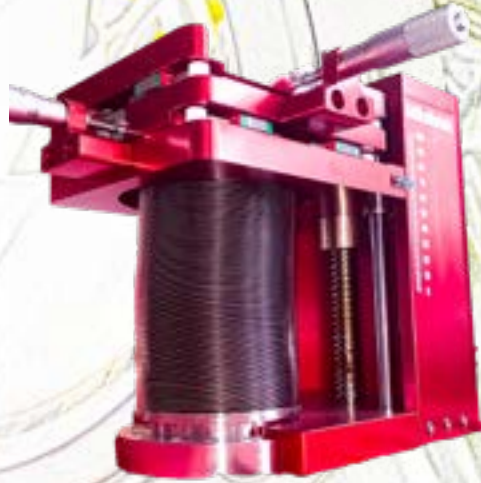


# AdNaNo-tek

UHV Design & Components

## Products Catalog



We are Vacuum People



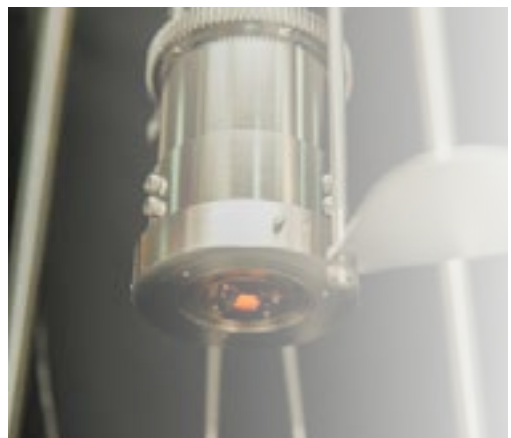
## Vacuum Products

AdNaNo-Tek is famous as UHV systems provider, we are also proud to present our new product line.

**We are UHV system maker, we know the components.**

AdNaNo-Tek Vacuum Products Division is expert to provide best quality of components: Gate Valves, Chambers and Motion Manipulators.

As long-time experience of system building, we know how to make the components in better performance and give better solution to customers. We know how to control the clean processing during the component's fabrication and make better design for mechanism motions.







**AdNaNo**

UHV Deposition Equipments

**AdNaNo-tek**

UHV Design & Components

## Vacuum Isolation Gate Valves Series

*UHV Isolation Gate Valve Series*

*HV Isolation Gate Valve Series*



# Introduction

## Isolation Gate Valves

### Features

#### Easy to maintenance

Smart design for O-ring replacement, service packs are available.

#### Small footprint

Compact mechanism design, saving the space for installation.

#### Purity

All interior mechanism parts are machined precisely with high quality electro-polished.

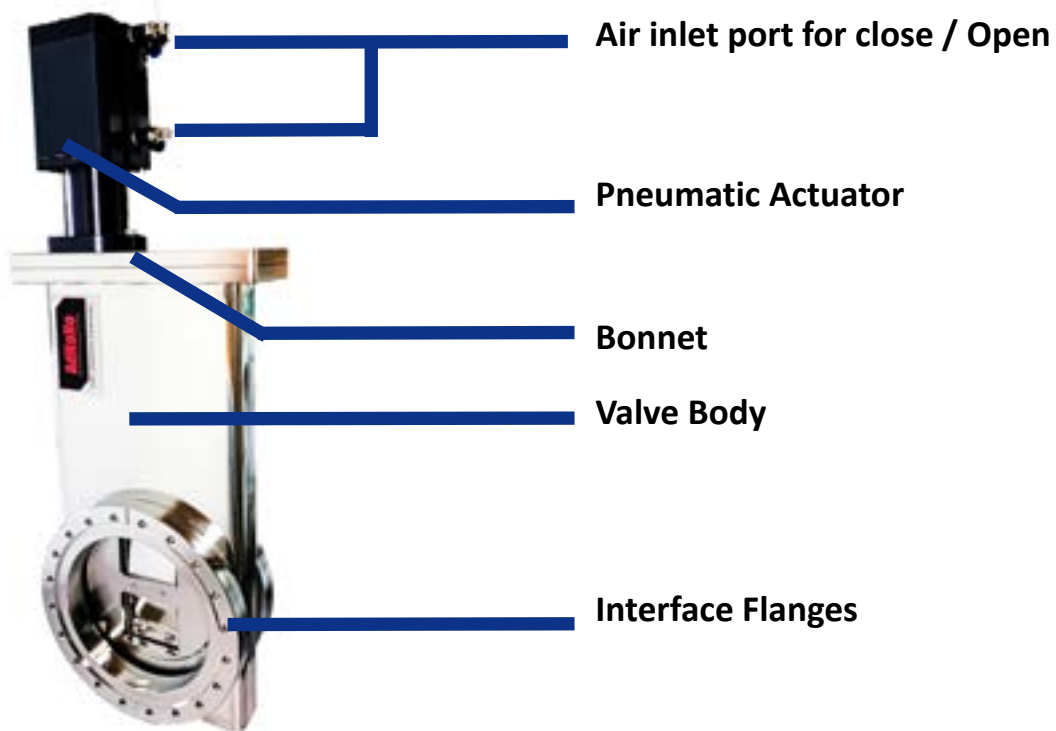
#### Unique Mechanism Design

“Ball type” mechanism, it designed by ceramic (non-metal) ball. It may generate more particles during mechanism’s operation. The valve may easy failure after more particle had been generated.

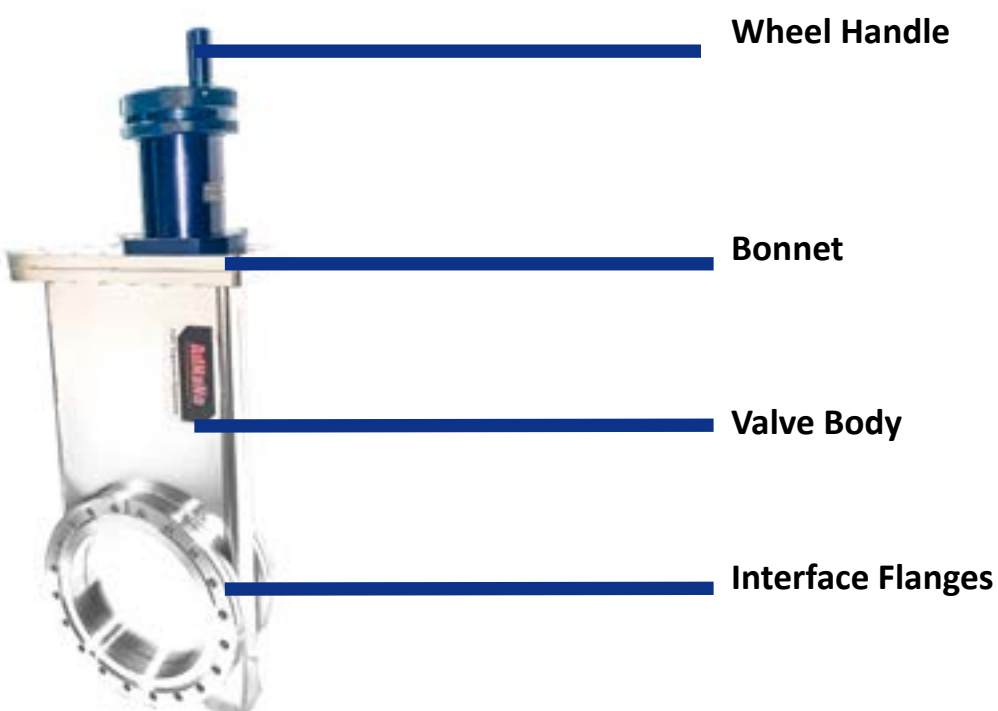
The balls are made by ceramic, less friction, self-lubricated and high purity.



