

DTI Inc.

Ferrofluid Rotating Motion Feedthrough



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Product Series

1. AF Series

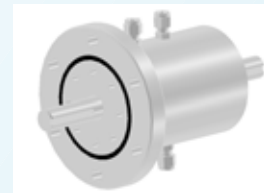
JIS flange-mount solid-shaft feedthrough. Both VG (grooved) and VF (flat) sub-types available.



AF

2. AF-W Series

Water-cooled JIS flange-mount solid-shaft feedthrough.



AF-W

3. AN Series

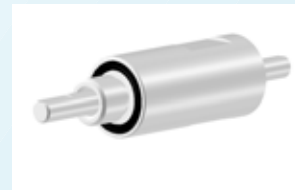
O-ring face nose-threaded with nut for thin-wall applications.



AN

4. AS Series

O-ring face nose-threaded for thick-wall applications.



AS

5. ACH Series

Cartridge-mount hollow-shaft feedthrough. Available with (ACH-M) or without (ACH) shaft clamp.



ACH

6. AFH Series

Flange-mount hollow-shaft feedthrough. Available with shaft clamp.



AFH

7. BB Series

Body-threaded with nut solid-shaft feedthrough for thin-wall applications.

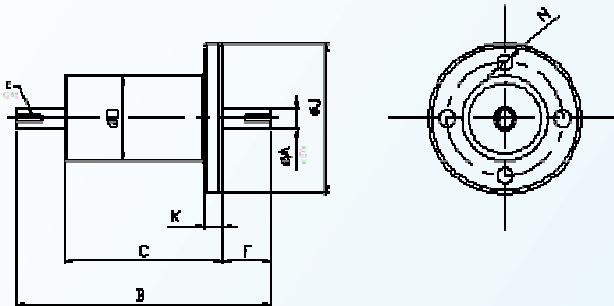
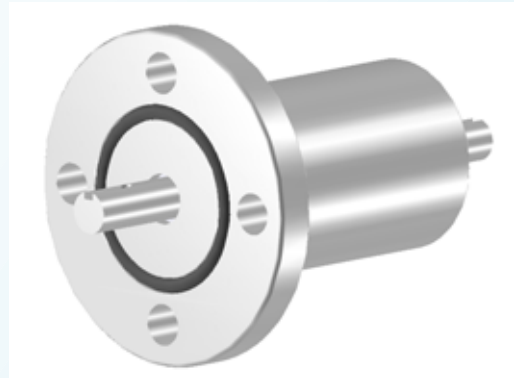


BB

AF Series

JIS Flange-mount Solid-Shaft Feedthrough

- Metric Dimensions
- JIS VG and VF flange mounts
- 2 atm pressure difference
- 300 series stainless steel for housing materials
- 400 series stainless steel for shaft materials
- Hydrocarbon-based ferrofluid

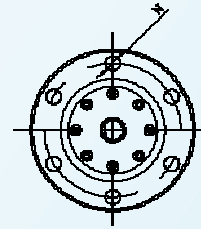
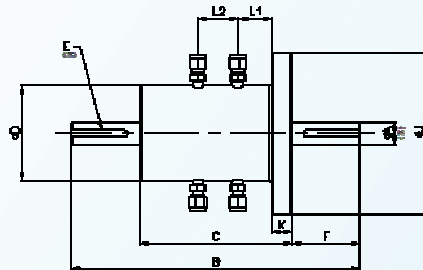
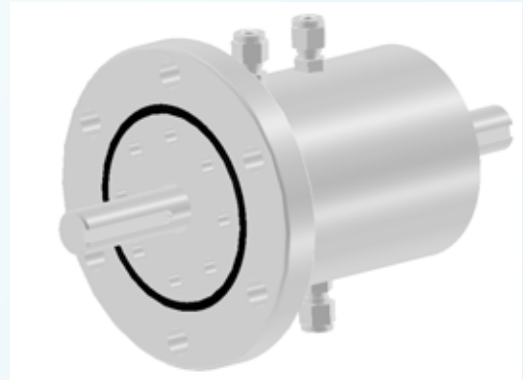


