



Rotary, Bellows Sealed Feedthroughs

Manual, Motorized, and Pneumatic Actuators



Rotary, Bellows Sealed

Accu-Glass Products high-torque HTR series rotary motion feedthroughs are designed to operate at temperatures as high as 250°C and rotational torque up to 250 in-oz.

They are constructed of black-anodized aluminum and stainless steel, where only stainless steel surfaces are exposed to the vacuum environment. In vacuum bearings are dry-film lubricated with tungsten-disulfide, while air side bearings are lubricated with high-temperature Krytox[®] lubricant. The rotation shaft is sealed with an AM-350 edge-welded bellows.

Standard rotary feedthroughs are fitted with a 1.65 diameter manual actuator, which can be fitted with an optional three-spoke Speed-Handle for faster actuation. Factory-converted motorized solutions are also available on request. Our motor options include a reversible constant speed AC motor, two DC stepper motors, for medium and high torque applications respectively, and a 90° pneumatic actuator.

Manual feedthrough rotation can be monitored via a 360° / 5° increment laser-etched scale found on the manual actuator knob. Rotary feedthroughs are available on Conflat[®] compatible CF style metal seal or ISO-KF elastomer seal flanges.

Features

- All precision bearings — no bushings
- Improved shaft coupling design for high torque, rated to 250 in-oz
- High temperature rated to 250°C
- UHV compatible construction
- Conflat[®] and ISO NW compatible mounts
- Welded bellows seal
- Manual actuator
- Continuous rotary motion
- Rotary position lock
- Optional stepper motor or air actuator

Specifications

Material	
Body, Stainless Steel	304
Housing, Anodized Aluminum	2011
Bellows, Edge-Welded	AM-350

Vacuum Range	
UHV, Ultrahigh vacuum	1x10 ⁻¹⁰ Torr
HV, High vacuum	1x10 ⁻⁸ Torr

Temperature Range ¹	
Feedthrough	250°C
Flange, Conflat [®]	450°C
Flange, ISO	150°C

Load	
Torque	250 in-oz maximum
Axial	6 lb maximum
Lateral	10 maximum

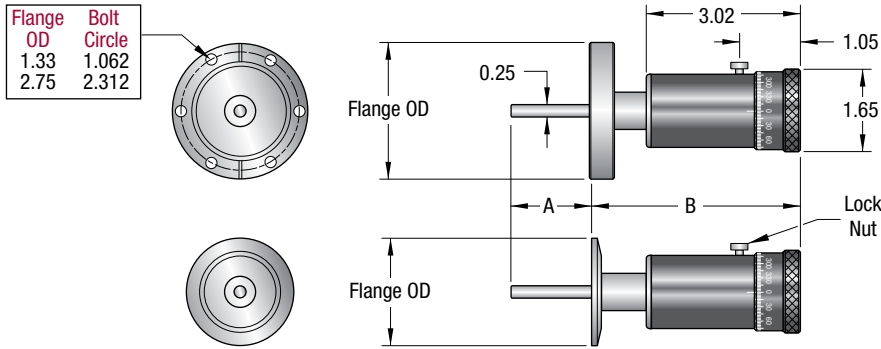
Speed ²	
Rotary	1000 RPM

Resolution	
Rotary Scale	5°

Notes

1. Overall assembly ratings must be adjusted to that of its lowest rated component. For cryogenic service, the lowest recommended temperature is -80°C
2. Not recommended for continuous rotation, i.e. operating a fan.

§ Unless specified otherwise, dimensional units in all sections of this catalog are expressed in inches.



102100 / UHV Rotary Feedthrough

CF and ISO KF Flanges — Rotary Feedthroughs

Rotary Travel	Flange Model	Flange OD	A	B	Model Number	Part Number	Unit Price \$
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Ultrahigh Vacuum ¹ — 250°C / UHV to 1x10⁻¹⁰ Torr

360°	133 CF	1.33	1.57	4.17	HTR-133	102100	595
360°	275 CF	2.73	1.57	4.17	HTR-275	102110	605

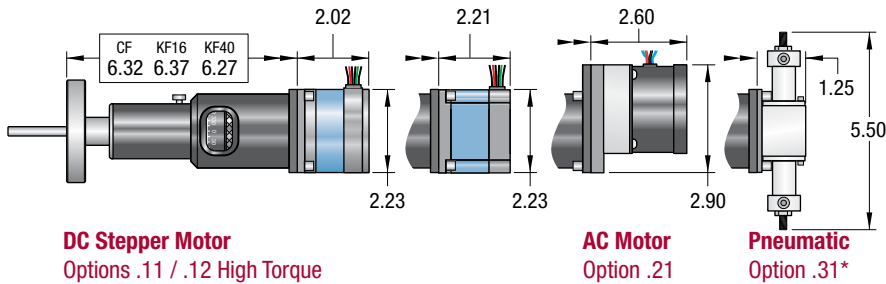
High Vacuum ² — 150°C / HV to 1x10⁻⁸ Torr

360°	NW16 KF	1.18	1.52	4.22	HTR-K16	102140	595
360°	NW40 KF	2.16	1.62	4.12	HTR-K40	102150	605

1. Compatible with Conflat® flanges and hardware 2. Compatible with ISO 2861/1 specification flanges and hardware



102150 / HV Rotary Feedthrough



DC Stepper Motor
Options .11 / .12 High Torque

AC Motor
Option .21

Pneumatic
Option .31*

* Includes solenoid, fittings and connectors, but not speed control valve

Actuator Options — Dimensional Diagram Above / See Page 176–178 for Option Specifications

Description	Model Number	Part Number	Unit Price \$
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Actuator Options — Detailed motor specifications on pages 176 and 177

DC Motor, Stepper	append to Part Number	0.11	690
DC Motor, Stepper / High Torque	append to Part Number	0.12	660
AC Motor, Constant Speed / Reversible	append to Part Number	0.21	640
90° Pneumatic Actuator with Solenoid Valve	append to Part Number	0.31	800
Speed Control Valve, 10-32 Pneumatic Actuator	SPEED1	112687	110
Speed-Handle, Anodized Aluminum (Photo on page 168)	HTL-MSK	113086	95

When ordering motorized options, add the option number and price to the selected UHV or HV component part number and price listed above. For example, Part Number 102100.11 has a price of \$1,285. Note: Accu-Glass Products recommends installation of speed control valves when using a pneumatic actuator.



102110.11 / UHV Rotary Feedthrough with DC Stepper Motor option



102110.31 / UHV Rotary Feedthrough with 90° Pneumatic Actuator option



112687 / Speed control valve for 90° Pneumatic Actuator