



Air operated valve for high pressure chemical liquid

AMD*1H Series

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

- Connection tube size: 1/2", 3/4", 1", 1.25"
PFA pipe for welding:
Nominal 1/4", 1/2", 3/4", 1"



Export controlled items

*Eligibility: AMD41H, 51H, 61H (*5)

Variation contents

- Water hammer reduction (L)
- Operating pressure reduction (V)
- Operating pressure reduction + water hammer reduction (VL)

Model No.		Working press (MPa)	Operating press (MPa)	Water hammer Reduction
AMD*1H - * -	Blank	0 to 0.7	0.5 to 0.7	
AMD*1H - * -	L	0 to 0.7	0.5 to 0.7	WH Reduction
AMD*1H - * -	V	0 to 0.5	0.4 to 0.6	
AMD*1H - * -	VL	0 to 0.5	0.4 to 0.6	WH Reduction

Specifications

Item	AMD41H		AMD51H	AMD61H
Actuation	NC (normally closed)			
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			
Frequency	15 cycle/min. or less			
Mounting orientation	Unrestricted			
Connection	O.D. 1/2" tube connection Nominal 1/4" PFA pipe for welding	OD3/4" tube connection Nominal 1/2" PFA pipe for welding	O.D. 1" tube connection Nominal 3/4" PFA pipe for welding	OD1.25" tube connection Nominal 1" PFA pipe for welding
Orifice size	ø10	ø16	ø22	ø25
Cv value	2	5 (*2)	9.5	14
Operating section	Operating pressure MPa	0.5 to 0.7		
	Operating port	Rc1/8		
Weight kg	0.56		1.1	1.3

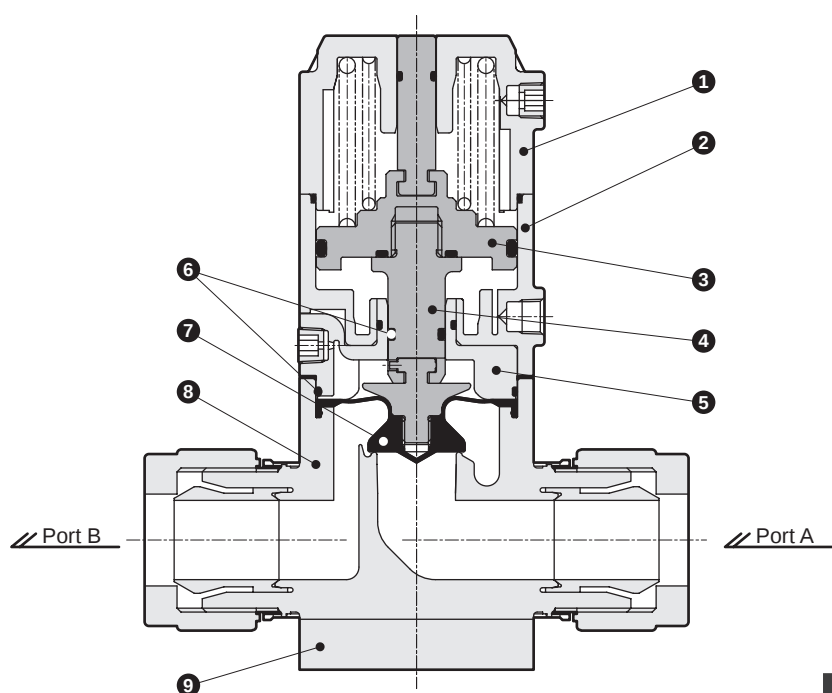
Optional specifications(: Additional specifications)

Item	AMD*1H-*.L	AMD*1H-*.V	AMD*1H-*.VL
Actuation	NC (normally closed)		
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	0 to 0.5	0 to 0.5
Back pressure MPa	0 to 0.7	0 to 0.5	0 to 0.5
Ambient temperature °C	0 to 40		
Frequency	5 cycle/min. or less	15 cycle/min. or less	5 cycle/min. or less
Mounting orientation	Unrestricted		
Operating section	Operating pressure MPa	0.5 to 0.7	0.4 to 0.6
	Operating port	Rc1/8	
Water hammer reduction	●(*4)	—	●(*4)

*1: Check the compatibility of product structural materials, working fluids and atmosphere.
 *2: The Flaretek fitting has a Cv of 4.5.
 *3: Refer to page 80 for flow characteristics.
 *4: The water hammer reduction type has a longer response time than standard. Contact CKD for details.
 *5: Excludes O.D. 1/2" tube connection and nominal 1/4" PFA pipe.

