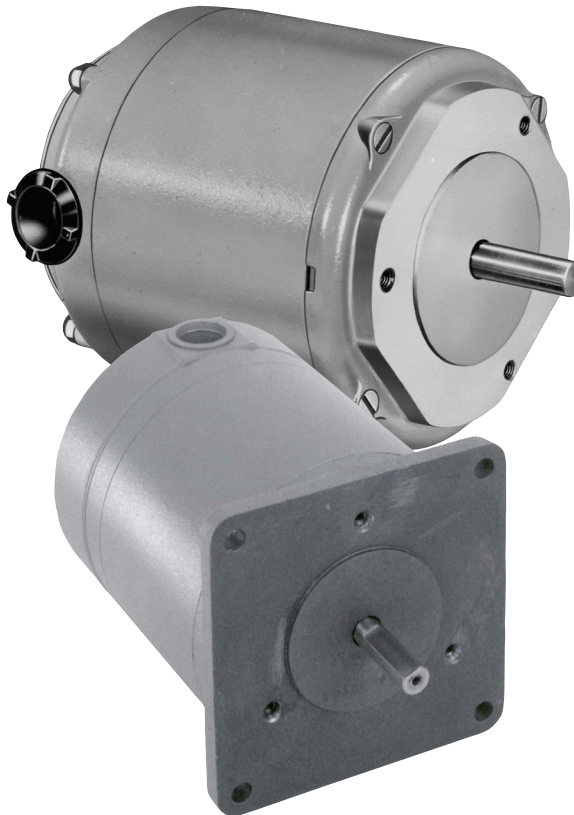


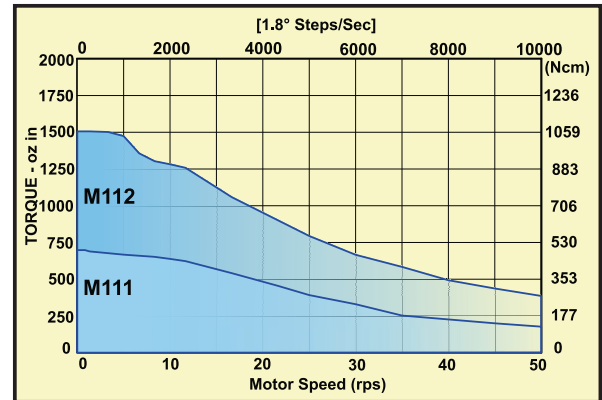
M11

Standard 110mm Frame Size (NEMA Size 42)



Performance Envelope

(see page DC34 for detailed torque-speed curves)

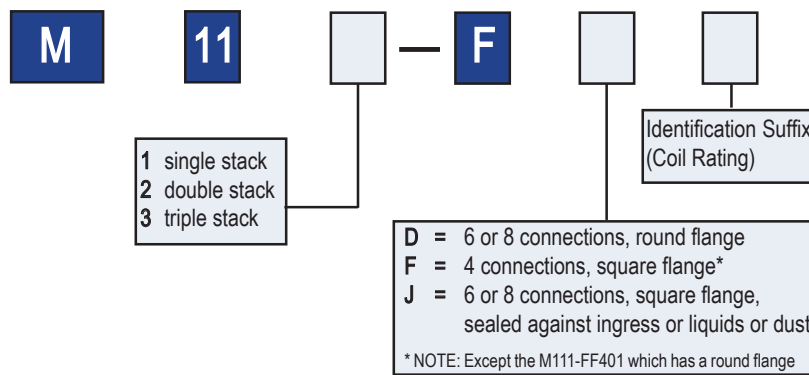


- ◆ Up to 200% rated torque reserve capacity
- ◆ $\pm 5\%$ typical step accuracy
- ◆ Standard terminal box, encoders, and precision gearheads available
- ◆ Available with four, six or eight connections
- ◆ Customized configurations available



Motor Frame	Minimum Holding Torque		Rotor Inertia	Weight		Maximum Shaft Load		Minimum Residual Torque
	Unipolar 2Ø on	Bipolar 2Ø on		Net	Ship	Overhang	Thrust	
	oz-in (Ncm)	oz-in (Ncm)		lb (kg)	lb (kg)	lb (kg)	lb (kg)	
M111	625 (441)	850 (600)	0.055 (3.93)	8.0 (3.63)	9.25 (4.2)	25 (11.3)	50 (22.7)	6 (4.24)
M112	1125 (794)	1390 (981)	0.114 (8.06)	16.7 (7.57)	16.5 (7.4)	25 (11.3)	50 (22.7)	12 (8.47)

SLO-SYN® DC STEP MOTORS



M11

4-CONNECTION STEP MOTORS

Model Number	Flange	Winding Specifications			
See Next Page for Options		Voltage VDC	Current Amperes	Resistance ohms	Inductance mH
M111-FF-206	SQ	3.5	5.0	0.70	9.2
M111-FF-401	R	4.0	3.4	1.10	18.0
M112-FF-206	SQ	3.0	6.0	0.49	8.8
M112-FF-401	SQ	2.0	4.0	0.49	8.8

