Manual valve for high pressure chemical liquid

MMD*0H Series

For chemical liquid lines in semiconductor manufacturing lines
A valve designed to support high pressure and high back pressure.

●Tube connection: 1/2", 1", 1.25"
PFA pipe: Nominal 1/4", 1/2", 3/4", 1"

RoHS CAD

Export controlled items

*Eligibility: MMD40H (*4), MMD50H, 60H

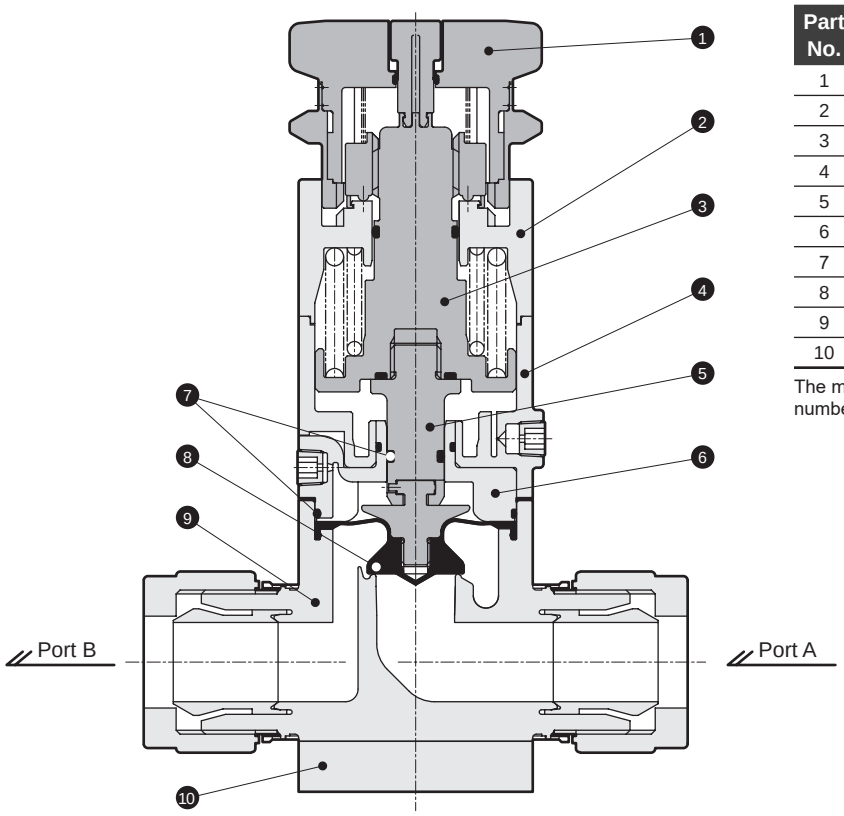
Specifications

Item	MMD40H		MMD50H	MMD60H
Working fluid	Chemical liquids, pure water, air, N_2 gas (*1)			
Fluid temperature °C	5 to 40			
Proof pressure MPa	1.4			
Working pressure (A→B)MPa	0 to 0.7			
Valve seat leakage cm^3/min	0 (water pressure)			
Back pressure MPa	0 to 0.7			
Ambient temperature °C	0 to 40			
Mounting orientation	Unrestricted			
Connection	O.D. 1/2" tube connection Nominal 1/4" PFA pipe for welding	O.D. 3/4" tube connection Nominal 1/2" PFA pipe for welding	O.D. 1" tube connection Nominal 3/4" PFA pipe for welding	O.D. 1.25" tube connection Nominal 1" PFA pipe for welding
Orifice size	ø10	ø16	ø22	ø25
Cv value	2	5 (*2)	9.5	14
Weight kg	0.59		1.1	2.0

*1: Check the compatibility of product structural materials, working fluids and atmosphere.
*2: The Flaretek fitting has Cv of 4.5.
*3: MMD*0H Series cannot be used for flow rate adjustment. Use it either fully closed or fully opened.
*4: 0D1/2" tube connection, excluding nominal 1/4" PFA pipe for welding.

⚠ Always read the precautions on Intro Pages 7 to 14 before use.

Internal structure and parts list



Part No.	Part name	Material (by fluid code)	
		Standard	M
1	Knob	PP	
2	Cover	PP	
3	Shaft	PP	
4	Cylinder	PP	
5	Rod	PP	
6	Diaphragm holder	PP	
7	O-ring	FKM	EPDM
8	Diaphragm	PTFE	
9	Body	PFA	
10	Mounting plate	PP	

The material and structure may vary depending on the model number. Contact CKD for details.

