



Vacuum Poppet Valves

•Email: info@kinglai.com.tw
sales@nanotech-consulting.com

•Website: www.advantorr.com
www.nanotech-consulting.com

+44 (0) 7702 585633

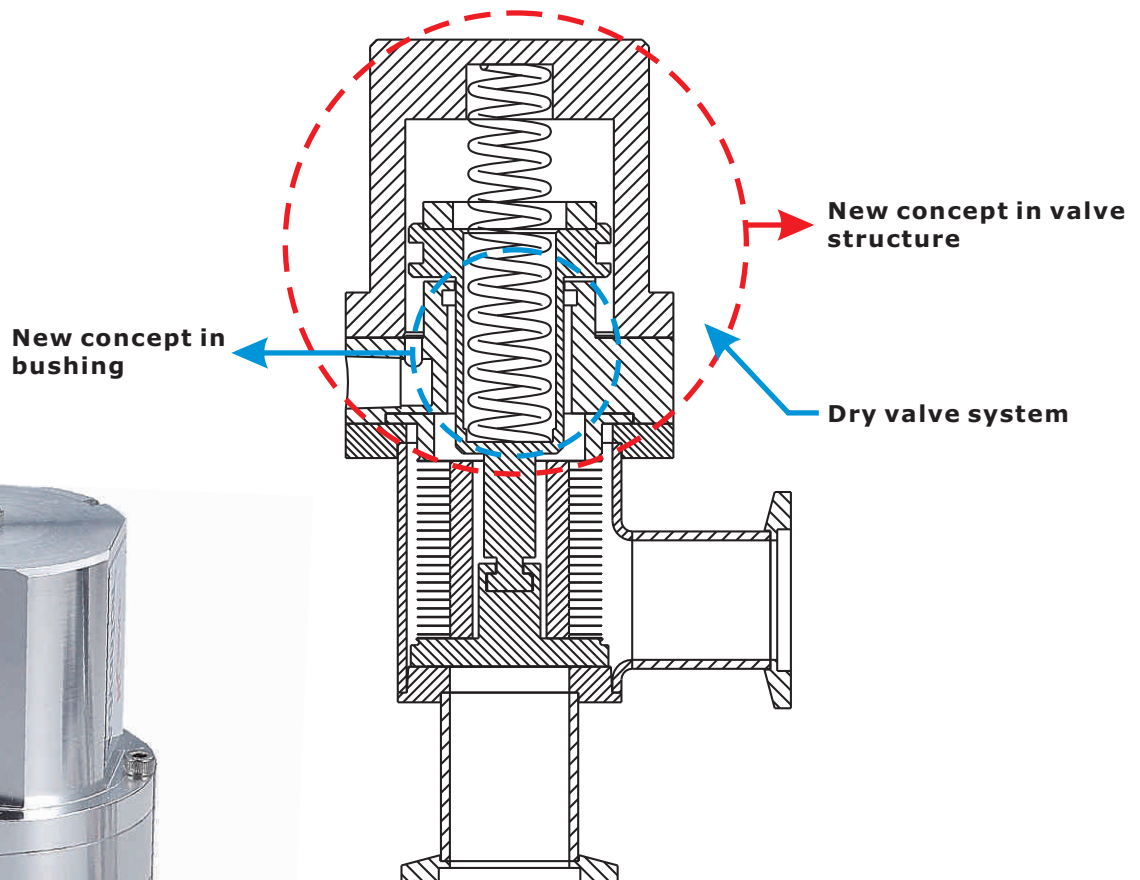


Product Introduction

Isolation Poppet Valves are typically used as 'shut-off' devices and are installed in roughing and fore lines where most applications connect to an exhaust system and there is a potential risk of contamination. In addition, special design 'dry valves' offer the necessary protection for vacuum systems when back streaming occurs. The Poppet Valves use edge welded bellows as standard and provide optimum conductance with a small footprint design.

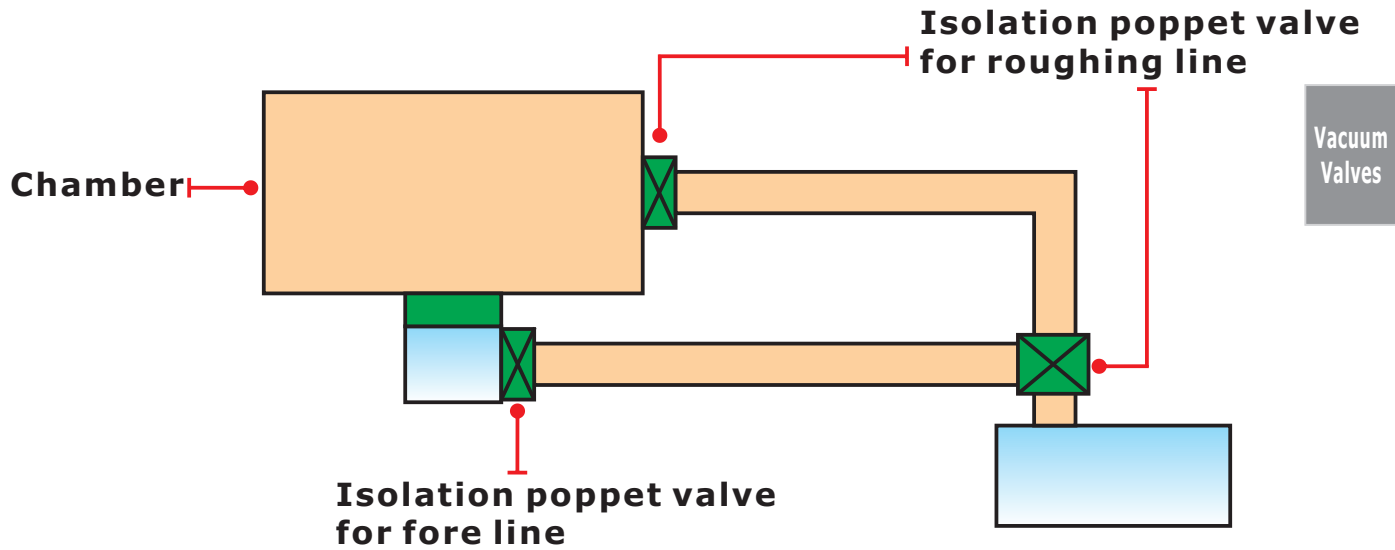
Product Features

- Available in a wide range of sizes from 3/4" to 2" orifice.
- > 1 million cycles between service intervals.
- Compact, low profile, small footprint design.
- Spring returned to 'closed' during power / air failure.
- High purity, dry valve system with a self-lubricating mechanism, significantly reduces particle generation.

