

GENERAL PURPOSE  
**Energy Efficient**  
INDUCTION MOTORS  
**series 3SIE**

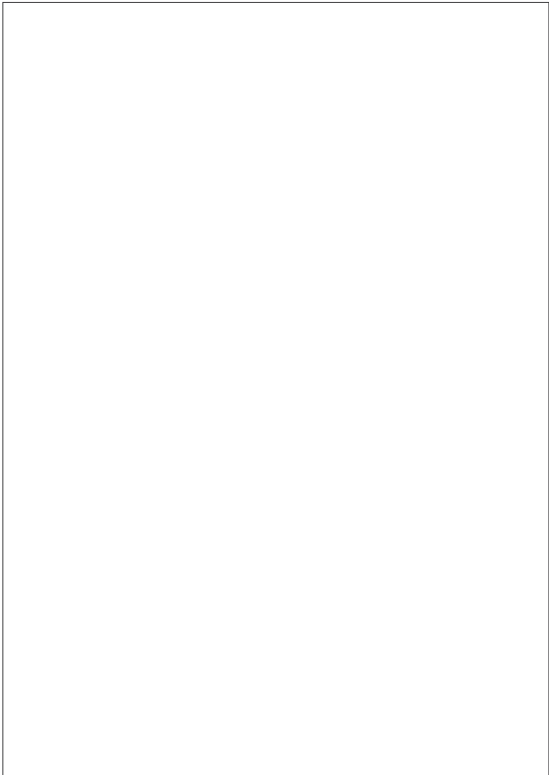
**IE3**



PRODUCT CATALOGUE

Comply with the new efficiency classes  
for low-voltage three-phase motors  
IEC 60034-30 standard and EU Regulation 640/2009

**Certificates**



# Cantoni®

since 1950



since 1920  
since 1878

**CELMA**  
**indukta**

since 1921



since 1954



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**INTRODUCTION**

New efficiency classes for the low-voltage three-phase motors (IE = International Efficiency).

Along with the international discussion on energy efficiency a worldwide harmonized energy efficiency classification system has been established for low-voltage three-phase asynchronous motors. For many years low-voltage three-phase motors in the European Union have been sold in three efficiency classes EFF3, EFF2 and EFF1. Aside from this, many different efficiency classification systems have been introduced and well-proven in many countries all over the world.

This was the reason for the International Electrotechnical Commission IEC to develop and publish an energy efficiency standard which replaces all previous national issues. In parallel IEC developed and issued a new standard for determining motor efficiency. The new standard IEC 60034-30 defines and harmonizes worldwide the efficiency classes IE1, IE2 and IE3 for low-voltage three-phase motors in the power range from 0.75 kW to 375 kW (2p=2, 4, 6):

- IE1 = Standard Efficiency**
- IE2 = High Efficiency**
- IE3 = Premium Efficiency**

From now motors can be offered and sold with the new classes IE1, IE2 and IE3. In that case the efficiency has to be determined according to the new requirements given in the IEC 60034-2-1 standard.

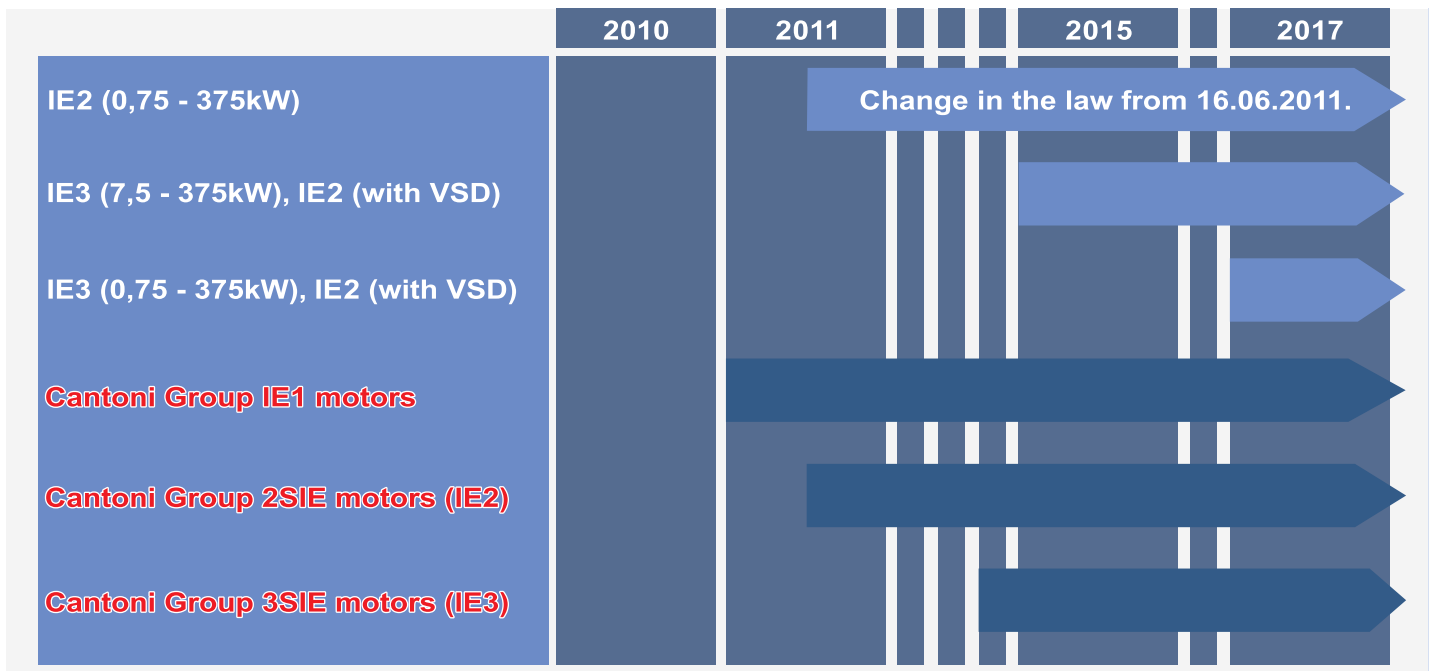
According to the Commission Regulation (EC) No 640/2009 (introduced in July 2009) the required efficiency class of general-purpose motors (introduced to the market in future) will be as follows:

*From 16 June 2011, motors placed for the first-time on the market shall have a minimum efficiency class of IE2.*

*From 1 January 2015: motors with a rated output between 7.5 - 375 kW shall have a minimum efficiency class of IE3, or IE2 if they are operated/equipped with electronic speed control (VSD).*

*From 1 January 2017: motors with a rated output between 0.75 - 375 kW shall have a minimum efficiency class of IE3, or IE2 if they are operated/equipped with electronic speed control (VSD).*

Electronic speed control is carried out using a frequency converter (VSD) that adjusts the speed of the motor - and therefore the torque produced - based on the energy needed.



Cantoni Group has offered energy efficiency motors for several years. Our motors of SEE series fulfil EFF1 standards according to CEMEP.

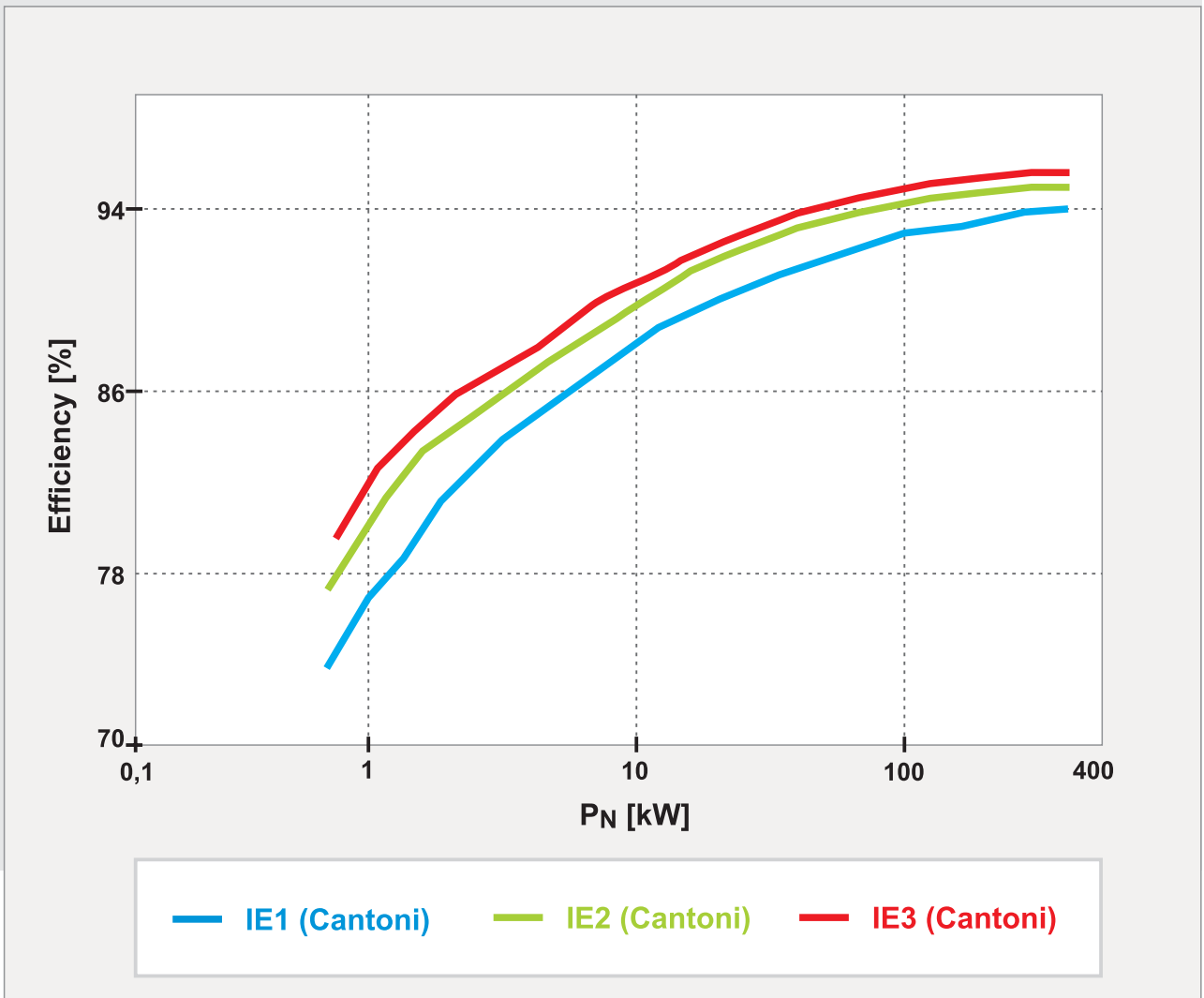
We carry out intensive research and measurement of the motors according to the new standards IEC 60034-30 and IEC 60034-2-1.

## EFFICIENCY OF MOTORS

Cantoni Motor has in offer general purpose standard efficiency motors of (2)Sg (Sh) series which fulfil IE1 class requirements according to the IEC 60034-30 standard and also 2SIE motors which belong to the efficiency class IE2 (High Efficiency).

The present catalogue describes only the electric motors which belong to the efficiency class IE3 (Premium Efficiency).

New motors in frame sizes 80 – 355 will be launched on end of 2014 year. They are optimized for 400 V, 50 Hz. These IE3 motors have the same output power / frame size ratio as the IE2 versions and most are the same length.



The efficiency class system specified under IEC 60034-30 is valid for low voltage three phase squirrel cage induction motors with the following specifications:

- Rated voltage up to 1000 V
- Rated output between 0.75 kW and 375 kW
- Either 2, 4 or 6 poles
- Rated on the basis of continuous duty (S1) or intermittent periodic duty (S3) with cyclic duration factor of 80% or higher
- Capable of operating direct on-line
- Rated for operating conditions in accordance with IEC 60034-1 (temperature, installation altitude, etc.)

Motors with flanges, feet and/or shafts with mechanical dimensions different from IEC 60072-1 are also covered by this standard.

