Smoke-extraction motors

9

Smoke-extraction motors

Orientation

Overview

The low-voltage motors with squirrel-cage rotors for implementation in automatic smoke and heat extraction units to EN 12101-3 are mainly designed for driving smoke extraction fans. For this reason, they are known as smoke-extraction motors. They are mainly used in buildings or structures in which smoke control is necessary due to their shape and arrangement.

Temperature/time classification according to EN 12101-3

- F200 corresponds to 200 °C for 120 min
- F300 corresponds to 300 °C for 60 min
- F400 corresponds to 400 °C for 120 min

Testing and test certificates

The smoke-extraction motors are tested by the Research and Testing Laboratory of the Department of Air-Conditioning Systems and Building Services Installations of the Technical University of Munich in accordance with EN 12101-3.

Test conditions for F200/F300:

- Temperature **300 °C**
- Time **120 min**

The test certificates are available.

Forschungs- und Versuchslabor des Lehrstuhls für Bauklimatik und Haustechnik der Technischen Universität München

Nachweis über die Prüfung von Niederspannungs-Motoren nach DIN EN 12101-3 : Juni 2002

The motors are manufactured with aluminium or cast-iron housings in accordance with the smoke classes. The smoke-extraction motors are based on the standard motors and comprise the following motor types:

- Temperature/time classes F200 and F300
  - Self-ventilated motors - Aluminium series 1LA7 and 1LA5, cast-iron series 1LG6 - Version with integrated fan (metal)
  - Self-ventilated motors - Aluminium series 1LA7 and 1LA5 **double pole-changing with square-law load torque** - Version with integrated fan (metal)
  - Forced-air cooled motors - Aluminium series 1PP7 and 1PP5, cast-iron series 1PP6 - Version without integrated fan, located in air flow of fan to be driven
  - Forced-air cooled motors - Aluminium series 1PP7 and 1PP5 **double pole-changing with square-law load torque** - Version without integrated fan, located in air flow of fan to be driven
- Temperature/time classes F400
  - Self-ventilated motors - Cast-iron series 1LA6 and 1LG6 - Version with integrated fan (metal)
  - Self-ventilated motors - Cast-iron series 1LA6 **double pole-changing with square-law load torque** - Version with integrated fan (metal)
  - Forced-air cooled motors - Cast-iron series 1PP6 - Version without integrated fan, located in air flow of fan to be driven
  - Forced-air cooled motors - Cast-iron series 1PP6 **double pole-changing with square-law load torque** - Version without integrated fan, located in air flow of fan to be driven

The resonance of mountings and reactions from driven machines can cause high levels of vibration in the overall equipment unit. This has a significant effect on the expected service life of the bearing.

These vibrations are evaluated in accordance with Zones A and B according to ISO 10816.

Benefits

The smoke-extraction motors operate as so-called "Dual-function motors":

- Normal operation (no instance of fire):
  Incoming/outgoing air flow
- Fault operation (in case of fire):
  - Removal of smoke from escape and access routes
  - Supporting fire fighting by creating a smoke-free zone
  - Protecting devices and equipment
  - Reducing the heat stress of components during a fire
  - Reducing secondary damage due to thermal bi-products and hot gases

The smoke-extraction motors offer the user a number of advantages:

- The assignment of standard outputs is unchanged. This means that a larger construction size is not required for smoke-extraction motors.
- Smoke-extraction motors are generally equipped with located bearings at the drive-end (DE) of the motor.
- A rating plate for conditions of fire is screwed onto the motor.
- Cables protruding from the non-drive-end (NDE) are included in the scope of supply.
- Radial-flow and axial-flow fan drive are possible.
  - Self-ventilated motors of series 1LA/1LG with a metal fan impeller can be used as radial-flow fan drives.
  - Forced-air cooled motors of series 1PP can be used as axial-flow fan drives taking into account the required volumetric flow for motor cooling. In this case the driven fan performs the ventilation.

Application

The smoke-extraction motors are designed for use in automatic smoke and heat extraction units to EN 12101-3.
Typical application examples include:

- Tunnels
- Single and multi-storey shopping centres
- Industrial buildings and warehouses
- Building complexes and atriums
- Theatres
- Indoor car parks
- Staircases

Orientation

Technical specifications

Standards and regulations

In addition to the relevant standards and regulations, EN 12101-3 applies for non-portable fire-fighting systems:

Systems for controlling smoke and heat flows, part 3, specifications for smoke and heat extraction units.

Voltage and frequency

Rated voltages according to IEC 60034-1

- 230 VΔ 50 Hz
- 400 VΔ 50 Hz and 400 VY 50 Hz
- 500 VΔ 50 Hz and 500 VY 50 Hz
- 690 VY 50 Hz

Non-standard voltages (voltage code 9 and order code L1Y) as well as 60 Hz are available on request.

The following rating plates are available for the smoke-extraction motors:

- Rating plate
  For the listed rated voltages with 50 Hz output data.
- Fire event plate
  Complete with number and year of issue of the European standard, temperature/time class and minimum duration of function.

All plates are resistant to corrosion. A second set of plates is included with the motor, loose.

Rated output, duty type, number of poles

The rated output applied for continuous duty (normal duty) according to IEC 60034-1, for a frequency of 50 Hz, coolant temperatures of up to 40 °C, site altitude of up to 1000 m above sea level.

Derating is necessary at higher ambient temperatures and site altitudes (reduction factor k_{HT}), see table below.

Reduction factor k_{HT} for different site altitudes and/or coolant temperatures

Site altitude above sea level	Coolant temperature in °C					
in m	<30	30-40	45	50	55	60
1000	1.07	1.00	0.96	0.92	0.87	0.82
1500	1.04	0.97	0.93	0.89	0.84	0.79
2000	1.00	0.94	0.9	0.86	0.82	0.77
2500	0.96	0.90	0.86	0.83	0.78	0.74
3000	0.92	0.86	0.82	0.79	0.75	0.70
3500	0.88	0.82	0.79	0.75	0.71	0.67
4000	0.82	0.77	0.74	0.71	0.67	0.63

Coolant temperature and site altitude are rounded up to 5 °C or 500 m.

Operation in the event of fire

In addition to normal duty, operation in the event of a fire as specified in EN 12101-3 is available.

At the end of the fire incident, the motor may be unfit for normal duty. **It is therefore specified that the motor is removed and overhauled or replaced with a new motor.**

In the event of a fire, any "thermal motor protection" must be deactivated.

Standard number of poles

- 2, 4 and 6
- For more poles and pole-changing motors, please enquire.

Insulation system

Special insulation systems adapted to the respective temperature/time classes. Maximum thermal utilisation to temperature class F.

The insulation of the smoke extraction motors is designed such that converter-fed operation is possible without limitation at voltages ≤500 V. This also applies for operation with a pulse-controlled AC converter with voltage rise times t_s >0.1 µs at the motor terminals.

In the event of fire, the motors must be switched over from converter-fed operation to mains-fed operation. If converter-fed operation is also required in the event of fire, system testing and acceptance testing must be performed in accordance with this (please enquire).

Drainage holes

Generally available, but closed if ordered according to IP55 degree of protection.

Bearing plates

All bearing plates are in cast-iron.

Termination system

Protruding cable with casing, without connection box with cover plate or "Nozzle cap". Cable length depends on the shaft height.

- Frame sizes 80 to 112: 1.0 m
- Frame sizes 132 to 200: 1.5 m
- Frame sizes 225 to 315: 2.5 m

Special versions of connecting cables are available on request.

Position of the connecting cable

- Frame sizes 80 to 160:
  - On the top at non-drive-end (NDE) as standard. Optionally left or right at non-drive-end (NDE) (for type of construction with screwed-on feet).
- Frame sizes 180 to 315:
  - Flange types of construction without feet: On the top at non-drive-end (NDE) as standard. Optionally on left or right at non-drive-end (NDE).
  - All types of construction with feet: On the top at drive-end (DE) as standard with connection cable routed towards the non-drive end (NDE). Optionally on left or right at drive-end (DE) with connection cable routed towards the non-drive-end (NDE) (for types of construction with screwed-on feet).

The equipment is earthed with a protruding cable.

Technical specifications (continued)

Bearings, grease

Special bearing systems are used that are matched to the respective temperature classes.

Deep-groove bearings of series 62 or 63 without play are used depending on the fire classes F200/F300, F400 and the frame sizes.

The located bearing is generally at the drive-end (DE).

The nominal bearing lifetime $L_{10\,h}$ (fan drive) is at least 20,000 hours at full rated load.

The motors of frame sizes 80 to 250 generally have bearings that are greased for life.

Paint finish

The motors have a two-component finish (worldwide) as standard in the color RAL 7030.

Required minimum cooling air flow under normal operation

Frame size	1LA7/1PP7	1LA5/1PP5	1LA6/1PP6	Required cooling air flow for number of poles		
				2 m^3/min	4 m^3/min	6 m^3/min
80	X			1.74	0.90	0.60
90	X			3.12	1.56	1.08
100	X		X	3.96	1.86	1.26
112	X		X	4.98	3.00	1.98
132	X		X	8.04	5.04	3.36
160	X		X	12.90	9.54	6.36
180		X		10.98	10.98	7.27
200		X		15.12	13.02	8.58
225		X		12.12	13.02	8.58

Frame size	1LG6/1PP6	Required cooling air flow for number of poles		
		2 m^3/min	4 m^3/min	6 m^3/min
180	X	12.0	13.0	8.5
200	X	20.5	17.0	11.0
225	X	20.5	18.5	12.5
250	X	25.5	22.5	17.0
280	X	24.5	28.0	21.5
315	X	47	36.0	26.5

In the motor version without an integrated fan (1PP5, 1PP6 and 1PP7), the motor is located in the air flow of the ventilator to be driven which must drive the minimum cooling air-flow over the motor housing. For a faster air flow, the operating temperature of the motor can be reduced.

Permissible loading on the shaft extension

The values specified in the table "Permissible loading on shaft extension" are the tested and approved maximum values (test duration two hours, temperature in case of fire 300 or 400 °C).

Under normal operation at coolant temperatures of up to 40 °C, a bearing lifetime L_{10h} >20000 hours was achieved.

The values apply to all horizontal mounting positions and to all vertical mounting positions with shaft pointing downwards.

Please enquire in the case of :

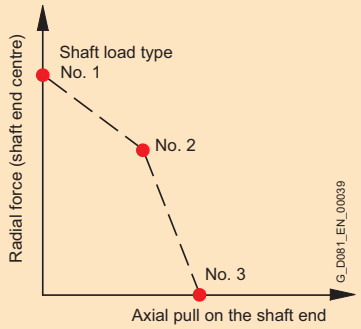
- Higher force pairings
- Motors with more poles or pole-changing motors
- Vertical arrangement, depending on the rotor mass and mounting location (shaft pointing downwards or shaft pointing upwards) of the smoke-extraction motor. If necessary, higher forces can be approved.

Orientation

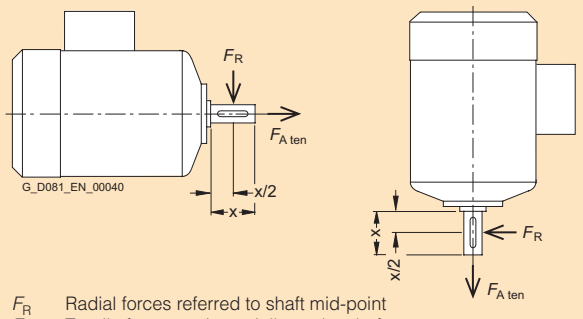
Technical specifications (continued)

Permissible loading on the shaft extension (continued)

Frame size	Bearings DE	Type of loading on shaft No.		Horizontal shaft 2-pole F_R N	2-pole $F_{A\,tens}$ N	4-pole F_R N	4-pole $F_{A\,tens}$ N	6-pole F_R N	6-pole $F_{A\,tens}$ N	Shaft pointing vertically downwards 2-pole F_R N	2-pole $F_{A\,tens}$ N	4-pole F_R N	4-pole $F_{A\,tens}$ N	6-pole F_R N	6-pole $F_{A\,tens}$ N
80	6004	1	Radial force	400	0	490	0	540	0	360	0	450	0	540	0
		2	Radial force + axial tensile force	150	130	170	170	190	200	40	172	40	225	40	275
		3	Axial tensile force	0	215	0	265	0	320	0	197	0	250	0	300
90	6205	1	Radial force	650	0	730	0	795	0	590	0	730	0	795	0
		2	Radial force + axial tensile force	250	205	280	260	310	305	100	259	100	330	100	390
		3	Axial tensile force	0	343	0	415	0	480	0	310	0	384	0	450
100	6206	1	Radial force	890	0	1000	0	1080	0	820	0	1000	0	1080	0
		2	Radial force + axial tensile force	400	265	500	325	600	345	300	265	300	385	300	455
		3	Axial tensile force	0	490	0	600	0	675	0	432	0	540	0	625
112	6206	1	Radial force	870	0	980	0	1055	0	760	0	970	0	1055	0
		2	Radial force + axial tensile force	400	252	500	310	600	330	250	260	250	380	250	450
		3	Axial tensile force	0	478	0	595	0	675	0	403	0	510	0	590
132	6208	1	Radial force	1070	0	1415	0	1530	0	810	0	1060	0	1220	0
		2	Radial force + axial tensile force	450	315	550	450	650	480	250	300	250	520	250	585
		3	Axial tensile force	0	580	0	775	0	850	0	450	0	640	0	820
160	6209	1	Radial force	1440	0	1630	0	1760	0	1210	0	1580	0	1780	0
		2	Radial force + axial tensile force	700	450	800	570	900	650	500	335	500	525	500	665
		3	Axial tensile force	0	824	0	1015	0	1140	0	620	0	790	0	920
180	6210	1	Radial force	1540	0	1750	0	1900	0	1020	0	1400	0	1670	0
		2	Radial force + axial tensile force	770	430	900	545	1000	630	550	218	550	420	550	575
		3	Axial tensile force	0	815	0	1040	0	1183	0	453	0	733	0	875
200	6212	1	Radial force	2050	0	2380	0	2620	0	1450	0	1700	0	2090	0
		2	Radial force + axial tensile force	1200	770	1350	970	1500	1075	500	460	500	750	500	1600
		3	Axial tensile force	0	1350	0	1650	0	1875	0	720	0	1040	0	1905
225	6213	1	Radial force	2460	0	2720	0	2970	0	1910	0	2450	0	2900	0
		2	Radial force + axial tensile force	1370	900	1500	1095	1700	1200	500	660	500	1000	500	1250
		3	Axial tensile force	0	1560	0	1910	0	2170	0	920	0	1290	0	1520
250	6215	1	Radial force	2770	0	3230	0	3500	0	1490	0	2230	0	2700	0
		2	Radial force + axial tensile force	1400	840	1600	1095	1800	1340	500	460	500	815	500	1080
		3	Axial tensile force	0	1500	0	1865	0	2130	0	710	0	1090	0	1375
280	6217 (2-pole), 6317 (4-, 6-pole)	1	Radial force	3180	0	5000	0	5500	0	3000	0	5600	0	6100	0
		2	Radial force + axial tensile force	1700	1820	2000	2000	2300	2200	600	1085	600	2300	600	2750
		3	Axial tensile force	0	2630	0	3050	0	3500	0	1380	0	2600	0	3100
315	6219 (2-pole), 6319 (4-, 6-pole)	1	Radial force	3470	0	5300	0	5900	0	1000	0	3600	0	3850	0
		2	Radial force + axial tensile force	1750	2200	2000	2170	2300	2530	200	363	1000	1150	1000	1610
		3	Axial tensile force	0	3000	0	3080	0	3560	0	463	0	1690	0	2100



Load types



Forces on shaft extension

Selection and ordering data

Preliminary selection of the motor according to motor type/series, speed or number of poles, frame size, rated output, rated torque, rated speed and rated current

Self-ventilated motors for temperature/time classes F200 and F300

Speed (No. of poles)	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	A	
Aluminium series 1LA7 and 1LA5, cast-iron series 1LG6 (motors with external fan)						
3000, 2-pole	**80 M ... 315 L**	0.75 ... 200	2830 ... 2985	2.5 ... 640	2.1 ... 325	**9/8**
1500, 4-pole	**80 M ... 315 L**	0.55 ... 200	1395 ... 1488	3.7 ... 1284	1.86 ... 345	**9/8**
1000, 6-pole	**80 M ... 315 L**	0.37 ... 160	910 ... 990	3.9 ... 1543	1.2 ... 285	**9/10**
1500/3000, 4/2-pole	**80 M ... 160 L**	The electrical data can be calculated and supplied on receipt of order.				**9/12**
1000/1500, 6/4-pole	**80 M ... 200 L**					**9/12**
750/1500, 8/4-pole	**80 M ... 200 L**					**9/12**

