FFD AUSTRIA

Explosion-Proof
Motors
Increased
Safety

Flame
Proof
Squirrel
Cage
Motors

Flame-Proof
Squirrel Cage
Motors
for Mining

KEMA

Certified to
ATEX 94/9/EC Directive

DESCRIPTION OF THE CATALOGUE VERSION

Duty type:	S1
Rated voltage:	230V, 400V
Frequency:	50 Hz
Ambient temperature:	from -20°C to + 40°C
Mounting height:	up to 1000 m above sea level
Number of free shaft ends:	1
Insulation class:	F

Explosion-proof increased safety motors are adapted for operating in areas endangered by explosion other than methane mines, (apparatus group II, explosion group II) in zone 1 (zone 21).

The EExe motors belong to the apparatus category 2G (zone 1, gas hazardous area) or 2D (zone 21, dust hazardous area) which means that it is either necessary to ensure that the occurrence of ignition source is excluded, or the ignition source must be encapsulated by a recognized type of protection in such a way that the ignition of an explosive atmosphere surrounding the motor is prevented.

Classification of temperature classes according to the ignition temperature of explosive atmosphere:

Ignition temperature of explosive atmosphere [°C]	Temperature class	Max. temperature of motor [°C]
Above 450	T1	450
300 - 450	T2	300
200 - 300	T3	200
135 - 200	T4	135

(Ex)	*specific marking of explosion protection*
II	*for use in hazardous areas other than mines*
2	*apparatus category 2 for use in zone 1 (zone 21)*
G	*for use in gas hazardous areas*
D	*for use in dust hazardous areas*
EEx	*built and tested according to European standards*
e	*increased safety*
II	*explosion group*
T3	*temperature class*

The motors are designed for the temperature class T3 which means that the maximum temperature of any part of the motor can not exceed + 200°C or for the temperature class T4 where maximum temperature can not exceed + 135°C.

IDENTIFICATION, BEARINGS, DEGREE OF PROTECTION

Motor Type	Bearings	Increased Safety Gas Hazardous Area	Degree of Protection	Increased Safety Dust Hazardous Area	Degree of Protection
Sg 63	6202 2Z	II 2G EExe II T3-T4	IP 56	II 2D EExe II T3-T4	IP 65
Sh 71	6203 2Z	II 2G EExe II T3-T4	IP 56	II 2D EExe II T3-T4	IP 65
Sh 80	6204 2Z	II 2G EExe II T3-T4	IP 56	II 2D EExe II T3-T4	IP 65
Sh 90	6205 2Z	II 2G EExe II T3-T4	IP 55		
Sg 100	6206 2Z	II 2G EExe II T3-T4	IP 55		
Sg 112	6306 2Z	II 2G EExe II T3-T4	IP 55		
Sg 132	6308 2Z	II 2G EExe II T3-T4	IP 55		
Sg 160	6309 2Z	II 2G EExe II T3-T4	IP 55		
Sg 180	6311 2Z	II 2G EExe II T3-T4	IP 55		

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

TECHNICAL DATA

In the EExe motors there are applied additional means to increase safety in case of appearance of excessive temperature or occurrence of arcs and sparks inside the motor and on its external parts. There are special terminal board, terminal box ensuring suitable insulating distances, certified cable gland, two neutral terminals, reinforced insulation etc.
The parts of motor housing are made of material with magnesium contents less than 6% apart from the fan cover which is made of steel.

The overload protection of the motor must cause the motor to disconnect from the supply voltage in a time shorter than the specified time t_E when the current is equal to the starting current. Time t_E is the time when, during the flow of the starting current, the motor winding heats up to the limit temperature from the temperature of rated conditions at maximum ambient temperature. For t_E please refer to the table with parameters.

The motors can be provided with a cable gland with a holder (protecting the supply wire against pulling out).
The motors that are provided with special fan cover can work in perpendicular position with the shaft down,
However detailed conditions specified in service manual being enclosed to each motor, must be fulfilled.

STANDARDS

The electric motors are manufactured according to international standards:

Electrical requirements	**IEC 600 34-1** **IEC 600 34-5** **IEC 600 34-6** **IEC 600 34-9**
Mechanical requirement	**IEC 600 34-5** **IEC 600 34-6** **IEC 600 34-7** **IEC 600 34-14** **IEC 600 72-1**

The motors meet requirements of EN 50014, EN-50019 and EN 13980 (production quality requirements).

The products comply with the specifications regarding the electromagnetic compatibility specified in:
EN 50081-1, EN 50081-2, EN 50082-1, EN 50082-2.

Each motor is manufactured according to requirements of ATEX Directive 94/9/EC and has a certificate of conformity with the documentation approved by N.V. KEMA, Netherlands.

Type Sg63.-	KEMA 03 ATEX2176 for temperature class T3
	KEMA 03 ATEX2177 for temperature class T4
Type Sh71.-	KEMA 03 ATEX2178 for temperature class T3
	KEMA 03 ATEX2179 for temperature class T4
Type Sh80.-	KEMA 03 ATEX2180 for temperature class T3
	KEMA 03 ATEX2181 for temperature class T4
Type Sh90.-	KEMA 02 ATEX2136 for temperature class T3
	KEMA 02 ATEX2137 for temperature class T4
Type Sg100.-	KEMA 02 ATEX2138 for temperature class T3
	KEMA 02 ATEX2139 for temperature class T4
Type Sg112.-	KEMA 02 ATEX2140 for temperature class T3
	KEMA 02 ATEX2141 for temperature class T4
Type Sg132.-	KEMA 02 ATEX2142 for temperature class T3
	KEMA 02 ATEX2143 for temperature class T4
Type Sg160.-	KEMA 02 ATEX2144 for temperature class T3
	KEMA 02 ATEX2145 for temperature class T4
Type Sg 180.-	KEMA 02 ATEX2146 for temperature class T3
	KEMA 02 ATEX2147 for temperature class T4

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 consistent with IEC standards.

IEC

All the motors described in present catalogue are provided with CE mark.
It means that our products are consistent with the European Union directives regarding the safety features.

CE

Totally Enclosed Motors
Insulation Class F

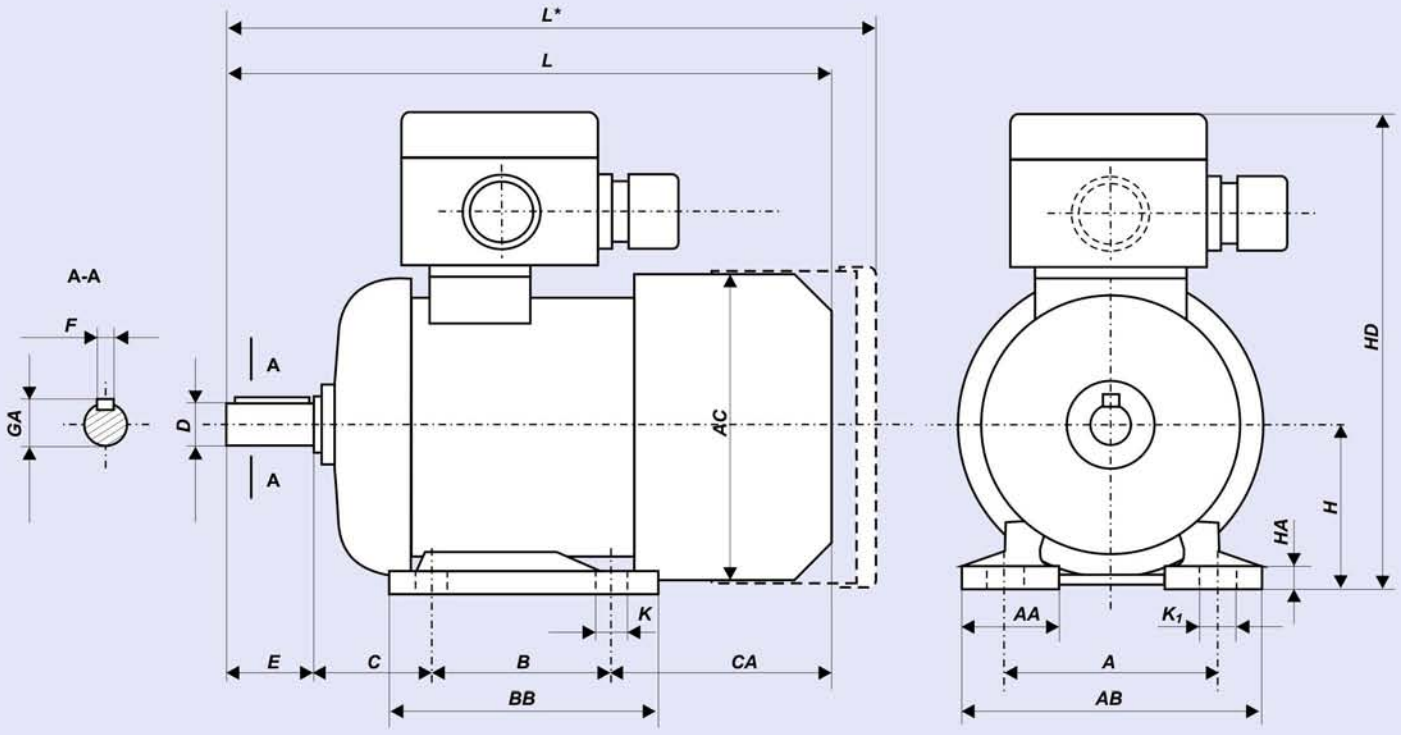
Item	Type of Motor	Rated Output		Rated Speed	Rated Torque	Rated Efficiency	Power Factor	Full-Load Amps at Rated Voltage		Locked Rotor Torque	Locked Rotor Current	Breakdown Torque	Heating Time t_E		Weight (IMB3)
		P_N		n_N	T_N	η_N	$\cos\varphi_N$	I_N		T_L/T_N	I_L/I_N	T_b/T_N	T3	T4	m
		[kW]	[HP]	[rpm]	[Nm]	[%]	[-]	$[A]_{230V}$	$[A]_{400V}$	[-]	[-]	[-]	[s]		kg
							2p=2	n_S=3000 rpm							
1.	ExSg63-2A-T3	0,18	0,25	2710	0,63	60	0,82	0,9	0,5	1,9	4	1,9	39,5	-	3,6
2.	ExSg63-2A-T4	0,18	0,25	2710	0,63	60	0,82	0,9	0,5	1,9	4	1,9	-	14,0	3,6
3.	ExSg63-2B-T3	0,25	0,33	2770	0,86	64	0,82	1,2	0,7	2	4,4	2	25,8	-	4,2
4.	ExSg63-2B-T4	0,18	0,25	2840	0,61	62	0,72	1,1	0,6	2,8	5,2	2,8	-	11,5	4,2
5.	ExSh71-2A-T3	0,37	0,5	2680	1,32	59	0,9	1,75	1	2,2	4	2,2	18,2	-	5
6.	ExSh71-2A-T4	0,25	0,33	2830	0,84	65	0,8	1,2	0,7	2,8	5,4	3	-	11,8	5
7.	ExSh71-2B-T3	0,55	0,75	2720	1,93	67	0,86	2,4	1,4	2	4,4	2,1	12	-	6
8.	ExSh71-2B-T4	0,37	0,5	2850	1,24	70	0,75	1,75	1	2,9	5,8	3	-	8,8	6
9.	ExSh80-2A-T3	0,75	1	2760	2,6	73	0,83	3,2	1,8	2,7	4,7	2,6	10,5	-	8
10.	ExSh80-2A-T4	0,55	0,75	2850	1,85	71	0,78	2,45	1,4	2,8	6	2,9	-	6,2	8
11.	ExSh80-2B-T3	1,1	1,5	2780	3,7	75	0,88	4,15	2,4	2,6	5,5	2,6	7,2	-	9,5
12.	Sh90S-2-T3	1,5	2	2850	5	77,8	0,81	6,1	3,5	2,9	6	3	10	-	12,5
13.	Sh90S-2-T4	1	1,36	2895	3,3	79,6	0,78	4	2,3	3,8	7,5	4,1	-	6	12,7
14.	Sh90L-2-T3	2,2	3	2860	7,35	81,7	0,82	8,2	4,7	3	7,1	3,2	5	-	15,9
15.	Sh90L-2-T4	1,2	1,6	2855	4	79,5	0,9	4,2	2,4	3,2	7,4	3,2	-	6	16,5
16.	Sg100L-2-T3	2,4	3,3	2905	7,9	81,7	0,88	8,3	4,8	2,7	8,3	3	6	-	22,8
17.	Sg100L-2-T4	1,5	2	2900	4,9	79,2	0,91	5,2	3	2,8	7,8	3,1	-	5,5	22,5
18.	Sg112M-2-T3	4	5,5	2875	13,3	85,5	0,91	13	7,5	2	6,5	2,4	8	-	33
19.	Sg112M-2-T4	2	2,7	2915	6,5	85,8	0,91	6,4	3,7	3	7,9	3,5	-	15	33
20.	Sg132S-2A-T3	5,5	7,5	2915	18	85,3	0,9	18,1	10,4	2,4	7,1	2,7	9	-	57
21.	Sg132S-2A-T4	2,5	3,4	2930	8,1	85,2	0,91	8	4,6	2,4	7,5	3,2	-	16	58
22.	Sg132S-2B-T3	7	9,4	2920	22,9	87,3	0,91	22,1	12,7	2,5	7,7	3,1	7	-	76
23.	Sg132S-2B-T4	3,5	4,8	2935	11,4	86,1	0,92	11,1	6,4	2,8	8	3,4	-	11	72
24.	Sg160M-2A-T3	11	15	2920	36	88,1	0,89	35	20,1	2,3	6,5	2,7	5,6	-	101
25.	Sg160M-2A-T4	5	6,8	2945	16,2	87,7	0,9	16	9,2	3	7,7	3,6	-	8	101
26.	Sg160M-2B-T4	6	8,1	2950	19,4	88,7	0,91	18,6	10,7	2,9	7,7	3,3	-	7	112
27.	Sg160L-2-T3	16	21,4	2940	52	90,8	0,9	49,2	28,3	2,8	7,7	3,5	7	-	132
28.	Sg160L-2-T4	7,5	10	2950	24,3	90	0,92	22,8	13,1	3,2	7,8	3,5	-	8	129
29.	Sg180M-2-T3	18,5	25	2945	60	91,6	0,92	55,3	31,8	2,3	8,25	3,4	13	-	188
30.	Sg180M-2-T4	10	13,6	2950	32,4	90,4	0,92	30,3	17,4	2,4	8,5	3,6	-	14	191
							2p=4	n_S=1500 rpm							
31.	ExSg63-4A-T3	0,12	0,17	1380	0,83	50	0,67	0,9	0,5	2	3,4	2	50,3	-	3,6
32.	ExSg63-4A-T4	0,12	0,17	1380	0,83	58	0,67	0,9	0,5	2	3,4	2	-	18,6	3,6
33.	ExSg63-4B-T3	0,18	0,25	1370	1,25	62	0,69	1,1	0,6	2	3,7	2	41,1	-	4,2
34.	ExSg63-4B-T4	0,18	0,25	1370	1,25	62	0,69	1,1	0,6	2	3,7	2	-	14,2	4,2
35.	ExSh71-4A-T3	0,25	0,33	1350	1,77	65	0,69	1,4	0,8	2	3,7	2	41,7	-	4,8
36.	ExSh71-4A-T4	0,18	0,25	1400	1,23	66	0,57	1,2	0,7	2,7	4,2	2,7	-	19,2	4,8
37.	ExSh71-4B-T3	0,37	0,5	1350	2,62	68	0,59	2,25	1,3	2	3,6	2	20,4	-	5,9
38.	ExSh80-4A-T3	0,55	0,75	1370	3,8	71	0,72	2,75	1,6	1,7	3,4	1,8	16,5	-	7,8
39.	ExSh80-4A-T4	0,37	0,5	1420	2,5	72	0,58	2,25	1,3	2,5	4,1	2,7	-	11	7,8
40.	ExSh80-4B-T3	0,75	1	1370	5,2	71	0,74	3,7	2,1	1,8	4,6	1,8	20	-	9
41.	ExSh80-4B-T4	0,55	0,75	1420	3,7	74	0,64	2,95	1,7	2,5	5,5	2,5	-	11,5	9
42.	Sh90S-4-T3	1,1	1,5	1405	6,8	72,9	0,8	4,7	2,7	2	4,65	2,4	14	-	12,7
43.	Sh90S-4-T4	0,8	1,07	1435	5,3	75,8	0,75	3,5	2	2,6	5,7	3,1	-	10	12,7
44.	Sh90L-4-T3	1,5	2	1415	10,1	75,5	0,77	6,4	3,7	2,5	5,3	2,7	13	-	15,5
45.	Sh90L-4-T4	1,1	1,5	1430	7,3	76	0,78	4,7	2,7	2,8	6,2	3	-	10	16

