

Squirrel-cage motors

Sector solutions · Smoke extraction motors

Overview

Technical design (continued)

Permissible load on the shaft end

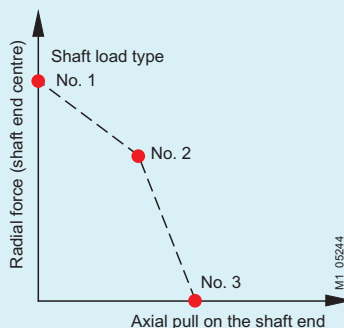
Higher loading with appropriate bearings have not been tested.

Permitted loads in axial and radial direction. The data apply to any number of poles.

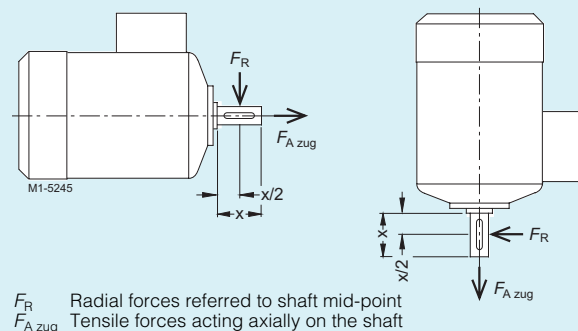
Size	No. of poles	DE bearing	Type of loading on the shaft		Shaft horizontally		Shaft vertically downwards	
					F_R N	$F_{A\text{ pull}}$ N	F_R N	$F_{A\text{ pull}}$ N
80	2-8	6004	No.					
			1	Radial force	400	0	360	0
			2	Radial force + axial pull	150	130	40	170
90	2-8	6205	3	Axial pull	0	215	0	200
			1	Radial force	650	0	590	0
			2	Radial force + axial pull	250	205	100	260
100	2-8	6206	3	Axial pull	0	343	0	310
			1	Radial force	890	0	820	0
			2	Radial force + axial pull	400	265	300	265
112	2-8	6206	3	Axial pull	0	490	0	430
			1	Radial force	870	0	760	0
			2	Radial force + axial pull	400	250	250	260
132	2-8	6208	3	Axial pull	0	480	0	405
			1	Radial force	1070	0	810	0
			2	Radial force + axial pull	450	315	250	300
160	2-8	6209	3	Axial pull	0	580	0	450
			1	Radial force	1440	0	1210	0
			2	Radial force + axial pull	700	450	500	335
180	2-8	6210	3	Axial pull	0	825	0	620
			1	Radial force	1540	0	1020	0
			2	Radial force + axial pull	770	430	550	220
200	2-8	6212	3	Axial pull	0	815	0	455
			1	Radial force	2050	0	1450	0
			2	Radial force + axial pull	1200	770	500	460
225	2-8	6213	3	Axial pull	0	1350	0	720
			1	Radial force	2460	0	1910	0
			2	Radial force + axial pull	1370	900	500	660
250	2-8	6215	3	Axial pull	0	1560	0	920
			1	Radial force	2770	0	1490	0
			2	Radial force + axial pull	1400	840	500	460
280	2	6217	3	Axial pull	0	1500	0	710
			1	Radial force	3180	0	3000	0
			2	Radial force + axial pull	1700	1820	600	1085
315	4-8	6317	3	Axial pull	0	2630	0	1380
			1	Radial force	3470	0		
			2	Radial force + axial pull	1750	2200	On request	On request
			3	Axial pull	0	3000		

