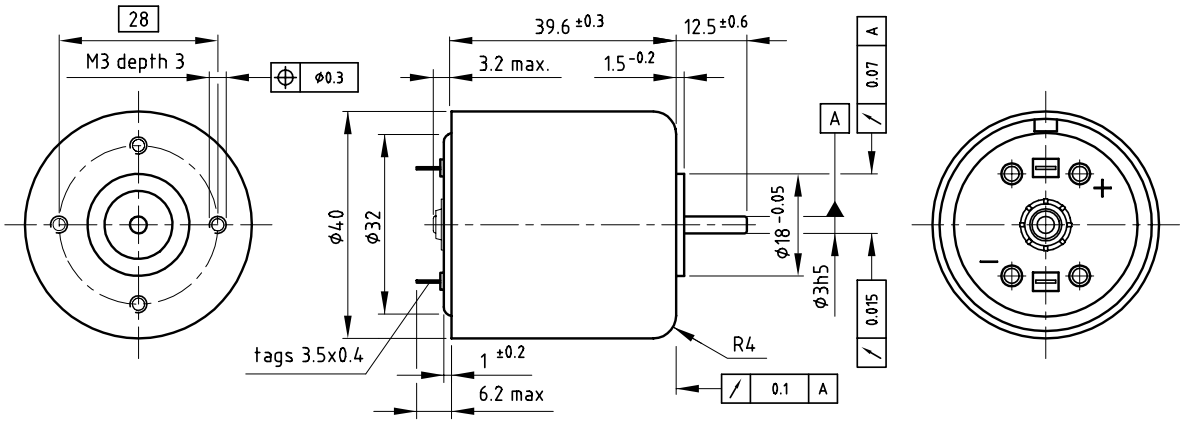
CL40 Coreless DC motor 7 Watt

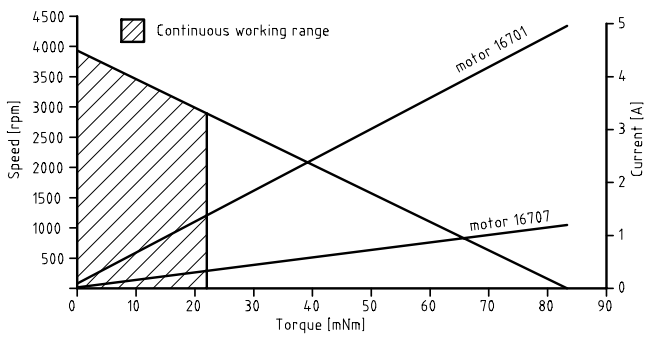
Dimensional drawing



Motor data

Motor order number 9904 120 +		16701	16702	16703	16704	16705	16706	16707
Nominal Voltage	[V]	6	9	12	15	18	24	30
Nominal Torque	[mNm]	22	22	22	22	22	22	22
Nominal Speed	[rpm]	2650	3010	2700	2920	3050	2980	2930
Nominal Current	[mA]	1520	1090	760	635	540	400	320
No load Speed	[rpm]	3780	4050	3780	3940	4050	3980	3940
No load Current	[mA]	60	44	30	25	22	16	13
EMF at 3000 rpm	[V]	4.71	6.59	9.42	11.3	13.2	17.9	22.6
Torque constant	[mNm/A]	15.0	21.0	30.0	36.0	42.0	57.0	72.0
Terminal Resistance	[Ohm]	1.2	2.2	4.6	6.3	8.4	15.6	25.1
Starting Torque at nominal Voltage	[mNm]	74	86	77	85	89	87	85
Starting Current at nominal Voltage	[A]	5.0	4.1	2.6	2.4	2.1	1.5	1.2
Rotor Inductance	[mH]	0.15	0.29	0.59	0.85	1.16	2.14	3.41
Rotor Moment of Inertia	[kgm ^{2}]	$4x10^{-6}$	$4x10^{-6}$	$4x10^{-6}$	$4x10^{-6}$	$4x10^{-6}$	$4x10^{-6}$	$4x10^{-6}$
Mechanical time constant	[ms]	20	20	20	19	19	19	19
Thermal resistance winding-housing	[K/W]	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Thermal resistance housing-ambient	[K/W]	13	13	13	13	13	13	13

Performance curve



General data

*	Type of bearings	sleeve	
*	Commutation system	precious metal	
*	Maximum radial load 10 mm from mounting front	5	N
*	Maximum axial load	0.5	N
*	Ambient temp. range operating	-10/+60	°C
*	Ambient temp. range storage	-40/+70	°C
*	Mass of motor	200	g

Product combinations

* Gearbox P32A
* Gearbox P32B
* Gearbox S40A
* Gearbox S38A

Options

* Ball bearings
* Connecting wires
* Integrated EMI suppresion
* Tacho
* Special shafts
* Other supply voltages
* Encoder

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1999-10-06 / subject to change

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