GLOBAL NETWORK




MAGNEX

MAGNEX

VACUUM FEEDTHROUGHS

MAGNETIC SEAL

www.magnex.co.kr
(Korea , Japan): sales@magnex.co.kr
(China): wuxi_sales@magnex.co.kr

MAGNETIC SEAL / VACUUM COMPONENTS / PRECISION MACHINING / VACUUM VALVE

MAGNEX

CONTENTS

About MAGNEX

Development history

Since 2003, MAGNEX has been developing a wide range of products for the success of our customers.

Factory

Head office (Korea Cheongju Fab.1)


Branch (Korea Goesan Fab.2)

Branch (China Wuxi)

Branch (Japan Saitama)

2003
- Established TAEHAN Global
- R&D Center certified

2008
- ISO9001,14001 Certified

2009
- Registered as a 1st vendor of MAGNACHIP
- ULVAC Korea supply contract

2010
- Registered as 1st vendor SAMSUNG display

2012
- Changed company name to MAGNEX

2013
- Registered Magnetic seal patent

2014
- APPLIED MATERIALS supply contract

2015
- Established Wuxi MAGNEX in China

2016
- Registered as 1st vendor of SAMSUNG semiconductor
  SAMSUNG(Xian) semiconductor

2019
- Established Wuxi NOVOVAC Equip. Co., Ltd

2020
- Built 2nd factory(Goesan)

2024
- Established MAGNEX JAPAN

Magnetic Fluid

The magnetic fluid is never precipitate by Brown motion. It can't use if the magnetic fluid is precipitated.

- BASE LIQUID
- SURFACTANT
- FERROMAGNETIC PARTICLE

Magnetic Fluid（Ferrofluid）

A ferrofluid has the fluid properties of a liquid and the magnetic properties of a solid. The ferrofluids actually contain tiny particles (around 10 nm diameter) of a magnetic solid suspended in a liquid medium. To keep them small, magnetic and Van Der Waals interactions must be overcome to prevent the particles from agglomerating. Thermal motion of magnetite particles smaller than 10 nm in diameter is sufficient to prevent agglomeration due to magnetic interactions.

Ferrofluids were originally discovered in the 1960s at the NASA Research Center, where scientists were investigating different possible methods of controlling liquids in space and applied to wide field at present.

For example, Semiconductor, OLED, LCD and Solar cell etc.

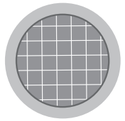
Application for magnetic fluid seal

Wafer growing equipment

Solar cell

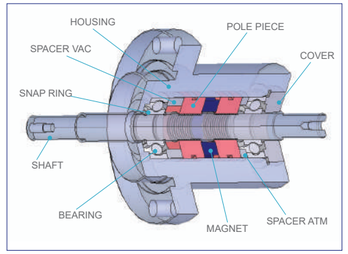
Vacuum Robot

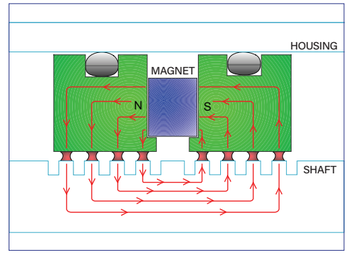
FPD vacuum process
(OLED,LED,LCD,etc.)



Semiconductor vacuum process equipment
(Epitaxy, Diffusion, CVD, PVD, Implantation,etc.)

Magnetic fluid seal





A ferrofluid can behave as a liquid O-ring where a rotating shaft enters either a low- or high- pressure chamber. The ferrofluid is held in place by permanent magnets and forms a tight seal, eliminating most of the friction produced in a traditional mechanical seal.

