 | M5 | 2,5 | 113 | 186,5 | 166,5 |
| | 63 | 11 | M4 | 23 | 4 | 12,5 | 75 | 60 | 90 | M5 | 2,5 | 123 | 211,5 | 188,5 |
| | 71 | 14 | M5 | 30 | 5 | 16 | 85 | 70 | 105 | M6 | 3 | 137 | 250 | 220 |
| | 80 | 19 | M6 | 40 | 6 | 21,5 | 100 | 80 | 125 | M6 | 3 | 156 | 280 | 240 |
| | 90S | 24 | M8 | 50 | 8 | 27 | 115 | 95 | 140 | M8 | 3 | 176 | 305 | 255 |
| | 90L | 24 | M8 | 50 | 8 | 27 | 115 | 95 | 140 | M8 | 3 | 176 | 330 | 280 |
| | 100 | 28 | M10 | 60 | 8 | 31 | 130 | 110 | 160 | M8 | 4 | 194 | 377 | 317 |
| | 112 | 28 | M10 | 60 | 8 | 31 | 130 | 110 | 160 | M8 | 4 | 218 | 399 | 339 |
| | 132S | 38 | M12 | 80 | 10 | 41 | 165 | 130 | 200 | M10 | 4 | 259 | 455,5 | 375,5 |
| | 132M | 38 | M12 | 80 | 10 | 41 | 165 | 130 | 200 | M10 | 4 | 259 | 493,5 | 413,5 |

* la quota P può subire variazoni essendo una quota grezza.

* *Dimension P may suffer variazoni being a raw dimension.*

* Maß P kann leiden variazoni eine rohe Dimension zu sein.

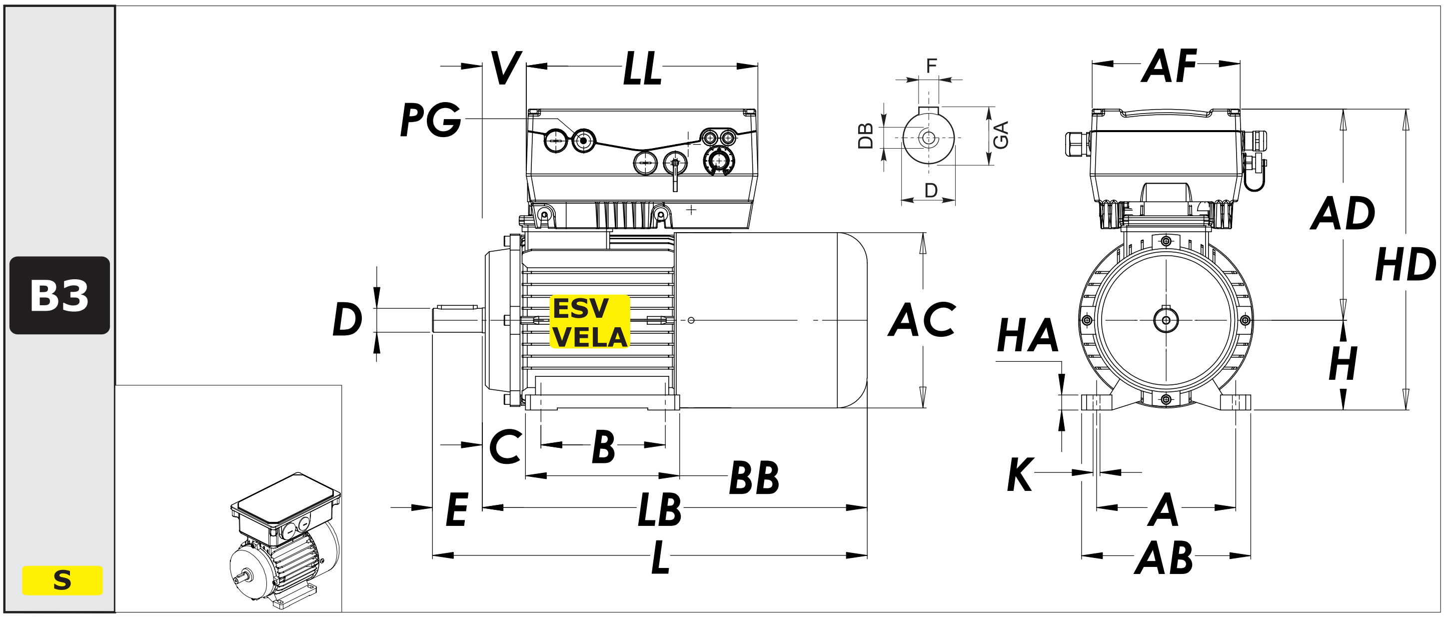
| SIZEM | TYP | TYP = S | | | |
|---|---|---|---|---|---|
| | | LL | AF | V | AD |
| 50 | 01 | 114 | 114 | -2 | 109 |
| 56 | 01 02 | 114 | 114 | 5 | 122 |
| 63 | 01 02 03 | 114 | 114 | 8 | 127 |
| | 05 | 206 | 132 | 9 | 136 |
| 71 | 02 03 | 114 | 114 | 17 | 136 |
| | 05 07 | 206 | 132 | 17 | 145 |
| | 10 | 227 | 181 | 14 | 172 |
| 80 | 05 07 | 206 | 132 | 16 | 154 |
| | 10 15 20 | 227 | 181 | 20 | 181 |
| | **30** | 297 | 207 | 8 | 198 |
| 90 | 10 15 20 | 227 | 181 | 26 | 186 |
| | 30 40 | 297 | 207 | 14 | 203 |
| 100 | 15 20 | 227 | 181 | 32 | 198 |
| | 30 40 50 | 297 | 207 | 18 | 215 |
| 112 | 30 40 50 | 297 | 207 | 21 | 223 |
| 132 | 40 50 | 297 | 207 | 38 | 245 |

