

06 VACUUM VALVE

General Information 6-5

Ordering Information 6-7

Vacuum Poppet Valves

Angle Valve 6-11

Manual 6-11

Pneumatic 6-16

Large Angle Valve 6-26

Manual 6-26,29

Pneumatic 6-27,30

Y-Inline Valve 6-31

Manual 6-31

Pneumatic 6-33

Z-Inline Valve 6-35

Manual 6-35

Pneumatic 6-38

Formed Bellows seal stainless Valve.. 6-41

Angle Valve 6-41

Y-Inline Valve 6-41

Two-Stage Valve 6-42

Aluminum Block Valves 6-43

All-in-one angle valve-Pneumatic 6-45

Aluminum angle valve-Pneumatic 6-46

Aluminum angle valve-Manual 6-51

Butterfly Valves

Pneumatic 6-53

3-Position 6-57

APC 6-60

Manual 6-64

Ball Valves

Pneumatic 6-68

Motor Drive 6-68

Manual 6-69

Check Valves

Check Valve 6-70

Vent Valves

Vent Valve 6-71

Bakeable All-metal Valves

Angle valve 6-72

Straight through valve 6-72

Teflon Coating Valves

Angle valve-Pneumatic 6-74

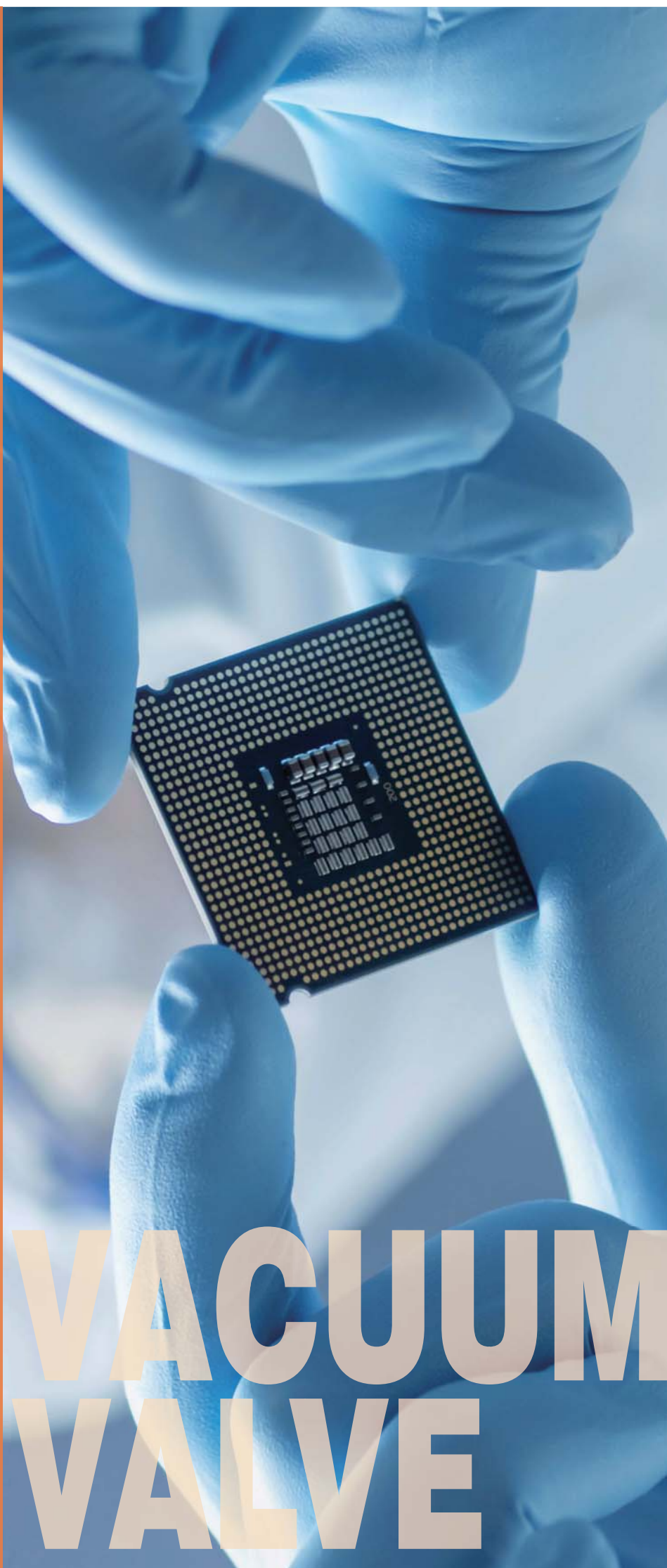
Y-Inline valve-Pneumatic 6-75

Angle valve-Manual 6-76

Accessories

Heating Jacket 6-77

Valve Kit 6-78



VACUUM VALVE

VACUUM POPPET VALVES					
					
Angle valve Bellows	Angle valve O-ring	Large angle valve Bellows	Large angle valve O-ring	Y-inline valve Bellows	Y-inline valve O-ring
VACUUM POPPET VALVES			ALUMINUM BLOCK VALVES		
					
Z-inline valve Bellows	Z-inline valve O-ring	Formed bellows seal stainless valve Bellows	Pneumatic All-in-one angle valve Bellows	Pneumatic aluminum angle valve Bellows	Pneumatic aluminum angle valve O-ring
BUTTERFLY VALVES					
					
Manual aluminum angle valve Bellows	Manual aluminum angle valve O-ring	LV Manual butterfly valve O-ring	HV Manual butterfly valve O-ring	Pneumatic butterfly valve O-ring	3-Position butterfly valve O-ring
BALL VALVES			CHECK VALVES	VENT VALVES	
					
APC butterfly valve O-ring	Manual ball valve Teflon-ring	Pneumatic ball valve Teflon-ring	Motor drive ball valve Teflon-ring	Check valve	Vent valve O-ring
BAKEABLE ALL-METAL VALVES			TEFLON COATING VALVES		
					
Angle valve Bellows	Straight through valve Bellows	Manual PTFE angle valve O-ring	Pneumatic PTFE angle valve O-ring	Pneumatic PTFE Y-inline valve O-ring	

Type \ Size	Size	Shaft seal	HV VALVE											
			KF 10	KF 16	KF 25	KF 40	KF 50	ISO 63	ISO 80	ISO 100	ISO 160	ISO 200	ISO 250	ISO 320
VACUUM POPPET VALVES														
ANGLE VALVE (Manual & Pneumatic)	Bellows			●	●	●	●	●	●					
	O-ring			●	●	●	●	●	●					
LARGE ANGLE VALVE (Manual & Pneumatic)	Bellows									●	●	●	●	
	O-ring									●	●	●	●	
Y-INLINE VALVE (Manual & Pneumatic)	Bellows			●	●	●	●	●	●	●				
	O-ring			●	●	●	●	●	●	●				
Z-INLINE VALVE (Manual & Pneumatic)	Bellows			●	●	●	●	●	●	●				
	O-ring			●	●	●	●	●						
Formed Bellows Seal Stainless Valve (Pneumatic)		Bellows				●	●							
ALUMINUM BLOCK VALVES														
Pneumatic All-in-one angle valve	Bellows			●	●	●								
Pneumatic aluminum angle valve	Bellows			●	●	●	●	●						
	O-ring			●	●	●								
Manual aluminum angle valve	Bellows			●	●	●	●							
	O-ring			●	●	●	●							
BUTTERFLY VALVES														
LV Manual butterfly valve	O-ring			●	●	●	●	●		●				
HV Manual butterfly valve	O-ring					●	●		●		●	●		
Pneumatic butterfly valve	O-ring				●	●	●	●		●	●	●	●	
3-Position butterfly valve	O-ring					●	●	●		●	●			
APC butterfly valve	O-ring				●	●	●	●		●	●			
BALL VALVES														
Manual ball valves	Teflon-ring			●	●	●	●		●	●				
Pneumatic ball valve	Teflon-ring				●	●	●		●	●				
Motor Drive ball valve	Teflon-ring				●	●	●							
CHECK VALVES														
Check Valve						●								
VENT VALVES														
Vent valve	O-ring		●	●	●	●								
BAKEABLE ALL- METAL VALVES														
Angle valve	Bellows													
Straight through valve	Bellows													
TEFLON COATING VALVES														
Manual PTFE Angle Valve	O-ring				●	●	●							
Pneumatic PTFE Angle Valve	O-ring				●	●	●		●	●				
Pneumatic PTFE Y-inline Valve	O-ring				●	●	●		●	●				

Type \ Size		Shaft seal	UHV VALVE							
			CF 16	CF 35	CF 63	CF 100	CF 150	CF 200	CF 250	CF 300
VACUUM POPPET VALVES										
ANGLE VALVE (Manual & Pneumatic)		Bellows	●	●	●					
		O-ring	●	●	●					
LARGE ANGLE VALVE (Manual & Pneumatic)		Bellows				●	●	●	●	
		O-ring				●	●	●	●	
Y-INLINE VALVE (Manual & Pneumatic)		Bellows	●	●	●	●				
		O-ring	●	●	●					
Z-INLINE VALVE (Manual & Pneumatic)		Bellows	●	●	●					
		O-ring	●	●	●					
Formed Bellows Seal Stainless Valve (Pneumatic)		Bellows								
ALUMINUM BLOCK VALVES										
Pneumatic All-in-one angle valve		Bellows								
Pneumatic aluminum angle valve		Bellows								
		O-ring								
Manual aluminum angle valve		Bellows								
		O-ring								
BUTTERFLY VALVES										
LV Manual butterfly valve		O-ring								
HV Manual butterfly valve		O-ring								
Pneumatic butterfly valve		O-ring					●			
3-Position butterfly valve		O-ring								
APC butterfly valve		O-ring		●	●	●	●			
BALL VALVES										
Manual ball valves		Teflon-ring								
Pneumatic ball valve		Teflon-ring								
Motor Drive ball valve		Teflon-ring								
CHECK VALVES										
Check Valve										
VENT VALVES										
Vent valve		O-ring	●							
BAKEABLE ALL- METAL VALVES										
Angle valve		Bellows	●	●	●					
Straight through valve		Bellows		●	●					
TEFLON COATING VALVES										
Manual PTFE Angle Valve		O-ring								
Pneumatic PTFE Angle Valve		O-ring								
Pneumatic PTFE Y-inline Valve		O-ring								

➤ General Information

Features

- Htc is pleased to offer vacuum valves designed and manufactured in Tainan, Taiwan, R.O.C. These valves are the result of a long and careful development program designed to insure product quality, reliability and value. Every effort has been made to provide a valve family suited to the requirements of various users.

They will function reliably in applications ranging from semiconductor production system with chemical and particulate contamination.

- Long life operation.
- Bakeable to 200°C intermittently, Viton seal bonnet.
- Simple control via solenoid valve with manual override.
- Manual and electropneumatic actuation or fail safe operators (closes in the event of air pressure loss).
- Stainless steel welded bellows seal.
- Compact size.
- Simple and fast maintenance.

Specifications

- Body : 304 S.S. (Other material available upon request)
- Poppet : 304 S.S. (Other material available upon request)
- Bellows : Welded AM-350 (option)
- Solenoid : Option
- Position indicator : Option
- Seal : Viton O'ring
- Leak rate : 2×10^{-9} mbar.l/s
- Pressure range : 1×10^{-9} mbar to 1000 mbar Viton seal bonnet
- Maximum Δ pressure before opening : 1.2 Bar
- Operating air pressure : 4~6.5 kg/cm²
- Cycles until service : Bellows Type : 16 to 50~500,000 ; 63 to 150~250,000 ; 200 to 250 ~ 80,000
: No Bellows Type : 16 to 50~200,000 ; 63 to 250~100,000 (Depend on O'ring Condition)
(No Bellows Type Suggest to install in vertical orientation)

- Bake-out limitation :

Bake Temperature	Valve body	O-ring bonnet seal	Open $\leq 100^{\circ}\text{C}$
			Close $\leq 100^{\circ}\text{C}$
		metal bonnet seal	Open $\leq 200^{\circ}\text{C}$
	Manual and pneumatic actuator		Close $\leq 150^{\circ}\text{C}$
			$\leq 80^{\circ}\text{C}$

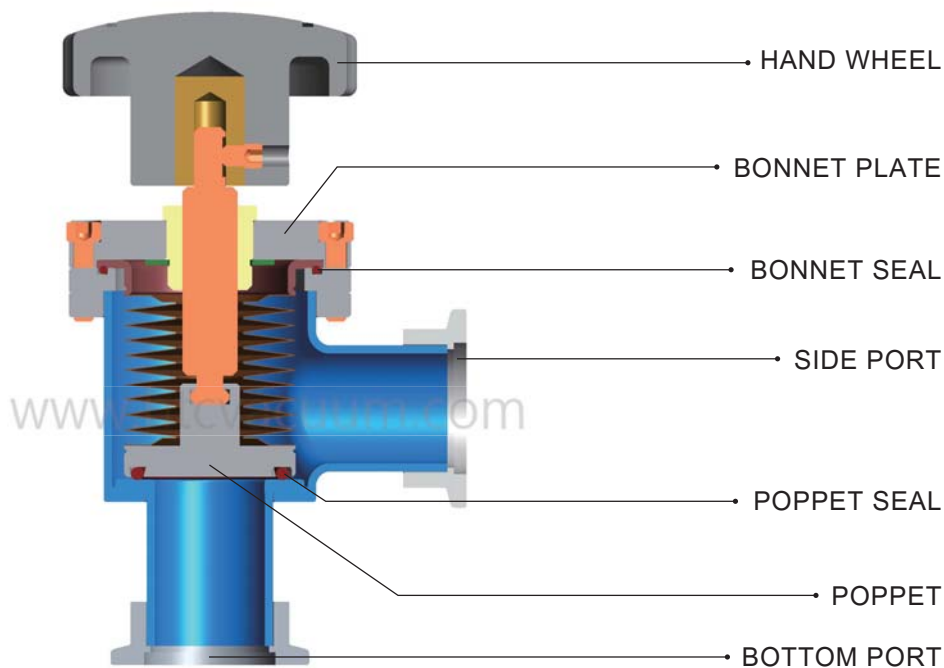
- Larger or special size available upon request

Applications

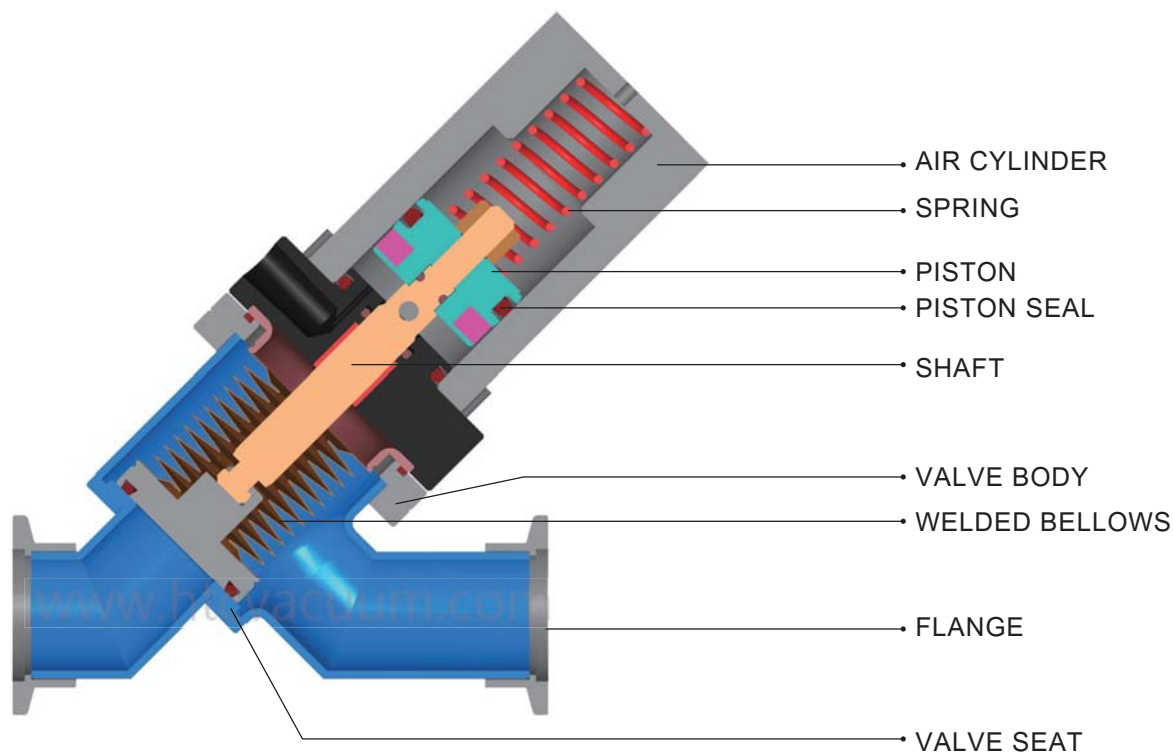
- KF, ISO and ANSI port models are designed for high vacuum applications where vacuum pressures approximate 10^{-9} torr and bake-out temperature do not exceed 150°C. The standard international KF/ISO configurations and ANSI configurations are used in areas requiring an easily mountable and demountable flange type seal.
- CF port models are designed for ultra-high vacuum applications where the vacuum pressure approximates 10^{-10} torr and bake-out temperatures do not exceed 200°C. These valves are used in applications during an OFHC copper gasket rather the conventional Viton O'ring because of higher bake-out temperatures, lower vacuum pressures, (minimal outgassing) and reduced permeability. They are also commonly used in applications requiring a more permanent seal.



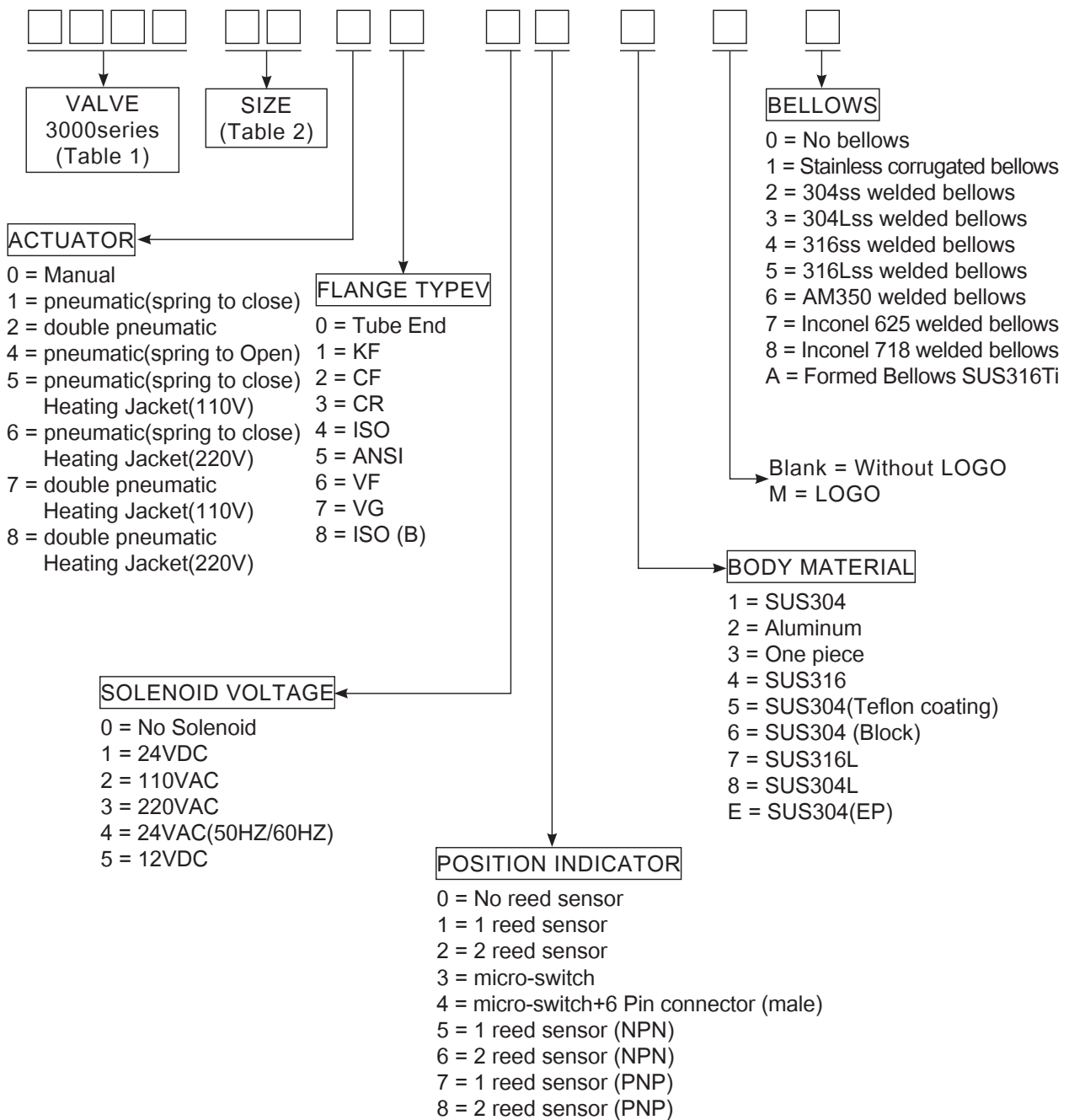
Manually Operated Angle Valve



Pneumatically Actuated Y-In-Line Valve



➔ Ordering Information



 **Table1 Valve 3000 Series**

	VALVE	U.S.A.	Series code
Angle Valve 3001-3009	VITON POPPET	BONNET SEAL	3001
	FFKM POPPET	BONNET SEAL	3003
	FFKM POPPET	METAL BONNET SEAL	3004
	BAKEABLE ALL-METAL		3005
	VITON POPPET	METAL BONNET SEAL	3006
	Teflon Coating-VITON POPPET	BONNET SEAL	3007
	Teflon Coating- FFKM POPPET	BONNET SEAL	3008
High Cycle Angle valve 3011-3019	VITON POPPET	BONNET SEAL	3011
Z-Inline Valve 3021-3039	VITON POPPET	BONNET SEAL	3021
	FFKM POPPET	BONNET SEAL	3023
	FFKM POPPET	METAL BONNET SEAL	3024
	BAKEABLE ALL-METAL		3025
	VITON POPPET	BONNET SEAL	3026
	Teflon Coating-VITON POPPET	BONNET SEAL	3027
	Teflon Coating- FFKM POPPET	BONNET SEAL	3028
High Cycle Z-Inline valve 3031-3039	VITON POPPET	BONNET SEAL	3031
Y-Inline Valve 3041-3049	VITON POPPET	BONNET SEAL	3041
	FFKM POPPET	BONNET SEAL	3043
	FFKM POPPET	METAL BONNET SEAL	3044
	BAKEABLE ALL-METAL		3045
	VITON POPPET	METAL BONNET SEAL	3046
	Teflon Coating-VITON POPPET	BONNET SEAL	3047
	Teflon Coating- FFKM POPPET	BONNET SEAL	3048
High Cycle Y-Inline valve 3051-3059	VITON POPPET	BONNET SEAL	3051
Tee Valve 3061-3069	VITON POPPET	BONNET SEAL	3061
	FFKM POPPET	BONNET SEAL	3063
	FFKM POPPET	METAL BONNET SEAL	3064
	BAKEABLE ALL-METAL		3065
	VITON POPPET	METAL BONNET SEAL	3066
	Teflon Coating-VITON POPPET	BONNET SEAL	3067
	Teflon Coating- FFKM POPPET	BONNET SEAL	3068
Straight-Through 3071-3079	VITON POPPET	BONNET SEAL	3071
	FFKM POPPET	BONNET SEAL	3073
	FFKM POPPET	METAL BONNET SEAL	3074
	BAKEABLE ALL-METAL		3075
	VITON POPPET	METAL BONNET SEAL	3076
	Teflon Coating-VITON POPPET	BONNET SEAL	3077
	Teflon Coating- FFKM POPPET	BONNET SEAL	3078
TWO STAGE 3501-3509	VITON POPPET	BONNET SEAL	3501

 **Table 1. Continuous**

	VALVE	U.S.A.	Series code
Angle Valve 3101-3109	VITON POPPET	BONNET SEAL	3101
	FFKM POPPET	BONNET SEAL	3103
	FFKM POPPET	METAL BONNET SEAL	3104
	BAKEABLE ALL-METAL		3105
	VITON POPPET	METAL BONNET SEAL	3106
	Teflon Coating-VITON POPPET	BONNET SEAL	3107
	Teflon Coating- FFKM POPPET	BONNET SEAL	3108
High Cycle Angle valve 3111-3119	VITON POPPET	BONNET SEAL	3111
Z-Inline Valve 3121-3129	VITON POPPET	BONNET SEAL	3121
	FFKM POPPET	BONNET SEAL	3123
	FFKM POPPET	METAL BONNET SEAL	3124
	BAKEABLE ALL-METAL		3125
	VITON POPPET	BONNET SEAL	3126
	Teflon Coating-VITON POPPET	BONNET SEAL	3127
	Teflon Coating- FFKM POPPET	BONNET SEAL	3128
High Cycle Z-Inline valve 3131-3139	VITON POPPET	BONNET SEAL	3131
Y-Inline Valve 3141-3159	VITON POPPET	BONNET SEAL	3141
	FFKM POPPET	BONNET SEAL	3143
	FFKM POPPET	METAL BONNET SEAL	3144
	BAKEABLE ALL-METAL		3145
	VITON POPPET	METAL BONNET SEAL	3146
	Teflon Coating-VITON POPPET	BONNET SEAL	3147
	Teflon Coating- FFKM POPPET	BONNET SEAL	3148
High Cycle Y-Inline valve 3111-3119	VITON POPPET	BONNET SEAL	3151
Tee Valve 3161-3169	VITON POPPET	BONNET SEAL	3161
	FFKM POPPET	BONNET SEAL	3163
	FFKM POPPET	METAL BONNET SEAL	3164
	BAKEABLE ALL-METAL		3165
	VITON POPPET	METAL BONNET SEAL	3166
	Teflon Coating-VITON POPPET	BONNET SEAL	3167
	Teflon Coating- FFKM POPPET	BONNET SEAL	3168
Straight-Through 3171-3179	VITON POPPET	BONNET SEAL	3171
	FFKM POPPET	BONNET SEAL	3173
	FFKM POPPET	METAL BONNET SEAL	3174
	BAKEABLE ALL-METAL		3175
	VITON POPPET	METAL BONNET SEAL	3176
	Teflon Coating-VITON POPPET	BONNET SEAL	3177
	Teflon Coating- FFKM POPPET	BONNET SEAL	3178