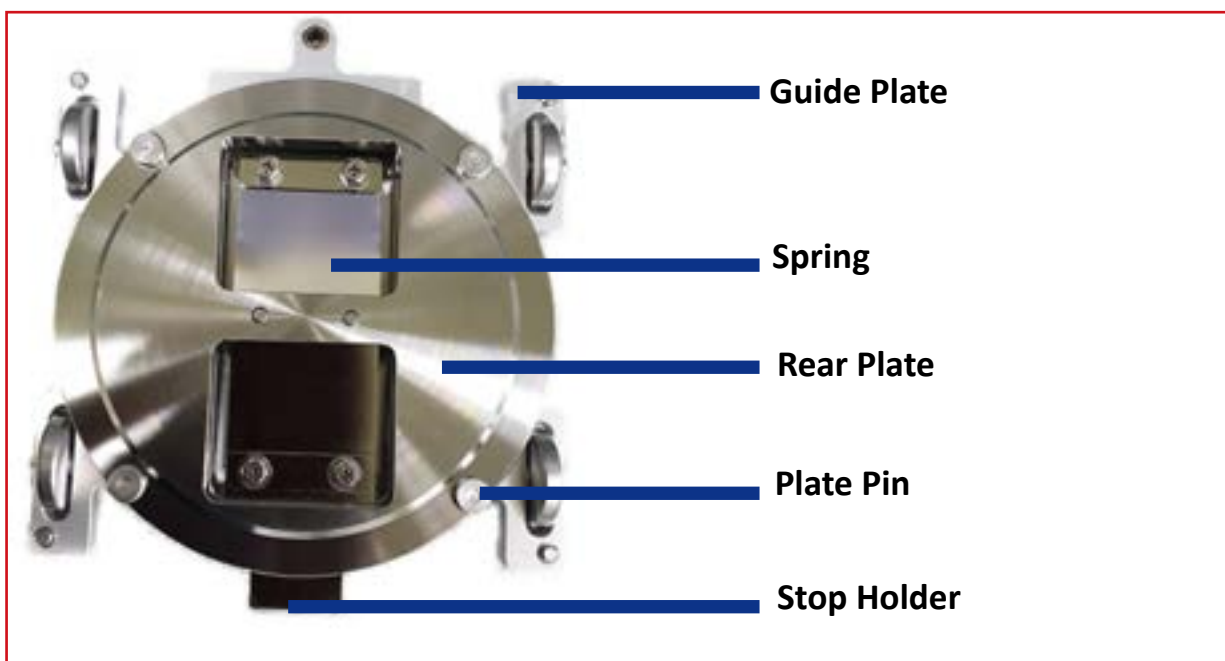
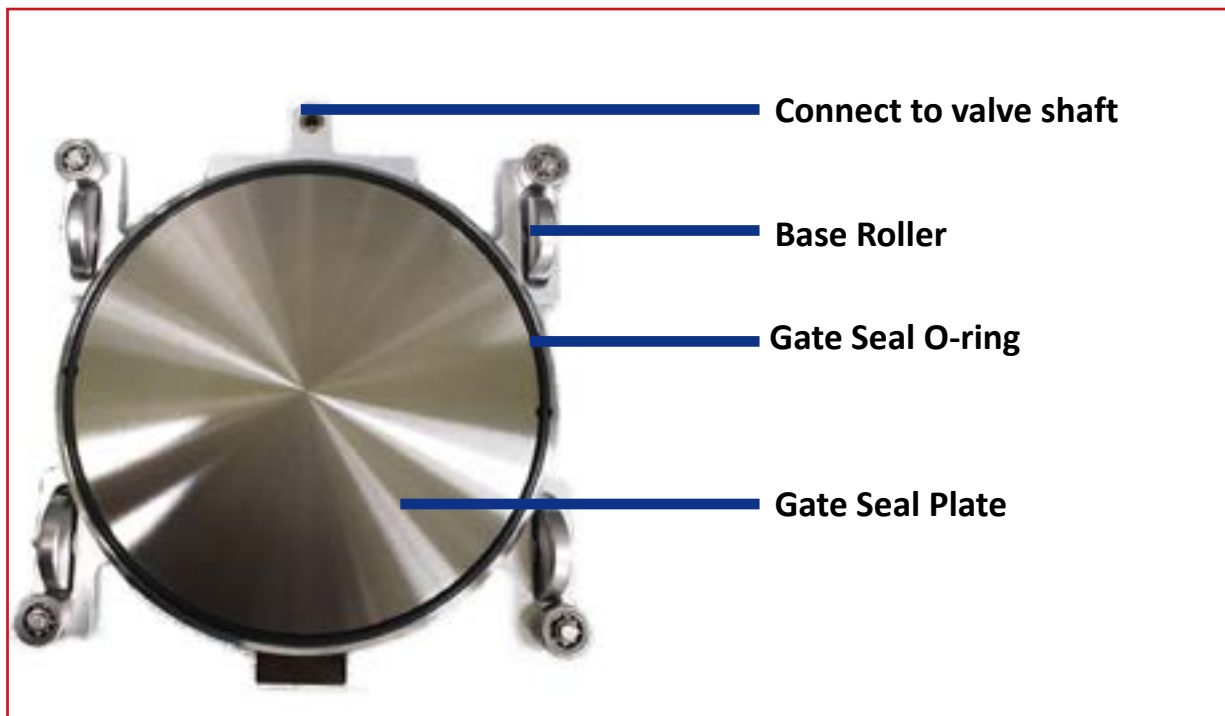
## Isolation Pneumatic Gate Valve Structure



