

Solid MagiDrive Series

MD40N/MD40A Series

CF40, 2.75" OD Flange



The MD40N MagiDrive provides low torque rotation (0.45Nm) on a 70mm OD (2¾" OD CF) flange. The MD40A MagiDrive provides medium torque rotation (1.8Nm). The drive is ideally suited to applications such as the rotation of samples and small platens, where stability is key.

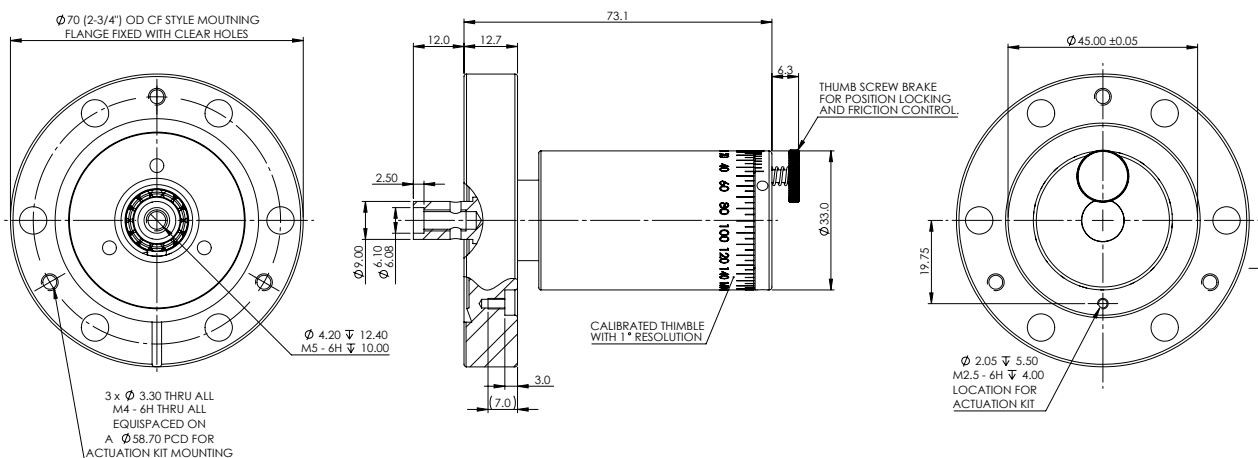
MD40A KEY ADVANTAGES

- » Magnetically-coupled fail-safe design
- » No bellows or dynamic seals
- » Low & Medium torque options
- » Bakeable to 250°C
- » Zero backlash under low load
- » True UHV performance

The production-proven MagiDrive range of rotary feedthroughs enable rotation to be transferred into a vacuum system using a stiff high flux magnetic coupling. With no bellows, fluids or dynamic seals, the MagiDrive range offers reliable and totally leak-tight UHV operation.

Example Dimensions (mm)

For comprehensive 2D drawings & 3D models please contact us.



