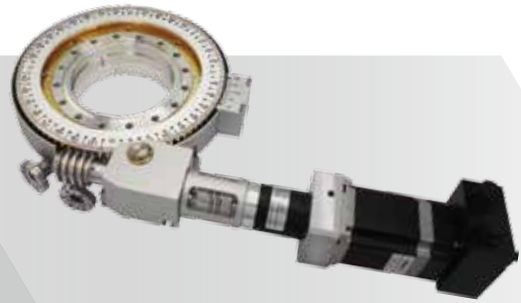


# Differential Pumped Rotary Feedthrough



This device allows UHV equipment to be rotated about the flange axis for concentric polar (eucentric motion about the flange axis). Applications include sample imaging (XPS, AES or SIMS), structural or ion/neutral/atom scattering experiments.

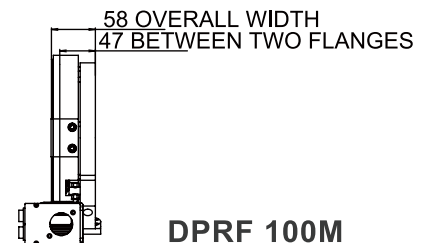
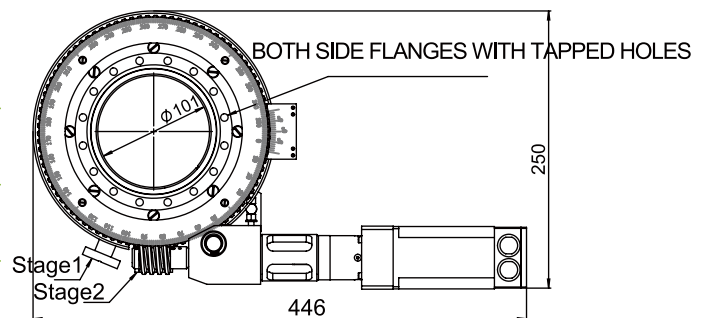
This provides primary rotation for other components in mix and match applications. It could be used as modular part to build UHV multi-axis manipulation mechanism.

## Specification

- ✓ Manual/ Step Motor Actuator
- ✓ Precision Ball Bearings and Quality PTFE
- ✓ Bakeable to 120°C
- ✓ Etched Scale in 0.1° Increments
- ✓ Two Stage Differential Pumping for UHV

## Performance

- ✓ Both Side Standard Tapped ConFlat Flanges

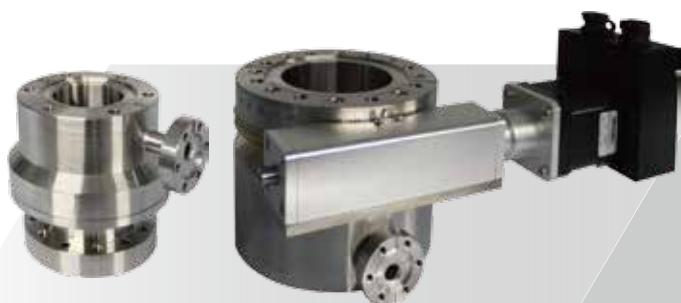


**DPRF 100M**

Flange OD		Actuation	Resolution	Weight (kg)	Part Number
mm	inch				
114	4.5	Manual	0.1°	4.5	DPRF63M
		Step Motor	0.005°	6.1	DPRF63A
152	6	Manual	0.1°	10	DPRF100M
		Step Motor	0.005°	12	DPRF100A

# Compact type differential pumped

## Rotary Feedthrough



This device allows UHV equipment to be rotated about the flange axis for concentric polar (eucentric motion about the flange axis). Applications include sample imaging (XPS, AES or SIMS), structural or ion/neutral/atom scattering experiments.

This provides primary rotation for other components in mix and match applications. It could be used as modular part to build UHV multi-axis manipulation mechanism.

Differentially pumped rotary feedthroughs are indispensable components of ultrahigh vacuum (UHV) equipment as they allow for devices to be inserted into UHV environments and provide 360° of continuous rotary freedom.

