

# High Vacuum Flange Valve VHE/VHD Series



## Technical Specifications

Technical Specifications	16	25	40	50	63	80	100
Valve Type	NC Type, Double-Acting Type						
Valve Sealing Method	Bellows Seal						
Shaft Sealing Method	O-Ring Seal						
Control Port Connection Port Size	M5		Rc1/8"				
Operating Fluid	Air, Inert Gas, Vacuum						
Operating Temperature	0°C-60°C						
Operating Pressure	1.3×10 <sup>-6</sup> ~1×10 <sup>6</sup> pa						
Pilot Control Pressure	0.4~0.7MPa						
Internal Leakage	1.3×10 <sup>-10</sup> Pa·m <sup>3</sup> /s(He)						
External Leakage	1.3×10 <sup>-11</sup> Pa·m <sup>3</sup> /s(He)						
Conductance	5L/S	14L/S	45L/S	80L/S	160L/S	200L/S	250L/S
Copper-Free	Copper-Free						
Main Materials	Cylinder Body, Valve Body: Aluminum Alloy AL6063-T5, Bellows: SUS316L, Sealing Material: FKM						
Weight	0.26kg	0.6kg	1.27kg	1.96kg	3.54kg	5.58kg	7.15kg

## Product Features

The high vacuum bellows valve is connected to the vacuum control system. After the equipment is evacuated through the high vacuum bellows valve, it is backfilled with air or inert gas. The flow of air or inert gas is then controlled by the opening and closing of the pilot cylinder of the bellows valve.

## Model Designation Method

VHE

16

1

S

-

M9N

-

2

E

① Series Number

② Flange Size

③ Type

④ Magnet

⑤ Sensor Model

⑥ Sensor Quantity

⑦ Solenoid Valve

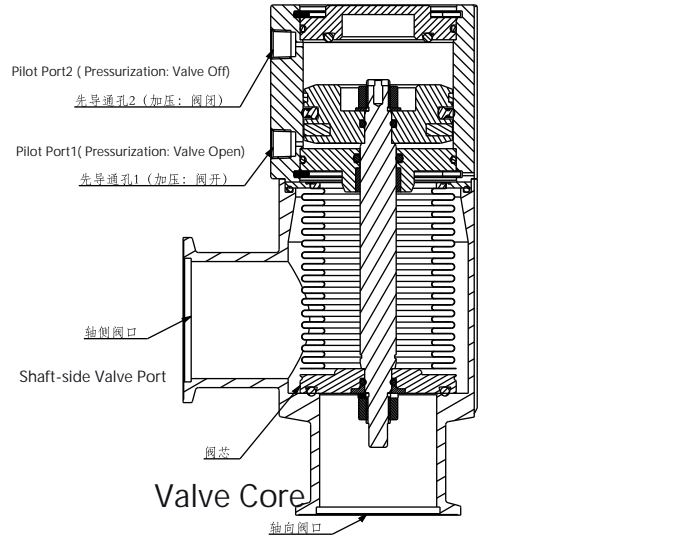
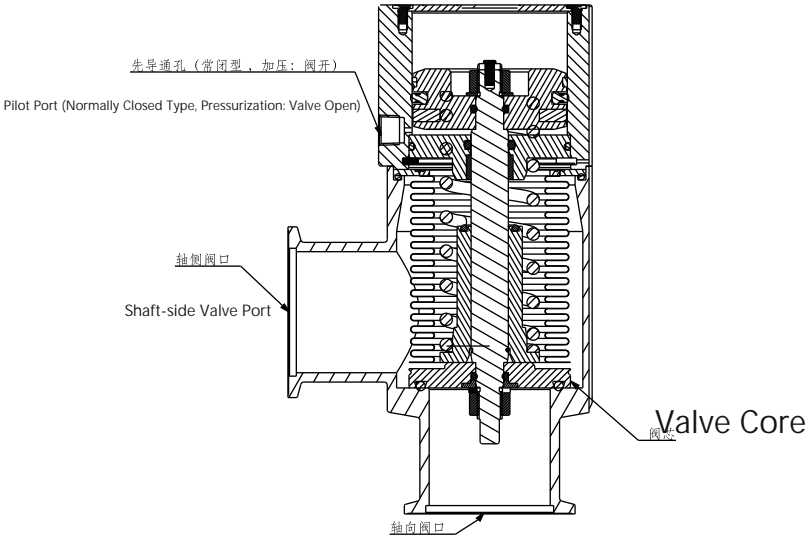
VHE (Bellows Flanger Valve) VHD (Standard Flanger Valve)	16 25 40 50 63 80 100	1: NC Type 2: Double Acting	S: With Magnet	Blank: Without Switch M9N (A)(L)(C) M9B (A)(L)(C)	Blank: None 1: 1 pc 2: 2 pcs	Blank: Without Solenoid Valve E: With Solenoid Valve
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[Note] The standard cable length is 2 meters. To order cable lengths of 1m, 3m, or 5m, please add the suffix A, L, or C respectively after the sensor model code.