Manual valve operation method

● OPEN

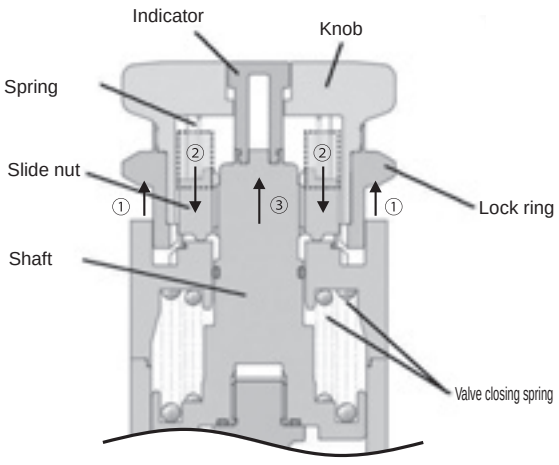
Confirm that the lock ring has slid to the upper limit. (↑ (1))
When turning the knob in the OPEN direction, the first few turns will be idle.
When idling, the slide nut moves downward while rotating, comes to the position shown in the figure and stops moving downward. (↓ (2))
If turned further, the knob will rotate and raise the shaft with the thrust of the rotation, and the valve will open. (↑ (3) Indicator rises.)

Knob top display

● CLOSE

Confirm that the lock ring has slid to the upper limit. (↑ (1))
Turning the knob clockwise will close the valve.
(Indicator falls.)
When turning the knob further in the CLOSE direction while the valve is closed (indicator lowered position), it will idle.
→ This prevents overtightening.
Even when it is idling, the fluid can be stopped as the valve closing spring is activated.

In the idling state, the slide nut and shaft screw will rotate to the point where they are disengaged, but the slide nut is constantly pushed by the spring, so turning the screw in the OPEN direction once more will cause the screws to engage again.



● Knob lock

After operating the knob, you can slide the lock ring to the lower limit and lock the lock ring so that the knob does not turn.
→ This can prevent misoperation.

● Do not operate while applying lateral force to the knob. Do not forcibly turn the knob after the valve OPEN and after the knob is locked. There is a risk of part damage.

How to order

●MMD*0H Series

MMD40H - **4BJ** - **M**
MMD50H
MMD60H

Model No.
❶ Connection
❷ Fluid

		MMD40H						MMD50H			MMD60H	
❶ Connection		4BJ	6BJ	4BW	6BW	2W	4W	8BJ	8BW	6W	10BJ	8W
		Super 300 Pillar fitting P series integrated		Flaretek Fitting Integrated		For welding PFA pipe		Super 300 Pillar fitting P series integrated	Flaretek Fitting Integrated	For welding PFA pipe	Super 300 Pillar fitting P series integrated	For welding PFA pipe
		1/2" x 3/8" tube connection	3/4" x 5/8" tube connection	1/2" x 3/8" tube connection	3/4" x 5/8" tube connection	Nominal 1/4" PFA pipe for welding	Nominal 1/2" PFA pipe for welding	1" x 7/8" tube connection	1" x 7/8" tube connection	Nominal 3/4" PFA pipe for welding	1" 1/4× 1" 1/10 Tube connection	Nominal 1" PFA pipe for welding
Code	Description / Orifice size	ø10	ø16	ø10	ø16	ø10	ø16	ø22			ø25	
Body material		PFA molded body										
❷ Fluid												
Blank	Standard	●	●	●	●	●	●	●	●	●	●	●
M	For ammonia (Note)	●	●	●	●	●	●	●	●	●	●	●