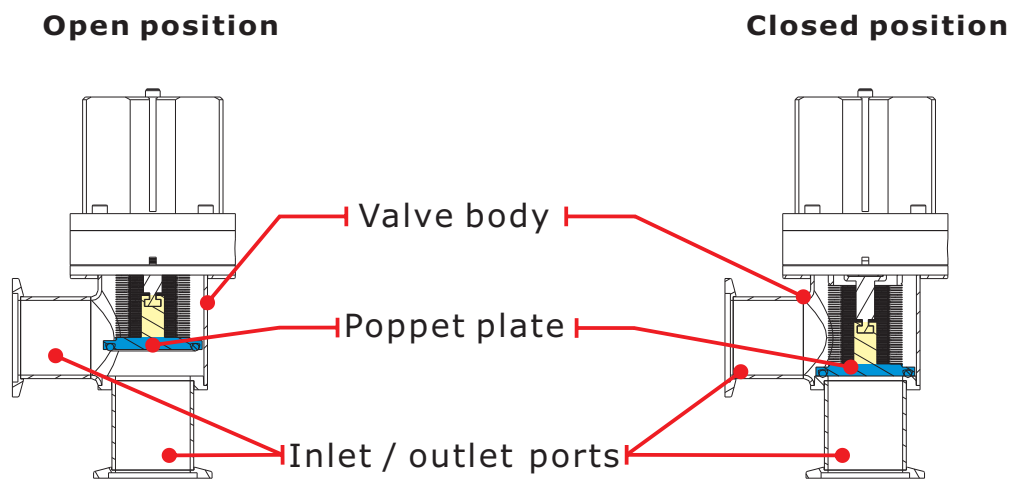


Product's Application

Poppet valves in roughing and fore lines.

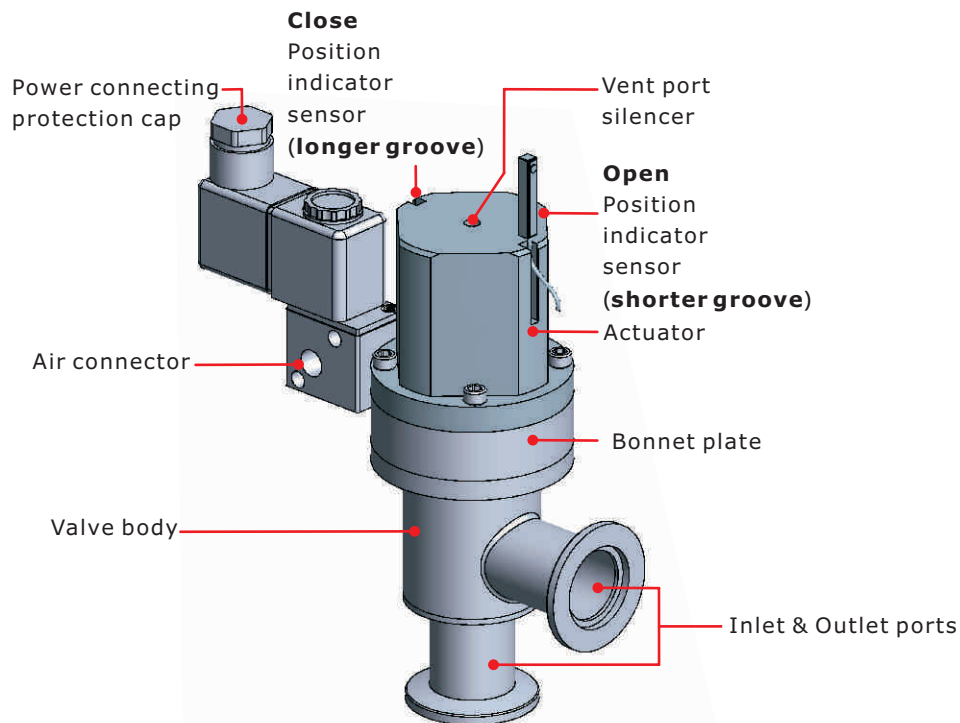


Valve's operation concept



Key Valve Parts

Key parts of poppet valve- single acting



Vacuum
Valves

Technical data for poppet angle / inline valves

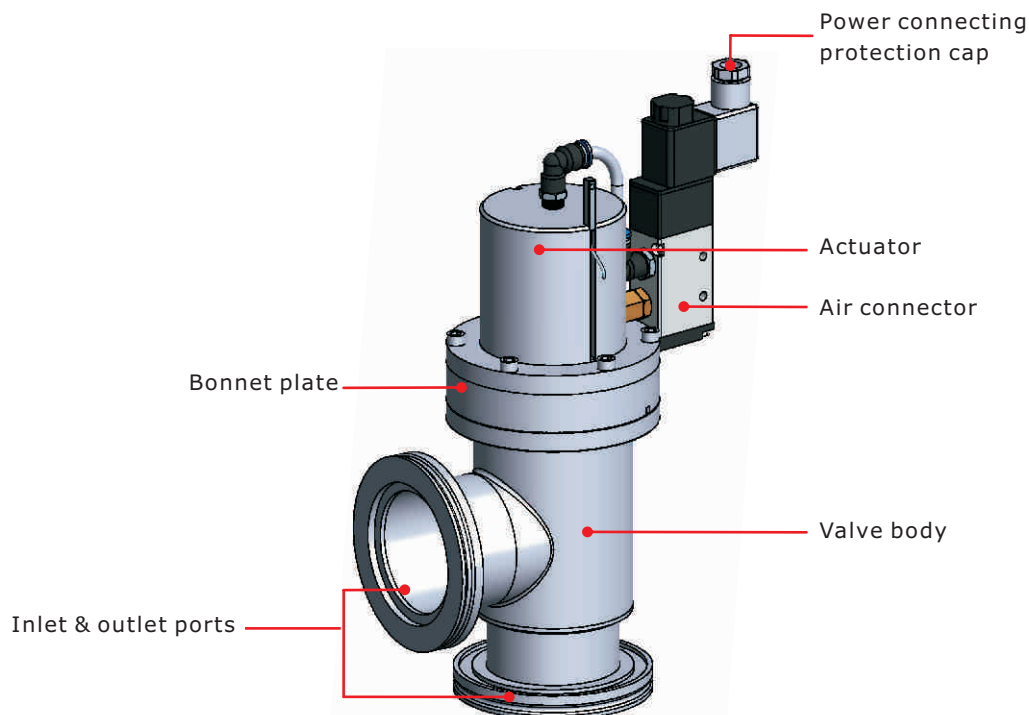
	Ultra High Vacuum	High Vacuum
Feedthrough	Welded bellows in AM350	Welded bellows in AM350
Gate seal	FKM o-ring (Optional for FFKM)	FKM o-ring (Optional for FFKM)
Bonnet seal	OFHC metal gasket	FKM
Operate pressure range	2,500 Torr ~ 1×10^{-10} Torr 2,000 mbar ~ 1.33×10^{-10} mbar 200 kPa ~ 1.13×10^{-11} kPa	2,500 Torr ~ 1×10^{-8} Torr 2,000 mbar ~ 1.33×10^{-8} mbar 200 kPa ~ 1.13×10^{-9} kPa
Leak rate	1×10^{-10} Torr l/s, He 1.33×10^{-10} mbar l/s, He 1.13×10^{-11} kPa l/s, He	1×10^{-9} Torr l/s, He 1.33×10^{-9} mbar l/s, He 1.13×10^{-10} kPa 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 176°F	
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	