## Operation Description

► **Single-Acting**  
 In the natural state, the valve disc is normally closed by the action of the compression spring.  
 When air is supplied to the pilot cylinder, the piston moves the piston rod downward to open the valve body.

► **Double-Acting**  
 When air is supplied to pilot port 1, the piston moves the piston rod downward to open the valve body; when air is supplied to pilot port 2, the piston moves the piston rod upward to close the valve body.



Axial Valve Port

Axial Valve Port

# 高真空挡板阀

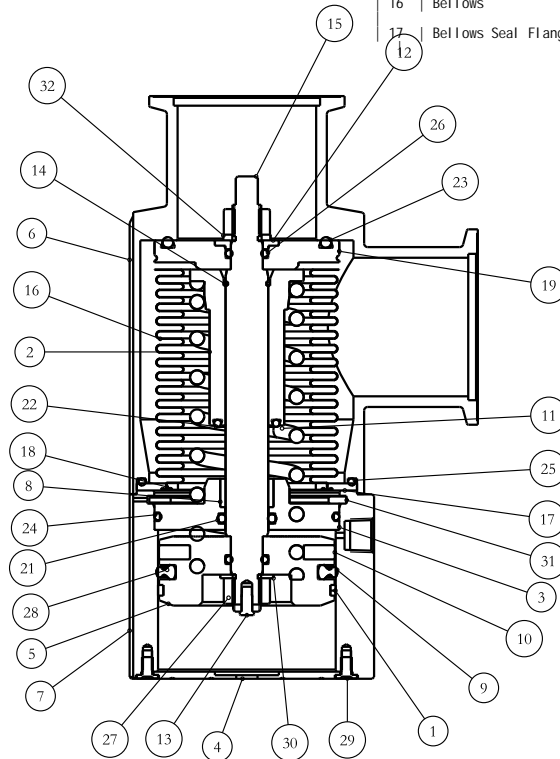
# VHE/VHD Series

## Product Structure Diagram

### ►VHE401S

Single-Acting Type					
No.	Name	Material	序号	Name	Material
1	Wear Ring	POM	18	Bellows Seal Flange2	SUS316L
2	Spring Seat	SUS420	19	波纹管阀盘	SUS316L
3	前端盖	AL6061-T6	20	标签	哑银龙
4	后端盖	AL6061-T6	21	O型圈	-
5	活塞	AL6061-T6	22	O型圈	-
6	阀体	AL6063-T5	23	O型圈	-
7	先导缸体	AL6063-T5	24	O型圈	-
8	轴套	HT250	25	O型圈	-
9	活塞密封	NBR	26	O型圈	-
10	橡胶磁环	NF11	27	全金属六角锁紧螺母	-
11	压缩弹簧	SUS304	28	内六角圆柱头螺钉	-
12	垫片	SUS304	29	十字扁平头螺钉	-
13	指示器	SUS304	30	垫片	-
14	钢丝挡圈	SUS304	31	孔用卡簧	-
15	活塞杆	SUS304硬铬棒	32	弹簧垫圈	-
16	波纹管	SUS316L	33	防尘盖	-
17	波纹管密封法兰1	SUS316L			