Forced-air cooled motors for temperature/time classes F200 and F300

Speed (No. of poles)	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	A	
Aluminium series 1PP7 and 1PP5, cast-iron series 1PP6 (motors without an external fan)						
3000, 2-pole	**80 M ... 315 L**	0.75 ... 200	2830 ... 2985	2.5 ... 640	2.1 ... 325	**9/14**
1500, 4-pole	**80 M ... 315 L**	0.55 ... 200	1395 ... 1488	3.7 ... 1284	1.86 ... 345	**9/14**
1000, 6-pole	**80 M ... 315 L**	0.37 ... 160	910 ... 990	3.9 ... 1543	1.2 ... 285	**9/16**
1500/3000, 4/2-pole	**80 M ... 160 L**	The electrical data can be calculated and supplied on receipt of order.				**9/18**
1000/1500, 6/4-pole	**80 M ... 200 L**					**9/18**
750/1500, 8/4-pole	**80 M ... 200 L**					**9/18**

Self-ventilated motors for temperature/time class F400

Speed (No. of poles)	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	A	
Cast-iron series 1LA6 and 1LG6 (motors with external fan)						
3000, 2-pole	**100 L ... 315 L**	3 ... 190	2875 ... 2982	10 ... 608	6.5 ... 325	**9/20**
1500, 4-pole	**100 L ... 315 L**	2.2 ... 200	1410 ... 1490	15 ... 1284	5.5 ... 345	**9/20**
1000, 6-pole	**100 L ... 315 L**	1.5 ... 160	925 ... 990	15 ... 1546	4.5 ... 285	**9/22**
1500/3000, 4/2-pole	**100 L ... 160 L**	The electrical data can be calculated and supplied on receipt of order.				**9/24**
1000/1500, 6/4-pole	**100 L ... 160 L**					**9/24**
750/1500, 8/4-pole	**100 L ... 160 L**					**9/24**

Forced-air cooled motors for temperature/time class F400

Speed (No. of poles)	Frame size	Rated output	Rated speed	Rated torque	Rated current at 400 V	Detailed selection and ordering data Page
rpm		kW	rpm	Nm	A	
Cast-iron series 1PP6 (motors without external fan)						
3000, 2-pole	**100 L ... 315 L**	3 ... 190	2875 ... 2982	10 ... 608	6.5 ... 325	**9/26**
1500, 4-pole	**100 L ... 315 L**	2.2 ... 200	1410 ... 1490	15 ... 1284	5.5 ... 345	**9/26**
1000, 6-pole	**100 L ... 315 L**	1.5 ... 160	925 ... 990	15 ... 1546	4.5 ... 285	**9/28**
1500/3000, 4/2-pole	**100 L ... 160 M**	The electrical data can be calculated and supplied on receipt of order.				**9/30**
1000/1500, 6/4-pole	**100 L ... 160 L**					**9/30**
750/1500, 8/4-pole	**100 L ... 160 L**					**9/30**

More information

For more information, please contact your local Siemens contact – see "Siemens contacts worldwide" in the Appendix.

Smoke-extraction motors

Self-ventilated, for temperature/time classes F200, F300 - Aluminium series 1LA7/5, cast-iron series 1LG6

Selection and ordering data

Rated output at 50 Hz	Frame size	Operating values at rated output					Locked-rotor torque	Locked-rotor current	Break-down torque	Torque class	Moment of inertia	Order No. For Order No. supplements for voltage and type of construction, see table below	Price	Weight
		Rated speed at 50 Hz	Rated torque at 50 Hz	Effi-ciency at 50 Hz 4/4-load	Power factor at 50 Hz 4/4-load	Rated current at 50 Hz 400 V	with direct starting as multiple of rated torque	current	torque					Type of construc-tion IM B3 approx.
P_{rated}	FS	n_{rated}	T_{rated}	η_{rated}	$\cos\varphi_{rated}$	I_{rated}	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}		J			m
kW		rpm	Nm	%		A				CL	kg m^2			kg
2-pole, 3000 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, with test certificate according to EN 12101-3														
0.75	80 M	2830	2.5	63.0	0.82	2.1	2.3	5.6	2.4	16	0.00085	**1LA7 080-2TA❑❑**		10.2
1.1	80 M	2845	3.7	74.0	0.80	2.7	2.6	6.1	2.7	16	0.0011	**1LA7 083-2TA❑❑**		11.9
1.5	90 S	2860	5.0	73.0	0.80	3.7	2.4	5.5	2.7	16	0.0015	**1LA7 090-2TA❑❑**		15.2
2.2	90 L	2880	7.3	78.0	0.80	5.1	2.8	6.3	3.1	16	0.002	**1LA7 096-2TA❑❑**		18
3	100 L	2890	9.9	77.0	0.83	6.8	2.8	6.8	3.0	16	0.0038	**1LA7 106-2TA❑❑**		24
4	112 M	2905	13	82.0	0.83	8.5	2.6	7.2	2.9	16	0.0055	**1LA7 113-2TA❑❑**		32
5.5	132 S	2925	18	85.5	0.87	10.7	2.0	5.9	2.8	16	0.016	**1LA7 130-2TA❑❑**		45
7.5	132 S	2930	24	88.0	0.89	13.8	2.3	6.9	3.0	16	0.021	**1LA7 131-2TA❑❑**		53
11	160 M	2940	36	88.0	0.86	21	2.1	6.5	2.9	16	0.034	**1LA7 163-2TA❑❑**		74
15	160 M	2940	49	90.8	0.90	26.5	2.2	6.6	3.0	16	0.04	**1LA7 164-2TA❑❑**		85
18.5	160 L	2940	60	90.3	0.91	32.5	2.4	7.0	3.1	16	0.052	**1LA7 166-2TA❑❑**		98
22	180 M	2940	71	91.1	0.85	41	2.5	6.9	3.2	16	0.077	**1LA5 183-2TA❑❑**		125
30	200 L	2945	97	91.8	0.89	53	2.4	7.2	2.8	16	0.14	**1LA5 206-2TA❑❑**		176
37	200 L	2945	120	92.3	0.89	65	2.4	7.7	2.8	16	0.16	**1LA5 207-2TA❑❑**		199
45	225 M	2960	145	93.6	0.89	78	2.8	7.7	3.4	16	0.2	**1LA5 223-2TA❑❑**		235
55	250 M	2975	177	94.2	0.90	94	2.5	7.4	3.3	13	0.466	**1LG6 253-2TB❑❑**		420
75	280 S	2975	241	94.8	0.91	126	2.6	7.5	2.9	13	0.832	**1LG6 280-2TB❑❑**		530
90	280 M	2975	289	95.2	0.90	152	3.0	7.5	3.0	13	1.00	**1LG6 283-2TB❑❑**		615
110	315 S	2985	352	95.0	0.90	186	2.6	7.5	3.2	13	1.39	**1LG6 310-2TB❑❑**		790
132	315 M	2984	422	95.3	0.91	220	2.7	7.4	3.0	13	1.62	**1LG6 313-2TB❑❑**		915
160	315 L	2984	512	95.7	0.93	260	2.8	7.5	3.1	13	2.09	**1LG6 316-2TB❑❑**		1055
200	315 L	2984	640	95.9	0.93	325	2.5	7.0	2.8	13	2.46	**1LG6 317-2TB❑❑**		1245
4-pole, 1500 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, with test certificate according to EN 12101-3														
0.55	80 M	1395	3.7	57.0	0.75	1.85	2.2	3.9	2.2	16	0.0015	**1LA7 080-4TA❑❑**		10
0.75	80 M	1405	5.1	63.0	0.73	2.35	2.3	4.2	2.3	16	0.0018	**1LA7 083-4TA❑❑**		11.4
1.1	90 S	1415	7.4	68.0	0.74	3.15	2.3	4.6	2.4	16	0.0028	**1LA7 090-4TA❑❑**		14.6
1.5	90 L	1420	10	73.0	0.74	4.0	2.4	5.3	2.6	16	0.0035	**1LA7 096-4TA❑❑**		17.9
2.2	100 L	1420	15	75.0	0.78	5.4	2.5	5.6	2.8	16	0.0048	**1LA7 106-4TA❑❑**		24
3	100 L	1415	20	77.0	0.78	7.2	2.7	5.6	3.0	16	0.0058	**1LA7 107-4TA❑❑**		27
4	112 M	1440	27	78.0	0.80	9.2	2.7	6.5	3.0	16	0.011	**1LA7 113-4TA❑❑**		34
5.5	132 S	1450	36	88.5	0.78	11.5	2.5	6.3	3.1	16	0.018	**1LA7 130-4TA❑❑**		47
7.5	132 M	1455	49	84.0	0.78	16.5	2.7	6.7	3.2	16	0.024	**1LA7 133-4TA❑❑**		53
11	160 M	1455	72	89.0	0.81	22	2.2	6.2	2.7	16	0.04	**1LA7 163-4TA❑❑**		73
15	160 L	1460	98	84.5	0.80	32	2.6	6.5	3.0	16	0.052	**1LA7 166-4TA❑❑**		98
18.5	180 M	1460	121	86.5	0.79	39	2.3	7.5	3.0	16	0.13	**1LA5 183-4TA❑❑**		125
22	180 L	1460	144	88.0	0.80	45	2.3	7.5	3.0	16	0.15	**1LA5 186-4TA❑❑**		139
30	200 L	1465	196	89.0	0.81	60	2.6	7.0	3.2	16	0.24	**1LA5 207-4TA❑❑**		184
37	225 S	1470	241	92.1	0.84	69	2.8	7.0	3.2	16	0.32	**1LA5 220-4TA❑❑**		230
45	225 M	1470	293	92.2	0.81	87	2.8	7.7	3.3	16	0.36	**1LA5 223-4TA❑❑**		256
55	250 M	1485	354	94.7	0.86	97	2.9	7.5	3.3	16	0.856	**1LG6 253-4TA❑❑**		460
75	280 S	1486	482	94.6	0.87	132	2.6	7.3	2.8	16	1.40	**1LG6 280-4TA❑❑**		575
90	280 M	1485	579	94.6	0.88	156	2.5	7.3	2.8	16	1.70	**1LG6 283-4TA❑❑**		675
110	315 S	1488	706	95.0	0.87	192	2.6	6.9	2.8	16	2.31	**1LG6 310-4TA❑❑**		810
132	315 M	1488	847	95.3	0.87	230	2.7	7.0	2.7	16	2.88	**1LG6 313-4TA❑❑**		965
160	315 L	1488	1027	95.7	0.87	275	2.9	7.4	2.9	16	3.46	**1LG6 316-4TA❑❑**		1105
200	315 L	1488	1284	95.5	0.88	345	3.2	7.3	3.1	16	4.22	**1LG6 317-4TA❑❑**		1305

Selection and ordering data (continued)

Order No. supplements

Motor type	Penultimate position: Voltage code				Final position: Type of construction code								
	50 Hz				Without flange	With flange					With standard flange		With special flange
	230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	IM B3/6/7/8, IM V6, IM V5 without protective cover [1]	IM B5, IM V3 [2] [3]	IM V1 without protective cover [2] [3]		IM V1 with protective cover [3] [4]	IM B35	IM B14, IM V19, IM V18 without protective cover	IM B34	IM B14, IM V19, IM V18 without protective cover
	1	**6**	**3**	**5**	**0**	**1**	**1**	**8**	**4**	**6**	**2**	**7**	**3**
1LA7 08 . - . . . ❑❑	○	○	○	–	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 09 . - . . . ❑❑	○	○	○	–	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 10 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 11 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 13 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 16 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA5 18 . - . . . ❑❑	○	○	○	○	□	✓ [5]	✓	–	✓	✓	–	–	–
1LA5 20 . - . . . ❑❑	○	○	○	○	□	✓ [5]	✓	–	✓	✓	–	–	–
1LA5 22 . - . . . ❑❑	○	○	○	○	□	✓ [5]	✓	–	✓	✓	–	–	–
1LG6 25 . - . . . ❑❑	○	○	○	○	□	✓ [5]	✓	–	✓	✓	–	–	–
1LG6 28 . - . . . ❑❑	○	○	○	○	□	✓ [5]	✓	–	✓	✓	–	–	–
1LG6 310 - . . . ❑❑ **1LG6 313 - . . . ❑❑**	○	○	○	○	□	✓ [5]	✓	–	✓	✓	–	–	–
1LG6 316 - . . . ❑❑ **1LG6 317 - . . . ❑❑**	–	○	–	○	□ [6]	–	–	✓	✓	✓	–	–	–

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible

Order other voltages with voltage code **9** in the penultimate position and with order code **L1Y** (see "Special versions" in the "Selection and ordering data" under "Voltages").

Order other types of construction with type of construction code **9** in the final position and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Types of construction").

1) If motors frame sizes 180 M to 315 L in types of construction with feet IM B6, IM B7, IM V6 or IM V5 without protective cover are fixed to the wall, it is recommended that the motor feet are supported.

2) 1LA5 183-... to 1LA5 223-... motors (motor series 1LA5, frame size 180 M to 225 M) can be supplied with two additional eyebolts; specify supplement "**Z**" and order code **K32**.

3) 1LG6 253-... to 1LG6 317-... motors (motor series 1LG6 frame sizes 250 M to 315 L) are supplied with two screw-in eyebolts in accordance with IM B5, whereby one can be rotated in accordance with IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

4) The "Second shaft extension" option, order code **K16** is not possible.

5) Type of construction IM V3 is only possible using type of construction code **9** and order code **M1G**.

6) Not possible for type of construction IM V6 and IM V5 without protective cover.

Smoke-extraction motors

Self-ventilated, for temperature/time classes F200, F300 - Aluminium series 1LA7/5, cast-iron series 1LG6

Selection and ordering data (continued)

Rated output at 50 Hz	Frame size	Operating values at rated output					Locked-rotor torque	Locked-rotor current	Break-down torque	Torque class	Moment of inertia	Order No. For Order No. supplements for voltage and type of construction, see table below	Price	Weight
		Rated speed at 50 Hz	Rated torque at 50 Hz	Effi-ciency at 50 Hz 4/4-load	Power factor at 50 Hz 4/4-load	Rated current at 50 Hz 400 V	with direct starting as multiple of rated							Type of construc-tion IM B3 approx.
							torque	current	torque					
P_{rated}	FS	n_{rated}	T_{rated}	η_{rated}	$\cos\varphi_{rated}$	I_{rated}	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}		J			m
kW		rpm	Nm	%		A				CL	kg m^2			kg
6-pole, 1000 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, with test certificate according to EN 12101-3														
0.37	80 M	920	3.9	62.0	0.72	1.2	1.9	3.1	2.1	16	0.0015	**1LA7 080-6TA❑❑**		9.5
0.55	80 M	910	5.8	67.0	0.74	1.6	2.1	3.4	2.2	16	0.0018	**1LA7 083-6TA❑❑**		11.4
0.75	90 S	915	7.8	68.0	0.76	2.1	2.2	3.7	2.2	16	0.0028	**1LA7 090-6TA❑❑**		14.8
1.1	90 L	915	11.5	71.0	0.77	2.9	2.3	3.8	2.3	16	0.0035	**1LA7 096-6TA❑❑**		18
1.5	100 L	925	15	74.0	0.75	3.9	2.3	4	2.3	16	0.0063	**1LA7 106-6TA❑❑**		26
2.2	112 M	940	22	76.0	0.70	6.0	2.2	4.6	2.5	16	0.011	**1LA7 113-6TA❑❑**		30
3	132 S	950	30	72.0	0.75	8.0	1.9	4.2	2.2	16	0.015	**1LA7 130-6TA❑❑**		45
4	132 M	950	40	81.0	0.76	9.4	2.1	4.5	2.4	16	0.019	**1LA7 133-6TA❑❑**		50
5.5	132 M	950	55	70.0	0.74	15.4	2.3	5	2.6	16	0.025	**1LA7 134-6TA❑❑**		58
7.5	160 M	960	75	83.5	0.72	18	2.1	4.6	2.5	16	0.041	**1LA7 163-6TA❑❑**		81
11	160 L	960	109	87.5	0.74	24.5	2.3	4.8	2.6	16	0.049	**1LA7 166-6TA❑❑**		107
15	180 L	970	148	89.5	0.70	34.5	2.0	5.2	2.4	16	0.15	**1LA5 186-6TA❑❑**		139
18.5	200 L	975	181	90.1	0.77	38.5	2.7	5.5	2.8	16	0.24	**1LA5 206-6TA❑❑**		184
22	200 L	975	215	93.5	0.73	46.5	2.8	5.5	2.9	16	0.28	**1LA5 207-6TA❑❑**		204
30	225 M	978	294	92.2	0.77	61	2.8	5.7	2.9	16	0.36	**1LA5 223-6TA❑❑**		246
37	250 M	984	359	92.4	0.84	69	2.7	6.4	2.4	16	0.934	**1LG6 253-6TA❑❑**		405
45	280 S	986	436	92.7	0.86	81	2.5	6.6	2.5	16	1.40	**1LG6 280-6TA❑❑**		520
55	280 M	986	533	92.6	0.87	99	2.5	6.5	2.5	16	1.60	**1LG6 283-6TA❑❑**		570
75	315 S	990	723	93.8	0.85	136	2.7	7.0	2.9	16	2.50	**1LG6 310-6TA❑❑**		760
90	315 M	990	868	94.2	0.86	160	2.7	7.3	3.0	16	3.20	**1LG6 313-6TA❑❑**		935
110	315 L	990	1061	94.6	0.87	192	2.6	7.4	3.0	16	4.02	**1LG6 316-6TA❑❑**		1010
132	315 L	988	1276	94.7	0.87	230	3.0	7.2	2.8	16	4.71	**1LG6 317-6TA❑❑**		1180
160	315 L	990	1543	94.9	0.86	285	3.1	7.5	3.0	16	5.39	**1LG6 318-6TA❑❑**		1245