## RATINGS - TOLERANCES

Permissible deviations between real values and catalogue values according to the IEC 60034-1:

Power factor $\cos \varphi$	$\Delta \cos \varphi = -1/6 (1 - \cos \varphi_N)$
Efficiency $\eta$	$\Delta \eta = -15\% (100 - \eta_N)$ for $P_N \leq 150 \text{ kW}$ $\Delta \eta = -10\% (100 - \eta_N)$ for $P_N > 150 \text{ kW}$
Speed $n$	$\Delta n = \pm 20\% (n_s - n_N)$ for $P_N \geq 1 \text{ kW}$ $\Delta n = \pm 30\% (n_s - n_N)$ for $P_N < 1 \text{ kW}$
Locked rotor current $I_L/I_N$	$\Delta(I_L/I_N) = +20\% (I_L/I_N)$
Locked rotor torque $T_L/T_N$	$\min (T_L/T_N) = -15\% (T_L/T_N)$ $\max (T_L/T_N) = +25\% (T_L/T_N)$
Breakdown torque $T_B/T_N$	$\Delta(T_B/T_N) = -10\% (T_B/T_N)$
Moment of inertia $J$ [kgm <sup>2</sup> ]	$\Delta J = \pm 10\% J$
Sound pressure level $L_{pA}$ [dB]	$\Delta L_{pA} = +3 \text{ dB /A}$

## STANDARDS

The electric motors are manufactured according to the international standards:

Rating and performance	IEC 60034-1
Methods for determining losses and efficiency	IEC 60034-2-1
Classification of degrees of protection	IEC 60034-5
Methods of cooling	IEC 60034-6
Symbols of construction and mounting arrangements	IEC 60034-7
Terminal markings and direction of rotation	IEC 60034-8
Noise limits	IEC 60034-9
Dimensions and output of electric machines	IEC 60072-1
Vibration limits	IEC 60034-14

### New IEC standards regarding efficiency classes (IEC 60034-30) and efficiency measurements (IEC 60034-2-1)

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

### EU Regulation 640/2009

Commission Regulation 640/2009, adapted on 22 July 2009, specifies the requirements regarding the ecodesign of electric motors and the use of electronic speed control (VSD).

IE1  
IE2  
IE3

All the motors are manufactured in Quality Assurance System consistent with ISO 9001.

ISO9001

The motors covered by the present catalogue comply with the regulations and standards effective in other countries, consistent with IEC standards.

IEC

All the motors described in the present catalogue are provided with CE mark.

CE

## INSULATION CLASSIFICATION

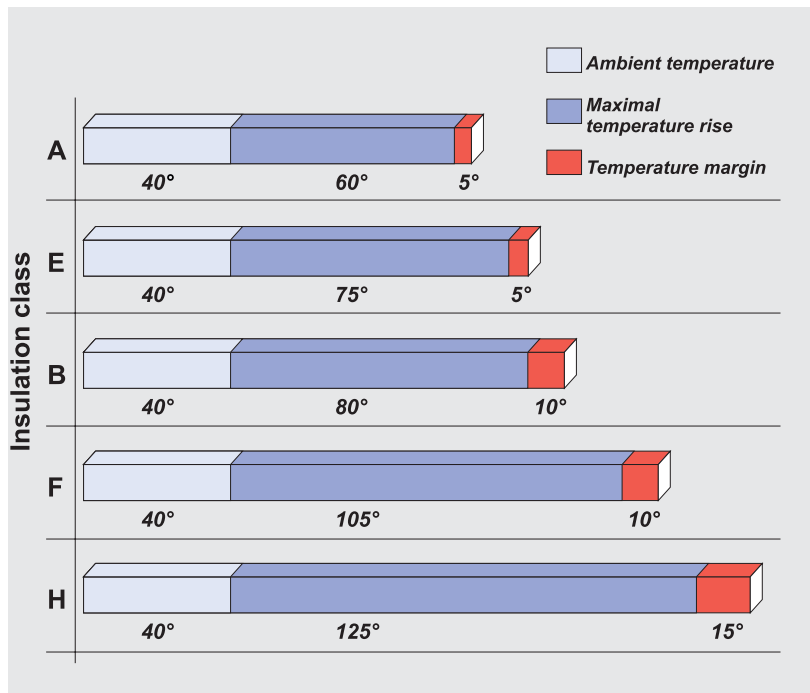
The insulation system of an electric motor is determined by a given insulation class on the basis of its thermal resistance. This thermal resistance should be guaranteed by the entire set of electric insulating materials used in the motor insulating system.

Thermal resistance classification is related to the temperature of the hotspot in the insulation occurring during rated operating conditions of the electric motor, allowing for the highest permissible rise in average temperature.

This rise should be selected so that at the highest permissible ambient temperature, the temperature of the hotspot in insulation will not exceed the value assigned to a given thermal resistance class.

Symbols of thermal resistance classes (permissible insulation temperatures at 40°C ambient temperature)

Symbol	Temperature [°C]
A	105
E	120
B	130
F	155
H	180



*Insulation class F in an electric motor means that at ambient temperature of 40°C the temperature rise of the winding may be max. 105°C with the additional temperature margin of 10°C (under specified measuring conditions in accordance with the IEC 60034-1 standard).*

## Class F

*The standard motors made by Cantoni Motor in their basic version have the insulation class F while the temperature rise is for class B. This means longer life for motors.*

*For special request we can deliver motors equipped with insulation class H.*

*Strengthened insulation system gives possibility to safe operation with converters.*

## MOTOR FEET

Motors with frame size ≤ 112 have screwed feet.  
 Motors with frame size 132 ÷ 180 have feet integrated with the motor housing or screwed feet.  
 Motors with frame size 200 ÷ 280 have feet integrated with the motor housing.  
 Motors with frame size 315 have screwed feet or feet integrated with the motor housing.  
 Motors with frame size 355 have feet integrated with the motor housing.

## TERMINAL BOX

The terminal boxes of low voltage motors have threaded inlet holes designed for mounting cable glands. The box contains a terminal board with marked terminals making possible connection of supply cables.

In addition, terminal boxes may be provided with additional terminals connected to the ends of thermal protection or anticondensation heater circuits and extra glands to connect these circuits.

Low voltage high-power motors contain terminal boxes with cable gland seals.

The circuits of thermal protection and anticondensation heaters are connected to main or separate terminal boxes.

Inside the boxes there are special clamps used to ground the supply cable armouring.

## VIBRATION LEVEL AND NOISE LEVEL

The rotor balancing method guarantees that a standard vibration level A is maintained in accordance with the IEC 60034-14 and a standard sound power level is maintained in accordance with the IEC 60034-9. On customer's demand the motors can be made with reduced vibration or noise level.


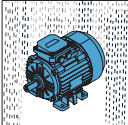
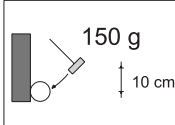

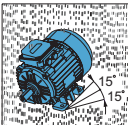
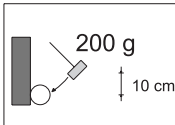
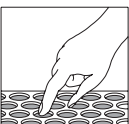
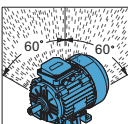
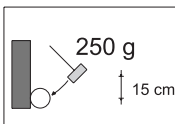
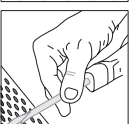
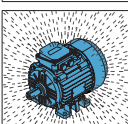
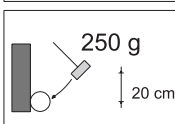


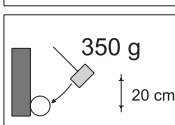
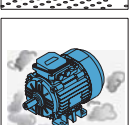

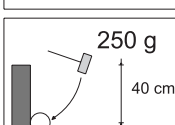
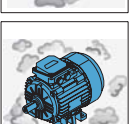
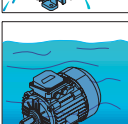
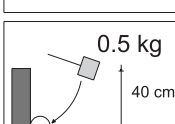
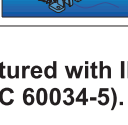
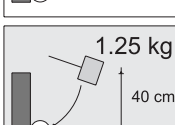
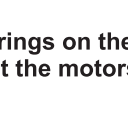
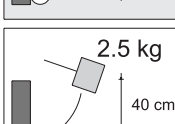
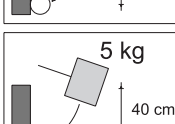
level A



**INTERNATIONAL PROTECTION IP**

**IP55**

According to the IEC 60034-5 standard the electric motors are provided with IP code which determines the degree of protection (ensured by the housing) against penetration of solid matter and fluids.

PROTECTION AGAINST PENETRATION OF SOLID MATTER		PROTECTION AGAINST PENETRATION OF FLUIDS		MECHANICAL PROTECTION	
1st digit	DESCRIPTION	2nd digit	DESCRIPTION	3rd digit	DESCRIPTION
				<b>0</b>	No protection
<b>0</b>	 Not protected	<b>0</b>	 Not protected	<b>1</b>	 Striking energy: 0.15 J
<b>1</b>	 Protected against solid bodies larger than 50 mm	<b>1</b>	 Protected against vertically falling drops of water	<b>2</b>	 Striking energy: 0.20 J
<b>2</b>	 Protected against solid bodies larger than 12 mm	<b>2</b>	 Protected against vertically falling drops of water up to 15°	<b>3</b>	 Striking energy: 0.37 J
<b>3</b>	 Protected against solid bodies larger than 2.5 mm	<b>3</b>	 Protected against rain up to 60°	<b>4</b>	 Striking energy: 0.50 J
<b>4</b>	 Protected against solid bodies larger than 1 mm	<b>4</b>	 Protected against rain falling from any direction	<b>5</b>	 Striking energy: 0.70 J
<b>5</b>	 Protected against deposition of dust	<b>5</b>	 Protected against sprayed water from any direction	<b>6</b>	 Striking energy: 1 J
<b>6</b>	 Totally protected against deposition of dust	<b>6</b>	 Protected against temporary immersion	<b>7</b>	 Striking energy: 2 J
		<b>7</b>	 Protected against immersion between 0.15 and 1 m	<b>8</b>	 Striking energy: 5 J
		<b>8</b>	 Protected against immersion at preset pressure and time	<b>9</b>	 Striking energy: 10 J
				<b>10</b>	 Striking energy: 20 J

All Cantoni Group standard motors are manufactured with IP 55 degree of protection according to the standard in force (IEC 60034-5). The following table lists its characteristics.

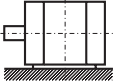
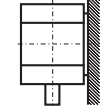
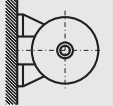
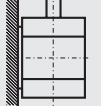
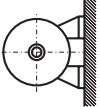
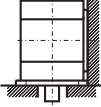
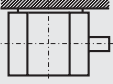
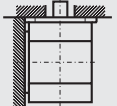
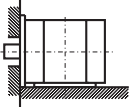
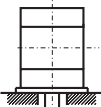
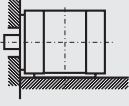
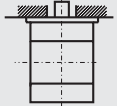

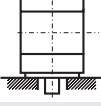
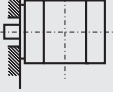
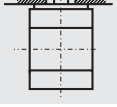
Each size 80 to 180 motor is equipped with seal rings on the control side and on the opposite side. Labyrinth seals protect the motors from size 200 and above.

The terminal board box is sealed with a gasket.

**Motors with a higher degree of protection are available on request.**

## MOUNTING ARRANGEMENTS

According to the IEC 60034-7 standard

	Horizontal shaft			Vertical shaft			
	Designation		Frame size	Designation		Frame size	
	Code II	Code I		Code II	Code I		
	IM 1001	IM B3	80 ÷ 355		IM 1011	IM V5	80 ÷ 280
	IM 1051	IM B6	80 ÷ 280		IM 1031	IM V6	80 ÷ 280
	IM 1061	IM B7	80 ÷ 280		IM 2011 or IM 2111	IM V15	80 ÷ 355
	IM 1071	IM B8	80 ÷ 280		IM 2031 or IM 2131	IM V36	80 ÷ 355
	IM 2001	IM B35	80 ÷ 355		IM 3011	IM V1	80 ÷ 355
	IM 2101	IM B34	80 ÷ 132		IM 3031	IM V3	80 ÷ 280
	IM 3001	IM B5	80 ÷ 280		IM 3611	IM V18	80 ÷ 180
	IM 3601	IM B14	80 ÷ 132		IM 3631	IM V19	80 ÷ 180

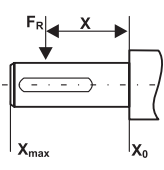
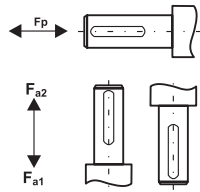
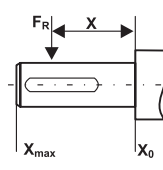
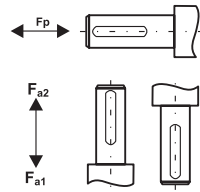
## BEARINGS

Frame size	Number of poles	Bearings	Mechanical Size	Type of construction	No. of poles, 2p	D.E. bearing	N.D.E. bearing
3SIE 80	2 ÷ 6	6204 2Z C3					
3SIE 90	2 ÷ 6	6205 2Z C3					
3SIE 100	2 ÷ 6	6206 2Z C3					
3SIE 112	2 ÷ 6	6306 2Z C3					
3SIE 132	2 ÷ 6	6308 2Z C3					
3SIE 160	2 ÷ 6	6309 2Z C3					
3SIE 180	2 ÷ 6	6311 2Z C3					
3SIE 200	2 ÷ 6	6312 C3					
3SIE 225	2 ÷ 6	6313 C3					
3SIE 250	2 ÷ 6	6315 C3					
3SIE 280	2	6315 C3					
3SIE 280	4 ÷ 6	6318 C3					
3SIE 315S,MA,MB	2	6315 C3					
3SIE 315MC	2	6316 C3					
3SIE 315S,MA,MB	4 ÷ 6	6318 C3					
3SIE 315MC,MD	4 ÷ 6	6320 C3/6318 C3					
			3SIE 355 ML	IM1001 (B3)	2	6217 C3	6217 C3
			3SIEL 355 ML	IM2001 (B35)	4 ÷ 6	6222 C3	6222 C3
			3SIEK 355 ML	IM3011 (V1)	4 ÷ 6	6322 C3	6322 C3
			3SIE 355 H	IM1001 (B3)	2	6217 C3	6217 C3
			3SIEL 355 H	IM2001 (B35)	4 ÷ 6	6322 C3	6322 C3
			3SIEK 355 H	IM3011 (V1)	4 ÷ 6	6322 C3	6322 C3

The bearings in basic version of motors for horizontal duty.