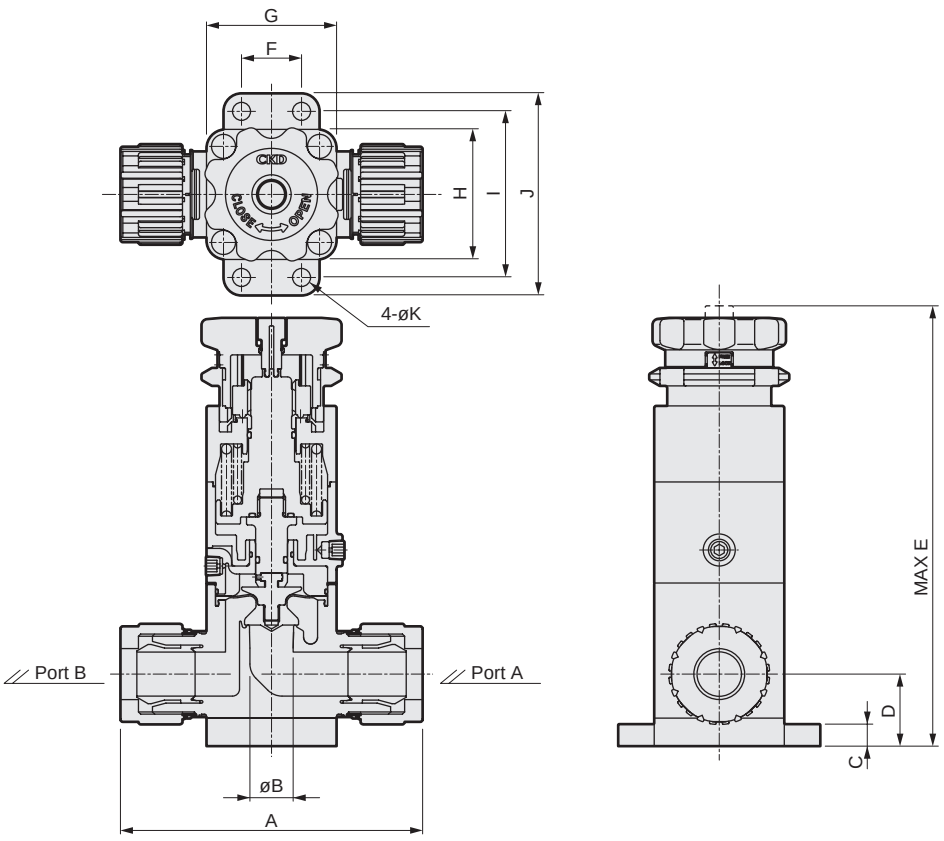
Precautions for model No. selection

Note: Available as made to order

Dimensions

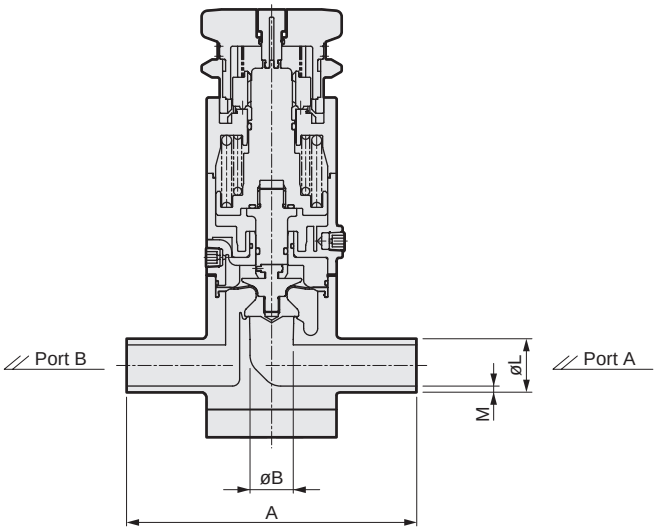
●Integrated fitting

・MMD $\begin{smallmatrix}4\\5\\6\end{smallmatrix}$0H-*BJ
*BW



●Pipe for welding

・MMD $\begin{smallmatrix}4\\5\\6\end{smallmatrix}$0H-*W



Model No.	Connector No.	A	B	C	D	E	F	G	H	I	J	K	L	M
MMD40H	4BJ	108	10	10	31	183	20	50	50	68	86	9	-	-
	4BW	117	10	10	31	183	20	50	50	68	86	9	-	-
	2W	110	10	10	31	183	20	50	50	68	86	9	13.7	2.3
	6BJ	122	16	10	31	183	20	50	50	68	86	9	-	-
	6BW	126	16	10	31	183	20	50	50	68	86	9	-	-
	4W	130	16	10	31	183	20	50	50	68	86	9	21.3	2.8
MMD50H	8BJ	151	22	11	36	220	30	65	65	83	101	9	-	-
	8BW	161	22	11	36	220	30	65	65	83	101	9	-	-
	6W	145	22	11	36	220	30	65	65	83	101	9	26.7	2.9
MMD60H	10BJ	198	25	12	42	241	38	75	75	93	111	9	-	-
	8W	155	25	12	42	241	38	75	75	93	111	9	33.4	3.4