

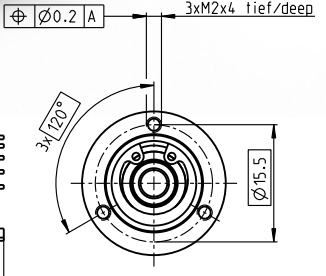
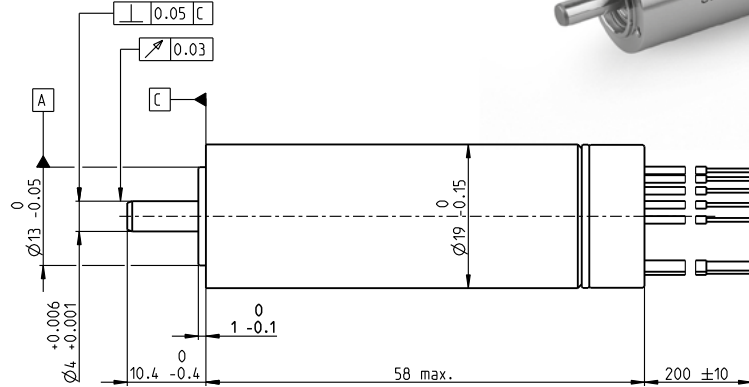
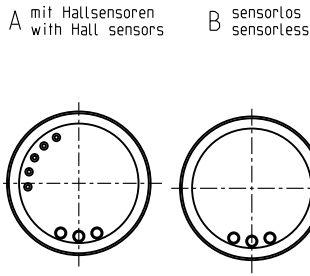
ECX SPEED 19 L brushless BLDC motor Ø19 mm

NEW

Sterilizable



120/145 W 22.7 mNm 70000 rpm



Lage des Kabelabganges zum Befestigungsbohrbild ±25°
alignment of cables relative to mounting holes ±25°

M 1:1

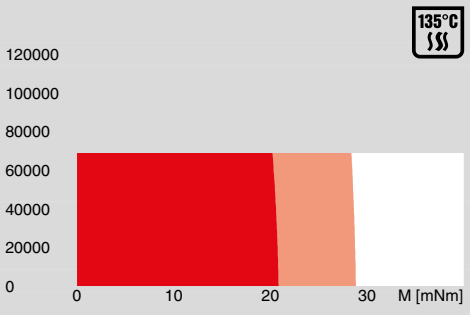
Motor Data

1_ Nominal voltage	V	18	24	36	48
2_ No load speed	rpm	60800	60800	57600	63400
3_ No load current	mA	426	319	194	172
4_ Nominal speed	rpm	57200	57600	54700	60500
5_ Nominal torque (max. continuous torque)	mNm	23.3	22.7	23.5	22.6
6_ Nominal current (max. continuous current)	A	8.56	6.27	4.09	3.27
7_ Stall torque	mNm	503	551	613	655
8_ Stall current	A	178	146	103	90.8
9_ Max. efficiency	%	91	91	91	92
10_ Terminal resistance	Ω	0.101	0.164	0.35	0.528
11_ Terminal inductance	mH	0.0096	0.0171	0.0428	0.0627
12_ Torque constant	mNm/A	2.82	3.76	5.95	7.21
13_ Speed constant	rpm/V	3390	2540	1600	1320
14_ Speed/torque gradient	rpm/mNm	121	111	94.2	97.1
15_ Mechanical time constant	ms	2.27	2.07	1.77	1.82
16_ Rotor inertia	gcm ²	1.79	1.79	1.79	1.79

Thermal data

17_ Thermal resistance housing-ambient	K/W	14
18_ Thermal resistance winding-housing	K/W	0.9
19_ Thermal time constant winding	s	2.97
20_ Thermal time constant motor	s	580
21_ Ambient temperature	°C	-40...+135
22_ Max. winding temperature	°C	155

Operating Range



Sensorless: typical 2000 sterilization cycles
Hall sensors: typical 1000 sterilization cycles
Sterilization with steam
Temperature +134°C ±4°C
Compression pressure up to 2.3 bar
Rel. humidity 100%
Cycle length 18 min.

Mechanical data ball bearings

23_ Max. speed	rpm	70000
24_ Axial play	mm	0...0.29
Preload	N	4
Direction of force		pull
25_ Radial play		preloaded
26_ Max. axial load (dynamic)	N	4
27_ Max. force for press fits (static)	N	70
(static, shaft supported)	N	5000
28_ Max. radial load [mm from flange]	N	12 [5]

Other specifications

29_ Number of pole pairs		1
30_ Number of commutator segments		3
31_ Weight of motor	g	108
32_ Typical noise level [rpm]	dB(A)	51 [50000]

maxon Modular System

maxon gear	maxon sensor	maxon motor control
		379_ESCON Module 50/4 EC-S
		379_ESCON Module 50/5
		379_ESCON 50/5
		379_ESCON 70/10
		382_DEC Module 50/5

Connection A and B, motor (Cable AWG 20)

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

Connection A, sensors (Cable AWG 26)

orange	V _{Hall} 3...24 VDC
blue	GND
yellow	Hall sensor 1
brown	Hall sensor 2
grey	Hall sensor 3

Wiring diagram for Hall sensors see page 33

Connection NTC (Cable AWG 26)

purple	NTC
purple	NTC

Resistance 25°C: 10 kOhm ±1%, beta (25–85°C): 3490 K

Configuration

Flange front: thread in flange/center thread
Flange back: without/center thread
Shaft front: length/diameter
Electric connection: cable length/pin connection
Temperature Sensor: NTC-Thermistor