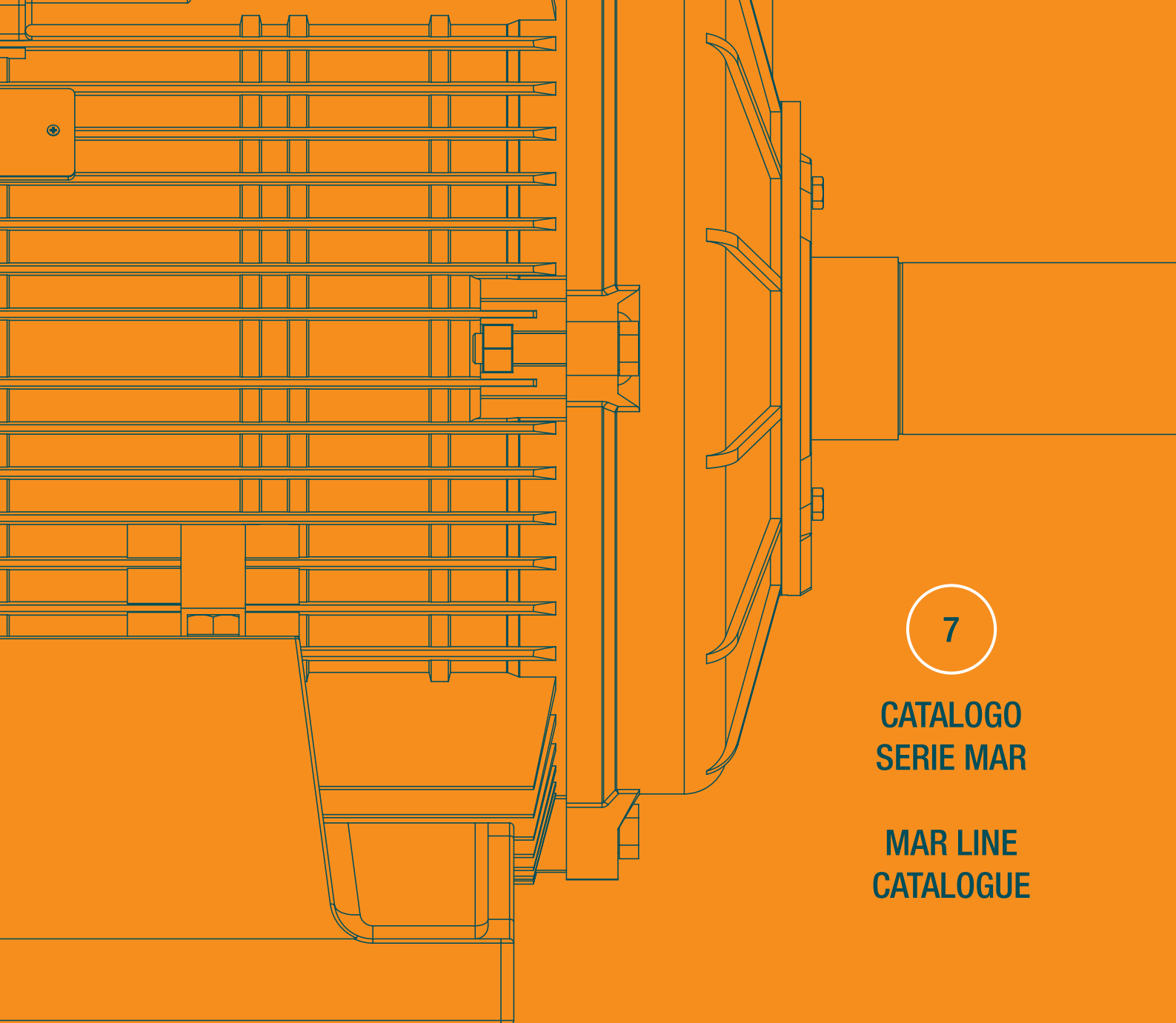




7

**CATALOGO
SERIE MAR**

**MAR LINE
CATALOGUE**

ea ELECTRO ADDA®
il motore che fa la differenza

MOTORI ASINCRONI TRIFASI
SERIE MAR - Grandezze 63÷500
kW 0.05÷1200

ASYNCHRONOUS THREE-PHASE MOTORS
MAR LINE - Sizes 63÷500
kW 0.05÷1200

Certificati

Certificates



THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

IQNet and its partner
CISQ/IMQ-CSQ
hereby certify that the organization

ELECTRO ADDA SPA COSTRUZIONI ELETTROMECCANICHE
VIA NAZIONALE 8 - 23883 BEVERATE (LC)
VIA S. ANNA 840 - 41100 MODENA (MO)

for the following field of activities
Design, manufacturing and service of low voltage electric rotary machines for industrial, naval and civil field, in particular: asynchronous three-phase motors with squirrel cage rotor, brake motors with squirrel cage rotor, single-phase motors with squirrel cage rotor, explosion-proof motors with squirrel cage rotor with ATEX certificate, slip-ring motors, frequency converters, high frequency motors, motors for circular saws, motors for inverter duty

Refer to quality manual for details of applications to ISO 9001:2008 requirements

has implemented and maintains a
Quality Management System
which fulfills the requirements of the following standard
ISO 9001:2008

Issued on: 2012 - 11 - 26 Expiry date: 2015 - 11 - 28

Registration Number: **IT - 34914**



Michael Drechsel
President of IQNET



Ing. Claudio Provetti
President of CISQ

IQNet Partners*
AENOR Spain AFNOR Certification France AIB-Vincent International Belgium ANCE Mexico APCER Portugal CCC Cyprus
CISQ Italy CQC China CQM China CQS Czech Republic Cro Cert Croatia DQS Holding GmbH Germany DS Denmark
ELOT Greece ECAY Brazil FONDONORMA Romania ICONTEC Colombia IMNC Mexico INNORPI Tunisia
Inspecta Certification Finland IRAM Argentina JQA Japan KFI Korea MSZT Hungary Nemko AS Norway NSAI Ireland
PQDC Poland Quality Austria Austria RR Russia SII Israel SIQ Slovenia SRIM QAS International Malaysia SQS Switzerland
SRAC Romania TST St Petersburg Russia TSE Turkey YKOS Serbia
IQNet is represented in the USA by: AFNOR Certification, CISQ, DQS Holding GmbH and NSAI Inc.
* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com



www.mq.it

CERTIFICATO N. **9101.ADDA**
CERTIFICATE N.

SI CERTIFICA CHE IL SISTEMA QUALITÀ DI:
WE HEREBY CERTIFY THAT THE QUALITY SYSTEM OPERATED BY
ELECTRO ADDA SPA COSTRUZIONI ELETTROMECCANICHE
VIA NAZIONALE 8 - 23883 BEVERATE (LC)
UNITÀ OPERATIVE
OPERATIVE UNITS
VIA NAZIONALE 8 - 23883 BEVERATE (LC)
VIA S. ANNA 840 - 41100 MODENA (MO)
È CONFORME ALLA NORMA
IS IN COMPLIANCE WITH THE STANDARD
ISO 9001:2008

PER LE SEGUENTI ATTIVITÀ
FOR THE FOLLOWING ACTIVITIES
Progettazione, produzione ed assistenza di macchine elettriche rotanti di bassa tensione per il settore industriale, navale e civile, in particolare: motori asincroni trifasi con rotore a gabbia, autotrenanti con rotore a gabbia, monofasi con rotore a gabbia, antioderenti con rotore a gabbia certificati ATEX, a rotore avvolto, convertitori di frequenza, motori ad alta frequenza, motori per seghe circolari, motori per inverter. Design, manufacturing and service of low voltage electric rotary machines for industrial, naval and civil field, in particular: asynchronous three-phase motors with squirrel cage rotor, brake motors with squirrel cage rotor, single-phase motors with squirrel cage rotor, explosion-proof motors with squirrel cage rotor with ATEX certificate, slip-ring motors, frequency converters, high frequency motors, motors for circular saws, motors for inverter duty

Refer to quality manual for details of applications to ISO 9001:2008 requirements

IL PRESENTE CERTIFICATO È SOGGETTO AL RISPETTO DEL
REGOLAMENTO PER LA CERTIFICAZIONE DEI SISTEMI DI GESTIONE
THE USE AND THE VALIDITY OF THE CERTIFICATE SHALL SATISFY THE
REQUIREMENTS OF THE RULES FOR CERTIFICATION OF MANAGEMENT SYSTEMS

DATA	PRIMA CERTIFICAZIONE FIRST CERTIFICATION	REVISIONE CORRENTE CURRENT ISSUE	SCADENZA EXPIRY
1997-08-04	2012-11-26	2015-11-28	

Ing. Claudio Provetti
PRESIDENTE
BRIS S.p.A. - VIA SUFFELANO, 42 - 20138 MILANO

ACCREDITA EA-15

Il presente certificato è valido solo se l'azienda ha adottato il sistema di gestione della qualità in conformità con le norme ISO 9001:2008. La validità del certificato è subordinata al rinnovo dell'ispezione di conformità da parte dell'ente di certificazione.

Il presente certificato è valido solo se l'azienda ha adottato il sistema di gestione della qualità in conformità con le norme ISO 9001:2008. La validità del certificato è subordinata al rinnovo dell'ispezione di conformità da parte dell'ente di certificazione.

FEDERAZIONE CISQ

Le caratteristiche tecniche, le dimensioni ed ogni altro dato di questo catalogo non sono impegnative.
ELECTRO ADDA SpA si riserva il diritto di cambiarle in qualsiasi momento e senza preavviso

Technical features, dimensions, as well as any other data in this catalogue are not binding.
ELECTRO ADDA SpA reserves the right to change them at any time without giving any previous notice

MOTORI ASINCRONI TRIFASI
Serie MAR - Grandezze 63÷500
ASYNCHRONOUS THREE-PHASE MOTORS
MAR line - Frame sizes 63÷500
Indice
Index

Nuove normative riguardanti l'efficienza	4
Caratteristiche generali	7
Norme, Unificazioni	8
Forme costruttive	9
Grado di protezione	10
Particolari costruttivi	10
Targhe	11
Raffreddamento	12
Cuscinetti	13
Posizionamento assiale del rotore	13
Cuscinetti per motori standard	14
Carichi ammessi sui cuscinetti	15
Cuscinetti per carichi radiali elevati	20
Costruzione per carichi radiali elevati	21
Intervalli di lubrificazione	23
Scatola morsetti e morsettiera	24
Scatola morsetti ausiliari	27
Gabbia di rotore	28
Isolamento, avvolgimento	28
Potenze e dati tecnici	29
Tensioni di alimentazione e collegamenti	29
Oscillazioni di tensione e frequenza	29
Squilibrio di tensione	30
Declassamenti	31
Servizi	31
Sovraccarichi	31
Avviamenti	32
Rumorosità	32
Vibrazioni	32
Protezioni termiche	33
Scaldiglie anticondensa	33
Tappi scarico condensa	34
Caratteristiche tecniche	35
Alimentazione da inverter	58
Caratteristiche tecniche	59
Dimensioni d'ingombro	84
Motori autoventilati (IC 411)	85
Motori con ventilazione assistita (IC416)	106
Dimensioni d'ingombro IC 416	107
Denominazione componenti	123

<i>New standards concerning efficiency</i>	4
<i>General features</i>	7
<i>Standards and Standardizations</i>	8
<i>Mountings and positions</i>	9
<i>Degree of protection</i>	10
<i>Construction</i>	10
<i>Rating plates</i>	11
<i>Cooling</i>	12
<i>Bearings</i>	13
<i>Axial rotor positioning</i>	13
<i>Bearings for standard motors</i>	14
<i>Permissible load on the bearing</i>	15
<i>Bearings for high radial loads</i>	20
<i>Construction for high radial loads</i>	21
<i>Lubrication intervals</i>	23
<i>Terminal box and block</i>	24
<i>Auxiliary terminal box</i>	27
<i>Rotor cage</i>	28
<i>Insulation, winding</i>	28
<i>Ratings and technical data</i>	29
<i>Supply voltage and connections</i>	29
<i>Voltage and frequency variations</i>	29
<i>Unbalance voltage</i>	30
<i>Deratings</i>	31
<i>Duties</i>	31
<i>Overloads</i>	31
<i>Starting</i>	31
<i>Noise</i>	32
<i>Vibrations</i>	32
<i>Thermal protections</i>	32
<i>Anticondensation heaters</i>	33
<i>Condensation drainage plugs</i>	33
<i>Technical features</i>	34
<i>Inverter supply</i>	58
<i>Technical features</i>	59
<i>Overall dimensions</i>	84
<i>Self ventilating motors (IC411)</i>	85
<i>Motors with assisted ventilation (IC416)</i>	106
<i>Overall dimensions IC416</i>	107
<i>Name of components</i>	123

Nuove normative riguardanti l'efficienza

La Commissione IEC ha introdotto due nuove normative riguardanti l'efficienza energetica dei motori:

- IEC 60034-2-1 che specifica i criteri che definiscono i metodi di prova relativi al calcolo dell'efficienza
- IEC 60034-30 che definisce le nuove classi di efficienza dei motori.

IEC 60034-2-1; 2007

Il nuovo standard IEC 60034-2-1, entrato in vigore a settembre 2007, introduce nuove regole relative ai metodi di prova da utilizzare per la determinazione delle perdite e dell'efficienza.

Ci sono due modalità di determinazione dell'efficienza: il metodo diretto ed il metodo indiretto. Per il metodo indiretto la nuova norma specifica i seguenti parametri:

- la temperatura di riferimento
- tre opzioni per la determinazione delle perdite di carico supplementari: misurazione, stima e calcolo matematico.

Il nuovo standard Electro Adda Spa utilizza il metodo indiretto di calcolo, e le perdite di carico supplementari determinate dalla misurazione.

I valori di efficienza derivati sono diversi da quelli risultanti dal precedente standard di prova IEC 60034-2-1996. E' da notare che i valori di efficienza sono comparabili solo se misurati con lo stesso metodo.

La documentazione del motore deve indicare il metodo utilizzato.

I valori di rendimento nelle pagine dei dati tecnici di questo catalogo, sono dati secondo entrambe i metodi di calcolo vecchio e nuovo.

Di seguito sono mostrate le differenze tra vecchio e nuovo standard.

Vecchio metodo di prova standard IEC 60034-2-1996:

Metodo diretto

Metodo indiretto:

- PLL (perdite addizionali) stimato al 0.5 % della potenza in ingresso a carico nominale.
- Le perdite nello statore e nel rotore sono determinate a 95°C.

Nuovo metodo di prova standard IEC 60034-2-1-2007:

Metodo diretto

Metodo indiretto:

- Misurazione: PLL calcolato da prove di carico;
- Stima: PLL dal 2,5% al 1,0% di potenza in ingresso a carico nominale compresa tra 0,1 kW e 1000 kW;
- Matematica: metodo alternativo indiretto per il calcolo matematico del PLL. Le perdite nello statore e nel rotore sono determinate a 25°C + temperatura reale misurata.

New standards concerning efficiency

The IEC Commission introduced two new standards concerning energy efficient motors.

- IEC/EN 60034-2-1 specifies new rules concerning efficiency testing methods;
- IEC 60034-30 defines new efficiency classes for motors.

IEC/EN 60034-2-1; 2007

The new standard IEC/EN 60034-2-1, which came into force September 2007, introduces new rules concerning the testing methods to be used for determining losses and efficiency.

It offers two ways of determining the efficiency; direct method and indirect method. The new standard specifies following parameters for determining the efficiency according to indirect method:

- reference temperature
- three options for determining additional load losses: measurement, estimation and mathematical.

The new Electro Adda SpA standard uses the indirect calculation method, additional load losses are determined from measuring.

The resulting efficiency values differ from those obtained under the previous IEC 60034-2-1996 testing standard. It must be noted that efficiency values are only comparable if they are measured using the same method.

The motor documentation must state which method is used.

The efficiency values on the technical data pages in this catalogue are given according to both new and old calculation methods.

The table below shows the differences between old and new standard.

Old efficiency testing standard EN/IEC 60034-2-1996

Direct method

Indirect method:

- PLL (= additional losses) estimated at 0.5 % of input power at rated load.
- Winding losses in stator and rotor determined at 95°C.

New efficiency testing standard IEC/EN 60034-2-1-2007

Direct method

Indirect method:

- Measurement; PLL calculated from load tests
- Estimation; PLL at 2.5% - 1.0% of input power at rated load between 0.1 kW and 1000 kW
- Mathematical calculation; alternative indirect method with mathematical calculation of PLL. Winding losses in stator and rotor determined at 25°C + actual measured temperature.

IEC 60034-30; 2008

La norma IEC 60034-30 ottobre 2008 definisce tre classi di efficienza IE (International Efficiency) per motori asincroni trifasi a gabbia e singola velocità.

- **IE1 = Efficienza standard** (livelli di efficienza più o meno equivalente a EFF2 in Europa al giorno d'oggi)
- **IE2 = Alta efficienza** (livelli di efficienza più o meno equivalente a EFF1 in Europa oggi e identico a EAct in USA per 60 Hz)
- **IE3 = Efficienza Premium** (nuova classe di efficienza in Europa oggi e identico a "NEMA Premium" negli Stati Uniti per 60 Hz)

La norma IEC 60034-30 copre quasi tutti i tipi di motori (standard, zona pericolosa, marina, autofrenanti):

- Singole velocità, trifase, 50 e 60 Hz
- 2, 4 o 6 poli
- Potenza nominale in uscita da 0.75 a 375 kW
- Tensione nominale Un fino a 1000 V
- Tipo di servizio S1 (funzionamento continuo) o S3 (servizio intermittente periodico), con un fattore nominale di intermittenza dell'80% o superiore In grado di funzionare direttamente in linea

I seguenti motori sono esclusi dalla IEC 60034-30:

- Motori per il funzionamento con convertitori
- Motori integrati in una macchina (per es. pompe, ventilatori o compressori) che non possono essere provati separatamente da essa.

Valori limite di efficienza IEC 60034-30 standard ottobre 2008 sulla base di IEC 60034-2-1; 2007 standard – **Funzionamento a 50 Hz**

IEC 60034-30; 2008

IEC 60034-30: October 2008 defines three IE (International Efficiency) efficiency classes of single speed, three phase, cage induction motors.

- **IE1 = Standard efficiency** (efficiency levels roughly equivalent to EFF2 in Europe nowadays)
- **IE2 = High efficiency** (efficiency levels roughly equivalent to EFF1 in Europe nowadays and identical to EAct in USA for 60 Hz)
- **IE3 = Premium efficiency** (new efficiency class in Europe nowadays and identical to "NEMA Premium" in the USA for 60Hz)

IEC 60034-30 covers almost all motors (for example standard, hazardous area, marine, brake motors):

- Single-speed, three-phase, 50 Hz and 60 Hz
- 2, 4 or 6-pole
- Rated output from 0.75 to 375 kW
- Rated voltage UN up to 1000 V
- Duty type S1 (continuous duty) or S3 (intermittent periodic duty) with a rated cyclic duration factor of 80% or higher capable of operating direct online

Following motors are excluded from IEC 60034-30:

- Motors made solely for converter operation
- Motors completely integrated into a machine (for example, pump, fan and compressor) that cannot be tested separately from the machine

Efficiency limit values acc. to IEC 60034-30; October 2008 standard; based on IEC 60034-2-1; 2007 standard - **50 Hz mains supply frequency**

Pot. nominale Rated power kW	Efficienza standard (IE1) Standard Efficiency (IE1) N. poli / Number of poles			Alta Efficienza (IE2) High Efficiency (IE2) N. poli / Number of poles			Efficienza Premium (IE3) Premium Efficiency (IE3) N. poli / Number of poles		
	2	4	6	2	4	6	2	4	6
0.75	72.1	72.1	70	77.4	79.6	75.9	80.7	82.5	78.9
1.1	75	75	72.9	79.6	81.4	78.1	82.7	84.1	81
1.5	77.2	77.2	75.2	81.3	82.8	79.8	84.2	85.3	82.5
2.2	79.7	79.7	77.7	83.2	84.3	81.8	85.9	86.7	84.3
3	81.5	81.5	79.7	84.6	85.5	83.3	87.1	87.7	85.6
4	83.1	83.1	81.4	85.8	86.6	84.6	88.1	88.6	86.8
5.5	84.7	84.7	83.1	87	87.7	86	89.2	89.6	88
7.5	86	86	84.7	88.1	88.7	87.2	90.1	90.4	89.1
11	87.6	87.6	86.4	89.4	89.8	88.7	91.2	91.4	90.3
15	88.7	88.7	87.7	90.3	90.6	89.7	91.9	92.1	91.2
18.5	89.3	89.3	88.6	90.9	91.2	90.4	92.4	92.6	91.7
22	89.9	89.9	89.2	91.3	91.6	90.9	92.7	93	92.2
30	90.7	90.7	90.2	92	92.3	91.7	93.3	93.6	92.9
37	91.2	91.2	90.8	92.5	92.7	92.2	93.7	93.9	93.3
45	91.7	91.7	91.4	92.9	93.1	92.7	94	94.2	93.7
55	92.1	92.1	91.9	93.2	93.5	93.1	94.3	94.6	94.1
75	92.7	92.7	92.6	93.8	94	93.7	94.7	95	94.6
90	93	93	92.9	94.1	94.2	94	95	95.2	94.9
110	93.3	93.3	93.3	94.3	94.5	94.3	95.2	95.4	95.1
132	93.5	93.5	93.5	94.6	94.7	94.6	95.4	95.6	95.4
160	93.8	93.8	93.8	94.8	94.9	94.8	95.6	95.8	95.6
200-375	94	94	94	95	95.1	95	95.8	96	95.8

Valori limite di efficienza IEC 60034-30 standard ottobre 2008 sulla base di IEC 60034-2-1; 2007 standard – **Funzionamento a 60 Hz**

Efficiency limit values acc. to IEC 60034-30; October 2008 standard; based on IEC 60034-2-1; 2007 standard - 60 Hz mains supply frequency

Pot. nominale Rated power kW	Efficienza standard (IE1) Standard Efficiency (IE1) N. poli / Number of poles			Alta Efficienza (IE2) High Efficiency (IE2) N. poli / Number of poles			Efficienza Premium (IE3) Premium Efficiency (IE3) N. poli / Number of poles		
	2	4	6	2	4	6	2	4	6
0.75	77	78	73	75.5	82.5	80	77.0	85.5	82.5
1.1	78.5	79	75	82.5	84	85.5	84	86.5	87.5
1.5	81	81.5	77	84	84	86.5	85.5	86.5	88.5
2.2	81.5	83	78.5	85.5	87.5	87.5	86.5	89.5	89.5
3.7	84.5	85	83.5	87.5	87.5	87.5	88.5	89.5	89.5
5.5	86	87	85	88.5	89.5	89.5	89.5	91.7	91
7.5	87.5	87.5	86	89.5	89.5	89.5	90.2	91.7	91
11	87.5	88.5	89	90.2	91	90.2	91	92.4	91.7
15	88.5	89.5	89.5	90.2	91	90.2	91	93	91.7
18.5	89.5	90.5	90.2	91	92.4	91.7	91.7	93.6	93
22	89.5	91	91	91	92.4	91.7	91.7	93.6	93
30	90.2	91.7	91.7	91.7	93	93	92.4	94.1	94.1
37	91.5	92.4	91.7	92.4	93	93	93	94.5	94.1
45	91.7	93	91.7	93	93.6	93.6	93.6	95	94.5
55	92.4	93	92.1	93	94.1	93.6	93.6	95.4	94.5
75	93	93.2	93	93.6	94.5	94.1	94.1	95.4	95
90	93	93.2	93	94.5	94.5	94.1	95	95.4	95
110	93	93.5	94.1	94.5	95	95	95	95.8	95.8
150	94.1	94.5	94.1	95	95	95	95.4	96.2	95.8
185 - 375	94.1	94.5	94.1	95.4	95.4	95	95.8	96.2	95.8

I livelli di rendimento definiti dalla norma IEC 60034-30 sono basati sui metodi di prova specificati nella IEC 60034-2-1:2007. Rispetto alle vecchie classi di efficienza, secondo l'accordo CEMEP, il campo di applicazione è stato esteso

Efficiency levels defined in IEC 60034-30 are based on tests methods specified in IEC 60034-2-1: 2007. Compared to old efficiency classes acc. to CEMEP agreement the scope been expanded

REGOLAMENTO (CE) N.640/2009 DELLA COMMISSIONE del 22 luglio 2009

Il regolamento N640/2009 prescrive:

A) a partire dal 16 giugno 2011 i motori devono avere come minimo un livello di efficienza IE2, quale definito all'allegato I, punto

B) a partire dal 1 o gennaio 2015:

i) i motori con una potenza nominale compresa tra 7,5 e 375 kW devono avere come minimo il livello di efficienza IE3, oppure il livello di efficienza IE2, e devono essere muniti di variatore di velocità;

C) a partire dal 1 o gennaio 2017: i) tutti i motori con una potenza nominale compresa tra 0,75 e 375 kW devono avere come minimo il livello di efficienza IE3, , oppure il livello di efficienza IE2, e devono essere muniti di variatore di velocità.

Tale regolamento si applica a:

- un motore elettrico a induzione a gabbia, monovelocity e trifase, con una frequenza di 50 Hz o 50-60 Hz
- da 2 a 6 poli,
- una tensione nominale (UN) massima di 1 000 V,
- una potenza nominale (PN) compresa tra 0,75 kW e 375 kW,
- caratteristiche basate su un funzionamento in continuo;

REGULATION (EC) No. 640/2009 OF THE COMMISSION of July 22, 2009

The regulation no. 640/2009 provides:

A) as from June 16, 2011, motors shall have at least an IE2 efficiency level , as defined in Annex I, point

B) as from January 1, 2015:

i) motors with a rated output between 7,5 and 375 kW must have at least the IE3 efficiency level, or the IE2 efficiency level, and must be equipped with a speed variator;

C) as from January 1, 2017 : i) all motors with a rated output between 0.75 and 375 kW must have at least the IE3 efficiency level , or the IE2 efficiency level , and must be equipped with a speed variator .

This Regulation shall apply to:

- an induction electric motor with cage rotor, single-speed and three-phase with a frequency of 50 Hz or 50-60 Hz
- from 2 to 6 poles,
- a maximum rated voltage (UN) of 1000 V ,
- rated nominal power (PN) between 0,75 kW and 375 kW ,
- features based on a continuous operation;

Caratteristiche generali

Motori ad alta efficienza

I motori della serie MAR con altezza d'asse da 63÷500, sono del tipo chiuso, con ventilazione esterna e hanno il rotore a gabbia di scoiattolo.

I motori grandezza 63 ÷ 355LT sono caratterizzati dall' avere la carcassa realizzata in lega leggera di alluminio ad alta resistenza .

I motori grandezza 355L ÷ 500 sono caratterizzati dall' avere la carcassa realizzata in acciaio.

General features

High efficiency motors

MAR line motors frame size 63÷500 are totally enclosed, fan cooled, with squirrel cage rotor.

Motors frame size 63÷355LT are provided with high resistance aluminium light alloy frame .

Motors frame size 355L ÷500 are provided with steel frame).



Tutti i motori serie C sono progettati, realizzati, assemblati e collaudati presso il ns. stabilimento di BEVERATE di BRIVIO - Lecco - ITALY.

All C line motors are designed, manufactured, assembled and tested at our works in BEVERATE di BRIVIO - Lecco - ITALY.

Norme, Unificazioni

I motori serie MAR conformi alle prescrizioni emesse dagli enti di classificazione:
 Registro Italiano Navale
 Lloyds Register of Shipping
 Bureau Veritas
 American Bureau of Shipping
 Det Norske Veritas

I motori serie MAR sono conformi alle seguenti Norme e Direttive:

Standards and standardizations

MAR line motors are in compliance with the prescriptions issued by the following Classification Bodies:
 Registro Italiano Navale
 Lloyds Register of Shipping
 Bureau Veritas
 American Bureau of Shipping
 Det Norske Veritas

C line motors comply with the following Standards and Directives:

CEI	IEC	Titolo		Title
EN 60034-1	60034-1	Caratteristiche nominali e di funzionamento		Rating and performances
EN 60034-2	60034-2	Metodi di determinazione delle perdite e rendimento		Methods for detemining losses and efficiency
EN 60034-5	60034-5	Classificazione dei gradi di protezione (codice IP)		Classification of the degrees of protection (IP code)
EN 60034-6	60034-6	Metodi di raffreddamento (codice IC)		Methods of cooling (IC code)
EN 60034-7	60034-7	Tipi di costruzione, forme costruttive e posizione scatola morsetti (codice IM)		Types of construction, mounting arrangements and terminal box position (IM code)
EN 60034-8	60034-8	Marcatura dei terminali e senso di rotazione		Terminal markings and direction of rotation
EN 60034-9	60034-9	Limiti di rumore		Noise limits
60034-11	60034-11	Protezioni termiche a bordo macchina		Built-in thermal protections
EN 60034-12	60034-12	Prestazioni elettriche delle macchine elettriche rotanti all'avviamento		Starting performance of rotating electrical machines
EN 60034-14	60034-14	Vibrazioni meccaniche delle macchine rotanti		Mechanical vibrations of rotating machines
IEC 60034-30 Ed. 1		Classe di efficienza di motori asincroni trifase con rotore a gabbia a singola velocità (codice IE)		Efficiency classes of single-speed, three-phase, cage-induction motors (IE code)
EN 50347	60072-1 60072-2	Dimensioni e potenze delle macchine rotanti		Dimensions and outputs for rotating machines
16-8	1293	Marcatura delle apparecchiature elettriche		Marking of electrical devices
IEC TS 60034-25		Guida per il progetto e le prestazioni di motori ca specificatamente progettati per alimentazione da inverter – Specifica tecnica		Guidance for the design and performance of a.c. motors specifically designed for converter supply –Technical specification
IEC TS 60034-18-41		Qualificazione e prove di tipo dei sistemi d'isolamento di tipo I utilizzati nelle macchine rotanti alimentate da inverter-Specifica tecnica		Qualification and type tests for type I electrical insulation systems used in rotating electrical machines fed from voltage converters-Technical specification
UNI ISO 2768/1-2		Tolleranze generali		General tolerances
UNI 321		Estremità d'albero		Shaft end
73/23/EEC		Direttiva bassa tensione		Low voltage directive
89/336/EEC (EMC)		Direttiva compatibilità elettromagnetica		Electromagnetic compatibility directive
2006/42/CE		Direttiva macchine		Machine directive

Le unificazioni UNEL concordano con le norme internazionali IEC, pubblicazione 72, e relativo Emendamento N° 1.

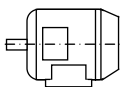
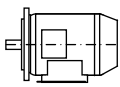
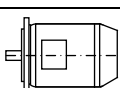
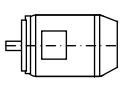
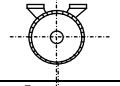
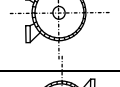
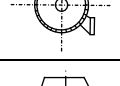
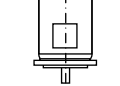
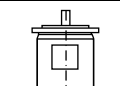
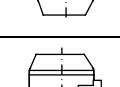
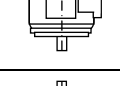
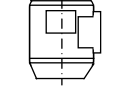
The UNEL standardizations are in accordance with the IEC international standards publication 72 and relative Amendment No. 1.

Forme costruttive

Le forme costruttive secondo IEC 60034-7 relative ai motori standard sono indicate con i codici elencati nella seguente tabella

Mountings and positions

Mountings and positions for standard motors, according to IEC 60034-7, are defined by the codes mentioned in the following table

Figura	NORME DI RIFERIMENTO STANDARDS			ALTEZZE D'ASSE FRAME SIZES			
	CEI 2-14	IEC 60034-7		63+160	180+250	280 + 355LT	355L + 500
		Code I	Code II				
	B3	IM B3	IM 1001	Di serie Standard			
	B3 / B5	IM B35	IM 2001	Di serie Standard			
	B5	IM B5	IM 3001	Di serie Standard	Di serie Standard	A richiesta Upon request	A richiesta Upon request
	B14	IM B14	IM 3601	Di serie Standard	-----	-----	-----
	B8	IM B8	IM 1071	Di serie Standard	A richiesta Upon request	A richiesta Upon request	-----
	B 6	IM B6	IM 1051	Di serie Standard	A richiesta Upon request	A richiesta Upon request	-----
	B7	IM B7	IM 1061	Di serie Standard	A richiesta Upon request	A richiesta Upon request	-----
	V1	IM V1	IM 3011	Di serie Standard			
	V3	IM V3	IM 3031	Di serie Standard	Di serie Standard	A richiesta Upon request	-----
	V5	IM V5	IM 1011	Di serie Standard	A richiesta Upon request	A richiesta Upon request	-----
	V6	IM V6	IM 1031	Di serie Standard	A richiesta Upon request	A richiesta Upon request	-----
	V1 / V5	IM V15	IIM 2011	Di serie Standard	A richiesta Upon request	A richiesta Upon request	-----

Grado di protezione

I motori serie MAR, in accordo con le Norme IEC 60034-5, hanno i seguenti gradi di protezione:

IP 55 (di serie). Motori chiusi con ventilazione esterna protetti alla penetrazione di polvere e getti d'acqua provenienti da ogni direzione

IP 56 (a richiesta). Motori stagni protetti alla penetrazione della polvere e contro le ondate per funzionamento sopra coperto.

A richiesta i motori possono essere forniti senza ventilazione (IC410). In quest'ultimo caso le caratteristiche, le potenze e i dati tecnici, saranno forniti a richiesta.

La ventola esterna è coperta da una calotta avente grado di protezione IP 20 (cioè è protetta contro l'accesso involontario delle dita).

A richiesta, i motori previsti per l'installazione con asse verticale con albero verso il basso, vengono forniti con il tettuccio di protezione. La scatola morsettiera ha il grado di protezione IP 55 o IP 56.

Particolari costruttivi

I motori serie MAR sono stati progettati e vengono realizzati in modo da assicurare la massima affidabilità e sicurezza d'esercizio.

I motori serie C grandezze 63÷355LT hanno la carcassa realizzata in alluminio.

I motori grandezza 63÷200T hanno gli scudi e le flange realizzate in alluminio, mentre i motori 200÷355LT hanno gli scudi e le flange realizzati in ghisa.

La scatola copri morsettiera, realizzata in alluminio, è posta sopra al motore ed è ruotabile di 90° in 90°.

A richiesta la scatola morsetti può essere posta lateralmente al motore.

La calotta coprimentola è metallica in lamiera o in alluminio.

Le ventole sono realizzate in materiale plastico autoestinguente, in alluminio o in acciaio..

Degrees of protection

MAR line motors, according to IEC 60034-5 Standards, have the following protection degrees

IP 55 (standard) totally enclosed motors, fan cooled, protected against penetration of dust and water splashes coming from any direction

IP 56 (upon request) totally enclosed motors, protected against dust penetration and against sea waves, for use on deck.

Upon request motors can be supplied without fan (IC410). In this case features, outputs and technical data will be supplied upon request.

The external fan is covered by a fan cover with IP 20 protection degree (accidental contact of fingers is avoided).

Upon request, motors for vertical mounting, can be supplied with rain cowl.

The terminal box has IP 55 or IP56 protection degree.

Construction

MAR line motors have been designed and manufactured to guarantee maximum operating reliability and safety.

C line motors frame size 63÷355LT are provided with aluminium frame..

Motors frame size 63÷200T are provided with aluminium shields and flanges while motors frame size 200÷355LT have cast iron shields and flanges.

The terminal box, made in aluminium, is positioned on top of the motor and it can be rotated in step of 90°.

Upon request the terminal box can be positioned on the side of the motor.

The fan cover is in metal, in steel sheet or aluminium.

Fans are made in self-extinguishing plastic, aluminium or steel.

	Grandezza / Frame size				
	63 ÷ 132	160÷ 200T	200÷ 355LT	355÷400	400÷ 500
Carcassa / Frame	Alluminio / Aluminium			Acciaio / Steel	
Scudo LA / Front (DE) shield	Alluminio / Aluminium		Ghisa/ Cast iron	Ghisa/ Cast iron	Acciaio / Steel
Scudo LOA/ Rear (NDE) shield	Alluminio / Aluminium		Ghisa/ Cast iron	Ghisa / Cast iron	Acciaio / Steel
Flangia / Flange	Alluminio / Alluminum	Ghisa/ Cast iron		Ghisa / Cast iron	Acciaio / Steel
Albero / Shaft	Acciaio C43 / Steel C43				
Scatola morsetti/ Teminal box	Alluminio / Aluminium			Acciaio / steel	
Ventola / Fan	Alluminio / Aluminium			Acciaio / steel	

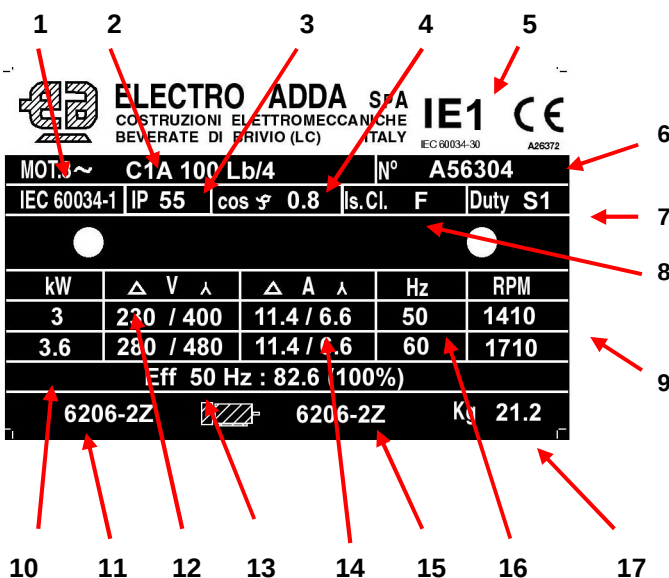
Targhe

Tutti i motori in esecuzione standard sono forniti con targa in alluminio o a richiesta in acciaio inossidabile.

Tutte le targhe, realizzate mediante incisione laser, riportano i dati caratteristici della macchina elettrica in accordo con le norme di riferimento, i tipi di cuscinetti e i dati di ingrassaggio.

Per i motori grandezza 63 ÷ 250 viene posta un'unica targa.

Per i motori serie CA grandezza 280 ÷ 500 viene posta una targa aggiuntiva con i dati relativi alla lubrificazione.



1		2		3		4		5		6		7		8		9	
ELECTRO ADDA S.p.A.		COSTRUZIONI ELETTROMECCANICHE		BEVERATE DI BRIVIO (LC) ITALY		IE1		CE		IEC 60034-30		A26372					
MOT.3~		C1A 100 Lb/4		N°		A56304											
IEC 60034-1		IP 55		cos φ		0.8		Is. Cl.		F		Duty		S1			
kW		Δ V λ		Δ A λ		Hz		RPM									
3		230 / 400		11.4 / 6.6		50		1410									
3.6		280 / 480		11.4 / 6.6		60		1710									
Eff 50 Hz :		82.6		(100%)													
6206-2Z		6206-2Z		Kg		21.2											
10		11		12		13		14		15		16		17			

1	Norma di riferimento	Reference standard
2	Codice motore	Motor code
3	Grado di protezione IP	Protection degrees IP
4	Cosφ	Power factor
5	Classificazione secondo IEC 60034-30	Classification according to IEC 60034-30
6	Numero di matricola	Serial number
7	Servizio	Duty
8	Classe di isolamento	Insulation class
9	Velocità di rotazione	Speed
10	Potenza (kW)	Power (kW)
11	Cuscinetto lato opp accoppiamento	Non drive end bearing
12	Tensione di alimentazione	Voltage
13	Rendimenti a vari carichi	Efficiency
14	Corrente assorbita (A)	Current (A)
15	Cuscinetto lato accoppiamento	Drive end bearing
16	Frequenza	Frequency
17	Peso	Weight
18	Tipo di grasso	Grease type
19	Intervallo di lubrificazione (ore)	Lubrication intervals (hours)
20	Quantitativo grasso cusc. LA	Grease quantity DE bearing
21	Quantitativo grasso cusc. LOA	Grease quantity NDE bearing
22	Velocità di riferimento	Reference speed

A richiesta del cliente possono essere aggiunte targhe speciali riportanti caratteristiche particolari. Per esempio: Item di impianto ecc..

Rating Plates

All motors in standard execution are supplied with aluminium rating plate or, upon request, with stainless steel rating plate.

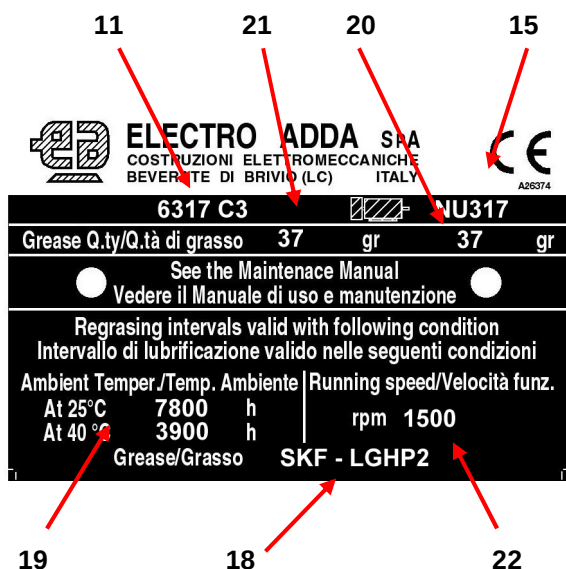
All rating plates, made by laser engraving, contain the distinctive data of the electric machine according to the reference standards, the bearing types and the regreasing data.

Motors frame size 63 ÷ 250 are provided with only one rating plate.

Motors frame size 280 ÷ 500 and are provided with an additional rating plate containing the regreasing data.



ELECTRO ADDA S.p.A.		COSTRUZIONI ELETTROMECCANICHE		BEVERATE DI BRIVIO (LC) ITALY		IE2		CE		IEC 60034-30		A26373	
MOT.3~		C2A 315Mc /4		N°		A 56472							
IEC 60034-1		IP 55		cos φ		0.88		Is. Cl.		F/B		Duty S1	
kW		Δ V λ		Δ A λ		Hz		RPM					
160		400		277		50		1488					
Eff 50Hz		94.9(100%)		94.8(75%)		94(50%)							
6317 C3		NU 317		Kg		848							
11		21		20		15							



ELECTRO ADDA S.p.A.		COSTRUZIONI ELETTROMECCANICHE		BEVERATE DI BRIVIO (LC) ITALY		CE		A26374	
6317 C3		NU317							
Grease Q.ty/Q.tà di grasso		37 gr		37 gr					
See the Maintenance Manual		Vedere il Manuale di uso e manutenzione							
Regreasing intervals valid with following condition		Intervallo di lubrificazione valido nelle seguenti condizioni							
Ambient Temper./Temp. Ambiente		Running speed/Velocità funz.							
At 25°C		7800 h		rpm 1500					
At 40 °C		3900 h							
Grease/Grasso		SKF - LGHP2							
19		18		22					

Upon customer's request, special rating plates mentioning particular features can be added. For example: system item etc.

Raffreddamento

La definizione del metodo di raffreddamento è data dal codice IC (International Cooling), in accordo alla IEC 60034-6.

Codice I (Semplificato)	IC	4	1	1
Disposizione del circuito				
Metodi di circolazione del fluido di raffreddamento primario.				
Metodi di circolazione del fluido di raffreddamento secondario.				

I motori in esecuzione standard sono caratterizzati dal metodo di raffreddamento IC 411, con ventola radiale bidirezionale.

Tutti i motori possono essere forniti con sistema di raffreddamento IC 416 su richiesta (vedere pag. 85)

In tal caso viene installato un opportuno ventilatore nel coprimentello adeguatamente rinforzato, in modo da rendere la ventilazione indipendente dalla velocità di rotazione.

A richiesta possono essere forniti motori con sistema di raffreddamento IC418; in tal caso il motore viene fornito senza ventola ed il raffreddamento è garantito da un flusso d'aria che lambisce il motore stesso. Qualora il flusso d'aria sia sufficientemente elevato è possibile aumentare la potenza erogata dal motore.

Per gli aumenti di potenza consentiti in questa configurazione è necessario interpellare ELECTRO ADDA SpA

Cooling

The designation of cooling method is given by the IC (International Cooling) code, according to IEC60034-6

Code I (Simplified)	IC	4	1	1
Circuit Arrangement				
Method of fluid circulation for the secondary cooling fluid.				
Method of fluid circulation for the primary cooling fluid.				

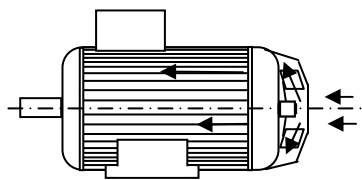
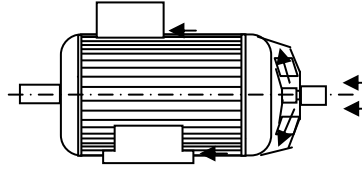
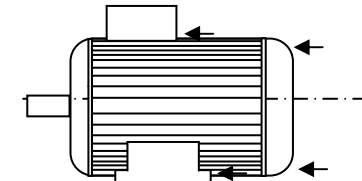
Motors in standard execution are supplied with IC 411 cooling systems, incorporating a bi-directional fan.

All frame sizes can be supplied with cooling system IC 416 on request (see page 85).

In this case a proper fan is fitted inside the fan cover, suitably reinforced, in order to make the ventilation independent of the rotation speed.

On request motors with IC418 cooling systems can be supplied; in such case the motor is supplied without fan and the cooling is ensured by a flow of air that flows around the motor itself. If the airflow is high enough it is possible to increase the power delivered by the motor.

For power increases allowed in this configuration, please ask ELECTRO ADDA SpA

Codice IC IC code	Figura	Descrizione	Description
IC 411 Std		Motore autoventilato Macchina chiusa, alettata esternamente. Ventola esterna montata sull'albero del motore.	Self ventilating motor. Enclosed machine. Externally finned. External shaft-mounted fan.
IC 416 Su richiesta Upon request		Motore con ventilazione assistita. Macchina chiusa, alettata esternamente. Ventilatore indipendente montato sotto coprimentello.	Motor with assisted ventilation. Enclosed machine. Externally finned. Independent external fan mounted inside the fan cover.
IC 418 Su richiesta Upon request		Motore con ventilazione esterna. Macchina chiusa, alettata esternamente. Raffreddamento assicurato da un dispositivo non montato sul motore.	Motor with external ventilation. Enclosed machine. Externally finned. Ventilation provided by air flowing from the driven system.

A richiesta i motori possono essere forniti anche senza ventilazione (IC 410). In quest'ultimo caso le caratteristiche, le potenze e i dati tecnici, saranno forniti a richiesta.

Upon request they can be supplied without fan. (IC410). In this case the features, outputs and technical data will be supplied upon request.

Cuscinetti

Tutti i motori serie MAR hanno i cuscinetti a sfere (radiali od obliqui) od a rulli, lubrificati a grasso.

I motori grandezze 63 ÷ 250 hanno i cuscinetti a sfere stagni prelubrificati. Il grasso contenuto all'interno è sufficiente per tutta la vita del cuscinetto, pertanto non necessitano di rilubrificazione.

I motori grandezze 280 ÷ 500 hanno i cuscinetti a sfere (radiali od obliqui) o a rulli, lubrificati a grasso con ingrassatori su ambo i lati. Per questi cuscinetti è necessario provvedere ad una periodica rilubrificazione secondo i dati indicati nella tabella di pagina 22 e sulla targa del motore, e secondo le modalità indicate nel manuale di uso e manutenzione.

I coperchietti esterni sono di forma e dimensioni tali da consentire un elevato accumulo di grasso esausto (10 - 12 lubrificazioni) e sono dotati di tappo di scarico.

A richiesta i motori, a partire dalla grandezza 160, possono essere forniti con cuscinetto a rulli lato accoppiamento.

Sui motori verticali viene installato superiormente un apposito cuscinetto reggispira in grado di reggere il peso del motore e di un eventuale giunto di accoppiamento.

A richiesta le macchine possono essere predisposte per il sistema di monitoraggio SPM (Shock Pulse Method) su entrambi i cuscinetti.

A richiesta possono essere installati su entrambi i cuscinetti termometri Pt-100 per controllare la loro corretta temperatura.

Tutti i cuscinetti sono previsti per una durata di funzionamento (in base ai dati dei fabbricanti) di almeno 40.000 ore, con accoppiamento diretto.

Bearings

All MAR line motors have ball bearings (radial or oblique) or roller bearings, grease lubricated.

Motors frame size 63 ÷ 250 have sealed prelubricated bearings. The grease contained inside is sufficient for the whole bearing life, therefore they do not need to be relubricated.

Motors frame size 280 ÷ 500 have ball bearings (radial or oblique) or roller bearings, grease lubricated, with lubricators on both sides. These bearings need to be periodically relubricated according to the data given in the table on page 22 and on the motor name plate, and according to the directions given in the operating and maintenance manual.

The shape and dimensions of the bearing outer covers allow a high exhausted grease accumulation (10 - 12 lubrications) and are provided with drain plug.

Upon request, starting from size 160, motors can be supplied with roller bearing on the drive end.

On vertical motors a proper thrust bearing is fitted on top, able to hold the weight of the motor and of a coupling, if available.

Upon request, machines can be prepared for fitting the SPM monitoring system (Shock Pulse Method) on both bearings.

Upon request, Pt-100 thermometers can be fitted on both bearings, in order to check the correct bearing temperature.

The lifetime of bearings (in accordance with supplier data) is at least 40.000 hours, for motors with direct coupling.

Posizionamento assiale del rotore

Il rotore può scorrere assialmente a seconda del tipo di cuscinetto installato e dal posizionamento delle molle di precarico. Nella tabella è indicato quale cuscinetto è

bloccato e la posizione delle molle di precarico.

Axial rotor positioning

The rotor can slide axially depending on the bearing type installed and the position of the preloading springs. The table shows that the bearing is blocked and the position of the preloading springs.

Grandezza Frame size	Disposizione orizzontale Horizontal arrangement			Disposizione verticale Vertical arrangement	
	Cuscinetto bloccato Constrained bearing		Posizionamento molle di precarico Preloading springs position	Cuscinetto bloccato Constrained bearing	Posizionamento molle di precarico Preloading springs position
	Standard	Carichi radiali elevati High radial loads			
63 ÷ 132	-----	-----	LOA – NDE	-----	LOA – NDE
160 ÷ 200	-----	LOA – NDE	LOA – NDE	-----	LOA – NDE
225 ÷ 280	LA – DE	LOA – NDE	-----	LA – DE	-----
315S	LA – DE	LOA – NDE	-----	LA – DE	-----
315M (2 poli)	LA – DE	-----	-----	LOA – NDE	-----
315M (4,6,8 poli)	-----	LOA – NDE	-----	LOA – NDE	-----
355L	LA – DE	LOA – NDE	-----	LOA – NDE	-----
355Lx ÷ 500	LA – DE	LOA – NDE	-----	LOA – NDE	-----

Cuscinetti per motori standard
Bearings for standard motors
Carcassa in alluminio
Aluminium Frame

Motore tipo <i>Motor Type</i>	Poli <i>Poles</i>	Forma costruttiva B3 - <i>Mounting B3</i>	
		Cuscinetto LA <i>DE bearing</i>	Cuscinetto LOA <i>NDE bearing</i>
63	2 ÷ 8	6202 - 2Z	6202 - 2Z
71	2 ÷ 8	6203 - 2Z	6203 - 2Z
80	2 ÷ 8	6204 - 2Z	6204 - 2Z
90S-L	2 ÷ 8	6205 - 2Z	6205 - 2Z
100L	2 ÷ 8	6206 - 2Z	6206 - 2Z
112MT-M	2 ÷ 8	6206 - 2Z	6206 - 2Z
132S-M	2 ÷ 8	6208 - 2Z	6208 - 2Z
160 MT	2 ÷ 8	6309 - 2Z	6308 - 2Z
160 M – L	2 ÷ 8	6309 - 2Z	6309 - 2Z
180MT-LT	2 ÷ 8	6310 - 2Z	6309 - 2Z
180L	2 ÷ 8	6311 - 2Z	6311 - 2Z
200LT	2 ÷ 8	6312 - 2Z	6311 - 2Z
200L	2 ÷ 8	6312 - 2Z	6312 - 2Z
225MT	2	6313 - 2Z	6313 - 2Z
225ST-MT	4 ÷ 8	6313 - 2Z	6313 - 2Z
250MT	2 ÷ 8	6314 - 2Z	6314 - 2Z
280ST-MT	2	6314 - C3	6314 - C3
280ST-MT	4 ÷ 8	6316 - C3	6314 - C3
315 ST	2	6314 - C3	6314 - C3
315 ST	4 ÷ 8	6317 - C3	6314 - C3
315 M	2	6314 - C3	6314 - C3
315 M *	4 ÷ 8	NU 317	6317 - C3
355 LT	2	6317 - C3	6317 - C3
355 LT *	4 ÷ 8	NU 322	6320 - C3

* Le grandezze 315M e 355LT vengono fornite di serie in costruzione carichi radiali elevati

* *Sizes 315M and 355LT are supplied as a standard in high radial loads construction*

Carcassa in acciaio
Steel Frame

Motore tipo <i>Motor type</i>	Poli <i>Poles</i>	Forma costruttiva B3 - <i>Mounting B3</i>		Forma costruttiva V1 - <i>Mounting V1</i>		
		Cuscinetto LA <i>DE bearing</i>	Cuscinetto LOA <i>NDE bearing</i>	Cuscinetto LA <i>DE bearing</i>	Cuscinetto LOA <i>NDE bearing</i>	
					Standard	A richiesta <i>Upon request</i>
355L	2	6317-C3	6317-C3	6317-C3	7317	
355L	4 ÷ 8	6322-C3	6320-C3	6322-C3	6322-C3	7320
355L x	4 ÷ 8	6324-C3	6322-C3	6324-C3	7320	
400L-x	4 ÷ 8	6324-C3	6322-C3	6324-C3	7322	
450L-X	4 ÷ 8	6328-C3	6324-C3	6328-C3	7324	
500L-x	4 ÷ 8	6328-C3	6324-C3	6328-C3	7324	

Carichi ammessi sui cuscinetti

La durata di base teorica a fatica dei cuscinetti è calcolata in accordo con quanto previsto dalla norma ISO R 281-1.

La durata è calcolata nell'ipotesi che i motori siano funzionanti in condizioni ambientali normali, senza vibrazioni anomale, senza carichi assiali o radiali oltre quelli indicati nelle tabelle successive e con temperature di funzionamento dei cuscinetti comprese tra -30 e $+85$ C°.

La durata così calcolata viene definita durata di base (L_{10h}) espressa in ore di funzionamento.

Il 50% dei cuscinetti raggiunge una durata pari a cinque volte la durata di base risultante dal calcolo.

Nelle tabelle seguenti sono indicati i massimi carichi assiali e radiali ammessi per una durata di base (L_{10h}), calcolata con secondo quanto previsto dalle Norme ISO, pari a 20000 e 40000 ore di funzionamento.

Si ricorda che le durate dei cuscinetti sono calcolati su coefficienti di carico dinamico forniti dai costruttori dei cuscinetti.

Tali carichi sono basati sulla durata che si prevede che possa venir raggiunta o superata dal 90% dei cuscinetti di una campionatura sufficientemente grande, costituita da unità apparentemente tutte uguali.

Il 50% dei cuscinetti può raggiungere una durata cinque volte superiore a quella indicata dal calcolo.

Il 10% dei cuscinetti, tuttavia, può non raggiungere la durata di vita calcolata.

Permissible load on the bearings

The theoretical basic fatigue life for bearings is calculated according to the provisions of the ISO R 281-1 Standard.

Life is calculated assuming that motors are running under normal ambient conditions, without abnormal vibrations, without axial or radial loads beyond the ones mentioned in the following tables and with operating temperatures of the bearings ranging between -30 and $+85$ C°.

Life calculated this way is called basic life (L_{10h}) expressed in hours of operation.

50% of bearings reaches a life equal to five times the basic life resulting from the calculation.

The next tables show the maximum permitted axial and radial loads for a basic life (L_{10h}), calculated according to the provisions of the ISO Standards, equal to 20000 and 40000 hours of operation.

It should be noted that the bearing life is calculated on dynamic load coefficients supplied by the bearing manufacturers.

These loads are based on the life that is expected to be reached or exceeded by 90% of the bearings of a sufficiently large sampling, consisting of units apparently all the same.

50% of the bearings can reach a life five times longer than the one indicated by the calculation.

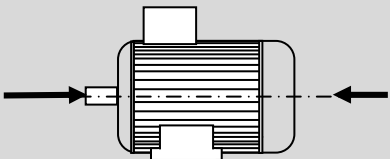
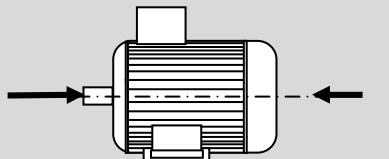
10% of the bearings, however, cannot reach the calculated life

Carichi assiali ammessi

Forma IM-B3 IM-B35 (alimentazione 50 Hz)

Permissible axial loads

Mounting IM-B3 IM-B35 (50 Hz)

Grandezza Frame size	 Forza assiale (in N) – Axial force (in N)								 Forza assiale (in N) – Axial force (in N)							
	2 Poli – Poles		4 Poli – Poles		6 Poli – Poles		8 Poli – Poles		2 Poli – Poles		4 Poli – Poles		6 Poli – Poles		8 Poli – Poles	
	20000 ore hours	40000 ore hours	20000 ore hours	40000 ore hours	20000 ore hours	40000 ore hours	20000 ore hours	40000 ore hours	20000 ore hours	40000 ore hours	20000 ore hours	40000 ore hours	20000 ore hours	40000 ore hours	20000 ore hours	40000 ore hours
63	380	290	510	385	600	440	700	530	235	133	380	250	460	322	560	400
71	460	340	620	470	720	530	840	630	310	190	390	225	500	310	610	430
80	620	470	850	635	1030	760	1200	900	480	320	680	460	880	620	1070	760
90	660	490	890	658.6	1040	769.6	1220	910	530	360	720	480	900	640	1100	780
100	930	690	1200	880	1430	1050	1950	1460	690	450	880	570	1200	820	1470	1020
112	900	670	1170	850	1400	1020	1920	1440	680	430	830	510	1150	780	1400	970
132	1450	1080	1850	1340	2150	1570	2540	1870	1080	690	1260	750	1760	1170	2180	1500
160	2430	1800	3150	2331	3700	2730	4400	3300	2200	1580	2600	1750	3500	2500	4200	3100
180MT	2800	2070	3700	2700	---	---	---	---	2600	1870	2900	1950	---	---	---	---
180L	---	---	3700	2600	3400	2470	4000	2930	---	---	3700	2600	3200	2250	3800	2700
200LT	3700	2700	4100	2850	5700	4200	5200	3850	3700	2700	4100	2850	5700	4200	5200	3850
225MT	4100	3000	4500	3050	6300	4600	7200	5200	4100	3000	4500	3050	6300	4600	7200	5200
250MT	4700	3500	5000	3400	7200	5300	8200	6050	4700	3500	5000	3400	7200	5300	8200	6050
280ST	4600	3400	5500	3550	6800	5000	7600	5550	4600	3400	5500	3550	6800	5000	7600	5550
280MT	4500	3300	5000	3050	6600	4850	7400	5350	4500	3300	5000	3050	6600	4850	7400	5350
315ST	4400	3200	5000	2950	6200	4500	7000	5060	4400	3200	5000	2950	6200	4500	7000	5060
315Ma	4300	3150	4100	2000	6100	3650	10000	7250	4300	3150	4100	2000	6100	3650	10000	7250
315Mb	4200	3050	3200	NP	6200	3800	9700	7050	4200	3050	3200	NP	6200	3800	9700	7050
315Mc	4100	2900	1900	NP	5100	2800	9400	6800	4100	2900	1900	NP	5100	2800	9400	6800
315Md	---	---	---	---	4300	2000	9200	6500	---	---	---	---	4300	2000	9200	6500
355LT	---	---	---	---	4300	2000	9200	6500	---	---	---	---	4300	2000	9200	6500
355L	5100	3600	---	---	---	---	---	---	5100	3600	---	---	---	---	---	---
355L-a	5000	3500	5100	2000	6500	---	12800	9200	5000	3500	5100	3600	6500	3000	12800	9200
355L-b	4800	3300	4800	1500	4800	---	12300	8700	4800	3300	5000	3500	4800	NP	12300	8700
355 L-c	4500	3050	3800	---	3600	---	11700	8200	4500	3050	4800	3300	3600	NP	11700	8200
355Lx-a	4600	3100	3500	---	2000	---	11000	7400	4600	3100	4500	3050	1700	NP	11000	7400
355Lx-b	4300	2850	---	---	1000	---	10300	6800	4300	2850	4600	3100	---	---	10300	6800
355Lx-c	4050	2650	---	---	---	---	---	---	4050	2650	4300	2850	---	---	---	---
400Lx-b							10300	6900			4050	2650			10300	6900
400Lx-c							9500	6000							9500	6000
450Lx-a							9300	5900							9300	5900
450Lx-b							8600	5300							8600	5300
500Lx-a							8400	5000							8400	5000
500Lx-b							7600	4400							7600	4400
500Lx-c							6700	3500							6700	3500

Nel caso di alimentazione a 60 Hz i carichi devono essere ridotti del 10%

Per forme costruttive diverse o per carichi combinati (assiali e radiali) consultare ELECTRO ADDA Spa.

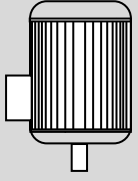
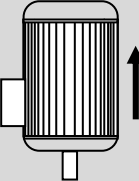
Please ask ELECTRO ADDA Spa for other mounting arrangements or simultaneous radial and axial forces

Carichi assiali ammessi

Forma V1 (alimentazione 50 Hz)

Permissible axial loads

Mounting IM-V1 (50 Hz)

Grandezza Frame size	 Forza assiale (in N) verso il basso Axial force (in N) in downwards direction								 Forza assiale (in N) verso l'alto Axial force (in N) in upwards direction							
	2 Poli – Poles		4 Poli – Poles		6 Poli – Poles		8 Poli – Poles		2 Poli – Poles		4 Poli – Poles		6 Poli – Poles		8 Poli – Poles	
	20000 ore hours	40000 ore hours	20000 ore hours	40000 ore hours	20000 ore hours	40000 ore hours	20000 ore hours	40000 ore hours	20000 ore hours	40000 ore hours	20000 ore hours	20000 ore hours	20000 ore hours	20000 ore hours	20000 ore hours	20000 ore hours
63	225	125	390	250	460	300	550	370	400	300	540	405	610	460	610	460
71	300	180	400	230	470	290	560	360	480	360	650	490	750	570	750	570
80	450	290	690	460	860	590	1050	740	670	510	900	680	1060	810	1060	810
90	500	320	730	490	870	590	1060	740	720	550	970	730	1150	863	1150	850
100	650	380	900	590	1100	740	1400	900	1000	760	1300	1000	1550	1200	1600	1200
112	620	380	860	540	1050	700	1500	1100	1000	770	1300	1000	1550	1200	1600	1200
132	980	600	1320	800	1700	1000	2000	1350	1600	1250	2100	1600	2500	1900	2600	1780
160	2000	1400	2650	1840	3200	2200	4000	2900	2750	2100	3600	2800	4300	3300	4400	3400
180MT	2300	1600	2300	2050	---	---	---	---	2700	2100	3700	2750	---	---	---	---
180L	---	---	3800	2700	3600	2500	4400	3100	---	---	4800	3700	4250	3150	4600	3500
200	3200	2250	4300	3000	5100	3450	5800	4650	3850	2900	---	---	6700	5200	6300	5000
225	3600	2500	4700	3250	5500	3800	6400	4400	5000	3850	6500	5000	7700	6000	8300	6650
250	4100	2850	5100	3500	6200	4100	7200	5050	5600	4300	7400	5700	8800	6800	9800	7600
280ST	3700	2200	5800	3950	7200	5000	8000	5600	5900	4700	9200	7300	10800	8500	9800	9100
280MT	3400	2150	5400	3500	6700	4400	7700	5100	6100	4900	9400	7400	11200	8900	10000	9400
315ST	3000	1800	---	---	6500	4300	7900	5200	6300	5100	---	---	12200	9800	10000	10100
315Ma	2800	1550	5400	3550	6600	4350	8000	5400	6600	5300	10300	8300	12000	9500	12700	10000
315Mb	2400	1200	4900	2850	6200	3800	7600	5000	6800	5600	10800	8700	12000	9800	13000	10200
315Mc	2000	800	4300	2300	5000	2800	6800	4200	7000	5800	11300	9300	12800	10400	13500	10800
315Md	---	---	3300	1350	4200	1900	6200	3500	---	---	11800	9700	13500	11000	13600	11000
355LT	---	---	3300	1350	4200	1900	6200	3500	---	---	11800	9700	13500	11000	13600	11000
355L	12200	8800	---	---	7800	4600	---	---	---	---	---	---	17600	14300	---	---
355L-a	11800	8300	6200	3500	6500	3300	9000	5300	---	---	15000	12000	18500	15000	18700	15100
355L-b	11000	7500	6100	3300	5800	2600	7500	4000	---	---	14900	12300	19000	15600	19400	15800
355L-c	10000	6500	5300	2600	5000	1600	6000	2500	---	---	15500	12600	19800	16300	20300	16500
355Lx-a	10000	6700	21500	16000	22000	15000	22000	14400								
355Lx-b	9000	5600	20500	14500	20500	13800	19500	12000								
355Lx-c	8000	4700	19000	13300	---	---	---	---								
355Lx-d	---	---	17500	11400	---	---	---	---								
400Lx-a	---	---	18500	11800	23000	15300	23500	15500								
400Lx-b	---	---	15800	9000	21000	13800	20500	12200								
400Lx-c	---	---	---	---	19000	11300	---	---								
450Lx-a	---	---	18000	11000	21000	12300	18500	10000								
450Lx-b	---	---	16200	8500	17500	9000	19500	10300								
500Lx-a	---	---	14500	7000	19500	11000	19500	10000								
500Lx-b	---	---	---	---	16000	7500	16000	7000								
500Lx-c	---	---	12800	5300	---	---	12500	3000								

Nel caso di alimentazione a 60 Hz i carichi devono essere ridotti del 10%
Per forme costruttive diverse o per carichi combinati (assiali e radiali) consultare ELECTRO ADDA Spa.