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Load types



Forces on shaft extension



Squirrel-cage motors

Sector solutions · Smoke extraction motors

Selection and ordering data

Rated output kW	Size	Order No. Order No. supplements for voltage and type of construction, see table below	Operating data at rated output					Starting torque For direct-on-line starting as multiple of the rated torque	Starting current current	Stalling torque torque	Torque class KL	Moment of inertia J kg m ²	Weight Type of constr. IM B 3 approx. kg
			Rated speed rpm	Efficiency η %	Power factor p.f.	Rated current at 400 V A	Rated torque Nm						
Forced-air cooled motors 1PP7, 1PP5 (aluminium housing) and 1PP6 (cast iron housing) IP55 degree of protection, type of cooling IC 411, temperature/time classes F200 and F300													EN 12 101-3
3000 rpm, 2-pole, 50 Hz													
0.75 1.1	80 M	1PP7 080-2TA .. 1PP7 083-2TA ..	2830 2845	65.0 75.0	0.82 0.80	2.1 2.7	2.5 3.7	2.3 2.6	5.6 6.1	2.4 2.7	16 16	0.00085 0.0011	9.8 11.5
1.5 2.2	90 S 90 L	1PP7 090-2TA .. 1PP7 096-2TA ..	2860 2880	76.0 80.0	0.80 0.80	3.7 5.1	5.0 7.3	2.4 2.8	5.5 6.3	2.7 3.1	16 16	0.0015 0.002	14.6 17.4
3 4	100 L 112 M	1PP7 106-2TA .. 1PP7 113-2TA ..	2890 2905	78.0 83.0	0.83 0.83	6.8 8.5	9.9 13	2.8 2.6	6.8 7.2	3.0 2.9	16 16	0.0038 0.0055	23 31
5.5 7.5	132 S 132 M	1PP7 130-2TA .. 1PP7 131-2TA ..	2925 2930	85.0 88.0	0.87 0.89	10.7 13.8	18 24	2.0 2.3	5.9 6.9	2.8 3.0	16 16	0.016 0.021	44 52
11 15 18.5	160 M 160 L	1PP7 163-2TA .. 1PP7 164-2TA .. 1PP7 166-2TA ..	2940 2940 2940	89.5 90.0 91.0	0.86 0.90 0.91	21 26.5 32.5	36 49 60	2.1 2.2 2.4	6.5 6.6 7.0	2.9 3.0 3.1	16 16 16	0.034 0.04 0.052	71 82 95
22	180 M	1PP5 183-2TA ..	2940	91.7	0.88	39	71	2.5	6.9	3.2	16	0.077	119
30 37	200 L	1PP5 206-2TA .. 1PP5 207-2TA ..	2945 2945	92.3 92.8	0.89 0.89	53 65	97 120	2.4 2.4	7.2 7.7	2.8 2.8	16 16	0.14 0.16	168 191
45	225 M	1PP5 223-2TA ..	2960	93.6	0.89	78	145	2.8	7.7	3.4	16	0.2	226
55	250 M	1PP6 253-2TB ..	2975	95.1	0.90	94	177	2.5	7.4	3.3	13	0.466	405
75 90	280 S 280 M	1PP6 280-2TB .. 1PP6 283-2TB ..	2975 2975	95.3 95.6	0.91 0.90	126 152	241 289	2.6 3.0	7.5 7.5	2.9 3.0	13 13	0.832 1.00	510 595
110 132 160 200	315 S 315 M 315 L 315 L	1PP6 310-2TB .. 1PP6 313-2TB .. 1PP6 316-2TB .. 1PP6 317-2TB ..	2985 2984 2984 2984	95.9 96.1 96.3 96.4	0.90 0.91 0.93 0.93	186 220 260 325	352 422 512 640	2.6 2.7 2.8 2.5	7.5 7.4 7.5 7.0	3.2 3.0 3.1 2.8	13 13 13 13	1.39 1.62 2.09 2.46	770 895 1035 1225
1500 rpm, 4-pole, 50 Hz													
0.55 0.75	80 M	1PP7 080-4TA .. 1PP7 083-4TA ..	1395 1395	61.0 72.0	0.75 0.81	1.96 1.86	3.7 5.1	2.2 2.3	3.9 4.2	2.2 2.3	16 16	0.0015 0.0018	9.6 11
1.1 1.5	90 S 90 L	1PP7 090-4TA .. 1PP7 096-4TA ..	1415 1420	70.5 74.1	0.74 0.74	3.15 4.0	7.4 10	2.3 2.4	4.6 5.3	2.4 2.6	16 16	0.0028 0.0035	14 17.3
2.2 3	100 L	1PP7 106-4TA .. 1PP7 107-4TA ..	1420 1415	78.5 79.5	0.78 0.78	5.4 7.2	15 20	2.5 2.7	5.6 5.6	2.8 3.0	16 16	0.0048 0.0058	23 26
4	112 M	1PP7 113-4TA ..	1440	80.0	0.80	9.2	27	2.7	6.5	3.0	16	0.011	33
5.5 7.5	132 S 132 M	1PP7 130-4TA .. 1PP7 133-4TA ..	1450 1455	85.0 85.0	0.78 0.78	12 16.5	36 49	2.5 2.7	6.3 6.7	3.1 3.2	16 16	0.018 0.024	46 52
11 15	160 M 160 L	1PP7 163-4TA .. 1PP7 166-4TA ..	1460 1460	88.5 87.0	0.81 0.80	23 32	72 98	2.2 2.6	6.2 6.5	2.7 3.0	16 16	0.04 0.052	70 95
18.5 22	180 M 180 L	1PP5 183-4TA .. 1PP5 186-4TA ..	1460 1460	88.0 90.0	0.79 0.80	40 45	121 144	2.3 2.3	7.5 7.5	3.0 3.0	16 16	0.13 0.15	116 130
30	200 L	1PP5 207-4TA ..	1465	91.8	0.81	60	196	2.6	7.0	3.2	16	0.24	173
37 45	225 S 225 M	1PP5 220-4TA .. 1PP5 223-4TA ..	1470 1470	92.9 93.4	0.87 0.87	66 80	241 293	2.8 2.8	7.0 7.7	3.2 3.3	16 16	0.32 0.36	218 244
55	250 M	1PP6 253-4TA ..	1485	94.9	0.86	97	354	2.9	7.5	3.3	16	0.856	445
75 90	280 S 280 M	1PP6 280-4TA .. 1PP6 283-4TA ..	1486 1485	95.0 94.9	0.87 0.88	132 156	482 579	2.6 2.5	7.3 7.3	2.8 2.8	16 16	1.39 1.71	555 655
110 132 160 200	315 S 315 M 315 L 315 L	1PP6 310-4TA .. 1PP6 313-4TA .. 1PP6 316-4TA .. 1PP6 317-4TA ..	1488 1488 1488 1488	95.3 95.5 95.9 95.7	0.87 0.87 0.87 0.88	192 230 275 345	706 847 1027 1284	2.6 2.7 2.9 3.2	6.9 7.0 7.4 7.3	2.8 2.7 2.9 3.1	16 16 16 16	2.31 2.88 3.46 4.22	790 945 1085 1285

Forced-air cooled (surface cooled) motors without external fan and fan cover; the motors are located in the air flow of the driven fan and are adequately cooled during operation under normal conditions.

Order No. supplement

Motor type	Penultimate position: Voltage identifier				Final position: Type of construction identifier			
	50 Hz				IM B 3			
	230 VΔ / 400 VΥ	400 VΔ / 690 VΥ	500 VΥ	500 VΔ	Price supplement			
					IM B 5	IM V1 without protective cover	IM B 35	
1PP7 080 to 1PP7 096 1PP7 106 to 1PP7 166	1	6	3	-	0	1	1	6
1PP5 183 to 1PP5 223	1	6	3	5	0	1	1	6
1PP6 253 to 1PP6 313 1PP6 316 to 1PP6 318	1	6	3	5	0	1	1	6
	-	6	-	5	0	1 ¹⁾	8	6

1) Additional radial supports must be provided.

For other types of construction, see "Technical information", "Types of construction".