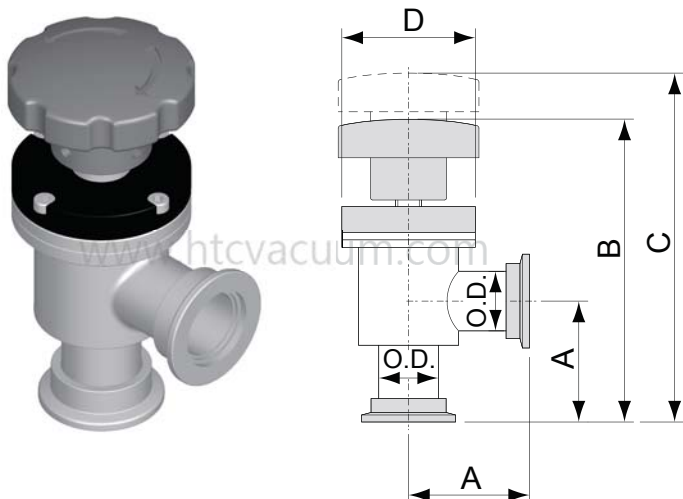
 **Table 2. Dimension**

Codes and Dimensions Description							
01 ~ 99 TUBE (Fractional)		1A ~ 9Z TUBE (Metric)		A1 ~ Z9 PIPE (ANSI)		AA ~ ZZ PIPE (JIS)	
Code	Dimension	Code	Dimension	Code	Dimension	Code	Dimension
01	1/16"	1A	2	A1	1/8"	AA	6(1/8")
02	1/8"	1B	3	A2	1/4"	AB	8(1/4")
03	3/16"	1C	4	A3	3/8"	AC	10(3/8")
04	1/4"	1D	6	A4	1/2"	AD	15(1/2")
05	5/16"	1E	8	A5	3/4"	AE	20(3/4")
06	3/8"	1F	10	A6	1"	AF	25(1")00
07	1/2"	1G	12	A7	1-1/4"	AG	32(1-1/4")
08	5/8"	1H	16	A8	1-1/2"	AH	40(1-1/2")
09	3/4"(16)	1J	20	A9	2"	AJ	50(2")
10	7/8"	1K	22	B1	2-1/2"	AK	65(2-1/2")
11	1"(25)	1L	25	B2	3"	AL	80(3")
12	1-1/4"	1M		B3	3-1/2"	AM	90(3-1/2")
13	1-1/2"(40)	1N		B4	4"	AN	100(4")
14	2"(50)	1P		B5	5"	AP	125(5")
15	2-1/2"(63)	1Q		B6	6"	AQ	150(6")
16	3"(80)	1R		B7	8"	AR	100(4")
17	3-1/2"	1S		B8	10"	AS	125(5")
18	4"(100)	1T		B9	12"	AT	150(6")
19	5"	1U		C1		AU	200(8")
20	6"(160)	1V		C2		AV	250(10")
21	8"(200)	1W		C3		AW	300(12")
22	10"(250)	1X		C4		AX	
23	12"	1Y		C5		AY	
24	14"	1Z		C6		AZ	
25	16"	E5	45				
26	18"	EM	57				
27	20"	D8	28				
28	22"						
29	24"						

➤ VACUUM POPPET VALVES - ANGLE VALVE

Manually Operated with Bellows

KF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- Viton Seal Bonnet : 10^{-9} mbar vacuum rating KF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	O.D."(mm)	Parts No.
AVB-KF16-M	2.15"(54.6)	5.41"(136.5)	6.15"(156)	2.24"(56.8)	0.75"(19.05)	300109010016
AVB-KF25-M	2.03"(51.6)	5.13"(130.2)	5.89"(149.7)	2.24"(56.8)	1.00"(25.4)	300111010016
AVB-KF40-M	2.40"(61)	6.43"(163.5)	7.48"(196)	2.98"(75.8)	1.50"(38.1)	300113010016
AVB-KF50-M	3.40"(86.3)	8.15"(207)	9.91"(251.7)	3.48"(88.4)	2.00"(50.8)	300114010016

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

Special Sizes Available Upon Request

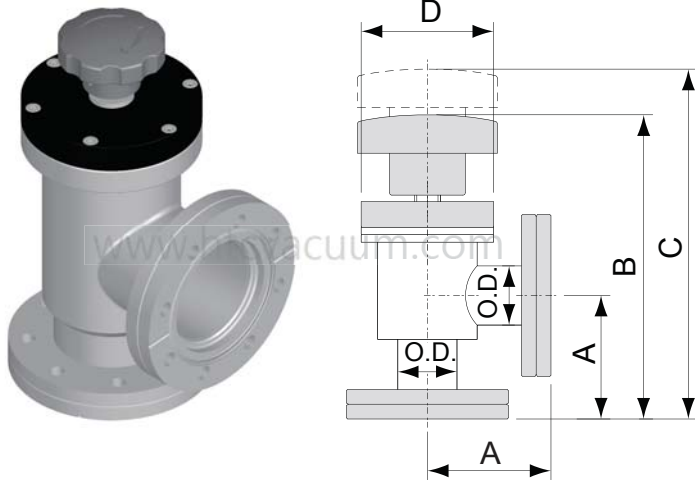
Model No.	A	B	C	D	O.D.	Parts No.
AVB-KF16-M-E	40	121.9	141.5	56.8	19.05	310109010016
AVB-KF25-M-E	50	128.6	148.1	56.8	25.4	310111010016
AVB-KF40-M-E	65	167.5	200	75.8	38.1	310113010016
AVB-KF50-M-E	70	190.5	235.5	88.4	50.8	310114010016



VACUUM POPPET VALVES - ANGLE VALVE

Manually Operated with Bellows

CF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~3 inch(19.05~76.2mm) port ODs.
- Viton Seal Bonnet : 10^{-9} mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	O.D."(mm)	Parts No.
AVB-CR16-M	2.05"(63.5)	5.72"(145.4)	6.50"(164.9)	2.24"(56.8)	0.75"(19.05)	300109030016
AVB-CR35-M	2.46"(62.5)	6.50"(165)	7.78"(197.5)	2.98"(75.8)	1.50"(38.1)	300113030016
AVB-CR63-M	3.37"(85.7)	8.75"(222.2)	10.42"(264.6)	3.92"(99.5)	2.50"(63.5)	300115030016

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

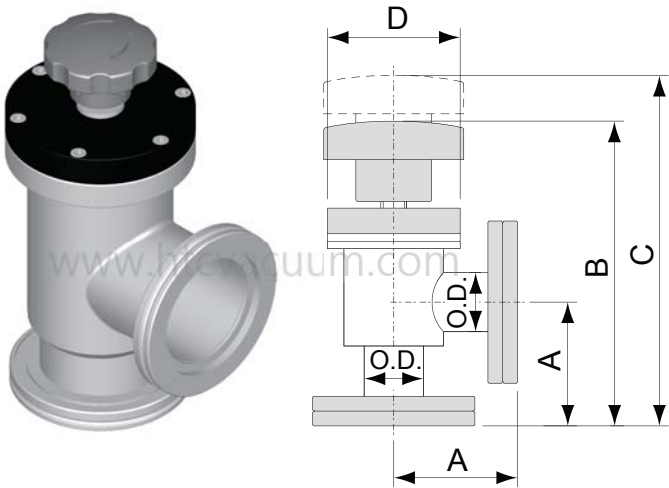
Special Sizes Available Upon Request

Model No.	A	B	C	D	O.D.	Parts No.
AVB-CR16-M-E	38	119.9	139.5	56.8	19.05	310109030016
AVB-CR35-M-E	63	165.5	198	75.8	38.1	310113030016
AVB-CR63-M-E	105	241.5	283.9	99.5	63.5	310115030016

VACUUM POPPET VALVES - ANGLE VALVE

Manually Operated with Bellows

ISO Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 2.5~3 inch(63.5~76.2mm) port ODs.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating ISO flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	O.D. "(mm)	Parts No.
AVB-ISO63-M	3.26"(82.8)	8.63"(219.3)	10.30"(261.7)	3.92"(99.5)	2.50"(63.5)	300115040016
AVB-ISO80-M	3.51"(89.1)	8.95"(227.4)	10.83"(275)	4.49"(114)	3.00"(76.2)	300116040016

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

Special Sizes Available Upon Request

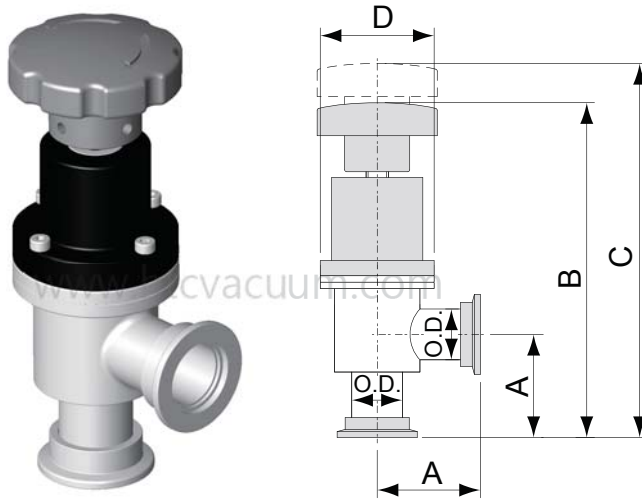
Model No.	A	B	C	D	O.D.	Parts No.
AVB-ISO63-M-E	88	224.5	266.9	99.5	63.5	310115040016
AVB-ISO80-M-E	98	236.3	283.9	114	76.2	310116040016



VACUUM POPPET VALVES - ANGLE VALVE

Manually Operated without Bellows

KF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- Viton Seal Bonnet : 10^{-9} mbar vacuum rating KF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	O.D. "(mm)	Parts No.
AV-KF16-M	2.15"(54.6)	6.59"(167.5)	7.22"(183.3)	2.24"(56.8)	0.75"(19.05)	300109010010
AV-KF25-M	2.03"(51.6)	6.35"(161.2)	6.97"(177)	2.24"(56.8)	1.00"(25.4)	300111010010
AV-KF40-M	2.40"(61)	7.50"(190.5)	8.78"(223)	2.98"(75.8)	1.50"(38.1)	300113010010
AV-KF50-M	3.40"(86.3)	9.80"(249)	11.39"(291.6)	3.48"(88.4)	2.00"(50.8)	300114010010

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

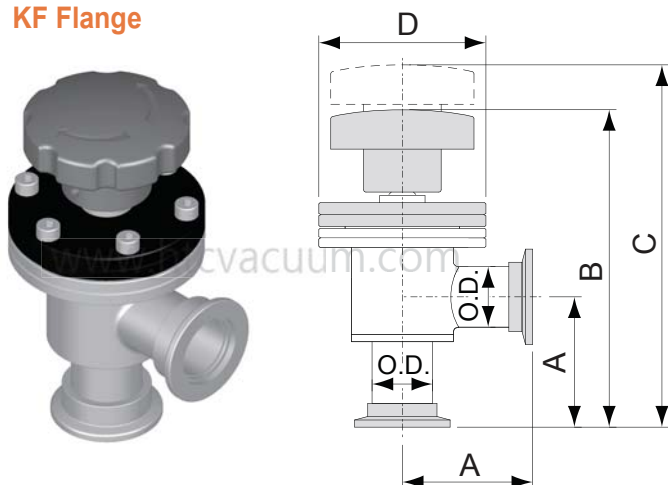
Special Sizes Available Upon Request

Model No.	A	B	C	D	O.D.	Parts No.
AV-KF16-M-E	40	152.9	168.7	56.8	19.05	310109010010
AV-KF25-M-E	50	159.6	175.4	56.8	25.4	310111010010
AV-KF40-M-E	65	194.5	227	75.8	38.1	310113010010
AV-KF50-M-E	70	232.7	273.1	88.4	50.8	310114010010

VACUUM POPPET VALVES - ANGLE VALVE

Manually Operated Copper Seal Bonnet with Bellows

KF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- Bakeable to 150°C
- Metal Seal Bonnet : 10⁻⁹ mbar vacuum rating KF flange

Available Area : U.S.A.

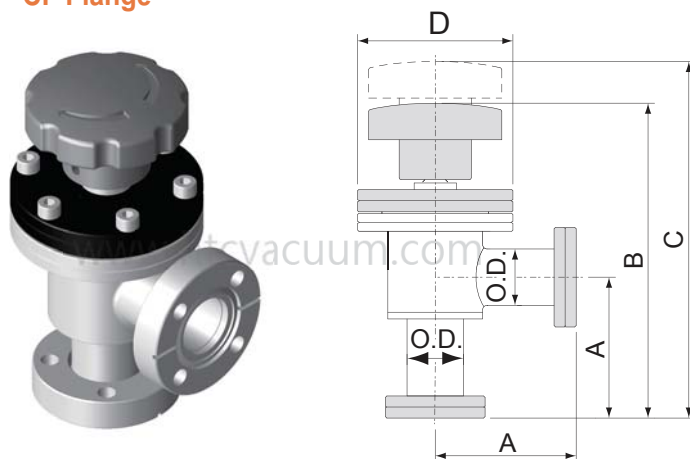
Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	O.D. "(mm)	Parts No.
AVB-CU-KF16-M	2.15"(54.6)	5.24"(136.5)	6.01"(157.4)	2.75"(70)	0.75"(19.05)	300609010016
AVB-CU-KF25-M	2.03"(51.6)	5.11"(130.2)	5.89"(151.1)	2.75"(70)	1.00"(25.4)	300611010016
AVB-CU-KF40-M	2.40"(61)	6.62"(163.5)	7.85"(196.5)	3.33"(84.6)	1.50"(38.1)	300613010016
AVB-CU-KF50-M	3.40"(86.3)	8.14"(207)	9.95"(252.8)	4.47"(113.6)	2.00"(50.8)	300614010016

Note: Dimension in inch(mm) unless otherwise noted

VACUUM POPPET VALVES - ANGLE VALVE

Manually Operated Copper Seal Bonnet with Bellows

CF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- Bakeable to 200°C(open), 150°C(close)
- Metal Seal Bonnet : approximate 10⁻¹⁰ mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	O.D. "(mm)	Parts No.
AVB-CU-CR16-M	2.50"(63.5)	5.58"(145.4)	6.36"(166.3)	2.75"(70)	0.75"(19.05)	300609030016
AVB-CU-CR35-M	2.45"(62.5)	6.68"(165)	7.90"(198)	3.33"(84.6)	1.50"(38.1)	300613030016
AVB-CU-CR63-M	3.38"(85.7)	8.72"(222.2)	10.42"(264.7)	4.62"(117.4)	2.50"(63.5)	300615030016

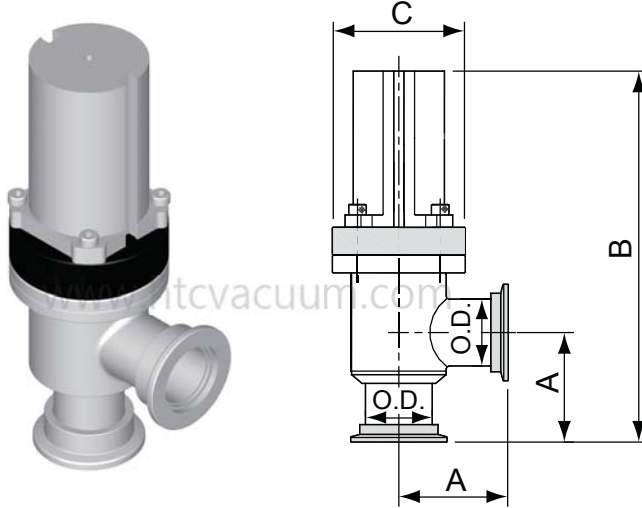
Note: Dimension in inch(mm) unless otherwise noted

VACUUM POPPET VALVES - ANGLE VALVE

Pneumatically Actuated with Bellows

Single-Acting, air to open, spring to close

KF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating KF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	O.D."(mm)	Parts No.
AVB-KF16-P	2.15"(54.6)	6.78"(172.2)	2.24"(56.8)	0.75"(19.05)	300109110016
AVB-KF25-P	2.03"(51.6)	6.53"(165.9)	2.24"(56.8)	1.00"(25.4)	300111110016
AVB-KF40-P	2.40"(61)	8.28"(210.2)	2.98"(75.8)	1.50"(38.1)	300113110016
AVB-KF50-P	3.40"(86.3)	11.08"(267.6)	3.48"(88.4)	2.00"(50.8)	300114110016

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

Special Sizes Available Upon Request

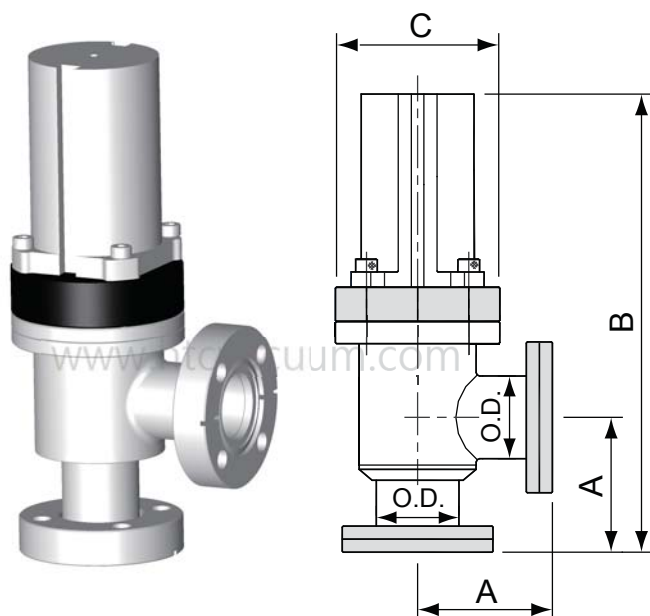
Model No.	A	B	C	O.D.	Parts No.
AVB-KF16-P-E	40	158	56.8	19.05	310109110016
AVB-KF25-P-E	50	164.3	56.8	25.4	310111110016
AVB-KF40-P-E	65	214	75.8	38.1	310113110016
AVB-KF50-P-E	70	251.3	88.4	50.8	310114110016

➤ VACUUM POPPET VALVES - ANGLE VALVE

Pneumatically Actuated with Bellows

Single-Acting, air to open, spring to close

CF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~3 inch(19.05~76.2mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	O.D."(mm)	Parts No.
AVB-CR16-P	2.50"(63.5)	7.13"(181.1)	2.24"(56.8)	0.75"(19.05)	300109130016
AVB-CR35-P	2.46"(62.5)	8.33"(211.7)	2.98"(75.8)	1.50"(38.1)	300113130016

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

Special Sizes Available Upon Request

Model No.	A	B	C	O.D.	Parts No.
AVB-CR16-P-E	38	155.6	56.8	19.05	310109130016
AVB-CR35-P-E	63	212	75.8	38.1	310113130016

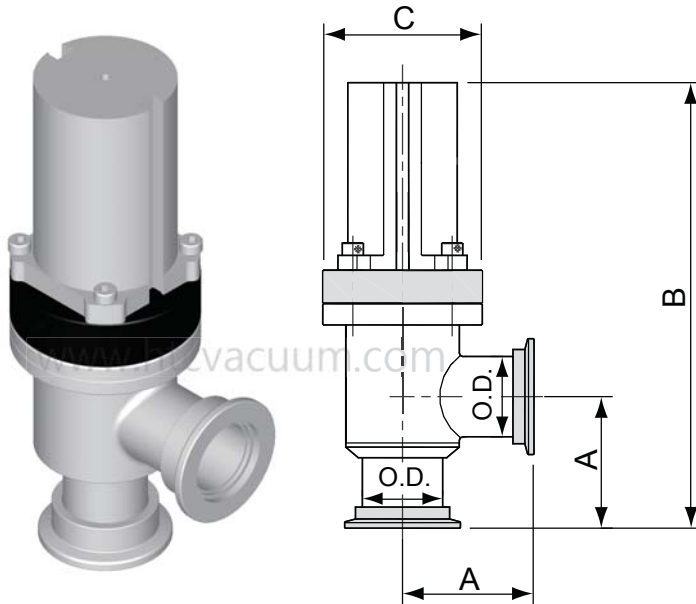


VACUUM POPPET VALVES - ANGLE VALVE

Pneumatically Actuated without Bellows

Single-Acting, air to open, spring to close

KF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating KF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	O.D."(mm)	Parts No.
AV-KF16-P	2.15"(54.6)	6.78"(172.2)	2.24"(56.8)	0.75"(19.05)	300109110010
AV-KF25-P	2.03"(51.6)	6.53"(165.9)	2.24"(56.8)	1.00"(25.4)	300111110010
AV-KF40-P	2.40"(61)	8.28"(210.2)	2.98"(75.8)	1.50"(38.1)	300113110010
AV-KF50-P	3.40"(86.3)	11.08"(267.6)	3.48"(88.4)	2.00"(50.8)	300114110010

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

Special Sizes Available Upon Request

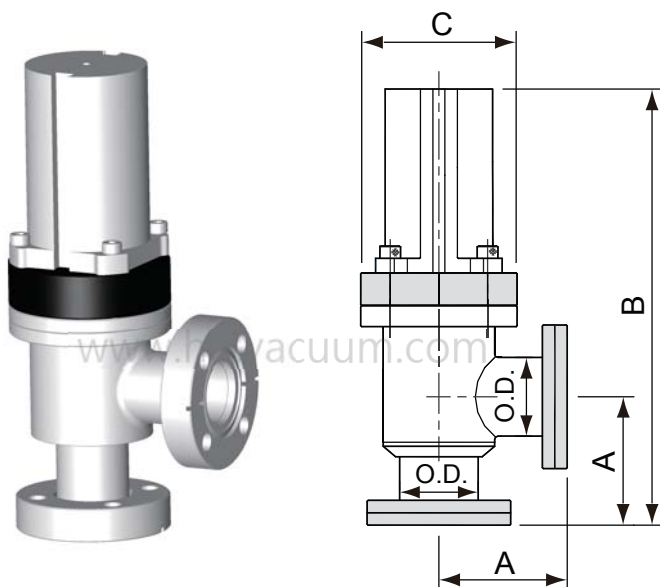
Model No.	A	B	C	O.D.	Parts No.
AV-KF16-P-E	40	158	56.8	19.05	310109110010
AV-KF25-P-E	50	164.3	56.8	25.4	310111110010
AV-KF40-P-E	65	214	75.8	38.1	310113110010
AV-KF50-P-E	70	251.3	88.4	50.8	310114110010

➤ VACUUM POPPET VALVES - ANGLE VALVE

Pneumatically Actuated without Bellows

Single-Acting, air to open, spring to close

CF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~76.2mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	O.D. "(mm)	Parts No.
AV-CR16-P	2.50"(63.5)	7.13"(181.1)	2.24"(56.8)	0.75"(19.05)	300109130010
AV-CR35-P	2.46"(62.5)	8.33"(211.7)	2.98"(75.8)	1.50"(38.1)	300113130010

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

Special Sizes Available Upon Request

Model No.	A	B	C	O.D.	Parts No.
AV-CR16-P-E	38	155.6	56.8	19.05	310109130010
AV-CR35-P-E	63	212	75.8	38.1	310113130010

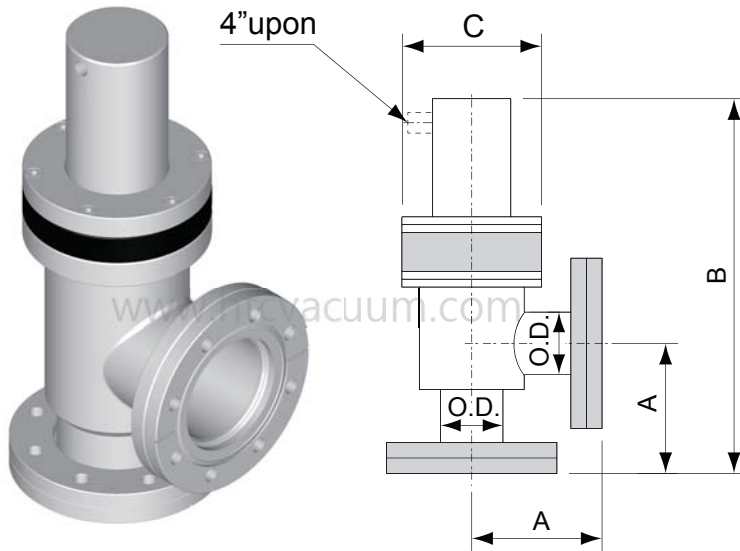


VACUUM POPPET VALVES - ANGLE VALVE

Pneumatically Actuated with Bellows

Double-Acting, air to open, air to close

CF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 2.5 inch (63.5mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	O.D."(mm)	Parts No.
AVB-CR63-P2	3.37"(85.7)	10.81"(274.6)	3.92"(99.5)	2.50"(63.5)	300115230016