## Isolation Manual Gate Valve Structure

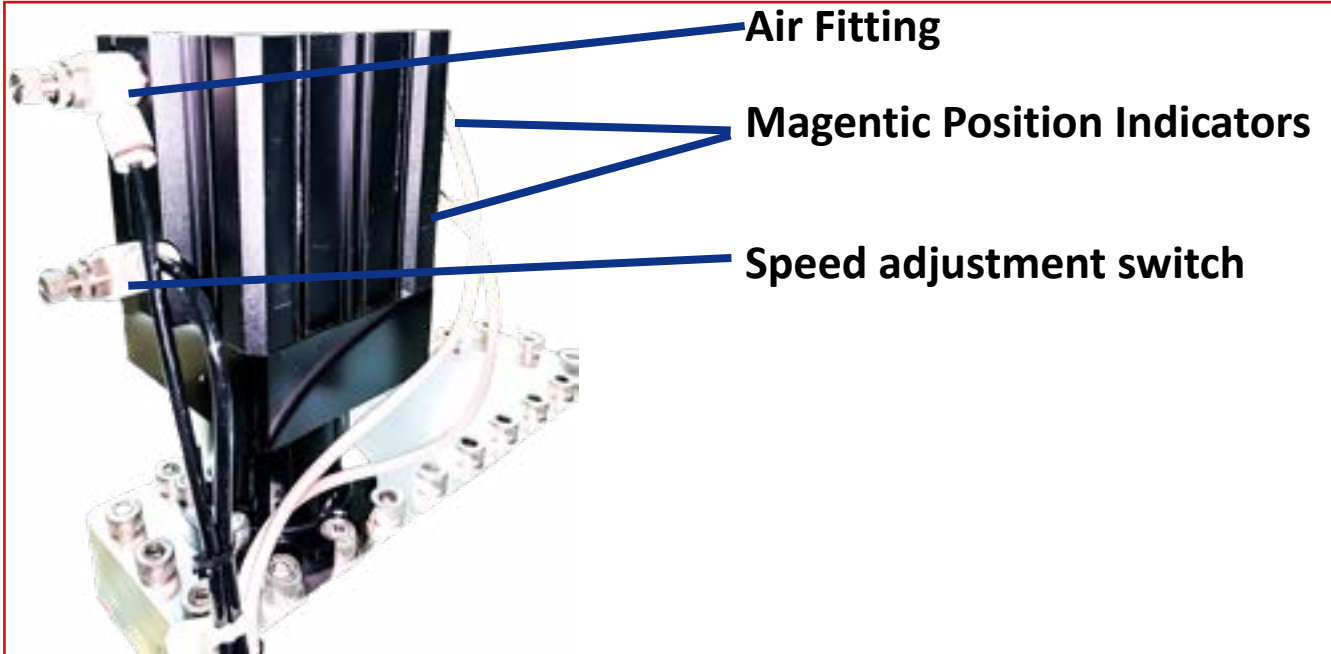


# Mechanism Structure

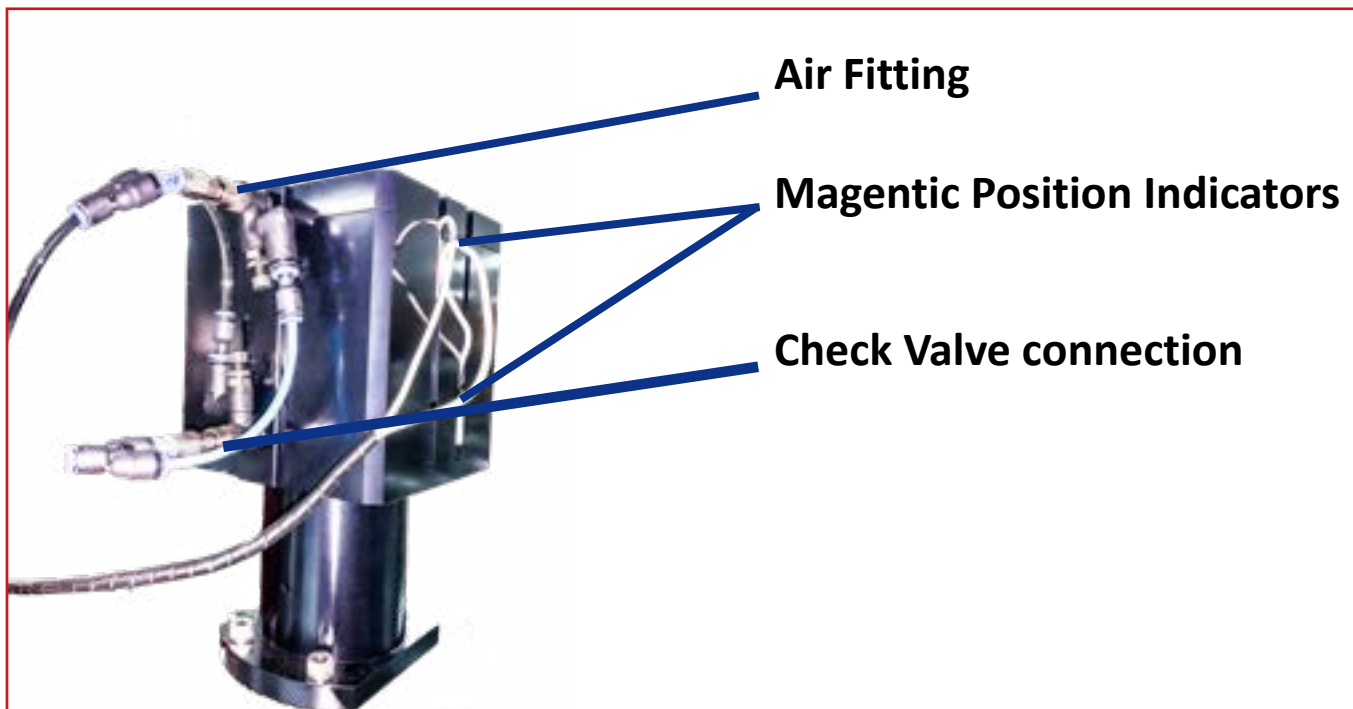




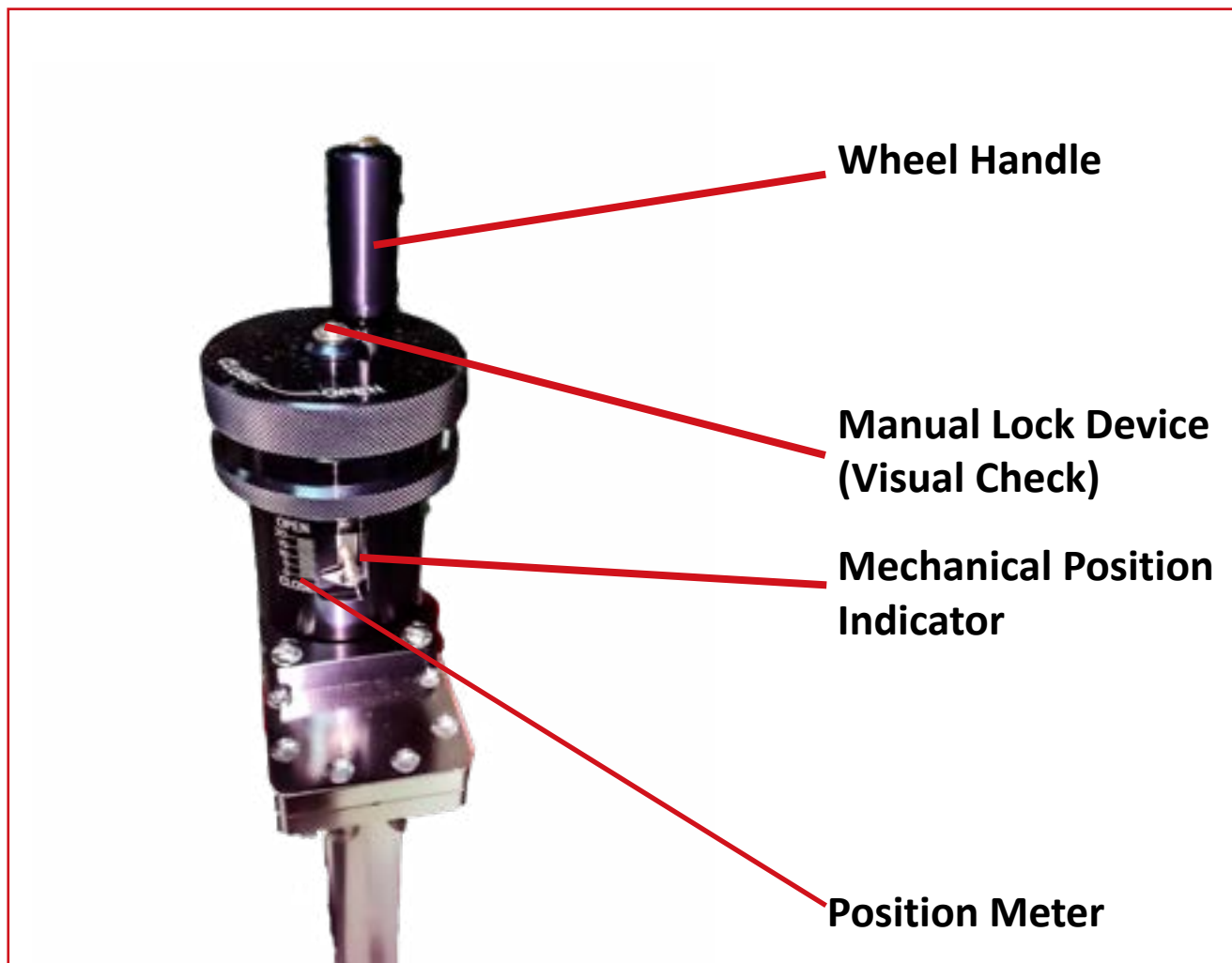
## Pneumatic Actuator- Normal Version



## Pneumatic Actuator- With Check Valve function



# Manual Actuator



# Technical Data

AdNano-Tek provide both UHV and HV gate valves from 1-1/2" to 12" port opening. Valve body made by high quality of stainless steel with electro-polish surface finish. To keep the better performance in vacuum environment, all the mechanisms are been electro-polished.

## UHV Isolation Gate Valve Data Sheet

Product Series	Isolation Gate Valve
<b>Functional Figures</b>	
Operating Options	Pneumatic and wheel manual operating
Device Safety	Mechanic lock system (Fully open and close)
Operating pressure (Pneumatic version)	4~7 kgf/cm <sup>2</sup> / 3.92 ~6.86 bar / 56.89 ~99.56 psi
Vacuum Rate	1.4 ~ 1.33x10 <sup>-10</sup> mbar
Valve Body Leak Rate	5x10 <sup>-10</sup> mbar l/s, He
Gate Seal Leak Rate	1.33x10 <sup>-9</sup> mbar l/s, He
Position Indicator (Pneumatic Version)	Reed Type Sensor
Position Indicator (Wheel Manual)	Visual device
Pneumatic Control	Solenoid DC 24V
Manual Device	Wheel handle
Optional for Position Indicator and solenoid integration in D-Sub or other options.	
Mount Direction	Any



## UHV Isolation Gate Valve Data Sheet

### Sealing Materials

Mechanical Feedthrough	Welded Bellows in AM350
Bonnet Seal Material	Cooper Gasket (OFHC)
Gate Seal Material	O-ring (FKM)

