



IE1

SIMOTICS SD 1PP Standard Motors

Motors with Standard Efficiency IE1

Forced-air cooled motors without external fan and fan cover – Cast-iron series 1PP4 with increased output

Selection and ordering data

Operating values at rated output															Cast-iron series		m_{IM} B3 J	Torque class	
P_{rated} , 50 Hz	P_{rated} , 60 Hz 1)	Frame size	η_{rated} , 50 Hz	T_{rated} , 50 Hz	IE class	η_{rated} , 50 Hz, 4/4	η_{rated} , 50 Hz, 3/4	η_{rated} , 50 Hz, 2/4	$\cos\varphi$ rated, 50 Hz, 4/4	I_{rated} , 50 Hz, 400 V	I_{LR}/I_{rated}	I_{LR}/I_{rated}	T_B/I_{rated}	L_{pA} , 50 Hz	L_{WA} , 50 Hz	1PP4 – IE1 version in accordance with IEC 60034-30 with increased output Order No.			
kW	kW	FS	rpm	Nm		%	%	%		A							kg	kgm ²	CL
• Cooling: Forced-air cooled without external fan and fan cover (IC 416) • Efficiency: Standard Efficiency IE1, service factor (SF) 1.1 • Insulation: Thermal class 155 (temperature class F), IP55 degree of protection, utilization in accordance with thermal class 130 (temperature class B)																			
2-pole: 3000 rpm at 50 Hz, 3600 rpm at 60 Hz ¹⁾																			
30	33.5	180 L	2950	97	IE1	91.2	91.4	91.2	0.86	55 ²⁾	2.4	7.1	3.4	–	–	1PP4188-2FA ■■	170	0.090	16
45	51	200 L	2955	145	IE1	92.3	92.5	92.2	0.89	80 ²⁾	2.5	6.9	3.2	–	–	1PP4208-2FA ■■	245	0.18	16
55	62	225 M	2960	177	IE1	92.4	92.8	92.9	0.89	97 ²⁾	2.6	7.3	3.2	–	–	1PP4228-2FA ■■	325	0.27	16
75	84	250 M	2970	241	IE1	93.2	93.4	92.9	0.88	133 ²⁾	2.4	7.1	3.1	–	–	1PP4258-2FA ■■	405	0.48	16
110	123	280 M	2975	353	IE1	93.7	93.8	93.5	0.90	189 ²⁾	2.5	7.0	3.0	–	–	1PP4288-2FB ■■	610	1.0	13
4-pole: 1500 rpm at 50 Hz, 1800 rpm at 60 Hz ¹⁾																			
30	34.5	180 L	1465	196	IE1	90.9	91.2	90.4	0.80	60 ²⁾	2.6	6.3	2.9	–	–	1PP4188-4FA ■■	175	0.14	16
37	42.5	200 L	1465	241	IE1	91.4	91.8	91.5	0.83	71 ²⁾	2.6	6.5	3.0	–	–	1PP4208-4FA ■■	220	0.23	16
55	63	225 M	1475	356	IE1	92.3	92.8	92.8	0.86	100 ²⁾	2.5	6.5	2.7	–	–	1PP4228-4FA ■■	320	0.49	16
75	86	250 M	1482	483	IE1	92.9	93.0	92.5	0.85	137 ²⁾	2.5	7.0	3.0	–	–	1PP4258-4FA ■■	445	0.86	16
110	127	280 M	1488	706	IE1	93.5	93.5	92.8	0.84	200 ²⁾	2.8	7.9	3.3	–	–	1PP4288-4FA ■■	660	1.7	16
6-pole: 1000 rpm at 50 Hz, 1200 rpm at 60 Hz ¹⁾																			
18.5	22	180 L	970	182	IE1	88.7	89.4	89.0	0.80	37.5 ²⁾	2.3	4.9	2.4	–	–	1PP4188-6FA ■■	170	0.20	16
30	36	200 L	975	294	IE1	90.3	90.7	90.4	0.80	60 ²⁾	2.6	5.8	2.6	–	–	1PP4208-6FA ■■	235	0.36	16
37	44.5	225 M	978	361	IE1	90.9	91.7	91.7	0.83	71 ²⁾	2.5	5.9	2.8	–	–	1PP4228-6FA ■■	315	0.62	16
45	54	250 M	982	438	IE1	91.5	92.1	92.2	0.83	86	2.7	6.3	2.3	–	–	1PP4258-6FA ■■	390	0.93	16
75	90	280 M	985	727	IE1	92.7	93.2	93.2	0.85	137 ²⁾	3.0	6.8	2.8	–	–	1PP4288-6FA ■■	550	1.7	16
160	192	315 L	988	1547	IE1	93.9	94.0	93.7	0.86	285 ²⁾	3.0	7.5	3.0	–	–	1PP4318-6FA ■■	1160	4.7	16
