

Vacuum Products Series



OUR PEOPLE MAKE THE DIFFERENCE

公司简介

苏州迈格诺科洁净材料有限公司成立于2012年，专业从事基于超纯不锈钢为母材的各类超高洁净系统和精密零部件的设计、加工、制造及销售业务。公司致力于为客户提供高质量并具成本效益的各类标准件和客制化产品的优质全程供应链管理服务。

我们拥有完整的机械加工及TIG焊接生产线：有通过第三方验证，可满足半导体超纯气体管路焊接、清洗、测试、包装环境的100及10K级洁净室；拥有国际一线品牌的各类检测设备。公司已取得ISO9001认证，团队拥有从设计、工艺、制造加工、质量与制程控制的整套专业能力。人员技术过硬、经验丰富，在业界拥有良好的信誉与口碑。

迈格诺科坚持以客户为导向，广泛服务于生物制药、食品饮料、精密化工、太阳能光伏、半导体芯片、平板显示以及科研、军工、航空航天等产业的客户。凭借多年的专业经验，我们了解这些行业的严格要求并拥有成熟的解决方案。例如系统的洁净度控制、焊接产品的精度控制等。我们会在客户的严格要求下，提供最优的解决方案以实现客户目标。



INTRODUCTION

Founded in 2012, Suzhou Magnox Hygienic Materials Co, Ltd. is specialized in design, processing, manufacturing and sales of various ultra-high cleaning systems and precision parts based on ultra-pure stainless steel. The company is committed to providing high-quality and cost-effective supply chain management services for all kinds of standard parts and customized products.

We have a complete machining and TIG welding production line; There are 100 and 10K clean rooms that have passed the CNAS Certification and can meet the requirements of semiconductor ultra-pure gas pipeline welding, cleaning, testing and packaging environment; We also international first-line brand testing equipments.

The company has passed ISO9001 certification. The team has professional abilities in design, process, manufacturing, quality and process control. With excellent technology and rich experience, we have a good reputation in the field.

Magnox adheres to customer orientation and serves customers in biopharmaceutical, food and beverage, precision chemical, solar photovoltaic, semiconductor chip, flat panel display, scientific research, military industry, aerospace and other industries. With years of professional experience, we understand the strict requirements of these industries and have mature solutions. For example, the cleanliness control of the system, the precision control of welding products, etc. We will provide the best solution to achieve the customer's goal under the strict requirements of customers.





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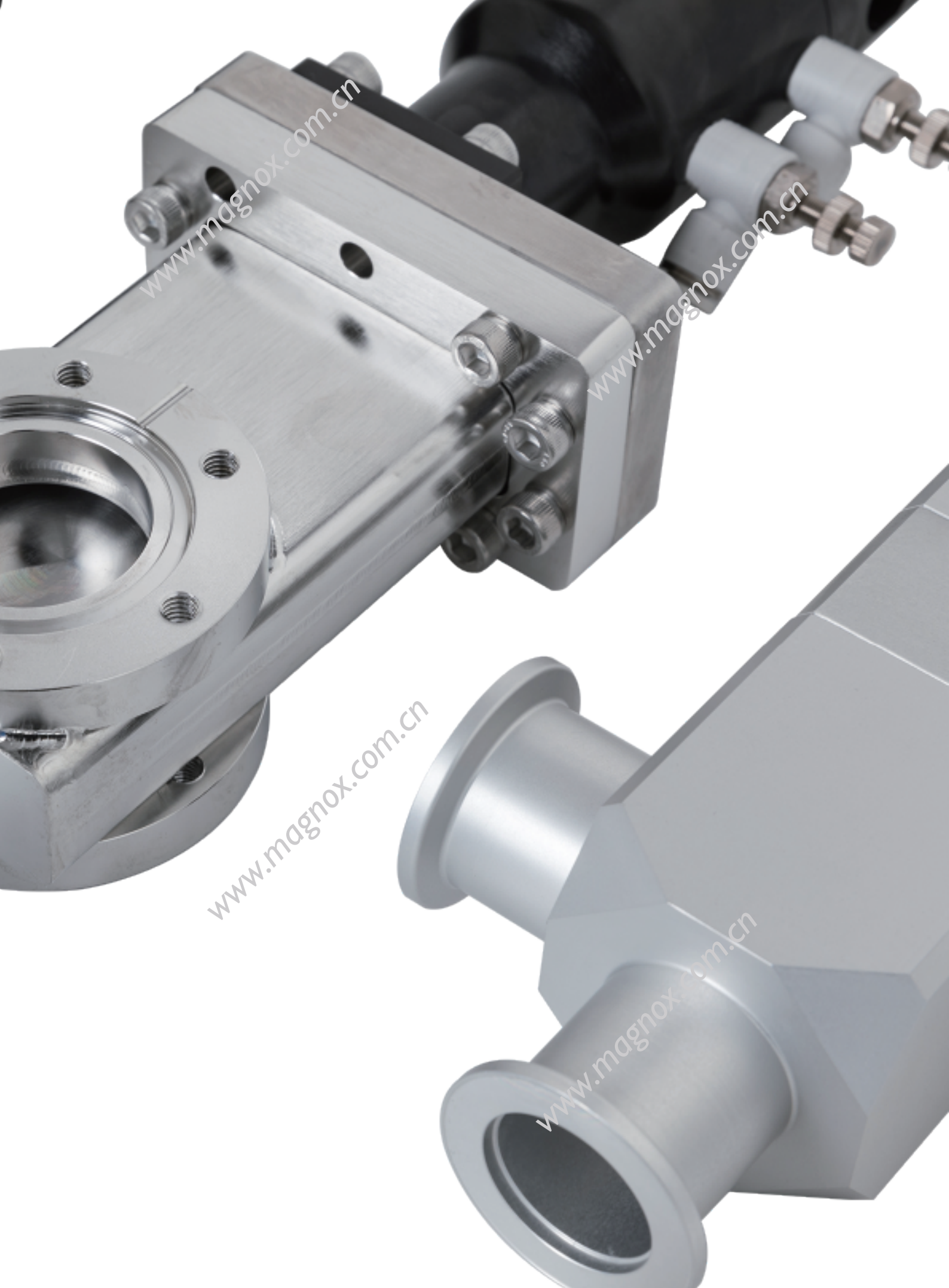
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Isolation Valves

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Construction

产品描述

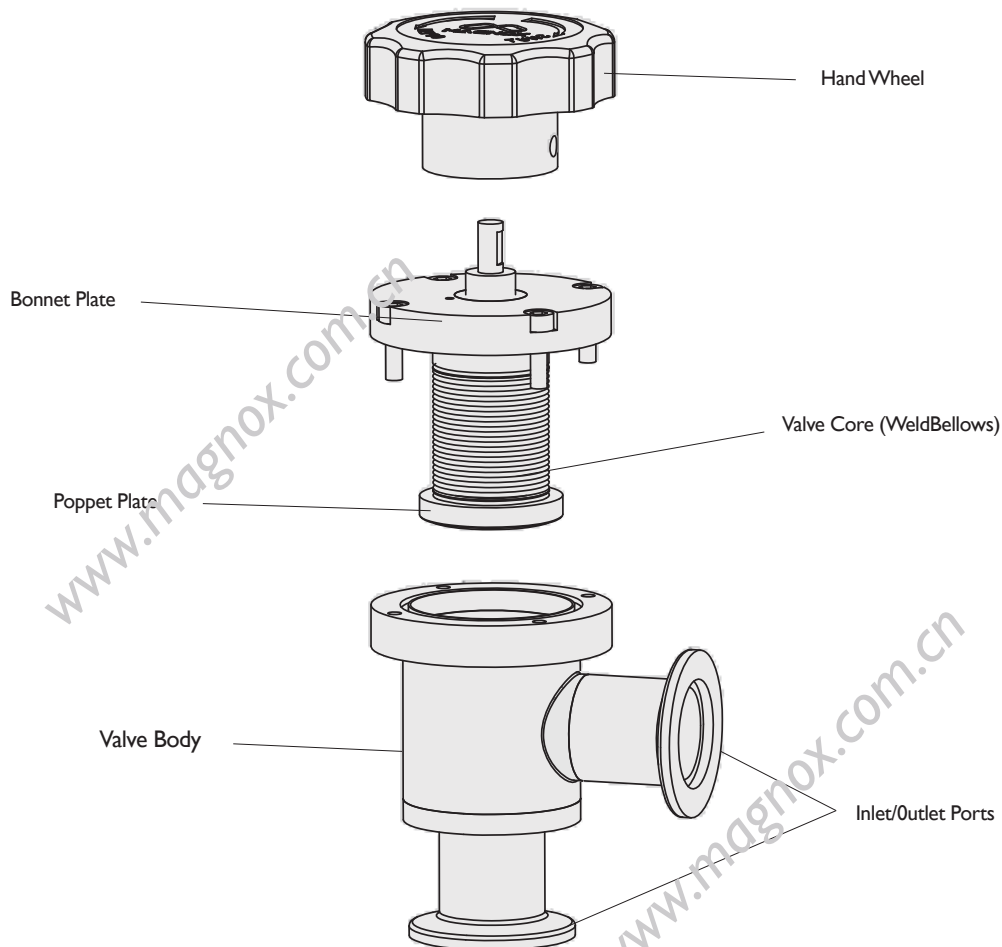
The angle valve's applications include rough pumping shut-off, foreline switching between pumps, cryo-sorption pump shut-off isolating foreline traps, UHV shut-off, sorption trap isolation, isolating sections baked to high temperature, and more.

As the name implies, the valve's ports are at 90° with the flapper's motion along the axis of one port. Although large-diameter angle valves (ften called poppet valves) exist, the most popular sizes have ports between 1/2" and 3". Their right angle construction reduces the gas conductance for a given bore-size to somewhat less than the equivalent length straight tube.

The flapper is sealed by o-ring, elastomeric disk, or soft meta/hard metal. The last named can be baked to high temperature and are extensively used on UHV systems. Although other actuator seals may exist, by far the most common is the flex metal bellows seal. The bellows' "outer end is usually welded to a plate attached to the actuator shaft. The "inner" end is sealed to the body by using either an o-ring or knife-edge copper gasket seal similar to the CF flange.

Manually Angle Valve

手动角阀



Vacuum Poppet Valves

Construction

产品描述

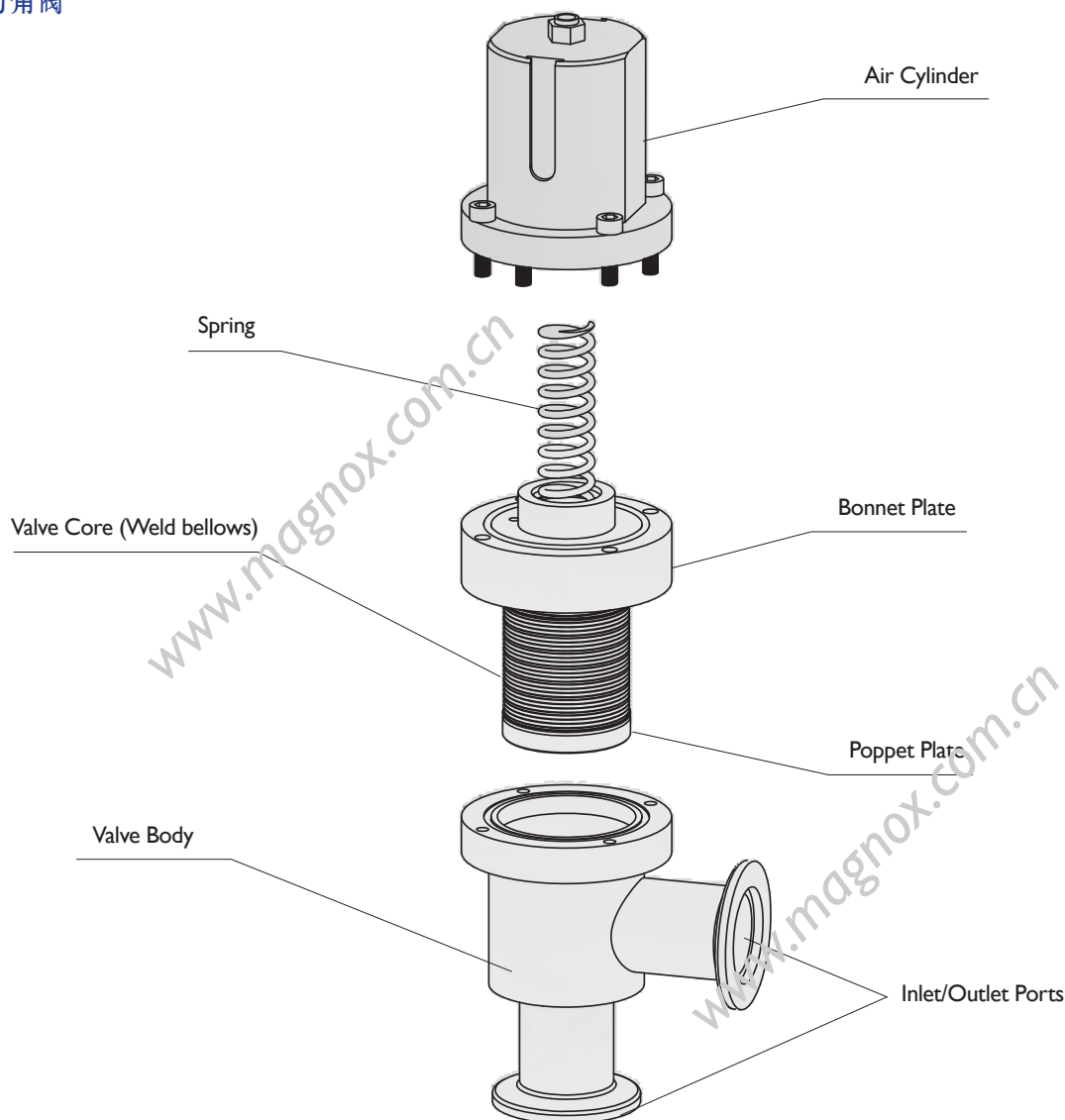
Angle valves are actuated manually, by pneumatic cylinder, or by electro-magnetics. Valves using the last mechanism are sometimes called 'solenoid valves,' but the similarity of name to valves that divert compressed air in pneumatic valve actuation (noted earlier), causes confusion. Here, the 'solenoid' directly actuates the valve's flapper. This is a vacuum valve (not a compressed air valve) and is attractive for automating some parts of a system without the need for compressed air.