Selection and ordering data (continued)

Order No. supplements

Motor type	Penultimate position: Voltage code				Final position: Type of construction code								
	50 Hz				Without flange	With flange					With standard flange		With special flange
	230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	IM B3/6/7/8, IM V6, IM V5 without protective cover [1]	IM B5, IM V3 [2] [3]	IM V1 without protective cover [2] [3]		IM V1 with protective cover [3] [4]	IM B35	IM B14, IM V19, IM V18 without protective cover	IM B34	IM B14, IM V19, IM V18 without protective cover
	1	**6**	**3**	**5**	**0**	**1**	**1**	**8**	**4**	**6**	**2**	**7**	**3**
1LA7 08 . - . . . ❑❑	○	○	○	–	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 09 . - . . . ❑❑	○	○	○	–	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 10 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 11 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 13 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 16 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA5 18 . - . . . ❑❑	○	○	○	○	□	✓ [5]	✓	–	✓	✓	–	–	–
1LA5 20 . - . . . ❑❑	○	○	○	○	□	✓ [5]	✓	–	✓	✓	–	–	–
1LA5 22 . - . . . ❑❑	○	○	○	○	□	✓ [5]	✓	–	✓	✓	–	–	–
1LG6 25 . - . . . ❑❑	○	○	○	○	□	✓ [5]	✓	–	✓	✓	–	–	–
1LG6 28 . - . . . ❑❑	○	○	○	○	□	✓ [5]	✓	–	✓	✓	–	–	–
1LG6 310 - . . . ❑❑ **1LG6 313 - . . . ❑❑**	○	○	○	○	□	✓ [5]	✓	–	✓	✓	–	–	–
1LG6 316 - . . . ❑❑ **1LG6 317 - . . . ❑❑** **1LG6 318 - . . . ❑❑**	–	○	–	○	□ [6]	–	–	✓	✓	✓	–	–	–

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible

Order other voltages with voltage code **9** in the penultimate position and with order code **L1Y** (see "Special versions" in the "Selection and ordering data" under "Voltages").

Order other types of construction with type of construction code **9** in the final position and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Types of construction").

[1] If motors frame sizes 180 M to 315 L in types of construction with feet IM B6, IM B7, IM V6 or IM V5 without protective cover are fixed to the wall, it is recommended that the motor feet are supported.

[2] 1LA5 183-... to 1LA5 223-... motors (motor series 1LA5, frame size 180 M to 225 M) can be supplied with two additional eyebolts; specify supplement "**Z**" and order code **K32**.

[3] 1LG6 253-... to 1LG6 318-... motors (motor series 1LG6 frame sizes 250 M to 315 L) are supplied with two screw-in eyebolts in accordance with IM B5, whereby one can be rotated in accordance with IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

[4] The "Second shaft extension" option, order code **K16** is not possible.

[5] Type of construction IM V3 is only possible using type of construction code **9** and order code **M1G**.

[6] Not possible for type of construction IM V6 and IM V5 without protective cover.

Smoke-extraction motors

Self-ventilated, for temperature/time classes F200, F300 - Aluminium series 1LA7/5, cast-iron series 1LG6

Selection and ordering data (continued)

Rated output at 50 Hz 1500 rpm P_{rated} kW	3000 rpm P_{rated} kW	Frame size FS	Order No. For order No. supplements for voltage and type of construction, see table below	Price	Weight for type of construction IM B3 approx. m kg
4/2-pole, 1500/3000 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, double pole-changing for driving smoke-extraction fans with one winding in Dahlander circuit, with test certificate in accordance with EN 12101-3					
0.14	0.63	80 M	**1LA7 080-0TA❑❑**		11.0
0.23	0.86	80 M	**1LA7 083-0TA❑❑**		12.4
0.3	1.26	90 S	**1LA7 090-0TA❑❑**		14.6
0.45	1.8	90 L	**1LA7 096-0TA❑❑**		17.9
0.59	2.25	100 L	**1LA7 106-0TA❑❑**		24.0
0.72	2.8	100 L	**1LA7 107-0TA❑❑**		27.0
0.99	3.95	112 M	**1LA7 113-0TA❑❑**		34.0
1.3	5.3	132 S	**1LA7 130-0TA❑❑**		47.0
1.8	7.2	132 M	**1LA7 133-0TA❑❑**		53.0
2.6	10.4	160 M	**1LA7 163-0TA❑❑**		74.0
3.85	15.3	160 L	**1LA7 166-0TA❑❑**		105.0
Rated output at 50 Hz 1000 rpm P_{rated} kW	1500 rpm P_{rated} kW				
6/4-pole, 1000/1500 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, double pole-changing for driving smoke-extraction fans with two windings, with test certificate in accordance with EN 12101-3					
0.11	0.36	80 M	**1LA7 080-1TD❑❑**		10.0
0.16	0.5	80 M	**1LA7 083-1TD❑❑**		11.4
0.26	0.72	90 S	**1LA7 090-1TD❑❑**		14.6
0.34	0.99	90 L	**1LA7 096-1TD❑❑**		17.9
0.54	1.53	100 L	**1LA7 106-1TD❑❑**		24.0
0.68	1.89	100 L	**1LA7 107-1TD❑❑**		27.0
0.81	2.7	112 M	**1LA7 113-1TD❑❑**		34.0
1.08	3.5	132 S	**1LA7 130-1TD❑❑**		47.0
1.53	4.85	132 M	**1LA7 133-1TD❑❑**		53.0
2.25	6.5	160 M	**1LA7 163-1TD❑❑**		73.0
3.35	10.8	160 L	**1LA7 166-1TD❑❑**		98.0
4.95	14.4	180 M	**1LA5 183-1TD❑❑**		125.0
5.9	17.1	180 L	**1LA5 186-1TD❑❑**		139.0
8.6	23.5	200 L	**1LA5 207-1TD❑❑**		184.0
Rated output at 50 Hz 750 rpm P_{rated} kW	1500 rpm P_{rated} kW				
8/4-pole, 750/1500 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, double pole-changing for driving smoke-extraction fans with one winding in Dahlander circuit, with test certificate in accordance with EN 12101-3					
0.09	0.45	80 M	**1LA7 080-0TB❑❑**		10.0
0.14	0.63	80 M	**1LA7 083-0TB❑❑**		11.4
0.2	0.9	90 S	**1LA7 090-0TB❑❑**		14.6
0.3	1.35	90 L	**1LA7 096-0TB❑❑**		17.9
0.45	1.8	100 L	**1LA7 106-0TB❑❑**		24.0
0.59	2.25	100 L	**1LA7 107-0TB❑❑**		27.0
0.81	3.25	112 M	**1LA7 113-0TB❑❑**		34.0
0.99	4.25	132 S	**1LA7 130-0TB❑❑**		47.0
1.26	5.8	132 M	**1LA7 133-0TB❑❑**		53.0
1.98	8.6	160 M	**1LA7 163-0TB❑❑**		73.0
3	12.6	160 L	**1LA7 166-0TB❑❑**		98.0
4.05	14.4	180 M	**1LA5 183-0TB❑❑**		125.0
4.5	16.7	180 L	**1LA5 186-0TB❑❑**		139.0
6.8	25	200 L	**1LA5 207-0TB❑❑**		184.0

The rated outputs and weights may change slightly after they have been checked.

Further electrical data can be calculated and supplied on receipt of order.

Selection and ordering data (continued)

Order No. supplements

Motor type	Penultimate position: Voltage code			Final position: Type of construction code								
	50 Hz, direct online starting			Without flange	With flange					With standard flange		With special flange
	230 V	400 V	500 V	IM B3/6/7/8, IM V6, IM V5 without protective cover	IM B5, IM V3 [1]	IM V1 without protective cover [1]		IM V1 with protective cover [1] [2]	IM B35	IM B14, IM V19/18 without protective cover	IM B34	IM B14 IM V19/18 without protective cover
	1	**6**	**5**	**0**	**1**	**1**	**8**	**4**	**6**	**2**	**7**	**3**
1LA7 08 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 09 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 10 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 11 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 13 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA7 16 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA5 18 . - . . . ❑❑	○	○	○	□	✓ [3]	✓	–	✓	✓	–	–	–
1LA5 20 . - . . . ❑❑	○	○	○	□	✓ [3]	✓	–	✓	✓	–	–	–

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible

Order other voltages with voltage code **9** in the penultimate position and with order code **L1Y** (see "Special versions" in the "Selection and ordering data" under "Voltages").

Order other types of construction with type of construction code **9** in the final position and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Types of construction").

[1] 1LA5 183-... to 1LA5 223-... motors (motor series 1LA5, frame size 180 M to 225 M) can be supplied with two additional eyebolts; specify supplement "**Z**" and order code **K32**.

[2] The "Second shaft extension" option, order code **K16** is not possible.

[3] Type of construction IM V3 is only possible using type of construction code **9** and order code **M1G**.

Smoke-extraction motors

Forced-air cooled, for temperature/time classes F200, F300 - Aluminium series 1PP7/5, cast-iron series 1PP6

Selection and ordering data

Rated output at 50 Hz	Frame size	Operating values at rated output					Locked-rotor torque	Locked-rotor current	Break-down torque	Torque class	Moment of inertia	Order No. For Order No. supplements for voltage and type of construction, see table below	Price	Weight
		Rated speed at 50 Hz	Rated torque at 50 Hz	Effi-ciency at 50 Hz 4/4-load	Power factor at 50 Hz 4/4-load	Rated current at 50 Hz 400 V	with direct starting as multiple of rated torque	current	torque					Type of construc-tion IM B3 approx.
P_{rated}	FS	n_{rated}	T_{rated}	η_{rated}	$\cos\varphi_{rated}$	I_{rated}	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}		J			m
kW		rpm	Nm	%		A				CL	kg m^2			kg
2-pole, 3000 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, with test certificate according to EN 12101-3														
0.75	80 M	2830	2.5	63.0	0.82	2.1	2.3	5.6	2.4	16	0.00085	**1PP7 080-2TA❑❑**		9.8
1.1	80 M	2845	3.7	74.0	0.80	2.7	2.6	6.1	2.7	16	0.0011	**1PP7 083-2TA❑❑**		11.5
1.5	90 S	2860	5.0	73.0	0.80	3.7	2.4	5.5	2.7	16	0.0015	**1PP7 090-2TA❑❑**		14.6
2.2	90 L	2880	7.3	78.0	0.80	5.1	2.8	6.3	3.1	16	0.002	**1PP7 096-2TA❑❑**		17.4
3	100 L	2890	9.9	77.0	0.83	6.8	2.8	6.8	3.0	16	0.0038	**1PP7 106-2TA❑❑**		23
4	112 M	2905	13	82.0	0.83	8.5	2.6	7.2	2.9	16	0.0055	**1PP7 113-2TA❑❑**		31
5.5	132 S	2925	18	85.5	0.87	10.7	2.0	5.9	2.8	16	0.016	**1PP7 130-2TA❑❑**		44
7.5	132 S	2930	24	88.0	0.89	13.8	2.3	6.9	3.0	16	0.021	**1PP7 131-2TA❑❑**		52
11	160 M	2940	36	88.0	0.86	21	2.1	6.5	2.9	16	0.034	**1PP7 163-2TA❑❑**		71
15	160 M	2940	49	90.8	0.90	26.5	2.2	6.6	3.0	16	0.04	**1PP7 164-2TA❑❑**		82
18.5	160 L	2940	60	90.3	0.91	32.5	2.4	7.0	3.1	16	0.052	**1PP7 166-2TA❑❑**		95
22	180 M	2940	71	91.1	0.85	41	2.5	6.9	3.2	16	0.077	**1PP5 183-2TA❑❑**		119
30	200 L	2945	97	91.8	0.89	53	2.4	7.2	2.8	16	0.14	**1PP5 206-2TA❑❑**		168
37	200 L	2945	120	92.3	0.89	65	2.4	7.7	2.8	16	0.16	**1PP5 207-2TA❑❑**		191
45	225 M	2960	145	93.6	0.89	78	2.8	7.7	3.4	16	0.2	**1PP5 223-2TA❑❑**		226
55	250 M	2975	177	95.1	0.90	94	2.5	7.4	3.3	13	0.466	**1PP6 253-2TB❑❑**		405
75	280 S	2975	241	95.3	0.91	126	2.6	7.5	2.9	13	0.832	**1PP6 280-2TB❑❑**		510
90	280 M	2975	289	95.6	0.90	152	3.0	7.5	3.0	13	1.00	**1PP6 283-2TB❑❑**		595
110	315 S	2985	352	95.9	0.90	186	2.6	7.5	3.2	13	1.39	**1PP6 310-2TB❑❑**		770
132	315 M	2984	422	96.1	0.91	220	2.7	7.4	3.0	13	1.62	**1PP6 313-2TB❑❑**		895
160	315 L	2984	512	96.3	0.93	260	2.8	7.5	3.1	13	2.09	**1PP6 316-2TB❑❑**		1035
200	315 L	2984	640	96.4	0.93	325	2.5	7.0	2.8	13	2.46	**1PP6 317-2TB❑❑**		1225
4-pole, 1500 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, with test certificate according to EN 12101-3														
0.55	80 M	1395	3.7	57.0	0.75	1.85	2.2	3.9	2.2	16	0.0015	**1PP7 080-4TA❑❑**		9.6
0.75	80 M	1405	5.1	63.0	0.73	2.35	2.3	4.2	2.3	16	0.0018	**1PP7 083-4TA❑❑**		11
1.1	90 S	1415	7.4	68.0	0.74	3.15	2.3	4.6	2.4	16	0.0028	**1PP7 090-4TA❑❑**		14
1.5	90 L	1420	10	73.0	0.74	4.0	2.4	5.3	2.6	16	0.0035	**1PP7 096-4TA❑❑**		17.3
2.2	100 L	1420	15	75.0	0.78	5.4	2.5	5.6	2.8	16	0.0048	**1PP7 106-4TA❑❑**		23
3	100 L	1415	20	77.0	0.78	7.2	2.7	5.6	3.0	16	0.0058	**1PP7 107-4TA❑❑**		26
4	112 M	1440	27	78.0	0.80	9.2	2.7	6.5	3.0	16	0.011	**1PP7 113-4TA❑❑**		33
5.5	132 S	1450	36	88.5	0.78	11.5	2.5	6.3	3.1	16	0.018	**1PP7 130-4TA❑❑**		46
7.5	132 M	1455	49	84.0	0.78	16.5	2.7	6.7	3.2	16	0.024	**1PP7 133-4TA❑❑**		52
11	160 M	1455	72	89.0	0.81	22	2.2	6.2	2.7	16	0.04	**1PP7 163-4TA❑❑**		70
15	160 L	1460	98	84.5	0.80	32	2.6	6.5	3.0	16	0.052	**1PP7 166-4TA❑❑**		95
18.5	180 M	1460	121	86.5	0.79	39	2.3	7.5	3.0	16	0.13	**1PP5 183-4TA❑❑**		116
22	180 L	1460	144	88.0	0.80	45	2.3	7.5	3.0	16	0.15	**1PP5 186-4TA❑❑**		130
30	200 L	1465	196	89.0	0.81	60	2.6	7.0	3.2	16	0.24	**1PP5 207-4TA❑❑**		173
37	225 S	1470	241	92.1	0.84	69	2.8	7.0	3.2	16	0.32	**1PP5 220-4TA❑❑**		218
45	225 M	1470	293	92.2	0.81	87	2.8	7.7	3.3	16	0.36	**1PP5 223-4TA❑❑**		244
55	250 M	1485	354	94.9	0.86	97	2.9	7.5	3.3	16	0.856	**1PP6 253-4TA❑❑**		445
75	280 S	1486	482	95.0	0.87	132	2.6	7.3	2.8	16	1.39	**1PP6 280-4TA❑❑**		555
90	280 M	1485	579	94.9	0.88	156	2.5	7.3	2.8	16	1.71	**1PP6 283-4TA❑❑**		655
110	315 S	1488	706	95.3	0.87	192	2.6	6.9	2.8	16	2.31	**1PP6 310-4TA❑❑**		790
132	315 M	1488	847	95.5	0.87	230	2.7	7.0	2.7	16	2.88	**1PP6 313-4TA❑❑**		945
160	315 L	1488	1027	95.9	0.87	275	2.9	7.4	2.9	16	3.46	**1PP6 316-4TA❑❑**		1085
200	315 L	1488	1284	95.7	0.88	345	3.2	7.3	3.1	16	4.22	**1PP6 317-4TA❑❑**		1285