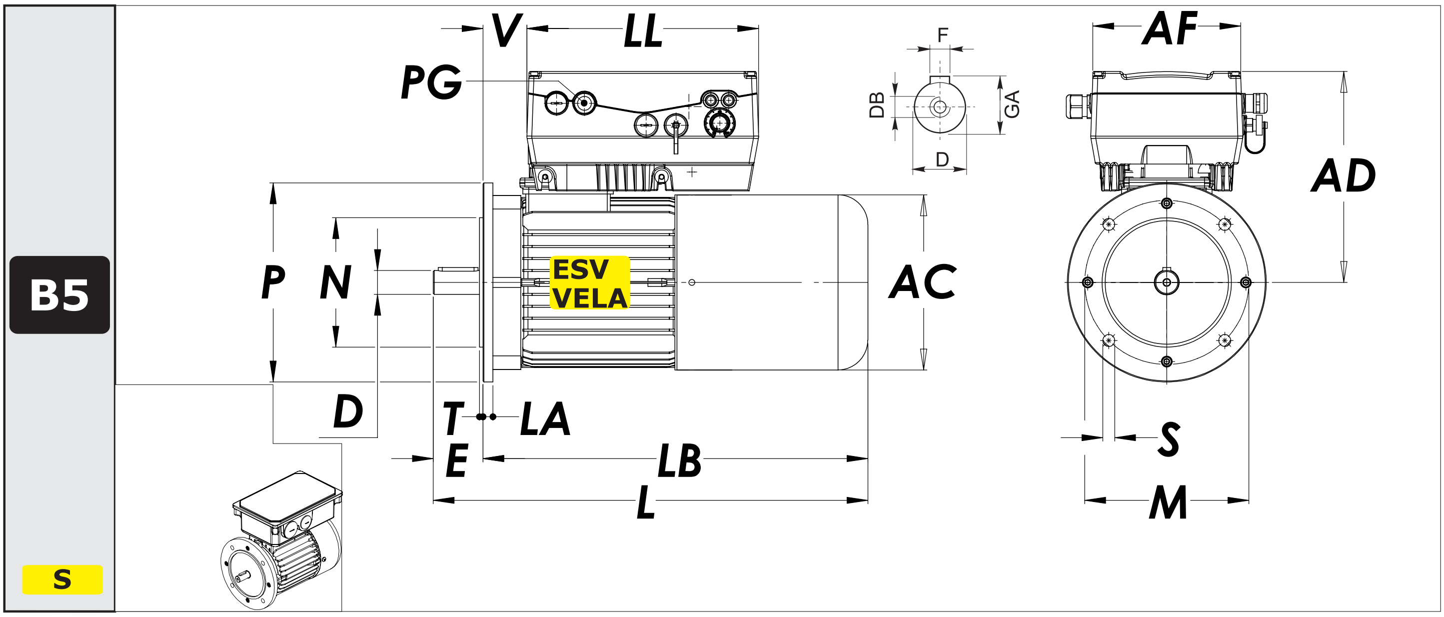
D

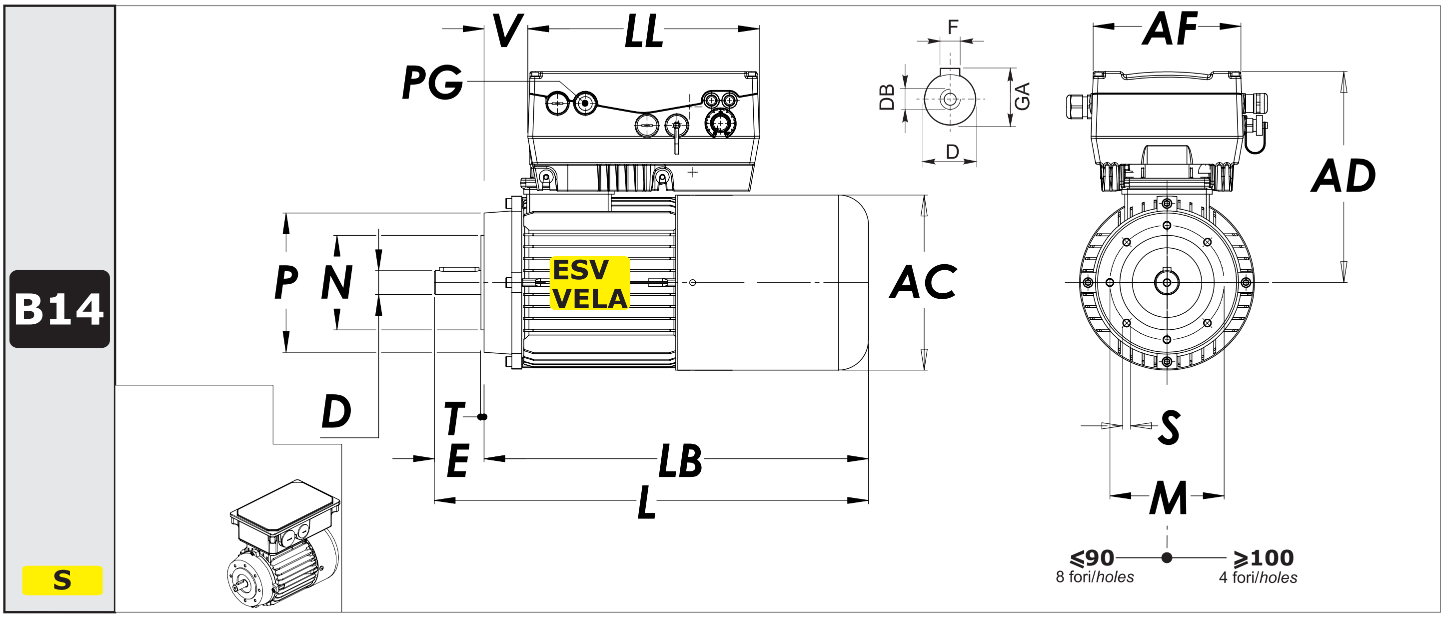
**5.0 DIMENSIONE (CONTINUA)**

***5.0 DIMENSIONS (TO BE CONTINUED)***

**5.0 ABMESSUNGEN (FORTSETZUNG)**



## 5.0 DIMENSIONE (CONTINUA)

## *5.0 DIMENSIONS (TO BE CONTINUED)*

## 5.0 ABMESSUNGEN (FORTSETZUNG)

| DV | SIZEM + LEN | SHAFT | | | | | B3 - Version | | | | | | | | FANCOVER VL2 | | | FANCOVER VL2 IE2 VL2 IE3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | A | AB | B | BB | C | H | HA | K | AC | L | LB | AC | L | LB |
| **B3** | **56** | 9 | M4 | 20 | 3 | 10,2 | 90 | 108 | 71 | 90 | 36 | 56 | 10 | 6 | 112 | 193 | 173 | - | - | - |
| | **63** | 11 | M4 | 23 | 4 | 12,5 | 100 | 120 | 80 | 105 | 40 | 63 | 10 | 7 | 120 | 221 | 198 | - | - | - |
| | **71** | 14 | M5 | 30 | 5 | 16 | 112 | 136 | 90 | 108 | 45 | 71 | 11 | 8 | 140 | 249 | 219 | - | - | - |