### Performance Figures

Life Cycles	250,000 (Under ATM)*	
Differential Pressure at Gate	1.4 mbar	
Differential Pressure at opening	< 30 mbar	
Conductance (Molecular flow)	DN40 CF	160 l/s
	DN63 CF	600 l/s
	DN100 CF	1,740 l/s
	DN160 CF	5,880 l/s
	DN200 CF	12,200 l/s
	DN250 CF	21,690 l/s
	DN300 CF	29,130 l/s

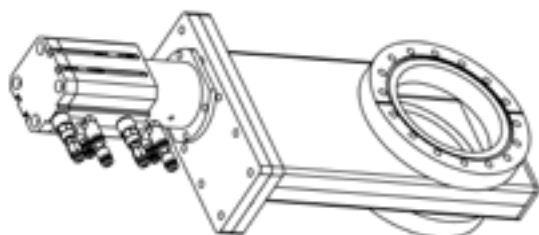
***\*The life cycles are under atmosphere environment, no other chemical gas and highly frequency vent/vacuum. Any special figures, please ask us for further information.***



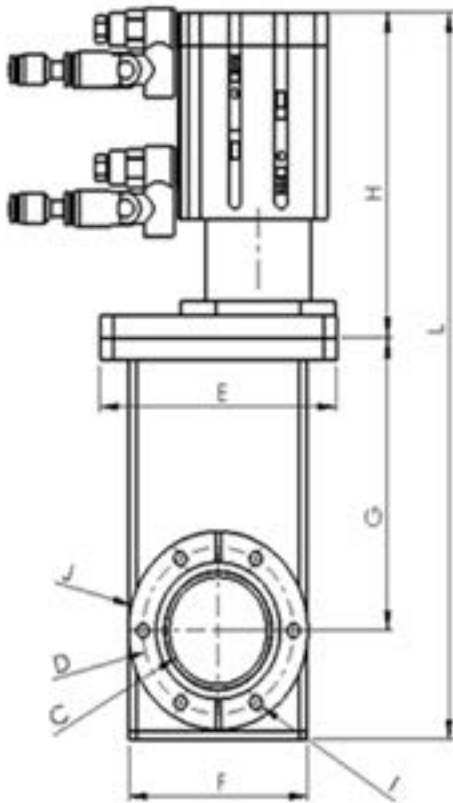


## Order Information

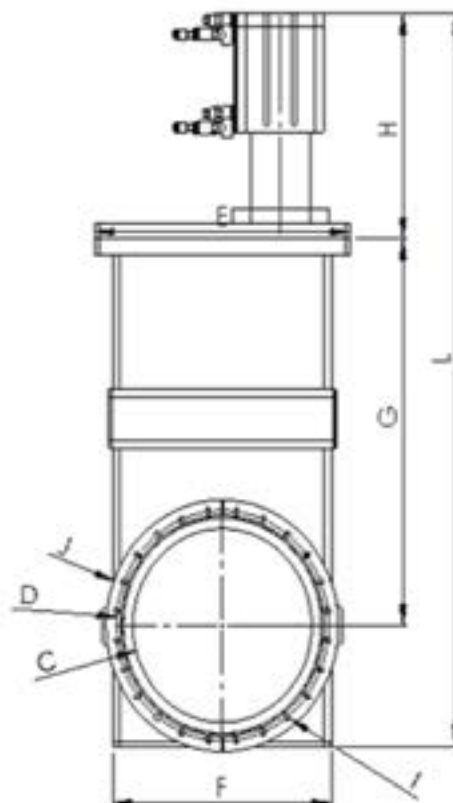
Product Description	AdNaNo-Tek PN
UHV GVP CF2.75"(DN40), SUS304	GVP-UHV-CF40-SS
UHV GVP CF4.5"(DN63), SUS304	GVP-UHV-CF63-SS
UHV GVP CF6"(DN100), SUS304	GVP-UHV-CF100-SS
UHV GVP CF8"(DN160), SUS304	GVP-UHV-CF160-SS
UHV GVP CF10"(DN200), SUS304	GVP-UHV-CF200-SS
UHV GVP CF12"(DN250), SUS304	GVP-UHV-CF250-SS
UHV GVP CF14"(DN320), SUS304	GVP-UHV-CF320-SS
UHV GVM CF2.75"(DN40), SUS304	GVM-UHV-CF40-SS
UHV GVM CF4.5"(DN63), SUS304	GVM-UHV-CF63-SS
UHV GVM CF6"(DN100), SUS304	GVM-UHV-CF100-SS
UHV GVM CF8"(DN160), SUS304	GVM-UHV-CF160-SS
UHV GVM CF10"(DN200), SUS304	GVM-UHV-CF200-SS
UHV GVM CF12"(DN250), SUS304	GVM-UHV-CF250-SS
UHV GVM CF14"(DN300), SUS304	GVM-UHV-CF300-SS



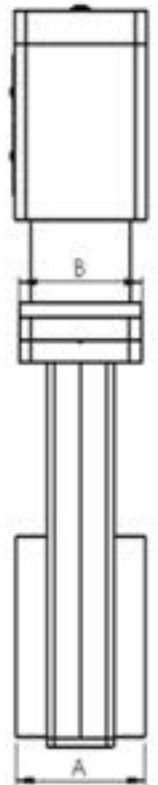
**Product Details-UHV Pneumatic**



**Figure 1**

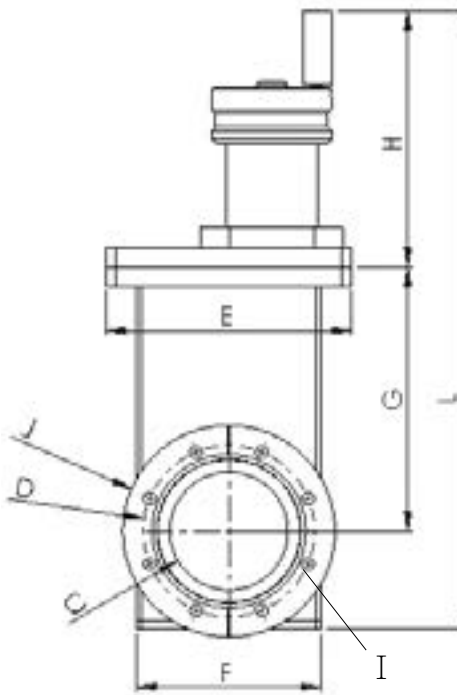


**Figure 2**

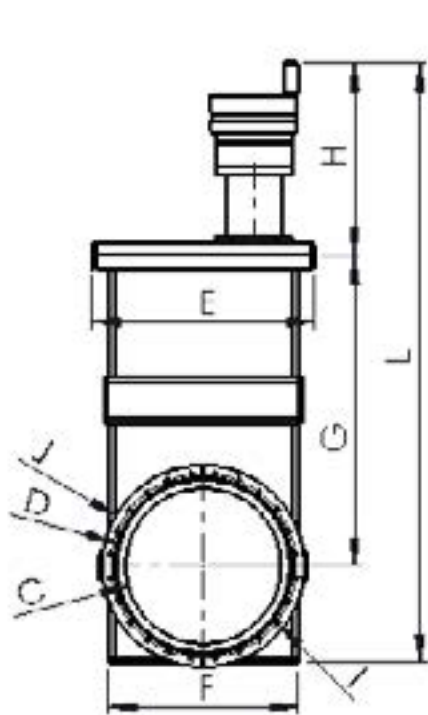


Normal OD	Figure	A mm inch	B mm inch	C ID mm inch	D PCD mm inch	E mm inch	F mm inch	G mm inch	H mm inch	I Bolts & Bolts Number	J OD mm inch	L mm inch
DN40	1	52.4 2.06	50 1.97	38 1.49	58.7 2.31	92 3.62	69.5 2.74	103.5 4.07	115 4.53	M6x6	70 2.76	257 10.12
DN63	1	67.5 2.66	64 2.53	63.5 2.50	92.1 3.63	132 5.20	99.5 3.92	142 5.59	140 5.51	M8x8	114 4.49	334.5 13.17
DN100	1	80 3.15	82 3.23	100 3.94	130.3 5.13	184 7.24	140 5.51	223 8.78	168 6.61	M8x16	152 5.98	465.5 18.33
DN160	1	86 3.39	82 3.23	148.5 5.85	181 7.13	230 9.06	190 7.48	305 12.01	190 7.48	M8x20	203 7.99	594 23.39
DN200	2	86 3.39	82 3.23	195 7.68	231.8 9.13	279 10.98	239 9.41	389.5 15.33	227 8.94	M8x24	253 9.96	738 29.06
DN250	2	104 4.09	89 3.50	245 9.65	284 11.18	334 13.15	294 11.57	489 19.25	254 10	M8x32	320 12.60	892 35.12
DN300	2	105.6 4.16	94 3.70	305 12.01	325.4 12.81	410 16.14	368 14.49	590 23.23	277 10.91	M8x30	400 15.75	1055 41.54