Squirrel-cage motors

Sector solutions · Smoke extraction motors

Selection and ordering data

Rated output kW	Size	Order No. Order No. supplements for voltage and type of construction, see table below	Operating data at rated output					Starting torque For direct-on-line starting as multiple of the rated torque	Starting current current	Stalling torque torque	Torque class KL	Moment of inertia J kg m ²	Weight Type of constr. IM B 3 approx. kg
			Rated speed rpm	Efficiency η %	Power factor p.f.	Rated current at 400 V A	Rated torque Nm						
Forced-air cooled motors 1PP7, 1PP5 (aluminium housing) and 1PP6 (cast iron housing) IP55 degree of protection, type of cooling IC 411, temperature/time classes F200 and F300													EN 12 101-3
1000 rpm, 6-pole, 50 Hz													
0.37 0.55	80 M	1PP7 080-6TA .. 920 1PP7 083-6TA .. 910	920 910	62.0 67.0	0.72 0.74	1.2 1.6	3.9 5.8	1.9 2.1	3.1 3.4	2.1 2.2	16 16	0.0015 0.0018	9.6 11
0.75 1.1	90 S 90 L	1PP7 090-6TA .. 915 1PP7 096-6TA .. 915	915 915	69.0 72.0	0.76 0.77	2.1 2.9	7.8 11.5	2.2 2.3	3.7 3.8	2.2 2.3	16 16	0.0028 0.0035	14.2 17.4
1.5	100 L	1PP7 106-6TA .. 925	925	74.0	0.75	3.9	15	2.3	4	2.3	16	0.0063	25
2.2	112 M	1PP7 113-6TA .. 940	940	75.0	0.70	6.0	22	2.2	4.6	2.5	16	0.011	29
3 4 5.5	132 S 132 M	1PP7 130-6TA .. 950 1PP7 133-6TA .. 950 1PP7 134-6TA .. 950	950 950 950	79.0 80.5 81.0	0.76 0.76 0.75	7.2 9.4 14.5	30 40 55	1.9 2.1 2.3	4.2 4.5 5	2.2 2.4 2.6	16 16 16	0.015 0.019 0.025	44 49 57
7.5 11	160 M 160 L	1PP7 163-6TA .. 960 1PP7 166-6TA .. 960	960 960	83.0 87.5	0.72 0.74	18 24.5	75 109	2.1 2.3	4.6 4.8	2.5 2.6	16 16	0.041 0.049	78 104
15	180 L	1PP5 186-6TA .. 970	970	89.5	0.77	31.5	148	2.0	5.2	2.4	16	0.15	130
18.5 22	200 L	1PP5 206-6TA .. 975 1PP5 207-6TA .. 975	975 975	90.2 90.8	0.77 0.77	38.5 45.5	181 215	2.7 2.8	5.5 5.5	2.8 2.9	16 16	0.24 0.28	173 193
30	225 M	1PP5 223-6TA .. 978	978	91.8	0.77	61	294	2.8	5.7	2.9	16	0.36	234
37	250 M	1PP6 253-6TA .. 984	984	92.6	0.84	69	359	2.7	6.4	2.4	16	0.934	390
45 55	280 S 280 M	1PP6 280-6TA .. 986 1PP6 283-6TA .. 986	986 986	92.8 92.7	0.86 0.87	81 99	436 533	2.5 2.5	6.6 6.5	2.5 2.5	16 16	1.37 1.65	500 550
75 90 110 132 160	315 S 315 M 315 L	1PP6 310-6TA .. 990 1PP6 313-6TA .. 990 1PP6 316-6TA .. 990 1PP6 317-6TA .. 988 1PP6 318-6TA .. 990	990 990 990 988 990	93.9 94.3 94.7 94.8 95.0	0.85 0.86 0.87 0.87 0.86	136 160 192 230 285	723 868 1061 1276 1543	2.7 2.7 2.6 3.0 3.1	7.0 7.3 7.4 7.2 7.5	2.9 3.0 3.0 2.8 3.0	16 16 16 16 16	2.50 3.20 4.02 4.71 5.39	740 915 990 1160 1225

Forced-air cooled (surface cooled) motors without external fan and fan cover; the motors are located in the air flow of the driven fan and are adequately cooled during operation under normal conditions.

Order No. supplement

Motor type	Penultimate position: Voltage identifier				Final position: Type of construction identifier			
	50 Hz				IM B 3	Price supplement		
	230 V Δ / 400 VY	400 V Δ / 690 VY	500 VY	500 V Δ		IM B 5	IM V1 without protective cover	IM B 35
1PP7 080 to 1PP7 096 1PP7 106 to 1PP7 166	1	6	3	–	0	1	1	6
1PP5 183 to 1PP5 223	1	6	3	5	0	1	1	6
1PP6 253 to 1PP6 313 1PP6 316 to 1PP6 318	1	6	3	5	0	1	1	6
	–	6	–	5	0	1 ¹⁾	8	6

For other types of construction, see "Technical information", "Types of construction".

1) Additional radial supports must be provided.