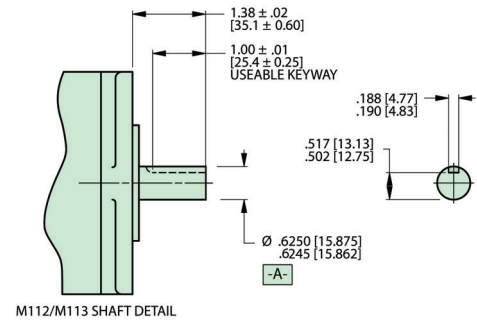
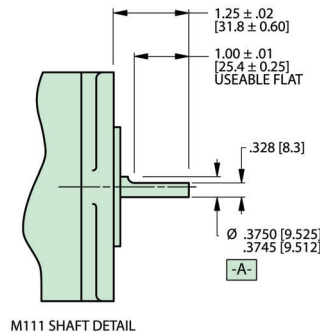
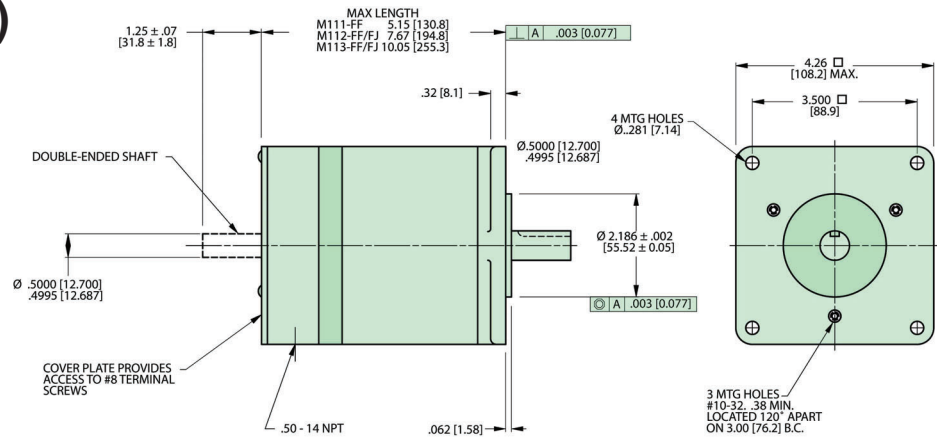
6-CONNECTION STEP MOTORS

6-CONNECTION STEP MOTORS									
Model Number	Flange	Winding Specifications							
		Unipolar				Bipolar Series			
See next page for options		Voltage VDC	Current Amperes	Resistance ohms	Inductance mH	Voltage VDC	Current Amperes	Resistance ohms	Inductance mH
M111-FD12	R	2.26	6.1	0.37	2.3	3.2	4.3	0.74	9.2
M112-FD12	R	3.66	6.1	0.8	5.3	5.2	4.3	1.2	21.2

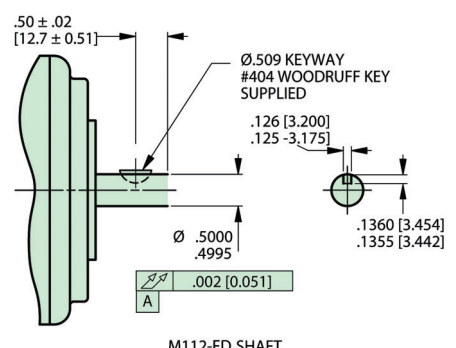
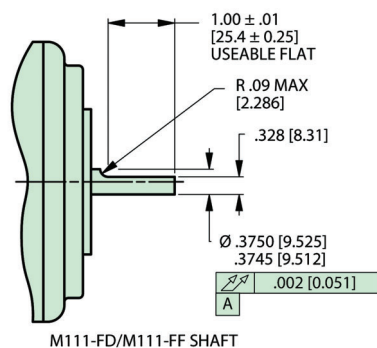
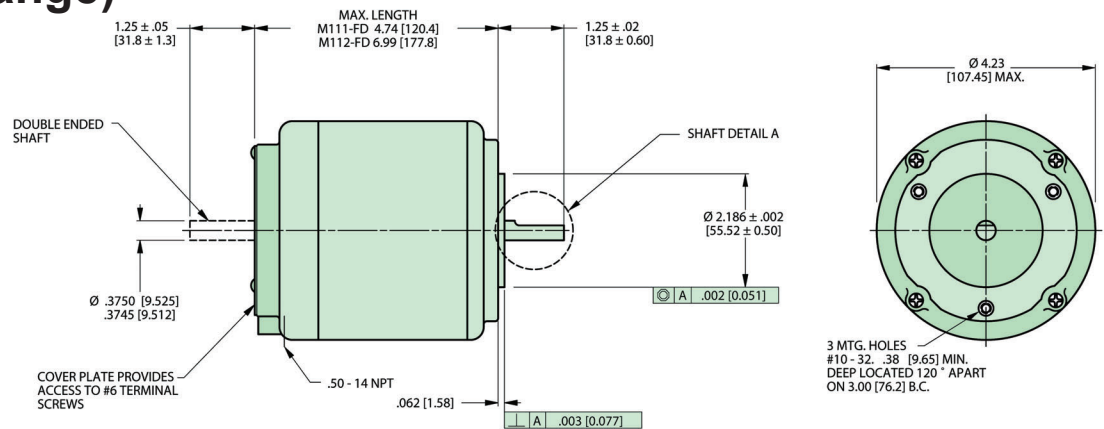
8-CONNECTION STEP MOTORS

8-CONNECTION STEP MOTORS														
Model Number	Flange	Winding Specifications												
		Unipolar				Bipolar Series				Bipolar Parallel				
See next page for options		Voltage VDC	Current Amps	Resistance ohms	Inductance mH	Voltage VDC	Current Amps	Resistance ohms	Inductance mH	Voltage VDC	Current Amps	Resistance ohms	Inductance mH	
M111-FD-8012		R	2.3	6.1	0.37	2.3	3.2	4.3	0.73	9.2	1.6	8.6	0.19	2.3
M112-FJ-8012		SQ	3.7	6.1	0.60	5.3	5.2	4.3	1.2	21.0	2.6	8.6	0.30	5.3