Valve's operation data

Pneumatic operating pressure	4 bar ~ 5.5 bar 400 kPa ~ 550 kPa 58 psi ~ 80 psi
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"

Key Valve Parts

Key parts of Poppet Valve- double acting



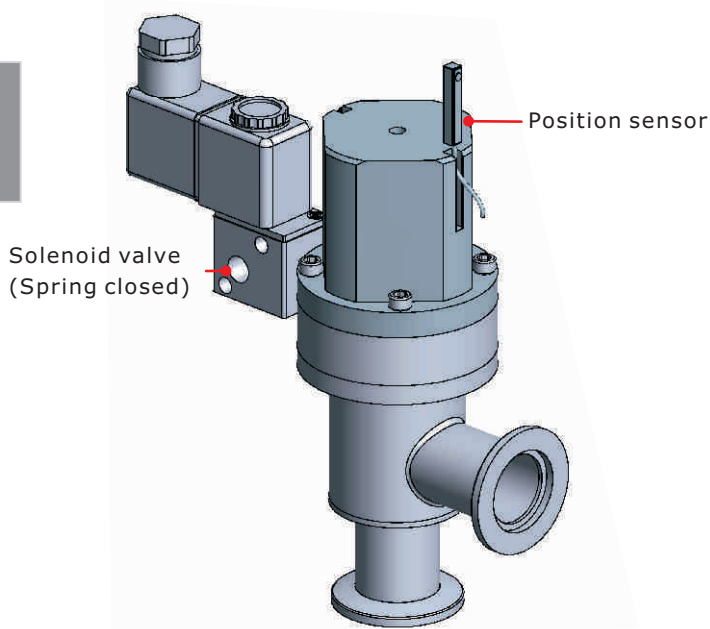
Valve's performance data	KF16/CF1.33"	KF25/CF2.12"	KF40/CF2.75"	KF50/CF3.38"	ISO-K63/CF4.5"
Maximum differential pressure against gate	2,025 Torr 2,700 mbar 270 kpa	1,800 Torr 2,400 mbar 240 kpa	1,725 Torr 2,300 mbar 230 kpa	1,500 Torr 2,000 mbar 200 kpa	2,925 Torr 3,900 mbar 390 kpa
Maximum differential pressure at opening	1,500 Torr 2,000 mbar 200 kpa				
Pneumatic valve open / close time	0.5(s)	0.6(s)	0.8(s)	0.9(s)	0.7(s)
Valve's conductance angle type (molecular flow)	6(l/s)	15(l/s)	48(l/s)	82(l/s)	170(l/s)
Valve's conductance inline type (molecular flow)	5(l/s)	12(l/s)	44(l/s)	66(l/s)	135(l/s)

	ISO-K 80	ISO-K 100/CF6"	ISO-K 160/CF8"	ISO-K 200	ISO-K 250
Maximum differential pressure against gate	2,925 Torr 3,900 mbar 391 kpa	2,925 Torr 3,900 mbar 392 kpa	3,300 Torr 4,400 mbar 440 kpa	3,300 Torr 4,400 mbar 441 kpa	3,300 Torr 4,400 mbar 442 kpa
Maximum differential pressure at opening	1,500 Torr 2,000 mbar 200 kpa				
Pneumatic valve open / close time	0.7(s)	0.8(s)	1.5(s)	2.5(s)	2.8(s)
Valve's conductance angle type (molecular flow)	220(l/s)	490(l/s)	1090(l/s)	1,600(l/s)	2,650(l/s)
Valve's conductance inline type (molecular flow)	184(l/s)	406(l/s)	N/A	N/A	N/A

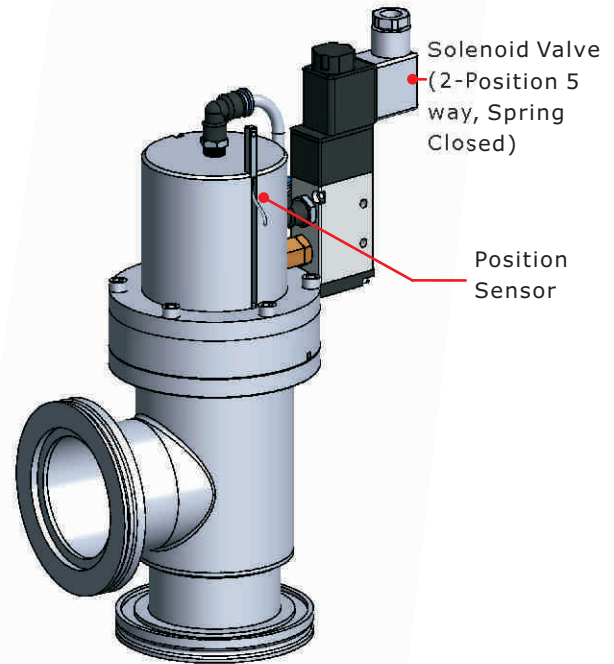
Product Order Information

Vacuum
Valves

Single acting



Double acting



ACCESSORIES

Position Sensor with LED Light Indication

Part Number	Size	Specification
PS-A-R	KF10~KF50 ISO63~ISO250	Reed type with trim assembly
PS-A-N	KF10~KF50 ISO63~ISO250	NPN
PS-A-P	KF10~KF50 ISO63~ISO250	PNP