No.	Name	Material	No.	Name	Material
1	Wear Ring	POM	18	Bellows Seal Flange 2	SUS316L
2	Spring Seat	SUS420	19	Bellows Valve Disc	SUS316L
3	Front End Cover	AL6061-T6	20	Label	Matt Silver
4	Rear End Cover	AL6061-T6	21	O-Ring	-
5	Piston	AL6061-T6	22	O-Ring	-
6	Valve Body	AL6063-T5	23	O-Ring	-
7	Pilot Cylinder Body	AL6063-T5	24	O-Ring	-
8	Bushing	HT250	25	O-Ring	-
9	Piston Seal	NBR	26	O-Ring	-
10	Rubber Magnet Ring	NF11	27	All-Metal Hex Lock Nut	-
11	Compression Spring	SUS304	28	Socket Head Cap Screw	-
12	Washer	SUS304	29	Cross Flat Head Screw	-
13	Indicator	SUS304	30	Shim	-
14	Wire Snap Ring	SUS304	31	Hole Snap Ring	-
15	Piston Rod	SUS304 Hard Chrome Plated Rod	32	Spring Washer	-
16	Bellows	SUS316L	33	Dust Cover	-
17	Bellows Seal Flange 1	SUS316L			



# High Vacuum Flange Valve

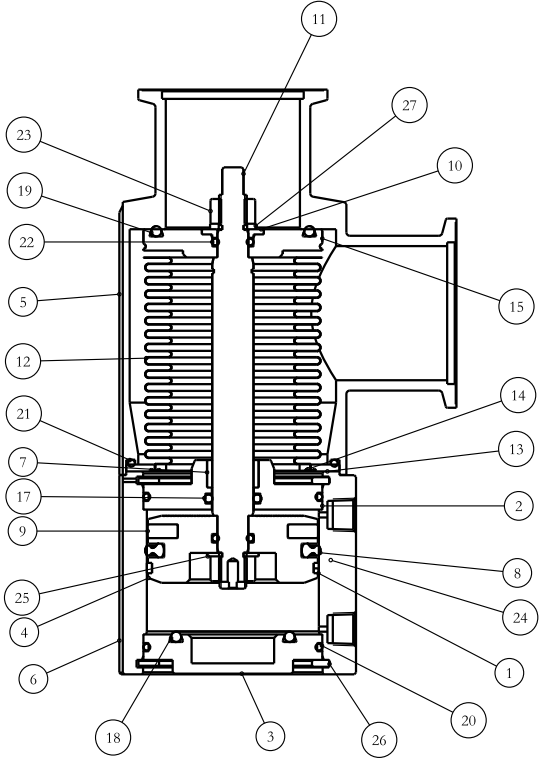
# VHE/VHD Series

## Product Structure Diagram

►VHE402S

双作用型					
序号	名称	材料	序号	名称	材料
1	耐磨环	POM	15	波纹管阀盘	SUS316L
2	前端盖	AL6061-T6	16	标签	哑银龙
3	后端盖	AL6061-T6	17	O型圈	-
4	活塞	AL6061-T6	18	O型圈	-
5	阀体	AL6063-T5	19	O型圈	-
6	先导缸体	AL6063-T5	20	O型圈	-
7	轴套	HT250	21	O型圈	-
8	活塞密封	NBR	22	O型圈	-
9	橡胶磁环	NF11	23	全金属六角锁紧螺母	-
10	垫片	SUS304	24	内六角圆柱头螺钉	-
11	活塞杆	SUS304硬铬棒	25	垫片	-
12	波纹管	SUS316L	26	孔用卡簧	-
13	波纹管密封法兰1	SUS316L	27	弹簧垫圈	-
14	波纹管密封法兰2	SUS316L	28	防尘盖	-

No.	Name	Material	No.	Name	Material
1	Wear Ring	POM	15	Bellows Valve Disc	SUS316L
2	Front End Cover	AL6061-T6	16	Label	Matt
3	Rear End Cover	AL6061-T6	17	O-Ring	-
4	Piston	AL6061-T6	18	O-Ring	-
5	Valve Body	AL6063-T5	19	O-Ring	-
6	Pilot Cylinder Body	AL6063-T5	20	O-Ring	-
7	Bushing	HT250	21	O-Ring	-
8	Piston Seal	NBR	22	O-Ring	-
9	Rubber Magnet Ring	NF11	23	All-Metal Hex Lock Nut	-
10	Washer	SUS304	24	Socket Head Cap Screw	-
11	Piston Rod	SUS304 Hard Chrome Plated Rod	25	Shim	-
12	Bellows	SUS316L	26	Hole Snap Ring	-
13	Bellows Seal Flange 1	SUS316L	27	Spring Washer	-
14	Bellows Seal Flange 2	SUS316L	28	Dust Cover	-