These valves are essentially on-off devices and are rarely used for conductance control (see below) except in the most primitive, manual way. Some advantages are construction simplicity and ease of mounting/demounting. Positioning a valve between two (rigid tubes with a common centerline, or parallel/offset centerlines, is more difficult than using an angle valve and tubes at 90°.

Although well able to withstand 15 psi overpressure on either side of the flapper, the valve is often mounted with the flapper o-ring facing the normally evacuated space. A popular version of this valve is known as the block valve because it is manufactured from a block of aluminum.

Pneumatic Angle Valves

气动角阀



Technical Data For General Vacuum Poppet Valves

通用真空挡板阀技术参数

Grade	Ultra High Vacuum	High Vacuum
valve Spool	Welded Metal Bellows	Welded Metal Bellows
Gate seal	FKM o-ring (Optional for FFKM)	FKM o-ring (Optional for FFKM)
Bonnet seal	OFHC metal gasket	FKM
Operate pressure range	2,000 mbar~1.33x10 ⁻¹⁰ mbar	2,000 mbar~1.33x10 ⁻⁸ mbar
Leak rate	1.33x10 ⁻⁹ mbar l/s He	1.33x10 ⁻⁹ mbar l/s He
Cycle life	>1,000,000 Cycles	
Temperature for valve body	250°C (482°F) Open, 200°C (392°F) Closed	
Temperature for actuator	100°C (212°F)	
Temperature for solenoid / position indicator	80°C	
Bake temperature	200°C (392°F) for FKM gate seal	100°C (212°F) for FKM gate seal
Valve body material	SS304L (Optional for SS316L)	
Mechanism material	SS304L	
Actuator material	Aluminum	
Mounting position	Any	
Position indicator (Optional)	Optional magnetic sensor with wire end	
Solenoid (optional)	Optional for 24V DC, standard	
Failure protection (included as standard)	Spring closed for KF16, KF25, KF40, KF50, CF1.33", CF2.75"	

Flange Size	KF16/CF16	KF25/CF25	KF40/CF35	KF50/CF50	ISO63/CF63	ISO80/CF80	ISO100/CF100	ISO160/CF160
Maximum Differential Pressure At Opening	2000 mbar							
Maximum Differential Pressure against Gate	2700 mba	2400 mba	2300 mba	2000 mba	3900 mba			4000 mba
Pneumatic Valve Open & Close Time /S	0.3/0.5	0.3/0.5	0.5/0.8	0.5/0.8	0.7/0.7	0.7/0.7	0.8/0.8	1.5/1.5
Valve's Conductance (Molecular Flow)	6 L/S	15 L/S	48 L/S	82 L/S	170 L/S	220 L/S	490 L/S	1090 L/S

General Poppet Valves Ordering Information

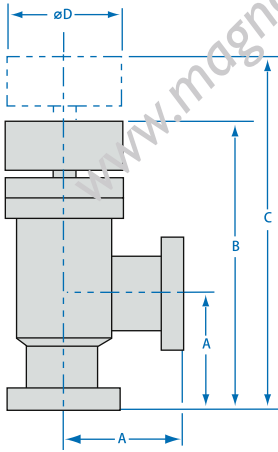
通用角阀订购信息

66221		0100		PL		50		FK		10		02		A 3 R					
产品系列		尺寸规格		产品形式		阀芯		密封圈材质		阀体材质		阀盖密封方式		磁性开关		电磁阀		电磁阀方向	
66221	通用真空角阀	0133	CF16	ML	手动90°	40	焊接波纹管 SUS316L	FK	氟橡胶	10	SUS304	01	O-Ring	空白	不选装	L	法兰面左		
		0075	KF16	PL	气动90°	50	焊接波纹管 AMB50	FF	全氟醚橡胶	40	SUS316	02	无氟钢	1	AC120V	R	法兰面右		
		0212	CF25	MY	手动Y型直线	10	挡板 无阀芯							A	带2个	O	法兰面里		
		0100	KF25	PY	气动Y型直线									B	带1个				
		0275	CF35	MZ	手动Z型									C	带1个				
		0150	KF40	PZ	气动Z型														
		0338	CF50	MT	手动三通														
		0200	KF50	PT	气动三通														
		0450	CF63																
		0250K	ISO63-K																
		0250F	ISO63-F																
		0250N	NW63																
		0462	CF80																
		0300K	ISO80-K																
		0300F	ISO80-F																
		0300N	NW80																
		0600	CF100																
		0400K	ISO100-K																
		0400F	ISO100-F																
		0400N	NW100																
		0675	CF130																
		0700K	ISO160-K																
		0600F	ISO160-F																
		0600N	NW160																
		0800	CF160																
		0800K	ISO200-K																
		0800F	ISO200-F																
		0800N	NW200																
		1000	CF200																
		1000K	ISO250-K																
		1000F	ISO250-F																
		1000N	NW250																
		1200	CF250																
		1200K	ISO320-K																
		1200F	ISO320-F																
		1200N	NW320																

说明

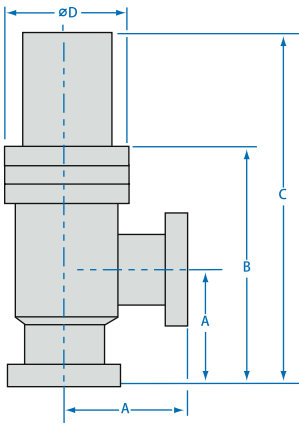
- 1、型号说明仅用于说明型号组成规则，有些组合实际并不存在；如有疑问请联系迈格诺科销售代表

Vacuum Poppet Valves



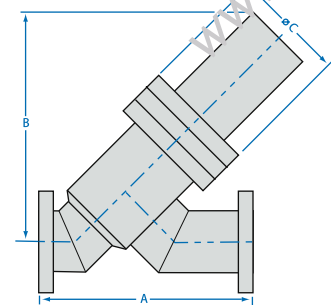
Manual Angle Valves

Flange Size	Dimensions, (in.)			
	A	B	C	D
CF1.33	2.50	5.06	5.81	2.25
KF16	2.15	4.71	5.46	2.25
CF2.12	2.05	4.49	5.19	2.25
KF25	2.03	4.47	5.47	2.25
CF2.75	2.46	5.84	7.34	3.00
KF40	2.40	5.70	7.28	3.00
CF3.38	3.48	8.09	10.08	3.50
KF50	3.40	8.00	10.00	3.50
CF4.50	3.38	8.65	11.15	4.00
ISO63	3.25	8.52	11.02	4.00
CF4.62	3.53	8.96	11.96	4.50
ISO80	3.50	8.93	11.93	4.50



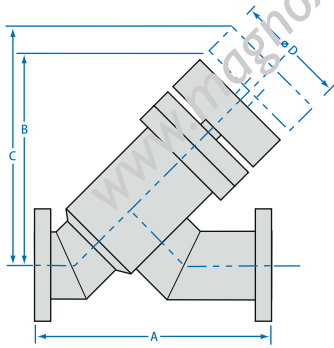
Pneumatic Angle Valves

Flange Size	Dimensions, (in.)			
	A	B	C	D
CF1.33	2.50	5.06	6.76	2.25
KF16	2.15	4.71	6.41	2.25
CF2.12	2.05	4.49	6.19	2.25
KF25	2.03	4.47	6.17	2.25
CF2.75	2.46	5.84	7.77	3.00
KF40	2.40	5.70	7.71	3.00
CF3.38	3.48	8.08	11.46	3.50
KF50	3.40	8.00	11.38	3.50
CF4.50	3.38	8.65	10.48	4.00
ISO63	3.25	8.52	10.35	4.00
CF4.62	3.53	8.96	11.28	4.50
ISO80	3.50	8.93	11.25	4.50
CF6.0	4.66	9.99	15.43	6.50
ISO100	4.47	9.80	15.24	6.50



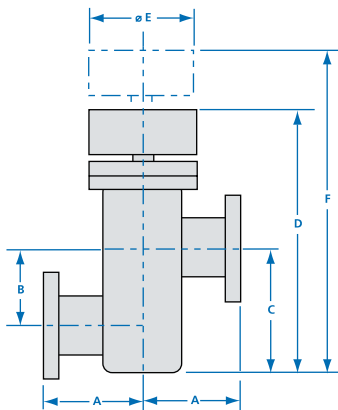
Pneumatic Inline Valves

Flange Size	Dimensions, (in.)		
	A	B	C
CF1.33	4.70	4.32	2.25
KF16	4.00	4.31	2.25
CF2.12	4.23	4.21	2.25
KF25	4.20	4.27	2.25
CF2.75	5.24	5.69	3.00
KF40	5.12	5.69	3.00
CF3.38	7.15	7.94	3.50
KF50	7.00	7.94	3.50
CF4.50	8.50	7.64	4.00
ISO63	8.25	7.64	4.00
CF4.62	8.61	8.70	4.50
ISO80	10.55	8.70	4.50



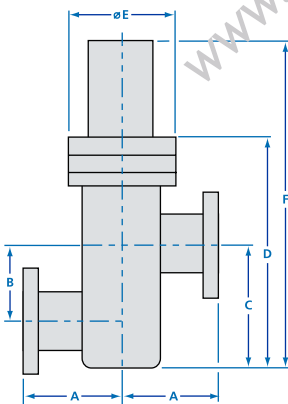
Manual Angle-in-line Valves

Flange Size	Dimensions, (in.)			
	A	B	C	D
CF1.33	4.70	3.47	4.01	2.25
KF16	4.00	3.47	4.01	2.25
CF2.12	4.23	3.42	4.11	2.25
KF25	4.20	3.42	4.14	2.25
CF2.75	5.24	4.55	5.61	3.00
KF40	5.12	4.55	5.61	3.00
CF3.38	7.15	6.19	9.15	3.50
KF50	7.00	6.19	9.15	3.50
CF4.50	8.50	6.99	10.31	4.00
ISO63	8.25	6.99	10.31	4.00
CF4.62	10.61	7.71	11.38	4.50
ISO80	10.55	7.71	11.38	4.50



Manual Angle Valves, Z - Type

Flange Size	Dimensions, mm					
	A	B	C	D	C	D
CF1.33	63.5	28	47	113	57	132
KF16	54.6	28	47	113	57	132
CF2.12	52.1	35	57	119	57	145
KF25	51.6	35	57	119	57	145
CF2.75	63.5	48	79	166	76	204
KF40	61.0	48	79	166	76	204
CF3.38	88.4	67	105	222	89	273
KF50	86.4	67	105	222	89	273
CF4.50	85.9	79	125	259	102	323
ISO63	82.6	79	125	259	102	323
CF4.62	89.7	93	143	280	114	357
ISO80	88.9	93	143	280	114	357



