

DC Motor Ø 52

1.13.044.XXX



1.13.044.XXX

| Design | |
|------------------|--------------------------------|
| Commutator | Copper/12-segments |
| RFI Protection | - |
| Insulation class | Winding H, otherwise A |
| Protection class | IP40 |
| Commutation | Graphite/copper-carbon brushes |
| Armature | sintered, straight slot |
| Magnet system | Permanent magnets, 2-pole |
| Bearings | 2 preloaded ball bearings |
| Housing | Steel, corrosion protected |
| End shields | on both sides zinc die-cast |

| Type 1.13.044.XXX | | | 235 | 236 | 413 | 414 |
|-------------------------|-------|-----|------|------|------|------|
| Characteristics* | | | | | | |
| Rated voltage | V | V | 12 | 24 | 12 | 24 |
| Rated power | P_N | W | 47 | 47 | 56 | 56 |
| Rated torque | T_N | mNm | 150 | 150 | 180 | 180 |
| Rated speed | n_N | rpm | 3000 | 3000 | 3000 | 3000 |
| Rated current | I_N | A | 6.2 | 3.1 | 7.3 | 3.5 |

| No load characteristics* | | | | | | |
|---------------------------------|-------|-----|------|------|------|------|
| No load speed | n_o | rpm | 3900 | 3900 | 3900 | 3800 |
| No load current | I_o | A | 0.93 | 0.46 | 0.86 | 0.41 |

| Starting characteristics* | | | | | | |
|----------------------------------|-------|-----|-----|-----|-----|-----|
| Starting torque | T_s | mNm | 640 | 640 | 840 | 940 |
| Starting current | I_s | A | 24 | 12 | 31 | 17 |

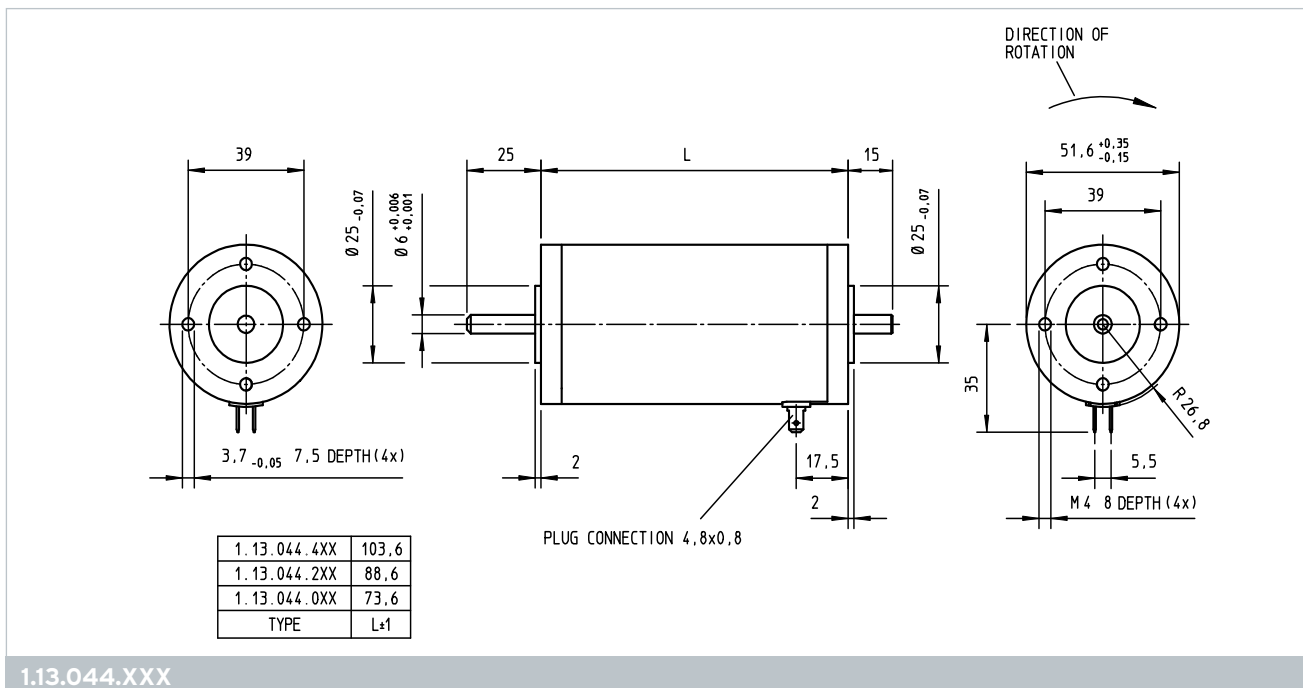
| Performance characteristics | | | | | | |
|------------------------------------|-----------|-----|-----|-----|-----|-----|
| max. Output power | P_{max} | W | 65 | 65 | 85 | 85 |
| max. Constant torque | T_{max} | mNm | 100 | 100 | 120 | 120 |

| Motor parameters* | | | | | | |
|---------------------------|---------------|----------------|--------|--------|--------|--------|
| Weight | G | g | 765 | 765 | 940 | 940 |
| Rotor inertia | J | gcm^2 | 180 | 180 | 250 | 250 |
| Terminal resistance | R | Ohm | 0.5 | 2.0 | 0.38 | 1.4 |
| Mech. time constant | τ_m | ms | 13 | 13 | 13 | 13 |
| Electr. time constant | τ_e | ms | 1.0 | 1.0 | 1.0 | 1.0 |
| Speed regulation constant | R_m | rpm/mNm | 6 | 6 | 4.7 | 4.1 |
| Torque constant | k_t | mNm/A | 28 | 56 | 27 | 57 |
| Thermal resistance | R_{th1} | K/W | 4.8 | 4.8 | 3.4 | 3.4 |
| Thermal resistance | R_{th2} | K/W | 4.6 | 4.6 | 4.3 | 4.3 |
| Axial play | | mm | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Direction of rotation | bidirectional | | | | | |

Operational conditions

| | | | |
|---|----------------|-------------------------------------|-----------|
| Temperature range | T | °C | -10 - +70 |
| Humidity at room temperature | rel. F. | % | 15 - 55 |
| No condensation | | g H ₂ O / m ³ | 2 - 25 |
| Axial force | F _A | N | 30 |
| Radial force, 15 mm from mounting surface | F _R | N | 120 |
| Operating mode at P _{max} | | | S5 |
| Operating mode at T _{max} | | | S1 |

* at 25° C



Customized versions

The following modifications are available upon request:

- ▶ Encoder with resolution of 400 or 1000 pulses
- ▶ Chokes and capacitors
- ▶ Speed adjustment through winding change
- ▶ Lead sets
- ▶ Shaft length on both ends
- ▶ Shaft configuration (flat, grooved, etc.)
- ▶ Drive configuration
- ▶ Adapters and mounting plates

Note: Can be used with Bühler gear motor types 1.61050.xxx, 1.61.090.xx