



IE1
Standard Efficiency

3-PHASE INDUCTION MOTORS
SERIES SG, SH, SEE, SIE - INCREASED OUTPUT



3-PHASE INDUCTION MOTORS

SERIES SG, SH, SEE, SIE - INCREASED OUTPUT

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Kolmer Elektromotoren B.V.
Industrieweg 16
3881 LB Putten
The Netherlands
Tel. +31 (0) 341 - 369 696
Fax +31 (0) 341 - 369 690
E-mail: info@kolmerelectricmotors.com
Website: www.kolmerelectricmotors.com

Contents

1. General information	5
1.1. Cantoni product range	5
1.2. Standards	5
1.3. Standard operating conditions	6
1.4. Tolerances of motor parameters.....	6
1.5. Mounting arrangements	7
1.6. Terminal box equipment	8
1.7. Bearings	9
1.8. Permissible loads on the shaft end.....	10
2. Sg, Sh, SEE, SIE series - increased output	11
2.1. Technical data	11
2.2. Spare parts	15



1. General information

1.1. Cantoni product range

Cantoni offers a full range of induction electric motors, from 0,04 kW up to 6000 kW, in standard and special executions. Cantoni motors operate in almost all industrial segments like: pumps, fans, compressors, conveyors, mining, power plants and many other fields. The Cantoni product range consists of standard motors according to IEC standard in efficiency classes IE1, IE2, IE3, IE4 and motors according to NEMA standard e.g. NEMA Premium motors. Apart from standard motors, it is possible to offer motors for special applications in marine, oil, gas, energy, construction and many other industries. All main components of the motors are produced in Europe (Poland) in order to guarantee the highest quality level. Particular importance is attached to the raw materials used for production, they are delivered only by qualified suppliers exclusively from the European Union.

The designs and solutions correspond to the customer requirements and international norms. All motors are manufactured according to Quality Management System consistent with ISO 9001 and Environmental Management System consistent with ISO 14001. Cantoni motors are provided with CE mark and fulfil the EU Directives regarding the safety measures. The motors comply with almost all international standards: German standards DIN VDE, British standards BS, Italian standards CEI and on request Canadian standards CSA, American standards UL, NEMA or EU standard ATEX.

1.2. Standards

The electric motors are manufactured according to the international standards:

Description	Standard
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

1.3. Standard operating conditions

Cantoni motors can operate under the following conditions:

- Motor of series Sg, Sh, SEE, SIE – increased output are efficiency class IE1
- Motors are insulated with Class F (105K) materials and Class B temperature rise
- PTC thermistors are available on request
- The standard degree of enclosure protection is IP55. Shafts are fitted with oil seal as standard
- The cooling method is IC411: TEFC (Totally Enclosed Fan Cooled)
- The standard voltage of the motors is 230/400V or 400/690V at a frequency of 50 Hz
- Motors are suitable for operating mode S1 (continuous operation)
- Motors are suitable to operate at an ambient temperature of -20°C / +40°C
- Motors are balanced Class A (½ key)
- Special executions are available on request (for example brake motors, marine execution, etc)

For other operating conditions, please contact Kolmer to check whether this condition is suitable or not.