Terminal Box Motor Dimensions (SQ Flange)

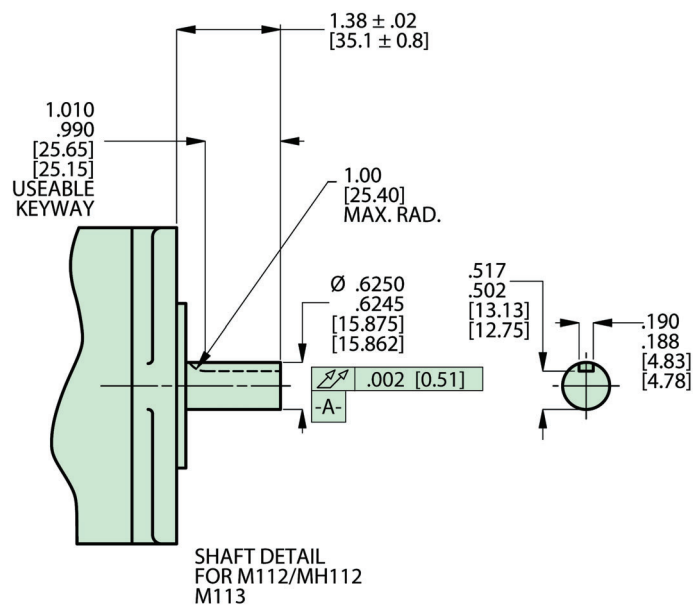
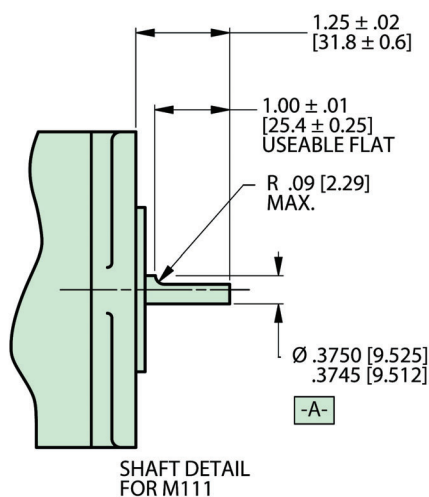
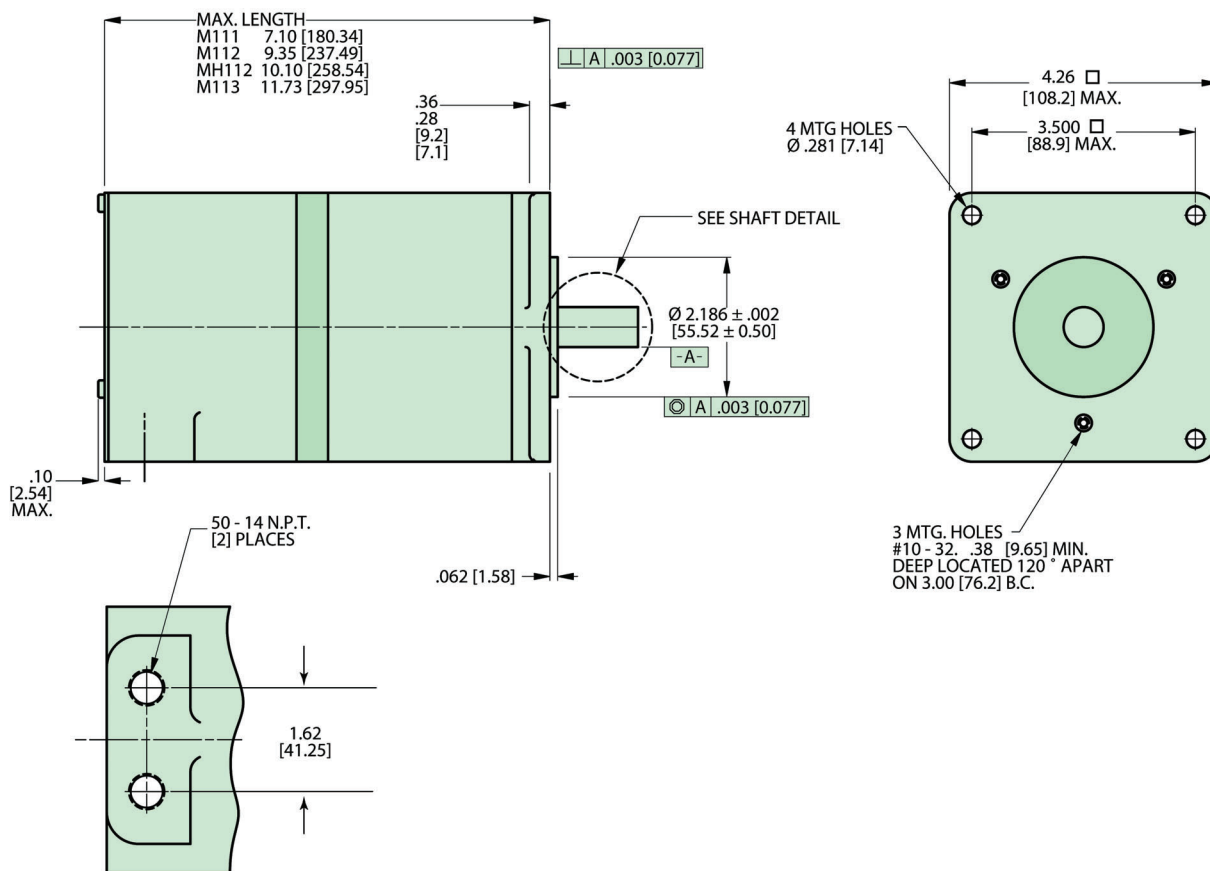