Squirrel-cage motors

Sector solutions · Smoke extraction motors

Selection and ordering data

Rated output kW	Size	Order No. Order No. supplements for voltage and type of construction, see table below	Operating data at rated output					Starting torque For direct-on-line starting as multiple of the rated torque	Starting current current	Stalling torque torque	Torque class KL	Moment of inertia J kg m ²	Weight Type of constr. IM B 3 approx. kg
			Rated speed rpm	Efficien- cy η %	Power factor p.f.	Rated current at 400 V A	Rated torque Nm						
Self-cooled motors 1LA7, 1LA5 (aluminium housing) and 1LG6 (cast iron housing)													EN 12 101-3
IP55 degree of protection, type of cooling IC 411, temperature/time classes F200 and F300													
3000 rpm, 2-pole, 50 Hz													
0.75 1.1	80 M	1LA7 080-2TA .. 1LA7 083-2TA ..	2830 2845	65.0 75.0	0.82 0.80	2.1 2.7	2.5 3.7	2.3 2.6	5.6 6.1	2.4 2.7	16 16	0.00085 0.0011	10.2 11.9
1.5 2.2	90 S 90 L	1LA7 090-2TA .. 1LA7 096-2TA ..	2860 2880	76.0 80.0	0.80 0.80	3.7 5.1	5.0 7.3	2.4 2.8	5.5 6.3	2.7 3.1	16 16	0.0015 0.002	15.2 18
3	100 L	1LA7 106-2TA ..	2890	78.0	0.83	6.8	9.9	2.8	6.8	3.0	16	0.0038	24
4	112 M	1LA7 113-2TA ..	2905	83.0	0.83	8.5	13	2.6	7.2	2.9	16	0.0055	32
5.5 7.5	132 S 132 M	1LA7 130-2TA .. 1LA7 131-2TA ..	2925 2930	85.0 88.0	0.87 0.89	10.7 13.8	18 24	2.0 2.3	5.9 6.9	2.8 3.0	16 16	0.016 0.021	45 53
11 15 18.5	160 M 160 L	1LA7 163-2TA .. 1LA7 164-2TA .. 1LA7 166-2TA ..	2940 2940 2940	89.5 90.0 91.0	0.86 0.90 0.91	21 26.5 32.5	36 49 60	2.1 2.2 2.4	6.5 6.6 7.0	2.9 3.0 3.1	16 16 16	0.034 0.04 0.052	74 85 98
22	180 M	1LA5 183-2TA ..	2940	91.7	0.88	39	71	2.5	6.9	3.2	16	0.077	125
30 37	200 L	1LA5 206-2TA .. 1LA5 207-2TA ..	2945 2945	92.3 92.8	0.89 0.89	53 65	97 120	2.4 2.4	7.2 7.7	2.8 2.8	16 16	0.14 0.16	176 199
45	225 M	1LA5 223-2TA ..	2960	93.6	0.89	78	145	2.8	7.7	3.4	16	0.2	235
55	250 M	1LG6 253-2TB ..	2975	94.2	0.90	94	177	2.5	7.4	3.3	13	0.466	420
75 90	280 S 280 M	1LG6 280-2TB .. 1LG6 283-2TB ..	2975 2975	94.8 95.2	0.91 0.90	126 152	241 289	2.6 3.0	7.5 7.5	2.9 3.0	13 13	0.832 1.00	530 615
110 132 160 200	315 S 315 M 315 L 315 L	1LG6 310-2TB .. 1LG6 313-2TB .. 1LG6 316-2TB .. 1LG6 317-2TB ..	2985 2984 2984 2984	95.0 95.3 95.7 95.9	0.90 0.91 0.93 0.93	186 220 260 325	352 422 512 640	2.6 2.7 2.8 2.5	7.5 7.4 7.5 7.0	3.2 3.0 3.1 2.8	13 13 13 13	1.39 1.62 2.09 2.46	790 915 1055 1245
1500 rpm, 4-pole, 50 Hz													
0.55 0.75	80 M	1LA7 080-4TA .. 1LA7 083-4TA ..	1395 1395	61.0 72.0	0.75 0.81	1.96 1.86	3.7 5.1	2.2 2.3	3.9 4.2	2.2 2.3	16 16	0.0015 0.0018	10 11.4
1.1 1.5	90 S 90 L	1LA7 090-4TA .. 1LA7 096-4TA ..	1415 1420	70.5 74.1	0.74 0.74	3.15 4.0	7.4 10	2.3 2.4	4.6 5.3	2.4 2.6	16 16	0.0028 0.0035	14.6 17.9
2.2 3	100 L	1LA7 106-4TA .. 1LA7 107-4TA ..	1420 1415	78.5 79.5	0.78 0.78	5.4 7.2	15 20	2.5 2.7	5.6 5.6	2.8 3.0	16 16	0.0048 0.0058	24 27
4	112 M	1LA7 113-4TA ..	1440	80.0	0.80	9.2	27	2.7	6.5	3.0	16	0.011	34
5.5 7.5	132 S 132 M	1LA7 130-4TA .. 1LA7 133-4TA ..	1450 1455	85.0 85.0	0.78 0.78	12 16.5	36 49	2.5 2.7	6.3 6.7	3.1 3.2	16 16	0.018 0.024	47 53
11 15	160 M 160 L	1LA7 163-4TA .. 1LA7 166-4TA ..	1460 1460	88.5 87.0	0.81 0.80	23 32	72 98	2.2 2.6	6.2 6.5	2.7 3.0	16 16	0.04 0.052	73 98
18.5 22	180 M 180 L	1LA5 183-4TA .. 1LA5 186-4TA ..	1460 1460	88.0 90.0	0.79 0.80	40 45	121 144	2.3 2.3	7.5 7.5	3.0 3.0	16 16	0.13 0.15	125 139
30	200 L	1LA5 207-4TA ..	1465	91.8	0.81	60	196	2.6	7.0	3.2	16	0.24	184
37 45	225 S 225 M	1LA5 220-4TA .. 1LA5 223-4TA ..	1470 1470	92.9 93.4	0.87 0.87	66 80	241 293	2.8 2.8	7.0 7.7	3.2 3.3	16 16	0.32 0.36	230 256
55	250 M	1LG6 253-4TA ..	1485	94.7	0.86	97	354	2.9	7.5	3.3	16	0.856	460
75 90	280 S 280 M	1LG6 280-4TA .. 1LG6 283-4TA ..	1486 1485	94.6 94.6	0.87 0.88	132 156	482 579	2.6 2.5	7.3 7.3	2.8 2.8	16 16	1.40 1.70	575 675
110 132 160 200	315 S 315 M 315 L 315 L	1LG6 310-4TA .. 1LG6 313-4TA .. 1LG6 316-4TA .. 1LG6 317-4TA ..	1488 1488 1488 1488	95.0 95.3 95.7 95.5	0.87 0.87 0.87 0.88	192 230 275 345	706 847 1027 1284	2.6 2.7 2.9 3.2	6.9 7.0 7.4 7.3	2.8 2.7 2.9 3.1	16 16 16 16	2.31 2.88 3.46 4.22	810 965 1105 1305

Surface-cooled motors with external fan and fan cover.

Order No. supplement

Motor type	Penultimate position: Voltage identifier				Final position: Type of construction identifier			
	50 Hz				IM B 3	Price supplement		
	230 V Δ / 400 V Υ	400 V Δ / 690 V Υ	500 V Υ	500 V Δ	IM B 5	IM V1 without protective cover	IM B 35	
1LA7 080 to 1LA7 096	1	6	3	-	0	1	1	6
1LA7 106 to 1LA7 166	1	6	3	5	0	1	1	6
1LA5 183 to 1LA5 223	1	6	3	5	0	1	1	6
1LG6 253 to 1LG6 313	1	6	3	5	0	1	1	6
1LG6 316 to 1LG6 318	-	6	-	5	0	1 ¹⁾	8	6

1) Additional radial supports must be provided.

For other types of construction, see "Technical information", "Types of construction".