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

Special Sizes Available Upon Request

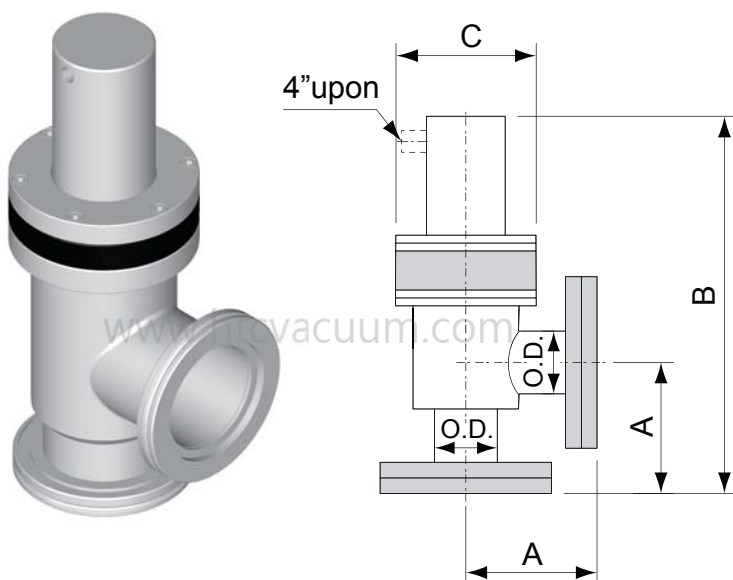
Model No.	A	B	C	O.D.	Parts No.
AVB-CR63-P2-E	105	294	99.5	63.5	310115230016

➔ VACUUM POPPET VALVES - ANGLE VALVE

Pneumatically Actuated with Bellows

Double-Acting, air to open, air to close

ISO Flange



Features

- Stainless steel body surface treatment :
1. below 4" puff polishing
2. Above 4"(include 4") sand blasting
- 2.5~3 inch (63.5~76.2mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating ISO flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	O.D."(mm)	Parts No.
AVB-ISO63-P2	3.26"(82.8)	10.70"(271.7)	3.92"(99.5)	2.50"(63.5)	300115240016
AVB-ISO80-P2	3.51"(89.1)	10.95"(278)	4.49"(114)	3.00"(76.2)	300116240016

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

Special Sizes Available Upon Request

Model No.	A	B	C	O.D.	Parts No.
AVB-ISO63-P2-E	88	277	99.5	63.5	310115240016
AVB-ISO80-P2-E	98	294	114	76.2	310116240016

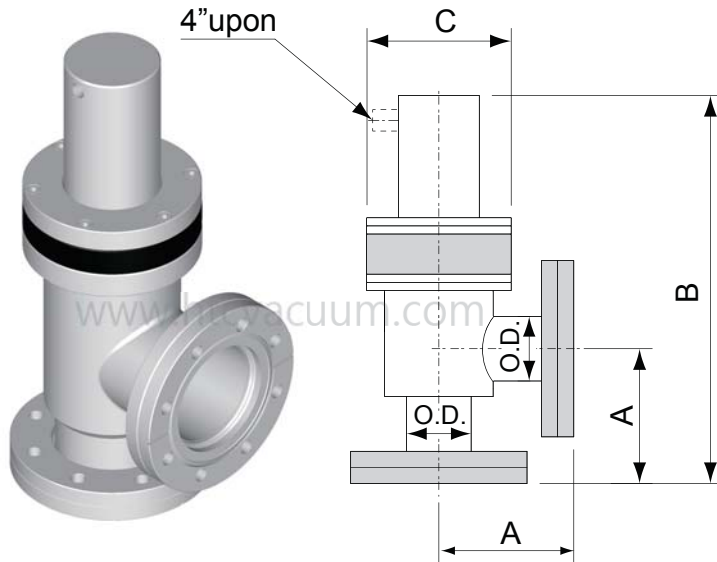


VACUUM POPPET VALVES - ANGLE VALVE

Pneumatically Actuated without Bellows

Double-Acting, air to open, air to close

CF Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 2.5 inch (63.5mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	O.D."(mm)	Parts No.
AV-CR63-P2	3.37"(85.7)	10.81"(274.6)	3.92"(99.5)	2.50"(63.5)	300115230010

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

Special Sizes Available Upon Request

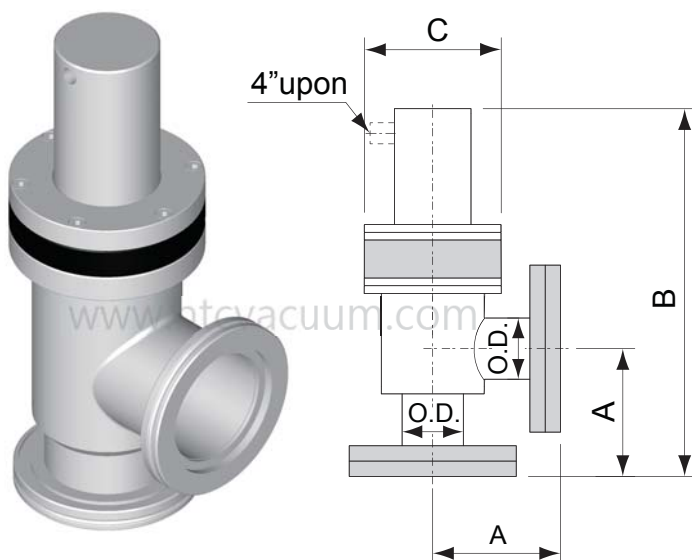
Model No.	A	B	C	O.D.	Parts No.
AV-CR63-P2-E	105	294	99.5	63.5	310115230010

➤ VACUUM POPPET VALVES - ANGLE VALVE

Pneumatically Actuated without Bellows

Double-Acting, air to open, air to close

ISO Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 2.5~3 inch(63.5~76.2mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating ISO flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	O.D."(mm)	Parts No.
AV-ISO63-P2	3.26"(82.8)	10.70"(271.7)	3.92"(99.5)	2.50"(63.5)	300115240010
AV-ISO80-P2	3.51"(89.1)	10.95"(278)	4.49"(114)	3.00"(76.2)	300116240010

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

Special Sizes Available Upon Request

Model No.	A	B	C	O.D.	Parts No.
AV-ISO63-P2-E	88	277	99.5	63.5	310115240010
AV-ISO80-P2-E	98	287	114	76.2	310116240010

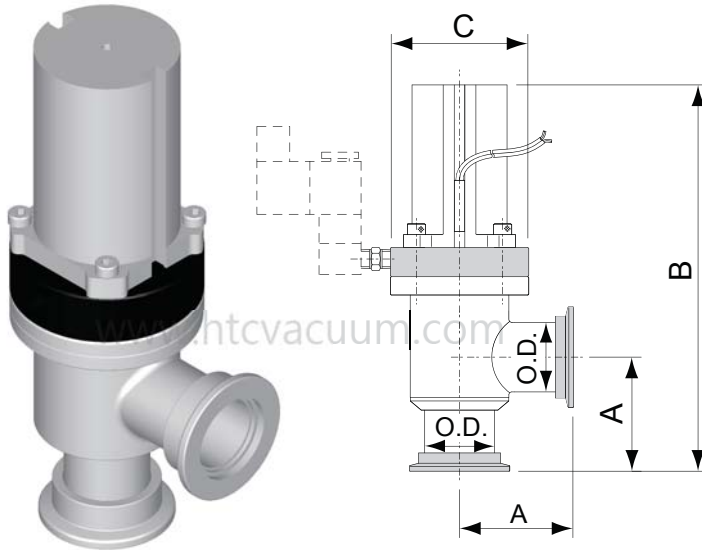


VACUUM POPPET VALVES - ANGLE VALVE

Pneumatically Actuated with Bellows Attached Reed Sensor

Single-Acting, air to open, spring to close

KF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs
- 4~6.5 kg/cm² operating air pressure.
- Sensor Specification : Voltage DC/ AC 4~240V Amps : 5~40mA.
- Options Available : Air solenoid DC24V, AC24V, AC110V, AC220V.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating KF flange.

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	O.D."(mm)	Parts No.
AVBS-KF16-P	2.15"(54.6)	6.78"(172.2)	2.24"(56.8)	0.75"(19.05)	300109110216
AVBS-KF25-P	2.03"(51.6)	6.53"(165.9)	2.24"(56.8)	1.00"(25.4)	300111110216
AVBS-KF40-P	2.40"(61)	8.28"(210.2)	2.98"(75.8)	1.50"(38.1)	300113110216
AVBS-KF50-P	3.40"(86.3)	11.08"(267.6)	3.48"(88.4)	2.00"(50.8)	300114110216

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

Special Sizes Available Upon Request

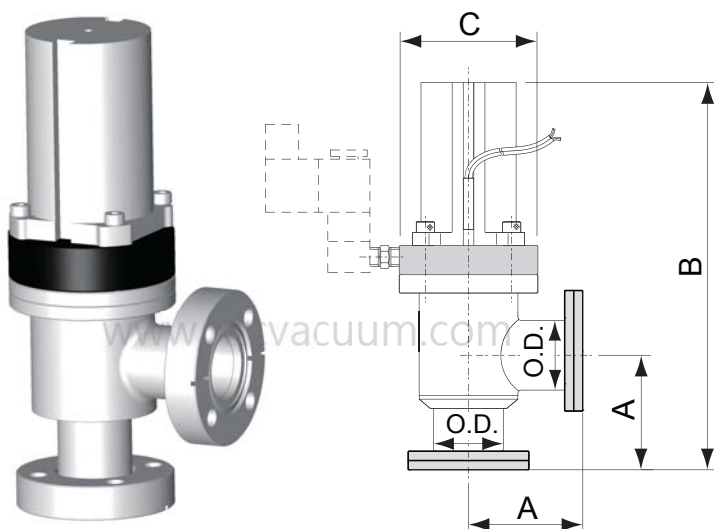
Model No.	A	B	C	O.D.	Parts No.
AVBS-KF16-P-E	40	158	56.8	19.05	310109110216
AVBS-KF25-P-E	50	164.3	56.8	25.4	300111110216
AVBS-KF40-P-E	65	214	75.8	38.1	310113110216
AVBS-KF50-P-E	70	251.3	88.4	50.8	310114110216

➤ VACUUM POPPET VALVES - ANGLE VALVE

Pneumatically Actuated with Bellows Attached Reed Sensor

Single-Acting, air to open, spring to close

CF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs
- 4~6.5 kg/cm² operating air pressure.
- Sensor Specification : Voltage DC /AC 4~240V Amps : 5~40mA.
- Options Available : Air solenoid DC24V, AC24V, AC110V, AC220V.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating CF flange.

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	O.D."(mm)	Parts No.
AVBS-CR16-P	2.50"(63.5)	7.13"(181.1)	2.24"(56.8)	0.75"(19.05)	300109130216
AVBS-CR35-P	2.46"(62.5)	8.33"(211.7)	2.98"(75.8)	1.50"(38.1)	300113130216

Note: Dimension in inch(mm) unless otherwise noted

Available Area : Europe

Special Sizes Available Upon Request

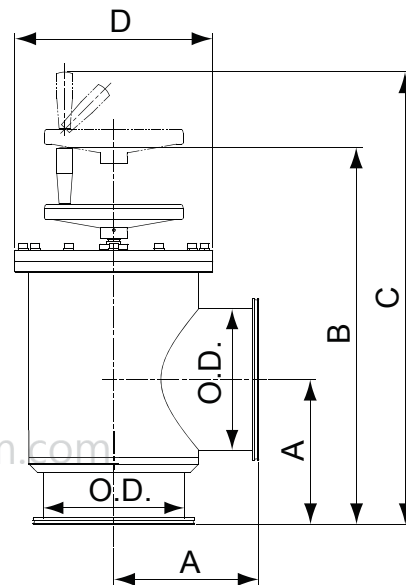
Model No.	A	B	C	O.D.	Parts No.
AVBS-CR16-P-E	38	155.6	56.8	19.05	310109130216
AVBS-CR35-P-E	63	212	75.8	38.1	310113130216



➔ LARGE ANGLE VALVE

Manually Operated with Bellows

ISO Flange



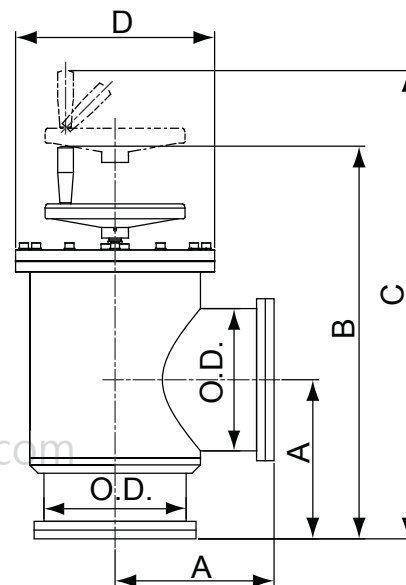
Available Area : U.S.A.

Model No.	A	B	C	D	O.D.	Parts No.
AVB-ISO100-M	113.5	340.3	404.3	151.6	101.6	300118040016
AVB-ISO160-M	159	437.5	512.5	240	152.4	300120040016
AVB-ISO200-M	209.5	548.4	678.1	250	203.2	300121040016
AVB-ISO250-M	260.6	631.1	761.1	325	254	300122040016

➔ LARGE ANGLE VALVE

Manually Operated with Bellows

CF Flange



Available Area : U.S.A.

Model No.	A	B	C	D	O.D.	Parts No.
AVB-CR100-M	118	344.8	408.8	151.6	101.6	300118030016
AVB-CR150-M	165.1	443.6	518.6	240	152.4	300120030016
AVB-CR200-M	215.6	554.5	684.2	250	203.2	300121030016
AVB-CR250-M	269.8	640.3	326.7	325	254	300122030016

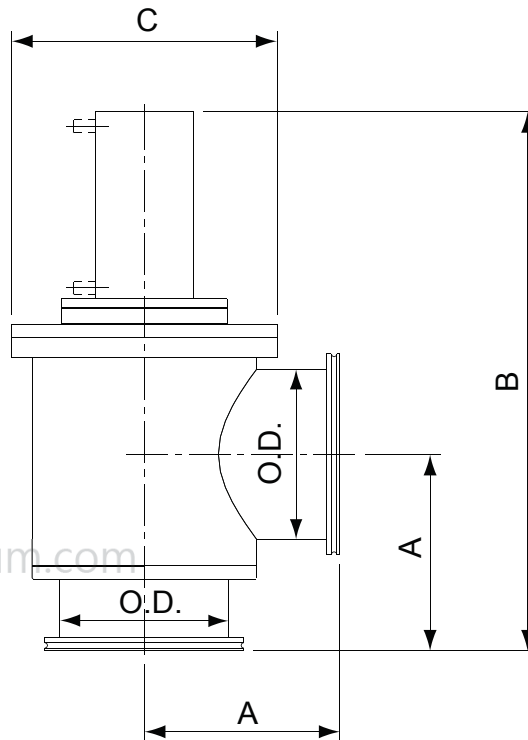


➔ LARGE ANGLE VALVE

Pneumatically Actuated with Bellows

Double-Acting, air to open, air to close

ISO Flange



Available Area : U.S.A.

Model No.	A	B	C	O.D.	Parts No.
AVB-ISO100-P2	113.5	352.1	151.6	101.6	300118240016
AVB-ISO160-P2	159	432.5	240	152.4	300120240016
AVB-ISO200-P2	209.5	623.6	250	203.2	300121240016
AVB-ISO250-P2	260.6	641.5	325	254	300122240016

Available Area : Europe

Model No.	A	B	C	O.D.	Parts No.
AVB-ISO100-P2-E	130.5	369.1	151.6	101.6	310118240016
AVB-ISO160-P2-E	165	438.5	240	152.4	310120240016

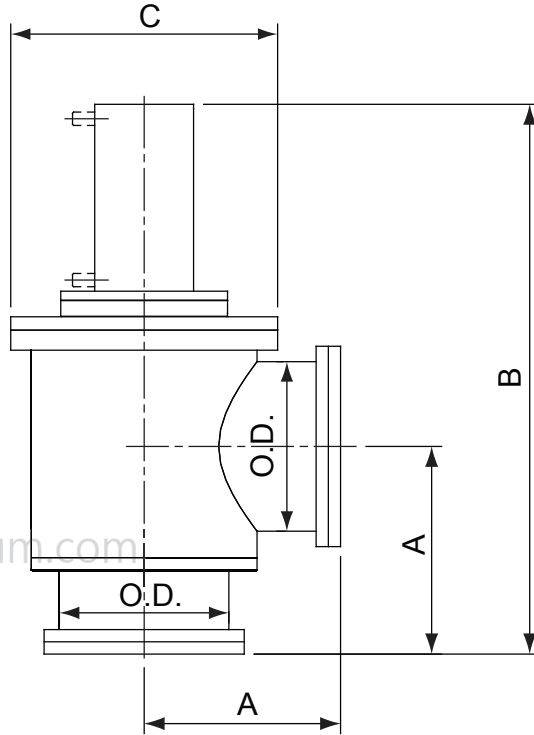


LARGE ANGLE VALVE

Pneumatically Actuated with Bellows

Double-Acting, air to open, air to close

CF Flange



Available Area : U.S.A.

Model No.	A	B	C	O.D.	Parts No.
AVB-CR100-P2	118	356.6	151.6	101.6	300118230016
AVB-CR150-P2	165.1	438.6	240	152.4	300120230016
AVB-CR200-P2	215.6	629.7	250	203.2	300121230016
AVB-CR250-P2	260.6	641.5	325	254	300122230016

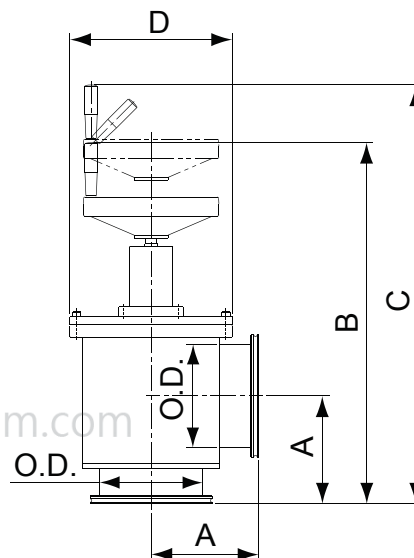
Available Area : Europe

Model No.	A	B	C	O.D.	Parts No.
AVB-CR100-P2-E	135	373.6	151.6	101.6	310118230016
AVB-CR150-P2-E	171.1	444.6	240	152.4	310120230016

➤ LARGE ANGLE VALVE

Manually Operated without Bellows

ISO Flange



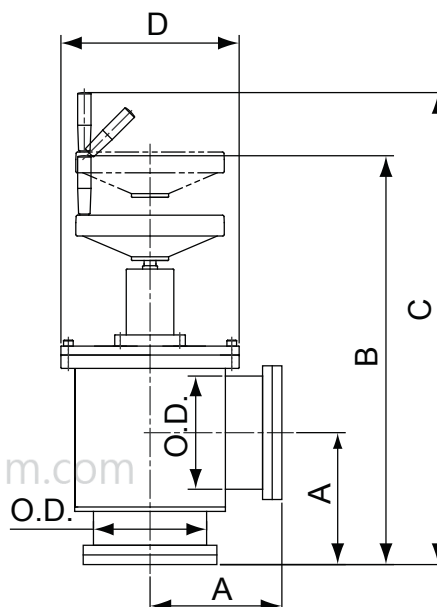
Available Area : U.S.A.

Model No.	A	B	C	D	O.D.	Parts No.
AV-ISO100-M	113.5	419.3	494.3	151.6	101.6	300118040010
AV-ISO160-M	159	531.7	616.7	240	152.4	300120040010
AV-ISO200-M	209.5	700	830	250	203.2	300121040010

➤ LARGE ANGLE VALVE

Manually Operated without Bellows

CF Flange



Available Area : U.S.A.

Model No.	A	B	C	D	O.D.	Parts No.
AV-CR100-M	118	423.8	498.8	151.6	101.6	300118030010
AV-CR150-M	165.1	537.8	622.8	240	152.4	300120030010
AV-CR200-M	215.6	706.1	836.1	250	203.2	300121030010

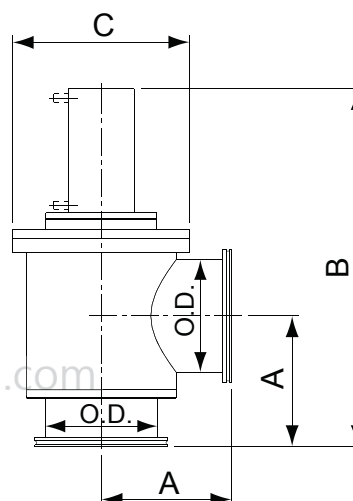


LARGE ANGLE VALVE

Pneumatically Actuated without Bellows

Double-Acting, air to open, air to close

ISO Flange



Available Area : U.S.A.

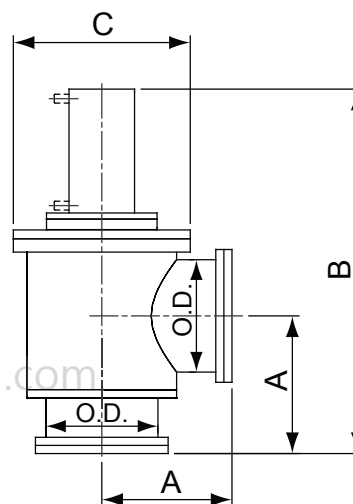
Model No.	A	B	C	O.D.	Parts No.
AV-ISO100-P2	113.5	352.1	151.6	101.6	300118240010
AV-ISO160-P2	159	432.5	240	152.4	300120240010
AV-ISO200-P2	209.5	623.6	250	203.2	300121240010
AV-ISO250-P2	260.6	641.5	325	254	300122240010

LARGE ANGLE VALVE

Pneumatically Actuated without Bellows

Double-Acting, air to open, air to close

CF Flange



Available Area : U.S.A.

Model No.	A	B	C	O.D.	Parts No.
AV-CR100-P2	118	356.6	151.6	101.6	300118230010
AV-CR150-P2	165.1	438.6	240	152.4	300120230010
AV-CR200-P2	215.6	629.7	250	203.2	300121230010
AV-CR250-P2	269.8	650.7	325	254	300122230010

Available Area : Europe

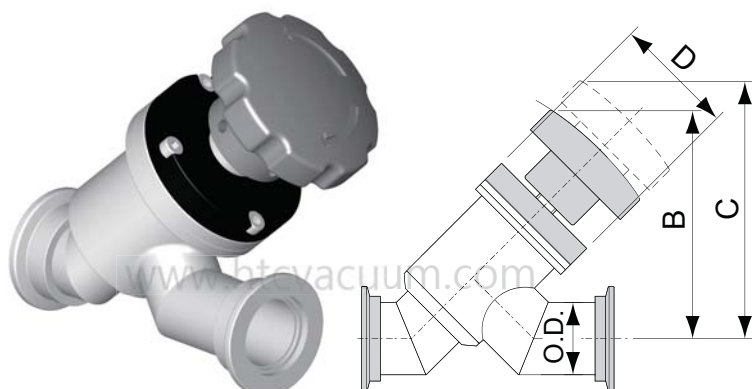
Model No.	A	B	C	O.D.	Parts No.
AV-CR100-P2-E	135	387	151.6	101.6	310118230010



Y-INLINE VALVE

Manually Operated with Bellows

KF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- Viton Seal Bonnet : 10^{-9} mbar vacuum rating KF flange

Available Area : U.S.A.

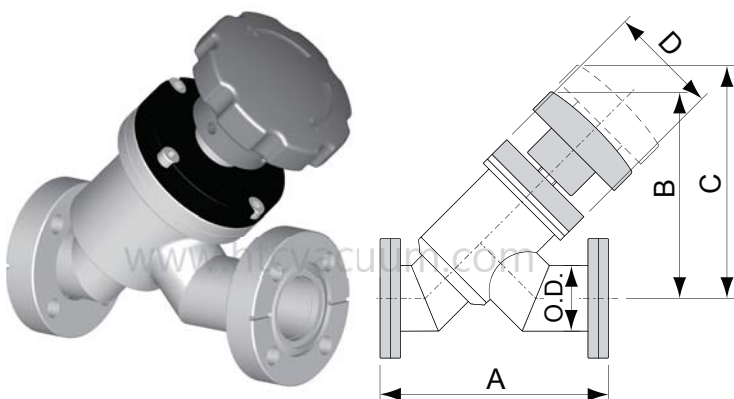
Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	O.D. "(mm)	Parts No.
YVB-KF16-M	4.00"(101.6)	3.89"(98.7)	4.43"(112.5)	2.24"(56.8)	0.75"(19.05)	304109010016
YVB-KF25-M	4.20"(106.8)	3.89"(98.8)	4.43"(112.6)	2.24"(56.8)	1.00"(25.4)	304111010016
YVB-KF40-M	5.12"(130)	4.89"(124.2)	5.80"(147.2)	2.98"(75.8)	1.50"(38.1)	304113010016
YVB-KF50-M	7.00"(177.8)	5.59"(141.9)	6.83"(173.5)	3.48"(88.4)	2.00"(50.8)	304114010016

Note: Dimension in inch(mm) unless otherwise noted

Y-INLINE VALVE

Manually Operated with Bellows

CF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- Viton Seal Bonnet : 10^{-9} mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	O.D. "(mm)	Parts No.
YVB-CR16-M	4.7"(119.4)	3.89"(98.7)	4.43"(112.5)	2.24"(56.8)	0.75"(19.05)	304109030016
YVB-CR35-M	5.24"(133)	4.89"(124.2)	5.80"(147.2)	2.98"(75.8)	1.50"(38.1)	304113030016

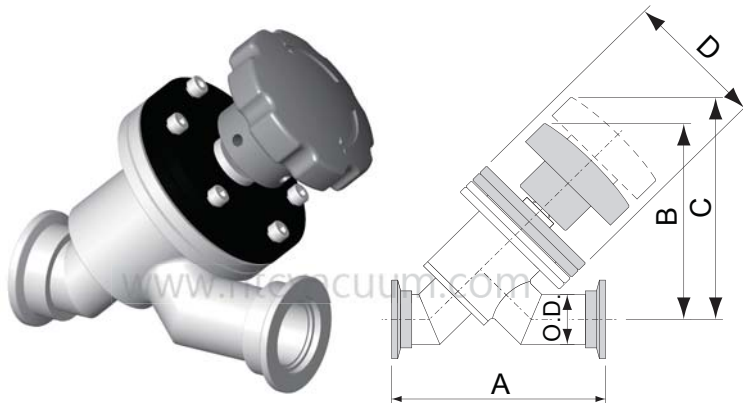
Note: Dimension in inch(mm) unless otherwise noted



Y-INLINE VALVE

Manually Operated Copper Seal Bonnet with Bellows

KF Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- Bakeable to 150°C
- Metal Seal Bonnet : 10⁻⁹ mbar vacuum rating KF flange

Available Area : U.S.A.