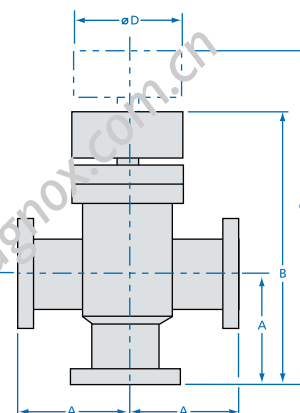
Pneumatic Angle Valves, Z - Type

Flange Size	Dimensions, mm					
	A	B	C	D	E	F
CF1.33	63.5	28	47	102	57	156
KF16	54.6	28	47	102	57	156
CF2.12	52.1	35	57	108	57	162
KF25	51.6	35	57	108	57	162
CF2.75	63.5	48	79	149	76	215
KF40	61.0	48	79	149	76	215
CF3.38	88.4	67	105	199	89	308
KF50	86.4	67	105	194	89	308
CF4.50	85.9	79	125	231	102	306
ISO63	82.6	79	125	231	102	306
CF4.62	89.7	93	143	253	114	340
ISO80	88.9	93	143	253	114	340
CF6.0	118	93	187	326	165	464
ISO100	114	93	187	326	165	464

Vacuum Poppet Valves

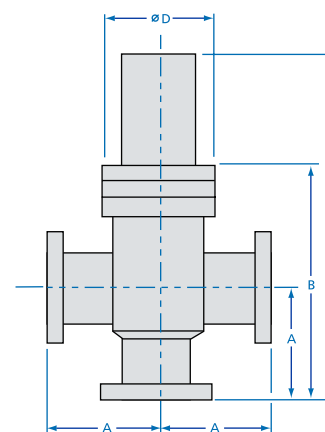
Manual Angle Valves, Tee - Type

Flange Size	Description	Dimensions, mm			
		A	B	C	D
CF1.33	Rotatable 1.33 CF	63.5	129	148	57
KF16	NW-168	54.6	120	139	57
CF2.12	Rotatable 2.12 CF	52.1	114	140	57
KF25	NW-25B	51.6	114	139	57
CF2.75	Rotatable 2.75 CF	62.5	148	186	76
KF40	NW-40B	61.0	147	185	76
CF3.38	Rotatable 3.38 CF	88.4	205	256	89
KF50	NW-50B	86.4	203	254	89
CF4.50	Rotatable 4.50 CF	85.9	220	283	100
ISO63	ISO-63-250-0F	82.6	216	280	100
CF4.62	Rotatable 4.62 CF	89.7	228	304	114
ISO80	ISO-80-300-0F	88.9	227	303	114



Pneumatic Angle Valves, Tee - Type

Flange Size	Dimensions, mm			
	A	B	C	D
CF1.33	63.5	117	172	57
KF16	54.6	108	163	57
CF2.12	52.1	102	157	57
KF25	51.6	102	157	57
CF2.75	62.2	132	197	76
KF40	61.0	130	196	76
CF3.38	88.4	177	291	89
KF50	86.4	175	289	89
CF4.50	85.9	192	266	100
ISO63	82.6	189	263	100
CF4.62	89.7	201	287	114
ISO80	88.9	200	286	114
CF6.0	118	254	392	165
ISO100	114	249	387	165



Vacuum Poppet Valves

All-In-One Aluminum Block Poppet Valve

一体式方形铝质挡板阀

Features

◆ **Uniform baking temperature**

Excellent thermal conductivity results in a uniform temperature for the entire valve body and a marked decrease in the condensation of gases inside the valve.

◆ **Minimal outgassing**

Low outgassing makes it possible to use a lower capacity pump and also shorten exhaust time

◆ **High corrosion resistance to fluorine gas**

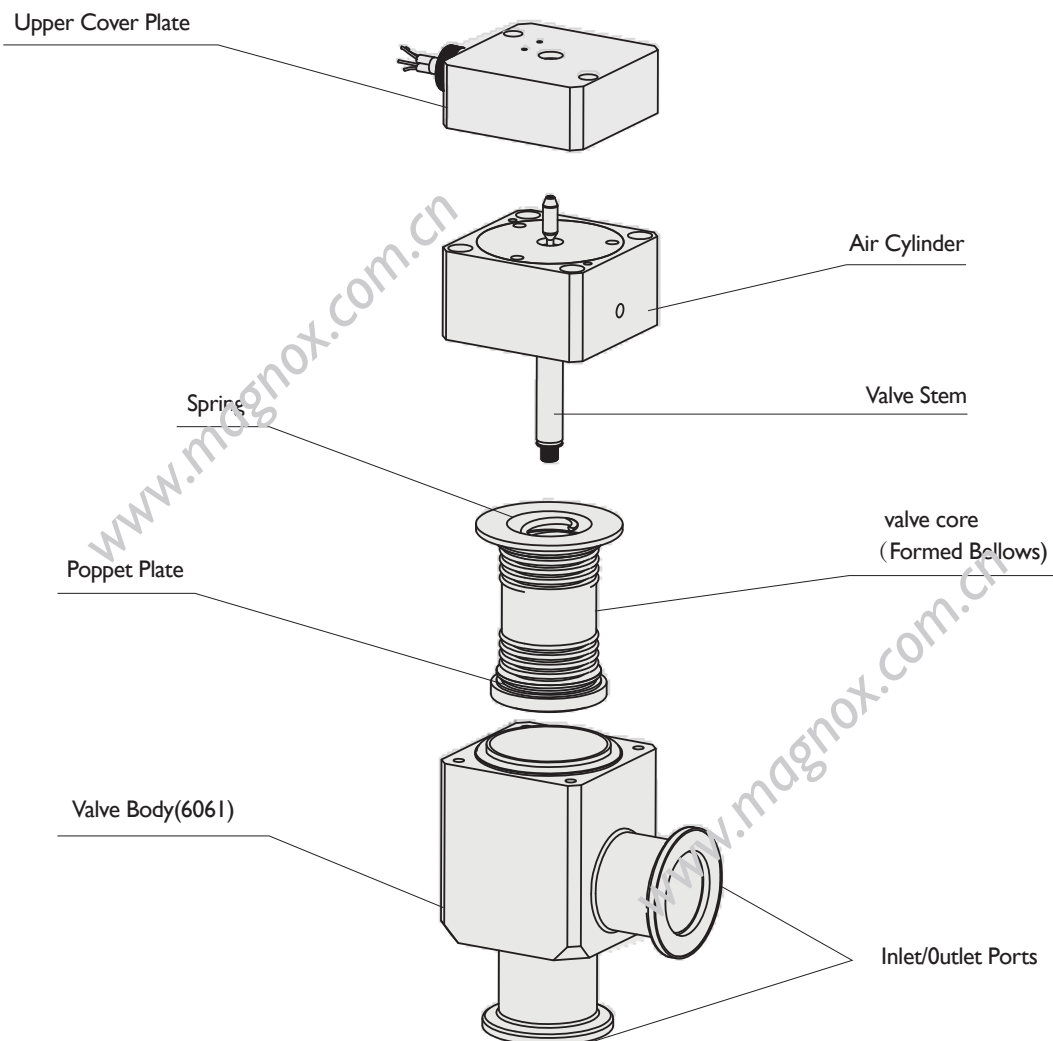
◆ **Lightweight, Compact**

Large conductance, small body, excellent resistance against fluorine corrosion (body)

◆ **Minimal contamination from heavy metals**

The valve does not contain heavy metals such as Ni (nickel) or Cr (chrome) and its low sputtering yield also helps to minimize the heavy metal contamination of semiconductor wafers.

◆ **The bellows assembly can be replaced, which reduces maintenance costs and waste materials.**



Technical Data For All-In-One Poppet Valves

一体式挡板阀技术参数

Flange Size	KF16	KF25	KF40	KF50	KF63	KF80
Valve type	Normally closed (Pressurize to open, Spring seal)					
Fluid	Inert gas under vacuum					
Operating temperature [°C]	5 to 150					
Operating pressure [Pa(abs)]	1×10^{-5} to atmospheric pressure					
Conductance [L/s]*I	5	14	45	80	160	200
Leakage [Pa · m ³ /s]	Internal	For standard seal material (FKM) 1.3×10^{-11} at normal temperature, excluding gas permeation				
	External	For standard seal material (FKM) 1.3×10^{-11} at normal temperature, excluding gas permeation				
Flange type	KF (NW)			KF(NW),ISO-K		
Principal materials	Body: Aluminum alloy, Bellows: &stainless steel 316L, Chief part: Stainless steel, FKM (Standard seal material)					
Surface treatment	External: Hard anodized Internal: Raw material					
Pilot pressure [MPa(G)]	0.4 to 0.7					
Cycle Life(Valve Core)	>3500000					

All-In-One Poppet Valves Ordering Information

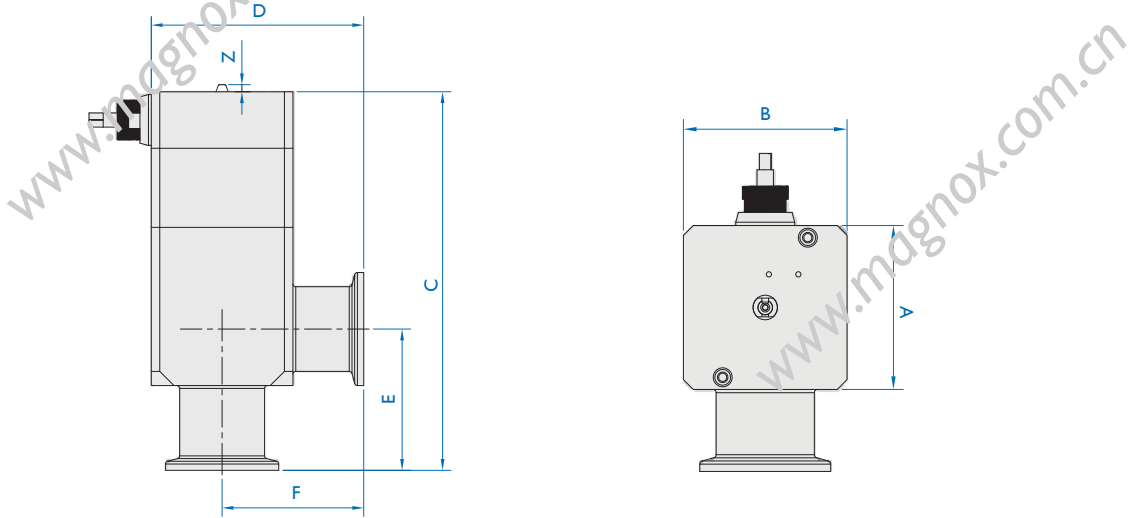
一体式挡板阀订购信息

产品系列	产品代码	产品形式	阀芯	阀体材质	磁性开关	电磁阀	电磁阀方向	加热器选配	装配环境
66222 一体成型角阀	0075 KF16	ML 手动90°角阀	1 成型波纹管阀芯	AL 6061	代码 数量 检测位置	空白 不选装	1 法兰侧	Blank 不选配	A 普通
	0100 KF25	PL 气动90°角阀	2 挡板密封	10 SUS304	空白 不选装 -	1 AC220V	2 法兰面左	1 选配2片	C 洁净间
	0150 KF40	MY 手动Y型直角阀		40 SUS316L	A 带2个 阀开闭	2 AC110V	3 法兰面右	2 选配3片	
	0200 KF50	PY 气动Y型直角阀			B 带1个 阀开	3 DC24V	4 法兰面里	3 选配6片	
	0250K ISO63-K				C 带1个 阀闭	4 DC12V			
	0250N NW63								
	0300K ISO80-K								
	0300N NW80								

