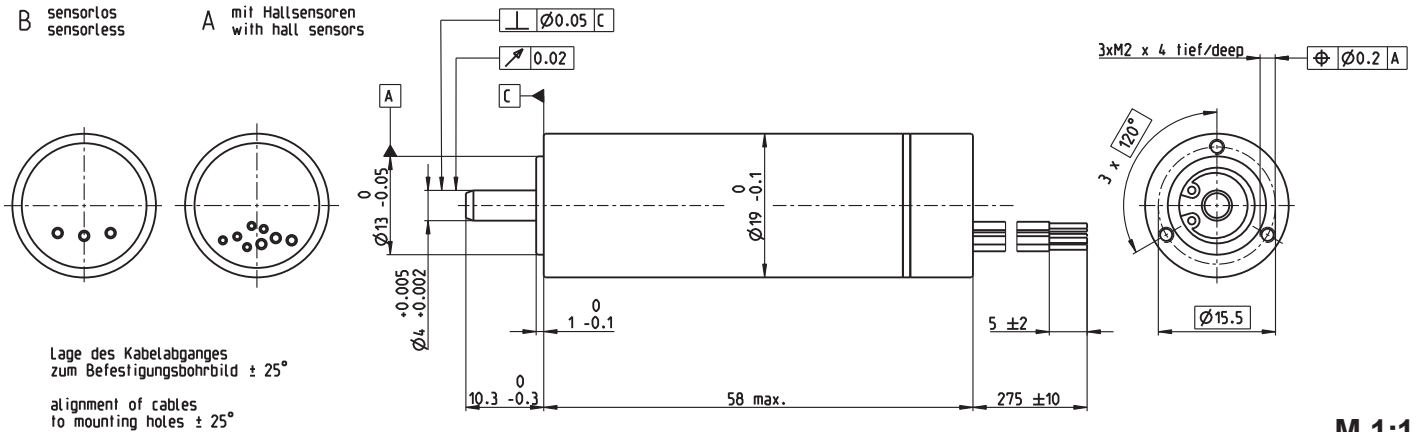


EC 19 Ø19 mm, brushless, 120 Watt

High Power, sterilizable



- Stock program
- Standard program
- Special program (on request)

Part Numbers	
A with Hall sensors	475521 475522 467168
B sensorless	475525 475526 474493

Motor Data (provisional)				
Values at nominal voltage				
1 Nominal voltage	V	24	30	36
2 No load speed	rpm	62200	60400	54400
3 No load current	mA	272	208	147
4 Nominal speed	rpm	59100	57600	51700
5 Nominal torque (max. continuous torque)	mNm	19.8	20.3	20.8
6 Nominal current (max. continuous current)	A	5.59	4.45	3.4
7 Stall torque	mNm	536	574	540
8 Stall current	A	146	121	85.6
9 Max. efficiency	%	92	92	92
Characteristics				
10 Terminal resistance phase to phase	Ω	0.165	0.247	0.421
11 Terminal inductance phase to phase	mH	0.018	0.03	0.053
12 Torque constant	mNm/A	3.68	4.73	6.31
13 Speed constant	rpm/V	2600	2020	1510
14 Speed/torque gradient	rpm/mNm	116	106	101
15 Mechanical time constant	ms	2.2	2	1.91
16 Rotor inertia	gcm ²	1.81	1.81	1.81

Specifications	
Thermal data	
17 Thermal resistance housing-ambient	14.0 K/W
18 Thermal resistance winding-housing	0.808 K/W
19 Thermal time constant winding	2.46 s
20 Thermal time constant motor	572 s
21 Ambient temperature	-40...+135°C
22 Max. winding temperature	155°C
Mechanical data (preloaded ball bearings)	
23 Max. speed	100000 rpm
24 Axial play at axial load < 3 N	0 mm
> 3 N	max. 0.1 mm
25 Radial play	preloaded
26 Max. axial load (dynamic)	3.1 N
27 Max. force for press fits (static) (static, shaft supported)	21 N
28 Max. radial load, 5 mm from flange	1400 N
Other specifications	
29 Number of pole pairs	1
30 Number of phases	3
31 Weight of motor	110 g

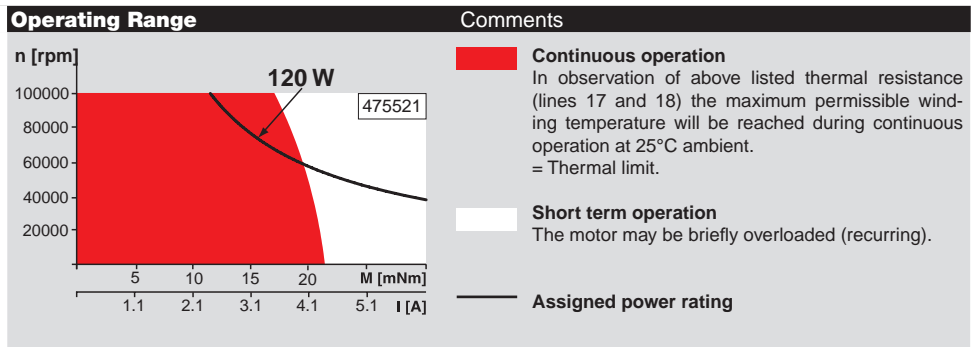
Values listed in the table are nominal.

Connection A and B, motor (Cable AWG 22)

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

Connection A, sensors (Cable AWG 26)

- green V-Hall 3...24 VDC
 - blue GND
 - red/grey Hall sensor 1
 - black/grey Hall sensor 2
 - white/grey Hall sensor 3
- Wiring diagram for Hall sensors see p. 33



Application	Sterilization information
135°C Sterilizable Devices	Sensorless: typically 2000 autoclave cycles Hall sensor: typically 1000 autoclave cycles
Orthopedic Drills & Saws	Sterilization with steam
Surgical Reamers	Temperature +134°C ± 4°C
Arthroscopic Shavers	Compression pressure up to 2.3 bar
Surgical Staplers	Rel. humidity 100 %
Dental Tools	Cycle length 18 minutes

maxon modular system	Overview on page 20–25
Planetary Gearhead sterilizable Ø19 mm 0.01 - 0.315 Nm Page 289	Recommended Electronics: Notes Page 24 ESCON Mod. 50/4 EC-S 379 ESCON Module 50/5 379 ESCON 50/5 380 DEC Module 50/5 382