Please ask ELECTRO ADDA Spa for other mounting arrangements or simultaneous radial and axial forces

Carichi radiali ammessi

Forma IM-B3 IM-B35 (alimentazione 50 Hz)

I valori dei carichi radiali sono dati sia per carichi applicati all'estremità dell'albero (X_{max}) che in corrispondenza della battuta sul mozzo dell'albero (X_0).

I carichi radiali applicabili variano linearmente con il variare del punto di applicazione, pertanto per carichi posti ad una distanza X dalla battuta dell'albero (X_0), il carico massimo applicabile è dato dalla seguente espressione:

$$Fra_X = \frac{C_{x0} - C_{xmax}}{X_{max}} \times X + C_{xmax}$$

Dove:

Fra = carico radiale ammesso nel punto X

C_{x0} = carico radiale ammesso nel punto X_0

C_{xmax} = carico radiale ammesso nel punto X_{max}

X_{max} = sporgenza d'albero

X = distanza dal punto di applicazione del carico radiale alla battuta dell'albero

Per verificare che il tiro di cinghia non superi i valori massimi ammessi, si può utilizzare la seguente formula:

$$F = \frac{19100 \times P \times K}{n \times D}$$

In cui

F = Forza radiale in N

P = Potenza trasmessa in kW

n = Velocità in giri/min

D = Diametro della puleggia in metri

K = 2 per pulegge con tenditore

K = 2.25 per pulegge con profilo a "V"

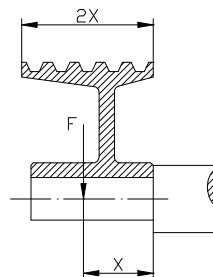
K = 2.5÷3 per cinghie piane senza tenditore, o per servizi pesanti con tutti i tipi di puleggia

Permissible radial loads

Mounting IM-B3 IM-B35 (50 Hz)

Values of the radial loads are given both for loads applied to the shaft extension (X_{max}) and in correspondence of the face on the shaft hub (X_0).

Radial loads that can be applied linearly, change with the change of the application point, therefore for loads placed at a distance X from the shaft face (X_0), the maximum load that can be applied is given by the following expression:



Where:

Fra = permitted radial load at point X

C_{x0} = permitted radial load at point X_0

C_{xmax} = permitted radial load at point X_{max}

X_{max} = shaft extension

X = distance from the application point of the radial load to the shaft face

To verify that the belt pull does not exceed the maximum value allowed the following formula can be used:

In which

F = Newton radial force

P = Power transmitted in kW

n = Number of revs. per minute

D = Pulley diameter in metres

K = 2 for flat pulley with tension roller

K = 2.25 for sheaves with "V" belt

K = 2.5÷3 for flat belts without tension roller, or for heavy duty with any type of pulley

Carichi radiali ammessi - Forma IM B3
Permissible radial loads -Mounting IM B3
Alimentazione a 50 Hz
Supply 50 Hz

Grandezza Frame size	2 poli – Poles				4 Poli – Poles				6 Poli – Poles				8 Poli – Poles			
	20000 ore hours		40000 ore hours		20000 ore hours		40000 ore hours		20000 ore hours		40000 ore hours		20000 ore hours		40000 ore hours	
	X0	Xmax	X0	Xmax	X0	Xmax	X0	Xmax	X0	Xmax	X0	Xmax	X0	Xmax	X0	Xmax
63	450	390	350	300	570	490	450	390	630	540	500	430	770	660	600	520
71	530	450	420	350	690	580	540	460	750	630	590	490	900	770	720	610
80	720	590	560	460	920	750	720	580	1080	880	840	690	1300	1040	1000	820
90	800	640	610	500	1000	810	770	630	1130	920	870	700	1300	1050	1020	830
100	1100	900	870	700	1350	1080	1050	830	1570	1260	1220	1000	1900	1550	1500	1200
112	1100	870	840	680	1300	1050	1000	800	1500	1200	1150	930	1900	1550	1500	1200
132	1800	1400	1400	1100	2100	1690	1600	1300	2300	1900	1800	1430	2800	2250	2150	1700
160	3000	2350	2300	1800	3700	2800	2850	2200	4200	3300	3200	2500	4800	3700	3700	2900
180MT-LT	3500	2800	2700	2220	4300	3400	3350	2700	4800	3800	3600	2900	5500	4400	4300	3400
180L-LT	4000	3400	3100	2700	5000	4000	3900	3200	5600	4200	4200	3200	6000	4500	4700	3500
200	4600	3840	3600	2900	6400	5100	4400	3600	6600	5500	5100	4200	7300	6000	5600	4600
225	5200	4300	4000	3400	6400	5100	5000	4000	7400	6000	5600	4500	8200	6600	6300	5000
250	5900	4851	4600	3700	7100	5800	5400	4400	8200	6700	6300	5100	9200	7600	7100	5800
280	5800	4874	4400	3700	8300	7000	6300	5300	9900	8400	7600	6400	10700	9000	8100	6800
315ST	5400	4573	4100	3400	8000	6700	6100	5000	9400	8000	7100	6000	10000	8400	7500	6300
315M	5300	4600	3900	3300	Vedere costruzione per carichi radiali elevati – See construction for high radial loads											
355 L	6400	5700	4600	4100	13000	11000	9900	8300	15200	13000	11200	9500	14000	12000	10000	8500
355Lx					12500	10500	9000	7700	14900	12800	11000	9500	15500	13300	11300	9700
400	----	----	----	----	11200	10000	7800	6900	13500	12000	9700	8500	14800	13000	10500	9300
450	----	----	----	----	14300	12600	10200	9100	15900	14000	11200	10000	17800	15500	13000	11500
500	----	----	----	----	14000	12300	10000	8900	15700	13800	11100	9700	16100	14000	11000	9650

Alimentazione a 60 Hz
Supply 60 Hz

Grandezza Frame size	2 Poli – Poles				4 Poli – Poles				6 Poli – Poles				8 Poli – Poles			
	20000 ore hours		40000 ore hours		20000 ore hours		40000 ore hours		20000 ore hours		40000 ore hours		20000 ore hours		20000 ore hours	
	X0	Xmax	X0	Xmax	X0	Xmax	X0	Xmax	X0	Xmax	X0	Xmax	X0	Xmax	X0	Xmax
63	450	390	350	300	570	490	450	390	630	540	500	430	770	660	600	520
71	530	450	420	350	690	580	540	460	750	630	590	490	900	770	720	610
80	720	590	560	460	920	750	720	580	1080	880	840	690	1300	1040	1000	820
90	800	640	610	500	1000	810	770	630	1130	920	870	700	1300	1050	1020	830
100	1100	900	870	700	1350	1080	1050	830	1570	1260	1220	1000	1900	1550	1500	1200
112	1100	870	840	680	1300	1050	1000	800	1500	1200	1150	930	1900	1550	1500	1200
132	1800	1400	1400	1100	2100	1690	1600	1300	2300	1900	1800	1430	2800	2250	2150	1700
160	3000	2350	2300	1800	3700	2800	2850	2200	4200	3300	3200	2500	4800	3700	3700	2900
180MT-LT	3500	2800	2700	2220	4300	3400	3350	2700	4800	3800	3600	2900	5500	4400	4300	3400
180L-LT	4000	3400	3100	2700	5000	4000	3900	3200	5600	4200	4200	3200	6000	4500	4700	3500
200	4600	3840	3600	2900	6400	5100	4400	3600	6600	5500	5100	4200	7300	6000	5600	4600
225	5200	4300	4000	3400	6400	5100	5000	4000	7400	6000	5600	4500	8200	6600	6300	5000
250	5900	4851	4600	3700	7100	5800	5400	4400	8200	6700	6300	5100	9200	7600	7100	5800
280	5800	4874	4400	3700	8300	7000	6300	5300	9900	8400	7600	6400	10700	9000	8100	6800
315ST	5400	4573	4100	3400	8000	6700	6100	5000	9400	8000	7100	6000	10000	8400	7500	6300
315M	5300	4600	3900	3300	Vedere costruzione per carichi radiali elevati – See construction for high radial loads											
355 L	6400	5700	4600	4100	13000	11000	9900	8300	15200	13000	11200	9500	14000	12000	10000	8500
355Lx					12500	10500	9000	7700	14900	12800	11000	9500	15500	13300	11300	9700
400	----	----	----	----	11200	10000	7800	6900	13500	12000	9700	8500	14800	13000	10500	9300
450	----	----	----	----	14300	12600	10200	9100	15900	14000	11200	10000	17800	15500	13000	11500
500	----	----	----	----	14000	12300	10000	8900	15700	13800	11100	9700	16100	14000	11000	9650

Cuscinetti per carichi radiali elevati (a richiesta)
Bearings for high radial loads (upon request)
Carcassa in alluminio
Aluminium frame

Motore tipo <i>Motor Type</i>	Poli <i>Poles</i>	Forma costruttiva B3 - <i>Mounting B3</i>	
		Cuscinetto LA <i>DE bearing</i>	Cuscinetto LOA <i>NDE bearing</i>
160 M – L	4 ÷ 8	NU309	6309 - 2Z
180MT-LT	4 ÷ 8	NU310	6309 - 2Z
180L	4 ÷ 8	NU311	6311 - 2Z
200LT	4 ÷ 8	NU312	6311 - 2Z
200L	4 ÷ 8	NU312	6312 - 2Z
225ST-MT	4 ÷ 8	NU313	6313 - 2Z
250MT	4 ÷ 8	NU314	6314 - 2Z
280ST-MT	4 ÷ 8	NU316	6314 - C3
315 ST	4 ÷ 8	NU317	6314 - C3
315 M *	4 ÷ 8	NU 317	6317 - C3
355 LT *	4 ÷ 8	NU 322	6320 - C3

* Le grandezze 315M e 355LT vengono fornite di serie in costruzione carichi radiali elevati

* *Sizes 315M and 355LT are supplied as a standard in high radial loads construction*

Carcassa in acciaio
Steel Frame

Motore tipo <i>Motor Type</i>	Poli <i>Poles</i>	Forma costruttiva B3 - <i>Mounting B3</i>	
		Cuscinetto LA <i>DE bearing</i>	Cuscinetto LOA <i>NDE bearing</i>
355L	2	NU317	6317-C3
355L	4 ÷ 8	NU322	6320-C3
355L x	4 ÷ 8	NU324	6322-C3
400L-x	4 ÷ 8	NU324	6322-C3
450L-X	4 ÷ 8	NU328	6324-C3
500L-x	4 ÷ 8	NU328	6324-C3

Nei diagrammi delle pagine seguenti sono indicati i massimi carichi radiali ammessi per una durata di base (L_{10h}), calcolata con secondo quanto previsto dalle Norme ISO, pari a 20000. con alimentazione a 50 Hz. Nel caso di alimentazione a 60 Hz i carichi devono essere ridotti del 10%

Qualora fossero richiesti carichi o durate calcolate superiori a quelli indicati nei diagrammi si prega di interpellare Electro Adda Spa.

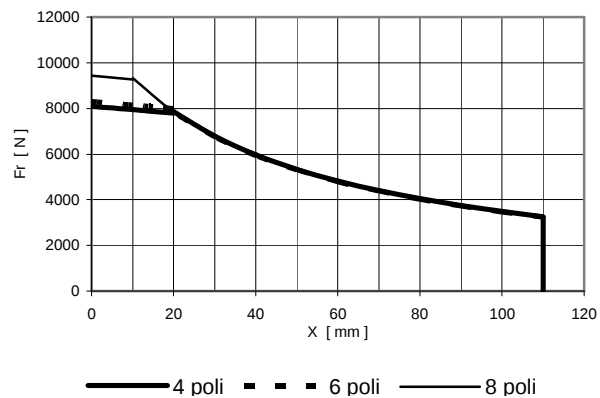
The next tables show the maximum permitted axial and radial loads for a basic life (L_{10h}), calculated according to the provisions of the ISO Standards, equal to 20000.

Please ask Electro Adda Spa in case calculated loads or life higher than the ones mentioned in the tables are required.

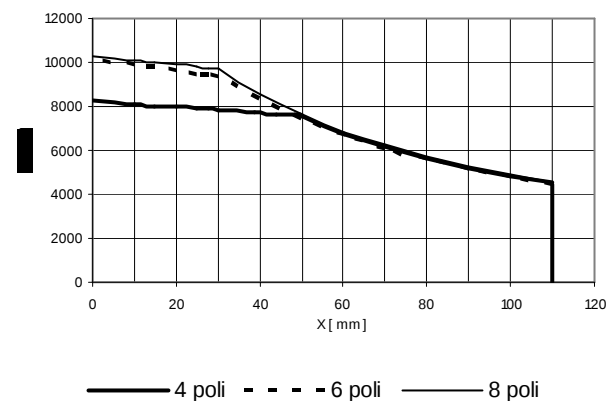
Costruzione per carichi radiali elevati

Construction for high radial loads

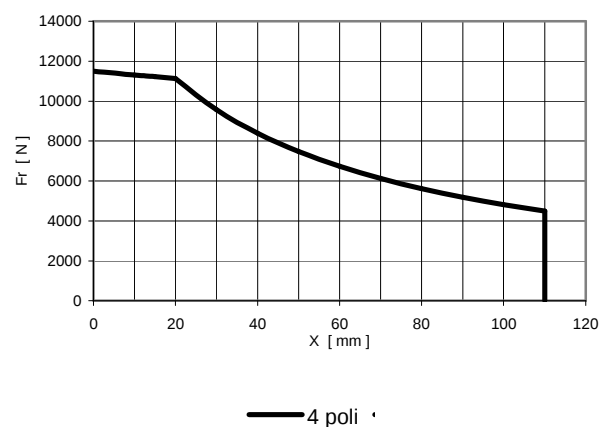
160 M - 160 L



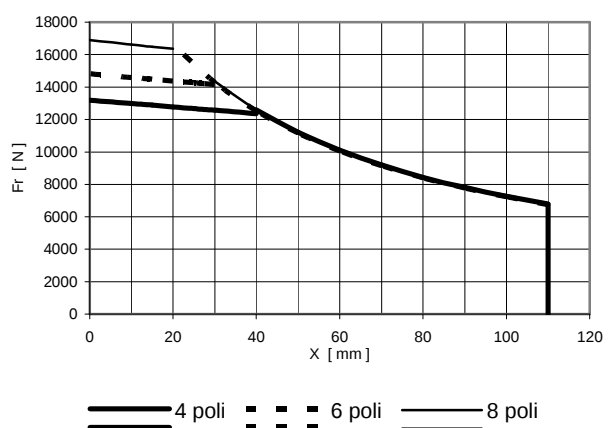
180 MT - 180 LT



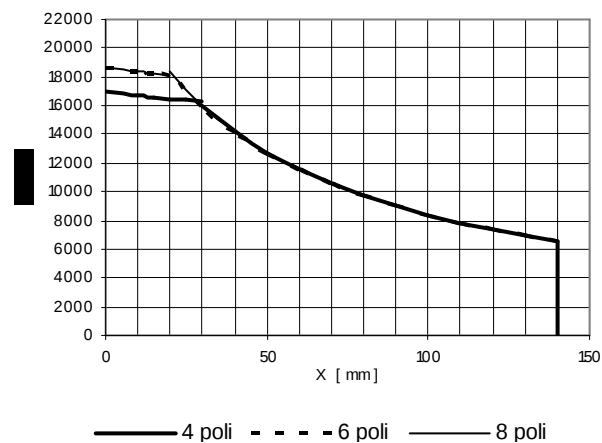
180 L



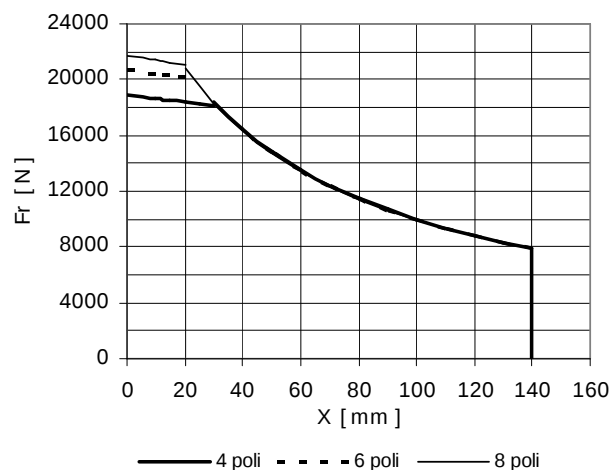
200 L

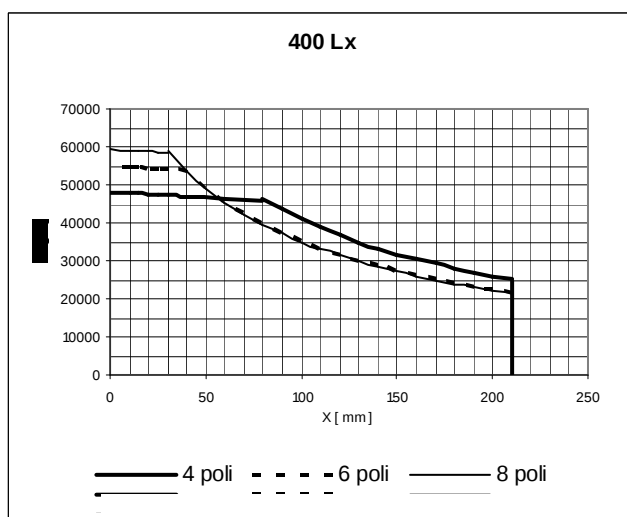
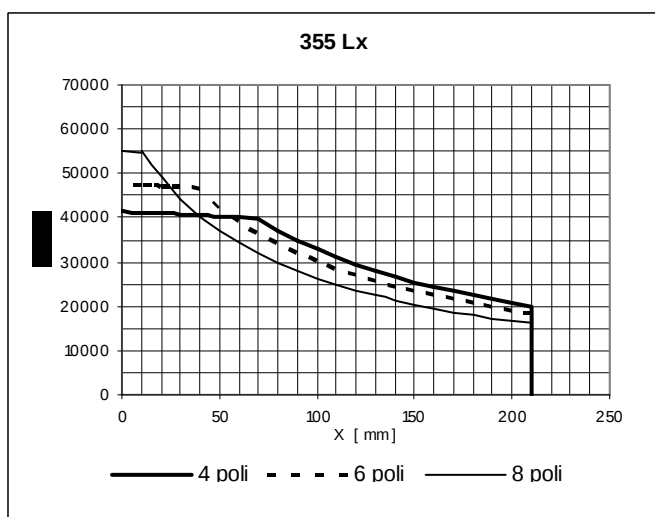
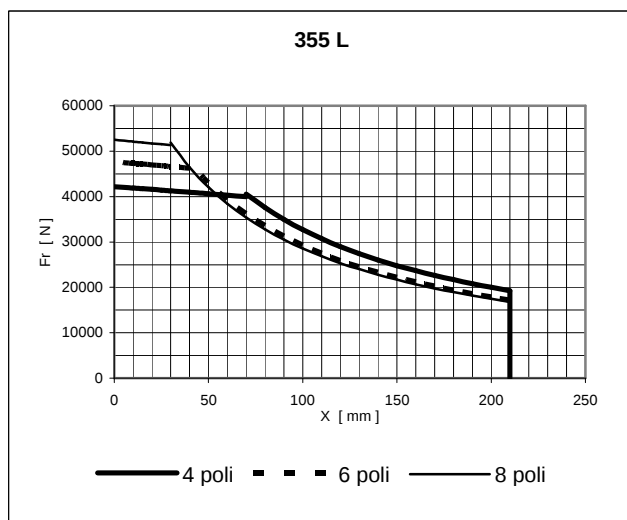
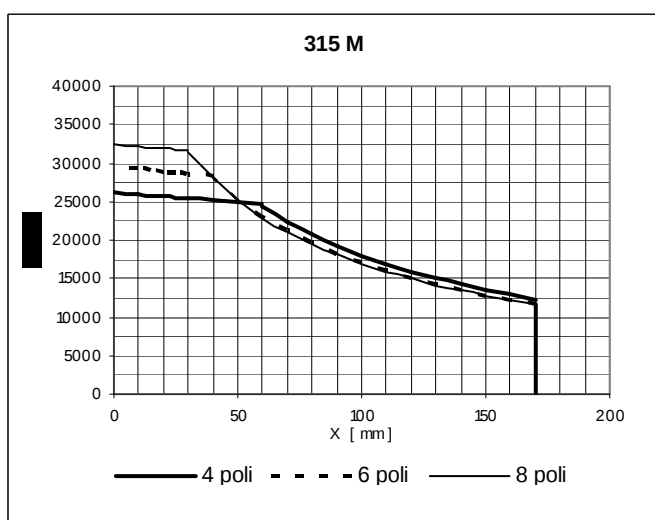
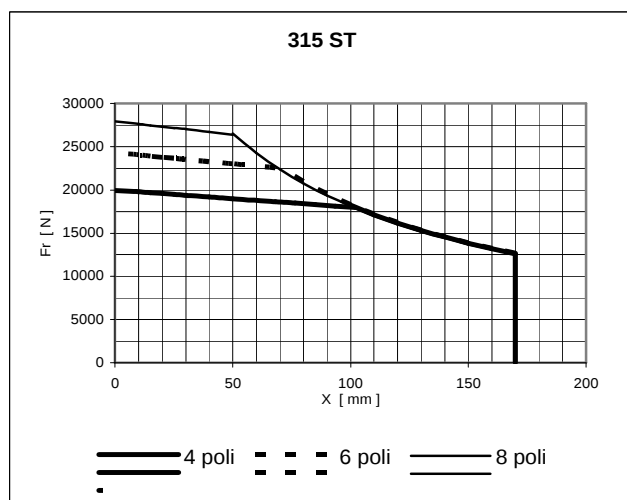
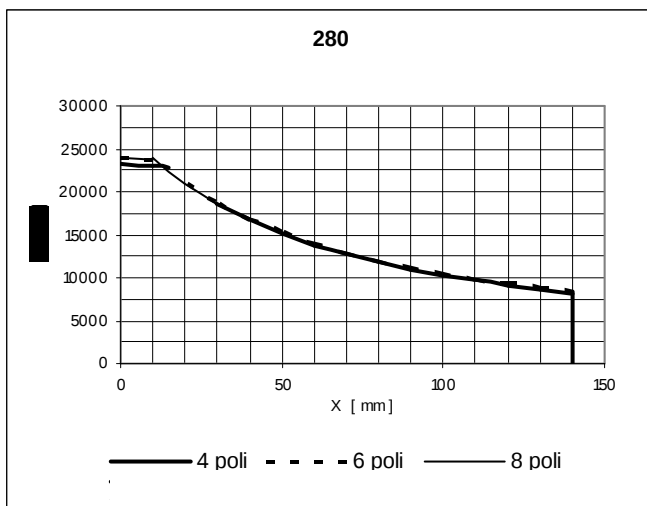


225



250





Intervalli di lubrificazione

Nella tabella sono riportati gli intervalli di lubrificazione (espressi in ore) e le quantità di grasso per la lubrificazione dei cuscinetti.

Si consiglia di utilizzare il grasso SKF LGHP2 o corrispondenti.

Il grasso di lubrificazione, normalmente utilizzato per la lubrificazione dei cuscinetti è idoneo per il funzionamento a temperature comprese tra -30° C e +110°C.

Lubrication intervals

In the following table the lubrication intervals (expressed in hours) and the grease quantity to lubricate bearings are showed.

Recommended grease types are SKF LGHP2 or corresponding types.

Lubrication grease normally used to lubricate bearings, is suitable for operating temperatures between -30° and +110°C.

Tipo Cuscinetto Bearing Type	Dimensioni Dimension d x D x B	50 Hz				60 Hz				Quantità di grasso Grease quantity gr
		2 poli 2 poles	4 poli 4 poles	6 poli 6 poles	8 poli 8 poles	2 poli 2 poles	4 poli 4 poles	6 poli 6 poles	8 poli 8 poles	
		h	h	h	h	h	h	h	h	
6309-C3	45-100-25	3500	6400	8100	9300	2800	5600	7300	8500	13
6310-C3	50-90-27	3300	6200	7900	9100	2600	5500	7200	8400	13
6311-C3	55-120-29	3000	6000	7700	8900	2200	5200	6900	8100	17
6312-C3	60-130-31	2600	5600	7300	8600	1800	4800	6500	7800	20
6313-C3	65-140-33	2400	5400	7200	8500	1600	4600	6400	7700	23
6314-C3	70-150-35	2200	5300	7100	8300	1400	4500	6300	7500	26
6316-C3	80-170-39	2000	5100	6900	8200	1200	4300	6100	7400	30
6317-C3	85-180-41	1900	5000	6800	8100	1000	4200	6000	7300	33
6320-C3	100-215-47	----	4800	6700	8000	----	4000	5900	7200	37
6322-C3	110-240-50	----	4800	6700	8000	----	4000	5800	7200	45
6324-C3	120-260-55	----	3900	5800	7200	----	3000	5000	6300	51
6328-C3	140-300-62	----	3900	5800	7200	----	3000	5000	6300	60
NU309	45-100-25	1600	3000	4000	4500	1200	2700	3600	4500	13
NU310	50-110-27	1500	2900	3800	4400	1100	2500	3400	4000	9
NU311	55-120-29	1400	2900	3700	4400	1000	2500	3400	4000	17
NU312	60-130-31	1300	2800	3600	4300	900	2400	3200	3900	20
NU313	65-140-33	1200	2700	3600	4200	800	2300	3200	3800	23
NU314	70-150-35	1100	2600	3500	4100	700	2200	3100	3700	26
NU316	80-170-39	1000	2500	3400	4100	600	2100	3000	3700	30
NU317	85-180-41	900	2500	3400	4000	500	2100	3000	3600	33
NU320	100-215-47	----	2400	3300	4000	----	2000	2900	3600	37
NU322	110-240-50	----	2300	3200	3900	----	1900	2800	3500	45
NU324	120-260-55	----	2200	3100	3800	----	1800	2700	3400	51
NU328	140-300-62	----	2000	3000	3600	----	1600	2500	3200	60
7317	85-180-41	----	4800	6700	8000	----	4000	5900	7200	37
7320	100-215-47	----	3900	5800	7200	----	3000	5000	6300	51
7322	110-240-50	----	3900	5800	7200	----	3000	5000	6300	60
7324	120-260-55	----	3900	5800	7200	----	3000	4900	6300	72

Gli intervalli di lubrificazione sono riferiti ad una temperatura del cuscinetto di circa 80°C, nel caso di funzionamento a temperature inferiori tali intervalli possono essere aumentati.

Per i motori coin asse verticale, gli intervalli di lubrificazione devono essere dimezzati

Lubrication intervals are referred to a bearing temperature of approx. 80°C, in case of operation at lower temperatures, these intervals can be increased.

For motors with vertical axis, lubrication intervals must be halved.

Scatola morsetti e morsettiera

La morsettiera dei motori grandezza 63÷355 è normalmente a sei morsetti.

Nel caso di motori con collegamento a triangolo è pertanto possibile realizzare (se consentito dalle caratteristiche della macchina comandata) l'avviamento stella-triangolo.

Nella morsettiera dei motori grandezza 400÷500 sono normalmente previsti 3 soli morsetti (uno per ogni fase) ai quali vengono collegati i cavi di alimentazione.

In tal caso il collegamento degli avvolgimenti è realizzato all'interno della macchina stessa e non è accessibile.

A richiesta, anche i motori grandezza 400÷500 possono essere realizzate con 6 morsetti in modo da avere tutti i terminali degli avvolgimenti accessibili

La basetta portamorsetti è di materiale antimuffa non igroscopico.

La scatola morsettiera ha il grado di protezione IP 55 o IP 56, purché il collegamento dei cavi di alimentazione sia realizzato in modo adeguato.

Per la grandezza 63÷355 la scatola morsettiera è posta sulla parte superiore del motore e l'uscita cavi può essere realizzata su ogni lato della scatola (da precisare in sede d'ordine).

A richiesta, se è prevista l'uscita dei cavi verso il basso, è possibile fornire un opportuno condotto sagomato per facilitare l'ingresso dei cavi.

A richiesta, è anche possibile posizionare la scatola morsetti a destra o a sinistra del motore guardando dal lato albero.

Terminal box and block

The terminal block for motors frame size 63÷355 is normally provided with six terminals.

Therefore, in case of motors with delta connection, it is possible to perform the start-delta starting (if this is allowed by the features of the driven machine).

The terminal block for motors frame size 400÷500 is normally provided with 3 terminals only (one each phase), to which the supply cables are connected.

In this case the winding connection is made inside the machine and it is not accessible.

Upon request, motors frame size 400÷500 can be equipped with 6 terminals in order to have all winding terminals accessible.

The terminal block is made with non-hygroscopic and anti-mold material.

Terminal box has IP 55 or IP56 protection degree, provided that the supply cable connections are properly made.

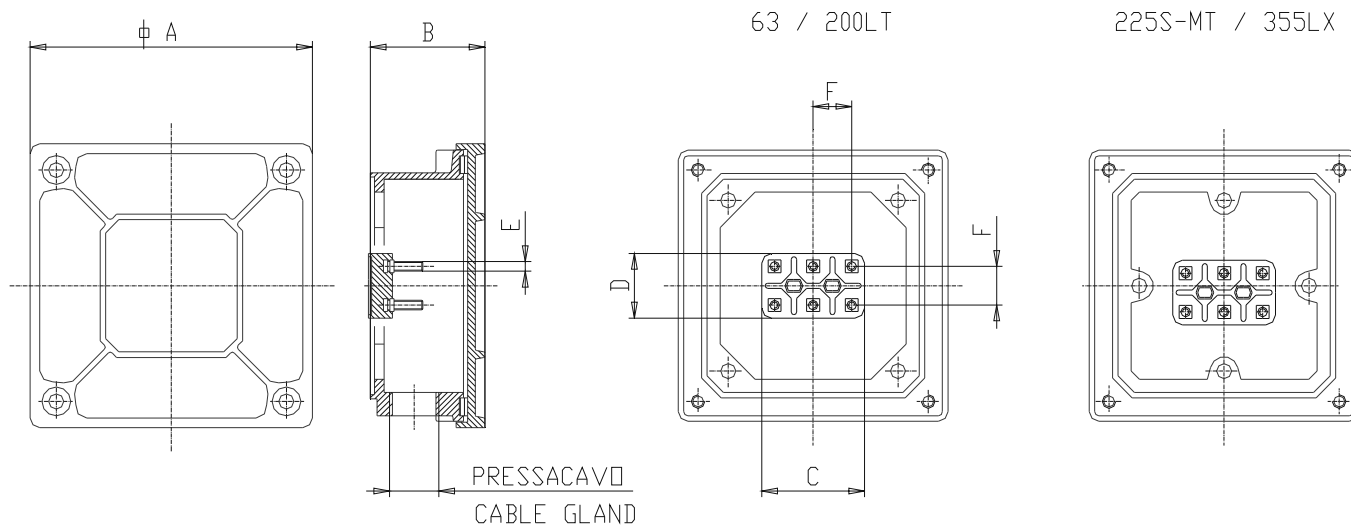
For motors frame size 63÷355 the terminal box is positioned on the top of the motors and the cable exit can be made in each side of the box (to be specified when placing the order).

Upon request, if the cable exit is provided downwards, it is possible to supply a proper shaped conduit to make the cable entry easy.

Upon request the terminal box can also be positioned on the right or on the left of the motor seen from the shaft.

Dimensioni scatola in alluminio e morsetteria

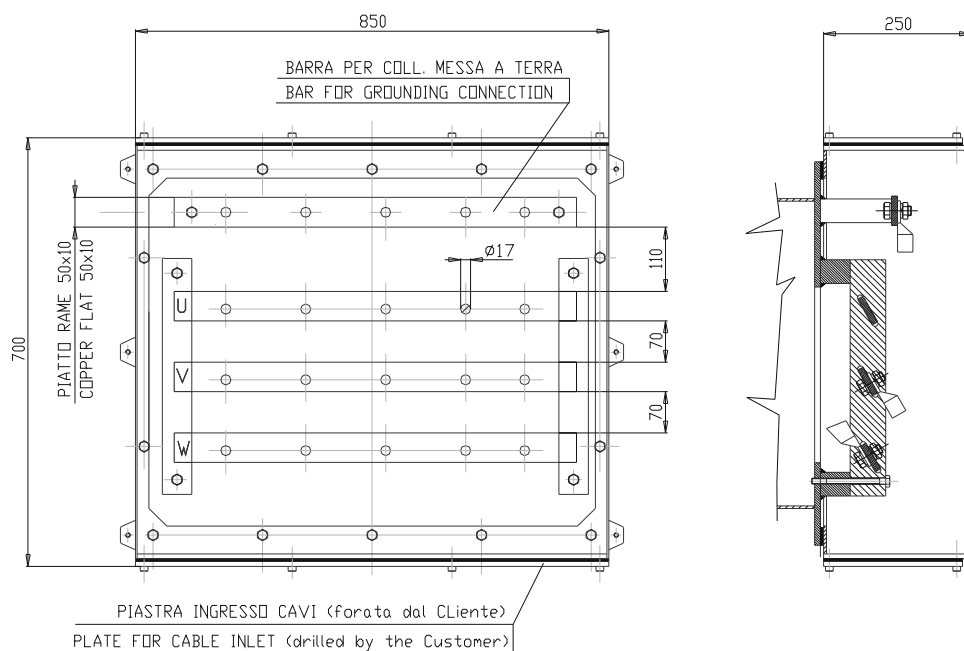
Sizes of aluminium terminal box and block



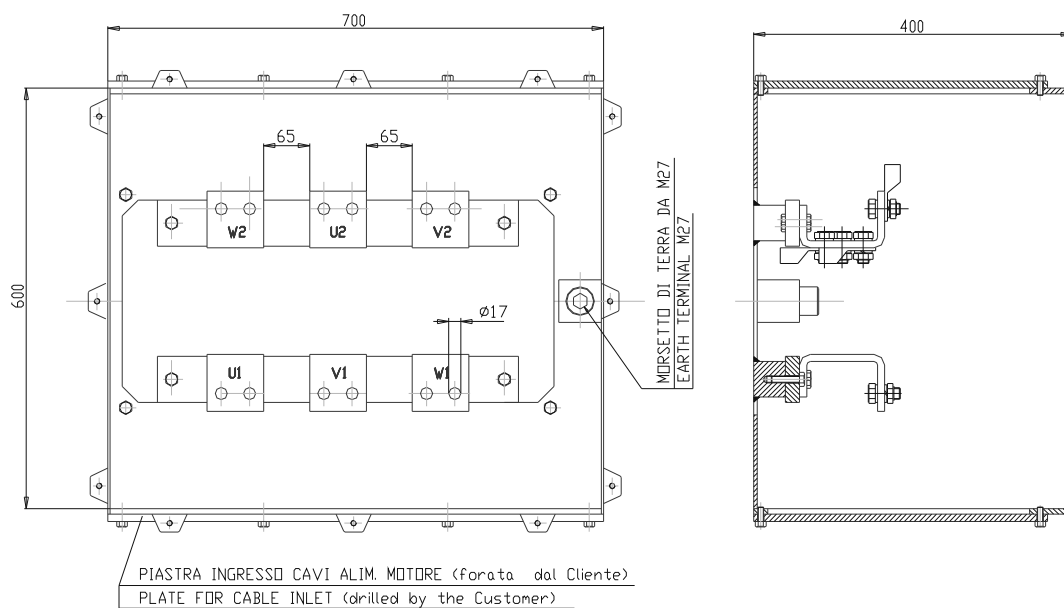
Motore tipo Motor type	A	B	C	D	E	F	Pressacavo Cable Gland
63	100,5	41	40	25	M4	15	M16x1.5
71	103	42	50	32	M4	18	M20x1.5
80							
90S-L	112	47	50	32	M4	18	M20x1.5
100	126	49	56	36	M5	20	M25x1.5
112MT-M	126	49	56	36	M5	20	M25x1.5
132S-M	152	66	70	45	M6	25	M25x1.5
160MT	170	82	70	45	M6	25	M32x1.5
160M-L	188	86	82	52	M8	30	M40x1.5
180MT-LT							
180L							
200LT	188	86	95	60	M8	35	M40x1.5
200L	225	103	95	60	M10	35	M50x1.5
225ST-MT							
250MT	225	103	115	70	M10	45	M50x1.5
280ST-MT	276	120	125	80	M12	45	M50x1.5
315ST							M63x1.5
315 M	375	145	145	90	M14	54	N.2 M63x1.5
355LT	375	145	165	100	M16	65	N.2 M63x1.5
355 L	430	165	165	100	M16	65	N.2 M63x1.5
355 LX	430	165	165	100	M20	65	N.2 M63x1.5

I motori grandezza 400÷500 hanno la scatola coprimorsetteria in acciaio e possono avere 3 o 6 morsetti. Le scatole sono fornite con una piastra uscita cavi amovibile forata a cura del cliente.

Motors size 400÷500 have steel terminal box and can have 3 or 6 terminals. The boxes are supplied with a removable cable outlet plate to be drilled by the customer.



Morsettiera a 3 morsetti
Terminal block with 3 terminals



Morsettiera a 6 morsetti fornita con N.3 piastre in rame per collegamento stella/triangolo
Terminal block with 6 terminals supplied with Nr.3 copper plates for star/delta connection

Scatola morsetti ausiliari

I motori sono predisposti per il montaggio di scatole morsetti ausiliari con grado di protezione IP55 o IP56.

All'interno delle scatole morsetti trovano posto i collegamenti elettrici di eventuali accessori quali termoprotettori, termorivelatori, scaldiglie, encoder ecc...

Le scatole morsetti ausiliari sono di 3 tipi in funzione alla grandezza del motore e al numero di collegamenti elettrici richiesti dal Cliente e possono essere in alluminio (fino alla grandezza 355LX) oppure in acciaio (motori dal 400LX al 500LX).

Di seguito sono riportate le dimensioni d'ingombro.

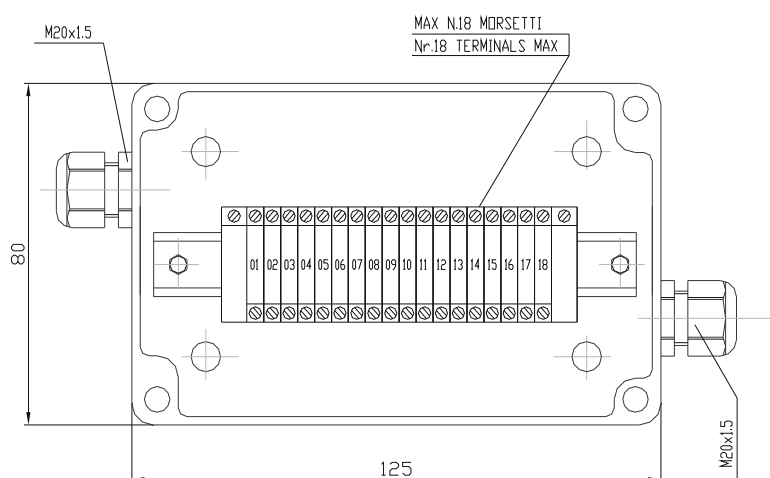
Auxiliary terminal box

Motors are prepared for mounting auxiliary terminal boxes with IP 55 or IP56 protection degree.

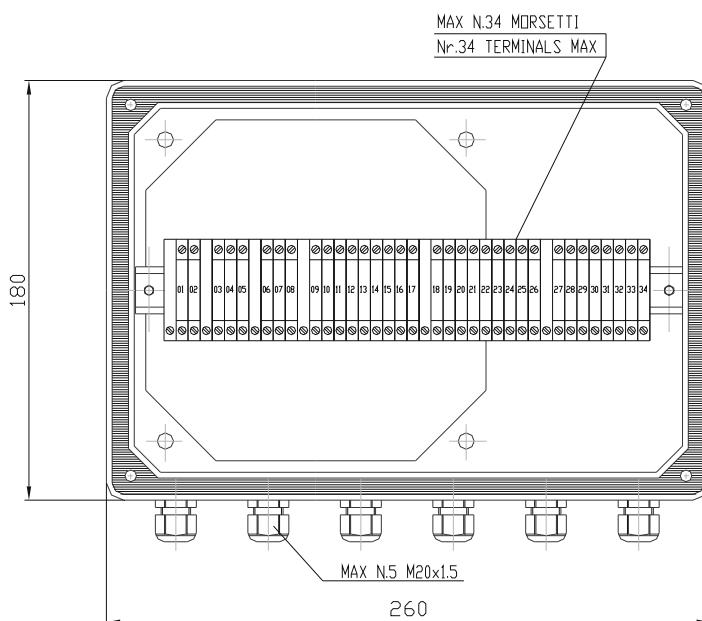
Inside the terminal boxes, the terminals for possible accessories such as thermal protections, thermal detectors, anticondensation heaters etc. can be placed.

There are 3 types of auxiliary terminal boxes according to motor size and the number of electrical connections required by the Customer. They can be made of aluminium (up to size 355LX) or steel (from 400LX to 500LX).

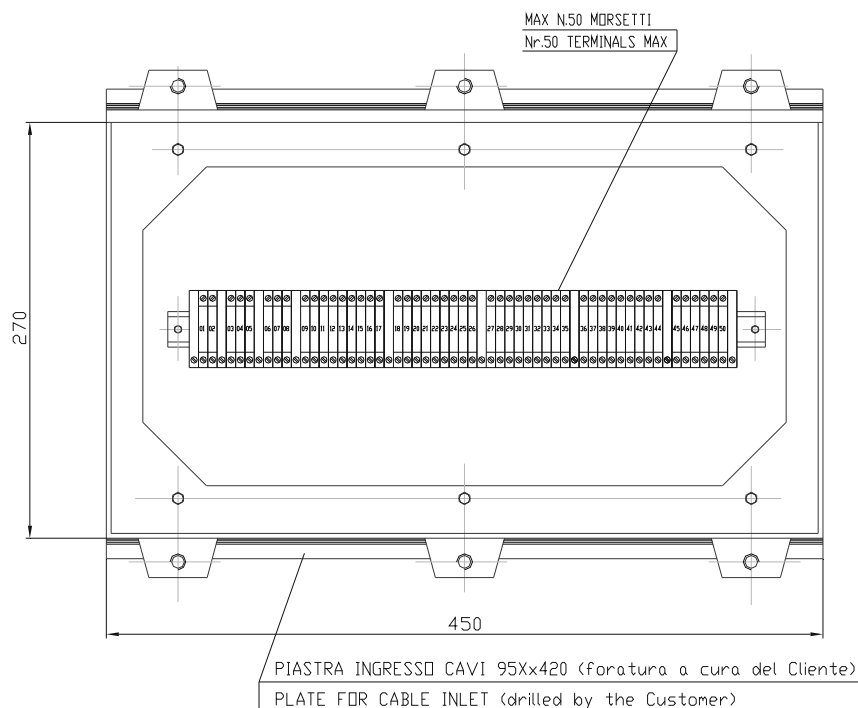
Hereunder are mentioned the overall dimensions.



Scatola morsetti ausiliari in alluminio per motori dal 225T al 315M
Aluminium auxiliary terminal box; motor sizes from 225T to 315M



Scatola morsetti ausiliari in alluminio per motori dal 355L al 355LX
Aluminium auxiliary terminal box; motor sizes from 355L to 355LX



Scatola morsetti ausiliari in acciaio per motori dal 400LX al 500LX
Auxiliary steel terminal box ; motor sizes from 400LX to 500LX

Gabbia di rotore

I motori di grandezza 63÷355 hanno normalmente il rotore realizzato in alluminio pressofuso.

I motori di grandezza 355Lx÷500 hanno le gabbie realizzate in rame/ottone saldato con processo T.I.G. o M.I.G. al fine di aumentare il rendimento delle macchine e ottimizzare le caratteristiche di avviamento.

Rotor cage

Motors with frame size 63÷355 have the rotor cage in die-cast aluminium.

Motors with frame size 355Lx÷500 have the rotor cage in copper/brass soldered using the T.I.G or M.I.G process in order to increase the electric machine efficiency and optimize starting characteristics.

Isolamento, avvolgimento

I motori serie M;AR sono realizzati in classe d'isolamento F.

Il conduttore in filo di rame elettrolitico ricotto è isolato con smalto speciale (doppio smalto), è classificato in classe di isolamento H.

Tutti i materiali isolanti utilizzati per la realizzazione dei motori sono corrispondenti alla classe d'isolamento F o H.

L'avvolgimento subisce un rigoroso trattamento consistente in un' impregnazione ad immersione con resine di classe F polimerizzanti a caldo.

A richiesta è possibile realizzare una tropicalizzazione comprendente a sua volta una spruzzatura di smalto antisalzo e copertura finale, a spruzzo, con elevate caratteristiche di resistenza al calore, all'umidità, agli agenti chimici e all'azione corrosiva dell'ambiente marino.

Insulation, winding

MAR line motors are made in insulation class .

The soft copper electrolytic wire is insulated by using a special enamel (double enamel). Such enamel is classified as H insulation class.

All insulating materials used to produce motors are in F or H insulation class.

The winding undergoes a severe treatment as follows: it is impregnated by soaking it in oven-curing F class resins.

Upon request it is possible to make a tropicalization following a process including a spraying of anti-salty enamel and, finally, it is coated using a spray with heat-proof, humidity-proof, chemical agent and sea-ambient corrosive action resistant characteristics.

Potenza e dati tecnici

Le potenze ed i dati indicati nelle Tabelle "Dati Tecnici" sono riferiti al servizio continuo (S1), alla temperatura ambiente di 50°C.

Le caratteristiche di funzionamento sono garantite con le tolleranze stabilite dalle norme CEI EN 60034-1 e le raccomandazioni IEC 60034-1, indicate nella tabella.

Caratteristiche	Tolleranza
Rendimento	Macchine di potenza ≤ 150 kW -15% di $(1 - \eta)$
	Macchine di potenza > 150 kW -10% di $(1 - \eta)$
Fattore di potenza	+1/6 $(1 - \cos\phi)$ Minimo 0.02 Max 0.07
Corrente di spunto	+20% del valore garantito
Coppia di spunto	-15% + 25% del valore garantito
Coppia massima	-10% del valore garantito
Scorrimento	Macchine di potenza < 1 kW $\pm 30\%$ del valore garantito
	Macchine di potenza ≥ 1 kW $\pm 20\%$ del valore garantito

Tensione di alimentazione - Collegamento

I motori serie grandezza 63÷ 280 possono essere realizzati per alimentazione a tensioni nominali comprese tra 220 V e 690 V a 50 Hz e a 60 Hz; i motori grandezza 315 ÷400 possono essere realizzati per tensioni comprese tra 400 V e 690 V.

Normalmente sono previsti per essere utilizzati per alimentazione a 230/400 V e 400/690 V o 690 V a 50 Hz e 440V 60Hz

La tensione più bassa è realizzata con collegamento a triangolo mentre la tensione maggiore è ottenuta con collegamento a stella.

Ovviamente l'avviamento a stella-triangolo è possibile unicamente su una rete corrispondente alla tensione ottenibile con il collegamento a triangolo.

Oscillazioni di tensione e frequenza

I motori possono funzionare senza subire danni, se la tensione di alimentazione varia entro i limiti stabiliti dalle Norme di riferimento.

In particolare i motori possono funzionare con variazione di tensione del 10 % e di frequenza del 5% con una variazione combinata massima del 10% con sovratemperatura conformi a quanto previsto dalle norme di riferimento.

Ratings and technical data

Power and data mentioned in the Technical Data Tables are for continuous duty (S1) at an ambient temperature of 50 C.

The operating characteristics are guaranteed with the tolerances defined by the CEI EN 60034-1 Standards and the IEC 60034-1 Recommendations, mentioned in table

Characteristics	Tolerances
Efficiency	Motor power ≤ 150 kW -15% of $(1 - \eta)$
	Motor power > 150 kW -10% of $(1 - \eta)$
Power factor	+1/6 $(1 - \cos\phi)$ Min 0.02 Max 0.07
Locked rotor current	+20% of guaranteed value
Locked rotor torque	-15% + 25% of guaranteed value
Pull out torque	-10% of guaranteed value
Slip	Power motor < 1 kW $\pm 30\%$ of guaranteed value
	Power motor ≥ 1 kW $\pm 20\%$ of guaranteed value

Supply voltage - Connection

Motors frame size 63÷280 can be manufactured for supply at rated voltages included between 220 V and 690 V at 50 Hz and at 60 Hz; motors frame size 315÷400 can be manufactured for voltages included between 400 V and 690 V.

They are normally designed to be used for supply at 230/400 V and 400/690 V or 690 V at 50 Hz and 440V 60Hz.

The lower voltage is made with delta connection while the higher voltage is obtained with star connection.

Obviously the star delta starting is only possible on a mains corresponding to the voltage that can be obtained with the delta connection.

Voltage and frequency variations

Motors can work without failures if the supply voltage variations are limited as stated in the reference Standards.

In particular, motors can run with voltage variations of 10 % and frequency variations of 5 % with a maximum combined variation of 10 % with temperature rise in compliance with the provisions of the reference Standards.

Squilibrio di tensione

Un sistema trifase risulta squilibrato quando le tre tensioni di alimentazione non sono uguali tra loro o non sono sfasate tra di loro di 120°.

Lo squilibrio può essere provocato dalla presenza sulla linea di carichi monofasi o da carichi squilibrati.

IL valore dello squilibrio può essere calcolato con la seguente formula;

$$\text{Squilibrio}(\%) = \left(\frac{V_{\max} - V_{\text{med}}}{V_{\text{med}}} * \frac{V_{\text{med}} - V_{\min}}{V_{\text{med}}} \right)$$

Dove

V_{max} = tensione più alta

V_{min} = tensione più bassa

V_{med} = media delle tre tensioni

Le conseguenze di uno squilibrio delle tensioni applicate ad un motore asincrono comporta una diminuzioni delle coppie e ad un aumento delle perdite che si traducono in un surriscaldamento del motore.

La norma IEC60034-26 fornisce le prescrizioni per il declassamento del motore in funzione dello squilibrio delle tensioni di alimentazioni,

Unbalanced voltage

A three-phase system is unbalanced when the three supply voltages are not equal among them or are not unbalanced among them by 120°.

The unbalance can be caused by the presence of single-phase loads or unbalanced loads on the line.

The unbalance value can be calculated using the following formula;

Were

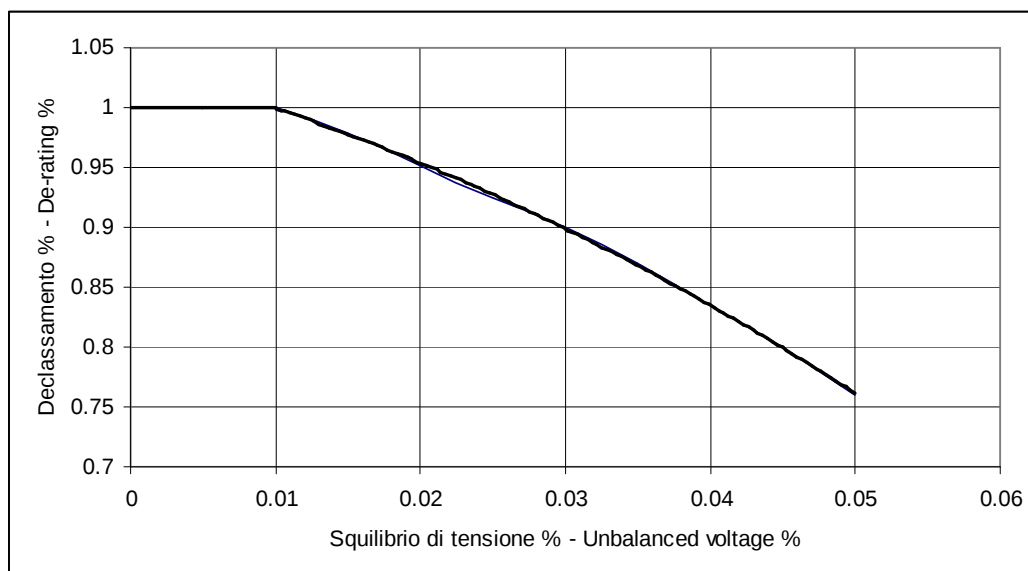
V_{max} = maximun voltage

V_{min} = minimum voltage

V_{med} = average voltage

The effects of an unbalance of the voltages applied to an asynchronous motor involve a decrease of the torques and an increase of the losses that result in an overheating of the motor.

The standard IEC60034-26 provides the requirements for the motor derating based on the supply unbalance.



Declassamenti

Deratings

Le tabelle dei dati tecnici sono riferiti alla temperatura ambiente max 50°C

Per condizioni ambientali diverse, le potenze variano e si ottengono applicando i fattori correttivi indicati nella tabella, mantenendo le sovratemperature previste per la classe d'isolamento.

The tables of technical data are referred to an ambient temperature of 50°C

In different environmental conditions output ratings vary, and are obtainable by applying the factors as mentioned in table, maintaining the temperature rise provided for by the insulation class.

Temperatura ambiente (°C) Ambient temperature (°C)					
30	40	45	50	55	60
1.12	1.06	1.03	1.00	0.96	0.93

Servizi

I dati tecnici riportati nelle tabelle sono riferiti al servizio continuo (S1). A richiesta possono essere forniti motori per Servizio limitato S2 (30 o 60 minuti) o per altri tipi di servizio

Duty

All technical data mentioned in the tables are referred to continuous duty (S1). Upon request, motors for limited Duty S2 (30 or 60 minutes) or for other duties can be supplied.

Sovraccarichi

I motori in servizio continuo possono sopportare i seguenti sovraccarichi

Overloads

Continuous duty motors can withstand the following overloads

Sovraccarico Overload %	Durata Duration Min.	Intervallo Interval Min.
10	10	15
20	6	15
30	4	15
40	3	15
50	2	15

In tali condizioni di funzionamento in sovraccarico, le sovratemperature possono risultare superiori di 10°C ai limiti previsti per la classe d'isolamento.

In such operation conditions with overload, temperature rises may be 10°C higher than the limits provided for by the insulation class.

Avviamenti

I motori sono idonei per i seguenti tipi di avviamento:

- Diretto
- Stella – triangolo
- Autotrasformatore
- Soft-start (1)
- con inverter (2)

1) Al termine dell'avviamento il soft-starter deve essere bypassato. In caso contrario è necessario utilizzare un motore con avvolgimento con isolamento rinforzato

2) E' necessario utilizzare un motore con avvolgimento con isolamento rinforzato (vedere paragrafo alimentazione da inverter).

Startings

Motors are suitable for the following types of starting

- Direct
- Star – delta
- By autotransformer
- Soft-start (1)
- by inverter (2)

1) At the end of the starting, the soft-starter must be bypassed. If not, it is necessary to use a motor with winding with reinforced insulation.

2) It is necessary to use a motor with winding with reinforced insulation (see paragraph inverter supply).

Rumorosità

Le tabelle dei dati tecnici riportano i valori di rumorosità (LpA) e in potenza (LwA) sonora misurati ad un metro di distanza espressi in dB(A).

I valori di rumorosità sono rilevati con motore funzionante a vuoto e con una tolleranza di 3 dB(A).

Noise

The technical features table contains the values of A-sound pressure level (LpA) and A sound power level (LwA), measured at a one meter distance.

Sound levels are measured in no-load conditions and have tolerances of 3 dB(A),

Vibrazioni

I motori sono bilanciati dinamicamente con mezza chiave applicata all'estremità d'albero secondo la norma IEC 60034-14 e hanno grado di vibrazione B in esecuzione standard.

La seguente tabella indica i limiti raccomandati dell'intensità di vibrazione per le varie altezze d'asse.

Vibrazioni più elevate possono verificarsi sul motore installato sull'impianto, a causa di vari fattori come basamenti non adeguati o reazioni da parte del sistema azionato. In questi casi, verifiche più approfondite dovrebbero essere eseguite su ogni parte componente l'installazione.

Vibrations

Motors are dynamically balanced with a half key applied to the shaft extension in accordance with the IEC 60034-14 standard to vibration severity grade B in standard execution.

The following table shows the maximum vibration grades with respect to the different frame sizes.

Larger vibrations may occur on motors installed at site, due to various factors such as unsuitable foundations or reactions caused by the driven load. In such cases checks should also be carried out on each element of the installation.

Grado Equilibratura Vibration grade	Montaggio Mounting	Altezza d'asse - Frame size 56 ≤ H < 132			Altezza d'asse - Frame size 132 < H ≤ 280			Altezza d'asse - Frame size > 280		
		Spostam Displac. µm	Acc. m/sec ²	Velocità Vel. mm/s	Spostam Displac. µm	Acc. m/sec ²	Velocità Vel. mm/s	Spostam Displac. µm	Acc. m/sec ²	Velocità Vel. mm/s
A	Sospensione libera Free suspension	25	1.6	2.5	35	2.2	3.5	45	2.8	4.4
	Montaggio rigido Rigid mounting	21	1.3	2.	29	1.8	2.8	37	2.3	3.6
B	Sospensione libera Free suspension	11	0.7	1.1	18	1.1	1.7	29	1.8	2.8
	Montaggio rigido Rigid mounting	---	---	---	14	0.9	1.4	24	1.5	2.4

Protezioni termiche

A richiesta sui motori serie MAR è possibile installare le seguenti protezioni termiche:

Termistori PTC

Alla temperatura d'intervento questo dispositivo varia repentinamente la resistenza standard. Generalmente la protezione è realizzata con tre elementi sensibili, uno per fase, collegati in serie e con i due terminali in un'apposita morsettiera posta all'interno della scatola morsetti o in un'apposita scatola morsettiera ausiliaria.

Protettori bimetallici

Motoprotettori con contatto normalmente chiuso. Il contatto si apre quando la temperatura degli avvolgimenti raggiunge limiti pericolosi per il sistema isolante.

Termometri a resistenza di platino PT100

Il valore di resistenza varia linearmente con la temperatura degli avvolgimenti. Dispositivo particolarmente adatto per un rilievo continuo della temperatura.

Scaldiglie anticondensa

Per i motori funzionanti in ambienti ad elevata umidità e con forti escursioni termiche si consiglia l'applicazione di scaldiglie per eliminare la condensa. Sono di tipo a nastro e vengono montate sulla testata degli avvolgimenti di statore.

Viene normalmente prevista la loro alimentazione quando quella del motore viene interrotta, generando un riscaldamento che previene la formazione di condensa.

La tensione di alimentazione normale è 115 V o 220/240V.

I terminali delle scaldiglie sono portati ad un'apposita morsettiera posta all'interno della scatola morsetti principale. A richiesta possono essere portati ad una morsettiera posta in una scatola morsetti ausiliari.

Le potenze normalmente impiegate sono indicate nella tabella seguente.

Altezza d'asse Frame size	Potenza (W) Power (W)
132÷160	40
180÷200	45
225÷250	50
280÷315	100
355	200
400	300
450	400
500	400

Thermal protections

Upon request, the following thermal protections can be installed on the MAR line motors:

Positive temperature coefficient thermistors PTC

At the active temperature this device quickly changes its standard resistance value.

The protection is normally made by 3 sensitive elements, one for every phase, series connected and with two terminals in a specially provided terminal board located in the main terminal box or in a specially provided auxiliary terminal box.

Bimetallic devices

Motoprotectors with contact normally closed. The contact opens when the winding temperature reaches limits dangerous to the insulation system of the motor.

Platinum resistance thermometers PT100

Variable linear resistance with the winding temperature. Device particularly suitable for a continuous winding temperature monitoring.

Anticondensation heaters

Motors subject to atmospheric condensation, either through standing idle in damp environments or because of wide ambient temperature variations, may be fitted with anticondensation heaters.

They are of tape form and are normally mounted on the stator winding head.

Anticondensation heaters are normally switched on automatically when the supply to the motor is interrupted, heating the motor to avoid water condensation.

Normal supply voltage is 115 V or 220/240V.

Anticondensation heater terminals are led to a specially provided terminal board located in the main terminal box. Upon request they can be led to a terminal board located in an auxiliary terminal box.

The power values normally used are shown in the following table.

Tappi scarico condensa

I motori grandezza 355L÷500 sono normalmente forniti di tappi posti sulla carcassa (forme B3 e derivate) o sugli scudi (forma V1) per poter scaricare la condensa che si può formare all'interno del motore.

Sui motori grandezza 63÷355LT i fori scarico condensa sono realizzabili a richiesta.

I motori sono forniti con i fori di scarico condensa chiusi e tali devono rimanere per garantire il grado di protezione (IP) richiesto.

In funzione delle condizioni operative di funzionamento è necessario che periodicamente tali tappi vengano aperti per permettere lo scarico della condensa.

Condensation drainage plugs

Motors frame size 355÷500 are normally provided with plugs placed on the frame (mountings B3 and derived mountings) or on the shields (mounting V1) in order to drain condensation that can form inside the motor.

Motors frame size 63÷355LT can be provided with condensation drainage holes upon request.

Motors are supplied with closed condensation drainage holes, they must remain closed to guarantee the required protection degree (IP).

Based on the operating conditions it is necessary to periodically open the plugs to allow condensation drainage.