Squirrel-cage motors

Sector solutions · Smoke extraction motors

Selection and ordering data

Rated output kW	Size	Order No. Order No. supplements for voltage and type of con- struction, see table below	Operating data at rated output					Starting torque For direct-on-line starting as multiple of the rated torque	Starting current as multiple of the rated current	Stalling torque	Torque class KL	Moment of inertia J kg m ²	Weight Type of constr. IM B 3 approx. kg
			Rated speed rpm	Efficien- cy η %	Power factor p.f.	Rated current at 400 V A	Rated torque Nm						
Self-cooled motors 1LA7, 1LA5 (aluminium housing) and 1LG6 (cast iron housing)													EN 12 101-3
IP55 degree of protection, type of cooling IC 411, temperature/time classes F200 and F300													
1000 rpm, 6-pole, 50 Hz													
0.37 0.55	80 M	1LA7 080-6TA .. 920 1LA7 083-6TA .. 910	920 910	62.0 67.0	0.72 0.74	1.2 1.6	3.9 5.8	1.9 2.1	3.1 3.4	2.1 2.2	16 16	0.0015 0.0018	9.5 11.4
0.75 1.1	90 S 90 L	1LA7 090-6TA .. 915 1LA7 096-6TA .. 915	915 915	69.0 72.0	0.76 0.77	2.1 2.9	7.8 11.5	2.2 2.3	3.7 3.8	2.2 2.3	16 16	0.0028 0.0035	14.8 18
1.5	100 L	1LA7 106-6TA .. 925	925	74.0	0.75	3.9	15	2.3	4	2.3	16	0.0063	26
2.2	112 M	1LA7 113-6TA .. 940	940	75.0	0.70	6.0	22	2.2	4.6	2.5	16	0.011	30
3 4 5.5	132 S 132 M 132 L	1LA7 130-6TA .. 950 1LA7 133-6TA .. 950 1LA7 134-6TA .. 950	950 950 950	79.0 80.5 81.0	0.76 0.76 0.75	7.2 9.4 14.5	30 40 55	1.9 2.1 2.3	4.2 4.5 5	2.2 2.4 2.6	16 16 16	0.015 0.019 0.025	45 50 58
7.5 11	160 M 160 L	1LA7 163-6TA .. 960 1LA7 166-6TA .. 960	960 960	83.0 87.5	0.72 0.74	18 24.5	75 109	2.1 2.3	4.6 4.8	2.5 2.6	16 16	0.041 0.049	81 107
15	180 L	1LA5 186-6TA .. 970	970	89.5	0.77	31.5	148	2.0	5.2	2.4	16	0.15	139
18.5 22	200 L	1LA5 206-6TA .. 975 1LA5 207-6TA .. 975	975 975	90.2 90.8	0.77 0.77	38.5 45.5	181 215	2.7 2.8	5.5 5.5	2.8 2.9	16 16	0.24 0.28	184 204
30	225 M	1LA5 223-6TA .. 978	978	91.8	0.77	61	294	2.8	5.7	2.9	16	0.36	246
37	250 M	1LG6 253-6TA .. 984	984	92.4	0.84	69	359	2.7	6.4	2.4	16	0.934	405
45 55	280 S 280 M	1LG6 280-6TA .. 986 1LG6 283-6TA .. 986	986 986	92.7 92.6	0.86 0.87	81 99	436 533	2.5 2.5	6.6 6.5	2.5 2.5	16 16	1.40 1.60	520 570
75 90 110 132 160	315 S 315 M 315 L 315 L 315 L	1LG6 310-6TA .. 990 1LG6 313-6TA .. 990 1LG6 316-6TA .. 990 1LG6 317-6TA .. 988 1LG6 318-6TA .. 990	990 990 990 988 990	93.8 94.2 94.6 94.7 94.9	0.85 0.86 0.87 0.87 0.86	136 160 192 230 285	723 868 1061 1276 1543	2.7 2.7 2.6 3.0 3.1	7.0 7.3 7.4 7.2 7.5	2.9 3.0 3.0 2.8 3.0	16 16 16 16 16	2.50 3.20 4.02 4.71 5.39	760 935 1010 1180 1245

Surface-cooled motors with external fan and fan cover.

Order No. supplement

Motor type	Penultimate position: Voltage identifier				Final position: Type of construction identifier			
	230 V Δ / 400 V Υ	400 V Δ / 690 V Υ	500 V Υ	500 V Δ	IM B 3	Price supplement		
						IM B 5	IM V1 without protec- tive cover	IM B 35
1LA7 080 to 1LA7 096 1LA7 106 to 1LA7 166	1	6	3	-	0	1	1	6
1LA5 183 to 1LA5 223	1	6	3	5	0	1	1	6
1LG6 253 to 1LG6 313 1LG6 316 to 1LG6 318	1	6	3	5	0	1	1	6
	-	6	-	5	0	1 ¹⁾	8	6

For other types of construction, see "Technical information", "Types of construction".

1) Additional radial supports must be provided.