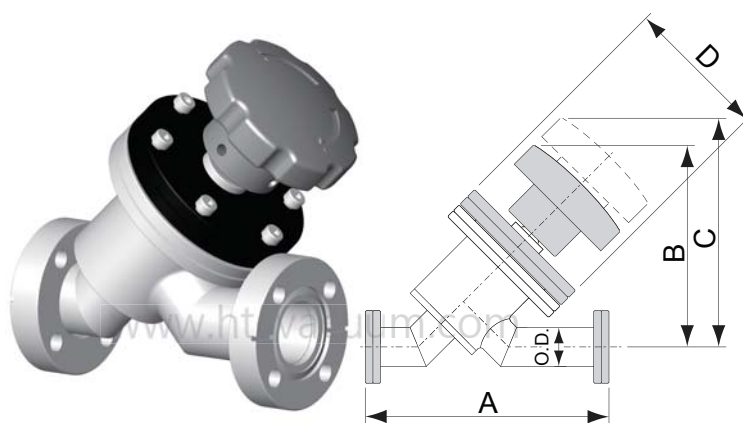
Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	O.D. "(mm)	Parts No.
YVB-CU-KF16-M	4.00"(101.6)	3.88"(98.7)	4.76"(113.5)	2.75"(70)	0.75"(19.05)	304609010016
YVB-CU-KF25-M	4.20"(106.8)	3.92"(98.8)	4.44"(113.6)	2.75"(70)	1.00"(25.4)	304611010016
YVB-CU-KF40-M	5.12"(130)	5.01"(124.2)	5.87"(147.5)	3.37"(84.6)	1.50"(38.1)	304613010016
YVB-CU-KF50-M	7.00"(177.8)	5.30"(140.7)	6.55"(174.7)	4.47"(113.6)	2.00"(50.8)	304614010016

Note: Dimension in inch(mm) unless otherwise noted

Y-INLINE VALVE

Manually Operated Copper Seal Bonnet with Bellows

CF Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- Bakeable to 200°C(open),150°C(close)
- Metal Seal Bonnet : approximate 10⁻¹⁰ mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	O.D. "(mm)	Parts No.
YVB-CU-CR16-M	4.7"(119.4)	3.88"(98.7)	4.76"(113.5)	2.75"(70)	0.75"(19.05)	304609030016
YVB-CU-CR35-M	5.24"(133)	5.01"(124.2)	5.87"(147.5)	3.37"(84.6)	1.50"(38.1)	304613030016

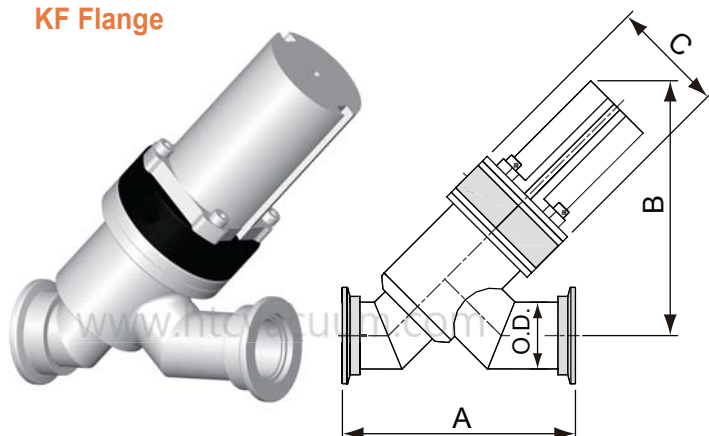
Note: Dimension in inch(mm) unless otherwise noted

Y-INLINE VALVE

Pneumatically Actuated with Bellows

Single-Acting, air to open, spring to close

KF Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating KF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	Parts No.
YVB-KF16-P	4.73"(120)	4.73"(120)	2.24"(56.8)	0.75"(19.05)	304109110016
YVB-KF25-P	4.73"(120)	4.73"(120)	2.24"(56.8)	1.00"(25.4)	304111110016
YVB-KF40-P	6.17"(156.8)	6.17"(156.8)	2.98"(75.8)	1.50"(38.1)	304113110016
YVB-KF50-P	7.43"(188.8)	7.43"(188.8)	3.48"(88.4)	2.00"(50.8)	304114110016

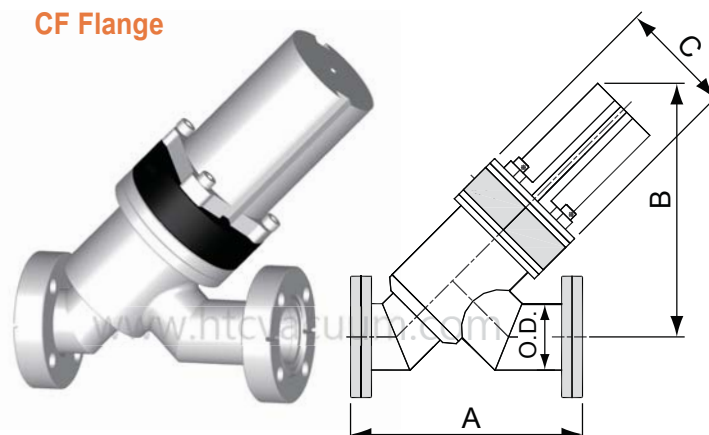
Note: Dimension in inch(mm) unless otherwise noted

Y-INLINE VALVE

Pneumatically Actuated with Bellows

Single-Acting, air to open, spring to close

CF Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	Parts No.
YVB-CR16-P	4.70"(119.4)	4.73"(120)	2.24"(56.8)	0.75"(19.05)	304109130016
YVB-CR35-P	5.24"(133)	6.17"(156.8)	2.98"(75.8)	1.50"(38.1)	304113130016

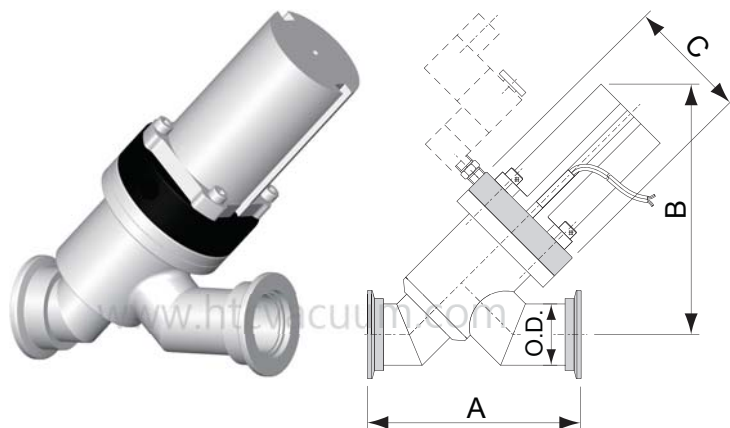
Note: Dimension in inch(mm) unless otherwise noted

Y-INLINE VALVE

Pneumatically Actuated with Bellows Attached Reed Sensor

Single-Acting, air to open, spring to close

KF Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Sensor Specification : Voltage DC /AC 4~240V Amps : 5~40mA.
- Options Available : Air solenoid DC24V, AC24V, AC110V, AC220V.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating KF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	Parts No.
YVBS-KF16-P	4.00"(101.6)	4.73"(120)	2.24"(56.8)	0.75"(19.05)	304109110216
YVBS-KF25-P	4.20"(106.8)	4.73"(120)	2.24"(56.8)	1.00"(25.4)	304111110216
YVBS-KF40-P	5.12"(130)	6.17"(156.8)	2.98"(75.8)	1.50"(38.1)	304113110216
YVBS-KF50-P	7.00"(177.8)	7.43"(188.8)	3.48"(88.4)	2.00"(50.8)	304114110216

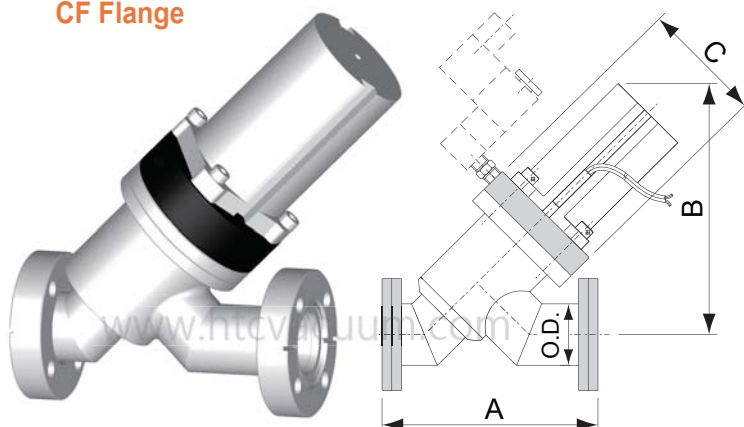
Note: Dimension in inch(mm) unless otherwise noted

Y-INLINE VALVE

Pneumatically Actuated with Bellows Attached Reed Sensor

Single-Acting, air to open, spring to close

CF Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Sensor Specification : Voltage DC /AC 4~240V Amps : 5~40mA.
- Options Available : Air solenoid DC24V, AC24V, AC110V, AC220V.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	Parts No.
YVBS-CR16-P	4.70"(119.4)	4.73"(120)	2.24"(56.8)	0.75"(19.05)	304109130216
YVBS-CR35-P	5.24"(133)	6.17"(156.8)	2.98"(75.8)	1.50"(38.1)	304113130216

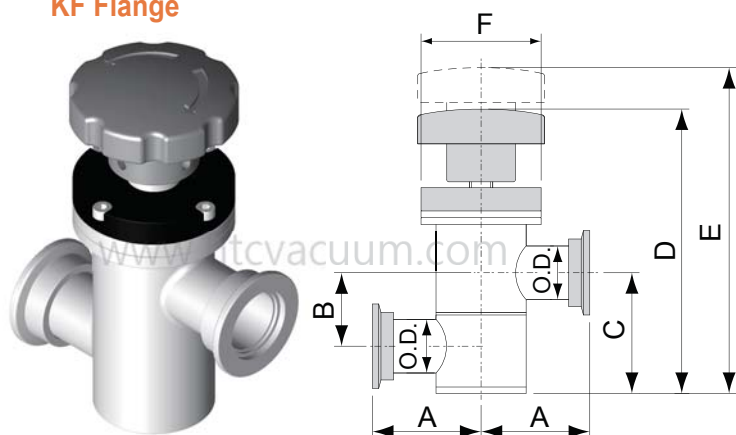
Note: Dimension in inch(mm) unless otherwise noted



➔ Z-INLINE VALVE

Manually Operated with Bellows

KF Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- Viton Seal Bonnet : 10^{-9} mbar vacuum rating KF flange

Available Area : U.S.A.

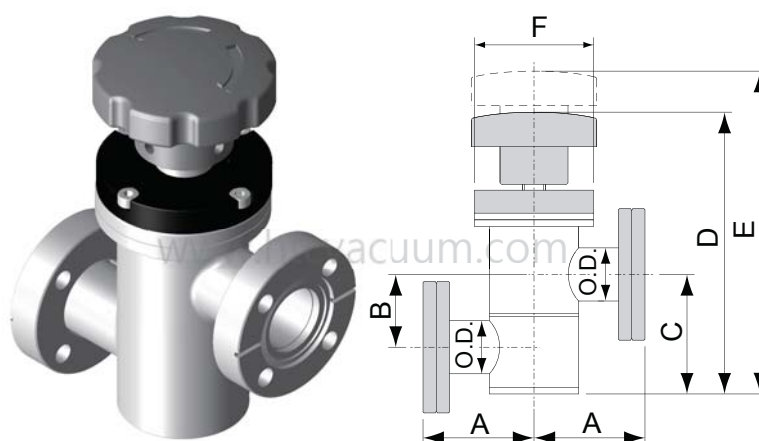
Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	E"(mm)	F"(mm)	O.D."(mm)	Parts No.
IVB-KF16-M	2.15"(54.6)	1.13"(28.5)	1.87"(47.5)	5.09"(129.4)	5.86"(148.9)	2.24"(56.8)	0.75"(19.05)	302109010016
IVB-KF25-M	2.03"(51.6)	1.37"(34.8)	2.25"(57.2)	5.35"(135.8)	6.11"(155.3)	2.24"(56.8)	1.00"(25.4)	302111010016
IVB-KF40-M	2.40"(61)	1.88"(47.8)	3.12"(79.3)	7.16"(181.8)	8.44"(214.3)	2.98"(75.8)	1.50"(38.1)	302113010016
IVB-KF50-M	3.40"(86.3)	2.62"(66.5)	4.12"(104.6)	8.85"(224.8)	10.61"(269.5)	3.48"(88.4)	2.00"(50.8)	302114010016

Note: Dimension in inch(mm) unless otherwise noted

➔ Z-INLINE VALVE

Manually Operated with Bellows

CF Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- Viton Seal Bonnet : 10^{-9} mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	E"(mm)	F"(mm)	O.D."(mm)	Parts No.
IVB-CR16-M	2.50"(63.5)	1.13"(28.6)	1.87"(47.6)	5.09"(129.6)	5.86"(149.1)	2.24"(56.8)	0.75"(19.05)	302109030016
IVB-CR35-M	2.46"(62.5)	1.88"(47.8)	3.12"(79.3)	7.16"(181.8)	8.44"(214.3)	2.98"(75.8)	1.50"(38.1)	302113030016

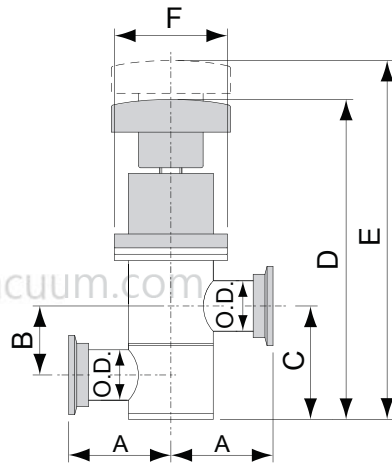
Note: Dimension in inch(mm) unless otherwise noted



Z-INLINE VALVE

Manually Operated without Bellows

KF Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- Viton Seal Bonnet : 10^{-9} mbar vacuum rating KF flange

Available Area : U.S.A.

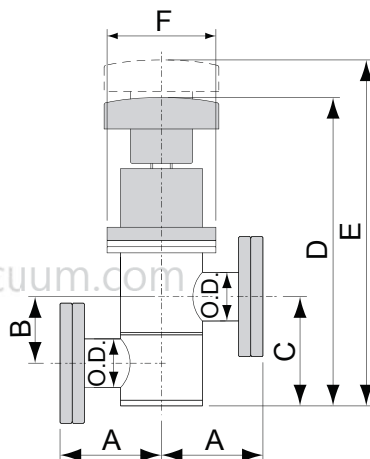
Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	E"(mm)	F"(mm)	O.D."(mm)	Parts No.
IV-KF16-M	2.15"(54.6)	1.13"(28.5)	1.87"(47.5)	6.32"(160.6)	6.94"(176.4)	2.24"(56.8)	0.75"(19.05)	302109010010
IV-KF25-M	2.03"(51.6)	1.37"(34.8)	2.25"(57.2)	6.57"(166.8)	7.19"(182.6)	2.24"(56.8)	1.00"(25.4)	302111010010
IV-KF40-M	2.40"(61)	1.88"(47.8)	3.12"(79.3)	8.22"(208.8)	9.32"(236.8)	2.98"(75.8)	1.50"(38.1)	302113010010
IV-KF50-M	3.40"(86.3)	2.62"(66.5)	4.12"(104.6)	10.53"(267.4)	12.12"(310)	3.48"(88.4)	2.00"(50.8)	302114010010

Note: Dimension in inch(mm) unless otherwise noted

Z-INLINE VALVE

Manually Operated without Bellows

CF Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- Viton Seal Bonnet : 10^{-9} mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	E"(mm)	F"(mm)	O.D."(mm)	Parts No.
IV-CR16-M	2.50"(63.5)	1.13"(28.6)	1.87"(47.6)	6.32"(160.6)	6.94"(176.4)	2.24"(56.8)	0.75"(19.05)	302109030010
IV-CR35-M	2.46"(62.5)	1.88"(47.8)	3.12"(79.3)	8.22"(208.8)	9.32"(236.8)	2.98"(75.8)	1.50"(38.1)	302113030010

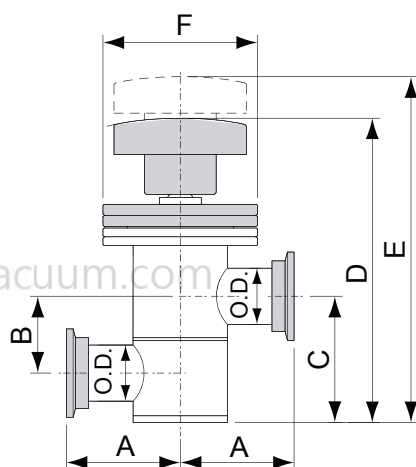
Note: Dimension in inch(mm) unless otherwise noted



➔ Z-INLINE VALVE

Manually Operated Copper Seal Bonnet with Bellows

KF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- Bakeable to 150°C
- Metal Bonnet : 10⁻⁹ mbar vacuum rating KF flange

Available Area : U.S.A.

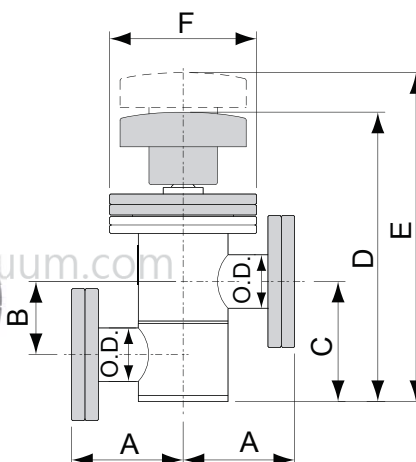
Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	E"(mm)	F"(mm)	O.D."(mm)	Parts No.
IVB-CU-KF16-M	2.15"(54.6)	1.12"(28.5)	1.87"(47.5)	5.07"(129.6)	5.86"(150.5)	2.75"(70)	0.75"(19.05)	302609010016
IVB-CU-KF25-M	2.03"(51.6)	1.37"(34.8)	2.25"(57.2)	5.33"(135.8)	6.11"(156.7)	2.75"(70)	1.00"(25.4)	302611010016
IVB-CU-KF40-M	2.40"(61)	1.88"(47.8)	3.12"(79.3)	7.35"(181.8)	8.57"(214.8)	3.37"(84.6)	1.50"(38.1)	302613010016
IVB-CU-KF50-M	3.40"(86.3)	2.62"(66.5)	4.12"(104.6)	8.86"(225.3)	10.63"(271.2)	4.17"(113.6)	2.00"(50.8)	302614010016

Note: Dimension in inch(mm) unless otherwise noted

➔ Z-INLINE VALVE

Manually Operated Copper Seal Bonnet with Bellows

CF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- Bakeable to 200°C(open),150°C(close)
- Metal Bonnet : approximate 10⁻¹⁰ mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	E"(mm)	F"(mm)	O.D."(mm)	Parts No.
IVB-CU-CR16-M	2.50"(63.5)	1.12"(28.5)	1.87"(47.5)	5.07"(129.6)	5.85"(150.5)	2.75"(70)	0.75"(19.05)	302609030016
IVB-CU-CR35-M	2.45"(62.5)	1.88"(47.8)	3.12"(79.3)	7.35"(181.8)	8.57"(214.8)	3.37"(84.6)	1.50"(38.1)	302613030016

Note: Dimension in inch(mm) unless otherwise noted

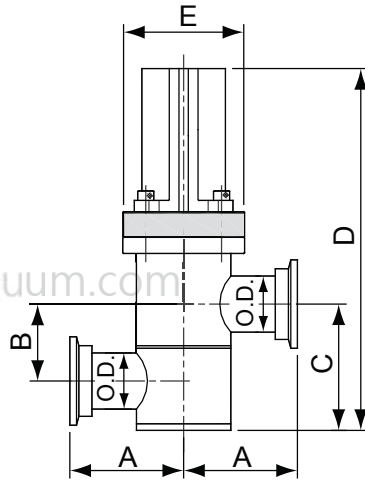


Z-INLINE VALVE

Pneumatically Actuated with Bellows

Single-Acting, air to open, spring to close

KF Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating KF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	E"(mm)	O.D."	Parts No.
IVB-KF16-P	2.15"(54.6)	1.13"(28.5)	1.87"(47.5)	5.90"(149.7)	2.24"(56.8)	0.75"(19.05)	302109110016
IVB-KF25-P	2.03"(51.6)	1.37"(34.8)	2.25"(57.2)	6.14"(156)	2.24"(56.8)	1.00"(25.4)	302111110016
IVB-KF40-P	2.40"(61)	1.88"(47.8)	3.12"(79.3)	8.56"(217.3)	2.98"(75.8)	1.50"(38.1)	302113110016
IVB-KF50-P	3.40"(86.3)	2.62"(66.5)	4.12"(104.6)	11.05"(280.7)	3.48"(88.4)	2.00"(50.8)	302114110016

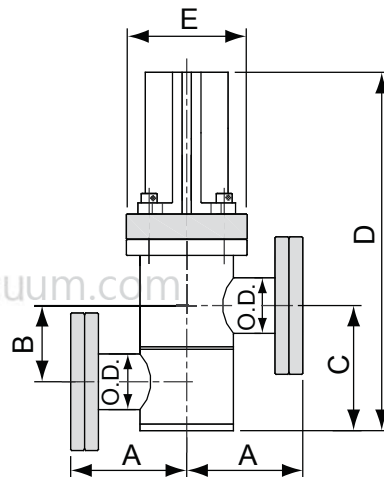
Note: Dimension in inch(mm) unless otherwise noted

Z-INLINE VALVE

Pneumatically Actuated with Bellows

Single-Acting, air to open, spring to close

CF Flange



Features

- Stainless steel body surface treatment : below 4"puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	E"(mm)	O.D."	Parts No.
IVB-CR16-P	2.50"(63.5)	1.13"(28.6)	1.87"(47.6)	5.90"(149.7)	2.24"(56.8)	0.75"(19.05)	302109130016
IVB-CR35-P	2.46"(62.5)	1.88"(47.8)	3.12"(79.3)	8.56"(217.3)	2.98"(75.8)	1.50"(38.1)	302113130016

Note: Dimension in inch(mm) unless otherwise noted

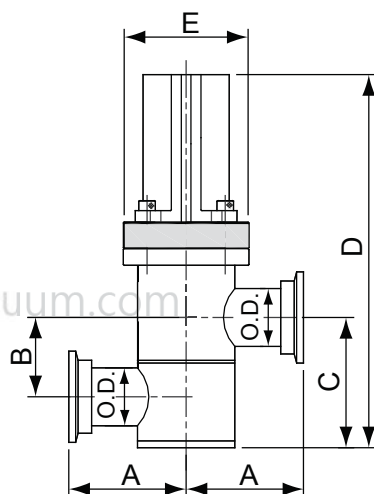


➤ Z-INLINE VALVE

Pneumatically Actuated without Bellows

Single-Acting, air to open, spring to close

KF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating KF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	E"(mm)	O.D."	Parts No.
IV-KF16-P	2.15"(54.6)	1.13"(28.5)	1.87"(47.5)	5.90"(149.7)	2.24"(56.8)	0.75"(19.05)	302109110010
IV-KF25-P	2.03"(51.6)	1.37"(34.8)	2.25"(57.2)	6.14"(156)	2.24"(56.8)	1.00"(25.4)	302111110010
IV-KF40-P	2.40"(61)	1.88"(47.8)	3.12"(79.3)	8.56"(217.1)	2.98"(75.8)	1.50"(38.1)	302113110010
IV-KF50-P	3.40"(86.3)	2.62"(66.5)	4.12"(104.6)	11.05"(280.7)	3.48"(88.4)	2.00"(50.8)	302114110010

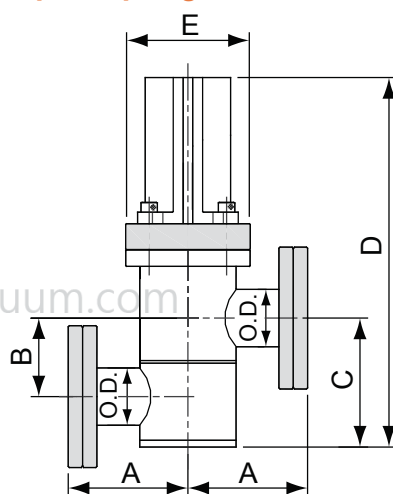
Note: Dimension in inch(mm) unless otherwise noted

