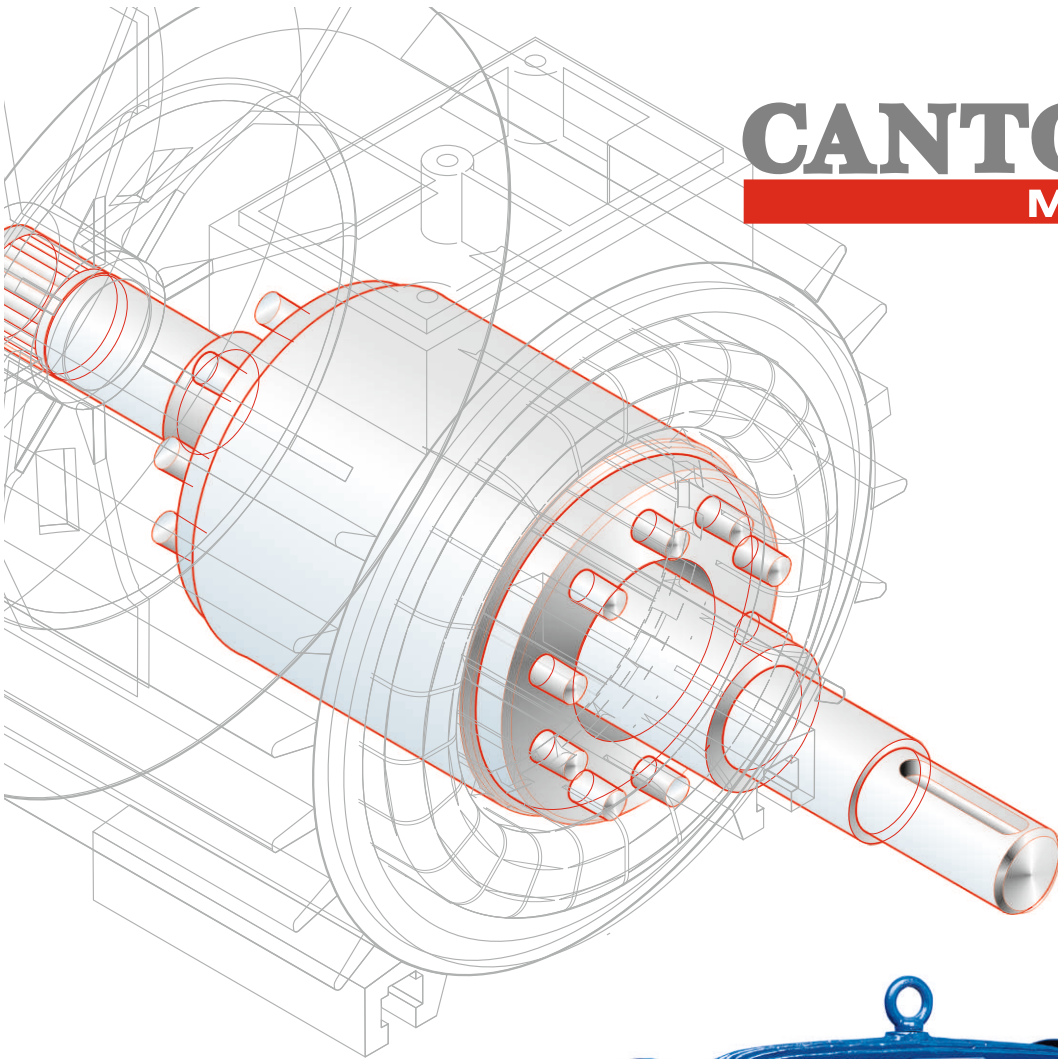
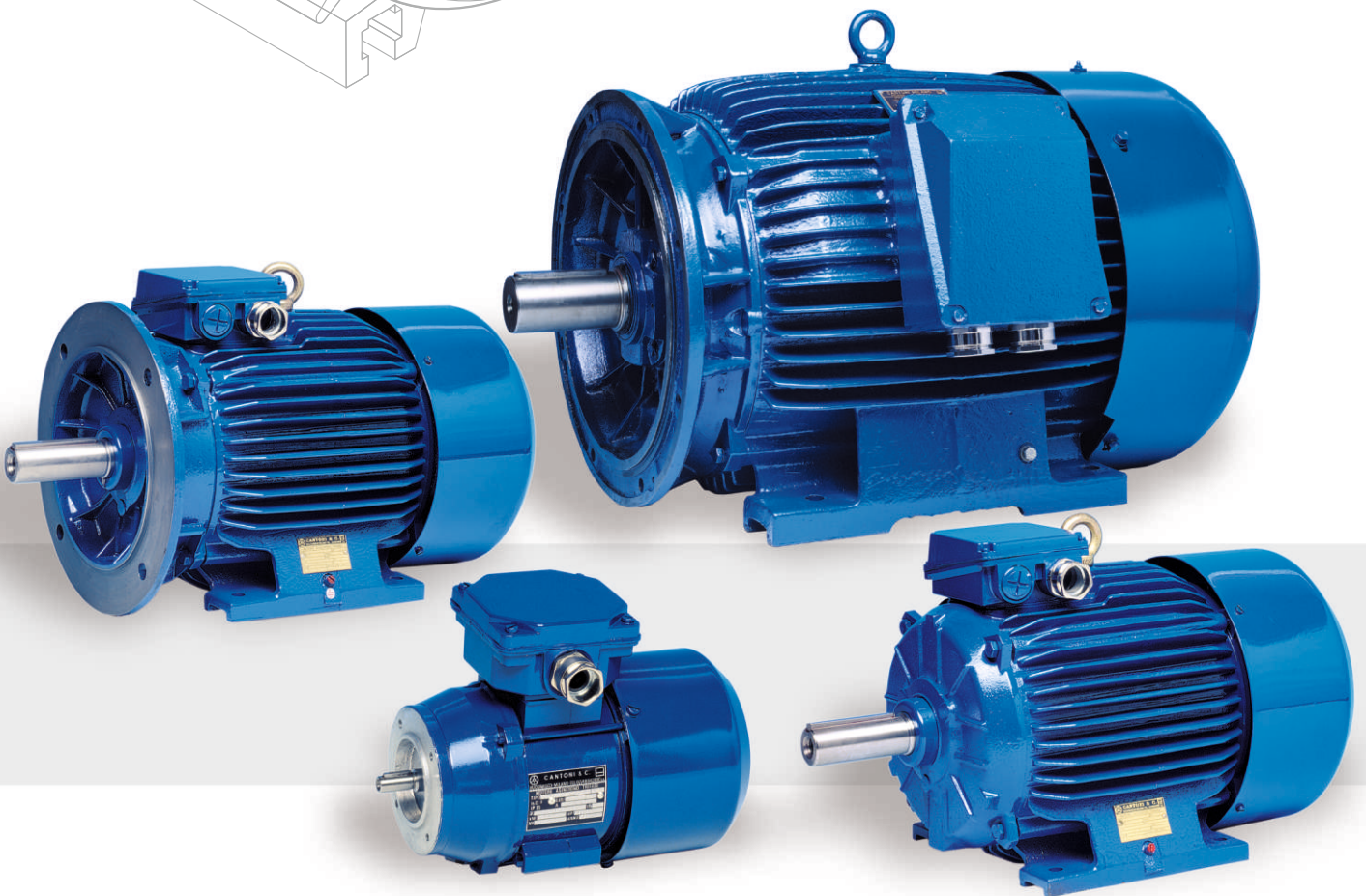


**CANTONI**  
**MOTOR**



**General  
Purpose  
3-Phase  
Induction  
Motors**



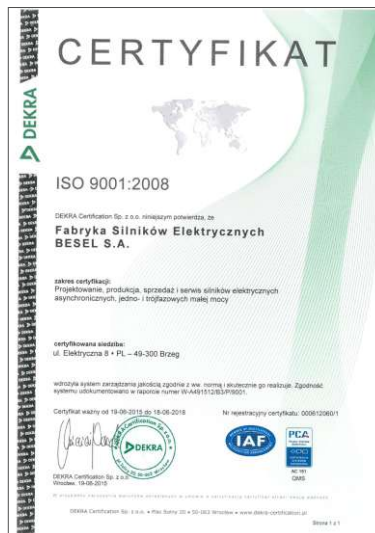
**Product Catalogue**

Certificates

**Cantoni Motor SA**  
 ISO 9001  
 Since September 30, 1999



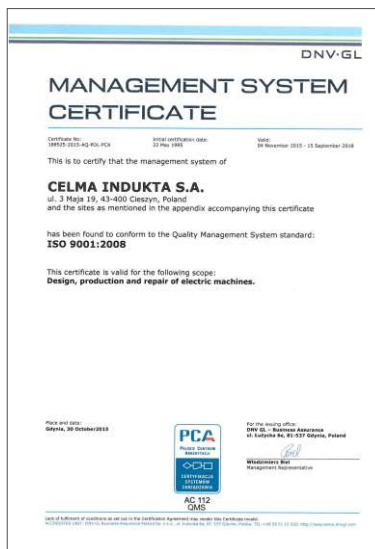
**Besel SA**  
 ISO 9001  
 Since July 21, 1995



**Celma Indukta SA**  
 ISO 9001  
 Since April 1, 1993

ISO 14001  
 Since November 15, 1999

**Emit SA**  
 ISO 9001:2008  
 ISO 14001:2004  
 Since January 23, 2012



**Cantoni**®  
GROUP



since 1950



**CELMA**  
**indukta**

since 1920

since 1878



since 1921



Contents

**General information**

**pages 5-12**

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*Description of the customised version*

*Ratings-tolerances*

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*Degree of protection*

*Insulation classification*

*Mounting arrangements*

*Motor feet*

*Terminal box*

*Vibration and acoustic level*

*Housing, endshields*

*Permissible loading on the shaft end*

*Bearings*

*Cooling system*

*Ordering information*

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## DESCRIPTION OF THE CATALOGUE VERSION

Duty:	S1
Rated voltage:	380V, 400V, 690V ( $\Delta/Y$ )
Frequency:	50 Hz
Ambient temperature:	+ 40°C
Mounting height:	up to 1000 m above sea level
Number of free shaft ends:	1
Insulation class:	F
Bearings:	according to page 12

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 system	Thermal protection of bearings
Sh 56	IP 55	top	6	1	180°	M 20	on request	no	no
Sh 63	IP 55	top	6	1	180°	M 20	on request	no	no
Sh 71	IP 55	top	6	1	180°	M 20	on request	no	no
Sh 80	IP 55	top	6	1	180°	M 20	on request	no	no
Sh 90	IP 55	top	6	2	180°	M 20	on request	no	no
Sg 100	IP 55	top	6	2	180°	M 20	on request	no	no
Sg 112	IP 55	top	6	2	180°	M 25	on request	no	no
Sg 132	IP 55	top	6	2	180°	M 25	on request	no	no
Sg 160	IP 55	top	6	2	180°	M 40	on request	on request	on request
Sg 180	IP 55	top	6	2	180°	M 40	on request	on request	on request
2Sg 200	IP 55	right	6	2+1	4 × 90°	M 50	PTC	yes	on request
2Sg 225	IP 55	right	6	2+1	4 × 90°	M 50	PTC	yes	on request
2Sg 250	IP 55	right	6	2+1	4 × 90°	M 63	PTC	yes	on request
2Sg 280	IP 55	right	6	2+1	4 × 90°	M 63	PTC	yes	on request
2Sg 315	IP 55	right	6	2+1	4 × 90°	M 76	PTC	yes	on request
SEE 315	IP 55	top	6	2	4 × 90°	M 76	PTC	yes	on request
Sg 355	IP 55	right	6	2	4 × 90°	M 76	PTC Mark A	yes	on request
SEE 355	IP 55	top	6	2	4 × 90°	M 76	PTC Mark A	yes	on request
Sh 355	IP 55	top	6	2	4 × 90°	M 76	Pt 100	yes	Pt 100
Sh 400	IP 55	top	3 (bars)	3	180°	3× $\phi$ 55	Pt 100	yes	Pt 100
Sh 450	IP 55	top	3 (bars)	3	180°	3× $\phi$ 55	Pt 100	yes	Pt 100
Sh 500	IP 55	top	3 (bars)	3	180°	3× $\phi$ 55	Pt 100	yes	Pt 100

*We are able to supply almost any motor made according to customer's specifications*

## DESCRIPTION OF THE CUSTOMISED VERSION

Different supply voltage	
Frequency:	60 Hz
Degree of protection:	IP 56
Insulation class:	H
Number of free shaft ends:	2
Tropicalization	
Different bearings	
Different duty type	
Adaptation for supply from a frequency inverter	
Different versions per customer's specifications	

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

**RATINGS - TOLERANCES**

**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

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

**ISO9001**


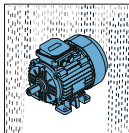
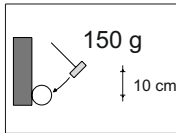

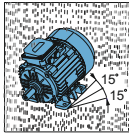
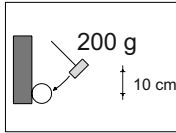
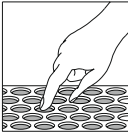
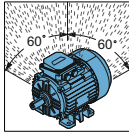
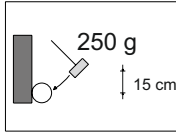
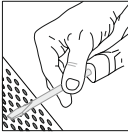
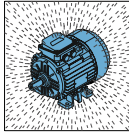
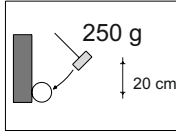
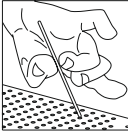
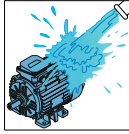
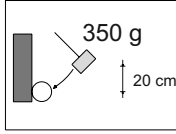
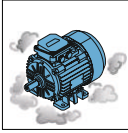

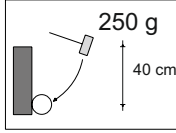
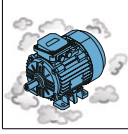
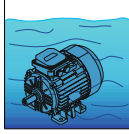
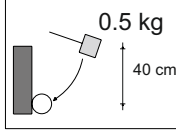
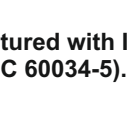
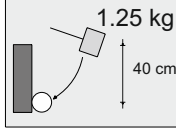
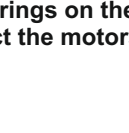
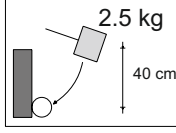
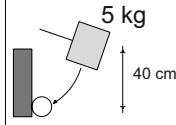
***The motors covered by the present catalogue comply with  
the regulations and standards effective in other countries,  
consistent with IEC standards.***

**IEC**

INTERNATIONAL PROTECTION IP

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.

IP55

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		
	 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
	 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
	 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
	 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
	 Protected against deposition of dust		<b>5</b>		 Protected against sprayed water from any direction	<b>6</b>	 Striking energy: 1 J
	 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.**

## INSULATION CLASSIFICATION

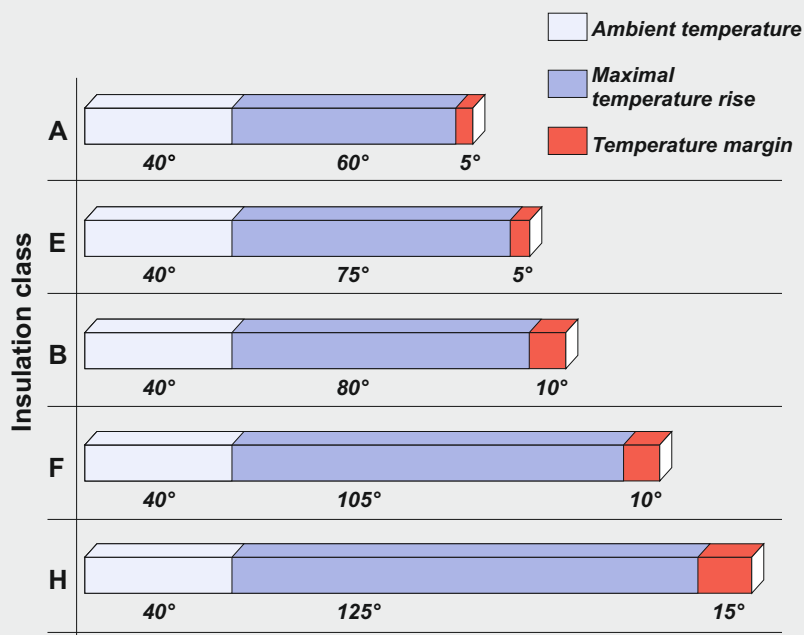
The insulation system of an electric motor is determined by a given insulation class on the basis of its thermal resistance.  
This thermal resistance should be guaranteed by the entire set of electric insulating materials used in the motor insulating system.