Solenoid Valve Kit

Part Number	Size	Specification
SVK-DC12-KF	KF10~KF50	
SVK-DC12-ISO63100	ISO63~ISO100	DC 12V, 50/60 Hz
SVK-DC12-ISO160250	ISO160~ISO250	
SVK-DC24-KF	KF10~KF50	
SVK-DC24-ISO63100	ISO63~ISO100	DC 24V, 50/60 Hz
SVK-DC24-ISO160250	ISO160~ISO250	
SVK-AC110-KF	KF10~KF50	
SVK-AC110-ISO63100	ISO63~ISO100	AC 110V, 50/60 Hz
SVK-AC110-ISO160250	ISO160~ISO250	
SVK-AC220-KF	KF10~KF50	
SVK-AC220-ISO63100	ISO63~ISO100	AC 220V, 50/60 Hz
SVK-AC220-ISO160250	ISO160~ISO250	



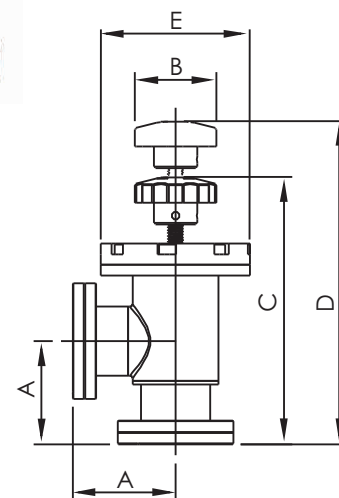
Product Order Information

Vacuum Valves



Manual angle poppet valves, UHV, CF Flange

Part Number	Tube OD	A	B	C	D	E
MAV-UHV-CF-133	3/4"	41	60	124	148	70
MAV-UHV-CF-133-1	3/4"	55	60	139	163	70
MAV-UHV-CF-212	1"	53	60	133	157	70
MAV-UHV-CF-275	1 1/2"	63	60	162	186	86
MAV-UHV-CF-275-1	1 1/2"	67	60	193	217	86
MAV-UHV-CF-338	2"	76	60	197	238	110
MAV-UHV-CF-338-1	2"	78	60	199	240	110
MAV-UHV-CF-450	2 1/2"	91	60	210	252	122
MAV-UHV-CF-450-1	2 1/2"	86	60	204	246	122

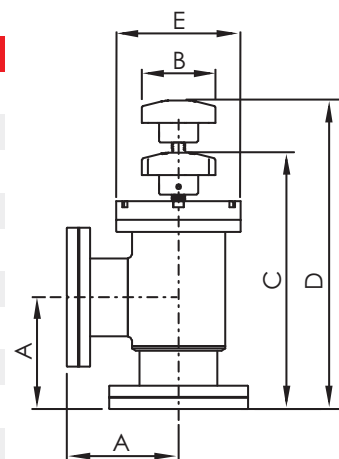


* Bonnet sealed via OFHC gasket



Manual angle poppet valves, HV, CF Flange

Part Number	Tube OD	A	B	C	D	E
MAV-HV-CF-133	3/4"	41	60	124	148	61
MAV-HV-CF-133-1	3/4"	55	60	138	162	61
MAV-HV-CF-212	1"	50	60	131	155	61
MAV-HV-CF-212-1	1"	53	60	133	157	61
MAV-HV-CF-275	1 1/2"	63	60	162	186	77
MAV-HV-CF-275-1	1 1/2"	67	60	165	189	77
MAV-HV-CF-338	2"	72	60	193	234	85
MAV-HV-CF-338-1	2"	78	60	199	240	85
MAV-HV-CF-450	2 1/2"	91	60	210	252	102
MAV-HV-CF-450-1	2 1/2"	86	60	204	246	102



* Bonnet sealed via FKM O-Ring

Product Order Information

Vacuum Valves



Figure 1

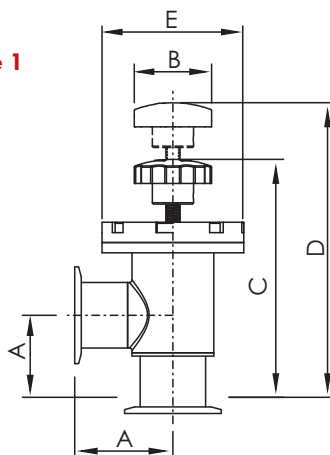
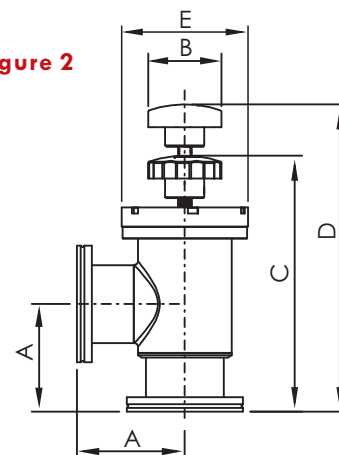
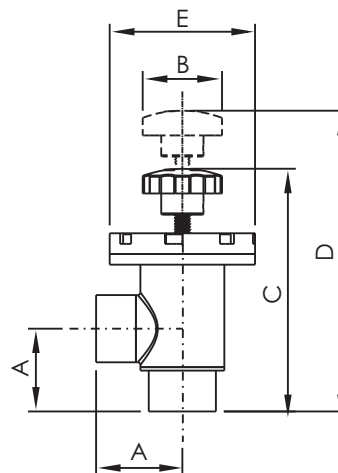


Figure 2



Manual angle poppet valves, HV, KF / ISO Flanges

Part Number	Tube OD	Figure	A	B	C	D	E
MAV-HV-KF-16	3/4"	1	40	60	123	147	61
MAV-HV-KF-16-1	3/4"	1	55	60	138	162	61
MAV-HV-KF-25	1"	1	50	60	130	154	61
MAV-HV-KF-25-1	1"	1	52	60	132	156	61
MAV-HV-KF-40	1 1/2"	1	65	60	164	188	77
MAV-HV-KF-50	2"	1	70	60	191	232	85
MAV-HV-KF-50-1	2"	1	76	60	198	239	85
MAV-HV-ISOK-63	2 1/2"	2	88	60	209	251	102
MAV-HV-ISOK-63-1	2 1/2"	2	83	60	204	246	102



Manual angle poppet valves, HV Tube Ends

Part Number	Tube OD	A	B	C	D	E
MAV-HV-BW-075	3/4"	51	60	134	158	61
MAV-HV-BW-100	1"	48	60	128	153	61
MAV-HV-BW-150	1 1/2"	61	60	160	184	77
MAV-HV-BW-200	2"	72	60	194	235	85

