

# 44M SERIES

SMALL BUT POWERFUL

**GENERAL SPECIFICATIONS**

|                                 |                      |
|---------------------------------|----------------------|
| Step Angle                      | 3.6°                 |
| Step Accuracy                   | ± 0.4°               |
| Operating Temperature           | 100°C Max            |
| Ambient Temperature Range       | -20°C ~ +70°C        |
| Insulation Resistance at 500Vdc | 100MΩ                |
| Dielectric Withstanding Voltage | 650 ± 50 VRMS, 2 sec |

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The specifications in this publication are believed to be accurate and reliable. However, it is the responsibility of the product user to determine the suitability of Portescap products for a specific application. While defective products will be replaced without charge if promptly returned, no liability is assumed beyond such replacement.

Portescap Danaher Motion motors will not be CE marked where the Low Voltage Directive, the Electro-Magnetic Compatibility or other appropriate EU directives are not applicable - this is an EU legal requirement.

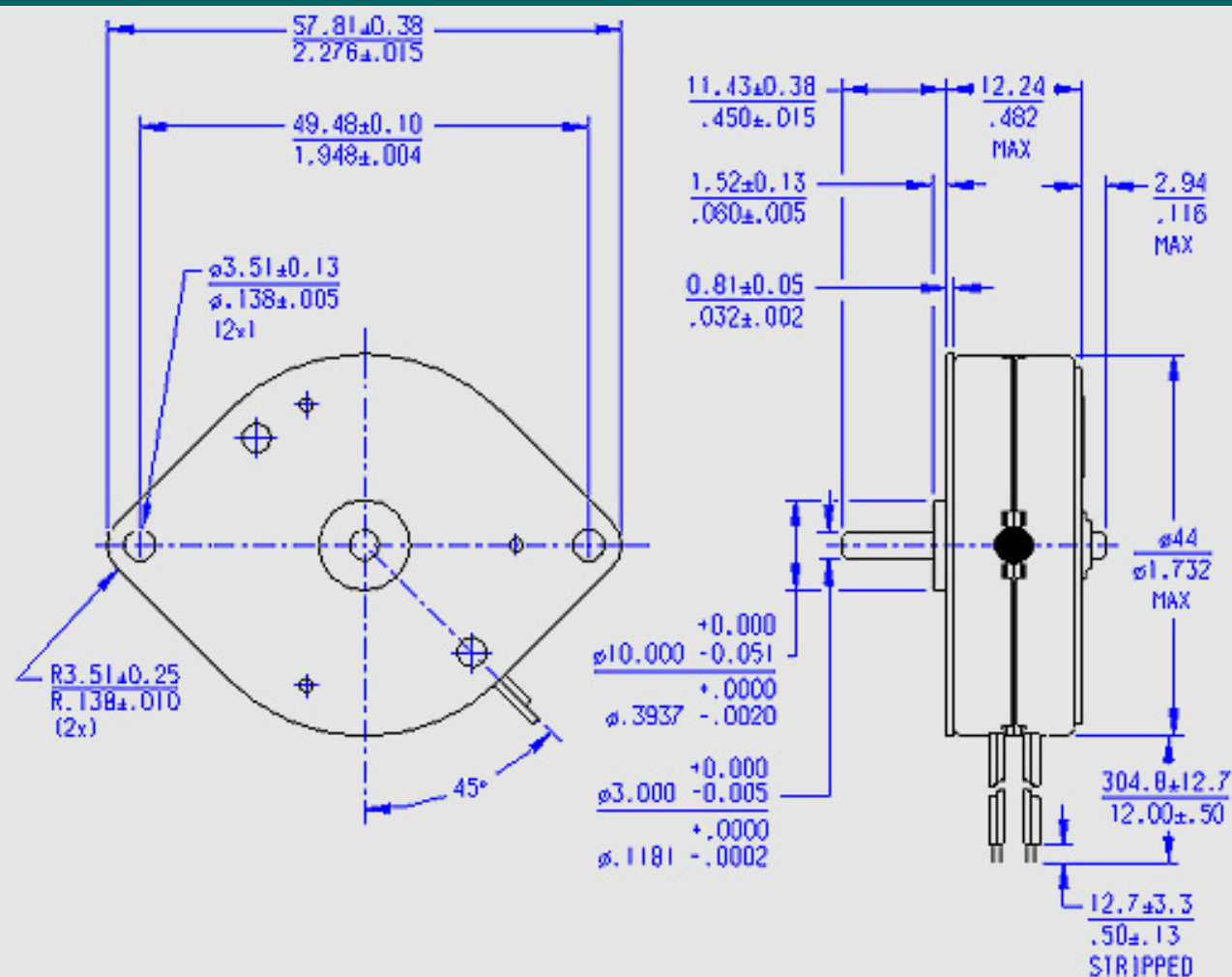
## TECHNICAL SPECIFICATIONS

|                                             | BIPOLAR                |                        |
|---------------------------------------------|------------------------|------------------------|
| Part Number                                 | 44M100D1B              | 44M100D2B              |
| DC Operating Voltage                        | 5                      | 12                     |
| Resistance per Winding (ohms)               | 12.5                   | 70                     |
| Inductance per Winding (mH)                 | 6.7                    | 35                     |
| Holding Torque* (mNm/oz-in)                 | 46.6 / 6.6             | 46.6 / 6.6             |