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 for  
ambient temperature of 40°C)**

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



*Insulation class F for an electric motor means that at ambient temperature of 40°C the temperature rise of its windings 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 motors made by Cantoni Motor in their basic version have the insulation class F while the temperature rise is for class B. It means longer life of motors.*

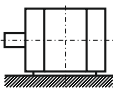
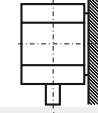
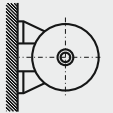
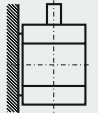
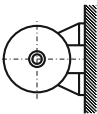
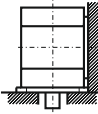
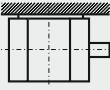
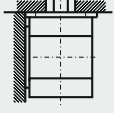
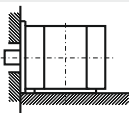
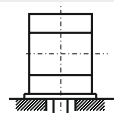
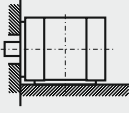
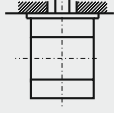
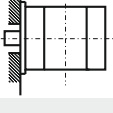
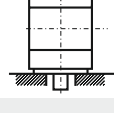
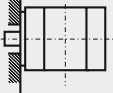
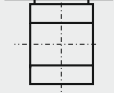
*On customer's demand, we make motors with insulation class H.*

*Strengthened insulation system makes it possible to supply our motors from frequency inverters.*



## 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	56 ÷ 500		IM 1011	IM V5	56 ÷ 315 except Sg 315 M6C except Sg 315 M8C
	IM 1051	IM B6	56 ÷ 280		IM 1031	IM V6	56 ÷ 315 except Sg 315 M6C except Sg 315 M8C
	IM 1061	IM B7	56 ÷ 280		IM 2011 or IM 2111	IM V15	56 ÷ 315 except SLg 315 M6C except SLg 315 M8C
	IM 1071	IM B8	56 ÷ 280		IM 2031 or IM 2131	IM V36	56 ÷ 315 except SLg 315 M6C except SLg 315 M8C
	IM 2001	IM B35	56 ÷ 500		IM 3011	IM V1	56 ÷ 500 except SVEE 355 (2-pole) except SVh 355 (2-pole) except SVh 400 (2-pole)
	IM 2101	IM B34	56 ÷ 132		IM 3031	IM V3	56 ÷ 280
	IM 3001	IM B5	56 ÷ 315 except SKg 315 M6C except SKg 315 M8C		IM 3611	IM V18	56 ÷ 180
	IM 3601	IM B14	56 ÷ 132		IM 3631	IM V19	56 ÷ 180

### MOTOR FEET

Motors of frame size  $\leq 112$  have screwed feet.

Motors of frame size 132 have screwed feet or integrated with the motor housing.

Motors of frame size  $\geq 160$  have feet integrated with the motor housing.

### TERMINAL BOX

Terminal boxes of low voltage motors have threaded inlet holes designed for mounting cable glands. The box contains 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 and cable clamps to prevent their removal. Inside the boxes there are special clamps used to ground the supply cable armouring.

In low voltage motors of very high power three supply busbar are used.

Box covers of low voltage high-power motors are made in form of antiimplosion membranes.

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



**HOUSING, END SHIELDS, FEET**

Frame size [mm]	Motor housing	End shields	Feet
56	Aluminium	Aluminium	Aluminium - screwed
63	Aluminium	Aluminium	Aluminium - screwed
71	Aluminium	Aluminium	Aluminium - screwed
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 - screwed
160	Cast iron	Cast iron	Cast iron - integrated
180	Cast iron	Cast iron	Cast iron - integrated
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 - integrated
355	Cast iron	Cast iron	Cast iron - integrated
400	Cast iron	Cast iron	Cast iron - integrated
450	Cast iron	Cast iron	Cast iron - integrated
500	Cast iron	Cast iron	Cast iron - integrated

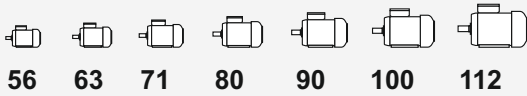
In motors of frame size 80, 90 and 100: on request end shields may be made of cast iron.

In motors of frame size 132: feet may be integrated with housing.

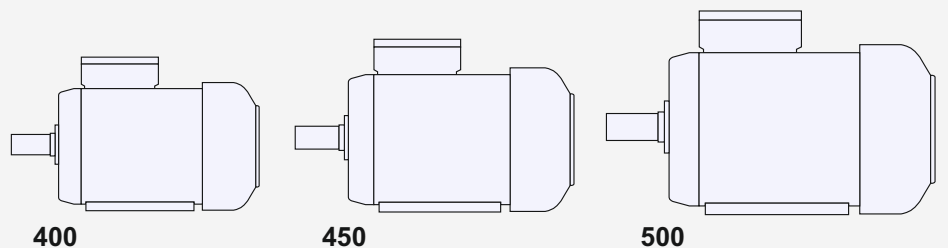
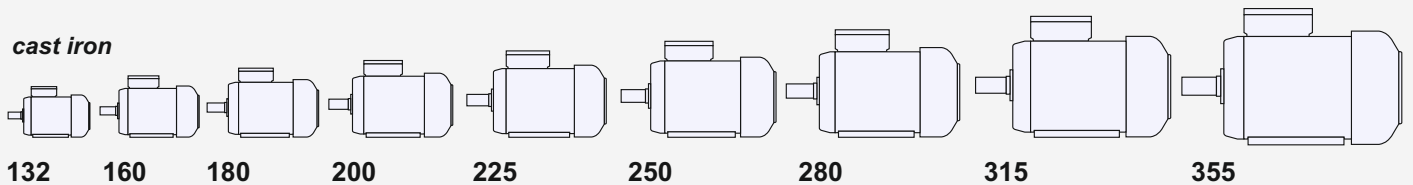
**Motor housing**

 aluminium  cast iron

**aluminium**



**cast iron**



PERMISSIBLE LOADING ON THE SHAFT END

Frame size	Number of poles	Horizontal operation		Vertical operation			Frame size	Number of poles	Horizontal operation		Vertical operation		
		$F_R(x=0)$	$F_R(x=\max)$	$F_p$	$F_{a1}$	$F_{a2}$			$F_R(x=0)$	$F_R(x=\max)$	$F_p$	$F_{a1}$	$F_{a2}$
		[kN]			[kN]				[kN]			[kN]	
Sh 56	2	0,20	0,16	0,04	0,03	0,05	2Sg 200 LB	6	4,50	3,70	3,70	2,90	4,60
Sh 56	4	0,25	0,20	0,05	0,04	0,06	2Sg 200 L	8	5,10	4,20	4,10	3,40	5,00
Sh 63	2	0,20	0,16	0,04	0,04	0,06	2Sg 225 S	4	4,50	3,60	3,70	3,00	4,60
Sh 63	4	0,25	0,20	0,06	0,05	0,07	2Sg 225 S	8	5,90	4,70	4,70	3,90	5,70
Sh 63	6	0,27	0,22	0,06	0,05	0,07	2Sg 225 M	2	3,50	2,90	2,60	2,00	3,40
Sh 71	2	0,29	0,24	0,07	0,05	0,09	2Sg 225 M	4	4,30	3,40	3,60	2,80	4,70
Sh 71	4	0,36	0,30	0,09	0,07	0,11	2Sg 225 M	6	5,00	4,00	4,10	3,20	5,40
Sh 71	6	0,40	0,35	0,10	0,08	0,12	2Sg 225 M	8	5,70	4,60	4,60	3,70	5,80
Sh 71	8	0,40	0,35	0,11	0,09	0,13	2Sg 250 M	2	4,30	3,60	3,20	2,40	4,20
Sh 80	2	0,33	0,27	0,09	0,06	0,12	2Sg 250 M	4	5,40	4,40	4,40	3,40	5,80
Sh 80	4	0,44	0,37	0,12	0,09	0,15	2Sg 250 M	6	6,10	5,00	5,00	3,80	6,70
Sh 80	6	0,51	0,42	0,14	0,11	0,17	2Sg 250 M	8	6,90	5,60	5,60	4,30	7,20
Sh 80	8	0,51	0,42	0,17	0,15	0,20	2Sg 280 S	2	4,00	3,30	3,10	1,90	4,50
Sh 90	2	0,58	0,44	0,53	0,30	0,40	2Sg 280 S	4	6,10	5,10	5,10	3,70	7,00
Sh 90	4	0,64	0,52	0,60	0,30	0,40	2Sg 280 S	6	7,50	6,20	6,00	4,70	7,70
Sh 90	6	0,74	0,68	0,73	0,30	0,40	2Sg 280 S	8	8,30	6,90	6,60	5,20	8,50
Sh 90	8	0,82	0,74	0,80	0,30	0,40	2Sg 280 M	2	3,90	3,20	3,00	1,80	4,60
Sg 100	2	0,78	0,56	0,70	0,25	0,40	2Sg 280 M	4	5,90	4,90	5,00	3,50	7,10
Sg 100	4	0,81	0,79	0,83	0,25	0,40	2Sg 280 M	6	7,30	6,10	5,90	4,50	7,90
Sg 100	6	0,98	0,92	0,98	0,25	0,40	2Sg 280 M	8	8,00	6,60	6,50	4,90	8,60
Sg 100	8	1,12	1,04	1,11	0,25	0,40	2Sg 315 S	2	3,70	3,20	3,00	1,60	4,80
Sg 112	2	0,70	0,56	0,67	0,25	0,40	2Sg 315 S	4	6,40	5,30	4,90	3,10	7,30
Sg 112	4	0,81	0,71	0,79	0,25	0,40	2Sg 315 S	6	7,40	6,20	6,30	4,30	8,90
Sg 112	6	0,92	0,84	0,92	0,25	0,40	2Sg 315 S	8	8,40	7,00	7,00	5,00	9,60
Sg 112	8	1,05	0,97	1,05	0,25	0,40	2Sg 315 MA	2	3,60	3,00	2,90	1,50	4,80
Sg 132	2	1,02	0,94	1,04	0,17	0,57	2Sg 315 MB	2	3,30	2,80	2,90	1,30	4,90
Sg 132	4	1,16	1,04	1,16	0,17	0,57	2Sg 315 MA	4	6,20	5,10	4,80	2,90	7,40
Sg 132	6	1,40	1,22	1,37	0,17	0,57	2Sg 315 MB	4	5,90	4,90	4,80	2,70	7,50
Sg 132	8	1,63	1,39	1,57	0,17	0,57	2Sg 315 MA	6	7,20	6,00	6,20	4,10	9,00
Sg 160	2	1,23	1,09	1,22	0,82	1,07	2Sg 315 MB	6	6,80	5,60	6,10	3,60	9,30
Sg 160	4	1,35	1,13	1,32	1,00	1,39	2Sg 315 MA	8	8,20	6,80	6,90	4,80	9,70
Sg 160	6	1,61	1,37	1,58	1,26	1,62	2Sg 315 MB	8	7,70	6,40	6,80	4,30	10,00
Sg 160	8	1,92	1,50	1,80	1,47	1,80	SEE 315MC	2	2,90	2,50	2,80	1,00	5,10
Sg 180	2	1,90	1,66	1,65	1,00	1,20	SEE 315MC	4	7,50	6,30	4,70	2,60	7,40
Sg 180	4	2,42	1,82	1,98	1,00	1,35	SEE 315MD	6	8,30	6,90	5,30	2,50	9,00
Sg 180	6	2,75	2,07	2,15	1,60	1,95	SEE 315MD	8	9,40	7,80	5,90	3,10	9,60
Sg 180	8	3,30	2,04	2,49	1,90	2,44	SEE 355	adaptation to belt drive on customer's request					
2Sg 200 LA	2	3,20	2,60	2,30	1,90	2,90	Sg 355	adaptation to belt drive on customer's request					
2Sg 200 LB	2	3,10	2,50	2,30	1,80	2,90	Sh 355	adaptation to belt drive on customer's request					
2Sg 200 L	4	3,90	3,20	3,20	2,60	4,00	Sh 400	adaptation to belt drive on customer's request					
2Sg 200 LA	6	4,60	3,80	3,70	3,00	4,60	Sh 450	adaptation to belt drive on customer's request					
							Sh 500	adaptation to belt drive on customer's request					

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

$$F_R = \frac{19600 \times P \times k}{D_k \times n} \text{ [N]}$$

- where: P - motor output [kW]  
 D<sub>k</sub> - 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:

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

- where: F<sub>X0</sub> - value of  $F_R$  force acting on the beginning of the shaft end  
 F<sub>XMAX</sub> - value of  $F_R$  force acting on the end of the shaft end  
 E - length of the shaft end

## BEARINGS

Frame size	Number of poles	Bearings
Sh 56	2 ÷ 6	6201 2Z
Sh 63	2 ÷ 8	6202 2Z
Sh 71	2 ÷ 8	6203 2Z
Sh 80	2 ÷ 8	6204 2Z
Sh 90	2 ÷ 8	6205 2Z
Sg 100	2 ÷ 8	6206 2Z
Sg 112	2 ÷ 8	6306 2Z
Sg 132	2 ÷ 8	6308 2Z
Sg 160	2 ÷ 8	6309 2Z
Sg 180	2 ÷ 8	6311 2Z
2Sg 200	2 ÷ 12	6312 C3
2Sg 225	2 ÷ 12	6313 C3
2Sg 250	2 ÷ 12	6315 C3
2Sg 280	2	6315 C3
2Sg 280	4 ÷ 12	6317 C3
2Sg 315	2	6315 C3
2Sg 315	4 ÷ 12	6318 C3

The bearings in basic version of motors for horizontal duty.

Frame size	Number of poles	Bearings	
Sg 315 MC	DE NDE	6 ÷ 8	NU320 EM1 6320 C3
SEE 315		2	6315 2ZC3
SEE 315	DE NDE	4 ÷ 8	6320 2ZC3 6318 2ZC3
Sg 355	DE NDE	4 ÷ 12	NU322 C3 6322 C3
SEE 355		2	6217 C3
SEE 355		4 ÷ 8	6222 C3
Sh 355		2	6217 C3
Sh 355		4 ÷ 8	6322 C3
Sh 400		2	6218 C3
Sh 400	DE NDE	4 ÷ 8	6324 MC3 6322 MC3
Sh 450	DE NDE	4 ÷ 10	6324 MC3 NU222 EM1
Sh 500	DE NDE	4 ÷ 10	NU226 EM1+ 6226 C3 NU226 EM1

DE - drive end    NDE - non drive end

## COOLING SYSTEM

Standard motors in frame size 56 ÷ 500 are being cooled down by means of a fan installed on the shaft from the non-drive end, covered with steel cover, cooling system IC 411 according to the IEC 60034-6 standard.

The design of fans and fan covers as well as materials used ensure optimum utilization of their aerodynamic and aeroacoustic properties.

Standard motors can operate in both directions of rotation, with the exception of Sh 355, 400, 450, 500 (2 and 4 poles) motors where unidirectional fans are applied.

## 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,
- machine to be driven,
- other details of out-of-catalogue or special version,

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 driven machine (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 form,
- name of part,
- number of pieces.

Totally Enclosed Motors IP 55

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 (IMB3) m [kg]
		$P_N$ [kW]	[HP]			$\eta_N$ [%] at % of full load				$I_N$ at rated voltage							
		50%	75%	100%	[A] <sub>230V</sub>	[A] <sub>380V</sub>	[A] <sub>400V</sub>										
<b>2p=2      <math>n_s=3000</math> rpm</b>																	
1.	Sh 56-2A	0,09	0,12	2820	0,30	45	52	62	0,63	0,60	0,35	0,35	2,5	3,4	2,7	0,000076	2,9
2.	Sh 56-2B	0,12	0,17	2800	0,41	50	58	65	0,70	0,70	0,40	0,40	2,0	3,0	2,0	0,000095	3,2
3.	Sh 63-2A	0,18	0,25	2760	0,62	60	63	65	0,80	0,85	0,50	0,50	2,1	3,4	2,1	0,000175	3,5
4.	Sh 63-2B	0,25	0,33	2780	0,85	66	69	72	0,78	1,10	0,65	0,65	2,4	4,3	2,5	0,000235	4,1
5.	Sh 71-2A	0,37	0,5	2800	1,26	67	69	71	0,77	1,75	1,0	1,0	2,2	4,4	2,2	0,000389	5,1
6.	Sh 71-2B	0,55	0,75	2790	1,88	69	72	75	0,82	2,35	1,35	1,35	2,0	4,0	2,1	0,000484	6,3
7.	Sh 80-2A	0,75	1	2800	2,56	66	72	74	0,80	3,3	1,9	1,9	2,7	4,5	2,6	0,000829	7,9
8.	Sh 80-2B	1,1	1,5	2780	3,78	69	75	77	0,84	4,3	2,5	2,5	2,6	5,1	2,6	0,001005	9,1
9.	Sh 90S-2	1,5	2,0	2835	5,1	80,7	82,1	81,1	0,83	5,6	3,4	3,2	3,0	6,1	3,0	0,0013	14
10.	Sh 90L-2	2,2	3,0	2855	7,40	82,2	83,9	83,2	0,82	8,1	4,9	4,7	3,4	7,1	3,5	0,002	16,8
11.	Sg 100L-2	3,0	4,0	2905	9,9	80,9	83,2	83,4	0,86	10,5	6,4	6,0	2,7	7,5	2,8	0,0048	25
12.	Sg 112M-2	4	5,5	2865	13,33	85,7	86,4	85,4	0,90	13,1	7,9	7,5	2,1	6,4	2,3	0,0079	34
13.	Sg 132S-2A	5,5	7,5	2910	18,0	86,4	87,5	87,0	0,88	18,0	10,9	10,4	2,4	7,0	3,2	0,0150	60
14.	Sg 132S-2B	7,5	10	2920	24,53	88,1	89,2	88,5	0,88	24,2	14,6	13,9	2,5	7,5	3,2	0,0180	71
15.	Sg 160M-2A	11	15	2945	35,7	88,9	90,1	90,0	0,87	35,3	20,9	20,3	2,2	7,7	3,4	0,042	96
16.	Sg 160M-2B	15	20	2935	48,8	90,6	91,5	91,0	0,89	46,5	28,1	26,7	2,0	7,2	2,6	0,048	103
17.	Sg 160L-2	18,5	25	2930	60,3	90,0	90,7	90,3	0,91	56,5	34,2	32,5	2,1	6,8	2,9	0,059	119
18.	Sg 180M-2	22	30	2920	71,95	89,5	90,8	90,6	0,88	69,3	41,9	39,8	2,5	6,0	2,5	0,076	165
19.	2Sg 200L2A	30	40	2960	97	92,7	93,2	92,9	0,89	91	55	52	1,9	6,0	2,3	0,15	245
20.	2Sg 200L2B	37	50	2960	119	93,2	94,0	93,7	0,89	111	67	64	2,2	6,7	2,5	0,18	265
21.	2Sg 225M2	45	60	2968	145	94,0	94,2	94,5	0,89	134	81	77	2,4	7	2,5	0,26	335
22.	2Sg 250M2	55	75	2970	177	92,8	93,6	93,5	0,9	164	99	94	2	6,9	2,4	0,36	410
23.	2Sg 280S2	75	100	2977	241	91,9	93,6	94	0,9	223	135	128	2,1	7,5	3,3	0,76	535
24.	2Sg 280M2	90	125	2970	289	93,8	94,6	94,7	0,91	262	159	151	2	7	3,2	0,87	585
25.	2Sg 315S2	110	150	2977	353	94,0	94,9	95,1	0,91	319	193	183	2,2	8,3	3,3	0,91	690
26.	2Sg 315M2A	132	175	2975	424	94,4	95,1	95	0,91	383	232	220	2,1	8,5	2,8	0,98	725
27.	2Sg 315M2B	160	220	2975	514	94,9	95,5	95,4	0,89	473	286	272	2,3	9,1	2,5	1,2	790
28.	SEE 355ML2	200	270	2987	639	94,6	95,9	96,3	0,90	-	-	333	1,9	8,0	3,4	2,8	1600
29.	SEE 355ML2A	250	340	2982	800	95,5	96,3	96,4	0,91	-	-	415	1,8	7	2,8	2,8	1600
30.	SEE 355ML2B	315	430	2982	1009	95,9	96,6	96,6	0,91	-	-	517	1,9	7,3	3,0	3,0	1680
31.	Sh 355H2Ds	355	480	2985	1136	95,5	96,3	96,5	0,91	-	-	584	1,7	7,4	2,7	4,9	2140
32.	Sh 355H2Es	400	540	2985	1280	95,7	96,4	96,5	0,91	-	-	657	1,6	8	2,8	5,7	2200
33.	Sh 400H2Cs	450	610	2983	1441	95,6	96,4	96,5	0,91	-	-	740	1,3	6,6	2,6	6,7	2800
34.	Sh 400H2Ds	500	680	2985	1600	95,7	96,5	96,6	0,91	-	-	821	1,4	7,2	2,8	7,7	2880
35.	Sh 400H2Es	560	760	2989	1789	95,5	96,4	96,6	0,90	-	-	930	1,7	8	3	8,7	3100
36.	Sh 400 H2Es	630	850	2985	2016	96,2	96,7	96,8	0,91	-	-	1033	1,5	7,9	2,8	8,7	3100
37.	Sh 450 H2Bs	710	950	2990	2268	96,1	96,8	97,0	0,88	-	-	696*	0,6	6,2	2,7	17,2	4160
38.	Sh 450 H2Cs	800	1080	2991	2554	96,2	96,9	97,1	0,88	-	-	783*	0,7	6,8	3,0	18,4	4380
39.	Sh 450 H2Ds	900	1200	2990	2875	96,5	97,1	97,2	0,89	-	-	870*	0,7	6,6	2,8	19,0	4480
40.	Sh 500 H2Bs	1000	1350	2992	3192	95,8	96,7	97,0	0,89	-	-	969*	1,4	9,0	3,4	35,9	6200
41.	Sh 500 H2Cs	1120	1500	2992	3575	95,9	96,7	97,0	0,88	-	-	1098*	1,2	8,5	3,2	35,9	6200
42.	Sh 500 H2Ds	1200	1609	2991	3833	96,0	96,8	97,0	0,90	-	-	1150*	1,4	7,9	2,9	35,9	6200