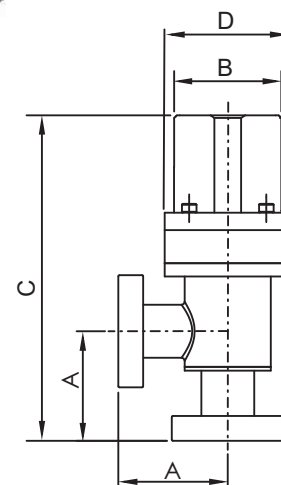
Product Order Information



Vacuum Valves

Pneumatic angle poppet valves, UHV, CF Flange

Part Number	Tube OD	Acting	A	B	C	D
PAV-UHV-CF-133	¾"	Single acting	41	52	147	70
PAV-UHV-CF-133-1	¾"	Single acting	55	52	162	70
PAV-UHV-CF-212	1"	Single acting	53	52	156	70
PAV-UHV-CF-275	1½"	Single acting	63	65	174	86
PAV-UHV-CF-275-1	1½"	Single acting	67	65	178	86
PAV-UHV-CF-338	2"	Single acting	72	67	234	110
PAV-UHV-CF-338-1	2"	Single acting	78	67	240	110
PAV-UHV-CF-450	2½"	Double acting	91	70	251	122
PAV-UHV-CF-450-1	2½"	Double acting	86	70	246	122
PAV-UHV-CF-600	4"	Double acting	113	89	342	171
PAV-UHV-CF-600-1	4"	Double acting	118	89	348	171

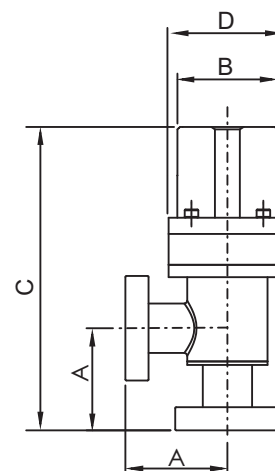


*Bonnet sealed via OFHC gasket



Pneumatic angle poppet valves, HV, CF Flange

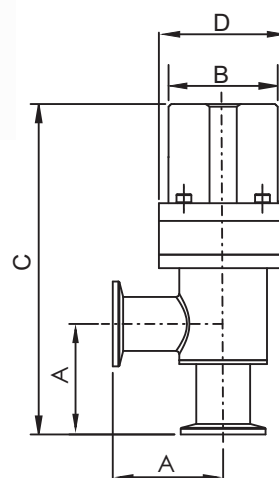
Part Number	Tube OD	Acting	A	B	C	D
PAV-HV-CF-133	¾"	Single acting	41	52	147	61
PAV-HV-CF-133-1	¾"	Single acting	55	52	162	61
PAV-HV-CF-212	1"	Single acting	50	52	154	61
PAV-HV-CF-212-1	1"	Single acting	53	52	156	61
PAV-HV-CF-275	1½"	Single acting	63	65	174	77
PAV-HV-CF-275-1	1½"	Single acting	67	65	178	77
PAV-HV-CF-338	2"	Single acting	72	67	234	85
PAV-HV-CF-338-1	2"	Single acting	78	67	240	85
PAV-HV-CF-450	2½"	Double acting	91	70	251	102
PAV-HV-CF-450-1	2½"	Double acting	86	70	246	102
PAV-HV-CF-600	4"	Double acting	113	89	342	165
PAV-HV-CF-600-1	4"	Double acting	118	89	348	165
PAV-HV-CF-800	6"	Double acting	144	140	449	227
PAV-HV-CF-800-1	6"	Double acting	165	140	469	227



Product Order Information

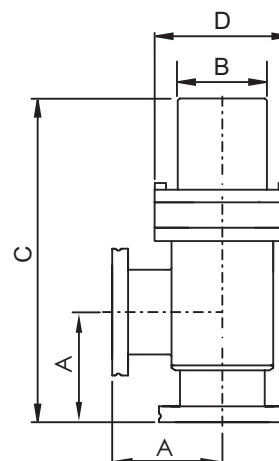
Vacuum
Valves

Pneumatic angle poppet valves, HV, KF Flange Single acting



Part Number	Tube OD	A	B	C	D
PAV-HV-KF-16	¾"	40	52	147	61
PAV-HV-KF-16-1	¾"	55	52	161	61
PAV-HV-KF-25	1"	50	52	154	61
PAV-HV-KF-25-1	1"	52	52	156	61
PAV-HV-KF-40	1½"	65	65	176	77
PAV-HV-KF-50	2"	70	67	232	85
PAV-HV-KF-50-1	2"	76	67	238	85

Pneumatic angle poppet valves, HV, ISO-K Flange Double acting



Part Number	Tube OD	A	B	C	D
PAV-HV-ISOK-63	2½"	88	70	248	102
PAV-HV-ISOK-63-1	2½"	83	70	243	102
PAV-HV-ISOK-80	3"	90	82	284	132
PAV-HV-ISOK-80-1	3"	89	82	283	132
PAV-HV-ISOK-100	4"	108	89	338	165
PAV-HV-ISOK-100-1	4"	114	89	344	165
PAV-HV-ISOK-160	6"	138	140	442	227
PAV-HV-ISOK-160-1	6"	159	140	463	227
PAV-HV-ISOK-200	8"	178	140	648	285
PAV-HV-ISOK-200-1	8"	210	140	659	285
PAV-HV-ISOK-250	10"	208	202	668	353
PAV-HV-ISOK-250-1	10"	260	202	720	353

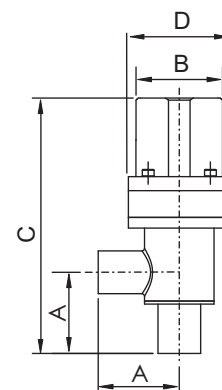
Product Order Information



Vacuum Valves

Pneumatic angle poppet valves, Tube Ends

Part Number	Tube OD	A	B	C	D	Acting
PAV-HV-BW-075	3/4"	51	61	156	61	Single acting
PAV-HV-BW-100	1"	48	61	152	61	Single acting
PAV-HV-BW-150	1 1/2"	61	77	173	77	Single acting
PAV-HV-BW-200	2"	72	85	243	85	Single acting
PAV-HV-BW-250	2 1/2"	76	102	236	102	Double acting
PAV-HV-BW-300	3"	83	132	277	132	Double acting
PAV-HV-BW-400	4"	112	151	332	165	Double acting
PAV-HV-BW-600	6"	126	228	478	227	Double acting
PAV-HV-BW-800	8"	162	249	578	285	Double acting
PAV-HV-BW-1000	10"	201	311	636	353	Double acting