Squirrel-cage motors

Sector solutions · Smoke extraction motors

Selection and ordering data

Rated output kW	Size	Order No. Order No. supplements for voltage and type of con- struction, see table below	Operating data at rated output					Starting torque For direct-on-line starting as multiple of the rated torque	Starting current current	Stalling torque torque	Torque class KL	Moment of inertia J kg m ²	Weight Type of constr. IM B 3 approx. kg
			Rated speed rpm	Efficien- cy η %	Power factor p.f.	Rated current at 400 V A	Rated torque Nm						
Forced-air cooled motors 1PP6 (cast iron housing)													EN 12 101-3
IP55 degree of protection, cooling type IC 411, temperature/time class F400													
3000 rpm, 2-pole, 50 Hz													
3	100 L	1PP6 106-2UA ..	2875	79.0	0.85	6.5	10	2.5	6.2	2.8	16	0.0038	31
4	112 M	1PP6 113-2UA ..	2900	82.0	0.85	8.7	13	2.5	6.8	2.9	16	0.0055	40
5.5	132 S	1PP6 130-2UA ..	2920	84.0	0.89	10.8	18	1.9	5.7	2.7	16	0.016	49
7.5		1PP6 131-2UA ..	2930	85.0	0.89	14.5	24	2.0	6.5	2.8	16	0.021	54
11	160 M	1PP6 163-2UA ..	2930	87.0	0.85	21	36	1.8	6.4	2.7	16	0.034	91
15	160 M	1PP6 164-2UA ..	2930	86.0	0.89	27.5	49	2.0	6.5	2.80	16	0.04	99
18.5	160 L	1PP6 166-2UA ..	2930	87.0	0.90	34	60	2.0	7.0	2.70	16	0.052	109
22	180 M	1PP6 183-2UA ..	2955	93.1	0.88	39	71	2.4	7.0	3.2	16	0.086	175
30	200 L	1PP6 206-2UA ..	2955	92.8	0.88	53	97	2.3	6.7	3.1	16	0.151	215
37	200 L	1PP6 207-2UA ..	2958	93.0	0.89	65	119	2.4	7.1	3.2	16	0.182	245
45	225 M	1PP6 223-2UA ..	2962	95.0	0.89	77	145	2.4	7.1	3.1	16	0.266	320
55	250 M	1PP6 253-2UA ..	2972	94.9	0.90	94	177	2.3	6.7	2.9	16	0.466	405
75	280 S	1PP6 280-2UB ..	2975	94.9	0.89	128	241	2.4	6.8	2.9	13	0.832	510
90	280 M	1PP6 283-2UB ..	2976	95.2	0.90	152	289	2.5	7.4	3.0	13	1.00	595
110	315 S	1PP6 310-2UB ..	2982	95.3	0.91	184	352	2.4	6.8	2.7	13	1.39	770
132	315 M	1PP6 313-2UB ..	2980	95.7	0.91	220	423	2.5	6.9	2.8	13	1.62	895
160	315 L	1PP6 316-2UB ..	2982	96.0	0.92	265	512	2.4	7.1	2.8	13	2.09	1035
190	315 L	1PP6 317-2UB ..	2982	96.3	0.93	325	608	2.6	7.2	2.9	13	2.46	1225
1500 rpm, 4-pole, 50 Hz													
2.2	100 L	1PP6 106-4UA ..	1410	79.0	0.78	5.5	15	2.2	5.2	2.7	16	0.0048	31
3		1PP6 107-4UA ..	1410	79.0	0.80	7.1	20	2.5	5.0	2.6	16	0.0058	34
4	112 M	1PP6 113-4UA ..	1440	82.0	0.75	9.5	27	2.7	5.7	3.0	16	0.011	42
5.5	132 S	1PP6 130-4UA ..	1455	81.0	0.80	12.8	36	2.5	6.3	3.0	16	0.018	51
7.5		1PP6 133-4UA ..	1455	84.0	0.75	17.2	49	2.7	6.7	3.1	16	0.024	58
11	160 M	1PP6 163-4UA ..	1460	85.0	0.80	24	72	2.2	6.2	2.7	16	0.04	95
15	160 L	1PP6 166-4UA ..	1460	85.0	0.78	34	98	2.4	6.4	2.8	16	0.052	108
18.5	180 M	1PP6 183-4UA ..	1470	91.2	0.84	35	120	2.4	6.1	2.8	16	0.122	150
22	180 L	1PP6 186-4UA ..	1472	92.1	0.85	40.5	143	2.4	6.4	2.9	16	0.144	175
30	200 L	1PP6 207-4UA ..	1470	92.6	0.86	55	195	2.4	6.4	3.1	16	0.234	215
37	225 S	1PP6 220-4UA ..	1480	92.9	0.86	67	239	2.6	6.5	2.8	16	0.398	280
45	225 M	1PP6 223-4UA ..	1480	93.6	0.86	81	290	2.7	6.6	2.9	16	0.486	320
55	250 M	1PP6 253-4UA ..	1485	94.5	0.87	97	354	2.5	7.4	2.9	16	0.856	445
75	280 S	1PP6 280-4UA ..	1484	94.6	0.87	132	483	2.4	6.7	2.8	16	1.39	554
90	280 M	1PP6 283-4UA ..	1486	95.1	0.86	160	578	2.6	7.3	3.0	16	1.71	655
110	315 S	1PP6 310-4UA ..	1488	95.3	0.87	192	706	2.7	7.0	2.8	16	2.31	790
132	315 M	1PP6 313-4UA ..	1488	95.6	0.88	225	847	2.6	7.1	2.8	16	2.88	945
160	315 L	1PP6 316-4UA ..	1490	95.8	0.88	275	1025	2.9	7.2	2.9	16	3.46	1085
200	315 L	1PP6 317-4UA ..	1488	95.9	0.88	345	1284	3.1	7.5	2.9	16	4.22	1285

Forced-air cooled (surface cooled) motors without external fan and fan cover; the motors are located in the air flow of the driven fan and are adequately cooled during operation under normal conditions.

Order No. supplement

Motor type	Penultimate position: Voltage identifier				Final position: Type of construction identifier			
	50 Hz				IM B 3	Price supplement		
	230 V Δ / 400 VY	400 V Δ / 690 VY	500 VY	500 V Δ		IM B 5	IM V1 without protec- tive cover	IM B 35
1PP6 106 to 1PP6 313	1	6	3	5	0	1	1	6
1PP6 316 to 1PP6 318	-	6	-	5	0	1 ¹⁾	8	6

For other types of construction, see "Technical information", "Types of construction".

1) Additional radial supports must be provided.

Squirrel-cage motors

Sector solutions · Smoke extraction motors

Selection and ordering data

Rated output kW	Size	Order No. Order No. supplements for voltage and type of con- struction, see table below	Operating data at rated output					Starting torque For direct-on-line starting as multiple of the rated torque	Starting current as multiple of the rated current	Stalling torque	Torque class KL	Moment of inertia J kg m ²	Weight Type of constr. IM B 3 approx. kg
			Rated speed rpm	Efficien- cy η %	Power factor p.f.	Rated current at 400 V A	Rated torque Nm						
Forced-air cooled motors 1PP6 (cast iron housing) IP55 degree of protection, cooling type IC 411, temperature/time class F400													EN 12 101-3
1000 rpm, 6-pole, 50 Hz													
1.5	100 L	1PP6 106-6UA ..	925	72.0	0.70	4.5	15	2.3	4.0	2.3	16	0.0063	31
2.2	112 M	1PP6 113-6UA ..	940	75.0	0.74	6.1	22	2.1	4.4	2.3	16	0.011	42
3	132 S	1PP6 130-6UA ..	950	77.0	0.75	7.8	30	1.6	4.1	1.7	16	0.015	52
4	132 M	1PP6 133-6UA ..	950	80.0	0.76	10	40	1.7	4.6	2.1	16	0.019	62
5.5	132 M	1PP6 134-6UA ..	950	81.0	0.76	14	55	2.0	5.0	2.3	16	0.025	72
7.5	160 M	1PP6 163-6UA ..	960	82.0	0.74	20	75	2.0	5.0	2.4	16	0.041	107
11	160 L	1PP6 166-6UA ..	960	84.0	0.74	27.5	109	2.0	5.0	2.5	16	0.049	129
15	180 L	1PP6 186-6UA ..	974	88.9	0.82	30	147	2.2	5.2	2.3	16	0.203	170
18.5	200 L	1PP6 206-6UA ..	975	89.8	0.82	36.5	181	2.2	5.3	2.3	16	0.285	200
22	200 L	1PP6 207-6UA ..	975	90.8	0.83	42.5	215	2.2	5.4	2.3	16	0.362	230
30	225 M	1PP6 223-6UA ..	980	92.3	0.84	56	292	2.7	6.3	2.8	16	0.629	315
37	250 M	1PP6 253-6UA ..	984	93.0	0.84	69	359	2.8	6.5	2.4	16	0.934	390
45	280 S	1PP6 280-6UA ..	986	92.6	0.86	82	436	2.8	6.3	2.5	16	1.37	500
55	280 M	1PP6 283-6UA ..	986	93.1	0.86	99	533	3.1	6.8	2.7	16	1.65	550
75	315 S	1PP6 310-6UA ..	990	94.0	0.84	138	723	2.7	7.0	2.9	16	2.50	740
90	315 M	1PP6 313-6UA ..	988	94.5	0.85	162	870	2.6	7.1	2.8	16	2.50	915
110	315 L	1PP6 316-6UA ..	988	94.7	0.85	198	1063	2.8	7.2	2.8	16	2.50	990
132	315 L	1PP6 317-6UA ..	990	95.1	0.85	235	1273	3.0	7.5	3.0	16	2.50	1160
160	315 L	1PP6 318-6UA ..	988	95.1	0.86	285	1546	3.1	7.5	3.0	16	2.50	1225