➤ Z-INLINE VALVE

Pneumatically Actuated without Bellows

Single-Acting, air to open, spring to close

CF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	E"(mm)	O.D."	Parts No.
IV-CR16-P	2.50"(63.5)	1.13"(28.6)	1.87"(47.6)	5.90"(149.7)	2.24"(56.8)	0.75"(19.05)	302109130010
IV-CR35-P	2.46"(62.5)	1.88"(47.8)	3.12"(79.3)	8.56"(217.3)	2.98"(75.8)	1.50"(38.1)	302113130010

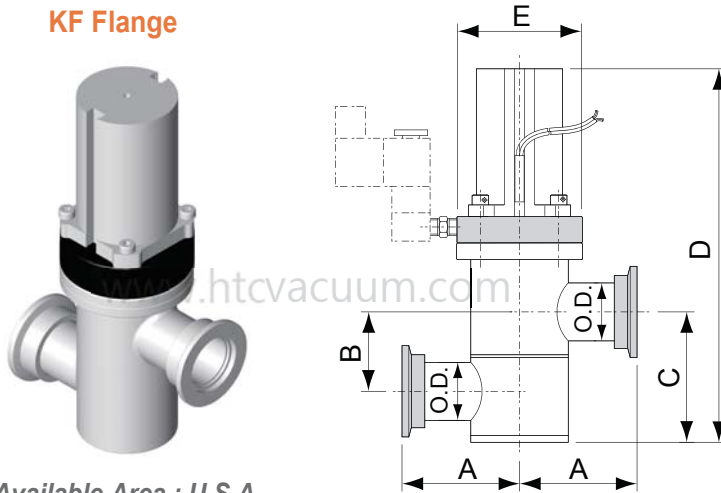
Note: Dimension in inch(mm) unless otherwise noted

➤ Z-INLINE VALVE

Pneumatically Actuated with Bellows Attached Reed Sensor

Single-Acting, air to open, spring to close

KF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Sensor Specification : Voltage DC/AC 4~240V Amps : 5~40mA.
- Options Available : Air solenoid DC24V, AC24V, AC110V, AC220V.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating KF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	E"(mm)	O.D."	Parts No.
IVBS-KF16-P	2.15"(54.6)	1.13"(28.5)	1.87"(47.5)	6.51"(165.2)	2.24"(56.8)	0.75"(19.05)	302109110216
IVBS-KF25-P	2.03"(51.6)	1.37"(34.8)	2.25"(57.2)	6.75"(171.5)	2.24"(56.8)	1.00"(25.4)	302111110216
IVBS-KF40-P	2.40"(61)	1.88"(47.8)	3.12"(79.3)	8.90"(228.5)	2.98"(75.8)	1.50"(38.1)	302113110216
IVBS-KF50-P	3.40"(86.3)	2.62"(66.5)	4.12"(104.3)	11.26"(285.9)	3.48"(88.4)	2.00"(50.8)	302114110216

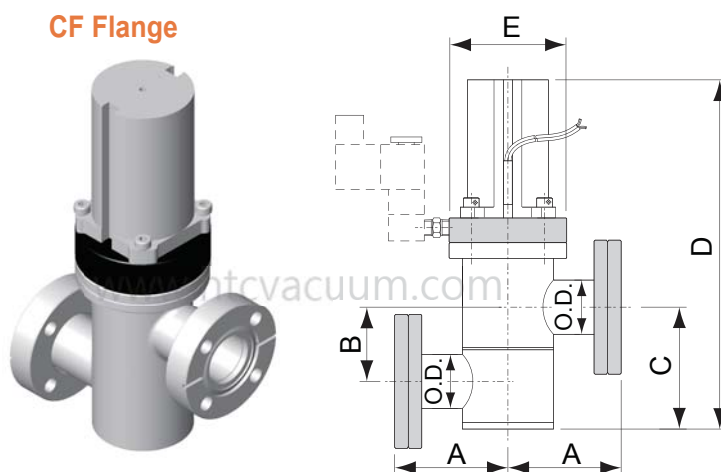
Note: Dimension in inch(mm) unless otherwise noted

➤ Z-INLINE VALVE

Pneumatically Actuated with Bellows Attached Reed Sensor

Single-Acting, air to open, spring to close

CF Flange



Features

- Stainless steel body surface treatment : below 4" puff polishing
- 3/4~2 inch(19.05~50.8mm) port ODs.
- 4~6.5 kg/cm² operating air pressure.
- Sensor Specification : Voltage DC/AC 4~240V Amps : 5~40mA
- Options Available : Air solenoid DC24V, AC24V, AC110V, AC220V.
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating CF flange

Available Area : U.S.A.

Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	E"(mm)	O.D."	Parts No.
IVBS-CR16-P	2.50"(63.5)	1.13"(28.6)	1.87"(47.6)	6.51"(165.2)	2.24"(56.8)	0.75"(19.05)	302109130216
IVBS-CR35-P	2.46"(62.5)	1.88"(47.8)	3.12"(79.3)	8.90"(228.5)	2.98"(75.8)	1.50"(38.1)	302113130216

Note: Dimension in inch(mm) unless otherwise noted

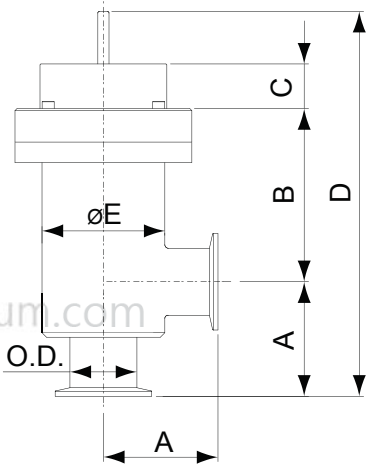




FORMED BELLOWS SEAL STAINLESS VALVE

Single-Acting, air to open, spring to close

Angle Valve



Features

- Polished 304 stainless steel body.
- Operating pressure : 4~6 kg/cm²
- Orientation : Any position
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating KF flange

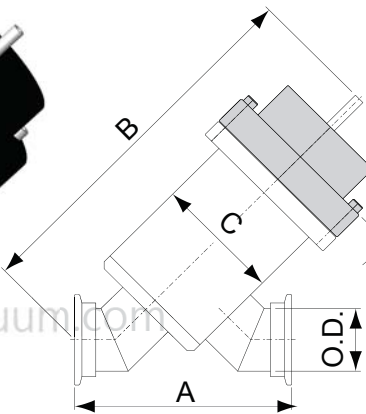
Parts No.	A	B	C	D	E	O.D.
ZFP0081520040K00	65	99.5	25.5	214.3	76.2	38.1(1.50")



FORMED BELLOWS SEAL STAINLESS VALVE

Single-Acting, air to open, spring to close

Y-inline Valve



Features

- Polished 304 stainless steel body.
- Operating pressure : 4~6 kg/cm²
- Orientation : Any position
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating KF flange

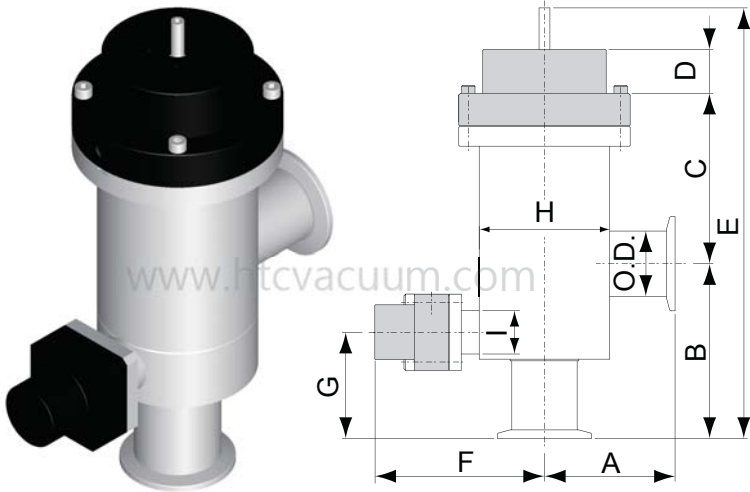
Parts No.	A	B	C	D	O.D.
ZFP0081620040K00	130	224	76.2	25.5	38.1(1.50")



➤ FORMED BELLOWS SEAL STAINLESS VALVE

Single-Acting, air to open, spring to close

Two-Stage Valve



Features

- Polished 304 stainless steel body.
- Operating pressure : 4~6 kg/cm²
- Orientation : Any position
- Viton Seal Bonnet : 10⁻⁹ mbar vacuum rating KF flange
- Provides soft pumpdown and isolation for vacuum system
- Reduces particulate contamination during early turbulent pumpdown.

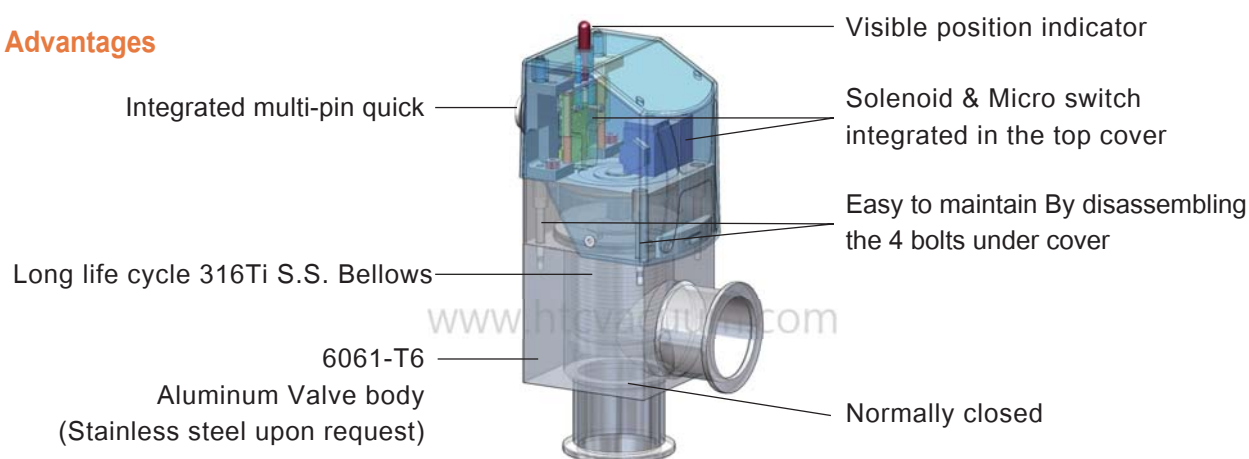
Parts No.	A	B	C	D	E	F	G	H	I	O.D.
ZFP008V2040AK00	76.2	102	99.5	25.5	251.3	99	62	76.2	25.4	38.1(1.50")

➡ HV Aluminum Block Valve

Features

- Twin micro switches in Htc standard All-in-one valve.
- Reed sensor or Micro switch is available upon request for HV type.
- Available in aluminum or stainless steel valve body.
- Non-magnetic aluminum 6061-T6 valve body.
- Visible position indicator on the top of valve.
- Electrical and visual (LED) position indication.
- Selectable operating mode
- Remote control via PLC or PC
- Local operation
- Easy maintenance, fast bellows and seal replacement.
- Fast opening and closing time.

Advantages



A.I.O. : Easy to plug & play



Htc All-in-one Type

Quick connector for solenoid & micro switches



General Type

Solenoid & reed sensor installed on the back of valve, 6 wires need to be connected

Photos of various applications



Venting with filter



Gas Isolation



Process gas control

Specification:

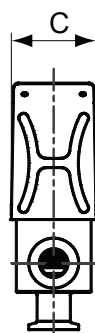
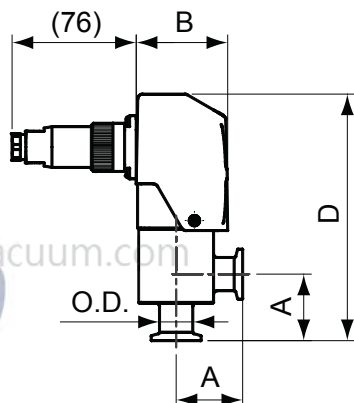
Pilot valve Nominal voltage Power DC voltage AC voltage Nominal diameter	Product nameplate 2.4W 3.6VA 1.2mm		
Electrical position indicator Connection Rating	Soldered joints 125 VAC/1A 30 VDC/0.5A		
Vacuum connection	KF16	KF25	KF40
Actuation	opening : pneumatic closing : by pressure spring		
Compressed air supply Tube connection Pressure range Piston displacement	Ø6 mm 4~6 Kg/cm ² (overpressure) 4 cm ³ 11 cm ³ 35 cm ³		
Stroke of valve plate	6 mm	8 mm	13 mm
Conductance Angle valve	5 l/s	14 l/s	45 l/s
Switching frequency Opening time Closing time	100/min 100ms 100ms	100/min 120ms 160ms	75/min 260ms 540ms
Cycle life	10 million		
Leak Rate	1x10 ⁻⁹ mbar.l/s		
Pressure max.	5 bar(absolute)		
Operating pressure min.	1x10 ⁻⁸ mbar		
Operating pressure max.	2 bar		
Pressure difference ΔP In closing direction In opening direction	5 bar 2 bar		
Temperature Ambiance Bakeout Housing Aluminum Actuator Pilot valve	0°C...+50°C 80°C 50°C 50°C		
Mounting orientation Flow direction	Any Any		
Materials Housing Aluminum Bellows/valve plate Pressure spring Seals Cover Visual position indicator Cylinder unit	A6061-T6 316Ti S.S. Spring steel Viton ABS A5083		
Weight All in one Aluminum	0.54 kg	0.73kg	1.34kg
Pneumatic N/C Aluminum	0.36kg	0.56 kg	1.2kg

➤ HV ALUMINUM ANGLE VALVE-Pneumatically Actuated

with formed bellows seal, Limit Switch

Single-Acting, air to open, spring to close

All in one type



Features

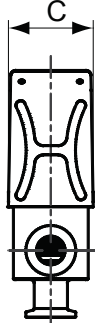
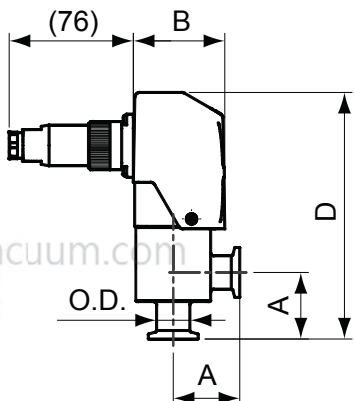
- 10 million cycle 316Ti stainless steel bellows
- Easy maintenance, fast bellows and seal replacement
- Fast opening and closing time
- High purity aluminum body
- Leak rate: 1×10^{-9} mbar. l /sec
- Flange : KF(NW)

Model No.	A	B	C	D	O.D.	Parts No.
AVABHLS-KF16-P-E	40	55	51	148	20	31010911042MA
AVABHLS-KF25-P-E	50	65.5	60	153	28	31011111042MA
AVABHLS-KF40-P-E	65	81	75	201	45	31011311042MA

with formed bellows seal, Solenoid, Limit Switch

Single-Acting, air to open, spring to close

All in one type



Features

- 10 million cycle 316Ti stainless steel bellows
- Easy maintenance, fast bellows and seal replacement
- Fast opening and closing time
- High purity aluminum body
- Leak rate: 1×10^{-9} mbar. l /sec
- Flange : KF(NW)

Model No.	A	B	C	D	O.D.
AVABHLSV-KF16-P-E	40	55	51	148	20
AVABHLSV-KF25-P-E	50	65.5	60	153	28
AVABHLSV-KF40-P-E	65	81	75	201	45

A.I.O Parts No.

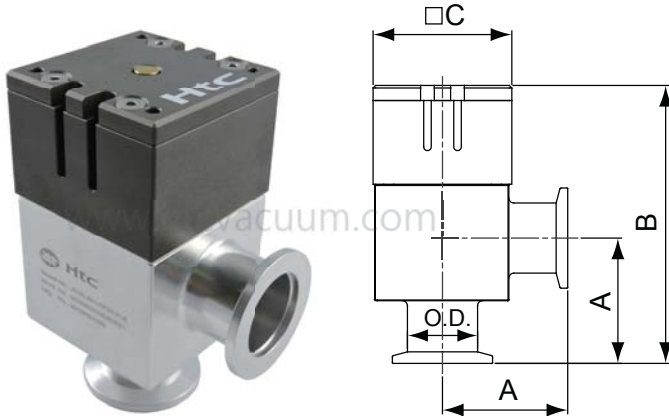
Solenoid	KF16	KF25	KF40
24V DC	31010911142MA	31011111142MA	31011311142MA
110V AC	31010911242MA	31011111242MA	31011311242MA
220V AC	31010911342MA	31011111342MA	31011311342MA
24V AC	31010911442MA	31011111442MA	31011311442MA



HV ALUMINUM ANGLE VALVE-Pneumatically Actuated

with formed bellows seal

Single-Acting, air to open, spring to close



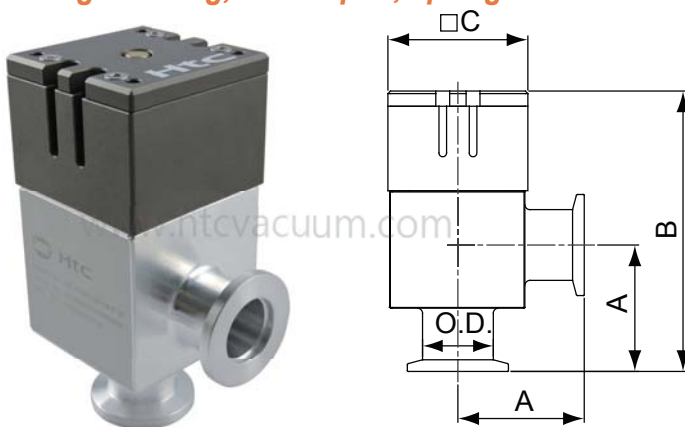
Features

- 10 million cycle 316Ti stainless steel bellows
- Easy maintenance, fast bellows and seal replacement
- Fast opening and closing time
- High purity aluminum body
- Leak rate: 1×10^{-9} mbar. l /sec
- Flange : KF(NW)

Model No.	A	B	C	O.D.	Parts No.
AVABH-KF16-P-E	40	102	46.4	20	31010911002MA
AVABH-KF25-P-E	50	111	55.4	28	31011111002MA
AVABH-KF40-P-E	65	153	70.4	45	31011311002MA

with formed bellows seal, Attached Reed Sensor

Single-Acting, air to open, spring to close



Features

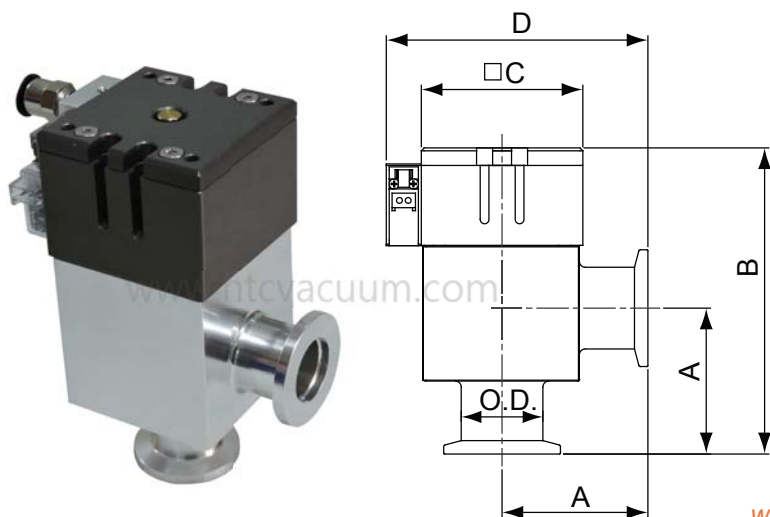
- 10 million cycle 316Ti stainless steel bellows
- Easy maintenance, fast bellows and seal replacement
- Fast opening and closing time
- High purity aluminum body
- Leak rate: 1×10^{-9} mbar. l /sec
- Flange : KF(NW)

Model No.	A	B	C	O.D.	Parts No.
AVABHS-KF16-P-E	40	102	46.4	20	31010911022MA
AVABHS-KF25-P-E	50	111	55.4	28	31011111022MA
AVABHS-KF40-P-E	65	153	70.4	45	31011311022MA
AVABHS-KF50-P-E	70	165.2	77	55	31011411022MA

➤ HV ALUMINUM ANGLE VALVE-Pneumatically Actuated

with formed bellows seal, Attached Solenoid

Single-Acting, air to open, spring to close



Features

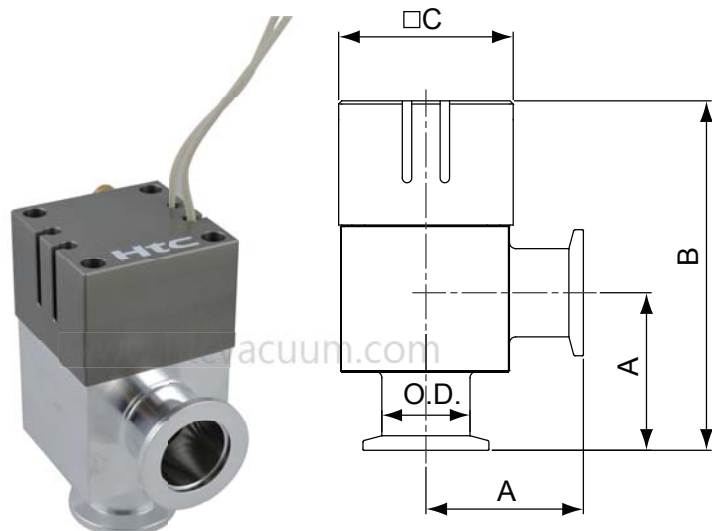
- 10 million cycle 316Ti stainless steel bellows
- Easy maintenance, fast bellows and seal replacement
- Fast opening and closing time
- High purity aluminum body
- Leak rate: 1×10^{-9} mbar. l /sec
- Flange : KF(NW)

*with standard voltage DC24V solenoid,
With LN type connector without sensors, without limit switch*

Model No.	A	B	C	O.D.	Parts No.
AVABHSV-KF16-P-E	40	102	46.4	20	31010911102MA
AVABHSV-KF25-P-E	50	111	55.4	28	31011111102MA
AVABHSV-KF40-P-E	65	153	70.4	45	31011311102MA

with formed bellows seal, Attached Reed Sensor

Double -Acting, air to open, air to close



Features

- 10 million cycle 316Ti stainless steel bellows
- Easy maintenance, fast bellows and seal replacement
- Fast opening and closing time
- High purity aluminum body
- Leak rate: 1×10^{-9} mbar. l /sec
- Flange : KF(NW)

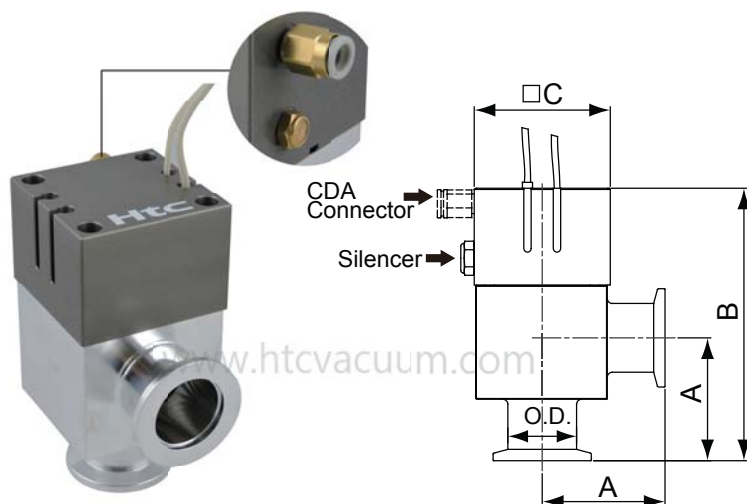
with reed sensor, without limit switch, without solenoid valve

Model No.	A	B	C	O.D.	Parts No.
AVABHS-KF16-P2-E	40	108.2	46.4	20	31010921022MA
AVABHS-KF25-P2-E	50	111	55.4	28	31011121022MA
AVABHS-KF40-P2-E	65	153.8	70.4	45	31011321022MA

➤ Normally Open

with formed bellows seal, Attached Reed Sensor

Single-Acting, spring to open, air to close



Features

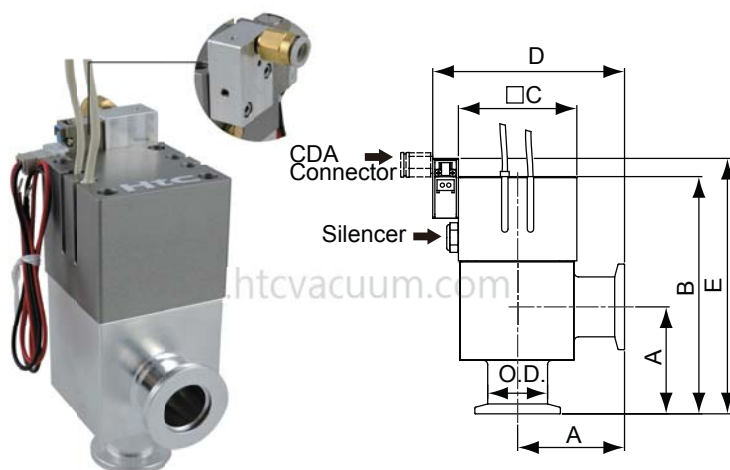
- 10 million cycle 316Ti stainless steel bellows
- Easy maintenance, fast bellows and seal replacement
- Fast opening and closing time
- High purity aluminum body
- Leak rate: 1×10^{-9} mbar. l /sec
- Flange : KF(NW)

with reed sensors, without limit switch, without solenoid

Model No.	A	B	C	O.D.	Parts No.
AVABHS-KF16-P-NO-E	40	108.2	46.4	20	31010941022MA
AVABHS-KF25-P-NO-E	50	111	55.4	28	31011141022MA
AVABHS-KF40-P-NO-E	65	153.8	70.4	45	31011341022MA

with formed bellows seal, Attached Reed Sensor & Solenoid

Single -Acting, spring to open, air to close



Features

- 10 million cycle 316Ti stainless steel bellows
- Easy maintenance, fast bellows and seal replacement
- Fast opening and closing time
- High purity aluminum body
- Leak rate: 1×10^{-9} mbar. l /sec
- Flange : KF(NW)

with reed sensors, with standard voltage DC24V solenoid, with LN type connector, without limit switch