Totally Enclosed Motors
Insulation Class F

Item	Type of Motor	Rated Output		Rated Speed	Rated Torque	Rated Efficiency	Power Factor	Full-Load Amps at Rated Voltage		Locked Rotor Torque	Locked Rotor Current	Breakdown Torque	Heating Time t_E		Weight (IMB3)
		P_N		n_N	T_N	η_N	$\cos\varphi_N$	I_N		T_L/T_N	I_L/I_N	T_b/T_N	T3	T4	m
		[kW]	[HP]	[rpm]	[Nm]	[%]	[-]	$[A]_{230V}$	$[A]_{400V}$	[-]	[-]	[-]	[s]		kg
							2p=4	n_S=1500 rpm							
46.	Sg100L-4A-T3	2,2	3	1425	14,7	77,1	0,8	9	5,2	2,4	5,9	2,8	9	-	21,9
47.	Sg100L-4A-T4	1,5	2	1430	10	78,1	0,83	5,7	3,3	2,6	6,2	3,1	-	10	22,1
48.	Sg100L-4B-T3	3	4	1415	20,2	78	0,81	12	6,9	2,6	5,75	2,9	9	-	24
49.	Sg100L-4B-T4	2	2,7	1425	13,4	79,8	0,85	7,5	4,3	2,4	6,2	2,7	-	7	23,9
50.	Sg112M-4-T3	4	5,5	1430	26,7	82,6	0,85	14,4	8,3	2,5	6,9	3	7	-	33
51.	Sg112M-4-T4	2,4	3,3	1450	15,8	83,8	0,84	8,5	4,9	3	7,9	3,7	-	8	33
52.	Sg132S-4-T3	5,5	7,5	1455	36,1	84,5	0,84	19,3	11,1	2,2	6,8	2,8	7	-	60
53.	Sg132S-4-T4	3	4	1465	19,5	85,5	0,85	10,4	6	2,3	7,7	3	-	8	60
54.	Sg132M-4-T3	7,5	10	1450	49,4	85,9	0,86	25,4	14,6	2,3	7	2,8	5	-	71
55.	Sg132M-4-T4	4	5,5	1460	26,2	86,2	0,87	13,4	7,7	2,2	7,4	3	-	7	71
56.	Sg160M-4-T3	11	15	1460	72	88,5	0,85	36,7	21,2	2,2	7,2	3,1	9	-	104
57.	Sg160M-4-T4	6	8,1	1465	39,1	88,6	0,87	19,7	11,3	2	7,3	2,8	-	14	105
58.	Sg160L-4-T3	15	20	1460	98,1	89,7	0,86	48,7	28	2,3	7,4	3	8	-	126
59.	Sg160L-4-T4	7,5	10	1465	48,9	89,4	0,88	24	13,8	2,2	7,6	2,9	-	12	127
60.	Sg180M-4-T3	18,5	25	1470	120	91,4	0,89	57,4	33	2,8	7,9	2,7	5	-	173
61.	Sg180L-4-T3	22	30	1465	143	91,7	0,9	66,6	38,3	2,8	7,7	2,6	5	-	200
62.	Sg180L-4-T4	11	15	1465	71,7	89,8	0,92	33,6	19,3	2	5,8	2,3	-	7	199
							2p=6	n_S=1000 rpm							
63.	ExSh71-6A-T3	0,18	0,25	890	1,93	49	0,66	1,4	0,8	1,9	2,8	1,9	26	-	4,9
64.	ExSh71-6B-T3	0,25	0,33	870	2,74	51	0,7	1,75	1	1,6	2,8	1,6	22,1	-	5,8
65.	ExSh80-6A-T3	0,37	0,5	910	3,9	62	0,66	2,25	1,3	2	3	2,1	30	-	7,5
66.	ExSh80-6B-T3	0,55	0,75	880	5,9	65	0,72	2,95	1,7	1,9	3,1	2	22	-	8,9
67.	ExSh80-6B-T4	0,37	0,5	940	3,75	68	0,6	2,25	1,3	2,7	4	3	-	18	8,9
68.	Sh90S-6-T3	0,75	1	915	7,82	69,8	0,73	3,7	2,1	1,9	3,7	2,1	32	-	12,1
69.	Sh90S-6-T4	0,65	0,88	935	6,6	71,1	0,68	3,5	2	2,3	4,1	2,6	-	18	12,4
70.	Sh90L-6-T3	1,1	1,5	920	11,4	73,3	0,71	5,2	3	2,2	4,05	2,5	33	-	15,5
71.	Sh90L-6-T4	0,8	1,07	950	8	73,9	0,61	4,5	2,6	3,1	4,8	3,3	-	18	15,5
72.	Sg100L-6-T3	1,5	2	945	15,2	72,5	0,73	7,1	4,1	2,1	4,5	2,4	17	-	21
73.	Sg100L-6-T4	1,2	1,6	950	12,1	73,7	0,74	5,6	3,2	2,3	4,8	2,7	-	12	22,1
74.	Sg112M-6-T3	2,2	3	960	21,9	81,2	0,77	8,9	5,1	2,3	5,9	2,7	19	-	32
75.	Sg112M-6-T4	1,6	2,1	970	15,7	81,1	0,73	6,8	3,9	2,8	6,7	3,4	-	12	32
76.	Sg132S-6-T3	3	4	945	30,3	79,7	0,8	11,8	6,8	2,1	5,3	2,8	18	-	52
77.	Sg132S-6-T4	2,2	3	960	21,9	80,7	0,78	8,9	5,1	2,3	5,9	3	-	11	52
78.	Sg132M-6A-T3	4	5,5	950	40,2	82,9	0,82	14,8	8,5	2,3	6,1	2,9	14	-	64
79.	Sg132M-6A-T4	2,8	3,8	960	27,8	84,3	0,8	10,4	6	2,4	6,5	2,9	-	12	63
80.	Sg132M-6B-T3	5,5	7,5	950	55,3	83,3	0,82	20,2	11,6	2,7	6,4	3,4	8	-	71
81.	Sg132M-6B-T4	4	5,5	960	39,8	84,8	0,83	14,3	8,2	2,5	7	3,5	-	5,5	71
82.	Sg160M-6-T3	7,5	10	960	74,6	86,3	0,8	27,3	15,7	2,2	6,5	2,8	10	-	99
83.	Sg160M-6-T4	5,5	7,5	965	54,4	87,2	0,81	19,5	11,2	2,2	6,7	2,9	-	7	101
84.	Sg160L-6-T3	11	15	960	109,4	87,5	0,82	38,3	22	2,3	6,8	3,3	8	-	126
85.	Sg160L-6-T4	7	9,4	970	68,9	88,6	0,84	23,7	13,6	2,4	7,5	3,1	-	8	125
86.	Sg180L-6-T3	13,5	18	980	131	89,3	0,82	46,3	26,6	3,2	6,7	2,4	8	-	169

FOOT MOUNTED MOTORS - IMB 3

DIMENSION DRAWINGS

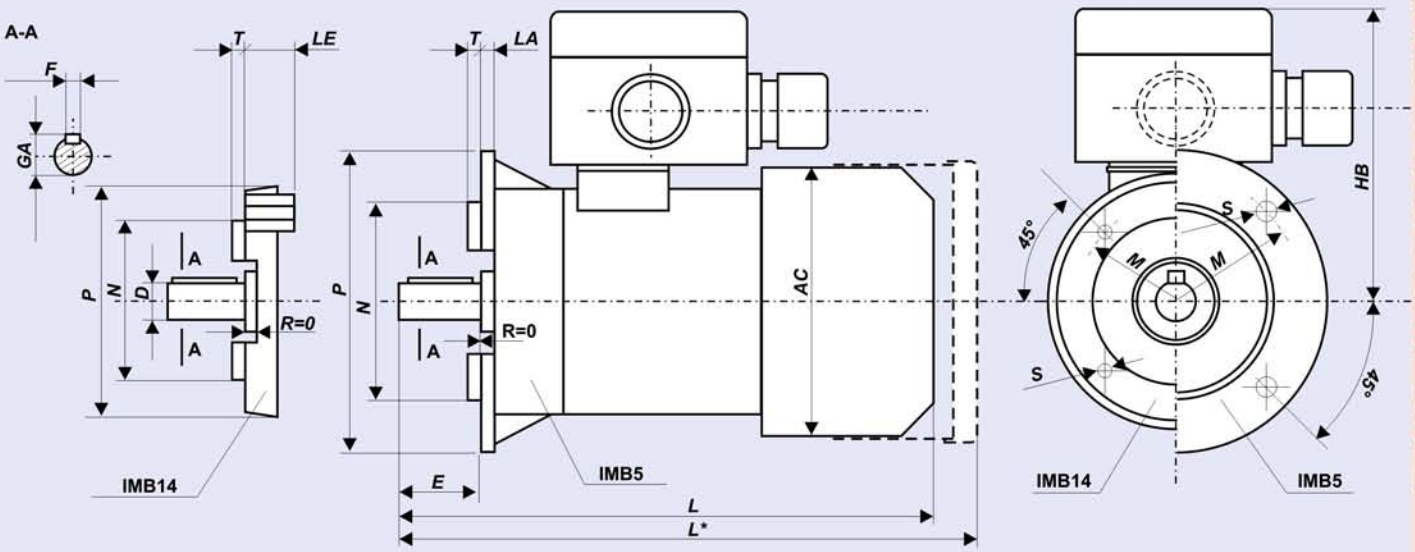


Type of Motor	A	B	C	CA	D	E	F	GA	H	K	K1	Gland	AA	AB	AC	BB	HA	HD	L/L*	Bearings
ExSg63-.A	100	80	40	67	11j6	23	4h9	12,5	63	7	10	M20	36	124	126	106	8,5	185	202/228	6202 2Z
ExSg63-.B	100	80	40	79	11j6	23	4h9	12,5	63	7	10	M20	36	124	126	106	8,5	185	214/240	6202 2Z
ExSh71-.A	112	90	45	65	14j6	30	5h9	16	71	7	10	M20	45	142	141	116	8	202	223/249	6203 2Z
ExSh71-.B	112	90	45	83	14j6	30	5h9	16	71	7	10	M20	45	142	141	116	8	202	245/271	6203 2Z
ExSh80-.A	125	100	50	87	19j6	40	6h9	21,5	80	10	13	M20	55	160	150	130	9	222	266/283	6204 2Z
ExSh80-.B	125	100	50	99	19j6	40	6h9	21,5	80	10	13	M20	55	160	150	130	9	222	278/303	6204 2Z
Sh90S-.	140	100	56	104	24j6	50	8h9	27	90	10	-	M20	50	170	185	153	10	220	305/329	6205 2Z
Sh90L-.	140	125	56	104	24j6	50	8h9	27	90	10	-	M20	50	170	185	153	10	220	330/354	6205 2Z
Sg100L-.	160	140	63	116	28j6	60	8h9	31	100	12	-	M20	45	200	206	172	14	240	376/421	6206 2Z
Sg112M-.	190	140	70	119	28j6	60	8h9	31	112	12	-	M25	54	230	245	174	14	276	384/429	6306 2Z
Sg132S-.	216	140	89	160	38k6	80	10h9	41	132	12	-	M32	56	278	274	182	16	330	463/516	6308 2Z
Sg132S-2B	216	140	89	198	38k6	80	10h9	41	132	12	-	M32	56	278	274	220	16	330	501/554	6308 2Z
Sg132M-.	216	178	89	160	38k6	80	10h9	41	132	12	-	M32	56	278	274	220	16	330	501554	6308 2Z
Sg160M-.	254	210	108	200	42k6	110	12h9	45	160	15	-	M40	60	305	323	256	20	370	612/665	6309 2Z
Sg160L-.	254	254	108	200	42k6	110	12h9	45	160	15	-	M40	60	305	323	300	20	370	656/709	6309 2Z
Sg180M-2	279	241	121	256	48k6	110	14h9	51,5	180	15	-	M40	70	350	360	320	26	408	876/929	6311 2Z
Sg180M-4	279	241	121	243	48k6	110	14h9	51,5	180	15	-	M40	70	350	360	320	26	408	705/758	6311 2Z
Sg180L-4	279	279	121	256	48k6	110	14h9	51,5	180	15	-	M40	70	350	360	320	26	408	756/809	6311 2Z
Sg180L-6	279	279	121	243	48k6	110	14h9	51,5	180	15	-	M40	70	350	360	320	26	408	705/758	6311 2Z