| | **80** | 19 | M6 | 40 | 6 | 21,5 | 125 | 154 | 100 | 125 | 50 | 80 | 14 | 9 | 158 | 285 | 245 | 158 | 290 | 250 |
| | **90S** | 24 | M8 | 50 | 8 | 27 | 140 | 170 | 100 | 130 | 56 | 90 | 15 | 10 | 176 | 301 | 251 | 176 | 297 | 247 |
| | **90L** | 24 | M8 | 50 | 8 | 27 | 140 | 170 | 125 | 155 | 56 | 90 | 15 | 10 | 176 | 350 | 300 | 176 | 346 | 296 |
| | **100** | 28 | M10 | 60 | 8 | 31 | 160 | 192 | 140 | 175 | 63 | 100 | 16 | 13 | 197 | 375 | 315 | 197 | 380 | 320 |
| | **112** | 28 | M10 | 60 | 8 | 31 | 190 | 224 | 140 | 176 | 70 | 112 | 15 | 13 | 225 | 392 | 332 | 225 | 405 | 345 |
| | **132S** | 38 | M12 | 80 | 10 | 41 | 216 | 260 | 140 | 180 | 89 | 132 | 18 | 14 | 258 | 459 | 379 | 258 | 471 | 391 |
| | **132M** | 38 | M12 | 80 | 10 | 41 | 216 | 260 | 178 | 218 | 89 | 132 | 18 | 14 | 258 | 497 | 417 | 258 | 508 | 428 |