The bearings in basic version of motors for horizontal and vertical duty.

## PERMISSIBLE LOADS ON THE SHAFT END

Frame size	Number of poles	Horizontal operation		Vertical operation			Frame size	Number of poles	Horizontal operation		Vertical operation		
						$F_R(x=0)$			$F_R(x=\max)$	$F_p$	$F_{a1}$	$F_{a2}$	
		[kN]		[kN]					[kN]		[kN]		
3SIE 80	2	0,33	0,27	0,09	0,06	0,12	3SIE 225 S	4	4,20	3,40	3,20	2,40	4,10
3SIE 80	4	0,44	0,37	0,12	0,09	0,15	3SIE 225 M	2	3,30	2,80	2,50	1,90	3,30
3SIE 90	2	0,68	0,44	0,68	0,35	0,38	3SIE 225 M	4	4,00	3,20	3,10	2,30	4,20
3SIE 90	4	0,78	0,44	0,78	0,35	0,38	3SIE 225 M	6	4,60	3,70	4,00	3,00	5,30
3SIE 90	6	0,96	0,44	0,96	0,35	0,38	3SIE 250 M	2	4,10	3,40	3,10	2,30	4,10
3SIE 100	2	0,88	0,46	0,90	0,28	0,40	3SIE 250 M	4	4,90	4,10	3,90	2,70	5,40
3SIE 100	4	1,06	0,46	0,98	0,38	0,40	3SIE 250 M	6	5,90	4,90	5,00	3,80	6,60
3SIE 100	6	1,20	0,46	1,10	0,38	0,40	3SIE 280 S	2	3,90	3,30	3,10	2,00	4,40
3SIE 112	2	1,00	0,48	1,00	0,40	0,45	3SIE 280 S	4	6,70	5,70	5,00	3,60	6,80
3SIE 112	4	1,45	0,48	1,40	0,40	0,45	3SIE 280 S	6	7,80	6,60	5,80	4,30	7,70
3SIE 112	6	1,62	0,48	1,60	0,40	0,45	3SIE 280 M	2	3,80	3,20	3,00	1,90	4,50
3SIE 132	2	1,82	0,66	1,90	0,43	0,60	3SIE 280 M	4	6,20	5,20	4,90	3,20	7,00
3SIE 132	4	2,10	0,66	2,20	0,45	0,60	3SIE 280 M	6	7,70	6,50	5,70	4,20	7,80
3SIE 132	6	2,80	0,66	2,80	0,50	0,60	3SIE 315 S	2	3,60	3,10	3,00	1,60	4,70
3SIE 160	2	2,22	0,98	2,30	0,92	0,95	3SIE 315 S	4	5,80	4,80	4,70	2,70	7,30
3SIE 160	4	2,40	0,98	2,40	0,92	0,95	3SIE 315 S	6	7,20	6,00	5,60	3,60	8,10
3SIE 160	6	2,85	1,10	2,90	0,98	1,00	3SIE 315 MA	2	3,10	2,60	2,80	1,20	4,90
3SIE 180	2	2,92	1,30	3,00	1,10	1,20	3SIE 315 MB	2	2,70	2,30	2,70	0,90	5,00
3SIE 180	4	3,60	1,30	3,60	1,10	1,30	3SIE 315 MA	4	5,40	4,50	4,60	2,40	7,50
3SIE 180	6	4,00	1,80	4,10	1,40	1,70	3SIE 315 MB	4	5,20	4,30	4,60	2,20	7,60
3SIE 200 LA	2	2,90	2,40	2,20	1,70	2,90	3SIE 315 MA	6	6,70	5,70	5,50	3,20	8,40
3SIE 200 LB	2	2,90	2,40	2,20	1,70	2,90	3SIE 315 MB	6	6,30	5,30	5,30	2,70	8,80
3SIE 200 L	4	3,60	3,00	2,80	2,10	3,70	3SIE 315 MC	2	2,80	2,50	2,70	0,60	5,40
3SIE 200 LA	6	4,30	3,60	3,60	2,90	4,60	3SIE 315 MC	4	6,50	5,50	4,40	1,70	7,90
3SIE 200 LB	6	4,20	3,50	3,60	2,80	4,70	3SIE 315 MC	6	7,60	6,40	5,10	1,90	9,20
							3SIE 315 MD	6	7,50	6,30	5,00	1,80	9,20

### VERSION WITH ROLLER BEARINGS for motors 355

Mechanical Size	Type of construction	No. of poles, 2p	D.E. bearing	N.D.E. bearing
3SIE 355 ML	IM1001 (B3)	4 ÷ 6	NU222 EM1C3	6222 C3
3SIE 355 H	IM1001 (B3)	4 ÷ 6	NU322 EM1C3	6322 C3

Horizontal mounting					
			Permissible radial forces		Permissible axial forces
			$F_{X0}$	$F_{Xmax}$	$F_A$
Motor type	Number of poles	Length of shaft extension E(mm)	kN	kN	kN
3SIE 355 ML	4	210	22	18	5
	6	210	23	15	5,5
3SIE 355 H	4	210	27	17	6
	6	210	29	15	7

Value of radial force  $F_R$  acting on the shaft end for a given belt pulley diameter is calculated according to the following formula:

$$F_R = \frac{19600 \times P \times k}{D_K \times n} \quad [N]$$

where: P - motor output [kW]  
 $D_K$  - belt pulley diameter [m]  
 n - speed [rpm]  
 k - belt tension factor:  
 for V-belts  $k=2,2$   
 for flat belts  $k=3$

Value of force  $F_R$  acting on any point of the shaft end (between points  $X=\max$  and  $X=0$ ) may be calculated according to the following formula:

$$F_R = F_{X0} - \frac{X}{E} \times (F_{X0} - F_{XMAX}) \quad [N]$$

where:  $F_{X0}$  - value of  $F_R$  force acting on the beginning of the shaft end  
 $F_{XMAX}$  - value of  $F_R$  force acting on the end of the shaft end  
 E - length of the shaft end

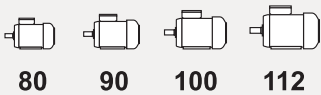
## HOUSING, END SHIELDS, FEET

Frame size [mm]	Motor housing	End shields	Feet
80	Aluminium	Aluminium	Aluminium - screwed
90	Aluminium	Aluminium	Aluminium - screwed
100	Aluminium	Aluminium	Aluminium - screwed
112	Aluminium	Cast iron	Aluminium - screwed
132	Cast iron	Cast iron	Cast iron - integrated or screwed
160	Cast iron	Cast iron	Cast iron - integrated or screwed
180	Cast iron	Cast iron	Cast iron - integrated or screwed
200	Cast iron	Cast iron	Cast iron - integrated
225	Cast iron	Cast iron	Cast iron - integrated
250	Cast iron	Cast iron	Cast iron - integrated
280	Cast iron	Cast iron	Cast iron - integrated
315	Cast iron	Cast iron	Cast iron - screwed or integrated
355	Cast iron	Cast iron	Cast iron - integrated

In motors series 3SIE of frame size 80 and 90mm: on request end shields may be made of cast iron.

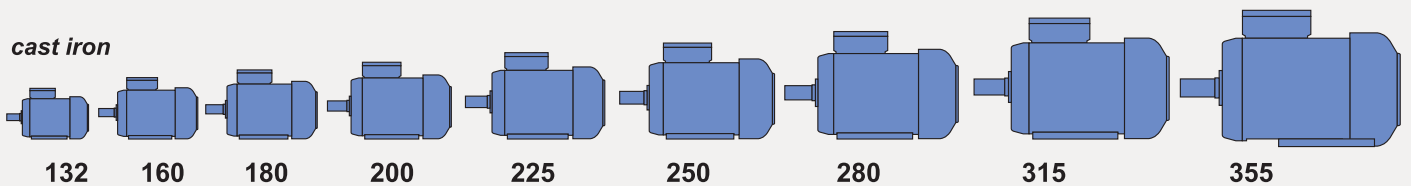
### Motor housing

#### aluminium



aluminium cast iron

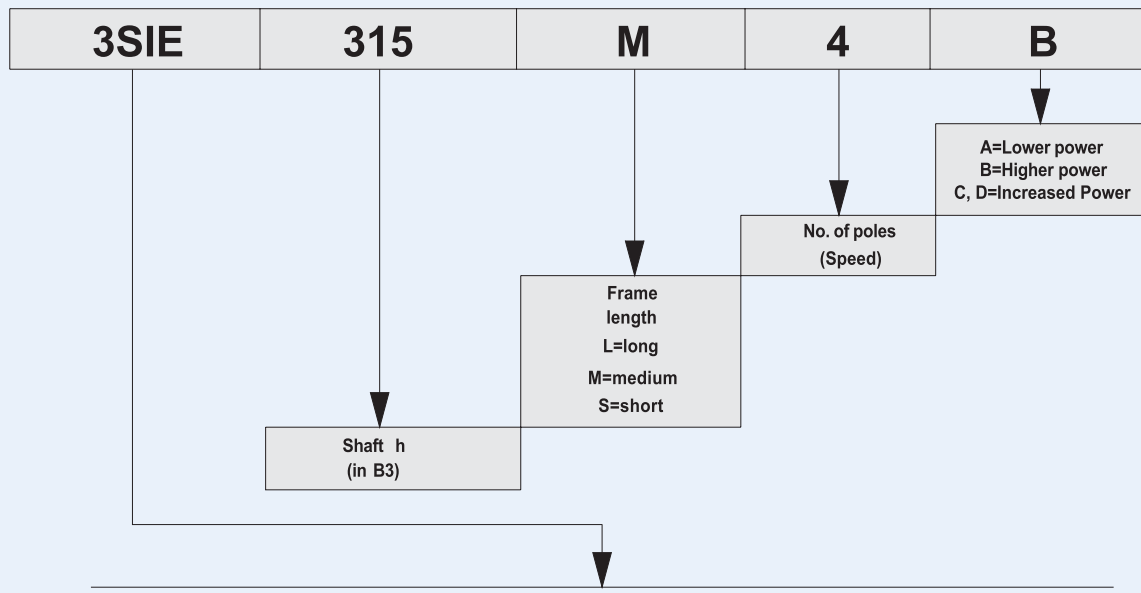
#### cast iron



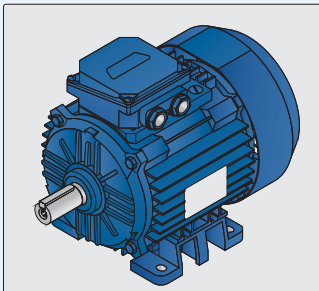
Other specifications dependent on the frame size:

Frame size	Degree of protection	Position of the terminal box	Number of terminals	Number of cable outlets	Optional rotation of the terminal box	Glands	Temperature sensors in winding	Bearing lubrication on the run	Thermal protection of bearings
80	IP 55	top	6	1	180°	M 20	on request	no	no
90	IP 55	top	6	2	180°	M 20	on request	no	no
100	IP 55	top	6	2	180°	M 20	on request	no	no
112	IP 55	top	6	2	180°	M 25	on request	no	no
132	IP 55	top	6	2	180°	M 25	on request	no	no
160	IP 55	top	6	2	180°	M 40	on request	on request	on request
180	IP 55	top	6	2	180°	M 40	on request	on request	on request
200	IP 55	top	6	2 + 1	4 × 90°	M 50+M 16	PTC	yes	on request
225	IP 55	top	6	2 + 1	4 × 90°	M 50+M 16	PTC	yes	on request
250	IP 55	top	6	2 + 1	4 × 90°	M 63+M 16	PTC	yes	on request
280	IP 55	top	6	2 + 1	4 × 90°	M 63+M 16	PTC	yes	on request
315	IP 55	top	6	2 + 1	4 × 90°	M 76+M 16	PTC	yes	on request
355ML	IP 55	top	6	2	4 × 90°	M 76	PTC Mark A	yes	on request
355H	IP 55	top	6	2	4 × 90°	M 90	Pt 100	yes	Pt 100

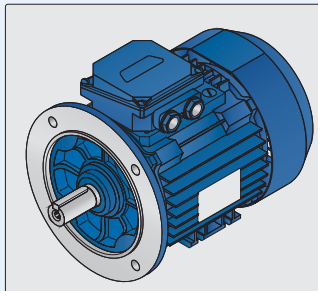
DESCRIPTION OF THE CATALOGUE VERSION



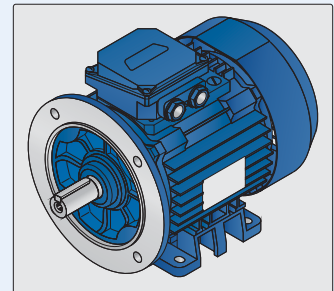
3SIE



3SIEK



3SIEL



ORDERING INFORMATION

Orders for motors should specify:

- motor type designation,
- rated output,
- rated speed,
- operating duty,
- supply voltage and connection,
- frequency,
- mounting arrangements, end shield material,
- degree of protection,
- type of machine driven,
- other details of regarding special requests,

and information concerning additional accessories e.g.