Forced-air cooled (surface cooled) motors without external fan and fan cover; the motors are located in the air flow of the driven fan and are adequately cooled during operation under normal conditions.

Order No. supplement

Motor type	Penultimate position: Voltage identifier 50 Hz				Final position: Type of construction identifier			
	230 V Δ / 400 V Υ	400 V Δ / 690 V Υ	500 V Υ	500 V Δ	IM B 3	Price supplement		
						IM B 5	IM V1 without protec- tive cover	IM B 35
1PP6 106 to 1PP6 313	1	6	3	5	0	1	1	6
1PP6 316 to 1PP6 318	-	6	-	5	0	1¹⁾	8	6

For other types of construction, see "Technical information", "Types of construction".

1) Additional radial supports must be provided.

Squirrel-cage motors

Sector solutions · Smoke extraction motors

Selection and ordering data

Rated output kW	Size	Order No. Order No. supplements for voltage and type of con- struction, see table below	Operating data at rated output					Starting torque For direct-on-line starting as multiple of the rated torque	Starting current current	Stalling torque torque	Torque class KL	Moment of inertia J kg m ²	Weight Type of constr. IM B 3 approx. kg
			Rated speed rpm	Efficien- cy η %	Power factor p.f.	Rated current at 400 V A	Rated torque Nm						
Self-cooled motors 1LA6, 1LG6 (cast iron housing)													EN 12 101-3
IP55 degree of protection, cooling type IC 411, temperature/time class F400													
3000 rpm, 2-pole, 50 Hz													
3	100 L	1LA6 106-2UA ..	2875	79.0	0.85	6.5	10	2.5	6.2	2.8	16	0.0038	32
4	112 M	1LA6 113-2UA ..	2900	82.0	0.85	8.7	13	2.5	6.8	2.9	16	0.0055	41
5.5	132 S	1LA6 130-2UA ..	2920	84.0	0.89	10.8	18	1.9	5.7	2.7	16	0.016	51
7.5		1LA6 131-2UA ..	2930	85.0	0.89	14.5	24	2.0	6.5	2.8	16	0.021	56
11	160 M	1LA6 163-2UA ..	2930	87.0	0.85	21	36	1.8	6.4	2.7	16	0.034	93
15	160 M	1LA6 164-2UA ..	2930	86.0	0.89	27.5	49	2.0	6.5	2.80	16	0.04	102
18.5	160 L	1LA6 166-2UA ..	2930	87.0	0.90	34	60	2.0	7.0	2.70	16	0.05	112
22	180 M	1LG6 183-2UA ..	2955	92.6	0.88	39	71	2.4	7.0	3.2	16	0.086	180
30	200 L	1LG6 206-2UA ..	2955	92.2	0.88	53	97	2.3	6.7	3.1	16	0.151	225
37	200 L	1LG6 207-2UA ..	2958	92.5	0.89	65	119	2.4	7.1	3.2	16	0.182	255
45	225 M	1LG6 223-2UA ..	2962	94.6	0.89	77	145	2.4	7.1	3.1	16	0.266	330
55	250 M	1LG6 253-2UA ..	2972	94.3	0.90	94	177	2.3	6.7	2.9	16	0.466	420
75	280 S	1LG6 280-2UB ..	2975	94.5	0.89	128	241	2.4	6.8	2.9	13	0.832	530
90	280 M	1LG6 283-2UB ..	2976	94.9	0.90	152	289	2.5	7.4	3.0	13	1.00	615
110	315 S	1LG6 310-2UB ..	2982	94.7	0.91	184	352	2.4	6.8	2.7	13	1.39	790
132	315 M	1LG6 313-2UB ..	2980	95.2	0.91	220	423	2.5	6.9	2.8	13	1.62	915
160	315 L	1LG6 316-2UB ..	2982	95.6	0.92	265	512	2.4	7.1	2.8	13	2.09	1055
190	315 L	1LG6 317-2UB ..	2982	95.9	0.93	325	608	2.6	7.2	2.9	13	2.46	1245
1500 rpm, 4-pole, 50 Hz													
2.2	100 L	1LA6 106-4UA ..	1410	79.0	0.78	5.5	15	2.2	5.2	2.7	16	0.0048	32
3		1LA6 107-4UA ..	1410	79.0	0.80	7.1	20	2.5	5.0	2.6	16	0.0058	34
4	112 M	1LA6 113-4UA ..	1440	82.0	0.75	9.5	27	2.7	5.7	3.0	16	0.011	43
5.5	132 S	1LA6 130-4UA ..	1455	81.0	0.80	12.8	36	2.5	6.3	3.0	16	0.018	53
7.5	132 M	1LA6 133-4UA ..	1455	84.0	0.75	17.2	49	2.7	6.7	3.1	16	0.024	60
11	160 M	1LA6 163-4UA ..	1460	85.0	0.80	24	72	2.2	6.2	2.7	16	0.04	97
15	160 L	1LA6 166-4UA ..	1460	85.0	0.78	34	98	2.4	6.4	2.8	16	0.052	110
18.5	180 M	1LG6 183-4UA ..	1470	90.7	0.84	35	120	2.4	6.1	2.8	16	0.122	155
22	180 L	1LG6 186-4UA ..	1472	91.7	0.85	40.5	143	2.4	6.4	2.9	16	0.144	180
30	200 L	1LG6 207-4UA ..	1470	92.2	0.86	55	195	2.4	6.4	3.1	16	0.234	225
37	225 S	1LG6 220-4UA ..	1480	92.6	0.86	67	239	2.6	6.5	2.8	16	0.398	290
45	225 M	1LG6 223-4UA ..	1480	93.3	0.86	81	290	2.7	6.6	2.9	16	0.486	330
55	250 M	1LG6 253-4UA ..	1485	94.2	0.87	97	354	2.5	7.4	2.9	16	0.856	460
75	280 S	1LG6 280-4UA ..	1484	94.2	0.87	132	483	2.4	6.7	2.8	16	1.39	574
90	280 M	1LG6 283-4UA ..	1486	94.7	0.86	160	578	2.6	7.3	3.0	16	1.71	675
110	315 S	1LG6 310-4UA ..	1488	95.0	0.87	192	706	2.7	7.0	2.8	16	2.31	810
132	315 M	1LG6 313-4UA ..	1488	95.3	0.88	225	847	2.6	7.1	2.8	16	2.88	965
160	315 L	1LG6 316-4UA ..	1490	95.6	0.88	275	1025	2.9	7.2	2.9	16	3.46	1105
200	315 L	1LG6 317-4UA ..	1488	95.7	0.88	345	1284	3.1	7.5	2.9	16	4.22	1305