| DV | SIZEM + LEN | SHAFT | | | | | B5- Version | | | | | | FANCOVER VL2 | | | FANCOVER VL2 IE2 VL2 IE3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | LA | M | N | P | S | T | AC | L | LB | AC | L | LB |
| **B5** | **56** | 9 | M4 | 20 | 3 | 10,2 | 8,5 | 100 | 80 | 120 | 7 | 2,5 | 112 | 193 | 173 | - | - | - |
| | **63** | 11 | M4 | 23 | 4 | 12,5 | 10 | 115 | 95 | 140 | 9,5 | 2,5 | 120 | 221 | 198 | - | - | - |
| | **71** | 14 | M5 | 30 | 5 | 16 | 10 | 130 | 110 | 160 | 9,5 | 3 | 140 | 249 | 219 | - | - | - |
| | **80** | 19 | M6 | 40 | 6 | 21,5 | 11 | 165 | 130 | 200 | 12 | 3 | 158 | 285 | 245 | 158 | 290 | 250 |
| | **90S** | 24 | M8 | 50 | 8 | 27 | 10 | 165 | 130 | 200 | 12 | 3,5 | 176 | 301 | 251 | 176 | 297 | 247 |
| | **90L** | 24 | M8 | 50 | 8 | 27 | 10 | 165 | 130 | 200 | 12 | 3,5 | 176 | 350 | 300 | 176 | 346 | 296 |
| | **100** | 28 | M10 | 60 | 8 | 31 | 14 | 215 | 180 | 250 | 14,5 | 4 | 197 | 375 | 315 | 197 | 380 | 320 |
| | **112** | 28 | M10 | 60 | 8 | 31 | 14 | 215 | 180 | 250 | 14,5 | 4 | 225 | 392 | 332 | 225 | 405 | 345 |
| | **132S** | 38 | M12 | 80 | 10 | 41 | 20 | 265 | 230 | 300 | 14,5 | 4 | 258 | 459 | 379 | 258 | 471 | 391 |
| | **132M** | 38 | M12 | 80 | 10 | 41 | 20 | 265 | 230 | 300 | 14,5 | 4 | 258 | 497 | 417 | 258 | 508 | 428 |

| DV | SIZEM + LEN | SHAFT | | | | | B14 - Version | | | | | | FANCOVER VL2 | | | FANCOVER VL2 IE2 VL2 IE3 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | D | DB | E | F | GA | LA | M | N | P | S | T | AC | L | LB | AC | L | LB |
| **B14** | **56** | 9 | M4 | 20 | 3 | 10,2 | - | 65 | 50 | 80 | M5 | 2,5 | 112 | 193 | 173 | - | - | - |
| | **63** | 11 | M4 | 23 | 4 | 12,5 | - | 75 | 60 | 90 | M5 | 3 | 120 | 221 | 198 | - | - | - |
| | **71** | 14 | M5 | 30 | 5 | 16 | - | 85 | 70 | 105 | M6 | 3,5 | 140 | 249 | 219 | - | - | - |
| | **80** | 19 | M6 | 40 | 6 | 21,5 | - | 100 | 80 | 120 | M6 | 3,5 | 158 | 285 | 245 | 158 | 290 | 250 |
| | **90S** | 24 | M8 | 50 | 8 | 27 | - | 115 | 95 | 140 | M8 | 3,5 | 176 | 301 | 251 | 176 | 297 | 247 |
| | **90L** | 24 | M8 | 50 | 8 | 27 | - | 115 | 95 | 140 | M8 | 3,5 | 176 | 350 | 300 | 176 | 346 | 296 |
| | **100** | 28 | M10 | 60 | 8 | 31 | - | 130 | 110 | 160 | M8 | 4 | 197 | 375 | 315 | 197 | 380 | 320 |
| | **112** | 28 | M10 | 60 | 8 | 31 | - | 130 | 110 | 160 | M8 | 4 | 225 | 392 | 332 | 225 | 405 | 345 |
| | **132S** | 38 | M12 | 80 | 10 | 41 | - | 165 | 130 | 200 | M10 | 4 | 258 | 459 | 379 | 258 | 471 | 391 |
| | **132M** | 38 | M12 | 80 | 10 | 41 | - | 165 | 130 | 200 | M10 | 4 | 258 | 497 | 417 | 258 | 508 | 428 |

| SIZEM | TYP | TYP = S | | | |
|---|---|---|---|---|---|
| | | LL | AF | V | AD |
| **56** | 01 02 03 | 114 | 114 | 4 | 112 |
| **63** | 02 03 | 114 | 114 | 7 | 119 |
| | 05 | 206 | 132 | 7 | 128 |
| **71** | 02 03 | 114 | 114 | 11 | 127 |
| | 05 07 | 206 | 132 | 12 | 137 |
| | 10 | 227 | 181 | 10 | 164 |
| **80** | 05 07 | 206 | 132 | 17 | 151 |
| | 10 15 20 | 227 | 181 | 20 | 178 |
| **90** | 10 15 20 | 227 | 181 | 25 | 183 |
| | 30 40 | 297 | 207 | 13 | 199 |
| **100** | 20 | 227 | 181 | 23 | 197 |
| | 30 40 50 | 297 | 207 | 11 | 213 |
| **112** | 30 50 | 297 | 207 | 20 | 220 |
| **132** | 40 50 | 297 | 207 | 27 | 242 |