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F - Servizio S1 -

380 V - 50 Hz

2 poli - 3000 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008

Insulation class F – S1 Duty

380V - 50 Hz

2 poles - 3000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J Kg/m2	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 380 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Ca/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.18	2680	0.000241	64	64	60	0.75	0.69	56	0.57	0.641	2.4	3.5	2.5	57	3.3
63-b	0.25	2700	0.00014	64	64	60	0.75	0.69	0.56	0.79	0.88	2.4	3.5	2.5	57	3.8
71-a	0.37	2800	0.00023	71	71	67	0.8	0.75	0.65	0.99	1.26	2.2	4	2.3	59	6
71-b	0.55	2810	0.00033	71	71	67	0.8	0.75	0.65	1.47	1.87	2.5	4.6	2.6	59	7
80-a	0.75	2820	0.00088	75	75	72	0.81	0.76	0.66	1.88	2.54	2.3	4.5	2.4	63	8.6
80-b	1.1	2820	0.00123	76	76	73	0.81	0.76	0.66	2.72	3.72	2.3	4.8	2.4	63	10.2
90S	1.5	2840	0.0022	77	77	75	0.82	0.77	0.67	3.61	5.04	2.4	4.9	2.5	68	11.5
90L	2.2	2840	0.0025	78	78	76	0.82	0.77	0.67	5.23	7.40	2.4	4.9	2.5	68	13.5
100L	3	2850	0.0040	82	82	81	0.83	0.79	0.69	6.71	10.1	2.6	6.5	2.8	72	20.5
112MT-a	4	2860	0.0055	82	82	81	0.83	0.79	0.69	8.94	13.4	2.6	6.5	2.8	72	23
132S-a	5.5	2900	0.0150	85	85	84	0.86	0.83	0.75	11.4	18.1	2.5	7	2.8	74	38.4
132S-b	7.5	2900	0.0180	86	86	85	0.86	0.83	0.75	15.4	24.7	2.5	7	2.8	74	42
132M	9	2910	0.023	86	86	85	0.86	0.83	0.75	18.5	29.5	2.4	7	2.7	75	47.5
160MT-a	11	2910	0.003	86	86	85	0.85	0.81	0.73	22.9	36.1	2.5	7	2.7	75	58
160MT-b	15	2930	0.003	88	88	87	0.86	0.83	0.75	30.1	48.9	2.6	6.5	2.8	75	68
160L	18.5	2940	0.004	88	88	87	0.86	0.83	0.75	37.2	60.1	2.6	6.7	2.8	75	90
180MT	22	2950	0.053	88	88	87	0.86	0.83	0.75	44.2	71.2	2.7	6.9	2.9	75	110
180LT	25	2950	0.063	88	88	87	0.86	0.83	0.75	50.2	80.9	2.7	7	2.9	75	116
200LT-a	30	2950	0.098	89.5	89.5	88	0.87	0.84	0.76	58.6	97.1	2.7	7	3	83	142
200LT-b	37	2960	0.123	89.5	89.5	88	0.87	0.84	0.76	72.3	119	2.7	7.3	3	83	162
225MT	45	2960	0.223	90	90	89	0.88	0.85	0.78	86.4	145	2.7	7.3	3	83	210
250MT	55	2970	0.300	91	90	91	0.89	0.86	0.8	103	177	2.8	7.5	3	83	280
280ST	75	2970	0.61	91.5	91.5	90.5	0.89	0.86	0.8	140	241	2.6	7.6	2.9	87	372
280MT	90	2970	0.80	92	92	91	0.89	0.86	0.8	167	289	2.7	7.2	3	87	407
315ST	110	2975	1.22	93	93	91.5	0.89	0.86	0.8	202	353	2.6	7.5	2.8	90	496
315M-a	132	2980	1.32	93	93	1.5	0.89	0.86	0.8	243	423	2.5	7.5	2.7	90	620
315M-b	160	2980	1.72	93	93	91.5	0.9	0.88	0.83	291	513	2.5	7.4	2.7	90	668
315M-c	200	2980	2.13	93	93	91.5	0.9	0.88	0.83	363	641	2.5	7.4	2.7	90	760

Carcassa in acciaio

Steel Frame

355L	250	2980	2.29	95.1	94	93.5	0.91	0.9	0.87	439	801	1.45	6.9	2.1	88	1200
355L-a	280	2980	3.39	95.1	94.1	93.5	0.91	0.9	0.87	492	898	1.45	6.9	2.2	88	1280
355L-b	315	2980	4.36	95.1	94.1	93.3	0.91	0.9	0.87	554	1010	1.45	6.9	2.4	88	1570

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

380V - 50 Hz

4 poli - 1500 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008

Insulation class F - S1 Duty

380V - 50 Hz

4 poles - 1500 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 380 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.13	1340	0.00023	60	60	54	0.6	0.5	0.4	0.55	0.93	2.3	3	2.3	49	3.8
63-b	0.18	1340	0.00028	61	61	55	0.6	0.5	0.4	0.75	1.28	2.3	3	2.3	49	4.1
71-a	0.25	1350	0.00033	68	68	64	0.65	0.55	0.45	0.86	1.77	2	3.5	2	51	5.7
71-b	0.37	1350	0.00049	69	69	65	0.67	0.57	0.47	1.22	2.62	2	3.5	2	51	7
80-a	0.55	1360	0.00115	72	72	68	0.7	0.61	0.5	1.66	3.86	2.3	4.3	2.3	54	8.6
80-b	0.75	1360	0.00161	73	73	70	0.73	0.67	0.54	2.14	5.27	2.3	4.3	2.3	54	10
90S	1.1	1380	0.00208	76.2	74	71	0.78	0.76	0.66	2.82	7.61	2.3	4.5	2.5	56	11.9
90L	1.5	1380	0.00267	78.5	74	71	0.77	0.77	0.67	3.77	10.4	2.3	4.5	2.5	56	14.2
100L-a	2.2	1410	0.00469	81	80	79	0.79	0.75	0.65	5.23	14.9	2	4.5	2.2	60	18.7
100L-b	3	1410	0.0060	82.6	81	80	0.8	0.77	0.67	6.91	20.3	2	4.5	2.2	60	21.2
112MT	4	1420	0.0080	84.2	83	82	0.81	0.77	0.67	8.92	26.9	2.4	5	2.5	60	25.7
132S	5.5	1430	0.0195	85.7	84	83	0.8	0.77	0.67	12.2	36.7	2.1	6	2.5	63	43
132M-a	7.5	1430	0.027	87	85	84	0.81	0.8	0.71	16.2	50.1	2.1	6	2.5	63	50.3
160MT	11	1465	0.04	88.4	88	87	0.83	0.79	0.69	22.8	71.7	2.6	5.9	2.6	63	69.5
160L	15	1465	0.08	89.4	90	89	0.82	0.8	0.71	31.1	98	2.6	6	2.6	67	89
180MT	18.5	1470	0.09	90	90	89	0.83	0.8	0.71	37.7	120	2.5	6.5	2.8	67	110
180LT	22	1470	0.11	90.5	91	90	0.83	0.83	0.75	44.6	143	2.5	6.5	2.8	67	119
200LT	30	1470	0.15	91.4	91	90	0.85	0.83	0.75	58.7	195	2.4	6.5	2.8	70	155
225ST	37	1480	0.29	92	91	90	0.84	0.83	0.75	72.8	239	2.6	7.1	2.9	70	202
225MT-a	45	1480	0.37	92.5	92	91	0.84	0.83	0.75	88.1	290	2.6	7.1	2.9	70	235
250MT-b	55	1480	0.43	93	93	91	0.85	0.84	0.76	106	355	2.5	7.3	2.6	70	286
280ST	75	1485	1.1	93.6	93	91.5	0.86	0.84	0.76	142	482	2.5	7.3	2.7	73	387
280MT	90	1485	1.2	93.9	93.6	91.5	0.86	0.84	0.76	170	579	2.6	6.7	2.7	73	415
315ST	110	1485	1.5	94	94	92.5	0.88	0.83	0.75	202	707	2.6	6.7	2.7	75	496
315M-a	132	1485	2.5	94	94.2	92.5	0.88	0.83	0.75	243	849	2.2	6.2	2.7	77	630
315M-b	160	1485	3.3	94	94.3	92.5	0.88	0.85	0.78	294	1029	2.5	6.6	2.7	77	740
315M-c	200	1485	4.16	94.2	94.5	92.5	0.89	0.84	0.76	363	1286	2.6	6.8	2.8	77	882

Carcassa in acciaio

Steel Frame

355L-a	250	1492	5.5	95.1	94.4	92.4	0.87	0.85	0.75	460	1600	1.3	5.8	2.2	84	1490
355L-b	280	1492	5.8	95.1	94.6	93	0.88	0.84	0.77	509	1792	1.3	5.8	2.2	84	1560
355L-c	315	1492	6.6	95.3	94.7	93	0.88	0.85	0.77	571	2016	1.3	5.9	2.2	84	1680
355Lx-a	355	1490	10.0	95.3	94.8	93.3	0.89	0.87	0.81	637	2275	1.2	6.1	2.5	84	1850
355Lx-b	400	1490	11.8	95.5	94.9	93.7	0.89	0.88	0.81	716	2563	1.3	6.3	2.5	84	2060
355LX-c	450	1490	13.6	95.7	95.2	94	0.90	0.87	0.81	795	2884	1.3	6.3	2.5	84	2260
355LX-d	500	1490	15.9	95.8	95.2	94	0.90	0.87	0.81	882	3204	1.3	6.3	2.5	84	2520
400LX-a	560	1493	27.0	96	95.4	94.2	0.87	0.83	0.76	1020	3582	1.6	6.8	2.3	85	3150
400LX-b	630	1493	31.6	96	95.4	94.2	0.87	0.83	0.76	1147	4029	1.8	6.8	2.3	85	3520
450LX-a	710	1493	36.0	96.5	96	95.2	0.89	0.87	0.84	1258	4541	1.4	6.3	1.8	85	4100
450LX-b	800	1493	41.8	96.7	96.2	95.2	0.89	0.87	0.84	1414	5117	1.6	6.8	2.2	85	4420
500LX-a	900	1494	70.6	96.7	96.2	95.2	0.88	0.86	0.82	1609	5752	1.4	6.3	2.1	85	4950
500LX-c	1000	1494	78.2	96.9	96.6	95.6	0.89	0.87	0.83	1764	6392	1.4	6.3	2.1	85	5300

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

380V - 50 Hz

6 poli - 1000 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008

Insulation class F – S1 Duty

380V - 50 Hz

6 poles - 1000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J Kgm2	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 380 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

71-a	0.18	890	0.00105	54	54	46	0.61	0.52	0.4	0.83	1.93	1.7	2.8	1.9	49	5.8
71-b	0.22	890	0.00129	55	55	47	0.61	0.52	0.4	1.00	2.36	1.8	2.8	2	49	6.5
80-a	0.37	900	0.00164	66	66	61	0.71	0.62	0.5	1.20	3.93	1.8	3	2	51	7.4
80-b	0.55	900	0.00256	69	69	65	0.71	0.62	0.5	1.71	5.84	2.05	3.5	2.2	51	9.8
90S	0.75	910	0.00354	72	72	68	0.72	0.63	0.52	2.20	7.87	1.9	3.8	2.1	54	10.8
90L	1.1	910	0.0051	73	73	70	0.72	0.63	0.52	3.18	11.54	2	4	2	54	13.5
100L	1.5	920	0.0087	75	75	72	0.73	0.68	0.55	4.17	15.6	2.1	4.7	2.3	57	19.6
112MT	2.2	940	0.014	78	77	75	0.75	0.7	0.6	5.72	22.3	2.2	5.5	2.5	57	25
132S	3	950	0.023	80	80	79	0.78	0.72	0.61	7.31	30.2	2	5.6	2.3	60	39
132M-a	4	950	0.031	82	81	80	0.78	0.72	0.61	9.51	40.2	2.3	5.8	2.6	60	45.5
132M-b	5.5	950	0.041	83	83	82	0.78	0.72	0.61	12.9	55.3	2.3	6	2.6	60	52.5
160MT	7.5	960	0.054	85	85	84	0.8	0.76	0.66	16.8	74.6	2.1	6	2.6	60	69
160L	11	960	0.109	86	86	85	0.81	0.76	0.66	24.0	109.4	2.3	6.4	2.9	63	88
180LT	15	970	0.141	87	87	86	0.82	0.77	0.67	32.0	147.7	2.4	7.2	3	63	114
200LT-a	18.5	975	0.271	88	88	87	0.83	0.79	0.69	38.5	181.2	2.3	6.8	2.8	68	145
200LT-b	22	975	0.32	88	88	87	0.83	0.79	0.69	45.8	215	2.3	6.8	2.8	68	155
225MT	30	980	0.541	90	90	89	0.84	0.8	0.71	60.4	292	2.4	6.1	2.6	72	234
250MT	37	980	0.752	91	91	90	0.84	0.8	0.71	73.6	361	2.4	6.8	2.7	73	295
280ST	45	985	1.4	91.5	92	91	0.82	0.81	0.73	91.2	436	2.3	5.6	2.3	75	381
280MT	55	985	1.68	92	92.5	91	0.82	0.81	0.73	111	533	2.3	5.6	2.3	75	421
315ST	75	985	2.18	92.5	92.5	91	0.83	0.83	0.75	149	727	2.3	5.6	2.3	75	526
315M-a	90	988	2.7	93	93	91.5	0.83	0.83	0.75	177	870	2.3	5.8	2.6	84	642
315M-b	110	986	2.7	93	93	91.5	0.84	0.83	0.85	214	1065	2.3	5.8	2.6	84	672
315M-c	132	986	3.15	93.3	93.5	92	0.84	0.83	0.85	256	1278	2.3	5.9	2.6	84	730
315M-d	160	987	4.7	94	94	92.5	0.84	0.83	0.85	308	1548	2.4	6	2.6	84	910

Carcassa in acciaio

Line – Steel Frame

355L	200	990	6.4	95	94.9	94.4	0.86	0.83	0.74	372	1929	1.7	5.1	2.0	82	1370
355L-a	250	990	7.9	95.1	95.2	94.6	0.86	0.83	0.75	465	2411	2.0	5.1	2.0	82	1572
355L-b	280	990	8.7	95.1	95.3	94.6	0.86	0.83	0.75	521	2701	2.0	5.2	2.1	82	1660
355L-c	315	990	9.8	95	95.2	94.6	0.86	0.83	0.75	586	3038	1.1	5.1	2.1	82	1800
355LX-a	355	990	19.8	95.5	95.5	95.4	0.89	0.87	0.79	635	3424	1.3	5.4	2.3	82	2060
355LX-b	400	990	22.3	95.5	95.6	95.5	0.89	0.87	0.79	716	3858	1.3	5.4	2.3	82	2254
400LX-a	450	994	31.1	95.6	95.6	94.8	0.89	0.87	0.79	805	4323	1.1	5.4	2.3	84	2960
400LX-b	500	994	35.0	95.7	95.7	94.9	0.89	0.87	0.79	893	4803	1.1	5.4	2.3	84	3290
400LX-c	560	995	39.8	95.7	95.7	94.9	0.89	0.87	0.79	1000	5374	1.2	5.6	2.5	84	3530
450LX-a	630	995	60.0	96	95.9	95	0.88	0.85	0.78	1134	6046	1.2	6.1	2.7	85	4200
450LX-b	710	995	68.0	96	95.9	95	0.88	0.85	0.78	1278	6814	1.2	6.2	2.9	85	4560
500LX-a	800	995	74.0	96.3	96.3	95.8	0.89	0.87	0.80	1420	7678	0.7	5.3	2.3	85	4890
500LX-b	900	995	86.0	96.4	96.4	95.8	0.89	0.87	0.80	1596	8637	0.8	5.4	2.3	85	5500

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Isolamento classe F – Servizio S1

380V - 50 Hz

8 poli - 750 giri/min

Technical features

Insulation class F – S1 Duty

380V - 50 Hz

8poles - 750 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

71	0.15	650	0.0013	46	45	42	0.57	0.5	0.4	0.87	2.2	1.6	2.1	1.6	48	6.5
80	0.18	670	0.0016	52	52	46	0.6	0.52	0.42	0.88	2.6	1.8	3	2	50	7.3
80	0.25	670	0.0026	61	61	55	0.6	0.54	0.43	1.04	3.6	1.8	3	2	50	9.7
90S	0.37	680	0.003	64	64	59	0.63	0.55	0.44	1.40	5.2	1.8	3.2	2	53	10.6
90L	0.55	690	0.0045	67	67	62	0.63	0.55	0.44	1.98	7.6	1.8	3.4	2	53	13.3
100L	0.75	690	0.0087	68	68	64	0.64	0.56	0.45	2.62	10.4	2	3.4	2.1	55	19.3
100L	1.1	690	0.0109	70	70	66	0.64	0.56	0.45	3.73	15.2	2	3.4	2.1	55	21.5
112MT	1.5	700	0.0141	73	73	70	0.65	0.57	0.46	4.81	20.5	1.9	3.5	2.4	55	25
132S	2.2	705	0.0307	78	80	79	0.71	0.62	0.5	6.04	29.8	1.9	4.6	2.2	58	45
132M	3	710	0.0409	79	81	80	0.72	0.63	0.52	8.02	40.3	1.9	5	2.3	58	52
160MT	4	710	0.0537	80	84	83	0.73	0.67	0.54	10.4	53.8	2	5	2.1	61	68.5
160M	5.5	715	0.0772	82	84	83	0.73	0.67	0.54	14.0	73.5	2	5.2	2.1	61	70
160L	7.5	720	0.109	84	86	85	0.74	0.68	0.55	18.4	99.5	2.1	5.4	2.2	61	87.5
180LT	11	730	0.154	86	87	86	0.76	0.68	0.55	25.6	144	2.1	5.1	2	61	117
200LT	15	730	0.345	87	89	88	0.76	0.7	0.68	34.5	196	2.1	5.4	2.3	66	155
225ST	18.5	730	0.505	88	89	88	0.79	0.73	0.62	40.5	242	2.3	5.3	2.3	70	207
225MT	22	730	0.577	89	90	89	0.79	0.74	0.63	47.6	288	2.3	5.3	2.4	70	243
250MT	30	735	0.902	90	90.5	89	0.8	0.75	0.65	63.4	390	2.4	5.5	2.6	71	317
280ST	37	735	1.75	90.5	90.5	89	0.8	0.75	0.65	77.7	481	2.1	5	2.3	72	420
280MT	45	735	2.12	91	91	90	0.8	0.76	0.66	94.0	585	2.1	5.1	2.3	72	460
315ST	55	740	2.43	92	92	91	0.8	0.76	0.66	114	710	2.3	5.5	2.2	81	525
315M-a	75	740	3	93	92	91	0.8	0.76	0.66	153	968	1.4	5.4	2.4	81	642
315M-b	90	740	3.4	93.5	93	91.5	0.8	0.76	0.66	183	1161	1.4	5.6	2.5	81	754
315M-c	110	740	4.4	93.8	93	91.5	0.81	0.76	0.66	220	1419	1.4	5.6	2.5	81	861
315M-d	132	740	5	94	93	91.5	0.82	0.77	0.67	260	1703	1.4	5.6	2.5	81	990

Carcassa in acciaio

Line – Steel Frame

355L-a	160	740	8.7	94.3	94	92.5	0.81	0.79	0.69	319	2065	1.5	5.5	2.4	81	1460
355L-b	200	740	10.5	94.5	94	92.5	0.81	0.79	0.69	397	2581	1.5	5.6	2.4	81	1590
355L-c	250	743	12.6	94.5	94	92.5	0.82	0.8	0.7	491	3213	1.5	5.6	2.4	81	1760
355LX-a	315	743	28.9	95	94.5	93	0.80	0.79	0.69	630	4048	1.4	6	2.4	81	2520
355LX-b	355	743	34.0	95	94.5	93	0.81	0.79	0.69	702	4562	1.5	6	2.5	81	2840
400LX-b	400	743	41.8	95.4	95	93.5	0.84	0.82	0.72	759	5141	1.4	6	2.4	81	3200
400LX-c	450	743	49.9	95.5	95	93.5	0.84	0.82	0.72	853	5783	1.5	6	2.4	81	3540
450LX-a	500	743	69.5	95.6	95.2	93.7	0.84	0.82	0.72	947	6426	1.5	6	2.5	83	4060
450LX-b	560	743	81.7	95.8	95.3	93.8	0.84	0.82	0.72	1059	7197	1.5	6	2.5	83	4440
500LX-a	630	743	101.1	96	95.4	93.9	0.86	0.84	0.74	1161	8097	1.0	6	2.4	83	5010
500LX-b	710	743	113.8	96	95.4	93.9	0.86	0.84	0.74	1308	9125	1.0	6	2.4	83	5440
500LX-c	800	743	129.6	96.1	95.6	94	0.86	0.84	0.74	1472	10282	1.0	6	2.4	83	5980

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F - Servizio S1 -

400V - 50 Hz

2 poli - 3000 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

400V - 50 Hz

2 poles - 3000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosφ			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Ca/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.18	2680	0.000241	64	64	60	0.75	0.69	56	0.54	0.641	2.4	3.5	2.5	57	3.3
63-b	0.25	2700	0.00014	64	64	60	0.75	0.69	0.56	0.75	0.88	2.4	3.5	2.5	57	3.8
71-a	0.37	2800	0.00023	71	71	67	0.8	0.75	0.65	0.94	1.26	2.2	4	2.3	59	6
71-b	0.55	2810	0.00033	71	71	67	0.8	0.75	0.65	1.40	1.87	2.5	4.6	2.6	59	7
80-a	0.75	2820	0.00088	75	75	72	0.81	0.76	0.66	1.78	2.54	2.3	4.5	2.4	63	8.6
80-b	1.1	2820	0.00123	76	76	73	0.81	0.76	0.66	2.58	3.72	2.3	4.8	2.4	63	10.2
90S	1.5	2840	0.0022	77	77	75	0.82	0.77	0.67	3.43	5.04	2.4	4.9	2.5	68	11.5
90L	2.2	2840	0.0025	78	78	76	0.82	0.77	0.67	4.97	7.40	2.4	4.9	2.5	68	13.5
100L	3	2850	0.0040	82	82	81	0.83	0.79	0.69	6.37	10.1	2.6	6.5	2.8	72	20.5
112MT-a	4	2860	0.0055	82	82	81	0.83	0.79	0.69	8.49	13.4	2.6	6.5	2.8	72	23
132S-a	5.5	2900	0.0150	85	85	84	0.86	0.83	0.75	10.9	18.1	2.5	7	2.8	74	38.4
132S-b	7.5	2900	0.0180	86	86	85	0.86	0.83	0.75	14.7	24.7	2.5	7	2.8	74	42
132M	9	2910	0.023	86	86	85	0.86	0.83	0.75	17.6	29.5	2.4	7	2.7	75	47.5
160MT-a	11	2910	0.003	86	86	85	0.85	0.81	0.73	21.7	36.1	2.5	7	2.7	75	58
160MT-b	15	2930	0.003	88	88	87	0.86	0.83	0.75	28.6	48.9	2.6	6.5	2.8	75	68
160L	18.5	2940	0.004	88	88	87	0.86	0.83	0.75	35.3	60.1	2.6	6.7	2.8	75	90
180MT	22	2950	0.053	88	88	87	0.86	0.83	0.75	42.0	71.2	2.7	6.9	2.9	75	110
180LT	25	2950	0.063	88	88	87	0.86	0.83	0.75	47.7	80.9	2.7	7	2.9	75	116
200LT-a	30	2950	0.098	89.5	89.5	88	0.87	0.84	0.76	55.7	97.1	2.7	7	3	83	142
200LT-b	37	2960	0.123	89.5	89.5	88	0.87	0.84	0.76	68.7	119	2.7	7.3	3	83	162
225MT	45	2960	0.223	90	90	89	0.88	0.85	0.78	82.1	145	2.7	7.3	3	83	210
250MT	55	2970	0.300	91	90	91	0.89	0.86	0.8	98.1	177	2.8	7.5	3	83	280
280ST	75	2970	0.61	91.5	91.5	90.5	0.89	0.86	0.8	133	241	2.6	7.6	2.9	87	372
280MT	90	2970	0.80	92	92	91	0.89	0.86	0.8	159	289	2.7	7.2	3	87	407
315ST	110	2975	1.22	93	93	91.5	0.89	0.86	0.8	192	353	2.6	7.5	2.8	90	496
315M-a	132	2980	1.32	93	93	1.5	0.89	0.86	0.8	230	423	2.5	7.5	2.7	90	620
315M-b	160	2980	1.72	93	93	91.5	0.9	0.88	0.83	276	513	2.5	7.4	2.7	90	668
315M	200	2980	2.13	93	93	91.5	0.9	0.88	0.83	345	641	2.5	7.4	2.7	90	760

Carcassa in acciaio

Steel Frame

355L	250	2983	2.29	95.1	94	93.5	0.91	0.9	0.87	417	800	1.6	7.5	2.3	88	1200
355L-a	280	2980	3.39	95.1	94.1	93.5	0.91	0.9	0.87	468	898	1.6	7.5	2.4	88	1280
355L-b	315	2980	4.36	95.1	94.1	93.3	0.91	0.9	0.87	526	1010	1.6	7.5	2.6	88	1570

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

400V - 50 Hz

4 poli - 1500 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F - S1 Duty

400V - 50 Hz

4 poles - 1500 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J Kg/m2	Rendimento Efficiency			Fattore di potenza Power factor Cosφ			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.13	1340	0.00023	60	60	54	0.6	0.5	0.4	0.52	0.93	2.3	3	2.3	49	3.8
63-b	0.18	1340	0.00028	61	61	55	0.6	0.5	0.4	0.71	1.28	2.3	3	2.3	49	4.1
71-a	0.25	1350	0.00033	68	68	64	0.65	0.55	0.45	0.82	1.77	2	3.5	2	51	5.7
71-b	0.37	1350	0.00049	69	69	65	0.67	0.57	0.47	1.16	2.62	2	3.5	2	51	7
80-a	0.55	1360	0.00115	72	72	68	0.7	0.61	0.5	1.58	3.86	2.3	4.3	2.3	54	8.6
80-b	0.75	1360	0.00161	73	73	70	0.73	0.67	0.54	2.03	5.27	2.3	4.3	2.3	54	10
90S	1.1	1380	0.00208	76.2	74	71	0.78	0.76	0.66	2.67	7.61	2.3	4.5	2.5	56	11.9
90L	1.5	1380	0.00267	78.5	74	71	0.77	0.77	0.67	3.59	10.4	2.3	4.5	2.5	56	14.2
100L-a	2.2	1410	0.00469	81	80	79	0.79	0.75	0.65	4.97	14.9	2	4.5	2.2	60	18.7
100L-b	3	1410	0.0060	82.6	81	80	0.8	0.77	0.67	6.56	20.3	2	4.5	2.2	60	21.2
112MT	4	1420	0.0080	84.2	83	82	0.81	0.77	0.67	8.48	26.9	2.4	5	2.5	60	25.7
132S	5.5	1430	0.0195	85.7	84	83	0.8	0.77	0.67	11.6	36.7	2.1	6	2.5	63	43
132M-a	7.5	1430	0.027	87	85	84	0.81	0.8	0.71	15.4	50.1	2.1	6	2.5	63	50.3
160MT	11	1465	0.04	88.4	88	87	0.83	0.79	0.69	21.7	71.7	2.6	5.9	2.6	63	69.5
160L	15	1465	0.08	89.4	90	89	0.82	0.8	0.71	29.6	98	2.6	6	2.6	67	89
180MT	18.5	1470	0.09	90	90	89	0.83	0.8	0.71	35.8	120	2.5	6.5	2.8	67	110
180LT	22	1470	0.11	90.5	91	90	0.83	0.83	0.75	42.3	143	2.5	6.5	2.8	67	119
200LT	30	1470	0.15	91.4	91	90	0.85	0.83	0.75	55.8	195	2.4	6.5	2.8	70	155
225ST	37	1480	0.29	92	91	90	0.84	0.83	0.75	69.2	239	2.6	7.1	2.9	70	202
225MT-a	45	1480	0.37	92.5	92	91	0.84	0.83	0.75	83.7	290	2.6	7.1	2.9	70	235
250MT-b	55	1480	0.43	93	93	91	0.85	0.84	0.76	101	355	2.5	7.3	2.6	70	286
280ST	75	1485	1.1	93.6	93	91.5	0.86	0.84	0.76	135	482	2.5	7.3	2.7	73	387
280MT	90	1485	1.2	93.9	93.6	91.5	0.86	0.84	0.76	161	579	2.6	6.7	2.7	73	415
315ST	110	1485	1.5	94	94	92.5	0.88	0.83	0.75	192	707	2.6	6.7	2.7	75	496
315M-a	132	1485	2.5	94	94.2	92.5	0.88	0.83	0.75	231	849	2.2	6.2	2.7	77	630
315M-b	160	1485	3.3	94	94.3	92.5	0.88	0.85	0.78	280	1029	2.5	6.6	2.7	77	740
315M-c	200	1485	4.16	94.2	94.5	92.5	0.89	0.84	0.76	345	1286	2.6	6.8	2.8	77	882

Carcassa in acciaio

Steel Frame

355L-a	250	1492	5.5	95.1	94.4	92.4	0.87	0.85	0.75	437	1600	1.4	6.4	2.4	84	1490
355L-b	280	1492	5.8	95.1	94.6	93	0.88	0.84	0.77	483	1792	1.4	6.4	2.4	84	1560
355L-c	315	1492	6.6	95.3	94.7	93	0.88	0.85	0.77	543	2016	1.4	6.5	2.4	84	1680
355Lx-a	355	1492	10.0	95.3	94.8	93.3	0.89	0.87	0.81	605	2272	1.3	6.8	2.8	84	1850
355Lx-b	400	1492	11.8	95.5	94.9	93.7	0.89	0.88	0.81	680	2560	1.4	7	2.8	84	2060
355LX-c	450	1492	13.6	95.7	95.2	94	0.90	0.87	0.81	755	2880	1.4	7	2.8	84	2260
355LX-d	500	1492	15.9	95.8	95.2	94	0.90	0.87	0.81	838	3200	1.4	7	2.8	84	2520
400LX-a	560	1495	27.0	96	95.4	94.2	0.87	0.83	0.76	969	3577	1.8	7.5	2.5	85	3150
400LX-b	630	1490	31.6	96	95.4	94.2	0.87	0.83	0.76	1090	4037	2	7.5	2.5	85	3520
450LX-a	710	1495	36.0	96.5	96	95.2	0.89	0.87	0.84	1195	4535	1.5	7	2	85	4100
450LX-b	800	1495	41.8	96.7	96.2	95.2	0.89	0.87	0.84	1343	5110	1.8	7.5	2.4	85	4420
500LX-a	900	1496	70.6	96.7	96.2	95.2	0.88	0.86	0.82	1528	5745	1.5	7	2.3	85	4950

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

400V - 50 Hz

6 poli - 1000 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

400V - 50 Hz

6 poles - 1000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J Kgm2	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

71-a	0.18	890	0.00105	54	54	46	0.61	0.52	0.4	0.79	1.93	1.7	2.8	1.9	49	5.8
71-b	0.22	890	0.00129	55	55	47	0.61	0.52	0.4	0.95	2.36	1.8	2.8	2	49	6.5
80-a	0.37	900	0.00164	66	66	61	0.71	0.62	0.5	1.14	3.93	1.8	3	2	51	7.4
80-b	0.55	900	0.00256	69	69	65	0.71	0.62	0.5	1.62	5.84	2.05	3.5	2.2	51	9.8
90S	0.75	910	0.00354	72	72	68	0.72	0.63	0.52	2.09	7.87	1.9	3.8	2.1	54	10.8
90L	1.1	910	0.0051	73	73	70	0.72	0.63	0.52	3.02	11.54	2	4	2	54	13.5
100L	1.5	920	0.0087	75	75	72	0.73	0.68	0.55	3.96	15.6	2.1	4.7	2.3	57	19.6
112MT	2.2	940	0.014	78	77	75	0.75	0.7	0.6	5.43	22.3	2.2	5.5	2.5	57	25
132S	3	950	0.023	80	80	79	0.78	0.72	0.61	6.95	30.2	2	5.6	2.3	60	39
132M-a	4	950	0.031	82	81	80	0.78	0.72	0.61	9.0	40.2	2.3	5.8	2.6	60	45.5
132M-b	5.5	950	0.041	83	83	82	0.78	0.72	0.61	12.3	55.3	2.3	6	2.6	60	52.5
160MT	7.5	960	0.054	85	85	84	0.8	0.76	0.66	15.9	74.6	2.1	6	2.6	60	69
160L	11	960	0.109	86	86	85	0.81	0.76	0.66	22.8	109.4	2.3	6.4	2.9	63	88
180LT	15	970	0.141	87	87	86	0.82	0.77	0.67	30.4	147.7	2.4	7.2	3	63	114
200LT-a	18.5	975	0.271	88	88	87	0.83	0.79	0.69	36.6	181.2	2.3	6.8	2.8	68	145
200LT-b	22	975	0.32	88	88	87	0.83	0.79	0.69	43.5	215	2.3	6.8	2.8	68	155
225MT	30	980	0.541	90	90	89	0.84	0.8	0.71	57.3	292	2.4	6.1	2.6	72	234
250MT	37	980	0.752	91	91	90	0.84	0.8	0.71	69.9	361	2.4	6.8	2.7	73	295
280ST	45	985	1.4	91.5	92	91	0.82	0.81	0.73	86.7	436	2.3	5.6	2.3	75	381
280MT	55	985	1.68	92	92.5	91	0.82	0.81	0.73	105	533	2.3	5.6	2.3	75	421
315ST	75	985	2.18	92.5	92.5	91	0.83	0.83	0.75	141	727	2.3	5.6	2.3	75	526
315M-a	90	988	2.7	93	93	91.5	0.83	0.83	0.75	168	870	2.3	5.8	2.6	84	642
315M-b	110	986	2.7	93	93	91.5	0.84	0.83	0.85	203	1065	2.3	5.8	2.6	84	672
315M-c	132	986	3.15	93.3	93.5	92	0.84	0.83	0.85	243	1278	2.3	5.9	2.6	84	730
315M-d	160	987	4.7	94	94	92.5	0.84	0.83	0.85	293	1548	2.4	6	2.6	84	910

Carcassa in acciaio

Line – Steel Frame

355L	200	990	6.4	95	94.9	94.4	0.86	0.83	0.74	354	1929	1.9	5.6	2.2	82	1370
355L-a	250	990	7.9	95.1	95.2	94.6	0.86	0.83	0.75	442	2411	2.2	5.6	2.2	82	1572
355L-b	280	990	8.7	95.1	95.3	94.6	0.86	0.83	0.75	495	2701	2.2	5.8	2.3	82	1660
355L-c	315	990	9.8	95	95.2	94.6	0.86	0.83	0.75	557	3038	1.2	5.6	2.3	82	1800
355LX-a	355	990	19.8	95.5	95.5	95.4	0.89	0.87	0.79	604	3424	1.4	6	2.5	82	2060
355LX-b	400	990	22.3	95.5	95.6	95.5	0.89	0.87	0.79	680	3858	1.4	6	2.6	82	2254
400LX-a	450	994	31.1	95.6	95.6	94.8	0.89	0.87	0.79	764	4323	1.2	6	2.6	84	2960
400LX-b	500	994	35.0	95.7	95.7	94.9	0.89	0.87	0.79	848	4803	1.2	6	2.6	84	3290
400LX-c	560	995	39.8	95.7	95.7	94.9	0.89	0.87	0.79	950	5374	1.3	6.2	2.8	84	3530
450LX-a	630	995	60.0	96	95.9	95	0.88	0.85	0.78	1078	6046	1.3	6.8	3	85	4200
450LX-b	710	995	68.0	96	95.9	95	0.88	0.85	0.78	1215	6814	1.3	6.9	3.2	85	4560
500LX-a	800	995	74.0	96.3	96.3	95.8	0.89	0.87	0.80	1349	7678	0.8	5.9	2.5	85	4890
500LX-b	900	995	86.0	96.4	96.4	95.8	0.89	0.87	0.80	1516	8637	0.9	6	2.6	85	5500

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Isolamento classe F – Servizio S1

400V - 50 Hz

8 poli - 750 giri/min

Technical features

Insulation class F – S1 Duty

400V - 50 Hz

8poles - 750 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosφ			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

71	0.15	650	0.0013	46	45	42	0.57	0.5	0.4	0.83	2.2	1.6	2.1	1.6	48	6.5
80	0.18	670	0.0016	52	52	46	0.6	0.52	0.42	0.83	2.6	1.8	3	2	50	7.3
80	0.25	670	0.0026	61	61	55	0.6	0.54	0.43	0.99	3.6	1.8	3	2	50	9.7
90S	0.37	680	0.003	64	64	59	0.63	0.55	0.44	1.33	5.2	1.8	3.2	2	53	10.6
90L	0.55	690	0.0045	67	67	62	0.63	0.55	0.44	1.88	7.6	1.8	3.4	2	53	13.3
100L	0.75	690	0.0087	68	68	64	0.64	0.56	0.45	2.49	10.4	2	3.4	2.1	55	19.3
100L	1.1	690	0.0109	70	70	66	0.64	0.56	0.45	3.55	15.2	2	3.4	2.1	55	21.5
112MT	1.5	700	0.0141	73	73	70	0.65	0.57	0.46	4.57	20.5	1.9	3.5	2.4	55	25
132S	2.2	705	0.0307	78	80	79	0.71	0.62	0.5	5.74	29.8	1.9	4.6	2.2	58	45
132M	3	710	0.0409	79	81	80	0.72	0.63	0.52	7.62	40.3	1.9	5	2.3	58	52
160MT	4	710	0.0537	80	84	83	0.73	0.67	0.54	9.90	53.8	2	5	2.1	61	68.5
160M	5.5	715	0.0772	82	84	83	0.73	0.67	0.54	13.3	73.5	2	5.2	2.1	61	70
160L	7.5	720	0.109	84	86	85	0.74	0.68	0.55	17.4	99.5	2.1	5.4	2.2	61	87.5
180LT	11	730	0.154	86	87	86	0.76	0.68	0.55	24.3	144	2.1	5.1	2	61	117
200LT	15	730	0.345	87	89	88	0.76	0.7	0.68	32.8	196	2.1	5.4	2.3	66	155
225ST	18.5	730	0.505	88	89	88	0.79	0.73	0.62	38.5	242	2.3	5.3	2.3	70	207
225MT	22	730	0.577	89	90	89	0.79	0.74	0.63	45.2	288	2.3	5.3	2.4	70	243
250MT	30	735	0.902	90	90.5	89	0.8	0.75	0.65	60.2	390	2.4	5.5	2.6	71	317
280ST	37	735	1.75	90.5	90.5	89	0.8	0.75	0.65	73.9	481	2.1	5	2.3	72	420
280MT	45	735	2.12	91	91	90	0.8	0.76	0.66	89.3	585	2.1	5.1	2.3	72	460
315ST	55	740	2.43	92	92	91	0.8	0.76	0.66	108	710	2.3	5.5	2.2	81	525
315M-a	75	740	3	93	92	91	0.8	0.76	0.66	146	968	1.4	5.4	2.4	81	642
315M-b	90	740	3.4	93.5	93	91.5	0.8	0.76	0.66	174	1161	1.4	5.6	2.5	81	754
315M-c	110	740	4.4	93.8	93	91.5	0.81	0.76	0.66	209	1419	1.4	5.6	2.5	81	861
315M-d	132	740	5	94	93	91.5	0.82	0.77	0.67	247	1703	1.4	5.6	2.5	81	990

Carcassa in acciaio

Line – Steel Frame

355L-a	160	742	8.7	94.3	94	92.5	0.81	0.79	0.69	303	2059	1.4	5.0	2.2	81	1460
355L-b	200	742	10.5	94.5	94	92.5	0.81	0.79	0.69	378	2574	1.4	5.1	2.2	81	1590
355L-c	250	745	12.6	94.5	94	92.5	0.82	0.8	0.7	466	3204	1.4	5.1	2.2	81	1760
355LX-a	315	745	28.9	95	94.5	93	0.80	0.79	0.69	599	4037	1.3	5.4	2.2	81	2520
355LX-b	355	745	34.0	95	94.5	93	0.81	0.79	0.69	667	4550	1.4	5.4	2.3	81	2840
400LX-b	400	745	41.8	95.4	95	93.5	0.84	0.82	0.72	721	5127	1.3	5.4	2.2	81	3200
400LX-c	450	745	49.9	95.5	95	93.5	0.84	0.82	0.72	811	5768	1.4	5.4	2.2	81	3540
450LX-a	500	745	69.5	95.6	95.2	93.7	0.84	0.82	0.72	900	6409	1.4	5.4	2.3	83	4060
450LX-b	560	745	81.7	95.8	95.3	93.8	0.84	0.82	0.72	1006	7178	1.4	5.4	2.3	83	4440
500LX-a	630	745	101.1	96	95.4	93.9	0.86	0.84	0.74	1103	8075	0.9	5.4	2.2	83	5010
500LX-b	710	745	113.8	96	95.4	93.9	0.86	0.84	0.74	1243	9100	0.9	5.4	2.2	83	5440
500LX-c	800	745	129.6	96.1	95.6	94	0.86	0.84	0.74	1399	10254	0.9	5.4	2.2	83	5980

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F - Servizio S1 -

690 V - 50 Hz

2 poli - 3000 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

690V - 50 Hz

2 poles - 3000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J Kgm2	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Ca/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT-a	11	2910	0.003	86	86	85	0.85	0.81	0.73	12.6	36.1	2.5	7	2.7	75	58
160MT-b	15	2930	0.003	88	88	87	0.86	0.83	0.75	16.6	48.9	2.6	6.5	2.8	75	68
160L	18.5	2940	0.004	88	88	87	0.86	0.83	0.75	20.5	60.1	2.6	6.7	2.8	75	90
180MT	22	2950	0.053	88	88	87	0.86	0.83	0.75	24.4	71.2	2.7	6.9	2.9	75	110
180LT	25	2950	0.063	88	88	87	0.86	0.83	0.75	27.7	80.9	2.7	7	2.9	75	116
200LT-a	30	2950	0.098	89.5	89.5	88	0.87	0.84	0.76	32.3	97.1	2.7	7	3	83	142
200LT-b	37	2960	0.123	89.5	89.5	88	0.87	0.84	0.76	39.8	119	2.7	7.3	3	83	162
225MT	45	2960	0.223	90	90	89	0.88	0.85	0.78	47.6	145	2.7	7.3	3	83	210
250MT	55	2970	0.300	91	90	91	0.89	0.86	0.8	56.9	177	2.8	7.5	3	83	280
280ST	75	2970	0.61	91.5	91.5	90.5	0.89	0.86	0.8	77.2	241	2.6	7.6	2.9	87	372
280MT	90	2970	0.80	92	92	91	0.89	0.86	0.8	92.1	289	2.7	7.2	3	87	407
315ST	110	2975	1.22	93	93	91.5	0.89	0.86	0.8	111	353	2.6	7.5	2.8	90	496
315M-a	132	2980	1.32	93	93	1.5	0.89	0.86	0.8	134	423	2.5	7.5	2.7	90	620
315M-b	160	2980	1.72	93	93	91.5	0.9	0.88	0.83	160	513	2.5	7.4	2.7	90	668
315M-c	200	2980	2.13	93	93	91.5	0.9	0.88	0.83	200	641	2.5	7.4	2.7	90	760

Carcassa in acciaio

Steel Frame

355L	250	2983	2.29	95.1	94	93.5	0.91	0.9	0.87	242	800	1.6	7.5	2.3	88	1200
355L-a	280	2980	3.39	95.1	94.1	93.5	0.91	0.9	0.87	271	898	1.6	7.5	2.4	88	1280
355L-b	315	2980	4.36	95.1	94.1	93.3	0.91	0.9	0.87	305	1010	1.6	7.5	2.6	88	1570

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

690V - 50 Hz

4 poli - 1500 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F - S1 Duty

690V - 50 Hz

4 poles - 1500 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J Kg/m2	Rendimento Efficiency			Fattore di potenza Power factor Cosφ			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT	11	1465	0.04	88.4	88	87	0.83	0.79	0.69	12.6	71.7	2.6	5.9	2.6	63	69.5
160L	15	1465	0.08	89.4	90	89	0.82	0.8	0.71	17.1	98	2.6	6	2.6	67	89
180MT	18.5	1470	0.09	90	90	89	0.83	0.8	0.71	20.7	120	2.5	6.5	2.8	67	110
180LT	22	1470	0.11	90.5	91	90	0.83	0.83	0.75	24.5	143	2.5	6.5	2.8	67	119
200LT	30	1470	0.15	91.4	91	90	0.85	0.83	0.75	32.3	195	2.4	6.5	2.8	70	155
225ST	37	1480	0.29	92	91	90	0.84	0.83	0.75	40.1	239	2.6	7.1	2.9	70	202
225MT-a	45	1480	0.37	92.5	92	91	0.84	0.83	0.75	48.5	290	2.6	7.1	2.9	70	235
250MT-b	55	1480	0.43	93	93	91	0.85	0.84	0.76	58.3	355	2.5	7.3	2.6	70	286
280ST	75	1485	1.1	93.6	93	91.5	0.86	0.84	0.76	78.1	482	2.5	7.3	2.7	73	387
280MT	90	1485	1.2	93.9	93.6	91.5	0.86	0.84	0.76	93.4	579	2.6	6.7	2.7	73	415
315ST	110	1485	1.5	94	94	92.5	0.88	0.83	0.75	111	707	2.6	6.7	2.7	75	496
315M-a	132	1485	2.5	94	94.2	92.5	0.88	0.83	0.75	134	849	2.2	6.2	2.7	77	630
315M-b	160	1485	3.3	94	94.3	92.5	0.88	0.85	0.78	162	1029	2.5	6.6	2.7	77	740
315M-c	200	1485	4.16	94.2	94.5	92.5	0.89	0.84	0.76	200	1286	2.6	6.8	2.8	77	882

Carcassa in acciaio

Steel Frame

355L-a	250	1492	5.5	95.1	94.4	92.4	0.87	0.85	0.75	253	1600	1.4	6.4	2.4	84	1490
355L-b	280	1492	5.8	95.1	94.6	93	0.88	0.84	0.77	280	1792	1.4	6.4	2.4	84	1560
355L-c	315	1492	6.6	95.3	94.7	93	0.88	0.85	0.77	315	2016	1.4	6.5	2.4	84	1680
355Lx-a	355	1492	10.0	95.3	94.8	93.3	0.89	0.87	0.81	351	2272	1.3	6.8	2.8	84	1850
355Lx-b	400	1492	11.8	95.5	94.9	93.7	0.89	0.88	0.81	394	2560	1.4	7	2.8	84	2060
355LX-c	450	1492	13.6	95.7	95.2	94	0.90	0.87	0.81	438	2880	1.4	7	2.8	84	2260
355LX-d	500	1492	15.9	95.8	95.2	94	0.90	0.87	0.81	486	3200	1.4	7	2.8	84	2520
400LX-a	560	1495	27.0	96	95.4	94.2	0.87	0.83	0.76	562	3577	1.8	7.5	2.5	85	3150
400LX-b	630	1490	31.6	96	95.4	94.2	0.87	0.83	0.76	632	4037	2	7.5	2.5	85	3520
450LX-a	710	1495	36.0	96.5	96	95.2	0.89	0.87	0.84	693	4535	1.5	7	2	85	4100
450LX-b	800	1495	41.8	96.7	96.2	95.2	0.89	0.87	0.84	779	5110	1.8	7.5	2.4	85	4420
500LX-a	900	1496	70.6	96.7	96.2	95.2	0.88	0.86	0.82	886	5745	1.5	7	2.3	85	4950

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

690V - 50 Hz

6 poli - 1000 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

690V - 50 Hz

6 poles - 1000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J Kgm2	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT	7.5	960	0.054	85	85	84	0.8	0.76	0.66	9.2	74.6	2.1	6	2.6	60	69
160L	11	960	0.109	86	86	85	0.81	0.76	0.66	13.2	109.4	2.3	6.4	2.9	63	88
180LT	15	970	0.141	87	87	86	0.82	0.77	0.67	17.6	147.7	2.4	7.2	3	63	114
200LT-a	18.5	975	0.271	88	88	87	0.83	0.79	0.69	21.2	181.2	2.3	6.8	2.8	68	145
200LT-b	22	975	0.32	88	88	87	0.83	0.79	0.69	25.2	215	2.3	6.8	2.8	68	155
225MT	30	980	0.541	90	90	89	0.84	0.8	0.71	33.2	292	2.4	6.1	2.6	72	234
250MT	37	980	0.752	91	91	90	0.84	0.8	0.71	40.5	361	2.4	6.8	2.7	73	295
280ST	45	985	1.4	91.5	92	91	0.82	0.81	0.73	50.2	436	2.3	5.6	2.3	75	381
280MT	55	985	1.68	92	92.5	91	0.82	0.81	0.73	61.1	533	2.3	5.6	2.3	75	421
315ST	75	985	2.18	92.5	92.5	91	0.83	0.83	0.75	81.8	727	2.3	5.6	2.3	75	526
315M-a	90	988	2.7	93	93	91.5	0.83	0.83	0.75	97.7	870	2.3	5.8	2.6	84	642
315M-b	110	986	2.7	93	93	91.5	0.84	0.83	0.85	118	1065	2.3	5.8	2.6	84	672
315M-c	132	986	3.15	93.3	93.5	92	0.84	0.83	0.85	141	1278	2.3	5.9	2.6	84	730
315M-d	160	987	4.7	94	94	92.5	0.84	0.83	0.85	170	1548	2.4	6	2.6	84	910

Carcassa in acciaio

Line – Steel Frame

355L	200	990	6.4	95	94.9	94.4	0.86	0.83	0.74	205	1929	1.9	5.6	2.2	82	1370
355L-a	250	990	7.9	95.1	95.2	94.6	0.86	0.83	0.75	256	2411	2.2	5.6	2.2	82	1572
355L-b	280	990	8.7	95.1	95.3	94.6	0.86	0.83	0.75	287	2701	2.2	5.8	2.3	82	1660
355L-c	315	990	9.8	95	95.2	94.6	0.86	0.83	0.75	323	3038	1.2	5.6	2.3	82	1800
355LX-a	355	990	19.8	95.5	95.5	95.4	0.89	0.87	0.79	350	3424	1.4	6	2.5	82	2060
355LX-b	400	990	22.3	95.5	95.6	95.5	0.89	0.87	0.79	394	3858	1.4	6	2.6	82	2254
400LX-a	450	994	31.1	95.6	95.5	94.8	0.89	0.87	0.79	443	4323	1.2	6	2.6	84	2960
400LX-b	500	994	35.0	95.7	95.7	94.9	0.89	0.87	0.79	492	4803	1.2	6	2.6	84	3290
400LX-c	560	995	39.8	95.7	95.7	94.9	0.89	0.87	0.79	551	5374	1.3	6.2	2.8	84	3530
450LX-a	630	995	60.0	96	95.9	95	0.88	0.85	0.78	625	6046	1.3	6.8	3	85	4200
450LX-b	710	995	68.0	96	95.9	95	0.88	0.85	0.78	704	6814	1.3	6.9	3.2	85	4560
500LX-a	800	995	74.0	96.3	96.3	95.8	0.89	0.87	0.80	782	7678	0.8	5.9	2.5	85	4890
500LX-b	900	995	86.0	96.4	96.4	95.8	0.89	0.87	0.80	879	8637	0.9	6	2.6	85	5500

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Isolamento classe F – Servizio S1

690V - 50 Hz

8 poli - 750 giri/min

Technical features

Insulation class F – S1 Duty

690V - 50 Hz

8poles - 750 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT	4	710	0.0537	80	84	83	0.73	0.67	0.54	5.7	53.8	2	5	2.1	61	68.5
160M	5.5	715	0.0772	82	84	83	0.73	0.67	0.54	7.7	73.5	2	5.2	2.1	61	70
160L	7.5	720	0.109	84	86	85	0.74	0.68	0.55	10.1	99.5	2.1	5.4	2.2	61	87.5
180LT	11	730	0.154	86	87	86	0.76	0.68	0.55	14.1	144	2.1	5.1	2	61	117
200LT	15	730	0.345	87	89	88	0.76	0.7	0.68	19.0	196	2.1	5.4	2.3	66	155
225ST	18.5	730	0.505	88	89	88	0.79	0.73	0.62	22.3	242	2.3	5.3	2.3	70	207
225MT	22	730	0.577	89	90	89	0.79	0.74	0.63	26.2	288	2.3	5.3	2.4	70	243
250MT	30	735	0.902	90	90.5	89	0.8	0.75	0.65	34.9	390	2.4	5.5	2.6	71	317
280ST	37	735	1.75	90.5	90.5	89	0.8	0.75	0.65	42.8	481	2.1	5	2.3	72	420
280MT	45	735	2.12	91	91	90	0.8	0.76	0.66	51.8	585	2.1	5.1	2.3	72	460
315ST	55	740	2.43	92	92	91	0.8	0.76	0.66	62.6	710	2.3	5.5	2.2	81	525
315M-a	75	740	3	93	92	91	0.8	0.76	0.66	84.4	968	1.4	5.4	2.4	81	642
315M-b	90	740	3.4	93.5	93	91.5	0.8	0.76	0.66	101	1161	1.4	5.6	2.5	81	754
315M-c	110	740	4.4	93.8	93	91.5	0.81	0.76	0.66	121	1419	1.4	5.6	2.5	81	861
315M-d	132	740	5	94	93	91.5	0.82	0.77	0.67	143	1703	1.4	5.6	2.5	81	990

Carcassa in acciaio

Line – Steel Frame

355L-a	160	742	8.7	94.3	94	92.5	0.81	0.79	0.69	175	2059	1.4	5.0	2.2	81	1460
355L-b	200	742	10.5	94.5	94	92.5	0.81	0.79	0.69	219	2574	1.4	5.1	2.2	81	1590
355L-c	250	745	12.6	94.5	94	92.5	0.82	0.8	0.7	270	3204	1.4	5.1	2.2	81	1760
355LX-a	315	745	28.9	95	94.5	93	0.80	0.79	0.69	347	4037	1.3	5.4	2.2	81	2520
355LX-b	355	745	34.0	95	94.5	93	0.81	0.79	0.69	386	4550	1.4	5.4	2.3	81	2840
400LX-b	400	745	41.8	95.4	95	93.5	0.84	0.82	0.72	418	5127	1.3	5.4	2.2	81	3200
400LX-c	450	745	49.9	95.5	95	93.5	0.84	0.82	0.72	470	5768	1.4	5.4	2.2	81	3540
450LX-a	500	745	69.5	95.6	95.2	93.7	0.84	0.82	0.72	522	6409	1.4	5.4	2.3	83	4060
450LX-b	560	745	81.7	95.8	95.3	93.8	0.84	0.82	0.72	583	7178	1.4	5.4	2.3	83	4440
500LX-a	630	745	101.1	96	95.4	93.9	0.86	0.84	0.74	639	8075	0.9	5.4	2.2	83	5010
500LX-b	710	745	113.8	96	95.4	93.9	0.86	0.84	0.74	720	9100	0.9	5.4	2.2	83	5440
500LX-c	800	745	129.6	96.1	95.6	94	0.86	0.84	0.74	811	10254	0.9	5.4	2.2	83	5980

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE2 (IEC 60034-30- 2008)

Alta efficienza

Isolamento classe F Sovratemperatura classe B

Servizio S1 - 400V - 50 Hz

2 poli - 3000 giri/min

Technical features

IE2 Efficiency class (IEC 60034-30; 2008)

High Efficiency

Insulation class F – Temperature rise class B

S1 Duty - 400V - 50 Hz

2 poles - 3000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Ca/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Serie C2A – Carcassa in alluminio

C2A Line – Aluminium Frame

C2A 80-a	0.75	2870	0.0015	77.4	79	76.6	0.8	0.71	0.54	1.8	2.49	2.3	4.5	2.4	61	9.6
C2A 80-b	1.1	2975	0.0020	79.6	80.2	77.2	0.8	0.72	0.57	2.5	3.53	2.6	5.5	2.7	61	11.2
C2A 90S	1.5	2830	0.0016	81.3	80.6	79.9	0.82	0.78	0.67	3.3	5.06	2.6	5.5	2.6	65	13.9
C2A 90L	2.2	2880	0.0023	83.2	83.6	83.1	0.82	0.78	0.67	4.7	7.29	2.6	5.8	2.6	65	15.9
C2A 100L	3	2880	0.0042	84.6	84.7	83.2	0.84	0.78	0.67	6.1	9.95	2.4	6.2	2.5	69	23.8
C2A 112MT-a	4	2910	0.0056	85.8	86.3	86	0.84	0.78	0.67	8.0	13.13	2.3	6.8	2.6	69	28
C2A 132S-a	5.5	2880	0.0112	87	86.7	84.7	0.9	0.87	0.8	10.2	18.24	2.2	6.8	2.5	69	43.3
C2A 132S-b	7.5	2920	0.0146	87	87.6	87.2	0.9	0.88	0.82	13.8	24.5	2.3	7	2.6	71	49.5
C2A 160M-a	11	2935	0.031	89.4	89.5	87.7	0.88	0.85	0.77	20.2	36	2	6.2	2.8	71	76
C2A 160M-b	15	2936	0.041	90.3	90.5	89.4	0.89	0.85	0.78	27.0	49	2.3	6.7	2.8	72	90
C2A 160L	18.5	2938	0.048	90.9	91	90.3	0.89	0.85	0.78	33.0	60	2.4	7.2	2.9	72	110
C2A 180MT	22	2938	0.055	91.3	91.5	90	0.89	0.86	0.79	39.1	72	2.6	7.2	2.9	72	116
C2A 200LT-a	30	2945	0.105	92	92	91	0.91	0.89	0.85	51.8	97	2	7	2.8	81	162
C2A 200LT-b	37	2947	0.126	92.5	92.6	91.3	0.91	0.89	0.85	63.5	120	2.2	7	3	81	184
C2A 225MT (*)	45	2960	0.18	92.9	92.9	91.4	0.9	0.88	0.8	77.8	145	2.6	7.5	3	81	222
C2A 250MT	55	2965	0.29	93.2	92.1	90.3	0.9	0.88	0.81	94.8	177	2.6	7.5	3	81	280
C2A 280ST	75	2965	0.553	93.8	93.3	91.1	0.9	0.88	0.84	128.4	242	2.4	7.2	2.7	84	408
C2A 280MT	90	2968	0.664	94.1	93.7	92	0.9	0.88	0.88	153.6	290	2.4	7.2	2.8	84	495
C2A 315ST	110	2970	0.751	94.3	94.8	93	0.9	0.88	0.89	187.3	354	2.6	7.5	2.8	84	553
C2A 315Ma	132	2980	1.43	94.6	94.2	92.7	0.9	0.88	0.84	224.0	423	1.9	7	2.3	87	692
C2A 315Mb	160	2980	1.67	94.8	94.5	93.5	0.9	0.89	0.86	271.0	513	1.9	7	2.3	87	764
C2A 315Mc	200	2980	1.83	95	94.9	93.5	0.9	0.89	0.86	338.0	641	2	7	2.3	87	840

Serie C2S – Carcassa in acciaio

C2S Line – Steel Frame

C2S 355L	250	2983	2.29	95.1	94	93.5	0.91	0.9	0.87	417	800.3	1.6	7.5	2.3	88	1200
C2S 355L-a	280	2980	3.39	95.1	94.1	93.5	0.91	0.9	0.87	468	898	1.6	7.5	2.4	88	1280
C2S 355L-b	315	2980	4.36	95.1	94.1	93.3	0.91	0.9	0.87	526	1010	1.6	7.5	2.6	88	1570

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE2 (IEC 60034-30- 2008)

Alta efficienza

Isolamento classe F – Sovratemperature di classe B

Servizio S1 - 400V - 50 Hz

4 poli - 1500 giri/min

Technical features

IE2 Efficiency class (IEC 60034-30; 2008)

High Efficiency

Insulation class F – Temperature rise class B

S1 Duty - 400V - 50 Hz

4 poles - 1500 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosφ			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Serie C2A – Carcassa in alluminio

C2A Line – Aluminium Frame

C2A 80-b	0.75	1360	0.0019	79.6	79	78	0.73	0.69	0.58	1.9	5.27	2.3	5	2.3	50	11
C2A 90S	1.1	1395	0.0028	81.4	81	79	0.81	0.74	0.61	2.4	7.53	2.3	4.7	2.5	50	14.2
C2A 90L	1.5	1400	0.0373	82.8	82	80	0.81	0.74	0.61	3.2	10.23	2.6	5	2.6	52	17.8
C2A 100L-a	2.2	1425	0.006	84.3	84.6	84.4	0.8	0.74	0.62	4.7	14.74	2	5	2.2	52	21.2
C2A 100L-b	3	1425	0.008	85.5	85.8	84.9	0.8	0.74	0.62	6.3	20.10	2	5	2.2	56	26.2
C2A 112M	4	1420	0.014	86.6	87.5	87.5	0.8	0.73	0.62	8.3	26.90	2.4	5	2.5	56	35
C2A 132S	5.5	1452	0.023	87.7	87.9	87	0.8	0.72	0.61	11.3	36.2	1.8	5.5	2.5	56	48
C2A 132M	7.5	1456	0.034	88.7	88.9	88	0.81	0.73	0.62	15.1	49.2	2	5.8	2.6	59	58
C2A 132 Mb	9.2	1457	0.037	89.3	89.3	88.4	0.81	0.73	0.6	18.38	60.3	2	5.9	2.7	59	65.2
C2A 160M	11	1463	0.076	89.8	90	89.8	0.83	0.76	0.63	21.3	71.8	2.4	5.8	2.5	59	85.5
C2A 160L	15	1463	0.093	90.6	91	90.6	0.83	0.76	0.63	28.8	97.9	2.6	6	2.6	63	104
C2A 180MT	18.5	1465	0.11	91.2	91.4	91.1	0.83	0.77	0.63	35	120.6	2.5	6	2.5	63	125
C2A 180L	22	1465	0.153	91.6	92	91.6	0.87	0.83	0.74	40	143.4	2.2	6	2.6	63	155
C2A 200LT	30	1465	0.195	92.3	92.6	92.2	0.87	0.83	0.74	54	195.5	2.2	6.2	2.8	66	186
C2A 225ST	37	1470	0.352	92.7	92.7	92	0.87	0.83	0.74	66	240.3	2.6	7.1	2.9	66	230
C2A 225M	45	1474	0.429	93.1	93.2	93	0.88	0.82	0.74	79	292	2.6	7.5	2.9	66	263
C2A 250MT	55	1475	0.55	93.5	93.4	93	0.88	0.84	0.75	97	356	2.8	7.6	3	66	315
C2A 280ST	75	1480	1.25	94	93.8	93.7	0.88	0.85	0.76	131	484	2.6	7	2.6	70	407
C2A 280MT	90	1480	1.48	94.2	94	93.8	0.88	0.85	0.76	157	581	2.6	7	2.6	70	474
C2A 315M-a	110	1488	2.6	94.5	94.3	93.3	0.86	0.83	0.74	196	706	2.6	7	2.6	80	660
C2A 315M-b	132	1488	3.2	94.7	94.7	94	0.86	0.83	0.74	234	847	2.6	7.2	2.6	80	733
C2A 315M-c	160	1488	3.9	94.9	94.8	94	0.88	0.85	0.78	277	1027	2.7	7.2	2.7	80	848
C2A 315M-d	200	1485	4.7	95.1	95	94.2	0.88	0.85	0.78	345	1286	2.7	7.2	2.8	80	1026

Serie C2S – CS - Carcassa in acciaio

C2S -CS Line – Steel Frame

C2S 355L-a	250	1492	5.5	95.1	94.4	92.4	0.87	0.85	0.75	437	1600	1.4	6.4	2.4	84	1360
C2S 355L-b	280	1492	5.8	95.1	94.6	93	0.88	0.84	0.77	483	1792	1.4	6.4	2.4	84	1490
C2S 355L-c	315	1492	6.6	95.3	94.7	93	0.88	0.85	0.77	543	2016	1.4	6.5	2.4	84	1680
C2S 355Lx-a(*)	355	1492	10.0	95.3	94.8	93.3	0.89	0.87	0.81	605	2272	1.3	6.8	2.8	84	1850
CS 355Lx-b (*)	400	1492	11.8	95.5	94.9	93.7	0.89	0.88	0.81	680	2560	1.4	7	2.8	84	2060
CS 355Lx-c (*)	450	1492	13.6	95.7	95.2	94	0.90	0.87	0.81	755	2880	1.4	7	2.8	84	2260
CS 355Lx-d (*)	500	1492	15.9	95.8	95.2	94	0.90	0.87	0.81	838	3200	1.4	7	2.8	84	2520
CS 400Lx-a (*)	560	1495	27.0	96	95.4	94.2	0.87	0.83	0.76	969	3577	1.8	7.5	2.5	85	3150
CS 400Lx-b (*)	630	1490	31.6	96	95.4	94.2	0.87	0.83	0.76	1090	4037	2	7.5	2.5	85	3520
CS 450Lx-a	710	1495	36.0	96.5	96	95.2	0.89	0.87	0.84	1195	4535	1.5	7	2	85	4100
CS 450Lx-b	800	1495	41.8	96.7	96.2	95.2	0.89	0.87	0.84	1343	5110	1.8	7.5	2.4	85	4420
CS 500Lx-a (*)	900	1496	70.6	96.7	96.2	95.2	0.88	0.86	0.82	1528	5745	1.5	7	2.3	85	4950
CS 500Lx-c (*)	1000	1495	78.2	96.9	96.6	95.6	0.89	0.87	0.83	1676	6387	1.6	7	2.3	85	5300

(*) Sovratemperature classe F

(*) Temperature rise class F

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE2 (IEC 60034-30- 2008)

Alta efficienza

Isolamento classe F – Sovratemperatura classe B

Servizio S1 - 400V - 50 Hz

6 poli - 1000 giri/min

Technical features

IE2 Efficiency class (IEC 60034-30; 2008)

High Efficiency

Insulation class F –Temperature rise class B

S1 Duty - 400V - 50 Hz

6 poles - 1000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosφ			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Serie C2A – Carcassa in alluminio

C2A Line – Aluminium Frame

C2A 90S	0.75	925	0.005	75.9	74	68	0.66	0.55	0.4	2.16	7.742	2.5	5	2.9	54	13.5
C2A 90L	1.1	925	0.006	78.1	76	72	0.7	0.59	0.43	2.9	11.36	2.8	5.2	3	54	16.5
C2A 100L	1.5	950	0.013	79.8	77	72	0.71	0.58	0.44	3.8	15.08	2.1	4.7	2.5	57	25
C2A 112M	2.2	950	0.018	81.8	82	78	0.71	0.59	0.45	5.5	22.11	2.2	5.8	2.6	57	
C2A 132S	3	955	0.029	83.3	83.3	81.2	0.72	0.61	0.47	7.2	30	2.2	5.6	2.8	60	45.5
C2A 132M-a	4	955	0.039	84.6	84.6	82.6	0.72	0.62	0.48	9.5	40	2.3	6	2.9	60	52.5
C2A 132M-b	5.5	955	0.051	86	86	84.3	0.73	0.63	0.49	12.7	54.99	2.4	6	3	60	69
C2A 160M	7.5	960	0.104	87.2	87.2	86	0.78	0.68	0.54	15.9	74.6	2.6	7	3	63	88
C2A 160L	11	965	0.123	88.7	88.4	87.2	0.78	69	0.54	23.0	108.8	2.6	7.4	3	63	114
C2A 180LT	15	970	0.16	89.7	89.2	87.8	0.78	69	0.54	31	147.7	2.7	7.5	3	63	125
C2A 200L-a	18.5	980	0.38	90.4	90.6	89	0.86	0.81	0.7	34	180.3	2.5	6.8	2.8	68	134
C2A 200L-b	22	980	0.45	90.9	91	89.9	0.86	0.81	0.7	41	214.4	2.7	7	2.9	68	155
C2A 225M	30	980	0.72	91.7	91.9	91.1	0.82	0.76	0.62	58	292.3	2.6	7	2.9	72	295
C2A 250MT	37	980	0.864	92.2	92.3	91.7	0.82	0.76	0.62	71	360.5	2.6	7	2.9	73	332
C2A 280ST	45	985	1.72	92.7	92.4	91.7	0.83	0.78	0.67	85	436.2	2.3	6	2.3	75	421
C2A 280MT	55	985	2.17	93.1	92.7	91.7	0.83	0.78	0.68	103	533.2	2.4	6	2.3	75	490
C2A 315ST	75	985	2.68	93.7	93.2	92.3	0.83	0.78	0.68	139	727.1	2.4	6	2.3	75	565
C2A 315M-a	90	988	3.14	94	93.5	92.4	0.83	0.8	0.68	167	870	2.4	6.5	2.7	82	672
C2A 315M-b	110	988	3.73	94.3	93.9	93.1	0.84	0.8	0.7	201	1063	2.4	6.5	2.7	82	730
C2A 315M-c	132	988	4.7	94.6	94.2	93.2	0.84	0.8	0.7	240	1276	2.7	7	2.9	82	910
C2A 315M-d	160	988	5.7	94.8	94.4	93.5	0.84	0.81	0.7	290	1546	2.7	7	2.9	82	1100

Serie C2S – CS – Carcassa in acciaio

C2S - CS Line – Steel Frame

C2S 355L	200	990	6.4	95	94.9	94.4	0.86	0.83	0.74	354	1929	1.9	5.6	2.2	82	1370
C2S 355L-a (*)	250	990	7.9	95.1	95.2	94.6	0.86	0.83	0.75	442	2411	2.2	5.6	2.2	82	1572
C2S 355L-b (*)	280	990	8.7	95.1	95.3	94.6	0.86	0.83	0.75	495	2701	2.2	5.8	2.3	82	1660
C2S 355L-c (*)	315	990	9.8	95	95.2	94.6	0.86	0.83	0.75	557	3038	1.2	5.6	2.3	82	1800
C2S 355LX-a (*)	355	990	19.8	95.5	95.5	95.4	0.89	0.87	0.79	604	3424	1.4	6	2.5	82	2060
CS 355LX-b (*)	400	990	22.3	95.5	95.6	95.5	0.89	0.87	0.79	680	3858	1.4	6	2.6	82	2254
CS 400LX-a (*)	450	994	31.1	95.6	95.5	94.8	0.89	0.87	0.79	764	4323	1.2	6	2.6	84	2960
CS 400LX-b	500	994	35.0	95.7	95.7	94.9	0.89	0.87	0.79	848	4803	1.2	6	2.6	84	3290
CS 400LX-c	560	995	39.8	95.7	95.7	94.9	0.89	0.87	0.79	950	5374	1.3	6.2	2.8	84	3530
CS 450LX-a	630	995	60.0	96	95.9	95	0.88	0.85	0.78	1078	6046	1.3	6.8	3	85	4200
CS 450LX-b	710	995	68.0	96	95.9	95	0.88	0.85	0.78	1215	6814	1.3	6.9	3.2	85	4560
CS 500LX-a	800	995	74.0	96.3	96.3	95.8	0.89	0.87	0.80	1349	7678	0.8	5.9	2.5	85	4890
CS 500LX-b	900	995	86.0	96.4	96.4	95.8	0.89	0.87	0.80	1516	8637	0.9	6	2.6	85	5500