FLANGE MOUNTED MOTORS - IM B5, IM B14

IM B5

Type of Motor	Flange	P	M	N	S	D	E	F	GA	LA	T	Gland	AC	HB	L/L*	Bearings
ExSKg63-.A	B5	140	115	95j6	10	11j6	23	4h9	12,5	9	3	M20	126	114	202/228	6202 2Z
ExSKg63-.B	B5	140	115	95j6	10	11j6	23	4h9	12,5	9	3	M20	126	114	214/240	6202 2Z
ExSKh71-.A	B5	160	130	110j6	10	14j6	30	5h9	16	9	3,5	M20	141	119	223/249	6203 2Z
ExSKh71-.B	B5	160	130	110j6	10	14j6	30	5h9	16	9	3,5	M20	141	119	245/271	6203 2Z
ExSKh80-.A	B5	200	165	130j6	12	19j6	40	6h9	21,5	10	3,5	M20	150	127	266/283	6204 2Z
ExSKh80-.B	B5	200	165	130j6	12	19j6	40	6h9	21,5	10	3,5	M20	150	127	278/303	6204 2Z
SKh90S-.	B5	200	165	130j6	12	24j6	50	8h9	27	8	3,5	M20	185	130	305/329	6205 2Z
SKh90L-.	B5	200	165	130j6	12	24j6	50	8h9	27	8	3,5	M20	185	130	330/354	6205 2Z
SKg100L-.	B5	250	215	180j6	15	28j6	60	8h9	31	11	4	M20	206	140	376/421	6206 2Z
SKg112M-.	B5	250	215	180j6	15	28j6	60	8h9	31	12	4	M25	245	164	384/429	6306 2Z
SKg132S-.	B5	300	265	230j6	15	38k6	80	10h9	41	12	4	M32	274	198	463/516	6308 2Z
SKg132S-2B	B5	300	265	230j6	15	38k6	80	10h9	41	12	4	M32	274	198	501/554	6308 2Z
SKg132M-.	B5	300	265	230j6	15	38k6	80	10h9	41	12	4	M32	274	198	501/554	6308 2Z
SKg160M-.	B5	350	300	250j6	19	42k6	110	12h9	45	13	5	M40	323	210	612/665	6309 2Z
SKg160L-.	B5	350	300	250j6	19	42k6	110	12h9	45	13	5	M40	323	210	656/709	6309 2Z
SKg180M-2	B5	350	300	250j6	19	48k6	110	14h9	51,5	13	5	M40	360	228	756/809	6311 2Z
SKg180M-4	B5	350	300	250j6	19	48k6	110	14h9	51,5	13	5	M40	360	228	705/758	6311 2Z
SKg180L-4	B5	350	300	250j6	19	48k6	110	14h9	51,5	13	5	M40	360	228	756/809	6311 2Z
SKg180L-6	B5	350	300	250j6	19	48k6	110	14h9	51,5	13	5	M40	360	228	705/758	6311 2Z



IM B14

Type of Motor	Flange	P	M	N	S	D	E	F	GA	LE	T	Gland	AC	HB	L/L*	Bearings
ExSKg63-.A1	B14C1	120	100	80j6	M6	11j6	23	4h9	12,5	14	3	M20	126	114	202/228	6202 2Z
ExSKg63-.A2	B14C2	90	75	60j6	M5	11j6	23	4h9	12,5	9,5	2,5	M20	126	114	202/228	6202 2Z
ExSKg63-.B1	B14C1	120	100	80j6	M6	11j6	23	4h9	12,5	14	3	M20	126	114	214/240	6202 2Z
ExSKg63-.B2	B14C2	90	75	60j6	M5	11j6	23	4h9	12,5	9,5	2,5	M20	126	114	214/240	6202 2Z
ExSKh71-.A1	B14C1	140	115	95j6	M8	14j6	30	5h9	16	14	3	M20	141	119	223/249	6203 2Z
ExSKh71-.A2	B14C2	105	85	70j6	M6	14j6	30	5h9	16	12	2,5	M20	141	119	223/249	6203 2Z
ExSKh71-.B1	B14C1	140	115	95j6	M8	14j6	30	5h9	16	14	3	M20	141	119	245/271	6203 2Z
ExSKh71-.B2	B14C2	105	85	70j6	M6	14j6	30	5h9	16	12	2,5	M20	141	119	245/271	6203 2Z
ExSKh80-.A1	B14C1	160	130	110j6	M8	19j6	40	6h9	21,5	14	3,5	M20	150	127	266/283	6204 2Z
ExSKh80-.A2	B14C2	120	100	80j6	M6	19j6	40	6h9	21,5	12	3	M20	150	127	266/283	6204 2Z
ExSKh80-.B1	B14C1	160	130	110j6	M8	19j6	40	6h9	21,5	14	3,5	M20	150	127	278/303	6204 2Z
ExSKh80-.B2	B14C2	120	100	80j6	M6	19j6	40	6h9	21,5	12	3	M20	150	127	278/303	6204 2Z
SKh90S-.	B14C1	160	130	110j6	M8	24j6	50	8h9	27	10	3,5	M20	185	130	305/329	6205 2Z
SKh90S-.	B14C2	140	115	95j6	M8	24j6	50	8h9	27	10	3	M20	185	130	305/329	6205 2Z
SKh90L-.	B14C1	160	130	110j6	M8	24j6	50	8h9	27	10	3,5	M20	185	130	330/354	6205 2Z
SKh90L-.	B14C2	140	115	95j6	M8	24j6	50	8h9	27	10	3	M20	185	130	330354	6205 2Z

The catalogue covers flame-proof motors intended for use in chemical industry.
The motors are adapted for operating in areas endangered by explosion, zone 1 and zone 2, category 2G , for use in potentially explosive atmospheres other than mines susceptible to fire-damp, for group IIA or IIB or IIB + H_2 (including hydrogen) or IIC.
The body of the motor is mechanically tough and does not allow to transfer the explosion outside the motor.
Temperature class for the motors is T5. It means that the maximum temperature of any part of the surface of the motor can not exceed +100°C.

Our motors are designed for long life and reliable operation.

IDENTIFICATION

Frame Size	ATEX Certificate	Flame-Proof Body Increased Safety Terminal Box	Type of Motor	Flame-Proof Body and Terminal Box	Type of Motor
80	KDB 04ATEX052X	II 2G EExde IIC T5	ECS(K,L,1)g 80	II 2G EExd IIB +H_2 T5	CS(K,L,1)gb 80
90	KDB 04ATEX052X	II 2G EExde IIB +H_2 T5	ECS(K,L,1)gb 90	II 2G EExd IIB +H_2 T5	CS(K,L,1)gb 90
100	KDB 04ATEX052X	II 2G EExde IIB T5	ECS(K,L,1)gb 100	II 2G EExd IIB T5	CS(K,L,1)gb 100
112	KDB 04ATEX052X	II 2G EExde IIC T5	ECS(K,L,1)g 112	II 2G EExd IIC T5	CS(K,L,1)g 112
132	KDB 04ATEX052X	II 2G EExde IIC T5	ECS(K,L,1)g 132	II 2G EExd IIC T5	CS(K,L,1)g 132
160	KDB 04ATEX053X	II 2G EExde IIB T5	EcS(K,L,1)gb 160	II 2G EExd IIB T5	cS(K,L,1)gb 160
180	KDB 04ATEX053X	II 2G EExde IIC T5	EcS(K,L,1)g 180	II 2G EExd IIB T5	cS(K,L,1)gb 180
200	KEMA 03ATEX2415	II 2G EExde IIC T5	EcS(K,L,1)g 200	II 2G EExd IIB T5	cS(K,L,1)gb 200
225	KEMA 03ATEX2415	II 2G EExde IIB + H_2 T5	EcS(K,L,1)gb 225	II 2G EExd IIB T5	cS(K,L,1)gb 225
250	KEMA 03ATEX2415	II 2G EExde IIB + H_2 T5	EcS(K,L,1)gb 250	II 2G EExd IIB T5	cS(K,L,1)gb 250
280	KEMA 03ATEX2415	II 2G EExde IIB + H_2 T5	EcS(K,L,1)gb 280	II 2G EExd IIB T5	cS(K,L,1)gb 280
315	KDB 04ATEX054X	II 2G EExde IIB T5	EcS(K,L,1)gb 315	II 2G EExd IIB T5	cS(K,L,1)gb 315

BEARINGS

Frame Size	3000 rpm		1500 rpm		1000 rpm		750 rpm	
	Drive End	Non Drive End	Drive End	Non Drive End	Drive End	Non Drive End	Drive End	Non Drive End
80	6204 2Z	6204 2Z	6204 2Z	6204 2Z	-	-	-	-
90	6205 2Z	6205 2Z	6205 2Z	6205 2Z	-	-	-	-
100	6206 2Z	6206 2Z	6206 2Z	6206 2Z	-	-	-	-
112	6306 2Z	6306 2Z	6306 2Z	6306 2Z	-	-	-	-
132	6308 2Z	6308 2Z	6308 2Z	6308 2Z	-	-	-	-
160	6309 2ZC3	6309 2ZC3	6309 2ZC3	6309 2ZC3	6309 2ZC3	6309 2ZC3	6309 2ZC3	6309 2ZC3
180	6311 2ZC3	6311 2ZC3	6311 2ZC3	6311 2ZC3	6311 2ZC3	6311 2ZC3	6311 2ZC3	6311 2ZC3
200	NU 312	6312 C3	NU 312	6312 C3	NU 312	6312 C3	NU 312	6312 C3
225	NU 313	6313 C3	NU 313	6313 C3	NU 313	6313 C3	NU 313	6313 C3
250	NU 315	6315 C3	NU 315	6315 C3	NU 315	6315 C3	NU 315	6315 C3
280	NU 315	6315 C3	NU 317	6317 C3	NU 317	6317 C3	NU 317	6317 C3
315	NU 315	6315 C3	NU 318	6318 C3	NU 318	6318 C3	NU 318	6318 C3

DESCRIPTION OF VERSION

- Continuous duty S1
- Voltage 400 V / 50 Hz, on request other voltage up to 750 V, frequency 60 Hz
- Ambient temperature -20°C +40°C (T5), on request -20°C +60°C (T4)
- According to standard EN 50014, EN 50018
- Insulation class F, on request class H
- Degree of protection IP 55, on request IP 56

CE ISO 9001 IEC

As part of our development programme, we reserve the right to alter or amend any of the specifications included in this catalogue without giving prior notice.