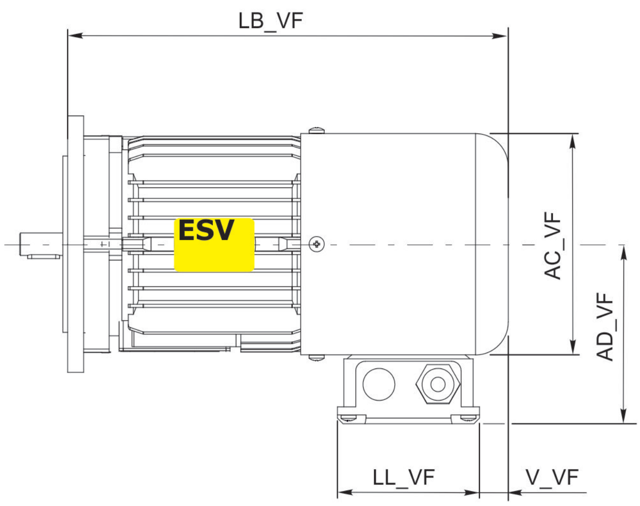
D

## 5.0 DIMENSIONE (CONTINUA)

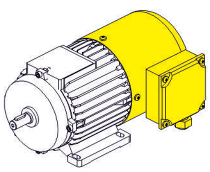
## *5.0 DIMENSIONS (TO BE CONTINUED)*

## 5.0 ABMESSUNGEN (FORTSETZUNG)

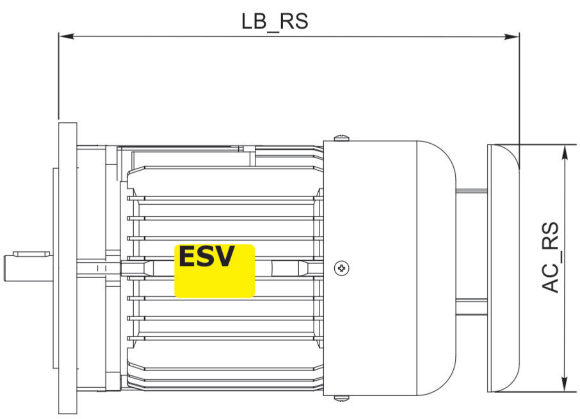
**VF**



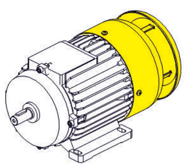

S
C
CA



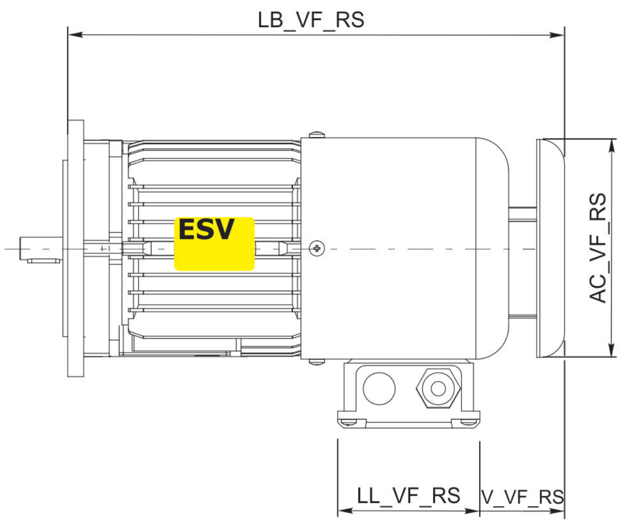
**RS**



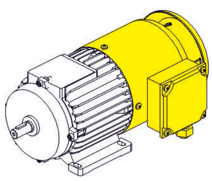

S
C
CA



**VF RS**




S
C
CA



## 5.0 DIMENSIONE (CONTINUA)

## *5.0 DIMENSIONS (TO BE CONTINUED)*

## 5.0 ABMESSUNGEN (FORTSETZUNG)

| SIZE + LEN | VSAVE | POWERCOOLING | | | | |
|---|---|---|---|---|---|---|
| | | AC_VF | AD_VF | LB_VF | LL_VF | V_VF |
| 56 | 5 (230VAC_50/60Hz) | 109 | 97,5 | 217,8 | 89 | 10 |
| 63 | | 122,5 | 105 | 248 | 89 | 16 |
| 71 | | 138 | 112 | 279 | 89 | 18 |
| 80 | | 156 | 121 | 310 | 89 | 42 |
| 90S | | 177 | 131,5 | 326 | 89 | 35 |
| 90L | | 177 | 131,5 | 351 | 89 | 35 |
| 100 | | 195 | 140,5 | 395 | 89 | 59 |
| 112 | | 220 | 153 | 431 | 89 | 56,5 |
| 132S | | 258 | 172 | 493,5 | 89 | 89 |
| 132M | | 258 | 172 | 531,5 | 89 | 89 |
| 160M | | 310 | 198 | 616,5 | 89 | 87 |
| 160L | | 310 | 198 | 665,5 | 89 | 87 |
| 71 | 9 (230/400_50_MULT) | 139 | 112,5 | 343 | 89 | 83 |
| 80 | | 156 | 121 | 362 | 89 | 84,5 |
| 90S | | 177 | 131,5 | 359 | 89 | 69 |
| 90L | | 177 | 131,5 | 384 | 89 | 69 |
| 100 | | 195 | 140,5 | 455 | 89 | 99 |
| 112 | | 220 | 153 | 478 | 89 | 66 |
| 132S | | 258 | 172 | 493,5 | 89 | 89 |
| 132M | | 258 | 172 | 531,5 | 89 | 89 |
| 160M | | 310 | 198 | 616,5 | 89 | 87 |
| 160L | | 310 | 198 | 665,5 | 89 | 87 |
| 180 | | 356 | 229 | 724,5 | 93 | 98 |
| 200 | | 399 | 250,5 | 734,5 | 93 | 133 |