Numbering System

G H F 0 0 5 S X M 0 1

GLOBAL	SHAFT	MOUNTING	SHAFT DIA.	BEARING	COOLING	MODIFY NO.
	H : HOLLOW S : SOLID	F : FLANGE C : CARTRIDGE N : NUT S : SLEEVE		B : BOTH ATMOSPHERIC SIDE H : HEAVY DUTY S : STANDARD (VACUUM AND ATMOSPHERIC)	X : NON COOLING Y : COOLING	

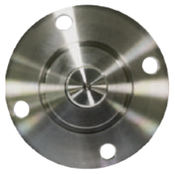
Common Application Specifications

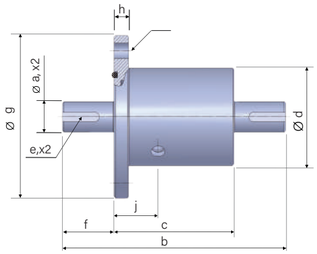
- Ultimate vacuum : 10^{-6}Pa(10^{-8}Torr)
- Helium leak rate : Less than 1.3×10^{-12}Pa · m^3/sec(10^{-11}Torr · l/sec)
- Differential pressure : 4.0kg/cm^2(4.0 atmosphere)
- Gas compatibility : Active and Reactive Gas
- Operating temperature : 0℃ to 200℃ (In case of high temperature should apply to cooling system.)
- Materials of HOUSING and SHAFT : SUS303, SUS304, and SUS630, etc.

GSF □□□ SX type

□□□ is SHAFT DIA.



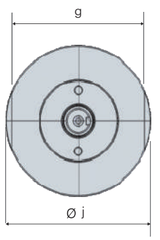



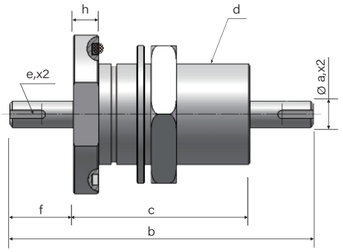
SHAFT DIA.	006	010	012	020
a	Φ6 $^{+0.0}_{-0.018}$	Φ10 $^{+0.0}_{-0.022}$	Φ12 $^{+0.0}_{-0.027}$	Φ20 $^{+0.0}_{-0.033}$
b	97.5	119.5	133.5	151.5
c	57.5	69.5	73.5	81.5
d	38	44	48	63
e	Dp0.5xL12(Flat)	Dp1.8xL14xW3	Dp2.5xL20xW4	Dp3.5xL25xW6
f	20	25	30	35
g	80	80	90	105
h	10	10	10	10
i	P.C.D60, 4-Φ8	P.C.D60, 4-Φ8	P.C.D70, 4-Φ10	P.C.D85, 4-Φ10
j	20	20	29	30
Bearing standard	627	6001	6002	6005
O-ring (Viton)	G25	G30	G35	G50

* The model name of cooling type is GSF □□□ SY.

GSN□□□ SX type

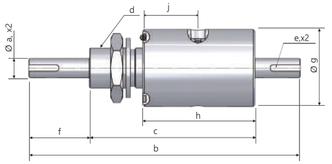
□□□ is SHAFT DIA.





GSS □□□ SX type

□□□ is SHAFT DIA.

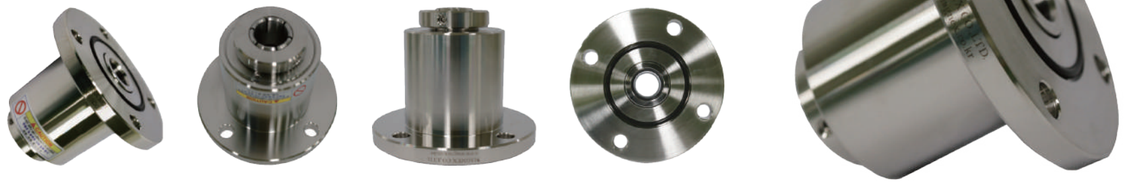


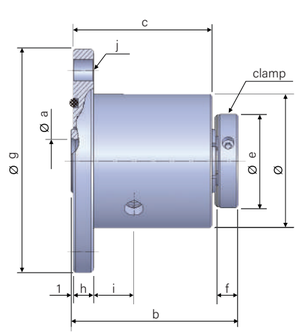
MODEL	GSN TYPE		GSS TYPE	
SHAFT DIA.	006	010	012	020
a	Φ6 $^{+0.0}_{-0.017}$	Φ10 $^{+0.0}_{-0.021}$	Φ12 $^{+0.0}_{-0.026}$	Φ20 $^{+0.0}_{-0.032}$
b	97.5	119.5	179	211
c	57.5	69.5	109	121
d	M32x1.5	M38x1.5	M25x1.5	M30x1.5
e	Dp0.5 x L12(Flat)	Dp1.8 x L14 x W3	Dp2.5 x L20 x W4	Dp3.5 x L25 x W6
f	20	25	40	55
g	49	55	48	63
h	10	10	74	82
j	55	60	36.5	40.5
Bearing standard	627	6001	6002	6005
O-ring (Viton)	P38	P45	G35	G50