Product Order Information

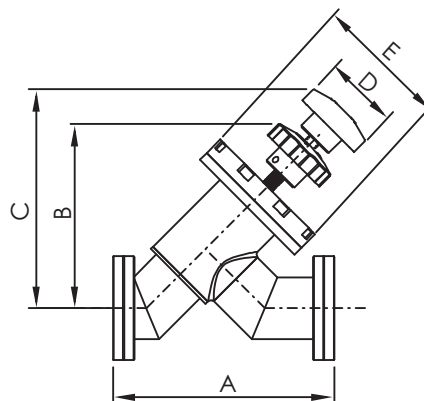
Vacuum
Valves



Manual inline poppet valves, UHV, CF Flange

Part Number	Tube OD	A	B	C	D	E
MIV-UHV-CF-133	¾"	119	100	117	60	70
MIV-UHV-CF-212	1"	113	97	115	60	70
MIV-UHV-CF-275	1½"	133	123	140	60	86
MIV-UHV-CF-338	2"	182	151	180	60	100
MIV-UHV-CF-450	2½"	216	158	188	60	122

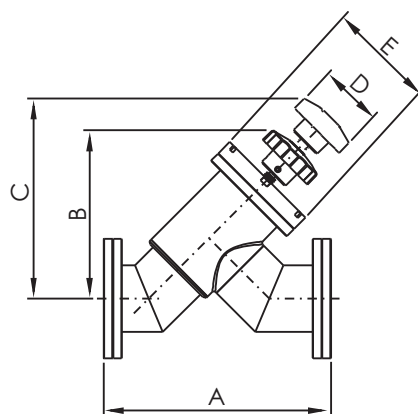
* Bonnet sealed via OFHC gasket



Manual inline poppet valves, HV, CF Flange

Part Number	Tube OD	A	B	C	D	E
MIV-HV-CF-133	¾"	119	100	117	60	61
MIV-HV-CF-212	1"	107	97	114	60	61
MIV-HV-CF-275	1½"	133	123	140	60	77
MIV-HV-CF-338	2"	182	152	181	60	85
MIV-HV-CF-450	2½"	216	160	190	60	102

* Bonnet sealed via FKM O-Ring



Product Order Information

Vacuum Valves



Figure 1

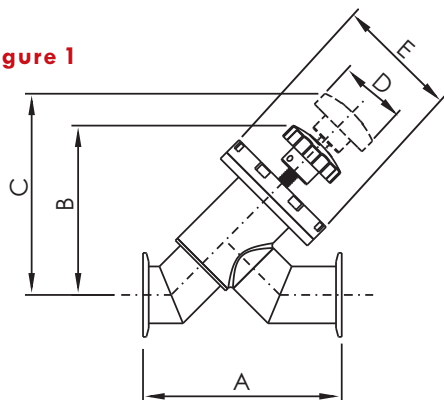
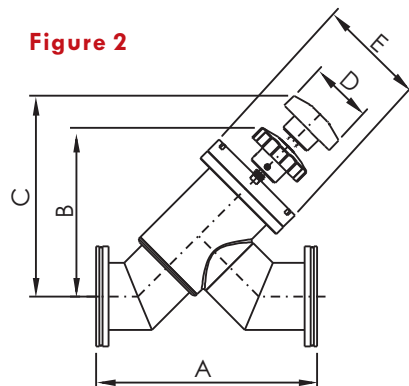
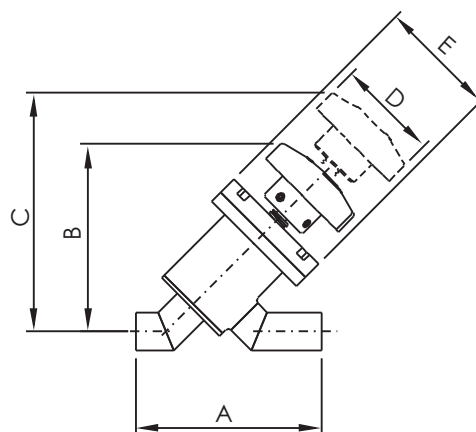


Figure 2



Manual inline poppet valves, HV, KF / ISO Flange

Part Number	Tube OD	Figure	A	B	C	D	E
MIV-HV-KF-16	3/4"	1	102	100	117	60	61
MIV-HV-KF-25	1"	1	107	97	114	60	61
MIV-HV-KF-40	1 1/2"	1	130	123	140	60	77
MIV-HV-KF-50	2"	1	178	152	180	60	85
MIV-HV-ISOK-63	2 1/2"	2	209	160	190	60	102

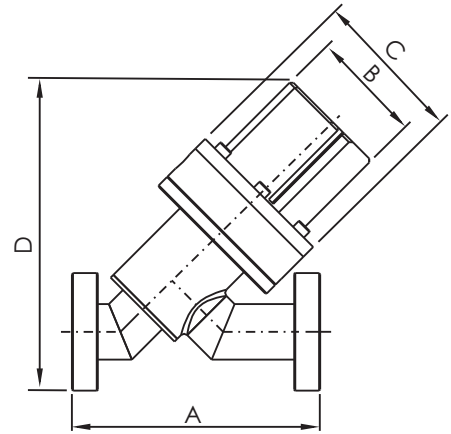


Manual inline poppet valves, HV Tube Ends

Part Number	Tube OD	A	B	C	D	E
MIV-HV-BW-075	3/4"	94	100	117	60	61
MIV-HV-BW-100	1"	99	97	114	60	61
MIV-HV-BW-150	1 1/2"	123	123	140	60	77
MIV-HV-BW-200	2"	170	152	180	60	85

Product Order Information

Vacuum
Valves

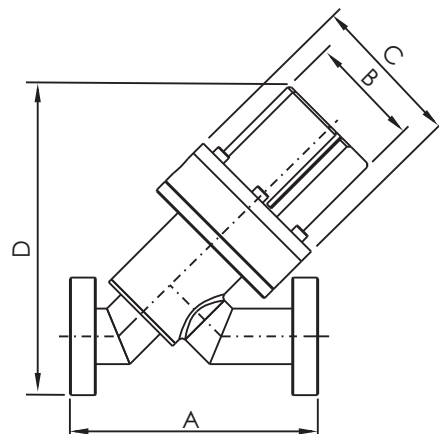


Pneumatic inline poppet valves, UHV, CF Flange

Part Number	Tube OD	A	B	C	D	Acting
PIV-UHV-CF-133	¾"	119	52	70	133	Single acting
PIV-UHV-CF-212	1"	114	52	70	141	Single acting
PIV-UHV-CF-275	1½"	133	65	86	171	Single acting
PIV-UHV-CF-338	2"	182	66	110	228	Single acting
PIV-UHV-CF-450	2½"	216	70	122	251	Double acting
PIV-UHV-CF-600	4"	355	89	171	367	Double acting

