

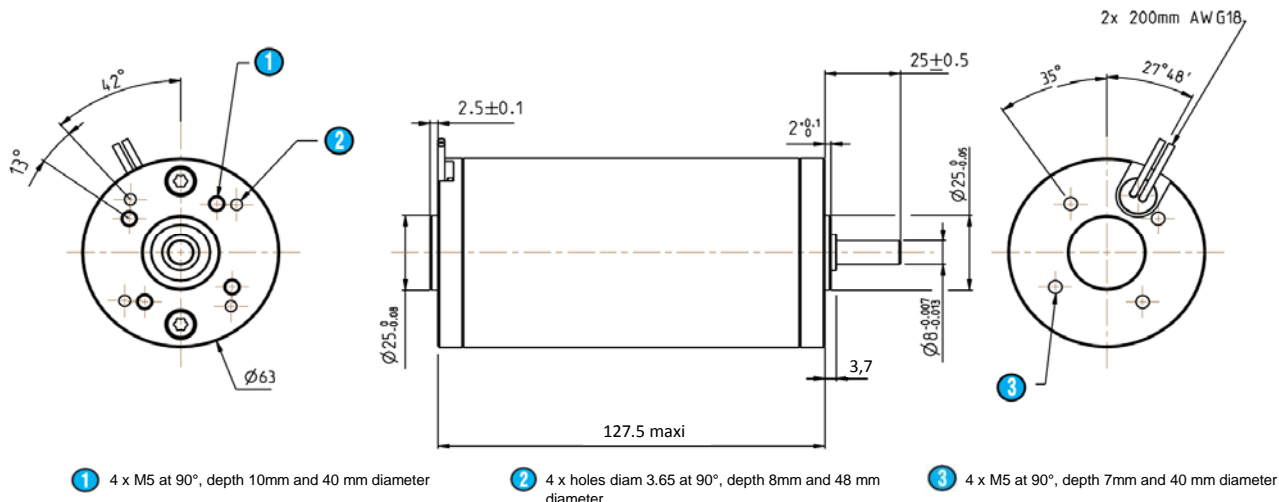
# Dc mind Brush motor

## Data sheet

89 890 011

Series

89 890



## General characteristics

Motor characteristics at (1)		24 Vdc	
<b>At no load - A</b>			
Speed	rpm	4 000	+/-10%
Current	A	0,34	
EMC (55022)	class	B	
Life (2)	h	20 000	
<b>At max efficiency - B</b>			
Speed	rpm	3 660	+/-10%
Torque (4)	mNm	179	
Power output	W	69	
Current	A	3,5	
Efficiency	%	82	
EMC (55022)	class	B	
Life (2)	h	10 000	
<b>At nominal load - C</b>			
Speed	rpm	3 430	+/-10%
Torque (4)	mNm	290	
Power output	W	104	
Current	A	5,4	
Efficiency	%	80	
EMC (55022)	class	B	
Life (2)	h	5 000	
<b>Others</b>			
Starting torque	mNm	2 000	
Starting current	A	35,3	
Max. output power	W	209	
<b>Motor parameters (1)</b>			
Allowed speed	rpm	10 000	max
Rated torque	mNm	290	
Electrical time constant	ms	1,1	
Mechanical time constant	ms	13	
Factor torque / speed	mNm/rpm	0,50877	
Dry friction	mNm	10	
Viscous friction	mNm/krpm	2,4	
Rotor inertia	gcm <sup>2</sup>	650	
Thermal Resistance	°/W	4	
Stator poles		2	
Collector blades		12	
Cogging torque	mNm	9	
Weight (g)	g	1 600	
Noise level	dBA	35	

Winding parameters (1)			
Torque constant	mNm/A	57,3	+/-10%
Constant electromotive force	Volts/(rad/s)	0,057	+/-10%
	V / Krpm	6,00	+/-10%
Resistance	Ohms	0,7	+/-10%
Inductance	mH	0,73	
Start voltage	Volts	0,6	
Current demagnetization	(magnets at 150 ° C)	A	120

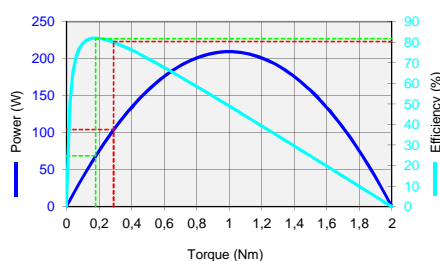
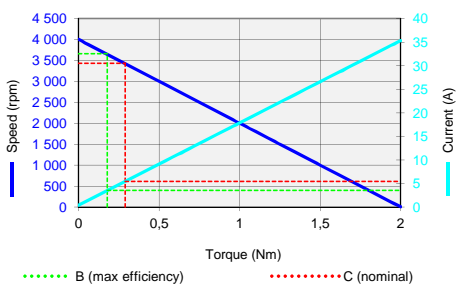
Generic parameters			
Motor for direct current supply			✓
Output shaft with ball bearings			✓
Max. Radial force (20mm from front face)	N	150	
Max. axial force(5)	N	100	
Temperature range	CEI60068-2-1/2	°C	-30 / 70
Storage temperature		°C	-40 / 100
Dielectric (1min 2mA 50Hz)	CEI60335	Vdc	500
Motor insulation	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	24		
		Output data			
		A	B	C	D
Speed	rpm	4 000	3 660	3 430	0
Torque (4)	mNm	0	179	290	2 000
Current	A	0,3	3,5	5,4	35,3
Power output	W	-	69	104	-
Efficiency	%	-	82	80	-

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