1.4. Tolerances of motor parameters

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

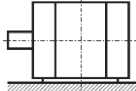
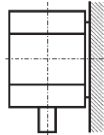
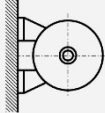
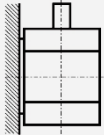
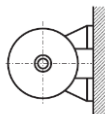
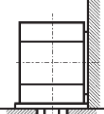
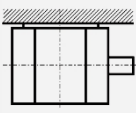
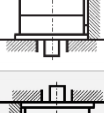
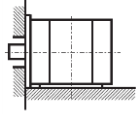
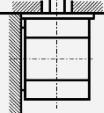
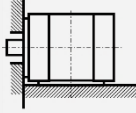
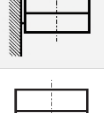
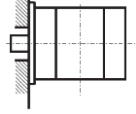
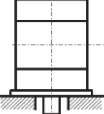
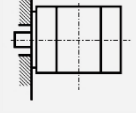
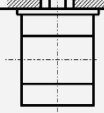
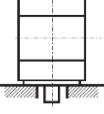
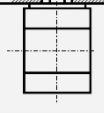
Description	Permissible deviations
Power factor $\cos \varphi$	$\Delta \cos \varphi = -\frac{1}{6} \cdot (1 - \cos \varphi_N)$
Efficiency η	$\Delta \eta = -15\% \cdot (100 - \eta_N)$ for $P_N \leq 150$ kW $\Delta \eta = -10\% \cdot (100 - \eta_N)$ for $P_N > 150$ kW
Speed n	$\Delta n = \pm 20\% \cdot (n_s - n_N)$ for $P_N > 1$ kW $\Delta n = \pm 30\% \cdot (n_s - n_N)$ for $P_N \leq 1$ kW
Locked rotor current I_L/I_N	$\Delta \frac{I_L}{I_N} = +20\% \cdot \frac{I_L}{I_N}$
Locked rotor torque T_L/T_N	Min $\frac{T_L}{T_N} = -15\% \cdot \frac{T_L}{T_N}$ Max $\frac{T_L}{T_N} = +25\% \cdot \frac{T_L}{T_N}$
Breakdown torque T_B/T_N	$\Delta \frac{T_B}{T_N} = -10\% \cdot \frac{T_B}{T_N}$
Moment of inertia J [kg·m ²]	$\Delta J = \pm 10\% \cdot J$
Sound pressure level L_{PA} [dB]	$\Delta L_{PA} = +3$ dB /A/

Standard motors comply with Voltage value and frequency variations within zone A according IEC 60034-1. Other tolerances of supply Voltage and their frequency are available on request.

Description	Permissible deviations
Voltage value U	$\Delta U = \pm 5\%$
Frequency f	$\Delta f = \pm 2\%$

1.5. Mounting arrangements

The most commonly used mounting arrangements are shown in the table below. Other mounting arrangements are available on request. According to the safety standard for electrical machines, foreign objects must be prevented from falling into the fan cover. On request, a protective hood (rain cover) can be mounted over the fan cover.

Horizontal shaft				Vertical shaft			
	IEC EN 60034-7 code II	IEC EN 60034-7 code I	Frame size		IEC EN 60034-7 code II	IEC EN 60034-7 code I	Frame size
	IM 1001	IM B3	56 - 315		IM 1011	IM V5	56 - 315
	IM 1051	IM B6	56 - 280		IM 1031	IM V6	56 - 315
	IM 1061	IM B7	56 - 280		IM 2011	IM V15	56 - 315
	IM 1071	IM B8	56 - 280		IM 2111	IM V17	56 - 160
	IM 2001	IM B35	56 - 315		IM 2031	IM V36	56 - 315
	IM 2101	IM B34	56 - 160		IM 2131	IM V37	56 - 160
	IM 3001	IM B5	56 - 315		IM 3011	IM V1	56 - 315
	IM 3601	IM B14	56 - 160		IM 3031	IM V3	56 - 280
					IM 3611	IM V18	56 - 160
					IM 3631	IM V19	56 - 160

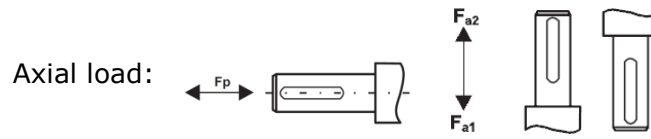
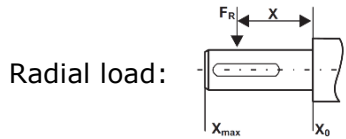
1.6. Terminal box equipment