* The model name of cooling type is GSS □□□ SY.

GHF □□□ SX type

□□□ is SHAFT DIA.



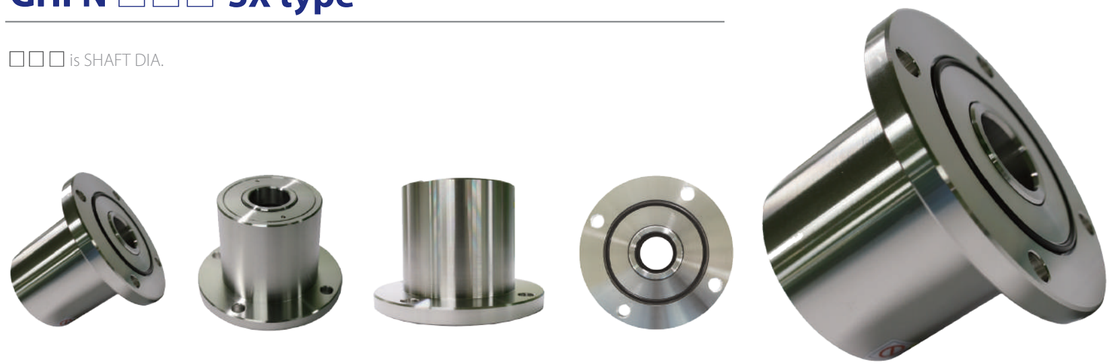


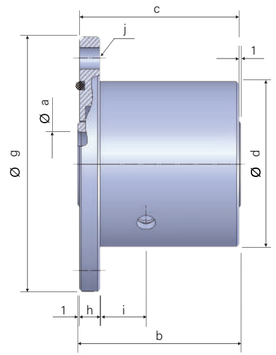
SHAFT DIA.	010	020	025	030	040
a	Φ10 $^{+0.029}_{+0.011}$	Φ20 $^{+0.039}_{+0.021}$	Φ25 $^{+0.039}_{+0.021}$	Φ30 $^{+0.039}_{+0.021}$	Φ40 $^{+0.049}_{+0.021}$
b	78	82.5	88	93	98
c	64	68.5	74	79	80
d	51	63	71	78	90
e	34	44	49	54	69
f	10	10	10	10	12
g	90	105	120	120	145
h	10	10	10	10	10
i	20	20	23	23	23,2
j	P.C.D70, 4-Φ10	P.C.D85, 4-Φ10	P.C.D100, 4-Φ10	P.C.D100, 4-Φ10	P.C.D120, 6-Φ12
k	Φ10 $^{-0.009}_{-0.031}$	Φ20 $^{-0.009}_{-0.031}$	Φ25 $^{-0.009}_{-0.031}$	Φ30 $^{-0.009}_{-0.031}$	Φ40 $^{-0.009}_{-0.031}$
Bearing Standard	16003	6906	6907	6908	6910
O-ring (Viton)	G40	G50	G60	G70	G80

* The model name of cooling type is GHF □□□ SY.
* k:Recommended shaft diameter.

GHFN □□□ SX type

□□□ is SHAFT DIA.