Selection and ordering data (continued)

Order No. supplements

Motor type	Penultimate position: Voltage code				Final position: Type of construction code							
	50 Hz				Without flange	With flange				With standard flange		With special flange
	230 VΔ/ 400 VY	400 VΔ/ 690 VY	500 VY	500 VΔ	IM B3/6/7/8, IM V6/5 without protective cover [1]	IM B5, IM V3 [2] [3]	IM V1 without protective cover [2]		IM B35	IM B14, IM V19/18 without protective cover	IM B34	IM B14, IM V19/18 without protective cover
	1	**6**	**3**	**5**	**0**	**1**	**1**	**8**	**6**	**2**	**7**	**3**
1PP7 08 . - . . . ❑❑	○	○	○	–	□	✓	✓	–	✓	✓	✓	✓
1PP7 09 . - . . . ❑❑	○	○	○	–	□	✓	✓	–	✓	✓	✓	✓
1PP7 10 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP7 11 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP7 13 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP7 16 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP5 18 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	–	–	–
1PP5 20 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	–	–	–
1PP5 22 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	–	–	–
1PP6 25 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	–	–	–
1PP6 28 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	–	–	–
1PP6 310 - . . . ❑❑ **1PP6 313 - . . . ❑❑**	○	○	○	○	□	✓ [4]	✓	–	✓	–	–	–
1PP6 316 - . . . ❑❑ **1PP6 317 - . . . ❑❑**	–	○	–	○	□ [5]	–	–	✓	✓	–	–	–

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible

Order other voltages with voltage code **9** in the penultimate position and with order code **L1Y** (see "Special versions" in the "Selection and ordering data" under "Voltages").

Order other types of construction with type of construction code **9** in the final position and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Types of construction").

[1] If motors frame sizes 180 M to 315 L in types of construction with feet IM B6, IM B7, IM V6 or IM V5 without protective cover are fixed to the wall, it is recommended that the motor feet are supported.

[2] 1PP5 183-... to 1PP5 223-... motors (motor series 1PP5, frame size 180 M to 225 M) can be supplied with two additional eyebolts; specify supplement "**Z**" and order code **K32**.

[3] 1PP6 253-... to 1PP6 318-... motors (motor series 1PP6 frame sizes 250 M to 315 L) are supplied with two screw-in eyebolts in accordance with IM B5, whereby one can be rotated in accordance with IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

[4] Type of construction IM V3 is only possible using type of construction code **9** and order code **M1G**.

[5] Not possible for type of construction IM V6 and IM V5 without protective cover.

Smoke-extraction motors

Forced-air cooled, for temperature/time classes F200, F300 - Aluminium series 1PP7/5, cast-iron series 1PP6

Selection and ordering data (continued)

Rated output at 50 Hz	Frame size	Operating values at rated output					Locked-rotor torque	Locked-rotor current	Break-down torque	Torque class	Moment of inertia	Order No. For Order No. supplements for voltage and type of construction, see table below	Price	Weight
		Rated speed at 50 Hz	Rated torque at 50 Hz	Effi-ciency at 50 Hz 4/4-load	Power factor at 50 Hz 4/4-load	Rated current at 50 Hz 400 V	with direct starting as multiple of rated							Type of construc-tion IM B3 approx.
							torque	current	torque					
P_{rated}	FS	n_{rated}	T_{rated}	η_{rated}	$\cos\varphi_{rated}$	I_{rated}	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}		J			m
kW		rpm	Nm	%		A				CL	kg m^2			kg
6-pole, 1000 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, with test certificate according to EN 12101-3														
0.37	80 M	920	3.9	62.0	0.72	1.2	1.9	3.1	2.1	16	0.0015	**1PP7 080-6TA❑❑**		9.6
0.55	80 M	910	5.8	67.0	0.74	1.6	2.1	3.4	2.2	16	0.0018	**1PP7 083-6TA❑❑**		11
0.75	90 S	915	7.8	68.0	0.76	2.1	2.2	3.7	2.2	16	0.0028	**1PP7 090-6TA❑❑**		14.2
1.1	90 L	915	11.5	71.0	0.77	2.9	2.3	3.8	2.3	16	0.0035	**1PP7 096-6TA❑❑**		17.4
1.5	100 L	925	15	74.0	0.75	3.9	2.3	4	2.3	16	0.0063	**1PP7 106-6TA❑❑**		25
2.2	112 M	940	22	76.0	0.70	6.0	2.2	4.6	2.5	16	0.011	**1PP7 113-6TA❑❑**		29
3	132 S	950	30	72.0	0.75	8.0	1.9	4.2	2.2	16	0.015	**1PP7 130-6TA❑❑**		44
4	132 M	950	40	81.0	0.76	9.4	2.1	4.5	2.4	16	0.019	**1PP7 133-6TA❑❑**		49
5.5	132 M	950	55	70.0	0.74	15.4	2.3	5	2.6	16	0.025	**1PP7 134-6TA❑❑**		57
7.5	160 M	960	75	83.5	0.72	18	2.1	4.6	2.5	16	0.041	**1PP7 163-6TA❑❑**		78
11	160 L	960	109	87.5	0.74	24.5	2.3	4.8	2.6	16	0.049	**1PP7 166-6TA❑❑**		104
15	180 L	970	148	89.5	0.70	34.5	2.0	5.2	2.4	16	0.15	**1PP5 186-6TA❑❑**		130
18.5	200 L	975	181	90.1	0.77	38.5	2.7	5.5	2.8	16	0.24	**1PP5 206-6TA❑❑**		173
22	200 L	975	215	93.5	0.73	46.5	2.8	5.5	2.9	16	0.28	**1PP5 207-6TA❑❑**		193
30	225 M	978	294	92.2	0.77	61	2.8	5.7	2.9	16	0.36	**1PP5 223-6TA❑❑**		234
37	250 M	984	359	92.6	0.84	69	2.7	6.4	2.4	16	0.934	**1PP6 253-6TA❑❑**		390
45	280 S	986	436	92.8	0.86	81	2.5	6.6	2.5	16	1.37	**1PP6 280-6TA❑❑**		500
55	280 M	986	533	92.7	0.87	99	2.5	6.5	2.5	16	1.65	**1PP6 283-6TA❑❑**		550
75	315 S	990	723	93.9	0.85	136	2.7	7.0	2.9	16	2.50	**1PP6 310-6TA❑❑**		740
90	315 M	990	868	94.3	0.86	160	2.7	7.3	3.0	16	3.20	**1PP6 313-6TA❑❑**		915
110	315 L	990	1061	94.7	0.87	192	2.6	7.4	3.0	16	4.02	**1PP6 316-6TA❑❑**		990
132	315 L	988	1276	94.8	0.87	230	3.0	7.2	2.8	16	4.71	**1PP6 317-6TA❑❑**		1160
160	315 L	990	1543	95.0	0.86	285	3.1	7.5	3.0	16	5.39	**1PP6 318-6TA❑❑**		1225

Selection and ordering data (continued)

Order No. supplements

Motor type	Penultimate position: Voltage code				Final position: Type of construction code							
	50 Hz				Without flange	With flange				With standard flange		With special flange
	230 VΔ/ 400 VY	400 VΔ/ 690 VY	500 VY	500 VΔ	IM B3/6/7/8, IM V6/5 without protective cover [1]	IM B5, IM V3 [2] [3]	IM V1 without protective cover [2]		IM B35	IM B14, IM V19/18 without protective cover	IM B34	IM B14, IM V19/18 without protective cover
	1	**6**	**3**	**5**	**0**	**1**	**1**	**8**	**6**	**2**	**7**	**3**
1PP7 08 . - . . . ❑❑	○	○	○	–	□	✓	✓	–	✓	✓	✓	✓
1PP7 09 . - . . . ❑❑	○	○	○	–	□	✓	✓	–	✓	✓	✓	✓
1PP7 10 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP7 11 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP7 13 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP7 16 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP5 18 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	–	–	–
1PP5 20 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	–	–	–
1PP5 22 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	–	–	–
1PP6 25 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	–	–	–
1PP6 28 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	–	–	–
1PP6 310 - . . . ❑❑ **1PP6 313 - . . . ❑❑**	○	○	○	○	□	✓ [4]	✓	–	✓	–	–	–
1PP6 316 - . . . ❑❑ **1PP6 317 - . . . ❑❑** **1PP6 318 - . . . ❑❑**	–	○	–	○	□ [5]	–	–	✓	✓	–	–	–

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible

Order other voltages with voltage code **9** in the penultimate position and with order code **L1Y** (see "Special versions" in the "Selection and ordering data" under "Voltages").

Order other types of construction with type of construction code **9** in the final position and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Types of construction").

[1] If motors frame sizes 180 M to 315 L in types of construction with feet IM B6, IM B7, IM V6 or IM V5 without protective cover are fixed to the wall, it is recommended that the motor feet are supported.

[2] 1PP5 183-... to 1PP5 223-... motors (motor series 1PP5, frame size 180 M to 225 M) can be supplied with two additional eyebolts; specify supplement "**Z**" and order code **K32**.

[3] 1PP6 253-... to 1PP6 318-... motors (motor series 1PP6 frame sizes 250 M to 315 L) are supplied with two screw-in eyebolts in accordance with IM B5, whereby one can be rotated in accordance with IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

[4] Type of construction IM V3 is only possible using type of construction code **9** and order code **M1G**.

[5] Not possible for type of construction IM V6 and IM V5 without protective cover.

Smoke-extraction motors

Forced-air cooled, for temperature/time classes F200, F300 - Aluminium series 1PP7/5, cast-iron series 1PP6

Selection and ordering data (continued)

Rated output at 50 Hz 1500 rpm P_{rated} kW	3000 rpm P_{rated} kW	Frame size FS	Order No. For order No. supplements for voltage and type of construction, see table below	Price	Weight for type of construction IM B3 approx.
4/2-pole, 1500/3000 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, double pole-changing for driving smoke-extraction fans with one winding in Dahlander circuit, with test certificate in accordance with EN 12101-3					
0.14	0.63	80 M	**1PP7 080-0TA❑❑**		10.6
0.23	0.86	80 M	**1PP7 083-0TA❑❑**		12.0
0.3	1.26	90 S	**1PP7 090-0TA❑❑**		14.0
0.45	1.8	90 L	**1PP7 096-0TA❑❑**		17.3
0.59	2.25	100 L	**1PP7 106-0TA❑❑**		23.0
0.72	2.8	100 L	**1PP7 107-0TA❑❑**		26.0
0.99	3.95	112 M	**1PP7 113-0TA❑❑**		33.0
1.3	5.3	132 S	**1PP7 130-0TA❑❑**		46.0
1.8	7.2	132 M	**1PP7 133-0TA❑❑**		52.0
2.6	10.4	160 M	**1PP7 163-0TA❑❑**		70.0
3.85	15.3	160 L	**1PP7 166-0TA❑❑**		101.0
Rated output at 50 Hz 1000 rpm P_{rated} kW	1500 rpm P_{rated} kW				
6/4-pole, 1000/1500 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, double pole-changing for driving smoke-extraction fans with two windings, with test certificate in accordance with EN 12101-3					
0.11	0.36	80 M	**1PP7 080-1TD❑❑**		9.6
0.16	0.5	80 M	**1PP7 083-1TD❑❑**		11.0
0.26	0.72	90 S	**1PP7 090-1TD❑❑**		14.0
0.34	0.99	90 L	**1PP7 096-1TD❑❑**		17.3
0.54	1.53	100 L	**1PP7 106-1TD❑❑**		23.0
0.68	1.89	100 L	**1PP7 107-1TD❑❑**		26.0
0.81	2.7	112 M	**1PP7 113-1TD❑❑**		33.0
1.08	3.5	132 S	**1PP7 130-1TD❑❑**		46.0
1.53	4.85	132 M	**1PP7 133-1TD❑❑**		52.0
2.25	6.5	160 M	**1PP7 163-1TD❑❑**		70.0
3.35	10.8	160 L	**1PP7 166-1TD❑❑**		95.0
4.95	14.4	180 M	**1PP5 183-1TD❑❑**		116.0
5.9	17.1	180 L	**1PP5 186-1TD❑❑**		130.0
8.6	23.5	200 L	**1PP5 207-1TD❑❑**		173.0
Rated output at 50 Hz 750 rpm P_{rated} kW	1500 rpm P_{rated} kW				
8/4-pole, 750/1500 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, double pole-changing for driving smoke-extraction fans with one winding in Dahlander circuit, with test certificate in accordance with EN12101-3					
0.09	0.45	80 M	**1PP7 080-0TB❑❑**		9.6
0.14	0.63	80 M	**1PP7 083-0TB❑❑**		11.0
0.2	0.9	90 S	**1PP7 090-0TB❑❑**		14.0
0.3	1.35	90 L	**1PP7 096-0TB❑❑**		17.3
0.45	1.8	100 L	**1PP7 106-0TB❑❑**		23.0
0.59	2.25	100 L	**1PP7 107-0TB❑❑**		26.0
0.81	3.25	112 M	**1PP7 113-0TB❑❑**		33.0
0.99	4.25	132 S	**1PP7 130-0TB❑❑**		46.0
1.26	5.8	132 M	**1PP7 133-0TB❑❑**		52.0
1.98	8.6	160 M	**1PP7 163-0TB❑❑**		70.0
3	12.6	160 L	**1PP7 166-0TB❑❑**		95.0
4.05	14.4	180 M	**1PP5 183-0TB❑❑**		116.0
4.5	16.7	180 L	**1PP5 186-0TB❑❑**		130.0
6.8	25	200 L	**1PP5 207-0TB❑❑**		173.0

The rated outputs and weights may change slightly after they have been checked.

Further electrical data can be calculated and supplied on receipt of order.

Selection and ordering data (continued)

Order No. supplements

Motor type	Penultimate position: Voltage code			Final position: Type of construction code							
	50 Hz, direct online starting			Without flange	With flange				With standard flange		With special flange
	230 V	400 V	500 V	IM B3/6/7/8, IM V6, IM V5 without protective cover	IM B5, IM V3 [1]	IM V 1 without protective cover [1]		IM B35	IM B14, IM V19/18 without protective cover	IM B34	IM B14, IM V19/18 without protective cover
	1	**6**	**5**	**0**	**1**	**1**	**8**	**6**	**2**	**7**	**3**
1PP7 08 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP7 09 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP7 10 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP7 11 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP7 13 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP7 16 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP5 18 . - . . . ❑❑	○	○	○	□	✓ [2]	✓	–	✓	–	–	-
1PP5 20 . - . . . ❑❑	○	○	○	□	✓ [2]	✓	–	✓	–	–	-

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible

Order other voltages with voltage code **9** in the penultimate position and with order code **L1Y** (see "Special versions" in the "Selection and ordering data" under "Voltages").

Order other types of construction with type of construction code **9** in the final position and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Types of construction").

[1] 1PP5 183-... to 1PP5 223-... motors (motor series 1PP5, frame size 180 M to 225 M) can be supplied with two additional eyebolts; specify supplement "**Z**" and order code **K32**.

[2] Type of construction IM V3 is only possible using type of construction code **9** and order code **M1G**.

