

Servomotors

Synchronous motors for SINAMICS S120

1FK7 Compact motors Natural cooling

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque ¹⁾	Rated current	1FK7 Compact synchronous motor	Number of pole pairs	Moment of inertia of rotor (without brake)	Weight (without brake)	
n_{rated}	SH	P_{rated} at $\Delta T=100\text{ K}$	M_0 at $\Delta T=100\text{ K}$	M_{rated} at $\Delta T=100\text{ K}$	I_{rated} at $\Delta T=100\text{ K}$	Order No.	p	J	m	
rpm		kW (HP)	Nm (lb _r -ft)	Nm (lb _r -ft)	A			10^{-4} kgm^2 ($10^{-3}\text{ lb}_r\text{-in-s}^2$)	kg (lb)	
Natural cooling										
2000	100	4.29 (5.75)	27 (19.9)	20.5 (15.1)	9.6	1FK7101-5AC71-1 ■ ■ ■ ■	4	79.9 (70.7)	21 (46.3)	
		5.23 (7.01)	36 (26.6)	25 (18.4)	11.5	1FK7103-5AC71-1 ■ ■ ■ ■	4	105 (92.9)	29 (63.9)	
		7.75 (10.4)	48 (35.4)	37 (27.3)	16	1FK7105-5AC71-1 ■ ■ ■ ■	4	156 (138)	39 (86.2)	
3000	48	0.82 (1.10)	3.0 (2.2)	2.6 (1.9)	1.95	1FK7042-5AF71-1 ■ ■ ■ ■	4	3.01 (2.66)	4.9 (10.8)	
		63	1.48 (1.98)	6.0 (4.4)	4.7 (3.5)	3.7	1FK7060-5AF71-1 ■ ■ ■ ■	4	7.95 (7.04)	7.0 (15.4)
			2.29 (3.07)	11 (8.2)	7.3 (5.4)	5.6	1FK7063-5AF71-1 ■ ■ ■ ■	4	15.1 (13.3)	11.5 (25.4)
	80	2.14 (2.87)	8.0 (5.9)	6.8 (5.0)	4.4	1FK7080-5AF71-1 ■ ■ ■ ■	4	15.0 (13.2)	10 (22.1)	
		3.3 (4.43)	16 (11.8)	10.5 (7.7)	7.4	1FK7083-5AF71-1 ■ ■ ■ ■	4	27.3 (24.1)	14 (30.9)	
			100	3.77 (5.06)	18 (13.3)	12.0 (8.8)	8	1FK7100-5AF71-1 ■ ■ ■ ■	4	55.3 (48.9)
	4.87 (6.53)	27 (19.9)		15.5 (11.4)	11.8	1FK7101-5AF71-1 ■ ■ ■ ■	4	79.9 (70.7)	21 (46.3)	
	5.37 (7.20) ²⁾	36 (26.6)		20.5 (15.1) ²⁾	16.5 ²⁾	1FK7103-5AF71-1 ■ ■ ■ ■	4	105 (92.9)	29 (63.9)	
		8.17 (11.0)	48 (35.4)	26.0 (19.2)	18	1FK7105-5AF71-1 ■ ■ ■ ■	4	156 (138)	39 (86.2)	

Encoder systems for motors without DRIVE-CLiQ interface:

IC2048S/R encoder
AM2048S/R encoder¹⁾
AM32S/R encoder¹⁾
Multi-pole resolver
2-pole resolver

A
E
G
S
T

Encoder systems for motors with DRIVE-CLiQ interface:

IC22DQ encoder
AM22DQ encoder¹⁾
AM16DQ encoder¹⁾
R15DQ resolver
R14DQ resolver

D
F
K
U
P

Shaft extension:

Fitted key and keyway
Fitted key and keyway
Plain shaft
Plain shaft

Shaft and flange accuracy:

Tolerance N
Tolerance N
Tolerance N
Tolerance N

Holding brake:

Without
With
Without
With

A
B
G
H

Degree of protection:

IP64
IP65 and DE flange IP67
IP64 (IP54 for 1FK701) and anthracite paint finish
IP65, DE flange IP67 and anthracite paint finish

0
2
3
5

To select the type of construction and degree of protection, see Technical definitions.