| SIZE + LEN | RAINSHIELD | |
|---|---|---|
| | AC_RS | LB_RS |
| 56 | 194,5 | 111 |
| 63 | 223,5 | 124 |
| 71 | 255 | 136 |
| 80 | 275 | 155 |
| 90S | 290 | 176 |
| 90L | 315 | 176 |
| 100 | 352 | 199 |
| 112 | 374 | 214 |
| 132S | 410,5 | 259 |
| 132M | 448,5 | 259 |

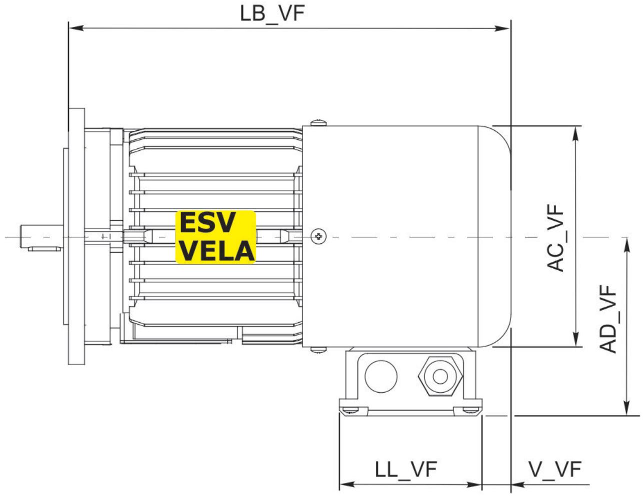
| SIZE + LEN | VSAVE | RAINSHIELD + POWERCOOLING | | | |
|---|---|---|---|---|---|
| | | AC_VF_RS | LB_VF_RS | LL_VF_RS | V_VF_RS |
| 56 | 5 (230VAC_50/60Hz) | 111 | 245,8 | 89 | 38 |
| 63 | | 124 | 283 | 89 | 51 |
| 71 | | 136 | 314 | 89 | 53 |
| 80 | | 155 | 345 | 89 | 77 |
| 90S | | 176 | 361 | 89 | 70 |
| 90L | | 176 | 386 | 89 | 70 |
| 100 | | 199 | 430 | 89 | 94 |
| 112 | | 214 | 466 | 89 | 91,5 |
| 132S | | 259 | 528,5 | 89 | 124 |
| 132M | | 259 | 566,5 | 89 | 124 |
| 71 | 9 (230/400_50_MULT) | 136 | 378 | 89 | 118 |
| 80 | | 155 | 397 | 89 | 119,5 |
| 90S | | 176 | 394 | 89 | 104 |
| 90L | | 176 | 419 | 89 | 104 |
| 100 | | 199 | 490 | 89 | 134 |
| 112 | | 214 | 513 | 89 | 101 |
| 132S | | 259 | 528,5 | 89 | 124 |
| 132M | | 259 | 566,5 | 89 | 124 |