| Rotor Moment of Inertia (g.m <sup>2</sup> ) | 8.3 x 10 <sup>-4</sup> | 8.3 x 10 <sup>-4</sup> |
| Detent Torque (mNm/oz-in)                   | 8.47 / 1.20            | 8.47 / 1.20            |
| Step Angle                                  | 3.6°                   | 3.6°                   |
| Step Angle Tolerance*                       | ± 0.4°                 | ± 0.4°                 |
| Steps per Revolution*                       | 100                    | 100                    |
| Max. Operating Temperature                  | 100°C                  | 100°C                  |
| Ambient Temperature Range                   |                        |                        |
| Operating                                   | -20°C to 70°C          | -20°C to 70°C          |
| Storage                                     | -40°C to 85°C          | -40°C to 85°C          |
| Bearing Type                                | Sintered bronze sleeve | Sintered bronze sleeve |
| Insulation Resistance at 500Vdc             | 100 megohms            | 100 megohms            |
| Dielectric Withstanding Voltage             | 650 ± 50 VRMS, 2 sec   | 650 ± 50 VRMS, 2 sec   |
| Weight (g/oz)                               | 88 / 3.1               | 88 / 3.1               |
| Leadwires                                   | 28 AWG, UL Style 3265  | 28 AWG, UL Style 3265  |

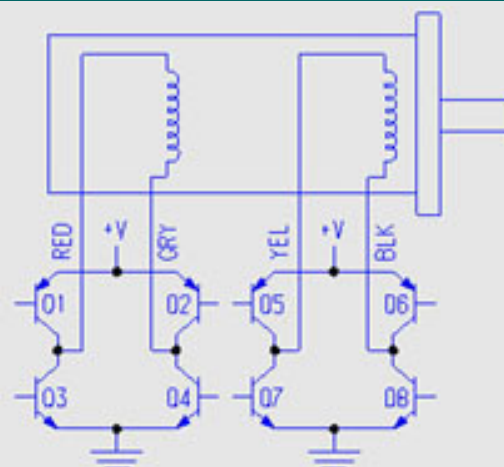
\* Measured with 2 phases energized

## MECHANICAL DIMENSIONS

UNITS = MM / INCHES



## WIRING DIAGRAM



BIPOLAR

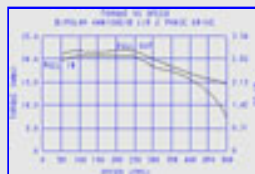
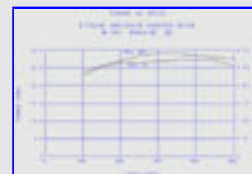
| STEP | 01-04 | 02-03 | 05-08 | 06-07 |
|------|-------|-------|-------|-------|
| 1    | ON    | OFF   | ON    | OFF   |
| 2    | ON    | OFF   | OFF   | ON    |
| 3    | OFF   | ON    | OFF   | ON    |
| 4    | OFF   | ON    | ON    | OFF   |
| 1    | ON    | OFF   | ON    | OFF   |