Surface-cooled motors with integral fan and fan cover.

Order No. supplement

Motor type	Penultimate position: Voltage identifier				Final position: Type of construction identifier			
	50 Hz				IM B 3	Price supplement		
	230 V Δ / 400 VY	400 V Δ / 690 VY	500 VY	500 V Δ		IM B 5	IM V1 without protec- tive cover	IM B 35
1LA6 106 to 1LG6 313	1	6	3	5	0	1	1	6
1LG6 316 to 1LG6 318	-	6	-	5	0	1 ¹⁾	8	6

For other types of construction, see "Technical information", "Types of construction".

1) Additional radial supports must be provided.

Squirrel-cage motors

Sector solutions · Smoke extraction motors

Selection and ordering data

Rated output kW	Size	Order No. Order No. supplements for voltage and type of con- struction, see table below	Operating data at rated output					Starting torque For direct-on-line starting as multiple of the rated torque	Starting current as multiple of the rated current	Stalling torque	Torque class KL	Moment of inertia J kg m ²	Weight Type of constr. IM B 3 approx. kg
			Rated speed rpm	Efficien- cy η %	Power factor p.f.	Rated current at 400 V A	Rated torque Nm						
Self-cooled motors 1LA6, 1LG6 (cast iron housing)													EN 12 101-3
IP55 degree of protection, cooling type IC 411, temperature/time class F400													
1000 rpm, 6-pole, 50 Hz													
1.5	100 L	1LA6 106-6UA ..	925	72.0	0.70	4.5	15	2.3	4.0	2.3	16	0.0063	32
2.2	112 M	1LA6 113-6UA ..	940	75.0	0.74	6.1	22	2.1	4.4	2.3	16	0.011	43
3	132 S	1LA6 130-6UA ..	950	77.0	0.75	7.8	30	1.6	4.1	1.7	16	0.015	54
4	132 M	1LA6 133-6UA ..	950	80.0	0.76	10	40	1.7	4.6	2.1	16	0.019	63
5.5	132 M	1LA6 134-6UA ..	950	81.0	0.76	14	55	2.0	5.0	2.3	16	0.025	74
7.5	160 M	1LA6 163-6UA ..	960	82.0	0.74	20	75	2.0	5.0	2.4	16	0.041	110
11	160 L	1LA6 166-6UA ..	960	84.0	0.74	27.5	109	2.0	5.0	2.5	16	0.049	132
15	180 L	1LG6 186-6UA ..	974	88.7	0.82	30	147	2.2	5.2	2.3	16	0.203	175
18.5	200 L	1LG6 206-6UA ..	975	89.4	0.82	36.5	181	2.2	5.3	2.3	16	0.285	210
22	200 L	1LG6 207-6UA ..	975	90.5	0.83	42.5	215	2.2	5.4	2.3	16	0.362	240
30	225 M	1LG6 223-6UA ..	980	92.2	0.84	56	292	2.7	6.3	2.8	16	0.629	325
37	250 M	1LG6 253-6UA ..	984	92.6	0.84	69	359	2.8	6.5	2.4	16	0.934	405
45	280 S	1LG6 280-6UA ..	986	92.3	0.86	82	436	2.8	6.3	2.5	16	1.37	520
55	280 M	1LG6 283-6UA ..	986	92.8	0.86	99	533	3.1	6.8	2.7	16	1.65	570
75	315 S	1LG6 310-6UA ..	990	93.7	0.84	138	723	2.7	7.0	2.9	16	2.50	760
90	315 M	1LG6 313-6UA ..	988	94.2	0.85	162	870	2.6	7.1	2.8	16	3.20	935
110	315 L	1LG6 316-6UA ..	988	94.5	0.85	198	1063	2.8	7.2	2.8	16	4.02	1010
132	315 L	1LG6 317-6UA ..	990	94.9	0.85	235	1273	3.0	7.5	3.0	16	4.71	1180
160	315 L	1LG6 318-6UA ..	988	94.9	0.86	285	1546	3.1	7.5	3.0	16	5.39	1245

Surface-cooled motors with integral fan and fan cover.

Order No. supplement

Motor type	Penultimate position: Voltage identifier				Final position: Type of construction identifier			
	50 Hz				IM B 3	Price supplement		
	230 V Δ / 400 V Υ	400 V Δ / 690 V Υ	500 V Υ	500 V Δ		IM B 5	IM V1 without protec- tive cover	IM B 35
1LA6 106 to 1LG6 313	1	6	3	5	0	1	1	6
1LG6 316 to 1LG6 318	-	6	-	5	0	1 ¹⁾	8	6

For other types of construction, see "Technical information", "Types of construction".

1) Additional radial supports must be provided.