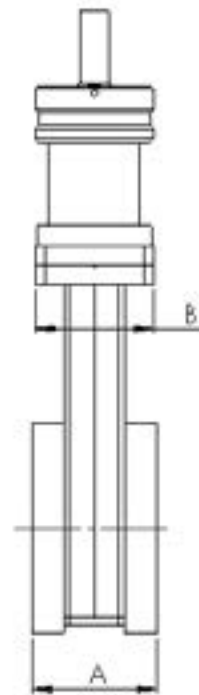
# Product Details-UHV Manual



**Figure 1**



**Figure 2**



Normal OD	Figure	A mm inch	B mm inch	C ID mm inch	D PCD mm inch	E mm inch	F mm inch	G mm inch	H mm inch	I Bolts & Bolts Number	J OD mm inch	L mm inch
DN40	1	52.4 2.06	50 1.97	38 1.50	58.7 2.31	92 3.62	69.5 2.74	103.5 4.07	126.3 4.97	M6x6	70 2.76	268.3 10.56
DN63	1	67.5 2.66	64 2.52	63.5 2.50	92.1 3.63	132 5.20	99.5 3.92	142 5.59	137.2 5.40	M8x8	114 4.49	331.7 13.06
DN100	1	80 3.15	82 3.23	100 3.94	130.3 5.13	184 7.24	148 5.83	247 9.72	137 5.39	M8x16	152 5.98	449.2 17.69
DN160	1	86 3.39	82 3.23	148.5 5.85	181 7.13	230 9.06	190 7.48	305 12.01	177.7 7.00	M8x20	203 7.99	581.7 22.90
DN200	2	86 3.39	82 3.23	195 7.68	231.8 9.13	279 10.98	239 9.41	389.5 15.33	210.5 8.29	M8x24	253 9.96	721.5 28.41
DN250	2	104 4.09	89 3.50	245 9.65	284 11.18	334 13.15	294 11.57	489 19.25	254 10.00	M8x32	320 12.60	892 35.12
DN300	2	105.6 4.16	94 3.70	245 9.65	325.4 12.81	410 16.14	368 14.49	590 23.23	243.2 9.57	M8x30	400 15.75	1032.3 40.64

## HV Isolation Gate Valve Data Sheet

Product Series		HV Isolation Gate Valve	
<b>Functional Figures</b>			
Operating Options	Pneumatic and wheel manual operating		
Device Safety	Mechanic lock system (Fully open and close)		
Operating pressure (Pneumatic version)	4~7 kgf/cm <sup>2</sup> / 3.92 ~6.86 bar / 56.89 ~99.56 psi		
Vacuum Rate	1.4 ~ 1.33x10 <sup>-9</sup> mbar		
Valve Body Leak Rate	5x10 <sup>-9</sup> mbar l/s, He		
Gate Seal Leak Rate	1.33x10 <sup>-9</sup> mbar l/s, He		
Position Indicator (Pneumatic Version)	Reed Type Sensor		
Position Indicator (Wheel Manual)	Visual Device		
Pneumatic Control	Solenoid DC 24V		
Manual Device	Wheel handle		
Optional for Position Indicator and solenoid integration in D-Sub or other options.			
Mount Direction	Any		
<b>Sealing Materials</b>			
Mechanical Feedthrough	Welded Bellows in AM350		
Bonnet Seal Material	O-ring (FKM)		
Gate Seal Material	O-ring (FKM)		



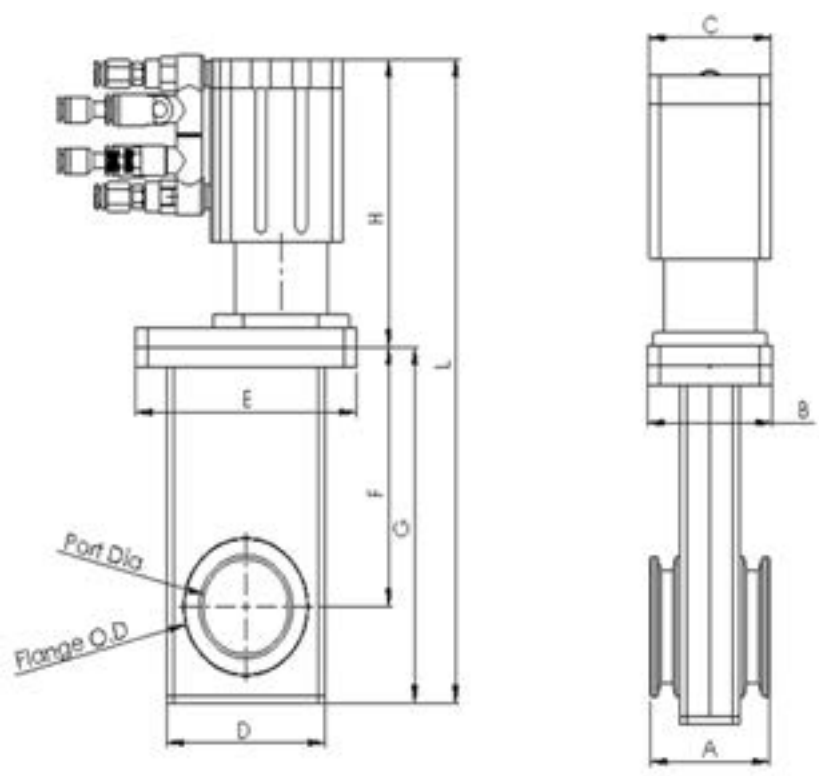
## HV Isolation Gate Valve Data Sheet

Performance Figures		
Life Cycles	250,000 (Under ATM)*	
Differential Pressure at Gate	1.4 mbar	
Differential Pressure at opening	< 30 mbar	
Conductance (Molecular flow)	DN40 KF	160 l/s
	DN50 KF	250 l/s
	DN63 ISO-F	600 l/s
	DN80 ISO-F	900 l/s
	DN100 ISO-F	1,740 l/s
	DN160 ISO-F	5,880 l/s
	DN200 ISO-F	12,200 l/s
	DN250 ISO-F	21,690 l/s
	DN320 ISO-F	29,130 l/s

## Order Information

Product Description	AdNaNo-Tek PN
HV GVP KF40(DN40),SUS304	GVP-HV-KF40-SS
HV GVP KF50(DN50),SUS304	GVP-HV-KF50-SS
HV GVP ISO63(DN63),SUS304	GVP-HV-ISO63-SS
HV GVP ISO80(DN80),SUS304	GVP-HV-ISO80-SS
HV GVP ISO100(DN100),SUS304	GVP-HV-ISO100-SS
HV GVP ISO160(DN160),SUS304	GVP-HV-ISO160-SS
HV GVP ISO200(DN200),SUS304	GVP-HV-ISO200-SS
HV GVP ISO250(DN250),SUS304	GVP-HV-ISO250-SS
HV GVP ISO320(DN320),SUS304	GVP-HV-ISO320-SS
HV GVM KF40(DN40),SUS304	GVM-HV-KF40-SS
HV GVM KF50(DN50),SUS304	GVM-HV-KF50-SS
HV GVM ISO63(DN63),SUS304	GVM-HV-ISO63-SS
HV GVM ISO80(DN80),SUS304	GVM-HV-ISO80-SS
HV GVM ISO100(DN100),SUS304	GVM-HV-ISO100-SS
HV GVM ISO160(DN160),SUS304	GVM-HV-ISO160-SS
HV GVM ISO200(DN200),SUS304	GVM-HV-ISO200-SS
HV GVM ISO250(DN250),SUS304	GVM-HV-ISO250-SS
HV GVM ISO320(DN320),SUS304	GVM-HV-ISO320-SS