Model No.	A	B	C	D	E	O.D.	Parts No.
AVABHSSV-KF16-P-NO-E	40	102	46.4	75	111	20	31010941122MA
AVABHSSV-KF25-P-NO-E	50	111	55.4	90	120	28	31011141122MA
AVABHSSV-KF40-P-NO-E	65	153	70.4	112	162	45	31011341122MA



HV ALUMINUM ANGLE VALVE-Pneumatic Actuated

Without bellows seal, Normal close

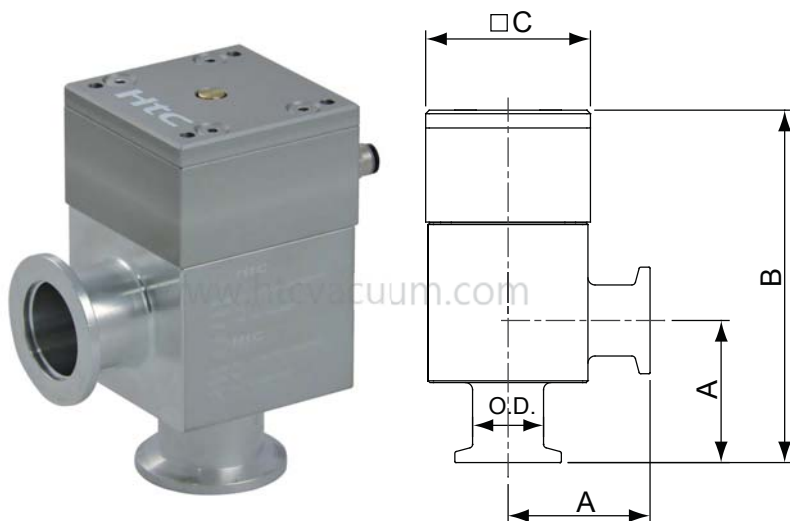
Specification:

Electrical position indicator Connection Rating	AC 24 ~ 240 VAC 4~24VDC		
Vacuum connection	KF16	KF25	KF40
Actuation	opening : pneumatic closing : by pressure spring		
Compressed air supply Tube connection Pressure range Piston displacement	Ø6 mm 4~6 Kg/cm ² (overpressure)		
	4 cm ³	11 cm ³	35 cm ³
Stroke of valve plate	6 mm	8 mm	13 mm
Conductance Angle valve	5 l/s	14 l/s	45 l/s
Switching frequency	10/min	10/min	8/min
Opening time	100ms	120ms	260ms
Closing time	100ms	160ms	540ms
Cycle life	1,000,000		
Leak Rate	3x10 ⁻⁹ mbar.l/s		
Pressure max.	6 bar(absolute)		
Operating pressure min.	1x10 ⁻⁸ mbar		
Operating pressure max.	6 bar		
Pressure difference ΔP In closing direction In opening direction	6 bar 2 bar		
Temperature Ambiance Bakeout Housing Aluminum Actuator Pilot valve	0°C...+50°C 80°C 50°C 50°C		
Mounting orientation	Any		
Materials Housing Aluminum valve plate Pressure spring Seals	A6061-T6 316S.S. Spring steel Viton		
Visual position indicator Cylinder unit	A5083		

➤ HV ALUMINUM ANGLE VALVE-Pneumatically Actuated

without bellows seal

Single-Acting, Normal close



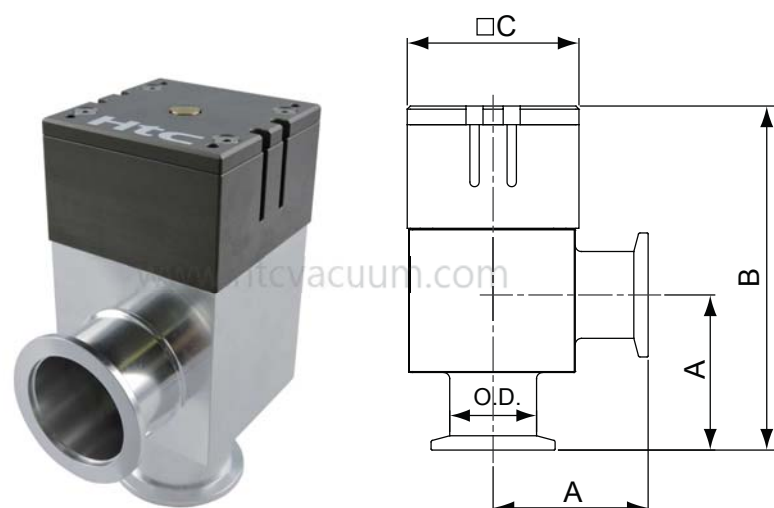
Features

- 10 million cycle o-ring seal
- Easy maintenance, seal replacement
- Fast opening and closing time
- High purity aluminum body
- Leak rate: 3×10^{-9} mbar. l /sec
- Flange : KF(NW)

Model No.	A	B	C	O.D.	Parts No.
AVAH-KF16-P-E	40	102	46.4	20	31010911002M0
AVAH-KF25-P-E	50	111	55.4	28	31011111002M0
AVAH-KF40-P-E	65	153	70.4	45	31011311002M0

without bellows seal, Attached Reed Sensor

Single-Acting, Normal close



Features

- 10 million cycle o-ring seal
- Easy maintenance, seal replacement
- Fast opening and closing time
- High purity aluminum body
- Leak rate: 3×10^{-9} mbar. l /sec
- Flange : KF(NW)

Model No.	A	B	C	O.D.	Parts No.
AVAHS-KF16-P-E	40	102	46.4	20	31010911022M0
AVAHS-KF25-P-E	50	111	55.4	28	31011111022M0
AVAHS-KF40-P-E	65	153	70.4	45	31011311022M0



Manual aluminum angle valve (with bellows)

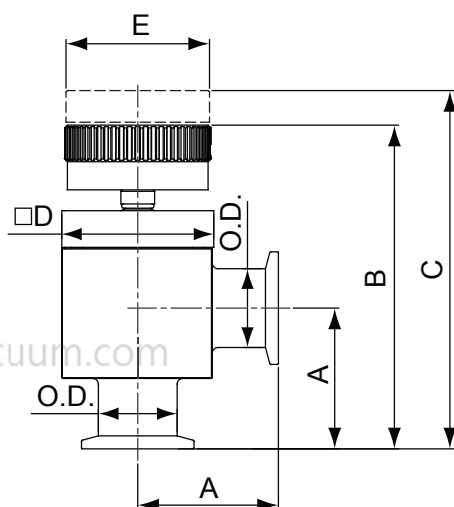
Specification:

Vacuum connection Port	KF16	KF25	KF40
Actuation	Manual Actuator		
Stroke of valve plate	6 mm	8 mm	13 mm
Weight (Kg)	0.5	0.59	1.12
Conductance Angle valve	5 l/s	14 l/s	45 l/s
Cycles until first service (Tmax 80°C, under clean conditions)	20,000		
Leak Rate	1x10 ⁻⁹ mbar.l/s		
Pressure Range.	1x10 ⁻⁸ mbar ~5 bar (absolute)		
Pressure difference ΔP In closing direction In opening direction	5 bar 2 bar		
Temperature Ambiance Bakeout Housing Aluminum Actuator	0°C...+50°C 150°C 120°C		
Mounting orientation Flow direction	Any Any		
Materials Housing Aluminum Bellows/valve plate Seals	A6061-T6 316Ti S.S. Viton		



HV ALUMINUM ANGLE VALVE-Manual Operated

with formed bellows

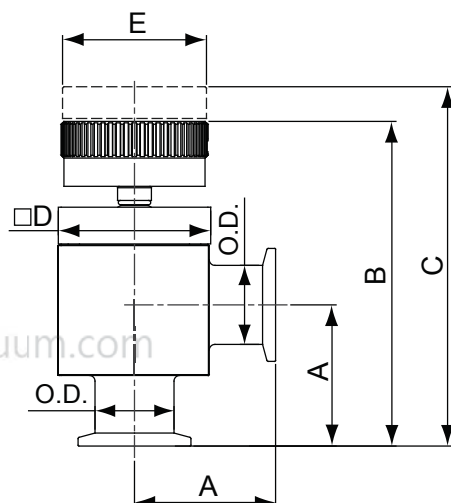


Features

- 316Ti stainless steel bellows
- Easy maintenance, fast bellows and seal replacement
- High purity aluminum body
- Leak rate: 1×10^{-9} mbar. l /sec
- Flange : KF(NW)

Model No.	A	B	C	D	E	O.D.	Parts No.
AVABH-KF16-M-E	40	103	107	45	52	20	31010901002MA
AVABH-KF25-M-E	50	110	115	54	52	28	31011101002MA
AVABH-KF40-M-E	65	148	157	70	62	45	31011301002MA

without formed bellows



Features

- High purity aluminum body
- Leak rate: 1×10^{-9} mbar. l /sec
- Flange : KF(NW)

Model No.	A	B	C	D	E	O.D.	Parts No.
AVAH-KF16-M-E	40	105	110	45	52	20	31010901002M0
AVAH-KF25-M-E	50	110	115	54	52	28	31011101002M0
AVAH-KF40-M-E	65	150	157	70	62	45	31011301002M0



➔ Butterfly valve

BUTTERFLY VALVES

Butterfly valve is a valve which can be used for isolating or regulating flow. The closing mechanism takes the form of a disk. Operation is similar to that of a ball valve, which allows for quick shut off. Butterfly valves are generally favored because they are lighter in weight, meaning less support is required.

Htc vacuum provides various butterfly valves which features long service life, high quality and high performance, the robust and rugged design can be relied upon for years of trouble free service. There are manual, pneumatic and electric actuators butterfly valve available for different applications. One thing should be aware is that when the butterfly valve is fully open and the disk is protrusive from the valve body, the disk might interfere the inner surface of the connecting duct, users should check the minimum ID of connecting duct before installation.

Pneumatic butterfly valve

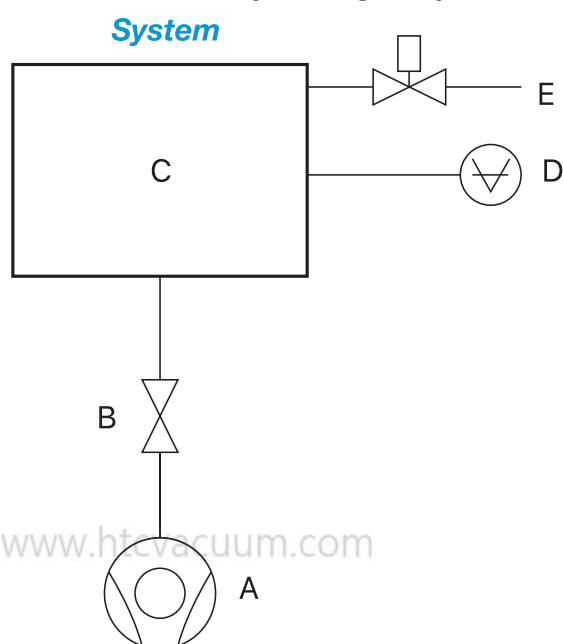
Main applications

Compact isolation valve for clean processes.

Application process

■ FPD ■ SEMI ■ PVD

Pneumatic butterfly valve-gate system settings



A : Pump
B : Htc pneumatic butterfly valve
C : Process chamber
D : Gauge
E : Gas inlet

Application

Htc Pneumatic butterfly valve is driven by rotating cylinder valve. The seal plate compacts O-ring isolated from the vacuum and atmosphere completely. Htc Pneumatic butterfly valve has advantages as quick opening and closing, easy installation, small size and long life cycles. Main application of Htc Pneumatic butterfly valve will be fully isolated contaminating and aggressive gas in processes. And the valve is located between pump and process chamber.



Pneumatic Butterfly valve

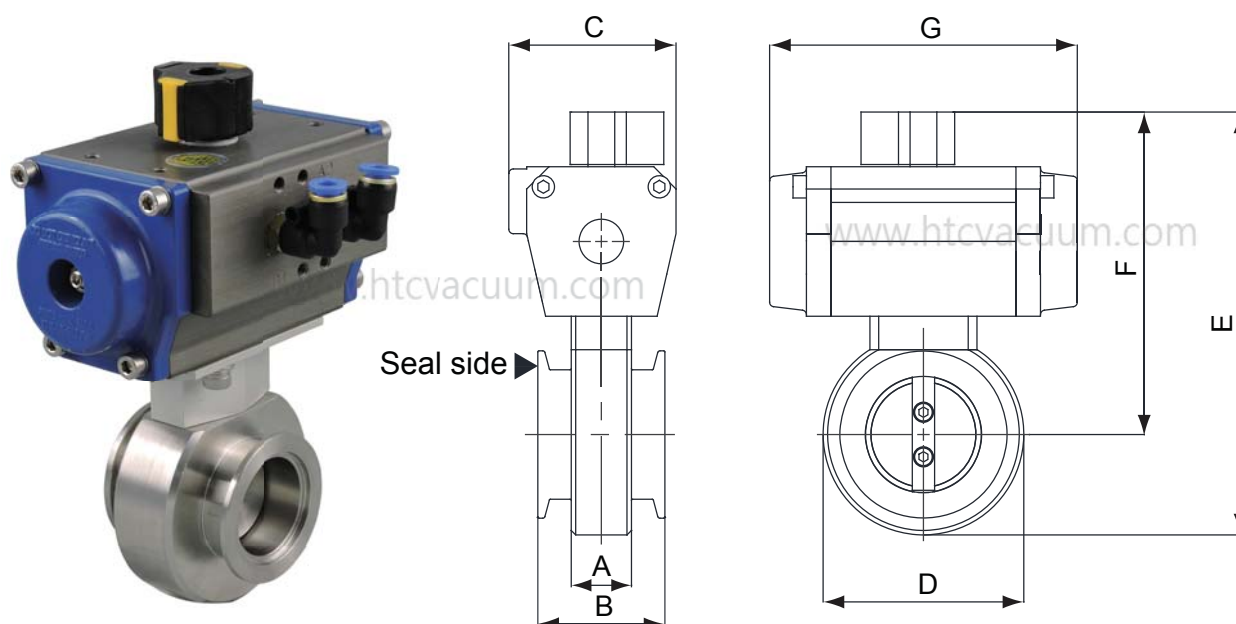
Specification:

Material	Body		304 S.S.
	Plate		304 S.S.
	Shaft		304 S.S.
	Gate seal		Viton
	Shaft seal		Viton
Mounting orientation	Any		
Cycles life	cycles	KF25 - KF50	1,500,000
		ISO63 - ISO160	1,500,000
		ISO200 - ISO250	1,000,000
Cycles life for plate o-ring	cycles	KF25 - KF50	250,000
		ISO63 - ISO160	250,000
		ISO200 - ISO250	200,000
Helium leak rate at 1 atm differential	mbar-Liter/sec		$< 1 \times 10^{-9}$
Pressure range in either direction	1×10^{-8} mbar to 2 bar		
Differential pressure ΔP in either direction			≤ 2 bar
Maximum differential pressure during opening	< 1.2 bar		
Compressed air connection			2x 1/4"NPT
Compressed air pressure	4 ~ 6 bar		
Weight	KF25		1.3 kg
	KF40		2.3 kg
	KF50		2.6 kg
	ISO63		4.2 kg
	ISO100		5.2 kg
	ISO160		9.8 kg
	ISO200		17.8 kg
	ISO250		15.1 kg

➤ BUTTERFLY VALVE (ISO-KF TYPE)

Pneumatically Actuated

air to open, air to close



Model No.	A	B	C	D	E	F	G	Parts No.
KF25BFVP2	27	50	49	65	144	112	100	3202111101213
KF40BFVP2	27	57	75	80	192	152	138	3202131101213
KF50BFVP2	27	57	75	90	203	158	138	3202141101213

Features

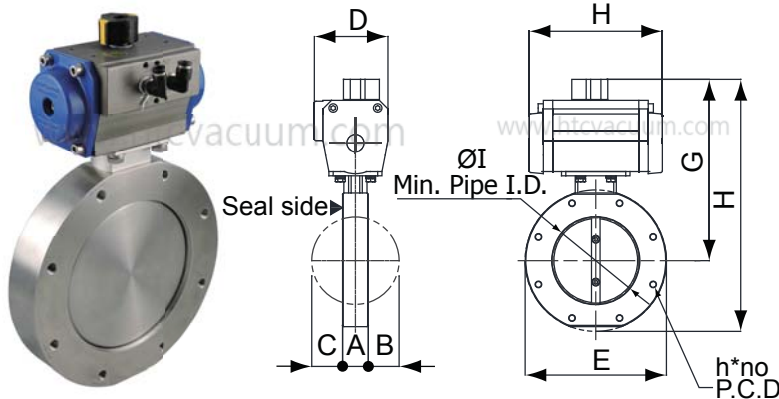
- Valve size for 1"(25.4mm) to 2"(50.8mm)
- Flange : ISO-KF
- Pressure Range : 10^{-8} mbar to 2 bar
- Leak rate : 1×10^{-9} mbar. l/sec
- Body materials : 304S.S.
- Seal materials : Viton
- Max temperature : Actuator $\leq 60^{\circ}\text{C}$ / Body $\leq 120^{\circ}\text{C}$
- Cycle life : 1,500,000
(O-ring on plate is a consumptive material in the butterfly valve, cycle life is 250,000)
- Option : Limit switch , solenoid
- Operating air pressure : $4 \sim 6.5 \text{ kg/cm}^2$



BUTTERFLY VALVE (ISO-F TYPE)

Pneumatically Actuated

air to open, air to close



Features

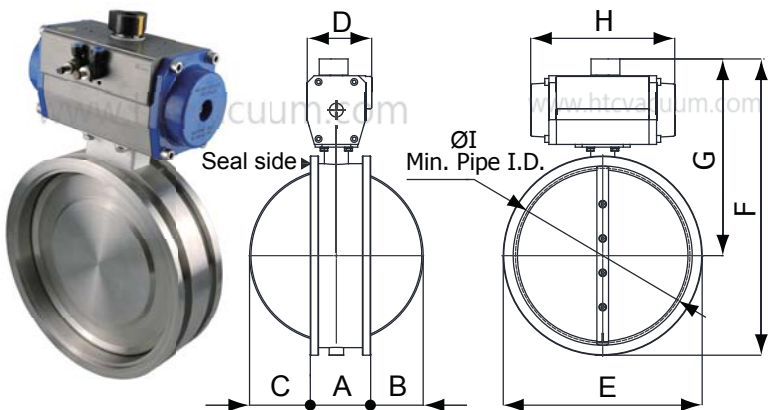
- Valve size for 2-1/2" (63.5mm) to 8" (203.2mm)
- Flange : ISO-F
- Pressure Range : 10^{-8} mbar to 2 bar
- Leak rate: 1×10^{-9} mbar. l /sec
- Body materials : 304 S.S.
- Seal materials : Viton
- Max temperature:
Actuator $\leq 60^{\circ}\text{C}$, Body $\leq 120^{\circ}\text{C}$
- Cycle life : ISO63-ISO160 1,500,000
ISO200 1,000,000
(O-ring on plate is a consumptive material in the butterfly valve, cycle life is 250,000 for ISO63-160;200,000 for ISO200)
- Option : Limit switch , solenoid
- Operating air pressure : 4~6.5 kg/cm²

Model No.	A	B	C	D	E	F	G	H	h*no	Thread Depth	P.C.D	I	Parts No.
ISO63BFVP2	30	15	21	75	130	242.1	177.1	138	M8*4	12	110	55	3202151113213
ISO100BFVP2	30	36	36	86	165	288.5	211.5	155.5	M8*8	12	145	96.7	3202181113213
ISO160BFVP2	40	55.5	55.5	86	225	351.5	241.5	155.5	M10*8	15	200	146	3202201113213
ISO200BFVP2	50	76	76	94	285	427.5	299	230	M10*12	15	260	197	3202211113213

BUTTERFLY VALVE (ISO-K TYPE)

Pneumatically Actuated

air to open, air to close



Features

- Valve size for 10" (254mm)
- Flange : ISO-K
- Pressure Range : 10^{-8} mbar to 2 bar
- Leak rate: 1×10^{-9} mbar. l /sec
- Body materials : 304 S.S.
- Seal materials : Viton
- Max temperature:
Actuator $\leq 60^{\circ}\text{C}$, Body $\leq 120^{\circ}\text{C}$
- Cycle life : 1,000,000
(O-ring on plate is a consumptive material in the butterfly valve, cycle life is 200,000)
- Option : Limit switch , solenoid
- Operating air pressure : 4~6.5 kg/cm²

Model No.	A	B	C	D	E	F	G	H	I	Parts No.
ISO250BFVP2	88	82.5	82.5	104	290	455	310	230	240	3202221103213



3-Position Butterfly valve

Pneumatic butterfly valve

Main applications

- Compact isolation valve for high conductance clean processes
- Has a 3rd position to change the conductance. One has two functions.

Application process

 FPD
  SEMI
  PVD

Application

Htc 3-position butterfly valve is driven by rotating cylinder valve. Htc 3-position butterfly valve has 3rd position function, easy installation, small size and long life cycles. The 3-position butterfly valve opening can be set from 0-90°. Main application of Htc 3-position butterfly valve will be fully isolated contaminating and aggressive gas in processes. The valve is located between pump and process chamber and 3rd position can be set to change the conductance.

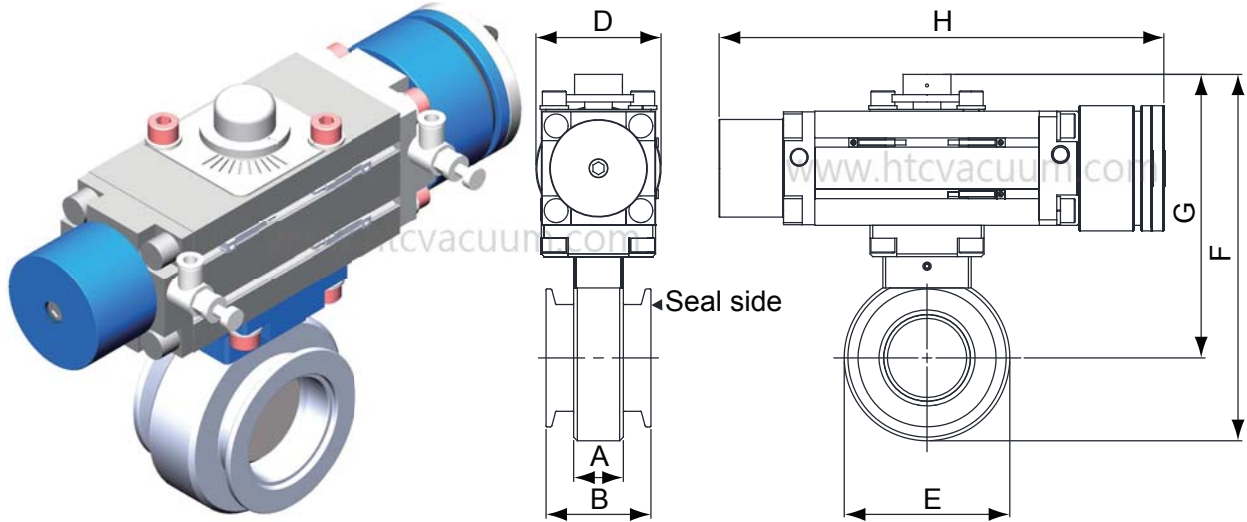
Material	Body		304 S.S.
	Plate		304 S.S.
	Shaft		304 S.S.
	Gate seal		Viton
	Shaft seal		Viton
Cycles life	cycles	KF40 - KF50	1,500,000
		ISO63 - ISO160	1,500,000
Cycles life for plate O-ring	cycles	KF40 - KF50	250,000
		ISO63 - ISO160	250,000
Helium leak rate at 1 atm differential	mbar-Liter/sec		< 1 x 10 ⁻⁹
Mounting orientation	Any		
3 rd position adjustment angle	0-90°		
Pressure range in either direction	1×10 ⁻⁸ mbar to 2 bar		
Differential pressure ΔP in either direction	≤ 2 bar		
Maximum differential pressure during opening	< 1.2 bar		
Compressed air connection	3 x 1/4"NPT		
Compressed air pressure	4 ~ 6 bar		



3-Position BUTTERFLY VALVE (ISO-KF TYPE)

Pneumatically Actuated

air to open, air to close, air to 3-position



Model No.	A	B	D	E	F	G	H	Parts No.
KF40BFV3P	27	57	68	80	188.5	148.5	242	3202131101217
KF50BFV3P	27	57	68	90	199	154	242	3202141101217

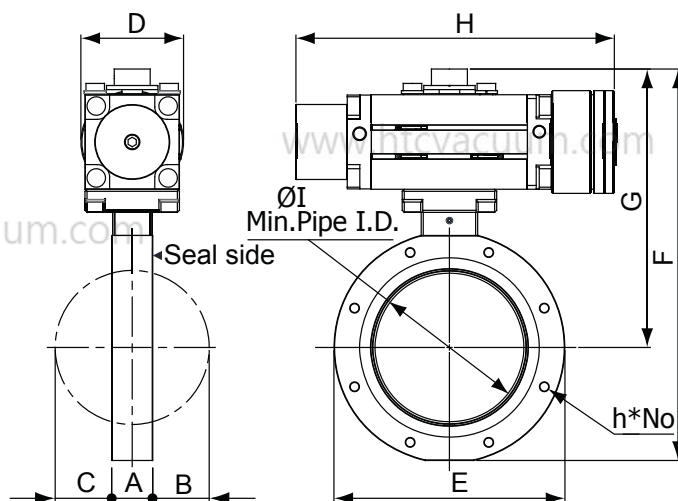
Features

- Valve size for 1"(25.4mm) to 2"(50.8mm)
- Flange : ISO-KF
- Pressure Range : 10^{-8} mbar to 2 bar
- Leak rate : 1×10^{-9} mbar. l/sec
- Body materials : 304S.S.
- Seal materials : Viton
- Temperature : Actuator $\leq 60^{\circ}\text{C}$ / Body $\leq 120^{\circ}\text{C}$
- Cycle life : 1,500,000
(O-ring on plate is a consumptive material in the butterfly valve, cycle life is 250,000)
- Option : Limit switch , solenoid
- Operating air pressure : $4 \sim 6.5 \text{ kg/cm}^2$

➔ 3-Position BUTTERFLY VALVE (ISO-F TYPE)

Pneumatically Actuated

air to open, air to close, air to 3-position



Model No.	A	B	C	D	E	F	G	H	h*No	Thread Depth	P.C.D	I	Parts No.
ISO63BFV3P	36	21	15	83	130	260	195	268.5	M8*4	12	110	55	3202151113217
ISO100BFV3P	30	36	36	83	165	296	213.5	268.5	M8*8	12	145	96.7	3202181113217
ISO160BFV3P	40	55.5	55.5	100	225	383.5	271	312	M10*8	15	200	146	3202201113217

Features

- Valve size for 1"(25.4mm) to 2"(50.8mm)
- Flange : ISO-F
- Pressure Range : 10^{-8} mbar to 2 bar
- Leak rate : 1×10^{-9} mbar. l/sec
- Body materials : 304S.S.
- Seal materials : Viton
- Temperature : Actuator $\leq 60^{\circ}\text{C}$ / Body $\leq 120^{\circ}\text{C}$
- Cycle life : 1,500,000
(O-ring on plate is a consumptive material in the butterfly valve, cycle life is 250,000)
- Option : Limit switch , solenoid
- Operating air pressure : $4 \sim 6.5 \text{ kg/cm}^2$



➔ APC Butterfly valve

Main applications

- Downstream pressure control and isolation valve.

