

SIMOTICS motors

Spindle motors for SINAMICS S120 Combi

SIMOTICS M-1PH8 asynchronous motors SH 80 to SH 132 – Forced ventilation

Selection and ordering data

Rated speed	Continuous speed, max.	Rated power for S1 duty	Rated torque	Static torque	1PH8 asynchronous motor Forced ventilation DE → NDE Terminal box top	Efficiency	Moment of inertia	Weight, approx.
n_{rated} rpm	n_{max1} rpm	P_{rated} kW	M_{rated} Nm	M_0 Nm	Article No.	η %	J kgm ²	m kg
Shaft height SH 80 – Line voltage 400 V 3 AC								
1500	10000	2.8	18	21	1PH8083-1DF0  -  CA1	80.9	0.0064	32
1500	12000	2.8	18	21	1PH8083-1DF0  -  LA1	80.9	0.0064	32
2000	10000	3.7	18	21	1PH8083-1DG0  -  CA1	83.2	0.0064	32
2000	15000	3.7	18	21	1PH8083-1UG0  -  LA1	83.2	0.0064	32
3000	10000	4.1	13	21	1PH8083-1DM0  -  CA1	86.9	0.0064	32
3000	15000	4.1	13	21	1PH8083-1UM0  -  LA1	86.9	0.0064	32
4500	10000	4.8	10	19	1PH8083-1DN0  -  CA1	86.4	0.0064	32
4500	15000	4.8	10	19	1PH8083-1UN0  -  LA1	86.4	0.0064	32
1500	10000	3.7	24	27	1PH8087-1DF0  -  CA1	81.7	0.0089	39
1500	14000	3.7	24	27	1PH8087-1UF0  -  LA1	81.7	0.0089	39
2000	10000	4.9	23	27	1PH8087-1DG0  -  CA1	85.3	0.0089	39
2000	15000	4.9	23	27	1PH8087-1UG0  -  LA1	85.3	0.0089	39
3000	10000	4.8	15	27	1PH8087-1DM0  -  CA1	87.1	0.0089	39
3000	15000	4.8	15	27	1PH8087-1UM0  -  LA1	87.1	0.0089	39
4500	10000	5.8	12	25	1PH8087-1DN0  -  CA1	86.8	0.0089	39
4500	15000	5.8	12	25	1PH8087-1UN0  -  LA1	86.8	0.0089	39
Type of construction								
IM B3 (IM V5, IM V6) IM B5 (IM V1, IM V3)					0 2	Bearing version	Vibration severity acc. to Siemens ^{1)/} EN 60034-14	Shaft and flange accuracy
Shaft extension DE								
Balancing								
Plain shaft					0 C	Standard	S/A	R
Feather key					1 L	Performance	SPECIAL/B	SPECIAL
Feather key					2			

¹⁾ For a definition of the vibration severity according to Siemens, see 1PH8 Motors Configuration Manual.

Motor type (repeated)	Rated current for S1 duty	Stall current	SINAMICS S120 Combi						
			Rated output current for S1 duty	3-axis Power Modules			4-axis Power Modules		
				Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
	I_{rated} A	I_0 A	I_{rated} A	6SL3111- 3VE21-6FA0	6SL3111- 3VE21-6EA0	6SL3111- 3VE22-0HA0	6SL3111- 4VE21-6FA0	6SL3111- 4VE21-6EA0	6SL3111- 4VE22-0HA0
1PH8083-1.F...	7.5	8	9	O	O/●	O/●	O/●	O/●	O/●
1PH8083-1.F...	7.5	8	9	O	O/●	O/●	O/●	O/●	O/●
1PH8083-1.G...	11.6	12	12	O	O	O	O	O	O/●
1PH8083-1.G...	11.6	12	12	O	O	O	O	O	O/●
1PH8083-1.M...	13.6	17	18	O	O	O	O	O	O/● ²⁾
1PH8083-1.M...	13.6	17	18	O	O	O	O	O	O/● ²⁾
1PH8083-1.N...	17	23	18	✓	O	O	✓	O	O
1PH8083-1.N...	17	23	18	✓	O	O	✓	O	O
1PH8087-1.F...	10	11	12	O	O/● ²⁾	O/● ²⁾	O/● ²⁾	O/● ²⁾	O/●
1PH8087-1.F...	10	11	12	O	O/● ²⁾	O/● ²⁾	O/● ²⁾	O/● ²⁾	O/●
1PH8087-1.G...	14.1	15	18	O	O	O	O	O	O
1PH8087-1.G...	14.1	15	18	O	O	O	O	O	O
1PH8087-1.M...	17.3	23	18	✓	O	O	✓	O	O
1PH8087-1.M...	17.3	23	18	✓	O	O	✓	O	O
1PH8087-1.N...	19.5	28	30	✓ ²⁾	O	O	✓ ²⁾	O	O
1PH8087-1.N...	19.5	28	30	✓ ²⁾	O	O	✓ ²⁾	O	O

Motor is part of Quick Packages.