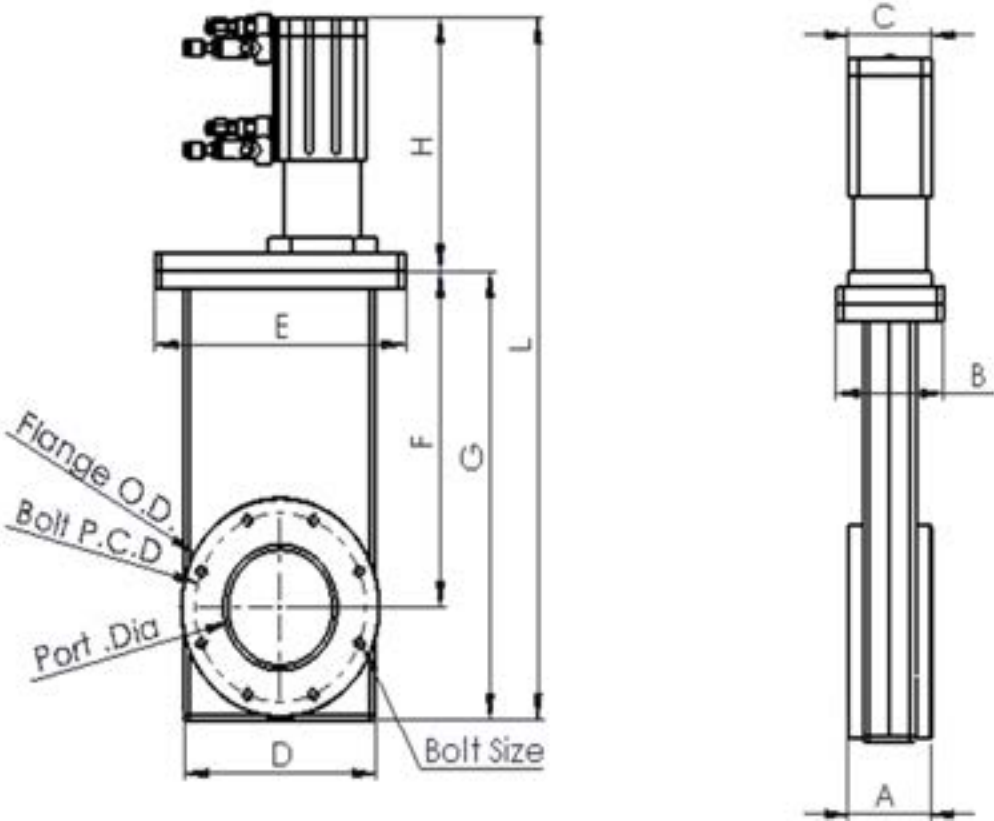
**Product Details-HV KF Pnuematic**



**Figure 1**

Normal OD	Figure	Flange O.D. mm inch	Port Dia mm inch	A mm inch	B mm inch	C mm inch	D mm inch	E mm inch	F mm inch	G mm inch	H mm inch	L mm inch
DN40	1	55 2.17	38 1.50	52.4 2.06	50 1.97	38 1.50	58.7 2.31	92 3.62	69.5 2.74	103.5 4.07	126.3 4.97	268.3 10.56
DN50	1	75 2.95	49 1.93	67.5 2.66	64 2.52	63.5 2.50	92.1 3.63	132 5.20	99.5 3.92	142 5.59	137.2 5.40	331.7 13.06

**Product Details-HV ISO Pneumatic**

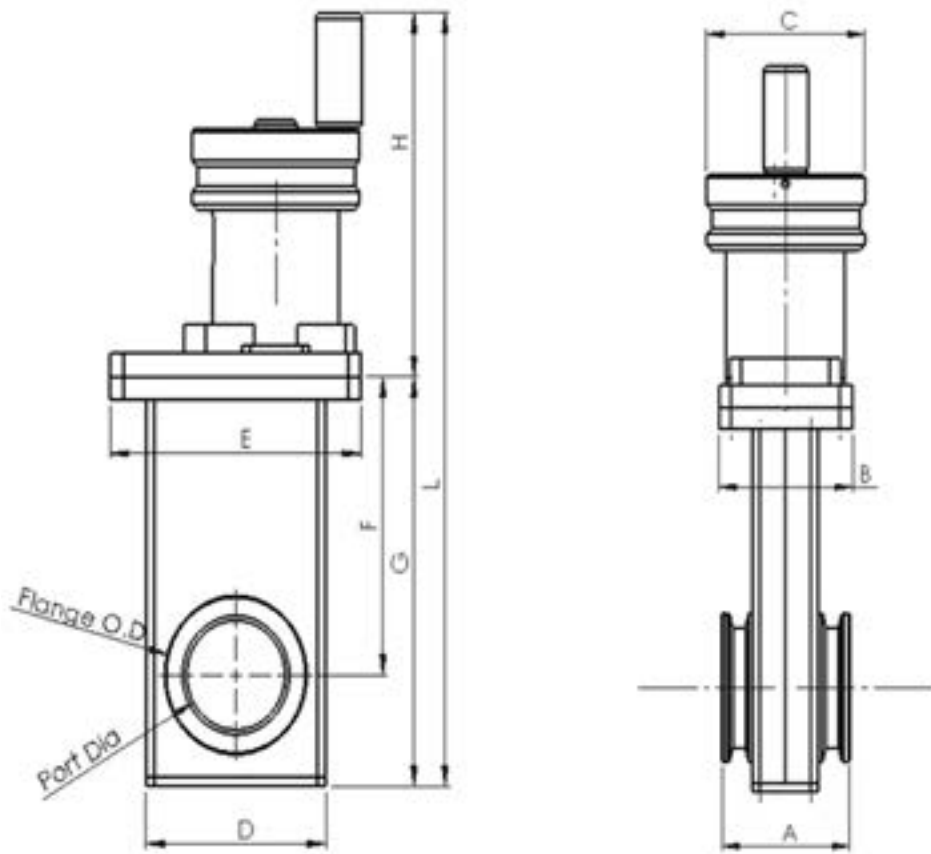


**Figure 2**

Normal OD	Figure	Flange O.D. mm inch	Port Dia mm inch	Bolt P.C.D mm inch	Bolts & Bolts Number	A mm inch	B mm inch	C mm inch	D mm inch	E mm inch	F mm inch	G mm inch	H mm inch	L mm inch
DN63	2	130 5.12	63.5 2.50	110 4.33	M8x4	56.5 2.22	64 2.52	64 2.52	99.5 3.92	132 5.20	142 5.59	194.5 7.66	140 5.51	334.5 13.17
DN80	2	145 5.71	76.5 3.01	125 4.92	M8x8	64 2.52	82 3.23	64 2.52	148 5.83	184 7.24	247 9.72	321.5 12.66	168 6.61	489.5 19.27
DN100	2	165 6.50	100 3.94	145 5.71	M8x8	64 2.52	82 3.23	64 2.52	148 5.83	184 7.24	247 9.72	321.5 12.66	168 6.61	489.5 19.27
DN160	2	225 8.86	145 5.71	200 7.87	M10x8	74 2.91	82 3.23	77 3.03	190 7.48	230 9.06	305 12.01	404 15.91	190 7.48	594 23.39
DN200	2	285 11.22	195 7.68	260 10.24	M10x12	74 2.91	82 3.23	94 3.70	239 9.41	279 10.98	389.5 15.33	511 20.12	227 8.94	738 29.06
DN250	2	335 13.19	245 9.65	310 12.20	M10x12	76 2.99	89 3.50	128 5.04	294 11.57	334 13.15	489 19.25	638 25.12	254 10.00	892 35.12
DN320	2	425 16.73	305 12.01	395 15.55	M12x12	93.6 3.69	94 3.70	139 5.47	368 14.49	410 16.14	590 23.23	778 30.63	277 10.91	1055 41.54



