

Solid MagiDrive Series

MD16N/MD16A Series

CF16, 1.33" OD Flange



The MD16 is the 'work horse' of the MagiDrive series. This standard MD16N drive provides sufficient torque (0.45Nm) for the majority of miniature feedthrough requirements. The MD16A provides the highest torque on the market for a CF16 flange (1.8Nm) and is ideal for shutter applications.

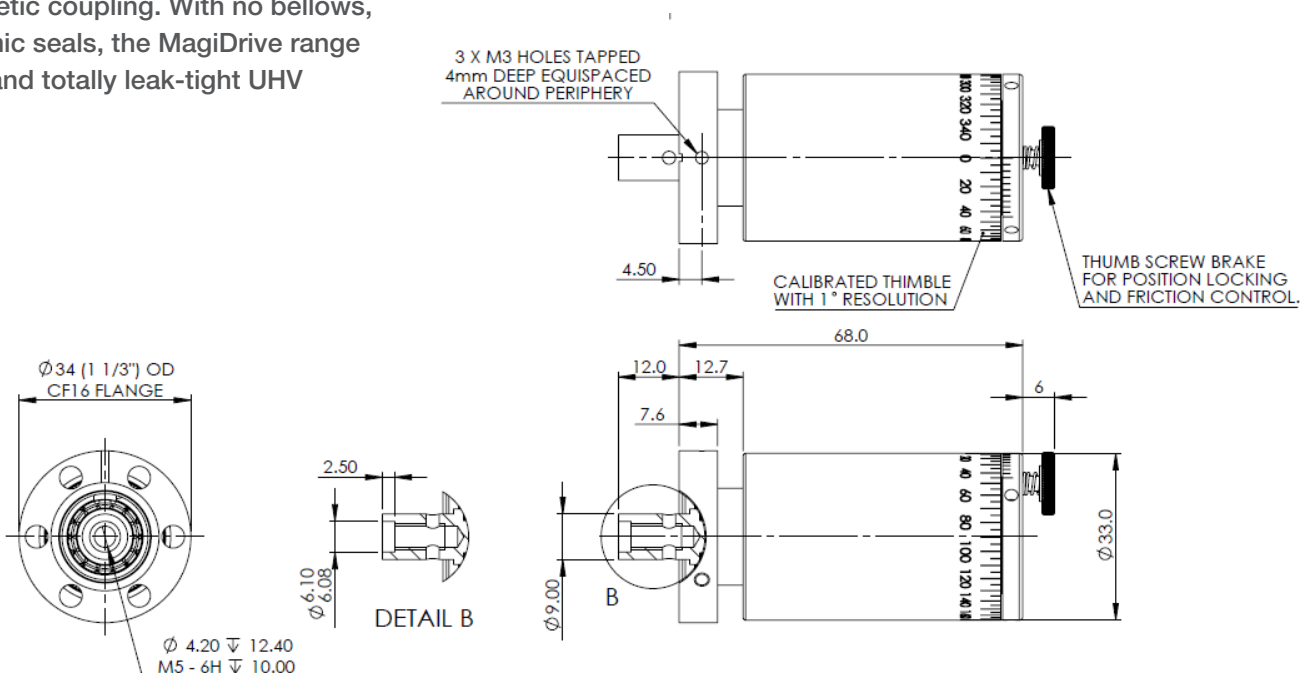
MD16N/MD16A KEY ADVANTAGES

- » Magnetically-coupled fail-safe design
- » High torque / size ratio
- » No bellows or dynamic seals
- » 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.



MD16N Technical Data

| SPECIFICATION | VALUE |
|---|--|
| System mounting flange size | FC16 (1 1/3") 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 | 0.05mm |
| Maximum radial load | 400N |
| Maximum axial load | 20N |
| Magnet Field 50mm from drive | Axial <40 mGauss and radial <20 mGauss |
| Calibrated thimble option - resolution | 1 degree |
| 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° (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 - switches | Omron slotted opto 24V PNP type. Wired to WD-S-007 |
| Stepper motor maximum speed option 1, gear ratio, output torque and resolution per 1/2 step | 1000 rpm, 1:1 ratio, 0.3Nm and 0.9° |
| Stepper motor maximum speed option 2, gear ratio, output torque and resolution per 1/2 step | 375 rpm, 4:1 ratio, 0.45Nm and 0.225° |
| Stepper motor maximum speed option 3, gear ratio, output torque and resolution per 1/2 step | 107 rpm, 14:1 ratio, 0.45Nm and 0.06° |
| Stepper motor maximum speed option 4, gear ratio, output torque and resolution per 1/2 step | 75 rpm, 20:1 ratio, 0.45Nm and 0.045° |
| 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 |

MD16A Technical Data

| SPECIFICATION | VALUE |
|---|--|
| System mounting flange size | FC16 (1 1/3") 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 | 0.05mm |
| Maximum radial load | 400N |
| Maximum axial load | 20N |
| Magnet Field 50mm from drive | Axial <40 mGauss and radial <20 mGauss |
| Calibrated thimble option - 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 - switches | Omron slotted opto 24V PNP type. Wired to WD-S-007 |
| Stepper motor maximum speed option 1, gear ratio, output torque and resolution per 1/2 step | 1000 rpm, 1:1 ratio, 0.3Nm and 0.9° |
| Stepper motor maximum speed option 2, gear ratio, output torque and resolution per 1/2 step | 375 rpm, 4:1 ratio, 1.1Nm and 0.225° |
| Stepper motor maximum speed option 3, gear ratio, output torque and resolution per 1/2 step | 107 rpm, 14:1 ratio, 1.8Nm and 0.06° |
| Stepper motor maximum speed option 4, gear ratio, output torque and resolution per 1/2 step | 75 rpm, 20:1 ratio, 1.8Nm and 0.045° |
| 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:

UHV Design Ltd

Judges House, Lewes Road,
Laughton, East Sussex, BN8 6BN, UK
T: +44(0)1323 811188
E:sales@uhvdesign.com
www.uhvdesign.com

Официальный представитель:

АО "ВАКУУМ.РУ"

Москва, Зеленоград
тел: +7 (495) 139-65-69
e-mail: info@vacuum.ru
www.vacuum.ru