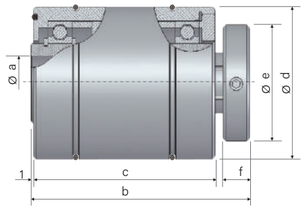


SHAFT DIA.	010	020	025	030	040
a	Φ10 $^{+0.029}_{+0.011}$	Φ20 $^{+0.039}_{+0.021}$	Φ25 $^{+0.039}_{+0.021}$	Φ30 $^{+0.039}_{+0.021}$	Φ40 $^{+0.049}_{+0.021}$
b	66	70.5	76	81	82
c	64	68.5	74	79	80
d	51	63	71	78	90
g	90	105	120	120	145
h	10	10	10	10	10
i	17.5	20	23	23	23.2
j	P.C.D70, 4-Φ10	P.C.D85, 4-Φ10	P.C.D100, 4-Φ10	P.C.D100, 4-Φ10	P.C.D120, 6-Φ12
k	Φ10 $^{-0.009}_{-0.031}$	Φ20 $^{-0.009}_{-0.031}$	Φ25 $^{-0.009}_{-0.031}$	Φ30 $^{-0.009}_{-0.031}$	Φ40 $^{-0.009}_{-0.031}$
Bearing Standard	16003	6906	6907	6908	6910
O-ring (Viton)	G40	G50	G60	G70	G80

* The model name of cooling type is GHFN □□□ SY.
* k:Recommended shaft diameter.
* Non clamp type is denoted by GHFN.

GHC□□□ SX type

□□□ is SHAFT DIA.



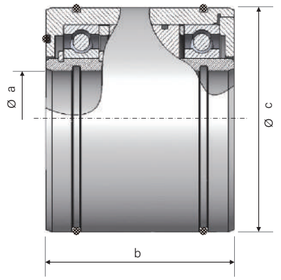
SHAFT DIA.	010	020	030	040	050	075
a	Φ10 $^{+0.029}_{+0.011}$	Φ20 $^{+0.039}_{+0.021}$	Φ30 $^{+0.039}_{+0.021}$	Φ40 $^{+0.049}_{+0.021}$	Φ50 $^{+0.049}_{+0.021}$	Φ75 $^{+0.059}_{+0.031}$
b	78	82.5	93	96	98	115
c	64	68.5	79	80	82	96
d	Φ48 $^{-0.001}_{-0.021}$	Φ58 $^{-0.001}_{-0.031}$	Φ73 $^{-0.001}_{-0.031}$	Φ88 $^{-0.001}_{-0.041}$	Φ98 $^{-0.001}_{-0.041}$	Φ137 $^{-0.001}_{-0.041}$
e	34	44	54	69	79	109
f	10	10	10	12	12	15
k	Φ10 $^{-0.009}_{-0.031}$	Φ20 $^{-0.009}_{-0.031}$	Φ30 $^{-0.009}_{-0.031}$	Φ40 $^{-0.009}_{-0.031}$	Φ50 $^{-0.009}_{-0.031}$	Φ75 $^{-0.009}_{-0.041}$
m	Φ48 $^{+0.049}_{+0.029}$	Φ58 $^{+0.059}_{+0.029}$	Φ73 $^{+0.059}_{+0.029}$	Φ88 $^{+0.069}_{+0.039}$	Φ98 $^{+0.069}_{+0.039}$	Φ137 $^{+0.079}_{+0.049}$
Bearing standard	16003	6906	6908	6910	6912	6918
O-ring(Viton)	S38	S48	S60	S75	S85	S125

* m : Recommended housing diameter

* k : Recommended shaft diameter.

GHCN□□□ SX type

□□□ is SHAFT DIA.