### Specification

✓ Manual/Step Motor Actuator

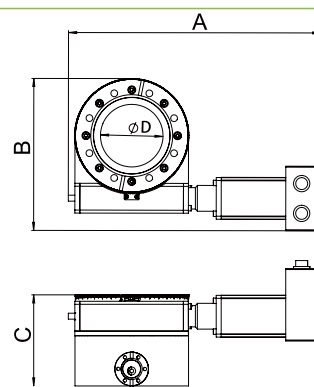
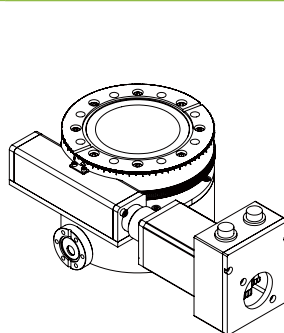
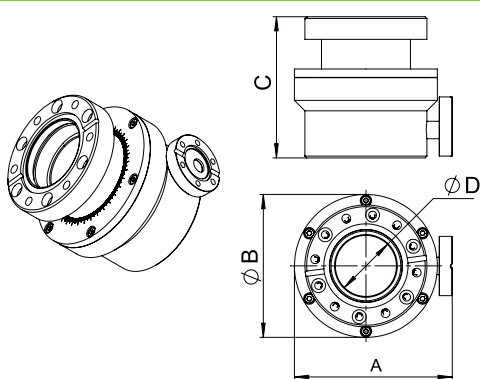
✓ Continuous rotation

✓ Bakeable to 150°C

✓ Both Side Standard Tapped ConFlat Flanges

✓ Cross Roller Bearings

✓ One stage Differential pumping for UHV Performance



Flange OD		A		B		C		D		Actuation	Resolution	Part Number
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch			
70	2.75	90.5	3.56	82	3.23	81	3.19	35	1.38	Manual	0.1°	HDPRF38
										/	/	/
114	4.50	254	10	153	9.96	91.7	3.61	63	2.48	Manual	1°	HDPRF63
										Step Motor	0.005°	HDPRF63M
152	6.00	292	11.5	190	7.48	96.5	3.80	103	4.06	Manual	1°	HDPRF100
										Step Motor	0.005°	HDPRF100M

# High-precision differential pumped

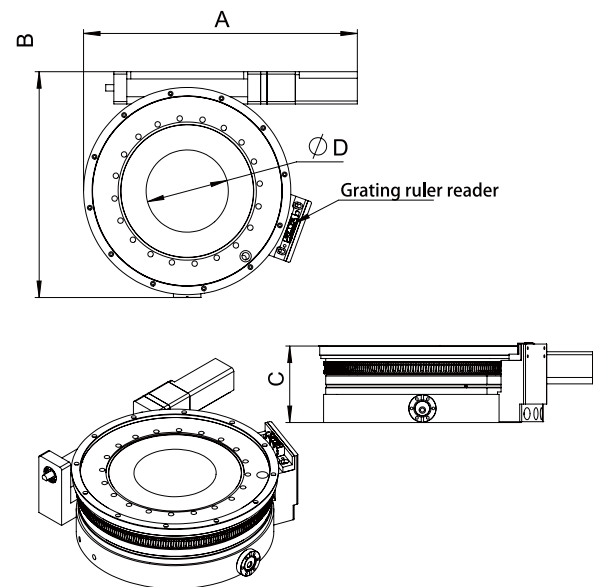
## Rotary Feedthrough



The precision and rigidity of compact ultrahigh vacuum (UHV) rotary feedthroughs were substantially improved by preparing and installing an optimal crossed roller bearing with mounting holes. Since there are mounting holes on both the outer and inner races, the bearing can be mounted directly to rotary and stationary stages without any fixing plates and housing. As a result, it is possible to increase the thickness of the bearing or the size of the rolling elements in the bearing without increasing the distance between the rotating and fixing International Conflat flanges of the UHV rotary feedthrough. Larger rolling elements enhance the rigidity of the UHV rotary feedthrough. Moreover, owing to the structure having integrated inner and outer races and mounting holes, the performance is almost entirely unaffected by the installation of the bearing, allowing for a precise optical encoder to be installed in the compact UHV rotary feedthrough. Using position feedback via a worm gear system driven by a servo motor and a precise rotary encoder, the actual angle of the compact UHV rotary feedthrough can be controlled with extremely high precision.

### Specification

- ✓ Servo Motor Actuator
- ✓ Bakeable to 150°C
- ✓ Rotation range:  $\pm 180^\circ$
- ✓ Axial load > 2000kg
- ✓ Optical Encoder, Accuracy 0.00003°
- ✓ Cross Roller Bearings
- ✓ One stage Differential pumping for UHV Performance
- ✓ Rotational concentricity < 5 $\mu$ m



Flange OD		A		B		C		D		Part Number
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	
203	8.00	339.5	13.37	153	11.02	95	3.74	102	4.02	HDPRF150M