MODEL	AF010G	AF010F	AF012G	AF012F	AF020G	AF020F
Max. Torque (kg-cm)	100		180		900	
O-ring Groove	Yes	No	Yes	No	Yes	No
Flange Type	VG20	VF20	VG25	VF25	VG40	VF40
Max Rotation (rpm)	2,000		1,800		1,600	
Max. Static Load (kgf)	350		425		800	
Dynamic Load (kgf)	825		990		1620	
A: Shaft Diameter (mm)	10		12		20	
B: Shaft Length (mm)	132.4		144.4		162.4	
C: Housing Length (mm)	82.4		84.4		92.4	
D: Housing Diameter (mm)	45		48		61	
E: Keyway (mm)	3Wx1.8Dx14L		4Wx2.5Dx20L		6Wx3.5Dx25L	
F: Shaft extension, VAC side (mm)	25		30		35	
J: Flange Diameter (mm)	80		90		105	
K: Flange Thickness (mm)	10		10		10	
N: Flange Holes (mm)	PD60/4- 10		PD70/4- 10		PD85/4- 10	

AF-W Series

Water-cooled Flange-mount Solid-shaft Feedthrough

- Metric Dimensions
- JIS VG and VF flange mounts
- Double Loop Water Cooling
- 2 atm pressure difference
- 300 series stainless steel for housing materials
- 400 series stainless steel for shaft materials
- Hydrocarbon-based ferrofluid

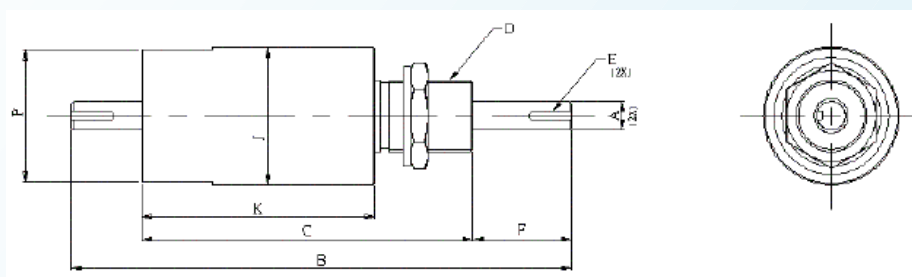
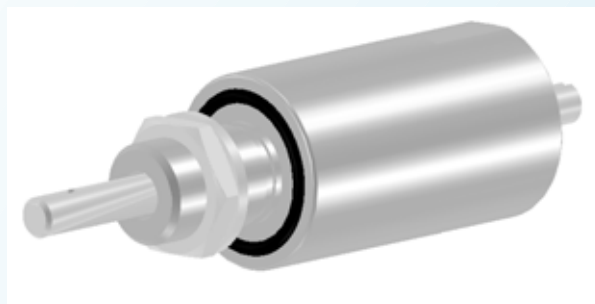


Model	AF020WG	AF020WF
Max. Torque (kg-cm)	800	800
O-ring Groove	Yes	No
Flange Type	VG	VF
Max. Static Load (kgf)	800	800
Dynamic Load (kgf)	1620	1620
A: Shaft Diameter (mm)	20	20
B: Shaft Length (mm)	254	254
C: Housing Length (mm)	134	134
D: Housing Diameter (mm)	85	85
E: Keyway (mm)	6Wx3.5Dx50L	6Wx3.5Dx50L
F: Shaft Extension, VAC Side (mm)	60	60
J: Flange Diameter (mm)	145	145
K: Flange Thickness (mm)	18	18
L1: Distance, Flange to Water Inlet (mm)	29.7	29.7
L2: Distance, Between Water Inlets (mm)	35	35
N: Flange Holes (mm)	PD120/6- 13	PD120/6- 13

AN Series

Nose-threaded with Nut Solid-Shaft Feedthrough

- Metric Dimensions
- Nose-threaded with Nut for Thin-wall applications
- 2 atm pressure difference
- 300 series stainless steel for housing materials
- 400 series stainless steel for shaft materials
- Hydrocarbon-based ferrofluid

