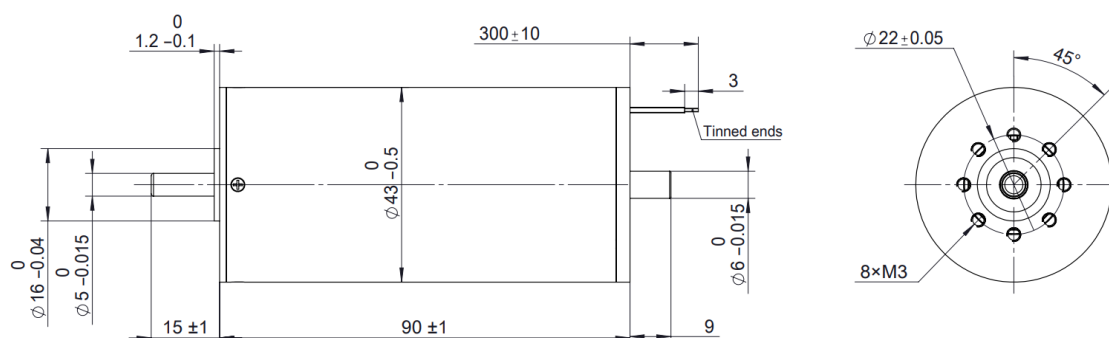


Φ43 mm brushless motor (high power)



Motor Data		107009001				
Values at nominal voltage						
1 Nominal voltage	U_N	24				V
2 No load speed	n_0	8500				rpm
3 No load current	I_0	500				mA
4 Stall torque	M_H	2669.4				mNm
5 Stall current	M_I	100.0				A
6 Max. efficiency	η_{max}	86				%
7 Nominal power	W_N	139.7				W
8 Nominal speed	n_N	7939				rpm
9 Nominal torque (max.continuous torque)	M_N	176				mNm
10 Nominal current (max.continuous current)	I_N	7.1				A
Characteristics						
11 Terminal resistance phase to phase	R	0.24				Ω
12 Terminal inductance phase to phase	L	80				uH
13 Back-EMF constant	K_E	2.81				mV/rpm
14 Torque constant	K_M	26.83				mNm/A
15 Speed constant	K_n	356				rpm/V
16 Current constant	K_I	0.037				A/mNm
17 Speed / torque gradient	$\Delta n/\Delta M$	3.18				rpm/mNm
18 Mechanical time constant	τ_m	39.0				ms
19 Rotor inertia	J	89.0				gcm ²
Specifications						
20 Operating temperature range:						
-Motor			-40.....+100			°C
-winding, max permissible			+125			°C
21 Direction of rotation			electronically reversible			
22 Max. speed	n_{max}		20000			rpm
23 Number of pole pairs			1			
24 Number of phases			3			
25 Magnet material			NdFeB			
26 Hall sensors			digital			
Mechanical data						
27 Bearing type			ball bearings, preloaded			
28 Axial play			0 - 0.3			mm
29 Max. axial load (dynamic)			6			N
30 Max. force for press fits (static)			90			N
(static, shaft supported)			1200			N
31 Max. radial loading, 5 mm from flange			28			N
Product						
32 Weight of motor		745				g

Dimensional drawing



Option, cable and connection information

Connection Motor (Cable AWG20)

Motor winding A	red
Motor winding B	black
Motor winding C	yellow

V _{hall} 4.5V.....24V	
GND	
Hall sensors A	
Hall sensors B	
Hall sensors C	