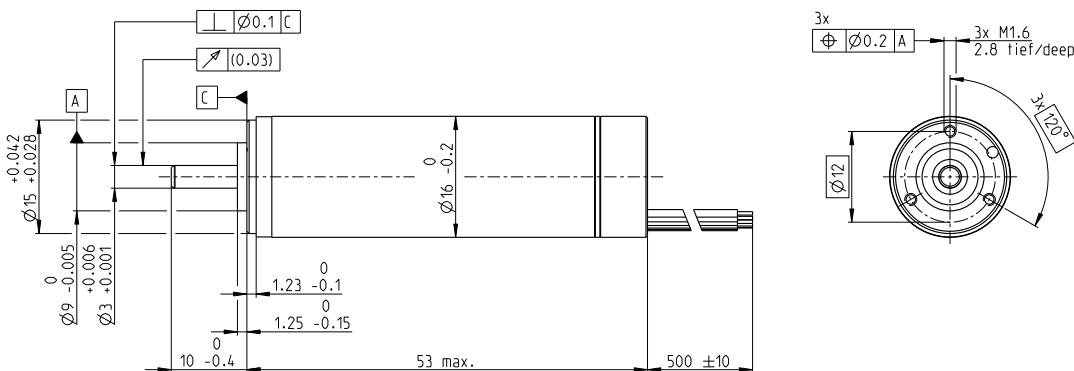


ECX PRIME 16 L Ø16 mm, brushless, BLDC motor

Sterilizable, ceramic bearings

Key Data: 60/75 W, 25.3 mNm, 40 000 rpm



M 1:1

Motor data

1_	Nominal voltage	V	24	36
2_	No load speed	rpm	17700	19900
3_	No load current	mA	108	86.9
4_	Nominal speed	rpm	16100	18400
5_	Nominal torque	mNm	25.3	24.6
6_	Nominal current (max. continuous current)	A	2.06	1.51
7_	Stall torque	mNm	304	338
8_	Stall current	A	23.5	19.7
9_	Max. efficiency	%	87.2	87.4
10_	Terminal resistance	Ω	1.02	1.83
11_	Terminal inductance	mH	0.0329	0.0586
12_	Torque constant	mNm/A	12.9	17.2
13_	Speed constant	rpm/V	740	555
14_	Speed/torque gradient	rpm/mNm	58.5	59.1
15_	Mechanical time constant	ms	1.27	1.29
16_	Rotor inertia	gcm²	2.08	2.08

Thermal data

17_	Thermal resistance housing-ambient	K/W	16.7	
18_	Thermal resistance winding-housing	K/W	1.65	
19_	Thermal time constant winding	s	5.69	
20_	Thermal time constant motor	s	459	
21_	Ambient temperature	°C	-40...+135	
22_	Max. winding temperature	°C	155	

Mechanical data ball bearings

23_	Max. speed	rpm	40 000	
24_	Axial play	mm	0..0.14	
	Preload	N	1.0	
	Direction of force		push	
25_	Radial play		preloaded	
26_	Max. axial load (dynamic)	N	1.0	
27_	Max. force for press fits (static)	N	50	
	(static, shaft supported)	N	1000	
28_	Max. radial load [mm from flange]	N	10 [5]	

Other specifications

29_	Number of pole pairs	2		
30_	Number of phases	3		
31_	Weight of motor	g	66	
32_	Typical noise level [rpm]	dBA	52 [20 000]	

Connection motor (Cable AWG 22)

- red Motor winding 1
- black Motor winding 2
- white Motor winding 3

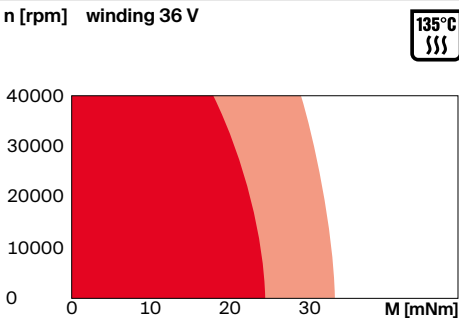
Connection sensors (Cable AWG 26)

- yellow Hall sensor 1
 - brown Hall sensor 2
 - grey Hall sensor 3
 - blue GND
 - orange V_{Hall} 3...24 VDC
- Wiring diagram for Hall sensors see p. 67

Configuration

- Flange back: end cap/flange with thread holes
- Shaft front/back: length/diameter
- Electric connection: cable length/connection alignment

Operating range



Sterilization information

- Number of sterilization cycles: typically 1000
- Sterilization with steam
- Temperature +134°C ±4°C
- Compression pressure up to 2.3 bar
- Rel. humidity 100%
- Cycle length 18 min.

- Continuous operation
- Continuous operation with reduced thermal resistance R_{th2} 50%
- Short term operation

Details on catalog page 44

Modular system

- Gear 384_GPX 16 HP STE
- Stages 1-3

Motor Control

- 547_DEC Module 50/5
- 551_ESCON 36/3 EC
- 551_ESCON Module 50/5
- 553_ESCON 50/5
- 557_ESCON2 Micro 60/5