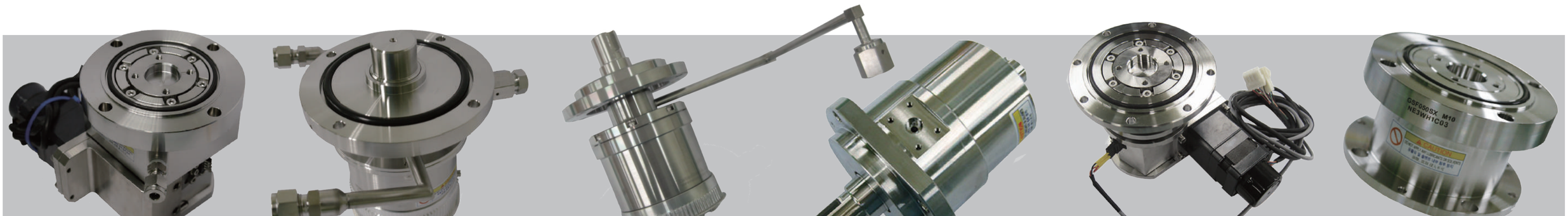
SHAFT DIA.	010	012	020	024	032
a	Φ10 $^{+0.014}_{+0.001}$	Φ12 $^{+0.017}_{+0.001}$	Φ20 $^{+0.020}_{+0.001}$	Φ24 $^{+0.020}_{+0.001}$	Φ32 $^{+0.024}_{+0.001}$
b	50	50	64	64	64
c	Φ40 $^{-0.010}_{-0.024}$	Φ40 $^{-0.010}_{-0.024}$	Φ60 $^{-0.011}_{-0.028}$	Φ63 $^{-0.011}_{-0.028}$	Φ73 $^{-0.011}_{-0.028}$
k	Φ10 $^{-0.009}_{-0.031}$	Φ12 $^{-0.009}_{-0.031}$	Φ20 $^{-0.009}_{-0.031}$	Φ24 $^{-0.009}_{-0.031}$	Φ32 $^{-0.009}_{-0.031}$
m	Φ40 $^{+0.049}_{+0.029}$	Φ40 $^{+0.059}_{+0.029}$	Φ60 $^{+0.059}_{+0.029}$	Φ63 $^{+0.059}_{+0.029}$	Φ73 $^{+0.059}_{+0.029}$
Bearing standard	16003	16003	60/28	6006	6908
O-ring(Viton)	S24	S24	S44	S46	S50

* m : Recommended housing diameter

* k : Recommended shaft diameter.

Special Type

Our company provides different magnetic fluid models according to different processes
to meet your production needs.



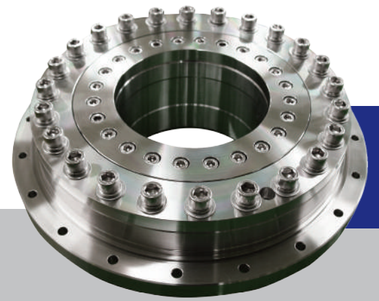
Process : Diffusion

Process : Diffusion

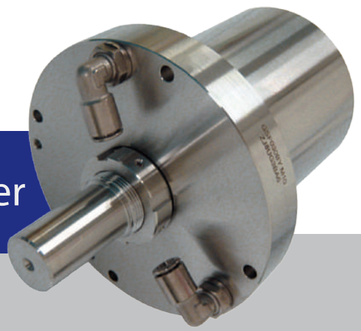
Special Type

Our company provides different magnetic fluid models according to different processes
to meet your production needs.

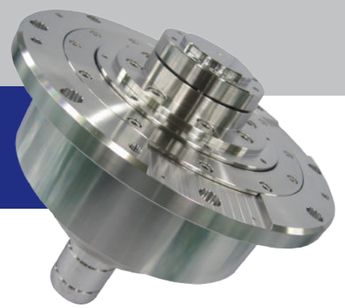
Process : CVD



Process : Sputter



Vacuum Robot



Process : IMP

Brand New Products List

This is our company's latest list of magnetic seal. We have sufficient strength to provide you with personalized service.

MAGNEX

Brand New Products List

MAGNEX

Technical Specifications
SOLID SHAFT

All your technical specifications and requirements should be carefully considered. Please fill in the blank below and on the next page for getting the best consult from our technical team.

