

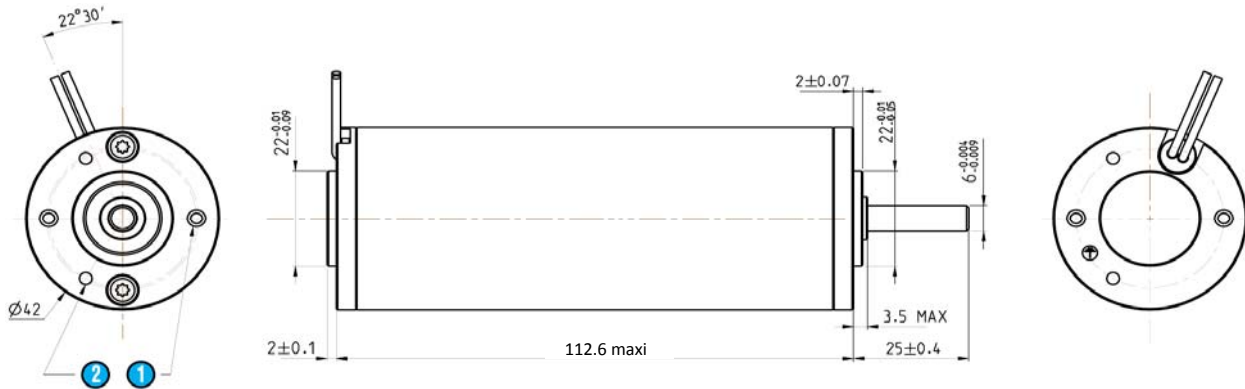
# Dc mind Brush motor

## Data sheet

89 850 007

Series

89 850



1 2 x M3 at 180°, depth 5 mm and 32mm diameter

2 2 x holes of 2,75 mm diameter, at 120°, depth 5 mm and 32mm diameter

## General characteristics

Motor characteristics at (1)		12 Vdc	
<b>At no load - A</b>			
Speed	rpm	4 000	+10%
Current	A	0,31	
EMC (55022)	class	B	
Life (2)	h	10 000	
<b>At max efficiency - B</b>			
Speed	rpm	3 500	+10%
Torque (4)	mNm	52	
Power output	W	19	
Current	A	2,1	
Efficiency	%	76	
EMC (55022)	class	B	
Life (2)	h	5 000	
<b>At nominal load - C</b>			
Speed	rpm	3 000	+10%
Torque (4)	mNm	110	
Power output	W	35	
Current	A	4,1	
Efficiency	%	70	
EMC (55022)	class	B	
Life (2)	h	4 000	
<b>Others</b>			
Starting torque	mNm	420	
Starting current	A	15	
Max. output power	W	44	
<b>Motor parameters (1)</b>			
Allowed speed	rpm	10 000	max
Rated torque	mNm	110	
Electrical time constant	ms	0,6	
Mechanical time constant	ms	15	
Factor torque / speed	mNm/rpm	0,11	
Dry friction	mNm	4,5	
Viscous friction	mNm/krpm	1,4	
Rotor inertia	gcm <sup>2</sup>	160	
Thermal Resistance	°/W	7	
Stator poles		2	
Collector blades		8	
Cogging torque	mNm	8	
Weight (g)	g	620	
Noise level	dBA	35	

Winding parameters (1)			
Torque constant	mNm/A	29,0	+10%
Constant electromotive force	Volts/(rad/s)	0,029	+10%
	V / Krpm	3,04	+10%
Resistance	Ohms	0,8	+10%
Inductance	mH	0,5	
Start voltage	Volts	0,7	
Current demagnetization	(magnets at 150 ° C)	A	70

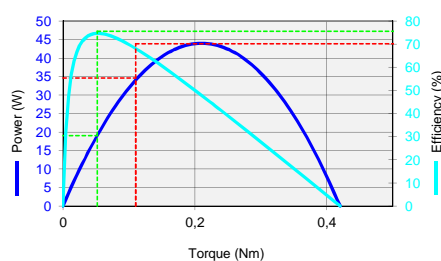
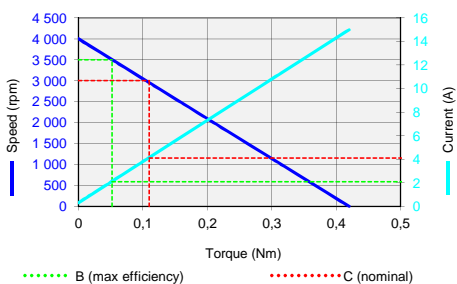
Generic parameters			
Motor for direct current supply			✓
Output shaft with ball bearings			✓
Max. Radial force (20mm from front face)	N	100	
Max. axial force(5)	N	70	
Temperature range	CEI60068-2-1/2	°C	-30 / 70
Storage temperature		°C	-40 / 100
Dielectric (1min 2mA 50Hz)	CEI60335	Vdc	500
Motor insulation	CEI60085	class	E (120°C)
Enameled wire insulation		class	F (155°C)
Salt spray	CEI60068-2-58	severity	2
Degree of protection	CEI60529	IP	65
<b>EMC</b>			
Electrostatic Discharge	CEI61000-4-2	level	3
Electrical fast transient / burst test	CEI61000-4-4	level	3
Surge test	CEI61000-4-5	level	2
Radiated emission		class	B

Approvals		
Designed in accordance with UL		1004
ROHS	2002/95/CE	✓
EC		✓
Designed for medical machines using the standard		EN60601-1

Values without tolerances, are average production values.

- (1) Cold motor, 20 ° C ambient temperature
- (2) Continuous cycle, one direction
- (3) Continuously rated torque, zero radial and axial loads
- (4) Max torque for continuous operation at 20 ° C, decrease this value for higher ambient temperature
- (5) Pinion or pulley fitting are done at the Crouzet factory, before final assembly.

## Curves



Performance / Motor curves (1)					
Voltage supply		Vdc			
		12			
		Output data			
		A	B	C	D
Speed	rpm	4 000	3 500	3 000	0
Torque (4)	mNm	0	52	110	420
Current	A	0,3	2,1	4,1	15,0
Power output	W	-	19	35	-
Efficiency	%	-	76	70	-