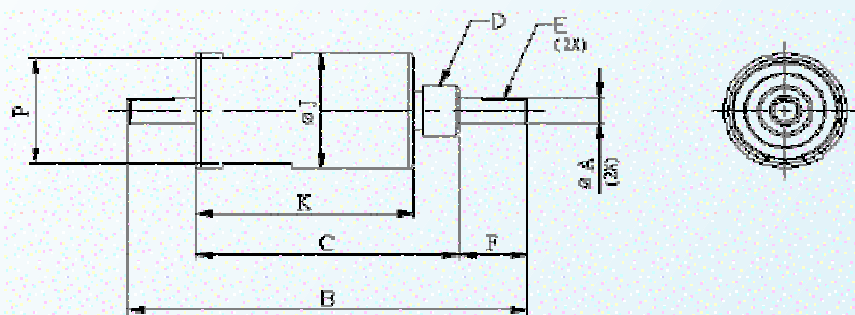
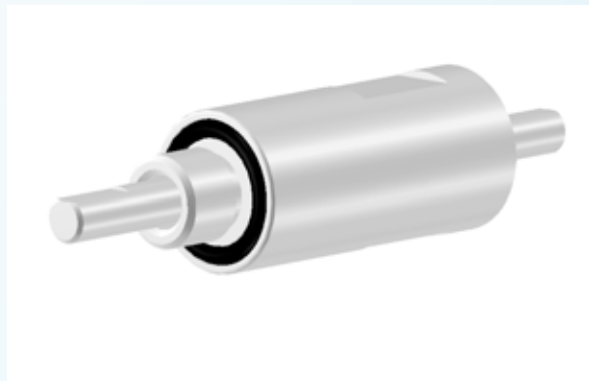


Model	AN010	AN012	AN020
Max. Torque (kg-cm)	100	180	900
Max. Static Load (kgf)	350	425	800
Dynamic Load (kgf)	825	990	1620
A: Shaft Diameter (mm)	10	12	20
B: Shaft Length (mm)	177.4	189.4	221
C: Housing Length (mm)	117.4	119.4	131
D: Nose Thread	M25*P1.5	M25*P1.5	M30*P1.5
E: Keyway (mm)	3Wx1.8Dx14L	4Wx2.5Dx20L	6Wx3.5Dx25L
F: Shaft Extension, VAC Side (mm)	35	40	55
J: Housing Diameter (mm)	48	48	63
K: Housing Length (mm)	82.4	84.4	92
P: Wrench Width (mm)	46	46	60

AS Series

Nose-thread Solid-shaft Feedthrough

- Metric Dimensions
- Nose-threaded for Thick-wall applications
- 2 atm pressure difference
- 300 series stainless steel for housing materials
- 400 series stainless steel for shaft materials
- Hydrocarbon-based ferrofluid



Model	AS004	AS005	AS006
Max. Torque (kg-cm)	6	12	21
Max. Static Load (kgf)	68	68	68
Dynamic Load (kgf)	175	175	175
A: Shaft Diameter (mm)	4	5	6
B: Shaft Length (mm)	87.9	87.9	87.9
C: Housing Length (mm)	53.9	53.9	53.9
D: Nose Thread	M12*P1.5	M12*P1.5	M12*P1.5
E: Keyway (mm)	0.5Dx12L(flat)	0.5Dx12L(flat)	0.5Dx12L(flat)
F: Shaft Extension, VAC Side (mm)	17	17	17
J: Housing Diameter (mm)	21	21	21
K: Housing Length (mm)	43.9	43.9	43.9
P: Wrench Width (mm)	19	19	19