- thermal protection,
- anticondensation heaters,
- vibration sensors,
- etc.

When ordering high-power or special purpose motors one should also indicate:

- required direction of rotation,
- required degree of interior protection,
- method of start-up,
- method of coupling with the driven unit (gears, dimensions of belt pulleys, etc.),
- type of machine driven (nature of load), including the moment of inertia J or flywheel effect GD<sup>2</sup> brought to the motor shaft,
- other customer's specifications.

When ordering spare parts one should specify:

- full designation of the motor type including its serial number (provided on the nameplate) or catalogue number,
- degree of protection,
- mounting arrangement,
- name of part,
- number of pieces.

As part of our development program, we reserve the right to alter or amend any of the specifications without giving prior notice

**PREMIUM EFFICIENCY IE3**

TECHNICAL DATA

Item	Type	Rated output		Rated speed $n_N$ [min <sup>-1</sup> ]	Rated torque $T_N$ [Nm]	Efficiency			Power factor $\cos \varphi_N$ [-]	Full load current			Locked rotor torque $T_L/T_N$ [-]	Locked rotor current $I_L/I_N$ [-]	Breakdown torque $T_B/T_N$ [-]	Moment of Inertia J [kgm <sup>2</sup> ]	Weight [kg]
		$P_N$				$\eta_N$ [%]	$I_N$ at rated voltage [A]										
		[kW]	[HP]				50%	75%		100%	230V	400V					
<b>2p=2      <math>n_s=3000</math> rpm      f=50Hz</b>																	
1	3SIE 80-2A	0,75	1	2850	2,51	79,0	82,0	82,0	0,82	2,9	1,7	-	3,8	6,3	3,8	0,00100	10,6
2	3SIE 80-2B	1,1	1,5	2840	3,7	82,0	83,0	83,0	0,86	3,8	2,2	-	3,7	6,9	3,8	0,00142	11,9
3	3SIE 90S2	1,5	2	2880	5	82,8	84,5	84,2	0,81	5,5	3,2	1,8	3,5	8,0	3,6	0,0014	13,9
4	3SIE 90L2	2,2	3	2900	7,3	84,3	85,8	85,9	0,80	8,0	4,6	2,7	4,0	8,8	4,2	0,0019	19,4
5	3SIE 100L2	3	4	2920	9,8	86,2	87,7	87,1	0,85	10,2	5,8	3,4	3,2	9,3	3,4	0,0039	26,7
6	3SIE 112M2	4	5,5	2930	13	88,1	88,8	88,1	0,89	12,8	7,4	4,3	3,0	9,5	3,2	0,0075	41,0
7	3SIE 132S2A	5,5	7,5	2940	17,9	87,7	89,2	89,2	0,89	17,4	10,0	5,8	2,8	8,8	3,6	0,014	59,5
8	3SIE 132S2B	7,5	10	2940	24,4	89,0	90,3	90,1	0,90	23,2	13,3	7,7	3,0	9,2	3,7	0,017	71
9	3SIE 160M2A	11	15	2945	35,7	89,7	91,0	91,2	0,90	33,6	19,3	11,2	2,2	7,3	3,2	0,048	103
10	3SIE 160M2B	15	20	2945	48,6	89,8	91,9	91,9	0,90	45,5	26,2	15,2	2,2	7,4	3,3	0,059	118
11	3SIE 160L2	18,5	25	2940	60,1	92,2	92,8	92,4	0,90	55,8	32,1	18,6	2,3	7,7	3,0	0,072	132
12	3SIE 180M2	22	30	2955	71,1	92,1	92,9	92,7	0,90	66,2	38,1	22,1	3,2	9,2	3,7	0,095	190
13	3SIE 200L2A	30	40	2965	97	93,1	93,7	93,5	0,90	89	51	29,8	2,4	7,0	2,8	0,19	275
14	3SIE 200L2B	37	50	2955	120	93,5	93,8	93,7	0,90	110	63	36,5	2,2	6,3	2,6	0,20	295
15	3SIE 225M2	45	60	2972	145	94,2	94,6	94,2	0,88	136	78	45	2,0	6,7	2,6	0,26	385
16	3SIE 250M2	55	75	2969	177	94,5	94,8	94,5	0,91	161	92	54	2,2	6,9	2,9	0,42	495
17	3SIE 280S2	75	100	2978	241	94,2	94,8	94,7	0,91	218	126	73	1,8	6,7	2,9	0,76	660
18	3SIE 280M2	90	125	2979	289	94,5	95,1	95,0	0,91	261	150	87	1,8	7,3	3,1	0,95	690
19	3SIE 315S2	110	150	2978	353	95,4	95,6	95,2	0,92	315	181	105	1,9	6,9	2,9	0,98	865
20	3SIE 315M2A	132	175	2977	423	95,8	95,9	95,6	0,92	377	217	126	2,0	7,3	2,7	1,28	970
21	3SIE 315M2B	160	220	2978	513	95,9	96,1	95,8	0,92	456	262	152	2,2	8,2	3,1	1,57	1118
22	3SIE 315M2C	200	270	2980	641	95,9	96,1	95,8	0,93	-	324	188	2,3	8,1	3,1	1,74	1185
23	3SIE 355 ML2A	250	340	2982	801	94,8	95,7	95,8	0,91	-	414	239	1,9	6,8	2,8	2,80	1620
24	3SIE 355 ML2B	315	430	2982	1009	95,5	96,1	96,2	0,91	-	519	300	2,0	7,3	2,9	3,00	1700
25	3SIE 355 H2D	355	480	2985	1136	95,2	96,0	96,2	0,91	-	585	338	1,8	7,5	2,8	4,90	2160
<b>2p=4      <math>n_s=1500</math> rpm      f=50Hz</b>																	
26	3SIE 80-4B	0,75	1	1430	5,0	81,5	82,0	82,5	0,64	3,6	2,1	-	3,8	5,7	3,8	0,00265	11,0
27	3SIE 90S4	1,1	1,5	1440	7,3	80,2	83,5	84,1	0,74	4,4	2,6	1,5	2,9	6,8	3,3	0,0036	18,0
28	3SIE 90L4	1,5	2	1450	9,9	79,2	85,0	85,3	0,76	5,8	3,3	1,9	2,5	6,4	2,8	0,0040	20,5
29	3SIE 100L4A	2,2	3	1455	14,4	84,4	86,4	86,7	0,80	8,0	4,6	2,7	3,0	8,5	3,3	0,0076	27,5
30	3SIE 100L4B	3	4	1450	19,8	86,3	88,0	87,7	0,76	11,3	6,5	3,8	3,7	8,6	4,2	0,0086	33,0
31	3SIE 112M4	4	5,5	1460	26,2	87,6	88,9	88,6	0,79	14,3	8,3	4,8	2,5	8,1	3,5	0,0115	39,0
32	3SIE 132S4	5,5	7,5	1470	35,7	88,6	89,8	89,6	0,85	18,1	10,4	6,0	2,5	8,5	3,4	0,036	73,5
33	3SIE 132M4	7,5	10	1465	49,1	90,4	91,0	90,4	0,83	25,1	14,4	8,4	2,6	8,8	3,5	0,042	82
34	3SIE 160M4	11	15	1470	71,5	89,8	91,3	91,4	0,83	36,4	20,9	12,1	2,3	7,3	2,8	0,088	127
35	3SIE 160L4	15	20	1475	97,1	90,8	92,1	92,1	0,83	49,3	28,3	16,4	2,8	8,1	3,2	0,104	135
36	3SIE 180M4	18,5	25	1480	120,2	90,4	92,1	92,6	0,85	59,0	33,9	19,7	2,6	7,9	3,0	0,162	190
37	3SIE 180L4	22	30	1475	142,4	90,5	92,5	93,0	0,83	71,5	41,1	23,8	3,2	8,4	3,4	0,185	200
38	3SIE 200L4	30	40	1477	194	94,2	94,3	93,8	0,89	90	52	30	2,1	6,4	2,6	0,380	329
39	3SIE 225S4	37	50	1485	238	94,1	94,4	94,0	0,87	114	65	38	2,0	6,9	2,8	0,510	373
40	3SIE 225M4	45	60	1483	290	94,4	94,8	94,3	0,88	136	78	45	2,1	7,1	2,7	0,590	410
41	3SIE 250M4	55	75	1487	353	94,0	94,8	94,7	0,90	162	93	54	2,5	7,6	2,9	1,00	520
42	3SIE 280S4	75	100	1488	481	93,9	95,0	95,0	0,91	218	125	73	2,0	6,8	2,5	1,37	710
43	3SIE 280M4	90	125	1491	576	94,9	95,5	95,4	0,89	266	153	89	2,6	8,4	3,0	1,80	761