(*) Sovratemperatura classe F

(*) Temperature rise class F

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F - Servizio S1 -

440V - 60 Hz

2 poli - 3600 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

440V - 60 Hz

2 poles - 3600 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J Kg/m ²	Rendimento Efficiency			Fattore di potenza Power factor Cosφ			Corrente Current In a 440 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Ca/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.18	3240	0.000241	64	64	60	0.75	0.69	56	0.49	0.641	2.4	3.5	2.5	61	3.3
63-b	0.29	3240	0.00014	64	64	60	0.75	0.69	0.56	0.79	0.85	2.4	3.5	2.5	61	3.8
71-a	0.43	3360	0.00023	71	71	67	0.8	0.75	0.65	0.99	1.22	2.2	4	2.3	63	6
71-b	0.64	3372	0.00033	71	71	67	0.8	0.75	0.65	1.48	1.81	2.5	4.6	2.6	63	7
80-a	0.87	3384	0.00088	75	75	72	0.81	0.76	0.66	1.88	2.45	2.3	4.5	2.4	67	8.6
80-b	1.28	3384	0.00123	76	76	73	0.81	0.76	0.66	2.73	3.61	2.3	4.8	2.4	67	10.2
90S	1.74	3408	0.0022	77	77	75	0.82	0.77	0.67	3.62	4.88	2.4	4.9	2.5	72	11.5
90L	2.55	3408	0.0025	78	78	76	0.82	0.77	0.67	5.24	7.14	2.4	4.9	2.5	72	13.5
100L	3.48	3420	0.0040	82	82	81	0.83	0.79	0.69	6.72	9.7	2.6	6.5	2.8	76	20.5
112MT-a	4.64	3432	0.0055	82	82	81	0.83	0.79	0.69	8.96	12.9	2.6	6.5	2.8	76	23
132S-a	6.38	3480	0.0150	85	85	84	0.86	0.83	0.75	11.47	17.5	2.5	7	2.8	78	38.4
132S-b	8.7	3480	0.0180	86	86	85	0.86	0.83	0.75	15.45	23.9	2.5	7	2.8	78	42
132M	10.4	3492	0.023	86	86	85	0.86	0.83	0.75	18.47	28.4	2.4	7	2.7	79	47.5
160MT-a	12.8	3492	0.003	86	86	85	0.85	0.81	0.73	23.00	35.0	2.5	7	2.7	79	58
160MT-b	17.4	3516	0.003	88	88	87	0.86	0.83	0.75	30.20	47.3	2.6	6.5	2.8	79	68
160L	21.5	3528	0.004	88	88	87	0.86	0.83	0.75	37.32	58.2	2.6	6.7	2.8	79	90
180MT	25.5	3540	0.053	88	88	87	0.86	0.83	0.75	44.26	68.8	2.7	6.9	2.9	79	110
180LT	29	3540	0.063	88	88	87	0.86	0.83	0.75	50.34	78.2	2.7	7	2.9	79	116
200LT-a	34.8	3540	0.098	89.5	89.5	88	0.87	0.84	0.76	58.71	93.9	2.7	7	3	87	142
200LT-b	42.9	3552	0.123	89.5	89.5	88	0.87	0.84	0.76	72.38	115	2.7	7.3	3	87	162
225MT	52	3552	0.223	90	90	89	0.88	0.85	0.78	86.25	140	2.7	7.3	3	87	210
250MT	63	3564	0.300	91	90	91	0.89	0.86	0.8	102.19	169	2.8	7.5	3	87	280
280ST	87	3564	0.61	91.5	91.5	90.5	0.89	0.86	0.8	140.35	233	2.6	7.6	2.9	91	372
280MT	104	3564	0.80	92	92	91	0.89	0.86	0.8	166.86	279	2.7	7.2	3	91	407
315ST	127	3570	1.22	93	93	91.5	0.89	0.86	0.8	201.57	340	2.6	7.5	2.8	94	496
315M-a	153	3576	1.32	93	93	1.5	0.89	0.86	0.8	242.84	409	2.5	7.5	2.7	94	620
315M-b	185	3576	1.72	93	93	91.5	0.9	0.88	0.83	290.37	494	2.5	7.4	2.7	94	668
315M-c	230	3576	2.13	93	93	91.5	0.9	0.88	0.83	361.00	614	2.5	7.4	2.7	94	760

Carcassa in acciaio

Steel Frame

355L	290	3580	2.29	95.1	94	93.5	0.91	0.9	0.87	440.23	774	1.45	6.9	2.1	92	1200
355L-a	320	3580	3.39	95.1	94.1	93.5	0.91	0.9	0.87	485.77	898	1.45	6.9	2.2	92	1280
355L-b	365	3580	4.36	95.1	94.1	93.3	0.91	0.9	0.87	554.08	1010	1.45	6.9	2.4	92	1570

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

440V - 60 Hz

4 poli - 1800 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F - S1 Duty

440V - 60 Hz

4 poles - 1800 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J Kg/m ²	Rendimento Efficiency			Fattore di potenza Power factor Cosφ			Corrente Current In a 440 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.15	1600	0.00023	60	60	54	0.6	0.5	0.4	0.55	0.90	2.3	3	2.3	53	3.8
63-b	0.21	1600	0.00028	61	61	55	0.6	0.5	0.4	0.75	1.25	2.3	3	2.3	53	4.1
71-a	0.29	1620	0.00033	68	68	64	0.65	0.55	0.45	0.86	1.71	2	3.5	2	55	5.7
71-b	0.43	1620	0.00049	69	69	65	0.67	0.57	0.47	1.22	2.53	2	3.5	2	55	7
80-a	0.64	1640	0.00115	72	72	68	0.7	0.61	0.5	1.67	3.73	2.3	4.3	2.3	58	8.6
80-b	0.87	1640	0.00161	73	73	70	0.73	0.67	0.54	2.14	5.07	2.3	4.3	2.3	58	10
90S	1.28	1660	0.00208	76.2	74	71	0.78	0.76	0.66	2.83	7.36	2.3	4.5	2.5	60	11.9
90L	1.74	1660	0.00267	78.5	74	71	0.77	0.77	0.67	3.78	10.0	2.3	4.5	2.5	60	14.2
100L-a	2.55	1690	0.00469	81	80	79	0.79	0.75	0.65	5.24	14.4	2	4.5	2.2	64	18.7
100L-b	3.48	1690	0.0060	82.6	81	80	0.8	0.77	0.67	6.92	19.7	2	4.5	2.2	64	21.2
112MT	4.64	1710	0.0080	84.2	83	82	0.81	0.77	0.67	8.94	25.9	2.4	5	2.5	64	25.7
132S	6.38	1730	0.0195	85.7	84	83	0.8	0.77	0.67	12.2	35.2	2.1	6	2.5	67	43
132M-a	8.7	1730	0.027	87	85	84	0.81	0.8	0.71	16.2	48.0	2.1	6	2.5	67	50.3
160MT	12.8	1760	0.04	88.4	88	87	0.83	0.79	0.69	22.9	69.4	2.6	5.9	2.6	67	69.5
160L	17.4	1760	0.08	89.4	90	89	0.82	0.8	0.71	31.2	94	2.6	6	2.6	71	89
180MT	21.5	1765	0.09	90	90	89	0.83	0.8	0.71	37.8	116	2.5	6.5	2.8	71	110
180LT	25.5	1765	0.11	90.5	91	90	0.83	0.83	0.75	44.6	138	2.5	6.5	2.8	71	119
200LT	34.8	1765	0.15	91.4	91	90	0.85	0.83	0.75	58.8	188	2.4	6.5	2.8	74	155
225ST	42.9	1770	0.29	92	91	90	0.84	0.83	0.75	72.9	231	2.6	7.1	2.9	74	202
225MT-a	52	1770	0.37	92.5	92	91	0.84	0.83	0.75	87.9	281	2.6	7.1	2.9	74	235
250MT-b	63	1775	0.43	93	93	91	0.85	0.84	0.76	105	339	2.5	7.3	2.6	74	286
280ST	87	1780	1.1	93.6	93	91.5	0.86	0.84	0.76	142	467	2.5	7.3	2.7	77	387
280MT	104	1780	1.2	93.9	93.6	91.5	0.86	0.84	0.76	169	558	2.6	6.7	2.7	77	415
315ST	127	1785	1.5	94	94	92.5	0.88	0.83	0.75	202	679	2.6	6.7	2.7	79	496
315M-a	153	1785	2.5	94	94.2	92.5	0.88	0.83	0.75	243	818	2.2	6.2	2.7	81	630
315M-b	185	1785	3.3	94	94.3	92.5	0.88	0.85	0.78	294	990	2.5	6.6	2.7	81	740
315M-c	230	1790	4.16	94.2	94.5	92.5	0.89	0.84	0.76	360	1227	2.6	6.8	2.8	81	882

Carcassa in acciaio

Steel Frame

355L-a	290	1792	5.5	95.1	94.4	92.4	0.87	0.85	0.75	460	1545	1.3	5.8	2.2	81	1490
355L-b	325	1792	5.8	95.1	94.6	93	0.88	0.84	0.77	510	1732	1.3	5.8	2.2	88	1560
355L-c	365	1792	6.6	95.3	94.7	93	0.88	0.85	0.77	572	1945	1.3	5.9	2.2	88	1680
355Lx-a	405	1790	10.0	95.3	94.8	93.3	0.89	0.87	0.81	627	2159	1.2	6.1	2.5	88	1850
355Lx-b	456	1790	11.8	95.5	94.9	93.7	0.89	0.88	0.81	705	2433	1.3	6.3	2.5	88	2060
355LX-c	513	1790	13.6	95.7	95.2	94	0.90	0.87	0.81	782	2737	1.3	6.3	2.5	88	2260
355LX-d	570	1790	15.9	95.8	95.2	94	0.90	0.87	0.81	868	3041	1.3	6.3	2.5	88	2520
400LX-a	638	1793	27.0	96	95.4	94.2	0.87	0.83	0.76	1004	3400	1.6	6.8	2.3	88	3150
400LX-b	718	1793	31.6	96	95.4	94.2	0.87	0.83	0.76	1130	3825	1.8	6.8	2.3	89	3520
450LX-a	809	1793	36.0	96.5	96	95.2	0.89	0.87	0.84	1238	4311	1.4	6.3	1.8	89	4100
450LX-b	912	1793	41.8	96.7	96.2	95.2	0.89	0.87	0.84	1392	4857	1.6	6.8	2.2	89	4420
500LX-a	1026	1794	70.6	96.7	96.2	95.2	0.88	0.86	0.82	1584	5461	1.4	6.3	2.1	89	4950
500LX-c	1140	1794	78.2	96.9	96.6	95.6	0.89	0.87	0.83	1737	6068	1.4	6.3	2.1	89	5300

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

440V - 60 Hz

6 poli - 1200 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

440V - 60 Hz

6 poles - 1200 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 440 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

71-a	0.21	1068	0.00105	54	54	46	0.61	0.52	0.4	0.84	1.88	1.7	2.8	1.9	53	5.8
71-b	0.26	1068	0.00129	55	55	47	0.61	0.52	0.4	1.02	2.32	1.8	2.8	2	53	6.5
80-a	0.43	1080	0.00164	66	66	61	0.71	0.62	0.5	1.21	3.80	1.8	3	2	55	7.4
80-b	0.64	1080	0.00256	69	69	65	0.71	0.62	0.5	1.72	5.66	2.05	3.5	2.2	55	9.8
90S	0.87	1092	0.00354	72	72	68	0.72	0.63	0.52	2.20	7.61	1.9	3.8	2.1	58	10.8
90L	1.28	1092	0.0051	73	73	70	0.72	0.63	0.52	3.20	11.19	2	4	2	58	13.5
100L	1.74	1104	0.0087	75	75	72	0.73	0.68	0.55	4.18	15.1	2.1	4.7	2.3	61	19.6
112MT	2.55	1128	0.014	78	77	75	0.75	0.7	0.6	5.73	21.6	2.2	5.5	2.5	61	25
132S	3.5	1140	0.023	80	80	79	0.78	0.72	0.61	7.37	29.3	2	5.6	2.3	64	39
132M-a	4.64	1140	0.031	82	81	80	0.78	0.72	0.61	9.53	38.9	2.3	5.8	2.6	64	45.5
132M-b	6.38	1140	0.041	83	83	82	0.78	0.72	0.61	12.9	53.4	2.3	6	2.6	64	52.5
160MT	8.7	1152	0.054	85	85	84	0.8	0.76	0.66	16.8	72.1	2.1	6	2.6	64	69
160L	12.8	1152	0.109	86	86	85	0.81	0.76	0.66	24.1	106.1	2.3	6.4	2.9	67	88
180LT	17.4	1164	0.141	87	87	86	0.82	0.77	0.67	32.0	142.7	2.4	7.2	3	67	114
200LT-a	21.5	1170	0.271	88	88	87	0.83	0.79	0.69	38.7	175.5	2.3	6.8	2.8	72	145
200LT-b	25.5	1170	0.32	88	88	87	0.83	0.79	0.69	45.9	208	2.3	6.8	2.8	72	155
225MT	34.8	1176	0.541	90	90	89	0.84	0.8	0.71	60.5	283	2.4	6.1	2.6	76	234
250MT	42.9	1176	0.752	91	91	90	0.84	0.8	0.71	73.7	348	2.4	6.8	2.7	77	295
280ST	52	1182	1.4	91.5	92	91	0.82	0.81	0.73	91.0	420	2.3	5.6	2.3	79	381
280MT	63	1182	1.68	92	92.5	91	0.82	0.81	0.73	110	509	2.3	5.6	2.3	79	421
315ST	87	1182	2.18	92.5	92.5	91	0.83	0.83	0.75	149	703	2.3	5.6	2.3	79	526
315M-a	104	1182	2.7	93	93	91.5	0.83	0.83	0.75	177	840	2.3	5.8	2.6	88	642
315M-b	127	1188	2.7	93	93	91.5	0.84	0.83	0.85	214	1021	2.3	5.8	2.6	88	672
315M-c	153	1188	3.15	93.3	93.5	92	0.84	0.83	0.85	256	1230	2.3	5.9	2.6	88	730
315M-d	185	1188	4.7	94	94	92.5	0.84	0.83	0.85	308	1487	2.4	6	2.6	88	910

Carcassa in acciaio

Line – Steel Frame

355L	228	1190	6.4	95	94.9	94.4	0.86	0.83	0.74	367	1830	1.7	5.1	2.0	86	1370
355L-a	285	1190	7.9	95.1	95.2	94.6	0.86	0.83	0.75	458	2287	2.0	5.1	2.0	86	1572
355L-b	319.2	1190	8.7	95.1	95.3	94.6	0.86	0.83	0.75	513	2561	2.0	5.2	2.1	86	1660
355L-c	359	1190	9.8	95	95.2	94.6	0.86	0.83	0.75	577	2882	1.1	5.1	2.1	86	1800
355LX-a	405	1190	19.8	95.5	95.5	95.4	0.89	0.87	0.79	626	3247	1.3	5.4	2.3	86	2060
355LX-b	456	1190	22.3	95.5	95.6	95.5	0.89	0.87	0.79	705	3659	1.3	5.4	2.3	86	2254
400LX-a	510	1194	31.1	95.6	95.6	94.8	0.89	0.87	0.79	787	4079	1.1	5.4	2.3	88	2960
400LX-b	570	1194	35.0	95.7	95.7	94.9	0.89	0.87	0.79	879	4559	1.1	5.4	2.3	88	3290
400LX-c	640	1194	39.8	95.7	95.7	94.9	0.89	0.87	0.79	987	5118	1.2	5.6	2.5	88	3530
450LX-a	718.2	1195	60.0	96	95.9	95	0.88	0.85	0.78	1117	5739	1.2	6.1	2.7	89	4200
450LX-b	810	1195	68.0	96	95.9	95	0.88	0.85	0.78	1260	6473	1.2	6.2	2.9	89	4560
500LX-a	910	1195	74.0	96.3	96.3	95.8	0.89	0.87	0.80	1395	7272	0.7	5.3	2.3	89	4890
500LX-b	1030	1195	86.0	96.4	96.4	95.8	0.89	0.87	0.80	1577	8231	0.8	5.4	2.3	89	5500

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Isolamento classe F – Servizio S1

440V - 60 Hz

8 poli - 900 giri/min

Technical features

Insulation class F – S1 Duty

440V - 60 Hz

8poles - 900 r.p.m

TIPO Type	Potenza Power Kw	Velocità Speed Giri/min	J Kgm2	Rendimento Efficiency 100% 75% 50%			Fattore di potenza Power factor Cosfi 100% 75% 50%			Corrente Current In a 440 V A	Coppia Nominale Nominal Torque Nm	Coppia di Spunto Starting Torque /Cn	Corrente di spunto Starting Current Ia/In	Coppia Massima Max torque Cmax/Cn	Rumor. Noise dB(A)	Forma B3 Mount.B3 Peso Weight Kg
--------------	----------------------------	-----------------------------------	---------------	--	--	--	--	--	--	---	---	--	---	---	------------------------------	--

Carcassa in alluminio

Aluminium Frame

71	0.17	780	0.0013	46	45	42	0.57	0.5	0.4	0.85	2.1	1.6	2.1	1.6	52	6.5
80	0.21	804	0.0016	52	52	46	0.6	0.52	0.42	0.88	2.5	1.8	3	2	54	7.3
80	0.29	804	0.0026	61	61	55	0.6	0.54	0.43	1.04	3.4	1.8	3	2	54	9.7
90S	0.43	816	0.003	64	64	59	0.63	0.55	0.44	1.40	5.0	1.8	3.2	2	57	10.6
90L	0.64	828	0.0045	67	67	62	0.63	0.55	0.44	1.99	7.4	1.8	3.4	2	57	13.3
100L	0.87	828	0.0087	68	68	64	0.64	0.56	0.45	2.63	10.0	2	3.4	2.1	59	19.3
100L	1.28	828	0.0109	70	70	66	0.64	0.56	0.45	3.75	14.8	2	3.4	2.1	59	21.5
112MT	1.74	840	0.0141	73	73	70	0.65	0.57	0.46	4.82	19.8	1.9	3.5	2.4	59	25
132S	2.55	846	0.0307	78	80	79	0.71	0.62	0.5	6.05	28.8	1.9	4.6	2.2	62	45
132M	3.5	852	0.0409	79	81	80	0.72	0.63	0.52	8.08	39.2	1.9	5	2.3	62	52
160MT	4.64	852	0.0537	80	84	83	0.73	0.67	0.54	10.4	52.0	2	5	2.1	65	68.5
160M	6.38	858	0.0772	82	84	83	0.73	0.67	0.54	14.0	71.0	2	5.2	2.1	65	70
160L	8.7	864	0.109	84	86	85	0.74	0.68	0.55	18.4	96.2	2.1	5.4	2.2	65	87.5
180LT	12.8	876	0.154	86	87	86	0.76	0.68	0.55	25.7	140	2.1	5.1	2	65	117
200LT	17.4	876	0.345	87	89	88	0.76	0.7	0.68	34.6	190	2.1	5.4	2.3	70	155
225ST	21.5	876	0.505	88	89	88	0.79	0.73	0.62	40.6	234	2.3	5.3	2.3	74	207
225MT	25.5	876	0.577	89	90	89	0.79	0.74	0.63	47.6	278	2.3	5.3	2.4	74	243
250MT	34.8	882	0.902	90	90.5	89	0.8	0.75	0.65	63.5	377	2.4	5.5	2.6	75	317
280ST	42.9	882	1.75	90.5	90.5	89	0.8	0.75	0.65	77.8	464	2.1	5	2.3	76	420
280MT	52	882	2.12	91	91	90	0.8	0.76	0.66	93.8	563	2.1	5.1	2.3	76	460
315ST	63	888	2.43	92	92	91	0.8	0.76	0.66	112	677	2.3	5.5	2.2	85	525
315M-a	87	888	3	93	92	91	0.8	0.76	0.66	154	936	1.4	5.4	2.4	85	642
315M-b	104	888	3.4	93.5	93	91.5	0.8	0.76	0.66	183	1118	1.4	5.6	2.5	85	754
315M-c	127	888	4.4	93.8	93	91.5	0.81	0.76	0.66	220	1366	1.4	5.6	2.5	85	861
315M-d	153	888	5	94	93	91.5	0.82	0.77	0.67	261	1645	1.4	5.6	2.5	85	990

Carcassa in acciaio

Line – Steel Frame

355L-a	185	894	8.7	94.3	94	92.5	0.81	0.79	0.69	318	1976	1.5	5.5	2.4	85	1460
355L-b	230	894	10.5	94.5	94	92.5	0.81	0.79	0.69	395	2457	1.5	5.6	2.4	85	1590
355L-c	285	894	12.6	94.5	94	92.5	0.82	0.8	0.7	483	3044	1.5	5.6	2.4	85	1760
355LX-a	360	893	28.9	95	94.5	93	0.80	0.79	0.69	622	3850	1.4	6	2.4	85	2520
355LX-b	405	893	34.0	95	94.5	93	0.81	0.79	0.69	691	4331	1.5	6	2.5	85	2840
400LX-b	456	893	41.8	95.4	95	93.5	0.84	0.82	0.72	748	4876	1.4	6	2.4	85	3200
400LX-c	513	893	49.9	95.5	95	93.5	0.84	0.82	0.72	840	5486	1.5	6	2.4	85	3540
450LX-a	570	893	69.5	95.6	95.2	93.7	0.84	0.82	0.72	932	6095	1.5	6	2.5	87	4060
450LX-b	640	893	81.7	95.8	95.3	93.8	0.84	0.82	0.72	1045	6844	1.5	6	2.5	87	4440
500LX-a	720	893	101.1	96	95.4	93.9	0.86	0.84	0.74	1146	7699	1.0	6	2.4	87	5010
500LX-b	810	893	113.8	96	95.4	93.9	0.86	0.84	0.74	1289	8661	1.0	6	2.4	87	5440
500LX-c	910	893	129.6	96.1	95.6	94	0.86	0.84	0.74	1447	9731	1.0	6	2.4	87	5980

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F - Servizio S1 -

690V - 60 Hz

2 poli - 3600 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

690V - 60 Hz

2 poles - 3600 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosφ			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Ca/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT-a	12.8	3492	0.003	86	86	85	0.85	0.81	0.73	23.00	35	2.5	7	2.7	79	58
160MT-b	17.4	3516	0.003	88	88	87	0.86	0.83	0.75	30.20	47.3	2.6	6.5	2.8	79	68
160L	21.5	3528	0.004	88	88	87	0.86	0.83	0.75	37.32	58.2	2.6	6.7	2.8	79	90
180MT	25.5	3540	0.053	88	88	87	0.86	0.83	0.75	44.26	68.8	2.7	6.9	2.9	79	110
180LT	29	3540	0.063	88	88	87	0.86	0.83	0.75	50.34	78.2	2.7	7	2.9	79	116
200LT-a	34.8	3540	0.098	89.5	89.5	88	0.87	0.84	0.76	58.71	93.9	2.7	7	3	87	142
200LT-b	42.9	3552	0.123	89.5	89.5	88	0.87	0.84	0.76	72.38	115	2.7	7.3	3	87	162
225MT	52	3552	0.223	90	90	89	0.88	0.85	0.78	86.25	140	2.7	7.3	3	87	210
250MT	63	3564	0.300	91	90	91	0.89	0.86	0.8	102.19	169	2.8	7.5	3	87	280
280ST	87	3564	0.61	91.5	91.5	90.5	0.89	0.86	0.8	89	233	2.6	7.6	2.9	91	372
280MT	104	3564	0.80	92	92	91	0.89	0.86	0.8	106	279	2.7	7.2	3	91	407
315ST	127	3570	1.22	93	93	91.5	0.89	0.86	0.8	129	340	2.6	7.5	2.8	94	496
315M-a	153	3576	1.32	93	93	1.5	0.89	0.86	0.8	155	409	2.5	7.5	2.7	94	620
315M-b	185	3576	1.72	93	93	91.5	0.9	0.88	0.83	185	494	2.5	7.4	2.7	94	668
315M	230	3576	2.13	93	93	91.5	0.9	0.88	0.83	230	614	2.5	7.4	2.7	94	760

Carcassa in acciaio

Steel Frame

355L	290	3580	2.29	95.1	94	93.5	0.91	0.9	0.87	281	774	1.45	6.9	2.1	92	1200
355L-a	320	3580	3.39	95.1	94.1	93.5	0.91	0.9	0.87	310	898	1.45	6.9	2.2	92	1280
355L-b	365	3580	4.36	95.1	94.1	93.3	0.91	0.9	0.87	353	1010	1.45	6.9	2.4	92	1570

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

690V - 60 Hz

4 poli - 1800 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F - S1 Duty

690V - 60 Hz

4 poles - 1800 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT	12.8	1760	0.04	88.4	88	87	0.83	0.79	0.69	22.9	69.4	2.6	5.9	2.6	67	69.5
160L	17.4	1760	0.08	89.4	90	89	0.82	0.8	0.71	31.2	94	2.6	6	2.6	71	89
180MT	21.5	1765	0.09	90	90	89	0.83	0.8	0.71	37.8	116	2.5	6.5	2.8	71	110
180LT	25.5	1765	0.11	90.5	91	90	0.83	0.83	0.75	44.6	138	2.5	6.5	2.8	71	119
200LT	34.8	1765	0.15	91.4	91	90	0.85	0.83	0.75	58.8	188	2.4	6.5	2.8	74	155
225ST	42.9	1770	0.29	92	91	90	0.84	0.83	0.75	72.9	231	2.6	7.1	2.9	74	202
225MT-a	52	1770	0.37	92.5	92	91	0.84	0.83	0.75	87.9	281	2.6	7.1	2.9	74	235
250MT-b	63	1775	0.43	93	93	91	0.85	0.84	0.76	105	339	2.5	7.3	2.6	74	286
280ST	87	1780	1.1	93.6	93	91.5	0.86	0.84	0.76	91	467	2.5	7.3	2.7	77	387
280MT	104	1780	1.2	93.9	93.6	91.5	0.86	0.84	0.76	108	558	2.6	6.7	2.7	77	415
315ST	127	1785	1.5	94	94	92.5	0.88	0.83	0.75	129	679	2.6	6.7	2.7	79	496
315M-a	153	1785	2.5	94	94.2	92.5	0.88	0.83	0.75	155	818	2.2	6.2	2.7	81	630
315M-b	185	1785	3.3	94	94.3	92.5	0.88	0.85	0.78	187	990	2.5	6.6	2.7	81	740
315M-c	230	1790	4.16	94.2	94.5	92.5	0.89	0.84	0.76	230	1227	2.6	6.8	2.8	81	882

Carcassa in acciaio

Steel Frame

355L-a	290	1792	5.5	95.1	94.4	92.4	0.87	0.85	0.75	294	1545	1.3	5.8	2.2	81	1490
355L-b	325	1792	5.8	95.1	94.6	93	0.88	0.84	0.77	325	1732	1.3	5.8	2.2	88	1560
355L-c	365	1792	6.6	95.3	94.7	93	0.88	0.85	0.77	365	1945	1.3	5.9	2.2	88	1680
355Lx-a	405	1790	10.0	95.3	94.8	93.3	0.89	0.87	0.81	400	2159	1.2	6.1	2.5	88	1850
355Lx-b	456	1790	11.8	95.5	94.9	93.7	0.89	0.88	0.81	449	2433	1.3	6.3	2.5	88	2060
355LX-c	513	1790	13.6	95.7	95.2	94	0.90	0.87	0.81	499	2737	1.3	6.3	2.5	88	2260
355LX-d	570	1790	15.9	95.8	95.2	94	0.90	0.87	0.81	554	3041	1.3	6.3	2.5	88	2520
400LX-a	638	1793	27.0	96	95.4	94.2	0.87	0.83	0.76	640	3400	1.6	6.8	2.3	88	3150
400LX-b	718	1793	31.6	96	95.4	94.2	0.87	0.83	0.76	720	3825	1.8	6.8	2.3	89	3520
450LX-a	809	1793	36.0	96.5	96	95.2	0.89	0.87	0.84	789	4311	1.4	6.3	1.8	89	4100
450LX-b	912	1793	41.8	96.7	96.2	95.2	0.89	0.87	0.84	888	4857	1.6	6.8	2.2	89	4420
500LX-a	1026	1794	70.6	96.7	96.2	95.2	0.88	0.86	0.82	1010	5461	1.4	6.3	2.1	89	4950
500LX-c	1140	1794	78.2	96.9	96.6	95.6	0.89	0.87	0.83	1107	6068	1.4	6.3	2.1	89	5300

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

690V - 60 Hz

6 poli - 1200 giri/min

Technical features

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

690V - 60 Hz

6 poles - 1200 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J Kgm2	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT	8.7	1152	0.054	85	85	84	0.8	0.76	0.66	16.8	72.1	2.1	6	2.6	64	69
160L	12.8	1152	0.109	86	86	85	0.81	0.76	0.66	24.1	106	2.3	6.4	2.9	67	88
180LT	17.4	1164	0.141	87	87	86	0.82	0.77	0.67	32.0	143	2.4	7.2	3	67	114
200LT-a	21.5	1170	0.271	88	88	87	0.83	0.79	0.69	38.7	175	2.3	6.8	2.8	72	145
200LT-b	25.5	1170	0.32	88	88	87	0.83	0.79	0.69	45.9	208	2.3	6.8	2.8	72	155
225MT	34.8	1176	0.541	90	90	89	0.84	0.8	0.71	60.5	283	2.4	6.1	2.6	76	234
250MT	42.9	1176	0.752	91	91	90	0.84	0.8	0.71	73.7	348	2.4	6.8	2.7	77	295
280ST	52	1182	1.4	91.5	92	91	0.82	0.81	0.73	58.1	420	2.3	5.6	2.3	79	381
280MT	63	1182	1.68	92	92.5	91	0.82	0.81	0.73	70.0	509	2.3	5.6	2.3	79	421
315ST	87	1182	2.18	92.5	92.5	91	0.83	0.83	0.75	94.9	703	2.3	5.6	2.3	79	526
315M-a	104	1182	2.7	93	93	91.5	0.83	0.83	0.75	113	840	2.3	5.8	2.6	88	642
315M-b	127	1188	2.7	93	93	91.5	0.84	0.83	0.85	136	1021	2.3	5.8	2.6	88	672
315M-c	153	1188	3.15	93.3	93.5	92	0.84	0.83	0.85	164	1230	2.3	5.9	2.6	88	730
315M-d	185	1188	4.7	94	94	92.5	0.84	0.83	0.85	196	1487	2.4	6	2.6	88	910

Carcassa in acciaio

Line – Steel Frame

355L	228	1190	6.4	95	94.9	94.4	0.86	0.83	0.74	234	1830	1.7	5.1	2.0	86	1370
355L-a	285	1190	7.9	95.1	95.2	94.6	0.86	0.83	0.75	292	2287	2.0	5.1	2.0	86	1572
355L-b	319.2	1190	8.7	95.1	95.3	94.6	0.86	0.83	0.75	327	2561	2.0	5.2	2.1	86	1660
355L-c	359	1190	9.8	95	95.2	94.6	0.86	0.83	0.75	368	2882	1.1	5.1	2.1	86	1800
355LX-a	405	1190	19.8	95.5	95.5	95.4	0.89	0.87	0.79	399	3247	1.3	5.4	2.3	86	2060
355LX-b	456	1190	22.3	95.5	95.6	95.5	0.89	0.87	0.79	449	3659	1.3	5.4	2.3	86	2254
400LX-a	510	1194	31.1	95.6	95.5	94.8	0.89	0.87	0.79	502	4079	1.1	5.4	2.3	88	2960
400LX-b	570	1194	35.0	95.7	95.7	94.9	0.89	0.87	0.79	561	4559	1.1	5.4	2.3	88	3290
400LX-c	640	1194	39.8	95.7	95.7	94.9	0.89	0.87	0.79	629	5118	1.2	5.6	2.5	88	3530
450LX-a	718.2	1195	60.0	96	95.9	95	0.88	0.85	0.78	712	5739	1.2	6.1	2.7	89	4200
450LX-b	810	1195	68.0	96	95.9	95	0.88	0.85	0.78	803	6473	1.2	6.2	2.9	89	4560
500LX-a	910	1195	74.0	96.3	96.3	95.8	0.89	0.87	0.80	889	7272	0.7	5.3	2.3	89	4890
500LX-b	1030	1195	86.0	96.4	96.4	95.8	0.89	0.87	0.80	1006	8231	0.8	5.4	2.3	89	5500

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Caratteristiche tecniche

Isolamento classe F – Servizio S1

690V - 60 Hz

8 poli - 900 giri/min

Technical features

Insulation class F – S1 Duty

690V - 60 Hz

8poles - 900 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J Kgm2	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia di Spunto Starting Torque	Corrente di spunto Starting Current	Coppia Massima Max torque	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	/Cn	Ia/In	Cmax/Cn	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT	4.64	852	0.0537	80	84	83	0.73	0.67	0.54	6.7	52.0	2	5	2.1	65	68.5
160M	6.38	858	0.0772	82	84	83	0.73	0.67	0.54	8.9	71.0	2	5.2	2.1	65	70
160L	8.7	864	0.109	84	86	85	0.74	0.68	0.55	11.7	96.2	2.1	5.4	2.2	65	87.5
180LT	12.8	876	0.154	86	87	86	0.76	0.68	0.55	16.4	140	2.1	5.1	2	65	117
200LT	17.4	876	0.345	87	89	88	0.76	0.7	0.68	22.0	190	2.1	5.4	2.3	70	155
225ST	21.5	876	0.505	88	89	88	0.79	0.73	0.62	25.9	234	2.3	5.3	2.3	74	207
225MT	25.5	876	0.577	89	90	89	0.79	0.74	0.63	30.4	278	2.3	5.3	2.4	74	243
250MT	34.8	882	0.902	90	90.5	89	0.8	0.75	0.65	40.5	377	2.4	5.5	2.6	75	317
280ST	42.9	882	1.75	90.5	90.5	89	0.8	0.75	0.65	49.6	464	2.1	5	2.3	76	420
280MT	52	882	2.12	91	91	90	0.8	0.76	0.66	59.8	563	2.1	5.1	2.3	76	460
315ST	63	888	2.43	92	92	91	0.8	0.76	0.66	71.7	677	2.3	5.5	2.2	85	525
315M-a	87	888	3	93	92	91	0.8	0.76	0.66	98.0	936	1.4	5.4	2.4	85	642
315M-b	104	888	3.4	93.5	93	91.5	0.8	0.76	0.66	116	1118	1.4	5.6	2.5	85	754
315M-c	127	888	4.4	93.8	93	91.5	0.81	0.76	0.66	140	1366	1.4	5.6	2.5	85	861
315M-d	153	888	5	94	93	91.5	0.82	0.77	0.67	166	1645	1.4	5.6	2.5	85	990

Carcassa in acciaio

Line – Steel Frame

355L-a	185	894	8.7	94.3	94	92.5	0.81	0.79	0.69	203	1976	1.5	5.5	2.4	85	1460
355L-b	230	894	10.5	94.5	94	92.5	0.81	0.79	0.69	252	2457	1.5	5.6	2.4	85	1590
355L-c	285	894	12.6	94.5	94	92.5	0.82	0.8	0.7	308	3044	1.5	5.6	2.4	85	1760
355LX-a	360	893	28.9	95	94.5	93	0.80	0.79	0.69	397	3850	1.4	6	2.4	85	2520
355LX-b	405	893	34.0	95	94.5	93	0.81	0.79	0.69	441	4331	1.5	6	2.5	85	2840
400LX-b	456	893	41.8	95.4	95	93.5	0.84	0.82	0.72	477	4876	1.4	6	2.4	85	3200
400LX-c	513	893	49.9	95.5	95	93.5	0.84	0.82	0.72	536	5486	1.5	6	2.4	85	3540
450LX-a	570	893	69.5	95.6	95.2	93.7	0.84	0.82	0.72	595	6095	1.5	6	2.5	87	4060
450LX-b	640	893	81.7	95.8	95.3	93.8	0.84	0.82	0.72	666	6844	1.5	6	2.5	87	4440
500LX-a	720	893	101.1	96	95.4	93.9	0.86	0.84	0.74	731	7699	1.0	6	2.4	87	5010
500LX-b	810	893	113.8	96	95.4	93.9	0.86	0.84	0.74	822	8661	1.0	6	2.4	87	5440
500LX-c	910	893	129.6	96.1	95.6	94	0.86	0.84	0.74	922	9731	1.0	6	2.4	87	5980

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007

Efficiency values are given according to IEC 60034-2-1 ;2007

Alimentazione da inverter

Il motore asincrono trifase presenta ottime doti di affidabilità e rendimento. Alimentato tramite un convertitore di frequenza (inverter) è in grado di realizzare un ottimo sistema di azionamento a velocità variabile.

L'azionamento a velocità variabile consente di adeguare esattamente le caratteristiche del motore alle esigenze del carico consentendo anche di migliorare il rendimento complessivo dell'azionamento, contribuendo al risparmio energetico e ad una conseguente riduzione del costo di gestione dell'azionamento stesso.

L'azionamento a velocità variabile consente inoltre di rendere più graduale l'avviamento rispetto agli altri tipi di avviamento (piena tensione, stella-triangolo ecc) e quindi, oltre a sollecitare meno gli organi di accoppiamento e la macchina operatrice, consente di limitare le correnti sulla rete di alimentazione.

I motori asincroni trifasi serie MAR previsti per alimentazione da inverter sono progettati e costruiti operando delle scelte progettuali e costruttive che consentono un funzionamento ottimale ed affidabile. Occorre infatti considerare che, generalmente, l'inverter alimenta il motore asincrono con una corrente non sinusoidale con un certo contenuto armonico. Che dipende in particolare : dal tipo di inverter, dal valore della frequenza di commutazione e dalla lunghezza dei cavi di alimentazione.

Inoltre i fronti ripidi di tensione ai morsetti del motore (dv/dt) determinati dai ridotti tempi di commutazione degli IGBT, producono delle notevoli sollecitazioni sui materiali isolanti.

Particolare attenzione richiede pertanto il sistema d'isolamento del motore che deve essere in grado di sopportare tali maggiori sollecitazioni.

Nei motori di questa serie, espressamente previsti per alimentazione da inverter, vengono pertanto adottate le seguenti tecnologie costruttive:

- Impiego di lamierino magnetico al silicio a bassa cifra di perdita con isolamento inorganico per ridurre le perdite nel nucleo magnetico.
- Utilizzo per la realizzazione degli avvolgimenti di filo di rame smaltato a doppio isolamento speciale per inverter con classe termica 200°C.
- Isolamento tra le fasi, in cava e sulle testate in Nomex®.
- Trattamento di impregnazione sotto vuoto in autoclave con successiva essiccazione in forno per consentire un maggiore isolamento ed aumentare la resistenza alle sollecitazioni elettrodinamiche.
- Cuscinetto lato opposto accoppiamento isolato (per es. SKF INSOCOAT®), al fine di eliminare l'effetto delle correnti d'albero tipico delle alimentazioni ad alta frequenza di commutazione (di serie per i motori con altezza d'asse superiore a 355 mm e a richiesta per i motori grandezza 200÷315).
- I motori grandezza 355x÷500, previsti per alimentazione da inverter, hanno il rotore a gabbia

Inverter supply

The asynchronous three-phase motor offers excellent reliability and efficiency qualities. Supplied by means of a frequency converter (inverter) this kind of motor is able to realize an excellent variable speed driving system.

The variable speed drive allows to exactly adapt the motor features to the requirements of the load allowing also to improve the overall performances of the drive, contributing to the energy saving and to a consequent reduction of the operation cost of the drive itself.

Moreover the variable speed drive allows to make starting more gradual compared to other types of starting (full voltage, star-delta etc.), therefore, besides having a lower stress on the couplings and the manufacturing machine, it also allows to limit currents on the supply mains.

MAR line asynchronous three-phase motors to be used for inverter supply are designed and manufactured based on design and manufacturing choices that allow an optimum and reliable operation. It has to be considered that generally the inverter supplies the asynchronous motor with a non sinusoidal current having a certain harmonic contents. This is due in particular: to the type of inverter, to the value of the switch frequency and to the length of the supply cables.

Moreover steep voltage fronts to the motor terminals (dv/dt) originated by the short commutation times of the IGBT, generate considerable stresses on the insulating materials.

Consequently the motor insulation must be carried out with the utmost care because it has to be able to withstand such higher stresses.

Therefore, in the motors of this line, designed on purpose for inverter supply, the following construction technologies are used.

- *Low-loss silicon lamination with inorganic insulation to reduce losses in the magnetic core.*
- *Windings made using copper electrolytic wire with double insulation, special for inverters, with thermal class 200°C.*
- *Nomex® insulation between phases, in the slots and on the winding ends.*
- *Impregnation treatment under vacuum in autoclave and subsequent oven drying to allow a higher resistance to electrodynamic stresses.*
- *Insulated non drive end bearing (ex. SKF INSOCOAT®), in order to eliminate the effect of the shaft currents, typical in supplies with high switch frequency (standard production for motors in frame size above 355 mm and upon request for motors frame size 200÷315).*
- *Motors frame size 355÷500 designed for inverter supply have a rotor with single welded copper*

semplice saldata di rame per ottenere un migliore rendimento e caratteristiche ottimali nell'alimentazione da inverter. L'impiego della gabbia semplice riduce significativamente le correnti armoniche ad alta frequenza presenti nelle gabbie rotore. L'impiego della gabbia semplice rende tali motori non idonei per avviamento da rete. A richiesta è possibile realizzare motori che possono essere alimentati sia da rete che da inverter

- I motori possono essere forniti di encoder.

I motori previsti per alimentazione a 690 V sono realizzati con un sistema di isolamento rinforzato (HPI system).

I motori normali sono previsti con sistema di ventilazione IC411 (autoventilato) e sono idonei per applicazioni su macchine operatrici a coppia quadratica (pompe o ventilatori) e per funzionamento a coppia costante con frequenza di alimentazione minima di 30 Hz.

A richiesta possono essere forniti motori con sistema di ventilazione IC416 (servoventilato) per applicazioni a coppia costante con frequenza minima di 5 Hz.

I motori sono previsti per funzionare correttamente con un dV/dT massimo di $2000V/\mu\text{sec}$.

Nel caso di valori più elevati è consigliabile l'impiego di un adeguato filtro tra motore ed inverter per ridurre le sollecitazioni sul motore.

Analogamente è necessario un filtro nel caso di eccessiva lunghezza dei cavi di alimentazione (distanza tra motore e inverter maggiore di 50 metri)

La velocità massima, che i motori possono raggiungere è limitata dalle sollecitazioni meccaniche che i motori possono sopportare senza danneggiamenti. Nella tabella dei dati tecnici nelle pagine seguenti è riportato tale limite per il funzionamento in servizio continuativo.

Per brevi periodi è possibile superare tale limite di circa il 10% senza che si verifichino danneggiamenti dei cuscinetti.

Nelle tabelle dei dati tecnici, sono riportate oltre alle caratteristiche elettriche, i limiti di velocità quale i motori possono funzionare erogando la potenza nominale con un margine tra la coppia massima e la coppia nominale del 50%.

Oltre tale velocità e fino alla velocità massima ammessa i motori possono funzionare a potenza ridotta. Il valore di coppia massima (espresso in Nm) del motore in queste condizioni si ottiene moltiplicando il valore della coppia massima per il rapporto tra velocità nominale e velocità massima al quadrato.

Occorre tener presente che aumentando la velocità di funzionamento aumenta anche il rumore emesso dal motore stesso, pertanto per aumenti superiori al 20% della velocità nominale si consiglia l'impiego di motori servoventilati (IC 416).

cage, in order to obtain a better efficiency and optimum characteristics in the inverter supply. The use of the single cage considerably reduces the high frequency harmonic currents, present in the rotor cages. Because of their single cage, these motors are not suitable for starting from the mains.) Upon request it is possible to make motors suitable to be supplied both from the mains and from an inverter.

- *Motors can be equipped with encoder.*

Motors designed for 690 V supply are manufactured with a reinforced insulation system (HPI system).

Standard motors are designed with IC411 cooling system (selfventilating) and are suitable for applications on manufacturing machines with quadratic torque (pumps or fans) and for operation with constant torque with minimum supply frequency of 30 Hz.

Upon request, motors with IC416 cooling system (with forced ventilation) for applications with constant torque with minimum frequency of 5 Hz, can be supplied.

Motors are designed to correctly run with a maximum dV/dT of $2000V/\mu\text{sec}$.

In case of higher values it is advisable to use a proper filter between motor and inverter to reduce stresses on the motor.

Similarly a filter is necessary in case of too long supply cables (distance between motor and inverter higher than 50 metres).

The maximum speed that the motors can reach is limited by the mechanical stresses that the motors can withstand without being damaged. The technical data table on the following pages gives the value of this limit for the continuous duty operation.

It is possible to exceed this limit of approx. 10% for short periods without having damages at the bearings.

In addition to the electric features, the technical data table also contains the speed limits at which the motors can operate supplying the rated output with a 50% margin between the maximum torque and the rated torque.

Above this speed and up to the maximum speed permitted, the motors can run at reduced power. The value of the maximum torque of the motor (given in Nm) in these conditions is obtained multiplying the value of the maximum torque by the ratio between the rated speed and the maximum speed squared.

It has to be considered that with the increase of the operation speed, also the noise emitted by the motor itself, therefore for increases higher than 20% of the rated speed it is advisable to use motors with forced ventilation (IC 416).

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F Servizio S1 -

380 V - 50 Hz

2 poli - 3000 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1

380V - 50 Hz

2 poles - 3000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 380 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.18	2680	0.000241	64	64	60	0.75	0.69	56	0.57	0.641	2.5	4500	6000	57	3.3
63-b	0.25	2700	0.00014	64	64	60	0.75	0.69	0.56	0.79	0.88	2.5	4500	6000	57	3.8
71-a	0.37	2800	0.00023	71	71	67	0.8	0.75	0.65	0.99	1.26	2.3	4000	6000	59	6
71-b	0.55	2810	0.00033	71	71	67	0.8	0.75	0.65	1.47	1.87	2.6	4500	6000	59	7
80-a	0.75	2820	0.00088	75	75	72	0.81	0.76	0.66	1.88	2.54	2.4	4200	6000	63	8.6
80-b	1.1	2820	0.00123	76	76	73	0.81	0.76	0.66	2.72	3.72	2.4	4200	6000	63	10.2
90S	1.5	2840	0.0022	77	77	75	0.82	0.77	0.67	3.61	5.04	2.5	4300	6000	68	11.5
90L	2.2	2840	0.0025	78	78	76	0.82	0.77	0.67	5.23	7.40	2.5	4300	6000	68	13.5
100L	3	2850	0.0040	82	82	81	0.83	0.79	0.69	6.71	10.1	2.8	4700	6000	72	20.5
112MT-a	4	2860	0.0055	82	82	81	0.83	0.79	0.69	8.94	13.4	2.8	4700	6000	72	23
132S-a	5.5	2900	0.0150	85	85	84	0.86	0.83	0.75	11.4	18.1	2.8	4700	6000	74	38.4
132S-b	7.5	2900	0.0180	86	86	85	0.86	0.83	0.75	15.4	24.7	2.8	4700	5000	74	42
132M	9	2910	0.023	86	86	85	0.86	0.83	0.75	18.5	29.5	2.7	4600	5000	75	47.5
160MT-a	11	2910	0.003	86	86	85	0.85	0.81	0.73	22.9	36.1	2.7	4600	5000	75	58
160MT-b	15	2930	0.003	88	88	87	0.86	0.83	0.75	30.1	48.9	2.8	4700	5000	75	68
160L	18.5	2940	0.004	88	88	87	0.86	0.83	0.75	37.2	60.1	2.8	4700	5000	75	90
180MT	22	2950	0.053	88	88	87	0.86	0.83	0.75	44.2	71.2	2.9	4800	5000	75	110
180LT	25	2950	0.063	88	88	87	0.86	0.83	0.75	50.2	80.9	2.9	4800	5000	75	116
200LT-a	30	2950	0.098	89.5	89.5	88	0.87	0.84	0.76	58.6	97.1	3	4900	5000	83	142
200LT-b	37	2960	0.123	89.5	89.5	88	0.87	0.84	0.76	72.3	119	3	4900	5000	83	162
225MT	45	2960	0.223	90	90	89	0.88	0.85	0.78	86.4	145	3	4800	4800	83	210
250MT	55	2970	0.300	91	90	91	0.89	0.86	0.8	103	177	3	4500	4500	83	280
280ST	75	2970	0.61	91.5	91.5	90.5	0.89	0.86	0.8	140	241	2.9	4500	4500	87	372
280MT	90	2970	0.80	92	92	91	0.89	0.86	0.8	167	289	3	4500	4500	87	407
315ST	110	2975	1.22	93	93	91.5	0.89	0.86	0.8	202	353	2.8	4500	4500	90	496
315M-a	132	2980	1.32	93	93	1.5	0.89	0.86	0.8	243	423	2.7	3600	3600	90	620
315M-b	160	2980	1.72	93	93	91.5	0.9	0.88	0.83	291	513	2.7	3600	3600	90	668
315M	200	2980	2.13	93	93	91.5	0.9	0.88	0.83	363	641	2.7	3600	3600	90	760

Carcassa in acciaio

Steel Frame

355L	250	2983	2.29	95.1	94	93.5	0.91	0.9	0.87	439	800	2.9	3600	3600	88	1200
355L-a	280	2980	3.39	95.1	94.1	93.5	0.91	0.9	0.87	492	898	2.9	3600	3600	88	1280
355L-b	315	2980	4.36	95.1	94.1	93.3	0.91	0.9	0.87	554	1010	2.9	3600	3600	88	1570

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F –Servizio S1

380V - 50 Hz

4 poli - 1500 giri/min

Technical features

INVERTER SUPPLY

IE1Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

380V - 50 Hz

4 poles - 1500 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 380 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.13	1340	0.00023	60	60	54	0.6	0.5	0.4	0.55	0.93	2.3	2000	6000	49	3.8
63-b	0.18	1340	0.00028	61	61	55	0.6	0.5	0.4	0.75	1.28	2.3	2000	6000	49	4.1
71-a	0.25	1350	0.00033	68	68	64	0.65	0.55	0.45	0.86	1.77	2	1800	6000	51	5.7
71-b	0.37	1350	0.00049	69	69	65	0.67	0.57	0.47	1.22	2.62	2	1800	6000	51	7
80-a	0.55	1360	0.00115	72	72	68	0.7	0.61	0.5	1.66	3.86	2.3	2000	6000	54	8.6
80-b	0.75	1360	0.00161	73	73	70	0.73	0.67	0.54	2.14	5.27	2.3	2000	6000	54	10
90S	1.1	1380	0.00208	76.2	74	71	0.78	0.76	0.66	2.82	7.61	2.5	2200	6000	56	11.9
90L	1.5	1380	0.00267	78.5	74	71	0.77	0.77	0.67	3.77	10.4	2.5	2200	6000	56	14.2
100L-a	2.2	1410	0.00469	81	80	79	0.79	0.75	0.65	5.23	14.9	2.2	2000	6000	60	18.7
100L-b	3	1410	0.0060	82.6	81	80	0.8	0.77	0.67	6.91	20.3	2.2	2000	6000	60	21.2
112MT	4	1420	0.0080	84.2	83	82	0.81	0.77	0.67	8.92	26.9	2.5	2200	6000	60	25.7
132S	5.5	1430	0.0195	85.7	84	83	0.8	0.77	0.67	12.2	36.7	2.5	2200	6000	63	43
132M-a	7.5	1430	0.027	87	85	84	0.81	0.8	0.71	16.2	50.1	2.5	2200	5000	63	50.3
160MT	11	1465	0.04	88.4	88	87	0.83	0.79	0.69	22.8	71.7	2.6	2200	5000	63	69.5
160L	15	1465	0.08	89.4	90	89	0.82	0.8	0.71	31.1	98	2.6	2200	6500	67	89
180MT	18.5	1470	0.09	90	90	89	0.83	0.8	0.71	37.7	120	2.8	2400	6300	67	110
180LT	22	1470	0.11	90.5	91	90	0.83	0.83	0.75	44.6	143	2.8	2400	6300	67	119
200LT	30	1470	0.15	91.4	91	90	0.85	0.83	0.75	58.7	195	2.8	2400	5000	70	155
225ST	37	1480	0.29	92	91	90	0.84	0.83	0.75	72.8	239	2.9	2400	5000	70	202
225MT-a	45	1480	0.37	92.5	92	91	0.84	0.83	0.75	88.1	290	2.9	2400	4500	70	235
250MT-b	55	1480	0.43	93	93	91	0.85	0.84	0.76	106	355	2.6	2400	4500	70	286
280ST	75	1485	1.1	93.6	93	91.5	0.86	0.84	0.76	142	482	2.7	2400	4500	73	387
280MT	90	1485	1.2	93.9	93.6	91.5	0.86	0.84	0.76	170	579	2.7	2400	4500	73	415
315ST	110	1485	1.5	94	94	92.5	0.88	0.83	0.75	202	707	2.7	2400	4500	75	496
315M-a	132	1485	2.5	94	94.2	92.5	0.88	0.83	0.75	243	849	2.7	2400	3000	77	630
315M-b	160	1485	3.3	94	94.3	92.5	0.88	0.85	0.78	294	1029	2.7	2400	3000	77	740
315M-c	200	1485	4.16	94.2	94.5	92.5	0.89	0.84	0.76	363	1286	2.8	2400	3000	77	882

Carcassa in acciaio

Steel Frame

355L-a	250	1490	4.7	95.1	95	93.6	0.89	0.87	0.79	449	1602	3.4	2000	2000	84	1490
355L-b	280	1490	5.2	95.1	95	93.6	0.89	0.87	0.79	503	1794	3.4	2000	2000	84	1560
355L-c	315	1490	5.7	95.3	95	93.6	0.89	0.87	0.79	565	2019	3.6	2000	2000	84	1680
355Lx-a	355	1492	10	95.3	94.8	93.3	0.89	0.87	0.81	637	2272	3.2	1900	1900	84	1850
355Lx-b	400	1492	11.8	95.5	94.9	93.7	0.89	0.88	0.81	716	2560	3.2	1900	1900	84	2060
355LX-c	450	1492	13.6	95.7	95.2	94	0.9	0.87	0.81	795	2880	3.3	1900	1900	84	2260
355LX-d	500	1492	15.9	95.8	95.2	94	0.9	0.87	0.81	882	3200	3.6	1900	1900	84	2520
400LX-a	560	1495	27	96	95.4	94.2	0.89	0.87	0.78	997	3577	3.6	1900	1900	85	3150
400LX-b	630	1495	31.6	96	95.4	94.2	0.89	0.87	0.78	1122	4024	3.6	1900	1900	85	3520
450LX-a	710	1495	36	96.4	96	95.2	0.91	0.9	0.85	1231	4535	3.2	1900	1900	85	4100
450LX-b	800	1495	41.8	96.5	96	95.2	0.91	0.9	0.85	1386	5110	3.4	1900	1900	85	4420
500LX-a	900	1496	70.6	96.6	96.2	95.2	0.92	0.9	0.85	1540	5745	3.4	1900	1900	85	4950
500LX-c	1000	1495	78.2	96.8	96.6	95.6	0.92	0.9	0.85	1708	6387	3.4	1900	1900	85	5300

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

380V - 50 Hz

6 poli - 1000 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

380V - 50 Hz

6 poles - 1000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 380 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

71-a	0.18	890	0.00105	54	54	46	0.61	0.52	0.4	0.83	1.93	1.9	1300	6000	49	5.8
71-b	0.22	890	0.00129	55	55	47	0.61	0.52	0.4	1.00	2.36	2	1400	6000	49	6.5
80-a	0.37	900	0.00164	66	66	61	0.71	0.62	0.5	1.20	3.93	2	1400	6000	51	7.4
80-b	0.55	900	0.00256	69	69	65	0.71	0.62	0.5	1.71	5.84	2.2	1400	6000	51	9.8
90S	0.75	910	0.00354	72	72	68	0.72	0.63	0.52	2.20	7.87	2.1	1400	6000	54	10.8
90L	1.1	910	0.0051	73	73	70	0.72	0.63	0.52	3.18	11.54	2	1400	6000	54	13.5
100L	1.5	920	0.0087	75	75	72	0.73	0.68	0.55	4.17	15.6	2.3	1500	6000	57	19.6
112MT	2.2	940	0.014	78	77	75	0.75	0.7	0.6	5.72	22.3	2.5	1500	6000	57	25
132S	3	950	0.023	80	80	79	0.78	0.72	0.61	7.31	30.2	2.3	1500	6000	60	39
132M-a	4	950	0.031	82	81	80	0.78	0.72	0.61	9.51	40.2	2.6	1500	6000	60	45.5
132M-b	5.5	950	0.041	83	83	82	0.78	0.72	0.61	12.9	55.3	2.6	1500	6000	60	52.5
160MT	7.5	960	0.054	85	85	84	0.8	0.76	0.66	16.8	74.6	2.6	1500	6000	60	69
160L	11	960	0.109	86	86	85	0.81	0.76	0.66	24.0	109.4	2.9	1600	5000	63	88
180LT	15	970	0.141	87	87	86	0.82	0.77	0.67	32.0	147.7	3	1600	5000	63	114
200LT-a	18.5	975	0.271	88	88	87	0.83	0.79	0.69	38.5	181.2	2.8	1600	5000	68	145
200LT-b	22	975	0.32	88	88	87	0.83	0.79	0.69	45.8	215	2.8	1600	4500	68	155
225MT	30	980	0.541	90	90	89	0.84	0.8	0.71	60.4	292	2.6	1700	4500	72	234
250MT	37	980	0.752	91	91	90	0.84	0.8	0.71	73.6	361	2.7	1700	3800	73	295
280ST	45	985	1.4	91.5	92	91	0.82	0.81	0.73	91.2	436	2.4	1600	3000	75	381
280MT	55	985	1.68	92	92.5	91	0.82	0.81	0.73	111	533	2.4	1600	3000	75	421
315ST	75	985	2.18	92.5	92.5	91	0.83	0.83	0.75	149	727	2.3	1500	3000	75	526
315M-a	90	988	2.7	93	93	91.5	0.83	0.83	0.75	177	870	2.6	1600	2800	84	642
315M-b	110	986	2.7	93	93	91.5	0.84	0.83	0.85	214	1065	2.6	1600	2800	84	672
315M-c	132	986	3.15	93.3	93.5	92	0.84	0.83	0.85	256	1278	2.6	1600	2800	84	730
315M-d	160	987	4.7	94	94	92.5	0.84	0.83	0.85	308	1548	2.6	1600	2800	84	910

Carcassa in acciaio

Steel Frame

355L	200	990	6.4	95.2	95.3	94.7	0.86	0.83	0.75	372	1929	2.6	2000	2000	82	1370
355L-a	250	990	7.9	95.3	95.4	95	0.88	0.85	0.78	453	2411	2.7	2000	2000	82	1572
355L-b	280	990	8.7	95.3	95.5	95.2	0.88	0.85	0.79	508	2701	2.7	2000	2000	82	1660
355L-c	315	990	9.8	95.4	95.6	95.3	0.88	0.85	0.79	571	3038	2.7	2000	2000	82	1800
355LX-a	355	990	19.8	95.5	95.5	95.4	0.89	0.87	0.79	635	3424	3.1	1900	1900	82	2060
355LX-b	400	990	22.3	95.5	95.5	95.5	0.89	0.87	0.79	716	3858	3.1	1900	1900	82	2254
400LX-a	450	994	31.1	95.6	95.5	94.8	0.89	0.87	0.79	805	4323	3.1	1900	1900	84	2960
400LX-b	500	994	35	95.7	95.7	94.9	0.89	0.87	0.79	893	4803	3.2	1800	1800	84	3290
400LX-c	560	995	39.8	95.7	95.7	94.9	0.89	0.87	0.79	1000	5374	3.2	1800	1800	84	3530
450LX-a	630	995	60	96	95.9	95	0.88	0.85	0.78	1134	6046	3.2	1800	1800	84	4200
450LX-b	710	995	68	96	95.9	95	0.88	0.85	0.78	1278	6814	2.7	1800	1800	85	4560
500LX-a	800	995	74	96.3	96.3	95.8	0.89	0.87	0.8	1420	7678	2.7	1800	1800	85	4890
500LX-b	900	995	86	96.4	96.4	95.8	0.89	0.87	0.8	1596	8637	2.7	1800	1800	85	5500

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Isolamento classe F – Servizio S1

380V - 50 Hz

8 poli - 750 giri/min

Technical features

INVERTER SUPPLY

Insulation class F – S1 Duty

380V - 50 Hz

8 poles - 750 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 380 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

71	0.15	650	0.0013	46	45	42	0.57	0.5	0.4	0.87	2.2	1.6	700	6000	48	6.5
80	0.18	670	0.0016	52	52	46	0.6	0.52	0.42	0.88	2.6	2	900	6000	50	7.3
80	0.25	670	0.0026	61	61	55	0.6	0.54	0.43	1.04	3.6	2	900	6000	50	9.7
90S	0.37	680	0.003	64	64	59	0.63	0.55	0.44	1.40	5.2	2	900	6000	53	10.6
90L	0.55	690	0.0045	67	67	62	0.63	0.55	0.44	1.98	7.6	2	900	6000	53	13.3
100L	0.75	690	0.0087	68	68	64	0.64	0.56	0.45	2.62	10.4	2.1	950	6000	55	19.3
100L	1.1	690	0.0109	70	70	66	0.64	0.56	0.45	3.73	15.2	2.1	950	6000	55	21.5
112MT	1.5	700	0.0141	73	73	70	0.65	0.57	0.46	4.81	20.5	2.4	1100	6000	55	25
132S	2.2	705	0.0307	78	80	79	0.71	0.62	0.5	6.04	29.8	2.2	1000	6000	58	45
132M	3	710	0.0409	79	81	80	0.72	0.63	0.52	8.02	40.3	2.3	1000	6000	58	52
160MT	4	710	0.0537	80	84	83	0.73	0.67	0.54	10.4	53.8	2.1	950	6000	61	68.5
160M	5.5	715	0.0772	82	84	83	0.73	0.67	0.54	14.0	73.5	2.1	950	5000	61	70
160L	7.5	720	0.109	84	86	85	0.74	0.68	0.55	18.4	99.5	2.2	1000	5000	61	87.5
180LT	11	730	0.154	86	87	86	0.76	0.68	0.55	25.6	144	2	900	5000	61	117
200LT	15	730	0.345	87	89	88	0.76	0.7	0.68	34.5	196	2.3	1100	4500	66	155
225ST	18.5	730	0.505	88	89	88	0.79	0.73	0.62	40.5	242	2.3	1100	4500	70	207
225MT	22	730	0.577	89	90	89	0.79	0.74	0.63	47.6	288	2.4	1100	4500	70	243
250MT	30	735	0.902	90	90.5	89	0.8	0.75	0.65	63.4	390	2.6	1200	3800	71	317
280ST	37	735	1.75	90.5	90.5	89	0.8	0.75	0.65	77.7	481	2.3	1100	3000	72	420
280MT	45	735	2.12	91	91	90	0.8	0.76	0.66	94.0	585	2.3	1100	3000	72	460
315ST	55	740	2.43	92	92	91	0.8	0.76	0.66	114	710	2.2	1100	3000	81	525
315M-a	75	740	3	93	92	91	0.8	0.76	0.66	153	968	2.2	1400	2600	81	642
315M-b	90	740	3.4	93.5	93	91.5	0.8	0.76	0.66	183	1161	2.3	1400	2600	81	754
315M-c	110	740	4.4	93.8	93	91.5	0.81	0.76	0.66	220	1419	2.3	1400	2600	81	861
315M-d	132	740	5	94	93	91.5	0.82	0.77	0.67	260	1703	2.4	1400	2600	81	990

Carcassa in acciaio

Steel Frame

355L-a	160	742	8.7	94.3	94	92.5	0.81	0.79	0.69	319	2059	3.1	1500	2600	81	1460
355L-b	200	742	10.5	94.5	94	92.5	0.81	0.79	0.69	397	2574	3.1	1500	2600	81	1590
355L-c	250	745	12.6	94.5	94	92.5	0.82	0.8	0.7	491	3204	3.1	1500	2600	81	1760
355LX-a	315	745	28.9	95	94.5	93	0.80	0.79	0.69	630	4037	2.7	1500	2400	81	2520
355LX-b	355	745	34.0	95	94.5	93	0.81	0.79	0.69	702	4550	2.7	1500	2400	81	2840
400LX-b	400	745	41.8	95.4	95	93.5	0.84	0.82	0.72	759	5127	2.9	1400	2200	81	3200
400LX-c	450	745	49.9	95.5	95	93.5	0.84	0.82	0.72	853	5768	3.1	1400	2200	81	3540
450LX-a	500	745	69.5	95.6	95.2	93.7	0.84	0.82	0.72	947	6409	2.9	1400	1900	83	4060
450LX-b	560	745	81.7	95.8	95.3	93.8	0.84	0.82	0.72	1059	7178	3.1	1400	1900	83	4440
500LX-a	630	745	101.1	96	95.4	93.9	0.86	0.84	0.74	1161	8075	3.1	1300	1800	83	5010
500LX-b	710	745	113.8	96	95.4	93.9	0.86	0.84	0.74	1308	9100	3.1	1300	1800	83	5440
500LX-c	800	745	129.6	96.1	95.6	94	0.86	0.84	0.74	1472	10254	3.1	1300	1800	83	5980

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza **IE1** (IEC 60034-30- 2008)