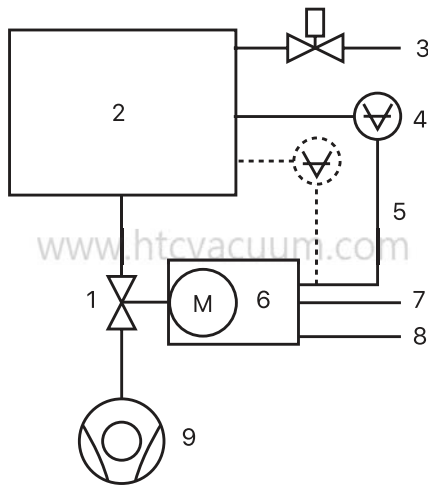
Application process

■ SEMI ■ FPD ■ Solar ■ CVD

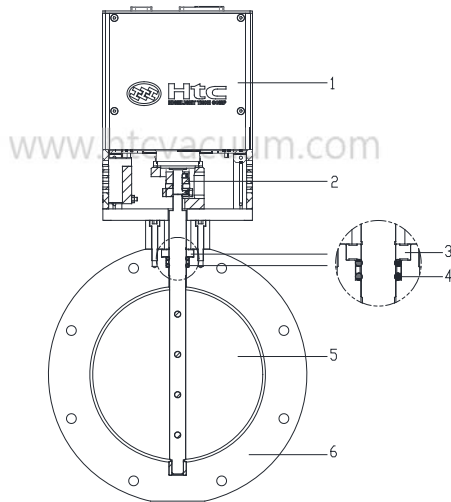
Features

- Integrated pressure controller
- Accurate pressure control
- Compact isolation
- Short response time
- Friendly user interface

APC butterfly valve gate system settings

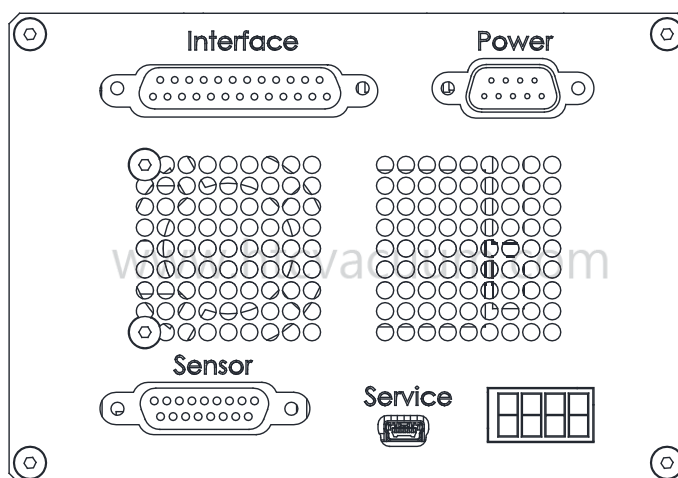


- Valve
- Process chamber
- Gas inlet
- Pressure sensor(s)
- Sensor cable(s)
- Controller and actuator
- Cable to remote control unit
- Cable to power supply
- Pump



No.	Parts	Material	Quantity
1	APC Controller		1
2	Couplings	SUS304	1
3	Bearing	SUS304	1
4	O-Ring	VITON	2
5	Plate	SUS304	1
6	Body	SUS304	1

Butterfly valve control system - Controller



Specifications

- Sensor supply : 24V DC or $\pm 15V$ DC
- Backup power : Yes
- Sensor input
 - Q'ty of sensors : 2
 - Signal voltage : 0-10V DC linear with pressure
 - Input resistance : $R_i = 47\text{ k}\Omega$
 - Resolution : 2.3 mV
 - Sample rate : 1ms
- Control accuracy : 0.1% of maximum sensor range
- Position resolution : 8000 (step 0-90° rotation)

	Connection	Type
Power	Power input	DB-9 male
Sensor	Sensor input Sensor power supply	DB-15 female
Interface	RS232, RS485	DB-25 female
Service	APC service	Mini USB type B female

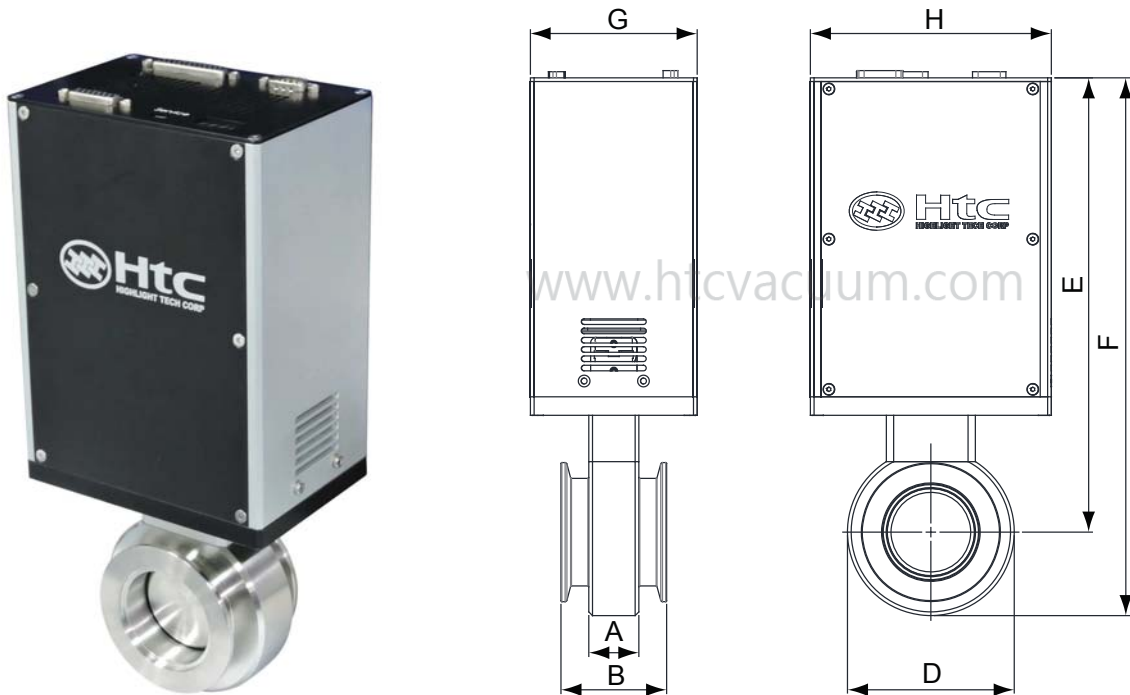
APC software functions

Control via computer by using the APC software offers convenient functions

- Pressure and position control mode
- Schedule test Mode => 1 cycle schedule
- Set valve open/close speed
- Report APC HW/SW version, serial and model number
- Report valve cycles and run hours
- Set tolerance scope of pressure
- Cycles life and pressure control record
- Controller parameter upload and download
- Power failure protection
- Screen Capture
- Pressure learning function



➔ APC BUTTERFLY VALVE (ISO-KF TYPE)

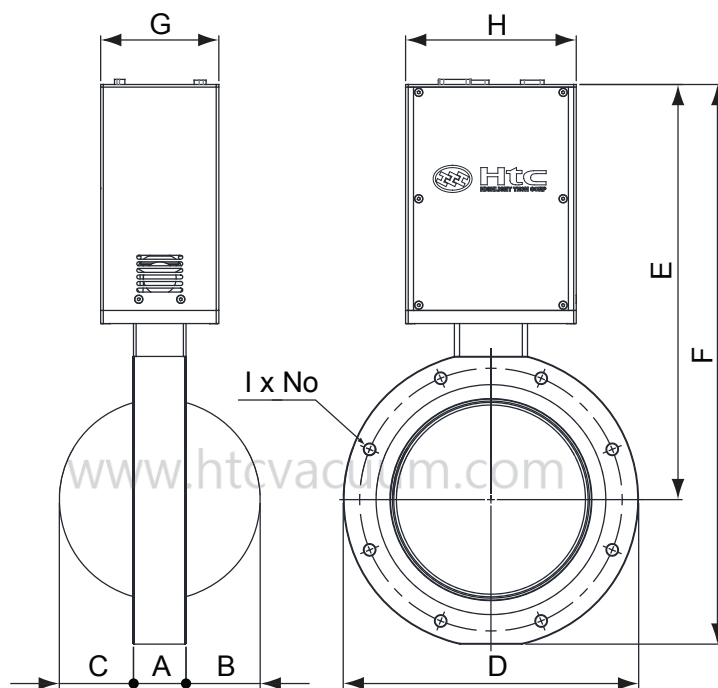


Model No.	A	B	D	E	F	G	H	Parts No.
KF40BFVC	27	57	80	239.5	279.5	90	130	3202131101214
KF50BFVC	27	57	90	245	290	90	130	3202141101214

Features

- Valve size : 1 1/2"(38.1mm), 2"(50.8mm)
- Flange : ISO-KF
- Pressure Range : 10^{-8} mbar to 1.2 bar
- Maximum differential pressure during opening : KF40 、 KF50 >>>> 1.0 bar
- Leak rate (valve body, valve seat) : 1×10^{-9} mbar. l/sec
- Cycles until first service :
 - >> Pressure control : 2,000,000
 - >> Closing / opening : 250,000
- Body, plate, shaft materials : 304 S.S.
- Seal materials : Viton
- Mounting position : Any
- Position control : Multi-position set ($0^{\circ} \sim 90^{\circ}$)
- Typical opening / closing time : 0.85 s
- Temperature : Actuator $\leq 50^{\circ}\text{C}$; Body $\leq 110^{\circ}\text{C}$

APC BUTTERFLY VALVE (ISO-F TYPE)



Model No.	A	B	C	D	E	F	G	H	I x No	Thread Depth	P.C.D	Parts No.
ISO63BFVC	30	15	21	130	267	327	90	130	M8*4	12	110	3202151113214
ISO100BFVC	30	36	36	165	286	363	90	130	M8*8	12	145	3202181113214
ISO160BFVC	40	55.5	55.5	225	316	426	90	130	M10*8	15	220	3202201113214

Features

- Valve size : 2 1/2"(63.5mm), 4"(101.6mm), 6"(152.4mm)
- Flange : ISO-F
- Pressure Range : 10^{-8} mbar to 1.2 bar
- Maximum differential pressure during opening : ISO63 、 ISO100 、 ISO160 >>>>> 0.2 bar
- Leak rate (valve body, valve seat) : 1×10^{-9} mbar. l/sec
- Cycles until first service :
 - >> Pressure control : 2,000,000
 - >> Closing / opening : 250,000
- Body, plate, shaft materials : 304 S.S.
- Seal materials : Viton
- Mounting position : Any
- Position control : Multi-position set ($0^{\circ} \sim 90^{\circ}$)
- Typical opening / closing time : 0.85 s
- Temperature : Actuator $\leq 50^{\circ}\text{C}$; Body $\leq 110^{\circ}\text{C}$



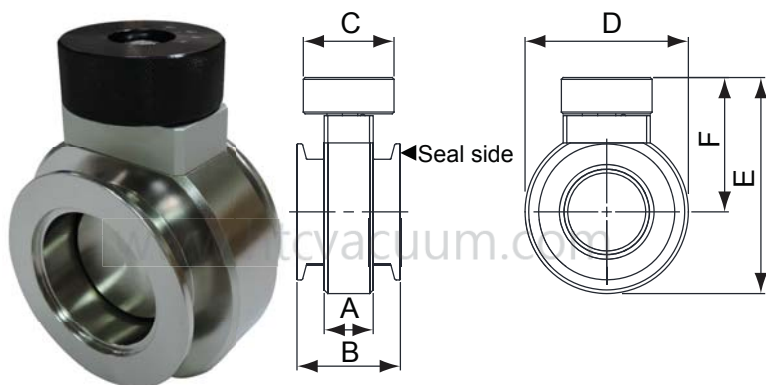
➤ HV Butterfly valve-Manually Operated

Specification:

Material	Body	304 S.S.
	Plate	304 S.S.
	Shaft	304 S.S.
	Gate seal	Viton
	Shaft seal	Viton
Cycles life	100,000	
Helium leak rate at 1 atm differential	mbar.l/sec	$< 1 \times 10^{-9}$
Mounting orientation	Any	
Pressure range in either direction	1×10^{-8} mbar to 1.2 bar	
Differential pressure ΔP in either direction	≤ 1.2 bar	
Maximum differential pressure during opening	< 1.2 bar	

HV BUTTERFLY VALVES

Manually Operated, ISO-KF TYPE

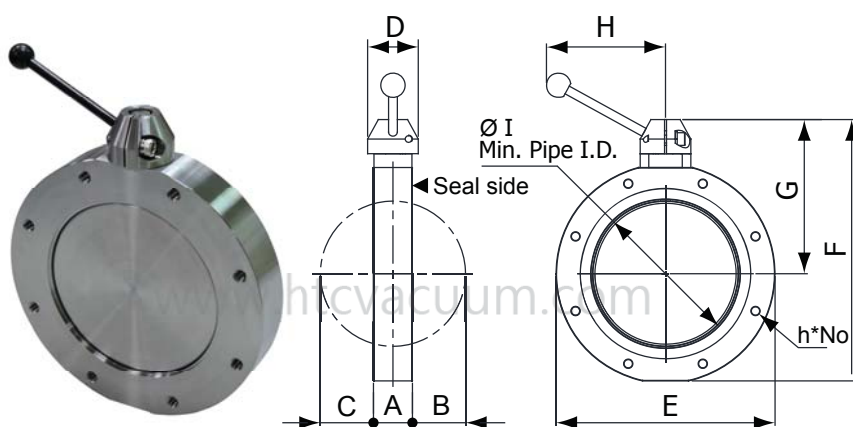


Features

- Valve size for 1" to 2" (25.4mm ~ 50.8mm)
- Flange : ISO-KF
- Pressure Range : 10^{-8} mbar to 1.2 bar
- Leak rate: 1×10^{-9} mbar. l /sec
- Body materials : 304 S.S.
- Seal materials : Viton
- Cycle life : 100,000
- Mounting position : Any
- Temperature: Body $\leq 120^{\circ}\text{C}$

Model No.	A	B	C	D	E	F	Parts No.
KF40BFVM	27	57	50	80	108.5	68.5	3202131101218
KF50BFVM	27	57	50	90	119	74	3202141101218

Manually Operated, ISO-F TYPE



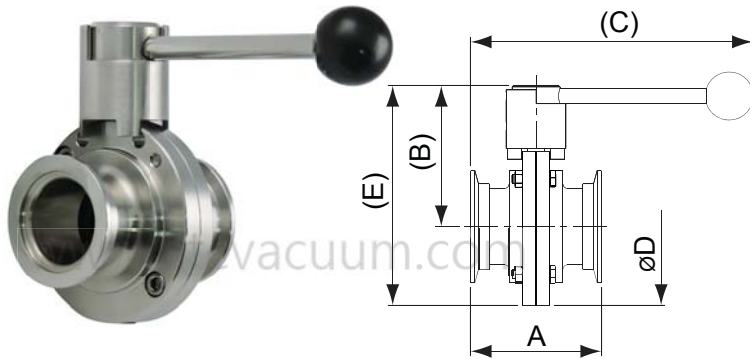
Features

- Valve size for 2.5" to 6" (63.5mm ~ 152.4mm)
- Flange : ISO-F
- Pressure Range : 10^{-8} mbar to 1.2 bar
- Leak rate: 1×10^{-9} mbar. l /sec
- Body materials : 304 S.S.
- Seal materials : Viton
- Cycle life : 100,000
- Mounting position : Any
- Temperature: Body $\leq 120^{\circ}\text{C}$

Model No.	A	B	C	D	E	F	G	H	h*No	Thread Depth	P.C.D	I	Parts No.
ISO63BFVM	36	21	15	40	130	154	94	103	M8*4	12	110	55	3202151113218
ISO100BFVM	30	36	36	40	165	190	103	103	M8*8	12	145	96.7	3202181113218
ISO160BFVM	40	55.5	55.5	52	225	268	158	122	M10*8	15	200	146	3202201113218

LOW VACUUM BUTTERFLY VALVES

Manually Operated, KF TYPE

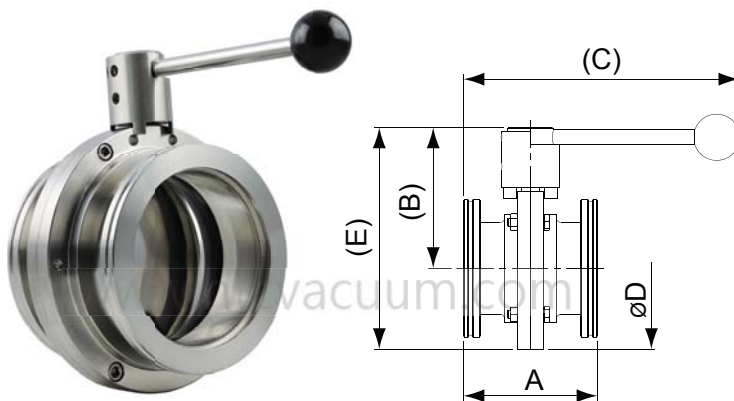


Features

- Valve size for 0.75" to 2" (19.05mm ~ 50.8mm)
- Flange : KF(NW)
- Pressure Range : 1000mbar~ 1×10^{-4} mbar
- Leak rate: 5×10^{-7} mbar. l /sec
- Body materials : 304 S.S.
- Seal materials : EPDM
- Cycle life : 1,000
- Temperature: Body $\leq 120^{\circ}\text{C}$

Model No.	A	B	C	D	E	Connector	Size	Parts No.
KF16BFV	75.6	80	183	79	119.5	KF16	0.75"(19.05)	3202092101111
KF25BFV	75.6	80	183	79	119.5	KF25	1"(25.4)	3202112101111
KF40BFV	83.6	83.3	186.8	85	125.5	KF40	1.5"(38.1)	3202132101111
KF50BFV	87.6	93.3	189	105	145.5	KF50	2"(50.8)	3202142101111

Manually Operated, ISO-K TYPE



Features

- Valve size for 2.5" to 4" (63.5mm ~ 101.6mm)
- Flange : ISO-K
- Pressure Range : 1000mbar~ 1×10^{-4} mbar
- Leak rate: 5×10^{-7} mbar. l /sec
- Body materials : 304 S.S.
- Seal materials : EPDM
- Cycle life : 1,000
- Temperature: Body $\leq 120^{\circ}\text{C}$

Model No.	A	B	C	D	E	Connector	Size	Parts No.
ISO63BFV	93.2	96.6	191.6	112	152.6	ISO63	2.5"(63.5)	3202152103111
ISO80BFV	95.2	103.8	192.6	125	166.3	ISO80	3.0"(76.2)	3202162103111
ISO100BFV	101.2	120.6	195.6	157	200	ISO100	4.0"(101.6)	3202182103111

➔ Ball Valves



In vacuum industry, ball valves are durable and usually work to achieve perfect shutoff. A ball valve is a vacuum valve with a ball in the central part of the valve, the ball controls the flow through it. The ball has a hole, or port, through the middle so that when the port is in line with both ends of the valve, flow will occur. When the valve is closed, the hole is perpendicular to the ends of the valve, and flow is blocked. The handle or lever will be inline with the port position letting you "see" the valve's position when the valve is fully open. The ball valve, along with the butterfly valve, are part of the family of quarter turn valves.

Ball valve's simple, rugged structure provides high reliability in "dirty" vacuum application. For example, they are always used to isolate traps and scrubbers downstream from the chamber or vacuum pump in the process equipment. Ball valves also are suitable for isolating gauges, vacuum roughing lines, food processing lines and many other industrial applications.

Htc vacuum's ball valves have manual, pneumatic and electric actuators for various customers; custom design is available upon request, please contact us.