Frame size	Number of terminals	Terminal size	Terminal box position	Cable glands	Cable gland direction	Temperature sensors
56	6	M4	Top	M20 (1x)	To right	On request
63	6	M4	Top	M20 (1x)	To right	On request
71	6	M4	Top	M20 (1x)	To right	On request
80	6	M4	Top	M20 (1x)	To right	On request
90	6	M5	Top	M25 (1x), M20 (1x)	To right	On request
100	6	M5	Top	M25 (1x), M20 (1x)	To right	On request
112	6	M5	Top	M25 (1x), M20 (1x)	To right	On request
132	6	M6	Top	M25 (2x)	To right	On request
160	6	M6	Top	M40 (2x)	To right	On request
180	6	M6	Top	M40 (2x)	To right	On request
200	6	M8	Right	M50 (2x), M16 (1x)	Downwards	On request
225	6	M8	Right	M50 (2x), M16 (1x)	Downwards	On request
250	6	M10	Right	M63 (2x), M16 (1x)	Downwards	On request
280	6	M10	Right	M63 (2x), M16 (1x)	Downwards	On request
315M	6		Right	M63 (2x), M16 (1x)	Downwards	On request

1.7. Bearings

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

1.8. Permissible loads on the shaft end



Frame size	Number of poles	Horizontal operation		Vertical operation		
		$F_R (X=0)$	$F_R (X=X_{max})$	F_p	F_{a1}	F_{a2}
56	2	0,20	0,16	0,04	0,03	0,05
	4	0,25	0,20	0,05	0,04	0,06
63	2	0,20	0,16	0,04	0,04	0,06
	4	0,25	0,20	0,06	0,05	0,07
	6	0,27	0,22	0,06	0,05	0,07
	8	0,27	0,22	0,07	0,06	0,08
71	2	0,29	0,24	0,07	0,05	0,09
	4	0,36	0,30	0,09	0,07	0,11
	6	0,40	0,35	0,10	0,08	0,12
	8	0,40	0,35	0,11	0,09	0,13
80	2	0,33	0,27	0,09	0,06	0,12
	4	0,44	0,37	0,12	0,09	0,15
	6	0,51	0,42	0,14	0,11	0,17
	8	0,51	0,42	0,17	0,15	0,20
90	2	0,68	0,44	0,68	0,35	0,38
	4	0,78	0,44	0,78	0,35	0,38
	6	0,96	0,44	0,96	0,35	0,38
100	2	0,88	0,46	0,90	0,28	0,40
	4	1,06	0,46	0,98	0,38	0,40
	6	1,20	0,46	1,10	0,38	0,40
112	2	1,00	0,48	1,00	0,40	0,45
	4	1,45	0,48	1,40	0,40	0,45
	6	1,62	0,48	1,60	0,40	0,45
	8	1,05	0,97	1,05	0,25	0,40
132	2	1,82	0,66	1,90	0,43	0,60
	4	2,10	0,66	2,20	0,45	0,60
	6	2,80	0,66	2,80	0,50	0,60

Frame size	Number of poles	Horizontal operation		Vertical operation			
		$F_R (X=0)$	$F_R (X=X_{max})$	F_p	F_{a1}	F_{a2}	
132	8	1,63	1,39	1,57	0,17	0,57	
160	2	2,22	0,98	2,30	0,92	0,95	
	4	2,40	0,98	2,40	0,92	0,95	
	6	2,85	1,10	2,90	0,98	1,00	
180	8	1,92	1,50	1,80	1,47	1,80	
	2	2,92	1,30	3,00	1,10	1,20	
	4	3,60	1,30	3,60	1,10	1,30	
	6	4,00	1,80	4,10	1,40	1,70	
200LB	8	3,30	2,04	2,49	1,90	2,44	
	2	1,80	1,50	1,50	1,00	2,10	
	200L	4	2,40	1,90	2,10	1,50	2,90
	200LB	6	2,70	2,20	2,40	1,60	3,40
200L	8	5,10	4,20	4,10	3,40	5,00	
225M	2	2,20	1,80	1,70	1,10	2,50	
	4	2,70	2,10	2,40	1,60	3,50	
	6	3,10	2,50	2,80	1,90	4,00	
	8	5,70	4,60	4,60	3,70	5,80	
250	2	2,60	2,10	2,00	1,30	3,00	
	4	3,20	2,60	2,80	1,80	4,20	
	6	3,60	2,90	3,20	2,00	4,90	
	8	6,90	5,60	5,60	4,30	7,20	
280M	2	3,10	2,50	2,50	1,30	4,10	
	4	3,70	3,10	3,50	1,90	5,50	
	6	4,80	4,00	4,10	2,70	6,10	
	8	8,00	6,60	6,50	4,90	8,60	
315MB	6	6,80	5,60	6,10	3,60	9,30	
315MB	8	7,70	6,40	6,80	4,30	10,00	