## 5.0 DIMENSIONE (CONTINUA)

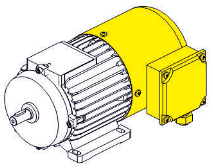
## *5.0 DIMENSIONS (TO BE CONTINUED)*

## 5.0 ABMESSUNGEN (FORTSETZUNG)

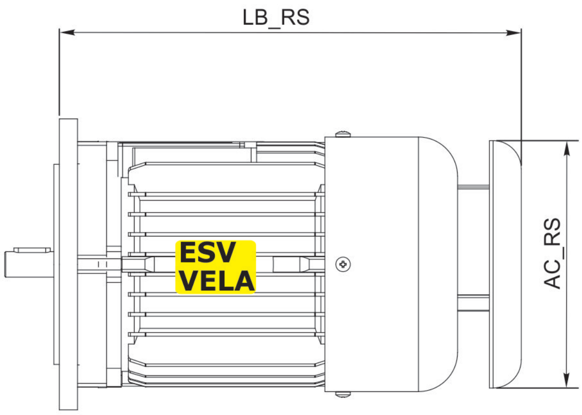
**VF**



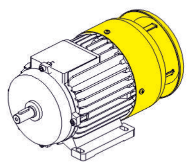

**S**
**C**
**CA**



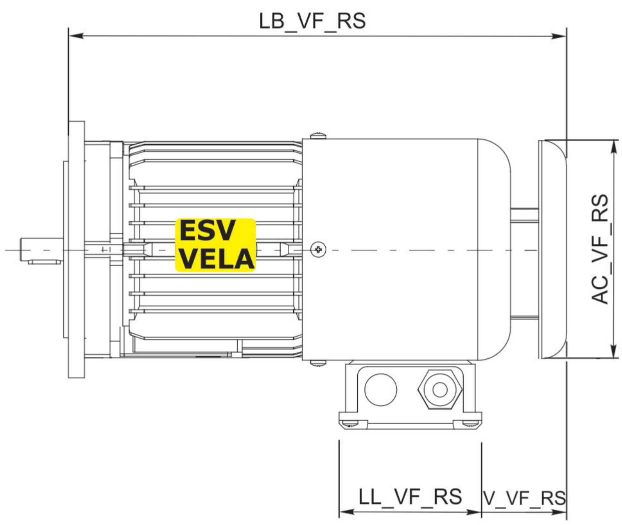
**RS**



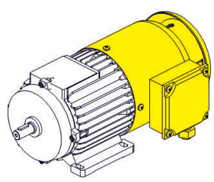

**S**
**C**
**CA**



**VF RS**




**S**
**C**
**CA**



## 5.0 DIMENSIONE (FINE) — *5.0 DIMENSIONS (THE END)* — 5.0 ABMESSUNGEN (ENDE)

| SIZE + LEN | VSAVE | POWERCOOLING | | | | | |
|---|---|---|---|---|---|---|---|
| | | AC_VF | AD_VF | LB_VF | | LL_VF | V_VF |
| | | | | VL2<br>VL2 Y3 | VL2 IE2<br>VL2 IE3 | | |
| 56 | **5 (230VAC_50/60Hz)** | 109 | 97,5 | 224 | - | 89 | 10 |
| 63 | | 122,5 | 105 | 248 | - | 89 | 16 |
| 71 | | 138 | 112 | 276 | - | 89 | 18 |
| 80 | | 156 | 121 | 313 | 313 | 89 | 42 |
| 90S | | 177 | 131,5 | 315 | 315 | 89 | 35 |
| 90L | | 177 | 131,5 | 364 | 364 | 89 | 35 |
| 100 | | 195 | 140,5 | 401,5 | 401,5 | 89 | 59 |
| 112 | | 220 | 153 | 435 | 435 | 89 | 56,5 |
| 132S | | 258 | 172 | 502 | 502 | 89 | 89 |
| 132M | | 258 | 172 | 540 | 540 | 89 | 89 |
| 160M | | 310 | 198 | 604 | 650 | 89 | 87 |
| 160L | | 310 | 198 | 649 | 718 | 89 | 87 |
| 71 | **9 (230/400_50_MULT)** | 139 | 112,5 | 340 | - | 89 | 83 |
| 80 | | 156 | 121 | 365 | 365 | 89 | 84,5 |
| 90S | | 177 | 131,5 | 348 | 348 | 89 | 69 |
| 90L | | 177 | 131,5 | 397 | 397 | 89 | 69 |
| 90L1 | | 177 | 131,5 | 440 | - | 89 | 69 |
| 90L2 | | 177 | 131,5 | 440 | - | 89 | 69 |
| 100 | | 195 | 140,5 | 461,5 | 461,5 | 89 | 99 |
| 112 | | 220 | 153 | 482 | 482 | 89 | 66 |
| 132S | | 258 | 172 | 502 | 502 | 89 | 89 |
| 132M | | 258 | 172 | 540 | 540 | 89 | 89 |
| 160M | | 310 | 198 | 604 | 650 | 89 | 87 |
| 160L | | 310 | 198 | 649 | 718 | 89 | 87 |
| 180M | | 356 | 229 | 667 | 706 | 93 | 98 |
| 180L | | 356 | 229 | 703 | 775 | 93 | 98 |
| 200 | | 399 | 250,5 | 788,5 | 789 | 93 | 133 |

| SIZE + LEN | RAINSHIELD | | |
|---|---|---|---|
| | AC_RS | LB_RS | |
| | | VL2 | VL2 IE2<br>VL2 IE3 |
| 56 | 111 | 201 | - |
| 63 | 124 | 233 | - |
| 71 | 136 | 254 | - |
| 80 | 155 | 280 | 285 |
| 90S | 176 | 286 | 282 |
| 90L | 176 | 335 | 331 |
| 100 | 199 | 350 | 355 |
| 112 | 214 | 367 | 380 |
| 132S | 259 | 414 | 426 |
| 132M | 259 | 452 | 463 |

