

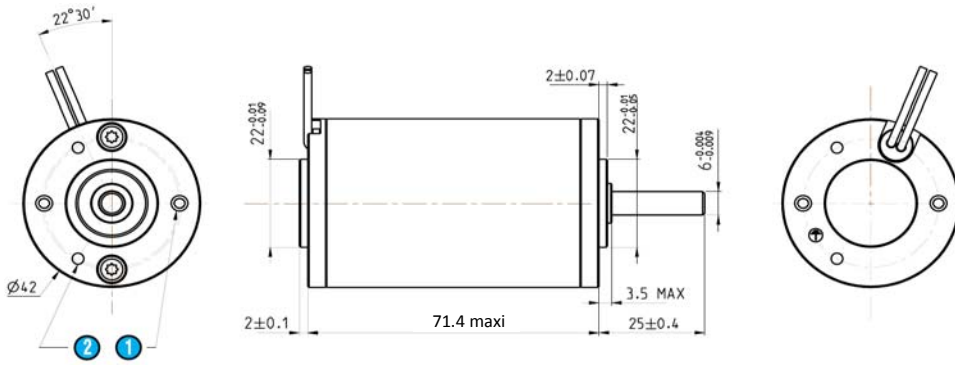
# Dc mind Brush motor

## Data sheet

# 89 810 003

## Series

# 89 810



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)		48 Vdc	
<b>At no load - A</b>			
Speed	rpm	4 100	+/-10%
Current	A	0,07	
Life (2)	h	10 000	
<b>At max efficiency - B</b>			
Speed	rpm	3 400	+/-10%
Torque (4)	mNm	31	
Power output	W	11	
Current	A	0,35	
Efficiency	%	65	
Life (2)	h	5 000	
<b>At nominal load - C</b>			
Speed	rpm	2 980	+/-10%
Torque (4)	mNm	50	
Power output	W	16	
Current	A	0,53	
Efficiency	%	61	
Life (2)	h	4 000	
<b>Others</b>			
Starting torque	mNm	180	
Starting current	A	1,7	
Max. output power	W	19	

Motor parameters (1)		
Allowed speed	rpm	10 000 max
Rated torque	mNm	50
Electrical time constant	ms	0,8
Mechanical time constant	ms	18
Factor torque / speed	mNm/rpm	0,04464
Dry friction	mNm	3
Viscous friction	mNm/krpm	1
Rotor inertia	gcm <sup>2</sup>	75
Thermal Resistance	°W	10
Stator poles		2
Collector blades		8
Cogging torque	mNm	3
Weight (g)	g	340
Noise level	dBA	35

Winding parameters (1)			
Torque constant	mNm/A	109	+/-10%
Constant electromotive force	Volts/(rad/s)	0,109	+/-10%
Resistance	V / Krpm	11,38	+/-10%
Inductance	Ohms	28	+/-10%
Start voltage	mH	22	
Current demagnetization	Volts	1,4	
	(magnets at 150 ° C)	A	7

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
Without EMC filter			✓
<b>Approvals</b>			
Designed in accordance with UL			1004
ROHS	2002/95/CE		✓
EC			✓

Values without tolerances, are average production values.

(1) Cold motor, 20 ° C ambient temperature

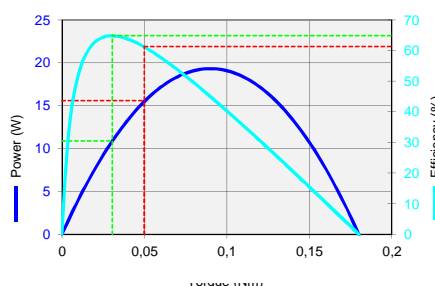
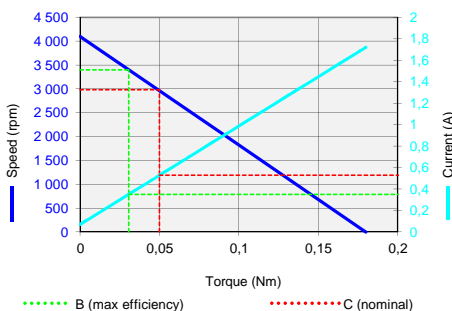
(2) Continuous cycle, one direction

(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	48		
		Output data			
		A	B	C	D
Speed	rpm	4 100	3 400	2 980	0
Torque (4)	mNm	0	31	50	180
Current	A	0,1	0,4	0,5	1,7
Power output	W	-	11	16	-
Efficiency	%	-	65	61	-

Specifications subject to change without notice. Updated february 29, 2012.