ACH Series

Cartridge-mount Hollow-Shaft Feedthrough

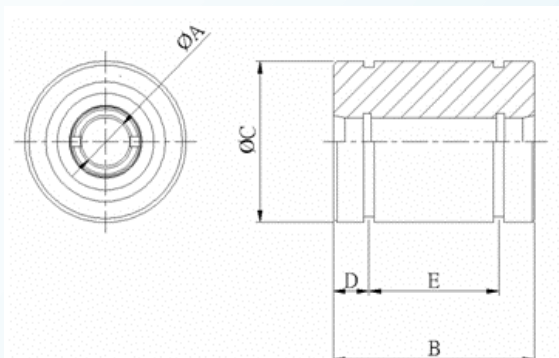
- Metric Dimensions
- Cartridge mounting for easy installation
- Ideal for motion feeds of non-magnetic materials or gas/vacuum feeds
- Slip-free notch design
- Shaft clamp design available
- 2 atm pressure difference
- 300 series stainless steel for housing materials
- 400 series stainless steel for shaft materials
- Hydrocarbon-based ferrofluid



Shaft Clamp Design



Slip-Free Notch Design

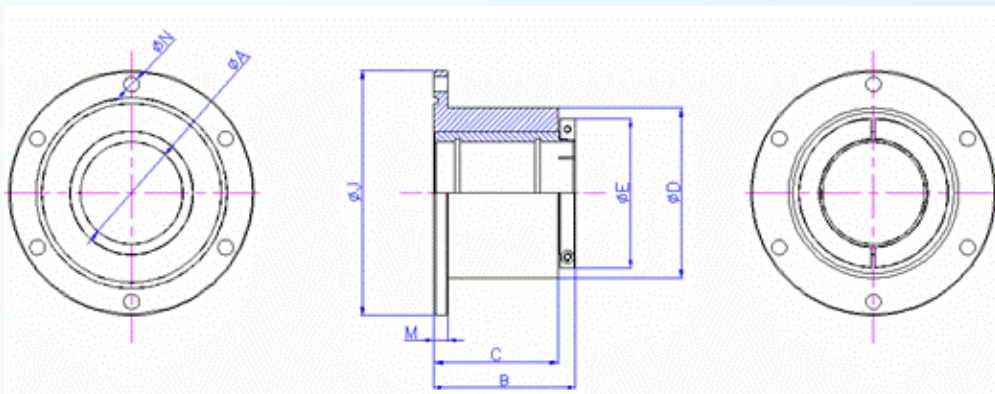
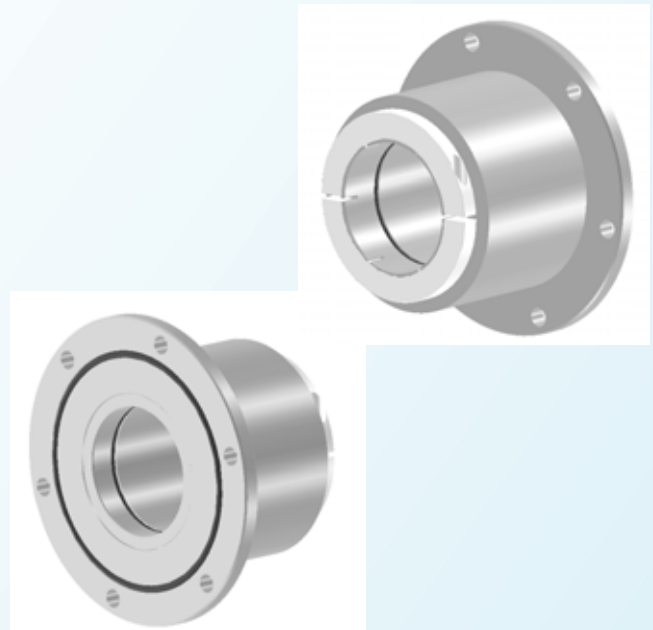


Model	ACH012	ACH012M
Shaft Clamp	No	Yes
O-ring Groove	Yes	Yes
Max. Rotation (rpm)	1,200	1,200
A: Hollow Shaft Diameter (mm)	12	12
B: Shaft Length (mm)	50	50
C: Housing Diameter (mm)	40	40
D: Distance, O-ring Groove to End Face (mm)	8.9	8.9
E: Distance, O-ring grooves (mm)	32.2	32.2

AFH Series

Flange-mount Hollow-Shaft Feedthrough

- Metric dimensions
- JIS flange mounting
- Ideal for large diameter rotating vacuum joints
- Shaft clamp design
- 2 atm or higher pressure difference
- 300 series stainless steel for housing materials
- 400 series stainless steel for shaft materials
- Hydrocarbon-based ferrofluid