Smoke-extraction motors

Self-ventilated, for temperature/time class F400
Cast-iron series 1LA6, 1LG6

Selection and ordering data

Rated output at 50 Hz	Frame size	Operating values at rated output					Locked-rotor torque	Locked-rotor current	Break-down torque	Torque class	Moment of inertia	Order No. For Order No. supplements for voltage and type of construction, see table below	Price	Weight
		Rated speed at 50 Hz	Rated torque at 50 Hz	Effi-ciency at 50 Hz 4/4-load	Power factor at 50 Hz 4/4-load	Rated current at 50 Hz 400 V	with direct starting as multiple of rated torque	current	torque					Type of construc-tion IM B3 approx.
P_{rated}	FS	n_{rated}	T_{rated}	η_{rated}	$\cos\varphi_{rated}$	I_{rated}	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}		J			m
kW		rpm	Nm	%		A				CL	kg m^2			kg
2-pole, 3000 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, with test certificate according to EN 12101-3														
3	100 L	2875	10	78.0	0.85	6.5	2.5	6.2	2.8	16	0.0038	**1LA6 106-2UA❑❑**		32
4	112 M	2900	13	78.0	0.85	8.7	2.5	6.8	2.9	16	0.0055	**1LA6 113-2UA❑❑**		41
5.5	132 S	2920	18	82.5	0.89	10.8	1.9	5.7	2.7	16	0.016	**1LA6 130-2UA❑❑**		51
7.5	132 S	2930	24	84.0	0.89	14.5	2.0	6.5	2.8	16	0.021	**1LA6 131-2UA❑❑**		56
11	160 M	2940	36	88.0	0.88	20.5	1.8	6.4	2.7	16	0.034	**1LA6 163-2UA❑❑**		93
15	160 M	2930	49	88.5	0.89	27.5	2.0	6.5	2.80	16	0.04	**1LA6 164-2UA❑❑**		102
18.5	160 L	2930	60	87.5	0.90	34	2.0	7.0	2.70	16	0.05	**1LA6 166-2UA❑❑**		112
22	180 M	2955	71	92.6	0.88	39	2.4	7.0	3.2	16	0.086	**1LG6 183-2UA❑❑**		180
30	200 L	2955	97	92.2	0.88	53	2.3	6.7	3.1	16	0.151	**1LG6 206-2UA❑❑**		225
37	200 L	2958	119	92.5	0.89	65	2.4	7.1	3.2	16	0.182	**1LG6 207-2UA❑❑**		255
45	225 M	2962	145	94.6	0.89	77	2.4	7.1	3.1	16	0.266	**1LG6 223-2UA❑❑**		330
55	250 M	2972	177	94.3	0.90	94	2.3	6.7	2.9	16	0.466	**1LG6 253-2UA❑❑**		420
75	280 S	2975	241	94.5	0.89	128	2.4	6.8	2.9	13	0.832	**1LG6 280-2UB❑❑**		530
90	280 M	2976	289	94.9	0.90	152	2.5	7.4	3.0	13	1.00	**1LG6 283-2UB❑❑**		615
110	315 S	2982	352	94.7	0.91	184	2.4	6.8	2.7	13	1.39	**1LG6 310-2UB❑❑**		790
132	315 M	2980	423	95.2	0.91	220	2.5	6.9	2.8	13	1.62	**1LG6 313-2UB❑❑**		915
160	315 L	2982	512	95.6	0.92	265	2.4	7.1	2.8	13	2.09	**1LG6 316-2UB❑❑**		1055
190	315 L	2982	608	95.9	0.93	325	2.6	7.2	2.9	13	2.46	**1LG6 317-2UB❑❑**		1245
4-pole, 1500 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, with test certificate according to EN 12101-3														
2.2	100 L	1410	15	74.0	0.78	5.5	2.2	5.2	2.7	16	0.0048	**1LA6 106-4UA❑❑**		32
3	100 L	1410	20	76.0	0.80	7.1	2.5	5.0	2.6	16	0.0058	**1LA6 107-4UA❑❑**		34
4	112 M	1440	27	79.0	0.75	9.8	2.7	5.7	3.0	16	0.011	**1LA6 113-4UA❑❑**		43
5.5	132 S	1455	36	78.0	0.75	13.5	2.5	6.3	3.0	16	0.018	**1LA6 130-4UA❑❑**		53
7.5	132 M	1455	49	84.0	0.75	17.2	2.7	6.7	3.1	16	0.024	**1LA6 133-4UA❑❑**		60
11	160 M	1460	72	82.5	0.80	24	2.2	6.2	2.7	16	0.04	**1LA6 163-4UA❑❑**		97
15	160 L	1460	98	81.5	0.78	34	2.4	6.4	2.8	16	0.052	**1LA6 166-4UA❑❑**		110
18.5	180 M	1470	120	90.7	0.84	35	2.4	6.1	2.8	16	0.122	**1LG6 183-4UA❑❑**		155
22	180 L	1472	143	91.7	0.85	40.5	2.4	6.4	2.9	16	0.144	**1LG6 186-4UA❑❑**		180
30	200 L	1470	195	92.2	0.86	55	2.4	6.4	3.1	16	0.234	**1LG6 207-4UA❑❑**		225
37	225 S	1480	239	92.6	0.86	67	2.6	6.5	2.8	16	0.398	**1LG6 220-4UA❑❑**		290
45	225 M	1480	290	93.3	0.86	81	2.7	6.6	2.9	16	0.486	**1LG6 223-4UA❑❑**		330
55	250 M	1485	354	94.2	0.87	97	2.5	7.4	2.9	16	0.856	**1LG6 253-4UA❑❑**		460
75	280 S	1484	483	94.2	0.87	132	2.4	6.7	2.8	16	1.39	**1LG6 280-4UA❑❑**		574
90	280 M	1486	578	94.7	0.86	160	2.6	7.3	3.0	16	1.71	**1LG6 283-4UA❑❑**		675
110	315 S	1488	706	95.0	0.87	192	2.7	7.0	2.8	16	2.31	**1LG6 310-4UA❑❑**		810
132	315 M	1488	847	95.3	0.88	225	2.6	7.1	2.8	16	2.88	**1LG6 313-4UA❑❑**		965
160	315 L	1490	1025	95.6	0.88	275	2.9	7.2	2.9	16	3.46	**1LG6 316-4UA❑❑**		1105
200	315 L	1488	1284	95.7	0.88	345	3.1	7.5	2.9	16	4.22	**1LG6 317-4UA❑❑**		1305

Selection and ordering data (continued)

Order No. supplements

Motor type	Penultimate position: Voltage code				Final position: Type of construction code								
	50 Hz				Without flange	With flange					With standard flange		With special flange
	230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	IM B3/6/7/8, IM V6, IM V5 without protective cover [1]	IM B5, IM V3 [2]	IM V1 without protective cover [2]		IM V1 with protective cover [2] [3]	IM B35	IM B14, IM V19, IM V18 without protective cover	IM B34	IM B14, IM V19, IM V18 without protective cover
	1	**6**	**3**	**5**	**0**	**1**	**1**	**8**	**4**	**6**	**2**	**7**	**3**
1LA6 10 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA6 11 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA6 13 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA6 16 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LG6 18 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	✓	–	–	–
1LG6 20 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	✓	–	–	–
1LG6 22 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	✓	–	–	–
1LG6 25 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	✓	–	–	–
1LG6 28 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	✓	–	–	–
1LG6 310 - . . . ❑❑ 1LG6 313 - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	✓	–	–	–
1LG6 316 - . . . ❑❑ 1LG6 317 - . . . ❑❑	–	○	–	○	□ [5]	–	–	✓	✓	✓	–	–	–

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible

Order other voltages with voltage code **9** in the penultimate position and with order code **L1Y** (see "Special versions" in the "Selection and ordering data" under "Voltages").

Order other types of construction with type of construction code **9** in the final position and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Types of construction").

1) If motors 1LG6 183-... to 1LG6 317-... (motor series 1LG6 frame sizes 180 M to 315 L) in types of construction with feet IM B6, IM B7, IM V6 or IM V5 without protective cover are fixed to the wall, it is recommended that the motor feet are supported.

2) 1LG6 220-... to 1LG6 317-... motors (motor series 1LG6 frame sizes 225 S to 315 L) are supplied with two screw-in eyebolts in accordance with IM B5, whereby one can be rotated in accordance with IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

3) The "Second shaft extension" option, order code **K16** is not possible.

4) Type of construction IM V3 is only possible using type of construction code **9** and order code **M1G**.

5) Not possible for type of construction IM V6 and IM V5 without protective cover.

Smoke-extraction motors

Self-ventilated, for temperature/time class F400
Cast-iron series 1LA6, 1LG6

Selection and ordering data (continued)

Rated output at 50 Hz	Frame size	Operating values at rated output					Locked-rotor torque	Locked-rotor current	Break-down torque	Torque class	Moment of inertia	Order No. For Order No. supplements for voltage and type of construction, see table below	Price	Weight
		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency at 50 Hz 4/4-load	Power factor at 50 Hz 4/4-load	Rated current at 50 Hz 400 V	with direct starting as multiple of rated							Type of construction IM B3 approx.
							torque	current	torque					
P_{rated}	FS	n_{rated}	T_{rated}	η_{rated}	$\cos\varphi_{rated}$	I_{rated}	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}		J			m
kW		rpm	Nm	%		A				CL	kg m^2			kg
6-pole, 1000 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, with test certificate according to EN 12101-3														
1.5	100 L	925	15	69.0	0.70	4.5	2.3	4.0	2.3	16	0.0063	**1LA6 106-6UA❑❑**		32
2.2	112 M	955	22	72.0	0.74	6.0	2.1	4.4	2.3	16	0.011	**1LA6 113-6UA❑❑**		43
3	132 S	950	30	74.0	0.75	7.8	1.6	4.1	1.7	16	0.015	**1LA6 130-6UA❑❑**		54
4	132 M	950	40	76.0	0.76	10	1.7	4.6	2.1	16	0.019	**1LA6 133-6UA❑❑**		63
5.5	132 M	950	55	75.0	0.76	14	2.0	5.0	2.3	16	0.025	**1LA6 134-6UA❑❑**		74
7.5	160 M	960	75	75.0	0.72	20	2.0	5.0	2.4	16	0.041	**1LA6 163-6UA❑❑**		110
11	160 L	960	109	80.0	0.72	27.5	2.0	5.0	2.5	16	0.049	**1LA6 166-6UA❑❑**		132
15	180 L	974	147	88.7	0.82	30	2.2	5.2	2.3	16	0.203	**1LG6 186-6UA❑❑**		175
18.5	200 L	975	181	89.4	0.82	36.5	2.2	5.3	2.3	16	0.285	**1LG6 206-6UA❑❑**		210
22	200 L	975	215	90.5	0.83	42.5	2.2	5.4	2.3	16	0.362	**1LG6 207-6UA❑❑**		240
30	225 M	980	292	92.2	0.84	56	2.7	6.3	2.8	16	0.629	**1LG6 223-6UA❑❑**		325
37	250 M	984	359	92.6	0.84	69	2.8	6.5	2.4	16	0.934	**1LG6 253-6UA❑❑**		405
45	280 S	986	436	92.3	0.86	82	2.8	6.3	2.5	16	1.37	**1LG6 280-6UA❑❑**		520
55	280 M	986	533	92.8	0.86	99	3.1	6.8	2.7	16	1.65	**1LG6 283-6UA❑❑**		570
75	315 S	990	723	93.7	0.84	138	2.7	7.0	2.9	16	2.50	**1LG6 310-6UA❑❑**		760
90	315 M	988	870	94.2	0.85	162	2.6	7.1	2.8	16	3.20	**1LG6 313-6UA❑❑**		935
110	315 L	988	1063	94.5	0.85	198	2.8	7.2	2.8	16	4.02	**1LG6 316-6UA❑❑**		1010
132	315 L	990	1273	94.9	0.85	235	3.0	7.5	3.0	16	4.71	**1LG6 317-6UA❑❑**		1180
160	315 L	988	1546	94.9	0.86	285	3.1	7.5	3.0	16	5.39	**1LG6 318-6UA❑❑**		1245

Selection and ordering data (continued)

Order No. supplements

Motor type	Penultimate position: Voltage code				Final position: Type of construction code								
	50 Hz				Without flange	With flange					With standard flange		With special flange
	230 VΔ/400 VY	400 VΔ/690 VY	500 VY	500 VΔ	IM B3/6/7/8, IM V6, IM V5 without protective cover [1]	IM B5, IM V3 [2]	IM V1 without protective cover [2]		IM V1 with protective cover [2] [3]	IM B35	IM B14, IM V19, IM V18 without protective cover	IM B34	IM B14, IM V19, IM V18 without protective cover
	1	**6**	**3**	**5**	**0**	**1**	**1**	**8**	**4**	**6**	**2**	**7**	**3**
1LA6 10 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA6 11 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA6 13 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA6 16 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LG6 18 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	✓	–	–	–
1LG6 20 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	✓	–	–	–
1LG6 22 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	✓	–	–	–
1LG6 25 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	✓	–	–	–
1LG6 28 . - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	✓	–	–	–
1LG6 310 - . . . ❑❑ 1LG6 313 - . . . ❑❑	○	○	○	○	□	✓ [4]	✓	–	✓	✓	–	–	–
1LG6 316 - . . . ❑❑ 1LG6 317 - . . . ❑❑ 1LG6 318 - . . . ❑❑	–	○	–	○	□ [5]	–	–	✓	✓	✓	–	–	–

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible

Order other voltages with voltage code **9** in the penultimate position and with order code **L1Y** (see "Special versions" in the "Selection and ordering data" under "Voltages").

Order other types of construction with type of construction code **9** in the final position and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Types of construction").

1) If motors 1LG6 183-... to 1LG6 318-... (motor series 1LG6 frame sizes 180 M to 315 L) in types of construction with feet IM B6, IM B7, IM V6 or IM V5 without protective cover are fixed to the wall, it is recommended that the motor feet are supported.

2) 1LG6 220-... to 1LG6 318-... motors (motor series 1LG6 frame sizes 225 S to 315 L) are supplied with two screw-in eyebolts in accordance with IM B5, whereby one can be rotated in accordance with IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

3) The "Second shaft extension" option, order code **K16** is not possible.

4) Type of construction IM V3 is only possible using type of construction code **9** and order code **M1G**.

5) Not possible for type of construction IM V6 and IM V5 without protective cover.

Smoke-extraction motors

Self-ventilated, for temperature/time class F400
Cast-iron series 1LA6, 1LG6

Selection and ordering data (continued)

Rated output at 50 Hz		Frame size	Order No.	Price	Weight
1500 rpm	3000 rpm		For order No. supplements for voltage and type of construction, see table below		for type of construction IM B3 approx.
P_{rated} kW	P_{rated} kW	FS			m kg
4/2-pole, 1500/3000 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, double pole-changing for driving smoke-extraction fans with one winding in Dahlander circuit, with test certificate in accordance with EN 12101-3					
0.52	2	100 L	**1LA6 106-0UA❑❑**		32
0.64	2.5	100 L	**1LA6 107-0UA❑❑**		35
0.88	3.5	112 M	**1LA6 113-0UA❑❑**		43
1.16	4.7	132 S	**1LA6 130-0UA❑❑**		53
1.6	6.4	132 M	**1LA6 133-0UA❑❑**		60
2.3	9.2	160 M	**1LA6 163-0UA❑❑**		97
3.45	13.6	160 L	**1LA6 166-0UA❑❑**		110
Rated output at 50 Hz					
1000 rpm	1500 rpm				
P_{rated} kW	P_{rated} kW				
6/4-pole, 1000/1500 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, double pole-changing for driving smoke-extraction fans with two windings, with test certificate in accordance with EN 12101-3					
0.48	1.36	100 L	**1LA6 106–1UD❑❑**		32
0.6	1.68	100 L	**1LA6 107–1UD❑❑**		35
0.72	2.4	112 M	**1LA6 113–1UD❑❑**		43
0.96	3.1	132 S	**1LA6 130–1UD❑❑**		53
1.36	4.3	132 M	**1LA6 133–1UD❑❑**		60
2	5.75	160 M	**1LA6 163–1UD❑❑**		97
2.95	9.6	160 L	**1LA6 166–1UD❑❑**		110
Rated output at 50 Hz					
750 rpm	1500 rpm				
P_{rated} kW	P_{rated} kW				
8/4-pole, 750/1500 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, double pole-changing for driving smoke-extraction fans with one winding in Dahlander circuit, with test certificate in accordance with EN 12101-3					
0.3	1.6	100 L	**1LA6 106–0UB❑❑**		32
0.52	2	100 L	**1LA6 107–0UB❑❑**		35
0.72	2.85	112 M	**1LA6 113–0UB❑❑**		43
0.88	3.75	132 S	**1LA6 130–0UB❑❑**		53
1.12	5.1	132 M	**1LA6 133–0UB❑❑**		60
1.76	7.6	160 M	**1LA6 163–0UB❑❑**		97
2.6	11.2	160 L	**1LA6 166–0UB❑❑**		110

The rated outputs and weights may change slightly after they have been checked.

Further electrical data can be calculated and supplied on receipt of order.