(R Flange)



Encoder

M11

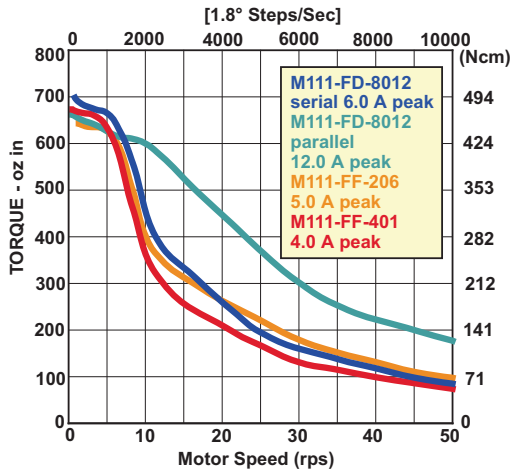


SLO-SYN® DC STEP MOTORS

M11

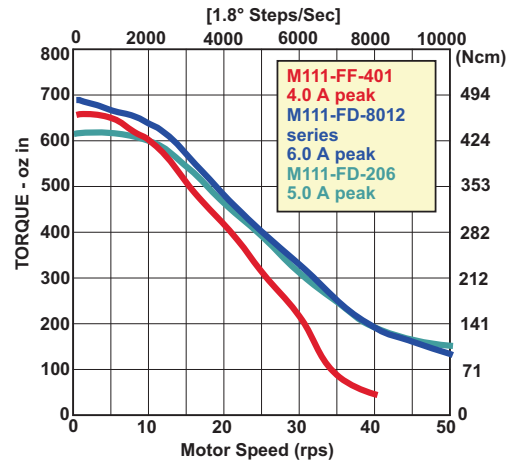
170 V Bipolar - Microstep

◆ Data measured with SS2000D3, D6, or D12 Packaged Drive

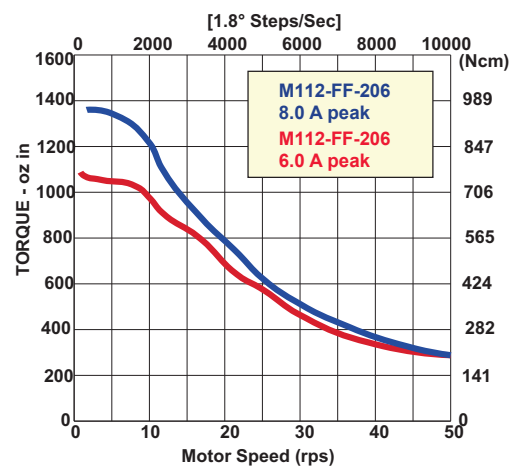
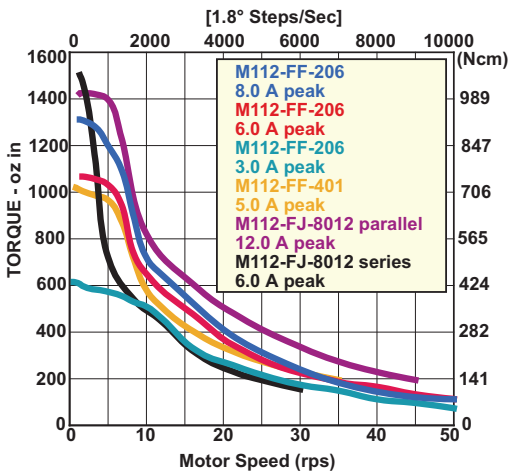


340 V Bipolar - Microstep

◆ Data measured with SS2000D12 Packaged Drive



M11

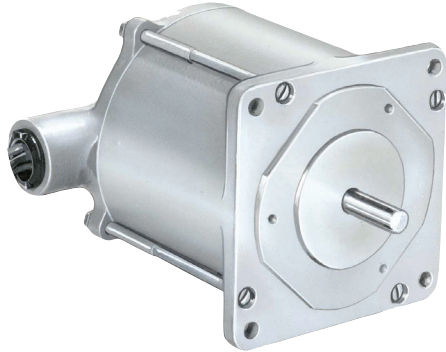


M112

◆ The curves do not show system resonances which will vary with system mechanical parameters.

◆ Duty cycle is dependent on torque, speed, Drive parameters, and heat sink conditions. Maximum case temperature is 100°C.