- ✓ Fits perfectly as main spindle
- O Fits as main spindle
- Fits perfectly as driven tool
- Does not fit

²⁾ With derating.

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Selection and ordering data

Rated speed	Continuous speed, max.	Rated power for S1 duty	Rated torque	Static torque	1PH8 asynchronous motor Forced ventilation DE → NDE Terminal box top	Efficiency	Moment of inertia	Weight, approx.
n_{rated} rpm	n_{max1} rpm	P_{rated} kW	M_{rated} Nm	M_0 Nm	Article No.	η %	J kgm ²	m kg
Shaft height SH 100 – Line voltage 400 V 3 AC								
1500	9000	3.7	24	29	1PH8101-1DF0 ■ - ■ CA1	83.5	0.0138	42
1500	12000	3.7	24	29	1PH8101-1DF0 ■ - ■ LA1	83.5	0.0138	42
1000	9000	3.7	35	38	1PH8103-1DD0 ■ - ■ CA1	81.4	0.0172	51
1000	12000	3.7	35	38	1PH8103-1DD0 ■ - ■ LA1	81.4	0.0172	51
1500	9000	5.5	35	38	1PH8103-1DF0 ■ - ■ CA1	85.2	0.0172	51
1500	12000	5.5	35	38	1PH8103-1DF0 ■ - ■ LA1	85.2	0.0172	51
2000	9000	7	33	38	1PH8103-1DG0 ■ - ■ CA1	87.7	0.0172	51
2000	12000	7	33	38	1PH8103-1DG0 ■ - ■ LA1	87.7	0.0172	51
3000	9000	8.4	27	38	1PH8103-1DM0 ■ - ■ CA1	90.0	0.0172	51
3000	12000	8.4	27	38	1PH8103-1DM0 ■ - ■ LA1	90.0	0.0172	51
1500	9000	7	45	52	1PH8105-1DF0 ■ - ■ CA1	86.7	0.0252	65
1500	12000	7	45	52	1PH8105-1DF0 ■ - ■ LA1	86.7	0.0252	65
1000	9000	6.3	60	63	1PH8107-1DD0 ■ - ■ CA1	83.4	0.0289	73
1000	12000	6.3	60	63	1PH8107-1DD0 ■ - ■ LA1	83.4	0.0289	73
1500	9000	9	57	63	1PH8107-1DF0 ■ - ■ CA1	86.9	0.0289	73
1500	12000	9	57	63	1PH8107-1DF0 ■ - ■ LA1	86.9	0.0289	73
2000	9000	10.5	50	63	1PH8107-1DG0 ■ - ■ CA1	89.7	0.0289	73
2000	12000	10.5	50	63	1PH8107-1DG0 ■ - ■ LA1	89.7	0.0289	73
Shaft height SH 100 – Line voltage 400 V 3 AC – Star delta circuit								
2000/5000	9000	4.9/4.9	23/9	29/19	1PH8101-1DS0 ■ - ■ CA1	87.2/90.2	0.0138	42
2000/5000	12000	4.9/4.9	23/9	29/19	1PH8101-1DS0 ■ - ■ LA1	87.2/90.2	0.0138	42
2000/5000	9000	10/9.3	48/18	55/36	1PH8105-1DS0 ■ - ■ CA1	89.1/91.4	0.0252	65
2000/5000	12000	10/9.3	48/18	55/36	1PH8105-1DS0 ■ - ■ LA1	89.1/91.4	0.0252	65
2000/5000	9000	11/11	53/21	63/42	1PH8107-1DS0 ■ - ■ CA1	89.4/90.9	0.0289	73
2000/5000	12000	11/11	53/21	63/42	1PH8107-1DS0 ■ - ■ LA1	89.4/90.9	0.0289	73
Shaft height SH 132 – Line voltage 400 V 3 AC								
1500	8000	11	70	96	1PH8131-1DF0 ■ - ■ CA1	89.9	0.059	89
1500	10000	11	70	96	1PH8131-1DF0 ■ - ■ LA1	89.9	0.059	89
1000	8000	12	115	128	1PH8133-1DD0 ■ - ■ CA1	87.1	0.076	106
1000	10000	12	115	128	1PH8133-1DD0 ■ - ■ LA1	87.1	0.076	106