Isolamento classe F Servizio S1 -

400 V - 50 Hz

2 poli - 3000 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1

400V - 50 Hz

2 poles - 3000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosφ			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.18	2680	0.000241	64	64	60	0.75	0.69	0.56	0.54	0.641	2.5	4500	6000	57	3.3
63-b	0.25	2700	0.00014	64	64	60	0.75	0.69	0.56	0.75	0.88	2.5	4500	6000	57	3.8
71-a	0.37	2800	0.00023	71	71	67	0.8	0.75	0.65	0.94	1.26	2.3	4000	6000	59	6
71-b	0.55	2810	0.00033	71	71	67	0.8	0.75	0.65	1.40	1.87	2.6	4500	6000	59	7
80-a	0.75	2820	0.00088	75	75	72	0.81	0.76	0.66	1.78	2.54	2.4	4200	6000	63	8.6
80-b	1.1	2820	0.00123	76	76	73	0.81	0.76	0.66	2.58	3.72	2.4	4200	6000	63	10.2
90S	1.5	2840	0.0022	77	77	75	0.82	0.77	0.67	3.43	5.04	2.5	4300	6000	68	11.5
90L	2.2	2840	0.0025	78	78	76	0.82	0.77	0.67	4.97	7.40	2.5	4300	6000	68	13.5
100L	3	2850	0.0040	82	82	81	0.83	0.79	0.69	6.37	10.1	2.8	4700	6000	72	20.5
112MT-a	4	2860	0.0055	82	82	81	0.83	0.79	0.69	8.49	13.4	2.8	4700	6000	72	23
132S-a	5.5	2900	0.0150	85	85	84	0.86	0.83	0.75	10.9	18.1	2.8	4700	6000	74	38.4
132S-b	7.5	2900	0.0180	86	86	85	0.86	0.83	0.75	14.7	24.7	2.8	4700	5000	74	42
132M	9	2910	0.023	86	86	85	0.86	0.83	0.75	17.6	29.5	2.7	4600	5000	75	47.5
160MT-a	11	2910	0.003	86	86	85	0.85	0.81	0.73	21.7	36.1	2.7	4600	5000	75	58
160MT-b	15	2930	0.003	88	88	87	0.86	0.83	0.75	28.6	48.9	2.8	4700	5000	75	68
160L	18.5	2940	0.004	88	88	87	0.86	0.83	0.75	35.3	60.1	2.8	4700	5000	75	90
180MT	22	2950	0.053	88	88	87	0.86	0.83	0.75	42.0	71.2	2.9	4800	5000	75	110
180LT	25	2950	0.063	88	88	87	0.86	0.83	0.75	47.7	80.9	2.9	4800	5000	75	116
200LT-a	30	2950	0.098	89.5	89.5	88	0.87	0.84	0.76	55.7	97.1	3	4900	5000	83	142
200LT-b	37	2960	0.123	89.5	89.5	88	0.87	0.84	0.76	68.7	119	3	4900	5000	83	162
225MT	45	2960	0.223	90	90	89	0.88	0.85	0.78	82.1	145	3	4800	4800	83	210
250MT	55	2970	0.300	91	90	91	0.89	0.86	0.8	98.1	177	3	4500	4500	83	280
280ST	75	2970	0.61	91.5	91.5	90.5	0.89	0.86	0.8	133	241	2.9	4500	4500	87	372
280MT	90	2970	0.80	92	92	91	0.89	0.86	0.8	159	289	3	4500	4500	87	407
315ST	110	2975	1.22	93	93	91.5	0.89	0.86	0.8	192	353	2.8	4500	4500	90	496
315M-a	132	2980	1.32	93	93	1.5	0.89	0.86	0.8	230	423	2.7	3600	3600	90	620
315M-b	160	2980	1.72	93	93	91.5	0.9	0.88	0.83	276	513	2.7	3600	3600	90	668
315M	200	2980	2.13	93	93	91.5	0.9	0.88	0.83	345	641	2.7	3600	3600	90	760

Carcassa in acciaio

Steel Frame

355L	250	2983	2.29	95.1	94	93.5	0.91	0.9	0.87	417	800	3.2	3600	3600	88	1200
355L-a	280	2980	3.39	95.1	94.1	93.5	0.91	0.9	0.87	468	898	3.2	3600	3600	88	1280
355L-b	315	2980	4.36	95.1	94.1	93.3	0.91	0.9	0.87	526	1010	3.2	3600	3600	88	1570

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F –Servizio S1

400V - 50 Hz

4 poli - 1500 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

400V - 50 Hz

4 poles - 1500 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.13	1340	0.00023	60	60	54	0.6	0.5	0.4	0.52	0.93	2.3	2000	6000	49	3.8
63-b	0.18	1340	0.00028	61	61	55	0.6	0.5	0.4	0.71	1.28	2.3	2000	6000	49	4.1
71-a	0.25	1350	0.00033	68	68	64	0.65	0.55	0.45	0.82	1.77	2	1800	6000	51	5.7
71-b	0.37	1350	0.00049	69	69	65	0.67	0.57	0.47	1.16	2.62	2	1800	6000	51	7
80-a	0.55	1360	0.00115	72	72	68	0.7	0.61	0.5	1.58	3.86	2.3	2000	6000	54	8.6
80-b	0.75	1360	0.00161	73	73	70	0.73	0.67	0.54	2.03	5.27	2.3	2000	6000	54	10
90S	1.1	1380	0.00208	76.2	74	71	0.78	0.76	0.66	2.67	7.61	2.5	2200	6000	56	11.9
90L	1.5	1380	0.00267	78.5	74	71	0.77	0.77	0.67	3.59	10.4	2.5	2200	6000	56	14.2
100L-a	2.2	1410	0.00469	81	80	79	0.79	0.75	0.65	4.97	14.9	2.2	2000	6000	60	18.7
100L-b	3	1410	0.0060	82.6	81	80	0.8	0.77	0.67	6.56	20.3	2.2	2000	6000	60	21.2
112MT	4	1420	0.0080	84.2	83	82	0.81	0.77	0.67	8.48	26.9	2.5	2200	6000	60	25.7
132S	5.5	1430	0.0195	85.7	84	83	0.8	0.77	0.67	11.6	36.7	2.5	2200	6000	63	43
132M-a	7.5	1430	0.027	87	85	84	0.81	0.8	0.71	15.4	50.1	2.5	2200	5000	63	50.3
160MT	11	1465	0.04	88.4	88	87	0.83	0.79	0.69	21.7	71.7	2.6	2200	5000	63	69.5
160L	15	1465	0.08	89.4	90	89	0.82	0.8	0.71	29.6	98	2.6	2200	6500	67	89
180MT	18.5	1470	0.09	90	90	89	0.83	0.8	0.71	35.8	120	2.8	2400	6300	67	110
180LT	22	1470	0.11	90.5	91	90	0.83	0.83	0.75	42.3	143	2.8	2400	6300	67	119
200LT	30	1470	0.15	91.4	91	90	0.85	0.83	0.75	55.8	195	2.8	2400	5000	70	155
225ST	37	1480	0.29	92	91	90	0.84	0.83	0.75	69.2	239	2.9	2400	5000	70	202
225MT-a	45	1480	0.37	92.5	92	91	0.84	0.83	0.75	83.7	290	2.9	2400	4500	70	235
250MT-b	55	1480	0.43	93	93	91	0.85	0.84	0.76	101	355	2.6	2400	4500	70	286
280ST	75	1485	1.1	93.6	93	91.5	0.86	0.84	0.76	135	482	2.7	2400	4500	73	387
280MT	90	1485	1.2	93.9	93.6	91.5	0.86	0.84	0.76	161	579	2.7	2400	4500	73	415
315ST	110	1485	1.5	94	94	92.5	0.88	0.83	0.75	192	707	2.7	2400	4500	75	496
315M-a	132	1485	2.5	94	94.2	92.5	0.88	0.83	0.75	231	849	2.7	2400	3000	77	630
315M-b	160	1485	3.3	94	94.3	92.5	0.88	0.85	0.78	280	1029	2.7	2400	3000	77	740
315M-c	200	1485	4.16	94.2	94.5	92.5	0.89	0.84	0.76	345	1286	2.8	2400	3000	77	882

Carcassa in acciaio

Steel Frame

355L-a	250	1490	4.7	95.1	95	93.6	0.89	0.87	0.79	426.8	1602	3.8	2000	2000	84	1490
355L-b	280	1490	5.2	95.1	95	93.6	0.89	0.87	0.79	478	1794	3.8	2000	2000	84	1560
355L-c	315	1490	5.7	95.3	95	93.6	0.89	0.87	0.79	537	2019	4	2000	2000	84	1680
355Lx-a	355	1492	10	95.3	94.8	93.3	0.89	0.87	0.81	605	2272	3.6	1900	1900	84	1850
355Lx-b	400	1492	11.8	95.5	94.9	93.7	0.89	0.88	0.81	680	2560	3.6	1900	1900	84	2060
355LX-c	450	1492	13.6	95.7	95.2	94	0.9	0.87	0.81	755	2880	3.7	1900	1900	84	2260
355LX-d	500	1492	15.9	95.8	95.2	94	0.9	0.87	0.81	838	3200	4	1900	1900	84	2520
400LX-a	560	1495	27	96	95.4	94.2	0.89	0.87	0.78	947	3577	4	1900	1900	85	3150
400LX-b	630	1495	31.6	96	95.4	94.2	0.89	0.87	0.78	1066	4024	4	1900	1900	85	3520
450LX-a	710	1495	36	96.4	96	95.2	0.91	0.9	0.85	1170	4535	3.5	1900	1900	85	4100
450LX-b	800	1495	41.8	96.5	96	95.2	0.91	0.9	0.85	1316	5110	3.8	1900	1900	85	4420
500LX-a	900	1496	70.6	96.6	96.2	95.2	0.92	0.9	0.85	1463	5745	3.8	1900	1900	85	4950
500LX-c	1000	1495	78.2	96.8	96.6	95.6	0.92	0.9	0.85	1623	6387	3.8	1900	1900	85	5300

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

400V - 50 Hz

6 poli - 1000 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

400V - 50 Hz

6 poles - 1000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

71-a	0.18	890	0.00105	54	54	46	0.61	0.52	0.4	0.79	1.93	1.9	1300	6000	49	5.8
71-b	0.22	890	0.00129	55	55	47	0.61	0.52	0.4	0.95	2.36	2	1400	6000	49	6.5
80-a	0.37	900	0.00164	66	66	61	0.71	0.62	0.5	1.14	3.93	2	1400	6000	51	7.4
80-b	0.55	900	0.00256	69	69	65	0.71	0.62	0.5	1.62	5.84	2.2	1400	6000	51	9.8
90S	0.75	910	0.00354	72	72	68	0.72	0.63	0.52	2.09	7.87	2.1	1400	6000	54	10.8
90L	1.1	910	0.0051	73	73	70	0.72	0.63	0.52	3.02	11.54	2	1400	6000	54	13.5
100L	1.5	920	0.0087	75	75	72	0.73	0.68	0.55	3.96	15.6	2.3	1500	6000	57	19.6
112MT	2.2	940	0.014	78	77	75	0.75	0.7	0.6	5.43	22.3	2.5	1500	6000	57	25
132S	3	950	0.023	80	80	79	0.78	0.72	0.61	6.95	30.2	2.3	1500	6000	60	39
132M-a	4	950	0.031	82	81	80	0.78	0.72	0.61	9.0	40.2	2.6	1500	6000	60	45.5
132M-b	5.5	950	0.041	83	83	82	0.78	0.72	0.61	12.3	55.3	2.6	1500	6000	60	52.5
160MT	7.5	960	0.054	85	85	84	0.8	0.76	0.66	15.9	74.6	2.6	1500	6000	60	69
160L	11	960	0.109	86	86	85	0.81	0.76	0.66	22.8	109.4	2.9	1600	5000	63	88
180LT	15	970	0.141	87	87	86	0.82	0.77	0.67	30.4	147.7	3	1600	5000	63	114
200LT-a	18.5	975	0.271	88	88	87	0.83	0.79	0.69	36.6	181.2	2.8	1600	5000	68	145
200LT-b	22	975	0.32	88	88	87	0.83	0.79	0.69	43.5	215	2.8	1600	4500	68	155
225MT	30	980	0.541	90	90	89	0.84	0.8	0.71	57.3	292	2.6	1700	4500	72	234
250MT	37	980	0.752	91	91	90	0.84	0.8	0.71	69.9	361	2.7	1700	3800	73	295
280ST	45	985	1.4	91.5	92	91	0.82	0.81	0.73	86.7	436	2.4	1600	3000	75	381
280MT	55	985	1.68	92	92.5	91	0.82	0.81	0.73	105	533	2.4	1600	3000	75	421
315ST	75	985	2.18	92.5	92.5	91	0.83	0.83	0.75	141	727	2.3	1500	3000	75	526
315M-a	90	988	2.7	93	93	91.5	0.83	0.83	0.75	168	870	2.6	1600	2800	84	642
315M-b	110	986	2.7	93	93	91.5	0.84	0.83	0.85	203	1065	2.6	1600	2800	84	672
315M-c	132	986	3.15	93.3	93.5	92	0.84	0.83	0.85	243	1278	2.6	1600	2800	84	730
315M-d	160	987	4.7	94	94	92.5	0.84	0.83	0.85	293	1548	2.6	1600	2800	84	910

Carcassa in acciaio

Steel Frame

355L	200	990	6.4	95.2	95.3	94.7	0.86	0.83	0.75	353	1929	2.9	2000	2000	82	1370
355L-a	250	990	7.9	95.3	95.4	95	0.88	0.85	0.78	431	2411	3	2000	2000	82	1572
355L-b	280	990	8.7	95.3	95.5	95.2	0.88	0.85	0.79	482	2701	3	2000	2000	82	1660
355L-c	315	990	9.8	95.4	95.6	95.3	0.88	0.85	0.79	542	3038	3	2000	2000	82	1800
355LX-a	355	990	19.8	95.5	95.5	95.4	0.89	0.87	0.79	604	3424	3.4	1900	1900	82	2060
355LX-b	400	990	22.3	95.5	95.5	95.5	0.89	0.87	0.79	680	3858	3.4	1900	1900	82	2254
400LX-a	450	994	31.1	95.6	95.5	94.8	0.89	0.87	0.79	764	4323	3.4	1900	1900	84	2960
400LX-b	500	994	35	95.7	95.7	94.9	0.89	0.87	0.79	848	4803	3.5	1800	1800	84	3290
400LX-c	560	995	39.8	95.7	95.7	94.9	0.89	0.87	0.79	950	5374	3.5	1800	1800	84	3530
450LX-a	630	995	60	96	95.9	95	0.88	0.85	0.78	1078	6046	3.5	1800	1800	84	4200
450LX-b	710	995	68	96	95.9	95	0.88	0.85	0.78	1215	6814	3	1800	1800	85	4560
500LX-a	800	995	74	96.3	96.3	95.8	0.89	0.87	0.8	1349	7678	3	1800	1800	85	4890
500LX-b	900	995	86	96.4	96.4	95.8	0.89	0.87	0.8	1516	8637	3	1800	1800	85	5500

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Isolamento classe F – Servizio S1

400V - 50 Hz

8 poli - 750 giri/min

Technical features

INVERTER SUPPLY

Insulation class F – S1 Duty

400V - 50 Hz

8 poles - 750 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 380 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed costant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

71	0.15	650	0.0013	46	45	42	0.57	0.5	0.4	0.83	2.2	1.6	700	6000	48	6.5
80	0.18	670	0.0016	52	52	46	0.6	0.52	0.42	0.83	2.6	2	900	6000	50	7.3
80	0.25	670	0.0026	61	61	55	0.6	0.54	0.43	0.99	3.6	2	900	6000	50	9.7
90S	0.37	680	0.003	64	64	59	0.63	0.55	0.44	1.33	5.2	2	900	6000	53	10.6
90L	0.55	690	0.0045	67	67	62	0.63	0.55	0.44	1.88	7.6	2	900	6000	53	13.3
100L	0.75	690	0.0087	68	68	64	0.64	0.56	0.45	2.49	10.4	2.1	950	6000	55	19.3
100L	1.1	690	0.0109	70	70	66	0.64	0.56	0.45	3.55	15.2	2.1	950	6000	55	21.5
112MT	1.5	700	0.0141	73	73	70	0.65	0.57	0.46	4.57	20.5	2.4	1100	6000	55	25
132S	2.2	705	0.0307	78	80	79	0.71	0.62	0.5	5.74	29.8	2.2	1000	6000	58	45
132M	3	710	0.0409	79	81	80	0.72	0.63	0.52	7.62	40.3	2.3	1000	6000	58	52
160MT	4	710	0.0537	80	84	83	0.73	0.67	0.54	9.90	53.8	2.1	950	6000	61	68.5
160M	5.5	715	0.0772	82	84	83	0.73	0.67	0.54	13.3	73.5	2.1	950	5000	61	70
160L	7.5	720	0.109	84	86	85	0.74	0.68	0.55	17.4	99.5	2.2	1000	5000	61	87.5
180LT	11	730	0.154	86	87	86	0.76	0.68	0.55	24.3	144	2	900	5000	61	117
200LT	15	730	0.345	87	89	88	0.76	0.7	0.68	32.8	196	2.3	1100	4500	66	155
225ST	18.5	730	0.505	88	89	88	0.79	0.73	0.62	38.5	242	2.3	1100	4500	70	207
225MT	22	730	0.577	89	90	89	0.79	0.74	0.63	45.2	288	2.4	1100	4500	70	243
250MT	30	735	0.902	90	90.5	89	0.8	0.75	0.65	60.2	390	2.6	1200	3800	71	317
280ST	37	735	1.75	90.5	90.5	89	0.8	0.75	0.65	73.9	481	2.3	1100	3000	72	420
280MT	45	735	2.12	91	91	90	0.8	0.76	0.66	89.3	585	2.3	1100	3000	72	460
315ST	55	740	2.43	92	92	91	0.8	0.76	0.66	108	710	2.2	1100	3000	81	525
315M-a	75	740	3	93	92	91	0.8	0.76	0.66	146	968	2.2	1400	2600	81	642
315M-b	90	740	3.4	93.5	93	91.5	0.8	0.76	0.66	174	1161	2.3	1400	2600	81	754
315M-c	110	740	4.4	93.8	93	91.5	0.81	0.76	0.66	209	1419	2.3	1400	2600	81	861
315M-d	132	740	5	94	93	91.5	0.82	0.77	0.67	247	1703	2.4	1400	2600	81	990

Carcassa in acciaio

Steel Frame

355L-a	160	742	8.7	94.3	94	92.5	0.81	0.79	0.69	303	2059	3.4	1500	2600	81	1460
355L-b	200	742	10.5	94.5	94	92.5	0.81	0.79	0.69	378	2574	3.4	1500	2600	81	1590
355L-c	250	745	12.6	94.5	94	92.5	0.82	0.8	0.7	466	3204	3.4	1500	2600	81	1760
355LX-a	315	745	28.9	95	94.5	93	0.80	0.79	0.69	599	4037	3	1500	2400	81	2520
355LX-b	355	745	34.0	95	94.5	93	0.81	0.79	0.69	667	4550	3	1500	2400	81	2840
400LX-b	400	745	41.8	95.4	95	93.5	0.84	0.82	0.72	721	5127	3.2	1400	2200	81	3200
400LX-c	450	745	49.9	95.5	95	93.5	0.84	0.82	0.72	811	5768	3.4	1400	2200	81	3540
450LX-a	500	745	69.5	95.6	95.2	93.7	0.84	0.82	0.72	900	6409	3.2	1400	1900	83	4060
450LX-b	560	745	81.7	95.8	95.3	93.8	0.84	0.82	0.72	1006	7178	3.4	1400	1900	83	4440
500LX-a	630	745	101.1	96	95.4	93.9	0.86	0.84	0.74	1103	8075	3.4	1300	1800	83	5010
500LX-b	710	745	113.8	96	95.4	93.9	0.86	0.84	0.74	1243	9100	3.4	1300	1800	83	5440
500LX-c	800	745	129.6	96.1	95.6	94	0.86	0.84	0.74	1399	10254	3.4	1300	1800	83	5980

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza **IE1** (IEC 60034-30- 2008)

Isolamento classe F

Servizio S1 -

400 V - 50 Hz

2 poli - 3000 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1

400V - 50 Hz

2 poles - 3000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosφ			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.18	2680	0.000241	64	64	60	0.75	0.69	0.56	0.54	0.641	2.5	4500	6000	57	3.3
63-b	0.25	2700	0.00014	64	64	60	0.75	0.69	0.56	0.75	0.88	2.5	4500	6000	57	3.8
71-a	0.37	2800	0.00023	71	71	67	0.8	0.75	0.65	0.94	1.26	2.3	4000	6000	59	6
71-b	0.55	2810	0.00033	71	71	67	0.8	0.75	0.65	1.40	1.87	2.6	4500	6000	59	7
80-a	0.75	2820	0.00088	75	75	72	0.81	0.76	0.66	1.78	2.54	2.4	4200	6000	63	8.6
80-b	1.1	2820	0.00123	76	76	73	0.81	0.76	0.66	2.58	3.72	2.4	4200	6000	63	10.2
90S	1.5	2840	0.0022	77	77	75	0.82	0.77	0.67	3.43	5.04	2.5	4300	6000	68	11.5
90L	2.2	2840	0.0025	78	78	76	0.82	0.77	0.67	4.97	7.40	2.5	4300	6000	68	13.5
100L	3	2850	0.0040	82	82	81	0.83	0.79	0.69	6.37	10.1	2.8	4700	6000	72	20.5
112MT-a	4	2860	0.0055	82	82	81	0.83	0.79	0.69	8.49	13.4	2.8	4700	6000	72	23
132S-a	5.5	2900	0.0150	85	85	84	0.86	0.83	0.75	10.9	18.1	2.8	4700	6000	74	38.4
132S-b	7.5	2900	0.0180	86	86	85	0.86	0.83	0.75	14.7	24.7	2.8	4700	5000	74	42
132M	9	2910	0.023	86	86	85	0.86	0.83	0.75	17.6	29.5	2.7	4600	5000	75	47.5
160MT-a	11	2910	0.003	86	86	85	0.85	0.81	0.73	21.7	36.1	2.7	4600	5000	75	58
160MT-b	15	2930	0.003	88	88	87	0.86	0.83	0.75	28.6	48.9	2.8	4700	5000	75	68
160L	18.5	2940	0.004	88	88	87	0.86	0.83	0.75	35.3	60.1	2.8	4700	5000	75	90
180MT	22	2950	0.053	88	88	87	0.86	0.83	0.75	42.0	71.2	2.9	4800	5000	75	110
180LT	25	2950	0.063	88	88	87	0.86	0.83	0.75	47.7	80.9	2.9	4800	5000	75	116
200LT-a	30	2950	0.098	89.5	89.5	88	0.87	0.84	0.76	55.7	97.1	3	4900	5000	83	142
200LT-b	37	2960	0.123	89.5	89.5	88	0.87	0.84	0.76	68.7	119	3	4900	5000	83	162
225MT	45	2960	0.223	90	90	89	0.88	0.85	0.78	82.1	145	3	4800	4800	83	210
250MT	55	2970	0.300	91	90	91	0.89	0.86	0.8	98.1	177	3	4500	4500	83	280
280ST	75	2970	0.61	91.5	91.5	90.5	0.89	0.86	0.8	133	241	2.9	4500	4500	87	372
280MT	90	2970	0.80	92	92	91	0.89	0.86	0.8	159	289	3	4500	4500	87	407
315ST	110	2975	1.22	93	93	91.5	0.89	0.86	0.8	192	353	2.8	4500	4500	90	496
315M-a	132	2980	1.32	93	93	1.5	0.89	0.86	0.8	230	423	2.7	3600	3600	90	620
315M-b	160	2980	1.72	93	93	91.5	0.9	0.88	0.83	276	513	2.7	3600	3600	90	668
315M	200	2980	2.13	93	93	91.5	0.9	0.88	0.83	345	641	2.7	3600	3600	90	760

Carcassa in acciaio

Steel Frame

355L	250	2983	2.29	95.1	94	93.5	0.91	0.9	0.87	417	800	3.2	3600	3600	88	1200
355L-a	280	2980	3.39	95.1	94.1	93.5	0.91	0.9	0.87	468	898	3.2	3600	3600	88	1280
355L-b	315	2980	4.36	95.1	94.1	93.3	0.91	0.9	0.87	526	1010	3.2	3600	3600	88	1570

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

A

LIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F –Servizio S1

400V - 50 Hz

4 poli - 1500 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

400V - 50 Hz

4 poles - 1500 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J Kg m ²	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.13	1340	0.00023	60	60	54	0.6	0.5	0.4	0.52	0.93	2.3	2000	6000	49	3.8
63-b	0.18	1340	0.00028	61	61	55	0.6	0.5	0.4	0.71	1.28	2.3	2000	6000	49	4.1
71-a	0.25	1350	0.00033	68	68	64	0.65	0.55	0.45	0.82	1.77	2	1800	6000	51	5.7
71-b	0.37	1350	0.00049	69	69	65	0.67	0.57	0.47	1.16	2.62	2	1800	6000	51	7
80-a	0.55	1360	0.00115	72	72	68	0.7	0.61	0.5	1.58	3.86	2.3	2000	6000	54	8.6
80-b	0.75	1360	0.00161	73	73	70	0.73	0.67	0.54	2.03	5.27	2.3	2000	6000	54	10
90S	1.1	1380	0.00208	76.2	74	71	0.78	0.76	0.66	2.67	7.61	2.5	2200	6000	56	11.9
90L	1.5	1380	0.00267	78.5	74	71	0.77	0.77	0.67	3.59	10.4	2.5	2200	6000	56	14.2
100L-a	2.2	1410	0.00469	81	80	79	0.79	0.75	0.65	4.97	14.9	2.2	2000	6000	60	18.7
100L-b	3	1410	0.0060	82.6	81	80	0.8	0.77	0.67	6.56	20.3	2.2	2000	6000	60	21.2
112MT	4	1420	0.0080	84.2	83	82	0.81	0.77	0.67	8.48	26.9	2.5	2200	6000	60	25.7
132S	5.5	1430	0.0195	85.7	84	83	0.8	0.77	0.67	11.6	36.7	2.5	2200	6000	63	43
132M-a	7.5	1430	0.027	87	85	84	0.81	0.8	0.71	15.4	50.1	2.5	2200	5000	63	50.3
160MT	11	1465	0.04	88.4	88	87	0.83	0.79	0.69	21.7	71.7	2.6	2200	5000	63	69.5
160L	15	1465	0.08	89.4	90	89	0.82	0.8	0.71	29.6	98	2.6	2200	6500	67	89
180MT	18.5	1470	0.09	90	90	89	0.83	0.8	0.71	35.8	120	2.8	2400	6300	67	110
180LT	22	1470	0.11	90.5	91	90	0.83	0.83	0.75	42.3	143	2.8	2400	6300	67	119
200LT	30	1470	0.15	91.4	91	90	0.85	0.83	0.75	55.8	195	2.8	2400	5000	70	155
225ST	37	1480	0.29	92	91	90	0.84	0.83	0.75	69.2	239	2.9	2400	5000	70	202
225MT-a	45	1480	0.37	92.5	92	91	0.84	0.83	0.75	83.7	290	2.9	2400	4500	70	235
250MT-b	55	1480	0.43	93	93	91	0.85	0.84	0.76	101	355	2.6	2400	4500	70	286
280ST	75	1485	1.1	93.6	93	91.5	0.86	0.84	0.76	135	482	2.7	2400	4500	73	387
280MT	90	1485	1.2	93.9	93.6	91.5	0.86	0.84	0.76	161	579	2.7	2400	4500	73	415
315ST	110	1485	1.5	94	94	92.5	0.88	0.83	0.75	192	707	2.7	2400	4500	75	496
315M-a	132	1485	2.5	94	94.2	92.5	0.88	0.83	0.75	231	849	2.7	2400	3000	77	630
315M-b	160	1485	3.3	94	94.3	92.5	0.88	0.85	0.78	280	1029	2.7	2400	3000	77	740
315M-c	200	1485	4.16	94.2	94.5	92.5	0.89	0.84	0.76	345	1286	2.8	2400	3000	77	882

Carcassa in acciaio

Steel Frame

355L-a	250	1490	4.7	95.1	95	93.6	0.89	0.87	0.79	426.8	1602	3.8	2000	2000	84	1490
355L-b	280	1490	5.2	95.1	95	93.6	0.89	0.87	0.79	478	1794	3.8	2000	2000	84	1560
355L-c	315	1490	5.7	95.3	95	93.6	0.89	0.87	0.79	537	2019	4	2000	2000	84	1680
355Lx-a	355	1492	10	95.3	94.8	93.3	0.89	0.87	0.81	605	2272	3.6	1900	1900	84	1850
355Lx-b	400	1492	11.8	95.5	94.9	93.7	0.89	0.88	0.81	680	2560	3.6	1900	1900	84	2060
355LX-c	450	1492	13.6	95.7	95.2	94	0.9	0.87	0.81	755	2880	3.7	1900	1900	84	2260
355LX-d	500	1492	15.9	95.8	95.2	94	0.9	0.87	0.81	838	3200	4	1900	1900	84	2520
400LX-a	560	1495	27	96	95.4	94.2	0.89	0.87	0.78	947	3577	4	1900	1900	85	3150
400LX-b	630	1495	31.6	96	95.4	94.2	0.89	0.87	0.78	1066	4024	4	1900	1900	85	3520
450LX-a	710	1495	36	96.4	96	95.2	0.91	0.9	0.85	1170	4535	3.5	1900	1900	85	4100
450LX-b	800	1495	41.8	96.5	96	95.2	0.91	0.9	0.85	1316	5110	3.8	1900	1900	85	4420
500LX-a	900	1496	70.6	96.6	96.2	95.2	0.92	0.9	0.85	1463	5745	3.8	1900	1900	85	4950
500LX-c	1000	1495	78.2	96.8	96.6	95.6	0.92	0.9	0.85	1623	6387	3.8	1900	1900	85	5300

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

400V - 50 Hz

6 poli - 1000 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

400V - 50 Hz

6 poles - 1000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 400 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

71-a	0.18	890	0.00105	54	54	46	0.61	0.52	0.4	0.79	1.93	1.9	1300	6000	49	5.8
71-b	0.22	890	0.00129	55	55	47	0.61	0.52	0.4	0.95	2.36	2	1400	6000	49	6.5
80-a	0.37	900	0.00164	66	66	61	0.71	0.62	0.5	1.14	3.93	2	1400	6000	51	7.4
80-b	0.55	900	0.00256	69	69	65	0.71	0.62	0.5	1.62	5.84	2.2	1400	6000	51	9.8
90S	0.75	910	0.00354	72	72	68	0.72	0.63	0.52	2.09	7.87	2.1	1400	6000	54	10.8
90L	1.1	910	0.0051	73	73	70	0.72	0.63	0.52	3.02	11.54	2	1400	6000	54	13.5
100L	1.5	920	0.0087	75	75	72	0.73	0.68	0.55	3.96	15.6	2.3	1500	6000	57	19.6
112MT	2.2	940	0.014	78	77	75	0.75	0.7	0.6	5.43	22.3	2.5	1500	6000	57	25
132S	3	950	0.023	80	80	79	0.78	0.72	0.61	6.95	30.2	2.3	1500	6000	60	39
132M-a	4	950	0.031	82	81	80	0.78	0.72	0.61	9.0	40.2	2.6	1500	6000	60	45.5
132M-b	5.5	950	0.041	83	83	82	0.78	0.72	0.61	12.3	55.3	2.6	1500	6000	60	52.5
160MT	7.5	960	0.054	85	85	84	0.8	0.76	0.66	15.9	74.6	2.6	1500	6000	60	69
160L	11	960	0.109	86	86	85	0.81	0.76	0.66	22.8	109.4	2.9	1600	5000	63	88
180LT	15	970	0.141	87	87	86	0.82	0.77	0.67	30.4	147.7	3	1600	5000	63	114
200LT-a	18.5	975	0.271	88	88	87	0.83	0.79	0.69	36.6	181.2	2.8	1600	5000	68	145
200LT-b	22	975	0.32	88	88	87	0.83	0.79	0.69	43.5	215	2.8	1600	4500	68	155
225MT	30	980	0.541	90	90	89	0.84	0.8	0.71	57.3	292	2.6	1700	4500	72	234
250MT	37	980	0.752	91	91	90	0.84	0.8	0.71	69.9	361	2.7	1700	3800	73	295
280ST	45	985	1.4	91.5	92	91	0.82	0.81	0.73	86.7	436	2.4	1600	3000	75	381
280MT	55	985	1.68	92	92.5	91	0.82	0.81	0.73	105	533	2.4	1600	3000	75	421
315ST	75	985	2.18	92.5	92.5	91	0.83	0.83	0.75	141	727	2.3	1500	3000	75	526
315M-a	90	988	2.7	93	93	91.5	0.83	0.83	0.75	168	870	2.6	1600	2800	84	642
315M-b	110	986	2.7	93	93	91.5	0.84	0.83	0.85	203	1065	2.6	1600	2800	84	672
315M-c	132	986	3.15	93.3	93.5	92	0.84	0.83	0.85	243	1278	2.6	1600	2800	84	730
315M-d	160	987	4.7	94	94	92.5	0.84	0.83	0.85	293	1548	2.6	1600	2800	84	910

Carcassa in acciaio

Steel Frame

355L	200	990	6.4	95.2	95.3	94.7	0.86	0.83	0.75	353	1929	2.9	2000	2000	82	1370
355L-a	250	990	7.9	95.3	95.4	95	0.88	0.85	0.78	431	2411	3	2000	2000	82	1572
355L-b	280	990	8.7	95.3	95.5	95.2	0.88	0.85	0.79	482	2701	3	2000	2000	82	1660
355L-c	315	990	9.8	95.4	95.6	95.3	0.88	0.85	0.79	542	3038	3	2000	2000	82	1800
355LX-a	355	990	19.8	95.5	95.5	95.4	0.89	0.87	0.79	604	3424	3.4	1900	1900	82	2060
355LX-b	400	990	22.3	95.5	95.5	95.5	0.89	0.87	0.79	680	3858	3.4	1900	1900	82	2254
400LX-a	450	994	31.1	95.6	95.5	94.8	0.89	0.87	0.79	764	4323	3.4	1900	1900	84	2960
400LX-b	500	994	35	95.7	95.7	94.9	0.89	0.87	0.79	848	4803	3.5	1800	1800	84	3290
400LX-c	560	995	39.8	95.7	95.7	94.9	0.89	0.87	0.79	950	5374	3.5	1800	1800	84	3530
450LX-a	630	995	60	96	95.9	95	0.88	0.85	0.78	1078	6046	3.5	1800	1800	84	4200
450LX-b	710	995	68	96	95.9	95	0.88	0.85	0.78	1215	6814	3	1800	1800	85	4560
500LX-a	800	995	74	96.3	96.3	95.8	0.89	0.87	0.8	1349	7678	3	1800	1800	85	4890
500LX-b	900	995	86	96.4	96.4	95.8	0.89	0.87	0.8	1516	8637	3	1800	1800	85	5500

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Isolamento classe F – Servizio S1

400V - 50 Hz

8 poli - 750 giri/min

Technical features

INVERTER SUPPLY

Insulation class F – S1 Duty

400V - 50 Hz

8 poles - 750 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 380 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

71	0.15	650	0.0013	46	45	42	0.57	0.5	0.4	0.83	2.2	1.6	700	6000	48	6.5
80	0.18	670	0.0016	52	52	46	0.6	0.52	0.42	0.83	2.6	2	900	6000	50	7.3
80	0.25	670	0.0026	61	61	55	0.6	0.54	0.43	0.99	3.6	2	900	6000	50	9.7
90S	0.37	680	0.003	64	64	59	0.63	0.55	0.44	1.33	5.2	2	900	6000	53	10.6
90L	0.55	690	0.0045	67	67	62	0.63	0.55	0.44	1.88	7.6	2	900	6000	53	13.3
100L	0.75	690	0.0087	68	68	64	0.64	0.56	0.45	2.49	10.4	2.1	950	6000	55	19.3
100L	1.1	690	0.0109	70	70	66	0.64	0.56	0.45	3.55	15.2	2.1	950	6000	55	21.5
112MT	1.5	700	0.0141	73	73	70	0.65	0.57	0.46	4.57	20.5	2.4	1100	6000	55	25
132S	2.2	705	0.0307	78	80	79	0.71	0.62	0.5	5.74	29.8	2.2	1000	6000	58	45
132M	3	710	0.0409	79	81	80	0.72	0.63	0.52	7.62	40.3	2.3	1000	6000	58	52
160MT	4	710	0.0537	80	84	83	0.73	0.67	0.54	9.90	53.8	2.1	950	6000	61	68.5
160M	5.5	715	0.0772	82	84	83	0.73	0.67	0.54	13.3	73.5	2.1	950	5000	61	70
160L	7.5	720	0.109	84	86	85	0.74	0.68	0.55	17.4	99.5	2.2	1000	5000	61	87.5
180LT	11	730	0.154	86	87	86	0.76	0.68	0.55	24.3	144	2	900	5000	61	117
200LT	15	730	0.345	87	89	88	0.76	0.7	0.68	32.8	196	2.3	1100	4500	66	155
225ST	18.5	730	0.505	88	89	88	0.79	0.73	0.62	38.5	242	2.3	1100	4500	70	207
225MT	22	730	0.577	89	90	89	0.79	0.74	0.63	45.2	288	2.4	1100	4500	70	243
250MT	30	735	0.902	90	90.5	89	0.8	0.75	0.65	60.2	390	2.6	1200	3800	71	317
280ST	37	735	1.75	90.5	90.5	89	0.8	0.75	0.65	73.9	481	2.3	1100	3000	72	420
280MT	45	735	2.12	91	91	90	0.8	0.76	0.66	89.3	585	2.3	1100	3000	72	460
315ST	55	740	2.43	92	92	91	0.8	0.76	0.66	108	710	2.2	1100	3000	81	525
315M-a	75	740	3	93	92	91	0.8	0.76	0.66	146	968	2.2	1400	2600	81	642
315M-b	90	740	3.4	93.5	93	91.5	0.8	0.76	0.66	174	1161	2.3	1400	2600	81	754
315M-c	110	740	4.4	93.8	93	91.5	0.81	0.76	0.66	209	1419	2.3	1400	2600	81	861
315M-d	132	740	5	94	93	91.5	0.82	0.77	0.67	247	1703	2.4	1400	2600	81	990

Carcassa in acciaio

Steel Frame

355L-a	160	742	8.7	94.3	94	92.5	0.81	0.79	0.69	303	2059	3.4	1500	2600	81	1460
355L-b	200	742	10.5	94.5	94	92.5	0.81	0.79	0.69	378	2574	3.4	1500	2600	81	1590
355L-c	250	745	12.6	94.5	94	92.5	0.82	0.8	0.7	466	3204	3.4	1500	2600	81	1760
355LX-a	315	745	28.9	95	94.5	93	0.80	0.79	0.69	599	4037	3	1500	2400	81	2520
355LX-b	355	745	34.0	95	94.5	93	0.81	0.79	0.69	667	4550	3	1500	2400	81	2840
400LX-b	400	745	41.8	95.4	95	93.5	0.84	0.82	0.72	721	5127	3.2	1400	2200	81	3200
400LX-c	450	745	49.9	95.5	95	93.5	0.84	0.82	0.72	811	5768	3.4	1400	2200	81	3540
450LX-a	500	745	69.5	95.6	95.2	93.7	0.84	0.82	0.72	900	6409	3.2	1400	1900	83	4060
450LX-b	560	745	81.7	95.8	95.3	93.8	0.84	0.82	0.72	1006	7178	3.4	1400	1900	83	4440
500LX-a	630	745	101.1	96	95.4	93.9	0.86	0.84	0.74	1103	8075	3.4	1300	1800	83	5010
500LX-b	710	745	113.8	96	95.4	93.9	0.86	0.84	0.74	1243	9100	3.4	1300	1800	83	5440
500LX-c	800	745	129.6	96.1	95.6	94	0.86	0.84	0.74	1399	10254	3.4	1300	1800	83	5980

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza **IE1** (IEC 60034-30- 2008)

Isolamento classe F Servizio S1 -

690 V - 50 Hz

2 poli - 3000 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1

690V - 50 Hz

2 poles - 3000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosφ			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT-a	11	2910	0.003	86	86	85	0.85	0.81	0.73	12.6	36.1	2.7	4600	5000	75	58
160MT-b	15	2930	0.003	88	88	87	0.86	0.83	0.75	16.6	48.9	2.8	4700	5000	75	68
160L	18.5	2940	0.004	88	88	87	0.86	0.83	0.75	20.5	60.1	2.8	4700	5000	75	90
180MT	22	2950	0.053	88	88	87	0.86	0.83	0.75	24.4	71.2	2.9	4800	5000	75	110
180LT	25	2950	0.063	88	88	87	0.86	0.83	0.75	27.7	80.9	2.9	4800	5000	75	116
200LT-a	30	2950	0.098	89.5	89.5	88	0.87	0.84	0.76	32.3	97.1	3	4900	5000	83	142
200LT-b	37	2960	0.123	89.5	89.5	88	0.87	0.84	0.76	39.8	119	3	4900	5000	83	162
225MT	45	2960	0.223	90	90	89	0.88	0.85	0.78	47.6	145	3	4800	4800	83	210
250MT	55	2970	0.300	91	90	91	0.89	0.86	0.8	56.9	177	3	4500	4500	83	280
280ST	75	2970	0.61	91.5	91.5	90.5	0.89	0.86	0.8	77.2	241	2.9	4500	4500	87	372
280MT	90	2970	0.80	92	92	91	0.89	0.86	0.8	92.1	289	3	4500	4500	87	407
315ST	110	2975	1.22	93	93	91.5	0.89	0.86	0.8	111	353	2.8	4500	4500	90	496
315M-a	132	2980	1.32	93	93	1.5	0.89	0.86	0.8	134	423	2.7	3600	3600	90	620
315M-b	160	2980	1.72	93	93	91.5	0.9	0.88	0.83	160	513	2.7	3600	3600	90	668
315M	200	2980	2.13	93	93	91.5	0.9	0.88	0.83	200	641	2.7	3600	3600	90	760

Carcassa in acciaio

Steel Frame

355L	250	2983	2.29	95.1	94	93.5	0.91	0.9	0.87	242	800	3.2	3600	3600	88	355L
355L-a	280	2980	3.39	95.1	94.1	93.5	0.91	0.9	0.87	271	898	3.2	3600	3600	88	355L-a
355L-b	315	2980	4.36	95.1	94.1	93.3	0.91	0.9	0.87	305	1010	3.2	3600	3600	88	355L-b

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F –Servizio S1

690V - 50 Hz

4 poli - 1500 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

690V - 50 Hz

4 poles - 1500 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT	11	1465	0.04	88.4	88	87	0.83	0.79	0.69	12.6	71.7	2.6	2200	5000	63	69.5
160L	15	1465	0.08	89.4	90	89	0.82	0.8	0.71	17.1	98	2.6	2200	6500	67	89
180MT	18.5	1470	0.09	90	90	89	0.83	0.8	0.71	20.7	120	2.8	2400	6300	67	110
180LT	22	1470	0.11	90.5	91	90	0.83	0.83	0.75	24.5	143	2.8	2400	6300	67	119
200LT	30	1470	0.15	91.4	91	90	0.85	0.83	0.75	32.3	195	2.8	2400	5000	70	155
225ST	37	1480	0.29	92	91	90	0.84	0.83	0.75	40.1	239	2.9	2400	5000	70	202
225MT-a	45	1480	0.37	92.5	92	91	0.84	0.83	0.75	48.5	290	2.9	2400	4500	70	235
250MT-b	55	1480	0.43	93	93	91	0.85	0.84	0.76	58.3	355	2.6	2400	4500	70	286
280ST	75	1485	1.1	93.6	93	91.5	0.86	0.84	0.76	78.1	482	2.7	2400	4500	73	387
280MT	90	1485	1.2	93.9	93.6	91.5	0.86	0.84	0.76	93.4	579	2.7	2400	4500	73	415
315ST	110	1485	1.5	94	94	92.5	0.88	0.83	0.75	111	707	2.7	2400	4500	75	496
315M-a	132	1485	2.5	94	94.2	92.5	0.88	0.83	0.75	134	849	2.7	2400	3000	77	630
315M-b	160	1485	3.3	94	94.3	92.5	0.88	0.85	0.78	162	1029	2.7	2400	3000	77	740
315M-c	200	1485	4.16	94.2	94.5	92.5	0.89	0.84	0.76	200	1286	2.8	2400	3000	77	882

Carcassa in acciaio

Steel Frame

355L-a	250	1490	4.7	95.1	95	93.6	0.89	0.87	0.79	247	1602	3.8	2000	2000	84	1490
355L-b	280	1490	5.2	95.1	95	93.6	0.89	0.87	0.79	277	1794	3.8	2000	2000	84	1560
355L-c	315	1490	5.7	95.3	95	93.6	0.89	0.87	0.79	311	2019	4	2000	2000	84	1680
355Lx-a	355	1492	10	95.3	94.8	93.3	0.89	0.87	0.81	351	2272	3.6	1900	1900	84	1850
355Lx-b	400	1492	11.8	95.5	94.9	93.7	0.89	0.88	0.81	394	2560	3.6	1900	1900	84	2060
355Lx-c	450	1492	13.6	95.7	95.2	94	0.9	0.87	0.81	438	2880	3.7	1900	1900	84	2260
355Lx-d	500	1492	15.9	95.8	95.2	94	0.9	0.87	0.81	486	3200	4	1900	1900	84	2520
400LX-a	560	1495	27	96	95.4	94.2	0.89	0.87	0.78	549	3577	4	1900	1900	85	3150
400LX-b	630	1495	31.6	96	95.4	94.2	0.89	0.87	0.78	618	4024	4	1900	1900	85	3520
450LX-a	710	1495	36	96.4	96	95.2	0.91	0.9	0.85	678	4535	3.5	1900	1900	85	4100
450LX-b	800	1495	41.8	96.5	96	95.2	0.91	0.9	0.85	763	5110	3.8	1900	1900	85	4420
500LX-a	900	1496	70.6	96.6	96.2	95.2	0.92	0.9	0.85	848	5745	3.8	1900	1900	85	4950
500LX-c	1000	1495	78.2	96.8	96.6	95.6	0.92	0.9	0.85	941	6387	3.8	1900	1900	85	5300

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

690V - 50 Hz

6 poli - 1000 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

690V - 50 Hz

6 poles - 1000 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT	7.5	960	0.054	85	85	84	0.8	0.76	0.66	9.24	74.6	2.6	1500	6000	60	69
160L	11	960	0.109	86	86	85	0.81	0.76	0.66	13.2	109.4	2.9	1600	5000	63	88
180LT	15	970	0.141	87	87	86	0.82	0.77	0.67	17.6	147.7	3	1600	5000	63	114
200LT-a	18.5	975	0.271	88	88	87	0.83	0.79	0.69	21.2	181.2	2.8	1600	5000	68	145
200LT-b	22	975	0.32	88	88	87	0.83	0.79	0.69	25.2	215	2.8	1600	4500	68	155
225MT	30	980	0.541	90	90	89	0.84	0.8	0.71	33.2	292	2.6	1700	4500	72	234
250MT	37	980	0.752	91	91	90	0.84	0.8	0.71	40.5	361	2.7	1700	3800	73	295
280ST	45	985	1.4	91.5	92	91	0.82	0.81	0.73	50.2	436	2.4	1600	3000	75	381
280MT	55	985	1.68	92	92.5	91	0.82	0.81	0.73	61.1	533	2.4	1600	3000	75	421
315ST	75	985	2.18	92.5	92.5	91	0.83	0.83	0.75	81.8	727	2.3	1500	3000	75	526
315M-a	90	988	2.7	93	93	91.5	0.83	0.83	0.75	97.7	870	2.6	1600	2800	84	642
315M-b	110	986	2.7	93	93	91.5	0.84	0.83	0.85	118	1065	2.6	1600	2800	84	672
315M-c	132	986	3.15	93.3	93.5	92	0.84	0.83	0.85	141	1278	2.6	1600	2800	84	730
315M-d	160	987	4.7	94	94	92.5	0.84	0.83	0.85	170	1548	2.6	1600	2800	84	910

Carcassa in acciaio

Steel Frame

355L	200	990	6.4	95.2	95.3	94.7	0.86	0.83	0.75	205	1929	2.9	2000	2000	82	1370
355L-a	250	990	7.9	95.3	95.4	95	0.88	0.85	0.78	250	2411	3	2000	2000	82	1572
355L-b	280	990	8.7	95.3	95.5	95.2	0.88	0.85	0.79	280	2701	3	2000	2000	82	1660
355L-c	315	990	9.8	95.4	95.6	95.3	0.88	0.85	0.79	314	3038	3	2000	2000	82	1800
355LX-a	355	990	19.8	95.5	95.5	95.4	0.89	0.87	0.79	350	3424	3.4	1900	1900	82	2060
355LX-b	400	990	22.3	95.5	95.6	95.5	0.89	0.87	0.79	394	3858	3.4	1900	1900	82	2254
400LX-a	450	994	31.1	95.6	95.5	94.8	0.89	0.87	0.79	443	4323	3.4	1900	1900	84	2960
400LX-b	500	994	35	95.7	95.7	94.9	0.89	0.87	0.79	492	4803	3.5	1800	1800	84	3290
400LX-c	560	995	39.8	95.7	95.7	94.9	0.89	0.87	0.79	551	5374	3.5	1800	1800	84	3530
450LX-a	630	995	60	96	95.9	95	0.88	0.85	0.78	625	6046	3.5	1800	1800	84	4200
450LX-b	710	995	68	96	95.9	95	0.88	0.85	0.78	704	6814	3	1800	1800	85	4560
500LX-a	800	995	74	96.3	96.3	95.8	0.89	0.87	0.8	782	7678	3	1800	1800	85	4890
500LX-b	900	995	86	96.4	96.4	95.8	0.89	0.87	0.8	879	8637	3	1800	1800	85	5500

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Isolamento classe F – Servizio S1

690V - 50 Hz

8 poli - 750 giri/min

Technical features

INVERTER SUPPLY

Insulation class F – S1 Duty

690V - 50 Hz

8 poles - 750 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed costant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT	4	710	0.0537	80	84	83	0.73	0.67	0.54	5.74	53.8	2.1	950	6000	61	68.5
160M	5.5	715	0.0772	82	84	83	0.73	0.67	0.54	7.70	73.5	2.1	950	5000	61	70
160L	7.5	720	0.109	84	86	85	0.74	0.68	0.55	10.1	99.5	2.2	1000	5000	61	87.5
180LT	11	730	0.154	86	87	86	0.76	0.68	0.55	14.1	144	2	900	5000	61	117
200LT	15	730	0.345	87	89	88	0.76	0.7	0.68	19.0	196	2.3	1100	4500	66	155
225ST	18.5	730	0.505	88	89	88	0.79	0.73	0.62	22.3	242	2.3	1100	4500	70	207
225MT	22	730	0.577	89	90	89	0.79	0.74	0.63	26.2	288	2.4	1100	4500	70	243
250MT	30	735	0.902	90	90.5	89	0.8	0.75	0.65	34.9	390	2.6	1200	3800	71	317
280ST	37	735	1.75	90.5	90.5	89	0.8	0.75	0.65	42.8	481	2.3	1100	3000	72	420
280MT	45	735	2.12	91	91	90	0.8	0.76	0.66	51.8	585	2.3	1100	3000	72	460
315ST	55	740	2.43	92	92	91	0.8	0.76	0.66	62.6	710	2.2	1100	3000	81	525
315M-a	75	740	3	93	92	91	0.8	0.76	0.66	84.4	968	2.2	1400	2600	81	642
315M-b	90	740	3.4	93.5	93	91.5	0.8	0.76	0.66	101	1161	2.3	1400	2600	81	754
315M-c	110	740	4.4	93.8	93	91.5	0.81	0.76	0.66	121	1419	2.3	1400	2600	81	861
315M-d	132	740	5	94	93	91.5	0.82	0.77	0.67	143	1703	2.4	1400	2600	81	990

Carcassa in acciaio

Steel Frame

355L-a	160	742	8.7	94.3	94	92.5	0.81	0.79	0.69	175	2059	3.4	1500	2600	81	1460
355L-b	200	742	10.5	94.5	94	92.5	0.81	0.79	0.69	219	2574	3.4	1500	2600	81	1590
355L-c	250	745	12.6	94.5	94	92.5	0.82	0.8	0.7	270	3204	3.4	1500	2600	81	1760
355LX-a	315	745	28.9	95	94.5	93	0.80	0.79	0.69	347	4037	3	1500	2400	81	2520
355LX-b	355	745	34.0	95	94.5	93	0.81	0.79	0.69	386	4550	3	1500	2400	81	2840
400LX-b	400	745	41.8	95.4	95	93.5	0.84	0.82	0.72	418	5127	3.2	1400	2200	81	3200
400LX-c	450	745	49.9	95.5	95	93.5	0.84	0.82	0.72	470	5768	3.4	1400	2200	81	3540
450LX-a	500	745	69.5	95.6	95.2	93.7	0.84	0.82	0.72	522	6409	3.2	1400	1900	83	4060
450LX-b	560	745	81.7	95.8	95.3	93.8	0.84	0.82	0.72	583	7178	3.4	1400	1900	83	4440
500LX-a	630	745	101.1	96	95.4	93.9	0.86	0.84	0.74	639	8075	3.4	1300	1800	83	5010
500LX-b	710	745	113.8	96	95.4	93.9	0.86	0.84	0.74	720	9100	3.4	1300	1800	83	5440
500LX-c	800	745	129.6	96.1	95.6	94	0.86	0.84	0.74	811	10254	3.4	1300	1800	83	5980

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F Servizio S1 -

440 V - 60 Hz

2 poli - 3600 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1

440V - 60 Hz

2 poles - 3600 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 440 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.18	3240	0.000241	64	64	60	0.75	0.69	56	0.49	0.641	2.5	4500	6000	61	3.3
63-b	0.29	3240	0.00014	64	64	60	0.75	0.69	0.56	0.79	0.85	2.5	4500	6000	61	3.8
71-a	0.43	3360	0.00023	71	71	67	0.8	0.75	0.65	0.99	1.22	2.3	4000	6000	63	6
71-b	0.64	3372	0.00033	71	71	67	0.8	0.75	0.65	1.48	1.81	2.6	4500	6000	63	7
80-a	0.87	3384	0.00088	75	75	72	0.81	0.76	0.66	1.88	2.45	2.4	4200	6000	67	8.6
80-b	1.28	3384	0.00123	76	76	73	0.81	0.76	0.66	2.73	3.61	2.4	4200	6000	67	10.2
90S	1.74	3408	0.0022	77	77	75	0.82	0.77	0.67	3.62	4.88	2.5	4300	6000	72	11.5
90L	2.55	3408	0.0025	78	78	76	0.82	0.77	0.67	5.24	7.14	2.5	4300	6000	72	13.5
100L	3.48	3420	0.0040	82	82	81	0.83	0.79	0.69	6.72	9.7	2.8	4700	6000	76	20.5
112MT-a	4.64	3432	0.0055	82	82	81	0.83	0.79	0.69	8.96	12.9	2.8	4700	6000	76	23
132S-a	6.38	3480	0.0150	85	85	84	0.86	0.83	0.75	11.5	17.5	2.8	4700	6000	78	38.4
132S-b	8.7	3480	0.0180	86	86	85	0.86	0.83	0.75	15.5	23.9	2.8	4700	5000	78	42
132M	10.4	3492	0.023	86	86	85	0.86	0.83	0.75	18.5	28.4	2.7	4600	5000	79	47.5
160MT-a	12.8	3492	0.003	86	86	85	0.85	0.81	0.73	23.0	35.0	2.7	4600	5000	79	58
160MT-b	17.4	3516	0.003	88	88	87	0.86	0.83	0.75	30.2	47.3	2.8	4700	5000	79	68
160L	21.5	3528	0.004	88	88	87	0.86	0.83	0.75	37.3	58.2	2.8	4700	5000	79	90
180MT	25.5	3540	0.053	88	88	87	0.86	0.83	0.75	44.3	68.8	2.9	4800	5000	79	110
180LT	29	3540	0.063	88	88	87	0.86	0.83	0.75	50.3	78.2	2.9	4800	5000	79	116
200LT-a	34.8	3540	0.098	89.5	89.5	88	0.87	0.84	0.76	58.7	93.9	3	4900	5000	87	142
200LT-b	42.9	3552	0.123	89.5	89.5	88	0.87	0.84	0.76	72.4	115	3	4900	5000	87	162
225MT	52	3552	0.223	90	90	89	0.88	0.85	0.78	86.3	140	3	4800	4800	87	210
250MT	63	3564	0.300	91	90	91	0.89	0.86	0.8	102	169	3	4500	4500	87	280
280ST	87	3564	0.61	91.5	91.5	90.5	0.89	0.86	0.8	140	233	2.9	4500	4500	91	372
280MT	104	3564	0.80	92	92	91	0.89	0.86	0.8	167	279	3	4500	4500	91	407
315ST	127	3570	1.22	93	93	91.5	0.89	0.86	0.8	202	340	2.8	4500	4500	94	496
315M-a	153	3576	1.32	93	93	1.5	0.89	0.86	0.8	243	409	2.7	3600	3600	94	620
315M-b	185	3576	1.72	93	93	91.5	0.9	0.88	0.83	290	494	2.7	3600	3600	94	668
315M	230	3576	2.13	93	93	91.5	0.9	0.88	0.83	361	614	2.7	3600	3600	94	760

Carcassa in acciaio

Steel Frame

355L	290	3580	2.29	95.1	94	93.5	0.91	0.9	0.87	440	774	2.9	3600	3600	92	1200
355L-a	320	3580	3.39	95.1	94.1	93.5	0.91	0.9	0.87	486	854	2.9	3600	3600	92	1280
355L-b	365	3580	4.36	95.1	94.1	93.3	0.91	0.9	0.87	554	974	2.9	3600	3600	92	1570

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F –Servizio S1

440V - 60 Hz

4 poli - 1800 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

440V - 60 Hz

4 poles - 1800 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 440 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed costant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

63-a	0.15	1600	0.00023	60	60	54	0.6	0.5	0.4	0.55	0.90	2.3	2000	6000	53	3.8
63-b	0.21	1600	0.00028	61	61	55	0.6	0.5	0.4	0.75	1.25	2.3	2000	6000	53	4.1
71-a	0.29	1620	0.00033	68	68	64	0.65	0.55	0.45	0.86	1.71	2	1800	6000	55	5.7
71-b	0.43	1620	0.00049	69	69	65	0.67	0.57	0.47	1.22	2.53	2	1800	6000	55	7
80-a	0.64	1640	0.00115	72	72	68	0.7	0.61	0.5	1.67	3.73	2.3	2000	6000	58	8.6
80-b	0.87	1640	0.00161	73	73	70	0.73	0.67	0.54	2.14	5.07	2.3	2000	6000	58	10
90S	1.28	1660	0.00208	76.2	74	71	0.78	0.76	0.66	2.83	7.36	2.5	2200	6000	60	11.9
90L	1.74	1660	0.00267	78.5	74	71	0.77	0.77	0.67	3.78	10.01	2.5	2200	6000	60	14.2
100L-a	2.55	1690	0.00469	81	80	79	0.79	0.75	0.65	5.24	14.4	2.2	2000	6000	64	18.7
100L-b	3.48	1690	0.0060	82.6	81	80	0.8	0.77	0.67	6.92	19.7	2.2	2000	6000	64	21.2
112MT	4.64	1710	0.0080	84.2	83	82	0.81	0.77	0.67	8.94	25.9	2.5	2200	6000	64	25.7
132S	6.38	1730	0.0195	85.7	84	83	0.8	0.77	0.67	12.2	35.2	2.5	2200	6000	67	43
132M-a	8.7	1730	0.027	87	85	84	0.81	0.8	0.71	16.2	48.0	2.5	2200	5000	67	50.3
160MT	12.8	1760	0.04	88.4	88	87	0.83	0.79	0.69	22.9	69.4	2.6	2200	5000	67	69.5
160L	17.4	1760	0.08	89.4	90	89	0.82	0.8	0.71	31.2	94.4	2.6	2200	6500	71	89
180MT	21.5	1765	0.09	90	90	89	0.83	0.8	0.71	37.8	116	2.8	2400	6300	71	110
180LT	25.5	1765	0.11	90.5	91	90	0.83	0.83	0.75	44.6	138	2.8	2400	6300	71	119
200LT	34.8	1765	0.15	91.4	91	90	0.85	0.83	0.75	58.8	188	2.8	2400	5000	74	155
225ST	42.9	1770	0.29	92	91	90	0.84	0.83	0.75	72.9	231	2.9	2400	5000	74	202
225MT-a	52	1770	0.37	92.5	92	91	0.84	0.83	0.75	87.9	281	2.9	2400	4500	74	235
250MT-b	63	1775	0.43	93	93	91	0.85	0.84	0.76	105	339	2.6	2400	4500	74	286
280ST	87	1780	1.1	93.6	93	91.5	0.86	0.84	0.76	142	467	2.7	2400	4500	77	387
280MT	104	1780	1.2	93.9	93.6	91.5	0.86	0.84	0.76	169	558	2.7	2400	4500	77	415
315ST	127	1785	1.5	94	94	92.5	0.88	0.83	0.75	202	679	2.7	2400	4500	79	496
315M-a	153	1785	2.5	94	94.2	92.5	0.88	0.83	0.75	243	818	2.7	2400	3000	81	630
315M-b	185	1785	3.3	94	94.3	92.5	0.88	0.85	0.78	294	990	2.7	2400	3000	81	740
315M-c	230	1790	4.16	94.2	94.5	92.5	0.89	0.84	0.76	360	1227	2.8	2400	3000	81	882

Carcassa in acciaio

Steel Frame

355L-a	290	1792	4.7	95.1	95	93.6	0.89	0.87	0.79	450	1545	3.4	2000	2000	88	1490
355L-b	325	1792	5.2	95.1	95	93.6	0.89	0.87	0.79	504	1732	3.4	2000	2000	88	1560
355L-c	365	1792	5.7	95.3	95	93.6	0.89	0.87	0.79	565	1945	3.6	2000	2000	88	1680
355Lx-a	405	1790	10	95.3	94.8	93.3	0.89	0.87	0.81	627	2159	3.2	1900	1900	88	1850
355Lx-b	456	1790	11.8	95.5	94.9	93.7	0.89	0.88	0.81	705	2433	3.2	1900	1900	88	2060
355Lx-c	513	1790	13.6	95.7	95.2	94	0.9	0.87	0.81	782	2737	3.3	1900	1900	88	2260
355Lx-d	570	1790	15.9	95.8	95.2	94	0.9	0.87	0.81	868	3041	3.6	1900	1900	88	2520
400LX-a	638	1793	27	96	95.4	94.2	0.89	0.87	0.78	982	3400	3.6	1900	1900	89	3150
400LX-b	718	1793	31.6	96	95.4	94.2	0.89	0.87	0.78	1104	3825	3.6	1900	1900	89	3520
450LX-a	809	1793	36	96.4	96	95.2	0.91	0.9	0.85	1212	4311	3.2	1900	1900	89	4100
450LX-b	912	1793	41.8	96.5	96	95.2	0.91	0.9	0.85	1364	4857	3.4	1900	1900	89	4420
500LX-a	1026	1794	70.6	96.6	96.2	95.2	0.92	0.9	0.85	1517	5461	3.4	1900	1900	89	4950
500LX-c	1140	1794	78.2	96.8	96.6	95.6	0.92	0.9	0.85	1682	6068	3.4	1900	1900	89	5300

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

440V - 6 Hz

6 poli - 1200giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

440 - 6 Hz

6 poles - 1200 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 440 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

71-a	0.21	1068	0.00105	54	54	46	0.61	0.52	0.4	0.84	1.88	1.9	1300	6000	53	5.8
71-b	0.26	1068	0.00129	55	55	47	0.61	0.52	0.4	1.02	2.32	2	1400	6000	53	6.5
80-a	0.43	1080	0.00164	66	66	61	0.71	0.62	0.5	1.21	3.80	2	1400	6000	55	7.4
80-b	0.64	1080	0.00256	69	69	65	0.71	0.62	0.5	1.72	5.66	2.2	1400	6000	55	9.8
90S	0.87	1092	0.00354	72	72	68	0.72	0.63	0.52	2.20	7.61	2.1	1400	6000	58	10.8
90L	1.28	1092	0.0051	73	73	70	0.72	0.63	0.52	3.20	11.2	2	1400	6000	58	13.5
100L	1.74	1104	0.0087	75	75	72	0.73	0.68	0.55	4.18	15.1	2.3	1500	6000	61	19.6
112MT	2.55	1128	0.014	78	77	75	0.75	0.7	0.6	5.73	21.6	2.5	1500	6000	61	25
132S	3.5	1140	0.023	80	80	79	0.78	0.72	0.61	7.37	29.3	2.3	1500	6000	64	39
132M-a	4.64	1140	0.031	82	81	80	0.78	0.72	0.61	9.53	38.9	2.6	1500	6000	64	45.5
132M-b	6.38	1140	0.041	83	83	82	0.78	0.72	0.61	12.9	53.4	2.6	1500	6000	64	52.5
160MT	8.7	1152	0.054	85	85	84	0.8	0.76	0.66	16.8	72.1	2.6	1500	6000	64	69
160L	12.8	1152	0.109	86	86	85	0.81	0.76	0.66	24.1	106	2.9	1600	5000	67	88
180LT	17.4	1164	0.141	87	87	86	0.82	0.77	0.67	32.0	143	3	1600	5000	67	114
200LT-a	21.5	1170	0.271	88	88	87	0.83	0.79	0.69	38.7	175	2.8	1600	5000	72	145
200LT-b	25.5	1170	0.32	88	88	87	0.83	0.79	0.69	45.9	208	2.8	1600	4500	72	155
225MT	34.8	1176	0.541	90	90	89	0.84	0.8	0.71	60.5	283	2.6	1700	4500	76	234
250MT	42.9	1176	0.752	91	91	90	0.84	0.8	0.71	73.7	348	2.7	1700	3800	77	295
280ST	52	1182	1.4	91.5	92	91	0.82	0.81	0.73	91.0	420	2.4	1600	3000	79	381
280MT	63	1182	1.68	92	92.5	91	0.82	0.81	0.73	110	509	2.4	1600	3000	79	421
315ST	87	1182	2.18	92.5	92.5	91	0.83	0.83	0.75	149	703	2.3	1500	3000	79	526
315M-a	104	1182	2.7	93	93	91.5	0.83	0.83	0.75	177	840	2.6	1600	2800	88	642
315M-b	127	1188	2.7	93	93	91.5	0.84	0.83	0.85	214	1021	2.6	1600	2800	88	672
315M-c	153	1188	3.15	93.3	93.5	92	0.84	0.83	0.85	256	1230	2.6	1600	2800	88	730
315M-d	185	1188	4.7	94	94	92.5	0.84	0.83	0.85	308	1487	2.6	1600	2800	88	910