2. Sg, Sh, SEE, SIE series - increased output

2.1. Technical data

2-Pole motors (3000 rpm)

Type	Rated output	Rated speed	Rated torque	Efficiency			Power Factor	Full load current			Locked rotor current	Locked rotor torque	Breakdown torque	Moment of inertia	Sound pressure level	Netto weight B ₃
	P _N	n _N	T _N	η _N [%]			cosφ _N	I _N [A]			I _L /I _N	T _L /T _N	T _B /T _N	J	L _{PA}	m
	[kW]	[min ⁻¹]	[N·m]	50% load	75% load	100% load	[-]	230V	400V	690V	[-]	[-]	[-]	[kg·m ²]	[dB]	[kg]
Sh 56x-2C	0,18	2840	0,60	50,5	59,4	66,0	0,60	1,20	0,70		3,6	2,9	2,7	0,00010	50	3,5
Sh 63x-2C	0,37	2820	1,25	69,1	74,4	75,0	0,72	1,75	1,00		4,7	3,3	3,2	0,00031	55	5,0
Sh 71x-2C	0,75	2780	2,58			78,0	0,81	3,1	1,8		4,8	2,1	2,2	0,000691		7,6
Sh 80x-2C	1,5	2800	5,10			79,0	0,84	5,9	3,4		5,0	3,0	2,8	0,001422		11,6
Sh 80x-2D	2,2	2820	7,45			81,0	0,75	9	5,2	3,0	5,3	3,2	3,0	0,001673		13,2
PSh 90L-2	3	2845	10,70	79,3	81,5	81,1	0,82	11,3	6,5	3,8	6,6	3,2	3,6	0,0017	68	18,9
PSg 100L-2	4	2885	13,24	81,2	83,0	82,7	0,85	14,3	8,2	4,8	5,8	1,9	2,7	0,0048	71	25
PSg 112M-2	5,5	2890	18,17	85,3	86,6	86,0	0,86		10,7	6,2	7,1	2,5	3,2	0,0060	73	34
PSg 112M-2A	6	2890	19,83	86,1	87,2	86,7	0,83		12,0	7,0	7,6	2,9	3,4	0,0067	69	36,5
PSg 112M-2B	7,5	2880	24,87	87,5	87,8	86,8	0,87		14,3	8,3	7,0	2,5	3,0	0,0074	69	39
PSg 132M-2	9,2	2920	30,90	88,2	89,3	88,5	0,89		16,9	9,8	7,8	2,7	3,2	0,019	71	75
PSg 132S-2	11	2920	35,98	87,7	88,7	88,2	0,89		20,2	11,7	8,4	2,9	3,4	0,020	73	77,5
PSg 132M-2A	11	2920	35,98	87,7	88,7	88,2	0,89		20,2	11,7	8,4	2,9	3,4	0,020	73	78
PSg 160L-2	22	2930	71,71	90,7	91,1	90,5	0,89		39,4	22,9	7,7	2,5	3,0	0,059	69	119
PSg 180L-2	30	2940	97,45	88,7	90,1	90,1	0,89		52,8	30,6	6,5	2,7	2,6	0,095	78	190
2Sg 200L2Bz	45	2955	145	93,2	93,6	93,5	0,87		80	46	6,5	2,2	2,5	0,18	78	265
2Sg 225M2z	55	2964	177	94,6	94,9	94,6	0,89		94	55	7,3	2,0	2,6	0,26	79	350
2Sg 250M2z	75	2970	241	94,5	94,7	94,3	0,91		126	73	6,9	2,0	2,5	0,42	79	480
2Sg 280M2z	110	2977	353	94,0	94,9	95,1	0,91		183	106	8,3	2,2	2,5	0,91	77	620

4-Pole motors (1500 rpm)