\* - at rated voltage 690 V

TECHNICAL DATA

Totally Enclosed Motors IP 55

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 (IMB3) m [kg]
		$P_N$ [kW]	$P_N$ [HP]			$\eta_N$ [%] at % of full load				$I_N$ at rated voltage							
		50%	75%	100%	[A] <sub>230V</sub>	[A] <sub>380V</sub>	[A] <sub>400V</sub>										
<b>2p=4 <math>n_s=1500</math> rpm</b>																	
43.	Sh 56-4A	0,06	0,08	1400	0,41	40	48	50	0,58	0,52	0,30	0,30	2,0	2,8	2,3	0,00015	2,6
44.	Sh 56-4B	0,09	0,12	1380	0,62	54	58	60	0,61	0,60	0,35	0,35	2,0	2,4	2,1	0,00019	2,8
45.	Sh 63-4A	0,12	0,17	1380	0,83	56	60	60	0,63	0,80	0,45	0,45	1,9	2,6	2,0	0,00024	3,5
46.	Sh 63-4B	0,18	0,25	1380	1,26	60	69	65	0,65	1,1	0,65	0,65	2,0	2,6	2,0	0,00031	4,1
47.	Sh 71-4A	0,25	0,33	1380	1,73	60	63	66	0,64	1,5	0,85	0,85	2,0	3,0	2,0	0,00061	5,1
48.	Sh 71-4B	0,37	0,5	1370	2,60	64	67	70	0,68	2,2	1,25	1,25	2,1	3,1	2,1	0,00077	5,8
49.	Sh 80-4A	0,55	0,75	1400	3,75	62	68	72	0,71	2,7	1,6	1,7	2,5	3,9	2,5	0,00158	7,5
50.	Sh 80-4B	0,75	1	1380	5,15	67	73	76	0,70	3,5	2	2	2,4	4,0	2,3	0,0019	8,8
51.	Sh 90S-4	1,1	1,5	1405	7,48	75,5	77,8	76,7	0,8	4,5	2,7	2,6	2,2	4,9	2,8	0,0023	14
52.	Sh 90L-4	1,5	2	1410	10,16	78,1	80	79	0,78	6,1	3,7	3,5	2,5	5,3	2,8	0,0028	16,5
53.	Sg 100L-4A	2,2	3	1425	14,74	80,2	82,3	82	0,80	8,3	5,1	4,8	2,5	6,1	2,8	0,0058	25
54.	Sg 100L-4B	3,0	4,0	1415	20,25	81,1	83,1	82,7	0,81	11,2	6,8	6,5	2,6	6,1	2,7	0,0065	26
55.	Sg 112M-4	4	5,5	1435	26,62	84	85,6	85,1	0,82	14,4	8,7	8,3	2,6	6,3	3	0,0118	34
56.	Sg 132S-4	5,5	7,5	1450	36,22	84,3	86,1	85,9	0,84	19,1	11,6	11	2,2	6,9	3,1	0,029	62
57.	Sg 132M-4	7,5	10	1450	49,4	87	87,8	87	0,85	25,5	15,4	14,6	2,4	6,7	3,1	0,035	73
58.	Sg 160M-4	11	15	1460	71,95	88,2	89,3	89	0,85	36,5	22,1	21,0	2,3	7	3,1	0,061	105
59.	Sg 160L-4	15	20	1460	98	89,1	89,9	89,5	0,87	48,4	29,3	27,8	2,4	7,3	3,2	0,075	125
60.	Sg 180M-4	18,5	25	1470	120	90	90,9	90,5	0,90	57,0	34,5	32,8	2,4	6,8	2,9	0,135	165
61.	Sg 180L-4	22	30	1465	143	90,4	91,3	91	0,90	67,4	40,8	38,8	2,7	7,3	2,8	0,155	175
62.	2Sg 200L4	30	40	1472	195	92,4	93	92,5	0,88	93	56	53	2,9	7,1	2,5	0,31	265
63.	2Sg 225S4	37	50	1475	240	92,9	93,2	92,6	0,88	114	69	66	2,1	6,3	2,2	0,44	320
64.	2Sg 225M4	45	60	1480	290	93,9	94,3	94	0,88	137	83	79	2,6	7	2,3	0,53	345
65.	2Sg 250M4	55	75	1483	354	93,3	93,9	93,5	0,91	162	98	93	2,4	7,3	2,6	0,79	425
66.	2Sg 280S4	75	100	1485	482	94,0	94,5	94,2	0,90	222	134	128	2,5	7,3	2,5	1,37	575
67.	2Sg 280M4	90	125	1485	579	94,5	94,9	94,8	0,91	262	159	151	2,6	7,3	2,6	1,63	635
68.	2Sg 315S4	110	150	1480	710	94,6	94,7	94,2	0,92	319	193	183	2,3	6,9	2,2	1,67	720
69.	2Sg 315M4B	132	175	1487	848	94,2	94,9	94,9	0,90	388	235	223	2,3	7,6	2,5	1,84	750
70.	2Sg 315M4A	160	220	1489	1026	94,5	95,3	95,4	0,86	490	296	281	2,7	8,5	2,4	2,24	870
71.	SEE 315ML4	200	270	1487	1284	95,2	95,8	95,9	0,87	-	-	346	2,3	7,2	2,4	3,3	1200
72.	SEE 355ML4A	250	340	1489	1603	95,8	96,4	96,3	0,89	-	-	424	2,0	7,3	2,4	5,3	1680
73.	SEE 355ML4B	315	430	1489	2020	96,4	96,7	96,6	0,90	-	-	523	2,2	7,6	2,5	6,4	1810
74.	Sh 355H4Ds	355	480	1488	2278	96,3	96,7	96,5	0,88	-	-	604	1,6	6,5	2,2	7,8	2175
75.	Sh 355H4Es	400	540	1489	2566	95,8	96,2	96,1	0,88	-	-	683	1,8	7,0	2,3	9,1	2320
76.	Sh 400H4Cs	450	610	1490	2884	96,3	96,9	96,9	0,88	-	-	762	1,6	7,6	2,6	12,3	2920
77.	Sh 400H4Ds	500	680	1491	3203	96,2	96,7	96,7	0,88	-	-	848	1,6	7,5	2,6	13,6	3100
78.	Sh 400H4Es	560	760	1491	3587	96,4	95,8	96,8	0,87	-	-	960	1,7	7,6	2,6	15,0	3250
79.	Sh 400H4Fs	630	850	1491	4035	96,5	96,9	96,9	0,87	-	-	1079	1,9	8,4	2,8	15,3	3440
80.	Sh 450H4Bs	710	960	1492	4545	96,5	97,0	97,0	0,88	-	-	696 <sup>2</sup>	1,6	7,0	2,5	27,1	4000
81.	Sh 450H4Cs	800	1080	1493	5117	96,7	97,0	97,0	0,89	-	-	775 <sup>2</sup>	1,6	6,8	2,6	31,6	4400
82.	Sh 450H4Ds	900	1210	1493	6757	96,6	97,0	97,0	0,88	-	-	882 <sup>2</sup>	1,5	7,3	2,5	35,4	4620
83.	Sh 450H4Es	1000	1350	1493	6397	96,7	97,2	97,2	0,89	-	-	967 <sup>2</sup>	1,5	7,3	2,5	38,0	4700
84.	Sh 500H4Cs	1120	1510	1495	7155	96,7	97,4	97,4	0,87	-	-	1106 <sup>2</sup>	0,8	6,9	2,5	58,4	6100
85.	Sh 500H4Ds	1250	1680	1495	7985	96,7	97,4	97,5	0,87	-	-	1233 <sup>2</sup>	0,8	7,5	2,7	65,2	6600
86.	Sh 500H4Es	1400	1880	1494	8949	96,9	97,5	97,5	0,88	-	-	1365 <sup>2</sup>	0,7	6,4	2,4	66,5	6900

<sup>2</sup> - at rated voltage 690 V

Totally Enclosed Motors IP 55

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 (MB3)
		P <sub>N</sub>	η <sub>N</sub>			T <sub>N</sub>	η <sub>N</sub> [%] at % of full load			I <sub>N</sub> at rated voltage							
		[kW]	[HP]	[min <sup>-1</sup> ]	[Nm]	50%	75%	100%	cos φ <sub>N</sub>	[A] <sub>230V</sub>	[A] <sub>380V</sub>	[A] <sub>400V</sub>	T <sub>L</sub> /T <sub>N</sub>	I <sub>L</sub> /I <sub>N</sub>	T <sub>B</sub> /T <sub>N</sub>	J	m
<b>2p=6 n<sub>s</sub>=1000 rpm</b>																	
87.	Sh 56-6B	0,06	0,08	860	0,65	30	31	32	0,65	0,73	0,42	0,42	1,4	1,7	1,6	0,00019	2,8
88.	Sh 63-6A	0,09	0,12	870	0,98	40	44	49	0,53	0,9	0,50	0,50	1,5	2,0	1,6	0,00024	3,5
89.	Sh 63-6B	0,12	0,17	870	1,30	38	44	50	0,65	1,15	0,65	0,65	1,3	1,8	1,1	0,00031	4,1
90.	Sh 71-6A	0,18	0,25	890	1,93	47	54	57	0,68	1,3	0,75	0,75	1,9	2,6	1,9	0,00074	4,8
91.	Sh 71-6B	0,25	0,33	860	2,78	45	52	55	0,79	1,75	1,0	1,0	1,6	2,0	1,6	0,00095	5,8
92.	Sh 80-6A	0,37	0,5	910	3,88	61	63	64	0,65	2,4	1,4	1,4	2,0	3,0	2,1	0,00169	7,4
93.	Sh 80-6B	0,55	0,75	900	5,84	62	65	67	0,70	3,1	1,8	1,8	1,9	2,7	2,0	0,00207	8,7
94.	Sh 90S-6	0,75	1	915	7,83	70,2	73,3	72,4	0,72	3,6	2,2	2,1	1,9	3,7	2,2	0,002	13,5
95.	Sh 90L-6	1,1	1,5	920	11,42	73,5	76,2	75,4	0,71	5,2	3,1	3,0	2,2	4	2,2	0,0028	16,5
96.	Sg 100L-6	1,5	2	945	15,16	74	76,9	76,7	0,73	6,7	4,1	3,9	1,9	4,6	2,3	0,009	24
97.	Sg 112M-6	2,2	3	960	21,89	81,6	83,8	83,8	0,78	8,4	5,1	4,9	2,2	5,9	2,8	0,0177	33
98.	Sg 132S-6	3	4	950	30,16	79,2	81,5	81	0,78	11,9	7,2	6,9	2,1	5,4	2,8	0,025	54
99.	Sg 132M-6A	4	5,5	950	40,21	83,5	84,8	84	0,79	15,1	9,2	8,7	2,4	6	3,1	0,032	66
100.	Sg 132M-6B	5,5	7,5	950	55,29	84,8	85,9	85	0,79	20,6	12,4	11,8	2,7	6,3	3,1	0,04	72
101.	Sg 160M-6	7,5	10	960	74,61	86,6	87,9	87,5	0,81	26,6	16,1	15,3	2,3	6,5	3,1	0,072	100
102.	Sg 160L-6	11	15	960	109,4	88,3	89,2	88,5	0,82	38	23	21,9	2,4	7	3,1	0,096	125
103.	Sg 180L-6	15	20	975	146,9	88	89,2	89	0,84	50,4	30,5	29,0	2,8	6	2,4	0,22	170
104.	2Sg 200L6A	18,5	25	980	180	89,6	90,7	90,5	0,86	60	36	34,5	2,5	6,8	2,4	0,41	250
105.	2Sg 200L6B	22	30	981	214	90,6	90,8	90,5	0,88	69	42	40	2,4	6,9	2,2	0,47	265
106.	2Sg 225M6	30	40	982	292	92,6	92,8	91,9	0,88	93	56	54	2,1	6,3	2,2	0,76	325
107.	2Sg 250M6	37	50	985	359	92,5	92,9	92,5	0,89	113	68	65	2,6	6,8	2,3	1,23	430
108.	2Sg 280S6	45	60	985	436	92,2	93,0	93	0,87	140	85	80	2	6,5	2,3	1,35	525
109.	2Sg 280M6	55	75	985	533	93,6	94,0	93,5	0,89	166	100	95	2,2	6,2	2,2	1,61	565
110.	2Sg 315S6	75	100	985	727	93,3	93,8	93,5	0,89	226	137	130	2,3	6,6	2,2	2,16	730
111.	2Sg 315M6A	90	125	984	873	93,6	94,1	93,7	0,88	274	166	158	2,5	6,8	2	2,29	740
112.	2Sg 315M6B	110	150	985	1066	94,3	94,6	94,2	0,89	329	199	189	2,3	7,2	2,1	2,86	840
113.	SEE 315ML6	160	220	987	1548	94,5	95,0	94,7	0,84	-	-	290	2,4	6,3	2,1	3,5	1240
114.	SEE 355ML6A	200	270	989	1931	95,4	95,9	95,7	0,86	-	-	351	2,1	7,0	2,4	7,2	1720
115.	SEE 355ML6B	250	340	990	2411	95,7	96,1	95,9	0,86	-	-	437	2,2	7,1	2,4	8,6	1920
116.	Sh 355H6Cs	315	430	991	3035	96,0	96,2	96,1	0,86	-	-	550	1,9	7,0	2,2	12,7	2370
117.	Sh 355H6Ds	355	480	991	3421	96,0	96,2	96,2	0,86	-	-	620	1,8	6,9	2,3	13,6	2480
118.	Sh 355H6Es	400	540	992	3851	95,7	96,0	95,9	0,85	-	-	708	2,2	8,0	2,4	15,3	2600
119.	Sh 400H6Cs	450	610	993	4328	95,8	96,3	96,0	0,83	-	-	815	1,5	7,5	2,5	19,4	3250
120.	Sh 450H6As	500	680	994	4804	96,2	96,5	96,4	0,88	-	-	493 <sup>2</sup>	1,2	6,7	2,6	36,5	3800
121.	Sh 450H6Bs	560	760	994	5380	95,9	96,5	96,4	0,88	-	-	552 <sup>2</sup>	1,2	6,8	2,6	40,6	4300
122.	Sh 450H6Cs	630	850	994	6053	96,3	96,7	96,6	0,89	-	-	613 <sup>2</sup>	1,3	7,0	2,6	45,0	4500
123.	Sh 450H6Ds	710	960	994	6821	96,3	96,6	96,6	0,89	-	-	691 <sup>2</sup>	1,4	7,4	2,6	50,0	4890
124.	Sh 500H6As	800	1080	995	7678	96,5	96,9	96,8	0,86	-	-	804 <sup>2</sup>	0,9	5,8	2,2	61,5	6200
125.	Sh 500H6Bs	900	1210	995	8638	96,6	96,9	96,8	0,87	-	-	894 <sup>2</sup>	1,0	6,0	2,2	71,0	6550
126.	Sh 500H6Cs	1000	1350	995	9598	96,2	96,8	96,9	0,86	-	-	1004 <sup>2</sup>	1,0	6,4	2,5	70,0	6700
127.	Sh 500H6Ds	1120	1510	996	10739	96,1	96,8	97,0	0,85	-	-	1137 <sup>2</sup>	1,1	7,0	2,6	80,0	7130
128.	Sh 500H6Es	1250	1680	996	11985	96,2	96,9	97,0	0,85	-	-	1269 <sup>2</sup>	1,1	7,1	2,6	84,9	7460
129.	Sh 500H6Es	1300	1743	996	12465	96,3	96,9	97,0	0,85	-	-	1319 <sup>2</sup>	1,1	6,9	2,5	84,9	7460