Totally Enclosed Motors IP 55
Insulation Class F

TECHNICAL DATA

Item	Frame Size	Rated Output		Rated Speed	Rated Torque	Efficiency	Power Factor	Full load Current	Starting Torque	Starting Current	Breakdown Torque	Moment of Inertia	Weight (IMB3)
		P_N		n_N	T_N	η_N	$\cos \varphi_N$	I_N	T_S/T_N	I_S/I_N	T_b/T_N	J	m
		[kW]	[HP]	[rpm]	[Nm]	[%]	[-]	[A]	[-]	[-]	[-]	[kgm^2]	[kg]
						2p=2		*n_s=3000* rpm					
1.	802A	0,75	1	2770	2,6	75	0,86	1,7	2,4	4,9	3	0,0008	25
2.	802B	1,1	1,5	2785	3,8	79	0,86	2,3	3,2	6,2	3,2	0,001	26,5
3.	90S2	1,5	2	2845	5	79,1	0,82	3,3	2,9	5,5	3,1	0,0013	34,5
4.	90L2	2,2	3	2865	7,3	83,3	0,82	4,6	3,4	6,5	3,5	0,002	36,5
5.	100L2	3	4	2905	9,9	83,4	0,86	6	2,7	7,5	2,8	0,0048	48
6.	112M2	4	5,5	2875	13,3	85,4	0,9	7,5	2,1	6,2	2,3	0,0079	70
7.	132S2A	5,5	7,5	2920	18	87	0,88	10,4	2,4	7	3,2	0,015	96
8.	132S2B	7,5	10	2925	24,5	87,5	0,88	14,1	2,5	7,5	3,2	0,018	102
9.	160M2B	15	20	2920	49	89,5	0,91	26,6	2,1	6	2,2	0,05	158
10.	160L2	18,5	25	2925	60	91,3	0,9	32,5	2,4	6,5	2,8	0,06	176
11.	180M2	22	30	2945	71	91,5	0,89	39	2,7	6,8	2,6	0,07	210
12.	200L2A	30	40	2960	97	92,9	0,89	52	1,9	6	2,3	0,15	285
13.	200L2B	37	50	2960	119	93,7	0,89	64	2,2	6,7	2,5	0,18	315
14.	225M2	45	60	2968	145	94,5	0,89	77	2,4	7	2,5	0,26	375
15.	250M2	55	75	2970	177	93,5	0,9	94	2	6,9	2	0,36	434
16.	280S2	75	100	2977	241	94	0,9	128	2,1	7,5	3,3	0,76	580
17.	280M2	90	125	2970	289	94,7	0,91	151	2	7	3,2	0,87	620
18.	315S2	110	150	2975	353	95,4	0,92	181	1,8	8	2,6	0,91	755
19.	315M2A	132	180	2975	424	95	0,91	220	2,1	8,5	2,8	0,98	795
20.	315M2B	160	220	2975	514	95,9	0,91	265	1,9	7,9	2,7	1,2	855
						2p=4		*n_s=1500* rpm					
21.	804A	0,55	0,75	1400	3,8	73,2	0,69	1,6	2,7	4,8	3	0,0016	25
22.	804B	0,75	1	1405	5,1	74	0,64	2,3	3,2	5	3,3	0,0019	26,5
23.	90S4	1,1	1,5	1405	7,5	75	0,8	2,6	2,1	4,5	2,6	0,0023	34,5
24.	90L4	1,5	2	1410	10,2	78	0,79	3,5	2,5	5,4	2,9	0,0028	36,5
25.	100L4A	2,2	3	1425	14,7	81	0,81	4,8	2,5	5,9	2,8	0,0058	47
26.	100L4B	3	4	1415	20,2	81	0,81	6,6	2,6	5,8	2,7	0,0065	50
27.	112M4	4	5,5	1435	26,6	85,1	0,84	8,1	2,6	6,3	3	0,0118	70
28.	132S4	5,5	7,5	1450	36,2	85,8	0,84	11	2,2	6,9	3,1	0,029	97
29.	132M4	7,5	10	1450	49,4	87	0,85	14,6	2,2	6,7	3,1	0,035	105
30.	160M4	11	15	1463	72	89,5	0,84	21,1	2,5	7,5	2,9	0,06	150
31.	160L4	15	20	1460	98	89,8	0,86	28	2,5	7,9	3,2	0,08	172
32.	180M4	18,5	25	1465	121	90,8	0,9	32,5	2,3	6,9	2,9	0,11	205
33.	180L4	22	30	1465	143	91,5	0,9	38,6	2,5	7,2	2,9	0,13	225
34.	200L4	30	40	1472	195	92,5	0,88	53	2,9	7,1	2,5	0,31	310
35.	225S4	37	50	1475	240	92,6	0,88	66	2,1	6,3	2,2	0,44	350
36.	225M4	45	60	1480	290	94	0,88	79	2,4	7	2,3	0,53	390
37.	250M4	55	75	1483	354	93,5	0,91	93	2,4	7,3	2,6	0,79	465
38.	280S4	75	100	1485	482	94,2	0,9	128	2,5	7,3	2,5	1,37	630
39.	280M4	90	125	1485	579	94,8	0,91	151	2,6	7,3	2,6	1,63	670
40.	315S4	110	150	1480	710	94,2	0,92	183	2,3	6,9	2,2	1,67	785
41.	315M4A	132	180	1487	848	94,9	0,9	223	2,3	7,6	2,5	1,84	825
42.	315M4B	160	220	1483	1030	95,6	0,91	265	2	6,7	2,4	2,27	865

Totally Enclosed Motors IP 55
Insulation class F

Item	Frame Size	Rated Output		Rated Speed	Rated Torque	Efficiency	Power Factor	Full load Current	Starting Torque	Starting Current	Breakdown Torque	Moment of Inertia	Weight (IMB3)
		P_N		n_N	T_N	η_N	$\cos\varphi_N$	I_N	T_S/T_N	I_S/I_N	T_b/T_N	J	m
		[kW]	[HP]	[rpm]	[Nm]	[%]	[-]	[A]	[-]	[-]	[-]	[kgm^2]	[kg]
						2p=6		*n_s=1000* rpm					
43.	160M6	7,5	10	962	74	87,5	0,81	15,3	2,2	6,4	3	0,07	146
44.	160L6	11	15	960	109	88,2	0,82	22	2,2	6,7	2,8	0,1	173
45.	180L6	15	20	973	147	89	0,85	28,6	2,4	5,6	2,4	0,19	210
46.	200L6A	18,5	25	980	180	90,5	0,86	34,5	2,5	6,8	2,4	0,41	290
47.	200L6B	22	30	981	214	90,5	0,88	40	2,4	6,9	2,2	0,47	305
48.	225M6	30	40	982	292	91,9	0,88	54	2,1	6,3	2,2	0,76	365
49.	250M6	37	50	985	359	92,5	0,89	65	2,6	6,8	2,3	1,23	458
50.	280S6	45	60	985	436	93	0,87	80	2	6,5	2,3	1,35	555
51.	280M6	55	75	985	533	93,5	0,89	95	2,2	6,2	2,2	1,61	600
52.	315S6	75	100	985	727	93,5	0,89	130	2,3	6,6	2,2	2,16	785
53.	315M6A	90	125	984	873	93,7	0,88	158	2,5	6,8	2	2,29	815
54.	315M6B	110	150	985	1066	94,2	0,89	189	2,3	7,2	2,1	2,86	900
						2p=8		*n_s=750* rpm					
55.	160M8A	4	5,5	710	54	81	0,75	9,5	2,1	5,1	2,7	0,06	132
56.	160M8B	5,5	7,5	705	75	82,5	0,75	12,8	2,5	5,5	3,1	0,08	142
57.	160L8	7,5	10	708	101	83,5	0,78	16,6	2,7	5,7	3	0,1	162
58.	180L8	11	15	730	144	88,5	0,76	23,6	1,9	5,5	2,5	0,19	208
59.	200L8	15	20	733	195	89,5	0,83	29,1	2,2	5,5	2,1	0,45	290
60.	225S8	18,5	25	735	240	89,5	0,81	37	2	5,6	2	0,58	320
61.	225M8	22	30	735	286	90,4	0,8	44	2	5,2	1,8	0,68	350
62.	250M8	30	40	738	388	91,5	0,84	56	2,5	6,3	2,1	1,27	455
63.	280S8	37	50	737	479	92,8	0,83	69	2	5,3	1,8	1,47	575
64.	280M8	45	60	737	583	92,5	0,84	84	2,1	5,4	2	1,8	635
65.	315S8	55	75	735	715	92,7	0,81	106	2	5,3	1,9	2,16	785
66.	315M8A	75	100	737	972	93,2	0,82	142	2,5	6,2	1,9	2,29	810
67.	315M8B	90	125	737	1166	93,2	0,82	170	2,4	6,5	1,9	2,86	890

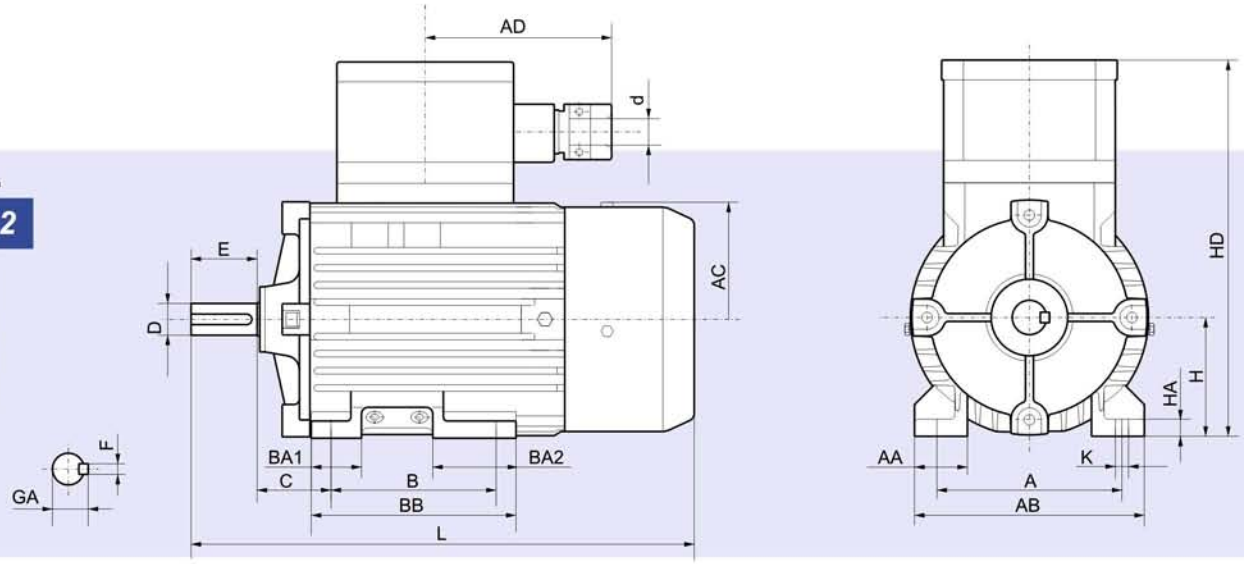
FOOT MOUNTED MOTORS - IM B3

DIMENSION DRAWINGS

.CSg.

80 ÷ 132

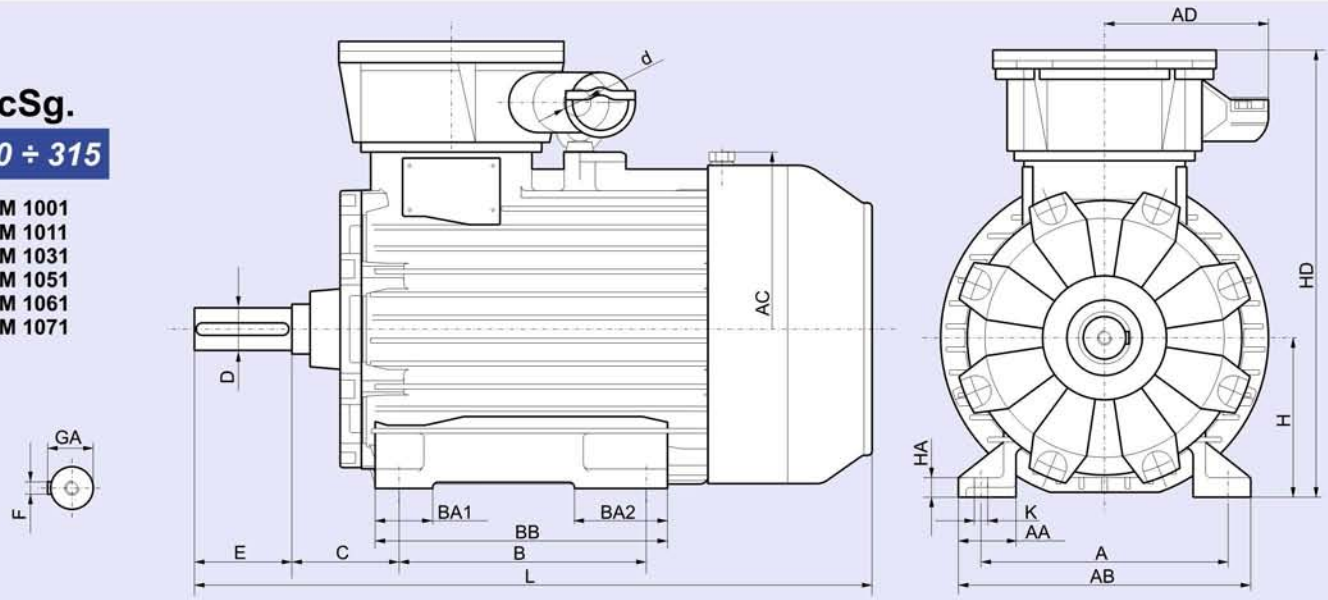
IM 1001
IM 1011
IM 1031
IM 1051
IM 1061
IM 1071



.cSg.