# High Vacuum Flange Valve

## VHE/VHD Series

### Product Structure Diagram

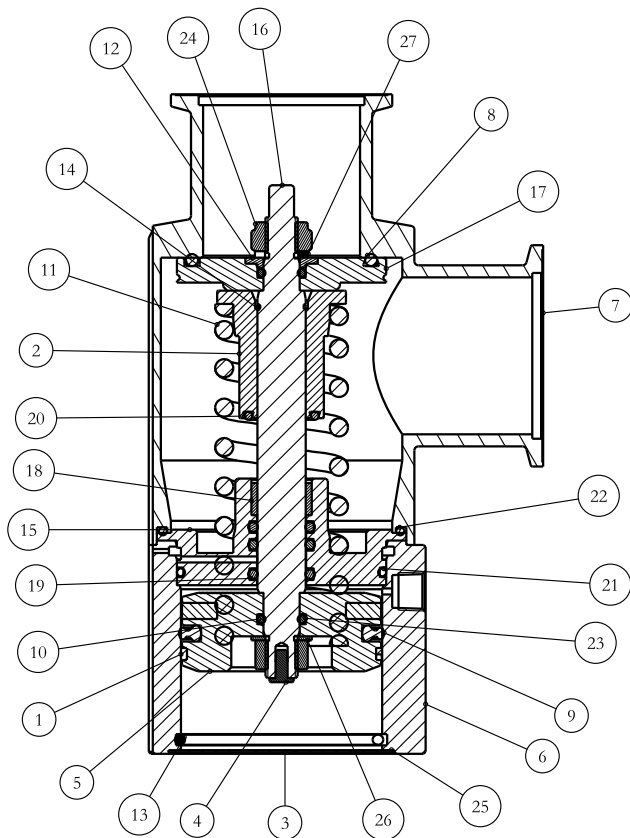
#### ►VHD401

单作用型					
序号	名称	材料	序号	名称	材料
1	耐磨环	POM	15	连接法兰	SUS304
2	弹簧座	SUS304	16	活塞杆	SUS304硬铬棒
3	后端盖	AL5052-T6	17	波纹管阀盘	SUS316L
4	指示器	AL6061-T6	18	轴套	SUS440C
5	活塞	AL6061-T6	19	O型圈	FKM
6	先导缸体	AL6063-T5	20	O型圈	FKM
7	阀体	AL6063-T5	21	O型圈	FKM
8	阀盘密封	FKM	22	O型圈	FKM
9	活塞密封	NBR	23	O型圈	FKM
10	橡胶磁环	NF11	24	全金属六角锁紧螺母	SUS304
11	圆柱弹簧	SUS304	25	内六角圆柱头螺钉	SUS304
12	垫片	SUS304	26	垫片	SUS304
13	孔用钢丝挡圈	SUS304	27	弹簧垫圈	SUS304
14	轴用钢丝挡圈	SUS304			

#### Single Acting Type

No.	Name	Material	No.	Name	Material
1	Wear Ring	POM	15	Connection Flange	SUS304
2	Spring Seat	SUS304	16	Piston Rod	SUS304 Hard
3	Chrome Plated Rod		17	Bel lows Valve Disc	SUS316L
4	Rear End Cover	AL5052-T6	18	Bushing	SUS440C
5	Indicator	AL6061-T6	19	O-Ring	FKM
6	Piston	AL6061-T6	20	O-Ring	FKM
7	Pilot Cylinder Body	AL6063-T5	21	O-Ring	FKM
8	Valve Body	AL6063-T5	22	O-Ring	FKM
9	Valve Disc Seal	FKM	23	O-Ring	FKM
10	Piston Seal	NBR	24	O-Ring	FKM
11	Rubber Magnet Ring	NF11	25	All-Metal Hex Lock Nut	SUS304
12	Cylindrical Spring	SUS304	26	Socket Head Cap Screw	SUS304
13	Washer	SUS304	27	Shim	SUS304
14	Hole Wire Snap Ring	SUS304		Spring Washer	SUS304
	Shaft Wire Snap Ring	SUS304			