Type of construction

IM B3 (IM V5, IM V6)
IM B5 (IM V1, IM V3)

Shaft extension DE

Balancing

Plain shaft
Feather key
Feather key

–
Full-key
Half-key

0
2

Bearing version

0 C Standard
1 L Performance
2

Vibration severity
acc. to Siemens¹⁾/
EN 60034-14

S/A
SPECIAL/B

Shaft and
flange accuracy

R
SPECIAL

¹⁾ For a definition of the vibration severity according to Siemens, see 1PH8 Motors Configuration Manual.

Motor type (repeated)	Rated current for S1 duty	Stall current	SINAMICS S120 Combi						
			Rated output current for S1 duty	3-axis Power Modules			4-axis Power Modules		
				Article No.	Article No.	Article No.	Article No.	Article No.	Article No.
	I_{rated} A	I_0 A	I_{rated} A	6SL3111- 3VE21-6FA0	6SL3111- 3VE21-6EA0	6SL3111- 3VE22-0HA0	6SL3111- 4VE21-6FA0	6SL3111- 4VE21-6EA0	6SL3111- 4VE22-0HA0
1PH8101-1.F...	12.5	14	12	O	O	O	O	O	O/●
1PH8101-1.F...	12.5	14	12	O	O	O	O	O	O/●
1PH8103-1.D...	10	11	12	O	O/● ²⁾	O/● ²⁾	O/● ²⁾	O/● ²⁾	O/●
1PH8103-1.D...	10	11	12	O	O/● ²⁾	O/● ²⁾	O/● ²⁾	O/● ²⁾	O/●
1PH8103-1.F...	13.5	14	18	O	O	O	O	O	O/● ²⁾
1PH8103-1.F...	13.5	14	18	O	O	O	O	O	O/● ²⁾
1PH8103-1.G...	17.5	19	18	✓	O	O	✓	O	O
1PH8103-1.G...	17.5	19	18	✓	O	O	✓	O	O
1PH8103-1.M...	25.7	31	30	–	✓ ²⁾	O	–	✓ ²⁾	O
1PH8103-1.M...	25.7	31	30	–	✓ ²⁾	O	–	✓ ²⁾	O
1PH8105-1.F...	17.5	20	18	✓	O	O	✓	O	O
1PH8105-1.F...	17.5	20	18	✓	O	O	✓	O	O
1PH8107-1.D...	17.5	19	18	✓	O	O	✓	O	O
1PH8107-1.D...	17.5	19	18	✓	O	O	✓	O	O
1PH8107-1.F...	23.5	25	24	–	✓	O	–	✓	O
1PH8107-1.F...	23.5	25	24	–	✓	O	–	✓	O
1PH8107-1.G...	26	29	30	–	✓ ²⁾	✓	–	✓ ²⁾	✓
1PH8107-1.G...	26	29	30	–	✓ ²⁾	✓	–	✓ ²⁾	✓
1PH8101-1.S...	13.2/13.5	15/20	18	O	O	O	O	O	O
1PH8101-1.S...	13.2/13.5	15/20	18	O	O	O	O	O	O
1PH8105-1.S...	23/24	25/34	24	–	O	O	–	O	O
1PH8105-1.S...	23/24	25/34	24	–	O	O	–	O	O
1PH8107-1.S...	26.7/28	30/40	30	–	–	O	–	–	O
1PH8107-1.S...	26.7/28	30/40	30	–	–	O	–	–	O
1PH8131-1.F...	24	30	24	–	✓	O	–	✓	O
1PH8131-1.F...	24	30	24	–	✓	O	–	✓	O
1PH8133-1.D...	30	32	30	–	–	✓	–	–	✓
1PH8133-1.D...	30	32	30	–	–	✓	–	–	✓

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- ✓ Fits perfectly as main spindle
- O Fits as main spindle
- Fits perfectly as driven tool
- Does not fit

²⁾ With derating.