160 ÷ 315

IM 1001
IM 1011
IM 1031
IM 1051
IM 1061
IM 1071



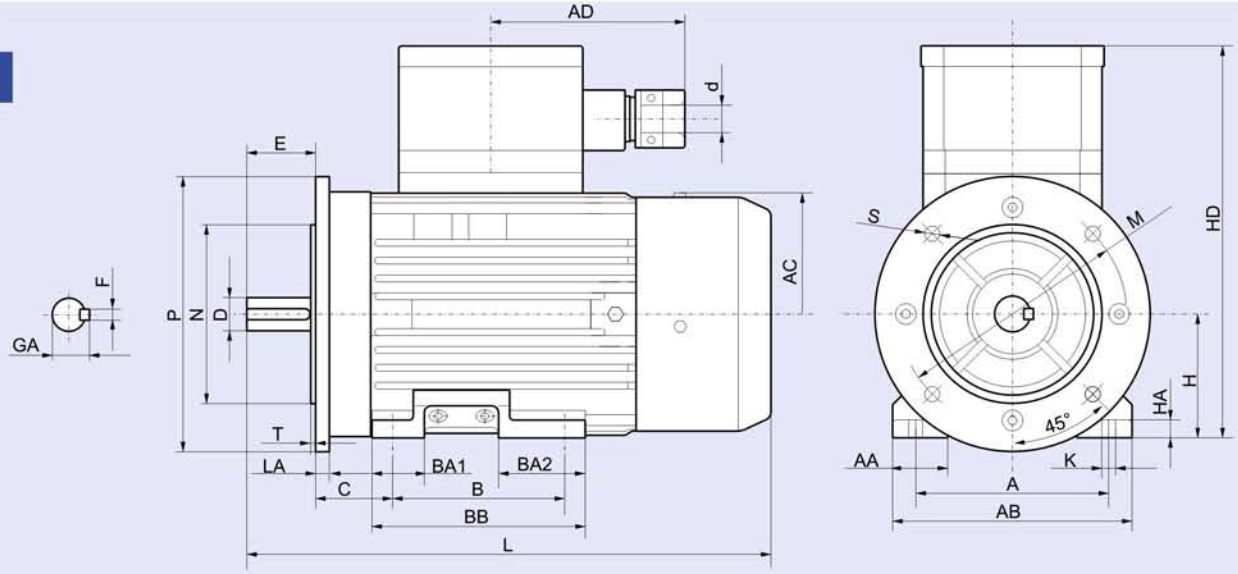
Frame	A	B	C	D	E	F h9	GA	H	HA	K	AA	AB	AC	AD	BA1	BA2	BB	HD	L	d
.CSg. 80.	125	100	50	19j6	40	6	21,5	80	12	10	40	165	190	145	38	38	130	268	310	13-18
.CSg. 90S.	140	100	56	24j6	50	8	27	90	13	10	40	174	190	150	38	63	155	285	381	13-18
.CSg. 90L.	140	125	56	24j6	50	8	27	90	13	10	40	174	190	150	38	63	155	285	381	13-18
.CSg.100L.	160	140	63	28j6	60	8	31	100	14	12	45	200	211	143	48	48	170	305	430	13-18
.CSg 112M.	190	140	70	28j6	60	8	31	112	14	12	54	230	240	150	50	50	174	360	470	13-18
.CSg 132S.	216	140	89	38k6	80	10	41	132	16	12	56	270	286	150	50	88	218	392	570	13-18
.CSg 132M.	216	178	89	38k6	80	10	41	132	16	12	56	270	286	150	50	88	218	392	570	13-18
.cSg. 160 M.	254	210	108	42k6	110	12	45	160	22	15	60	300	360	185	60	60	256	465	670	20-25
.cSg. 160 L.	254	254	108	42k6	110	12	45	160	22	15	60	300	360	185	60	60	300	465	710	20-25
.cSg. 180 M.	279	241	121	48k6	110	14	51,5	180	22	15	65	330	400	185	65	105	330	505	765	26-31
.cSg. 180 L.	279	279	121	48k6	110	14	51,5	180	22	15	65	330	400	185	65	105	330	505	765	26-31
.cSg. 200L.	318	305	133	55m6	110	16	59	200	32	19	80	400	465	190	105	105	388	590	810	32-37
.cSg. 225S.	356	286	149	60m6	140	18	64	225	34	19	85	445	510	190	115	120	385	635	860	32-37
.cSg. 225M2	356	311	149	55m6	110	16	59	225	34	19	85	445	510	190	115	120	385	635	830	32-37
.cSg. 225M4-8	356	311	149	60m6	140	18	64	225	34	19	85	445	510	190	115	120	385	635	860	32-37
.cSg. 250M2	406	349	168	60m6	140	18	64	250	37	24	95	495	550	190	120	120	445	680	915	38-43
.cSg. 250M4-8	406	349	168	65m6	140	18	69	250	37	24	95	495	550	190	120	120	445	680	915	38-43
.cSg. 280S2	457	368	190	65m6	140	18	69	280	40	24	100	560	620	190	140	170	500	755	1060	44-49
.cSg. 280S4-8	457	368	190	75m6	140	20	79,5	280	40	24	100	560	620	190	140	170	500	755	1060	44-49
.cSg. 280M2	457	419	190	65m6	140	18	69	280	40	24	100	560	620	190	140	170	500	755	1060	44-49
.cSg. 280M4	457	419	190	75m6	140	20	79,5	280	40	24	100	560	620	190	140	170	500	755	1060	44-49
.cSg. 315S2	508	406	216	65m6	140	18	69	315	46	28	105	610	625	190	140	185	550	805	1210	50-55
.cSg. 315S4-8	508	406	216	80m6	170	22	85	315	46	28	105	610	625	190	140	185	550	805	1240	50-55
.cSg. 315M2	508	457	216	65m6	140	18	69	315	46	28	105	610	625	190	140	185	550	805	1210	50-55
.cSg. 315M4-8	508	457	216	80m6	170	22	85	315	46	28	105	610	625	190	140	185	550	805	1240	50-55

FOOT/FLANGE MOUNTED MOTORS - IM B35
FOOT/FLANGE MOUNTED MOTORS - IM B34

.CSLg.

80 ÷ 132

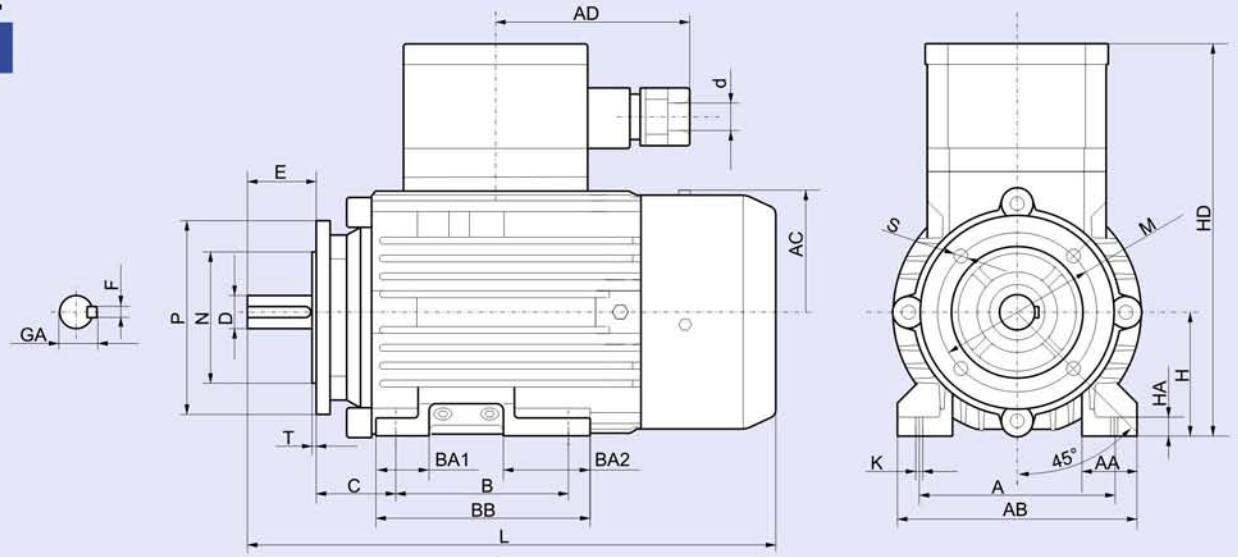
IM 2001
IM 2011
IM 2031
IM 2051
IM 2061
IM 2071



.CSL1g.

80 ÷ 132

IM 2101
IM 2111
IM 2131
IM 2151
IM 2161
IM 2171



DIMENSION DRAWINGS

Frame	Fl.	A	B	C	D	E	Fh9	GA	H -0,5	HA	LA	M	Nj6	P	S Φ	S no.	T	K	AA	AB	AC	AD	BA1	BA2	BB	HD	L	d
.CSLg. 80.	B5	125	100	50	19j6	40	6	21,5	80	12	15	165	130	200	12	4	3,5	10	40	165	190	145	38	38	130	268	310	13-18
.CSL1g. 80.	B14	125	100	50	19j6	40	6	21,5	80	12	15	100	80	120	M6	4	3	10	40	165	190	145	38	38	130	268	310	13-18
.CSLg. 90S.	B5	140	100	56	24j6	50	8	27	90	13	10	165	130	200	12	4	3,5	10	40	174	190	150	38	63	155	285	381	13-18
.CSL1g. 90S.	B14	140	100	56	24j6	50	8	27	90	13	10	115	95	140	M8	4	3	10	40	174	190	150	38	63	155	285	381	13-18
.CSLg. 90L.	B5	140	125	56	24j6	50	8	27	90	13	10	165	130	200	12	4	3,5	10	40	174	190	150	38	63	155	285	381	13-18
.CSL1g. 90L.	B14	140	125	56	24j6	50	8	27	90	13	10	115	95	140	M8	4	3	10	40	174	190	150	38	63	155	285	381	13-18
.CSLg. 100L.	B5	160	140	63	28j6	60	8	31	100	14	11	215	180	250	15	4	4	12	45	200	211	143	48	48	170	305	430	13-18
.CSL1g. 100L.	B14	160	140	63	28j6	60	8	31	100	14	11	130	110	160	M8	4	3,5	12	45	200	211	143	48	48	170	305	430	13-18
.CSLg 112M.	B5	190	140	70	28j6	60	8	31	112	14	12	215	180	250	15	4	4	12	54	230	240	150	50	50	174	360	470	13-18
.CSL1g 112M.	B14	190	140	70	28j6	60	8	31	112	14	12	130	110	160	M8	4	3,5	12	54	230	240	150	50	50	174	360	470	13-18
.CSLg 132S.	B5	216	140	89	38k6	80	10	41	132	16	15	265	230	300	14,5	4	4	12	56	270	286	150	50	88	218	392	570	13-18
.CSL1g 132S.	B14	216	140	89	38k6	80	10	41	132	16	15	165	130	200	M10	4	3,5	12	56	270	286	150	50	88	218	392	570	13-18
.CSLg 132M.	B5	216	178	89	38k6	80	10	41	132	16	15	265	230	300	14,5	4	4	12	56	270	286	150	50	88	218	392	570	13-18
.CSL1g 132M.	B14	216	178	89	38k6	80	10	41	132	16	15	165	130	200	M10	4	3,5	12	56	270	286	150	50	88	218	392	570	13-18

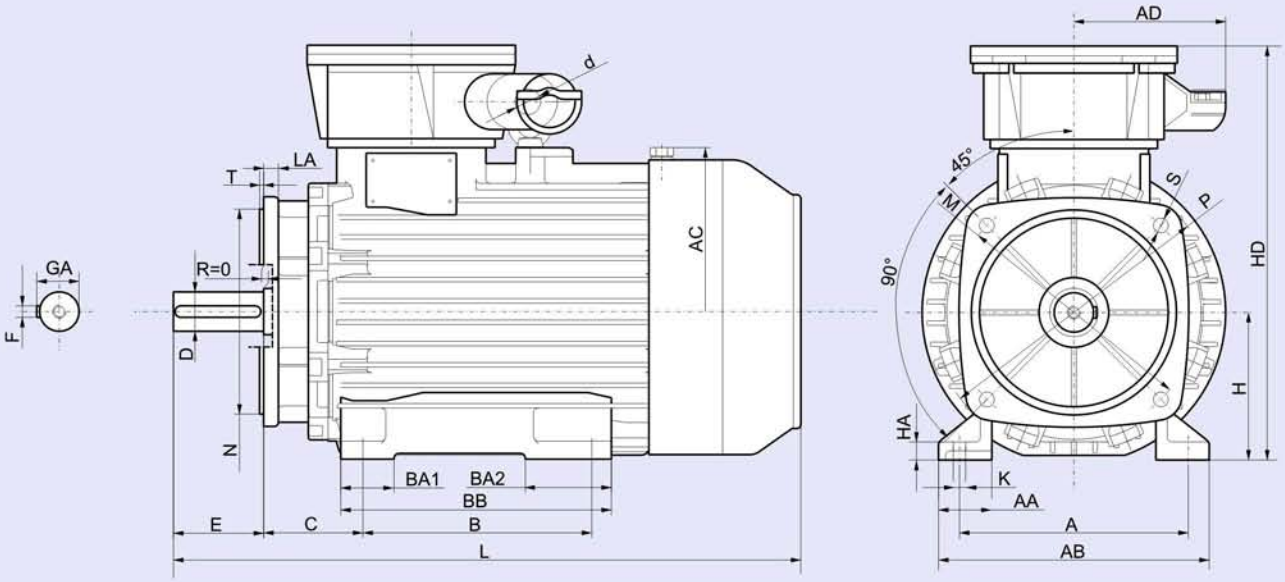
FOOT/FLANGE MOUNTED MOTORS - IM B35

DIMENSION DRAWINGS

.cSLg.