<sup>2</sup> - at rated voltage 690V

TECHNICAL DATA

Totally Enclosed Motors IP 55

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 (IMB3) m [kg]
		$P_N$ [kW]	[HP]			$\eta_N$ [%] at % of full load	$I_N$ at rated voltage										
		50%	75%	100%	[A] <sub>230V</sub>	[A] <sub>380V</sub>	[A] <sub>400V</sub>										
<b>2p=8      <math>n_s=750</math> rpm</b>																	
130.	Sh 63-8A	0,04	0,05	670	0,61	20	25	30	0,56	0,9	0,50	0,50	1,9	1,3	1,7	0,00024	3,5
131.	Sh 63-8B	0,06	0,08	660	0,87	20	24	28	0,48	1,1	0,65	0,65	1,4	1,4	1,4	0,000307	4,1
132.	Sh 71-8A	0,09	0,12	680	1,27	25	31	35	0,50	1,3	0,75	0,75	2,2	1,6	2,2	0,000736	4,7
133.	Sh 71-8B	0,12	0,17	670	1,71	40	45	47	0,63	1,25	0,7	0,7	1,7	1,9	1,8	0,000946	5,6
134.	Sh 80-8A	0,18	0,25	680	2,53	43	51	53	0,57	1,55	0,9	0,9	1,8	2,3	2,0	0,001693	7,5
135.	Sh 80-8B	0,25	0,33	680	3,51	52	55	57	0,60	2,1	1,2	1,2	1,7	2,5	1,7	0,00207	8,9
136.	Sh 90S-8	0,37	0,5	695	5,08	54,2	60,8	63,4	0,59	2,5	1,5	1,4	1,7	2,3	2,3	0,0021	13,4
137.	Sh 90L-8	0,55	0,75	675	7,78	60,4	65,3	65	0,64	3,3	2	1,9	1,7	2,8	1,9	0,0024	15,3
138.	Sg 100L-8A	0,75	1	710	10,1	65,9	70,5	71,1	0,66	4	2,4	2,3	1,5	3,5	1,9	0,009	23,6
139.	Sg 100L-8B	1,1	1,5	705	14,9	67,6	71,8	72,2	0,65	5,9	3,6	3,4	1,6	3,6	1,9	0,01	26,3
140.	Sg 112M-8	1,5	2	720	19,9	72,5	76,2	76,8	0,71	6,9	4,2	4,0	1,9	4,6	2,3	0,0192	53
141.	Sg 132S-8	2,2	3	710	29,6	75,4	78,2	78	0,74	9,6	5,8	5,5	2,0	4,7	2,4	0,033	53
142.	Sg 132M-8	3	4	710	40,4	78,5	80,7	80	0,74	12,7	7,7	7,3	2,3	5,0	3,0	0,044	65
143.	Sg 160M-8A	4	5,5	705	54,2	81,5	82,7	81,5	0,76	16,2	9,8	9,3	2,2	5,0	2,7	0,06	85
144.	Sg 160M-8B	5,5	7,5	710	74	82,1	83,7	83	0,75	22,2	13,4	12,8	2,7	5,5	3,0	0,077	95
145.	Sg 160L-8	7,5	10	705	102	84,5	85,5	84,5	0,78	28,6	17,3	16,4	2,7	5,8	3,0	0,102	115
146.	Sg 180L-8	11	15	730	144	87,7	89,2	89	0,76	40,8	24,7	23,5	2,0	5,5	2,4	0,213	165
147.	2Sg 200L8	15	20	733	195	88,8	90	89,5	0,83	51	30,5	29,1	2,2	5,5	2,1	0,45	255
148.	2Sg 225S8	18,5	25	735	240	88,8	90	89,5	0,81	64	39	37	2,0	5,6	2,0	0,58	280
149.	2Sg 225M8	22	30	735	286	90,0	90,8	90,4	0,8	76	46	44	2,0	5,2	1,8	0,68	315
150.	2Sg 250M8	30	40	738	388	91,0	92	91,5	0,84	98	59	56	2,5	6,3	2,1	1,27	430
151.	2Sg 280S8	37	50	737	479	92,0	93,1	92,8	0,83	121	73	69	2,0	5,3	1,8	1,47	535
152.	2Sg 280M8	45	60	737	583	92,0	92,8	92,5	0,84	145	88	84	2,1	5,4	2,0	1,8	590
153.	2Sg 315S8	55	75	735	715	92,0	93,0	92,7	0,81	184	111	106	2,0	5,3	1,9	2,16	720
154.	2Sg 315M8A	75	100	737	972	92,5	93,5	93,2	0,82	246	149	142	2,5	6,2	1,5	2,29	750
155.	2Sg 315M8B	90	125	737	1166	92,5	93,5	93,2	0,82	296	179	170	2,4	6,5	1,9	2,86	840
156.	Sg 355S8	132	175	741	1701	93,7	94,7	94,8	0,80	-	-	251	1,3	5,5	2,0	7,2	1320
157.	SEE 355ML8A	160	220	739	2068	95,1	95,5	95,0	0,80	-	-	304	1,6	5,8	2,0	7,0	1680
158.	SEE 355ML8B	200	270	740	2581	95,1	95,5	95,0	0,79	-	-	385	1,8	6,2	2,1	8,3	1750
159.	Sh 355H8Ds	250	340	742	3218	95,3	95,8	95,4	0,78	-	-	485	1,3	6,0	2,0	12,9	2440
160.	Sh 355H8Es	315	430	742	4054	95,1	95,5	95,3	0,78	-	-	612	1,3	6,0	2,0	16,0	2590
161.	Sh 400H8Ds	355	480	742	4569	95,1	95,6	95,6	0,77	-	-	696	1,2	5,8	2,0	18,8	3200
162.	Sh 400H8Es	400	540	742	5148	95,1	95,7	95,7	0,77	-	-	783	1,2	5,9	2,0	21,0	3350
163.	Sh 450H8Bs	450	610	746	5761	95,2	96,0	96,1	0,78	-	-	502 <sup>2</sup>	1,0	5,8	2,1	41,6	4400
164.	Sh 450H8Cs	500	680	746	6401	95,3	96,1	96,2	0,78	-	-	558 <sup>2</sup>	1,0	5,8	2,1	46,0	4600
165.	Sh 450H8Ds	560	760	746	7169	95,4	96,2	96,3	0,78	-	-	624 <sup>2</sup>	1,0	5,7	2,1	49,0	4770
166.	Sh 450H8Es	630	850	746	8065	95,6	96,2	96,3	0,79	-	-	693 <sup>2</sup>	1,0	5,6	2,0	53,8	4980
167.	Sh 500H8Bs	710	960	746	9089	95,8	96,4	96,5	0,81	-	-	760 <sup>2</sup>	1,0	6,0	2,4	92,4	6500
168.	Sh 500H8Cs	800	1080	746	10241	95,8	96,4	96,5	0,80	-	-	867 <sup>2</sup>	1,1	6,3	2,5	95,8	6780
169.	Sh 500H8Ds	900	1210	746	11522	95,8	96,5	96,6	0,80	-	-	975 <sup>2</sup>	1,0	6,0	2,4	108	7240
170.	Sh 500H8Es	1000	1350	746	12802	95,8	96,6	96,6	0,80	-	-	1083 <sup>2</sup>	1,1	6,5	2,5	118	7570

<sup>2</sup> at rated voltage 690 V



Totally Enclosed Motors IP 55

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 (IMB3)
		P <sub>N</sub>	[kW]			[HP]	η <sub>N</sub>	T <sub>N</sub>		[Nm]	η <sub>N</sub> [%] at % of full load	cos φ <sub>N</sub>					
		[min <sup>-1</sup> ]	50%	75%	100%	[-]	[A] <sub>230V</sub>	[A] <sub>380V</sub>	[A] <sub>400V</sub>	[-]	[-]	[-]	[kgm <sup>2</sup> ]	[kg]			
						<b>2p=10</b>			<b>n<sub>s</sub>=600 rpm</b>								
171.	Sh 90S-10	0,25	0,34	560	4,3	44,9	51,3	55,6	0,51	2,2	1,3	1,3	1,8	2,2	2,0	0,0028	17
172.	Sh 90L-10	0,37	0,50	565	6,3	50,7	58,9	63,4	0,56	2,6	1,6	1,5	1,9	2,3	2,15	0,0030	20
173.	Sg 100L-10A	0,55	0,75	570	9,2	39,8	49,2	55,0	0,44	5,7	3,5	3,3	2,7	3,1	2,7	0,009	24
174.	Sg 100L-10B	0,75	1,0	560	12,8	44,6	54,1	56,8	0,54	6,1	3,7	3,5	2,0	3,0	2,1	0,01	24,5
175.	Sg 112M-10	0,75	1,0	550	13,0	42,6	52,1	71,3	0,65	4,1	2,5	2,3	2,5	3,1	2,5	0,0177	33
176.	Sg 112M-10A	1,1	1,5	560	18,7	69,2	72,6	72,2	0,64	6,0	3,4	3,4	1,3	3,3	1,8	0,0180	32
177.	Sg 132S-10	1,1	1,5	565	18,6	53,4	68,2	77	0,65	5,5	3,3	3,2	1,2	3,5	1,6	0,025	52
178.	Sg 132S-10A	1,5	2,0	565	25,4	53,2	69,8	74	0,60	8,5	5,1	4,9	1,3	3,7	2,4	0,032	66
179.	Sg 132S-10B	2,2	3,0	560	37,5	43,1	62,9	75	0,58	12,7	7,7	7,3	1,4	3,9	2,5	0,04	72
180.	Sg 160L-10	5,5	7,5	575	91,4	76,1	79,9	80,9	0,56	30,5	18,4	17,5	1,9	4,8	2,6	0,096	125
181.	Sg 180L-10	7,5	10,0	585	122	81,9	85,1	86	0,58	37,7	22,8	21,7	2,3	5,1	2,4	0,22	164
182.	2Sg 200L10A	7,5	10	580	123	82,5	84	85	0,68	32,5	19,7	18,7	1,7	3,5	2,1	0,4	240
183.	2Sg 200L10B	11	15	590	178	84,7	86,7	87,5	0,68	46,5	28,1	26,7	3,2	5,9	2,4	0,47	255
184.	2Sg 225S10	13	18	592	210	87,5	89,3	90,5	0,67	54	32,5	31	1,8	3,8	2	0,6	280
185.	2Sg 225M10	15	20	590	243	86	88	89	0,67	63	38	36,5	2,8	5,4	2	0,76	315
186.	2Sg 225M10z	18,5	25	590	299	84,3	87,1	87,7	0,64	83	50	47,5	2,8	5,5	2,1	0,76	325
187.	2Sg 250M10	22	30	592	355	87,5	89,6	90	0,70	88	53	50	3	5,8	2	1,27	430
188.	2Sg 280S10A	30	40	586	489	85,3	87,3	88,8	0,71	119	72	69	2	4,5	1,7	1,35	525
189.	2Sg 280S10B	37	50	583	606	87	90	91	0,75	136	82	78	1,9	4,5	1,5	1,61	565
190.	2Sg 280M10	45	60	587	732	88	90,5	91,6	0,76	162	98	93	2	4,5	1,6	2,03	630
191.	2Sg 315S10	45	60	588	731	91,5	91,5	92,1	0,71	173	105	99	2	4,1	2	2,16	720
192.	2Sg 315S10z	55	75	583	901	88	90,5	91,5	0,75	201	122	116	1,7	4,7	1,9	2,86	840
193.	2Sg 315M10	75	100	583	1229	88	90,5	91,5	0,75	274	166	158	1,8	4,9	1,5	3,01	895
194.	Sh 400H10As	200	270	594	3216	94,4	95,1	95,0	0,82	-	-	371	1,0	5,4	2,5	25,6	3010
195.	Sh 400H10Bs	250	340	593	4019	94,6	95,2	95,1	0,82	-	-	463	1,1	5,6	2,4	28,5	3170
196.	Sh 400H10Cs	315	430	593	5073	95,1	95,5	95,4	0,82	-	-	581	1,1	5,7	2,4	32,2	3350
197.	Sh 450H10As	355	480	594	5708	94,9	95,6	95,5	0,81	-	-	384 <sup>2</sup>	1,0	6,0	2,3	53,9	4130
198.	Sh 450H10Bs	400	540	594	6431	94,9	95,6	95,6	0,81	-	-	432 <sup>2</sup>	1,1	6,4	2,3	58,3	4300
199.	Sh 500H10As	450	610	594	7235	95,0	95,7	95,6	0,81	-	-	486 <sup>2</sup>	1,4	6,3	2,1	74,1	5420
200.	Sh 500H10Bs	500	680	594	8039	95,1	95,8	95,7	0,82	-	-	533 <sup>2</sup>	1,5	6,6	2,2	85,5	5700
201.	Sh 500H10Cs	560	760	593	9019	95,4	95,9	95,8	0,82	-	-	597 <sup>2</sup>	1,3	6,2	2,0	94,2	5950
202.	Sh 500H10Ds	630	850	594	10129	95,3	95,8	95,8	0,82	-	-	671 <sup>2</sup>	1,7	6,9	2,2	108	6400

TECHNICAL DATA

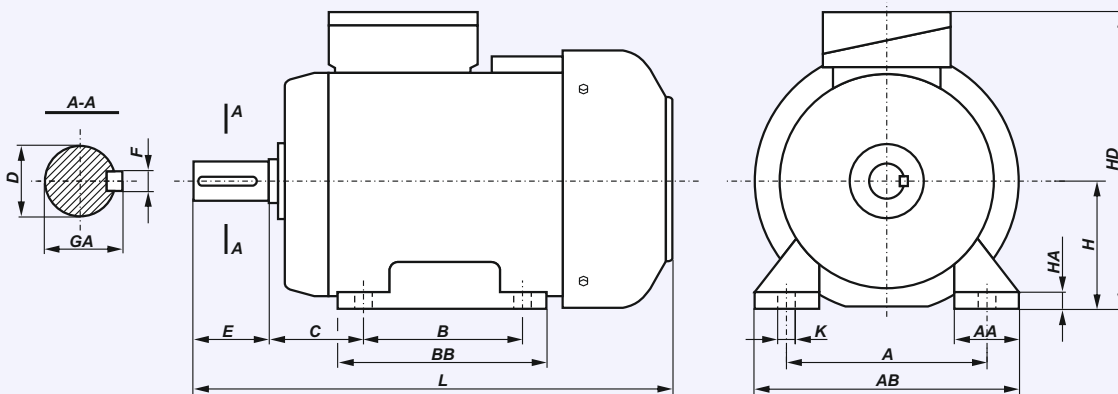
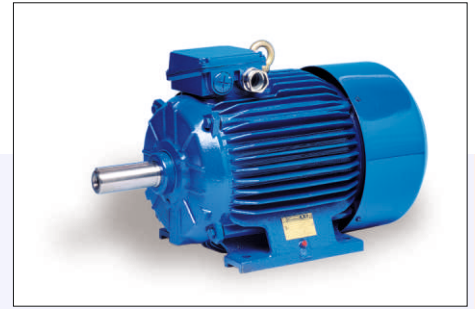
<sup>2</sup> - at rated voltage 690 V