Type	Rated output	Rated speed	Rated torque	Efficiency			Power Factor	Full load current			Locked rotor current	Locked rotor torque	Breakdown torque	Moment of inertia	Sound pressure level	Netto weight B3
	P_N	n_N	T_N	η_N [%]			$\cos\phi_N$	I_N [A]			I_L/I_N	T_L/T_N	T_B/T_N	J	L_{PA}	m
	[kW]	[min ⁻¹]	[N·m]	50% load	75% load	100% load	[-]	230V	400V	690V	[-]	[-]	[-]	[kg·m ²]	[dB]	[kg]
Sh 56x-4C	0,12	1400	0,82	44,3	52,9	52,0	0,55	1,20	0,70		2,2	2,2	2,4	0,000300	49	3,3
Sh 63x-4C	0,25	1380	1,72	54,2	61,7	66,0	0,56	1,75	1,00		3,1	2,5	2,5	0,000380	51	5,0
Sh 71x-4C	0,55	1360	3,86	62,9	68,2	70,0	0,62	3,50	2,00		3,0	2,5	2,4	0,001099	56	7,2
Sh 80x-4C	1,1	1380	7,60			76,0	0,76	5	2,9		4,0	1,7	2,0	0,002655		11
Sh 80x-4D	1,5	1380	10,40			78,0	0,72	7,45	4,3		3,8	2,4	2,2	0,003123		13,3
PSh 90L-4	2,2	1410	14,9	75,6	78,4	78,0	0,78	9,1	5,2	3,0	5,45	2,7	2,9	0,0034	61	19,4
PSg 100L-4	4	1415	27,0	78,9	81,1	80,7	0,78	16,0	9,2	5,3	6,2	2,8	2,9	0,0067	61	28,9
PSg 112M-4A	5,5	1425	36,86	84,1	84,9	83,9	0,84		11,3	6,5	6,45	2,5	3,1	0,012	61	39
PSg 132M-4	9,2	1455	60,38	86,3	87,7	87,3	0,82		18,5	10,8	8,0	2,6	3,2	0,043	62	77
PSg 132M-4A	11	1450	72,45	86,4	87,5	87,0	0,83		22,0	12,7	7,05	2,5	3,2	0,042	64	82
PSg 160L-4	18,5	1455	121,4	89,6	90,1	89,7	0,85		35,0	20,3	7,5	2,3	2,9	0,103	61	130
PSg 180L-4	30	1465	195,56	91,6	91,9	91,4	0,90		52,6	30,5	7,5	2,8	2,7	0,185	67	200
2Sg 200L4Az	37	1472	241	91,3	92,3	92,0	0,83		70	41	7,2	3,2	3,0	0,31	63	265
2Sg 200L4Bz	45	1475	291	92,9	93,3	93,0	0,85		82	48	7,2	3,2	2,9	0,37	67	265
2Sg 225M4z	55	1476	356	93,5	94,0	93,6	0,88		96	56	7,2	2,8	2,4	0,55	73	345
2Sg 250M4z	75	1475	486	93,8	94,0	93,5	0,92		126	73	6,9	2,7	2,2	0,93	77	425
2Sg 280M4z	110	1480	710	93,7	94,4	94,2	0,92		183	106	6,9	2,3	2,2	1,67	77	660



6-Pole motors (1000 rpm)