| SIZE + LEN | VSAVE | RAINSHIELD + POWERCOOLING | | | |
|---|---|---|---|---|---|
| | | AC_VF_RS | LB_VF_RS | LL_VF_RS | V_VF_RS |
| 56 | **5 (230VAC_50/60Hz)** | 111 | 252 | 89 | 38 |
| 63 | | 124 | 283 | 89 | 51 |
| 71 | | 136 | 311 | 89 | 53 |
| 80 | | 155 | 348 | 89 | 77 |
| 90S | | 176 | 350 | 89 | 70 |
| 90L | | 176 | 399 | 89 | 70 |
| 100 | | 199 | 436,5 | 89 | 94 |
| 112 | | 214 | 470 | 89 | 91,5 |
| 132S | | 259 | 537 | 89 | 124 |
| 132M | | 259 | 575 | 89 | 124 |
| 71 | **9 (230/400_50_MULT)** | 136 | 375 | 89 | 118 |
| 80 | | 155 | 400 | 89 | 119,5 |
| 90S | | 176 | 383 | 89 | 104 |
| 90L | | 176 | 432 | 89 | 104 |
| 90L1 | | 176 | 475 | 89 | 104 |
| 90L2 | | 176 | 475 | 89 | 104 |
| 100 | | 199 | 496,5 | 89 | 134 |
| 112 | | 214 | 517 | 89 | 101 |
| 132S | | 259 | 537 | 89 | 124 |
| 132M | | 259 | 575 | 89 | 124 |

# ESV SLIM

L'ESV SLIM è il solo azionamento montato su l' ESV serie S.

E' un prodotto da installare in un quadro elettrico perché la semplice scheda senza scatola quindi è IP00.

L'alimentazione è monofase 230V 50/60Hz

E' fornibile a richiesta con uscita relè o, uscita digitale.

*The ESV SLIM is the only drive mounted on the ESV S series.*

*It's a product to be installed in a control cabinet because the simple board without box is IP00.*

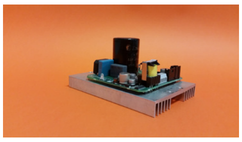
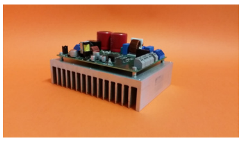
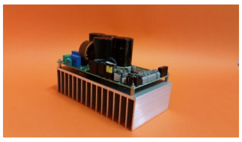
*The power supply is single-phase 230V 50 / 60Hz.*

*It is available on request with relay output or, digital output.*

Der ESV SLIM ist der einzige auf der ESV S-Serie montierte Frequenzumrichter. Es ist ein Produkt, das in einem Schaltschrank installiert wird, da das einfache Board ohne Box IP00 ist.

Das Netzteil ist einphasig 230V 50 / 60Hz.

Es ist auf Anfrage mit Relaisausgang oder digitalem Ausgang erhältlich.

| | | |
|---|---|---|
|  SLIM 002 | ESV SLIM 2M 002 | 0,25 kW |
|  SLIM 020 | ESV SLIM 2M 005 | 0,55 kW |
| | ESV SLIM 2M 010 | 0,75 kW |
| | ESV SLIM 2M 015 | 1,1 kW |
| | ESV SLIM 2M 020 | 1,5 kW |
|  SLIM 050 | ESV SLIM 2M 030 | 2,2 kW |
| | ESV SLIM 2M 050 | 4,0 kW |

D

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**Codice Catalogo** / ***Catalogue code*** / **Katalogc Code**

| | STM_mod.CT18 | I | GB | D | 2.0 | |
|---|---|---|---|---|---|---|
| | N°Identificativo<br>*Identification number*<br>Kennummer | Identificativo Lingua - *Language* - Sprache<br>**I** - Italiano - Italian - Italienisch<br>***GB*** - *Inglese - English - Englisch*<br>**D** - Tedesco - German - Deutsch | | | Indice di Revisione<br>*Revision number*<br>Bericht | |

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| **Classificazione**<br>***Classification***<br>**Klasse** | **Definizione Specificante gli elementi di modifica**<br>***Description of the elements changed***<br>**Erklärende Definition der Änderungselemente** | **Simbolo Identificativo**<br>***Symbol***<br>**Identifikationssymbol** |
|---|---|---|
| Chiave<br>*Key*<br>Schlüssel | Uscita e immissione di un prodotto<br>*Product introduction and marketing*<br>Ausgabe und Einführung eines Produkts | ⇄ |
| Importante<br>*Major*<br>Wichtig | Modifica che influenza gli ingombri/stato fornitura/installazione del prodotto<br>*Change affecting product overall dimensions/delivery condition/installation*<br>Änderung, die sich auf die Abmessungen/Lieferzustand/Produktinstallation auswirkt | ▼ |
| *Secondaria*<br>*Minor*<br>*Sekundär* | Modifica che riguarda traduzioni/impaginazioni/inserimento descrizioni<br>*Change to translations/layout/captions*<br>Änderung, die Übersetzungen/den Umbruch/eingefügte Beschreibungen betrifft | — |

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