**PREMIUM EFFICIENCY IE3**

Item	Type	Rated output		Rated speed	Rated torque	Efficiency			Power factor	Full load current			Locked rotor torque	Locked rotor current	Breakdown torque	Moment of Inertia	Weight
		P <sub>N</sub>				η <sub>N</sub>	T <sub>N</sub>	η <sub>N</sub> [%]			I <sub>N</sub> at rated voltage [A]						
		[kW]	[HP]	[min <sup>-1</sup> ]	[Nm]	50%	75%	100%	cos φ <sub>N</sub>	230V	400V	690V	[-]	[-]	[-]	[kgm <sup>2</sup> ]	[kg]
		<b>2p=4</b>			<b>n<sub>S</sub>=1500 rpm</b>				<b>f=50Hz</b>								
44	3SIE 315S4	110	150	1488	706	95,1	95,5	95,4	0,90	322	185	107	2,0	6,6	2,4	2,25	920
45	3SIE 315M4A	132	175	1489	847	95,6	95,9	95,6	0,91	381	219	127	2,3	7,9	2,8	2,59	1030
46	3SIE 315M4B	160	220	1490	1026	95,9	96,1	95,8	0,90	466	268	155	2,4	8,5	3,1	2,80	1130
47	3SIE 315M4C	200	270	1488	1284	95,8	96,2	96,2	0,90	-	333	193	2,4	8,1	2,9	3,46	1205
48	3SIE 355 ML4A	250	340	1489	1603	95,6	96,1	96,1	0,89	-	422	244	2,0	7,4	2,3	5,30	1700
49	3SIE 355 ML4B	315	430	1489	2020	96,0	96,4	96,3	0,90	-	525	303	2,3	7,5	2,5	6,40	1830
50	3SIE 355 H4D	355	480	1488	2278	96,1	96,4	96,3	0,88	-	605	349	1,7	6,4	2,2	7,80	2200
		<b>2p=6</b>			<b>n<sub>S</sub>=1000 rpm</b>				<b>f=50Hz</b>								
51	3SIE 90S6	0,75	1	930	7,7	75,9	79,2	78,9	0,69	3,5	2,0	1,2	2,8	4,8	3,2	0,0032	18,2
52	3SIE 90L6	1,1	1,5	950	11,1	78,2	81,3	81,0	0,73	4,7	2,7	1,6	2,4	5,5	2,7	0,0090	20
53	3SIE 100L6	1,5	2	950	15,1	80,5	82,8	82,5	0,71	6,4	3,7	2,1	2,4	5,5	2,6	0,0100	22
54	3SIE 112M6	2,2	3	965	21,8	81,3	84,1	84,3	0,63	10,4	6,0	3,5	2,2	5,5	3,3	0,0177	36
55	3SIE 132S6	3	4	965	29,7	84,9	86,1	85,6	0,81	10,9	6,2	3,6	2,0	6,3	2,6	0,0440	62
56	3SIE 132M6A	4	5,5	965	39,8	86,0	87,2	86,8	0,81	14,3	8,2	4,8	2,2	6,5	3,0	0,0579	72
57	3SIE 132M6B	5,5	7,5	965	54,4	87,6	88,4	88,0	0,81	19,4	11,1	6,5	2,4	7,0	3,5	0,0637	80
58	3SIE 160M6	7,5	10	970	73,8	89,0	89,9	89,5	0,82	25,7	14,8	8,6	2,1	6,8	2,9	0,1020	120
59	3SIE 160L6	11	15	970	108,3	89,6	90,5	90,3	0,82	37,3	21,4	12,4	2,2	7,0	3,0	0,1230	139
60	3SIE 180L6	15	20	980	146,2	90,0	91,3	91,2	0,81	60,0	29,3	17,0	3,3	7,3	2,8	0,2760	198
61	3SIE 200L6A	18,5	25	988	179	91,3	92,0	91,7	0,81	63	36	20,8	2,0	5,8	2,4	0,50	285
62	3SIE 200L6B	22	30	987	213	91,7	92,2	92,2	0,82	73	42	24,3	2,0	5,7	2,1	0,64	309
63	3SIE 225M6	30	40	989	290	92,3	92,9	92,9	0,83	98	56	32,5	1,9	6,4	2,3	0,89	392
64	3SIE 250M6	37	50	991	357	92,2	93,4	93,3	0,82	121	70	40	2,0	6,7	2,6	1,23	440
65	3SIE 280S6	45	60	993	433	92,9	93,8	93,7	0,81	149	86	50	2,3	7,3	2,6	1,70	635
66	3SIE 280M6	55	75	992	529	93,8	94,4	94,1	0,82	179	103	60	2,3	6,8	2,6	1,90	695
67	3SIE 315S6	75	100	992	722	94,6	95,0	94,7	0,82	242	139	81	2,4	7,1	2,6	2,40	900
68	3SIE 315M6A	90	125	993	866	95,1	95,4	95,1	0,82	290	167	97	2,6	7,6	2,7	2,93	965
69	3SIE 315M6B	110	150	992	1059	95,2	95,6	95,2	0,82	354	203	118	2,8	7,5	2,8	3,46	1110
70	3SIE 315M6C	132	175	992	1271	95,4	95,8	95,4	0,83	-	241	139	2,5	7,0	2,5	4,21	1230
71	3SIE 315M6D	160	220	992	1540	95,2	95,7	95,6	0,78	-	310	180	3,3	8,0	2,7	4,36	1235
72	3SIE 355 ML6A	200	270	989	1931	95,3	95,9	95,8	0,86	-	350	202	2,0	7,1	2,3	7,20	1740
73	3SIE 355 ML6B	250	340	990	2412	95,5	96,0	95,8	0,86	-	438	253	2,1	7,2	2,4	8,60	1950
74	3SIE 355 H6C	315	430	992	3033	96,0	96,3	96,1	0,86	-	550	318	2,0	7,1	2,2	12,70	2390
75	3SIE 355 H6D	355	480	991	3421	95,9	96,3	96,1	0,86	-	620	358	1,9	7,0	2,3	13,60	2500

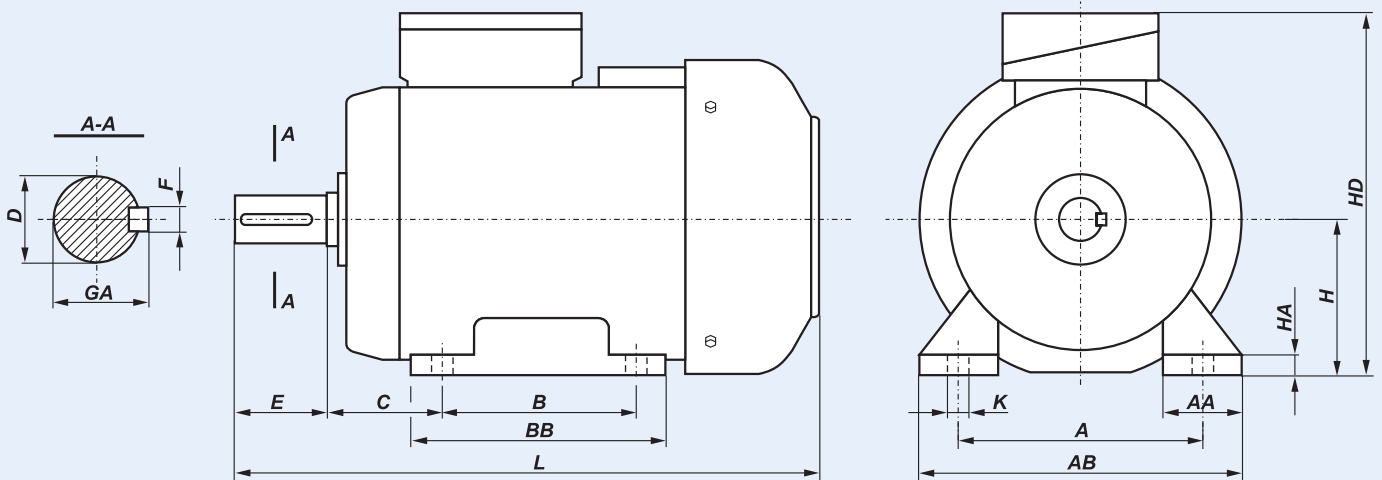
TECHNICAL DATA

As part of our development program the technical specifications indicated may change, and we reserve the right to alert or to amend any of this specifications without giving prior notice.

In any such instance, you will find any possible change on our web-site: [www.cantonigroup.com](http://www.cantonigroup.com)

**FOOT MOUNTED MOTORS - IM B3**

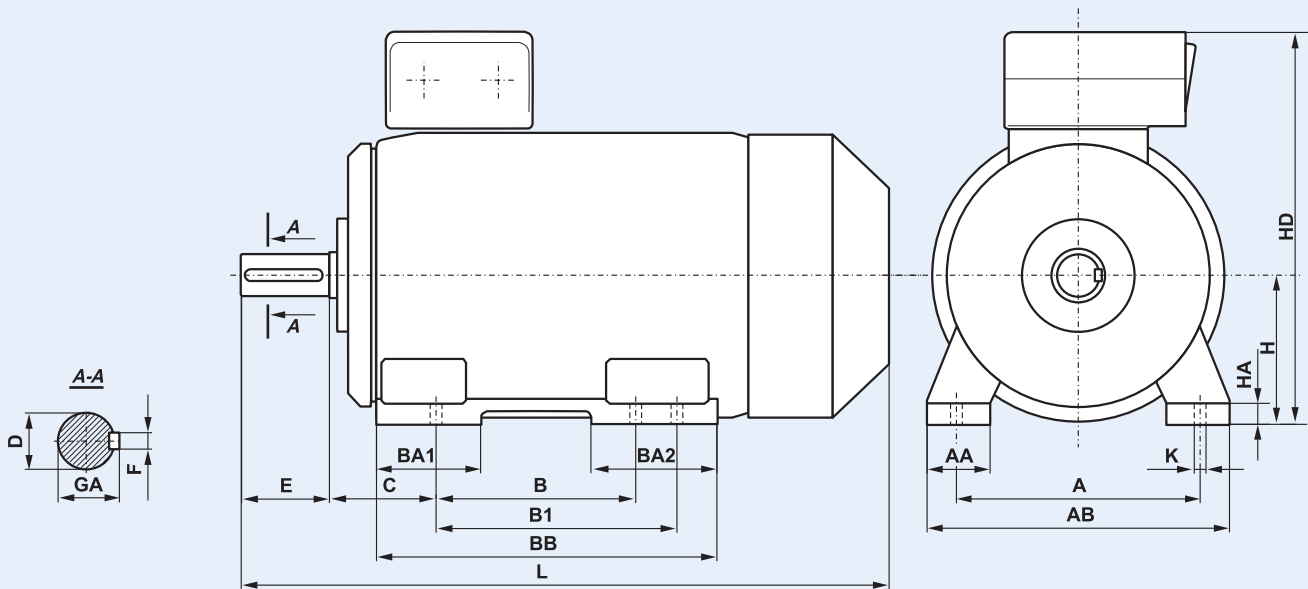
DIMENSIONAL DRAWINGS



Motor type	A	B	C	D	E	F	GA	H	K	AA	AB	BB	HA	HD	L
3SIE 80-A	125	100	50	19j6	40	6h9	21,5	80	10	55	160	130	9	199	278
3SIE 80-B	125	100	50	19j6	40	6h9	21,5	80	10	55	160	130	9	199	306
3SIE 90S-2	140	100	56	24j6	50	8h9	27	90	10	41	170	153	10	228	331
3SIE 90L-2,6	140	125	56	24j6	50	8h9	27	90	10	41	170	153	10	228	356
3SIE 90S-4,6	140	125	56	24j6	50	8h9	27	90	10	41	170	153	10	228	356
3SIE 90L-4	140	125	56	24j6	50	8h9	27	90	10	41	170	153	10	228	376
3SIE 100L-2,6	160	140	63	28j6	60	8h9	31	100	12	44	197	174	14	250	377
3SIE 100L-4A,4B	160	140	63	28j6	60	8h9	31	100	12	44	197	174	14	250	421
3SIE 112M-2,4,6	190	140	70	28j6	60	8h9	31	112	12	49	230	174	14	276	416
3SIE 132S	216	140	89	38k6	80	10h9	41	132	12	61	266	220	18	329	512
3SIE 132M	216	178	89	38k6	80	10h9	41	132	12	61	266	220	18	329	512
3SIE 160M	254	210	108	42k6	110	12h9	45	160	15	81	320	300	25	383	643
3SIE 160L	254	254	108	42k6	110	12h9	45	160	15	81	320	300	25	383	643
3SIE 180M-2,4	279	241	121	48k6	110	14h9	51,5	180	15	92	353	320	27	414	758
3SIE 180L-4,6	279	279	121	48k6	110	14h9	51,5	180	15	92	353	320	27	414	758