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# VHE/VHD系列

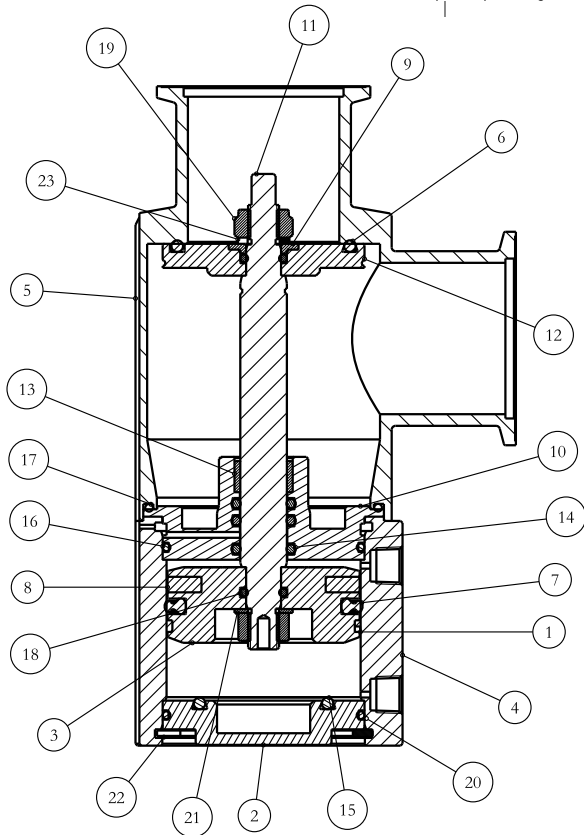
## Product Structure Diagram

### ►VHD402

双作用型					
序号	名称	材料	序号	名称	材料
1	耐磨环	POM	15	O型圈	FKM
2	后端盖	AL6061-T6	16	O型圈	FKM
3	活塞	AL6061-T6	17	O型圈	FKM
4	先导缸体	AL6063-T5	18	O型圈	FKM
5	阀体	AL6063-T5	19	全金属六角锁紧螺母	SUS304
6	阀盘密封	FKM	20	内六角圆柱头螺钉	SUS304
7	活塞密封	NBR	21	垫片	SUS304
8	橡胶磁环	NF11	22	孔用卡簧	SUS304
9	垫片	SUS304	23	弹簧垫圈	SUS304
10	连接法兰	SUS304			
11	活塞杆	SUS304硬铬棒			
12	波纹管阀盘	SUS316L			
13	轴套	SUS440C			
14	O型圈	FKM			

### Double Acting Type

No.	Name	Material	No.	Name	Material
1	Wear Ring	POM	15	O-Ring	FKM
2	Rear End Cover	AL6061-T6	16	O-Ring	FKM
3	Piston	AL6061-T6	17	O-Ring	FKM
4	Pilot Cylinder Body	AL6063-T5	18	O-Ring	FKM
5	Valve Body	AL6063-T5	19	All-Metal Hex Lock Nut	SUS304
6	Valve Disc Seal	FKM	20	Socket Head Cap Screw	SUS304
7	Piston Seal	NBR	21	Shim	SUS304
8	Rubber Magnet Ring	NF11	22	Hole Snap Ring	SUS304
9	Washer	SUS304	23	Spring Washer	SUS304
10	Connection Flange	SUS304			
11	Piston Rod	SUS304 Hard Chrome Plated Rod			
12	Bellows Valve Disc	SUS316L			
13	Bushing	SUS440C			
14	O-Ring	FKM			

