

Synchronous motors

Motor spindles for SINAMICS S120

2SP1 ECS standard type motor spindles Water cooling

Selection and Ordering Data

Spindle diameter	Rated power Star/delta		Rated torque Star/delta		Rated speed Star/delta	Maximum speed	2SP1 ECS motor spindles Water cooling
	P_{rated}		M_{rated}		n_{rated}	n_{max}	Order No. Standard type
	S1	S6-40%	S1	S6-40%			
mm (in)	kW (HP)	kW (HP)	Nm (lb _f -in)	Nm (lb _f -in)	rpm	rpm	
Synchronous							
200	12.0/- (16.1/-)	12.0/- (16.1/-)	42/- (372/-)	55/- (487/-)	2700/-	15000	2SP1202-1HA   -1 D  
	15.5/- (20.8/-)	15.5/- (20.8/-)	42/- (372/-)	55/- (487/-)	3500/-	18000	2SP1202-1HB   -2 D  
	26.4/- (35.4/-)	26.4/- (35.4/-)	84/- (744/-)	110/- (974/-)	3000/-	15000	2SP1204-1HA   -1 D  
	35.0/- (46.9/-)	35.0/- (46.9/-)	78/- (690/-)	110/- (974/-)	4300/-	18000	2SP1204-1HB   -2 D  
Asynchronous							
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  -1 D  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  -1 D  2
Synchronous							
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  -1 D  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  -1 D  2
Tool clamping and release mechanism:							
Pneumatic (<u>only</u> for 2SP125)							0
Pneumatic (<u>only</u> for 2SP120)							2
Hydraulic (<u>only</u> 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 (<u>only</u> for 2SP120)							4
Closed cooling jacket, internal tool cooling and ring for external tool cooling (<u>only</u> 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 HSK A63, latching (<u>only</u> for 2SP120)							
Sensors:							
"Tool clamped" sensor, "draw-bar in the release position" sensor and "clamped without tool" sensor							D
D + "position of release piston" sensor (<u>only</u> for 2SP120)							F
Type of connection:							
Permanently connected cable, sensor cable with signal connector, length: 1.5 m (4.92 ft)							2 6
Power cable with open core ends							
Power cable with connector (2SP1202: Connector size 1.5/2SP1204: Connector size 3)							

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2SP1 ECS standard type motor spindles
Water cooling

Selection and Ordering Data

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

More information

Please refer to Asynchronous motors – Liquid cooling for a list of heat exchanger manufacturers.

In addition to the standard motor spindles in the 2SP1 product range, it is also possible to use individually customized motor spindle designs.

For information about other motor spindles for turning, grinding, milling and drilling, please contact:

Weiss Spindeltechnologie GmbH

– a Siemens Company –
Rudolf-Diesel-Str. 35
97424 SCHWEINFURT, Germany

Phone: +49 (0)97 21 - 77 01 - 10
Fax: +49 (0)97 21 - 77 01 - 13 3

More information is available on the Internet at



<http://www.weissgmbh.de>

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