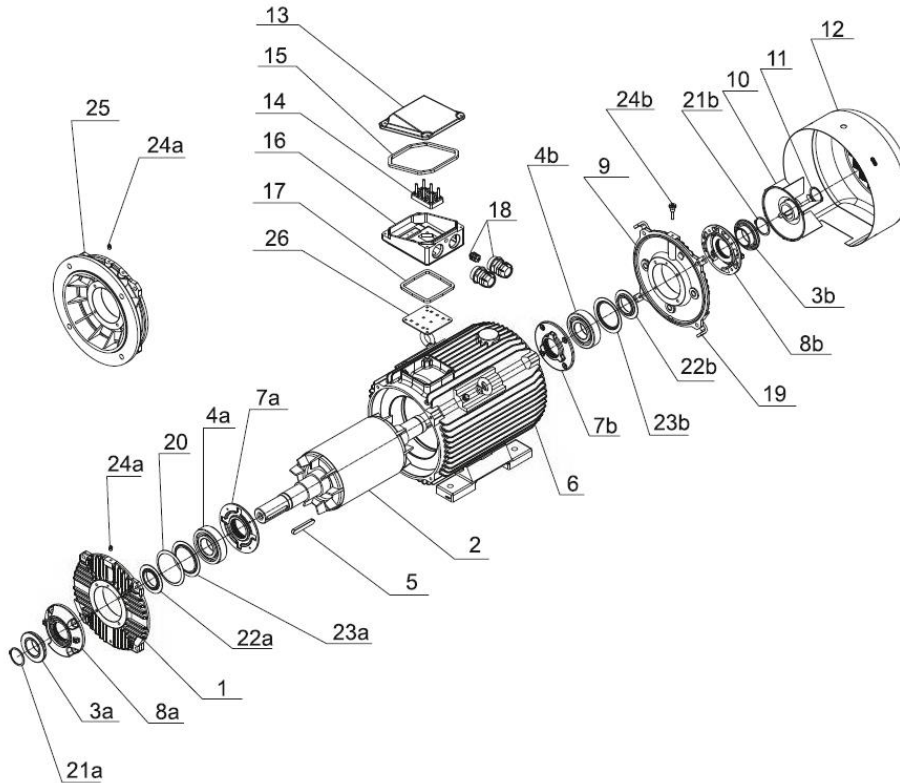
Type	Rated output	Rated speed	Rated torque	Efficiency			Power Factor	Full load current			Locked rotor current	Locked rotor torque	Breakdown torque	Moment of inertia	Sound pressure level	Netto weight B3
	P_N	n_N	T_N	η_N [%]			$\cos\phi_N$	I_N [A]			I_L/I_N	T_L/T_N	T_B/T_N	J	L_{PA}	m
	[kW]	[min ⁻¹]	[N·m]	50% load	75% load	100% load	[-]	230V	400V	690V	[-]	[-]	[-]	[kg·m ²]	[dB]	[kg]
Sh 63x-6C	0,15	870	1,65	30,2	35,2	42,0	0,55	1,90	1,10		1,8	1,9	1,9	0,000422	50	4,8
Sh 71x-6C	0,37	880	4,01	55,6	60,0	60,0	0,70	2,35	1,35		2,6	1,9	1,8	0,001221	50	7,3
Sh 80x-6C	0,75	900	8			72,0	0,72	4	2,3		3,4	2,1	2,0	0,002933		10,8
Sh 80x-6D	1,1	900	12,4			74,0	0,68	5,5	3,2		2,0	1,6	1,5	0,003451		12,5
PSh 90L-6	1,5	890	16,1	69,5	72,1	70,1	0,73	7,4	4,2		3,65	2,1	2,1	0,0031	64	15,9
PSg 100L-6	1,8	925	18,6	70,5	72,9	71,7	0,80	7,9	4,5		3,9	1,6	2,0	0,009	60	21,4
PSg 100L-6A	2,2	925	22,7	75,3	76,8	75,0	0,78	9,4	5,4	3,1	4,3	1,8	1,9	0,01	61	21,8
PSg 112M-6	3	935	30,6	82,5	82,6	79,4	0,81	11,7	6,7	3,9	4,35	1,7	2,0	0,0177	60	33
PSg 132M-6	7,5	950	75,4	84,5	85,3	84,2	0,79		16,3	9,4	6,1	2,5	2,9	0,039	73	78
PSg 160L-6	15	950	150,8	88,4	88,5	87,5	0,81		30,5	17,7	6,9	2,6	3,3	0,108	64	134
PSg 180L-6	18,5	970	182,1	86,5	87,9	87,6	0,81		37,6	21,8	6,0	2,9	2,5	0,2185	65	166
2Sg 200L6Bz	30	975	294	89,2	89,9	89,2	0,86		56	33	6,4	2,5	2,6	0,58	65	330
2Sg 225M6Az	37	981	360	93,0	92,9	91,9	0,90		65	37	6,6	2,3	2,0	0,87	64	380
2Sg 225M6Bz	45	978	439	92,5	92,4	91,4	0,88		81	47	6,0	2,2	2,0	0,9	64	400
2Sg 250M6Az	45	985	436	92,6	93,0	92,4	0,89		79	46	6,7	2,6	2,0	1,39	70	440
2Sg 250M6Bz	55	985	533	91,7	92,5	92,3	0,87		99	57	7,7	3,2	2,4	1,5	71	465
2Sg 280M6z	75	985	727	93,2	93,6	93,5	0,89		130	75	6,6	2,3	2,2	2,16	68	670
2Sg 315M6Bz	132	985	1280	94,8	95,1	95,0	0,84		239	138	5,8	2,3	1,6	3,01	74	895