MD40N Technical Data

SPECIFICATION	VALUE
System mounting flange size	FC38 (2 3/4") with clear holes
Rear Flange option	N/A
Drive clear bore	N/A
Magnetic breakaway torque	0.45Nm
Magnetic coupling stiffness	0.033 Nm/degree
Bakeout temperature	250°C with motor/pneumatic cylinder removed
Shaft options	Stub shaft with tapped hole, 30mm long with flat and modular extension
Shaft radial runout at shaft attachment	0.01mm
Maximum radial load	400N
Maximum axial load	20N
Magnet Field 50mm from drive	Axial <40 mGauss and radial <20 mGauss
Calibrated thimble resolution	1°
Pulley option - type and PCD	HTD profile 36 teeth 3mm pitch and 34.38 PCD
Pneumatic option - cylinder sweep	adjustable 30° to 170°
Pneumatic option - cylinder bore	15 mm
Pneumatic option - cylinder fitting	4mm tube push fit
Pneumatic option - cylinder switch	5-24V 2 wire reed switch
Pneumatic option - max rotation speed	0.2 seconds per 90 degrees (dependant on load)
Stepper motor option	17 frame 4 wires 1.8A / phase
Standard stepper option - motor wiring	M12 5 pin connector
Upgrade stepper motor option - sensor	Omron slotted opto 24V PNP type. Wired to WD-S-007
Stepper motor max speed option 1, gear ratio, output torque & resolution per 1/2 step	1000 rpm, 1:1 ratio, 0.3Nm and 0.9°
Stepper motor max speed option 2, gear ratio, output torque & resolution per 1/2 step	375 rpm, 4.1667:1 ratio, 0.45Nm and 0.216°
Stepper motor max speed option 3, gear ratio, output torque & resolution per 1/2 step	107 rpm, 14.0625:1 ratio, 0.45Nm and 0.064°
Stepper motor max speed option 4, gear ratio, output torque & resolution per 1/2 step	63 rpm, 24:1 ratio, 0.45Nm and 0.0375°
DC motor option	24V dc brushed geared motor
DC motor option - motor wiring	2 pin generic plug to diagram WD-010
DC motor speed option 1, gear ratio and output torque	230 rpm, 18:1 ratio and 0.21Nm
DC motor speed option 2, gear ratio and output torque	135 rpm, 30:1 ratio and 0.35Nm
DC motor speed option 3, gear ratio and output torque	70 rpm, 60:1 ratio and 0.45Nm
DC motor speed option 4, gear ratio and output torque	42 rpm, 100:1 ratio and 0.45Nm

MD40A Technical Data

SPECIFICATION	VALUE
System mounting flange size	FC38 (2 3/4") with clear holes
Rear Flange option	N/A
Drive clear bore	N/A
Magnetic breakaway torque	1.8 Nm
Magnetic coupling stiffness	0.165 Nm/degree
Bakeout temperature	250°C with motor/pneumatic cylinder removed
Shaft options	Stub shaft with tapped hole, 30mm long with flat and modular extension
Shaft radial runout at shaft attachment	0.01mm
Maximum radial load	400N
Maximum axial load	20N
Magnet Field 50mm from drive	Axial <40 mGauss and radial <20 mGauss
Calibrated thimble resolution	1°
Pulley option - type and PCD	HTD profile 36 teeth 3mm pitch and 34.38 PCD
Pneumatic option - cylinder sweep	adjustable 30° to 170°
Pneumatic option - cylinder bore	15 mm
Pneumatic option - cylinder fitting	4mm tube push fit
Pneumatic option - cylinder switch	5-24V 2 wire reed switch
Pneumatic option - max rotation speed	0.2 seconds per 90 degrees (dependant on load)
Stepper motor option	17 frame 4 wires 1.8A / phase
Standard stepper option - motor wiring	M12 5 pin connector
Upgrade stepper motor option - sensor	Omron slotted opto 24V PNP type. Wired to WD-S-007
Stepper motor max speed option 1, gear ratio, output torque & resolution per 1/2 step	1000 rpm, 1:1 ratio, 0.3Nm and 0.9°
Stepper motor max speed option 2, gear ratio, output torque & resolution per 1/2 step	375 rpm, 4:1 ratio, 1.1Nm and 0.225°
Stepper motor max speed option 3, gear ratio, output torque & resolution per 1/2 step	107 rpm, 14:1 ratio, 1.8Nm and 0.06°
Stepper motor max speed option 4, gear ratio, output torque & resolution per 1/2 step	63 rpm, 24:1 ratio, 1.8Nm and 0.0375°
DC motor option	24V dc brushed geared motor
DC motor option - motor wiring	2 pin generic plug to diagram WD-010
DC motor speed option 1, gear ratio and output torque	230 rpm, 18:1 ratio and 0.21Nm
DC motor speed option 2, gear ratio and output torque	135 rpm, 30:1 ratio and 0.35Nm
DC motor speed option 3, gear ratio and output torque	70 rpm, 60:1 ratio and 0.6Nm
DC motor speed option 4, gear ratio and output torque	42 rpm, 100:1 ratio and 0.6Nm

For more information:

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