FOOT MOUNTED MOTORS - IM B3

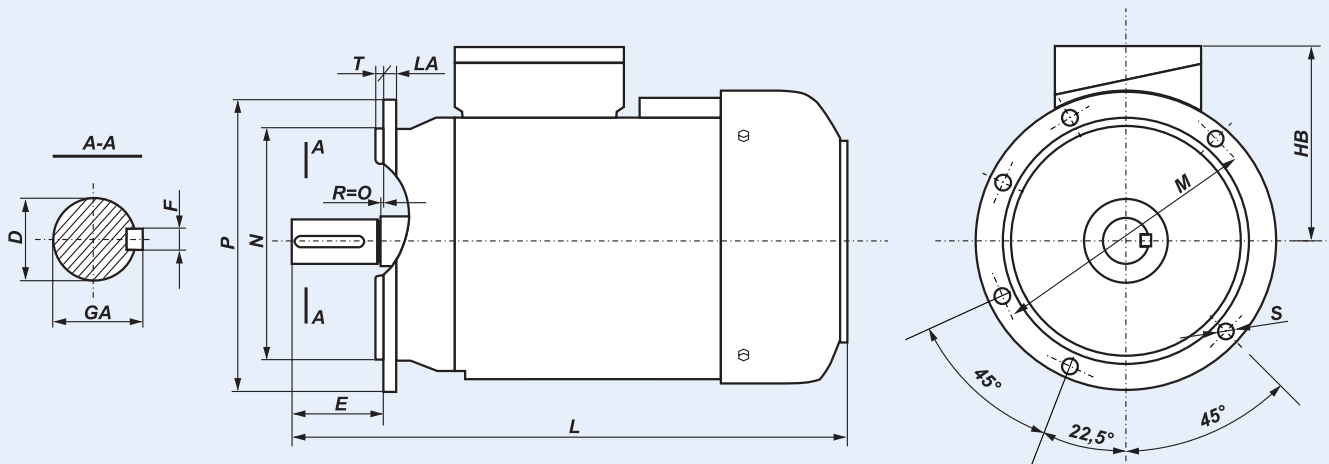


Motor type	A	B	B1	C	D	E	F	GA	H	HA	K	AA	AB	BA1	BA2	BB	HD	L
3SIE200	318	305	-	133	55	110	16	59	200	32	19	80	400	113	113	380	520	850
3SIE225S4	356	286	311	149	60	140	18	64	225	34	19	85	440	115	115	380	570	930
3SIE225M2	356	286	311	149	55	110	16	59	225	34	19	85	440	115	115	380	570	900
3SIE225M4-6	356	286	311	149	60	140	18	64	225	34	19	85	440	115	115	380	570	930
3SIE250M2	406	349	-	168	60	140	18	64	250	37	24	90	480	135	135	445	635	1010
3SIE250M4-6	406	349	-	168	65	140	18	69	250	37	24	90	480	135	135	445	635	1040
3SIE280S2	457	368	419	190	65	140	18	69	280	40	24	105	550	130	165	520	720	1135
3SIE280S4-6	457	368	419	190	75	140	20	79,5	280	40	24	105	550	130	165	520	720	1135
3SIE280M2	457	368	419	190	65	140	18	69	280	40	24	105	550	130	165	520	720	1135
3SIE280M4-6	457	368	419	190	75	140	20	79,5	280	40	24	105	550	130	165	520	720	1135
3SIE315S2	508	406	457	216	65	140	18	69	315	48	28	120	610	160	160	565	805	1235
3SIE315S4-6	508	406	457	216	80	170	22	85	315	48	28	120	610	160	160	565	805	1265
3SIE315M2A;B	508	406	457	216	65	140	18	69	315	48	28	120	610	160	160	565	805	1235
3SIE315M4A;B;6A	508	406	457	216	80	170	22	85	315	48	28	120	610	160	160	565	805	1265
3SIE280M6B	508	406	457	216	80	170	22	85	315	48	28	135	610	135	205	600	805	1355
3SIE315M2C	508	406	457	216	70	140	20	74,5	315	48	28	135	610	135	205	600	805	1290
3SIE315M4C	508	406	457	216	80	170	22	85	315	48	28	135	610	135	205	600	805	1320
3SIE315M6C	508	406	457	216	80	170	22	85	315	48	28	135	610	135	205	600	805	1320
3SIE315M6D	508	406	457	216	90	170	25	95	315	48	28	135	610	135	205	600	805	1320
3SIE 355 ML (2)	610	560	630	254	80	170	22	85	355	50	28	150	720	250	300	890	935	1580
3SIE 355 ML (4, 6)	610	560	630	254	100	210	28	106	355	50	28	150	720	250	300	890	935	1620
3SIE 355 H (2)	610	900	-	200	70	140	20	74,5	355	45	28	160	730	265	265	1045	995	1800
3SIE 355 H (4, 6)	610	900	-	200	100	210	28	106	355	45	28	160	730	265	265	1045	995	1870

DIMENSIONAL DRAWINGS

FLANGE MOUNTED MOTORS - IM B5, IM V1

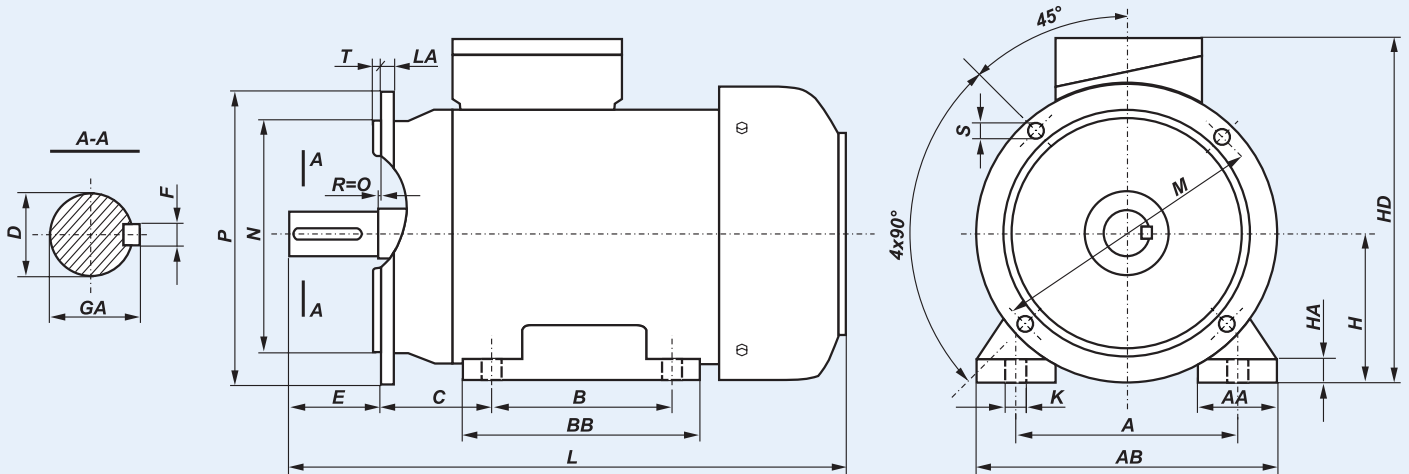
DIMENSIONAL DRAWINGS



Motor type	D	E	F	GA	M	N	P	LA	T	HB	L	S (φ)	S (holes)
3SIEK 80-A	19j6	40	6h9	21,5	165	130j6	200	10	3,5	119	278	12	4
3SIEK 80-B	19j6	40	6h9	21,5	165	130j6	200	10	3,5	119	306	12	4
3SIEK 90S-2	24j6	50	8h9	27	165	130j6	200	8	3,5	139	331	12	4
3SIEK 90L-2,6	24j6	50	8h9	27	165	130j6	200	8	3,5	139	356	12	4
3SIEK 90S-4,6	24j6	50	8h9	27	165	130j6	200	8	3,5	139	356	12	4
3SIEK 90L-4	24j6	50	8h9	27	165	130j6	200	8	3,5	139	376	12	4
3SIEK 100L-2,6	28j6	60	8h9	31	215	180j6	250	11	4	150	377	15	4
3SIEK 100L-4A,4B	28j6	60	8h9	31	215	180j6	250	11	4	150	421	15	4
3SIEK 112M-2,4,6	28j6	60	8h9	31	215	180j6	250	12	4	165	416	15	4
3SIEK 132S	38k6	80	10h9	41	265	230j6	300	12	4	197	512	15	4
3SIEK 132M	38k6	80	10h9	41	265	230j6	300	12	4	197	512	15	4
3SIEK 160M	42k6	110	12h9	45	300	250j6	350	13	5	223	643	19	4
3SIEK 160L	42k6	110	12h9	45	300	250j6	350	13	5	223	643	19	4
3SIEK 180M-2,4	48k6	110	14h9	51,5	300	250j6	350	13	5	234	758	19	4
3SIEK 180L-4,6	48k6	110	14h9	51,5	300	250j6	350	13	5	234	758	19	4
3SIEK 200	55	110	16	59	350	300	400	16,5	5	320	850	19	4
3SIEK 225S4	60	140	18	64	400	350	450	18	5	345	930	19	8
3SIEK 225M2	55	110	16	59	400	350	450	18	5	345	900	19	8
3SIEK 225M4-6	60	140	18	64	400	350	450	18	5	345	930	19	8
3SIEK 250M2	60	140	18	64	500	450	550	23	5	385	1010	19	8
3SIEK 250M4-6	65	140	18	69	500	450	550	23	5	385	1040	19	8
3SIEK 280S2	65	140	18	69	500	450	550	23	5	440	1135	19	8
3SIEK 280S4-6	75	140	20	79,5	500	450	550	23	5	440	1135	19	8
3SIEK 280M2	65	140	18	69	500	450	550	23	5	440	1135	19	8
3SIEK 280M4-6	75	140	20	79,5	500	450	550	23	5	440	1135	19	8
3SIEK 315S2*	65	140	18	69	600	550	660	23	6	490	1235	24	8
3SIEK 315S4-6*	80	170	22	85	600	550	660	23	6	490	1265	24	8
3SIEK 315M2A;B*	65	140	18	69	600	550	660	23	6	490	1235	24	8
3SIEK 315M4A;B;6A*	80	170	22	85	600	550	660	23	6	490	1265	24	8
3SIEK 315M6B*	80	170	22	85	600	550	660	23	6	490	1355	24	8
3SIEK 315M2C*	70	140	20	74,5	600	550	660	23	6	490	1290	24	8
3SIEK 315M4C*	80	170	22	85	600	550	660	23	6	490	1320	24	8
3SIEK 315M6C*	80	170	22	85	600	550	660	23	6	490	1320	24	8
3SIEK 315M6D*	90	170	25	95	600	550	660	23	6	490	1320	24	8
3SIEK 355 ML (4 - 6)*	100m6	210	28h9	106	740	680	800	24	6	580	1620	22	8
3SIEK 355 H (4 - 6)*	100m6	210	28h9	106	740	680	800	24	6	638	1955	22	8

\* only in vertical position IM V1

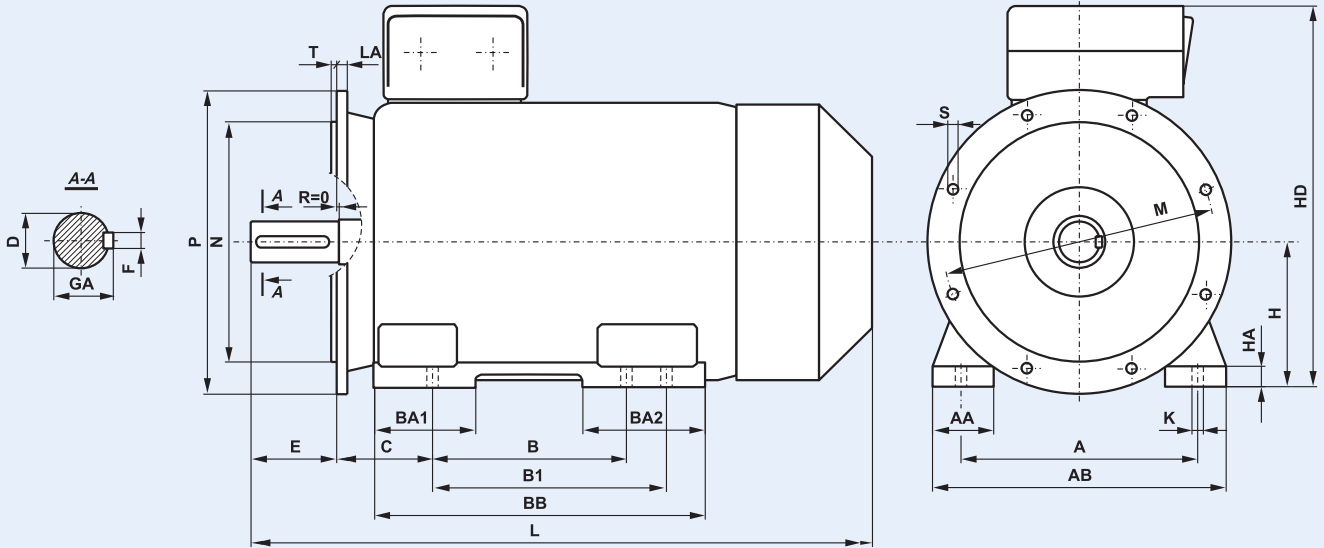
FOOT/FLANGE MOUNTED MOTORS - IM B35



Motor type	A	B	C	D	E	F	GA	H	K	M	N	P	S	LA	T	AA	AB	BB	HA	HD	L
3SIEL 80-A	125	100	50	19j6	40	6h9	21,5	80	10	165	130j6	200	12	10	3,5	55	160	130	9	200	278
3SIEL 80-B	125	100	50	19j6	40	6h9	21,5	80	10	165	130j6	200	12	10	3,5	55	160	130	9	200	306
3SIEL 90S-2	140	100	56	24j6	50	8h9	27	90	10	165	130j6	200	12	8	3,5	41	170	153	10	228	331
3SIEL 90L-2,6	140	125	56	24j6	50	8h9	27	90	10	165	130j6	200	12	8	3,5	41	170	153	10	228	356
3SIEL 90S-4,6	140	100	56	24j6	50	8h9	27	90	10	165	130j6	200	12	8	3,5	41	170	153	10	228	356
3SIEL 90L-4	140	100	56	24j6	50	8h9	27	90	10	165	130j6	200	12	8	3,5	41	170	153	10	228	376
3SIEL 100L-2,6	160	140	63	28j6	60	8h9	31	100	12	215	180j6	250	15	11	4	44	197	174	14	250	377
3SIEL 100L-4A,4B	160	140	63	28j6	60	8h9	31	100	12	215	180j6	250	15	11	4	44	197	174	14	250	421
3SIEL 112M-2,4,6	190	140	70	28j6	60	8h9	31	112	12	215	180j6	250	15	12	4	49	230	174	14	276	416
3SIEL 132S	216	140	89	38k6	80	10h9	41	132	12	265	230j6	300	15	12	4	61	266	220	18	329	512
3SIEL 132M	216	178	89	38k6	80	10h9	41	132	12	265	230j6	300	15	12	4	61	266	220	18	329	512
3SIEL 160M	254	210	108	42k6	110	12h9	45	160	15	300	250j6	350	19	13	5	81	320	200	25	383	643
3SIEL 160L	254	254	108	42k6	110	12h9	45	160	15	300	250j6	350	19	13	5	81	320	300	25	383	643
3SIEL 180M	279	241	121	48k6	110	14h9	51,5	180	15	300	250j6	350	19	13	5	92	353	320	27	414	758
3SIEL 180L	279	279	121	48k6	110	14h9	51,5	180	15	300	250j6	350	19	13	5	92	353	320	27	414	758

