

Synchronous motors

Motor spindles for SIMODRIVE 611

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 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 -in)	Nm (lb _f -in)	rpm	rpm	Order No.
Synchronous							
200	12.0/- (16.1/-)	12.0/- (16.1/-)	42/- (372/-)	55/- (487/-)	2 700/-	15 000	2SP1202-1HA ■ ■ -1 D ■ ■
	15.5/- (20.8/-)	15.5/- (20.8/-)	42/- (372/-)	55/- (487/-)	3 500/-	18 000	2SP1202-1HB ■ ■ -2 D ■ ■
	26.4/- (35.4/-)	26.4/- (35.4/-)	84/- (744/-)	110/- (974/-)	3 000/-	15 000	2SP1204-1HA ■ ■ -1 D ■ ■
	35.0/- (46.9/-)	35.0/- (46.9/-)	78/- (690/-)	110/- (974/-)	4 300/-	18 000	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)	1 800/4 000	10 000	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)	1 800/4 000	15 000	2SP1253-8HA 0 ■ -1 D ■ 2
	11.7/11.7 (15.7/15.7)	16.7/16.7 (22.4/22.4)	140/62 (1 239/549)	200/89 (1 170/788)	800/1 800	10 000	2SP1255-8HA 0 ■ -0 ■ ■ 2
	11.7/11.7 (15.7/15.7)	16.7/16.7 (22.4/22.4)	140/62 (1 239/549)	200/89 (1 170/788)	800/1 800	15 000	2SP1255-8HA 0 ■ -1 D ■ 2
Synchronous							
250	26.0/- (34.9/-)	29.0/- (38.9/-)	100/- (885/-)	130/- (1 151/-)	2 500/-	10 000	2SP1253-1HA 0 ■ -0 ■ ■ 2
	35.0/- (46.9/-)	38.0/- (50.9/-)	100/- (885/-)	130/- (1 151/-)	3 300/-	15 000	2SP1253-1HB 0 ■ -1 D ■ 2
	46.3/- (62.1/-)	55.0/- (73.7/-)	170/- (1 505/-)	236/- (2 089/-)	2 600/-	10 000	2SP1255-1HA 0 ■ -0 ■ ■ 2
	53.4/- (71.6/-)	64.0/- (85.8/-)	170/- (1 505/-)	236/- (2 089/-)	3 000/-	15 000	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
Tool interface BT 40 45°							B
Tool interface CAT 40							C
Tool interface HSK A63							D
Tool interface BT 40 30°							E
Tool interface HSK A63, latching (<u>only</u> for 2SP120)							R
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)							
Power cable with open core ends							
Power cable with connector (2SP1202: Connector size 1.5/2SP1204: Connector size 3)							

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Motor type (continued)	Moment of inertia	Weight, ¹⁾ approx.	Rated current Star/delta		Voltage Protection Module	SIMODRIVE 611 power module	
	<i>J</i>	<i>m</i>	<i>I</i> _{rated} S1	S6-40 %		Required rated current <i>I</i> _{rated} S1	Order No.
	kgm ² (lb _f -in-s ²)	kg (lb)	A	A		A	
Synchronous							
2SP1202-1HA...	0.015 (0.1327)	83 (183)	30/–	43/–	VPM 120	30	For ordering data, see Converter systems
2SP1202-1HB...	0.015 (0.1327)	83 (183)	42/–	60/–	VPM 120	45	
2SP1204-1HA...	0.023 (0.2035)	101 (223)	60/–	85/–	VPM 120	60	
2SP1204-1HB...	0.023 (0.2035)	101 (223)	79/–	120/–	VPM 120	85	
Asynchronous							
2SP1253-8HA0.-0...	0.037 (0.3274)	130 (287)	28/29	39/39	–	30	For ordering data, see Converter systems
2SP1253-8HA0.-1...	0.037 (0.3274)	130 (287)	28/29	39/39	–	30	
2SP1255-8HA0.-0...	0.055 (0.4867)	165 (364)	30/29	40/37	–	30	
2SP1255-8HA0.-1...	0.055 (0.4867)	165 (364)	30/29	40/37	–	30	
Synchronous							
2SP1253-1HA...	0.037 (0.3274)	130 (287)	53/–	75/–	VPM 120	60	For ordering data, see Converter systems
2SP1253-1HB...	0.037 (0.3274)	130 (287)	68/–	98/–	VPM 120	85	
2SP1255-1HA...	0.055 (0.4867)	165 (364)	95/–	135/–	VPM 120	120	
2SP1255-1HB...	0.055 (0.4867)	165 (364)	120/–	180/–	VPM 120	120	

Integration

The ECS motor spindle can generally be used with:

- SIMODRIVE 611 digital in combination with High-Standard or High-Performance closed-loop control
- SIMODRIVE 611 universal HRS
- SINUMERIK 810D powerline
- SINUMERIK 840D powerline

A VPM 120 must be used with ECS motor spindles in synchronous design, see 1FE1 built-in motors.

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).