160 ÷ 315

IM 2001
IM 2011
IM 2031
IM 2051
IM 2061
IM 2071



Frame	A	B	C	D	E	Fh9	GA	H -0,5	HA	K	LA	M	N	P	S Φ	S no.	T	AA	AB	AC	AD	BA1	BA2	BB	HD	L	d
.cSLg. 160M.	254	210	108	42k6	110	12	45	160	22	15	17	300	250j6	350	18	4	5	60	300	360	185	60	60	256	465	670	20-25
.cSLg. 160L.	254	254	108	42k6	110	12	45	160	22	15	17	300	250j6	350	18	4	5	60	300	360	185	60	60	300	465	710	20-25
.cSLg. 180M.	279	241	121	48k6	110	14	51,5	180	22	15	18	300	250j6	350	18	4	5	65	330	400	185	65	105	330	505	765	26-31
.cSLg. 180L.	279	279	121	48k6	110	14	51,5	180	22	15	18	300	250j6	350	18	4	5	65	330	400	185	65	105	330	505	765	26-31
.cSLg. 200L.	318	305	133	55m6	110	16	59	200	32	19	21	350	300j6	400	18	4	5	80	400	465	190	105	105	388	590	810	32-37
.cSLg. 225S.	356	286	149	60m6	140	18	64	225	34	19	22	400	350j6	450	18	8	5	85	445	510	190	115	120	385	635	860	32-37
.cSLg. 225M2	356	311	149	55m6	110	16	59	225	34	19	22	400	350j6	450	18	8	5	85	445	510	190	115	120	385	635	830	32-37
.cSLg. 225M.	356	311	149	60m6	140	18	64	225	34	19	22	400	350j6	450	18	8	5	85	445	510	190	115	120	385	635	860	32-37
.cSLg. 250M2	406	349	168	60m6	140	18	64	250	37	24	24	500	450j6	550	18	8	5	95	495	550	190	120	120	445	680	915	38-43
.cSLg. 250M.	406	349	168	65m6	140	18	69	250	37	24	24	500	450j6	550	18	8	5	95	495	550	190	120	120	445	680	915	38-43
.cSLg. 280S2	457	368	190	65m6	140	18	69	280	40	24	25	500	450j6	550	18	8	5	100	560	620	190	140	170	500	755	1060	44-49
.cSLg. 280S.	457	368	190	75m6	140	20	79,5	280	40	24	25	500	450j6	550	18	8	5	100	560	620	190	140	170	500	755	1060	44-49
.cSLg. 280M2	457	419	190	65m6	140	18	69	280	40	24	25	500	450j6	550	18	8	5	100	560	620	190	140	170	500	755	1060	44-49
.cSLg. 280M4	457	419	190	75m6	140	20	79,5	280	40	24	25	500	450j6	550	18	8	5	100	560	620	190	140	170	500	755	1060	44-49
.cSLg. 315S2	508	406	216	65m6	140	18	69	315	46	28	26	600	550js6	660	22	8	6	105	610	625	190	140	185	550	805	1210	50-55
.cSLg. 315S.	508	406	216	80m6	170	22	85	315	46	28	26	600	550js6	660	22	8	6	105	610	625	190	140	185	550	805	1240	50-55
.cSLg. 315M2	508	457	216	65m6	140	18	69	315	46	28	26	600	550js6	660	22	8	6	105	610	625	190	140	185	550	805	1210	50-55
.cSLg. 315M.	508	457	216	80m6	170	22	85	315	46	28	26	600	550js6	660	22	8	6	105	610	625	190	140	185	550	805	1240	50-55

FLANGE MOUNTED MOTORS - IM B5

.cSKg.

160 ÷ 180

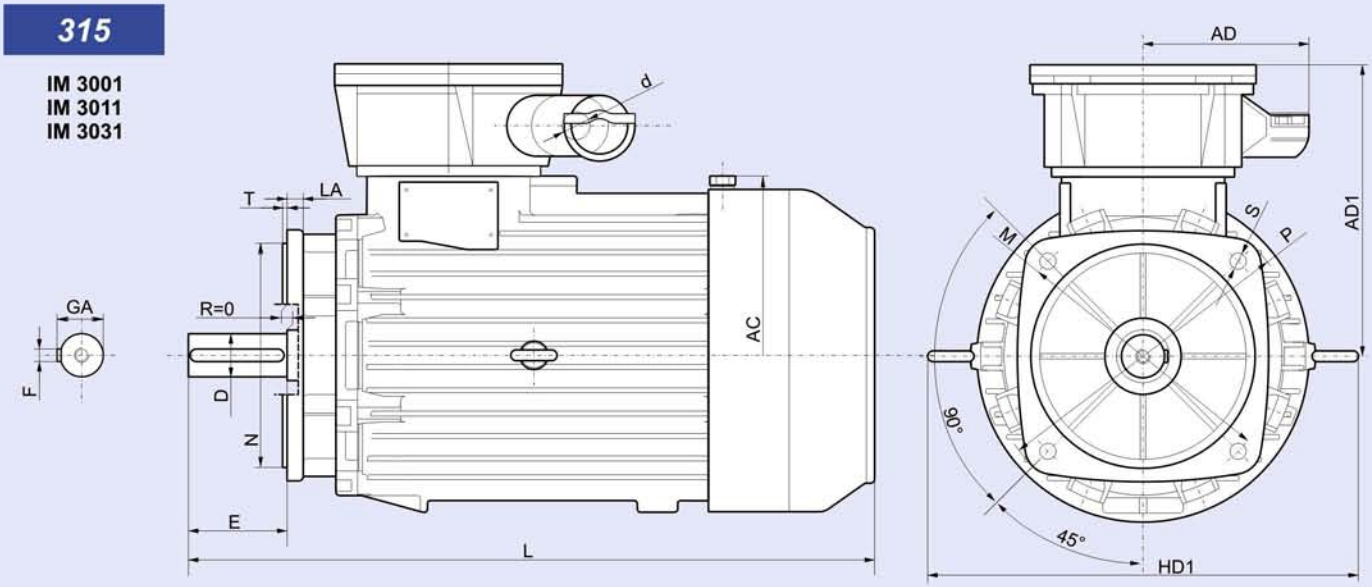
IM 3001
IM 3011
IM 3031

200 ÷ 280

IM 4001
IM 4011
IM 4031

315

IM 3001
IM 3011
IM 3031



DIMENSION DRAWINGS

Frame	D	E	Fh9	GA	LA	M	N	P	S Φ	S no.	T	AC	AD	AD1	HD	HD1	L	d
.cSKg. 160M.	42k6	110	12	45	17	300	250j6	350	18	4	5	360	185	305	465	440	670	20-25
.cSKg. 160L.	42k6	110	12	45	17	300	250j6	350	18	4	5	360	185	305	465	440	710	20-25
.cSKg. 180M.	48k6	110	14	51,5	18	300	250j6	350	18	4	5	400	185	325	505	480	765	26-31
.cSKg. 180L.	48k6	110	14	51,5	18	300	250j6	350	18	4	5	400	185	325	505	480	765	26-31
.cSKg. 200L.	55m6	110	16	59	21	350	300j6	400	18	4	5	465	190	390	590	560	810	32-37
.cSKg. 225S.	60m6	140	18	64	22	400	350j6	450	18	8	5	510	190	410	635	610	860	32-37
.cSKg. 225M2	55m6	110	16	59	22	400	350j6	450	18	8	5	510	190	410	635	610	830	32-37
.cSKg. 225M.	60m6	140	18	64	22	400	350j6	450	18	8	5	510	190	410	635	610	860	32-37
.cSKg. 250M2	60m6	140	18	64	24	500	450j6	550	18	8	5	550	190	430	680	670	915	38-43
.cSKg. 250M.	65m6	140	18	69	24	500	450j6	550	18	8	5	550	190	430	680	670	915	38-43
.cSKg. 280S2	65m6	140	18	69	25	500	450j6	550	18	8	5	620	190	475	755	770	1060	44-49
.cSKg. 280S.	75m6	140	20	79,5	25	500	450j6	550	18	8	5	620	190	475	755	770	1060	44-49
.cSKg. 280M2	65m6	140	18	69	25	500	450j6	550	18	8	5	620	190	475	755	770	1060	44-49
.cSKg. 280M4	75m6	140	20	79,5	25	500	450j6	550	18	8	5	620	190	475	755	770	1060	44-49
.cSKg. 315S2	65m6	140	18	69	26	600	550js6	660	22	8	6	625	190	490	805	770	1210	50-55
.cSKg. 315S.	80m6	170	22	85	26	600	550js6	660	22	8	6	625	190	490	805	770	1240	50-55
.cSKg. 315M2	65m6	140	18	69	26	600	550js6	660	22	8	6	625	190	490	805	770	1210	50-55
.cSKg. 315M.	80m6	170	22	85	26	600	550js6	660	22	8	6	625	190	490	805	770	1240	50-55

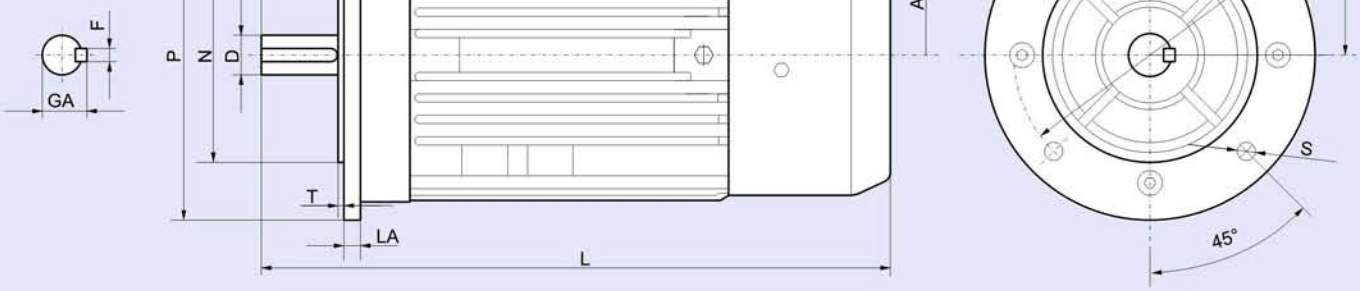
FLANGE MOUNTED MOTORS - IM B5
FLANGE MOUNTED MOTORS - IM B14

DIMENSION DRAWINGS

.CSKg.

80 ÷ 132

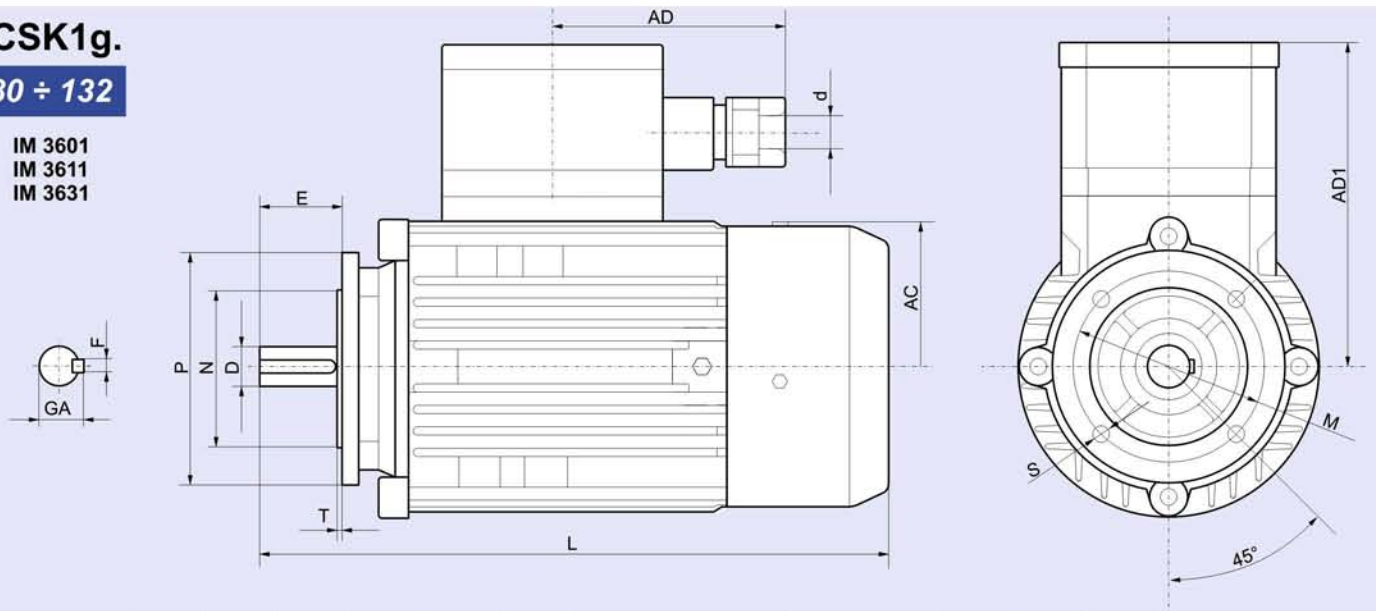
IM 3001
IM 3011
IM 3031



.CSK1g.

80 ÷ 132

IM 3601
IM 3611
IM 3631

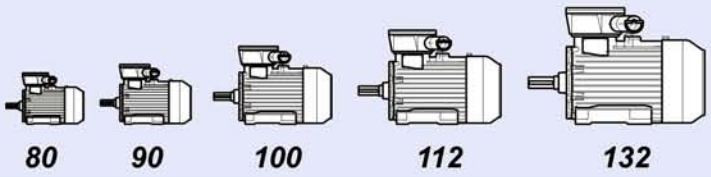


Frame	Fl.	D	E	Fh9	GA	LA	M	Nj6	P	S Φ	S no.	T	AC	AD	AD1	L	d
.CSKg. 80.	B5	19j6	40	6	21,5	15	165	130	200	12	4	3,5	190	145	188	310	13-18
.CSK1g 80.	B14	19j6	40	6	21,5	15	100	80	120	M6	4	3	190	145	188	310	13-18
.CSKg. 90S.	B5	24j6	50	8	27	10	165	130	200	12	4	3,5	190	150	195	381	13-18
.CSK1g. 90S.	B14	24j6	50	8	27	10	115	95	140	M8	4	3	190	150	195	381	13-18
.CSKg. 90L.	B5	24j6	50	8	27	10	165	130	200	12	4	3,5	190	150	195	381	13-18
.CSK1g. 90L.	B14	24j6	50	8	27	10	115	95	140	M8	4	3	190	150	195	381	13-18
.CSKg. 100L.	B5	28j6	60	8	31	11	215	180	250	15	4	4	211	143	205	430	13-18
.CSK1g. 100L.	B14	28j6	60	8	31	11	130	110	160	M8	4	3,5	211	143	205	430	13-18
.CSKg 112M.	B5	28j6	60	8	31	12	215	180	250	15	4	4	240	150	248	470	13-18
.CSK1g 112M.	B14	28j6	60	8	31	12	130	110	160	M8	4	3,5	240	150	248	470	13-18
.CSKg 132S.	B5	38k6	80	10	41	15	265	230	300	14,5	4	4	286	150	260	570	13-18
.CSK1g 132S.	B14	38k6	80	10	41	15	165	130	200	M10	4	3,5	286	150	260	570	13-18
.CSKg 132M.	B5	38k6	80	10	41	15	265	230	300	14,5	4	4	286	150	260	570	13-18
.CSK1g 132M.	B14	38k6	80	10	41	15	165	130	200	M10	4	3,5	286	150	260	570	13-18

Range of Motors:

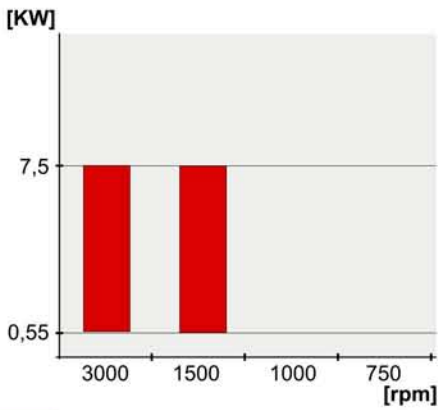
dSg

AVAILABLE FRAME SIZE



80 90 100 112 132

OUTPUT RANGE: 0,55 - 7,5 kW



The motors are designed for working in the mines endangered by the explosion of methane and coal dust,
In the spaces (zone 1 or 2) where explosive mixtures of combustible gases and steams of liquid with air can occur, reckoned as subgroups IIA and IIB,
Temperature class T1-T5.