* Bonnet sealed via OFHC gasket

Product Order Information



Vacuum Valves

Pneumatic inline poppet valves, HV, CF Flange

Part Number	Tube OD	A	B	C	D	Acting
PIV-HV-CF-133	¾"	119	52	61	135	Single acting
PIV-HV-CF-212	1"	107	52	61	141	Single acting
PIV-HV-CF-275	1½"	133	65	77	171	Single acting
PIV-HV-CF-338	2"	182	67	85	228	Single acting
PIV-HV-CF-450	2½"	216	70	102	251	Double acting
PIV-HV-CF-600	4"	355	89	165	367	Double acting
PIV-HV-CF-800	6"	394	140	227	489	Double acting

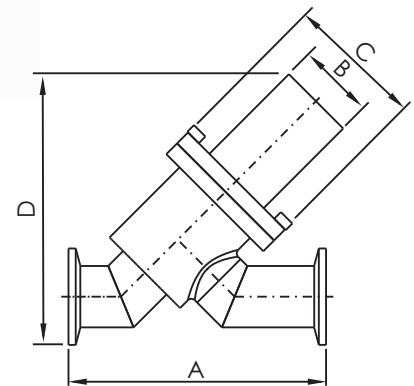
Product Order Information

Vacuum
Valves



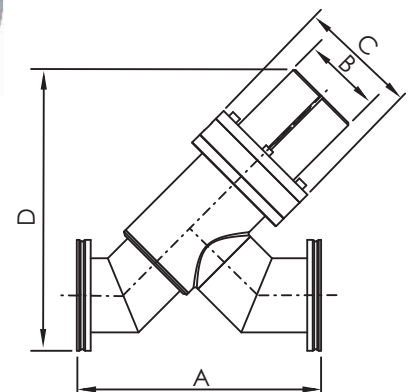
**Pneumatic inline poppet valves, HV, KF Flange
Single acting**

Part Number	Tube OD	A	B	C	D
PIV-HV-KF-16	¾"	102	52	61	132
PIV-HV-KF-25	1"	107	52	61	134
PIV-HV-KF-40	1½"	130	65	77	162
PIV-HV-KF-50	2"	178	67	85	223



**Pneumatic inline poppet valves, HV, ISO-K Flange
Double acting**

Part Number	Tube OD	A	B	C	D
PIV-HV-ISOK-63	2½"	209	70	102	242
PIV-HV-ISOK-80	3"	268	82	132	280
PIV-HV-ISOK-100	4"	345	89	165	357
PIV-HV-ISOK-160	6"	381	140	227	477

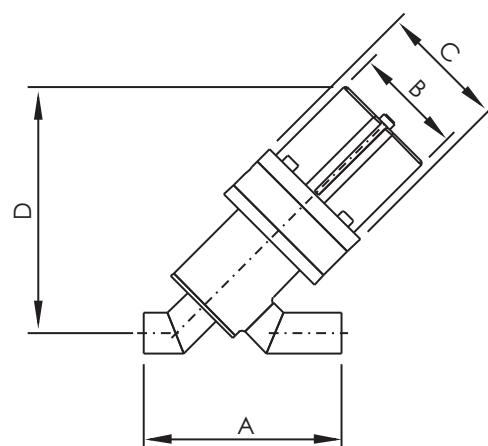


Product Order Information

Vacuum Valves

Pneumatic inline poppet valves, HV Tube Ends

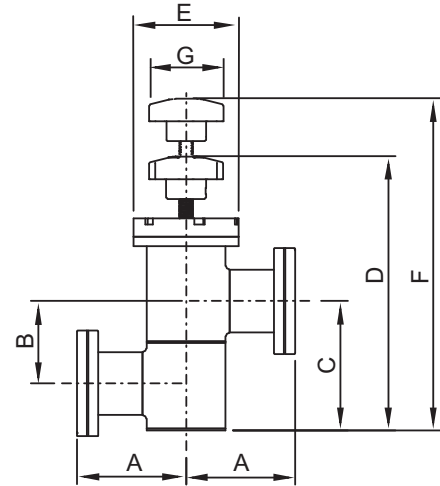
Part Number	Tube OD	A	B	C	D
PIV-HV-BW-075	3/4"	94	52	61	117
PIV-HV-BW-100	1"	99	52	61	114
PIV-HV-BW-150	1 1/2"	123	65	77	135
PIV-HV-BW-200	2"	170	67	85	185



Z-type Inline Valves

Product Order Information

Vacuum Valves



Manual inline poppet valves, Z- type, HV, CF Flang

Part Number	Tube OD	A	B	C	D	E	F	G
MZV-HV-CF-133	3/4"	55	29	47	132	61	180	60
MZV-HV-CF-212	1"	52	35	54	134	61	182	60
MZV-HV-CF-275	1 1/2"	62	48	74	172	77	208	60
MZV-HV-CF-338	2"	88	67	105	222	85	263	60
MZV-HV-CF-450	2 1/2"	86	79	125	239	102	282	60



Figure 1

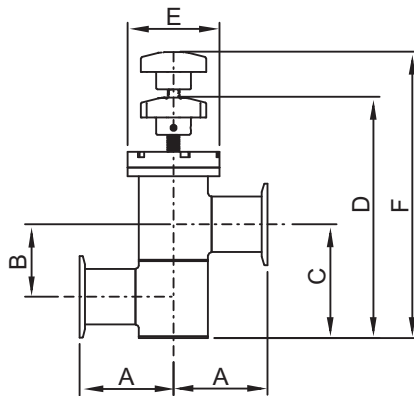
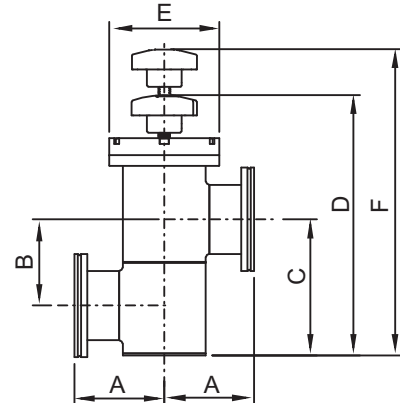