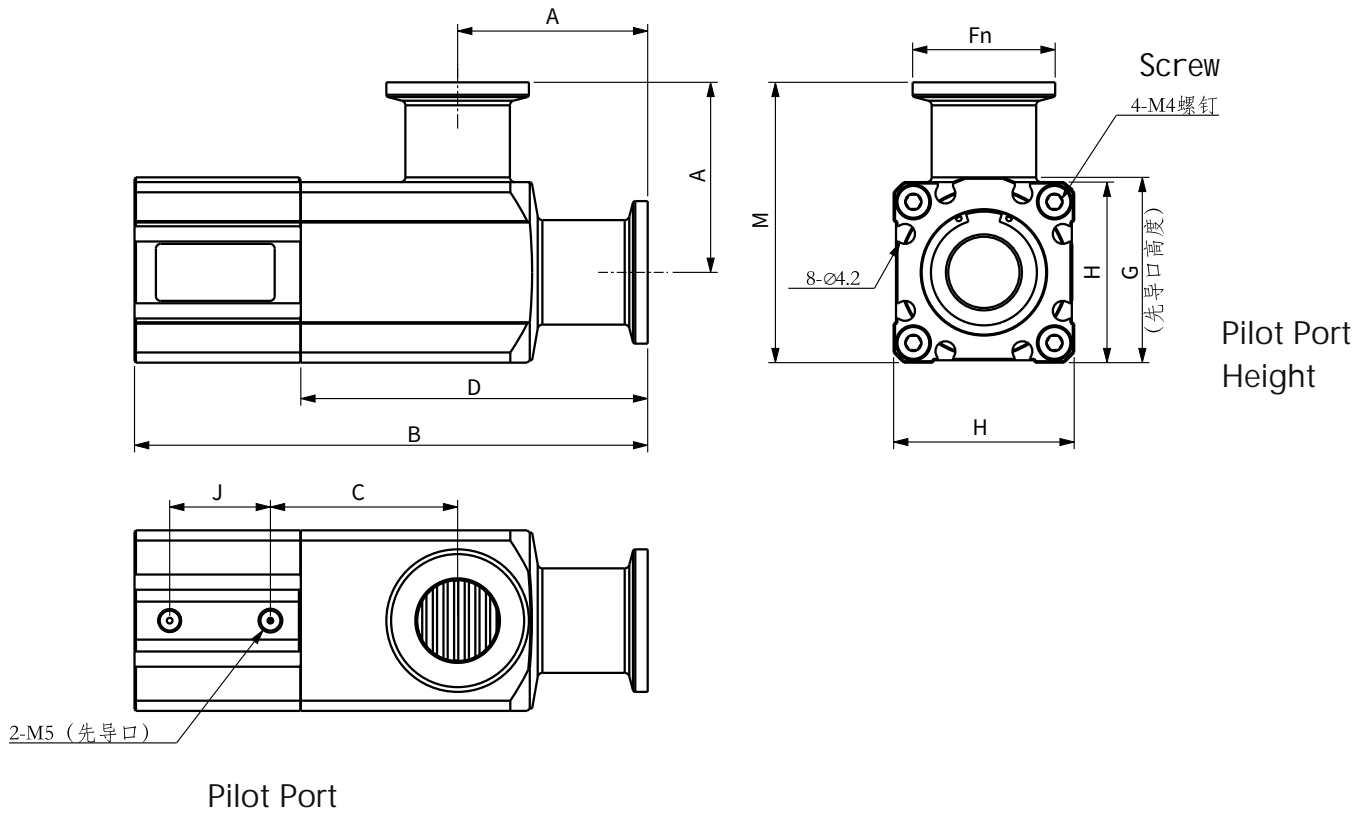


# 高真空挡板阀

# VHE/VHD系列

## Operation Description

► Double-Acting



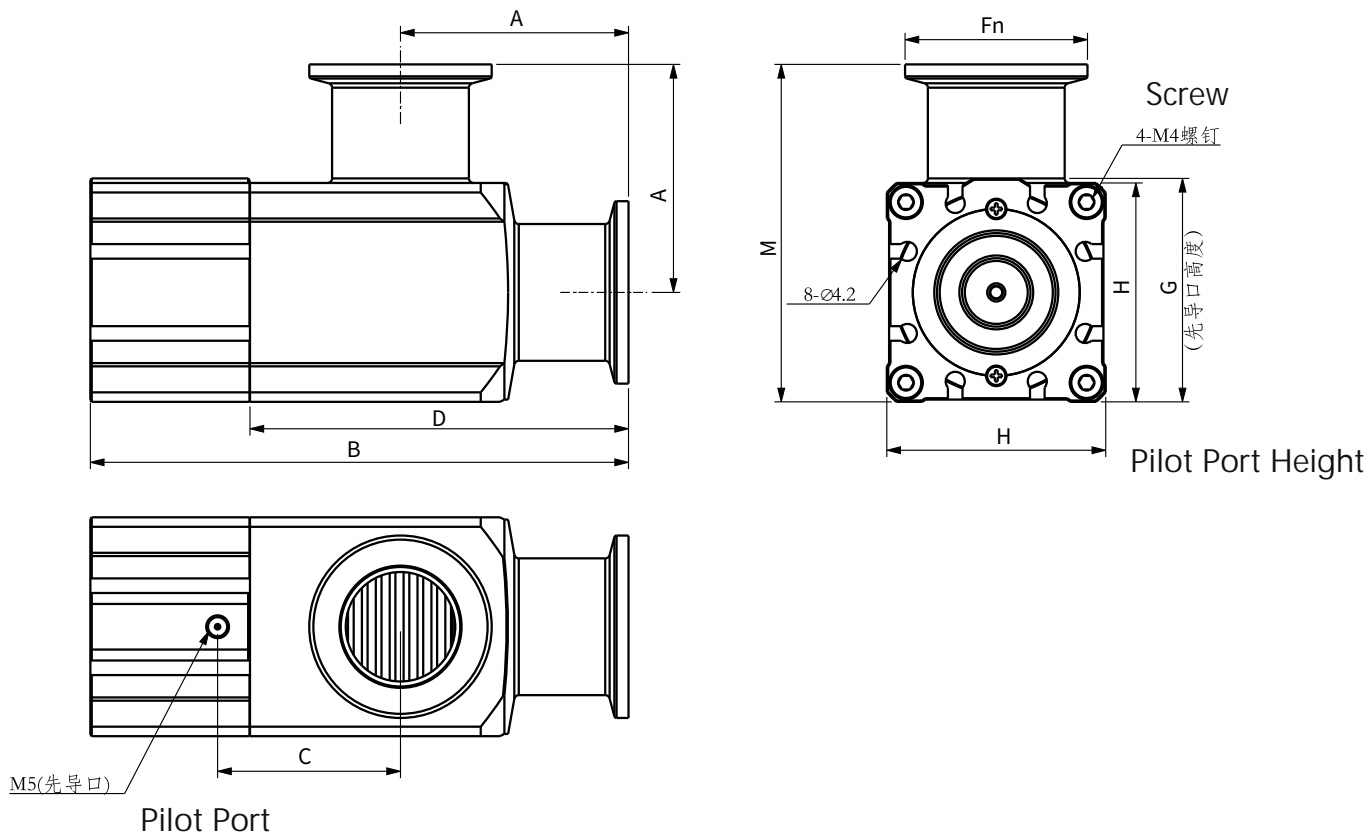
Model	A	B	C	D	E	Fn	G	H	J
VHE162S	40	108	39.4	73	59	30	39	38	21.2
VHE252S	50	121	40.1	83	74	40	49	48	22.8
VHE402S	65	170	58.65	112	98	55	68.6	66	33.2
VHE502S	70	181	62.75	121	109.5	75	81.5	79	35.9
VHE632S	88	206	58.6	133	138	87	101.5	100	44.8
VHE802S	90	248	94.4	173.7	148.5	114	119.5	117	51.9
VHE1002S	108	307	122	217	185	134	157	154	61.5

# 高真空挡板阀

# VHE/VHD系列

## Operation Description

►Single-Acting



Model	A	B	C	D	E	Fn	G	H
VHE161S	40	105	39.4	73	59	30	39	38
VHE251S	50	118	40.1	83	74	40	49	48
VHE401S	65	164	58.65	112	98	55	68.6	66
VHE501S	70	175	62.75	121	109.5	75	81.5	79
VHE631S	88	201	58.6	133	138	87	101.5	100
VHE801S	90	243	94.4	173.7	148.5	114	119.5	117
VHE1001S	108	300	122	217	185	134	157	154