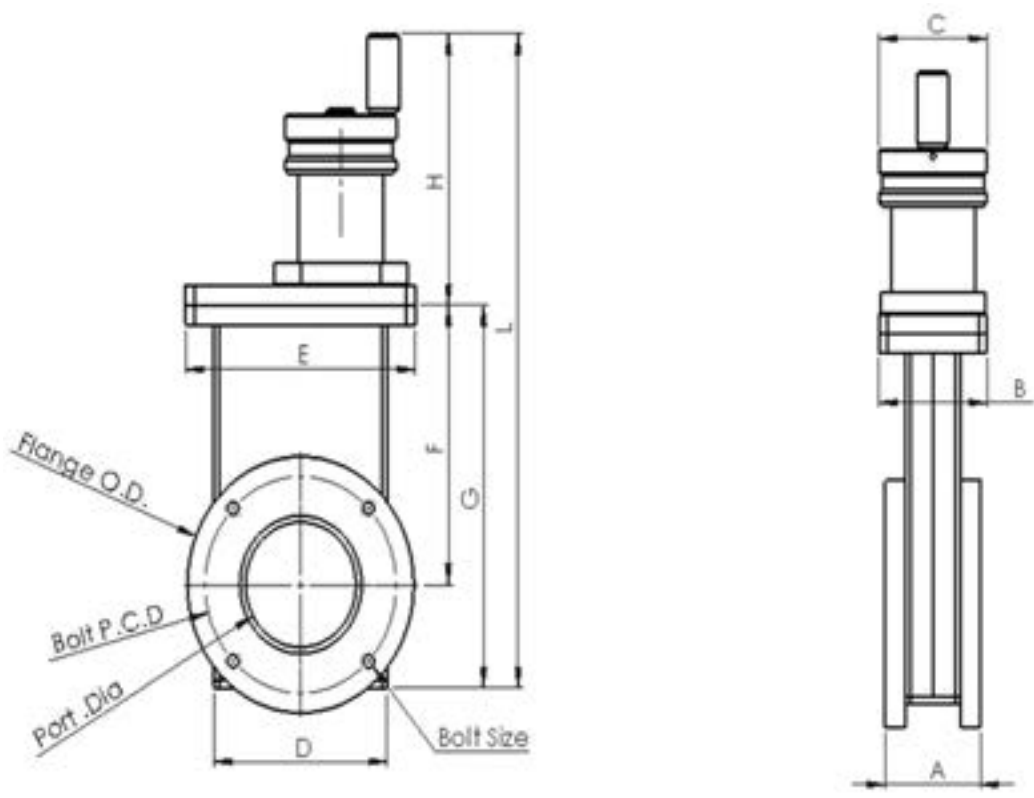
**Product Details-HV KF Manual**



**Figure 1**

Normal OD	Figure	Flange O.D. mm inch	Port Dia mm inch	A mm inch	B mm inch	C mm inch	D mm inch	E mm inch	F mm inch	G mm inch	H mm inch	L mm inch
DN40	1	55 2.17	38 1.50	50.5 1.99	50 1.97	65 2.56	69.5 2.74	92 3.62	103.5 4.07	142 5.59	126.7 4.99	268.7 10.58
DN50	1	75 2.95	49 1.93	72.5 2.85	64 2.52	64 2.52	99.5 3.92	132 5.20	142 5.59	194.5 7.66	137.2 5.40	331.7 13.06

**Product Details-HV ISO Manual**



**Figure 2**

Normal OD	Figure	Flange O.D. mm inch	Port Dia mm inch	Bolt P.C.D mm inch	Bolts & Bolts Number	A mm inch	B mm inch	C mm inch	D mm inch	E mm inch	F mm inch	G mm inch	H mm inch	L mm inch
DN63	2	130 5.12	63.5 2.50	110 4.33	M8x4	56.5 2.22	64 2.52	64 2.52	99.5 3.92	132 5.20	142 5.59	194.5 7.66	137.2 5.40	331.7 13.06
DN80	2	145 5.71	76.5 3.01	125 4.92	M8x8	64 2.52	82 3.23	95 3.74	148 5.83	184 7.24	247 9.72	321.5 12.66	137 5.39	499.2 19.65
DN100	2	165 6.50	100 3.94	145 5.71	M8x8	64 2.52	82 3.23	95 3.74	140 5.51	184 7.24	223 8.78	297.5 11.71	137 5.39	475.2 18.71
DN160	2	225 8.86	145 5.71	200 7.87	M10x8	74 2.91	82 3.23	95 3.74	190 7.48	230 9.06	305 12.01	404 15.91	137 5.39	581.7 22.90
DN200	2	285 11.22	195 7.68	260 10.24	M10x12	74 2.91	82 3.23	109 4.29	239 9.41	279 10.98	389.5 15.33	511 20.12	243.5 9.59	754.5 29.70
DN250	2	335 13.19	245 9.65	310 12.20	M10x12	80 3.15	89 3.50	110 4.33	294 11.57	334 13.15	489 19.25	638 25.12	221.7 8.73	859.7 33.85
DN320	2	425 16.73	305 12.01	395 15.55	M12x12	93.6 3.69	94 3.70	110 4.33	368 14.49	410 16.14	590 23.23	778 30.63	243.2 9.57	1045.7 41.17

# Vacuum Shielding Gate Valves Series

*Pneumatic Shielding Gate Valve Series*

*Manual Shielding Gate Valve Series*

**AdNaNo-tek**

*UHV Design & Components*

# Introduction



## Shielding Gate Valves

This gate valves are speical design for hash process with chemical particle in the down stream section. Most of particle may flow into the mechanism during the process, and the particles may damage bearings or other parts of mechanism.

AdNaNo-Tek provide economics solution with "Shielding plate".

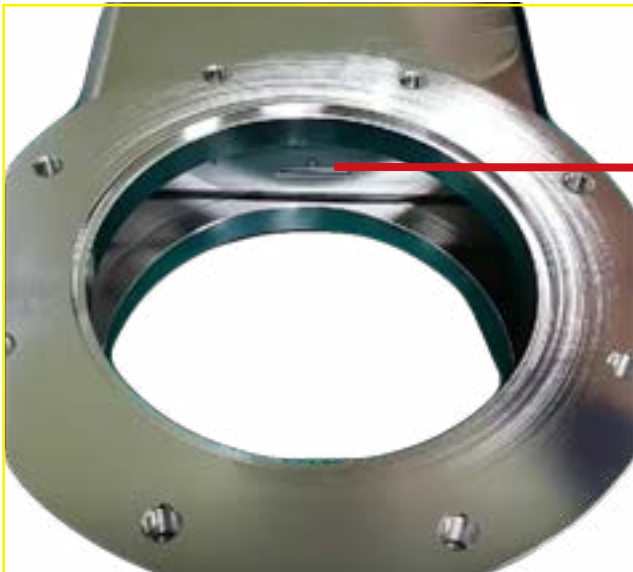
The sheilding can isolate most of particles and protect valve's mechanism. There are different options of seal plate O-ring more than FKM, please ask our engineer for more information.





The Shielding device is installed at bottom of gate seal plate.

Gate seal plate's shielding



Gate seal plate's shielding

The Shielding device is blocking the particles during the pumping stage.

## Shielding Gate Valve Data Sheet

Product Series	Shielding Gate Valve
<b>Functional Figures</b>	
Operating Options	Pneumatic and wheel manual operating
Device Safety	Mechanic lock system (Fully open and close)
Operating pressure (Pneumatic version)	4~7 kgf/cm <sup>2</sup> / 3.92 ~6.86 bar / 56.89 ~99.56 psi
Vacuum Rate	1.4 ~ 1.33x10 <sup>-9</sup> mbar
Valve Body Leak Rate	5x10 <sup>-9</sup> mbar l/s, He
Gate Seal Leak Rate	1.33x10 <sup>-9</sup> mbar l/s, He
Position Indicator (Pneumatic Version)	Reed Type Sensor
Position Indicator (Wheel Manual)	Visual Device
Pneumatic Control	Solenoid DC 24V
Manual Device	Wheel handle
Optional for Position Indicator and solenoid integration in D-Sub or other options.	
Mount Direction	Any

<b>Sealing Materials</b>	
Mechanical Feedthrough	Welded Bellows in AM350
Bonnet Seal Material	O-ring (FKM)
Gate Seal Material	O-ring (FKM) Optional for FFKM