说明

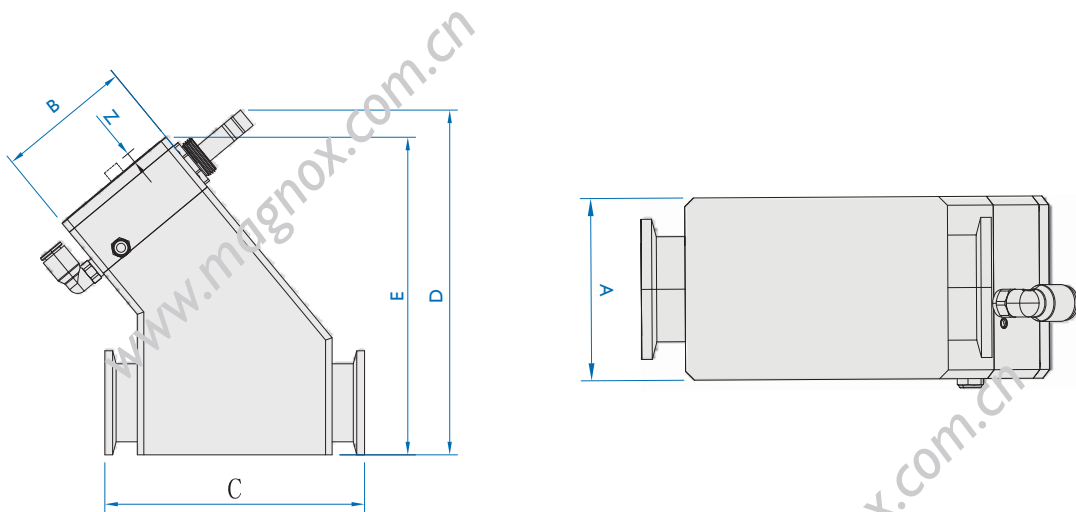
1、型号说明仅用于说明型号组成规则，有些组合实际并不存在；
如有疑问请联系迈格诺科销售代表

Vacuum Poppet Valves



Pneumatic All-In-One Angle Valves

Part Number	Flange Size	Dimensions, mm						
		A	B	C	D	E	F	Z
66222-0075-PL	KF16	42.00	42.00	113.00	61.00	40.00	40.00	32.20
66222-0100-PL	KF25	52.00	52.00	136.20	78.00	50.00	50.00	32.20
66222-0150-PL	KF40	65.00	65.00	161.50	97.50	65.00	65.00	32.20
66222-0200-PL	KF50	78.00	78.00	189.00	109.00	70.00	70.00	32.20



Pneumatic All-In-One Inline Valves

Part Number	Flange Size	Dimensions, mm					
		A	B	C	D	E	Z
66222-0075-PY	KF16	42.00	42.00	80.00	114.00	104.00	32.20
66222-0100-PY	KF25	52.00	52.00	100.00	136.00	122.00	32.20
66222-0150-PY	KF40	65.00	65.00	130.00	162.50	148.00	32.20
66222-0200-PY	KF50	78.00	78.00	178.00	198.00	186.00	32.20

Vacuum Poppet Valves

Applications

应用场景

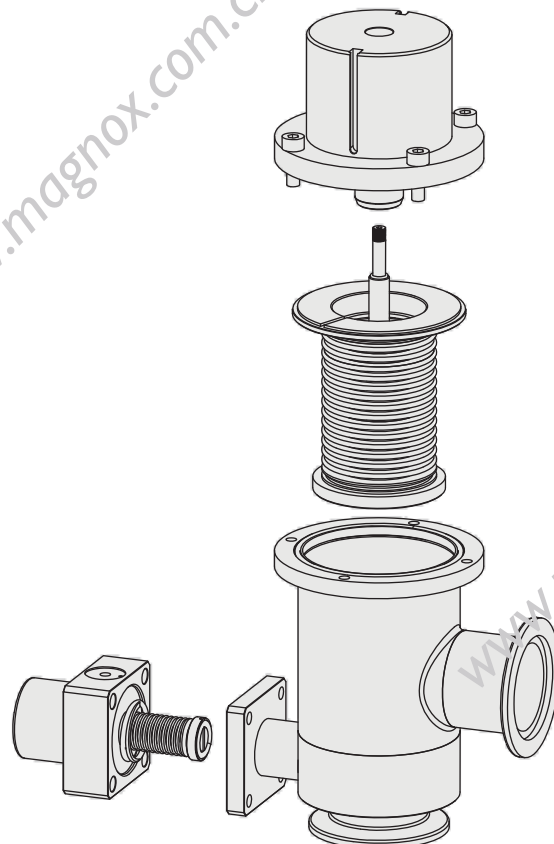
To achieve a soft pumpdown of your vacuum system with limited space conditions, MAGNOX recommends the Two-Stage Valve. A low-profile isolation valve with an integrated small bypass valve, the Two-Stage Valve significantly simplifies system setup and reduces costs. The Two-Stage valve is best suited for high vacuum applications, specifically semiconductor or optical processing for which a cleaner environment is necessary. With the integrated slow pumpdown feature, turbulent flow is diminished, reducing particle contamination and damage to the product.

The Two-Stage Valve soft starts the system in two easy steps without the use of secondary bypass lines, which clog easily and are expensive to maintain. In the first stage, the bypass valve pumps down slowly from atmospheric pressure to a vacuum pressure specified by the end-user. In the second stage, the main valve opens, allowing use of full pumping speed. The main valve is smaller, lighter, and lower in cost than similar competitive valves while offering improved reliability and increased uptime. The square cap design is easy to assemble and maintain.

Features

产品特性

- ◆ Compact design
- ◆ Provides soft pumpdown and isolation of your vacuum system
- ◆ Reduces particulate contamination during early turbulent pumpdown
- ◆ Adjustable conductance for variable pumpdown speed
- ◆ Eliminates the need for small bypass lines that clog easily
- ◆ Bellows-sealed poppet valves
- ◆ Bellows are formed for less particle trapping and a longer cycle life
- ◆ Angle or inline option
- ◆ Available in port diameters of 1, 1½, and 2 inches
- ◆ Choice of KF flanges, CF flanges, or weld stubs
- ◆ May easily be accommodated into existing systems



Vacuum Poppet Valves



Item Type	Technical Data			
Material	Body	SUS304/SUS316L		
	Cylinder Assembly	AL		
	Valve Core	SUS316 (Formed Bellows)		
	O-Ring	FKM/FFKM		
Cycle Life	≥ 3500000			
Leakage Rate	HV	< 2x10 ⁻⁸ mbar.l /sec for O-ring sea		
	UHV	5x10 ⁻¹⁰ mbar. l /sec for gasket seal		
Bake Temperature	Valve body			< 150°C
	Manual and pneumatic actuator			< 80°C
Pressure Range (mbar)	HV	1x10 ⁻⁸ ~1000		
Leakage Rate	UHV	1x10 ⁻¹⁰ ~1000		
Standard Seal	HV	Gate	Viton O-ring	
		Bonnet		
	UHV	Gate	Viton O-ring	
		Bonnet	Copper Gasket	
Actuator	Pneumatic			
Operating Air Pressure	Ø6 mm, 4-6.5 Kg/cm ² (overpressure)			
Actuation Time	Main: 40 - 160 msec to open, 90 - 220 msec to close, depending on configuration Bypass: 100 msec (both)			
Options	A. Position indicator; B. Pneumatic control solenoid valve; C. Roughing port; D. Other material Gate O-ring seal;			
Maximum Differential Pressure against Gate	< 1090 mbar			
Flange Size	KF25/CF25	KF40/CF35	KF50/CF50	ISO63/CF63
Maximum Differential Pressure At Opening	2000 mbar			
Maximum Differential Pressure against Gate	2700	2400	2300	2000
Pneumatic Valve Open & Close Time /S	0.3/0.5	0.3/0.5	0.5/0.8	0.5/0.8
Valve's Conductance (Molecular Flow)	14L/S	45L/S	80L/S	160L/S

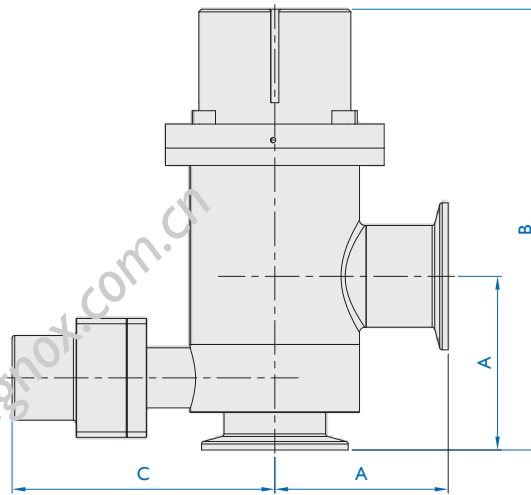
Two-Stage Poppet Valves Ordering Information

双级提升阀订购信息

66223		0150		PL FK 40			I 3 A										
产品系列		尺寸规格		产品形式			密封圈材质		阀体材质		软抽阀		电磁阀		磁性开关		
66223	双级角阀系列	0100	KF25	PL	手动90°直角型	FK	氟橡胶	10	SUS304	Blank	不选装	Blank	不选装	代码	数量	检测位置	
		0150	KF40	PY	气动180°直线型 (Y型)	FF	全氟醚橡胶	40	SUS316L	I	选装	1	AC220V	空白	不选装	-	
		0200	KF50	PZ	气动Z型							2	AC110V	A	带2个	阀关闭	
		0250K	ISO63-K	PT	气动三通型							3	DC24V	B	带1个	阀开	
		0300K	ISO80-K									4	DC12V	C	带1个	阀闭	
		0400K	ISO100-K														
		0600K	ISO160-K														

说明

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Manual Viton Seal Tee Valves		Dimensions, mm			
Part Number	Flange Size	A	B	C	D
66223-0100	KF25	63.5	129	148	57
66223-0150	KF40	54.6	120	139	57
66223-0200	KF50	52.1	114	140	57

Vacuum Butterfly Valves



Product Description

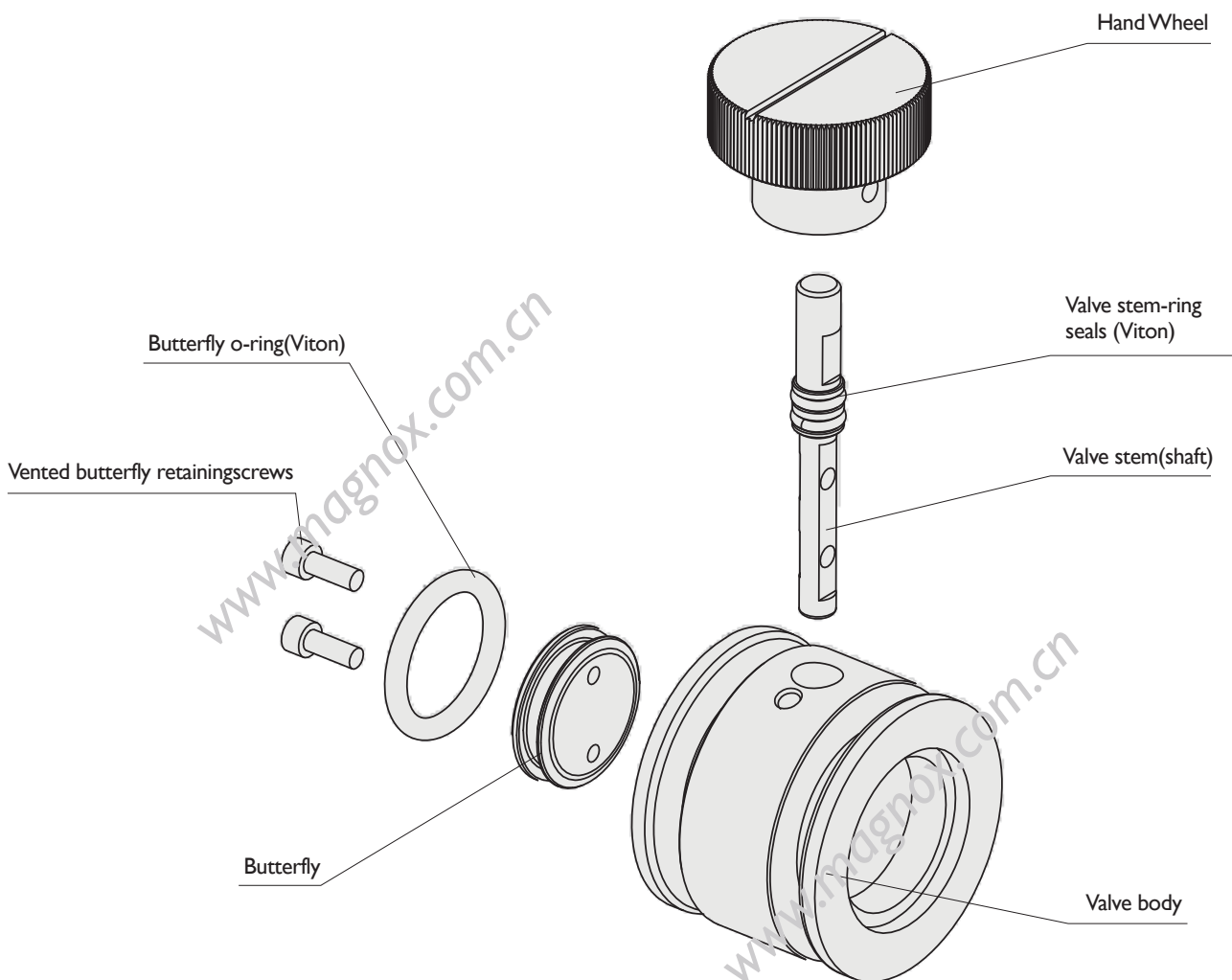
产品描述

MAGNOX butterfly valves require only one-quarter turn rotation of the handle to go from fully open to the fully closed position. In the CF and KF flange series, a spring loaded ball bearing becomes seated in an indent providing a positive mechanical stop. All other size valves employ a roll pin stop method.