Hazardous Duty 110mm Frame Size



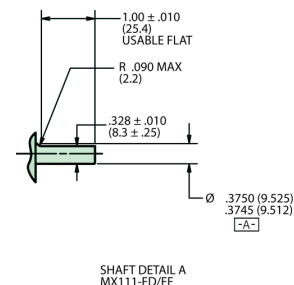
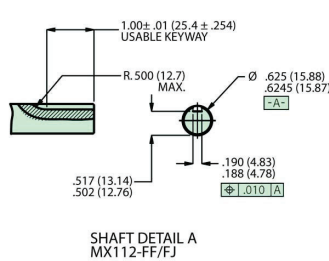
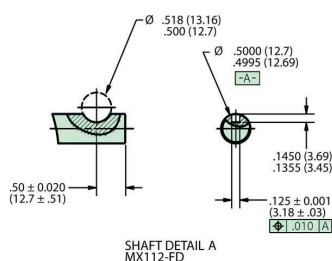
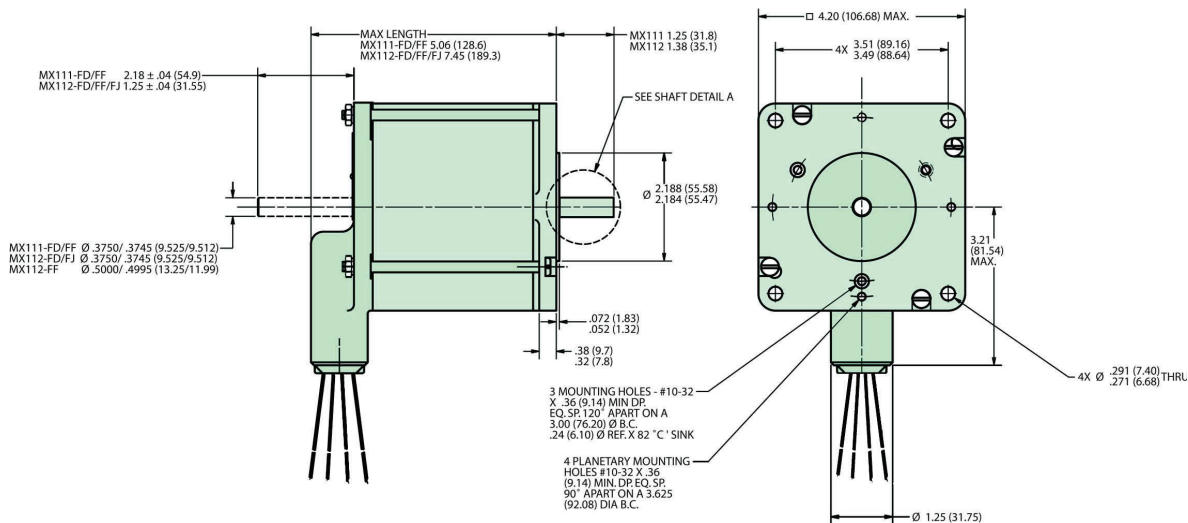
- ◆ Up to 200% rated torque reserve capacity
- ◆ $\pm 5\%$ typical step accuracy
- ◆ Hazardous Duty
UL Class 1, Division 1, Group D



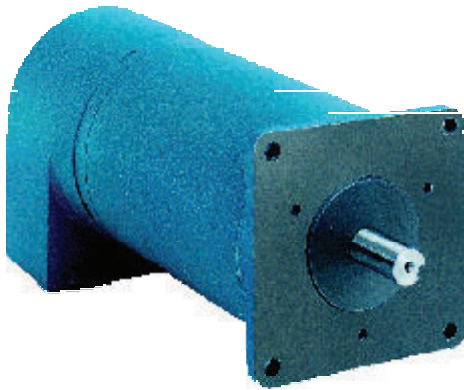
4-CONNECTION STEP MOTORS				
Model Number	Winding Specifications			
	Voltage (VDC)	Current (Amperes)	Resistance (ohms)	Inductance (mH)
MX111-FF-401U	3.8	1.1	3.6	16
MX112-FF-401U	1.7	2.7	0.64	2.5

Change U to EU for double ended shaft

Dimensions

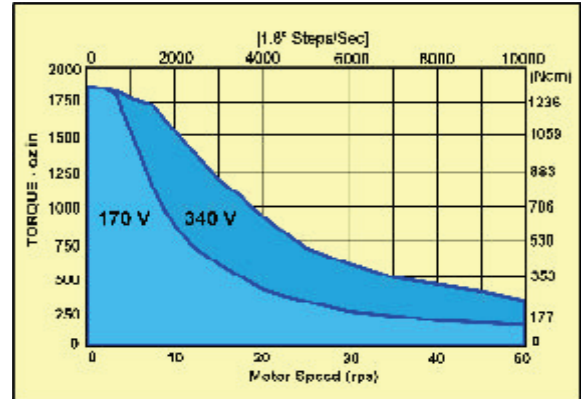


High Torque 110mm Frame Size (NEMA Size 42)



Performance Envelope

(see page DC39 for detailed torque-speed curves)



- ◆ Can withstand up to 2-1/2 times rated current (instantaneous) without demagnetization
- ◆ $\pm 5\%$ typical step accuracy
- ◆ Available with four or eight connections
- ◆ Class F insulation system
- ◆ Standard keyway

MH112 Specifications*

Rotor Inertia	0.133 oz-in-s ² (9.42 kg-cm ²)
Weight (Net)	20.5 lbs. (9.3 kg)
Weight (Ship)	24 lbs. (11 kg)
Maximum Overhang Load	50 lbs. (23 kg)
Maximum Thrust Load	100 lbs. (45 kg)
Minimum Residual Torque	85 oz-in (60 Ncm)

*Values shown are reference information. Parameters to be used as part of a specification should be verified with the factory.