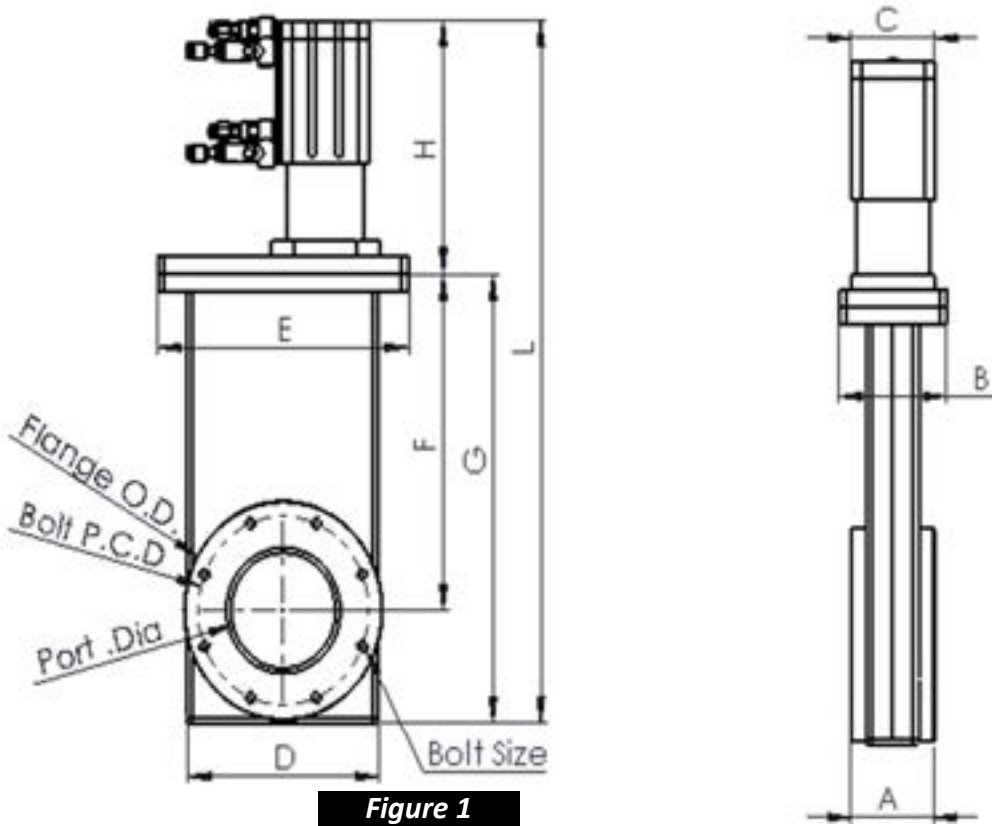
## Shielding Gate Valve Data Sheet

Performance Figures		
Life Cycles	250,000 (Under ATM)*	
Differential Pressure at Gate	1.4 mbar	
Differential Pressure at opening	< 30 mbar	
Conductance (Molecular flow)	DN100 ISO-F	1,740 l/s
	DN160 ISO-F	5,880 l/s
	DN200 ISO-F	12,200 l/s
	DN250 ISO-F	21,690 l/s

**Order Information**

<b>Product Description</b>	<b>AdNaNo-Tek PN</b>
Shielding GVP ISO100(DN100),SUS304	SGVP-HV-ISO100-SS
Shielding GVP ISO160(DN160),SUS304	SGVP-HV-ISO160-SS
Shielding GVP ISO200(DN200),SUS304	SGVP-HV-ISO200-SS
Shielding GVP ISO250(DN250),SUS304	SGVP-HV-ISO250-SS
Shielding GVM ISO100(DN100),SUS304	SGVM-HV-ISO100-SS
Shielding GVM ISO160(DN160),SUS304	SGVM-HV-ISO160-SS
Shielding GVM ISO200(DN200),SUS304	SGVM-HV-ISO200-SS
Shielding GVM ISO250(DN250),SUS304	SGVM-HV-ISO250-SS

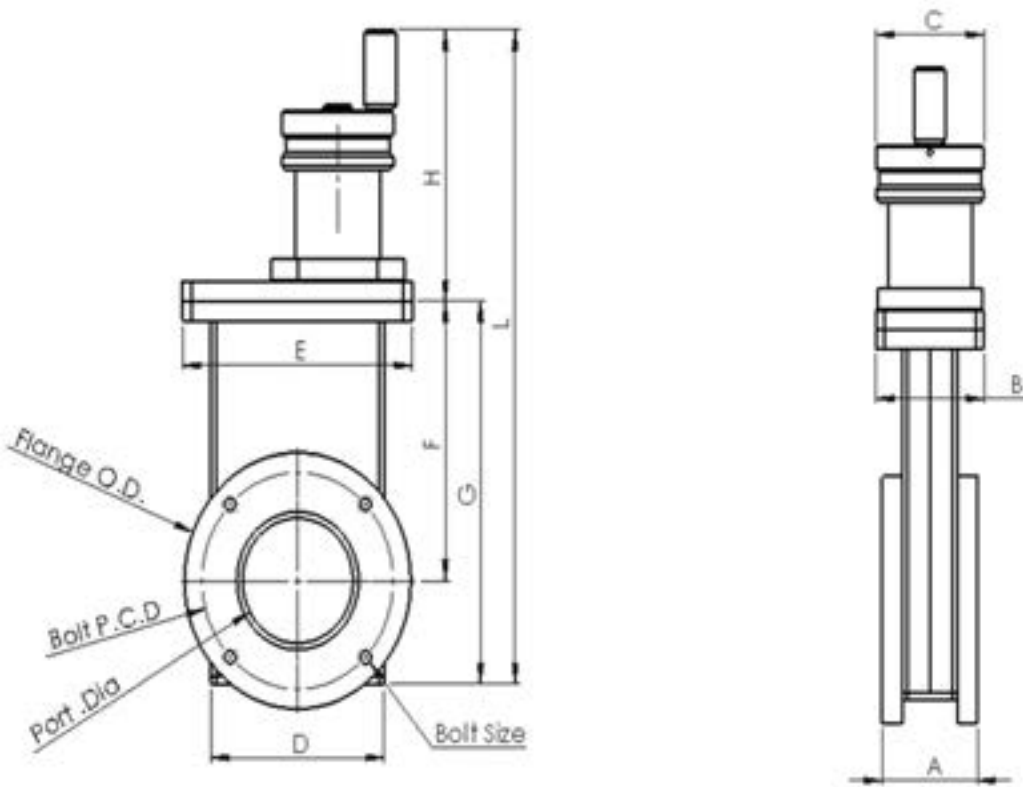
**Product Details-Shielding Gate Valve Pneumatic**



**Figure 1**

Normal OD	Figure	Flange O.D. mm inch	Port .Dia mm inch	Bolt P.C.D mm inch	Bolts & Bolts Number	A mm inch	B mm inch	C mm inch	D mm inch	E mm inch	F mm inch	G mm inch	H mm inch	L mm inch
DN100	1	165 6.50	100 3.94	145 5.71	M8x8	64 2.52	82 3.23	95 3.74	140 5.51	184 7.24	223 8.78	297.5 11.71	137 5.39	475.2 18.71
DN160	1	225 8.86	145 5.71	200 7.87	M10x8	74 2.91	82 3.23	95 3.74	190 7.48	230 9.06	305 12.01	404 15.91	137 5.39	581.7 22.90
DN200	1	285 11.22	195 7.68	260 10.24	M10x12	74 2.91	82 3.23	109 4.29	239 9.41	279 10.98	389.5 15.33	511 20.12	243.5 9.59	754.5 29.70
DN250	1	335 13.19	245 9.65	310 12.20	M10x12	80 3.15	89 3.50	110 4.33	294 11.57	334 13.15	489 19.25	638 25.12	221.7 8.73	859.7 33.85

**Product Details-Shielding Gate Valve Manual**



**Figure 2**

Normal OD	Figure	Flange O.D. mm inch	Port .Dia mm inch	Bolt P.C.D mm inch	Bolts & Bolts Number	A mm inch	B mm inch	C mm inch	D mm inch	E mm inch	F mm inch	G mm inch	H mm inch	L mm inch
DN100	2	165 6.50	100 3.94	145 5.71	M8x8	64 2.52	82 3.23	95 3.74	140 5.51	184 7.24	223 8.78	297.5 11.71	137 5.39	475.2 18.71
DN160	2	225 8.86	145 5.71	200 7.87	M10x8	74 2.91	82 3.23	95 3.74	190 7.48	230 9.06	305 12.01	404 15.91	137 5.39	581.7 22.90
DN200	2	285 11.22	195 7.68	260 10.24	M10x12	74 2.91	82 3.23	109 4.29	239 9.41	279 10.98	389.5 15.33	511 20.12	243.5 9.59	754.5 29.70
DN250	2	335 13.19	245 9.65	310 12.20	M10x12	80 3.15	89 3.50	110 4.33	294 11.57	334 13.15	489 19.25	638 25.12	221.7 8.73	859.7 33.85



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