Selection and ordering data (continued)

Order No. supplements

Motor type	Penultimate position: Voltage code			Final position: Type of construction code								
	50 Hz, direct online starting			Without flange	With flange					With standard flange		With special flange
	230 V	400 V	500 V	IM B3/6/7/8, IM V6, IM V5 without protective cover	IM B5, IM V3	IM V1 without protective cover		IM V1 with protective cover [1]	IM B35	IM B14, IM V19 IM V18 without protective cover	IM B34	IM B14 IM V19 IM V18 without protective cover
	1	**6**	**5**	**0**	**1**	**1**	**8**	**4**	**6**	**2**	**7**	**3**
1LA6 10 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA6 11 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA6 13 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓
1LA6 16 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓	✓

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible

Order other voltages with voltage code **9** in the penultimate position and with order code **L1Y** (see "Special versions" in the "Selection and ordering data" under "Voltages").

Order other types of construction with type of construction code **9** in the final position and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Types of construction").

[1] The "Second shaft extension" option, order code **K16** is not possible.

Smoke-extraction motors

Forced-air cooled, for temperature/time class F400
Cast-iron series 1PP6

Selection and ordering data

Rated output at 50 Hz	Frame size	Operating values at rated output					Locked-rotor torque	Locked-rotor current	Break-down torque	Torque class	Moment of inertia	Order No. For Order No. supplements for voltage and type of construction, see table below	Price	Weight
		Rated speed at 50 Hz	Rated torque at 50 Hz	Effi-ciency at 50 Hz 4/4-load	Power factor at 50 Hz 4/4-load	Rated current at 50 Hz 400 V	with direct starting as multiple of rated							Type of construc-tion IM B3 approx.
							torque	current	torque					
P_{rated}	FS	n_{rated}	T_{rated}	η_{rated}	$\cos\varphi_{rated}$	I_{rated}	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}		J			m
kW		rpm	Nm	%		A				CL	kg m^2			kg
2-pole, 3000 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, with test certificate according to EN 12101-3														
3	100 L	2875	10	78.0	0.85	6.5	2.5	6.2	2.8	16	0.0038	**1PP6 106-2UA❑❑**		31
4	112 M	2900	13	78.0	0.85	8.7	2.5	6.8	2.9	16	0.0055	**1PP6 113-2UA❑❑**		40
5.5	132 S	2920	18	82.5	0.89	10.8	1.9	5.7	2.7	16	0.016	**1PP6 130-2UA❑❑**		49
7.5	132 S	2930	24	84.0	0.89	14.5	2.0	6.5	2.8	16	0.021	**1PP6 131-2UA❑❑**		54
11	160 M	2940	36	88.0	0.88	20.5	1.8	6.4	2.7	16	0.034	**1PP6 163-2UA❑❑**		91
15	160 M	2930	49	88.5	0.89	27.5	2.0	6.5	2.80	16	0.04	**1PP6 164-2UA❑❑**		99
18.5	160 L	2930	60	87.5	0.90	34	2.0	7.0	2.70	16	0.052	**1PP6 166-2UA❑❑**		109
22	180 M	2955	71	93.1	0.88	39	2.4	7.0	3.2	16	0.086	**1PP6 183-2UA❑❑**		175
30	200 L	2955	97	92.8	0.88	53	2.3	6.7	3.1	16	0.151	**1PP6 206-2UA❑❑**		215
37	200 L	2958	119	93.0	0.89	65	2.4	7.1	3.2	16	0.182	**1PP6 207-2UA❑❑**		245
45	225 M	2962	145	95.0	0.89	77	2.4	7.1	3.1	16	0.266	**1PP6 223-2UA❑❑**		320
55	250 M	2972	177	94.9	0.90	94	2.3	6.7	2.9	16	0.466	**1PP6 253-2UA❑❑**		405
75	280 S	2975	241	94.9	0.89	128	2.4	6.8	2.9	13	0.832	**1PP6 280-2UB❑❑**		510
90	280 M	2976	289	95.2	0.90	152	2.5	7.4	3.0	13	1.00	**1PP6 283-2UB❑❑**		595
110	315 S	2982	352	95.3	0.91	184	2.4	6.8	2.7	13	1.39	**1PP6 310-2UB❑❑**		770
132	315 M	2980	423	95.7	0.91	220	2.5	6.9	2.8	13	1.62	**1PP6 313-2UB❑❑**		895
160	315 L	2982	512	96.0	0.92	265	2.4	7.1	2.8	13	2.09	**1PP6 316-2UB❑❑**		1035
190	315 L	2982	608	96.3	0.93	325	2.6	7.2	2.9	13	2.46	**1PP6 317-2UB❑❑**		1225
4-pole, 1500 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, with test certificate according to EN 12101-3														
2.2	100 L	1410	15	74.0	0.78	5.5	2.2	5.2	2.7	16	0.0048	**1PP6 106-4UA❑❑**		31
3	100 L	1410	20	76.0	0.80	7.1	2.5	5.0	2.6	16	0.0058	**1PP6 107-4UA❑❑**		34
4	112 M	1440	27	79.0	0.75	9.8	2.7	5.7	3.0	16	0.011	**1PP6 113-4UA❑❑**		42
5.5	132 S	1455	36	78.0	0.75	13.5	2.5	6.3	3.0	16	0.018	**1PP6 130-4UA❑❑**		51
7.5	132 M	1455	49	84.0	0.75	17.2	2.7	6.7	3.1	16	0.024	**1PP6 133-4UA❑❑**		58
11	160 M	1460	72	82.5	0.80	24	2.2	6.2	2.7	16	0.04	**1PP6 163-4UA❑❑**		95
15	160 L	1460	98	81.5	0.78	34	2.4	6.4	2.8	16	0.052	**1PP6 166-4UA❑❑**		108
18.5	180 M	1470	120	91.2	0.84	35	2.4	6.1	2.8	16	0.122	**1PP6 183-4UA❑❑**		150
22	180 L	1472	143	92.1	0.85	40.5	2.4	6.4	2.9	16	0.144	**1PP6 186-4UA❑❑**		175
30	200 L	1470	195	92.6	0.86	55	2.4	6.4	3.1	16	0.234	**1PP6 207-4UA❑❑**		215
37	225 S	1480	239	92.9	0.86	67	2.6	6.5	2.8	16	0.398	**1PP6 220-4UA❑❑**		280
45	225 M	1480	290	93.6	0.86	81	2.7	6.6	2.9	16	0.486	**1PP6 223-4UA❑❑**		320
55	250 M	1485	354	94.5	0.87	97	2.5	7.4	2.9	16	0.856	**1PP6 253-4UA❑❑**		445
75	280 S	1484	483	94.6	0.87	132	2.4	6.7	2.8	16	1.39	**1PP6 280-4UA❑❑**		554
90	280 M	1486	578	95.1	0.86	160	2.6	7.3	3.0	16	1.71	**1PP6 283-4UA❑❑**		655
110	315 S	1488	706	95.3	0.87	192	2.7	7.0	2.8	16	2.31	**1PP6 310-4UA❑❑**		790
132	315 M	1488	847	95.6	0.88	225	2.6	7.1	2.8	16	2.88	**1PP6 313-4UA❑❑**		945
160	315 L	1490	1025	95.8	0.88	275	2.9	7.2	2.9	16	3.46	**1PP6 316-4UA❑❑**		1085
200	315 L	1488	1284	95.9	0.88	345	3.1	7.5	2.9	16	4.22	**1PP6 317-4UA❑❑**		1285

Selection and ordering data (continued)

Order No. supplements

Motor type	Penultimate position: Voltage code				Final position: Type of construction code							
	50 Hz				Without flange	With flange				With standard flange		With special flange
	230 VΔ/ 400 VY	400 VΔ/ 690 VY	500 VY	500 VΔ	IM B3/6/7/8, IM V6, IM V5 without protective cover [1]	IM B5, IM V3 [2]	IM V1 without protective cover		IM B35	IM B14, IM V19 IM V18 without protective cover	IM B34	IM B14, IM V19 IM V18 without protective cover
	1	**6**	**3**	**5**	**0**	**1**	**1**	**8**	**6**	**2**	**7**	**3**
1PP6 10 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP6 11 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP6 13 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP6 16 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP6 18 . - . . . ❑❑	○	○	○	○	□	✓ [3]	✓	–	✓	–	–	–
1PP6 20 . - . . . ❑❑	○	○	○	○	□	✓ [3]	✓	–	✓	–	–	–
1PP6 22 . - . . . ❑❑	○	○	○	○	□	✓ [3]	✓	–	✓	–	–	–
1PP6 25 . - . . . ❑❑	○	○	○	○	□	✓ [3]	✓	–	✓	–	–	–
1PP6 28 . - . . . ❑❑	○	○	○	○	□	✓ [3]	✓	–	✓	–	–	–
1PP6 310 - . . . ❑❑ **1PP6 313 - . . . ❑❑**	○	○	○	○	□	✓ [3]	✓	–	✓	–	–	–
1PP6 316 - . . . ❑❑ **1PP6 317 - . . . ❑❑**	–	○	–	○	□ [4]	–	–	✓	✓	–	–	–

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible

Order other voltages with voltage code **9** in the penultimate position and with order code **L1Y** (see "Special versions" in the "Selection and ordering data" under "Voltages").

Order other types of construction with type of construction code **9** in the final position and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Types of construction").

[1] If motors 1PP6 183-... to 1PP6 318-... (motor series 1PP6 frame sizes 180 M to 315 L) in types of construction with feet IM B6, IM B7, IM V6 or IM V5 without protective cover are fixed to the wall, it is recommended that the motor feet are supported.

[2] 1PP6 220-... to 1PP6 318-... motors (motor series 1PP6 frame sizes 225 S to 315 L) are supplied with two screw-in eyebolts in accordance with IM B5, whereby one can be rotated in accordance with IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

[3] Type of construction IM V3 is only possible using type of construction code **9** and order code **M1G**.

[4] Not possible for type of construction IM V6 and IM V5 without protective cover.

Smoke-extraction motors

Forced-air cooled, for temperature/time class F400
Cast-iron series 1PP6

Selection and ordering data (continued)

Rated output at 50 Hz	Frame size	Operating values at rated output					Locked-rotor torque	Locked-rotor current	Break-down torque	Torque class	Moment of inertia	Order No. For Order No. supplements for voltage and type of construction, see table below	Price	Weight
		Rated speed at 50 Hz	Rated torque at 50 Hz	Efficiency at 50 Hz 4/4-load	Power factor at 50 Hz 4/4-load	Rated current at 50 Hz 400 V	with direct starting as multiple of rated							Type of construction IM B3 approx.
							torque	current	torque					
P_{rated}	FS	n_{rated}	T_{rated}	η_{rated}	$\cos\varphi_{rated}$	I_{rated}	T_{LR}/T_{rated}	I_{LR}/I_{rated}	T_B/T_{rated}		J			m
kW		rpm	Nm	%		A				CL	kg m^2			kg
6-pole, 1000 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, with test certificate according to EN 12101-3														
1.5	100 L	925	15	69.0	0.70	4.5	2.3	4.0	2.3	16	0.0063	**1PP6 106-6UA❑❑**		31
2.2	112 M	955	22	72.0	0.74	6.0	2.1	4.4	2.3	16	0.011	**1PP6 113-6UA❑❑**		42
3	132 S	950	30	74.0	0.75	7.8	1.6	4.1	1.7	16	0.015	**1PP6 130-6UA❑❑**		52
4	132 M	950	40	76.0	0.76	10	1.7	4.6	2.1	16	0.019	**1PP6 133-6UA❑❑**		62
5.5	132 M	950	55	75.0	0.76	14	2.0	5.0	2.3	16	0.025	**1PP6 134-6UA❑❑**		72
7.5	160 M	960	75	75.0	0.72	20	2.0	5.0	2.4	16	0.041	**1PP6 163-6UA❑❑**		107
11	160 L	960	109	80.0	0.72	27.5	2.0	5.0	2.5	16	0.049	**1PP6 166-6UA❑❑**		129
15	180 L	974	147	88.9	0.82	30	2.2	5.2	2.3	16	0.203	**1PP6 186-6UA❑❑**		170
18.5	200 L	975	181	89.8	0.82	36.5	2.2	5.3	2.3	16	0.285	**1PP6 206-6UA❑❑**		200
22	200 L	975	215	90.8	0.83	42.5	2.2	5.4	2.3	16	0.362	**1PP6 207-6UA❑❑**		230
30	225 M	980	292	92.3	0.84	56	2.7	6.3	2.8	16	0.629	**1PP6 223-6UA❑❑**		315
37	250 M	984	359	93.0	0.84	69	2.8	6.5	2.4	16	0.934	**1PP6 253-6UA❑❑**		390
45	280 S	986	436	92.6	0.86	82	2.8	6.3	2.5	16	1.37	**1PP6 280-6UA❑❑**		500
55	280 M	986	533	93.1	0.86	99	3.1	6.8	2.7	16	1.65	**1PP6 283-6UA❑❑**		550
75	315 S	990	723	94.0	0.84	138	2.7	7.0	2.9	16	2.50	**1PP6 310-6UA❑❑**		740
90	315 M	988	870	94.5	0.85	162	2.6	7.1	2.8	16	2.50	**1PP6 313-6UA❑❑**		915
110	315 L	988	1063	94.7	0.85	198	2.8	7.2	2.8	16	2.50	**1PP6 316-6UA❑❑**		990
132	315 L	990	1273	95.1	0.85	235	3.0	7.5	3.0	16	2.50	**1PP6 317-6UA❑❑**		1160
160	315 L	988	1546	95.1	0.86	285	3.1	7.5	3.0	16	2.50	**1PP6 318-6UA❑❑**		1225

Selection and ordering data (continued)

Order No. supplements

Motor type	Penultimate position: Voltage code				Final position: Type of construction code							
	50 Hz				Without flange	With flange				With standard flange		With special flange
	230 VΔ/ 400 VY	400 VΔ/ 690 VY	500 VY	500 VΔ	IM B3/6/7/8, IM V6, IM V5 without protective cover [1]	IM B5, IM V3 [2]	IM V1 without protective cover		IM B35	IM B14, IM V19 IM V18 without protective cover	IM B34	IM B14, IM V19 IM V18 without protective cover
	1	**6**	**3**	**5**	**0**	**1**	**1**	**8**	**6**	**2**	**7**	**3**
1PP6 10 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP6 11 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP6 13 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP6 16 . - . . . ❑❑	○	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP6 18 . - . . . ❑❑	○	○	○	○	□	✓ [3]	✓	–	✓	–	–	–
1PP6 20 . - . . . ❑❑	○	○	○	○	□	✓ [3]	✓	–	✓	–	–	–
1PP6 22 . - . . . ❑❑	○	○	○	○	□	✓ [3]	✓	–	✓	–	–	–
1PP6 25 . - . . . ❑❑	○	○	○	○	□	✓ [3]	✓	–	✓	–	–	–
1PP6 28 . - . . . ❑❑	○	○	○	○	□	✓ [3]	✓	–	✓	–	–	–
1PP6 310 - . . . ❑❑ **1PP6 313 - . . . ❑❑**	○	○	○	○	□	✓ [3]	✓	–	✓	–	–	–
1PP6 316 - . . . ❑❑ **1PP6 317 - . . . ❑❑** **1PP6 318 - . . . ❑❑**	–	○	–	○	□ [4]	–	–	✓	✓	–	–	–

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible

Order other voltages with voltage code **9** in the penultimate position and with order code **L1Y** (see "Special versions" in the "Selection and ordering data" under "Voltages").

Order other types of construction with type of construction code **9** in the final position and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Types of construction").

[1] If motors 1PP6 183-... to 1PP6 318-... (motor series 1PP6 frame sizes 180 M to 315 L) in types of construction with feet IM B6, IM B7, IM V6 or IM V5 without protective cover are fixed to the wall, it is recommended that the motor feet are supported.

[2] 1PP6 220-... to 1PP6 318-... motors (motor series 1PP6 frame sizes 225 S to 315 L) are supplied with two screw-in eyebolts in accordance with IM B5, whereby one can be rotated in accordance with IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

[3] Type of construction IM V3 is only possible using type of construction code **9** and order code **M1G**.

[4] Not possible for type of construction IM V6 and IM V5 without protective cover.