4-CONNECTION STEP MOTORS

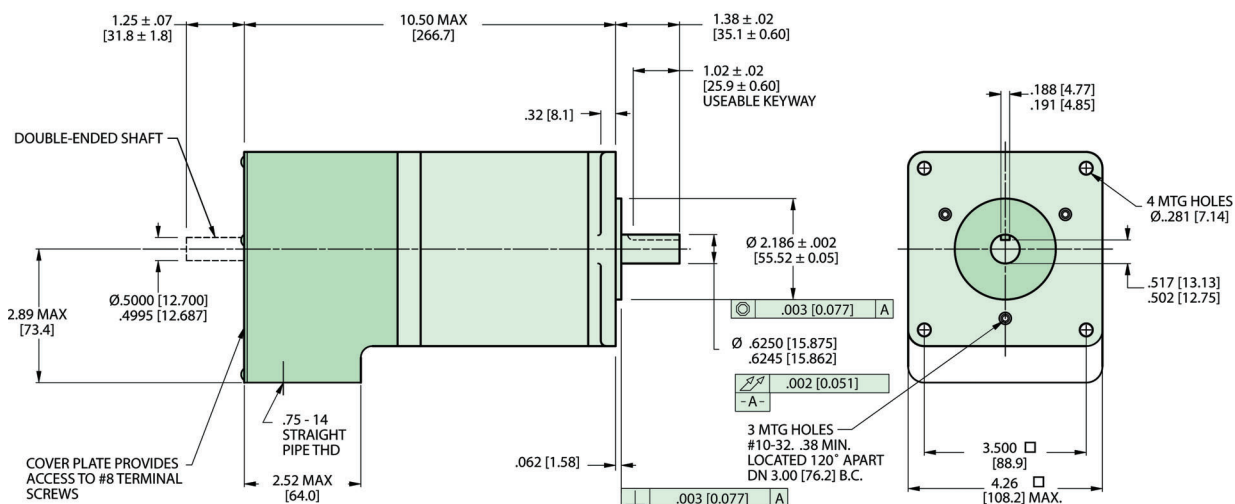
Model Number	Min. Holding Torque 2 On	Winding Specifications			
		Voltage (VDC)	Current (Amperes)	Resistance (ohms)	Inductance (mH)
MH112-FF-206*	2000	4.8	6	0.8	17
MH112-FJ-4201	1500	3.2	4	0.8	17

* Class B insulation system

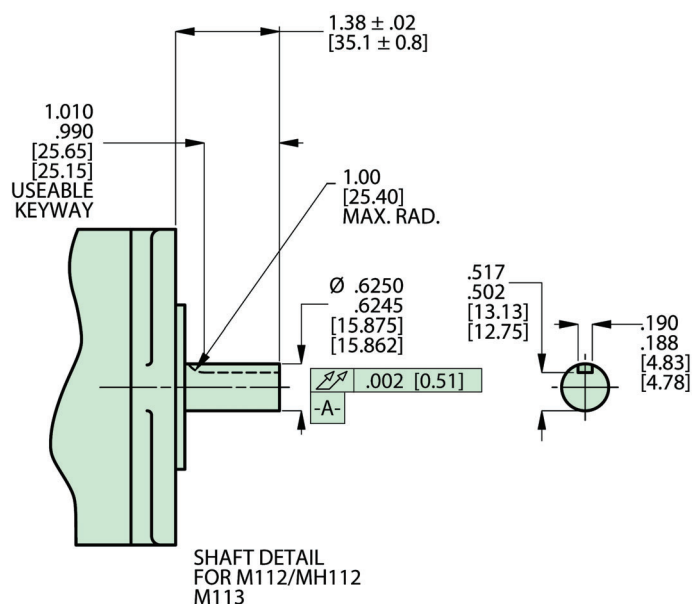
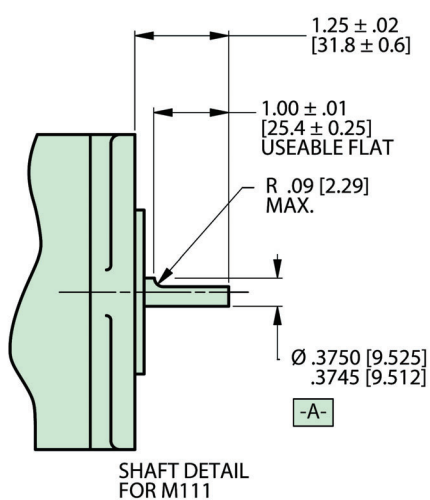
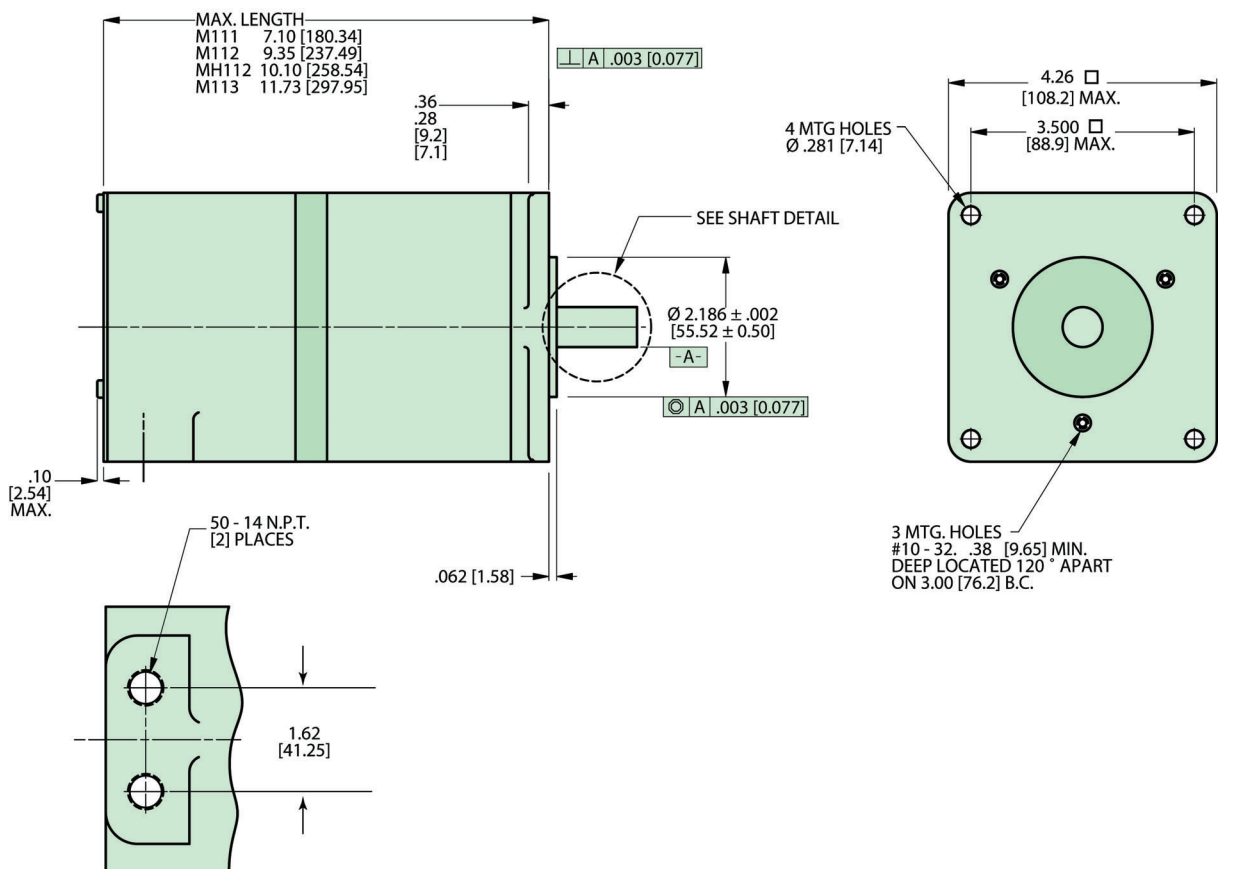
8-CONNECTION STEP MOTORS