These quick-acting butterfly valves feature an improved sealing action. The opening in the body of the valve has been machined at a slight angle to the plane of the flapper. The flapper is set to rotate slightly off-centre. On closure, this causes the sealing pressure to be applied more uniformly all around the O-ring. A reliable, positive seal is made and the tendency of previous designs to roughen the surface of the O-ring and eject it from its groove is eliminated.

MAGNOX butterfly valves are low outgassing. All internal surfaces are machined from solid stainless steel bar stock. The handle is made of aluminium. A small O-ring on the stem prevents shaft leakage.

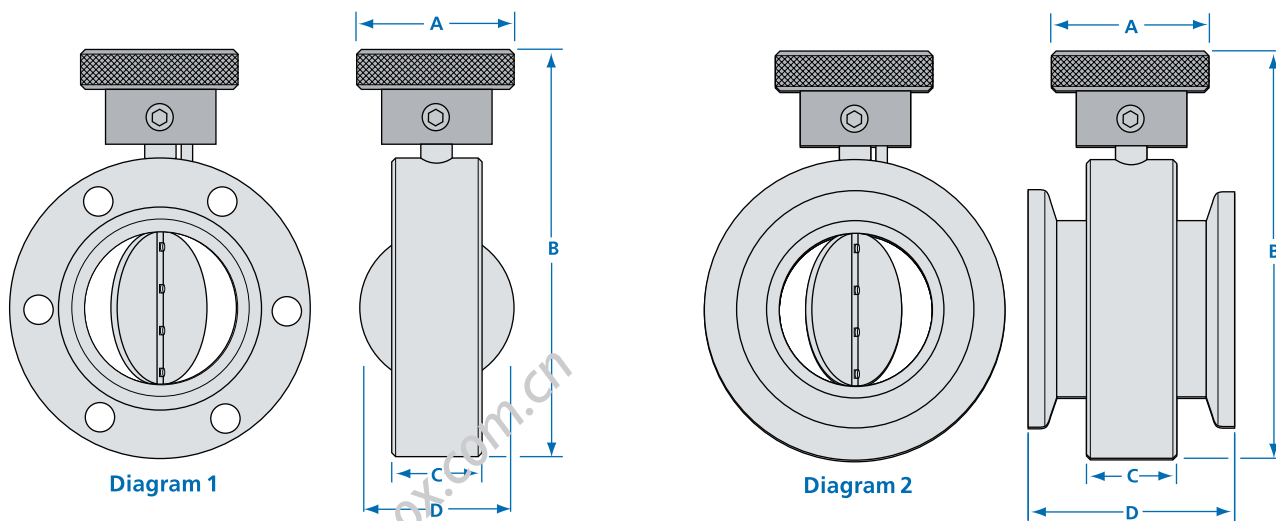
The valves are offered with a choice of CF ultrahigh vacuum metal-seal flanges or ISO KF O-ring seal flanges.



Vacuum Butterfly Valves

Specifications

- ◆ Port OD: 3/4 to 2 inches
- ◆ Materials:
 - Body: 304 stainless steel
 - Knob: Aluminum
 - Port Seal: FKM
- ◆ Actuation: Manual using knurled knob
- ◆ Temperature range:
 - Sustained: ≤ 150°C
 - Intermittent: ≤ 204°C
- ◆ Vacuum range:
 - FKM O-ring: $\geq 1 \times 10^{-9}$ Torr-High vacuum



Manual Butterfly Valves

Part Number	Dimensions, mm					
	Diagram	Flange Type	A	B	C	D
66209-0133	1	1.33 CF	19	51	19	19.1
66209-0075	2	NW 16	19	51	19	37.8
66209-0212	1	2.12 CF	19	70	25	26.0
66209-0100	2	NW 25	19	70	25	31.8
66209-0275	1	2.75 CF	38	94	19	25.4
66209-0150	2	NW 40	38	94	35	34.0
66209-0338	1	3.38 CF	38	124	25	48.0
66209-0200	2	NW 50	38	124	25	42.7

Vacuum Ball Valves Ordering Information

真空球阀订购信息

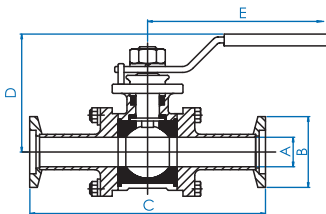
66210		0150		P		FK		40		NC		3	
产品系列		尺寸规格		驱动形式		密封圈材质		阀体材质		执行器状态		电磁阀	
66210	铸造三片式球阀	0075	KF16	M	手动	FK	氟橡胶	10	SUS304	NO	常开	Blank	No Solenoid
66211	NC机械加工三片式	0100	KF25	P	气动	FF	全氟醚橡胶	40	SUS316	NC	常闭	1	AC220V
		0150	KF40									2	AC110V
		0200	KF50									3	DC24V
		0250K	ISO63-K									4	DC11V
		0250N	NW63										
		0300K	NW80-K										
		0300N	NW80										
		0400K	ISO100-K										
		0400N	NW100										
		TW	Butt Weld										

说明

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Specifications

- ◆ Flange: KF(NW)
- ◆ Operation: 1/4 Turn manual open and close
- ◆ Fittings: N/A
- ◆ Sensors: N/A
- ◆ Wetted materials: SS316, Viton, PTFE
- ◆ Leak rate mbar-L/sec: 9.0×10^{-9}
- ◆ Max pressure: 56,8 PSI
- ◆ Pneumatic supply: N/A
- ◆ Operation time: N/A
- ◆ Operating temperature: 150°C



Casting Manual Ball Valve

Part Number	Flange Size	Dimensions, mm				
		A	B	C	D	E
66210-0075-M	KF16	15.50	30.00	92.00	58.00	132.00
66210-0100-M	KF25	22.10	40.00	107.00	62.00	132.00
66210-0150-M	KF40	34.80	55.00	130.00	98.00	175.00
66210-0200-M	KF50	47.50	75.00	151.00	104.00	175.00

Casting Pneumatic Ball Valves

Part Number	Flange Size	Dimensions, mm				
		A	B	C	D	E
66210-0075-P	KF16	92.00	30.00	147.00	130.00	164.00
66210-0100-P	KF25	107.00	40.00	147.00	145.00	174.00
66210-0150-P	KF40	130.00	55.00	168.00	173.00	213.00
66210-0200-P	KF50	151.00	75.00	184.00	195.00	243.00



Ball Valves Specially For MOCVD

Specifications

Vacuum and temperature ratings

- ◆ Vacuum rated to 1×10^{-8} Torr
- ◆ Helium leak rated less than 1×10^{-9} std. cc/sec
- ◆ Standard fuoroelastomer seal (Viton®):
-26°C to 205°C (15F to 400F)

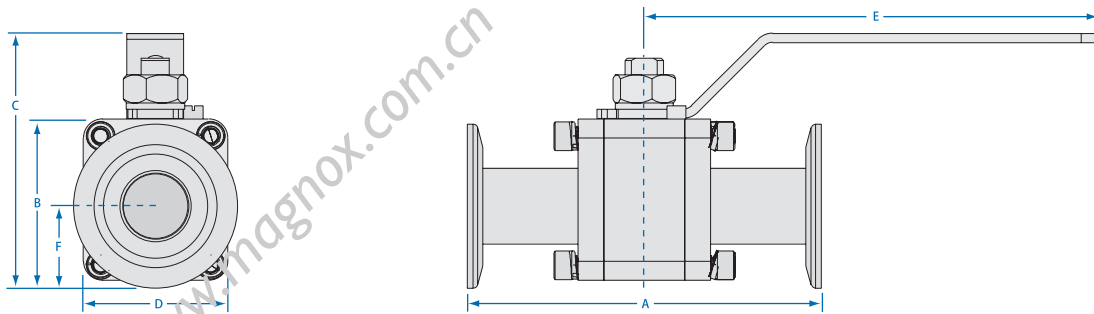
Materials:

- ◆ Valve body, ball, stem, and end caps: machined from solid 316L stainless steel
- ◆ Standard seal: fuoroelastomer (Viton®).
- ◆ Seats: PTFE Tefon®
- ◆ Lubricant: Dow Corning® High Vacuum Grease

Features

General

- ◆ Straight-through, unimpeded flow
- ◆ Higher conductance than a comparable poppet valve
- ◆ Poppet less design has less wetted surface
- ◆ 1/4 turn, quick actuation
- ◆ “Self-cleaning” action prevents deposition buildup
- ◆ Valves can be easily serviced with Magnox's standard maintenance kits

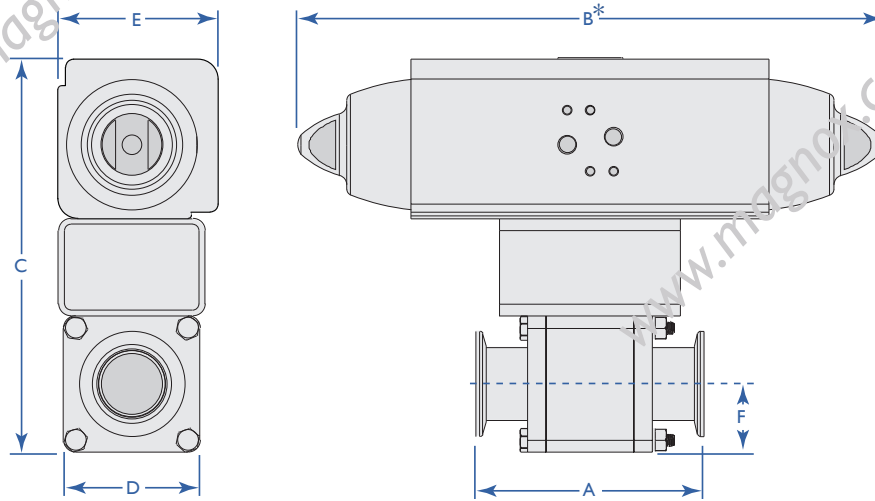


CNC Manual Ball Valve

Part Number	Flange Size	Dimensions, mm					
		A	B	C	D	E	F
66211-0075-M	NW-16	88	47	75	47	147	24
66211-0100-M	NW-25	100	47	75	47	147	24
66211-0150-M	NW-40	118	54	85	48	157	25
66211-0200-M	NW-50	126	85	116	85	183	42

Call for information on larger sizes.