DIMENSIONAL DRAWINGS

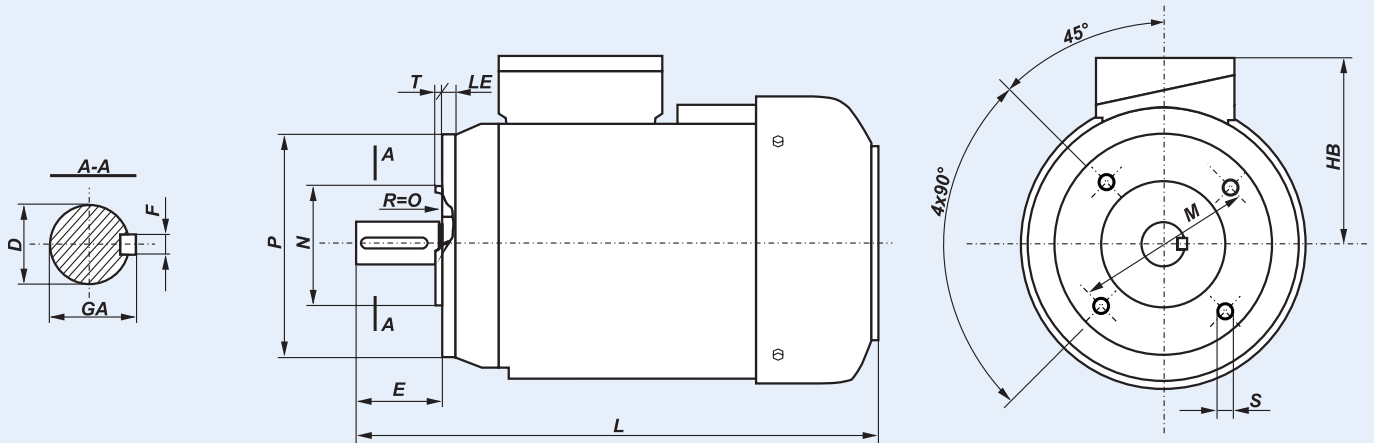
FOOT/FLANGE MOUNTED MOTORS - IM B35



DIMENSIONAL DRAWINGS

Motor type	A	B	B1	C	D	E	F	GA	H	HA	K	AA	AB	BA1	BA2	BB	HD	LA	P	M	N	T	L	S ( $\phi$ )	S (holes)
3SIEL 200	318	305	-	133	55	110	16	59	200	32	19	80	400	113	113	380	520	16,5	400	350	300	5	850	19	4
3SIEL 225S4	356	286	311	149	60	140	18	64	225	34	19	85	440	115	115	380	570	18	450	400	350	5	930	19	8
3SIEL 225M2	356	286	311	149	55	110	16	59	225	34	19	85	440	115	115	380	570	18	450	400	350	5	900	19	8
3SIEL 225M4-6	356	286	311	149	60	140	18	64	225	34	19	85	440	115	115	380	570	18	450	400	350	5	930	19	8
3SIEL 250M2	406	349	-	168	60	140	18	64	250	37	24	90	480	135	135	445	635	23	550	500	450	5	1010	19	8
3SIEL 250M4-6	406	349	-	168	65	140	18	69	250	37	24	90	480	135	135	445	635	23	550	500	450	5	1040	19	8
3SIEL 280S2	457	368	419	190	65	140	18	69	280	40	24	105	550	130	165	520	720	23	550	500	450	5	1135	19	8
3SIEL 280S4-6	457	368	419	190	75	140	20	79,5	280	40	24	105	550	130	165	520	720	23	550	500	450	5	1135	19	8
3SIEL 280M2	457	368	419	190	65	140	18	69	280	40	24	105	550	130	165	520	720	23	550	500	450	5	1135	19	8
3SIEL 280M4-6	457	368	419	190	75	140	20	79,5	280	40	24	105	550	130	165	520	720	23	550	500	450	5	1135	19	8
3SIEL 315S2	508	406	457	216	65	140	18	69	315	48	28	120	610	160	160	565	805	23	660	600	550	6	1235	24	8
3SIEL 315S4-6	508	406	457	216	80	170	22	85	315	48	28	120	610	160	160	565	805	23	660	600	550	6	1265	24	8
3SIEL 315M2A;B	508	406	457	216	65	140	18	69	315	48	28	120	610	160	160	565	805	23	660	600	550	6	1235	24	8
3SIEL 315M4A;B;6A	508	406	457	216	80	170	22	85	315	48	28	120	610	160	160	565	805	23	660	600	550	6	1265	24	8
3SIEL 315M6B	508	406	457	216	80	170	22	85	315	48	28	135	610	135	205	600	805	23	660	600	550	6	1355	24	8
3SIEL 315M2C	508	406	457	216	70	140	20	74,5	315	48	28	135	610	135	205	600	805	23	660	600	550	6	1290	24	8
3SIEL 315M4C	508	406	457	216	80	170	22	85	315	48	28	135	610	135	205	600	805	23	660	600	550	6	1320	24	8
3SIEL 315M6C	508	406	457	216	80	170	22	85	315	48	28	135	610	135	205	600	805	23	660	600	550	6	1320	24	8
3SIEL 315M6D	508	406	457	216	90	170	25	95	315	48	28	135	610	135	205	600	805	23	660	600	550	6	1320	24	8
3SIEL 355 ML (2)	610	560	630	254	80	170	22	85	355	50	28	150	720	250	300	890	935	24	800	740	680	6	1580	22	8
3SIEL 355 ML (4,6)	610	560	630	254	100	210	28	106	355	50	28	150	720	250	300	890	935	24	800	740	680	6	1620	22	8
3SIEL 355 H (2)	610	900	-	254	70	140	20	74,5	355	45	28	160	730	265	265	1045	995	24	800	740	680	6	1854	22	8
3SIEL 355 H (4,6)	610	900	-	254	100	210	28	106	355	45	28	160	730	265	265	1045	995	24	800	740	680	6	1924	22	8

FLANGE MOUNTED MOTORS - IM B14

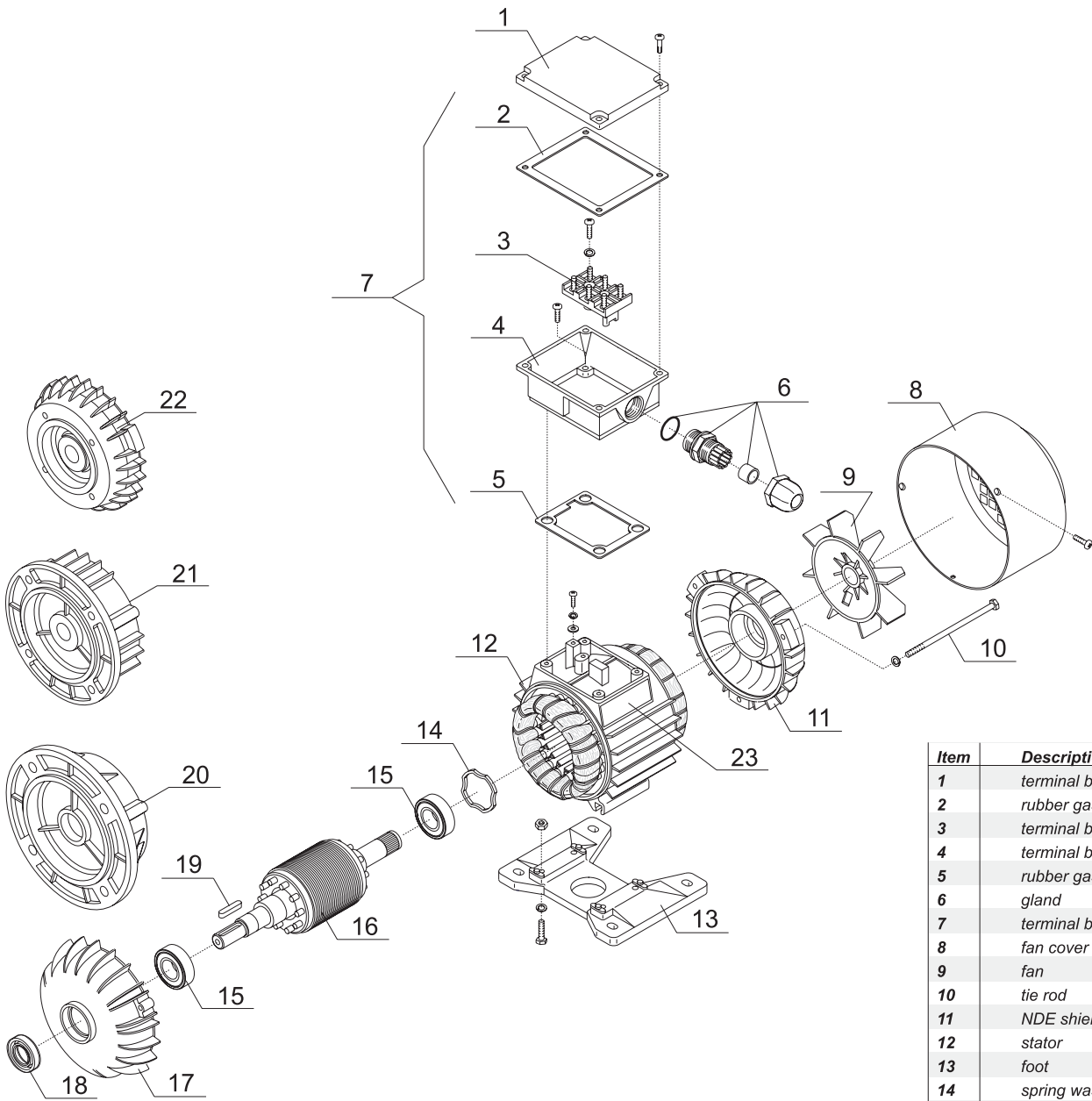


Motor type	Flange	D	E	F	GA	M	N	P	S	T	LE	HB	L
3SIEK 80- .A1	B14/C1	19j6	40	6h9	21,5	130	110j6	160	M8	3,5	14	119	278
3SIEK 80- .A2	B14/C2	19j6	40	6h9	21,5	100	80j6	120	M6	3	12	119	306
3SIEK 80- .B1	B14/C1	19j6	40	6h9	21,5	130	110j6	160	M8	3,5	14	119	278
3SIEK 80- .B2	B14/C2	19j6	40	6h9	21,5	100	80j6	120	M6	3	12	119	306
3SIEK 90S 2	B14/C1	24j6	50	8h9	27	130	110j6	160	M8	3,5	10	139	331
3SIEK 90S 2	B14/C2	24j6	50	8h9	27	115	95j6	140	M8	3	10	139	331
3SIEK 90L 2,6	B14/C1	24j6	50	8h9	27	130	110j6	160	M8	3,5	10	139	356
3SIEK 90L 2,6	B14/C2	24j6	50	8h9	27	115	95j6	140	M8	3	10	139	356
3SIEK 90S 4,6	B14/C1	24j6	50	8h9	27	130	110j6	160	M8	3,5	10	139	356
3SIEK 90S 4,6	B14/C2	24j6	50	8h9	27	115	95j6	140	M8	3	10	139	356
3SIEK 90L 4	B14/C1	24j6	50	8h9	27	130	110j6	160	M8	3,5	10	139	376
3SIEK 90L 4	B14/C2	24j6	50	8h9	27	115	95j6	140	M8	3	10	139	376
3SIEK 100L2,6	B14/C1	28j6	60	8h9	31	165	130j6	200	M10	3,5	12	150	377
3SIEK 100L2,6	B14/C2	28j6	60	8h9	31	130	110j6	160	M8	3,5	12	150	377
3SIEK 100L4A,4B	B14/C1	28j6	60	8h9	31	165	130j6	200	M10	3,5	12	150	421
3SIEK 100L4A,4B	B14/C2	28j6	60	8h9	31	130	110j6	160	M8	3,5	12	150	421
3SIEK 112M2,4,6	B14/C1	28j6	60	8h9	31	165	130j6	200	M10	3,5	12	165	416
3SIEK 112M2,4,6	B14/C2	28j6	60	8h9	31	130	110j6	160	M8	3,5	12	165	416
3SIEK 132S	B14/C1	38k6	80	10h9	41	215	180j6	250	M12	4	12	197	512
3SIEK 132S	B14/C2	38k6	80	10h9	41	165	130j6	200	M10	3,5	12	197	512
3SIEK 132M	B14/C1	38k6	80	10h9	41	215	180j6	250	M12	4	12	197	512
3SIEK 132M	B14/C2	38k6	80	10h9	41	165	130j6	200	M10	3,5	12	197	512

