

Main spindle motors

Asynchronous and synchronous motors for SINAMICS S120

2SP1 standard type motor spindles Water cooling

Selection and ordering data

Spindle diameter	Rated power Star/delta for duty type		Rated torque Star/delta for duty type		Rated speed Star/delta	Maximum speed	2SP1 motor spindles Standard type					
	P_{rated} S1	S6-40 %	M_{rated} S1	S6-40 %	n_{rated}	n_{max}						
mm (in)	kW (HP)	kW (HP)	Nm (lb _f -ft)	Nm (lb _f -ft)	rpm	rpm	Order No.					
2SP1 synchronous – water cooling												
200	12.0/– (16.1/–)	12.0/– (16.1/–)	42/– (372/–)	55/– (487/–)	2700/–	15000	2SP1202-1HA ■ ■ -1D ■ ■					
	15.5/– (20.8/–)	15.5/– (20.8/–)	42/– (372/–)	55/– (487/–)	3500/–	18000	2SP1202-1HB ■ ■ -2D ■ ■					
	26.4/– (35.4/–)	26.4/– (35.4/–)	84/– (744/–)	110/– (974/–)	3000/–	15000	2SP1204-1HA ■ ■ -1D ■ ■					
	35.0/– (46.9/–)	35.0/– (46.9/–)	78/– (690/–)	110/– (974/–)	4300/–	18000	2SP1204-1HB ■ ■ -2D ■ ■					
2SP1 asynchronous – water cooling												
250	13.2/13.2 (17.7/17.7)	18.9/18.9 (25.3/25.3)	70/32 (620/283)	100/45 (885/398)	1800/4000	10000	2SP1253-8HA 0 ■ -0 ■ ■ 2					
	13.2/13.2 (17.7/17.7)	18.9/18.9 (25.3/25.3)	70/32 (620/283)	100/45 (885/398)	1800/4000	15000	2SP1253-8HA 0 ■ -1D ■ 2					
	11.7/11.7 (15.7/15.7)	16.7/16.7 (22.4/22.4)	140/62 (1239/549)	200/89 (1170/788)	800/1800	10000	2SP1255-8HA 0 ■ -0 ■ ■ 2					
	11.7/11.7 (15.7/15.7)	16.7/16.7 (22.4/22.4)	140/62 (1239/549)	200/89 (1170/788)	800/1800	15000	2SP1255-8HA 0 ■ -1D ■ 2					
2SP1 synchronous – water cooling												
250	26.0/– (34.9/–)	29.0/– (38.9/–)	100/– (885/–)	130/– (1151/–)	2500/–	10000	2SP1253-1HA 0 ■ -0 ■ ■ 2					
	35.0/– (46.9/–)	38.0/– (50.9/–)	100/– (885/–)	130/– (1151/–)	3300/–	15000	2SP1253-1HB 0 ■ -1D ■ 2					
	46.3/– (62.1/–)	55.0/– (73.7/–)	170/– (1505/–)	236/– (2089/–)	2600/–	10000	2SP1255-1HA 0 ■ -0 ■ ■ 2					
	53.4/– (71.6/–)	64.0/– (85.8/–)	170/– (1505/–)	236/– (2089/–)	3000/–	15000	2SP1255-1HB 0 ■ -1D ■ 2					
Tool clamping and release mechanism:												
Pneumatic (only for 2SP125)							0					
Pneumatic (only for 2SP120)							2					
Hydraulic (only for 2SP120)							3					
Cooling:												
Closed cooling jacket							1					
Closed cooling jacket and internal tool cooling							3					
Closed cooling jacket and ring for external tool cooling (only for 2SP120)							4					
Closed cooling jacket, internal tool cooling and ring for external tool cooling (only for 2SP120)							5					
Tool interfaces:												
Tool interface SK 40							A B C D E R					
Tool interface BT 40 45°												
Tool interface CAT 40												
Tool interface HSK A63												
Tool interface BT 40 30°												
Tool interface HSKA63, latching (only for 2SP120)												
Sensors:												
Sensor: Tool clamped/draw bar in the release position/clamped without tool							D F					
As for D + sensor: Position release piston (only for 2SP120)												
Type of connection:												
Permanently connected cable, sensor cable with signal connector, length: 1.5 m (4.92 ft)												
Power cable with open core ends												
Power cable with connector (2SP1202: Connector size 1.5/2SP1204: Connector size 3)												
												2 6

Main spindle motors

Asynchronous and synchronous motors for SINAMICS S120

2SP1 standard type motor spindles
Water cooling

Motor type (repeated)	Moment of inertia Weight. ¹⁾ approx.		Rated current Star/delta for duty type		Voltage Protection Module	SINAMICS S120 Motor Module	
	<i>J</i>	<i>m</i>	<i>I</i> _{rated} S1	S6-40 %		Required rated power for S1 duty <i>I</i> _{rated}	Booksize format
	kgm ² (lb _f -in-s ²)	kg (lb)	A	A		A	Order No.
2SP1 synchronous – water cooling							
2SP1202-1HA...	0.015 (0.1327)	83 (183)	30/–	43/–	VPM 120	30	6SL312 ■ -1TE23-0AA3
2SP1202-1HB...	0.015 (0.1327)	83 (183)	42/–	60/–	VPM 120	45	6SL312 ■ -1TE24-5AA3
2SP1204-1HA...	0.023 (0.2035)	101 (223)	60/–	85/–	VPM 120	60	6SL312 ■ -1TE26-0AA3
2SP1204-1HB...	0.023 (0.2035)	101 (223)	79/–	120/–	VPM 120	85	6SL312 ■ -1TE28-5AA3
2SP1 asynchronous – water cooling							
2SP1253-8HA0.-0...	0.037 (0.3274)	130 (287)	28/29	39/39	–	30	6SL312 ■ -1TE23-0AA3
2SP1253-8HA0.-1...	0.037 (0.3274)	130 (287)	28/29	39/39	–	30	6SL312 ■ -1TE23-0AA3
2SP1255-8HA0.-0...	0.055 (0.4867)	165 (364)	30/29	40/37	–	30	6SL312 ■ -1TE23-0AA3
2SP1255-8HA0.-1...	0.055 (0.4867)	165 (364)	30/29	40/37	–	30	6SL312 ■ -1TE23-0AA3
2SP1 synchronous – water cooling							
2SP1253-1HA...	0.037 (0.3274)	130 (287)	53/–	75/–	VPM 120	60	6SL312 ■ -1TE26-0AA3
2SP1253-1HB...	0.037 (0.3274)	130 (287)	68/–	98/–	VPM 120	85	6SL312 ■ -1TE28-5AA3
2SP1255-1HA...	0.055 (0.4867)	165 (364)	95/–	135/–	VPM 120	132	6SL312 ■ -1TE31-3AA3
2SP1255-1HB...	0.055 (0.4867)	165 (364)	120/–	180/–	VPM 200	132	6SL312 ■ -1TE31-3AA3
						Cooling: Internal air cooling External air cooling	0 1
						Motor Module: Single Motor Module	1

¹⁾ No options included.
 Internal tool cooling: + 1 kg (2.21 lb)
 External tool cooling: + 8 kg (17.6 lb)