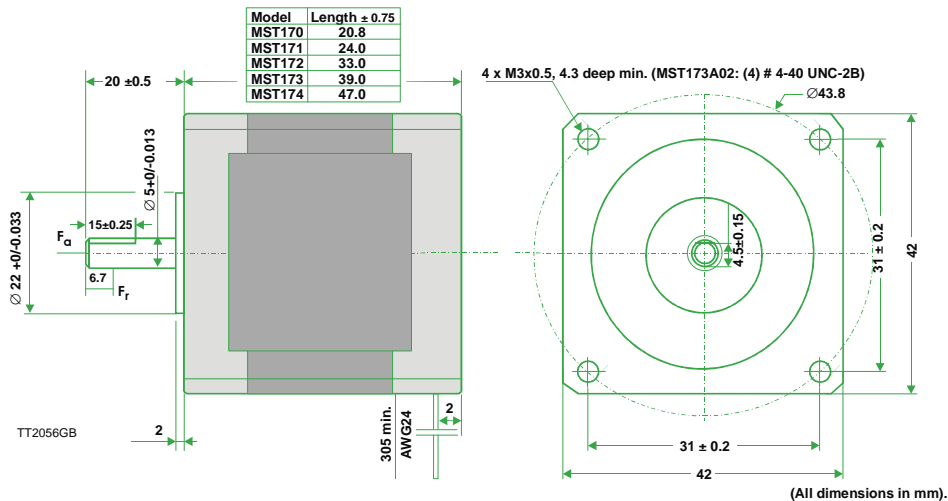


High Quality, High Torque Step Motors MST170, 171, 172, 173, 174



- Highest torque density rating in the industry
- High torque-to-inertia for faster start and stop
- Rugged design and long life bearings
- High power, cooler running, rare-earth magnet design
- Exposed-lamination housing, optimized for high torque and smooth, accurate microstepping
- Standard NEMA17 mounting
- Facilities for encoders, double shaft, different shaft types, etc.
- High axial and radial shaft load
- Cost-effective alternative to servo motors
- Low Noise
- Option for planetary gearhead 5, 10, 25, 50 or 100:1



High Quality, High Torque Step Motors MST170-174

Specifications

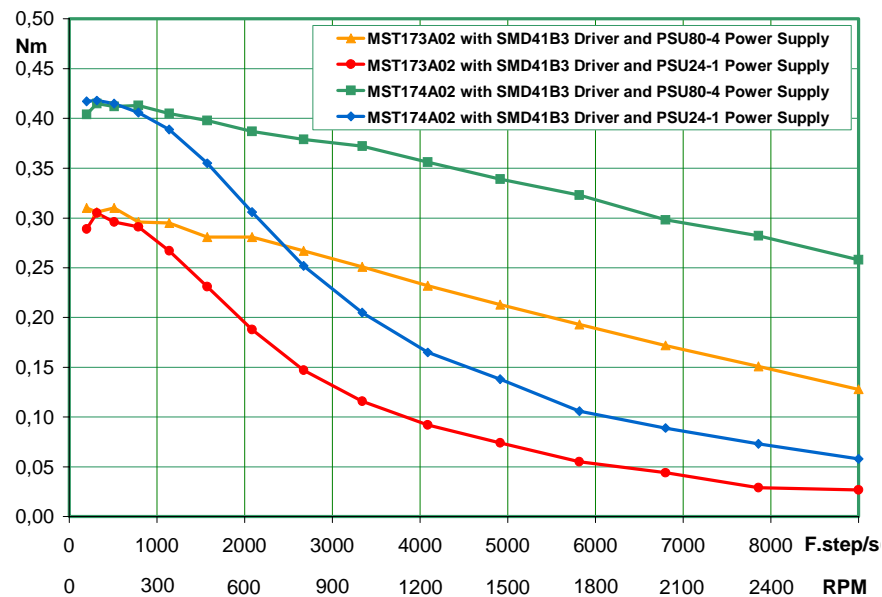
Step motors MST170-174 have been designed by JVL for use with the entire range of JVL Step Motor Drivers and Controllers. MST170-174 are high torque step motors especially made for mini- and microstep operation.

General Specifications	
Step angle	1.8 Deg/200 steps/rev.
Number of phases	4 (8 leads) or 2 (4 leads)
Fullstep angle accuracy, No load	±5% of 1.8° = 0.09°
Ambient temperature	-10°C to +50°C
Temperature rise	Max. 80°C
Insulation resistance	100 MOhm Min. (500V DC)
Insulation class	Class B=130
Cable Length	305 mm
Protection	IP41 Option IP54 with oil seal
Radial play	Max. 0.025mm (0.5kg load)
End play	Max. 0.075mm (1kg load)
Radial load (F _r)	Max. 3 kg (applied 6.7mm from shaft end)
Thrust load (F _t)	Max. 3 kg
Max. drive voltage	80 VDC

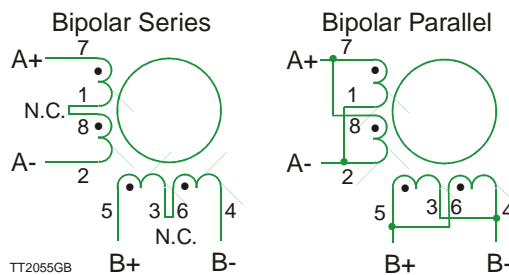
Nominal data at 25°C. Actual data will vary ±10%

Electrical and Mechanical Specifications	MST170A02	MST171A02	MST172A02	MST173A02-2	MST174A02	
					Parl.	Ser.
Holding Torque (Nm)	0.07	0.13	0.22	0.34	0.46	
Running Torque (low speed)(Nm)	0.06	0.12	0.2	0.31	0.42	
Phase Current (A)	1.4	1.4	1.4	1.41	2.0	1.0
Phase Resistance (Ohm)	1.4	1.9	2.1	2.4	1.2	4.8
Phase Inductance (mH)	1.2	2.0	2.5	2.4	1.1	4.4
Phase Voltage (V)	1.9	2.6	2.8	4.7	3.4	6.7
Weight (kg)	0.150	0.150	0.200	0.250	0.330	
Rotor Inertia (kgcm ²)	0.016	0.016	0.035	0.053	0.068	
Detent Torque (Nm)	0.006	0.007	0.008	0.011	0.015	

Torque-Velocity Profiles



Connections



Color	Pin no.	Bipolar Series	Bipolar Parl.	4 leads
Black	7	A+	A+	A+
White/Black	1	Pin 8 and 1 connected together	A-	
White/Orange	8		A+	
Orange	2	A-	A-	A-
Red	5	B+	B+	B+
White/Red	3	Pin 3 and 6 connected together	B-	
White/Yellow	6		B+	
Yellow	4	B-	B-	B-

Motor direction can be reversed by changing A+ and A-
Note: N.C. not to be connected to other places in Bipolar Series.



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