⚠ 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	Cover	PP	
2	Cylinder	PP	
3	Piston	PP	
4	Rod	PP	
5	Diaphragm holder	PP	
6	O-ring	FKM	EPDM
7	Diaphragm	PTFE	
8	Body	PFA	
9	Mounting plate	PP	

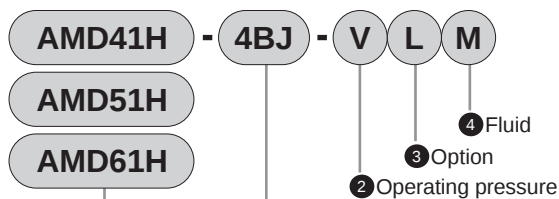
The material and structure may vary depending on the model number. Contact CKD for details.

Part3R	Part2	Part1	High pressure	Metal-free	Large bore size	Polyvinyl chloride	Drainage	Part3RN	Part2	High pressure	Metal-free	Large bore size	Single unit	Air operated integrated	Pilot	Manual	Electric	Manual	Manual/Fine flow rate	Fine level Switch	Related products
			Air operated valve							Manual valve					Regulator						

AMD*1H Series

How to order

●AMD*1H Series



AMD41H						AMD51H			AMD61H	
① 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 1/10" x 1 1/4" tube connection	Nominal 1" PFA pipe for welding
ø10	ø16	ø10	ø16	ø10	ø16	ø22			ø25	
2	5	2	4.5	2	5	9.5			14	
PFA molded body										

Code	Description	Orifice size
Ø10		
Ø16		
Ø10		
Ø16		
Ø10		
Ø16		

2 Operating pressure											
Blank	Standard (0.5 to 0.7 MPa)	●	●	●	●	●	●	●	●	●	●
V	0.4 to 0.6 MPa	●	●	●	●	●	●	●	●	●	●
3 Option											
Blank	Standard	●	●	●	●	●	●	●	●	●	●
L	Water hammer reduction	●	●	●	●	●	●	●	●	●	●
4 Fluid											
Blank	Standard	●	●	●	●	●	●	●	●	●	●
M	For ammonia (*1)	●	●	●	●	●	●	●	●	●	●

*1: Available as made to order.