Carcassa in acciaio

Steel Frame

355L	228	1190	6.4	95.2	95.3	94.7	0.86	0.83	0.75	366	1830	2.6	2000	2000	86	1370
355L-a	285	1190	7.9	95.3	95.4	95	0.88	0.85	0.78	446	2287	2.7	2000	2000	86	1572
355L-b	319	1190	8.7	95.3	95.5	95.2	0.88	0.85	0.79	500	2561	2.7	2000	2000	86	1660
355L-c	359	1190	9.8	95.4	95.6	95.3	0.88	0.85	0.79	562	2882	2.7	2000	2000	86	1800
355LX-a	404.7	1190	19.8	95.5	95.5	95.4	0.89	0.87	0.79	626	3247	3.1	1900	1900	86	2060
355LX-b	456	1190	22.3	95.5	95.5	95.5	0.89	0.87	0.79	705	3659	3.1	1900	1900	86	2254
400LX-a	510	1194	31.1	95.6	95.5	94.8	0.89	0.87	0.79	787	4079	3.1	1900	1900	88	2960
400LX-b	570	1194	35	95.7	95.7	94.9	0.89	0.87	0.79	879	4559	3.2	1800	1800	88	3290
400LX-c	640	1194	39.8	95.7	95.7	94.9	0.89	0.87	0.79	987	5118	3.2	1800	1800	88	3530
450LX-a	718.2	1195	60	96	95.9	95	0.88	0.85	0.78	1117	5739	3.2	1800	1800	89	4200
450LX-b	810	1195	68	96	95.9	95	0.88	0.85	0.78	1260	6473	2.7	1800	1800	89	4560
500LX-a	910	1195	74	96.3	96.3	95.8	0.89	0.87	0.8	1395	7272	2.7	1800	1800	89	4890
500LX-b	1030	1195	86	96.4	96.4	95.8	0.89	0.87	0.8	1577	8231	2.7	1800	1800	89	5500

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

440V - 60 Hz

8 poli - 900 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

440V - 60 Hz

8 poles - 900 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 440 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

71	0.17	780	0.0013	46	45	42	0.57	0.5	0.4	0.85	2.08	2	700	6000	52	6.5
80	0.21	804	0.0016	52	52	46	0.6	0.52	0.42	0.88	2.49	2	900	6000	54	7.3
80	0.29	804	0.0026	61	61	55	0.6	0.54	0.43	1.04	3.44	2	900	6000	54	9.7
90S	0.43	816	0.003	64	64	59	0.63	0.55	0.44	1.40	5.03	2	900	6000	57	10.6
90L	0.64	828	0.0045	67	67	62	0.63	0.55	0.44	1.99	7.38	2	900	6000	57	13.3
100L	0.87	828	0.0087	68	68	64	0.64	0.56	0.45	2.63	10.0	2.1	950	6000	59	19.3
100L	1.28	828	0.0109	70	70	66	0.64	0.56	0.45	3.75	14.8	2.1	950	6000	59	21.5
112MT	1.74	840	0.0141	73	73	70	0.65	0.57	0.46	4.82	19.8	2.4	1100	6000	59	25
132S	2.55	846	0.0307	78	80	79	0.71	0.62	0.5	6.05	28.8	2.2	1000	6000	62	45
132M	3.5	852	0.0409	79	81	80	0.72	0.63	0.52	8.08	39.2	2.3	1000	6000	62	52
160MT	4.64	852	0.0537	80	84	83	0.73	0.67	0.54	6.7	52.0	2.1	950	6000	65	68.5
160M	6.38	858	0.0772	82	84	83	0.73	0.67	0.54	8.9	71.0	2.1	950	5000	65	70
160L	8.7	864	0.109	84	86	85	0.74	0.68	0.55	11.7	96.2	2.2	1000	5000	65	87.5
180LT	12.8	876	0.154	86	87	86	0.76	0.68	0.55	16.4	140	2	900	5000	65	117
200LT	17.4	876	0.345	87	89	88	0.76	0.7	0.68	22.0	190	2.3	1100	4500	70	155
225ST	21.5	876	0.505	88	89	88	0.79	0.73	0.62	25.9	234	2.3	1100	4500	74	207
225MT	25.5	876	0.577	89	90	89	0.79	0.74	0.63	30.4	278	2.4	1100	4500	74	243
250MT	34.8	882	0.902	90	90.5	89	0.8	0.75	0.65	40.5	377	2.6	1200	3800	75	317
280ST	42.9	882	1.75	90.5	90.5	89	0.8	0.75	0.65	49.6	464	2.3	1100	3000	76	420
280MT	52	882	2.12	91	91	90	0.8	0.76	0.66	59.8	563	2.3	1100	3000	76	460
315ST	63	888	2.43	92	92	91	0.8	0.76	0.66	71.7	677	2.2	1100	3000	85	525
315M-a	87	888	3	93	92	91	0.8	0.76	0.66	98	936	2.2	1400	2600	85	642
315M-b	104	888	3.4	93.5	93	91.5	0.8	0.76	0.66	116	1118	2.3	1400	2600	85	754
315M-c	127	888	4.4	93.8	93	91.5	0.81	0.76	0.66	140	1366	2.3	1400	2600	85	861
315M-d	153	888	5	94	93	91.5	0.82	0.77	0.67	166	1645	2.4	1400	2600	85	990

Carcassa in acciaio

Steel Frame

355L-a	185	894	8.7	94.3	94	92.5	0.81	0.79	0.69	203	1976	3.1	1500	2600	85	1460
355L-b	230	894	10.5	94.5	94	92.5	0.81	0.79	0.69	252	2457	3.1	1500	2600	85	1590
355L-c	285	894	12.6	94.5	94	92.5	0.82	0.8	0.7	308	3044	3.1	1500	2600	85	1760
355LX-a	360	893	28.9	95	94.5	93	0.80	0.79	0.69	397	3850	2.7	1500	2400	85	2520
355LX-b	405	893	34.0	95	94.5	93	0.81	0.79	0.69	441	4331	2.7	1500	2400	85	2840
400LX-b	456	893	41.8	95.4	95	93.5	0.84	0.82	0.72	477	4876	2.9	1400	2200	85	3200
400LX-c	513	893	49.9	95.5	95	93.5	0.84	0.82	0.72	536	5486	3.1	1400	2200	85	3540
450LX-a	570	893	69.5	95.6	95.2	93.7	0.84	0.82	0.72	595	6095	2.9	1400	1900	87	4060
450LX-b	640	893	81.7	95.8	95.3	93.8	0.84	0.82	0.72	666	6844	3.1	1400	1900	87	4440
500LX-a	720	893	101.1	96	95.4	93.9	0.86	0.84	0.74	731	7699	3.1	1300	1800	87	5010
500LX-b	810	893	113.8	96	95.4	93.9	0.86	0.84	0.74	822	8661	3.1	1300	1800	87	5440
500LX-c	910	893	129.6	96.1	95.6	94	0.86	0.84	0.74	922	9731	3.1	1300	1800	87	5980

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F Servizio S1 -

690 V - 60 Hz

2 poli - 3600 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1

690V - 60 Hz

2 poles - 3600 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT-a	12.8	3492	0.003	86	86	85	0.85	0.81	0.73	14.7	35.0	2.7	4600	5000	79	58
160MT-b	17.4	3516	0.003	88	88	87	0.86	0.83	0.75	19.3	47.3	2.8	4700	5000	79	68
160L	21.5	3528	0.004	88	88	87	0.86	0.83	0.75	23.8	58.2	2.8	4700	5000	79	90
180MT	25.5	3540	0.053	88	88	87	0.86	0.83	0.75	28.2	68.8	2.9	4800	5000	79	110
180LT	29	3540	0.063	88	88	87	0.86	0.83	0.75	32.1	78.2	2.9	4800	5000	79	116
200LT-a	34.8	3540	0.098	89.5	89.5	88	0.87	0.84	0.76	37.4	93.9	3	4900	5000	87	142
200LT-b	42.9	3552	0.123	89.5	89.5	88	0.87	0.84	0.76	46.2	115	3	4900	5000	87	162
225MT	52	3552	0.223	90	90	89	0.88	0.85	0.78	55.0	140	3	4800	4800	87	210
250MT	63	3564	0.300	91	90	91	0.89	0.86	0.8	65.2	169	3	4500	4500	87	280
280ST	87	3564	0.61	91.5	91.5	90.5	0.89	0.86	0.8	89.5	233	2.9	4500	4500	91	372
280MT	104	3564	0.80	92	92	91	0.89	0.86	0.8	106	279	3	4500	4500	91	407
315ST	127	3570	1.22	93	93	91.5	0.89	0.86	0.8	129	340	2.8	4500	4500	94	496
315M-a	153	3576	1.32	93	93	1.5	0.89	0.86	0.8	155	409	2.7	3600	3600	94	620
315M-b	185	3576	1.72	93	93	91.5	0.9	0.88	0.83	185	494	2.7	3600	3600	94	668
315M	230	3576	2.13	93	93	91.5	0.9	0.88	0.83	230	614	2.7	3600	3600	94	760

Carcassa in acciaio

Steel Frame

355L	290	3580	2.29	95.1	94	93.5	0.91	0.9	0.87	281	774	2.9	3600	3600	92	355L
355L-a	320	3580	3.39	95.1	94.1	93.5	0.91	0.9	0.87	310	854	2.9	3600	3600	92	355L-a
355L-b	365	3580	4.36	95.1	94.1	93.3	0.91	0.9	0.87	353	974	2.9	3600	3600	92	355L-b

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1; 2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F –Servizio S1

690V - 60 Hz

4 poli - 1800 giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

690V - 60 Hz

4 poles - 1800 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed constant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT	12.8	1760	0.04	88.4	88	87	0.83	0.79	0.69	14.6	69.4	2.6	2200	5000	67	69.5
160L	17.4	1760	0.08	89.4	90	89	0.82	0.8	0.71	19.9	94.4	2.6	2200	6500	71	89
180MT	21.5	1765	0.09	90	90	89	0.83	0.8	0.71	24.1	116	2.8	2400	6300	71	110
180LT	25.5	1765	0.11	90.5	91	90	0.83	0.83	0.75	28.4	138	2.8	2400	6300	71	119
200LT	34.8	1765	0.15	91.4	91	90	0.85	0.83	0.75	37.5	188	2.8	2400	5000	74	155
225ST	42.9	1770	0.29	92	91	90	0.84	0.83	0.75	46.5	231	2.9	2400	5000	74	202
225MT-a	52	1770	0.37	92.5	92	91	0.84	0.83	0.75	56.1	281	2.9	2400	4500	74	235
250MT-b	63	1775	0.43	93	93	91	0.85	0.84	0.76	66.8	339	2.6	2400	4500	74	286
280ST	87	1780	1.1	93.6	93	91.5	0.86	0.84	0.76	90.5	467	2.7	2400	4500	77	387
280MT	104	1780	1.2	93.9	93.6	91.5	0.86	0.84	0.76	108	558	2.7	2400	4500	77	415
315ST	127	1785	1.5	94	94	92.5	0.88	0.83	0.75	129	679	2.7	2400	4500	79	496
315M-a	153	1785	2.5	94	94.2	92.5	0.88	0.83	0.75	155	818	2.7	2400	3000	81	630
315M-b	185	1785	3.3	94	94.3	92.5	0.88	0.85	0.78	187	990	2.7	2400	3000	81	740
315M-c	230	1790	4.16	94.2	94.5	92.5	0.89	0.84	0.76	230	1227	2.8	2400	3000	81	882

Carcassa in acciaio

Steel Frame

355L-a	290	1792	4.7	95.1	95	93.6	0.89	0.87	0.79	287	1545	3.4	2000	2000	88	1490
355L-b	325	1792	5.2	95.1	95	93.6	0.89	0.87	0.79	322	1732	3.4	2000	2000	88	1560
355L-c	365	1792	5.7	95.3	95	93.6	0.89	0.87	0.79	361	1945	3.6	2000	2000	88	1680
355Lx-a	405	1790	10	95.3	94.8	93.3	0.89	0.87	0.81	400	2159	3.2	1900	1900	88	1850
355Lx-b	456	1790	11.8	95.5	94.9	93.7	0.89	0.88	0.81	449	2433	3.2	1900	1900	88	2060
355LX-c	513	1790	13.6	95.7	95.2	94	0.9	0.87	0.81	499	2737	3.3	1900	1900	88	2260
355LX-d	570	1790	15.9	95.8	95.2	94	0.9	0.87	0.81	554	3041	3.6	1900	1900	88	2520
400LX-a	638	1793	27	96	95.4	94.2	0.89	0.87	0.78	626	3400	3.6	1900	1900	89	3150
400LX-b	718	1793	31.6	96	95.4	94.2	0.89	0.87	0.78	704	3825	3.6	1900	1900	89	3520
450LX-a	809	1793	36	96.4	96	95.2	0.91	0.9	0.85	773	4311	3.2	1900	1900	89	4100
450LX-b	912	1793	41.8	96.5	96	95.2	0.91	0.9	0.85	870	4857	3.4	1900	1900	89	4420
500LX-a	1026	1794	70.6	96.6	96.2	95.2	0.92	0.9	0.85	967	5461	3.4	1900	1900	89	4950
500LX-c	1140	1794	78.2	96.8	96.6	95.6	0.92	0.9	0.85	1072	6068	3.4	1900	1900	89	5300

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Classe di efficienza IE1 (IEC 60034-30- 2008)

Isolamento classe F – Servizio S1

690V - 60 Hz

6 poli - 1200giri/min

Technical features

INVERTER SUPPLY

IE1 Efficiency class (IEC 60034-30; 2008)

Insulation class F – S1 Duty

690 - 60 Hz

6 poles - 1200 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed costant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min		100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT	8.7	1152	0.054	85	85	84	0.8	0.76	0.66	10.7	72.1	2.6	1500	6000	64	69
160L	12.8	1152	0.109	86	86	85	0.81	0.76	0.66	15.4	106	2.9	1600	5000	67	88
180LT	17.4	1164	0.141	87	87	86	0.82	0.77	0.67	20.4	143	3	1600	5000	67	114
200LT-a	21.5	1170	0.271	88	88	87	0.83	0.79	0.69	24.7	175	2.8	1600	5000	72	145
200LT-b	25.5	1170	0.32	88	88	87	0.83	0.79	0.69	29.2	208	2.8	1600	4500	72	155
225MT	34.8	1176	0.541	90	90	89	0.84	0.8	0.71	38.6	283	2.6	1700	4500	76	234
250MT	42.9	1176	0.752	91	91	90	0.84	0.8	0.71	47.0	348	2.7	1700	3800	77	295
280ST	52	1182	1.4	91.5	92	91	0.82	0.81	0.73	58.1	420	2.4	1600	3000	79	381
280MT	63	1182	1.68	92	92.5	91	0.82	0.81	0.73	70.0	509	2.4	1600	3000	79	421
315ST	87	1182	2.18	92.5	92.5	91	0.83	0.83	0.75	94.9	703	2.3	1500	3000	79	526
315M-a	104	1182	2.7	93	93	91.5	0.83	0.83	0.75	113	840	2.6	1600	2800	88	642
315M-b	127	1188	2.7	93	93	91.5	0.84	0.83	0.85	136	1021	2.6	1600	2800	88	672
315M-c	153	1188	3.15	93.3	93.5	92	0.84	0.83	0.85	164	1230	2.6	1600	2800	88	730
315M-d	185	1188	4.7	94	94	92.5	0.84	0.83	0.85	196	1487	2.6	1600	2800	88	910

Carcassa in acciaio

Steel Frame

355L	228	1190	6.4	95.2	95.3	94.7	0.86	0.83	0.75	233	1830	2.6	2000	2000	86	1370
355L-a	285	1190	7.9	95.3	95.4	95	0.88	0.85	0.78	285	2287	2.7	2000	2000	86	1572
355L-b	319	1190	8.7	95.3	95.5	95.2	0.88	0.85	0.79	319	2561	2.7	2000	2000	86	1660
355L-c	359	1190	9.8	95.4	95.6	95.3	0.88	0.85	0.79	358	2882	2.7	2000	2000	86	1800
355LX-a	405	1190	19.8	95.5	95.5	95.4	0.89	0.87	0.79	399	3250	3.1	1900	1900	86	2060
355LX-b	456	1190	22.3	95.5	95.6	95.5	0.89	0.87	0.79	449	3659	3.1	1900	1900	86	2254
400LX-a	510	1194	31.1	95.6	95.5	94.8	0.89	0.87	0.79	502	4079	3.1	1900	1900	88	2960
400LX-b	570	1194	35	95.7	95.7	94.9	0.89	0.87	0.79	561	4559	3.2	1800	1800	88	3290
400LX-c	640	1194	39.8	95.7	95.7	94.9	0.89	0.87	0.79	629	5118	3.2	1800	1800	88	3530
450LX-a	720	1195	60	96	95.9	95	0.88	0.85	0.78	714	5753	3.2	1800	1800	89	4200
450LX-b	810	1195	68	96	95.9	95	0.88	0.85	0.78	803	6473	2.7	1800	1800	89	4560
500LX-a	910	1195	74	96.3	96.3	95.8	0.89	0.87	0.8	889	7272	2.7	1800	1800	89	4890
500LX-b	1030	1195	86	96.4	96.4	95.8	0.89	0.87	0.8	1006	8231	2.7	1800	1800	89	5500

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Caratteristiche tecniche

ALIMENTAZIONE DA INVERTER

Isolamento classe F – Servizio S1

690V - 60 Hz

8 poli - 900 giri/min

Technical features

INVERTER SUPPLY

Insulation class F – S1 Duty

690V - 60 Hz

8 poles - 900 r.p.m

TIPO Type	Potenza Power	Velocità Speed	J	Rendimento Efficiency			Fattore di potenza Power factor Cosfi			Corrente Current In a 690 V	Coppia Nominale Nominal Torque	Coppia Massima Max torque	Velocità max a potenza costante. Max speed costant power	Velocità massima Max. speed	Rumor. Noise	Forma B3 Mount.B3 Peso Weight
	Kw	Giri/min	Kgm2	100%	75%	50%	100%	75%	50%	A	Nm	Cmax/Cn	Giri/min	Giri/min	dB(A)	Kg

Carcassa in alluminio

Aluminium Frame

160MT	4.64	852	0.0537	80	84	83	0.73	0.67	0.54	6.7	52.0	2.1	950	6000	65	68.5
160M	6.38	858	0.0772	82	84	83	0.73	0.67	0.54	8.9	71.0	2.1	950	5000	65	70
160L	8.7	864	0.109	84	86	85	0.74	0.68	0.55	11.7	96.2	2.2	1000	5000	65	87.5
180LT	12.8	876	0.154	86	87	86	0.76	0.68	0.55	16.4	140	2	900	5000	65	117
200LT	17.4	876	0.345	87	89	88	0.76	0.7	0.68	22.0	190	2.3	1100	4500	70	155
225ST	21.5	876	0.505	88	89	88	0.79	0.73	0.62	25.9	234	2.3	1100	4500	74	207
225MT	25.5	876	0.577	89	90	89	0.79	0.74	0.63	30.4	278	2.4	1100	4500	74	243
250MT	34.8	882	0.902	90	90.5	89	0.8	0.75	0.65	40.5	377	2.6	1200	3800	75	317
280ST	42.9	882	1.75	90.5	90.5	89	0.8	0.75	0.65	49.6	464	2.3	1100	3000	76	420
280MT	52	882	2.12	91	91	90	0.8	0.76	0.66	59.8	563	2.3	1100	3000	76	460
315ST	63	888	2.43	92	92	91	0.8	0.76	0.66	71.7	677	2.2	1100	3000	85	525
315M-a	87	888	3	93	92	91	0.8	0.76	0.66	98	936	2.2	1400	2600	85	642
315M-b	104	888	3.4	93.5	93	91.5	0.8	0.76	0.66	116	1118	2.3	1400	2600	85	754
315M-c	127	888	4.4	93.8	93	91.5	0.81	0.76	0.66	140	1366	2.3	1400	2600	85	861
315M-d	153	888	5	94	93	91.5	0.82	0.77	0.67	166	1645	2.4	1400	2600	85	990

Carcassa in acciaio

Steel Frame

355L-a	185	894	8.7	94.3	94	92.5	0.81	0.79	0.69	203	1976	3.1	1500	2600	85	1460
355L-b	230	894	10.5	94.5	94	92.5	0.81	0.79	0.69	252	2457	3.1	1500	2600	85	1590
355L-c	285	894	12.6	94.5	94	92.5	0.82	0.8	0.7	308	3044	3.1	1500	2600	85	1760
355LX-a	360	893	28.9	95	94.5	93	0.80	0.79	0.69	397	3850	2.7	1500	2400	85	2520
355LX-b	405	893	34.0	95	94.5	93	0.81	0.79	0.69	441	4331	2.7	1500	2400	85	2840
400LX-b	456	893	41.8	95.4	95	93.5	0.84	0.82	0.72	477	4876	2.9	1400	2200	85	3200
400LX-c	513	893	49.9	95.5	95	93.5	0.84	0.82	0.72	536	5486	3.1	1400	2200	85	3540
450LX-a	570	893	69.5	95.6	95.2	93.7	0.84	0.82	0.72	595	6095	2.9	1400	1900	87	4060
450LX-b	640	893	81.7	95.8	95.3	93.8	0.84	0.82	0.72	666	6844	3.1	1400	1900	87	4440
500LX-a	720	893	101.1	96	95.4	93.9	0.86	0.84	0.74	731	7699	3.1	1300	1800	87	5010
500LX-b	810	893	113.8	96	95.4	93.9	0.86	0.84	0.74	822	8661	3.1	1300	1800	87	5440
500LX-c	910	893	129.6	96.1	95.6	94	0.86	0.84	0.74	922	9731	3.1	1300	1800	87	5980

I valori di rendimento sono calcolati in accordo con IEC 60034-2-1;
2007 con alimentazione sinusoidale

Efficiency values are given according to IEC 60034-2-1 ;2007 with
sinusoidal supply

Dimensioni d'ingombro

Le dimensioni d'ingombro sono in accordo con le Norme IEC 60072.

L'uscita d'albero e le dimensioni delle flange di accoppiamento sono realizzate con le seguenti tolleranze:

Simbolo Symbol	Dimensione Dimension	Tolleranza Tolerance
D – DA	< 30	j6
	> 30 a 50	k6
	> 50	m6
N	< 250	j6
	> 250	h6
F - FA		h9

Le flange di accoppiamento e i fori delle pulegge per le cinghie devono avere il foro con tolleranza H7.

Coupling flanges and holes for belt pulleys should have an ISO fit of at least H7.

Nella tabella sono indicate le tolleranze ammesse per le diverse altezze d'asse.

The deviations specified below are permitted for the dimensions shown in table

Simbolo Symbol	Dimensione Dimension	Scostamento Ammissibile Permitted deviation
H	< 250	-0,5
	> 280	-1

Dimensioni d'ingombro

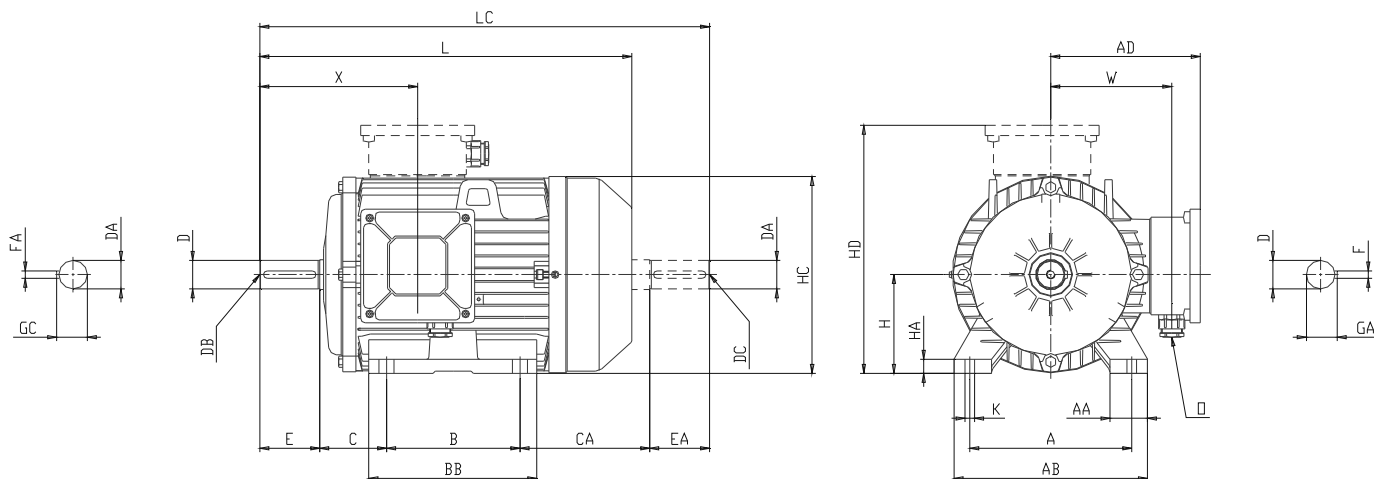
Forma B3 – Grandezza 63 + 160T

Motori autoventilati (IC411)

Overall dimensions

Mounting B3 – Frame size 63 + 160T

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions																	
		A	AA	AB	AD	B	BB	C	CA	H	HA	HC	HD	K	L	LC	X	W	O
63	2-4-6-8	100	28	128	95	80	103	40	73	63	7	125	158	6	212	239	86	68	M16x1.5
71		112	24	137	115	90	101	45	85.5	71	10	144	186	7	238	280.5	111	88	M20x1.5
80		125	30	155	126	100	122	50	93.5	80	10	164	206	9	274	323.5	113	96	M20x1.5
90S		140	34	175	142	100	125	56	118	90	12	180	232	10	297	374	134	115	M20x1.5
90L		140	34	175	142	125	150	56	118	90	12	180	232	10	322	399	134	115	M20x1.5
100L		160	37	198	155	140	173	63	107	100	14	205	255	12	361	430	160	123	M25x1.5
112MT		190	38	224	155	140	178	70	100	112	15	217	267	12	361	430	160	123	M25x1.5
112M		190	38	228	170	140	172	70	114	112	17	222	282	13	380	444	157	140	M25x1.5
132S		216	50	258	200	140	225	89	167	132	19	264	332	13	470	556	198	162	M25x1.5
132M		216	50	258	200	178	225	89	173	132	19	264	332	13	496	600	198	162	M25x1.5
160MT		254	60	292	215	210	250	108	165	160	18	290	375	14	570	673	275	170	M32x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft					Albero L.O.A. / NDE shaft				
		D	E	F	GA	DB	DA	EA	FA	GC	DC
63	2-4-6-8	11 j6	23	4	12.5	M4x0.7	11 j6	23	4	12.5	M4x0.7
71		14 j6	30	5	16	M5x0.8	14 j6	30	5	16	M5x0.8
80		19 j6	40	6	21.5	M6x1	19 j6	40	6	21.5	M6x1
90S		24 j6	50	8	27	M8x1.25	24 j6	50	8	27	M8x1.25
90L		24 j6	50	8	27	M8x1.25	24 j6	50	8	27	M8x1.25
100L		28 j6	60	8	31	M10x1.5	28 j6	60	8	31	M10x1.5
112MT		28 j6	60	8	31	M10x1.5	28 j6	60	8	31	M10x1.5
112M		28 j6	60	8	31	M10x1.5	28 j6	60	8	31	M10x1.5
132S		38 k6	80	10	41	M12x1.75	38 k6	80	10	41	M12x1.75
132M		38 k6	80	10	41	M12x1.75	38 k6	80	10	41	M12x1.75
160MT		42 k6	110	12	45	M16x2	38 k6	80	10	41	M12x1.75

Dimensioni d'ingombro

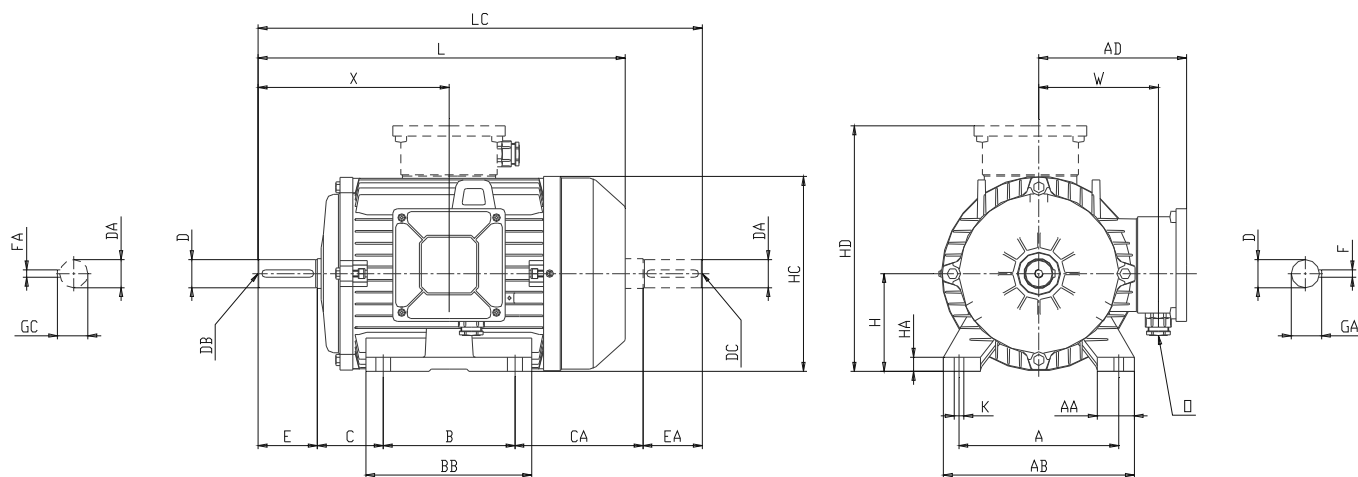
Forma B3 – Grandezza 160 + 200

Motori autoventilati (IC411)

Overall dimensions

Mounting B3 – Frame size 160 + 200

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions																	
		A	AA	AB	AD	B	BB	C	CA	H	HA	HC	HD	K	L	LC	X	W	O
160M	2-4-6-8	254	67	315	245	210	332	108	227	160	20	325	405	14	650	765	345	195	M40x1.5
160L		254	67	315	245	254	332	108	183	160	20	325	405	14	650	765	345	195	M40x1.5
180MT		279	80	350	245	241	320	121	242	180	22	340	425	14	690	824	370	195	M40x1.5
180LT		279	80	350	245	279	320	121	204	180	22	340	425	14	690	824	370	195	M40x1.5
180L		279	80	350	275	279	320	121	226	180	22	360	450	14	725	846	370	221	M40x1.5
200LT		318	90	395	275	305	365	133	247	200	24	380	475	18	750	905	400	215	M40x1.5
200L		318	90	395	305	305	365	133	247	200	24	405	505	18	780	905	400	255	M50x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft						Albero L.O.A. / NDE shaft					
		D	E	F	GA	DB		DA	EA	FA	GC	DC	
160M	2-4-6-8	42 k6	110	12	45	M16x2		42 k6	110	12	45	M16x2	
160L		42 k6	110	12	45	M16x2		42 k6	110	12	45	M16x2	
180MT		48 k6	110	14	51.5	M16x2		48 k6	110	14	51.5	M16x2	
180LT		48 k6	110	14	51.5	M16x2		48 k6	110	14	51.5	M16x2	
180L		48 k6	110	14	51.5	M16x2		48 k6	110	14	51.5	M16x2	
200LT		55 m6	110	16	59	M20x2.5		55 m6	110	16	59	M20x2.5	
200L		55 m6	110	16	59	M20x2.5		55 M6	110	16	59	M20x2.5	

Dimensioni d'ingombro

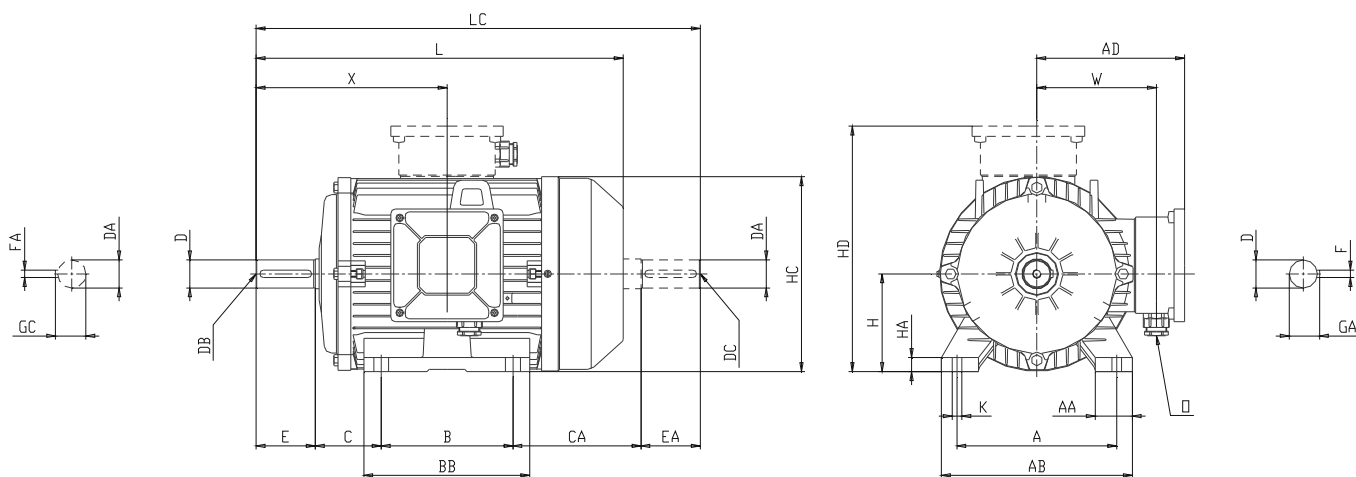
Forma B3 – Grandezza 225T + 280T

Motori autoventilati (IC411)

Overall dimensions

Mounting B3 – Frame size 225T + 280T

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions																	
		A	AA	AB	AD	B	BB	C	CA	H	HA	HC	HD	K	L	LC	X	W	O
225ST	4-6-8	356	80	436	290	286	370	149	270	225	30	420	515	18	830	985	445	245	M50x1.5
225MT	2	356	80	436	290	311	370	149	245	225	30	420	515	18	800	925	415	245	M50x1.5
	4-6-8	356	80	436	290	311	370	149	245	225	30	420	515	18	830	985	445	245	M50x1.5
225M	2	356	80	436	335	311	370	149	285	225	30	450	560	18	840	965	415	280	M50x1.5
	4-6-8	356	80	436	335	311	370	149	285	225	30	450	560	18	870	1025	445	280	M50x1.5
250MT	2	406	95	476	330	349	410	168	264	250	32	480	580	22	905	1061	485	270	M50x1.5
	4-6-8	406	95	476	330	349	410	168	264	250	32	480	580	22	905	1061	485	270	M50x1.5
280ST	2	457	115	534	400	368	480	190	332	280	35	535	680	22	1030	1170	540	320	M50x1.5
	4-6-8	457	115	534	400	368	480	190	332	280	35	535	680	22	1030	1170	540	320	M50x1.5
280MT	2	457	115	534	400	419	480	190	281	280	35	535	680	22	1030	1170	540	320	M50x1.5
	4-6-8	457	115	534	400	419	480	190	281	280	35	535	680	22	1030	1170	540	320	M50x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft					Albero L.O.A. / NDE shaft				
		D	E	F	GA	DB	DA	EA	FA	GC	DC
225ST	4-6-8	60 m6	140	18	64	M20x2.5	60 m6	140	18	64	M20x2.5
225MT	2	55 m6	110	16	59	M20x2.5	55 m6	110	16	59	M20x2.5
	4-6-8	60 m6	140	18	64	M20x2.5	60 m6	140	18	64	M20x2.5
225M	2	55 m6	110	16	59	M20x2.5	55 m6	110	16	59	M20x2.5
	4-6-8	60 m6	140	18	64	M20x2.5	60 m6	140	18	64	M20x2.5
250MT	2	60 m6	140	18	64	M20x2.5	60 m6	140	18	64	M20x2.5
	4-6-8	65 m6	140	18	69	M20x2.5	65 m6	140	18	69	M20x2.5
280ST	2	65 m6	140	18	69	M20x2.5	65 m6	140	18	69	M20x2.5
	4-6-8	75 m6	140	20	79.5	M20x2.5	75 m6	140	20	79.5	M20x2.5
280MT	2	65 m6	140	18	69	M20x2.5	65 m6	140	18	69	M20x2.5
	4-6-8	75 m6	140	20	79.5	M20x2.5	75 m6	140	20	79.5	M20x2.5

Dimensioni d'ingombro

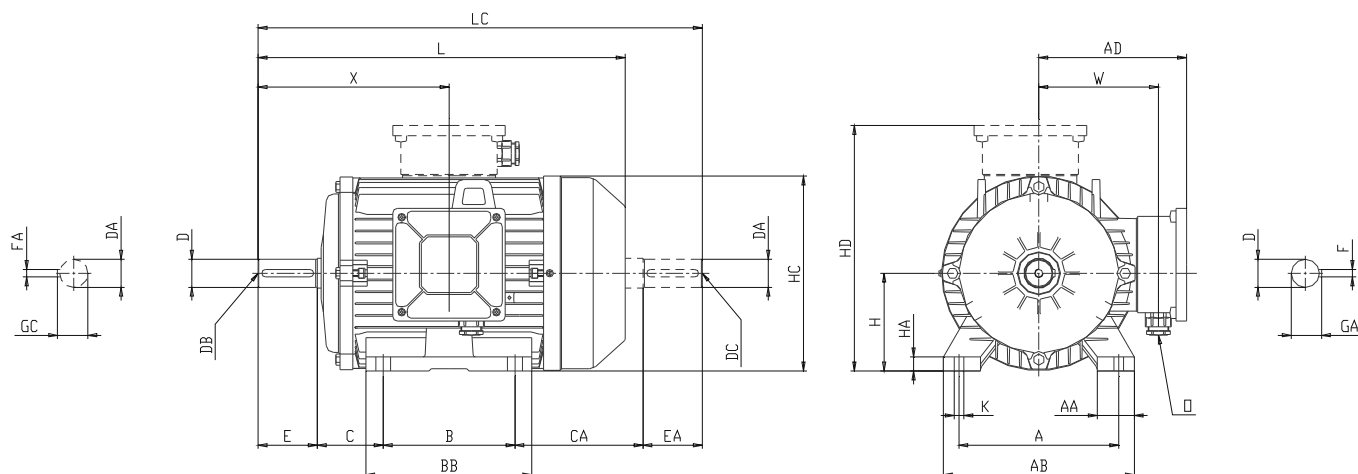
Forma B3 – Grandezza 315T + 355T

Motori autoventilati (IC411)

Overall dimensions

Mounting B3 – Frame size 315T + 355T

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions																	
		A	AA	AB	AD	B	BB	C	CA	H	HA	HC	HD	K	L	LC	X	W	O
315ST	2	508	130	576	400	406	480	216	293	315	38	575	715	27	1050	1195	560	320	M63x1.5
	4-6-8	508	130	576	400	406	480	216	293	315	38	575	715	27	1080	1255	590	320	M63x1.5
315M a-b-c-d	2								352						1150	1305	582		N.2 M63x1.5
	4-6-8								352						1180	1365	612		
		508	135	600	470	457	545	216		315	42	620	785	27	1150	1305	582	390	
									457						1280	1470	612		
355LT	2	610	165	710	470	630	715	254	390	355	50	660	825	27	1375	1554	710	390	N.2 M63x1.5
	4-6-8	610	165	710	470	630	715	254	390	355	50	660	825	27	1445	1654	780	390	N.2 M63x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft						Albero L.O.A. / NDE shaft					
		D	E	F	GA	DB		DA	EA	FA	GC	DC	
315ST	2	65 m6	140	18	69	M20x2.5		65 m6	140	18	69	M20x2.5	
	4-6-8	80 m6	170	22	85	M20x2.5		80 m6	170	22	85	M20x2.5	
315M a-b-c-d-e-f-g	2	65 m6	140	18	69	M20x2.5		65 m6	140	18	69	M20x2.5	
	4-6-8	80 m6	170	22	85	M20x2.5		80 m6	170	22	85	M20x2.5	
355LT	2	75 m6	140	20	79.5	M20x2.5		75 m6	140	20	79.5	M20x2.5	
	4-6-8	100 m6	210	28	106	M24x3		90 m6	170	25	95	M24x3	

Dimensioni d'ingombro

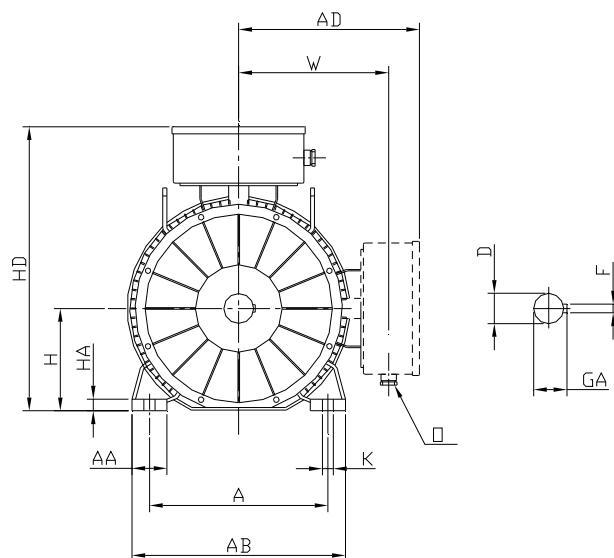
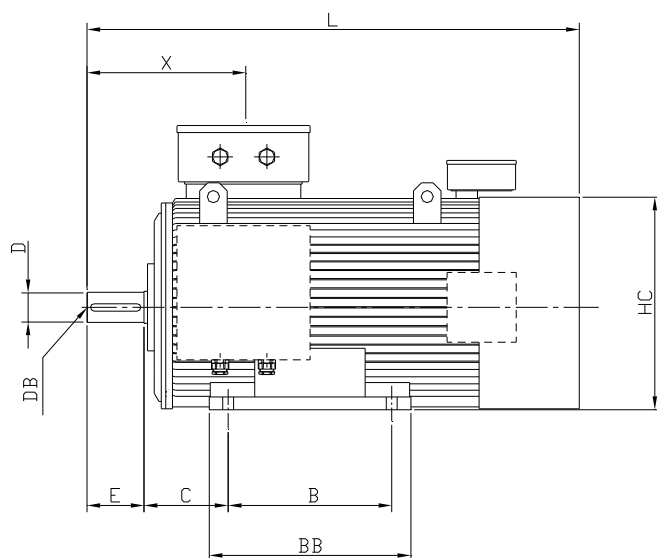
Forma B3 – Grandezza 355L + 355LX

Motori autoventilati (IC411)

Overall dimensions

Mounting B3 – Frame size 355L + 355LX

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions															
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L	X	W	O
355L a-b-c	2	610	120	730	545	630	700	254	355	35	690	900	27	1470	495	450	N.2 M63x1.5
	4-6-8													1540	565		
355LX a-b-c-d	4-6-8	610	120	730	615	630	700	254	355	35	750	970	27	1770	570	515	N.2 M63x1.5

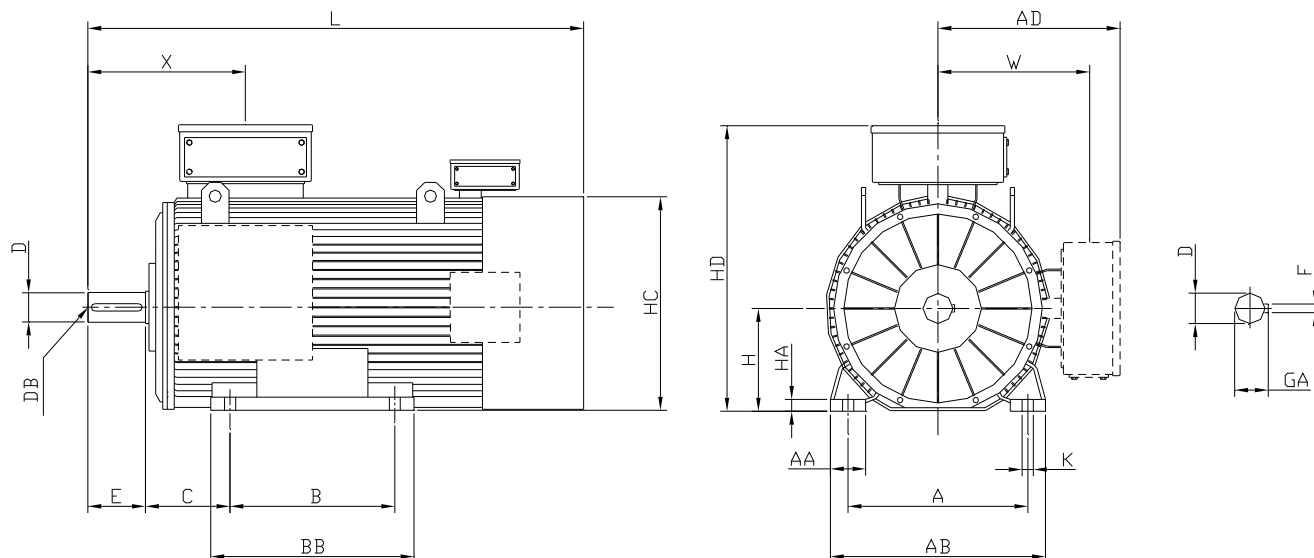
Tipo/Type	Poli/Poles	Albero L.A. / DE shaft				
		D	E	F	GA	DB
355L a-b-c	2	75 m6	140	20	79.5	M20x2.5
	4-6-8	100 m6	210	28	106	M24x3
355LX a-b-c-d	4-6-8	100 m6	210	28	106	M24x3

Dimensioni d'ingombro

Forma B3 – Grandezza 400LX + 500LX
Motori autoventilati (IC411)

Overall dimensions

Mounting B3–Frame size 400LX + 500LX
Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions												
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L
400LXa	4-6-8	686	120	806	720 ⁽¹⁾	710	790	280	400	40	850	1120 ⁽¹⁾	33	1950
400LXb					860 ⁽²⁾							1260 ⁽²⁾		2050
400LXc														2050
450LXa		750	120	900	770 ⁽¹⁾	800	1000	315	450	45	938	1220 ⁽¹⁾	33	2100
450LXb					910 ⁽²⁾							1360 ⁽²⁾		2200
500LXa														2260
500LXb		850	150	950	830 ⁽¹⁾	900	1000	335	500	45	1035	1330 ⁽¹⁾	35	2360
500LXc					970 ⁽²⁾							1470 ⁽²⁾		2360

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft				
		D	E	F	GA	DB
400LXa	4-6-8	110 m6	210	28	116	-
400LXb						
400LXc						
450LXa	4-6-8	110 m6	210	28	116	-
450LXb						
500LXa	4-6-8	130 m6	250	32	137	-
500LXb						
500LXc						

⁽¹⁾ Motore fornito con N.3 morsetti / Motor supplied with No.3 terminals

⁽²⁾ Motore fornito con N.6 morsetti / Motor supplied with No.6 terminals

Dimensioni d'ingombro

Forma B5 – Grandezza 63 + 160T

Forma V1 – Grandezza 63 + 160T

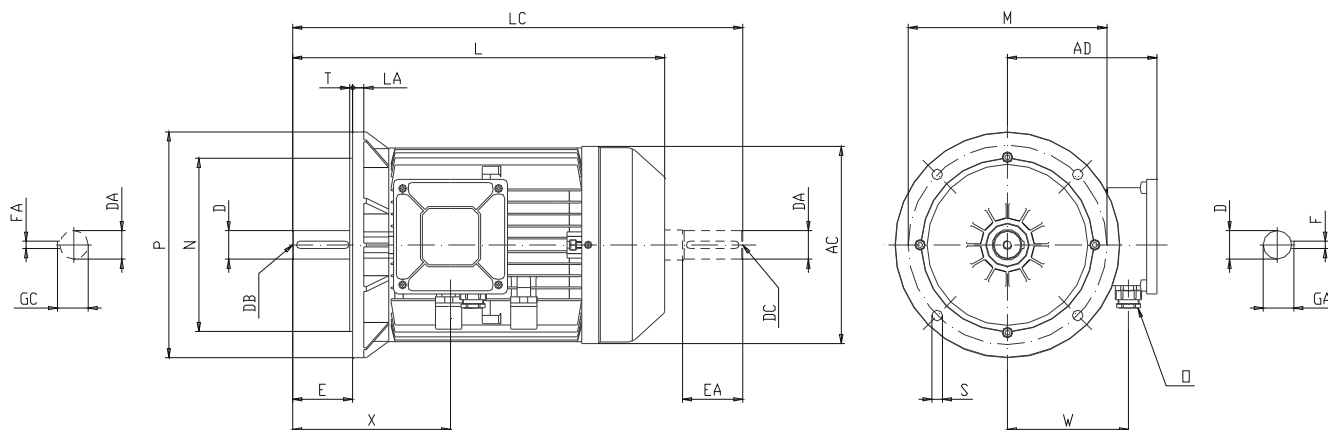
Motori autoventilati (IC411)

Overall dimensions

Mounting B5 – Frame size 63 ÷ 160T

Mounting V1 – Frame size 63 ÷ 160T

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions												
		AC	AD	L	LA	LC	M	N	P	S	T	X	W	O
63	2-4-6-8	125	95	212	10	239	115	95 j6	140	N.4 x 9.5	3	86	68	M16x1.5
71		148	115	238	10	280.5	130	110 j6	160	N.4 x 9.5	3.5	111	88	M20x1.5
80		170	126	274	12	323.5	165	130 j6	200	N.4 x 11.5	3.5	113	96	M20x1.5
90S		185	142	297	12	374	165	130 j6	200	N.4 x 11.5	3.5	134	115	M20x1.5
90L		185	142	322	12	399	165	130 j6	200	N.4 x 11.5	3.5	134	115	M20x1.5
100L		210	155	361	14	430	215	180 j6	250	N.4 x 14	4	160	123	M25x1.5
112MT		210	155	361	14	430	215	180 j6	250	N.4 x 14	4	160	123	M25x1.5
112M		225	166	380	14	444	215	180 j6	250	N.4 x 14	4	157	140	M25x1.5
132S		260	200	470	14	556	265	230 j6	300	N.4 x 14	4	198	162	M25x1.5
132M		260	200	496	14	600	265	230 j6	300	N.4 x 14	4	198	162	M25x1.5
160MT		260	215	570	15	673	300	250 h6	350	N.4 x 18	5	275	170	M32x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft					Albero L.O.A. / NDE shaft				
		D	E	F	GA	DB	DA	EA	FA	GC	DC
63	2-4-6-8	11 j6	23	4	12.5	M4x0.7	11 j6	23	4	12.5	M4x0.7
71		14 j6	30	5	16	M5x0.8	14 j6	30	5	16	M5x0.8
80		19 j6	40	6	21.5	M6x1	19 j6	40	6	21.5	M6x1
90S		24 j6	50	8	27	M8x1.25	24 j6	50	8	27	M8x1.25
90L		24 j6	50	8	27	M8x1.25	24 j6	50	8	27	M8x1.25
100L		28 j6	60	8	31	M10x1.5	28 j6	60	8	31	M10x1.5
112MT		28 j6	60	8	31	M10x1.5	28 j6	60	8	31	M10x1.5
112M		28 j6	60	8	31	M10x1.5	28 j6	60	8	31	M10x1.5
132S		38 k6	80	10	41	M12x1.75	38 k6	80	10	41	M12x1.75
132M		38 k6	80	10	41	M12x1.75	38 k6	80	10	41	M12x1.75
160MT		42 k6	110	12	45	M16x2	38 k6	80	10	41	M12x1.75

Dimensioni d'ingombro

Forma B5 – Grandezza 160 + 200

Forma V1 – Grandezza 160 + 200

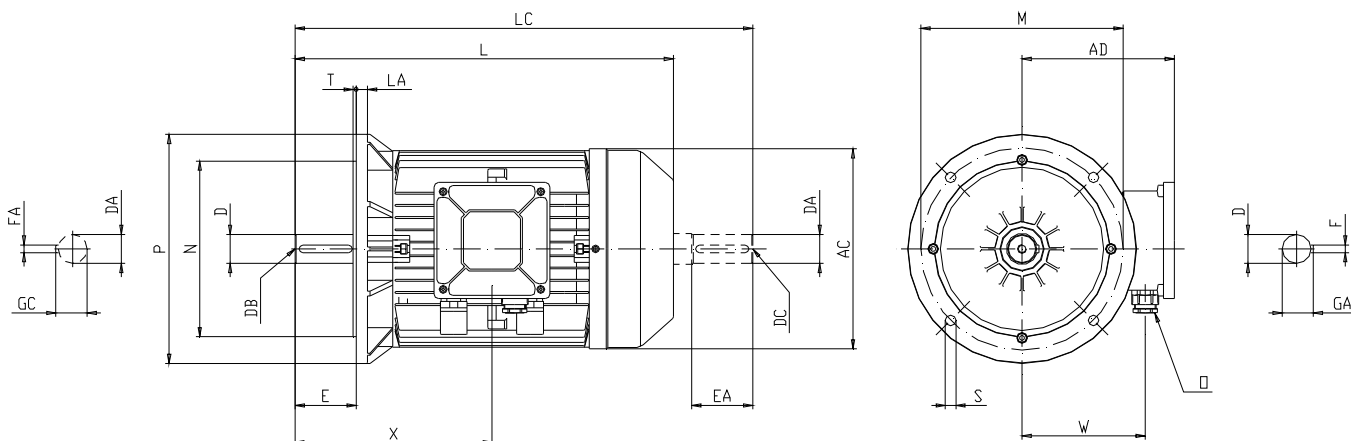
Motori autoventilati (IC411)

Overall dimensions

Mounting B5 – Frame size 160 + 200

Mounting V1 – Frame size 160 + 200

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions												
		AC	AD	L	LA	LC	M	N	P	S	T	X	W	O
160M	2-4-6-8	320	245	650	15	765	300	250 h6	350	N.4 x 18	5	345	195	M40x1.5
160L		320	245	650	15	765	300	250 h6	350	N.4 x 18	5	345	195	M40x1.5
180MT		320	245	690	15	824	300	250 h6	350	N.4 x 18	5	370	195	M40x1.5
180LT		320	245	690	15	824	300	250 h6	350	N.4 x 18	5	370	195	M40x1.5
180L		360	275	725	15	846	300	250 h6	350	N.4 x 18	5	370	221	M40x1.5
200LT		360	275	750	15	905	350	300 h6	400	N.4 x 18	5	400	215	M40x1.5
200L		395	305	780	15	905	350	300 h6	400	N.4 x 18	5	400	255	M40x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft					Albero L.O.A. / NDE shaft				
		D	E	F	GA	DB	DA	EA	FA	GC	DC
160M	2-4-6-8	42 k6	110	12	45	M16x2	42 k6	110	12	45	M16x2
160L		42 k6	110	12	45	M16x2	42 k6	110	12	45	M16x2
180MT		48 k6	110	14	51.5	M16x2	48 k6	110	14	51.5	M16x2
180LT		48 k6	110	14	51.5	M16x2	48 k6	110	14	51.5	M16x2
180L		48 k6	110	14	51.5	M16x2	48 k6	110	14	51.5	M16x2
200LT		55 m6	110	16	59	M20x2.5	55 m6	110	16	59	M20x2.5
200L		55 m6	110	16	59	M20x2.5	55 m6	110	16	59	M20x2.5

Dimensioni d'ingombro

Forma B5 – Grandezza 225T + 280T

Forma V1 – Grandezza 225T + 280T

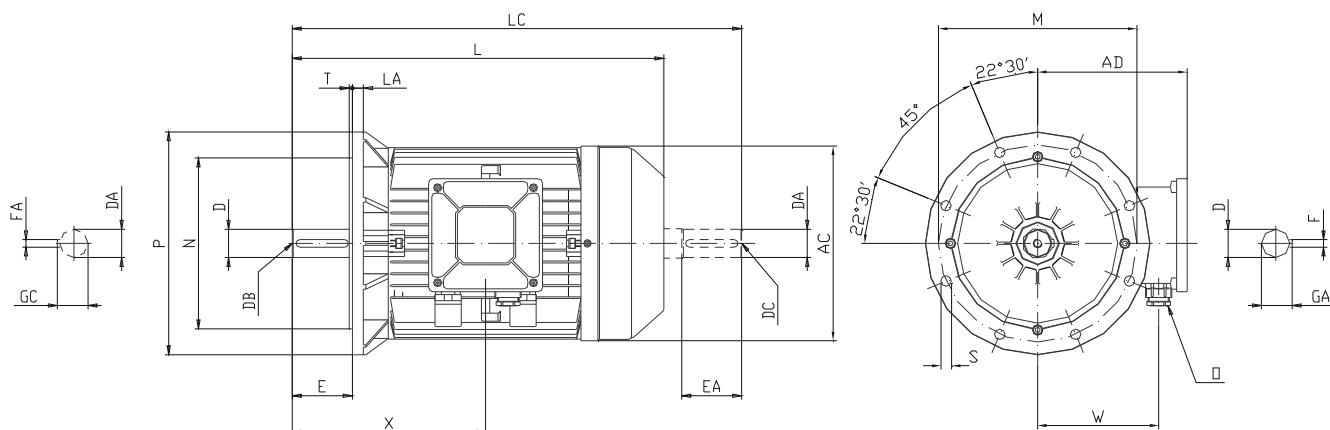
Motori autoventilati (IC411)

Overall dimensions

Mounting B5 – Frame size 225T + 280T

Mounting V1 – Frame size 225T + 280T

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions												
		AC	AD	L	LA	LC	M	N	P	S	T	X	W	O
225ST	4-6-8	400	290	830	16	985	400	350 h6	450	N.8 x 18	5	445	245	M50x1.5
225MT	2	400	290	800	16	925	400	350 h6	450	N.8 x 18	5	415	245	M50x1.5
	4-6-8	400	290	830	16	985	400	350 h6	450	N.8 x 18	5	445	245	M50x1.5
225M	2	450	335	840	16	965	400	350 h6	450	N.8 x 18	5	415	280	M50x1.5
	4-6-8	450	335	870	16	1025	400	350 h6	450	N.8 x 18	5	445	280	M50x1.5
250MT	2	450	330	905	18	1061	500	450 h6	550	N.8 x 18	5	485	270	M50x1.5
	4-6-8	450	330	905	18	1061	500	450 h6	550	N.8 x 18	5	485	270	M50x1.5
280ST	2	510	400	1030	18	1170	500	450 h6	550	N.8 x 18	5	540	320	M50x1.5
	4-6-8	510	400	1030	18	1170	500	450 h6	550	N.8 x 18	5	540	320	M50x1.5
280MT	2	510	400	1030	18	1170	500	450 h6	550	N.8 x 18	5	540	320	M50x1.5
	4-6-8	510	400	1030	18	1170	500	450 h6	550	N.8 x 18	5	540	320	M50x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft					Albero L.O.A. / NDE shaft				
		D	E	F	GA	DB	DA	EA	FA	GC	DC
225ST	4-6-8	60 m6	140	18	64	M20x2.5	60 m6	140	18	64	M20x2.5
225MT	2	55 m6	110	16	59	M20x2.5	55 m6	110	16	59	M20x2.5
	4-6-8	60 m6	140	18	64	M20x2.5	60 m6	140	18	64	M20x2.5
225M	2	55 m6	110	16	59	M20x2.5	55 m6	110	16	59	M20x2.5
	4-6-8	60 m6	140	18	64	M20x2.5	60 m6	140	18	64	M20x2.5
250MT	2	60 m6	140	18	64	M20x2.5	60 m6	140	18	64	M20x2.5
	4-6-8	65 m6	140	18	69	M20x2.5	65 m6	140	18	69	M20x2.5
280ST	2	65 m6	140	18	69	M20x2.5	65 m6	140	18	69	M20x2.5
	4-6-8	75 m6	140	20	79.5	M20x2.5	75 m6	140	20	79.5	M20x2.5
280MT	2	65 m6	140	18	69	M20x2.5	65 m6	140	18	69	M20x2.5
	4-6-8	75 m6	140	20	79.5	M20x2.5	75 m6	140	20	79.5	M20x2.5

Dimensioni d'ingombro

Forma B5 – Grandezza 315T + 355T

Forma V1 – Grandezza 315T + 355T

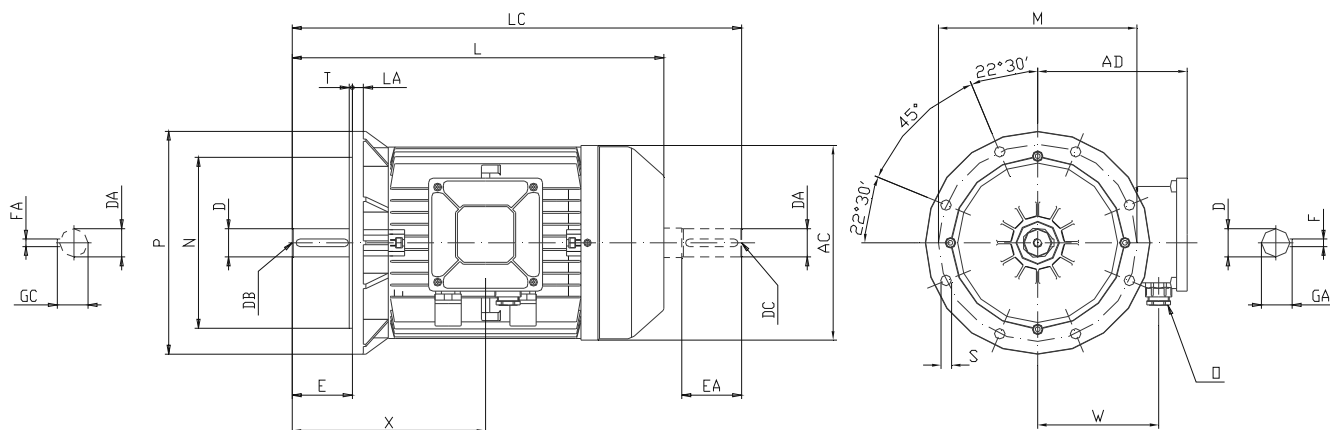
Motori autoventilati (IC411)

Overall dimensions

Mounting B5 – Frame size 315T + 355T

Mounting V1 – Frame size 315T + 355T

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions												
		AC	AD	L	LA	LC	M	N	P	S	T	X	W	O
315ST	2	520	400	1050	22	1195	600	550 h6	660	N.8 x 22	6	560	320	M63x1.5
	4-6-8	520	400	1080	22	1255	600	550 h6	660	N.8 x 22	6	590	320	M63x1.5
315M	2	610	470	1150	22	1305	600	550 h6	660	N.8 x 22	6	582	390	N.2 M63x1.5
	4-6-8			1180		1365						612		
315Mb	2			1150		1305						582		
	4-6-8			1280		1470						612		
355LT	2	610	470	1375	25	1554	740	680 h6	800	N.8 x 22	6	710	390	N.2 M63x1.5
	4-6-8	610	470	1445	25	1654	740	680 h6	800	N.8 x 22	6	780	390	N.2 M63x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft					Albero L.O.A. / NDE shaft				
		D	E	F	GA	DB	DA	EA	FA	GC	DC
315ST	2	65 m6	140	18	69	M20x2.5	65 m6	140	18	69	M20x2.5
	4-6-8	80 m6	170	22	85	M20x2.5	80 m6	170	22	85	M20x2.5
315M	2	65 m6	140	18	69	M20x2.5	65 m6	140	18	69	M20x2.5
	4-6-8	80 m6	170	22	85	M20x2.5	80 m6	170	22	85	M20x2.5
355LT	2	75 m6	140	20	79.5	M20x2.5	75 m6	140	20	79.5	M20x2.5
	4-6-8	100 m6	210	28	106	M24x3	90 m6	170	25	95	M24x3

Dimensioni d'ingombro

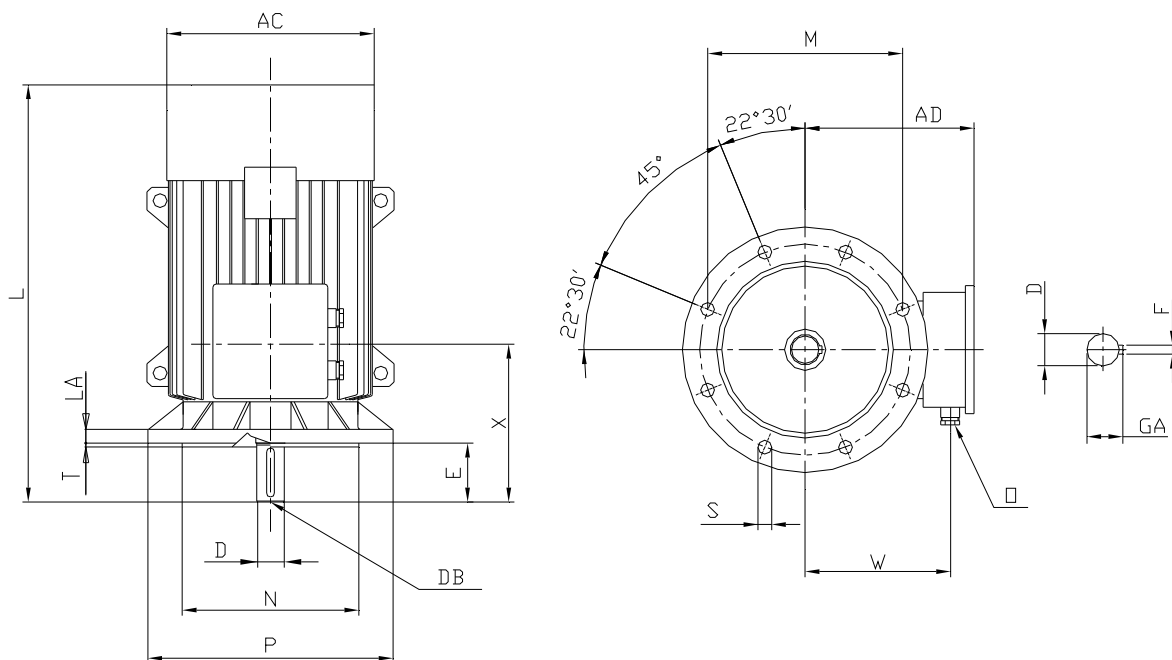
Forma V1 – Grandezza 355L + 355LX

Motori autoventilati (IC411)

Overall dimensions

Mounting V1 – Frame size 355L + 355LX

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions											
		AC	AD	L	LA	M	N	P	S	T	X	W	O
355L a-b-c	2	710	545	1470	25	740	680 h6	800	N.8 x 22	6	495	450	N.2 M63x1.5
	4-6-8			1540							565		
355LX a-b-c-d	4-6-8	796	615	1770	25	740	680 h6	800	N.8 x 22	6	570	515	N.2 M63x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft					
		D	E	F	GA	DB	
355L a-b-c	2	75 m6	140	20	79.5	M20x2.5	
	4-6-8	100 m6	210	28	106	M24x3	
355LX a-b-c-d	4-6-8	100 m6	210	28	106	M24x3	