I M2 EExd I
II 2G EExd IIB T5
KDB 05ATEX096X

DESCRIPTION

- Operating duty S1
- Rated voltage 500 V, frequency 50 Hz
- Insulation class F, degree of protection IP 54
- Ambient temperature -20°C ÷ +40°C
- Terminal box with one cable inlet
- Three current terminals, terminal unit CK1 for testing of PE wire continuity (diode)
- Unattended ball bearing
- According to PN-EN 60034-1, PN-EN 50014, PN-EN 50018
- The cable inlet and terminals are adapted for connection of copper cable conductors
- The device of the category M2, G2 acc. to Directive 94/9/EC (ATEX)

CUSTOMISED VERSION

- Different supply voltage to 1000V
- Frequency 60 Hz
- Degree of protection IP66
- Different ambient temperature
- With thermal protection of winding
- With thermal protection of drive end bearing
- Terminal box with two cable inlets
- Terminal unit CK2 for testing of PE wire continuity (diode and resistor)
- With rubber ring seals for other cable diameter

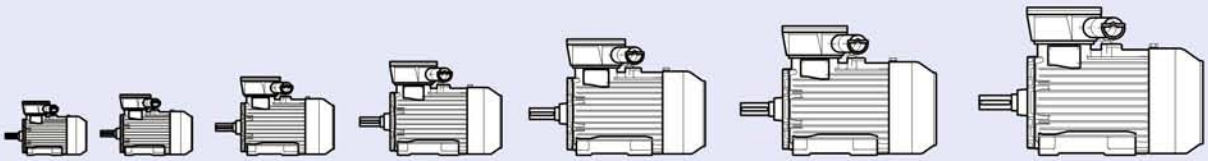
CE ISO 9001 IEC

Detailed technical data on request.

Range of Motors:

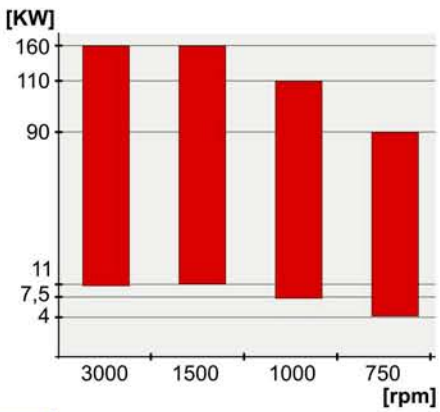
dSg-EP

AVAILABLE FRAME SIZE



160 180 200 225 250 280 315

OUTPUT RANGE: 4 - 160 kW



The motors are designed for working in the mines endangered by the explosion of methane and coal dust, in the spaces (zones 1 or 2) where explosive mixtures of combustible gases and steams of liquid with air can occur, reckoned as subgroup IIA, temperature class T1-T5.

I M2 EExd I
II 2G EExd IIA T5
KDB 04ATEX277X

DESCRIPTION

- Operating duty S1
- Rated voltage 500 V or 1000V, frequency 50 Hz
- Insulation class F, degree of protection IP 55
- Ambient temperature -20°C ÷ +40°C
- Thermal protection of winding (bimetallic)
- Thermal protection of bearings (bimetallic) frame 160 and 180 - drive end bearing, frame 200-315 both bearings
- Terminal box with one cable inlet equipped with 3 current terminals, 2-4 auxiliary terminals, terminal for PE wire, CK1 unit
- According to PN-EN 60034-1, PN-EN 50014, PN-EN 50018 and PN-G- 38010:1997 (for 1000V)
- The device of the category M2, G2 acc. to Directive 94/9/EC (ATEX)

CUSTOMISED VERSION

- Different supply voltage to 1140V
- Frequency 60 Hz
- Dual voltage (500/1000V)
- Degree of protection IP56
- With thermal protection of winding (PTC or Pt100)
- With thermal protection of drive end bearing (PTC or Pt100)
- With heaters in windig
- Terminal box with max 4 cable inlets, 6 current terminals , terminal unit CK2 for testing of PE wire continuity (diode and resistor), with rubber ring seals for other cable diameter
- Adapted for a frequency inverter supply (Motors marked with additional letter "f" e.g. dSg315..-EP-f)

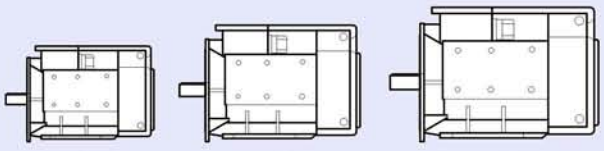
CE ISO 9001 IEC

Detailed technical data on request.

Range of Motors:

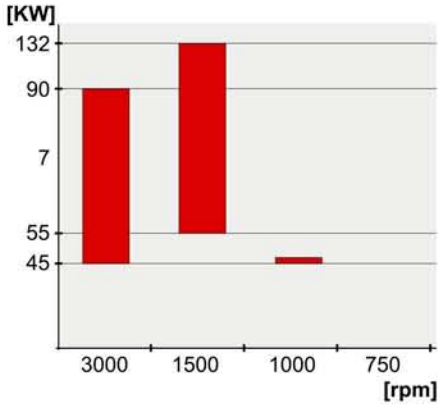
3SGf

AVAILABLE FRAME SIZE



250 280 315

OUTPUT RANGE: 45 - 132 kW



The motors are designed for working in the mines endangered by the explosion of methane and coal dust
For driving of mining devices (e.g. impactors, conveyors).

I M2 EExd I
KDB 04ATEX050X

DESCRIPTION

- Operating duty S1and S4 60% 40c/h $J_{ext}/J_M = 1$
- Rated voltage 500 V or 1000V
- Frequency 50 Hz
- Insulation class F
- Degree of protection IP 56
- Ambient temperature -20°C ÷ +40°C
- Thermal protection of winding and bearings (bimetallic or PTC)
- Terminal box with two cable inlets equipped with 3 current terminals, 4 auxiliary terminals for PE wire, CK1 unit
- The cable inlet and terminals adapted for connection of mining copper cable conductors
- According to PN-EN 60034-1, PN-EN 50014, PN-EN 50018 and PN-G- 38010:1997 (for 1000V)
- Motors as device from group I category M2 acc. to Directive 94/9/EC

CUSTOMISED VERSION

- Different supply voltage to 1140V
- Frequency 60 Hz
- With thermal protection with Pt100
- With heaters in windings
- Terminal unit CK2 for testing of PE wire continuity (diode and resistor)
- With rubber ring seals for other cable diameter
- Different versions according to customer's specifications

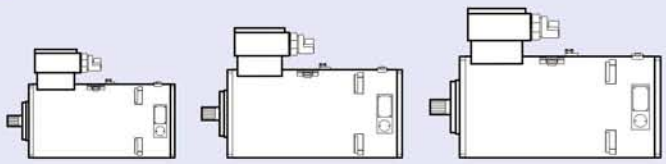
CE ISO 9001 IEC

Detailed technical data on request.

Range of Motors:

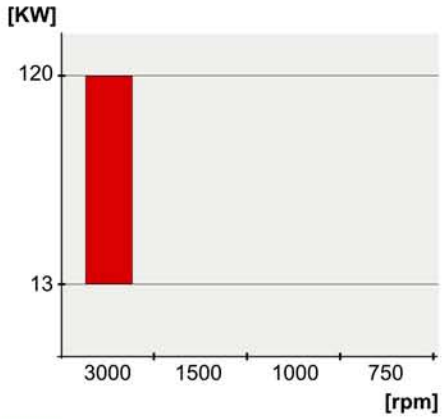
dSKKs, dSKK (Water Cooled)

AVAILABLE FRAME SIZE



160 180 200

OUTPUT RANGE: 13 - 120 kW



The motors are designed for working in the mines endangered by the explosion of methane and coal dust.
For driving of mining devices which work in undergrounds of coal mines.

Ex I M2 EExd I acc. to EN 50014
I M2 Exd I acc. to EN 60079-0

DESCRIPTION

- Operating duty S1 and S4 60% (40 c/h for dSKK200), (80 c/h for dSKK180L4)
- Rated voltage : dSKK - 500 V or 1000V, dSKKs 440V - designed to the power supply with the frequency inverter
- Frequency 50 Hz
- Insulation class F dSKK, H - dSKKs
- Degree of protection IP 66
- Terminal box with one cable inlet equipped with 3 current terminals, 8 auxiliary terminals, 2 terminals for PE wire, CK1 unit and plug of auxiliary cable inlet
- Thermal protection of winding and bearings (bimetallic or PTC)
- Pt100 in winding and drive end bearing (dSKKs)
- The cable inlet and terminals adapted for connection of mining copper cable conductors
- According to PN-EN 60034-1, PN-G- 38010:1997 (for 1000V)
- Motors as device from group I category M2 acc. to Directive 94/9/CE

CUSTOMISED VERSION

- Different supply voltage to 1140V
- Frequency 60 Hz
- With thermal protection with Pt100 (dSKK)
- With heaters in winding
- Terminal unit CK2 for testing of PE wire continuity (diode and resistor)
- With rubber ring seals for other cable diameter
- Different versions according to customer's specifications

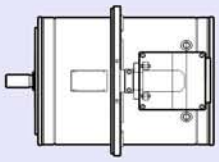
CE ISO 9001 IEC

Detailed technical data on request.

Range of Motors:

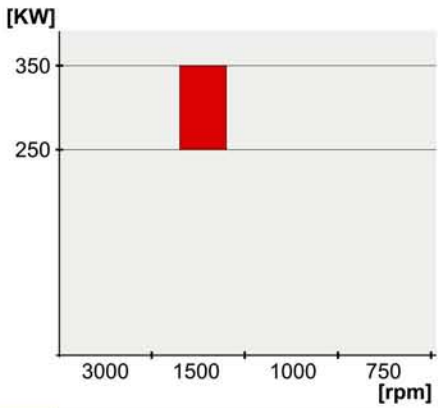
dSKKs 355 (Water Cooled)

AVAILABLE FRAME SIZE



355

OUTPUT RANGE: 250 - 350 kW



The motors are designed for working in the mines endangered by the explosion of methane and coal dust.
The motor designed in cooperation with the firm FAMUR S.A. Katowice for driving the organ which moulds a coal- the combine harvesters in undergrounds of coal mines.

Ex **I M2 EExd I** acc. to EN 50014
I M2 Exd I acc. to EN 60079-0

DESCRIPTION

- Operating duty S1
- Rated voltage : 1000V
- Frequency 50 Hz
- Insulation class H
- Degree of protection IP 66
- Terminal box with one cable inlet (for cable's diameter : 46-49 mm) equipped in 3 current terminals, 12 auxiliary terminals, 2 terminals for PE wire, CK1 unit and plug of auxiliary cable inlet
- Thermal protection of winding and bearings (bimetallic or PTC)
- Pt100 in winding and both bearing
- The cable inlet and terminals adapted for connection of mining copper cable conductors
- According to PN-EN 60034-1, PN-G- 38010:1997 (for 1000V) and EN 50014, EN 50018 for I group dSKK 355-4z, dSKKs 355-L4z, EN 60079-0 i EN 60079-1 for I group dSKKs 355-4
- Motors as device from group I category M2 acc. to Directive 94/9/EC

CUSTOMISED VERSION

- Different supply voltage to 1140V
- Frequency 60 Hz
- Terminal unit CK2 for testing of PE wire continuity (diode and resistor)
- Terminal box without CK unit
- With rubber ring seals for other cable diameter
- Different versions per customer's specifications

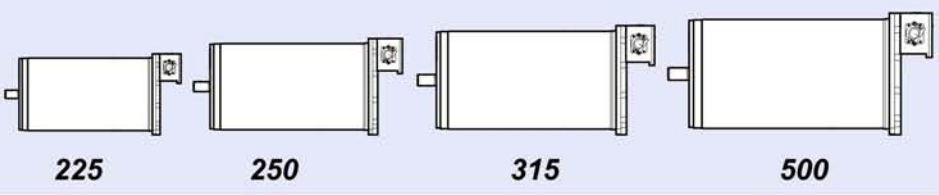
CE ISO 9001 IEC

Detailed technical data on request.