Model Number	Min. Holding Torque 2Ø On	Winding Specifications							
		Bipolar Series				Bipolar Parallel			
		Voltage (VDC)	Current (Amperes)	Resistance (ohms)	Inductance (mH)	Voltage (VDC)	Current (Amperes)	Resistance (ohms)	Inductance (mH)
MH112-FJ-8020	1760	3.8	7.1	0.53	12	1.9	14.1	0.13	3.0
MH112-FJ-8030	1760	2.5	10.6	0.23	4.1	1.3	21	0.058	1.0

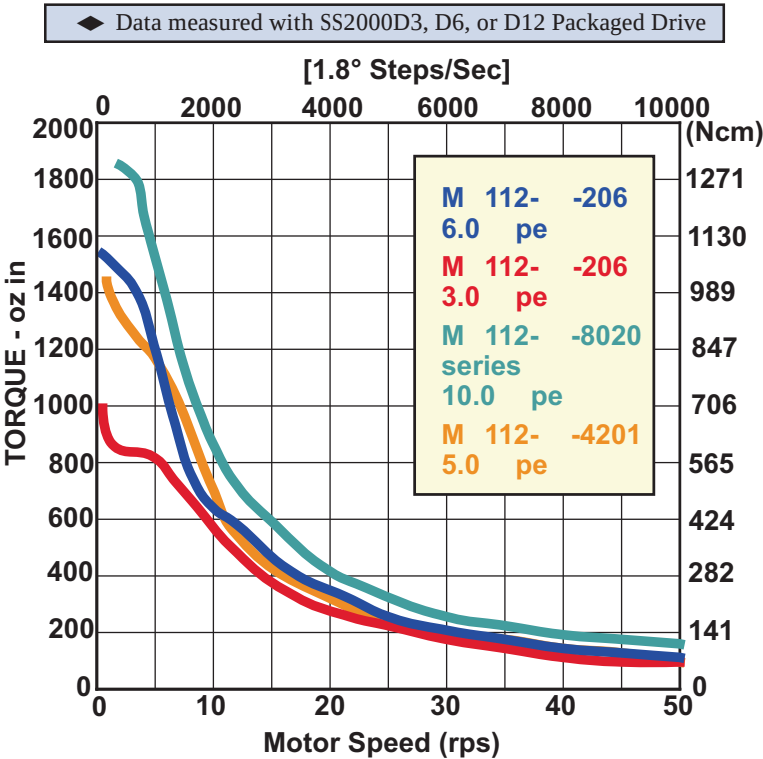
Motor Dimensions



Encoder

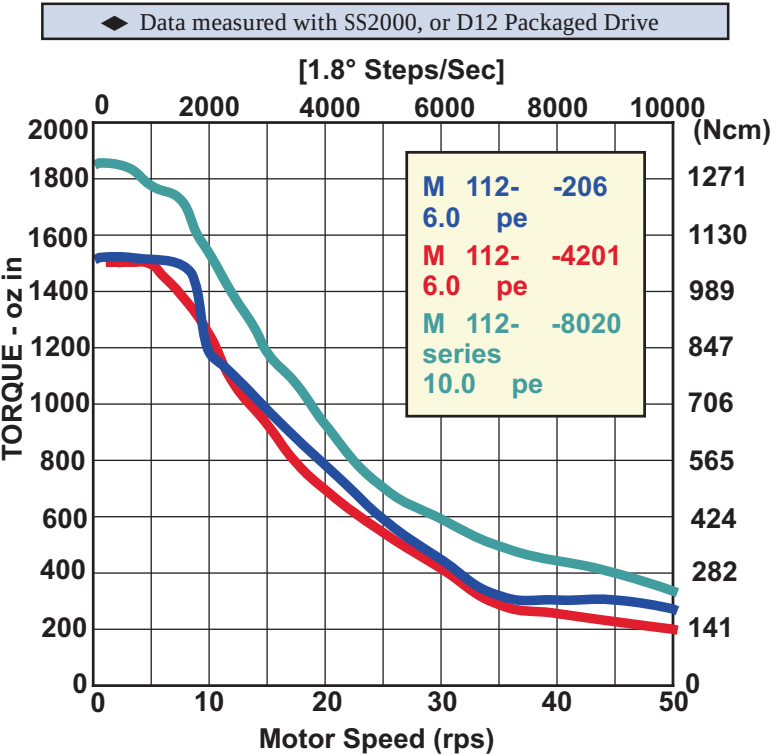


170 V Bipolar - Microstep



◆ The curves do not show system resonances which will vary with system mechanical parameters.

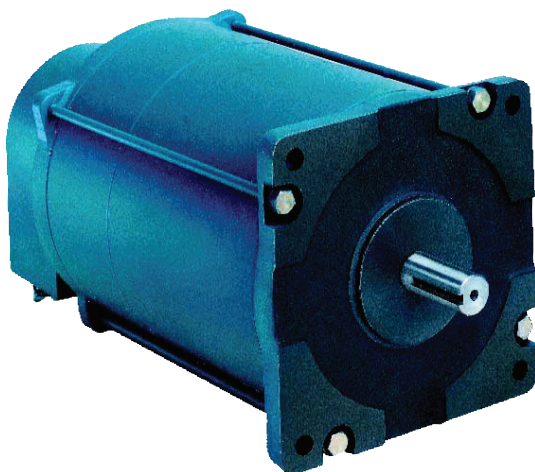
340 V Bipolar - Microstep



◆ Duty cycle is dependent on torque, speed, Drive parameters, and heat sink conditions. Maximum case temperature is 100°C.

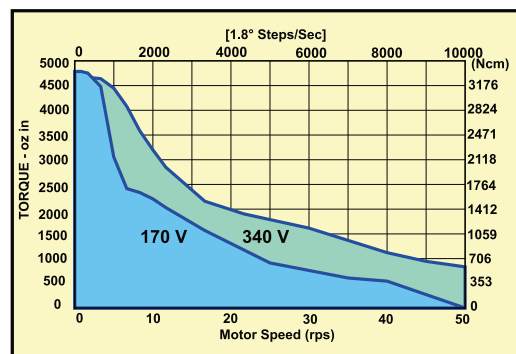
MH172

High Torque 170mm Frame Size (NEMA Size 66)



Performance Envelope

(see page DC41 for detailed torque-speed curves)



- ◆ Can withstand up to 2-1/2 time rated current (instantaneous)