Dimensioni d'ingombro

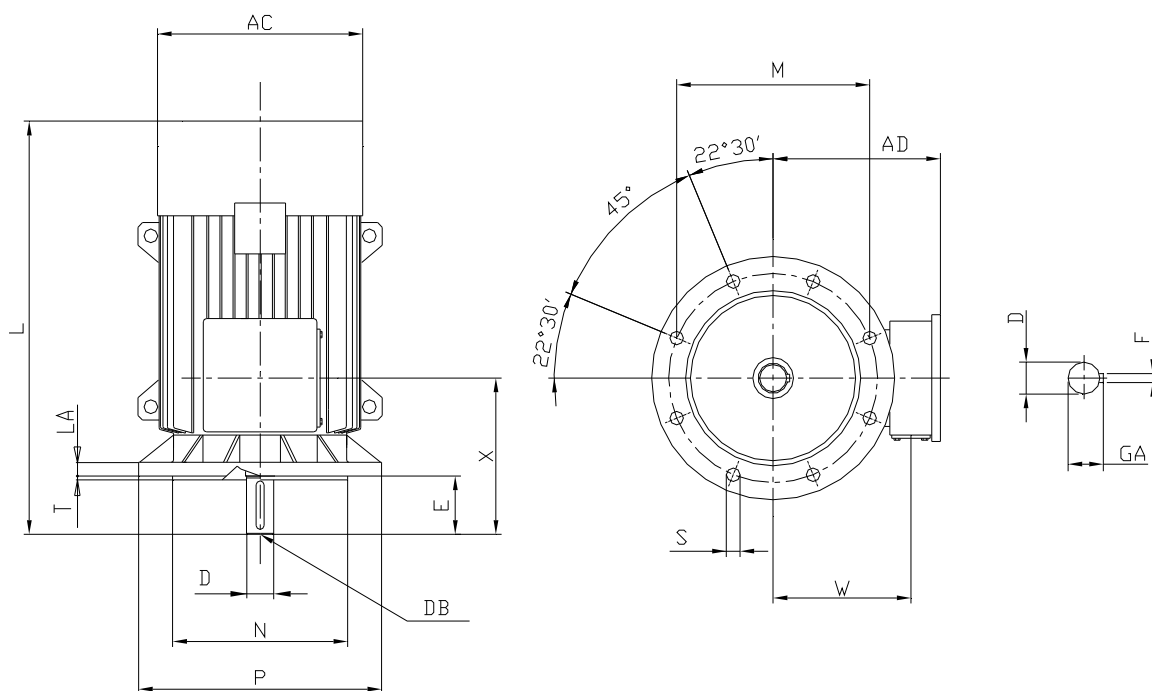
Forma V1 – Grandezza 400LX + 500LX

Motori autoventilati (IC411)

Overall dimensions

Mounting V1–Frame size 400LX + 500LX

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions								
		AC	AD	L	LA	M	N	P	S	T
400LXa	4-6-8	880	720 ⁽¹⁾	1950	28	940	880 h6	1000	N.8 x 28	6
400LXb				2050						
400LXc				2050						
450LXa		975	770 ⁽¹⁾	2100	28	940	880 h6	1000	N.8 x 28	6
450LXb			910 ⁽²⁾	2200						
500LXa		1075	830 ⁽¹⁾	2260	28	940	880 h6	1000	N.8 x 28	6
500LXb				2360						
500LXc				2360						

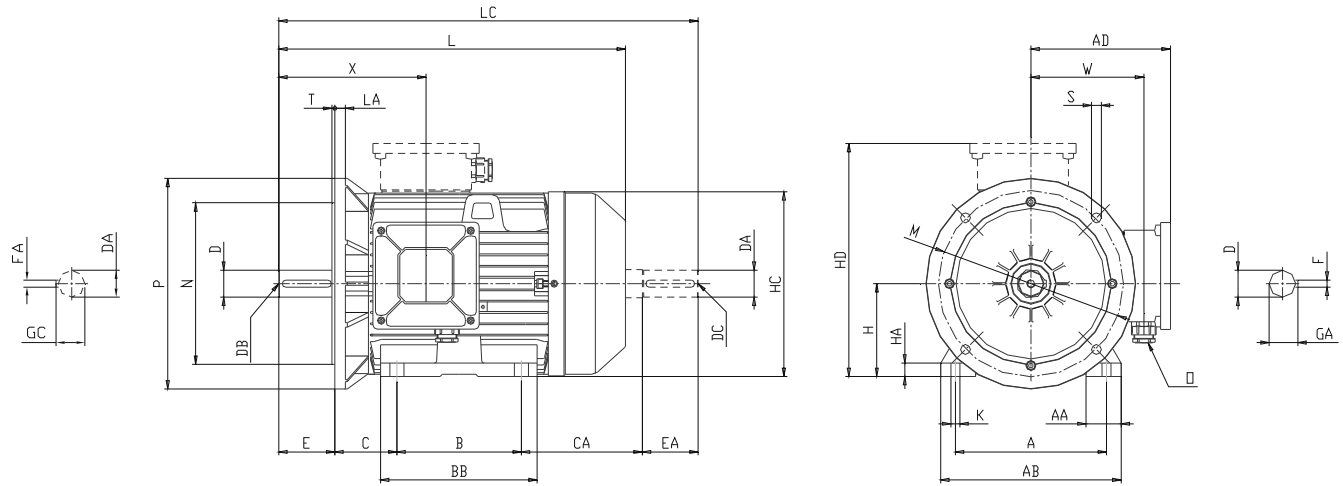
Tipo/Type	Poli/Poles	Albero L.A. / DE shaft				
		D	E	F	GA	DB
400LXa	4-6-8	110 m6	210	28	116	-
400LXb						
400LXc						
450LXa	4-6-8	110 m6	210	28	116	-
450LXb						
500LXa	4-6-8	130 m6	250	32	137	-
500LXb						
500LXc						

⁽¹⁾ Motore fornito con N.3 morsetti / Motor supplied with No.3 terminals

⁽²⁾ Motore fornito con N.6 morsetti / Motor supplied with No.6 terminals

Dimensioni d'ingombro
Forma B3/B5 – Grandezza 63 + 160T
 Motori autoventilati (IC411)

Overall dimensions
Mounting B3/B5 – Frame size 63 + 160T
 Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions																	
		A	AA	AB	AD	B	BB	C	CA	H	HA	HC	HD	K	L	LC	X	W	O
63	2-4-6-8	100	28	128	95	80	103	40	73	63	7	125	158	6	212	239	86	68	M16x1.5
71		112	24	137	115	90	101	45	85.5	71	10	144	186	7	238	280.5	111	88	M20x1.5
80		125	30	155	126	100	122	50	93.5	80	10	164	206	9	274	323.5	113	96	M20x1.5
90S		140	34	175	142	100	125	56	118	90	12	180	232	10	297	374	134	115	M20x1.5
90L		140	34	175	142	125	150	56	118	90	12	180	232	10	322	399	134	115	M20x1.5
100L		160	37	198	155	140	173	63	107	100	14	205	255	12	361	430	160	123	M25x1.5
112MT		190	38	224	155	140	178	70	100	112	15	217	267	12	361	430	160	123	M25x1.5
112M		190	38	228	170	140	172	70	114	112	17	222	282	13	380	444	157	140	M25x1.5
132S		216	50	258	200	140	225	89	167	132	19	264	332	13	470	556	198	162	M25x1.5
132M		216	50	258	200	178	225	89	173	132	19	264	332	13	496	600	198	162	M25x1.5
160MT		254	60	292	215	210	250	108	165	160	18	290	375	14	570	673	275	170	M32x1.5

Tipo/Type	Poli/Poles	Flangia B5 / Flange B5						Albero L.A. / DE shaft						Albero L.O.A. / NDE shaft					
		LA	M	N	P	S	T	D	E	F	GA	DB	DA	EA	FA	GC	DC		
63	2-4-6-8	10	115	95 j6	140	N.4 x 9.5	3	11 j6	23	4	12.5	M4x0.7	11 j6	23	4	12.5	M4x0.7		
71		10	130	110 j6	160	N.4 x 9.5	3.5	14 j6	30	5	16	M5x0.8	14 j6	30	5	16	M5x0.8		
80		12	165	130 j6	200	N.4 x 11.5	3.5	19 j6	40	6	21.5	M6x1	19 j6	40	6	21.5	M6x1		
90S		12	165	130 j6	200	N.4 x 11.5	3.5	24 j6	50	8	27	M8x1.25	24 j6	50	8	27	M8x1.25		
90L		12	165	130 j6	200	N.4 x 11.5	3.5	24 j6	50	8	27	M8x1.25	24 j6	50	8	27	M8x1.25		
100L		14	215	180 j6	250	N.4 x 14	4	28 j6	60	8	31	M10x1.5	28 j6	60	8	31	M10x1.5		
112MT		14	215	180 j6	250	N.4 x 14	4	28 j6	60	8	31	M10x1.5	28 j6	60	8	31	M10x1.5		
112M		14	215	180 j6	250	N.4 x 14	4	28 j6	60	8	31	M10x1.5	28 j6	60	8	31	M10x1.5		
132S		14	265	230 j6	300	N.4 x 14	4	38 k6	80	10	41	M12x1.75	38 k6	80	10	41	M12x1.75		
132M		14	265	230 j6	300	N.4 x 14	4	38 k6	80	10	41	M12x1.75	38 k6	80	10	41	M12x1.75		
160MT		15	300	250 h6	350	N.4 x 18	5	42 k6	110	12	45	M16x2	38 k6	80	10	41	M12x1.75		

Dimensioni d'ingombro

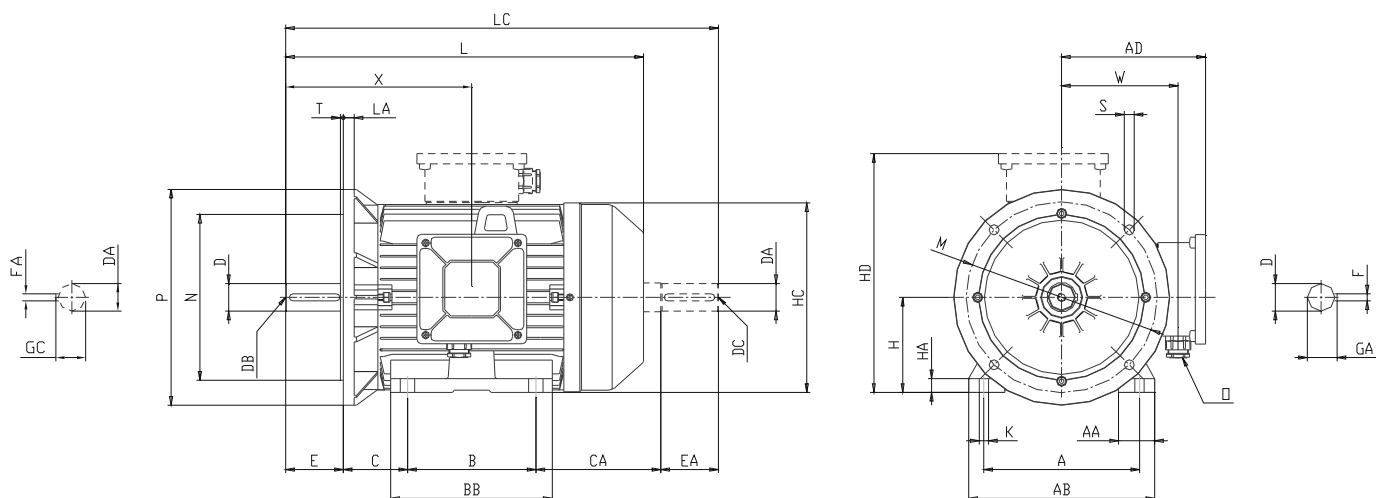
Forma B3/B5 – Grandezza 160 + 200

Motori autoventilati (IC411)

Overall dimensions

Mounting B3/B5 – Frame size 160 + 200

Self-ventilated motors (IC411)

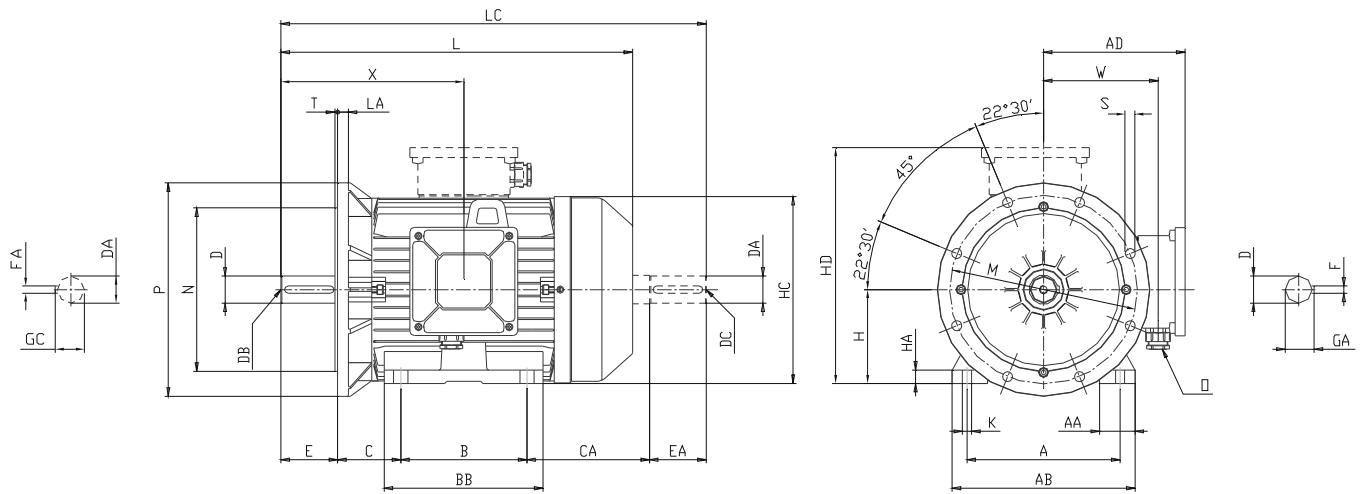


Tipo/Type	Poli/Poles	Dimensioni / Dimensions																	
		A	AA	AB	AD	B	BB	C	CA	H	HA	HC	HD	K	L	LC	X	W	O
160M	2-4-6-8	254	67	315	245	210	332	108	227	160	20	325	405	14	650	765	345	195	M40x1.5
160L		254	67	315	245	254	332	108	183	160	20	325	405	14	650	765	345	195	M40x1.5
180MT		279	80	350	245	241	320	121	242	180	22	340	425	14	690	824	370	195	M40x1.5
180LT		279	80	350	245	279	320	121	204	180	22	340	425	14	690	824	370	195	M40x1.5
180L		279	80	350	275	279	320	121	226	180	22	360	450	14	725	846	370	221	M40x1.5
200LT		318	90	395	275	305	365	133	247	200	24	380	475	18	750	905	400	215	M40x1.5
200L		318	90	395	305	305	365	133	247	200	24	405	505	18	780	905	400	255	M50x1.5

Tipo/Type	Poli/Poles	Flangia B5 / Flange B5						Albero L.A. / DE shaft						Albero L.O.A. / NDE shaft					
		LA	M	N	P	S	T	D	E	F	GA	DB	DA	EA	FA	GC	DC		
160M	2-4-6-8	15	300	250 h6	350	N.4 x 18	5	42 k6	110	12	45	M16x2	42 k6	110	12	45	M16x2		
160L		15	300	250 h6	350	N.4 x 18	5	42 k6	110	12	45	M16x2	42 k6	110	12	45	M16x2		
180MT		15	300	250 h6	350	N.4 x 18	5	48 k6	110	14	51.5	M16x2	48 k6	110	14	51.5	M16x2		
180LT		15	300	250 h6	350	N.4 x 18	5	48 k6	110	14	51.5	M16x2	48 k6	110	14	51.5	M16x2		
180L		15	300	250 h6	350	N.4 x 18	5	48 k6	110	14	51.5	M16x2	48 k6	110	14	51.5	M16x2		
200LT		15	350	300 h6	400	N.4 x 18	5	55 m6	110	16	59	M20x2.5	55 m6	110	16	59	M20x2.5		
200L		15	350	300 h6	400	N.4 x 18	5	55 m6	110	16	59	M20x2.5	55 m6	110	16	59	M20x2.5		

Dimensioni d'ingombro
Forma B3/B5 – Grandezza 225T + 280T
 Motori autoventilati (IC411)

Overall dimensions
Mounting B3/B5 – Frame size 225T + 280T
 Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions																	
		A	AA	AB	AD	B	BB	C	CA	H	HA	HC	HD	K	L	LC	X	W	O
225ST	4-6-8	356	80	436	290	286	370	149	270	225	30	420	515	18	830	985	445	245	M50x1.5
225MT	2	356	80	436	290	311	370	149	245	225	30	420	515	18	800	925	415	245	M50x1.5
	4-6-8	356	80	436	290	311	370	149	245	225	30	420	515	18	830	985	445	245	M50x1.5
225M	2	356	80	436	335	311	370	149	285	225	30	450	560	18	840	965	415	280	M50x1.5
	4-6-8	356	80	436	335	311	370	149	285	225	30	450	560	18	870	1025	445	280	M50x1.5
250MT	2	406	95	476	330	349	410	168	264	250	32	480	580	22	905	1061	485	270	M50x1.5
	4-6-8	406	95	476	330	349	410	168	264	250	32	480	580	22	905	1061	485	270	M50x1.5
280ST	2	457	115	534	400	368	480	190	332	280	35	535	680	22	1030	1170	540	320	M50x1.5
	4-6-8	457	115	534	400	368	480	190	332	280	35	535	680	22	1030	1170	540	320	M50x1.5
280MT	2	457	115	534	400	419	480	190	281	280	35	535	680	22	1030	1170	540	320	M50x1.5
	4-6-8	457	115	534	400	419	480	190	281	280	35	535	680	22	1030	1170	540	320	M50x1.5

Tipo/Type	Poli/Poles	Flangia B5 / Flange B5						Albero L.A. / DE shaft					Albero L.O.A. / NDE shaft				
		LA	M	N	P	S	T	D	E	F	GA	DB	DA	EA	FA	GC	DC
225ST	4-6-8	16	400	350 h6	450	N.8 x 18	5	60 m6	140	18	64	M20x2.5	60 m6	140	18	64	M20x2.5
225MT	2	16	400	350 h6	450	N.8 x 18	5	55 m6	110	16	59	M20x2.5	55 m6	110	16	59	M20x2.5
	4-6-8	16	400	350 h6	450	N.8 x 18	5	60 m6	140	18	64	M20x2.5	60 m6	140	18	64	M20x2.5
225M	2	16	400	350 h6	450	N.8 x 18	5	55 m6	110	16	59	M20x2.5	55 m6	110	16	59	M20x2.5
	4-6-8	16	400	350 h6	450	N.8 x 18	5	60 m6	140	18	64	M20x2.5	60 m6	140	18	64	M20x2.5
250MT	2	18	500	450 h6	550	N.8 x 18	5	60 m6	140	18	64	M20x2.5	60 m6	140	18	64	M20x2.5
	4-6-8	18	500	450 h6	550	N.8 x 18	5	65 m6	140	18	69	M20x2.5	65 m6	140	18	69	M20x2.5
280ST	2	18	500	450 h6	550	N.8 x 18	5	65 m6	140	18	69	M20x2.5	65 m6	140	18	69	M20x2.5
	4-6-8	18	500	450 h6	550	N.8 x 18	5	75 m6	140	20	79.5	M20x2.5	75 m6	140	20	79.5	M20x2.5
280MT	2	18	500	450 h6	550	N.8 x 18	5	65 m6	140	18	69	M20x2.5	65 m6	140	18	69	M20x2.5
	4-6-8	18	500	450 h6	550	N.8 x 18	5	75 m6	140	20	79.5	M20x2.5	75 m6	140	20	79.5	M20x2.5

Dimensioni d'ingombro

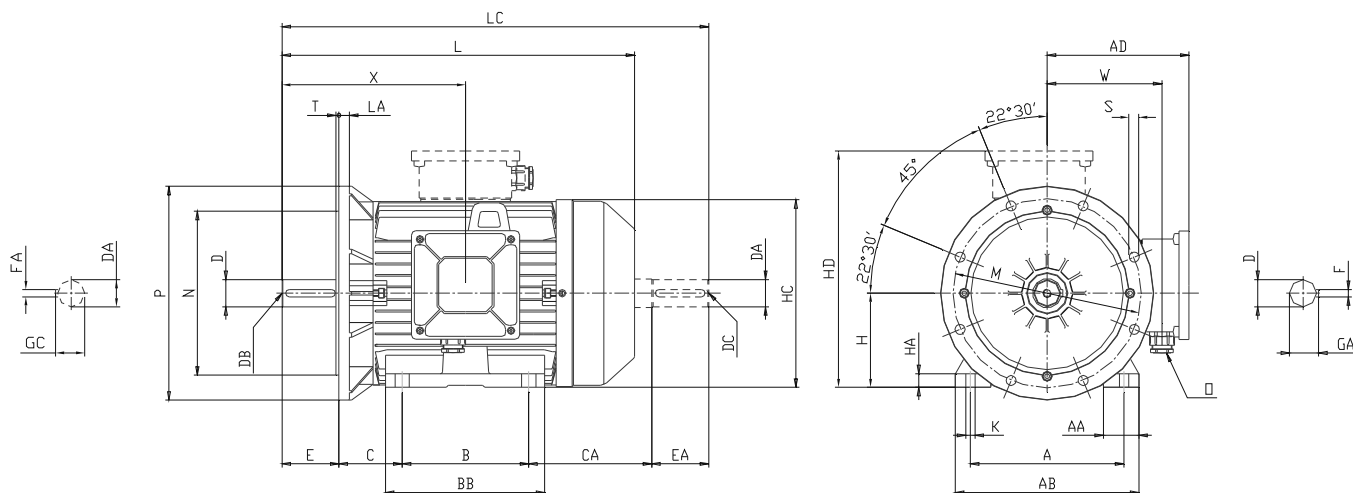
Forma B3/B5 – Grandezza 315T + 355T

Motori autoventilati (IC411)

Overall dimensions

Mounting B3/B5 – Frame size 315T + 355T

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions																	
		A	AA	AB	AD	B	BB	C	CA	H	HA	HC	HD	K	L	LC	X	W	O
315ST	2	508	130	576	400	406	480	216	293	315	38	570	715	27	1050	1195	560	320	M63x1.5
	4-6-8	508	130	576	400	406	480	216	293	315	38	570	715	27	1080	1255	590	320	M63x1.5
315M a-b-c-d-	2								352						1150	1305	582		N.2 M63x1.5
	4-6-8								352						1180	1365	612		
	2								457						1150	1305	582		
	4-6-8								457						1280	1470	612		
355LT	2	610	165	710	470	630	715	254	390	355	50	660	825	27	1375	1554	710	390	N.2 M63x1.5
	4-6-8	610	165	710	470	630	715	254	390	355	50	660	825	27	1445	1654	780	390	N.2 M63x1.5

Tipo/Type	Poli/Poles	Flangia B5 / Flange B5						Albero L.A. / DE shaft					Albero L.O.A. / NDE shaft				
		LA	M	N	P	S	T	D	E	F	GA	DB	DA	EA	FA	GC	DC
315ST	2	22	600	550 h6	660	N.8 x 22	6	65 m6	140	18	69	M20x2.5	65 m6	140	18	69	M20x2.5
	4-6-8	22	600	550 h6	660	N.8 x 22	6	80 m6	170	22	85	M20x2.5	80 m6	170	22	85	M20x2.5
315M a-b-c-d-e-f-g	2	22	600	550 h6	660	N.8 x 22	6	65 m6	140	18	69	M20x2.5	65 m6	140	18	69	M20x2.5
	80 m6							170	22	85	M20x2.5	80 m6	170	22	85	M20x2.5	
355LT	2	25	740	680 h6	800	N.8 x 22	6	75 m6	140	20	79.5	M20x2.5	75 m6	140	20	79.5	M20x2.5
	4-6-8	25	740	680 h6	800	N.8 x 22	6	100 m6	210	28	106	M24x3	90 m6	170	25	95	M24x3

Dimensioni d'ingombro

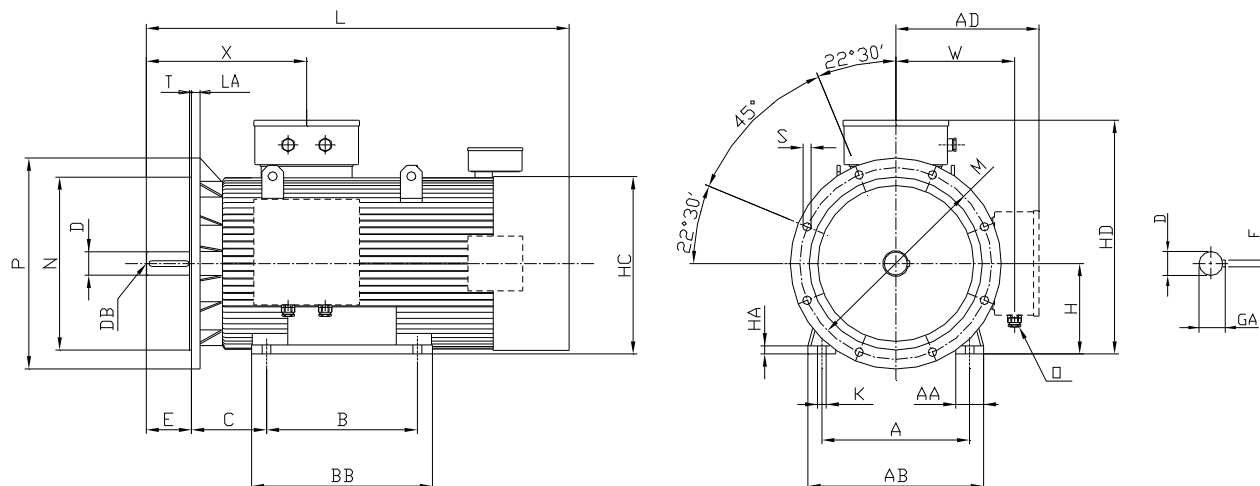
Forma B3/B5 – Grandezza 355L + 355LX

Motori autoventilati (IC411)

Overall dimensions

Mounting B3/B5 – Frame size 355L + 355LX

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions															
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L	X	W	O
355L a-b- c	2	610	120	730	545	630	700	254	355	35	690	900	27	1470	495	450	N.2 M63x1.5
	4-6-8													1540	565		
355LX a-b-c-d	4-6-8	610	120	730	615	630	700	254	355	35	750	970	27	1770	570	515	N.2 M63x1.5

Tipo/Type	Poli/Poles	Flangia B5 / Flange B5						Albero L.A. / DE shaft				
		LA	M	N	P	S	T	D	E	F	GA	DB
355L a-b-c	2	25	740	680 h6	800	N.8 x 22	6	75 m6	140	20	79.5	M20x2.5
	4-6-8							100 m6	210	28	106	M24x3
355LX a-b-c-d	4-6-8	25	740	680 h6	800	N.8 x 22	6	100 m6	210	28	106	M24x3

Dimensioni d'ingombro

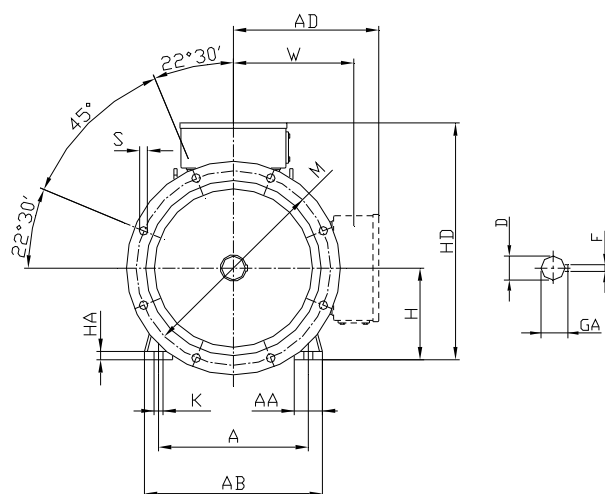
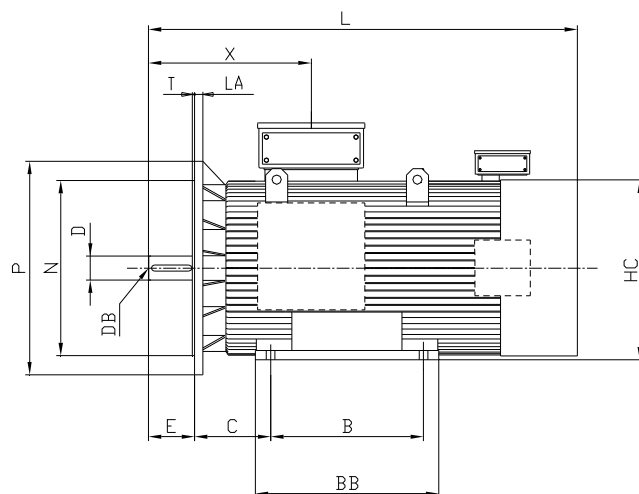
Forma B3/B5 – Grandezza 400LX + 500LX

Motori autoventilati (IC411)

Overall dimensions

Mounting B3/B5 – Frame size 400LX + 500LX

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions											
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K
400LXa	4-6-8	686	120	806	720 ⁽¹⁾	710	790	280	400	40	850	1120 ⁽¹⁾	33
400LXb					860 ⁽²⁾							1260 ⁽²⁾	
400LXc													
450LXa		750	120	900	770 ⁽¹⁾	800	1000	315	450	45	938	1220 ⁽¹⁾	33
450LXb					910 ⁽²⁾							1360 ⁽²⁾	
500LXa		850	150	950	830 ⁽¹⁾	900	1000	335	500	45	1035	1330 ⁽¹⁾	35
500LXb					970 ⁽²⁾							1470 ⁽²⁾	
500LXc													

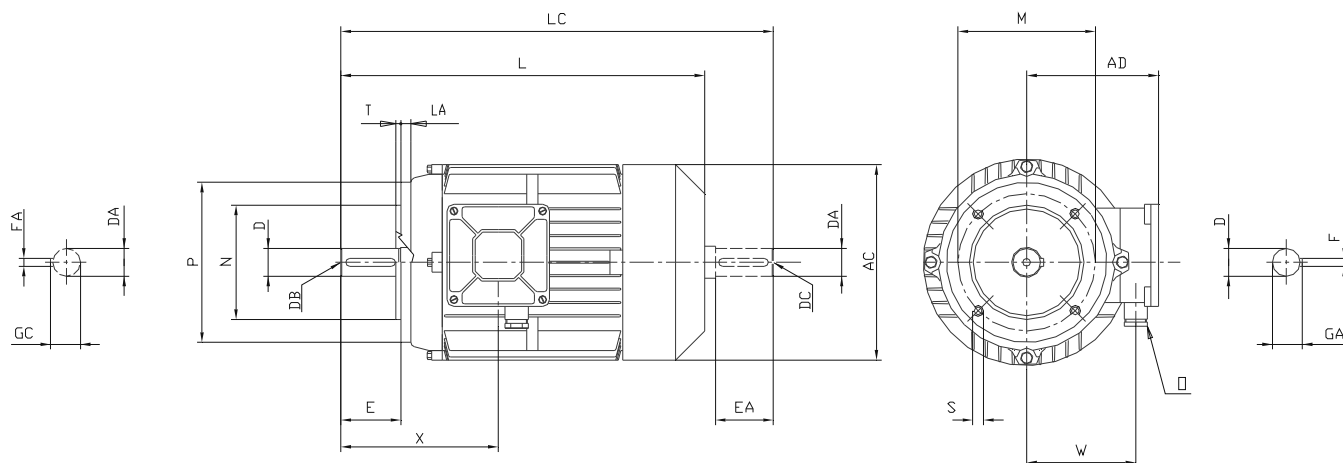
Tipo/Type	Poli/Poles	Flangia B5 / Flange B5						Albero L.A. / DE shaft				
		LA	M	N	P	S	T	D	E	F	GA	DB
400LXa	4-6-8	28	940	880 h6	1000	N.8 x 28	6	110 m6	210	28	116	-
400LXb												
400LXc												
450LXa	4-6-8	28	940	880 h6	1000	N.8 x 28	6	110 m6	210	28	116	-
450LXb												
500LXa	4-6-8	28	940	880 h6	1000	N.8 x 28	6	130 m6	250	32	137	-
500LXb												
500LXc												

⁽¹⁾ Motore fornito con N.3 morsetti / Motor supplied with No.3 terminals

⁽²⁾ Motore fornito con N.6 morsetti / Motor supplied with No.6 terminals

Dimensioni d'ingombro
Forma B14 – Grandezza 63 + 100
 Motori autoventilati (IC411)

Overall dimensions
Mounting B14 – Frame size 63 + 100
 Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions												
		AC	AD	L	LA	LC	M	N	P	S	T	X	W	O
63	2-4-6-8	125	95	212	8	239	75	60 j6	90	N.4xM5	2.5	86	68	M16x1.5
							85	70 j6	105	N.4xM6	2.5			
							100	80 j6	120	N.4xM6	3			
71		148	115	238	8	280	85	70 j6	105	N.4xM6	2.5	111	88	M20x1.5
							100	80 j6	120	N.4xM6	3			
					10		115	95 j6	140	N.4xM8	3			
80		170	126	274	8	325	85	70 j6	105	N.4xM6	2.5	113	96	M20x1.5
							100	80 j6	120	N.4xM6	3			
					10		115	95 j6	140	N.4xM8	3			
							130	110 j6	160	N.4xM8	3.5			
90S		185	142	297	10	374	115	95 j6	140	N.4xM8	3	134	115	M20x1.5
							130	110 j6	160	N.4xM8	3.5			
90L		185	142	322	10	399	115	95 j6	140	N.4xM8	3	134	115	M20x1.5
							130	110 j6	160	N.4xM8	3.5			
100L		210	155	361	10	430	130	110 j6	160	N.4xM8	3.5	160	123	M25x1.5
							165	130 j6	200	N.4xM10	3.5			

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft					Albero L.O.A. / NDE shaft				
		D	E	F	GA	DB	DA	EA	FA	GC	DC
63	2-4-6-8	11 j6	23	4	12.5	M4x0.7	11 j6	23	4	12.5	M4x0.7
71		14 j6	30	5	16	M5x0.8	14 j6	30	5	16	M5x0.8
80		19 j6	40	6	21.5	M6x1	19 j6	40	6	21.5	M6x1
90S		24 j6	50	8	27	M8x1.25	24 j6	50	8	27	M8x1.25
90L		24 j6	50	8	27	M8x1.25	24 j6	50	8	27	M8x1.25
100L		28 j6	60	8	31	M10x1.5	28 j6	60	8	31	M10x1.5

Dimensioni d'ingombro

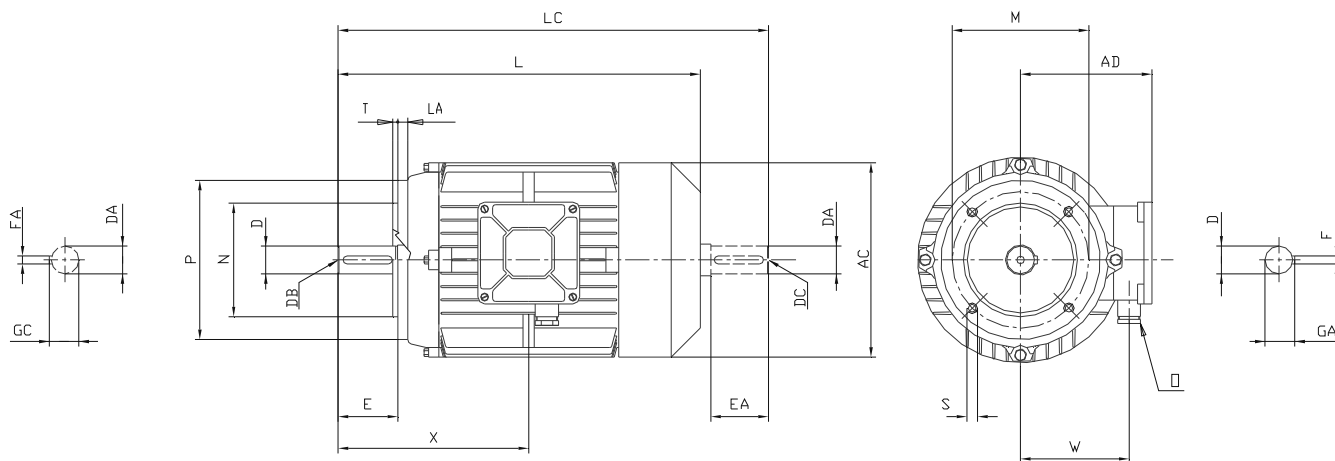
Forma B14 – Grandezza 160 + 180T

Motori autoventilati (IC411)

Overall dimensions

Mounting B14 – Frame size 160 + 180T

Self-ventilated motors (IC411)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions												
		AC	AD	L	LA	LC	M	N	P	S	T	X	W	O
160M	2-4-6-8	320	245	650	18	765	215	180 j6	250	N.4xM12	4	345	195	M40x1.5
160L		320	245	650	18	765	215	180 j6	250	N.4xM12	4	345	195	M40x1.5
180MT		320	245	690	18	824	215	180 j6	250	N.4xM12	4	370	195	M40x1.5
180LT		320	245	690	18	824	215	180 j6	250	N.4xM12	4	370	195	M40x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft					Albero L.O.A. / NDE shaft				
		D	E	F	GA	DB	DA	EA	FA	GC	DC
160M	2-4-6-8	42 k6	110	12	45	M16x2	42 k6	110	12	45	M16x2
160L		42 k6	110	12	45	M16x2	42 k6	110	12	45	M16x2
180MT		48 k6	110	14	51.5	M16x2	48 k6	110	14	51.5	M16x2
180LT		48 k6	110	14	51.5	M16x2	48 k6	110	14	51.5	M16x2

Motori con ventilazione assistita (IC416)

Tutti i motori serie C possono essere forniti con un sistema di ventilazione IC416.
In tal caso viene installato un opportuno ventilatore all'interno o all'esterno del coprивentola.
La ventilazione risulta pertanto indipendente dalla velocità di rotazione del motore stesso.
Tale soluzione è particolarmente idonea per i motori alimentati da inverter.

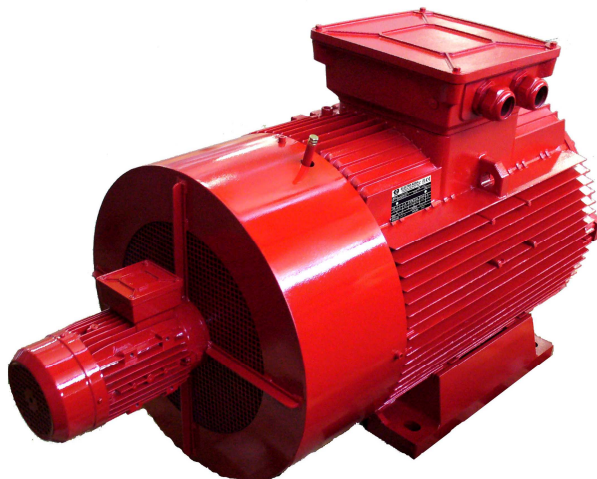
Motors with assisted ventilation (IC416)

All C line motors can be supplied with cooling system IC 416 on request.
In this case a proper fan is fitted inside or outside the fan cover.
Consequently the ventilation is independent of the rotation speed of the motor itself.
This solution is particularly suitable for inverter supplied motors.

Grandezza Frame	Tensione nominale Rated voltage	Frequenza Frequency	Corrente nominale Rated current	Potenza assorbita Input Power
	V	Hz	A	W
90 S - L	230/400	50	0.21 / 0.12	43
100 L				
112 T				
112 M				
132 S - M	230/400	50	0.16 / 0.22	110
160T				
160 M - L	230/400	50	0.36 / 0.21	85
180 T				
180 L	230/400	50	0.45 / 0.26	95
200T				
200 L	230/400	50	0.70 / 0.40	155
225T				
225	230/400	50	0.70 / 0.40	145
250T				
250 M	230/400	50	3.5 / 2	1000
280T				
315T				
315 M	230/400	50	8.6 / 5	2000
355 T				
355 L				
355X	230/400	50	9.4 / 5.4	2800
400X	230/400	50	19.5 / 11.3	6400
450X	230/400	50		
500X	230/400	50	26.1 / 15.1	8600

Nelle pagine successive sono riportate le dimensioni d'ingombro dei motori servoventilati con sistema di ventilazione IC416.
A richiesta del cliente i motori possono essere forniti con encoder; in tal caso la quota totale (L) non subirà variazioni.

*In the next pages are mentioned the overall dimensions of the motors with independent ventilation with ventilation system IC416.
On request the motors can be supplied with the encoder. in which case the total length (L) will not increase.*



Dimensioni d'ingombro

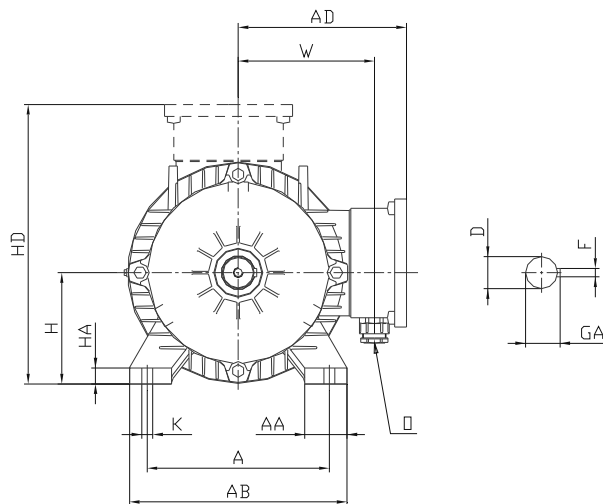
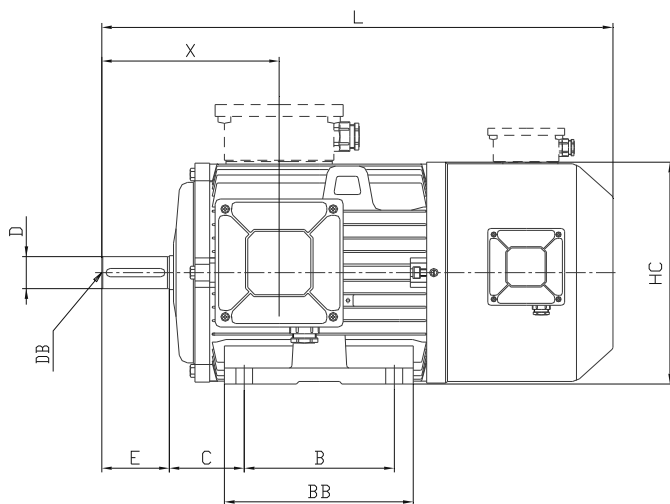
Forma B3 – Grandezza 90 + 160T

Motori servoventilati (IC 416)

Overall dimensions

Mounting B3 – Frame size 90 ÷ 160T

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions															
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L	X	W	O
90S	2-4-6-8	140	34	175	142	100	125	56	90	12	180	232	10	470	134	115	M20x1.5
90L		140	34	175	142	125	150	56	90	12	180	232	10	495	134	115	M20x1.5
100L		160	37	198	155	140	173	63	100	14	205	255	12	530	160	123	M25x1.5
112MT		190	38	224	155	140	178	70	112	15	217	267	12	530	160	123	M25x1.5
112M		190	38	228	170	140	172	70	112	17	222	282	13	540	157	140	M25x1.5
132S		216	50	258	200	140	225	89	132	19	264	332	13	610	198	162	M25x1.5
132M		216	50	258	200	178	225	89	132	19	264	332	13	648	198	162	M25x1.5
160MT		254	60	292	215	210	250	108	160	18	290	375	14	705	275	170	M32x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft				
		D	E	F	GA	DB
90S	2-4-6-8	24 j6	50	8	27	M8x1.25
90L		24 j6	50	8	27	M8x1.25
100L		28 j6	60	8	31	M10x1.5
112MT		28 j6	60	8	31	M10x1.5
112M		28 j6	60	8	31	M10x1.5
132S		38 k6	80	10	41	M12x1.75
132M		38 k6	80	10	41	M12x1.75
160MT		42 k6	110	12	45	M16x2

Dimensioni d'ingombro

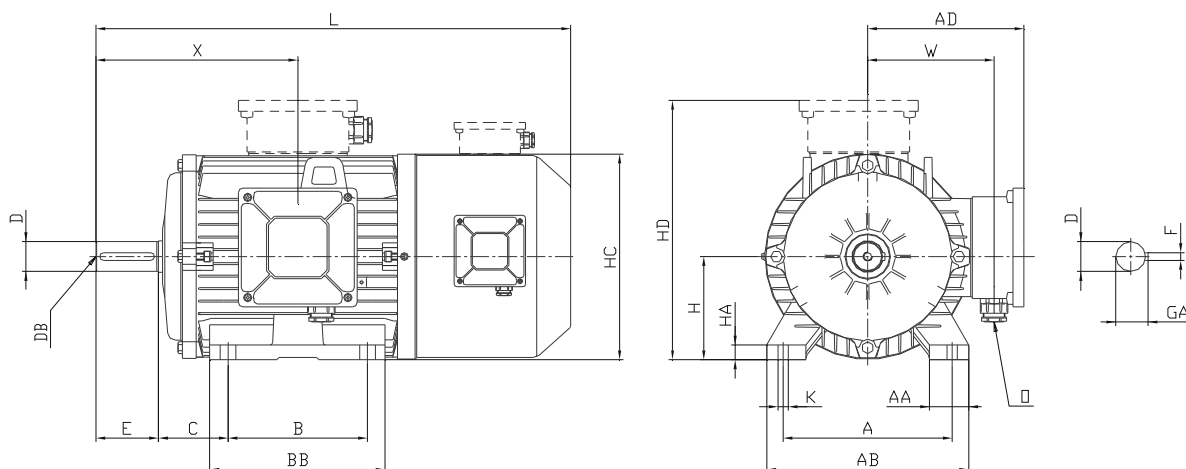
Forma B3 – Grandezza 160 + 200

Motori servoventilati (IC 416)

Overall dimensions

Mounting B3 – Frame size 160 + 200

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions															
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L	X	W	O
160M	2-4-6-8	254	67	315	245	210	332	108	160	20	325	405	14	765	345	195	M40x1.5
160L		254	67	315	245	254	332	108	160	20	325	405	14	765	345	195	M40x1.5
180MT		279	80	350	245	241	320	121	180	22	340	425	14	810	370	195	M40x1.5
180LT		279	80	350	245	279	320	121	180	22	340	425	14	810	370	195	M40x1.5
180L		279	80	350	275	279	320	121	180	22	360	450	14	850	370	221	M40x1.5
200LT		318	90	395	275	305	365	133	200	24	380	475	18	875	400	215	M40x1.5
200L		318	90	395	305	305	365	133	200	24	405	505	18	890	400	255	M50x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft				
		D	E	F	GA	DB
160M	2-4-6-8	42 k6	110	12	45	M16x2
160L		42 k6	110	12	45	M16x2
180MT		48 k6	110	14	51.5	M16x2
180LT		48 k6	110	14	51.5	M16x2
180L		48 k6	110	14	51.5	M16x2
200LT		55 m6	110	16	59	M20x2.5
200L		55 m6	110	16	59	M20x2.5

Dimensioni d'ingombro

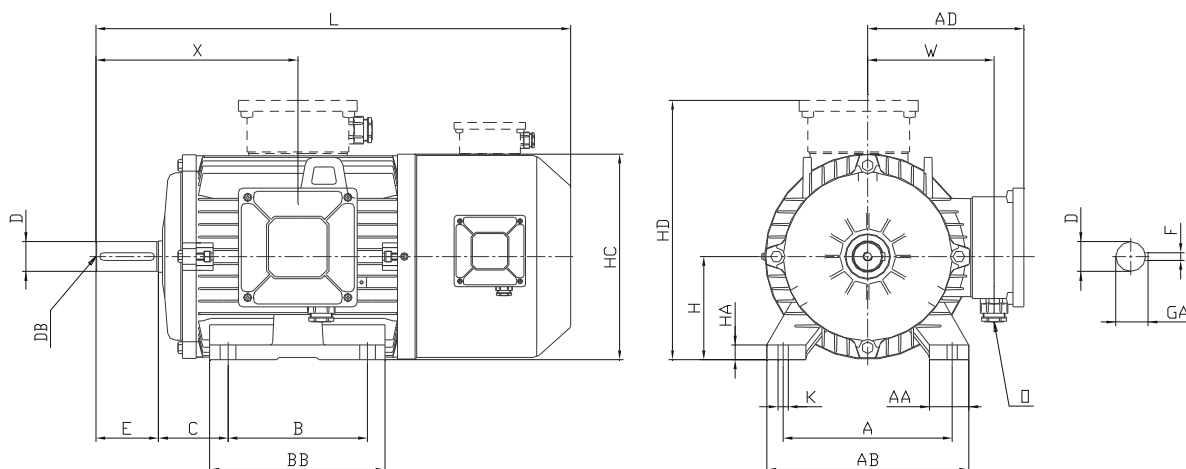
Forma B3 – Grandezza 225T + 250T

Motori servoventilati (IC 416)

Overall dimensions

Mounting B3 – Frame size 225T ÷ 250T

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions															
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L	X	W	O
225ST	4-6-8	356	80	436	290	286	370	149	225	30	420	515	18	995	445	245	M50x1.5
225MT	2	356	80	436	290	311	370	149	225	30	420	515	18	965	415	245	M50x1.5
	4-6-8	356	80	436	290	311	370	149	225	30	420	515	18	995	445	245	M50x1.5
225M	2	356	80	436	335	311	370	149	225	30	450	560	18	1040	415	280	M50x1.5
	4-6-8	356	80	436	335	311	370	149	225	30	450	560	18	1070	445	280	M50x1.5
250MT	2	406	95	476	330	349	410	168	250	32	480	580	22	1105	485	270	M50x1.5
	4-6-8	406	95	476	330	349	410	168	250	32	480	580	22	1105	485	270	M50x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft				
		D	E	F	GA	DB
225ST	4-6-8	60 m6	140	18	64	M20x2.5
225MT	2	55 m6	110	16	59	M20x2.5
	4-6-8	60 m6	140	18	64	M20x2.5
225M	2	55 m6	110	16	59	M20x2.5
	4-6-8	60 m6	140	18	64	M20x2.5
250MT	2	60 m6	140	18	64	M20x2.5
	4-6-8	65 m6	140	18	69	M20x2.5

Dimensioni d'ingombro

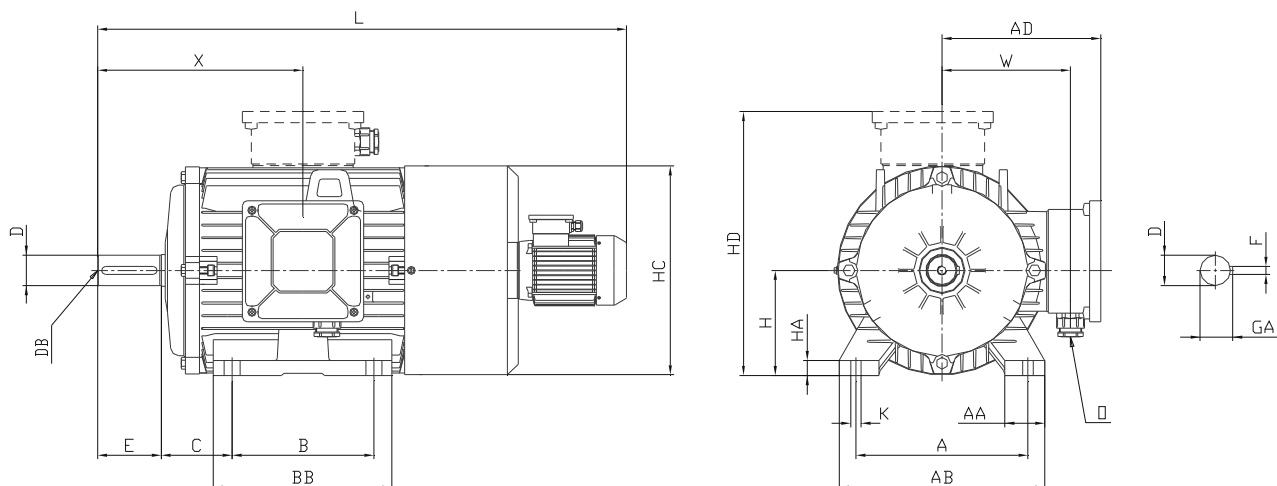
Forma B3 – Grandezza 250 ÷ 355T

Motori servoventilati (IC 416)

Overall dimensions

Mounting B3 – Frame size 250 + 355T

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions															
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L	X	W	O
280ST	2	457	115	534	400	368	480	190	280	35	535	680	22	1355	540	320	M50x1.5
	4-6-8	457	115	534	400	368	480	190	280	35	535	680	22	1355	540	320	M50x1.5
280MT	2	457	115	534	400	419	480	190	280	35	535	680	22	1355	540	320	M50x1.5
	4-6-8	457	115	534	400	419	480	190	280	35	535	680	22	1355	540	320	M50x1.5
315ST	2	508	130	576	400	406	480	216	315	38	575	715	27	1370	560	320	M63x1.5
	4-6-8	508	130	576	400	406	480	216	315	38	575	715	27	1400	590	320	M63x1.5
315M a-b-c-d	2	508	135	600	470	457	545	216	315	42	620	785	27	1495	582	390	N.2 M63x1.5
	4-6-8													1525	612		
315M e-f-g	2	508	135	600	470	457	545	216	315	42	620	785	27	1495	582	390	N.2 M63x1.5
	4-6-8													1740	612		
355LT	2	610	165	710	470	630	715	254	355	50	660	825	27	1825	710	390	N.2 M63x1.5
	4-6-8	610	165	710	470	630	715	254	355	50	660	825	27	1895	780	390	N.2 M63x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft				
		D	E	F	GA	DB
280ST	2	65 m6	140	18	69	M20x2.5
	4-6-8	75 m6	140	20	79.5	M20x2.5
280MT	2	65 m6	140	18	69	M20x2.5
	4-6-8	75 m6	140	20	79.5	M20x2.5
315ST	2	65 m6	140	18	69	M20x2.5
	4-6-8	80 m6	170	22	85	M20x2.5
315M a-b-c-d-e-f-g	2	65 m6	140	18	69	M20x2.5
	4-6-8	80 m6	170	22	85	M20x2.5
355LT	2	75 m6	140	20	79.5	M20x2.5
	4-6-8	100 m6	210	28	106	M24x3

Dimensioni d'ingombro

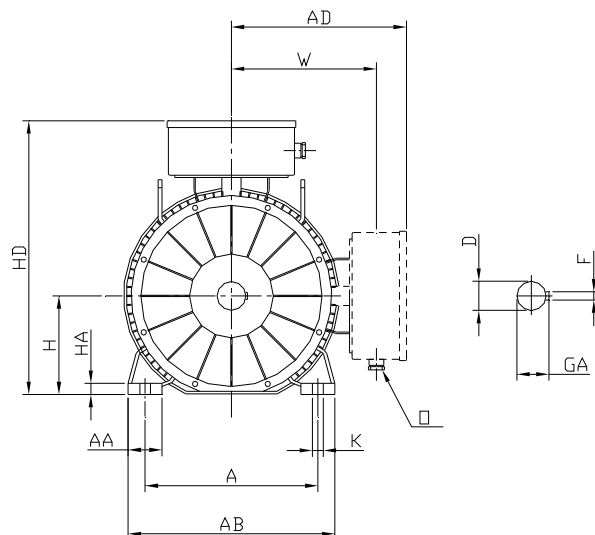
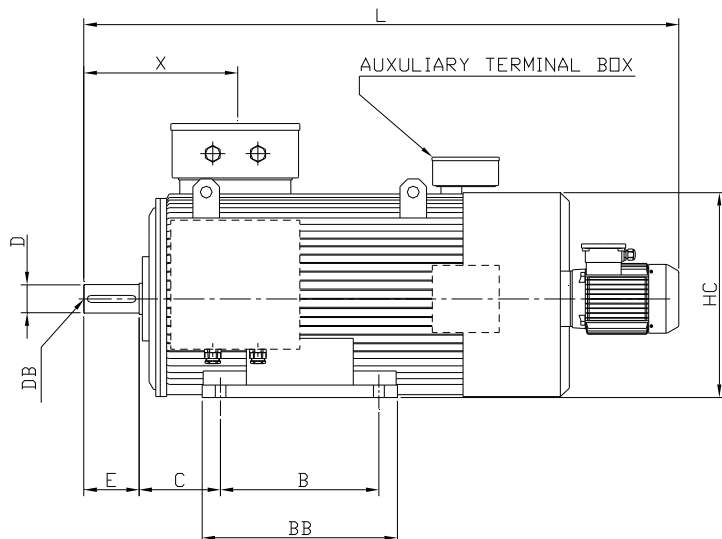
Forma B3 – Grandezza 355L + 355LX

Motori servoventilati (IC 416)

Overall dimensions

Mounting B3 – Frame size 355L ÷ 355LX

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions															
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L	X	W	O
355L a-b-c	2	610	120	730	545	630	700	254	355	35	690	900	27	1840	495	450	N.2 M63x1.5
	4-6-8													1910	565		
355LX a-b-c-d	4-6-8	610	120	730	615	630	700	254	355	35	750	970	27	2150	570	515	N.2 M63x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft				
		D	E	F	GA	DB
355L a-b-c	2	75 m6	140	20	79.5	M20x2.5
	4-6-8	100 m6	210	28	106	M24x3
355LX a-b-c-d	4-6-8	100 m6	210	28	106	M24x3

Dimensioni d'ingombro

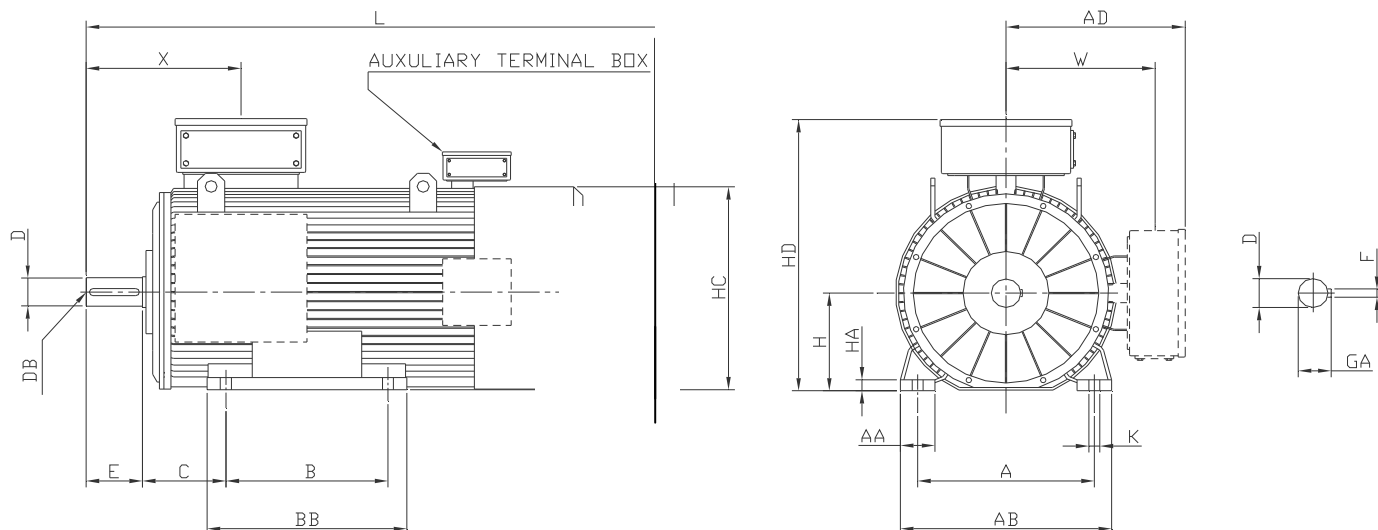
Forma B3 – Grandezza 400LX + 500LX

Motori servoventilati (IC 416)

Overall dimensions

Mounting B3 – Frame size 400LX ÷ 500LX

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions												
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L
400LXa	4-6-8	686	120	806	720 ⁽¹⁾	710	790	280	400	40	850	1120 ⁽¹⁾	33	2500
400LXb					860 ⁽²⁾							1260 ⁽²⁾		2600
400LXc														2600
450LXa		750	120	900	770 ⁽¹⁾	800	1000	315	450	45	938	1220 ⁽¹⁾	33	2700
450LXb					910 ⁽²⁾							1360 ⁽²⁾		2700
500LXa		850	150	950	830 ⁽¹⁾	900	1000	335	500	45	1035	1330 ⁽¹⁾	35	3260
500LXb					970 ⁽²⁾							1470 ⁽²⁾		3360
500LXc														3360

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft				
		D	E	F	GA	DB
400LXa	4-6-8	110 m6	210	28	116	-
400LXb						
400LXc						
450LXa	4-6-8	110 m6	210	28	116	-
450LXb						
500LXa	4-6-8	130 m6	250	32	137	-
500LXb						
500LXc						

⁽¹⁾ Motore fornito con N.3 morsetti / Motor supplied with No.3 terminals

⁽²⁾ Motore fornito con N.6 morsetti / Motor supplied with No.6 terminals

Dimensioni d'ingombro

Forma B5 – Grandezza 90 + 160T

Forma V1 – Grandezza 90 + 160T

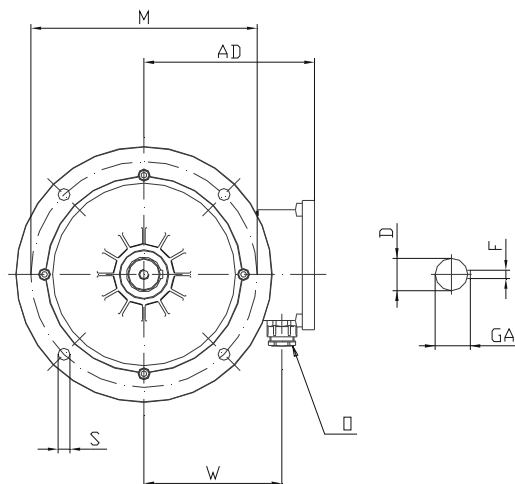
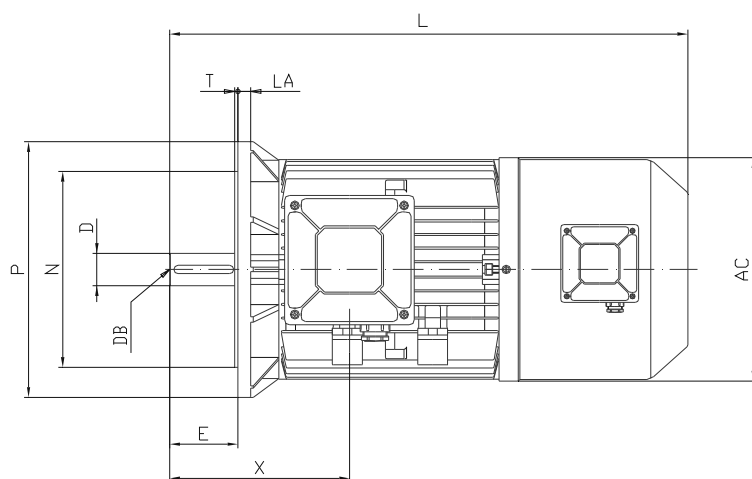
Motori servoventilati (IC 416)

Overall dimensions

Mounting B5 – Frame size 90 + 160T

Mounting V1 – Frame size 90 + 160T

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions											
		AC	AD	L	LA	M	N	P	S	T	X	W	O
90S	2-4-6-8	185	142	470	12	165	130 j6	200	N.4 x 11.5	3.5	134	115	M20x1.5
90L		185	142	495	12	165	130 j6	200	N.4 x 11.5	3.5	134	115	M20x1.5
100L		210	155	530	14	215	180 j6	250	N.4 x 14	4	160	123	M25x1.5
112MT		210	155	530	14	215	180 j6	250	N.4 x 14	4	160	123	M25x1.5
112M		225	166	540	14	215	180 j6	250	N.4 x 14	4	157	140	M25x1.5
132S		260	200	610	14	265	230 j6	300	N.4 x 14	4	198	162	M25x1.5
132M		260	200	648	14	265	230 j6	300	N.4 x 14	4	198	162	M25x1.5
160MT		260	215	705	15	300	250 h6	350	N.4 x 18	5	275	170	M32x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft				
		D	E	F	GA	DB
90S	2-4-6-8	24 j6	50	8	27	M8x1.25
90L		24 j6	50	8	27	M8x1.25
100L		28 j6	60	8	31	M10x1.5
112MT		28 j6	60	8	31	M10x1.5
112M		28 j6	60	8	31	M10x1.5
132S		38 k6	80	10	41	M12x1.75
132M		38 k6	80	10	41	M12x1.75
160MT		42 k6	110	12	45	M16x2

Dimensioni d'ingombro

Forma B5 – Grandezza 160 + 200

Forma V1 – Grandezza 160 + 200

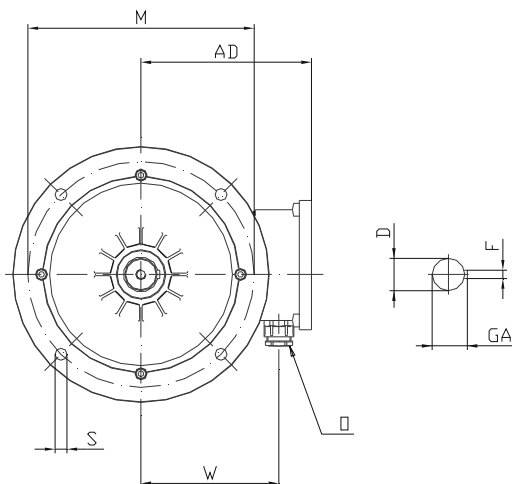
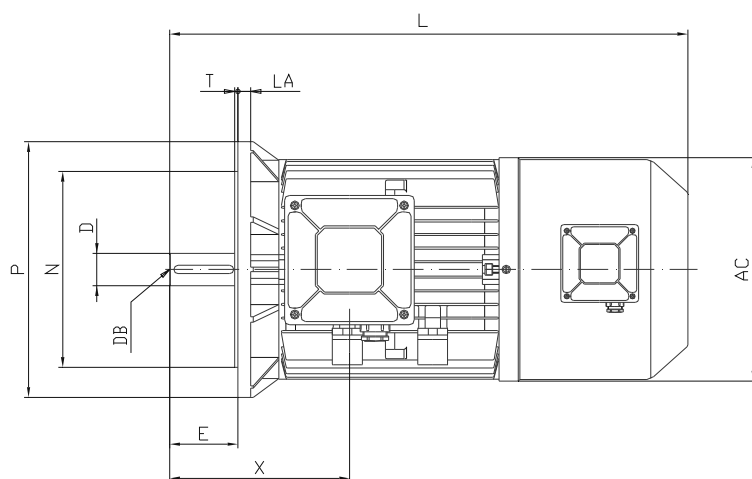
Motori servoventilati (IC 416)