Totally Enclosed Motors IP 55

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 (IMB3) m [kg]
		$P_N$ [kW]	[HP]			$\eta_N$ [%] at % of full load	50% 75% 100%			$I_N$ at rated voltage							
				$2p=12$			$n_s=500$ obr/min			$f=50\text{Hz}$							
203.	Sg 100L-12	0,55	0,75	450	11,7	43,8	51,4	54,4	0,53	4,8	2,9	2,8	1,3	2,3	1,5	0,009	22
204.	Sg 112M-12	0,75	1,0	475	15,1	54,3	59,8	65,3	0,47	6,1	3,7	3,5	1,5	3,0	2,5	0,0177	33
205.	Sg 132S-12	1,1	1,5	435	22,8	62,3	68,2	69,0	0,61	6,6	4,0	3,8	1,0	2,8	1,6	0,025	54
206.	Sg 132M-12	1,5	2,0	465	30,8	68,7	70,2	72,0	0,57	9,2	5,6	5,3	1,3	3,1	2,3	0,032	66
207.	Sg 132M-12B	2,2	3,0	460	45,7	68,5	69,2	70,2	0,56	14	8,5	8,1	1,2	3,0	1,8	0,04	72
208.	Sg 160M12	2,2	3,0	470	44,7	69,0	73,8	75,0	0,51	14,4	8,7	8,3	1,4	3,4	2,4	0,072	100
209.	Sg 160L-12	3,0	4,0	480	59,7	69,8	75,0	78,5	0,51	18,8	11,4	10,8	1,5	3,7	2,5	0,096	125
210.	Sg 180L-12	5,5	7,5	480	109,4	68,8	70,8	73,9	0,60	31,1	18,8	17,9	1,1	2,8	1,5	0,22	170
211.	2Sg 200L12	9	12	490	175	75,3	80,1	81,8	0,55	50	30,5	28,9	2,7	4,3	2,5	0,47	255
212.	2Sg 225S12	11	15	490	214	85,0	86,0	86,0	0,63	51	31	29,3	1,7	3,5	1,7	0,58	315
213.	2Sg 225M12	13	18	475	261	82,2	82,5	82,5	0,59	67	40,5	38,5	1,7	3,5	1,7	0,68	350
214.	2Sg 225M12z	15	20	491	290	80,5	83,5	84,4	0,58	77	46,5	44	2,7	4,6	1,8	0,68	350
215.	2Sg 250M12	18,5	25	490	361	84,0	86,0	87,8	0,65	81	49,5	47	1,7	3,5	1,8	1,27	430
216.	2Sg 280S12	22	30	491	428	86,9	89,2	89,6	0,61	101	61	58	2,3	4,5	1,8	1,47	535
217.	2Sg 280M12	30	40	490	585	85,6	88,2	89,0	0,62	136	83	78	1,8	3,5	1,8	1,8	570
218.	2Sg 315S12	37	50	492	718	87,5	89,9	90,4	0,58	177	107	102	2,6	4,5	1,9	2,29	730
219.	2Sg 315M12A	45	60	490	877	87,9	89,0	90,1	0,58	216	131	124	2	3,5	1,8	2,86	870
220.	2Sg 315M12B	55	75	490	1072	87,5	90,0	89,5	0,58	266	161	153	2,5	4,4	1,8	3,01	885
221.	Sh 450H12As	160	220	494	3087	93,8	94,7	94,7	0,79	-	-	308	0,8	5,6	2,6	30,0	3470
222.	Sh 450H12Bs	200	270	495	3859	94,4	94,9	94,7	0,80	-	-	381	0,9	5,7	2,3	33,7	3600
223.	Sh 450H12Cs	250	340	492	4843	94,7	95,0	94,7	0,82	-	-	465	0,8	5,0	2,1	40,0	3750
224.	Sh 450H12Ds	315	430	493	6102	94,9	95,2	94,9	0,81	-	-	592	0,8	5,1	2,3	34,7	4030
225.	Sh 450H12Es	355	480	494	6863	94,9	95,2	95,1	0,80	-	-	674	0,9	5,6	2,5	41,7	4330
226.	Sh 450H12Fs	400	540	494	7733	94,7	95,4	95,2	0,80	-	-	758	0,9	5,6	2,5	46,3	4530
227.	Sh 500H12Cs	450	610	494	8699	94,7	95,3	95,3	0,81	-	-	842	1,1	6,1	2,5	100	6090
228.	Sh 500H12Ds	500	680	495	9647	94,8	95,4	95,4	0,81	-	-	934	1,1	6,2	2,5	112	6370
229.	Sh 500H12Es	560	760	495	10804	94,9	95,5	95,5	0,81	-	-	1045	1,2	6,5	2,6	125	6680
		$2p=16$			$n_s=375$ obr/min			$f=50\text{Hz}$									
230.	Sg 132S-16	0,55	0,75	335	15,7	42,3	49,8	52,4	0,58	4,5	2,7	2,6	1,3	2,4	2,0	0,033	53
231.	Sg 132M-16A	0,75	1,0	340	21,1	45,2	52,8	56,0	0,53	6,3	3,8	3,6	1,5	2,7	1,9	0,044	65
232.	Sg 132M-16	1,1	1,5	335	31,2	44,3	51,5	53,8	0,55	9,3	5,6	5,4	1,55	2,45	1,95	0,050	65
233.	Sg 160L-16	2,1	2,8	330	60,7	60,4	64,7	64,2	0,56	14,7	8,9	8,4	1,3	2,5	1,7	0,102	115
234.	Sg 180L-16	4,0	5,4	355	107,6	74,5	74,5	75,1	0,49	27,3	16,5	15,7	1,1	2,8		0,213	165

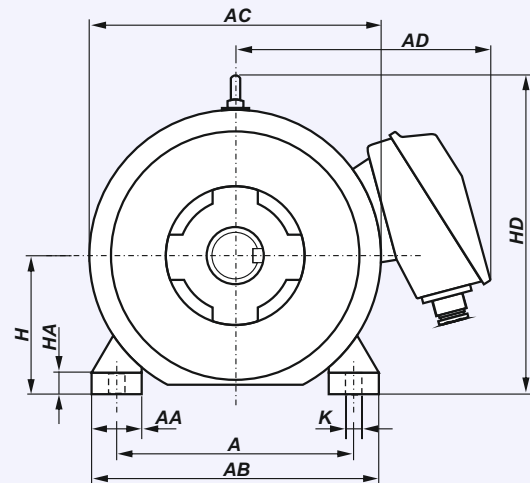
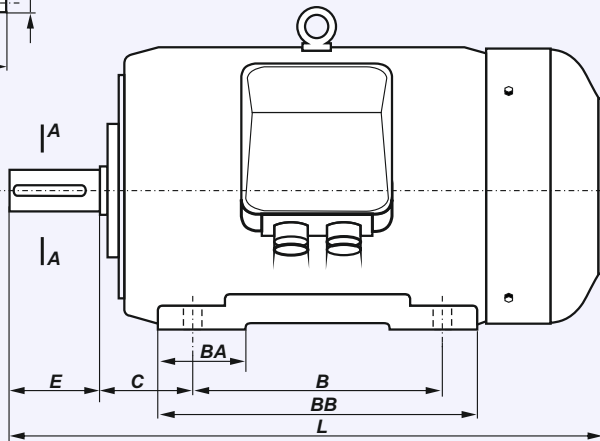
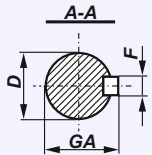
FOOT MOUNTED MOTORS - IM B3



Motor type	A	B	C	D	E	F	GA	H	HA	K	AA	AB	BB	HD	L
Sh 56-2A	90	71	36	9j6	20	3h9	10,2	56	7	5,8	30	110	92	154	183
Sh 56-4A	90	71	36	9j6	20	3h9	10,2	56	7	5,8	30	110	92	154	183
Sh 56-2B	90	71	36	9j6	20	3h9	10,2	56	7	5,8	30	110	92	154	193
Sh 56-4B	90	71	36	9j6	20	3h9	10,2	56	7	5,8	30	110	92	154	193
Sh 56-6B	90	71	36	9j6	20	3h9	10,2	56	7	5,8	30	110	92	154	193
Sh 63-A	100	80	40	11j6	23	4h9	12,5	63	8,5	7	36	124	106	165	200
Sh 63-B	100	80	40	11j6	23	4h9	12,5	63	8,5	7	36	124	106	165	210
Sh 71-A	112	90	45	14j6	30	5h9	16	71	8	7	45	142	116	182	223
Sh 71-B	112	90	45	14j6	30	5h9	16	71	8	7	45	142	116	182	245
Sh 80-A	125	100	50	19j6	40	6h9	21,5	80	9	10	55	160	130	199	266
Sh 80-B	125	100	50	19j6	40	6h9	21,5	80	9	10	55	160	130	199	278
Sh 90S ...	140	100	56	24j6	50	8h9	27	90	10	10	50	170	153	220	305
Sh 90L ...	140	125	56	24j6	50	8h9	27	90	10	10	50	170	153	220	330
Sg 100L ...	160	140	63	28j6	60	8h9	31	100	14	12	45	200	172	240	376
Sg 112M ...	190	140	70	28j6	60	8h9	31	112	14	12	54	230	174	276	384
Sg 132S ...	216	140	89	38k6	80	10h9	41	132	16	12	56	278	182	310	463
Sg 132S-2B	216	140	89	38k6	80	10h9	41	132	16	12	56	278	220	310	501
Sg 132M ...	216	178	89	38k6	80	10h9	41	132	16	12	56	278	220	310	501
Sg 160M ...	254	210	108	42k6	110	12h9	45	160	20	15	60	305	256	370	612
Sg 160L ...	254	254	108	42k6	110	12h9	45	160	20	15	60	305	300	370	656
Sg 180M ...	279	241	121	48k6	110	14h9	51,5	180	26	15	70	350	320	408	705
Sg 180L ...	279	279	121	48k6	110	14h9	51,5	180	26	15	70	350	320	408	705

DIMENSION DRAWINGS

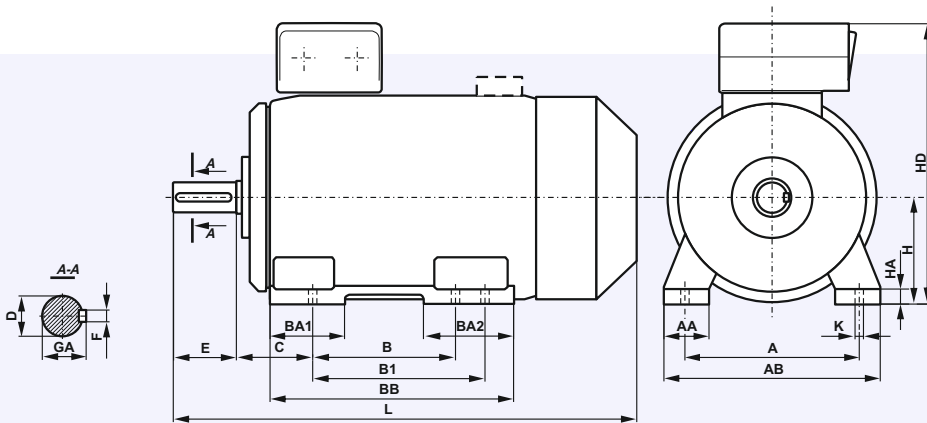
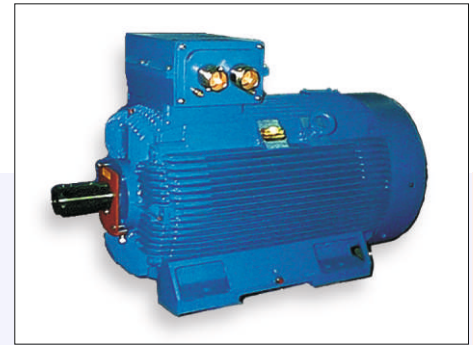
FOOT MOUNTED MOTORS - IM B3



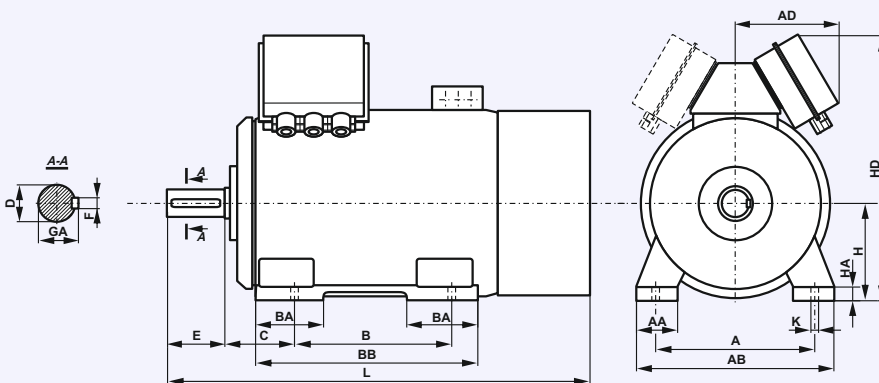
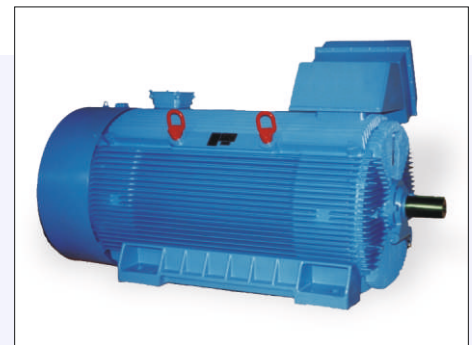
DIMENSION DRAWINGS

Motor type	A	B	C	D	E	F	GA	H	HA	K	AA	AB	AC	AD	BA	BB	HD	L
2Sg 200 L..	318	305	133	55m6	110	16h9	59	200	32	19	80	400	450	355	100	380	485	825
2Sg 225 S..	356	286	149	60m6	140	18h9	64	225	34	19	85	445	505	375	110	355	535	865
2Sg 225 M2	356	311	149	55m6	110	16h9	59	225	34	19	85	445	505	375	110	380	535	860
2Sg 225 M..	356	311	149	60m6	140	18h9	64	225	34	19	85	445	505	375	110	380	535	890
2Sg 250 M2	406	349	168	60m6	140	18h9	64	250	36	24	90	495	540	415	120	420	590	965
2Sg 250 M..	406	349	168	65m6	140	18h9	69	250	36	24	90	495	540	415	120	420	590	965
2Sg 280 S2	457	368	190	65m6	140	18h9	69	280	40	24	100	560	620	450	165	520	660	1040
2Sg 280 S..	457	368	190	75m6	140	20h9	79,5	280	40	24	100	560	620	450	165	520	660	1040
2Sg 280 M2	457	419	190	65m6	140	18h9	69	280	40	24	100	560	620	450	165	520	660	1040
2Sg 280 M..	457	419	190	75m6	140	20h9	79,5	280	40	24	100	560	620	450	165	520	660	1040
2Sg 315 S2	508	406	216	65m6	140	18h9	69	315	46	28	105	610	620	450	190	560	695	1180
2Sg 315 S..	508	406	216	80m6	170	22h9	85	315	46	28	105	610	620	450	190	560	695	1210
2Sg 315 M2	508	457	216	65m6	140	18h9	69	315	46	28	105	610	620	450	190	560	695	1180
2Sg 315 M..	508	457	216	80m6	170	22h9	85	315	46	28	105	610	620	450	190	560	695	1210
Sg 355 S..	610	500	254	100m6	210	28h9	106	355	50	28	158	720	764	587	170	600	848	1394
Sg 355 M..	610	560	254	100m6	210	28h9	106	355	50	28	158	720	764	587	205	730	848	1454

**FOOT MOUNTED MOTORS - IM B3**



Motor type	Poles	Dimensions (mm)																		
		A	B	B1	C	D	E	F	GA	H	HA	K	AA	AB	BA1	BA2	BB	HD	L	
SEE 315ML	4+6	508	457	508	216	80	170	22	85	315	40	28	120	620	150	180	637	865	1345	
SEE 355...	2	610	560	630	254	80	170	22	85	355	50	28	150	720	250	300	890	935	1580	
SEE 355...	4+8	610	560	630	254	100	210	28	106	355	50	28	150	720	250	300	890	935	1620	
Sh 355...s	2	610	900	-	200	70	140	20	74,5	355	45	28	160	730	265	265	1045	995	1800	
Sh 355...s	4+8	610	900	-	200	100	210	28	106	355	45	28	160	730	265	265	1045	995	1870	



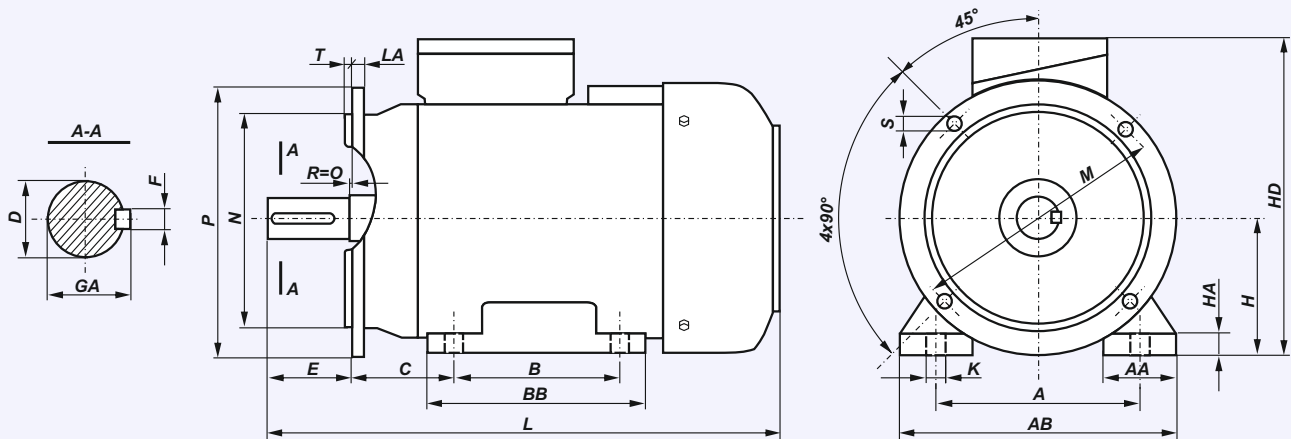
Motor type	Poles	Dimensions (mm)																
		A	B	C	D	E	F	GA	H	HA	K	AA	AB	AD	BA	BB	HD	L
Sh 400...s	2	686	1000	224	80	170	22	85	400	50	35	175	840	520	265	1160	1255	1980
Sh 400...s	4+8	686	1000	224	110	210	28	116	400	50	35	175	840	520	265	1160	1255	1960
Sh 450...s	4+12	750	1120	254	110	210	28	116	450	60	35	205	940	560	340	1320	1356	2105
Sh 500...s	4+10	850	1250	280	120	210	32	127	500	70	42	223	1050	560	300	1450	1470	2430