8-pole: 750 rpm at 50 Hz, 900 rpm at 60 Hz ¹⁾																			
15	18	180 L	720	199	–	87.1	87.8	87.1	0.73	34 ²⁾	2.0	4.5	2.4	–	–	1PP4188-8FB ■■	160	0.21	13
18.5	22	200 L	725	244	–	88.1	89.0	89.0	0.78	39	2.4	5.2	2.6	–	–	1PP4208-8FB ■■	220	0.37	13
30	36	225 M	730	392	–	89.7	90.6	90.6	0.79	61 ²⁾	2.6	5.6	2.8	–	–	1PP4228-8FB ■■	330	0.66	13
37	44.5	250 M	730	484	–	90.5	91.4	91.4	0.82	72	2.4	5.6	2.6	–	–	1PP4258-8FB ■■	415	1.1	13
55	66	280 M	735	715	–	91.7	92.5	92.5	0.81	107	2.4	5.6	2.3	–	–	1PP4288-8FB ■■	545	1.6	13
132	158	315 L	738	1708	–	93.3	93.7	93.6	0.83	245 ²⁾	2.5	6.5	2.9	–	–	1PP4318-8FB ■■	1080	4.5	13
Voltages										No. of poles	Motor type		Version		1 6 3 5 9	Order code(s)			
50 Hz	230 VΔ/400 VY		60 Hz ¹⁾	460 VY		2, 4, 6, 8		1PP4188 ... 288		Standard		–							
50 Hz	400 VΔ/690 VY		60 Hz ¹⁾	460 VΔ		2, 4, 6, 8		1PP4188 ... 318		Standard		–							
50 Hz	500 VY				2, 4, 6, 8		1PP4188 ... 288		Without add. charge		–								
50 Hz	500 VΔ				2, 4, 6, 8		1PP4188 ... 318		Without add. charge		–								
Further voltages ¹⁾			For additional charges, code numbers and descriptions, see supplements and special versions.																
Types of construction										No. of poles	Motor type		Version		0 0 9 0 9 1 1 8 9 6 9	Order code(s)			
Without flange			IM B3/6/7/8 ³⁾		2, 4, 6, 8		1PP4188 ... 318		Standard		–								
			IM V6 ³⁾		2, 4, 6, 8		1PP4188 ... 288		Standard		–								
With flange					2, 4, 6, 8		1PP4318		With add. charge		M1E								
			IM V5 without protective cover ³⁾		2, 4, 6, 8		1PP4188 ... 288		Standard		–								
					2, 4, 6, 8		1PP4318		With add. charge		M1D								
					2, 4, 6, 8		1PP4188 ... 288		With add. charge		–								
			IM B5 ⁴⁾		2, 4, 6, 8		1PP4188 ... 288		With add. charge		–								
			IM V1 without protective cover ⁴⁾		2, 4, 6, 8		1PP4188 ... 288		With add. charge		–								
					2, 4, 6, 8		1PP4318		With add. charge		–								
			IM V3 ⁴⁾		2, 4, 6, 8		1PP4188 ... 288		With add. charge		M1G								
			IM B35		2, 4, 6, 8		1PP4188 ... 318		With add. charge		–								
Further types of construction			For additional charges, code numbers and descriptions, see supplements and special versions.																
Special versions										Order code(s)									
Options			For additional charges, code numbers and descriptions, see supplements and special versions																
										1PP4 ... - ... ■■ -Z									
										...+...+...+...									

1) Operating values at rated output for 60 Hz are available on request.

2) For connection to 230 V, parallel feeders are necessary.

3) If 1PP4 motors 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.

4) 1PP4220 to 1PP4288 motors are supplied with two screw-in eyebolts conforming to IM B5, whereby one can be repositioned to conform to IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.