



Manual valve for high vacuum

MVB*17 Series

- Molded bellows method Aluminum body



Specifications

Descriptions	MVB217	MVB317	MVB417	MVB517
Working fluid	Vacuum and inert gas			
Working pressure Pa (abs)	1.3×10^{-6} to 1×10^{-5}			
Max. working differential pressure MPa	0.1			
Valve seat leakage $\text{Pa} \cdot \text{m}^3/\text{s}$ (He)	1.3×10^{-10} or less			
External leakage $\text{Pa} \cdot \text{m}^3/\text{s}$ (He)	1.3×10^{-11} or less			
Proof pressure MPa	0.3			
Fluid temperature °C	5 to 60			
Ambient temperature °C	0 to 60 (no freezing)			
Orifice size mm	ø17	ø24	ø39	ø48
Conductance *1 ℓ/s	5	13	43	74
Connection	NW16	NW25	NW40	NW50
Operating torque *2 N·m	0.15 or more	0.25 or more	0.8 or more	1.5 or more
Number of handle rotations	5	7.5	12	15
Weight kg	0.4	0.6	1.4	2.3
JIS symbol				

*1: The conductance value is the theoretical calculation value in the molecular region, and not the actual measured value.

*2: As you turn the handle, the torque eases suddenly near the fully closed position;

*3: The inner seal has a built-in spring, so there is no problem with the closing capacity.

*4: Grease for vacuum is applied to the O-rings of outer seal parts.

How to order

MVB 4 17- 40K

Model No.

A Series

B Connection

Code	Content	
A Series		
2	Orifice size ø17	
3	Orifice size ø24	
4	Orifice size ø39	
5	Orifice size ø48	
B Connection		
16K	NW16	Only MVB217 is available
25K	NW25	Only MVB317 is available
40K	NW40	Only MVB417 is available
50K	NW50	Only MVB517 is available

[Example of model No.]