- ◆ $\pm 5\%$ typical step accuracy
- ◆ Available with eight connections
- ◆ Class F insulation system
- ◆ Standard keyway

MH172 Specifications*

Minimum Holding Torque (Bipolar 2Ø on)	5330 oz-in. (3764 Ncm)
Rotor Inertia	0.870 oz-in-s ² (61.4 kg-cm ²)
Weight (Net)	53 lbs. (24 kg)
Weight (Ship)	62 lbs. (28 kg)
Maximum Overhang Load	100 lbs. (45.4 kg)
Maximum Thrust Load	150 lbs. (68.0 kg)
Minimum Residual Torque	50 oz-in (35 Ncm)

*Values shown are reference information. Parameters to be used as part of a specification should be verified with the factory.

MH - **172** - **FD** - **8030**

E = Rear Shaft Extension
C2 = 200 line six output encoder
C4 = 400 line six output encoder
C5 = 500 line six output encoder

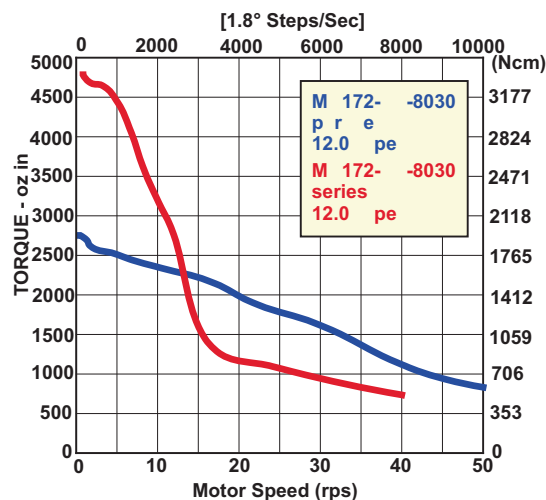
MH172

Motor Dimensions*



340 V Bipolar - Microstep

◆ Data measured with SS2000, or D12 Packaged Drive



- ◆ Duty cycle is dependent on torque, speed, Drive parameters, and heat sink conditions. **Maximum case temperature is 100°C.**