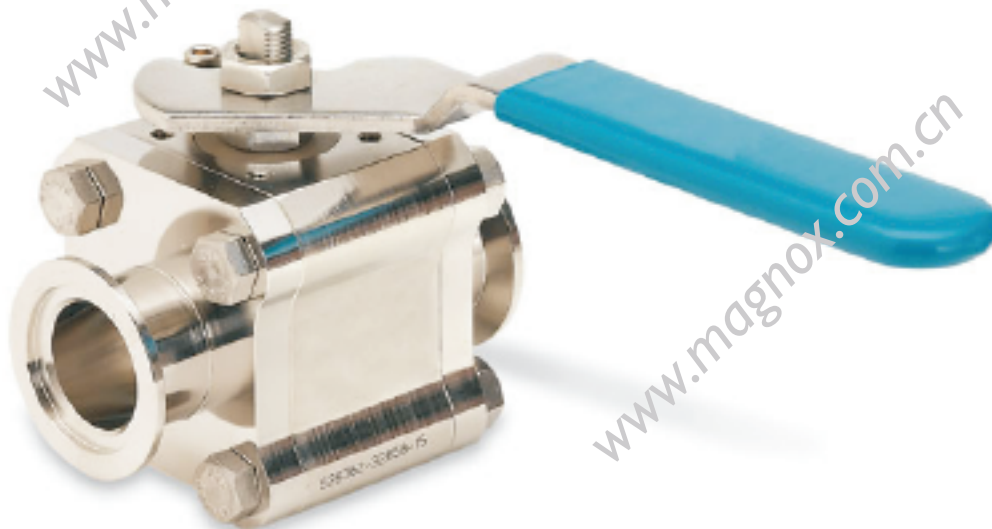
Vacuum Ball Valves



CNC Pneumatic Ball Valve

Part Number	Flange Size	Dimensions, mm					
		A	B	C	D	E	F
66221-0075-P	NV-16	88.1	259	168	47	70	24
66221-0100-P	NV-25	99.8	259	175	48	70	25
66221-0150-P	NV-40	118.4	259	175	48	70	25
66221-0200-P	NV-50	126.2	259	192	71	70	36

Call for information on larger sizes.



General Vacuum Gate Valves

通用真空闸阀

Valves handle applications in semiconductor and other processing, and are used most often to isolate pumps and sample entry locks from HV or UHV work chambers.

Features

- ◆ General purpose Electro polished Stainless Steel
- ◆ Provide high conductance with in a compact design
- ◆ Shock-free operation with minimum vibration
- ◆ 200,000-cycle service before requiring maintenance
- ◆ Available in manual or pneumatic operation
- ◆ Pneumatic valves close or remain closed in the event of power loss or loss of air pressure
- ◆ All pneumatic 1.5" flange O.D. and larger models incorporate magnetic REED switches for position indication
- ◆ Pneumatic valves feature a 24VDC solenoid operator at no extra charge (other voltages, both AC and DC, available on request)

NOTE: For ease of maintenance, the carriage assembly can be removed from the body without requiring removal of the valve from the system.

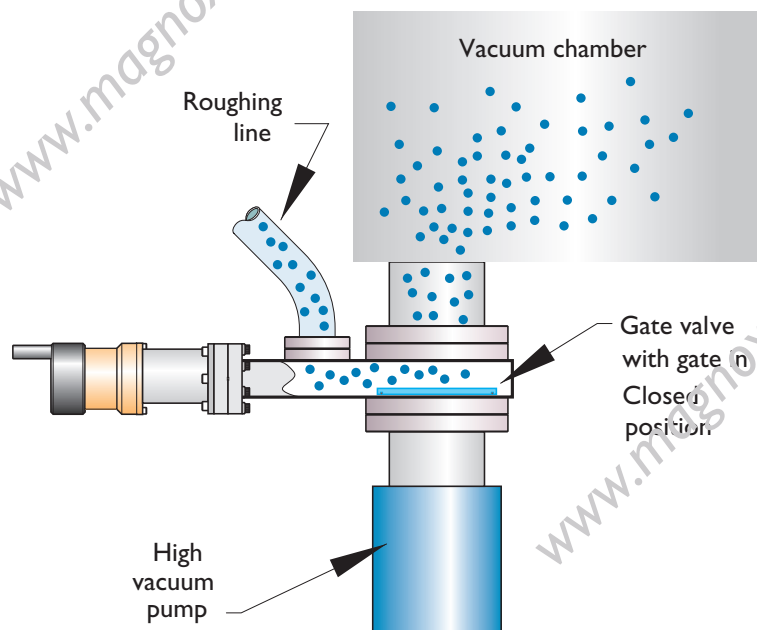
NOTE: Please contact us for options such as roughing ports or valves that remain open in the event of power failure.

Roughing port

With the exception of the DN16 gate valve, all valves can be fitted with roughing ports. Valves with CF port flanges are supplied with CF roughing port flanges. Flush mounted roughing port flanges have tapped bolt holes, but those with tubular extensions have drilled through bolt holes. Gate valves fitted with ISO KF and ISO LF port flanges are supplied with ISO KF roughing port flanges. Roughing ports will be installed on the side opposite the gate seal (the carriage side of the valve). Although the location of the roughing port does not affect its function, the positioning of the gate is important.

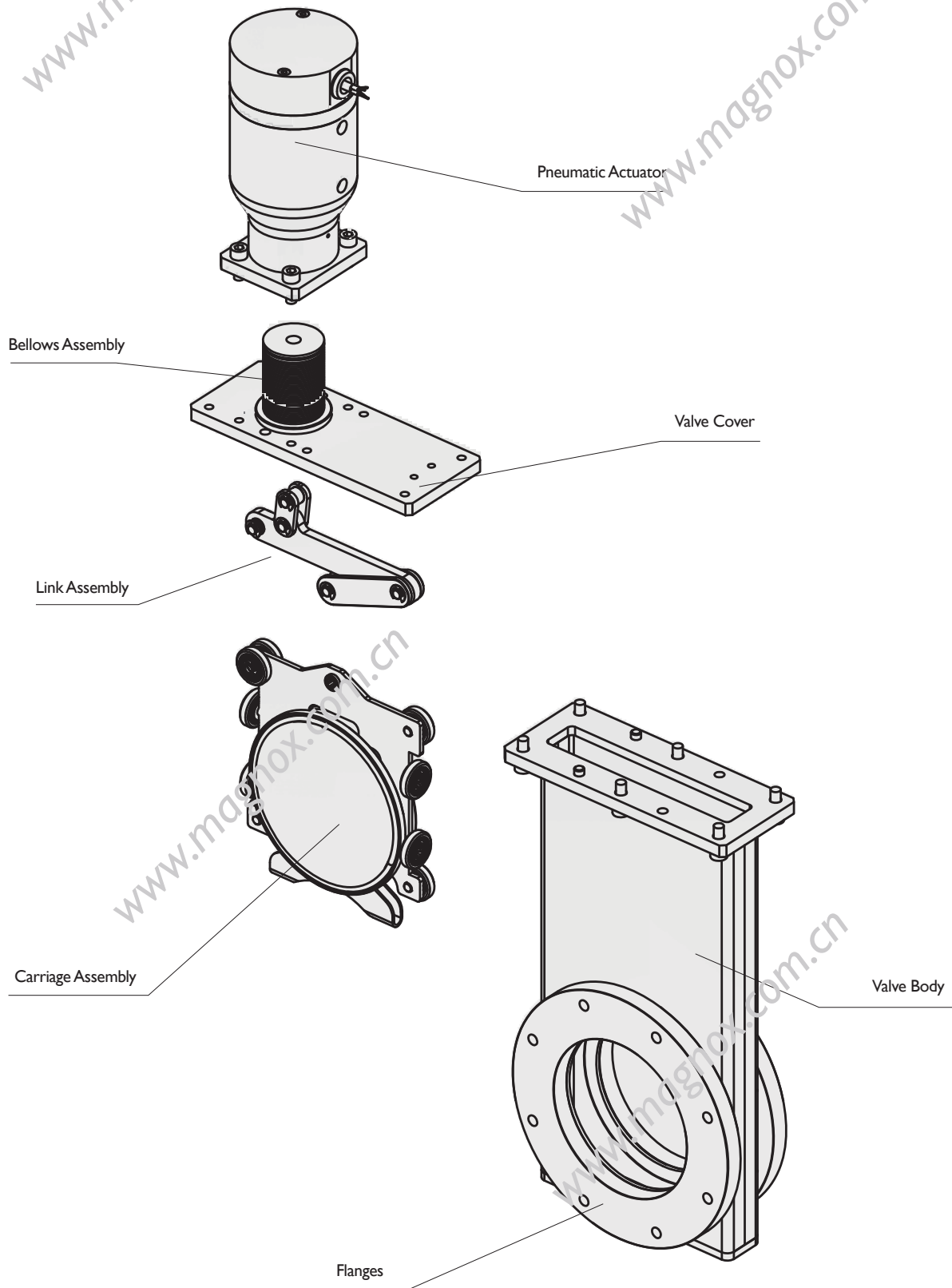
A roughing port provides a path to a vacuum chamber through the gate valve body. With the gate closed, the valve body and chamber may be evacuated by a vacuum roughing pump.

Typical installation



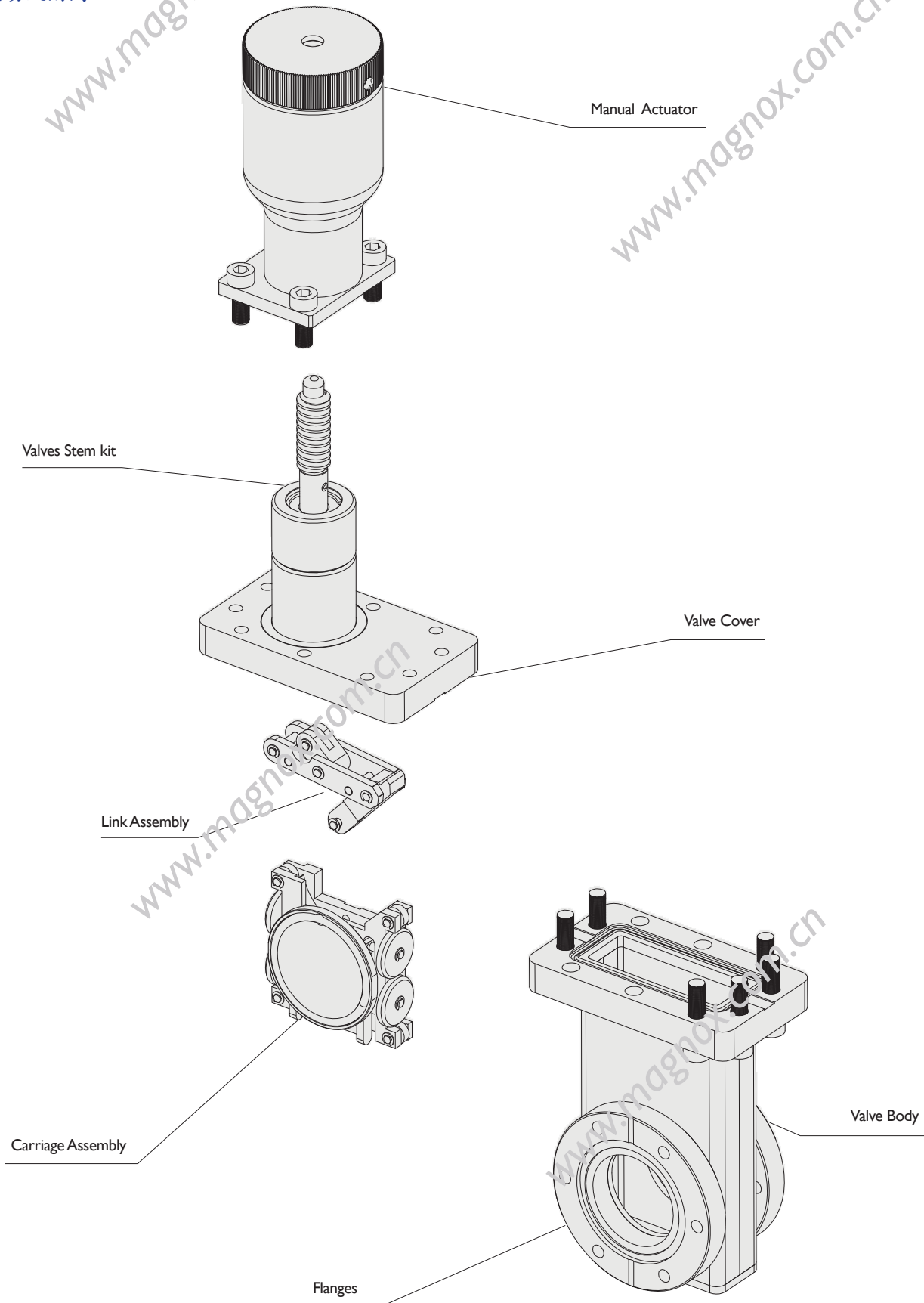
Vacuum Gate Valves

Ball Groove Mechanism 滚珠式闸阀



Linkage Mechanism

联动式闸阀



Technical Data For General Vacuum Gate Valves

通用真空闸阀技术参数

Item Type	Technical Data			
Material	Body		SUS304	
	Carriage		SUS304	
	Gate		SUS304	
	Bellows		AM350	
Cycle Life	HV	size under 8"(HV)		200000
		size above 8"(HV)		50000
	UHV	size under 4"(UHV)		100000
		size above 4"(UHV)		50000
Leakage Rate	HV		< 2x10 ⁻⁹ mbar.l /sec for O-ring sea	
	UHV		5x10 ⁻¹⁰ mbar. l /sec for gasket seal	
Bake Temperature	Valve body			< 150°C
	Manual and pneumatic actuator			< 80°C
Pressure Range (mbar)	HV	1x10 ⁻⁸ ~1000		
Leakage Rate	UHV	1x10 ⁻¹⁰ ~1000		
Standard Seal	HV	Gate	Viton O-ring	
		Bonnet	Viton O-ring	
	UHV	Gate	Viton O-ring	
		Bonnet	Copper Gasket	
Actuator	Pneumatic or Manual			
Operating Air Pressure	Φ6 mm,4-6.5 Kg/cm ² (overpressure)			
Surface Treatment	Electrochemical Polishing			
Options	A. Position indicator; B. Pneumatic control solenoid valve; C. Roughing port; D. Other material Gate O-ring seal;			
Maximum Differential Pressure against Gate	< 1090 mbar			
Maximum Differential Pressure At Opening	ISO100	ISO160	ISO200	ISO250
	<30 mbr	<25 mbr	<20 mbr	<25 mbr
Pneumatic Valve Open & Close Time /S	ISO100	ISO160	ISO200	ISO250
	1.5/S	2/S	2.5/S	3/S
Valve's Conductance (Molecular Flow)	ISO100	ISO160	ISO200	ISO250
	1700 L/S	5100 L/S	11000 L/S	22000 L/S