DIMENSION DRAWINGS

FOOT/FLANGE MOUNTED MOTORS - IM B35

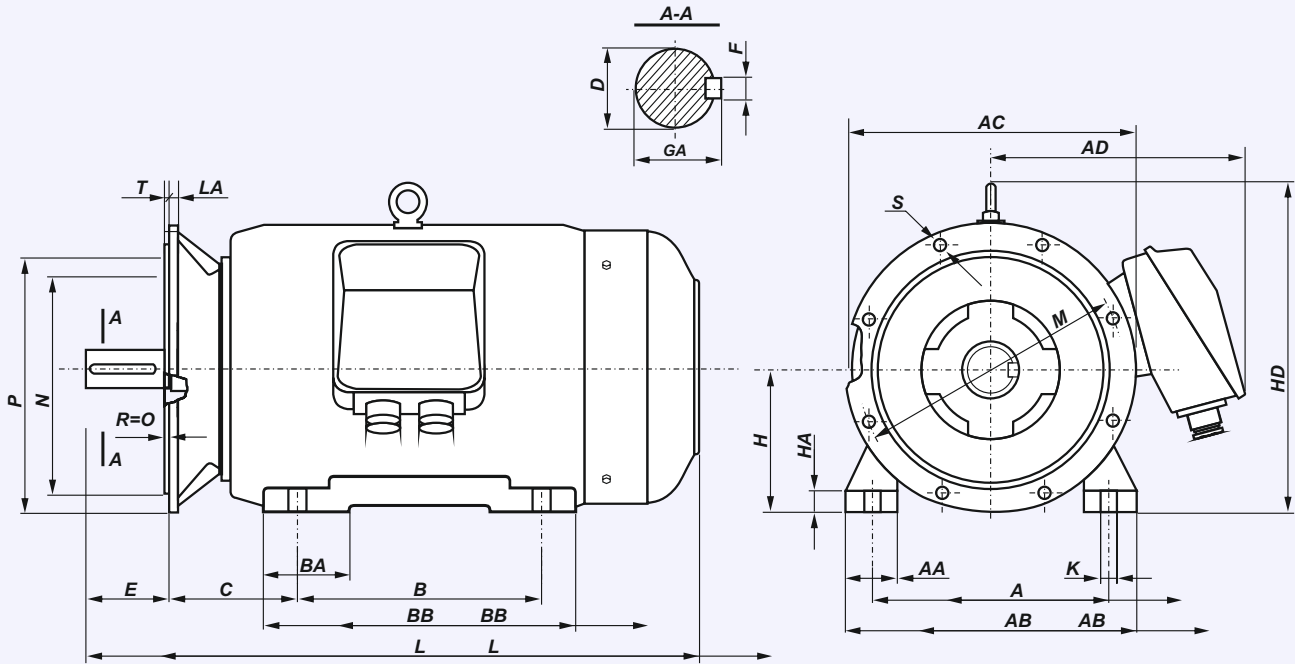
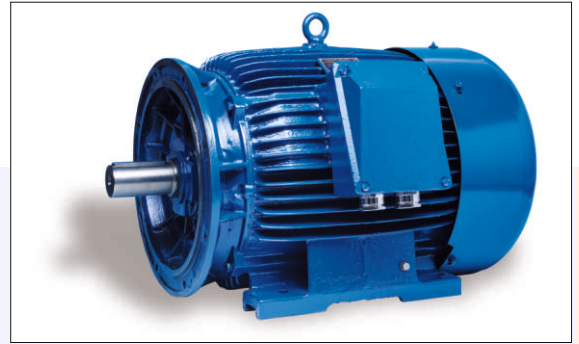


DIMENSION DRAWINGS



Motor type	A	B	C	D	E	F	GA	H	HA	K	AA	AB	BB	HD	L	LA	M	N	P	T	S
SLh 56-2A	90	71	36	9j6	20	3h9	10,2	56	7	8	30	110	92	154	183	8	100	80j6	120	3	7
SLh 56-4A	90	71	36	9j6	20	3h9	10,2	56	7	8	30	110	92	154	183	8	100	80j6	120	3	7
SLh 56-2B	90	71	36	9j6	20	3h9	10,2	56	7	8	30	110	92	154	193	8	100	80j6	120	3	7
SLh 56-4B	90	71	36	9j6	20	3h9	10,2	56	7	8	30	110	92	154	193	8	100	80j6	120	3	7
SLh 56-6B	90	71	36	9j6	20	3h9	10,2	56	7	8	30	110	92	154	193	8	100	80j6	120	3	7
SLh 63- .A	100	80	40	11j6	23	4h9	12,5	63	8,5	10	36	124	106	165	200	9	115	95j6	140	3	10
SLh 63- .B	100	80	40	11j6	23	4h9	12,5	63	8,5	10	36	124	106	165	210	9	115	95j6	140	3	10
SLh 71- .A	112	90	45	14j6	30	5h9	16	71	8	10	45	142	116	182	223	9	130	110j6	160	3,5	10
SLh 71- .B	112	90	45	14j6	30	5h9	16	71	8	10	45	142	116	182	245	9	130	110j6	160	3,5	10
SLh 80- .A	125	100	50	19j6	40	6h9	21,5	80	9	10	55	160	130	199	266	10	165	130j6	200	3,5	12
SLh 80- .B	125	100	50	19j6	40	6h9	21,5	80	9	10	55	160	130	199	278	10	165	130j6	200	3,5	12
SLh 90S ...	140	100	56	24j6	50	8h9	27	90	10	10	50	170	153	220	305	8	165	130j6	200	3,5	12
SLh 90L ...	140	125	56	24j6	50	8h9	27	90	10	10	50	170	153	220	330	8	165	130j6	200	3,5	12
SLg 100L ...	160	140	63	28j6	60	8h9	31	100	14	12	45	200	172	240	376	11	215	180j6	250	4	15
SLg 112M ...	190	140	70	28j6	60	8h9	31	112	14	12	54	230	174	276	384	12	215	180j6	250	4	15
SLg 132S ...	216	140	89	38k6	80	10h9	41	132	16	12	56	278	182	310	463	12	265	230j6	300	4	15
SLg 132S-2B	216	140	89	38k6	80	10h9	41	132	16	12	56	278	220	310	501	12	265	230j6	300	4	15
SLg 132M ...	216	178	89	38k6	80	10h9	41	132	16	12	56	278	220	310	501	12	265	230j6	300	4	15
SLg 160M ...	254	210	108	42k6	110	12h9	45	160	20	15	60	305	256	370	612	13	300	250j6	350	5	19
SLg 160L ...	254	254	108	42k6	110	12h9	45	160	20	15	60	305	300	370	656	13	300	250j6	350	5	19
SLg 180M ...	279	241	121	48k6	110	14h9	51,5	180	26	15	70	350	320	408	705	13	300	250j6	350	5	19
SLg 180L ...	279	279	121	48k6	110	14h9	51,5	180	26	15	70	350	320	408	705	13	300	250j6	350	5	19

FOOT/FLANGE MOUNTED MOTORS - IM B35

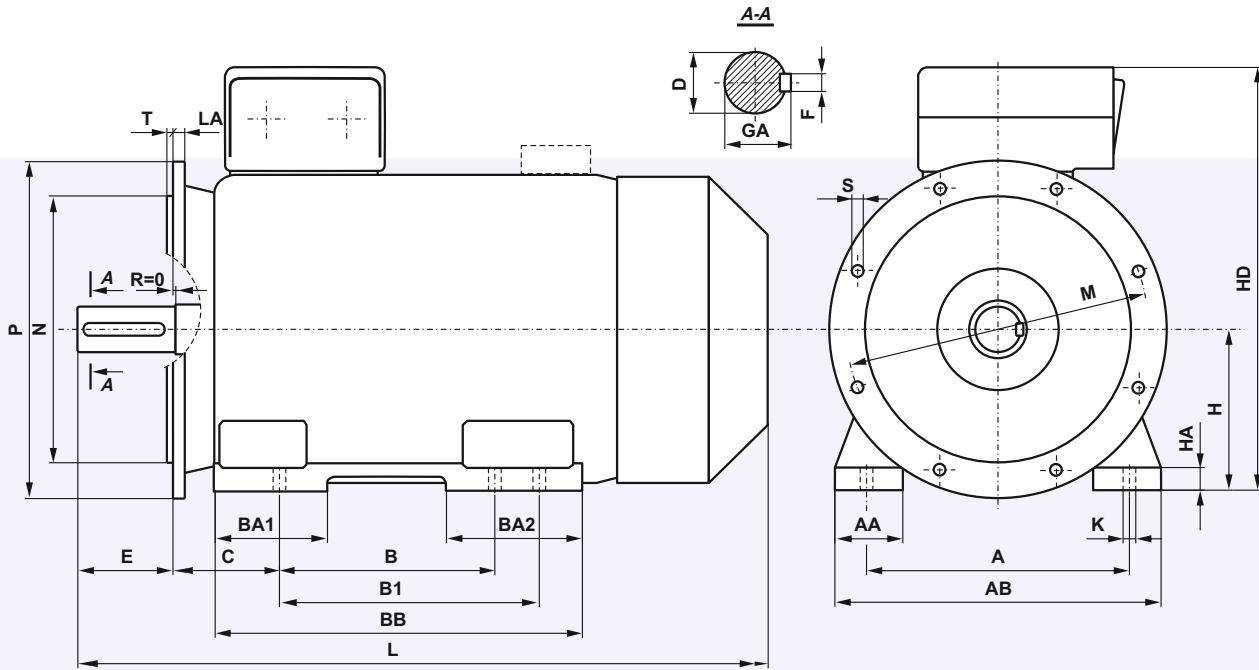


DIMENSION DRAWINGS

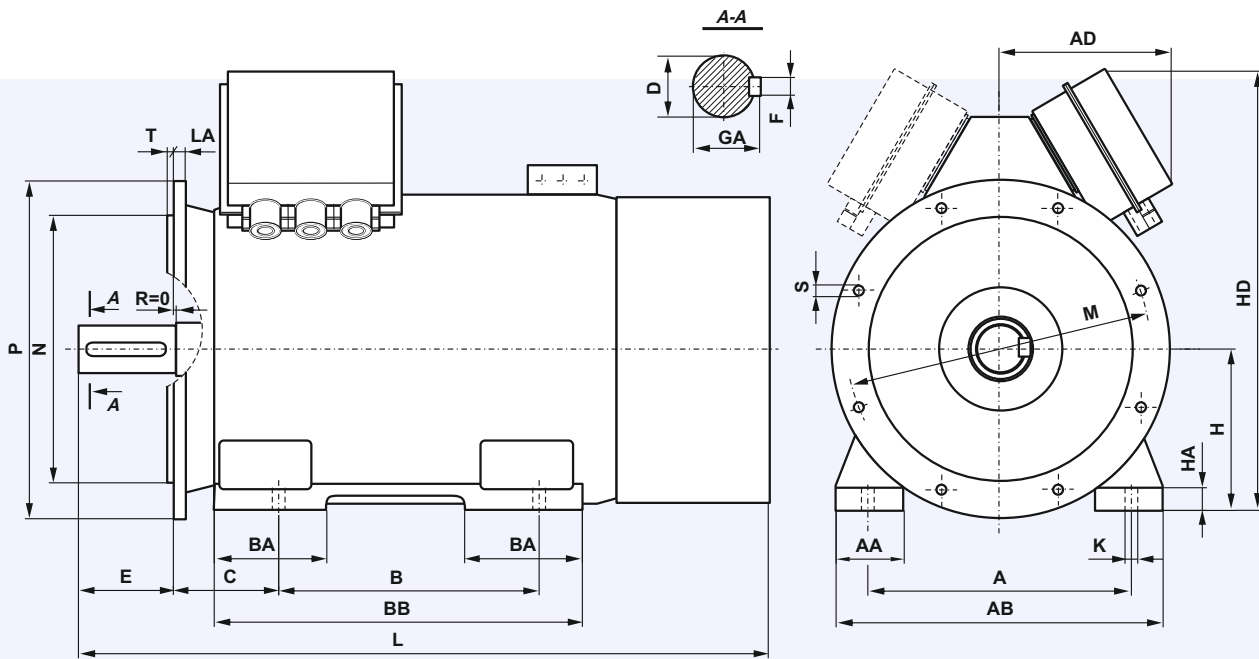
Motor type	A	B	C	D	E	F	GA	H	HA	K	AA	AB	AC	AD	BA	BB	HD	L	LA	M	N	P	T	S	
2SLg 200 L..	318	305	133	55m6	110	16h9	59	200	32	19	80	400	450	355	100	380	485	825	16,5	350	300j6	400	5	18	4
2SLg 225 S..	356	286	149	60m6	140	18h9	64	225	34	19	85	445	505	375	110	355	535	870	18	400	350j6	450	5	18	8
2SLg 225 M2	356	311	149	55m6	110	16h9	59	225	34	19	85	445	505	375	110	380	535	865	18	400	350j6	450	5	18	8
2SLg 225 M..	356	311	149	60m6	140	18h9	64	225	34	19	85	445	505	375	110	380	535	895	18	400	350j6	450	5	18	8
2SLg 250 M2	406	349	168	60m6	140	18h9	64	250	36	24	90	495	540	415	120	420	590	965	19	500	450j6	550	5	18	8
2SLg 250 M..	406	349	168	65m6	140	18h9	69	250	36	24	90	495	540	415	120	420	590	965	19	500	450j6	550	5	18	8
2SLg 280 S2	457	368	190	65m6	140	18h9	69	280	40	24	100	560	620	450	165	520	660	1040	20	500	450j6	550	5	18	8
2SLg 280 S..	457	368	190	75m6	140	20h9	79,5	280	40	24	100	560	620	450	165	520	660	1040	20	500	450j6	550	5	18	8
2SLg 280 M2	457	419	190	65m6	140	18h9	69	280	40	24	100	560	620	450	165	520	660	1040	20	500	450j6	550	5	18	8
2SLg 280 M..	457	419	190	75m6	140	20h9	79,5	280	40	24	100	560	620	450	165	520	660	1040	20	500	450j6	550	5	18	8
2SLg 315 S2	508	406	216	65m6	140	18h9	69	315	46	28	105	610	620	450	190	560	695	1180	22	600	550js6	660	6	22	8
2SLg 315 S..	508	406	216	80m6	170	22h9	85	315	46	28	105	610	620	450	190	560	695	1210	22	600	550js6	660	6	22	8
2SLg 315 M2	508	457	216	65m6	140	18h9	69	315	46	28	105	610	620	450	190	560	695	1180	22	600	550js6	660	6	22	8
2SLg 315 M..	508	457	216	80m6	170	22h9	85	315	46	28	105	610	620	450	190	560	695	1210	22	600	550js6	660	6	22	8
SLg 355 S..	610	500	254	100m6	210	28h9	106	355	50	28	158	720	764	587	170	600	848	1394	24	740	680	800	6	24	8
SLg 355 M..	610	560	254	100m6	210	28h9	106	355	50	28	158	720	764	587	205	730	848	1454	24	740	680	800	6	24	8

FOOT/FLANGE MOUNTED MOTORS - IM B35

DIMENSION DRAWINGS



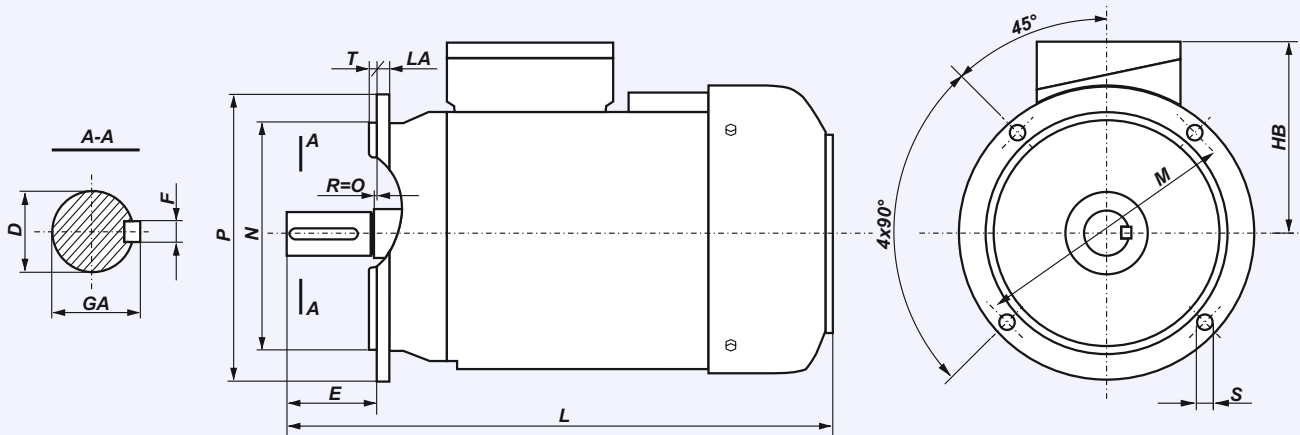
Type of motor	Poles	Dimensions																							
		A	B	B1	C	D	E	F	GA	H	HA	K	AA	AB	BA1	BA2	BB	HD	L	LA	M	N	P	S	T
SLEE 315ML	4+6	508	457	508	216	80	170	22	85	315	40	28	120	620	150	180	637	865	1345	22	600	550	660	22	6
SLEE 355....	2	610	560	630	254	80	170	22	85	355	50	28	150	720	250	300	890	935	1580	24	740	680	800	22	6
SLEE 355....	4+8	610	560	630	254	100	210	28	106	355	50	28	150	720	250	300	890	935	1620	24	740	680	800	22	6
SLh 355...s	2	610	900	-	254	70	140	20	74.5	355	45	28	160	730	265	265	1045	995	1854	24	740	680	800	22	6
SLh 355...s	4+8	610	900	-	254	100	210	28	106	355	45	28	160	730	265	265	1045	995	1924	24	740	680	800	22	6