8-Pole motors (750 rpm)

Type	Rated output	Rated speed	Rated torque	Efficiency			Power Factor	Full load current			Locked rotor current	Locked rotor torque	Breakdown torque	Moment of inertia	Sound pressure level	Netto weight B3
	P_N	n_N	T_N	η_N [%]			$\cos\phi_N$	I_N [A]			I_L/I_N	T_L/T_N	T_B/T_N	J	L_{PA}	m
	[kW]	[min ⁻¹]	[N·m]	50% load	75% load	100% load	[-]	230V	400V	690V	[-]	[-]	[-]	[kg·m ²]	[dB]	[kg]
Sh 63x-8C	0,08	650	1,10	11,5	16,4	30,0	0,50	1,35	0,78		1,5	1,6	1,6	0,000422	50	5,0
Sh 71x-8C	0,18	680	2,53	31,1	39,4	45,0	0,52	2,40	1,40		2,0	2,7	2,6	0,001221	50	7,3
Sh 80x-8C	0,37	680	5,20	46,8	54,9	58,0	0,60	2,95	1,70		2,5	2,0	2,0	0,001693	52	7,5
Sh 80x-8D	0,55	690	7,61	48,7	55,8	59,0	0,60	4,20	2,40		2,5	2,1	2,2	0,003451	52	12,7
PSg 112M-8	1,8	715	24			73,6	0,69	8,9	5,1		4,5	1,9	2,4	0,0192		31,0
PSg 132M-8	4	700	54,57	75,7	77,8	77,0	0,77		9,7	5,6	5,1	2,3	2,8	0,0439	60	61,2
2Sg 160L8z	11	700	150			81,5	0,82		23	13,3	5,7	2,7	2,5	0,1		130
2Sg 180L8z	15	727	197			88,1	0,78		31,5	18,3	5,4	1,8	2,6	0,19		155
2Sg 200L8z	18,5	731	242	87,7	88,8	88,1	0,80		38	22	5,2	2,3	1,9	0,47	54	320
2Sg 225M8z	30	737	389	89,6	90,5	90,0	0,79		61	35	5,6	2,3	2,3	0,87	62	380
2Sg 250M8z	37	735	481	91,7	91,9	90,9	0,83		71	41	5,7	2,4	1,7	1,39	65	440
2Sg 280M8z	55	735	715	92,0	93,0	92,7	0,81		106	61	5,4	2,1	1,8	2,16	65	700
2Sg 315M8Bz	110	740	1420	92,9	93,6	92,9	0,74		231	134	4,7	2,0	1,6	3,01	80	850



2.2. Spare parts



#	Description
1	DE shield
2	Rotor
3	Shaft seal
4	Bearing
5	Key
6	Housing with feet
7	Internal bearing cap
8	External bearing cap
9	NDE shield
10	Fan
11	Seeger ring
12	Fan cover
13	Terminal box cover

#	Description
14	Terminal board
15	Rubber gasket
16	Terminal box housing
17	Rubber gasket
18	Cable glands
19	Fan cover support
20	Spring washer
21	Seeger ring
22	Grease shield
23	Bearing internal ring
24	Grease nipple
25	Flange B5
26	Rubber gasket



📍 Industrieweg 16, 3881 LB Putten
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MOTORS WITH ADDED VALUE