CW ROTATION ↓

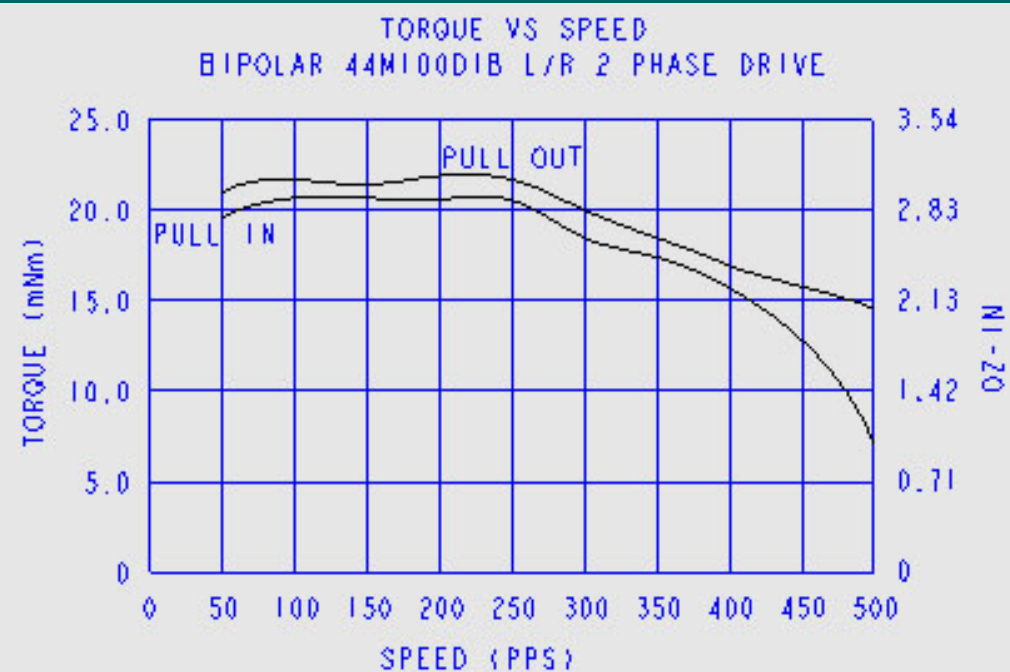
↑ CCW ROTATION

## MOTOR DYNAMICS

CLICK ON A THUMBNAIL TO MAGNIFY

44M100D1B, Bipolar,  
L/R Drive44M100D2B, Bipolar,  
L/R Drive44M100D1B, Bipolar,  
Chopper Drive

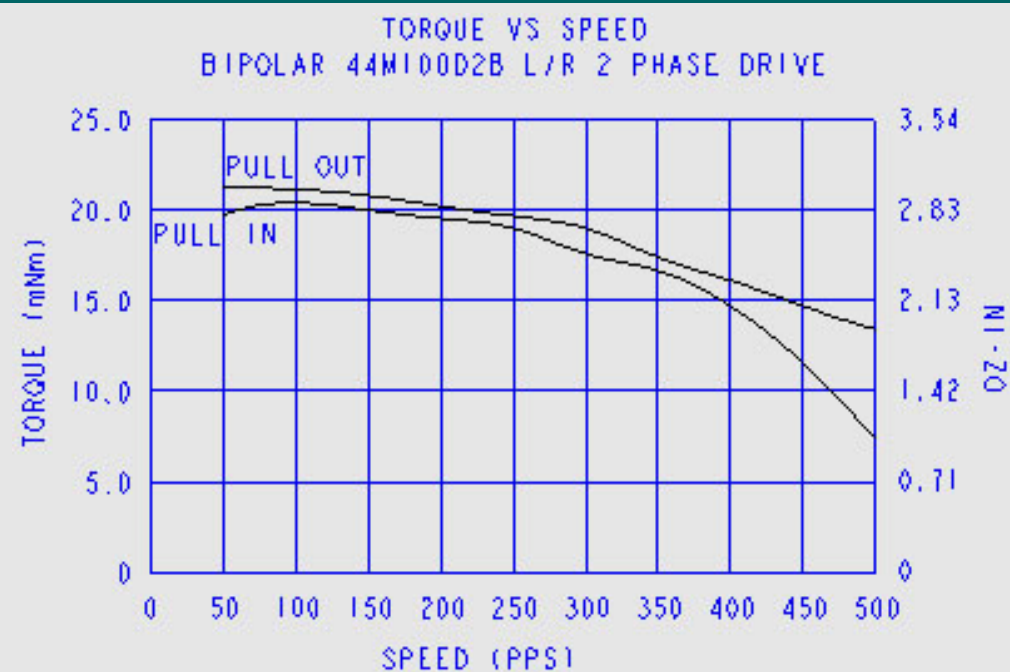
## MOTOR DYNAMICS

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## MOTOR DYNAMICS



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## MOTOR DYNAMICS



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## TORQUE VS SPEED

BIPOLAR 44MI00DIB CHOPPER DRIVE  
@ 36V, 400mA/Ø, 2Ø