General Vacuum Gate Valves Ordering Information

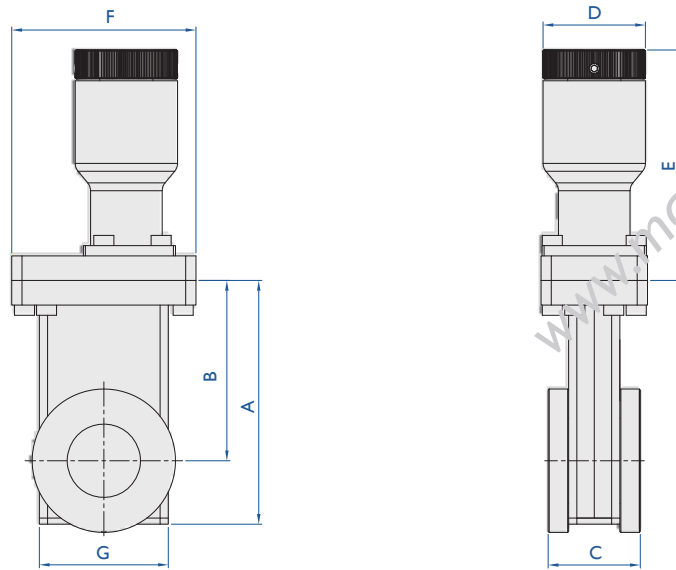
通用真空闸板阀订购信息

66225		0400F		P		FK		10		01		3	
产品系列		尺寸规格		驱动方式		密封圈材质		阀体材质		阀盖密封方式		电磁阀	
66224	联动结构闸阀	0133	CF16	M	手动	FK	氟橡胶	10	SUS304	01	O-Ring	Blank	不选装
66225	滚珠结构闸阀	0075	KF16	P	气动	FF	全氟醚橡胶	40	SUS316	02	无氧钢	1	AC220V
		0212	CF25									2	AC110V
		0100	KF25									3	DC24V
		0275	CF35									4	DC12V
		0150	KF40										
		0338	CF50										
		0200	KF50										
		0450	CF63										
		0250K	ISO63-K										
		0250F	ISO63-F										
		0250N	NW63										
		0462	CF80										
		0300K	ISO80-K										
		0300F	ISO80-F										
		0300N	NW80										
		0600	CF100										
		0400K	ISO100-K										
		0400F	ISO100-F										
		0400N	NW100										
		0675	CF130										
		0600K	ISO160-K										
		0600F	ISO160-F										
		0600N	NW160										
		0800	CF160										
		0800K	ISO200-K										
		0800F	ISO200-F										
		0800N	NW200										
		1000	CF200										
		1000K	ISO250-K										
		1000F	ISO250-F										
		1000N	NW250										
		1100	CF250										

说明

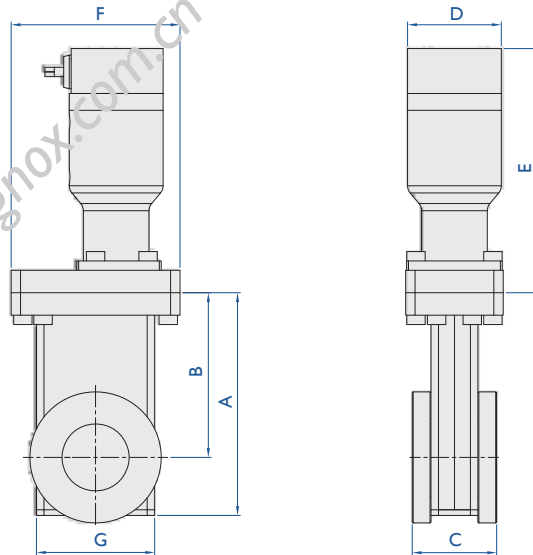
1、型号说明仅用于说明型号组成规则，有些组合实际并不存在；如有疑问请联系迈格诺科销售代表。

KF&CF Flange Gate Valve With Linkage Mechanism



Manual Actuation

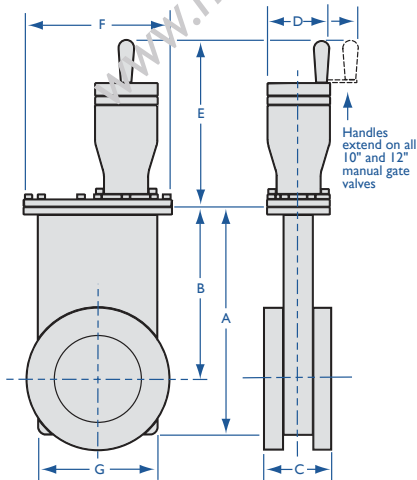
Part Number	Flange Size	Dimensions, mm						
		A	B	C	D	E	F	G
66224-0150-M	NW-40	119.00	88.00	50.6	50.00	92.00	88.00	63.0
66224-0275-M	2.75 CF	119.00	88.00	45.4	50.00	92.00	90.00	63.0
66224-0200-M	NW-50	167.00	123.00	59.00	50.00	92.00	123.00	81.0
66224-0338-M	3.38 CF	167.00	123.00	56.00	50.00	92.00	104.00	81.0



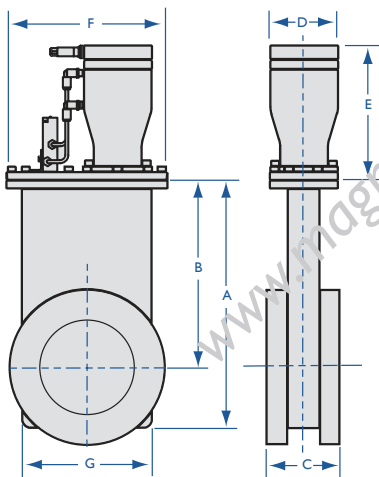
Pneumatic Actuation

Part Number	Flange Size	Dimensions, mm						
		A	B	C	D	E	F	G
66224-0150-P	NW-40	119.00	88.00	50.6	50.00	134.00	88.00	63.0
66224-0275-P	2.75 CF	119.00	88.00	45.4	50.00	134.00	90.00	63.0
66224-0200-P	NW-50	167.00	123.00	59.00	50.00	134.00	123.00	81.0
66224-0338-P	3.38 CF	167.00	123.00	56.00	50.00	134.00	104.00	81.0

ISO&CF Flange Gate Valve With Ball Groove Mechanism



Manual Actuation		Dimensions, mm						
Part Number	Flange Size	A	B	C	L	E	F	G
		66225-0450-M	4.50 CF	207	158	65	50	134
66225-0250F-M	ISO-63-F	207	158	53	50	134	128	107
66225-0250K-M	ISO-63-K	207	158	89.20	50	134	128	107
66225-0600-M	6.00 CF	297	222	69.6	79	177	222	146
66225-0400F-M	ISO-100-F	297	222	53.6	79	177	170	146
66225-0400K-M	ISO-100-K	297	222	100.4	79	177	170	146
66225-0800-M	8.00 CF	407	306.5	79	79	177	306.5	204
66225-0600F-M	ISO-160-F	407	306.5	67	79	177	220	204
66225-0600K-M	ISO-160-K	407	306.5	100.4	79	177	220	204
66225-1000-M	10.00 CF	506	382	84.4	79	177	382	245
66225-0800F-M	ISO-200-F	507	383	67	79	177	267	245
66225-0800K-M	ISO-200-K	507	383	108.00	79	177	267	245



Pneumatic Actuation		Dimensions, mm						
Part Number	Flange Size	A	B	C	D	E	F	G
		66225-0450-P	4.50 CF	207	158	65	60	134
66225-0250F-P	ISO-63-F	207	158	53	62	134	128	107
66225-0250K-P	ISO-63-K	207	158	89.30	62	134	128	107
66225-0600-P	6.00 CF	297	222	69.6	75	177	182	146
66225-0400F-P	ISO-100-F	297	222	53.6	75	177	170	146
66225-0400K-P	ISO-100-K	297	222	100.4	75	177	170	146
66225-0800-P	8.00 CF	407	306.5	79	75	177	238	204
66225-0600F-P	ISO-160-F	407	306.5	67	75	177	220	204
66225-0600K-P	ISO-160-K	407	306.5	100.40	75	177	220	204
66225-1000-P	10.00 CF	506	382	84.4	75	177	282	245
66225-0800F-P	ISO-200-F	507	383	67	75	177	267	245
66225-0800K-P	ISO-200-K	507	383	108.00	75	177	267	245

Aluminum Gate Valves

铝合金真空闸阀

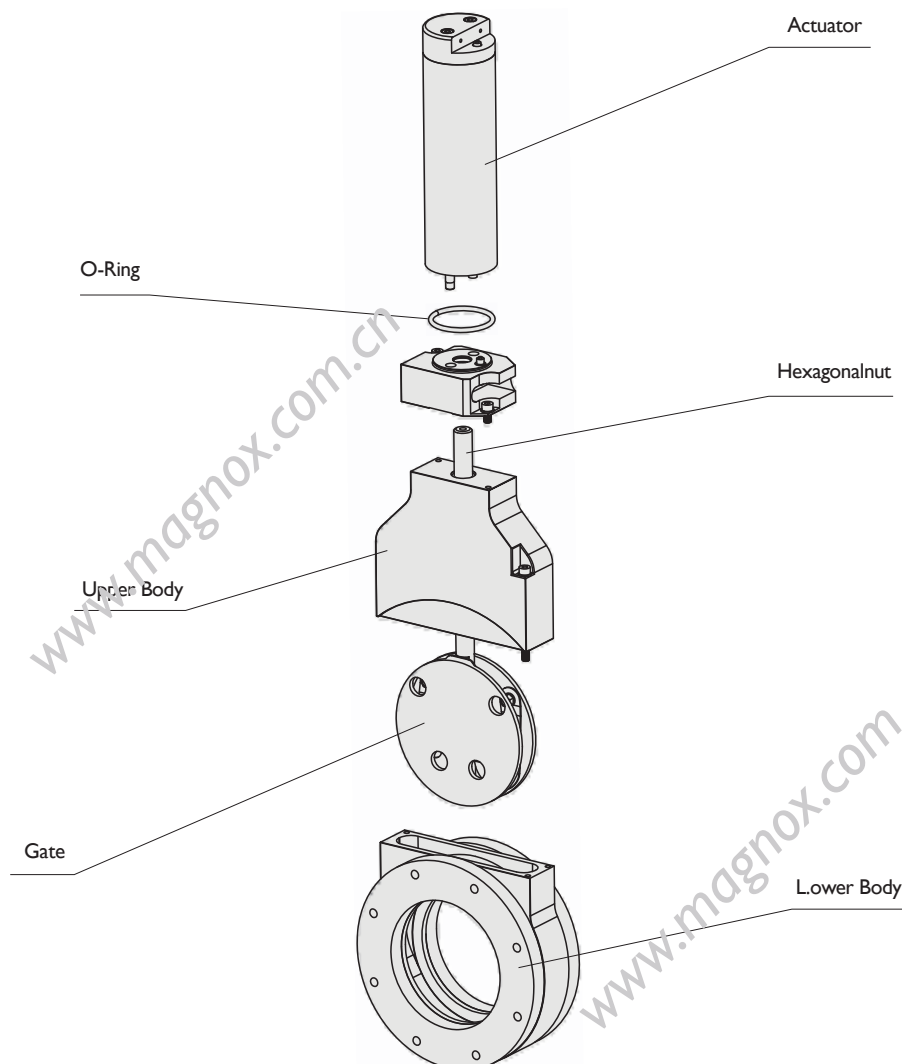
With a robust design and direct mounting option, as well as reduced and easy maintenance due to its split body, Easily meets all standard requirements. Various design options in actuation, flange connections or additional vacuum ports make it easy to integrate in any vacuum application.