Type of motor	Poles	Dimensions																						
		A	B	C	D	E	F	GA	H	HA	K	AA	AB	AD	BA	BB	HD	L	LA	M	N	P	S	T
SLh 400...s	2	686	1000	280	80	170	22	85	400	50	35	175	840	520	265	1160	1255	2031	30	940	880	1000	25	6
SLh 400...s	4+8	686	1000	280	110	210	28	116	400	50	35	175	840	520	265	1160	1255	2016	30	940	880	1000	25	6
SLh 450...s	4+12	750	1120	315	110	210	28	116	450	60	35	205	940	560	340	1320	1356	2162	30	1080	1000	1150	28	6
SLh 500...s	4+10	850	1250	355	120	210	32	127	500	70	42	223	1050	560	300	1450	1470	2505	30	1080	1000	1150	28	6



General Purpose 3-Phase Induction Motors  
**FLANGE MOUNTED MOTORS - IM B5**



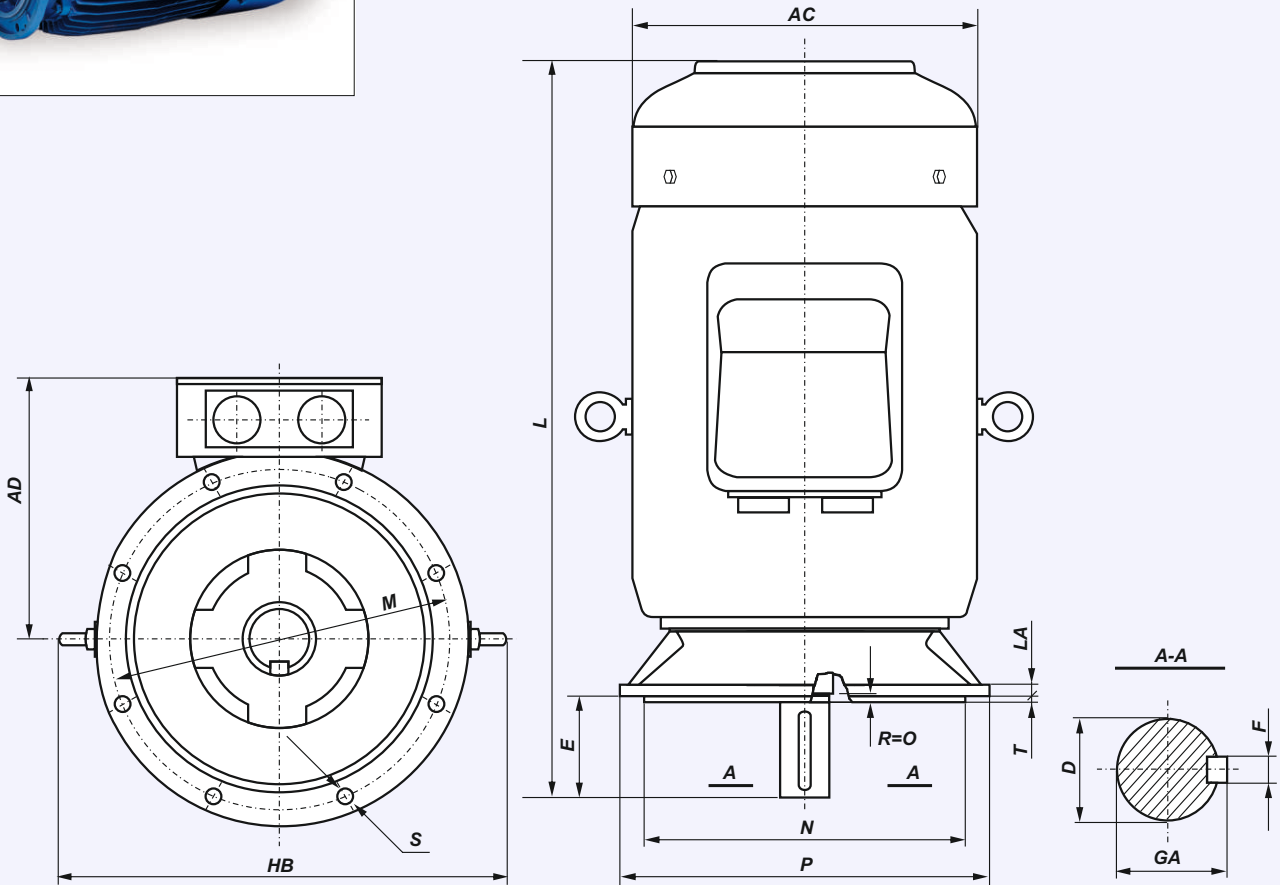
Type of motor	D	E	F	GA	M	N	P	LA	T	S	HB	L
SKh 56-2A	9j6	20	3h9	10,2	100	80j6	120	8	3	7	98	183
SKh 56-4A	9j6	20	3h9	10,2	100	80j6	120	8	3	7	98	183
SKh 56-2B	9j6	20	3h9	10,2	100	80j6	120	8	3	7	98	193
SKh 56-4B	9j6	20	3h9	10,2	100	80j6	120	8	3	7	98	193
SKh 56-6B	9j6	20	3h9	10,2	100	80j6	120	8	3	7	98	193
SKh 63- .A	11j6	23	4h9	12,5	115	95j6	140	9	3	10	102	200
SKh 63- .B	11j6	23	4h9	12,5	115	95j6	140	9	3	10	102	210
SKh 71- .A	14j6	30	5h9	16	130	110j6	160	9	3,5	10	111	223
SKh 71- .B	14j6	30	5h9	16	130	110j6	160	9	3,5	10	111	245
SKh 80- .A	19j6	40	6h9	21,5	165	130j6	200	10	3,5	12	119	266
SKh 80- .B	19j6	40	6h9	21,5	165	130j6	200	10	3,5	12	119	278
SKh 90S ...	24j6	50	8h9	27	165	130j6	200	8	3,5	12	130	305
SKh 90L ...	24j6	50	8h9	27	165	130j6	200	8	3,5	12	130	330
SKg 100L ...	28j6	60	8h9	31	215	180j6	250	11	4	15	140	376
SKg 112M ...	28j6	60	8h9	31	215	180j6	250	12	4	15	164	384
SKg 132S ...	38k6	80	10h9	41	265	230j6	300	12	4	15	178	463
SKg 132S-2B	38k6	80	10h9	41	265	230j6	300	12	4	15	178	501
SKg 132M ...	38k6	80	10h9	41	265	230j6	300	12	4	15	178	501
SKg 160M ...	42k6	110	12h9	45	300	250j6	350	13	5	19	210	612
SKg 160L ...	42k6	110	12h9	45	300	250j6	350	13	5	19	210	656
SKg 180M ...	48k6	110	14h9	51,5	300	250j6	350	13	5	19	228	705
SKg 180L ...	48k6	110	14h9	51,5	300	250j6	350	13	5	19	228	705

DIMENSION DRAWINGS

FLANGE MOUNTED MOTORS - IM B5, IM V1



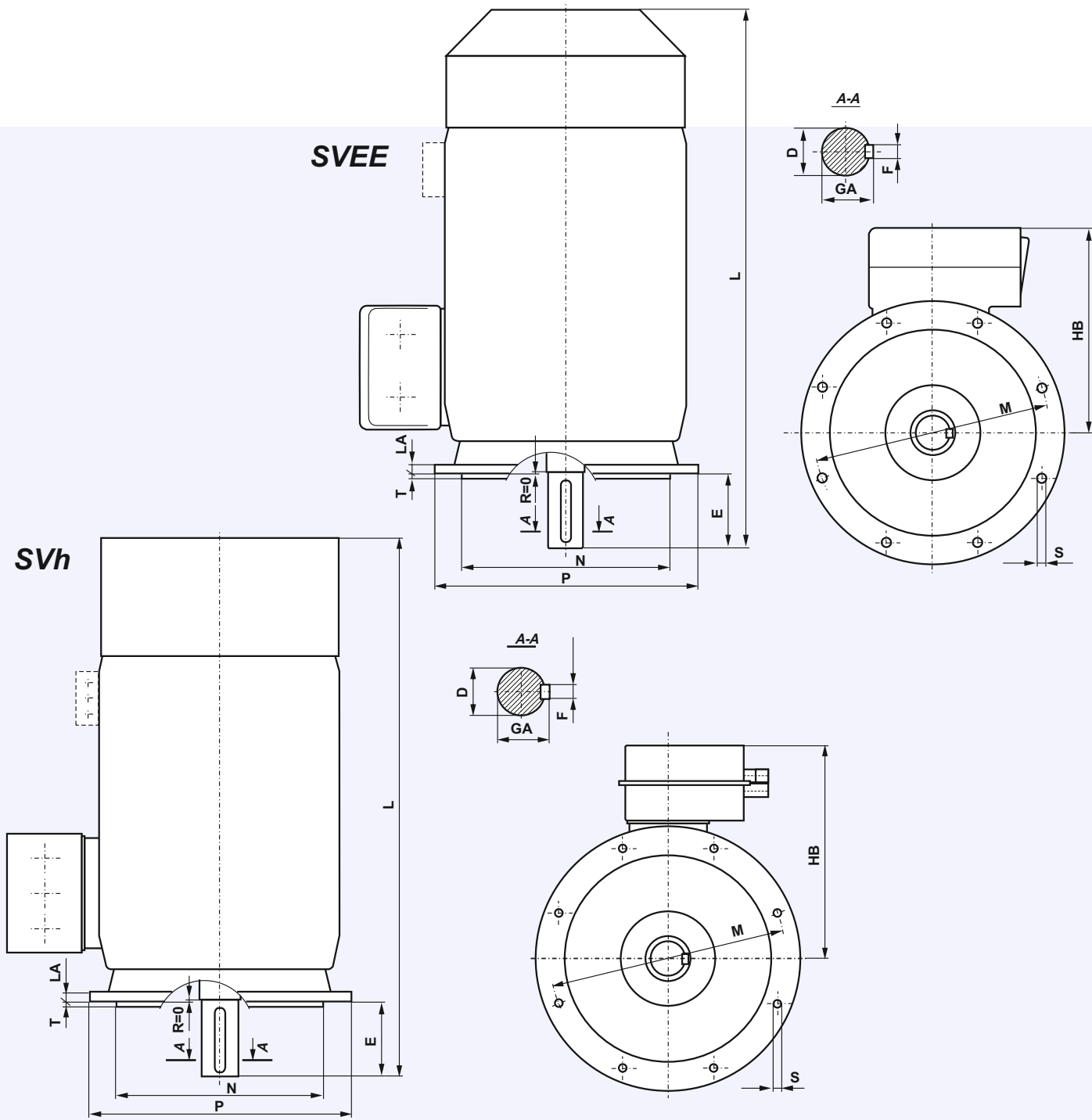
DIMENSION DRAWINGS



Motor type	D	E	F	GA	AC	AD	HB	L	LA	M	N	P	T	S	
2SKg 200 L...	55m6	110	16h9	59	450	355	570	825	16,5	350	300j6	400	5	18	4
2SKg 225 S...	60m6	140	18h9	64	505	375	620	870	18	400	350j6	450	5	18	8
2SKg 225 M2	55m6	110	16h9	59	505	375	620	865	18	400	350j6	450	5	18	8
2SKg 225 M...	60m6	140	18h9	64	505	375	620	895	18	400	350j6	450	5	18	8
2SKg 250 M2	60m6	140	18h9	64	540	415	675	965	19	500	450j6	550	5	18	8
2SKg 250 M...	65m6	140	18h9	69	540	415	675	965	19	500	450j6	550	5	18	8
2SKg 280 S2	65m6	140	18h9	69	620	450	755	1040	20	500	450j6	550	5	18	8
2SKg 280 S...	75m6	140	20h9	79,5	620	450	755	1040	20	500	450j6	550	5	18	8
2SKg 280 M2	65m6	140	18h9	69	620	450	755	1040	20	500	450j6	550	5	18	8
2SKg 280 M...	75m6	140	20h9	79,5	620	450	755	1040	20	500	450j6	550	5	18	8
2SKg 315 S2	65m6	140	18h9	69	620	450	790	1180	22	600	550js6	660	6	22	8
2SKg 315 S...	80m6	170	22h9	85	620	450	790	1210	22	600	550js6	660	6	22	8
2SKg 315 M2	65m6	140	18h9	69	620	450	790	1180	22	600	550js6	660	6	22	8
2SKg 315 M...	80m6	170	22h9	85	620	450	790	1210	22	600	550js6	660	6	22	8
SVg 355 S..*	100m6	210	28h9	106	767	588	970	1580	24	740	680js6	800	6	22	8
SVg 355 M..*	100m6	210	28h9	106	767	588	970	1580	24	740	680js6	800	6	22	8

\* - the SVg motors may operate only in vertical position IM V1.

**FLANGE MOUNTED MOTORS - IM B5, IM V1**

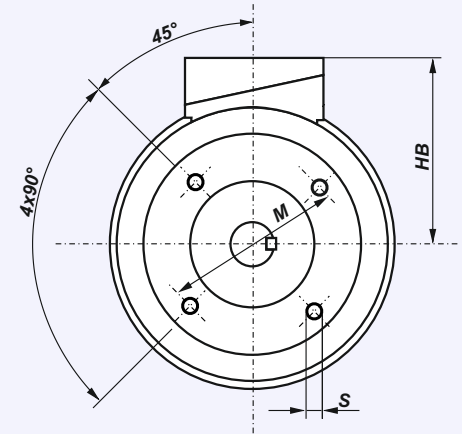
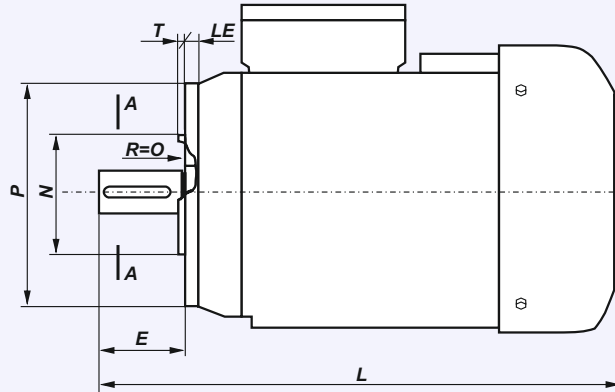
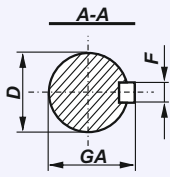


DIMENSION DRAWINGS

Motor type	Poles	D	E	F	GA	HB	L	LA	M	N	P	S	T
SVEE 355....*	8	100	210	28	106	580	1620	24	740	680	800	22	6
SVh 355...s*	4+8	100	210	28	106	638	1955	24	740	680	800	22	6
SVh 400...s*	4+8	110	210	28	116	745	2130	37	940	880	1000	23	6
SVh 450...s*	4+12	110	210	28	116	849	2350	30	1080	1000	1150	28	6
SVh 500...s*	4+10	120	210	32	127	935	2504	30	1080	1000	1150	28	6

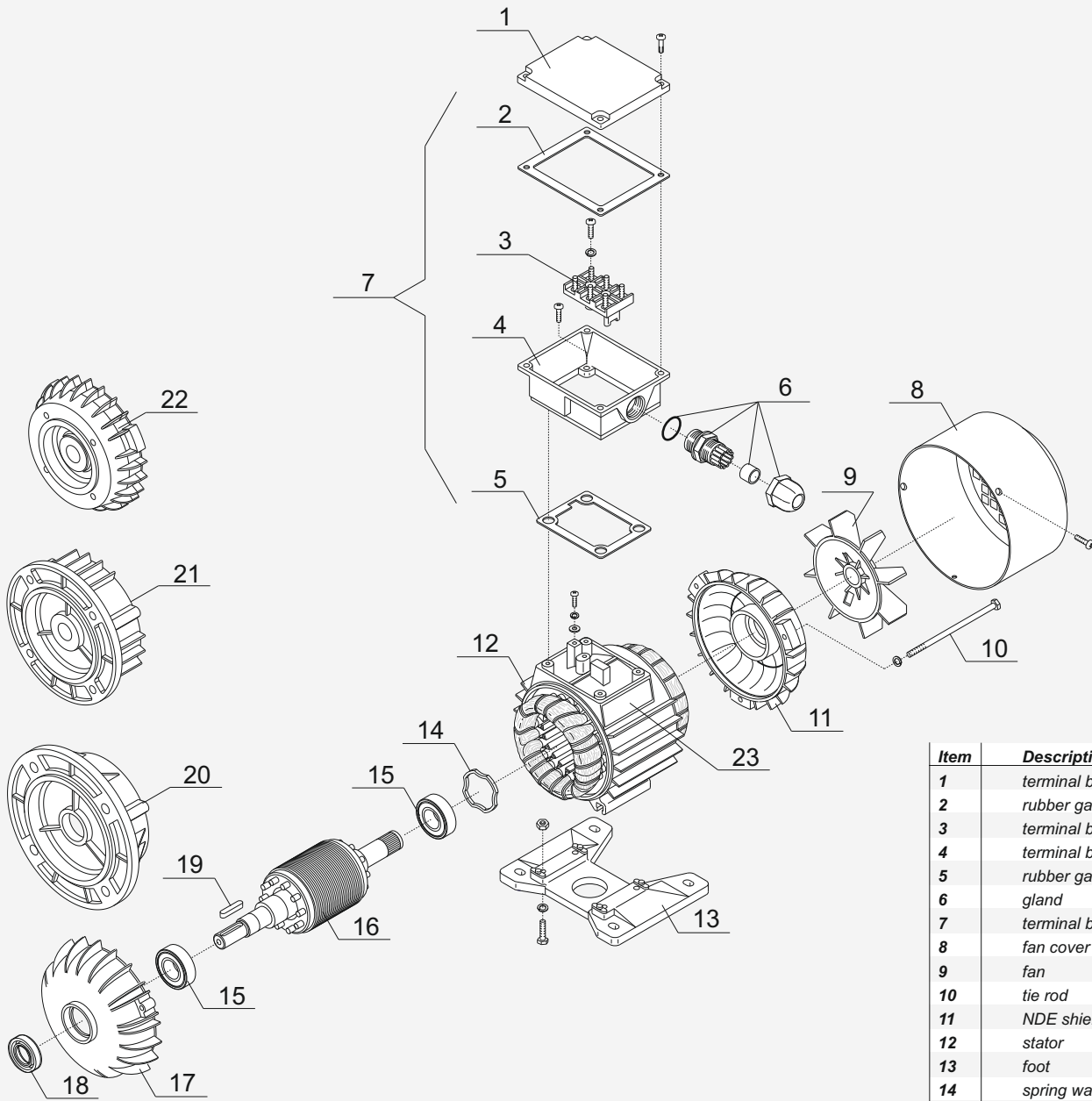
\* - the SVh and SVEE motors may operate only in vertical position IM V1.