Smoke-extraction motors

Forced-air cooled, for temperature/time class F400
Cast-iron series 1PP6

Selection and ordering data (continued)

Rated output at 50 Hz		Frame size	Order No.	Price	Weight
1500 rpm	3000 rpm		For order No. supplements for voltage and type of construction, see table below		for type of construction IM B3 approx.
P_{rated} kW	P_{rated} kW	FS			m kg
4/2-pole, 1500/3000 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, double pole-changing for driving smoke-extraction fans with one winding in Dahlander circuit, with test certificate in accordance with EN 12101-3					
0.52	2	100 L	**1PP6 106–0UA❑❑**		31
0.64	2.5	100 L	**1PP6 107–0UA❑❑**		34
0.88	3.5	112 M	**1PP6 113–0UA❑❑**		42
1.16	4.7	132 S	**1PP6 130–0UA❑❑**		51
1.6	6.4	132 M	**1PP6 133–0UA❑❑**		58
2.3	9.2	160 M	**1PP6 163–0UA❑❑**		95
3.45	13.6	160 M	**1PP6 166–0UA❑❑**		108
Rated output at 50 Hz					
1000 rpm	1500 rpm				
P_{rated} kW	P_{rated} kW				
6/4-pole, 1000/1500 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, double pole-changing for driving smoke-extraction fans with two windings, with test certificate in accordance with EN 12101-3					
0.48	1.36	100 L	**1PP6 106–1UD❑❑**		31
0.6	1.68	100 L	**1PP6 107–1UD❑❑**		34
0.72	2.4	112 M	**1PP6 113–1UD❑❑**		42
0.96	3.1	132 S	**1PP6 130–1UD❑❑**		51
1.36	4.3	132 M	**1PP6 133–1UD❑❑**		58
2	5.75	160 M	**1PP6 163–1UD❑❑**		95
2.95	9.6	160 L	**1PP6 166–1UD❑❑**		108
Rated output at 50 Hz					
750 rpm	1500 rpm				
P_{rated} kW	P_{rated} kW				
8/4-pole, 750/1500 rpm at 50 Hz, cooling method IC 411, IP55 degree of protection, double pole-changing for driving smoke-extraction fans with one winding in Dahlander circuit, with test certificate in accordance with EN 12101-3					
0.3	1.6	100 L	**1PP6 106–0UB❑❑**		31
0.52	2	100 L	**1PP6 107–0UB❑❑**		34
0.72	2.85	112 M	**1PP6 113–0UB❑❑**		42
0.88	3.75	132 S	**1PP6 130–0UB❑❑**		51
1.12	5.1	132 M	**1PP6 133–0UB❑❑**		58
1.76	7.6	160 M	**1PP6 163–0UB❑❑**		95
2.6	11.2	160 L	**1PP6 166–0UB❑❑**		108

The rated outputs and weights may change slightly after they have been checked.

Further electrical data can be calculated and supplied on receipt of order.

Selection and ordering data (continued)

Order No. supplements

Motor type	Penultimate position: Voltage code			Final position: Type of construction code							
	50 Hz, direct online starting			Without flange	With flange				With standard flange		With special flange
	230 V	400 V	500 V	IM B3/6/7/8, IM V6, IM V5 without protective cover	IM B5, IM V3	IM V1 without protective cover		IM B35	IM B14, IM V19 IM V18 without protective cover	IM B34	IM B14 IM V19 IM V18 without protective cover
	1	**6**	**5**	**0**	**1**	**1**	**8**	**6**	**2**	**7**	**3**
1PP6 10 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP6 11 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP6 13 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓
1PP6 16 . - . . . ❑❑	○	○	○	□	✓	✓	–	✓	✓	✓	✓

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible

Order other voltages with voltage code **9** in the penultimate position and with order code **L1Y** (see "Special versions" in the "Selection and ordering data" under "Voltages").

Order other types of construction with type of construction code **9** in the final position and the corresponding order code (see "Special versions" in the "Selection and ordering data" under "Types of construction").

Special versions

Selection and ordering data

Voltages

Additional order codes for other voltages or voltage codes (without "**-Z**" supplement)

For some non-standard voltages at 50 or 60 Hz, order codes are specified. They are ordered by specifying the code digit 9 for voltage in the 11th position of the Order No. and the appropriate order code.
Plain text must be specified in the order:
Voltage, frequency, circuit, required rated output in kW.

Special versions	Voltage code 11th position of Order No.	Additional identification code with order code and plain text if required	Motor type frame size														
			56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors																	
						1LA7 (aluminium) temperature/time classes F200 and F300						**1LA5 (aluminium) temperature/ time classes F200 and F300**					
Non-standard winding for voltages between 200 V and 690 V, (voltages outside this range are available on request) [1]	**9**	**L1Y •**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
								1LA6 (cast-iron) temperature/time class F400				**1LG6 (cast-iron) temperature/time classes F200, F300 and F400**					
Non-standard winding for voltages between 200 V and 690 V, (voltages outside this range are available on request) [1]	**9**	**L1Y •**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Forced-air cooled motors																	
						1PP7 (aluminium) temperature/time classes F200 and F300						**1PP5 (aluminium) temperature/ time classes F200 and F300**					
Non-standard winding for voltages between 200 V and 690 V, (voltages outside this range are available on request) [1]	**9**	**L1Y •**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
								1PP6 (cast-iron) temperature/time classes F200, F300 and F400									
Non-standard winding for voltages between 200 V and 690 V, (voltages outside this range are available on request) [1]	**9**	**L1Y •**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

✓ With extra charge
• This order code only determines the price of the version - Additional plain text is required.

[1] When ordering, specifiy in plain text: Voltage, frequency, circuit, required rated output in kW

Types of construction

Additional order codes for other types of construction or type of construction codes (without "**-Z**" supplement)

Order codes have been defined for some special types of construction. They are ordered by specifying the code digit 9 for the type of construction in the 12th position of the Order No. and the appropriate order code.

Special versions	Type of construction code 12th position of Order No.	Additional identification code with order code and plain text if required	Motor type frame size														
			56	63	71	80	90	100	112	132	160	180	200	225	250	280	315 S/M	315 L
Self-ventilated motors																		
						1LA7 (aluminium) temperature/time classes F200 and F300						**1LA5 (aluminium) temperature/ time classes F200 and F300**						
With flange																		
IM V3	**9**	**M1G**				–	–	–	–	–	–	✓	✓	✓				
With special flange																		
IM B34	**9**	**M2C**				✓	✓	✓	✓	✓	✓	–	–	–				
								1LA6 (cast-iron) temperature/time class F400				**1LG6 (cast-iron) temperature/time classes F200, F300 and F400**						
With flange																		
IM V3 [1]	**9**	**M1G**						–	–	–	–	✓	✓	✓	✓	✓	✓	–
With special flange																		
IM B34	**9**	**M2C**						✓	✓	✓	✓	–	–	–	–	–	–	–
Forced-air cooled motors																		
						1PP7 (aluminium) temperature/time classes F200 and F300						**1PP5 (aluminium) temperature/ time classes F200 and F300**						
With flange																		
IM V3	**9**	**M1G**				–	–	–	–	–	–	✓	✓	✓				
With special flange																		
IM B34	**9**	**M2C**				✓	✓	✓	✓	✓	✓	–	–	–				
								1PP6 (cast-iron) temperature/time classes F200, F300 and F400										
With flange																		
IM V3 [1]	**9**	**M1G**						–	–	–	–	✓	✓	✓	✓	✓	✓	–
With special flange																		
IM B34	**9**	**M2C**						✓	✓	✓	✓	–	–	–	–	–	–	–

✓ With extra charge
– Not possible

[1] 1LG6/1PP6 motors of frame sizes 225 S to 315 M are supplied with two screw-in eyebolts in accordance with IM B5, whereby one can be rotated in accordance with IM V1; four eyebolts (instead of two) with frame size 315 L. It is important to note that stress must not be applied perpendicular to the ring plane.

Special versions

Options

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code **-Z** with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors																
					1LA7 (aluminium) temperature/time classes F200 and F300						**1LA5 (aluminium) temperature/time classes F200 and F300**					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Motor temperature detection with embedded temperature sensor KTY 84-130	**A23**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Installation of 3 PT 100 resistance thermometers	**A60**				–	–	–	–	–	–	–	–	✓			
Installation of 6 PT 100 resistance thermometers in stator winding	**A61**				–	–	–	–	–	–	–	–	✓			
Motor connection and connection boxes																
External earthing	**L13**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Protruding cable ends - right side [2]	**L51**				✓	✓	✓	○	○	○	○	○	○			
Protruding cable ends - left side [2]	**L52**				✓	✓	✓	○	○	○	○	○	○			
Colours and paint finish																
Special finish in RAL 7030 stone gray					□	□	□	□	□	□	□	□	□			
Special finish in RAL 1002 sand yellow	**M16**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 1013 pearl white	**M17**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 3000 flame red	**M18**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special paint finish in RAL 6011, mignonetta green	**K27**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 6021 pale green	**M19**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 7001 silver grey	**M20**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 7031 blue grey	**K28**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special paint finish in RAL 7032, pebble grey	**L42**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 7035 light grey	**M21**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 9001 cream	**M22**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 9002 grey white	**M23**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 9005 jet black	**L43**				✓	✓	✓	✓	✓	✓	✓	✓	✓			

For legend and footnotes, see page 9/35.

Special versions	Additional identification code **-Z** with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors																
					1LA7 (aluminium) temperature/time classes F200 and F300						**1LA5 (aluminium) temperature/time classes F200 and F300**					
Colours and paint finish (continued)																
Special finish in other standard RAL colours: RAL 1015, 1019, 2003, 2004, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6019, 7000, 7004, 7011, 7016, 7022, 7033 Page 1/17	**Y54** • and special finish RAL				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Unpainted (only cast iron parts primed)	**K23**				○	○	○	○	○	○	○	○	○			
Unpainted, only primed	**K24**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Mechanical design and degrees of protection																
IP65 degree of protection	**K50**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**				–	–	–	–	–	–	✓	✓	✓			
Regreasing device	**K40**				–	–	✓	✓	✓	✓	✓	✓	✓			
Balance and vibration severity																
Full key balancing	**L68**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Heating and ventilation																
Anti-condensation heaters for 230 V	**K45**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Anti-condensation heaters for 115 V	**K46**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Rating plate and extra rating plates																
Second rating plate, loose (standard version)					◘	◘	◘	◘	◘	◘	◘	◘	◘			
Extra rating plate with identification code	**Y82** • and identification code				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Additional information on rating plate and on package label	**Y84** • and identification code				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Packaging, safety notes and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Wire-lattice pallet	**L99**				○	○	○	○	○	○	○	–	–			

◘ Standard version
○ With no extra charge
✓ With extra charge
– Not possible
• This order code only determines the price of the version - Additional plain text is required.

1) For appropriate tripping unit, see catalog LV 1. Double the number of temperature sensors are required for pole-changing motors with separate windings. (Order code A11, price of A12 or order code A12, prices on request).

2) No extra charge with types of construction without feet: IM B5, IM V1, IM V3.

Smoke-extraction motors

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors																
							1LA6 (cast-iron) temperature/time class F400				**1LG6 (cast-iron) temperature/time classes F200, F300 and F400**					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Motor temperature detection with embedded temperature sensor KTY 84-130	**A23**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Installation of 3 PT 100 resistance thermometers	**A60**						–	–	–	–	✓	✓	✓	✓	✓	✓
Installation of 6 PT 100 resistance thermometers in stator winding	**A61**						–	–	–	–	–	✓	✓	✓	✓	✓
Motor connection and connection boxes																
External earthing	**L13**						✓	✓	✓	✓	□	□	□	□	□	□
Protruding cable ends - right side [2]	**L51**						✓	○	○	○	✓	✓	✓	✓	✓	✓
Protruding cable ends - left side [2]	**L52**						✓	○	○	○	✓	✓	✓	✓	✓	✓
Colours and paint finish																
Special finish in RAL 7030 stone gray							□	□	□	□	□	□	□	□	□	□
Special finish in RAL 1002 sand yellow	**M16**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 1013 pearl white	**M17**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 3000 flame red	**M18**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special paint finish in RAL 6011, mignonetta green	**K27**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 6021 pale green	**M19**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 7001 silver grey	**M20**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 7031 blue grey	**K28**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 7032 pebble grey	**L42**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 7035 light grey	**M21**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 9001 cream	**M22**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 9002 grey white	**M23**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 9005 jet black	**L43**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in other standard RAL colours: RAL 1015, 1019, 2003, 2004, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6019, 7000, 7004, 7011, 7016, 7022, 7033 Page 1/17	**Y54** • and special finish RAL ….						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Unpainted (only cast iron parts primed)	**K23**						○	○	○	○	○	○	○	○	○	○
Unpainted, only primed	**K24**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mechanical design and degrees of protection																
IP65 degree of protection	**K50**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

For legend and footnotes, see page 9/37.

Special versions	Additional identification code **-Z** with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors																
							1LA6 (cast-iron) temperature/time class F400				**1LG6 (cast-iron) temperature/time classes F200, F300 and F400**					
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**						–	–	–	–	✓	✓	✓	✓	✓	✓
Regreasing device	**K40**						✓	✓	✓	✓	✓	✓	✓	✓	□	□
Balance and vibration severity																
Full key balancing	**L68**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Heating and ventilation																
Anti-condensation heaters for 230 V	**K45**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Anti-condensation heaters for 115 V	**K46**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rating plate and extra rating plates																
Second rating plate, loose (standard version)							□	□	□	□	□	□	□	□	□	□
Extra rating plate with identification code	**Y82** • and identification code						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Additional information on rating plate and on package label	**Y84** • and identification code						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Packaging, safety notes and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wire-lattice pallet	**L99**						○	○	○	○	–	–	–	–	–	–

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible
• This order code only determines the price of the version - Additional plain text is required.

1) For appropriate tripping unit, see Catalog LV 1.

2) No extra charge with types of construction without feet: IM B5, IM V1, IM V3.

Smoke-extraction motors

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors																
					1PP7 (aluminium) temperature/time classes F200 and F300						**1PP5 (aluminium) temperature/time classes F200 and F300**					
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Motor temperature detection with embedded temperature sensor KTY 84-130	**A23**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Installation of 3 PT 100 resistance thermometers	**A60**				–	–	–	–	–	–	–	–	✓			
Installation of 6 PT 100 resistance thermometers in stator winding	**A61**				–	–	–	–	–	–	–	–	✓			
Motor connection and connection boxes																
External earthing	**L13**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Protruding cable ends - right side [2]	**L51**				✓	✓	✓	○	○	○	○	○	○			
Protruding cable ends - left side [2]	**L52**				✓	✓	✓	○	○	○	○	○	○			
Colours and paint finish																
Special finish in RAL 7030 stone gray					◘	◘	◘	◘	◘	◘	◘	◘	◘			
Special finish in RAL 1002 sand yellow	**M16**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 1013 pearl white	**M17**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 3000 flame red	**M18**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special paint finish in RAL 6011, mignonetta green	**K27**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 6021 pale green	**M19**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 7001 silver grey	**M20**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 7031 blue grey	**K28**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special paint finish in RAL 7032, pebble grey	**L42**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 7035 light grey	**M21**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 9001 cream	**M22**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 9002 grey white	**M23**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Special finish in RAL 9005 jet black	**L43**				✓	✓	✓	✓	✓	✓	✓	✓	✓			

For legend and footnotes, see page 9/39.

Special versions	Additional identification code **-Z** with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors																
					1PP7 (aluminium) temperature/time classes F200 and F300						**1PP5 (aluminium) temperature/time classes F200 and F300**					
Colours and paint finish (continued)																
Special finish in other standard RAL colours: RAL 1015, 1019, 2003, 2004, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6019, 7000, 7004, 7011, 7016, 7022, 7033 Page 1/17	**Y54** • and special finish RAL				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Unpainted (only cast iron parts primed)	**K23**				○	○	○	○	○	○	○	○	○			
Unpainted, only primed	**K24**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Mechanical design and degrees of protection																
IP65 degree of protection	**K50**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**				–	–	–	–	–	–	✓	✓	✓			
Regreasing device	**K40**				–	–	✓	✓	✓	✓	✓	✓	✓			
Balance and vibration severity																
Full key balancing	**L68**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Heating and ventilation																
Anti-condensation heaters for 230 V	**K45**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Anti-condensation heaters for 115 V	**K46**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Rating plate and extra rating plates																
Second rating plate, loose (standard version)					◘	◘	◘	◘	◘	◘	◘	◘	◘			
Extra rating plate with identification code	**Y82** • and identification code				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Additional information on rating plate and on package label	**Y84** • and identification code				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Packaging, safety notes and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**				✓	✓	✓	✓	✓	✓	✓	✓	✓			
Wire-lattice pallet	**L99**				○	○	○	○	○	○	○	–	–			

◘ Standard version
○ With no extra charge
✓ With extra charge
– Not possible
• This order code only determines the price of the version - Additional plain text is required.

1) For appropriate tripping unit, see catalog LV 1. Double the number of temperature sensors are required for pole-changing motors with separate windings. (Order code A11, price of A12 or order code A12, prices on request).