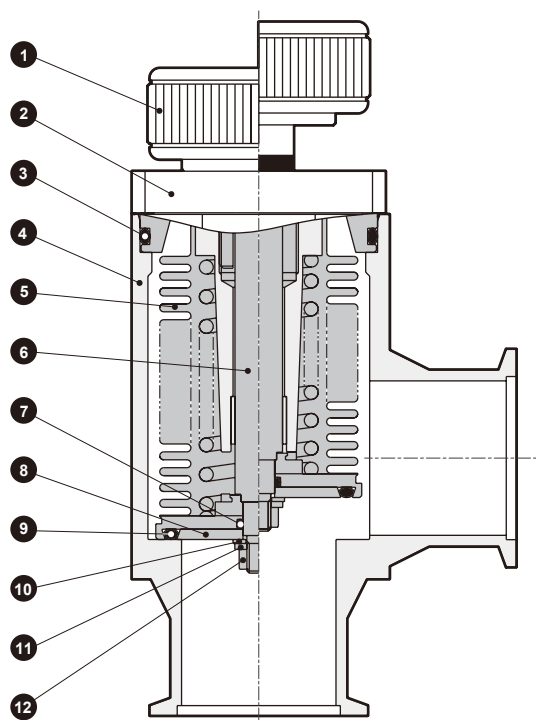
MVB417-40K

Model: MVB417 Manual valve for high vacuum

A Series: Orifice size ø39

B Connection: NW40

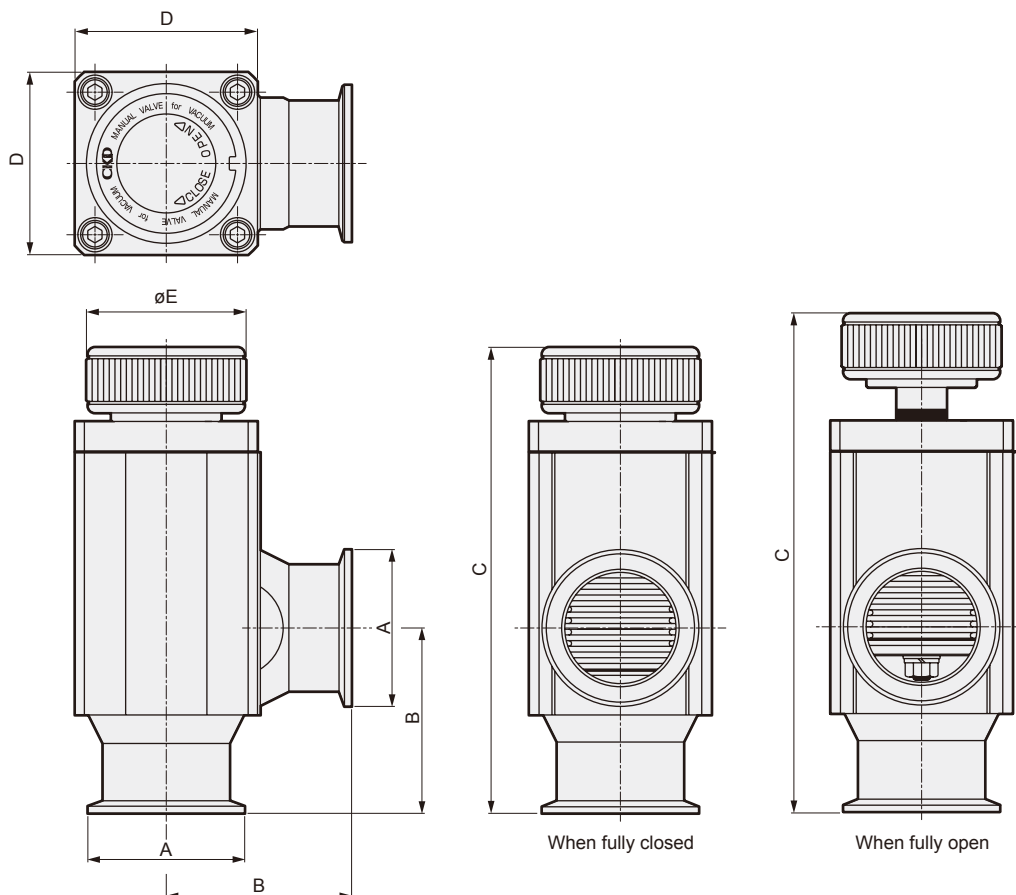
Internal structure and parts list



No.	Part name	Material
1	Handle	SUS303 (16K/25K) A5056 (40K/50K)
2	Adaptor	A5056
3	O-ring	FKM Note
4	Body	A6063
5	Bellows assembly	SUS316L
6	Rod	SUS316L
7	O-ring	FKM Note
8	Valve disc B	SUS316L
9	O-ring	FKM Note
10	Plain washer	SUS304
11	Spring washer	SUS304
12	Hexagon nut	SUS304

Note: Contact CKD for other O-ring material compatibility.

Dimensions



Model No.	A	B	C		D	E
			When fully closed	When fully open		
MVB217	ø30(NW16)	40	115	121	40	32
MVB317	ø40(NW25)	50	127	134	45	38
MVB417	ø55(NW40)	65	164	176	64	56
MVB517	ø75(NW50)	70	178	193	77	69



Manual valve for high vacuum

MVB⁵₆₇0 Series

● Molded bellows ● Handle rotation

RoHS

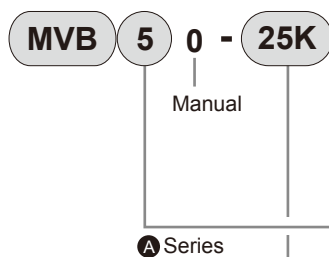
Made to Order

Model No.	Actuation	Connection	Model No.	Actuation	Connection
MVB50	Manual	NW25	MVB70	Manual	NW50
MVB60	Manual	NW40			