FLANGE MOUNTED MOTORS - IM B14



DIMENSION DRAWINGS

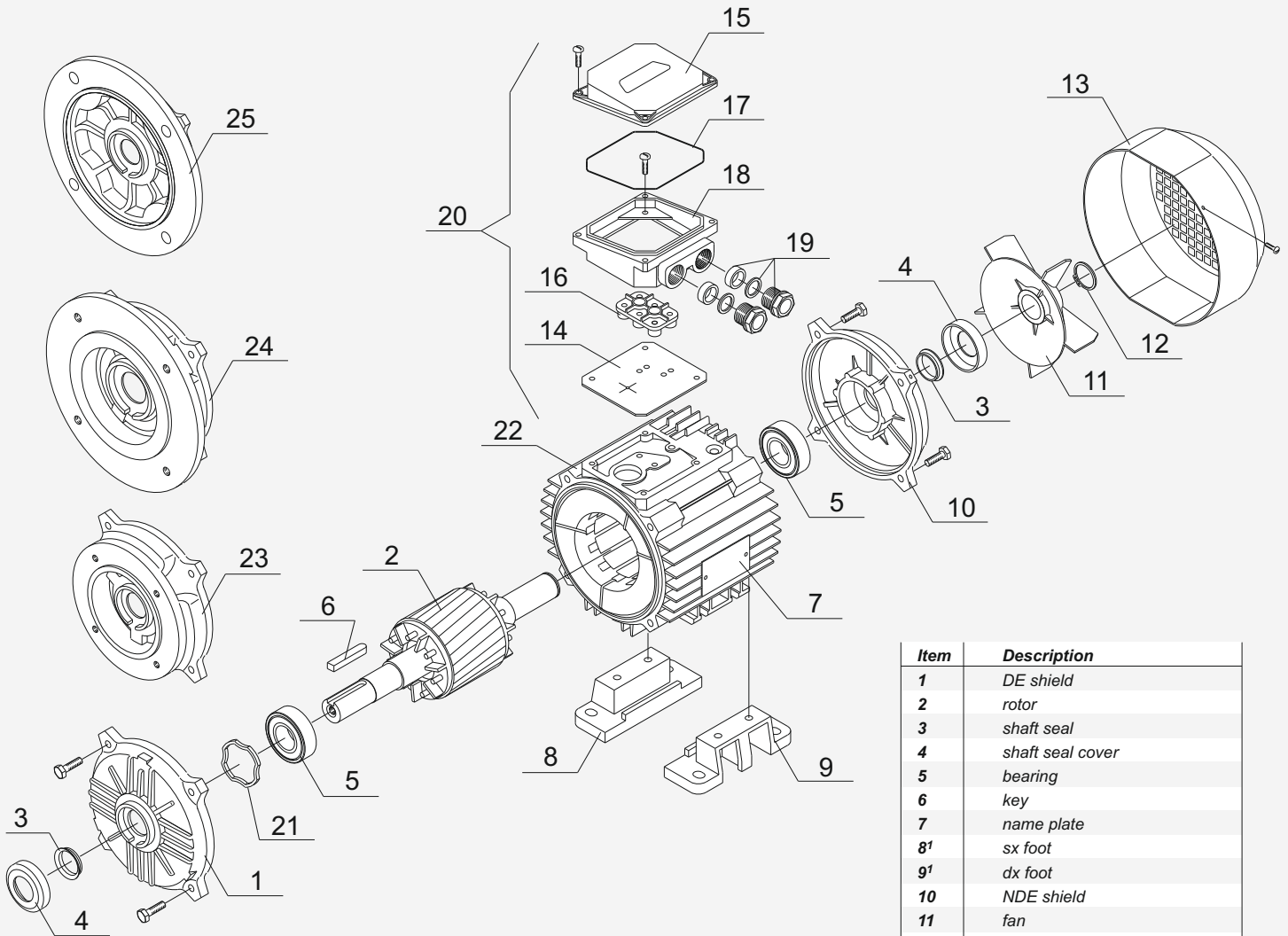
Motor type	Flange	D	E	F	GA	M	N	P	S	T	LE	HB	L
SKh 56-2A1	B14/C1	9j6	20	3h9	10,2	85	70j6	105	M6	2,5	15	98	183
SKh 56-2A2	B14/C2	9j6	20	3h9	10,2	65	50j6	80	M5	2,5	12,5	98	183
SKh 56-4A1	B14/C1	9j6	20	3h9	10,2	85	70j6	105	M6	2,5	15	98	183
SKh 56-4A2	B14/C2	9j6	20	3h9	10,2	65	50j6	80	M5	2,5	12,5	98	183
SKh 56-2B1	B14/C1	9j6	20	3h9	10,2	85	70j6	105	M6	2,5	15	98	193
SKh 56-2B2	B14/C2	9j6	20	3h9	10,2	65	50j6	80	M5	2,5	12,5	98	193
SKh 56-4B1	B14/C1	9j6	20	3h9	10,2	85	70j6	105	M6	2,5	15	98	193
SKh 56-4B2	B14/C2	9j6	20	3h9	10,2	65	50j6	80	M5	2,5	12,5	98	193
SKh 56-6B1	B14/C1	9j6	20	3h9	10,2	85	70j6	105	M6	2,5	15	98	193
SKh 56-6B2	B14/C2	9j6	20	3h9	10,2	65	50j6	80	M5	2,5	12,5	98	193
SKh 63- .A1	B14/C1	11j6	23	4h9	12,5	100	80j6	120	M6	3	14	102	200
SKh 63- .A2	B14/C2	11j6	23	4h9	12,5	75	60j6	90	M5	2,5	9,5	102	200
SKh 63- .B1	B14/C1	11j6	23	4h9	12,5	100	80j6	120	M6	3	14	102	210
SKh 63- .B2	B14/C2	11j6	23	4h9	12,5	75	60j6	90	M5	2,5	9,5	102	210
SKh 71- .A1	B14/C1	14j6	30	5h9	16	115	95j6	140	M8	3	14	111	223
SKh 71- .A2	B14/C2	14j6	30	5h9	16	85	70j6	105	M6	2,5	12	111	223
SKh 71- .B1	B14/C1	14j6	30	5h9	16	115	95j6	140	M8	3	14	111	245
SKh 71- .B2	B14/C2	14j6	30	5h9	16	85	70j6	105	M6	2,5	12	111	245
SKh 80- .A1	B14/C1	19j6	40	6h9	21,5	130	110j6	160	M8	3,5	14	119	266
SKh 80- .A2	B14/C2	19j6	40	6h9	21,5	100	80j6	120	M6	3	12	119	266
SKh 80- .B1	B14/C1	19j6	40	6h9	21,5	130	110j6	160	M8	3,5	14	119	278
SKh 80- .B2	B14/C2	19j6	40	6h9	21,5	100	80j6	120	M6	3	12	119	278
SKh 90S ...	B14/C1	24j6	50	8h9	27	130	110j6	160	M8	3,5	10	130	305
SKh 90S ...	B14/C2	24j6	50	8h9	27	115	95j6	140	M8	3	10	130	305
SKh 90L ...	B14/C1	24j6	50	8h9	27	130	110j6	160	M8	3,5	10	130	330
SKh 90L ...	B14/C2	24j6	50	8h9	27	115	95j6	140	M8	3	10	130	330
SKg 100L ...	B14/C1	28j6	60	8h9	31	165	130j6	200	M10	3,5	12	140	376
SKg 100L ...	B14/C2	28j6	60	8h9	31	130	110j6	160	M8	3,5	12	140	376
SKg 112M ...	B14/C1	28j6	60	8h9	31	165	130j6	200	M10	3,5	12	164	384
SKg 112M ...	B14/C2	28j6	60	8h9	31	130	110j6	160	M8	3,5	12	164	384
SKg 132S ...	B14/C1	38k6	80	10h9	41	215	180j6	250	M12	4	12	178	463
SKg 132S ...	B14/C2	38k6	80	10h9	41	165	130j6	200	M10	3,5	12	178	463
SKg 132S-2B	B14/C1	38k6	80	10h9	41	215	180j6	250	M12	4	12	178	501
SKg 132S-2B	B14/C2	38k6	80	10h9	41	165	130j6	200	M10	3,5	12	178	501
SKg 132M ...	B14/C1	38k6	80	10h9	41	215	180j6	250	M12	4	12	178	501
SKg 132M ...	B14/C2	38k6	80	10h9	41	165	130j6	200	M10	3,5	12	178	501



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

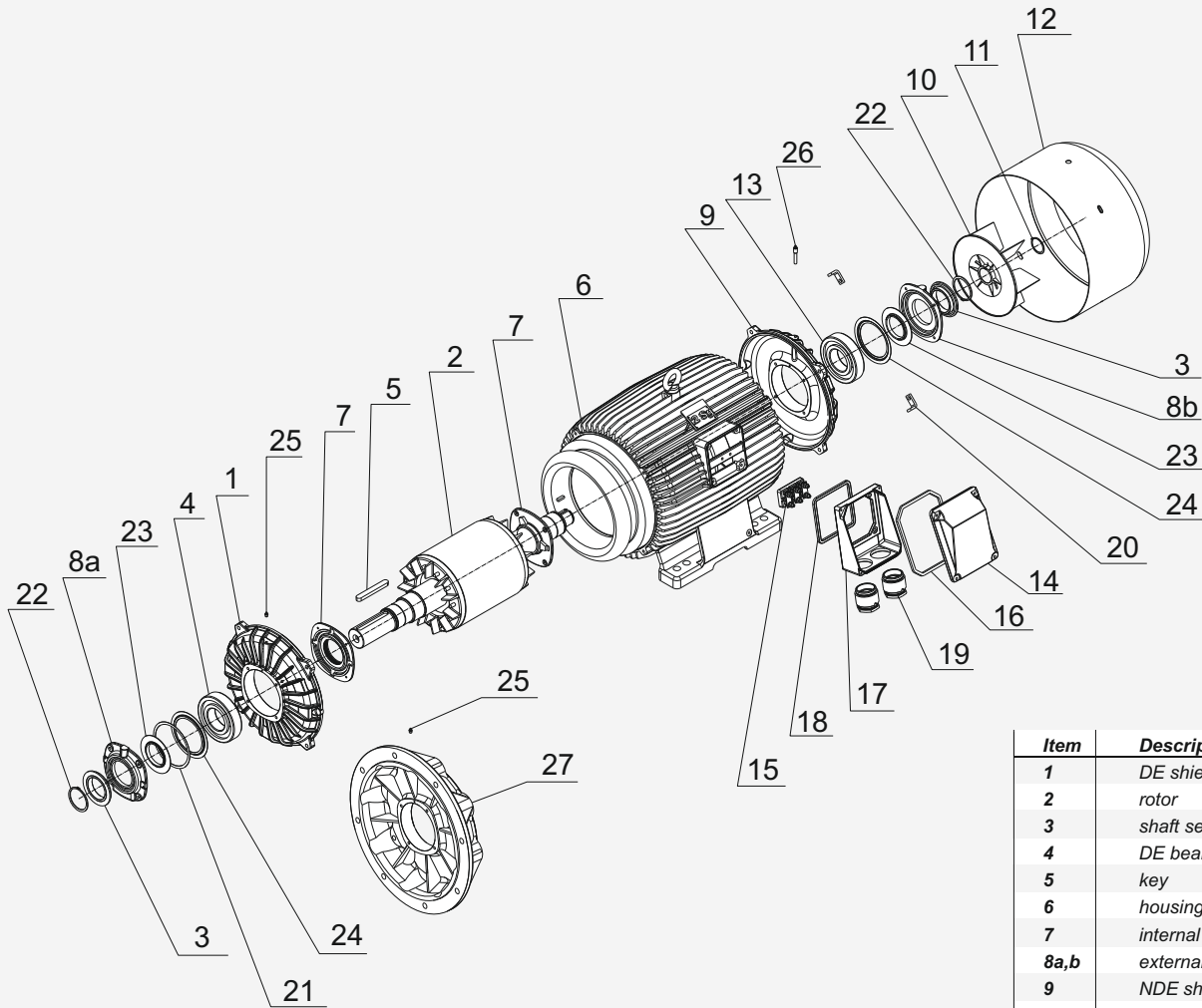
LIST OF MOTOR PARTS



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 feet can be screwed or integrated with the motor housing, for frame size 160 -180 feet are integrated with the motor housing.  
2 - only for frame size 90 - 132.

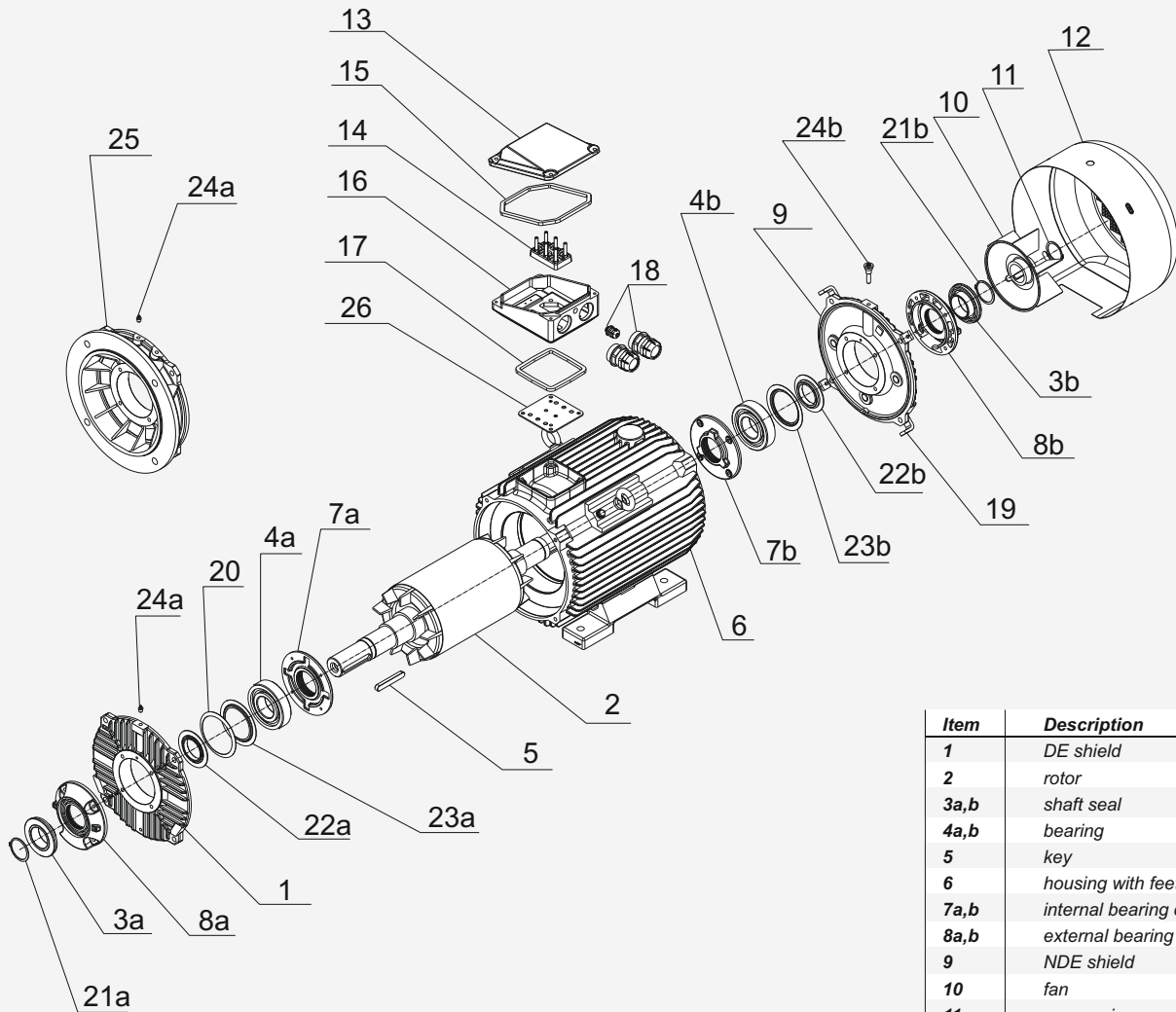


Item	Description
1	DE shield
2	rotor
3	shaft seal
4	DE bearing
5	key
6	housing with feet
7	internal bearing cap
8a,b	external bearing cap
9	NDE shield
10	fan
11	seeger ring
12	fan cover
13	NDE bearing
14	terminal box cover
15	terminal cover support
16	rubber gasket
17	terminal box housing
18	rubber gasket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

DE - drive end  
NDE - non drive end

\* only for size 315

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

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ISO 9001

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