2) No extra charge with types of construction without feet: IM B5, IM V1, IM V3.

Smoke-extraction motors

Special versions

Special versions	Additional identification code **-Z** with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors																
							1PP6 (cast-iron) temperature/time classes F200, F300 and F400									
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping [1]	**A11**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm [1]	**A12**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Motor temperature detection with embedded temperature sensor KTY 84-130	**A23**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Installation of 3 PT 100 resistance thermometers	**A60**						–	–	–	–	✓	✓	✓	✓	✓	✓
Installation of 6 PT 100 resistance thermometers in stator winding	**A61**						–	–	–	–	–	✓	✓	✓	✓	✓
Motor connection and connection boxes																
External earthing	**L13**						✓	✓	✓	✓	□	□	□	□	□	□
Protruding cable ends - right side [2]	**L51**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Protruding cable ends - left side [2]	**L52**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Colours and paint finish																
Special finish in RAL 7030 stone gray							□	□	□	□	□	□	□	□	□	□
Special finish in RAL 1002 sand yellow	**M16**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 1013 pearl white	**M17**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 3000 flame red	**M18**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special paint finish in RAL 6011, mignonetta green	**K27**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 6021 pale green	**M19**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 7001 silver grey	**M20**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 7031 blue grey	**K28**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special paint finish in RAL 7032, pebble grey	**L42**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 7035 light grey	**M21**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 9001 cream	**M22**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 9002 grey white	**M23**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 9005 jet black	**L43**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special finish in other standard RAL colours: RAL 1015, 1019, 2003, 2004, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6019, 7000, 7004, 7011, 7016, 7022, 7033 Page 1/17	**Y54** • and special finish RAL ….						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Unpainted (only cast iron parts primed)	**K23**						○	○	○	○	○	○	○	○	○	○
Unpainted, only primed	**K24**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mechanical design and degrees of protection																
IP65 degree of protection	**K50**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

For legend and footnotes, see page 9/41.

Special versions	Additional identification code **-Z** with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Forced-air cooled motors																
							1PP6 (cast-iron) temperature/time classes F200, F300 and F400									
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	**G50**						–	–	–	–	✓	✓	✓	✓	✓	✓
Regreasing device	**K40**						✓	✓	✓	✓	✓	✓	✓	✓	□	□
Balance and vibration severity																
Full key balancing	**L68**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Heating and ventilation																
Anti-condensation heaters for 230 V	**K45**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Anti-condensation heaters for 115 V	**K46**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rating plate and extra rating plates																
Second rating plate, loose (standard version)							□	□	□	□	□	□	□	□	□	□
Extra rating plate with identification code	**Y82** • and identification code						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Additional information on rating plate and on package label	**Y84** • and identification code						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Packaging, safety notes and test certificates																
Acceptance test certificate 3.1 according to EN 10204	**B02**						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wire-lattice pallet	**L99**						○	○	○	○	–	–	–	–	–	–

□ Standard version
○ With no extra charge
✓ With extra charge
– Not possible
• This order code only determines the price of the version - Additional plain text is required.

1) For appropriate tripping unit, see Catalog LV 1.

2) No extra charge with types of construction without feet: IM B5, IM V1, IM V3.

Accessories and spare parts

Overview

Slide rails with fixing bolts and tensioning screws to DIN 42923

Slide rails are used to tension the belt of a machine easily and conveniently when a belt tightener is not available. They are fixed to the base using stone bolts or foundation blocks.

The assignment of slide rails to motor size can be found in DIN 42923. For motors of frame sizes 355 to 450, there are no standardised slide rails (please enquire).

Available from:
Lütgert & Co. GmbH
Postfach 42 51
33276 Güthersloh, Germany
Tel. +49 (0)5241-7407-0
Fax +49 (0)5241-7407-90

http://www.luetgert-antriebe.de
e-mail: info@luetgert-antriebe.de

Foundation block acc. to DIN 799

The foundation blocks are inserted into the stone foundation and embedded in concrete. They are used for fixing machines of medium size, slide rails, pedestal bearings, baseframes, etc. After the fixing bolts have been unscrewed, the machine can be dragged without it having to be lifted.

When the machine is initially installed, the foundation block that is bolted to the machine (without washers) and fitted with tapered pins is not embedded with concrete until the machine has been fully aligned. In this case, the machine is positioned 2 to 3 mm lower. The difference in shaft height is compensated by inserting shims on final installation. The tapered pins safeguard the exact position of the machine when it is repeatedly removed and replaced without the need for realignment.

Available from:
Lütgert & Co. GmbH
Postfach 42 51
33276 Güthersloh, Germany
Tel. +49 (0)5241-7407-0
Fax +49 (0)5241-7407-90

http://www.luetgert-antriebe.de
e-mail: info@luetgert-antriebe.de

Taper pins to DIN 258 with threaded ends and constant taper lengths

Taper pins are used for components that are repeatedly removed. The drilled hole is ground conical using a conical reamer until the pin can be pushed in by hand until the cone shoulder lies 3 to 4 mm above the rim of the hole.

It can then be driven in using a hammer until it is correctly seated. The pin is removed from the drilled hole by screwing on the nut and tightening it.

Standardised taper pins are available from general engineering suppliers.

Available from:
Otto Roth GmbH & Co. KG
Rutesheimer Straße 22
70499 Stuttgart, Germany
Tel. +49 (0)711-1388-0
Fax +49 (0)711-1388-233

http://www.ottoroth.de
e-mail: info@ottoroth.de

Couplings

The motor from Siemens is connected to the machine or gear unit through a coupling. Flender is an important coupling manufacturer with a wide range of products. For standard applications, Siemens recommends that elastic couplings of Flender types N-Eupex and Rupex or torsionally rigid couplings of types Arpex and Zapex are used. For special applications, Fludex and Elpex couplings are recommended.

Available from:
A. Friedr. Flender AG
Kupplungswerk Mussum
Industriepark Bocholt
Schlavenhorst 100
46395 Bocholt
Tel. +49 (0)2871-922185
Fax +49 (0)2871-922579

http://www.flender.com
e-mail: couplings@flender.com

More information

Spare motors and repair parts

- Supply commitment for spare motors and repair parts following delivery of the motor
  - For up to 5 years, in the event of total motor failure, Siemens will supply a comparable motor with regard to the mounting dimensions and functions (the type series may vary).
  - Repair parts will be supplied for up to 5 years.
  - For up to 10 years, Siemens will provide information and will, if necessary, supply documentation for repair parts.
- When repair parts are ordered, the following details must be provided:
  - Designation and part number
  - Order No. and factory number of the motor

Example for ordering a fan cover 1LA7, frame size 160 M, 4-pole:

Fan cover No. 7.40,
1LA7 163–4AA60, factory number J783298901018

- For bearing types, see the "Introduction".
- Repair parts for 1MJ6, 1MJ7, 1MJ8, 1MJ1, 1ME8, 1ML8, 1LG8 motors and smoke-extraction motors are available on request.
- For standard components, a supply commitment does not apply.
- Support – Hotline
  In Germany
  Tel.: 0180/5050448

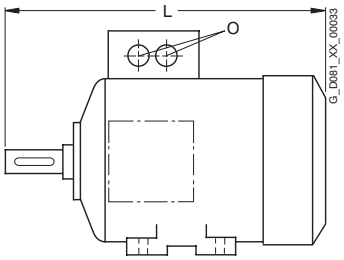
National telephone numbers can be found on the Internet page:
http://www.siemens.com/automation/service&support

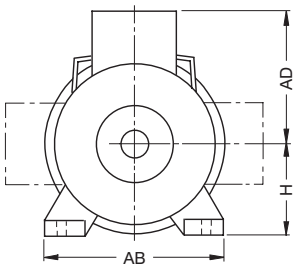
Overview

Overall dimensions

The overall dimensions of the smoke-extraction motors are listed below. The relevant dimensional drawings can be ordered.

Dimension O is not specified because the motors are connected to the supply by means of protruding multi-core cables.





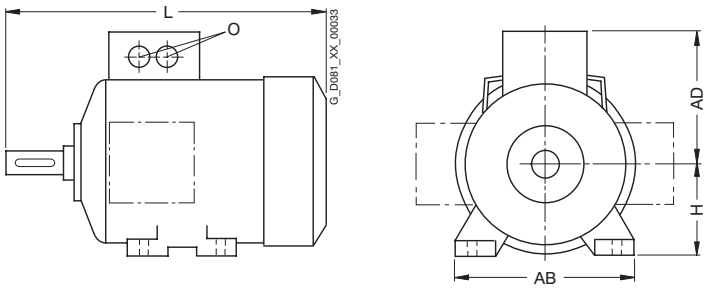
Frame size	Type	Dimensions L	AD [1]	H	AB
80 M	1LA7 08.-.T...	274	100	80	150
	1PP7 08.-.T...	240	100	80	150
90 S/ 90 L	1LA7 09.-.T...	332	107	90	165
	1PP7 09.-.T...	240	107	90	165
100 L	1LA6 10.-.U...	373	120	100	196
	1LA7 10.-.T...	373	120	100	196
	1PP6 10.-.U...	335	120	100	196
	1PP7 10.-.T...	335	120	100	196
112 M	1LA6 11.-.U...	394	128	112	226
	1LA7 11.-.T...	394	128	112	226
	1PP6 11.-.U...	354	128	112	226
	1PP7 11.-.T...	354	128	112	226
132 S/ 132 M	1LA6 13.-0U...	454	148	132	256
	1LA6 13.-1UD..	454	148	132	256
	1LA6 13.-2UA..	454	148	132	256
	1LA6 13.-4UA..	454	148	132	256
	1LA6 13.-6UA..	492	148	132	256
	1LA7 13.-.T...	454	148	132	256
	1PP6 13.-0U...	403	148	132	256
	1PP6 13.-1UD..	403	148	132	256
	1PP6 13.-2UA..	403	148	132	256
	1PP6 13.-4UA..	403	148	132	256
	1PP6 13.-6UA..	443	148	132	256
	1PP7 13.-.T...	403	148	132	256
160 M/ 160 L	1LA6 16.-0U...	588	170	160	300
	1LA6 16.-1UD..	588	170	160	300
	1LA6 16.-2UA..	588	170	160	300
	1LA6 16.-4UA..	588	170	160	300
	1LA6 16.-6UA..	628	170	160	300
	1LA7 16.-.T...	588	170	160	300
	1PP6 16.-0U...	535	170	160	300
	1PP6 16.-1UD..	535	170	160	300
	1PP6 16.-2UA..	535	170	160	300
	1PP6 16.-4UA..	535	170	160	300
	1PP6 16.-6UA..	575	170	160	300
	1PP7 16.-.T...	535	170	160	300

Frame size	Type	Dimensions L	AD [1]	H	AB
180 M/ 180 L	1LA5 18.-.T...	712	243	180	339
	1LG6 183-2UA..	720	244	180	339
	1LG6 183-4UA..	669	244	180	339
	1LG6 186-.UA..	720	244	180	339
	1PP5 18.-.T...	611	243	180	339
	1PP6 183-2UA..	613	244	180	339
	1PP6 183-4UA..	562	244	180	339
	1PP6 186-.UA..	613	244	180	339
200 L	1LA5 20.-.T...	770	292	200	388
	1LG6 206-.UA..	720	285	200	378
	1LG6 207-2UA..	777	285	200	378
	1LG6 207-4UA..	720	285	200	378
	1LG6 207-6UA..	777	285	200	378
	1PP5 20.-.T...	675	292	200	388
	1PP6 206-.UA..	617	285	200	378
	1PP6 207-2UA..	674	285	200	378
	1PP6 207-4UA..	617	285	200	378
	1PP6 207-6UA..	674	285	200	378
225 S/ 225 M	1LA5 220-4TA..	807	292	225	426
	1LA5 223-2TA..	777	292	225	426
	1LA5 223-4TA..	807	292	225	426
	1LA5 223-6TA..	807	292	225	426
	1LG6 220-4UA..	789	310	225	436
	1LG6 223-2UA..	819	310	225	436
	1LG6 223-4UA..	849	310	225	436
	1LG6 223-6UA..	849	310	225	436
	1PP5 220-4TA..	711	292	225	426
	1PP5 223-2TA..	681	292	225	426
	1PP5 223-4TA..	711	292	225	426
	1PP5 223-6TA..	711	292	225	426
	1PP6 220-4UA..	670	310	225	436
	1PP6 223-2UA..	700	310	225	436
	1PP6 223-4UA..	730	310	225	436
250 M	1LG6 253-2.B..	887	340	250	490
	1LG6 253-4.A..	957	340	250	490
	1LG6 253-6.A..	887	340	250	490
	1PP6 253-2....	764	340	250	490
	1PP6 253-4....	834	340	250	490
	1PP6 253-6....	764	340	250	490

[1] Dimension AD without cable gland.

Dimensions

Overview (continued)



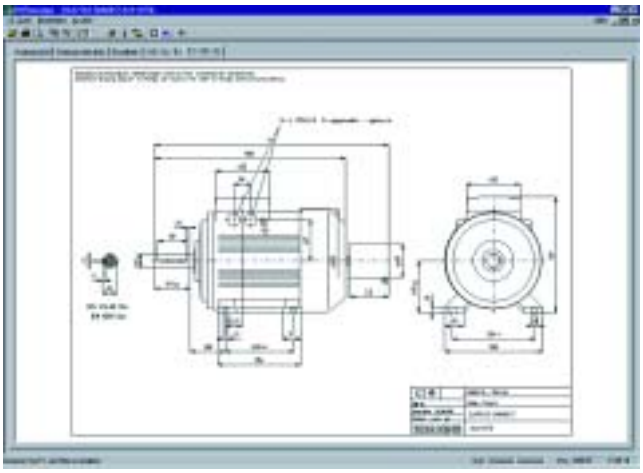
Frame size	Type	Dimensions L	AD [1]	H	AB
280 S/ 280 M	1LG6 280-.....	960	378	280	540
	1LG6 283-2....	1070	378	280	540
	1LG6 283-4....	1070	378	280	540
	1LG6 283-6....	960	378	280	540
	1PP6 280-.....	830	378	280	540
	1PP6 283-.....	940	378	280	540
315 S/ 315 M/ 315 L	1LG6 310-2.B..	1072	440	315	610
	1LG6 310-4.A..	1102	440	315	610
	1LG6 310-6.A..	1102	440	315	610
	1LG6 313-2.B..	1232	440	315	610
	1LG6 313-4.A..	1262	440	315	610
	1LG6 313-6.A..	1262	440	315	610
	1LG6 316-2.B..	1232	440	315	610
	1LG6 316-4.A..	1262	440	315	610
	1LG6 316-4.B..	1262	440	315	610
	1LG6 316-6.A..	1262	440	315	610
	1LG6 317-2.B..	1372	440	315	610
	1LG6 317-4.A..	1402	440	315	610
	1LG6 317-6.A..	1402	440	315	610
	1LG6 318-6.A..	1402	440	315	610

Frame size	Type	Dimensions L	AD [1]	H	AB
315 S/ 315 M/ 315 L	1PP6 310-2.B..	925	440	315	610
	1PP6 310-4.A..	955	440	315	610
	1PP6 310-6.A..	955	440	315	610
	1PP6 313-2.B..	1085	440	315	610
	1PP6 313-4.A..	1115	440	315	610
	1PP6 313-6.A..	955	440	315	610
	1PP6 316-2.B..	1085	440	315	610
	1PP6 316-4.A..	1260	440	315	610
	1PP6 316-6.A..	1260	440	315	610
	1PP6 317-2.B..	1225	440	315	610
	1PP6 317-4.A..	1255	440	315	610
	1PP6 317-6.A..	1255	440	315	610
	1PP6 318-6.A..	1255	440	315	610

More information

Dimension sheet generator
(part of the SD configurator)

A dimension drawing can be created in the SD configurator for every configurable motor. A dimension drawing can be requested for every other motor.



When a complete Order No. is entered with or without order codes, a dimension drawing can be called up under the "Documentation" tab.

These dimension drawings can be presented in different views and sections and printed.
The corresponding dimension sheets can be exported, saved and processed further in DXF format (interchange/import format for CAD systems) or as bitmap graphics.
The SD configurator has been integrated into the electronic catalogue CA 01 as a selection aid (for further information, see "Technical information", "Project planning aids").

The interactive catalogue CA 01 can be ordered from your local Siemens sales representative or on the Internet at

http://www.siemens.com/automation/CA01

At this address, you will also find links to Tips & Tricks and to downloads for function or content updates.

Order number for CA 01 10/2006, english international:
CD-ROM: E86060-D4001-A110-C5-7600
DVD: E86060-D4001-A510-C5-7600

[1] Dimension AD without cable gland.