Specifications

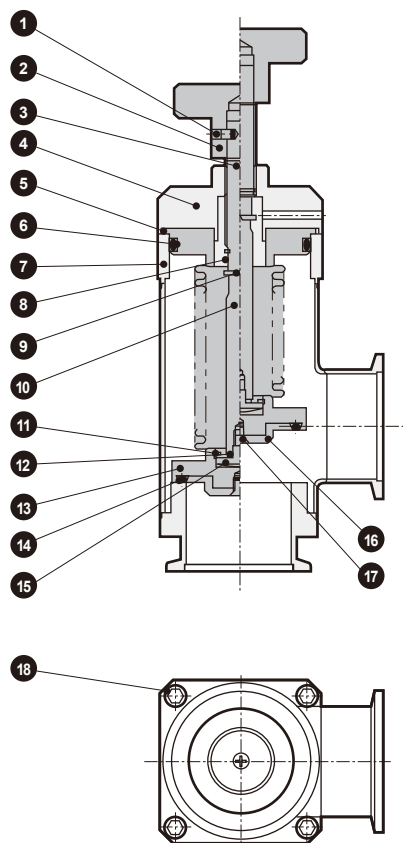
Descriptions	MVB50	MVB60	MVB70
Working fluid	Vacuum and inert gas		
Working pressure Pa (abs)	1.3×10^{-8} to 1×10^5		
Max. working differential pressure MPa	0.1		
Valve seat leakage Pa·m ³ /s (He)	1.3×10^{-9} or less		
External leakage Pa·m ³ /s (He)	1.3×10^{-9} or less		
Proof pressure MPa	0.3		
Fluid temperature °C	5 to 60		
Ambient temperature °C	0 to 60 (no freezing)		
Orifice size mm	ø24	ø40	ø50
Stroke length mm	15	20	22
Valve structure	Molded bellows		
Connection	NW25	NW40	NW50
Weight kg	1.4	2.4	3.2
JIS symbol			

How to order



Code	Content	
A Series		
5	Orifice size ø24	
6	Orifice size ø40	
7	Orifice size ø50	
B Connection		
25K	NW25	Only MVB50 is available
40K	NW40	Only MVB60 is available
50K	NW50	Only MVB70 is available

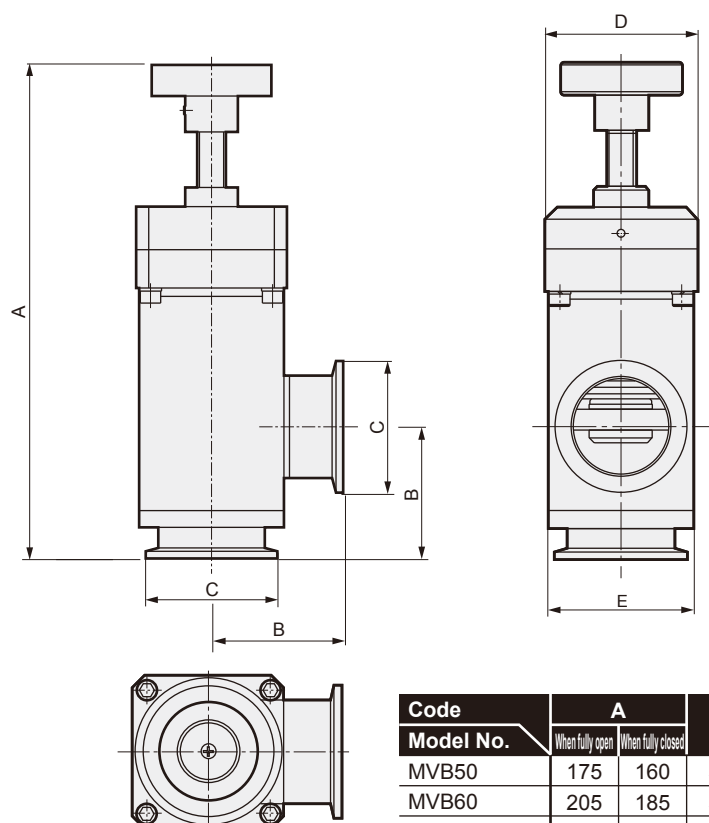
Internal structure and parts list



No.	Part name	Material
①	Hexagon socket set screw	SUS304
②	Manual handle	
③	Manual rod	SUS303
④	Adaptor	A2017
⑤	Bellows assembly	ASL350,SUS316
⑥	O-ring	FKM
⑦	Body assembly	SUS304
⑧	E-snap ring	SUS304
⑨	Spring washer	SUS304
⑩	Rod	SUS316
⑪	Spring washer	SUS304
⑫	C-snap ring	SUS304
⑬	Valve disc A	SUS316
⑭	O-ring	FKM
⑮	Rod piece	SUS304
⑯	Valve disc B	SUS316
⑰	Cross-recessed flat head machine screw	SUS304
⑱	Cross-recessed bolt	SUS304

Dimensions

MVB*0



Code	A		B	C	D	E
Model No.	When fully open	When fully closed				
MVB50	175	160	50	ø40(NW25)	63	ø48.6
MVB60	205	185	55	ø55(NW40)	63	ø60.5
MVB70	252	230	70	ø75(NW50)	78	ø79