Basic information

Company		Department		Name	
E-mail		T e l		F a x	

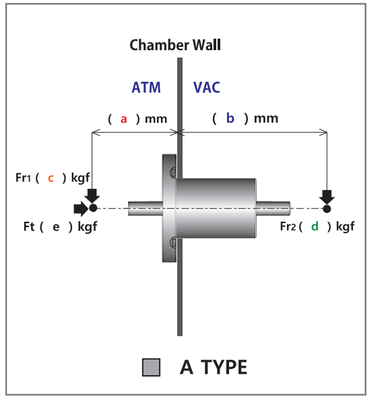
Application(process)

Semiconductor ☐ Solar ☐ Display ☐ Vacuum robot ☐ Industrial ☐ Etc. ☐

Device environment

Stastic pressure	[Pa]	Process pressure	[Pa]	Differential pressure	[Pa]
Temperature	[°c]	☐ Cooling		☐ Non - Cooling	
Shaft Dia.	[mm]	Speed	[rpm]	Process gas	

MAGNEX



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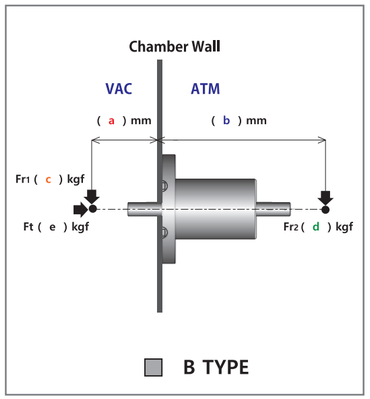

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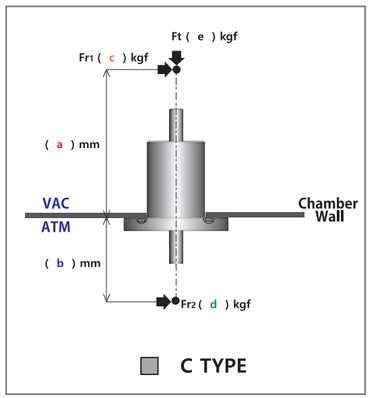
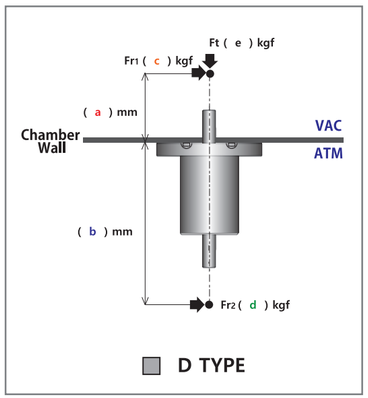


☐ C TYPE



☐ D TYPE

Division	A TYPE	B TYPE
a=		
b=		
c=		
d=		
e=		

Division	C TYPE	D TYPE
a=		
b=		
c=		
d=		
e=		

If the direction of Ft(thrust load) is the opposite direction, please write "-" marks on e-value.

Request for Reliability Test (Request fee is charged for reliability testing)	☐	YES	☐ NO

Technical Specifications
HOLLOW SHAFT

All your technical specifications and requirements should be carefully considered. Please fill in the blank below and on the next page for getting the best consult from our technical team.

Basic information

Company		Department		Name	
E-mail		T e l		F a x	

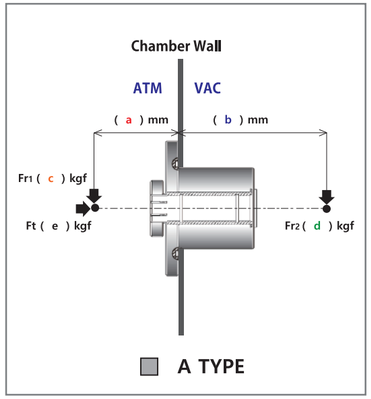
Application(process)

Semiconductor ☐ Solar ☐ Display ☐ Vacuum robot ☐ Industrial ☐ Etc. ☐

Device environment

Stastic pressure	[Pa]	Process pressure	[Pa]	Differential pressure	[Pa]
Temperature	[°c]	☐ Cooling		☐ Non - Cooling	
Shaft Dia.	[mm]	Speed	[rpm]	Process gas	

MAGNEX



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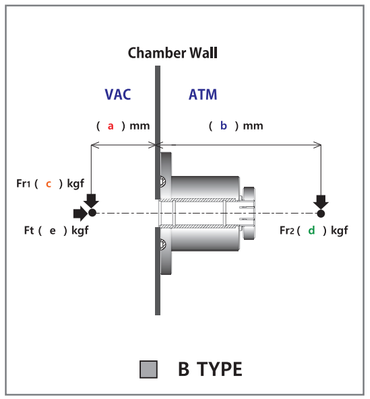