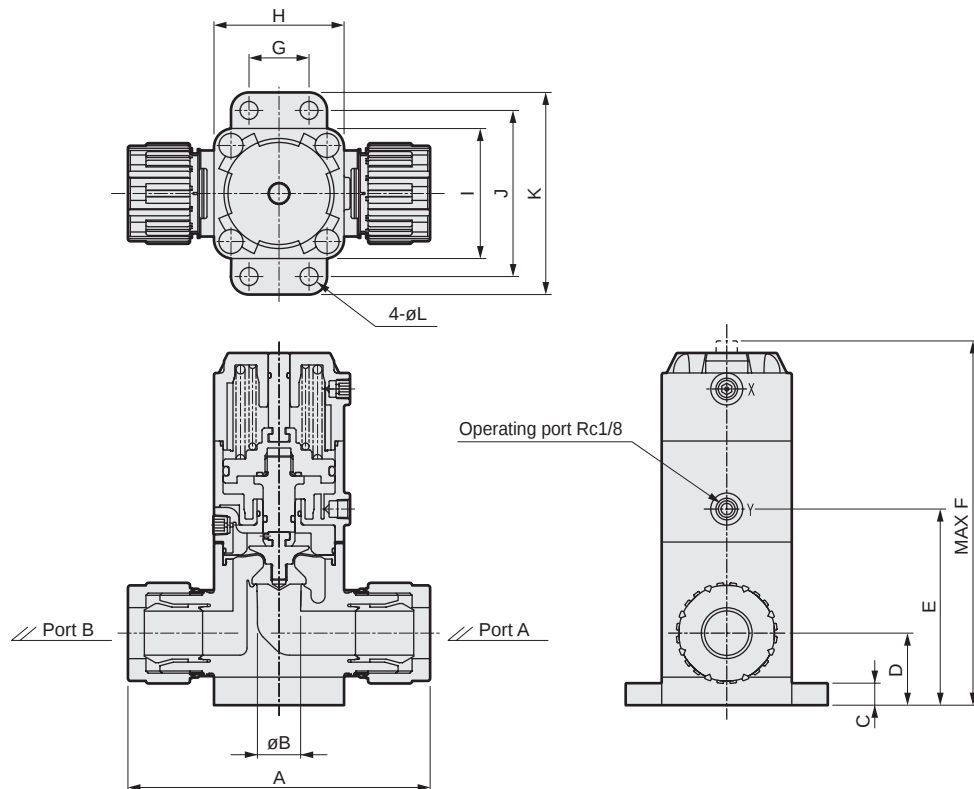
Water Hammer

The option "L" water hammer reduction structure reduces water hammer, but sufficient reduction may not be obtained depending on the piping conditions. Be sure to check with a trial run whether water hammer reduction is obtained after construction. If the reduction is not obtained, review the piping conditions. In general, the shorter and straighter the valve secondary side piping, the greater the reduction performance.

Dimensions

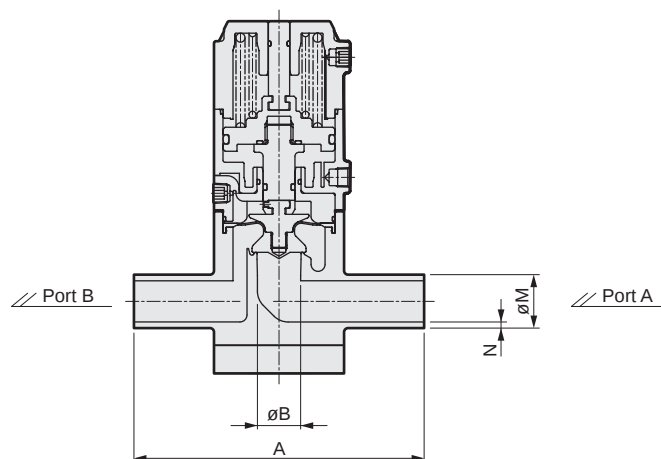
- Integrated fitting

- AMD⁴₅ 1H-* BJ
* BW



- Pipe for welding

- AMD⁴₅ 1H-* W₆



Model No.	Connector No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N
AMD41H	4BJ	108	10	10	31	80	147	20	50	50	68	86	9	-	-
	4BW	117	10	10	31	80	147	20	50	50	68	86	9	-	-
	2W	110	10	10	31	80	147	20	50	50	68	86	9	13.7	2.3
	6BJ	122	16	10	31	80	147	20	50	50	68	86	9	-	-
	6BW	126	16	10	31	80	147	20	50	50	68	86	9	-	-
	4W	130	16	10	31	80	147	20	50	50	68	86	9	21.3	2.8
AMD51H	8BJ	151	22	11	36	98	182	30	65	65	83	101	9	-	-
	8BW	161	22	11	36	98	182	30	65	65	83	101	9	-	-
	6W	145	22	11	36	98	182	30	65	65	83	101	9	26.7	2.9
AMD61H	10BJ	198	25	12	42	111	202	38	75	75	93	111	9	-	-
	8W	155	25	12	42	111	202	38	75	75	93	111	9	33.4	3.4

Part3R	Part2	Part1	High pressure	Metal-free	Large bore size	Polyvinyl chloride	Drainage	Part3RN	Part2	High pressure	Metal-free	Large bore size	Single unit	Air operated Integrated	Pilot	Manual	Electric	Manual	Manual Fine flow rate	Fine level Switch	Related products
	Air operated valve				Manual valve				Dip prevention valve				Regulator				Flow rate adjusting valve				

Related products	Fine level Switch	Manual flow rate		Manual	Electric	Regulator		Manual	Pilot	Air operated Integrated	Single unit	Drip prevention valve				Large bore size	Metal-free	High pressure	Manual valve		Part 2	Part 3RN	Drainage	PVC	Large bore size	Metal-free	High pressure	Part 1	Part 2	Part 3R

Flow characteristics