DIMENSIONAL DRAWINGS

Frame Size: 80

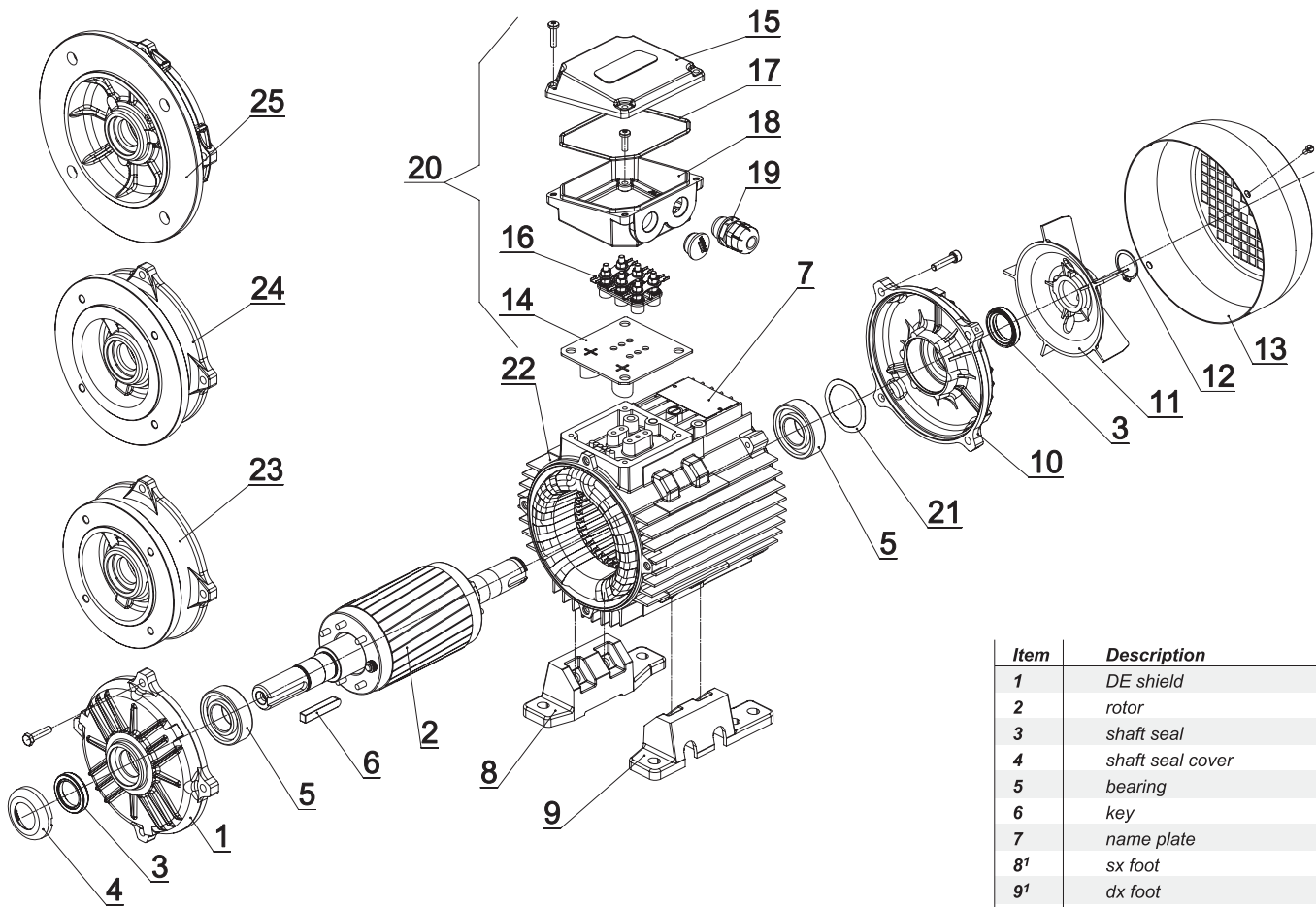
LIST OF MOTOR PARTS



Item	Description
1	terminal box cover
2	rubber gasket
3	terminal board
4	terminal box
5	rubber gasket
6	gland
7	terminal box complete
8	fan cover
9	fan
10	tie rod
11	NDE shield
12	stator
13	foot
14	spring washer
15	bearing
16	rotor
17	DE shield
18	shaft seal
19	key
20	flange B5
21	flange B14/C1
22	flange B14/C2
23	name plate

DE - drive end  
NDE - non drive end

Frame Size: 90÷180

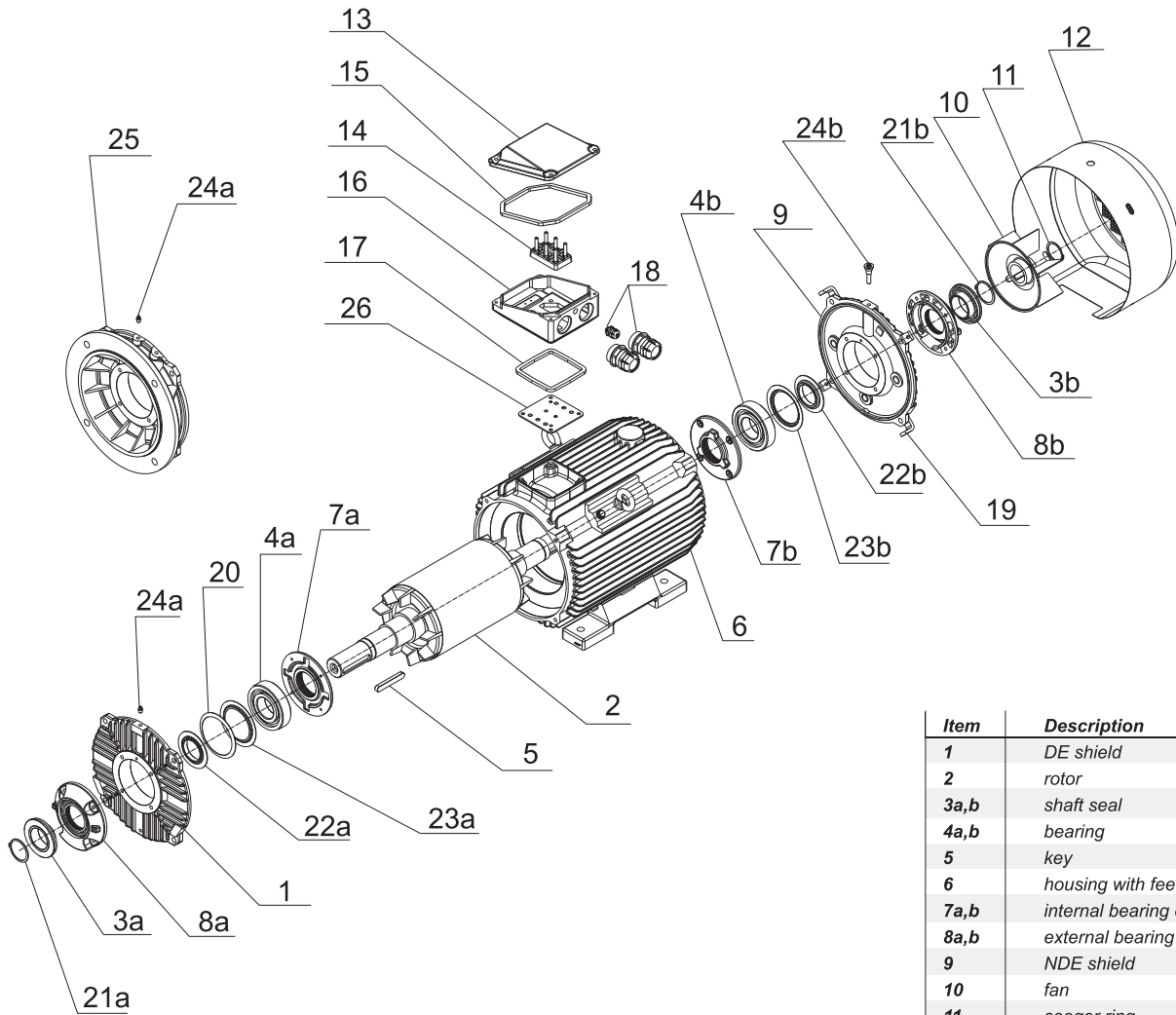


Item	Description
1	DE shield
2	rotor
3	shaft seal
4	shaft seal cover
5	bearing
6	key
7	name plate
8 <sup>1</sup>	sx foot
9 <sup>1</sup>	dx foot
10	NDE shield
11	fan
12	seeger ring
13	fan cover
14	rubber gasket
15	terminal box cover
16	terminal board
17	rubber gasket
18	terminal box
19	glands
20	terminal box complete
21	spring washer
22	stator
23 <sup>2</sup>	flange B14/C2
24 <sup>2</sup>	flange B14/C1
25	flange B5

DE - drive end  
NDE - non drive end

1 - for frame size 132 - 180 feet can be screwed or integrated with the motor housing.  
2 - only for frame size 90 - 132.

Frame Size: 200÷355



LIST OF MOTOR PARTS

Item	Description
1	DE shield
2	rotor
3a,b	shaft seal
4a,b	bearing
5	key
6	housing with feet
7a,b	internal bearing cap
8a,b	external bearing cap
9	NDE shield
10	fan
11	seeger ring
12	fan cover
13	terminal box cover
14	terminal board
15	rubber gasket
16	terminal box housing
17	rubber gasket
18	cable glands
19	fan cover support
20	spring washer
21a,b	seeger ring
22a,b	grease shield
23a,b	bearing internal ring
24a,b	grease nipple
25	flange B5
26	rubber gasket

DE - drive end  
NDE - non drive end



## PRODUCTION PROGRAM

### GENERAL PURPOSE 3-PHASE INDUCTION MOTORS

### GENERAL PURPOSE 1-PHASE INDUCTION MOTORS

### HIGH VOLTAGE INDUCTION MOTORS

- Totally enclosed motors IP55
- Totally enclosed motors for power engineering IP55
- Open drip proof motors IP23

### MOTORS WITH INCREASED RATED OUTPUT

### MOTORS WITH FOREIGN COOLING

- Motors with foreign cooling IP54 (IP55)
- Motors with foreign cooling IP20

### 3-PHASE INDUCTION MOTORS FOR PUMPS

- Standard motors for pumps
- Explosion-proof motors for pumps
- Explosion-proof marine motors for pumps

### MOTORS TO BE BUILT-IN

- 1-phase motors to be built-in
- 3-phase motors to be built-in

### BRAKE MOTORS

- Brake motors (with DC brake)
- Brake motors (with AC brake)

### EXPLOSION-PROOF MOTORS

- Increased safety motors
- Flame-proof motors
- Flame-proof marine motors
- Special purpose flame-proof motors for mining
- Special purpose flame-proof motors for chemical industry
- Special purpose flame-proof marine motors
- High voltage flame-proof motors

### MOTORS FOR AXIAL-FLOW FANS

- 1-phase motors for axial-flow fans
- 3-phase motors for axial-flow fans
- 3-phase motors for axial-flow mining fans
- 3-phase explosion-proof motors for air duct axial-flow fans
- 3-phase marine motors for axial-flow fans
- 3-phase explosion-proof marine motors for axial-flow fans
- 3-phase multi-speed motors for axial-flow fans
- 3-phase multi-speed motors for air duct axial-flow fans

## PRODUCTION PROGRAM

### MULTI-SPEED MOTORS

- General purpose 2-speed motors
- General purpose multi-speed motors

### MARINE MOTORS

- General purpose marine motors
- Marine motors for pumps
- Marine motors for axial-flow fans
- Marine motors for boat davits
- Marine motors for tubular rudders
- General purpose explosion-proof marine motors
- Explosion-proof marine motors for pumps
- Explosion-proof marine motors for axial-flow fans

### SLIP RING INDUCTION MOTORS

- Totally enclosed (IP 54, 55) wound rotor induction motors
- Open drip proof (IP 23) wound rotor induction motors

### CRANE MOTORS

- Squirrel cage crane motors
- Slip ring rotor crane motors
- Two-speed crane motors with brake

### SPECIAL PURPOSE INDUCTION MOTORS

- Motors with increased slip
- Roller table motors for iron and steel industry
- 1-phase motors with shaft height 65 mm
- 3-phase motors with shaft height 65 mm

### NEMA MOTORS ACCORDING TO EPACT AND NEMA PREMIUM REQUIREMENTS

### ACCESSORIES

- DC electromagnetic disc brakes
- AC electromagnetic disc brakes
- Powder brakes and clutches
- Thrustors



**CANTONI**  
**MOTOR**