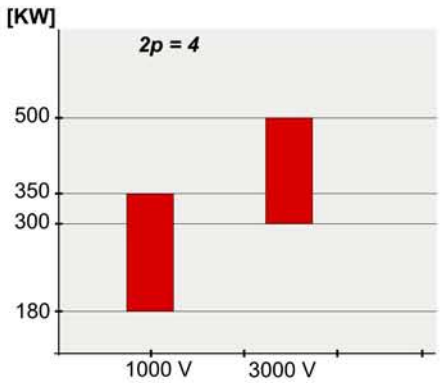
Range of Motors:

dSKgw (Water Cooled)

AVAILABLE FRAME SIZE



OUTPUT RANGE: 180 - 500 kW



dSKgw motors are used for driving the mining organ of combined-cutter-loaders and conveyors under extremely tough conditions in underground headings with class “a”, “b”, “c” of a methane explosion danger and class “A” and “B” of a coal dust explosion danger. The motors of this range are three-phase squirrel cage induction motors in the explosion-proof execution, EExdI confirmed by ATEX certificate issued by KD “BARBARA”.
Depending on clients’ requirements dSKgw motors can be adjusted to 1000V, 1140V and 3300V which gives the opportunity to use them both in Polish and in foreign mines.
The motors are cooled with water flowing through ducts in the frame and end shields. Water inlets are placed on the frame next to the terminal box. The water supply is realized by the special connection which consists of armoured hose screwed into the threaded socket and then mounted with a special bush.

Ex EExd I acc. to EN 50014
acc. to EN 50018

The motor is equipped with the mechanical overload protection - a safety shaft placed in shaft's hole and which has a contraction and additional notch. Functioning of protection consists in twisting the shaft in notch area that stops the driven machine without damaging the motor.

DESCRIPTION

- EExd I according to PN-EN 50014, PN-EN 50018 and ATEX 100A Directive
- Degree of protection IP55 according to PN-EN 60034-5, insulation class H
- Water cooling, cooling system ICW37 according to PN-EN 60035-6
- Long-lasting anti-corrosive protection - corrosive agression class C acc. to PN-71/H-04651
- Durable bearings
- Continous duty S1 and intermittent duty S4-60% (40c/h; J_{ext}/J_m=1)
- Declutching device with safety shaft
- Durable welded frame with double coat
- Low noise and vibrations

DUTY CONDITIONS

- Atmospheric pressure 800 -1070 hPa, ambient temperature 0-40°C
- Relative humidity at 35°C 97-100%
- Altitude <1000m, dustiness <1000mg/m^3
- Operation in areas with class “a”, “b” and “c” of methane explosion danger and class “A” and “B”
- Corrosive aggression class C according to PN-71/H-04651
- Operating voltage (0,95-1,05) U_N
- Allowable inclination of shaft from horizontal position 30°
- Parameters of cooling water (on inlet): max. temp. 30°C, max. stat. pressure 3MPa, flow 15dm^3/min

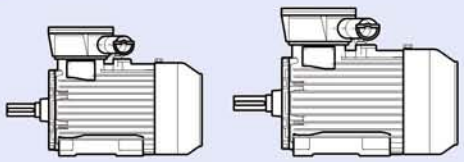
CE ISO 9001 IEC

Detailed technical data on request.

Range of Motors:

ExSg, ExSgm

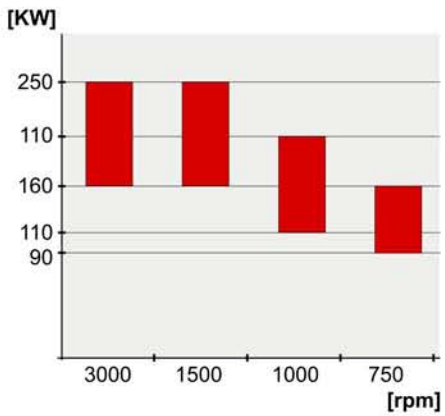
AVAILABLE FRAME SIZE



315 355

Motor ExSgm 315 M2C 260kW, 1000V, 3000 rpm tested in KD "BARBARA"

OUTPUT RANGE: 90 - 250 kW



Flameproof motors are used in mines mainly for driving auxiliary machines such as pumps, fans and conveyors. These motors belong to the group I category M2 and group II category 2G according to ATEX directive.
Within this group we offer squirrel cage induction motors for both high and low voltage, the following series: ExSg/ExSgm, ExSh, ExSf (only group II). All the motors are supplied with ATEX certificate issued by KD "Barbara".

ExSg series motors comply with the requirements of ATEX Directive for machines in an explosion-proof execution and belong to the group I M2 and II 2G, the temperature class T4 or lower according to PN-EN 50014:2004, with the flameproof cover "d" according to PN-EN 50018:2002 and are suitable for work in methane mines and other zones and areas where explosive mixtures of flammable gases, steams or vapors with air (group IIB) can occur.

I M2 EExd I
II 2G EExd IIB T4

DESCRIPTION

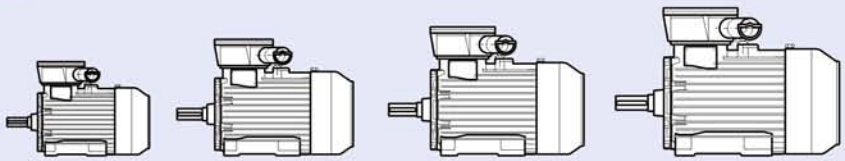
- Flameproof enclosure - „d" according to PN-EN 50018:2002
- Foot mounted , with cylindrical shaft end - IM1001 according to PN-EN 60034-7:1998
- Degree of protection - IP 54 according PN-EN 60034-5:2004
- Degree of protection of terminal box - IP55
- Cooling system - IC 411 according to PN-EN 60034-6:1999
- Motors meet requirements of PN-EN 60034-1

CE ISO 9001 IEC

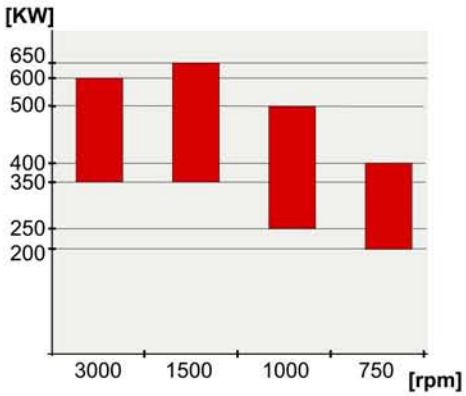
Detailed technical data on request.

Range of Motors:
ExSh...s

AVAILABLE FRAME SIZE



OUTPUT RANGE: 200 - 650 kW



ExSh series motors as explosion-proof devices from the group I category M2 and the group II category 2G according to PN-EN 50014:2004 with the flameproof cover „d" in the temperature class T4 or lower according to PN-EN 50018:2002 are suitable for the operation in methane mines and other areas where explosive mixtures of flammable gases, steams or vapors with air (group IIB) can occur.

I M2 EExd I
II 2G EExd IIB T4

Driving unit for the conveyor BOGDA-1200A made by Pioma Piotrków Trybunalski. This unit consists of the transmission QHRG-3, hydrodynamic couple, shield brake and electric motor ExSh 355 made by EMIT S.A.

DESCRIPTION

- Flameproof protection „d" according to PN-EN 50018:2002
- Foot mounted horizontally with a cylindrical shaft end - IM1001 according to PN-EN 60034-7:1998
- Degree of protection - IP54 according to PN-EN 60034-5:2004
- Degree of protection of terminal box - IP55
- Cooling system - IC 411 according to PN-EN 60034-6:1999
- Motors meet requirements of PN-EN 60034-1

DUTY CONDITIONS

- Ambient temperature: from -20°C to +40°C, altitude above sea level: up to 1000m
- Relative humidity at 35C: to 95%
- Dustiness of cooling air not bigger then 10mg/m^3
- Pollutants of cooling air cannot be chemically aggressive (e.g. fumes of acids or lye)
- Continuous duty S1
- Power supply U_N ±5%,f_N ±2%
- Direct start-up

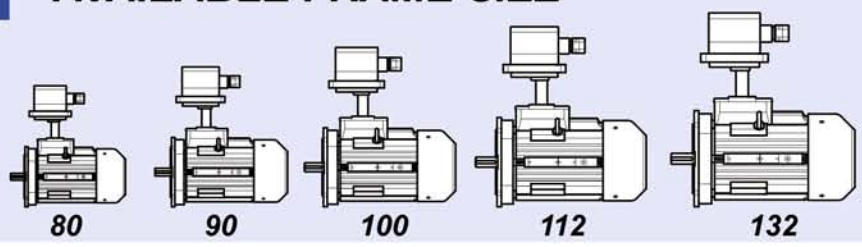
CE ISO 9001 IEC

Detailed technical data on request.

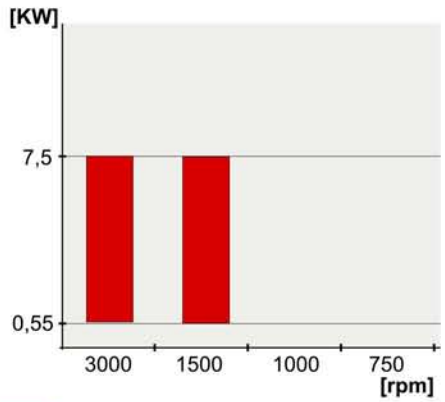
Range of Motors:

dSOK(1) (for Axial Fans)

AVAILABLE FRAME SIZE



OUTPUT RANGE: 0,55 - 7,5 kW



The motors are designed for working in the mines endangered by the explosion of methane and coal dust,for driving the devices (pipes vents) which work in undergrounds of coal mines.

Ex I M2 EExd I acc. to EN 50014

DESCRIPTION

- Operating duty S1
- Rated voltage: 500V, frequency 50 Hz
- Insulation class F, degree of protection IP 54
- Terminal box with one cable inlet (connected with the housing with distance tube and special flange) equipped in 3 current terminals, terminal for PE wire, CK1 unit
- Ambient temperature -20°C ÷ +40°C
- The cable inlet and terminals adapted for connection of mining copper cable conductors
- According to PN-EN 60034-1, PN-G- 38010:1997 (for 1000V) and EN 50014, EN 50018 for I group
- Motors as device from group I category M2 acc. to Directive 94/9/EC

CUSTOMISED VERSION

- Different supply voltage to 1000V
- Frequency 60 Hz
- Degree of protection IP66
- With thermal protection of winding
- With thermal protection of drive end bearing
- Terminal box with two cable inlets
- Terminal unit CK2 for testing of PE wire continuity (diode and resistor)
- With rubber ring seals for other cable diameter
- Different versions according to customer's specifications

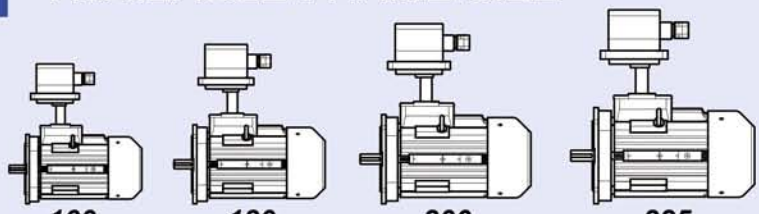
CE ISO 9001 IEC

Detailed technical data on request.

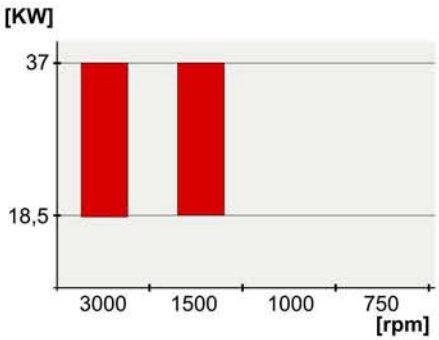
Range of Motors:

dSOKg-E (for Axial Fans)

AVAILABLE FRAME SIZE



OUTPUT RANGE: 18,5 - 37 kW



The motors are designed for working in the mines endangered by the explosion of methane and coal dust. For driving the devices (pipes vents) working in undergrounds of coal mines.

Ex	I M2 EExd I	acc. to EN 50014
	I M2 Exd I	acc. to EN 60079-0

DESCRIPTION

- Operating duty S1
- Rated voltage : 500V or 1000V
- Frequency 50 Hz
- Insulation class F
- Degree of protection IP 56
- Thermal protection of winding (bimetallic)
- Thermal protection of bearings (bimetallic) : frame 160 and 180 - drive end bearing, frame 200-225 both bearings
- Terminal box with one cable inlet (connected with the housing with distance tube and special flange) equipped with 3 current terminals, 3 or 4 auxiliary terminals , terminal for PE wire, CK1 unit
- Ambient temperature -20°C ÷ +40°C
- The cable inlet and terminals adapted for connection of mining copper cable conductors
- According to PN-EN 60034-1, PN-G- 38010:1997 (for 1000V) and EN 50014, EN 50018 for I group Motors as device from group I category M2 acc. to Directive 94/9/EC

CUSTOMISED VERSION

- Different supply voltage to 1140V
- Frequency 60 Hz
- With thermal protection of winding and bearings (PTC)
- With thermal protection of drive end bearing (frame 160 and 180)
- With Pt100 in winding or bearings
- With heaters in winding (frame 200 and 225)
- Terminal box with max 4 cable inlets, 6 current terminals and plug
- Terminal unit CK2 for testing of PE wire continuity (diode and resistor)
- With rubber ring seals for other cable diameter
- Different versions according to customer's specifications

CE ISO 9001 IEC

Detailed technical data on request.

OTHER SPECIAL MOTORS AVAILABLE ON REQUEST

- High efficiency motors (EFF1)
- Submersible motors
- Brake motors (with DC or AC brake)
- Multiple-speed motors
- Slip-ring motors for low and high voltage
- Lift motors
- Progressive motors (with increased output)
- Motors to be built in

SPECIAL EXTRAS OF THE MOTORS

- Insulation class “H” or “C”
- Windings thermal protection (PTC or Pt100)
- Bearings thermal protection (PTC or Pt100)
- Anti-condensation heater
- External fan
- Special shafts
- Special flanges
- Motors in special design acc. to customer’s specification (by larger number or pieces)

FRANK & DVORAK

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