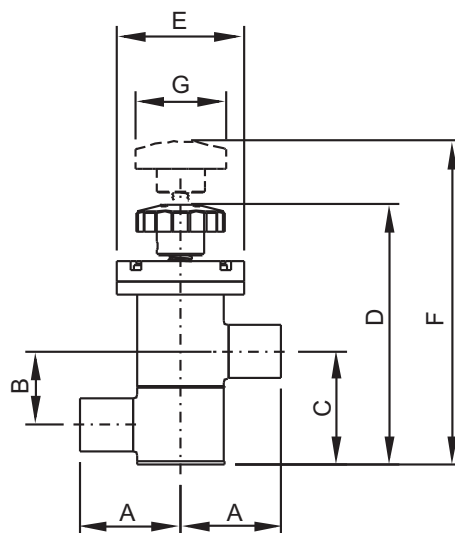
Figure 2



Manual inline poppet valves, Z- type, HV, KF / ISO Flanges

Part Number	Tube OD	Figure	A	B	C	D	E	F	G
MZV-HV-KF-16	3/4"	1	55	29	47	132	61	180	60
MZV-HV-KF-25	1"	1	52	35	54	134	61	182	60
MZV-HV-KF-40	1 1/2"	1	61	48	74	172	77	208	60
MZV-HV-KF-50	2"	1	86	67	105	222	85	263	60
MZV-HV-ISOK-63	2 1/2"	2	83	79	125	239	102	282	60

Product Order Information



Vacuum Valves

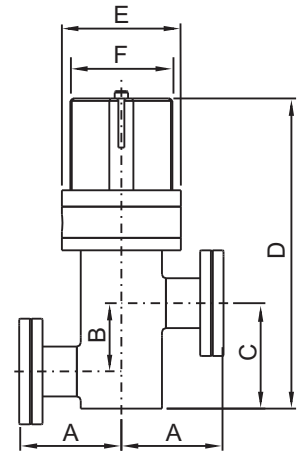
Manual inline poppet valves, Z- type, HV Tube Ends

Part Number	Tube OD	A	B	C	D	E	F	G
MZV-HV-BW-075	¾"	51	29	47	132	61	180	60
MZV-HV-BW-100	1"	48	35	54	134	61	182	60
MZV-HV-BW-150	1½"	57	48	74	172	77	208	60
MZV-HV-BW-200	2"	83	67	105	222	85	263	60

Z-type Inline Valves

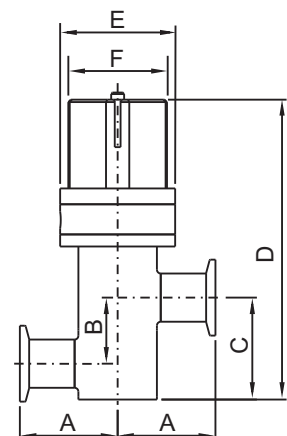
Product Order Information

Vacuum Valves



Pneumatic inline poppet valves, Z- type, HV, CF Flange

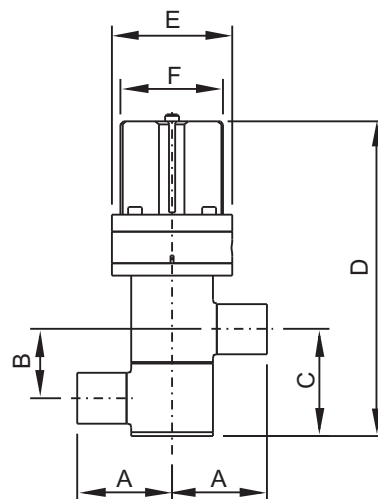
Part Number	Tube OD	A	B	C	D	E	F	Acting
PZV-HV-CF-133	3/4"	55	29	47	156	61	52	Single acting
PZV-HV-CF-212	1"	52	35	54	158	61	52	Single acting
PZV-HV-CF-275	1 1/2"	62	48	74	184	77	65	Single acting
PZV-HV-CF-338	2"	88	67	105	262	85	67	Single acting
PZV-HV-CF-450	2 1/2"	86	79	125	281	102	70	Double acting



Pneumatic inline poppet valves, Z- type, HV, KF Flange

Part Number	Tube OD	A	B	C	D	E	F	Acting
PZV-HV-KF-16	3/4"	55	29	47	156	61	52	Single acting
PZV-HV-KF-25	1"	52	35	54	158	61	52	Single acting
PZV-HV-KF-40	1 1/2"	61	48	74	184	77	65	Single acting
PZV-HV-KF-50	2"	86	67	105	262	85	67	Single acting
PZV-HV-ISOK-63	2"	83	79	125	281	102	70	Double acting

Product Order Information



Vacuum Valves

Pneumatic inline poppet valves, Z- type, HV Tube Ends

Part Number	Tube OD	A	B	C	D	E	F
PZV-HV-BW-075	3/4"	51	29	47	156	61	52
PZV-HV-BW-100	1"	48	35	54	158	61	52
PZV-HV-BW-150	1 1/2"	57	48	74	184	77	65
PZV-HV-BW-200	2"	83	67	105	262	85	67

Product Order Information

Vacuum
Valves

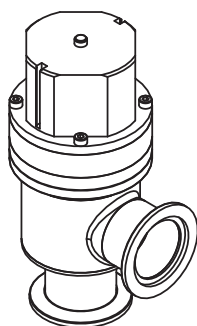


Figure 1

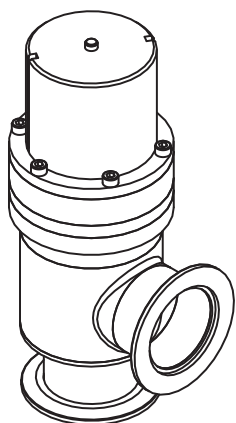
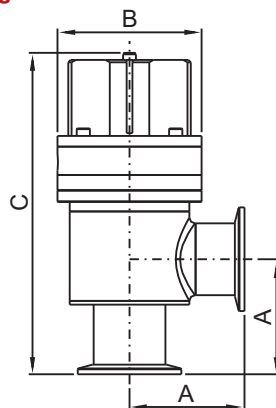
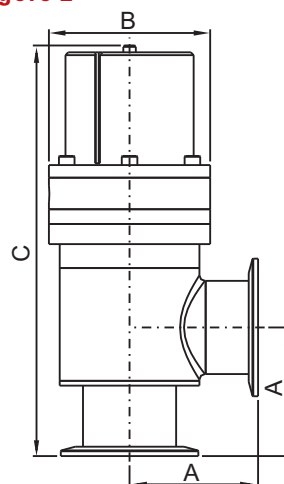


Figure 2



Heating angle poppet valves, HV, KF Flange

Part Number	Tube OD	Figure	A	B	C
HAV-HV-KF-40	1½"	1	61	77	170
HAV-HV-KF-50	2"	2	70	88	224