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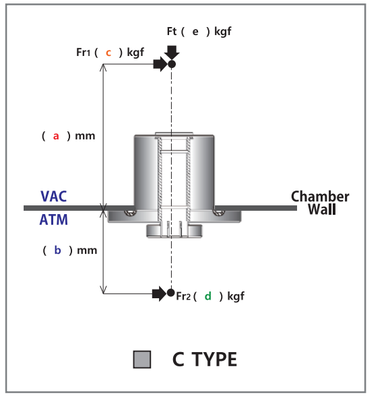
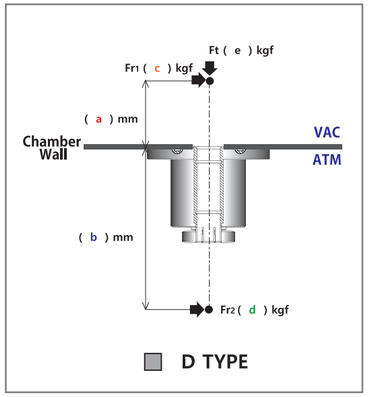


☐ C TYPE



☐ D TYPE

Division	A TYPE	B TYPE
a=		
b=		
c=		
d=		
e=		

Division	C TYPE	D TYPE
a=		
b=		
c=		
d=		
e=		

If the direction of Ft(thrust load) is the opposite direction, please write "-" marks on e-value.

Request for Reliability Test
(Request fee is charged for reliability testing) ☐ YES ☐ NO

Technical Specifications

GSN / GSS TYPE

All your technical specifications and requirements should be carefully considered. Please fill in the blank below and on the next page for getting the best consult from our technical team.

Basic information

Company		Department		Name	
E-mail		Tel		Fax	

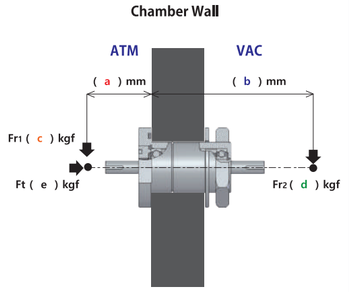
Application(process)

Semiconductor ☐ Solar ☐ Display ☐ Vacuum robot ☐ Industrial ☐ Etc. ☐

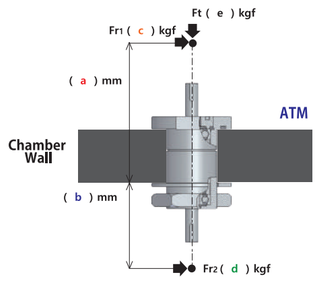
Device environment

Stastic pressure	[Pa]	Process pressure	[Pa]	Differential pressure	[Pa]
Temperature	[°c]	☐ Cooling		☐ Non - Cooling	
Shaft Dia.	[mm]	Speed	[rpm]	Process gas	

MAGNEX



☐ GSN A TYPE



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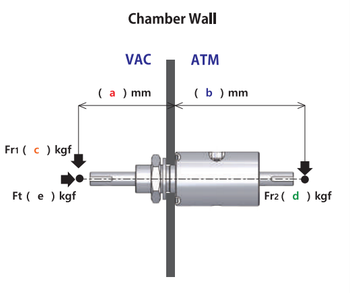
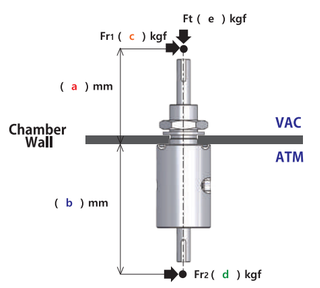


☐ GSS A TYPE



☐ GSS B TYPE

Division	GSN A TYPE	GSN B TYPE
a=		
b=		
c=		
d=		
e=		

Division	GSS A TYPE	GSS B TYPE
a=		
b=		
c=		
d=		
e=		

If the direction of Ft(thrust load) is the opposite direction, please write "-" marks on e-value.

Request for Reliability Test
(Request fee is charged for reliability testing) ☐ YES ☐ NO