Note: Standard voltage 110V, other voltage see note *

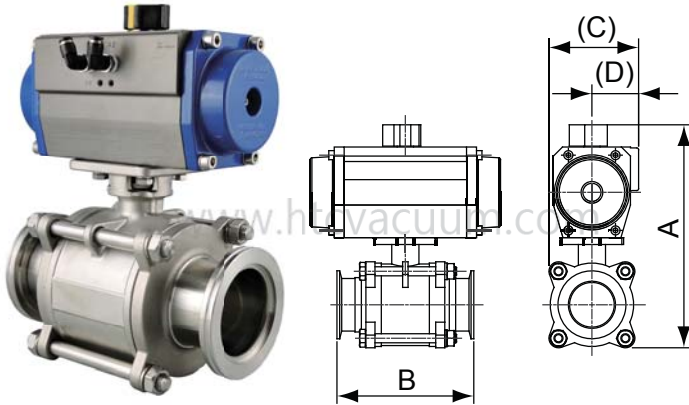


Custom design

BALL VALVES

Pneumatically Actuated

air to open, air to close

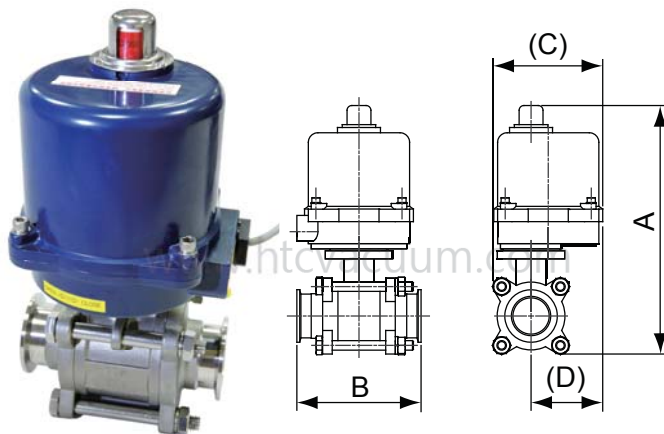


Features

- Valve size for 1" to 2"(25.4mm ~ 50.8mm)
- Flange : KF(NW)
- Pressure Range : 2 bar ~ 1×10^{-4} mbar
- Leak rate: 9×10^{-7} mbar.l/sec
- Body materials : 316 S.S., PTFE
- Max temperature : Cylinder 80°C/ Body 150°C
- Compressed air connector :
- KF25-2x1/8" NPT, KF40-KF50-2x1/4" NPT
- Option : Limit switch , solenoid
- Operating air pressure : 4~7kg/cm²

Model No.	A	B	C	D	Connector	Size"(mm)	Parts No.
KF25BV107P2	173	107	71	41.5	KF25	1"(25.4)	3201113101133
KF40BV130P2	216	130	88	48	KF40	1.5"(38.1)	3201133101133
KF50BV151P2	247	151	99	51.5	KF50	2"(50.8)	3201143101133

Motor drive



Features

- Valve size for 1" to 2"(25.4mm ~ 50.8mm)
- Flange : KF(NW)
- Pressure Range : 2 bar ~ 1×10^{-4} mbar
- Leak rate: 9×10^{-7} mbar.l/sec
- Body materials : 316 S.S., PTFE
- Max temperature : Motor drive 80°C/ Body 150°C
- Time to full open : 50Hz-13sec, 60Hz-12sec
- * The last letter of the P/N represents the Motor Voltage :
A=AC 110V , B= AC 220V ,
C=AC 220 3Ø , D=AC 380 3Ø
- Option : Limit switch

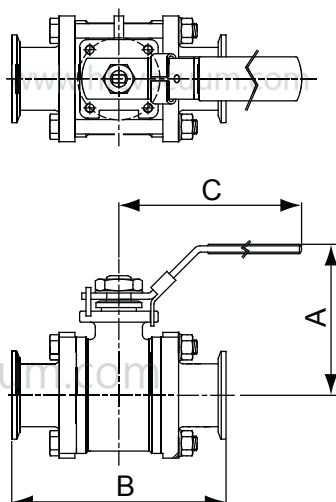
Note: Standard voltage 110V, other voltage see note*

Model No.	A	B	C	D	Connector	Size"(mm)	Parts No.
KF25BV107E	231	107	114	79	KF25	1"(25.4)	320111310113A
KF40BV130E	258	130	119	79	KF40	1.5"(38.1)	320113310113A
KF50BV151E	318	151	114	57	KF50	2"(50.8)	320114310113A



BALL VALVES

Manually Operated, KF TYPE

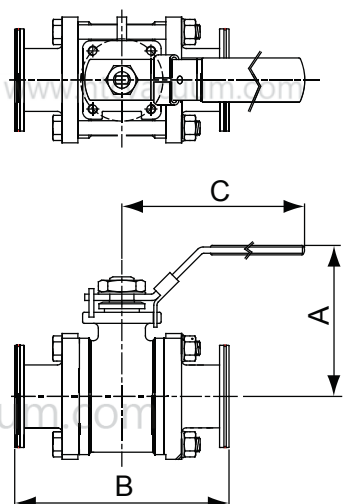


Features

- Flange : KF(NW)
- Operation 1/4 Turn manual open and close
- Pressure Range : 2 bar ~ 1×10^{-4} mbar
- Leak rate: 9×10^{-7} mbar.l/sec
- Wetted materials : 316 S.S., Viton, PTFE
- Max pressure : 2 bar
- Operating temperature : 150°C max

Model No.	A	B	C	Connector	Size"(mm)	Parts No.
KF16BV092	63	92	140	KF16	3/4"(19.05)	3201093101131
KF25BV107	76	107	157	KF25	1"(25.4)	3201113101131
KF40BV130	96	130	159	KF40	1.5"(38.1)	3201133101131
KF50BV151	102	151	178	KF50	2"(50.8)	3201143101131
KF80BV242	155	242	262	KF80	3"(76.2)	3201163101131
KF100BV254	180	254	290	KF100	4"(101.6)	3201183101131

Manually Operated, ISO TYPE



Features

- Flange : ISO
- Operation 1/4 Turn manual open and close
- Pressure Range : 2 bar ~ 1×10^{-4} mbar
- Leak rate: 9×10^{-7} mbar.l/sec
- Materials : 316 S.S., Viton, PTFE
- Max : 2 bar
- Operating temperature : 150°C max

Model No.	A	B	C	Connector	Size"(mm)	Parts No.
ISO80BV242	155	242	262	ISO80	3"(76.2)	3201163103131
ISO100BV254	180	254	290	ISO100	4"(101.6)	3201183103131

CHECK VALVES

Vertical direction

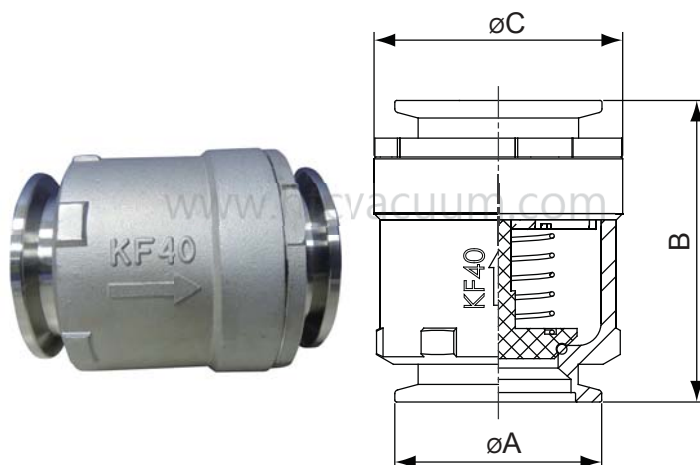


Features

- Flange : KF(NW)
- Material: body : CF8M(316) /Seal : Viton
- Temp rage : -5°C~100°C
- Leak rate : 1×10^{-5} mbar.l/sec
- Pressure range : 1×10^{-4} mbar
- Relief minimum pressure ΔP : 7mbar
- Peak pumping speed : 10000(L/min)
- Installation position : Vertical

Model No.	A	B	C	Installation	Port	Weight (Kg)	Parts No.
KF40CV80	55	80	66	Vertical	KF40	0.7	34011301100

Any direction

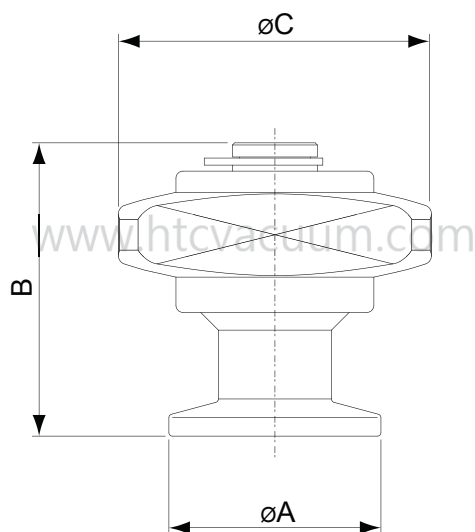


Features

- Flange : KF(NW)
- Material: body : CF8M(316) /Seal : Viton
- Temp rage : -5°C~100°C
- Leak rate : 1×10^{-5} mbar.l/sec
- Pressure range : 1×10^{-4} mbar
- Relief minimum pressure ΔP : 7mbar
- Pea pumping speed : 10000(L/min)
- Installation position : Any

Model No.	A	B	C	Installation	Port	Weight (Kg)	Parts No.
KF40CV80S	55	80	66	Any	KF40	0.75	34011311100

VENT VALVES



Model No.	A	B	C	Port	Parts No.
KF10VVM	30	41.5	48	KF10	340207011
KF16VVM	30	41.5	48	KF16	340209011
KF25VVM	40	41.5	48	KF25	340211011
KF40VVM	55	41.5	48	KF40	340213011

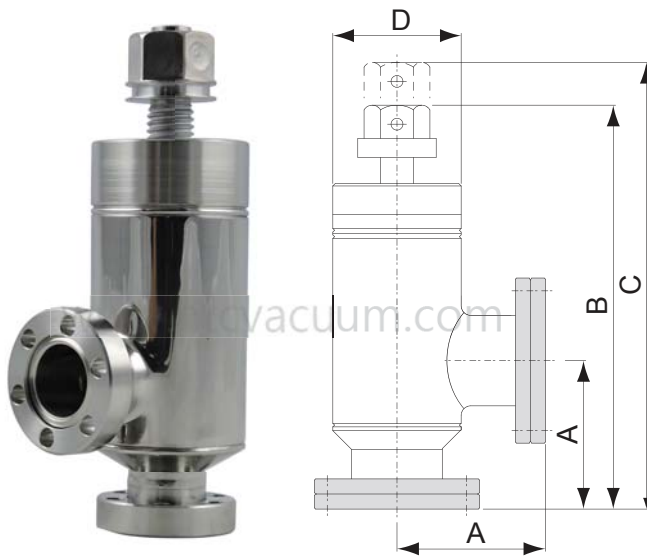
Features

- Flange:KF(NW)
- Installation Angle: Any
- Valve completely opened: 2 Turns
- Venting Times(50L): 14 Sec
- Pressure Range: 1×10^{-8} mbar ~ 1000mbar
- Leak rate: 1×10^{-9} mbar.l/s
- Valve Body: 304S.S.
- Plate: 304S.S.
- Washer: Teflon
- O-ring: Viton
- Screw cap: Aluminum
- Weight: 0.1kg



BAKEABLE ALL-METAL VALVES

Angle Valve

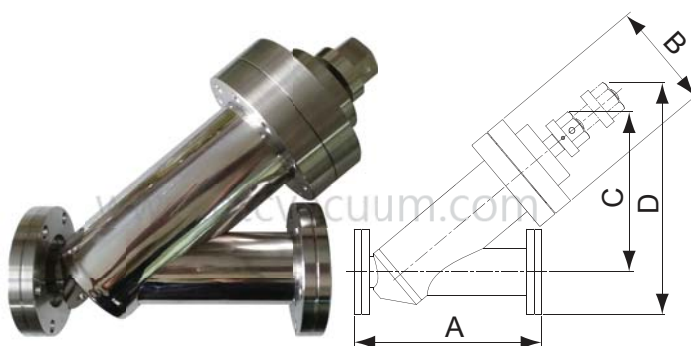


Features

- Temperature operating range:
- Bakeable to: 400°C(open), 300°C(close)
- Cryogenic to: -200°C
- Pressure Range: 1×10^{-10} mbar~1000mbar
- All stainless steel construction
- Bellows stem seal
- Leak Rate: 5×10^{-10} mbar.l/sec
- Closure Torque:
CR16 First 150kg-cm, Maximum 250kg-cm
CR35 First 300kg-cm, Maximum 600kg-cm.
CR63 First 300kg-cm, Maximum 900kg-cm.
- Orientation: Any position

Model No.	A	B	C	D	O.D.	Parts No.
AVBAK-CR16	38.1	121.2	131	38.1	19.05	300509030011
AVBAK-CR35	62.5	170	187	54	38.1	300513030011
AVBAK-CR63	105	266	294	76.2	63.5	300515030011

Straight-Through Valve



Features

- Temperature operating range:
- Bakeable to: 400°C(open), 300°C(close)
- Cryogenic to: -200°C
- Pressure Range: 1×10^{-10} mbar~1000mbar
- All stainless steel construction
- Bellows stem seal
- Leak Rate: 5×10^{-10} mbar.l/sec
- Closure Torque:
CR35 First 300kg-cm, Maximum 600kg-cm.
CR63 First 300kg-cm, Maximum 900kg-cm.
- Orientation: Any position

Model No.	A	B	C	D	O.D.	Parts No.
STVBAK-CR35	152.4	86	125	184	38.1 / 25.4	307513030011
STVBAK-CR63	228.6	113.6	165	247	60.5 / 34	307515030011

TEFLON COATING VACUUM VALVE(TCVV)

Technical data

Flanges	KF & ISO
Installation angle	Any position
Pressure range	1atm ~ 1×10^{-7} mbar
Leak rate	2×10^{-9} mbar.l/s
Material of valve body	304S.S.
Material of lining	Teflon (Perma Shield Coating)
Poppet seal	Viton(other material available upon request)
Operating air pressure	4 ~ 6.5 kg/cm ²
Solenoid	Option
Reed sensor	Qty:2 (VDC4~24 ; VAC4~240 ; 5~40mA)

Features

- 1 Teflon coating and Teflon parts inside valve for process gases.
- 2 Very smooth surface of the coating layer.
- 3 Continuous use to 120°C in most applications.
- 4 The coating layer is mechanically tough with excellent adhesion and abrasion resistance.
- 5 The coating layer is inert and will not absorb water or chemicals.
- 6 Fully opening for improved conductance.
- 7 Position sensors can be installed on the cylinder for valve open/close indication.
- 8 FFKM O-ring available upon request.
- 9 Manual operating or fail safe operating (closes in the event of air pressure loss) available upon request.

Applications

Teflon coating vacuum valve(TCVV) is a fully engineered device of stainless steel vacuum component with its durable and highly chemical resistant coating. The Teflon (Perma Shield Coating) lining is available in a wide range of Htc's standard vacuum valves from 1"(25)valve port diameter to 6"(150)port diameter.

With more options to get the job done than any other vacuum parts manufacturer and the ability to produce customized design valves. TCVV can meet most of your corrosive fume exhaust duct and vent pipe requirements.

TCVV can be applied in the following industries :mining, petrochemical, plastic industries, gas refining, power plant, gas manufacture, electronic industries, pharmaceutical, semiconductor industries, optoelectronic industries, solar cell industries etc.



 TEFLON COATING VALVES

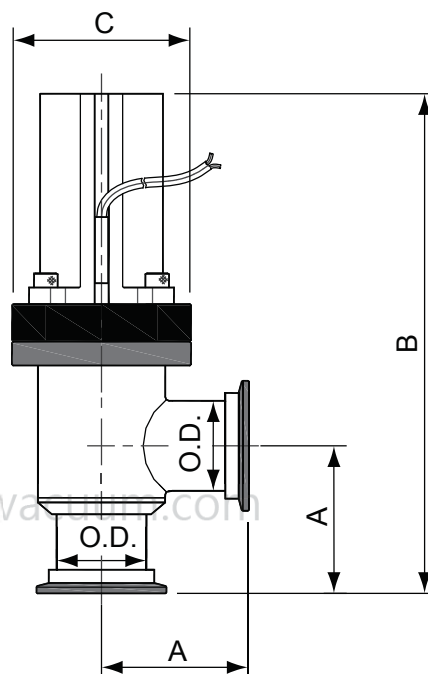
Angle valve-Pneumatic



Normally Close



Normally Open



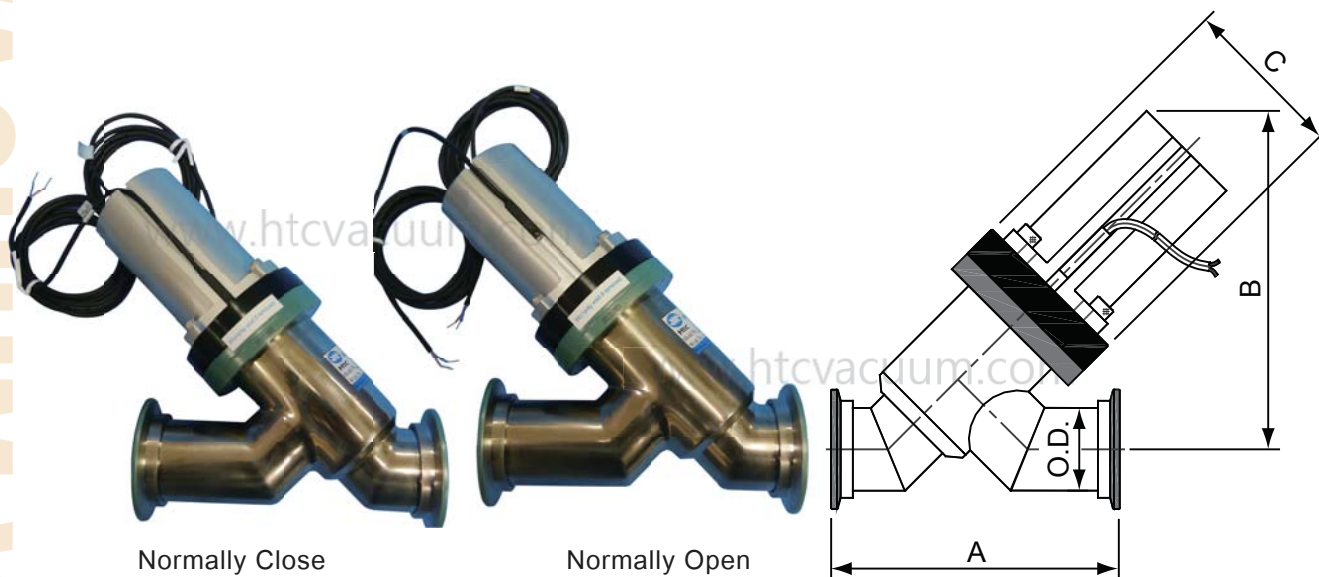
Model No.	A"(mm)	B"(mm)	C"(mm)	O.D. "(mm)	Note	Parts No.
AVTCS-KF25-P	2.03"(51.6)	6.53"(166.6)	2.24"(56.8)	1"(25.4)	Normally Close	300711110250
AVTCS-KF25-P-N0	2.03"(51.6)	6.45"(165.9)	2.24"(56.8)	1"(25.4)	Normally Open	300711410250
AVTCS-KF40-P	2.4"(61)	8.28"(210.2)	2.98"(75.8)	1.5"(38.1)	Normally Close	300713110250
AVTCS-KF40-P-N0	2.4"(61)	8"(203.2)	2.98"(75.8)	1.5"(38.1)	Normally Open	300713410250
AVTCS-KF50-P	3.4"(86.3)	10.5"(267.6)	3.48"(88.4)	2"(50.8)	Normally Close	300714110250
AVTCS-KF50-P-N0	3.4"(86.3)	10.4"(263.5)	3.48"(88.4)	2"(50.8)	Normally Open	300714410250

Note:

1. Normally close : spring to close, air to open
Normally open : spring to open, air to close
2. Dimension in inch(mm) unless otherwise noted

TEFLON COATING VALVES

Y in-line valve-Pneumatic



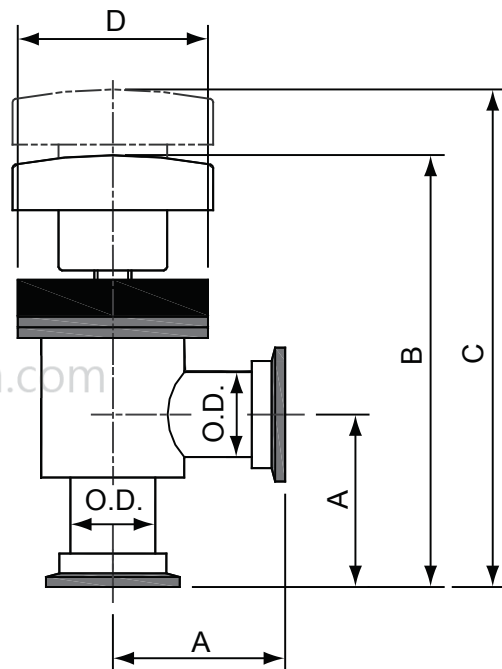
Model No.	A"(mm)	B"(mm)	C"(mm)	O.D. "(mm)	Note	Parts No.
YVTCS-KF25-P	4.2"(106.8)	4.76"(120.96)	2.24"(56.8)	1"(25.4)	Normally Close	304711110250
YVTCS-KF25-P-N0	4.2"(106.8)	4.76"(120.96)	2.24"(56.8)	1"(25.4)	Normally Open	304711410250
YVTCS-KF50-P	7"(130)	7.43"(157.83)	3.48"(88.4)	2"(50.8)	Normally Close	304714110250
YVTCS-KF50-P-N0	7"(130)	7.3"(152.88)	3.48"(88.4)	2"(50.8)	Normally Open	304714410250
YVTCS-ISO80-P2	10.5"(268.5)	8.5"(217.22)	4.48"(114)	3"(76.2)	Double-Acting	304716240250
YVTCS-ISO100-P2	13.4"(340.6)	10.4"(264.45)	5.96"(151.6)	4"(101.6)	Double-Acting	304718240250

Note:

1. Normally close : spring to close, air to open
Normally open : spring to open, air to close
Double-Acting : air to open, air to close
2. Dimension in inch(mm) unless otherwise noted

➔ TEFLON COATING VALVES

Angle Valve-Mannal

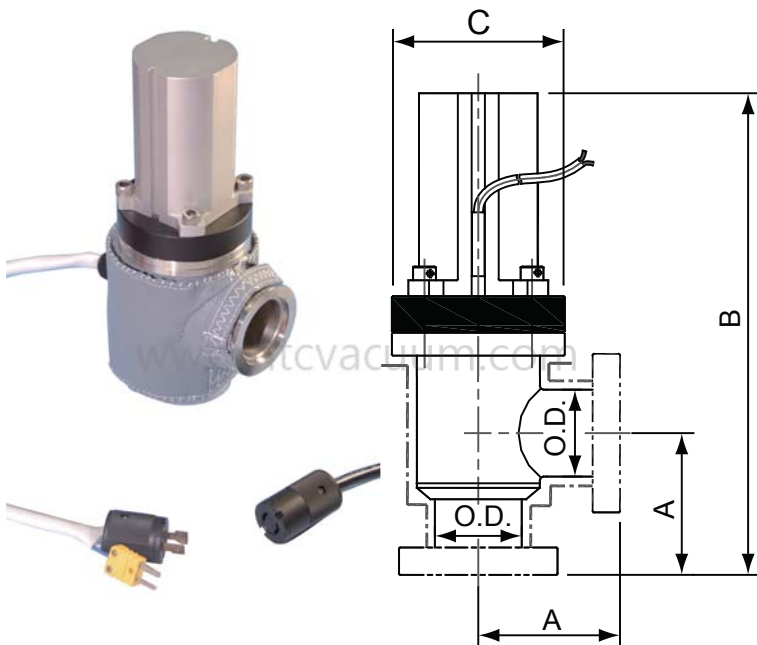


Model No.	A"(mm)	B"(mm)	C"(mm)	D"(mm)	O.D."(mm)	Parts No.
AVTC-KF25-M	2.03"(51.6)	5.27"(133.9)	5.75"(146.2)	2.24"(56.8)	1"(25.4)	300711010050
AVTC-KF40-M	2.4"(61)	6.45"(163.8)	7.2"(183)	2.98"(75.8)	1.5"(38.1)	300713010050
AVTC-KF50-M	3.4"(86.3)	8.15"(207)	9.08"(230.7)	3.48"(88.4)	2"(50.8)	300714010050

➔ Angle Valves with Heating Jacket

Pneumatic Actuated

With bellows, air to open, air to close



Features

- Voltage : 110/220AVC
- Temperature : 170°C
- Connector : K Type Thermocouple & Plug
- Wire Length: 2 m
- Other size of heating jacket could be on request.

Port Connections: KF & ISO Flange

Model No.	A"(mm)	B"(mm)	C"(mm)	O.D."(mm)	Voltage	Parts No.
HAVBS-KF25-P2	2.03"(51.6)	6.14"(155.9)	2.24"(56.8)	1.00"(25.4)	110	300111710216
HAVBS-KF40-P2	2.40"(61)	7.57"(192.2)	2.98"(75.8)	1.50"(38.1)	110	300113710216
HAVBS-KF50-P2	3.4"(86.3)	9.59"(243.6)	3.48"(88.4)	2.00"(50.8)	110	300114710216
HAVBS-ISO63-P2	3.26"(82.8)	10.85"(275.7)	3.92"(99.5)	2.50"(63.5)	110	300115740216
HAVBS-ISO100-P2	4.47"(113.5)	13.86"(352.1)	5.97"(151.6)	4.00"(101.6)	110	300118740216

Valves kit



Figure1



Figure2



Figure3

Spare Parts For 16~50 Manual Bellows Type Vacuum Valves

Kit P/N	Content	Figure	For Port Size inches/(MM)
3001110K	Poppet seal x 1 – Viton Bonnet seal x 1 – Viton	1	0.75" / (16) ; 1.00" / (25)
3001130K			1.50" / (40)
3001140K			2.00" / (50)

Spare Parts For 16~50 Manual Bellows Type Vacuum Valves (air to open , spring to close)

Kit P/N	Content	Figure	For Port Size inches/(MM)
3001115K	Poppet seal x 1 – Viton Bonnet seal x 1 – Viton Shaft seal x 2 – NBR Cylinder seal x 2 – NBR	2	0.75" / (16) ; 1.00" / (25)
3001135K			1.50" / (40)
3001145K			2.00" / (50)

Spare Parts For 16~50 Manual Bellows Type Vacuum Valves (air to open , air to close)

Kit P/N	Content	Figure	For Port Size inches/(MM)
3001116K	Poppet seal x 1 – Viton Bonnet seal x 1 – Viton Shaft seal x 2 – NBR Cylinder seal x 2 – NBR	2	0.75" / (16) ; 1.00" / (25)
3001136K			1.50" / (40)
3001146K			2.00" / (50)

Bellows Assembly Kit

Part No	Content	Figure	For Port Size inches/(MM)
300111000016BA	Bellows Assembly	3	0.75" / (16) ; 1.00" / (25)
300113000016BA			1.50" / (40)
300114000016BA			2.00" / (50)

➡ AL HV Valve Kit



Figure1



Figure2



Figure3

Spare Parts For 16~40 Manual Bellows Type Vacuum Valves

Kit P/N	Content	Figure	For Port Size inches/(MM)
3101090K	Poppet seal x 1 – Viton Bonnet seal x 1 – Viton	1	0.75" / (16)
3101110K			1" / (25)
3101130K			1.50" / (40)

Spare Parts For 16~50 Manual Bellows Type Vacuum Valves (air to open , spring to close)

Kit P/N	Content	Figure	For Port Size inches/(MM)
3101095K	Poppet seal x 1 – Viton Bonnet seal x 1 – Viton	1	0.75" / (16) ; 1.00" / (25)
3101115K			1.50" / (40)
3101135K			2.00" / (50)

Spare Parts For 16~50 Manual Bellows Type Vacuum Valves (air to open ,air to close)

Kit P/N	Content	Figure	For Port Size inches/(MM)
3101096K	Poppet seal x 1 – Viton Bonnet seal x 1 – Viton Shaft seal x 2 – NBR Cylinder seal x 2 – NBR	2	0.75" / (16)
3101116K			1.00" / (25)
3101136K			1.50" / (40)

Bellows Assembly Kit

Part No	Content	Figure	For Port Size inches/(MM)
31010911002ABA	Bellows Assembly	3	0.75" / (16)
31011111002ABA			1.00" / (25)
31011311002ABA			1.50" / (40)