Overall dimensions

Mounting B5 – Frame size 160 + 200

Mounting V1 – Frame size 160 + 200

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions											
		AC	AD	L	LA	M	N	P	S	T	X	W	O
160M	2-4-6-8	320	245	765	15	300	250 h6	350	N.4 x 18	5	345	195	M40x1.5
160L		320	245	765	15	300	250 h6	350	N.4 x 18	5	345	195	M40x1.5
180MT		320	245	810	15	300	250 h6	350	N.4 x 18	5	370	195	M40x1.5
180LT		320	245	810	15	300	250 h6	350	N.4 x 18	5	370	195	M40x1.5
180L		360	270	850	15	300	250 h6	350	N.4 x 18	5	370	221	M40x1.5
200LT		360	275	875	15	350	300 h6	400	N.4 x 18	5	400	215	M40x1.5
200L		395	305	890	15	350	300 h6	400	N.4 x 18	5	400	255	M40x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft				
		D	E	F	GA	DB
160M	2-4-6-8	42 k6	110	12	45	M16x2
160L		42 k6	110	12	45	M16x2
180MT		48 k6	110	14	51.5	M16x2
180LT		48 k6	110	14	51.5	M16x2
180L		48 k6	110	14	51.5	M16x2
200LT		55 m6	110	16	59	M20x2.5
200L		55 m6	110	16	59	M20x2.5

Dimensioni d'ingombro

Forma B5 – Grandezza 225T ÷ 250T

Forma V1 – Grandezza 225T ÷ 250T

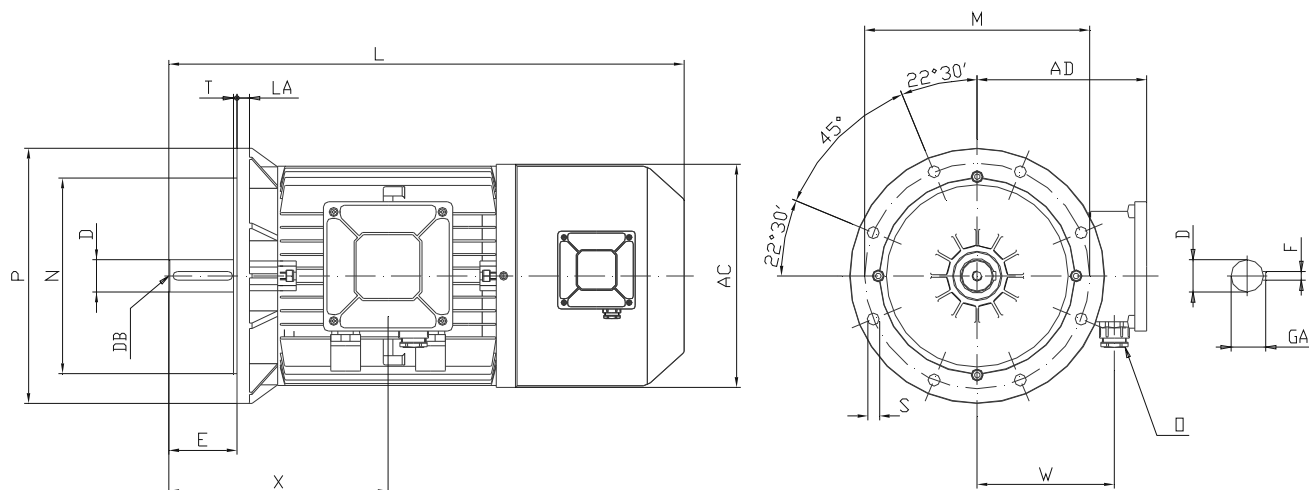
Motori servoventilati (IC 416)

Overall dimensions

Mounting B5 – Frame size 225T + 250T

Mounting V1 – Frame size 225T + 250T

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions											
		AC	AD	L	LA	M	N	P	S	T	X	W	O
225ST	4-6-8	400	290	995	16	400	350 h6	450	N.8 x 18	5	445	245	M50x1.5
225MT	2	400	290	965	16	400	350 h6	450	N.8 x 18	5	415	245	M50x1.5
	4-6-8	400	290	995	16	400	350 h6	450	N.8 x 18	5	445	245	M50x1.5
225M	2	450	335	1040	16	400	350 h6	450	N.8 x 18	5	415	280	M50x1.5
	4-6-8	450	335	1070	16	400	350 h6	450	N.8 x 18	5	445	280	M50x1.5
250MT	2	450	330	1105	18	500	450 h6	550	N.8 x 18	5	485	270	M50x1.5
	4-6-8	450	330	1105	18	500	450 h6	550	N.8 x 18	5	485	270	M50x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft				
		D	E	F	GA	DB
225ST	4-6-8	60 m6	140	18	64	M20x2.5
225MT	2	55 m6	110	16	59	M20x2.5
	4-6-8	60 m6	140	18	64	M20x2.5
225M	2	55 m6	110	16	59	M20x2.5
	4-6-8	60 m6	140	18	64	M20x2.5
250MT	2	60 m6	140	18	64	M20x2.5
	4-6-8	65 m6	140	18	69	M20x2.5

Dimensioni d'ingombro

Forma B5 – Grandezza 250 + 355T

Forma V1 – Grandezza 250 + 355T

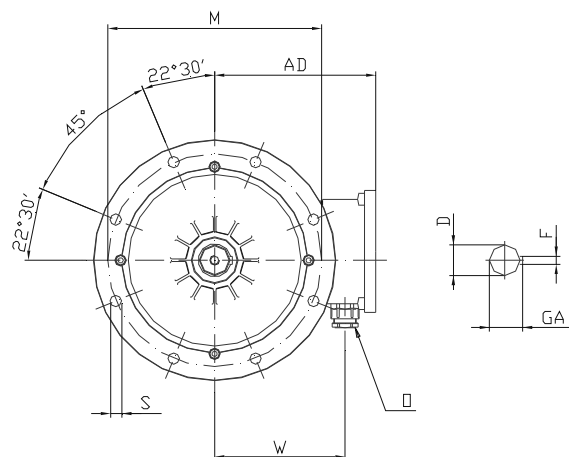
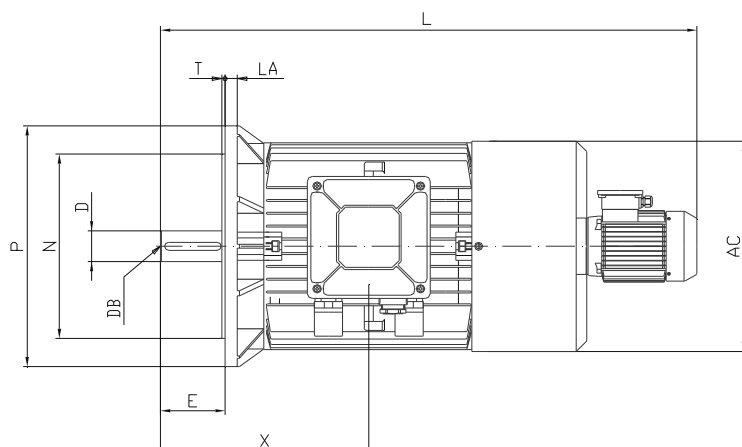
Motori servoventilati (IC 416)

Overall dimensions

Mounting B5 – Frame size 250 + 355T

Mounting V1 – Frame size 250 + 355T

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions											
		AC	AD	L	LA	M	N	P	S	T	X	W	O
280ST	2	510	400	1355	18	500	450 h6	550	N.8 x 18	5	540	320	M50x1.5
	4-6-8	510	400	1355	18	500	450 h6	550	N.8 x 18	5	540	320	M50x1.5
280MT	2	510	400	1355	18	500	450 h6	550	N.8 x 18	5	540	320	M50x1.5
	4-6-8	510	400	1355	18	500	450 h6	550	N.8 x 18	5	540	320	M50x1.5
315ST	2	520	400	1370	22	600	550 h6	660	N.8 x 22	6	560	320	M63x1.5
	4-6-8	520	400	1400	22	600	550 h6	660	N.8 x 22	6	590	320	M63x1.5
315M a-b-c-d	2	610	470	1495	22	600	550 h6	660	N.8 x 22	6	582	390	N.2 M63x1.5
	4-6-8			1525							612		
315Mb e-f-g	2	610	470	1495	22	600	550 h6	660	N.8 x 22	6	582	390	N.2 M63x1.5
	4-6-8			1740							612		
355LT	2	610	470	1825	25	740	680 h6	800	N.8 x 22	6	710	390	N.2 M63x1.5
	4-6-8	610	470	1895	25	740	680 h6	800	N.8 x 22	6	780	390	N.2 M63x1.5

Tipo/Type	Poli/Poles	Albero L.A. / DE shaft				
		D	E	F	GA	DB
280ST	2	65 m6	140	18	69	M20x2.5
	4-6-8	75 m6	140	20	79.5	M20x2.5
280MT	2	65 m6	140	18	69	M20x2.5
	4-6-8	75 m6	140	20	79.5	M20x2.5
315ST	2	65 m6	140	18	69	M20x2.5
	4-6-8	80 m6	170	22	85	M20x2.5
315M a-b-c-d-e-f-g	2	65 m6	140	18	69	M20x2.5
	4-6-8	80 m6	170	22	85	M20x2.5
355LT	2	75 m6	140	20	79.5	M20x2.5
	4-6-8	100 m6	210	28	106	M24x3

Dimensioni d'ingombro

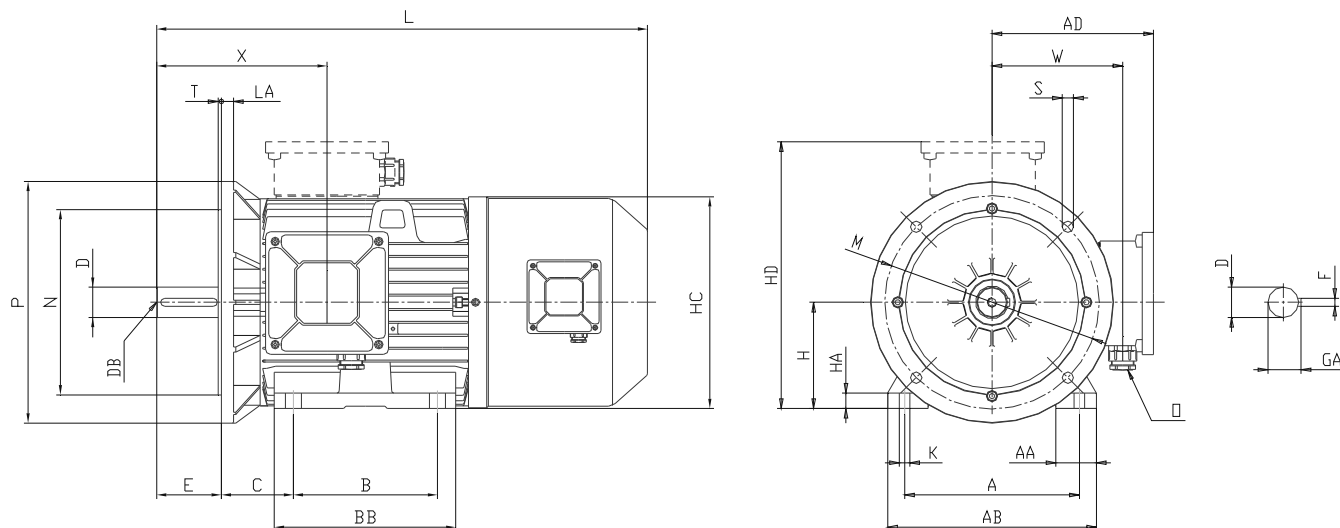
Forma B3/B5 – Grandezza 90 + 160T

Motori servoventilati (IC 416)

Overall dimensions

Mounting B3/B5 – Frame size 90 ÷ 160T

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions															
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L	X	W	O
90S	2-4-6-8	140	34	175	142	100	125	56	90	12	180	232	10	470	134	115	M20x1.5
90L		140	34	175	142	125	150	56	90	12	180	232	10	495	134	115	M20x1.5
100L		160	37	198	155	140	173	63	100	14	205	255	12	530	160	123	M25x1.5
112MT		190	38	224	155	140	178	70	112	15	217	267	12	530	160	123	M25x1.5
112M		190	38	228	170	140	172	70	112	17	222	282	13	540	157	140	M25x1.5
132S		216	50	258	200	140	225	89	132	19	264	332	13	610	198	162	M25x1.5
132M		216	50	258	200	178	225	89	132	19	264	332	13	648	198	162	M25x1.5
160MT		254	60	292	215	210	250	108	160	18	290	375	14	705	275	170	M32x1.5

Tipo/Type	Poli/Poles	Flangia B5 / Flange B5						Albero L.A. / DE shaft					
		LA	M	N	P	S	T	D	E	F	GA	DB	
90S	2-4-6-8	12	165	130 j6	200	N.4 x 11.5	3.5	24 j6	50	8	27	M8x1.25	
90L		12	165	130 j6	200	N.4 x 11.5	3.5	24 j6	50	8	27	M8x1.25	
100L		14	215	180 j6	250	N.4 x 14	4	28 j6	60	8	31	M10x1.5	
112MT		14	215	180 j6	250	N.4 x 14	4	28 j6	60	8	31	M10x1.5	
112M		14	215	180 j6	250	N.4 x 14	4	28 j6	60	8	31	M10x1.5	
132S		14	265	230 j6	300	N.4 x 14	4	38 k6	80	10	41	M12x1.75	
132M		14	265	230 j6	300	N.4 x 14	4	38 k6	80	10	41	M12x1.75	
160MT		15	300	250 h6	350	N.4 x 18	5	42 k6	110	12	45	M16x2	

Dimensioni d'ingombro

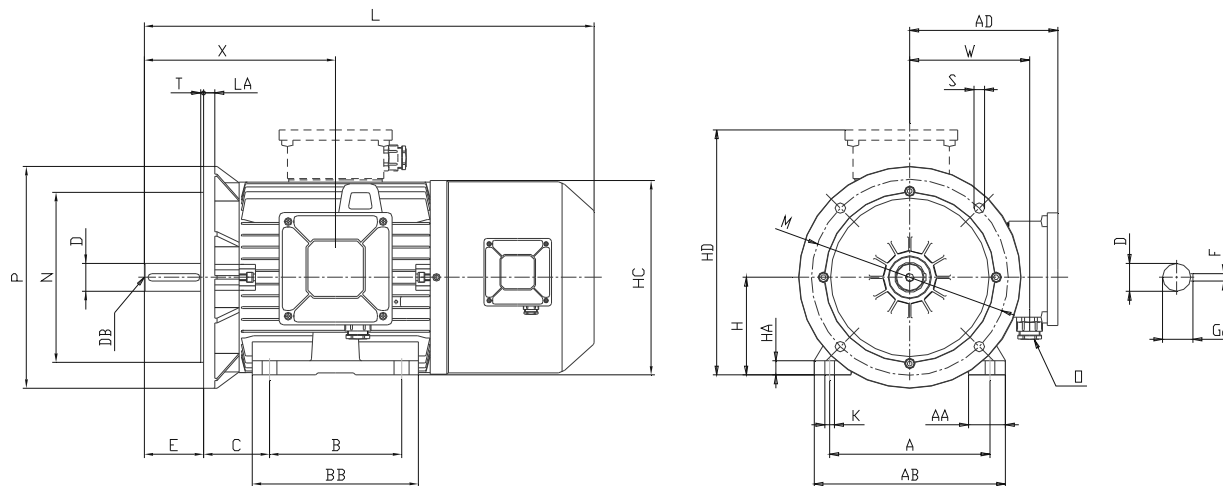
Forma B3/B5 – Grandezza 160 ÷ 200

Motori servoventilati (IC 416)

Overall dimensions

Mounting B3/B5 – Frame size 160 ÷ 200

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions															
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L	X	W	O
160M	2-4-6-8	254	67	315	245	210	332	108	160	20	325	405	14	765	345	195	M40x1.5
160L		254	67	315	245	254	332	108	160	20	325	405	14	765	345	195	M40x1.5
180MT		279	80	350	245	241	320	121	180	22	340	425	14	810	370	195	M40x1.5
180LT		279	80	350	245	279	320	121	180	22	340	425	14	810	370	195	M40x1.5
180L		279	80	350	275	279	320	121	180	22	360	450	14	850	370	221	M40x1.5
200LT		318	90	395	275	305	365	133	200	24	380	475	18	875	400	215	M40x1.5
200L		318	90	395	305	305	365	133	200	24	405	505	18	890	400	255	M50x1.5

Tipo/Type	Poli/Poles	Flangia B5 / Flange B5							Albero L.A. / DE shaft				
		LA	M	N	P	S	T		D	E	F	GA	DB
160M	2-4-6-8	15	300	250 h6	350	N.4 x 18	5		42 k6	110	12	45	M16x2
160L		15	300	250 h6	350	N.4 x 18	5		42 k6	110	12	45	M16x2
180MT		15	300	250 h6	350	N.4 x 18	5		48 k6	110	14	51.5	M16x2
180LT		15	300	250 h6	350	N.4 x 18	5		48 k6	110	14	51.5	M16x2
180L		15	300	250 h6	350	N.4 x 18	5		48 k6	110	14	51.5	M16x2
200LT		15	350	300 h6	400	N.4 x 18	5		55 m6	110	16	59	M20x2.5
200L		15	350	300 h6	400	N.4 x 18	5		55 m6	110	16	59	M20x2.5

Dimensioni d'ingombro

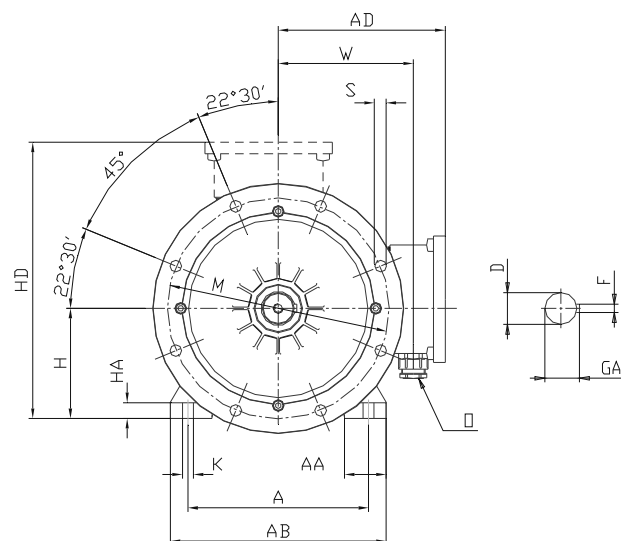
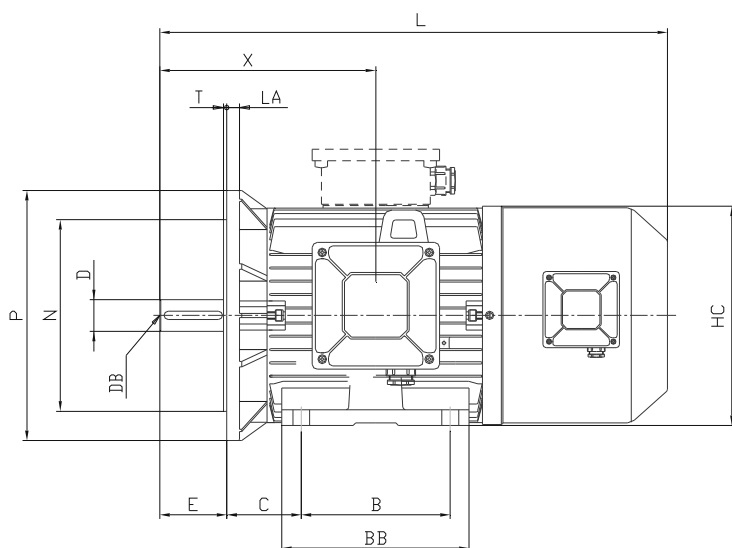
Forma B3/B5 – Grandezza 225T + 250T

Motori servoventilati (IC 416)

Overall dimensions

Mounting B3/B5 – Frame size 225T ÷ 250T

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions															
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L	X	W	O
225ST	4-6-8	356	80	436	290	286	370	149	225	30	420	515	18	995	445	245	M50x1.5
225MT	2	356	80	436	290	311	370	149	225	30	420	515	18	965	415	245	M50x1.5
	4-6-8	356	80	436	290	311	370	149	225	30	420	515	18	995	445	245	M50x1.5
225M	2	356	80	436	335	311	370	149	225	30	450	560	18	1040	415	280	M50x1.5
	4-6-8	356	80	436	335	311	370	149	225	30	450	560	18	1070	445	280	M50x1.5
250MT	2	406	95	476	330	349	410	168	250	32	480	580	22	1105	485	270	M50x1.5
	4-6-8	406	95	476	330	349	410	168	250	32	480	580	22	1105	485	270	M50x1.5

Tipo/Type	Poli/Poles	Flangia B5 / Flange B5							Albero L.A. / DE shaft				
		LA	M	N	P	S	T	D	E	F	GA	DB	
225ST	4-6-8	16	400	350 h6	450	N.8 x 18	5	60 m6	140	18	64	M20x2.5	
225MT	2	16	400	350 h6	450	N.8 x 18	5	55 m6	110	16	59	M20x2.5	
	4-6-8	16	400	350 h6	450	N.8 x 18	5	60 m6	140	18	64	M20x2.5	
225M	2	16	400	350 h6	450	N.8 x 18	5	55 m6	110	16	59	M20x2.5	
	4-6-8	16	400	350 h6	450	N.8 x 18	5	60 m6	140	18	64	M20x2.5	
250MT	2	18	500	450 h6	550	N.8 x 18	5	60 m6	140	18	64	M20x2.5	
	4-6-8	18	500	450 h6	550	N.8 x 18	5	65 m6	140	18	69	M20x2.5	

Dimensioni d'ingombro

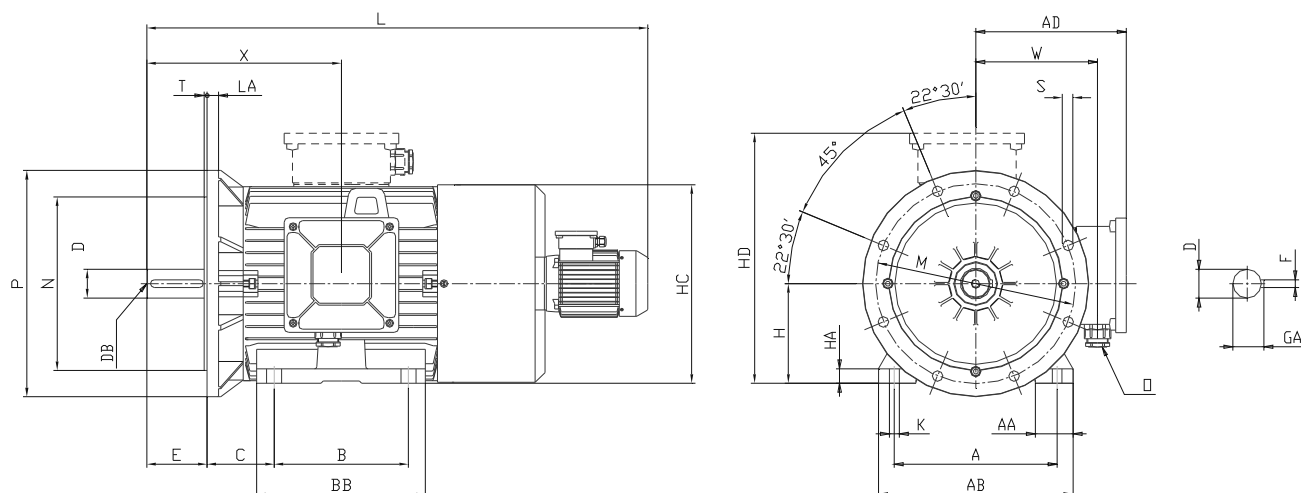
Forma B3/B5 – Grandezza 250 + 355T

Motori servoventilati (IC 416)

Overall dimensions

Mounting B3/B5 – Frame size 250 ÷ 355T

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions															
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L	X	W	O
280ST	2	457	115	534	400	368	480	190	280	35	535	680	22	1355	540	320	M50x1.5
	4-6-8	457	115	534	400	368	480	190	280	35	535	680	22	1355	540	320	M50x1.5
280MT	2	457	115	534	400	419	480	190	280	35	535	680	22	1355	540	320	M50x1.5
	4-6-8	457	115	534	400	419	480	190	280	35	535	680	22	1355	540	320	M50x1.5
315ST	2	508	130	576	400	406	480	216	315	38	570	715	27	1370	560	320	M63x1.5
	4-6-8	508	130	576	400	406	480	216	315	38	570	715	27	1400	590	320	M63x1.5
315M a-b-c-d-	2	508	135	600	470	457	545	216	315	42	620	785	27	1495	582	390	N.2 M63x1.5
	4-6-8													1525	612		
315M e-f-g	2	508	135	600	470	457	545	216	315	42	620	785	27	1495	582	390	N.2 M63x1.5
	4-6-8													1740	612		
355LT	2	610	165	710	470	630	715	254	355	50	660	825	27	1825	710	390	N.2 M63x1.5
	4-6-8	610	165	710	470	630	715	254	355	50	660	825	27	1895	780	390	N.2 M63x1.5

Tipo/Type	Poli/Poles	Flangia B5 / Flange B5						Albero L.A. / DE shaft				
		LA	M	N	P	S	T	D	E	F	GA	DB
280ST	2	18	500	450 h6	550	N.8 x 18	5	65 m6	140	18	69	M20x2.5
	4-6-8	18	500	450 h6	550	N.8 x 18	5	75 m6	140	20	79.5	M20x2.5
280MT	2	18	500	450 h6	550	N.8 x 18	5	65 m6	140	18	69	M20x2.5
	4-6-8	18	500	450 h6	550	N.8 x 18	5	75 m6	140	20	79.5	M20x2.5
315ST	2	22	600	550 h6	660	N.8 x 22	6	65 m6	140	18	69	M20x2.5
	4-6-8	22	600	550 h6	660	N.8 x 22	6	80 m6	170	22	85	M20x2.5
315M a-b-c-d-e-f-g	2	22	600	550 h6	660	N.8 x 22	6	65 m6	140	18	69	M20x2.5
	4-6-8							80 m6	170	22	85	M20x2.5
355LT	2	25	740	680 h6	800	N.8 x 22	6	75 m6	140	20	79.5	M20x2.5
	4-6-8	25	740	680 h6	800	N.8 x 22	6	100 m6	210	28	106	M24x3

Dimensioni d'ingombro

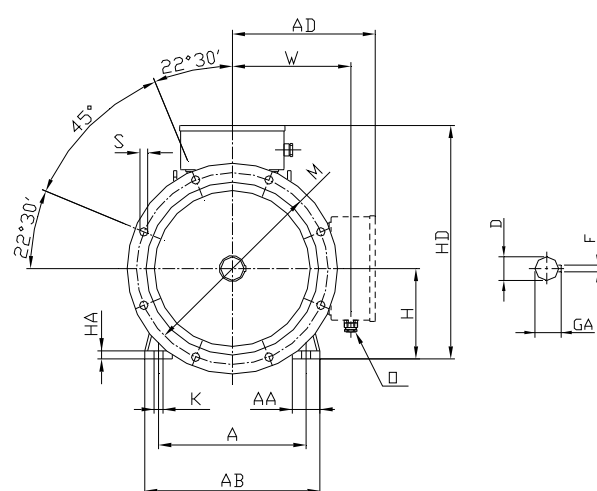
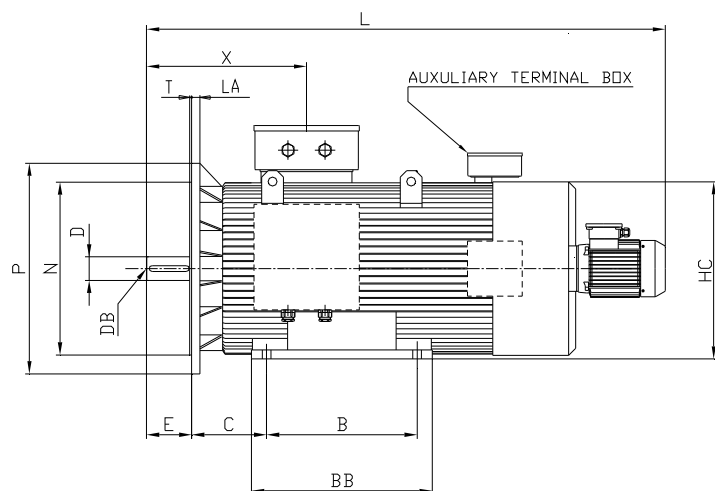
Forma B3/B5 – Grandezza 355L + 355LX

Motori servoventilati (IC 416)

Overall dimensions

Mounting B3/B5 – Frame size 355L ÷ 355LX

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions															
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L	X	W	O
355L a-b- c	2	610	120	730	545	630	700	254	355	35	690	900	27	1840	495	450	N.2 M63x1.5
	4-6-8													1910	565		
355LX a-b-c-d	4-6-8	610	120	730	615	630	700	254	355	35	750	970	27	2150	570	515	N.2 M63x1.5

Tipo/Type	Poli/Poles	Flangia B5 / Flange B5							Albero L.A. / DE shaft				
		LA	M	N	P	S	T		D	E	F	GA	DB
355L a-b-c	2								75 m6	140	20	79.5	M20x2.5
	4-6-8	25	740	680 h6	800	N.8 x 22	6		100 m6	210	28	106	M24x3
355LX a-b-c-d	4-6-8	28	740	680 h6	800	N.8 x 22	6		100 m6	210	28	106	M24x3

Dimensioni d'ingombro

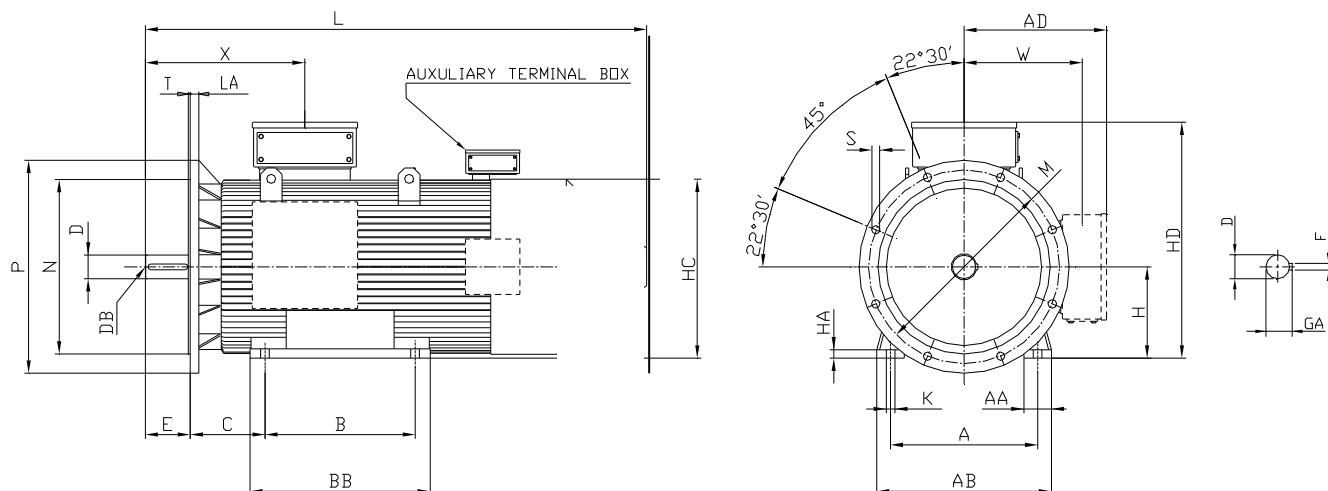
Forma B3/B5 – Grandezza 400LX + 500LX

Motori servoventilati (IC 416)

Overall dimensions

Mounting B3/B5 – Frame size 400LX ÷ 500LX

Independent ventilation (IC 416)



Tipo/Type	Poli/Poles	Dimensioni / Dimensions												
		A	AA	AB	AD	B	BB	C	H	HA	HC	HD	K	L
400LXa	4-6-8	686	120	806	720 ⁽¹⁾	710	790	280	400	40	850	1120 ⁽¹⁾	33	2500
400LXb					860 ⁽²⁾							1260 ⁽²⁾		2600
400LXc														2600
450LXa		750	120	900	770 ⁽¹⁾	800	1000	315	450	45	938	1220 ⁽¹⁾	33	2700
450LXb					910 ⁽²⁾							1360 ⁽²⁾		2700
500LXa														3260
500LXb		850	150	950	830 ⁽¹⁾	900	1000	335	500	45	1035	1330 ⁽¹⁾	35	3360
500LXc					970 ⁽²⁾							1470 ⁽²⁾		3360

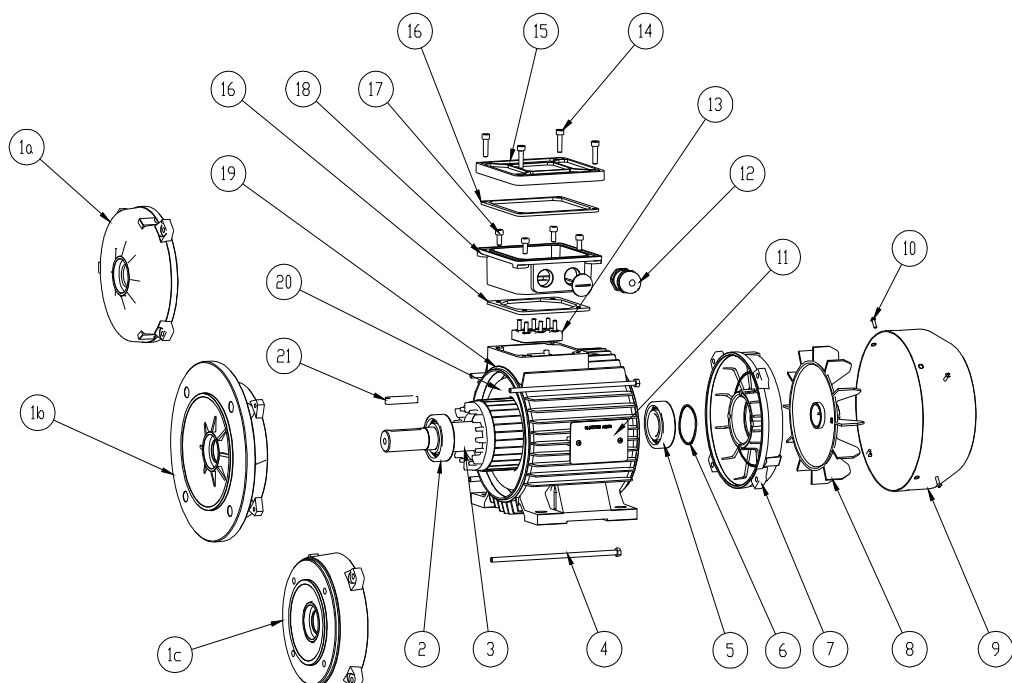
Tipo/Type	Poli/Poles	Flangia B5 / Flange B5						Albero L.A. / DE shaft					
		LA	M	N	P	S	T	D	E	F	GA	DB	
400LXa	4-6-8	28	940	880 h6	1000	N.8 x 28	6	110 m6	210	28	116	-	
400LXb													
400LXc													
450LXa	4-6-8	28	940	880 h6	1000	N.8 x 28	6	110 m6	210	28	116	-	
450LXb													
500LXa	4-6-8	28	940	880 h6	1000	N.8 x 28	6	130 m6	250	32	137	-	
500LXb													
500LXc													

⁽¹⁾ Motore fornito con N.3 morsetti / Motor supplied with No.3 terminals

⁽²⁾ Motore fornito con N.6 morsetti / Motor supplied with No.6 terminals

Denominazione Componenti
Serie CA –
Grandezza 63 ÷ 112

Name of Components
CA Line
Frame 63 ÷ 112

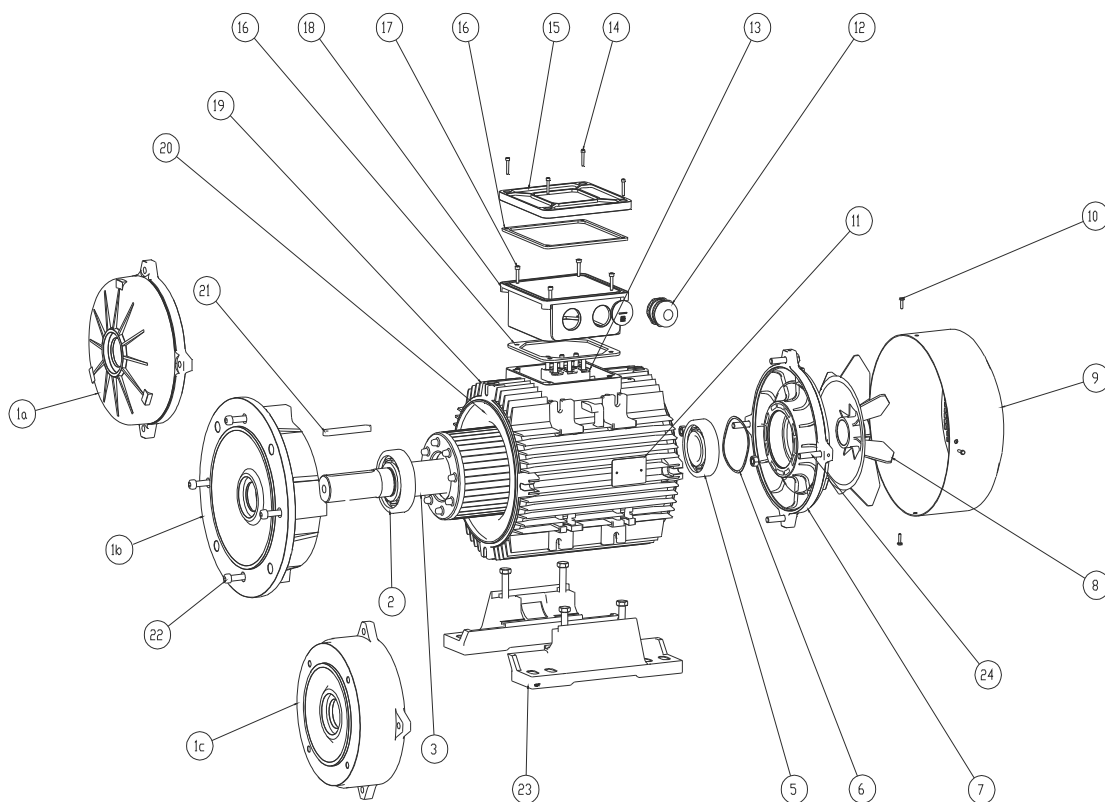


- 1a Scudo anteriore
- 1b Flangia B5
- 1c Flangia B14
- 2 Cuscinetto anteriore
- 3 Albero con rotore
- 4 Tirante
- 5 Cuscinetto posteriore
- 6 Molla di compensazione
- 7 Scudo posteriore
- 8 Ventola di raffreddamento
- 9 Copriventola
- 10 Vite fissaggio copriventola
- 11 Targa dati motore
- 12 Pressacavo
- 13 Morsettiera
- 14 Vite fissaggio coperchio coprimorsettiera
- 15 Coperchio coprimorsettiera
- 16 Guarnizione coprimorsettiera
- 17 Vite fissaggio coprimorsettiera
- 18 Coprimorsettiera
- 19 Carcassa con statore
- 20 Avvolgimento
- 21 Chiavetta lato accoppiamento

- 1a Front shield
- 1b Front shield with flange B5
- 1c Front shield with flange B14
- 2 Front bearing
- 3 Shaft with rotor
- 4 Tie-bolt
- 5 Rear bearing
- 6 Compensating spring
- 7 Rear shield
- 8 Cooling fan
- 9 Fan cover
- 10 Fixing screw for Fan cover
- 11 Rating plate
- 12 Cable gland
- 13 Terminal board
- 14 Fixing screw for terminal box cover
- 15 Terminal box cover
- 16 Gasket
- 17 Fixing screw for terminal box
- 18 Terminal-box
- 19 Frame with stator package
- 20 Winding
- 21 Coupling side key

Denominazione Componenti
Serie CA
Grandezza 132 ÷ 200

Name of Components
CA Line
Frame 132 ÷ 200



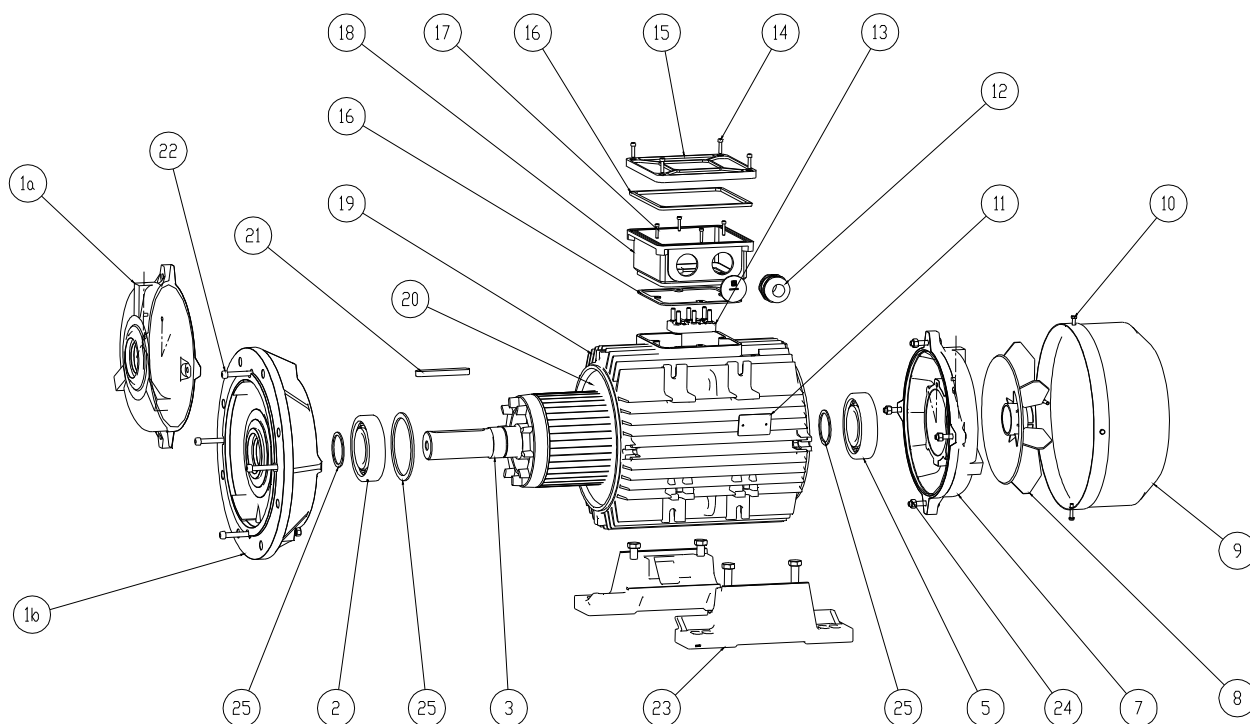
- 1a Scudo anteriore
- 1b Flangia B5
- 1c Flangia B14
- 2 Cuscinetto anteriore
- 3 Albero con rotore
- 5 Cuscinetto posteriore
- 6 Molla di compensazione
- 7 Scudo posteriore
- 8 Ventola di raffreddamento
- 9 Copriventola
- 10 Vite fissaggio copriventola
- 11 Targa dati motore
- 12 Pressacavo
- 13 Morsettiera
- 14 Vite fissaggio coperchio coprimorsettiera
- 15 Coperchio coprimorsettiera
- 16 Guarnizione coprimorsettiera
- 17 Vite fissaggio coprimorsettiera
- 18 Coprimorsettiera
- 19 Carcassa con statore
- 20 Avvolgimento
- 21 Chiavetta lato accoppiamento
- 22 Vite fissaggio flangia/scudo - carcassa
- 23 Piedi
- 24 Vite fissaggio scudo - carcassa

- 1a *Front shield*
- 1b *Front shield with flange B5*
- 1c *Front shield with flange B14*
- 2 *Front bearing*
- 3 *Shaft with rotor*
- 5 *Rear bearing*
- 6 *Compensating spring*
- 7 *Rear shield*
- 8 *Cooling fan*
- 9 *Fan cover*
- 10 *Fixing screw for Fan cover*
- 11 *Rating plate*
- 12 *Cable gland*
- 13 *Terminal board*
- 14 *Fixing screw for terminal box cover*
- 15 *Terminal box cover*
- 16 *Gasket*
- 17 *Fixing screw for terminal box*
- 18 *Terminal-box*
- 19 *Frame with stator package*
- 20 *Winding*
- 21 *Coupling side key*
- 22 *Fixing screw for shield/flange*
- 23 *Removable foot*
- 24 *Fixing screw for shield*

Per altezza d'asse 132 i piedi sono di fusione con la carcassa
 Versione B14 solo fino all'attrezzo d'asse 180T

Denominazione Componenti
Serie CA
Grandezza 225 ÷ 250

Name of Components
CA Line
Grandezza 225 ÷ 250

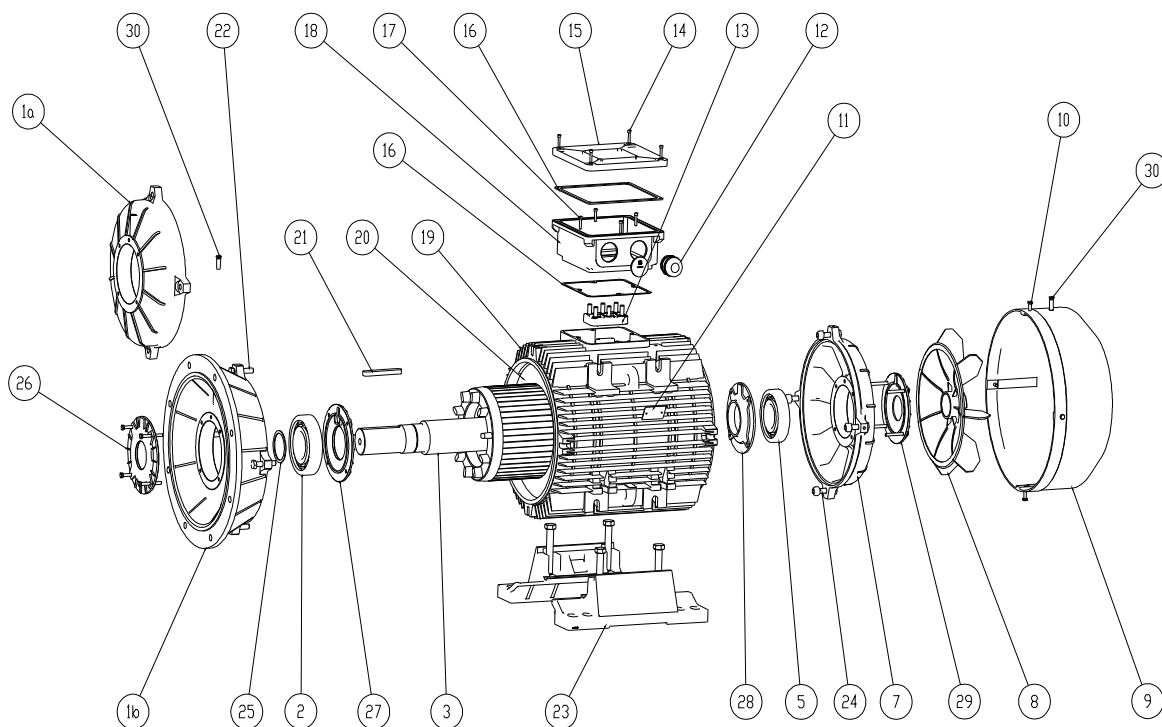


- 1a Scudo anteriore
- 1b Flangia B5
- 2 Cuscinetto anteriore
- 3 Albero con rotore
- 5 Cuscinetto posteriore
- 7 Scudo posteriore
- 8 Ventola di raffreddamento
- 9 Copriventola
- 10 Vite fissaggio copriventola
- 11 Targa dati motore
- 12 Pressacavo
- 13 Morsettiera
- 14 Vite fissaggio coperchio coprimorsettiera
- 15 Coperchio coprimorsettiera
- 16 Guarnizione coprimorsettiera
- 17 Vite fissaggio coprimorsettiera
- 18 Coprimorsettiera
- 19 Carcassa con statore
- 20 Avvolgimento
- 21 Chiavetta lato accoppiamento
- 22 Vite fissaggio flangia/scudo - carcassa
- 23 Piedi
- 24 Vite fissaggio scudo - carcassa
- 25 Anello elastico seeger

- 1a Front shield
- 1b Front shield with flange B5
- 2 Front bearing
- 3 Shaft with rotor
- 5 Rear bearing
- 7 Rear shield
- 8 Cooling fan
- 9 Fan cover
- 10 Fixing screw for Fan cover
- 11 Rating plate
- 12 Cable gland
- 13 Terminal board
- 14 Fixing screw for terminal box cover
- 15 Terminal box cover
- 16 Gasket
- 17 Fixing screw for terminal box
- 18 Terminal-box
- 19 Frame with stator package
- 20 Winding
- 21 Coupling side key
- 22 Fixing screw for shield/flange
- 23 Removable foot
- 24 Fixing screw for shield
- 25 Seeger elastic ring

Denominazione Componenti
Serie CA
Grandezza 280 ÷ 315

Name of Components
CA Line
Frame 280 ÷ 315

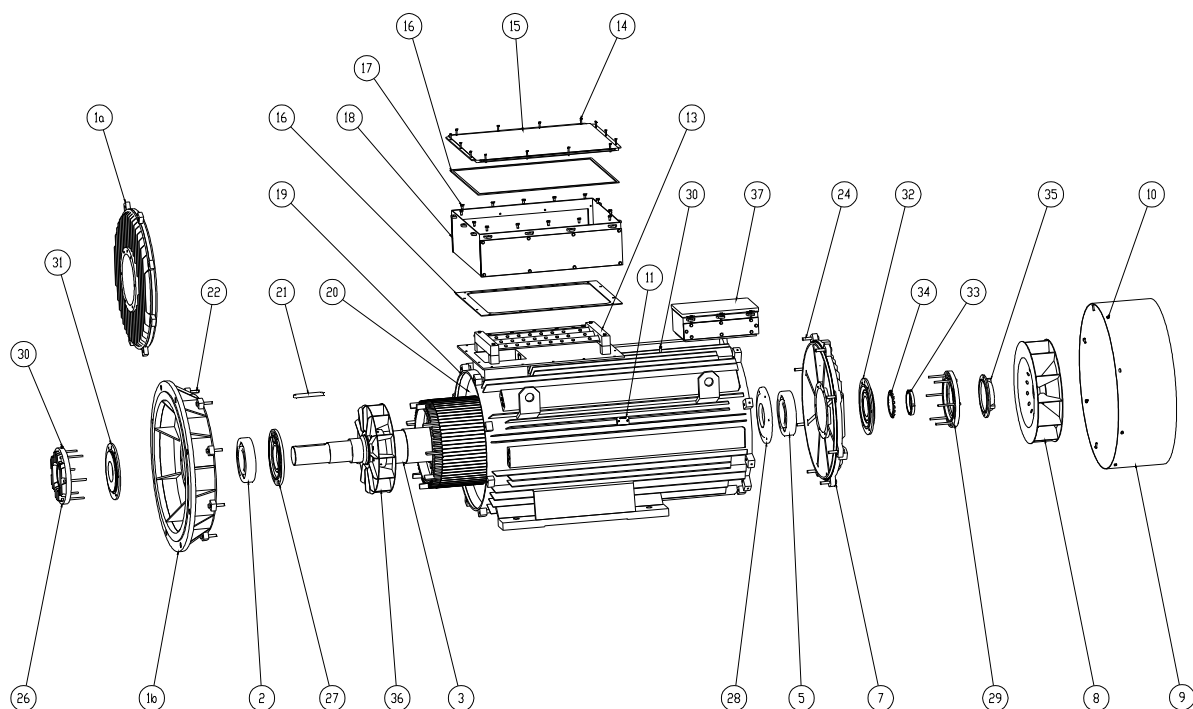


- 1a Scudo anteriore
- 1b Flangia B5
- 2 Cuscinetto anteriore
- 3 Albero con rotore
- 5 Cuscinetto posteriore
- 7 Scudo posteriore
- 8 Ventola di raffreddamento
- 9 Copriventola
- 10 Vite fissaggio copriventola
- 11 Targa dati motore
- 12 Pressacavo
- 13 Morsettiera
- 14 Vite fissaggio coperchio coprimorsettiera
- 15 Coperchio coprimorsettiera
- 16 Guarnizione coprimorsettiera
- 17 Vite fissaggio coprimorsettiera
- 18 Coprimorsettiera
- 19 Carcassa con statore
- 20 Avvolgimento
- 21 Chiavetta lato accoppiamento
- 22 Vite fissaggio flangia/scudo - carcassa
- 23 Piedi
- 24 Vite fissaggio scudo - carcassa
- 25 Anello elastico seeger
- 26 Coperchietto paragrasso anteriore esterno
- 27 Coperchietto paragrasso anteriore interno
- 28 Coperchietto paragrasso posteriore interno
- 29 Coperchietto paragrasso posteriore esterno
- 30 Ingrassatore "Tecalmit"

- 1a Front shield
- 1b Front shield with flange B5
- 2 Front bearing
- 3 Shaft with rotor
- 5 Rear bearing
- 7 Rear shield
- 8 Cooling fan
- 9 Fan cover
- 10 Fixing screw for Fan cover
- 11 Rating plate
- 12 Cable gland
- 13 Terminal board
- 14 Fixing screw for terminal boc cover
- 15 Terminal box cover
- 16 Gasket
- 17 Fixing screw for terminal box
- 18 Terminal-box
- 19 Frame with stator package
- 20 Winding
- 21 Coupling side key
- 22 Fixing screw for shield/flange
- 23 Removable foot
- 24 Fixing screw for shield
- 25 Seeger elastic ring
- 26 Inner front side grease-guard cover
- 27 Outer front side grease-guard cover
- 28 Inner rear side grease-guard cover
- 29 Outer rear side grease-guard cover
- 30 "Tecalmit" lubricator

Denominazione Componenti
Serie CS – Forma B3 - B3/B5
Grandezza 355 ÷ 500

Name of Components
CS Line – Mounting B3 – B3/B5
Frame 355 ÷ 500

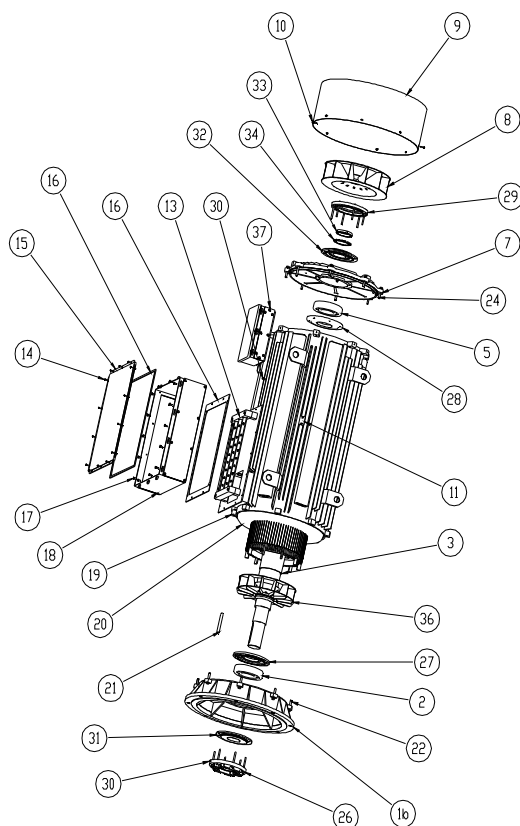


- 1a Scudo anteriore
- 1b Flangia B5
- 2 Cuscinetto anteriore
- 3 Albero con rotore
- 5 Cuscinetto posteriore
- 7 Scudo posteriore
- 8 Ventola di raffreddamento
- 9 Copriventola
- 10 Vite fissaggio copriventola
- 11 Targa dati motore
- 13 Morsetteria
- 14 Vite fissaggio coperchio coprimorsettieria
- 15 Coperchio coprimorsettieria
- 16 Guarnizione coprimorsettieria
- 17 Vite fissaggio coprimorsettieria
- 18 Coprimorsettieria
- 19 Carcassa con statore
- 20 Avvolgimento
- 21 Chiavetta lato accoppiamento
- 22 Vite fissaggio flangia/scudo - carcassa
- 24 Vite fissaggio scudo - carcassa
- 26 Coperchietto paragrasso anteriore esterno
- 27 Coperchietto paragrasso anteriore interno
- 28 Coperchietto paragrasso posteriore interno
- 29 Coperchietto paragrasso posteriore esterno
- 30 Ingrassatore "Tecalamit"
- 31 Valvola rotante anteriore
- 32 Valvola rotante posteriore
- 33 Ghiera di bloccaggio
- 34 Rosetta di sicurezza
- 35 Coperchietto valvola a grasso
- 36 Ventola di raffreddamento interna
- 37 Coprimorsettieria ausiliari

- 1a Front shield
- 1b Front shield with flange B5
- 2 Front bearing
- 3 Shaft with rotor
- 5 Rear bearing
- 7 Rear shield
- 8 Cooling fan
- 9 Fan cover
- 10 Fixing screw for Fan cover
- 11 Rating plate
- 13 Terminal board
- 14 Fixing screw for terminal box cover
- 15 Terminal box cover
- 16 Gasket
- 17 Fixing screw for terminal box
- 18 Terminal-box
- 19 Frame with stator package
- 20 Winding
- 21 Coupling side key
- 22 Fixing screw for shield/flange
- 24 Fixing screw for shield
- 26 Inner front side grease-guard cover
- 27 Outer front side grease-guard cover
- 28 Inner rear side grease-guard cover
- 29 Outer rear side grease-guard cover
- 30 "Tecalamit" lubricator
- 31 Front side grease slinger
- 32 Rear side grease slinger
- 33 Ring nut
- 34 Locking washers
- 35 Grease slinger cover
- 36 Inner cooling fan
- 37 Auxiliary terminal box

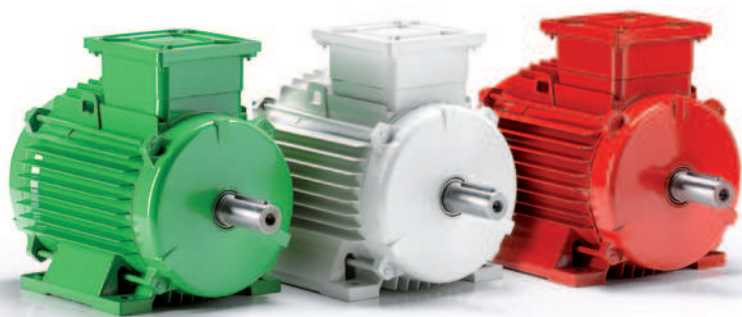
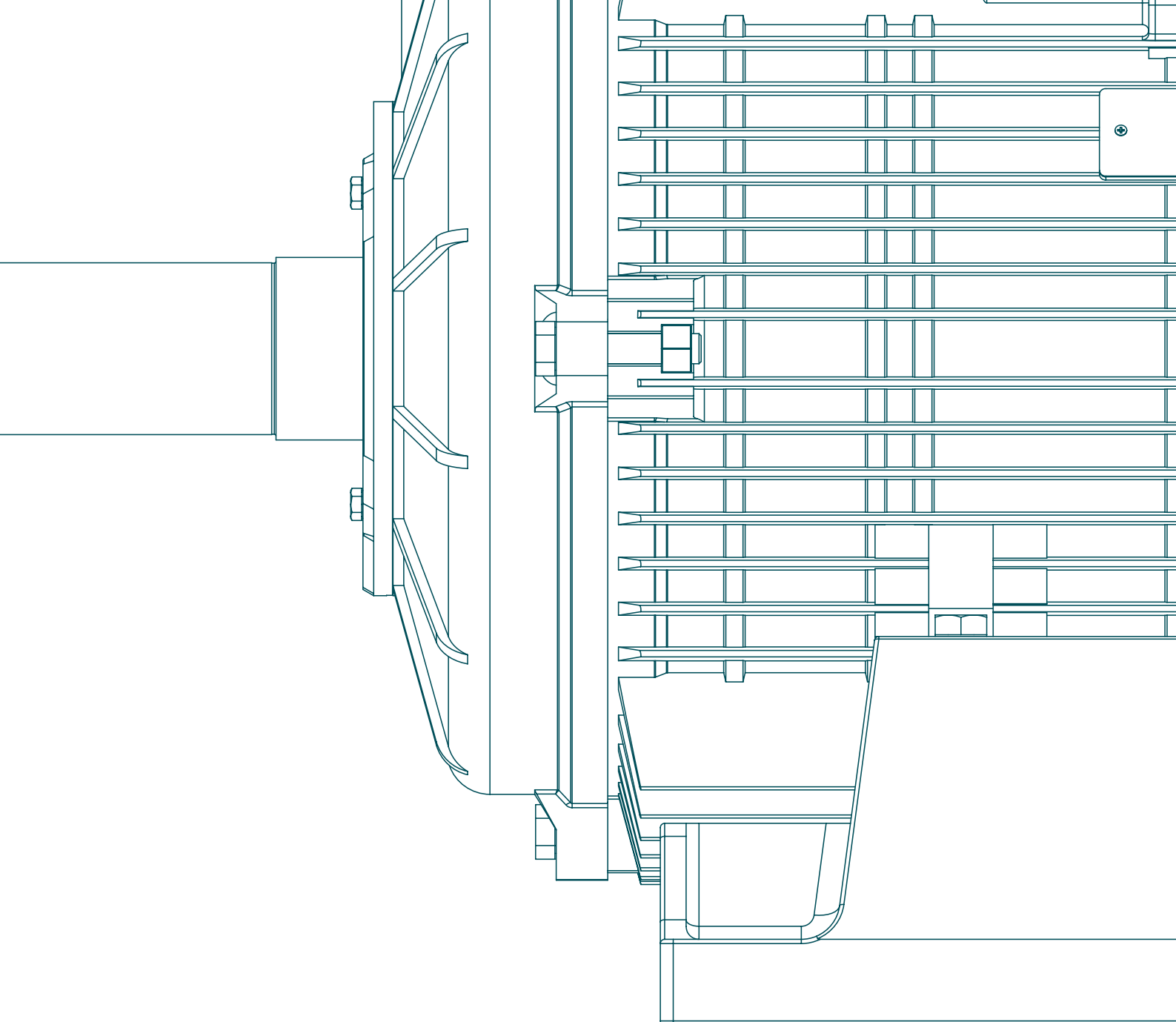
Denominazione Componenti
Serie CS – Forma V1
Grandezza 355 ÷ 500

Name of Components
CS Line – Mounting V1
Frame 355 ÷ 500



- 1b Flangia B5
- 2 Cuscinetto anteriore
- 3 Albero con rotore
- 5 Cuscinetto posteriore
- 7 Scudo posteriore
- 8 Ventola di raffreddamento
- 9 Copriventola
- 10 Vite fissaggio copriventola
- 11 Targa dati motore
- 13 Morsettiera
- 14 Vite fissaggio coperchio coprimorsettiera
- 15 Coperchio coprimorsettiera
- 16 Guarnizione coprimorsettiera
- 17 Vite fissaggio coprimorsettiera
- 18 Coprimorsettiera
- 19 Carcassa con statore
- 20 Avvolgimento
- 21 Chiavetta lato accoppiamento
- 22 Vite fissaggio flangia/scudo - carcassa
- 24 Vite fissaggio scudo - carcassa
- 26 Coperchietto paragrasso anteriore esterno
- 27 Coperchietto paragrasso anteriore interno
- 28 Coperchietto paragrasso posteriore interno
- 29 Coperchietto paragrasso posteriore esterno
- 30 Ingrassatore "Tecalamit"
- 31 Valvola rotante anteriore
- 32 Valvola rotante posteriore
- 33 Ghiera di bloccaggio
- 34 Rosetta di sicurezza
- 36 Ventola interna
- 37 Coprimorsettiera ausiliari

- 1b Front shield with flange B5
- 2 Front bearing
- 3 Shaft with rotor
- 5 Rear bearing
- 7 Rear shield
- 8 Cooling fan
- 9 Fan cover
- 10 Fixing screw for Fan cover
- 11 Rating plate
- 13 Terminal board
- 14 Fixing screw for terminal boc cover
- 15 Terminal box cover
- 16 Gasket
- 17 Fixing screw for terminal box
- 18 Terminal-box
- 19 Frame with stator package
- 20 Winding
- 21 Coupling side key
- 22 Fixing screw for shield/flange
- 24 Fixing screw for shield
- 26 Inner front side grease-guard cover
- 27 Outer front side grease-guard cover
- 28 Inner rear side grease-guard cover
- 29 Outer rear side grease-guard cover
- 30 "Tecalamit" lubricator
- 31 Front side grease slinger
- 32 Rear side grease slinger
- 33 Ring nut
- 34 Locking washers
- 36 Inner cooling fan
- 37 Auxiliary terminal box



ea ELECTRO ADDA®
il motore che fa la differenza

Electro Adda S.p.A.

Via Nazionale, 8 - 23883 Beverate di Brivio LC
tel. +39 039 53.20.621 - fax +39 039 53.21.335 - www.electroadda.com - info@electroadda.com

Via S. Anna, 640 - 41122 Modena MO
tel. +39 059 45.21.32 - fax +39 059 45.21.58 - commerciale.modena@electroadda.com

