



Model 380 Drive

BRUSHLESS DC MOTOR

A commercial brushless DC motor with a shaft designed to take any one of several standard Micropump magnet hubs. The magnet hub will drive the pump magnet. The controller electronics are to be packaged inside the motor enclosure. The design is flexible enough to allow customization of the electronics where required.

Several versions of this motor may be available; deviations of versions from this specification will be detailed on the individual motor print.

PERFORMANCE SUMMARY

SPEED (MIN) / (MAX)

500 rpm / 4600 rpm

TORQUE (MAX)

105.92 mNm (15 oz-in)

POWER SOURCE

24 VDC

MOUNT

A-Mount or B-Mount

POWER (MAX)

70 W

WEIGHT

0.91 kg (2 lbs.)

ELECTRICAL INTERFACE

POWER INPUT

- ▶ Input voltage: Nominal voltage is 24 VDC. Motor should operate when a voltage from 20 Volts DC to 30 Volts DC is applied.

SPEED CONTROL INPUT

- ▶ Standard configuration will be 0-5 volt closed-loop control,
- ▶ Control will be 1 volt per 1000 RPM +/-5% at no load

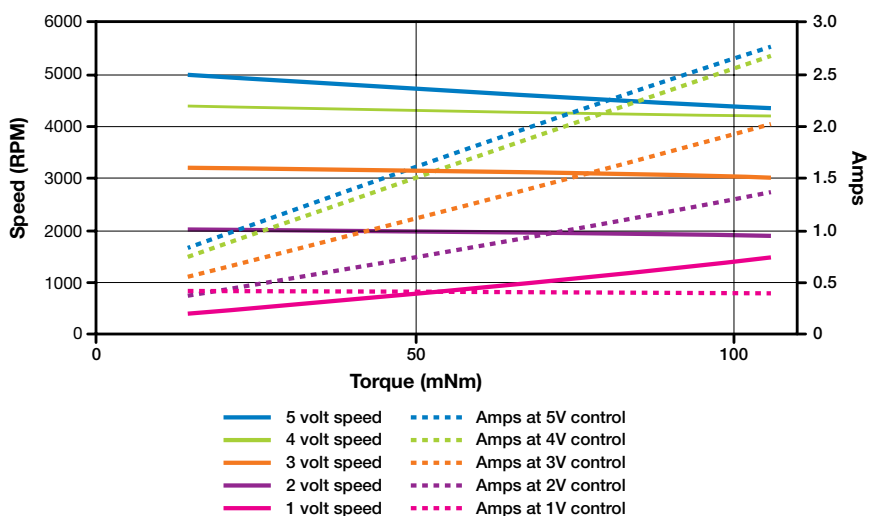
TACHOMETER OUTPUT

- ▶ A 0-5 volt square wave with 2 cycles per revolution. (End user will multiply tachometer frequency in Hz by 30 to obtain motor speed in RPM.) Output should be HCMOS compatible.

CURRENT

- ▶ When 20-28 volts are applied, there will be no operating point where the motor will draw more than 3.4 Amps.

MOTOR PERFORMANCE

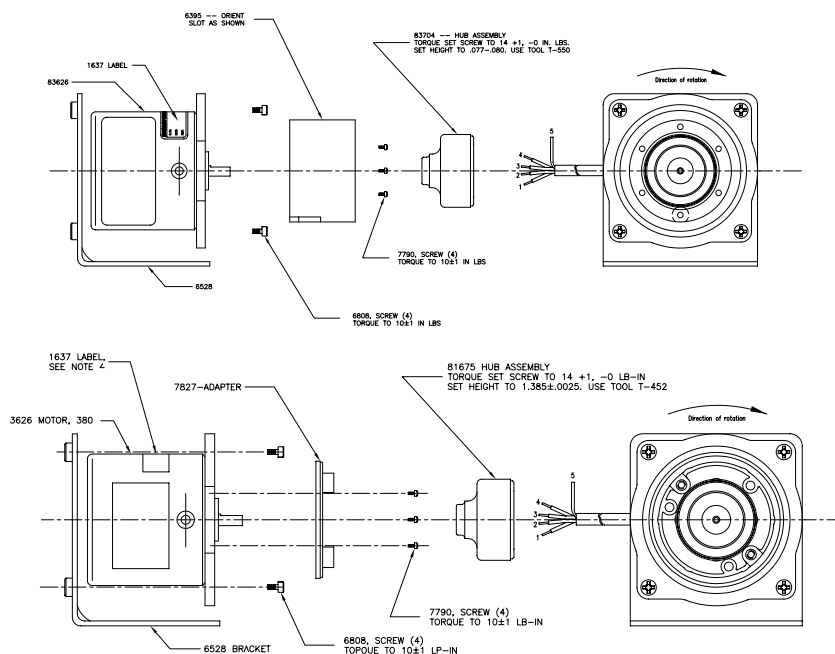


WIRING

LEAD-WIRE ASSIGNMENTS;

LEAD	FUNCTION	COLOR	DESCRIPTION
1	+24V	Red	0-24 VDC Supply
2	Common	Black	GROUND
3	Speedcontrol	White	0--5 V
4	Tacho out	Green	2 pulses per revolution
5	Shield	—	Motor housing

DIMENSIONS



MICROPUMP®

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OPERATING CHARACTERISTICS

ORIENTATION

- ▶ Any

MOTOR INSULATION

- ▶ IEC-85 (Class B -- 130 degrees Celsius, Maximum)
- ▶ ANSI/IEEE Standard 100-1977

STORAGE TEMPERATURE

- ▶ -40 to + 70 degrees Celsius

OPERATING HUMIDITY

- ▶ 8-90% RH

STORAGE HUMIDITY

- ▶ 5-95% RH

SERVICE LIFE

- ▶ MTBF greater than 50,000 hours and L10 greater than 20,000 hours, continuous duty, full load and with one momentary stop/start per hour.

HOUSING

- ▶ Aluminum

SAFETY

- ▶ Thermal shut down when the flange temperature exceeds 90°C +/- 4°C .

APPLICABLE STANDARDS

SAFETY STANDARDS

- ▶ Compliant with UL 1004

ELECTROMAGNETIC COMPATIBILITY (EMC)

STANDARDS

- ▶ 89/336/EEC EMC Directive
- ▶ EE-55014 Part 1 General Requirements

ENVIRONMENTAL ENCLOSURE STANDARDS

- ▶ IP-55
- ▶ Motor and enclosed controller will meet the requirements of the NEMA 4 standards

MECHANICAL SHOCK AND VIBRATION

- ▶ IEC 68-2-6 Fc
- ▶ IEC 68-2-27 Ea

COMPATIBLE PRODUCTS

- ▶ GA
- ▶ GJ
- ▶ GB (DB-380-A only)