

Standard motors up to frame size 315 L

The standard motors from Siemens are suitable for converter-fed operation at rated voltages up to 460 V. The following table shows the available motor series:

Standard motors up to frame size 315 L for converter-fed operation up to 460 V rated voltage

Motor type	Standard type of protection	Frame design	Motor series	Motor frame sizes	Output range
					kW
Self-ventilated motors with improved efficiency (energy-saving motors according to efficiency class EFF2 Improved Efficiency for 2-pole and 4-pole motors with outputs from 1.1 to 90 kW)	IP55	Aluminum	1LA7	56 M ... 160 L	0.06 ... 18.5
			1LA5	180 M ... 225 M	11 ... 45
		Cast-iron	1LA6	100 L ... 160 L	0.75 ... 18.5
			1LG4	180 M ... 315 L	11 ... 200
Self-ventilated motors with high efficiency (energy-saving motors according to efficiency class EFF1 High Efficiency for 2-pole and 4-pole motors with outputs from 1.1 to 90 kW)	IP55	Aluminum	1LA9	56 M ... 200 L	0.06 ... 37
		Cast-iron	1LG6	180 M ... 315 L	11 ... 200
Self-ventilated motors with increased output	IP55	Aluminum	1LA9	56 M ... 200 L	0.14 ... 53
		Cast-iron	1LG4	180 M ... 280 M	15 ... 110
Self-cooled motors without external fan	IP55	Aluminum	1LP7	63 M ... 160 L	0.045 ... 7
			1LP5	180 M ... 200 L	5.5 ... 16.5
		Cast-iron	1LP4	180 L ... 315 L	3.7 ... 67
Pole-changing motors	IP55	Aluminum	1LA7	63 M ... 160 L	0.1 ... 17
			1LA5	180 M ... 200 L	11 ... 31

For technical data, selection and ordering data and special versions, see the relevant sections of “Standard motors up to frame size 315 L”.

Non-standard motors frame size 315 and above

The non-standard motors from Siemens are suitable for converter-fed operation at rated voltages up to 500 V. The following table shows the available motor series:

Non-standard motors up to frame size 315 for converter-fed operation up to 500 V rated voltage

Motor type	Standard type of protection	Frame design	Motor series	Motor frame sizes	Output range
					kW
Self-ventilated motors for converter-fed operation – Cast-iron series 1LA8	IP55	Cast-iron	1LA8	315 ... 450	145 ... 1000
Forced ventilated motors with mounted separately driven fan for converter-fed operation – Cast-iron series 1PQ8	IP55	Cast-iron	1PQ8	315 ... 450	145 ... 1000
Self-ventilated motors with through ventilation for converter-fed operation – Cast-iron series 1LL8	IP23	Cast-iron	1LL8	315 ... 450	200 ... 1250

For technical data, selection and ordering data and special versions, see the relevant sections of “Non-standard motors up to frame size 315”.

Explosion-proof motors

The explosion-proof motors from Siemens listed below up to frame size 315 L can be operated with a converter at rated voltages up to 460 V (for motor series 1LA8 and 1PQ8 up to 500 V):

Explosion-proof motors up to frame size 315 L for converter-fed operation up to 460 V (for motor series 1LA8 and 1PQ8 up to 500 V)

rated voltage

Motor type	Standard type of protection	Frame design	Motor series <sup>1)</sup>	Motor frame sizes	Output range
					kW
Self-ventilated motors in Zone 1 with type of protection “d” (Zone 1 Exde IIC T4)	IP55	Cast-iron	1MJ6	71 M ... 200 L	0.25 ... 37
			1MJ7	225 M ... 315 L	30 ... 132
Self-ventilated motors in Zone 2 with type of protection “n” or protection against dust explosions	IP55	Aluminum	1LA7	63 M ... 160 L	0.09 ... 18.5
			1LA9	56 M ... 200 L	0.06 ... 37
		Cast-iron	1LA6	100 L ... 160 L	0.75 ... 18.5
			1LG4/1LG6	180 M ... 315 L	11 ... 200
Self-ventilated motors in Zone 21 with type of protection “n” or protection against dust explosions	IP55	Aluminum	1LA7	56 M ... 160 L	0.09 ... 18.5
			1LA5	180 M ... 225 M	11 ... 45
			1LA9	56 M ... 200 L	0.06 ... 37
		Cast-iron	1LG4/1LG6	180 M ... 315 L	11 ... 200
Self-ventilated motors in Zone 22 with type of protection “n” or protection against dust explosions	IP55	Aluminum	1LA7	56 M ... 160 L	0.09 ... 18.5
			1LA5	180 M ... 225 M	11 ... 45
			1LA9	56 M ... 200 L	0.06 ... 37
		Cast-iron	1LA6	100 L ... 160 L	0.75 ... 18.5
			1LG4/1LG6	180 M ... 315 L	11 ... 200
Self-ventilated motors in Zones 2 and 22 with type of protection “n” or protection against dust explosions	IP55	Cast-iron	1LA8	315 ... 450	145 ... 1000
Forced-air cooled motors with mounted separately driven fan for converter-fed operation in Zones 2 and 22 with type of protection “n” or protection against dust explosions	IP55	Cast-iron	1PQ8	315 ... 450	145 ... 1000

For technical data, selection and ordering data and special versions, see the relevant sections of “Explosion-proof motors”.

Fan motors

The fan motors from Siemens listed below are suitable for converter-fed operation at rated voltages up to 460 V :

Fan motors for converter-fed operation at 460 V rated voltage

Motor type	Standard degree of protection	Frame design	Motor series	Motor frame sizes	Output range
					kW
Self-ventilated motors in pole-changing version	IP55	Aluminum	1LA7	80 M ... 160 L	0.15 ... 17
			1LA5	180 M ... 200 L	18 ... 31
		Cast-iron	1LG4	180 M ... 315 L	11 ... 200
Forced-air cooled motors without external fan and fan cover	IP55	Aluminum	1PP7	63 M ... 160 L	0.09 ... 18.5
			1PP5	180 M ... 200 L	15 ... 37
		Cast-iron	1PP4	180 M ... 315 L	11 ... 200

For technical data, selection and ordering data and special versions, see the relevant sections of “Fan motors”.

<sup>1)</sup> For converter-fed operation with frame size 225 and above, it is recommended that an “Insulated bearing cartridge” – order code **L27** – is used. For motor series 1LA8 and 1PQ8, the insulated bearing cartridge is standard.