

Servomotors

Geared servomotors for SINAMICS S120

1FK7-DYA compact geared motors Natural cooling

Selection and ordering data

Rated speed	Rated power	Speed, max.	Torque, max.	Static torque	Rated torque ¹⁾	Available gear ratio	1FK7-DYA compact geared motors		Number of pole pairs	Moment of inertia of rotor ²⁾		
$n_{2 \text{ rated}}$	P_2	$n_{2 \text{ max}}$	$M_{2 \text{ max}}$	M_{20}	$M_{2 \text{ rated}}$	i	Order No.	Order code	p	J	J	
rpm	kW (HP)	rpm	Nm (lb _f -ft)	Nm (lb _f -ft)	Nm (lb _f -ft)					10^{-4} kgm ² (10 ⁻³ lb _f -in-s ²)	10^{-4} kgm ² (10 ⁻³ lb _f -in-s ²)	
Natural cooling												
370	0.37 (0.50)	600	32 (23.6)	11 (8.1)	9.5 (7.0)	10	1FK7032-5AK71-1	3-Z A03	3	0.75 (0.66)	0.83 (0.73)	
740	0.5 (0.67)	1200	32 (23.6)	7.5 (5.5)	6.5 (4.8)	5	1FK7034-5AK71-1	3-Z A00	3	1.04 (0.92)	1.12 (0.99)	
340	0.45 (0.60)	600	49 (36.1)	15 (11.1)	12.5 (9.2)	10	1FK7040-5AK71-1	3-Z A13	4	2.3 (2.04)	3 (2.66)	
680	0.71 (0.95)	1200	51 (37.6)	13 (9.6)	10 (7.4)	5	1FK7042-5AK71-1	3-Z A10	4	3.6 (3.19)	4.3 (3.81)	
260	1.25 (1.68)	480	175 (129)	57 (42)	46 (33.9)	10	1FK7060-5AH71-1	3-Z A73	4	10.3 (9.12)	12.5 (11.1)	
520	1.74 (2.33)	960	170 (125)	51 (37.6)	32 (23.6)	5	1FK7063-5AH71-1	3-Z A70	4	17.4 (15.4)	19.6 (17.4)	
200	1.47 (1.97)	360	242 (179)	76 (56.1)	70 (51.6)	10	1FK7080-5AH71-1	3-Z A83	4	28.7 (25.4)	31.8 (28.2)	
400	1.88 (2.52)	720	233 (172)	68 (50.2)	45 (33.2)	5	1FK7083-5AH71-1	3-Z A80	4	41 (36.3)	49.6 (43.9)	
Encoder systems for motors without DRIVE-CLiQ interface:		IC2048S/R encoder						A				
		AM2048S/R encoder (<u>not</u> for 1FK703)						E				
		AM512S/R encoder (<u>only</u> for 1FK703)						H				
		AM32S/R encoder (<u>not</u> for 1FK703)						G				
		AM16S/R encoder (<u>only</u> for 1FK703)						J				
		Multi-pole resolver						S				
		2-pole resolver						T				
Encoder systems for motors with DRIVE-CLiQ interface:		IC22DQ encoder						D				
		AM22DQ encoder						F				
		AM20DQ encoder						L				
		AM16DQ encoder						K				
		AM15DQ encoder						V				
		R15DQ resolver						U				
		R14DQ resolver						P				
Shaft extension:		Shaft and flange accuracy:				Holding brake:		U				
Fitted key and keyway		Tolerance N				Without		V				
Fitted key and keyway		Tolerance N				With						
Degree of protection:		IP64, anthracite paint finish						3				

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Motor type (repeated)	Weight without brake	with brake	Static current I_0 at M_0 $\Delta T = 100$ K	Maxi- mum current I_{max}	SINAMICS S120 Motor Module		Power cable with complete shield		
	m	m			Rated out- put current ³⁾	Booksiz e format For additional versions and components, see chapter SINAMICS S120 drive system Order No.	Motor connection (and brake connection) via power connector	Power con- nector	Cable cross- section ⁴⁾
	kg (lb)	kg (lb)	A	A	A		Size	mm ²	Order No.
1FK7032-5AK71-...	4.11 (9.06)	4.47 (9.86)	1.7	5	3	6SL312-TE13-0AA3	1	4 × 1.5	6FX 002-5S01-....
1FK7034-5AK71-...	5.01 (11.1)	5.37 (11.8)	1.9	7.9	3	6SL312-TE13-0AA3	1	4 × 1.5	6FX 002-5S01-....
1FK7040-5AK71-...	6.60 (14.6)	7.61 (16.8)	2.3	7.4	3	6SL312-TE13-0AA3	1	4 × 1.5	6FX 002-5S01-....
1FK7042-5AK71-...	7.91 (17.4)	8.62 (19.0)	4.4	14.9	5	6SL312-TE15-0AA3	1	4 × 1.5	6FX 002-5S01-....
1FK7060-5AH71-...	13.9 (30.7)	15 (33.1)	6.2	19	9	6SL312-TE21-0AA3	1	4 × 1.5	6FX 002-5S01-....
1FK7063-5AH71-...	17.6 (38.8)	19 (41.9)	12	41	18	6SL312-TE21-8AA3	1	4 × 1.5	6FX 002-5S01-....
1FK7080-5AH71-...	23.4 (51.6)	24.6 (54.2)	7.4	24	9	6SL312-TE21-0AA3	1	4 × 1.5	6FX 002-5S01-....
1FK7083-5AH71-...	28.6 (63.1)	31.2 (68.8)	15	48	18	6SL312-TE21-8AA3	1	4 × 1.5	6FX 002-5S01-....

Cooling:

Internal air cooling **0**
External air cooling **1**

Motor Module:

Single Motor Module **1**
Double Motor Module

Power cable:

MOTION-CONNECT 800 **8**
MOTION-CONNECT 500 **5**

Without brake cores **C**
With brake cores **D**

Length code

Information about the cables
can be found in chapter
Connection system MOTION-CONNECT.

¹⁾ If the absolute encoder is used, $M_{2 rated}$ is reduced by 10 %.

²⁾ In reference to the internal motor shaft.

³⁾ With default setting of the pulse frequency.

⁴⁾ The current carrying capacity of the power cables complies with EN 60204-1 for installation type C, for continuous duty at an ambient air temperature of 40 °C (104 °F).