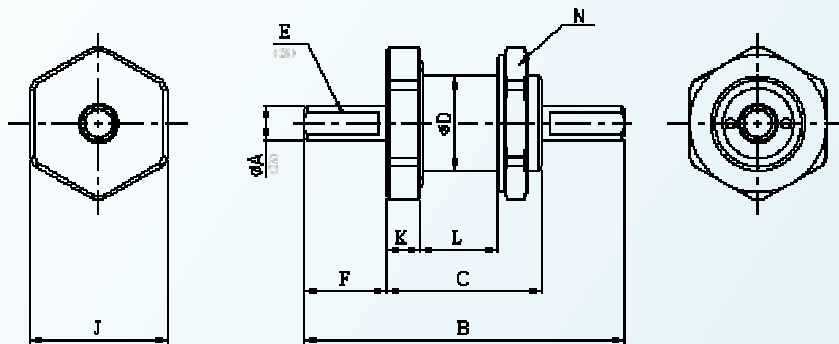


Model	AFH075MG	AFH075MF
O-ring Groove	No	Yes
A: Hollow Shaft Diameter (mm)	75+0.08 /+0.05	75+0.08 /+0.05
B: Shaft Length (mm)	103.5	103.5
C: Housing Length (mm)	91	91
D: Housing Diameter (mm)	125	125
E: Clamp Diameter (mm)	110	110
J: Flange Diameter (mm)	180	180
M: Flange Thickness (mm)	10	10
N: Flange Holes (mm)	PD160 /6- 11	PD160 /6- 11

BB Series

Body-threaded Solid-Shaft Feedthrough

- Inch dimensions
- Body-threaded for wall mounting
- 2 atm pressure difference
- 300 series stainless steel for housing materials
- 400 series stainless steel for shaft materials
- Hydrocarbon-based ferrofluid



Model	BB0250	BB0375
Max. Torque (kg-cm)	25	86
O-ring Groove	Yes	Yes
Max. Static Load (kgf)	86	86
Dynamic Load (kgf)	175	175
A: Shaft Diameter (mm)	6.35	9.525
B: Shaft Length (mm)	86.5	86.5
C: Housing Length (mm)	42	42
D: Housing Diameter (mm)	25.4	25.4
E: Keyway (mm)	0.85Dx20L(Flat)	1.03Dx20L(Flat)
F: Shaft Extension, VAC Side (mm)	22.25	22.25
K: Flange Thickness (mm)	9	9
J: Wrench Width (mm)	37	37
L: Min. Wall Thickness (mm)	17	17
N: Nut	1-14	1-14

Ferromagnetic Seal Environment Sheet

User Name	Company	Telephone	Date
Please fill in the following blanks as best as you can to help us understand the critical environmental data your ferromagnetic seals running on.			
Operating Pressure	Ultimate Pressure	Max. Diff. Pressure	Leak Rate
Torr (Pa)	Torr (Pa)	kg/m ³ (psi)	Torr·l/sec (Pa·m ³ /sec)
Environmental Gases	()Air ()Oxygen ()Argon ()Inert Gases ()Active Gases. Please describe:		
Temperature	Operating Temperature	Max. Temperature	Min. Temperature
	°C	°C	°C
Shaft Diameter	Solid Shaft	Hollow Shaft	
	Ext. Dia. (mm):	Ext. Dia.(mm): Int. Dia. (mm)) :	
Orientation	<input type="checkbox"/> Horizontal <input type="checkbox"/> Vertical <input type="checkbox"/> Tilting angle:		
Rotating Speed	Operating Speed	Max. Speed	Min. Speed
	RPM	RPM	RPM
Persist Time	h/m/s	h/m/s	h/m/s
Power Transimission	Max. Torque	Min. Torque	Initial Torque
	kg·m	kg·m	kg·m
Loading	Radical(ATM Side)	Radical(VAC Side)	Axial
	kg	kg	Kg
* Please draw the dimensions and corresponding arrows of axial and radical loading forces.			