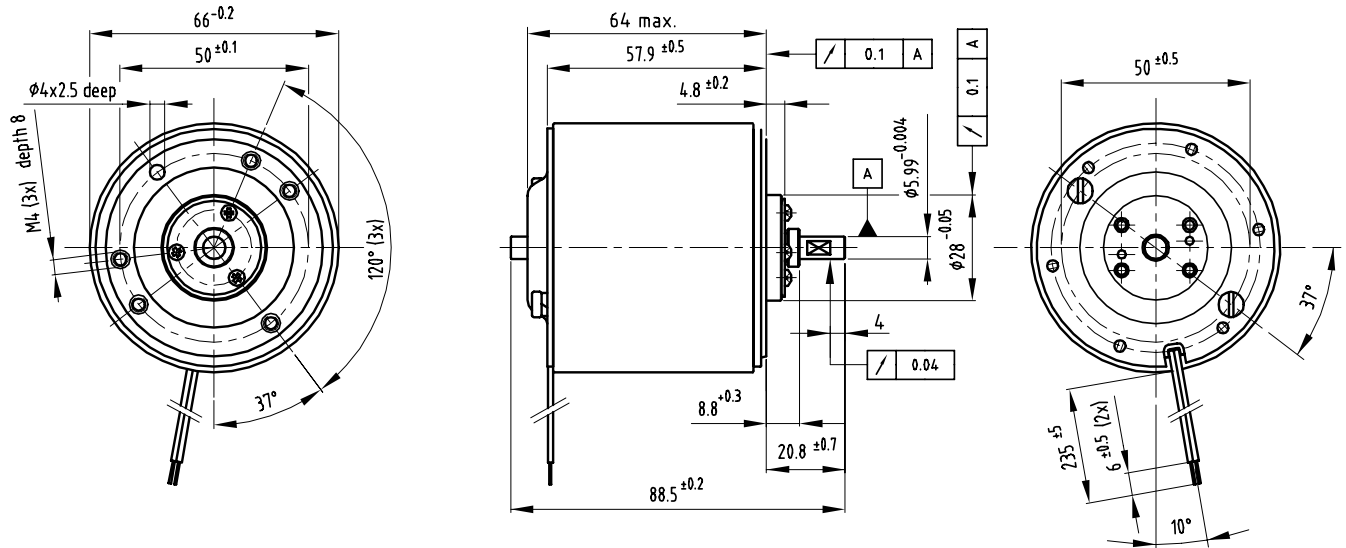


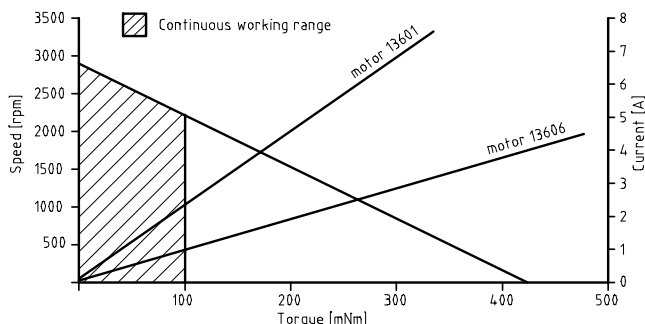
Dimensional drawing



Motor data

Motor order number	9904 120 +	13601	13602	13603	13604	13605	13606
Nominal Voltage	[V]	12	15	18	24	30	36
Nominal Torque	[mNm]	100	100	100	100	100	100
Nominal Speed	[rpm]	1800	2090	2200	2170	2280	2540
Nominal Current	[mA]	2330	2060	1750	1300	1080	980
No load Speed	[rpm]	2560	2830	2890	2850	2960	3210
No load Current	[mA]	81	77	66	49	41	40
EMF at 3000 rpm	[V]	13.9	15.7	18.5	25.0	30.1	33.3
Torque constant	[mNm/A]	44.2	50.1	59.0	79.6	95.8	106
Terminal Resistance	[Ohm]	1.6	2.0	2.5	4.6	6.6	8.0
Starting Torque at nominal Voltage	[mNm]	335	384	418	418	436	477
Starting Current at nominal Voltage	[A]	7.6	7.7	7.1	5.3	4.6	4.5
Rotor Inductance	[mH]	0.59	0.75	1.04	1.90	2.75	3.37
Rotor Moment of Inertia	[kgm ²]	21x10 ⁻⁶	21x10 ⁻⁶	21x10 ⁻⁶	21x10 ⁻⁶	21x10 ⁻⁶	21x10 ⁻⁶
Mechanical time constant	[ms]	17	16	15	15	15	15
Thermal resistance winding-housing	[K/W]	2.9	2.9	2.9	2.9	2.9	2.9
Thermal resistance housing-ambient	[K/W]	5.0	5.0	5.0	5.0	5.0	5.0

Performance curve



General data

*	Type of bearings	ball
*	Commutation system	graphite / copper
*	Number of commutator segments	9
*	Maximum radial load 10 mm from mounting front	100 N
*	Maximum axial load	15 N
*	Ambient temp. range operating	-10/+60 °C
*	Ambient temp. range storage	-40/+70 °C
*	Mass of motor	900 g

Product combinations

- * Gearbox S64A
- * Gearbox S66A
- * Gearbox P52A

Options

- * Special shafts
- * Integrated EMI suppression
- * Other supply voltages
- * Encoder