Standard options for flange connectors are ISO-F . Customer-specific flanges can be integrated, as well as special features, e.g. a shutter for laser applications (as gate without seal).

The standard gate sealing is provided by an O-ring seal in FKM and other sealing materials are available on request.

Features:

- ◆ Reliable, proven design
- ◆ Mechanically locked in closing position
- ◆ Reliable performance
- ◆ Low cost of ownership
- ◆ Free of lubricants
- ◆ Split body for easy cleaning

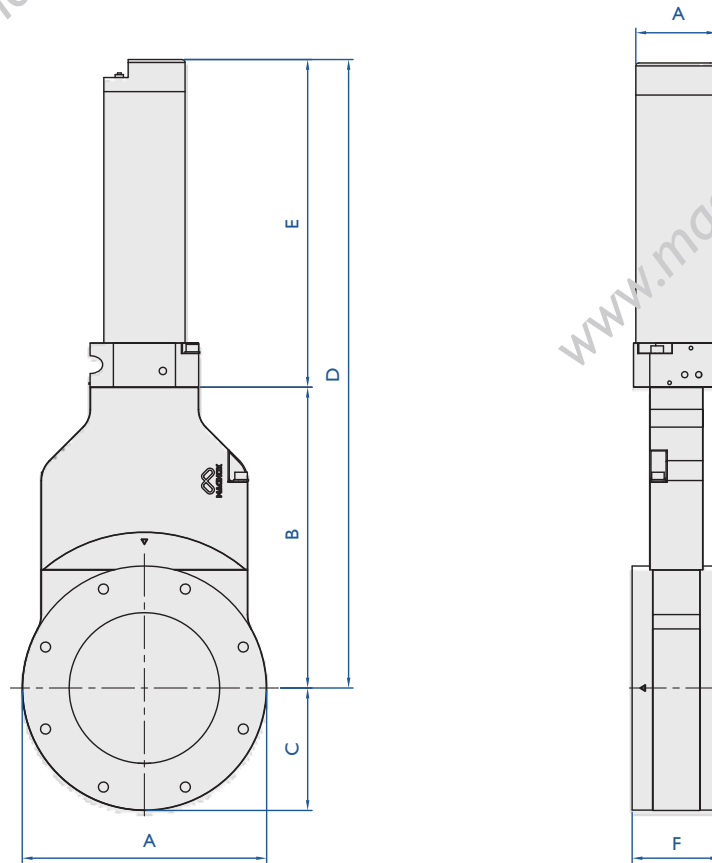


Technical Data For Aluminum Vacuum Gate Valves

真空铝质闸阀技术参数

Item Type	Technical Data			
Material	Body	EN-AW-6061		
	Carriage	EN-AW-6061		
	Gate	304SS		
Cycle Life	size under 4"(HV)	200000		
	size above 4"(HV)	100000		
Leakage Rate	< 1.0x10 ⁻⁹ mbar.l /sec for O-ring sea			
Bake Temperature	Valve body	< 150°C		
	Manual and pneumatic actuator	< 80°C		
Pressure Range (mbar)	1x10 ⁻⁸ ~1000			
Standard Seal	Gate	Viton O-ring		
	Bonnet			
Actuator	Pneumatic or Manual			
Operating Air Pressure	Ø6 mm,4-6.5 Kg/cm ² (overpressure)			
Surface Treatment	Hard Anodized Color			
Options	A: Other Material Gate O-ring Seal ; B : Other Solenoid Voltage(Standard 24V DC)			
Maximum Differential Pressure against Gate	< 1600 mbar			
Maximum Differential Pressure At Opening	< 30 mbr			
Pneumatic Valve Open & Close Time /S	ISO80	ISO100	ISO160	ISO200
	1.7/S	2/S	2/S	3/S
Valve's Conductance (Molecular Flow)	ISO80	ISO100	ISO160	ISO200
	1000 L/S	2000 L/S	6000 L/S	12000 L/S

Vacuum Gate Valves



Aluminum Vacuum Gate Valves		Dimensions, mm						
Part Number	Flange Size	A	B	C	D	E	F	G
66226-0250	ISO63-F	145.60	155.50	73.00	339.40	183.90	60.00	55.00
66226-0300	ISO80-F	160.00	176.00	80.00	379.00	203.00	60.00	55.00
66226-0400	ISO100-F	203.00	203.50	82.50	422.90	219.40	60.00	55.00

Vacuum Vent Valves

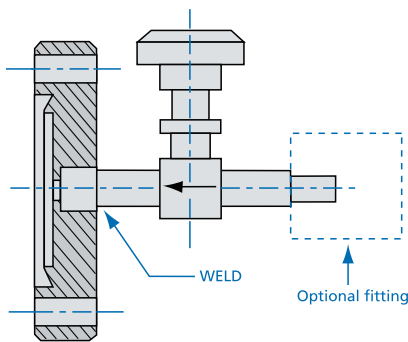
Vent Valve For Below Seal

波纹管密封放气阀

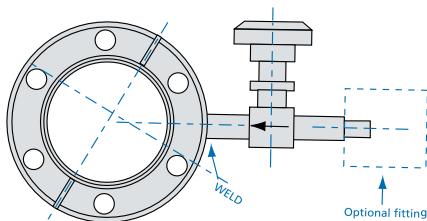
Vent Valves are typically used to introduce air in to the vacuum chamber and bring the system up to flange for connection to the vacuum system, are manually operated, and made of stainless steel.

Specifications

Flanges:	NW\CF
Valves:	Bellow Valve
Connection Type:	Tube\LOK\VC
Gasket:	Copper\FKM
Vacuum Range:	$\geq 1 \times 10^{-13}$ mbar-UHV $\geq 1 \times 10^{-8}$ mbar-HV
Temperature Range	
Metal Seal:	-200°C To 450°C
Elastomer Seal:	-20°C To 150°C



Part Number	Dimensions, mm		
	Figure	End	D
66217-01334VM	CF 1.33	1/4" MVCR	150mm&OPTION
66217-02754VM	CF 2.75	1/4" MVCR	150mm&OPTION
66217-01334VF	CF 1.33	1/4" FVCR	150mm&OPTION
66217-02754VF	CF 2.75	1/4" FVCR	150mm&OPTION
66217-01334SW	CF 1.33	1/4" LOK	150mm&OPTION
66217-02754SW	CF 2.75	1/4" LOK	150mm&OPTION
66217-01334TW	CF 1.33	1/4" TUBE	150mm&OPTION
66217-02754TW	CF 2.75	1/4" TUBE	150mm&OPTION
66217-00754VM	KF 16	1/4" MVCR	150mm&OPTION
66217-01004VM	KF 25	1/4" MVCR	150mm&OPTION
66217-00754VF	KF 16	1/4" FVCR	150mm&OPTION
66217-01004VF	KF 25	1/4" FVCR	150mm&OPTION
66217-00754SW	KF 16	1/4" LOK	150mm&OPTION
66217-01004SW	KF 25	1/4" LOK	150mm&OPTION
66217-00754TW	KF 16	1/4" TUBE	150mm&OPTION
66217-01004TW	KF 25	1/4" TUBE	150mm&OPTION



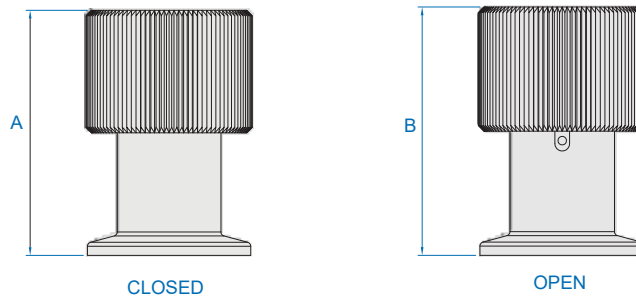
Part Number	Dimensions, mm		
	Figure	End	D
66218-01334VM	CF 1.33	1/4" MVCR	150mm&OPTION
66218-02754VM	CF 2.75	1/4" MVCR	150mm&OPTION
66218-01334VF	CF 1.33	1/4" FVCR	150mm&OPTION
66218-02754VF	CF 2.75	1/4" FVCR	150mm&OPTION
66218-01334SW	CF 1.33	1/4" LOK	150mm&OPTION
66218-02754SW	CF 2.75	1/4" LOK	150mm&OPTION
66218-01334TW	CF 1.33	1/4" TUBE	150mm&OPTION
66218-02754TW	CF 2.75	1/4" TUBE	150mm&OPTION

Vent Valve For Poppet Seal

提升机构放气阀

Specifications

Body:	304SS
O-ring seal:	Viton
Maximum leak rate across body:	less than 1×10^{-7} mbar.l.s ⁻¹
Maximum leak rate across valve seat:	less than 1×10^{-7} mbar.l.s ⁻¹
Weight:	100 grams
Flanges:	NW16/NW25
Suitable for:	Pipeline mounting.



Part Number	Figure size	Dimensions, mm	
		A	B
66216-0075	KF16	38.65	46.05
66216-0100	KF25	38.65	46.05



Product Description

产品描述

MAGNOX bakeable all-metal angle and in-line valves are designed for use in ultrahigh vacuum environments where elevated temperatures preclude the use of elastomers and low temperature gasket metals. These valves provide reliable high temperature seals from atmospheric pressures to below 10^{-11} mbar.

When operated at ambient temperatures, all-metal valves provide hundreds of leak free cycles between routine poppet gasket replacements. In high temperature applications, life cycles are inversely proportional to the bakeout temperatures. When operated at the maximum bake out temperature of 450°C, the poppet seal gasket life is reduced to approximately 50 open/close cycles.

Features

- ◆ UHV-compatible to $\times 10^{-11}$ mbar
- ◆ Manual actuation
- ◆ Hundreds of seal cycles per gasket
- ◆ Replaceable OFE copper poppet gasket
- ◆ High temperature service to 450°C
- ◆ 300 Series stainless steel construction
- ◆ Stainless steel bellows sealed actuator
- ◆ High conductance design

Specifications

Material

Flanges	304SS
Valve body	304SS
Bolts	300SS
Gaskets, poppet and bonnet	OFHC Copper

Port fastening

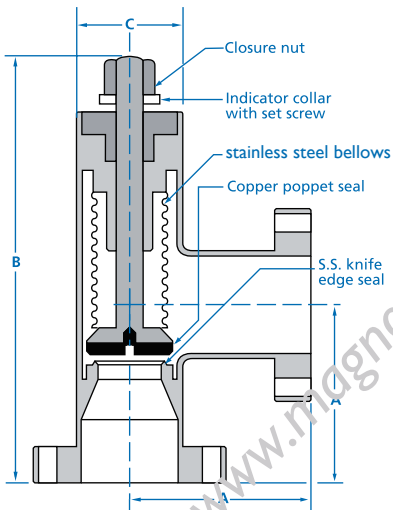
Bolt type	Socket head bolts
Nut type	Hexagonal nuts

Vacuum

Range	1×10^{-11} mbar
Leak test	2×10^{-10} mbar litre/sec of He

Temperature range

Closed/open	300°C/450°C
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Bakeable All-metal Valves

Part Number	Flange Size	Dimensions, mm		
		A	(open) B	C
66220-0133	1.33 CF	38	137	38
66220-0275	2.75 CF	52	175	35

NOTE: Port lengths that match other manufacturers' products are available upon request.

Replacement Seals

Part Number	Flange Size
66219-0133	1.33 CF
66219-0275	2.75 CF



MEMO

