



## Water hammerless valve

# AMD\*1L Series

- Orifice:  $\phi$  18,  $\phi$  23,  $\phi$  30,  $\phi$  36,  $\phi$  50
- NC (Normally closed) type

### Specifications

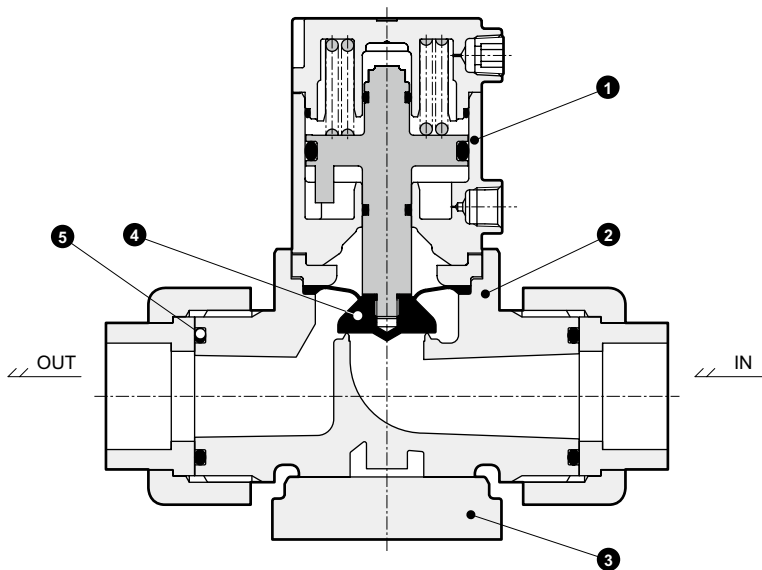
Description	AMD41L-15AU	AMD41L-20AU	AMD51L-25AU	AMD61L-32AU	AMD71L-40AU	AMD81L-50AU
Actuation	NC (Normally closed) type					
Working fluid	Pure water (Note 1)					
Fluid temperature $^{\circ}\text{C}$	5 to 40					5 to 45
Proof pressure MPa	0.8					
Working pressure range (IN→OUT) MPa	0 to 0.4					
Valve seat leakage $\text{cm}^3/\text{min}$	0 (water pressure)					
Back pressure MPa	0 to 0.2					
Ambient temperature $^{\circ}\text{C}$	0 to 40					
Frequency	10 times/min. or less			6 times/min. or less		
Mounting orientation	Free					
Connection	One-piece PVC union fitting					
Orifice	$\phi$ 18	$\phi$ 18	$\phi$ 23	$\phi$ 30	$\phi$ 36	$\phi$ 50
Bypass orifice (with bypass)	$\phi$ 6					
Cv (Note 3)	7 (6.4)	7 (6.4)	10 (10)	17 (17)	24 (24)	50
Operating section	Operating pressure range MPa	NC 0.4 to 0.5 (Note 2)				
	Operating pressure connection port	Rc1/8				

Note 1: For details, refer to the precautions at the end of this document.

Note 2: NO type is available as well. Contact CKD for details. (Except for AMD81L)

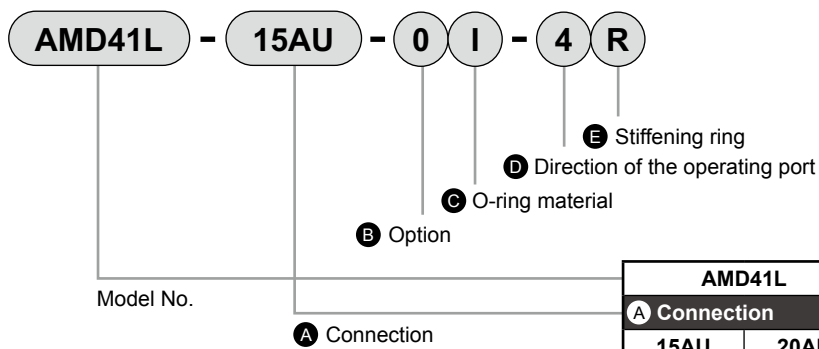
Note 3: The value in ( ) indicates for the types with the flow rate adjustment feature.

### Internal structure and parts list



No.	Parts name	Material	Quantity
1	Actuator assembly	PPS	1
2	Body	PVC	1
3	Mounting plate	PPS	1
4	Diaphragm	PTFE	1
5	O-ring	FKM (EPDM)	2

### How to order



		AMD41L	AMD51L	AMD61L	AMD71L	AMD81L			
<b>A Connection</b>		One-piece PVC union fitting							
		15AU	20AU	25AU	32AU	40AU	50AU		
		Nominal 16	Nominal 20	Nominal 25	Nominal 30	Nominal 40	Nominal 50		
Symbol	Description	Orifice size	φ 18	φ 18	φ 23	φ 30	φ 36	φ 50	
<b>B Option</b>									
0	On/Off only		●	●	●	●	●	●	
1	With flow rate control		●	●	●	●	●	●	
2	With bypass		●	●	●	●	●	●	
3	With flow rate adjustment and bypass		●	●	●	●	●	●	
<b>C O-ring material</b>									
I	FKM		●	●	●	●	●	●	
A	EPDM		●	●	●	●	●	●	
<b>D Direction of the operating port</b>									
4			●	●	●	●	●	●	
1			●	●	●	●	●	●	●
2			●	●	●	●	●	●	●
3			●	●	●	●	●	●	●
<b>E Stiffening ring</b>									
Blank	None		●	●	●	●	●		
R	Included		●	●	●	●	●		

### ⚠ Note on model No. selection

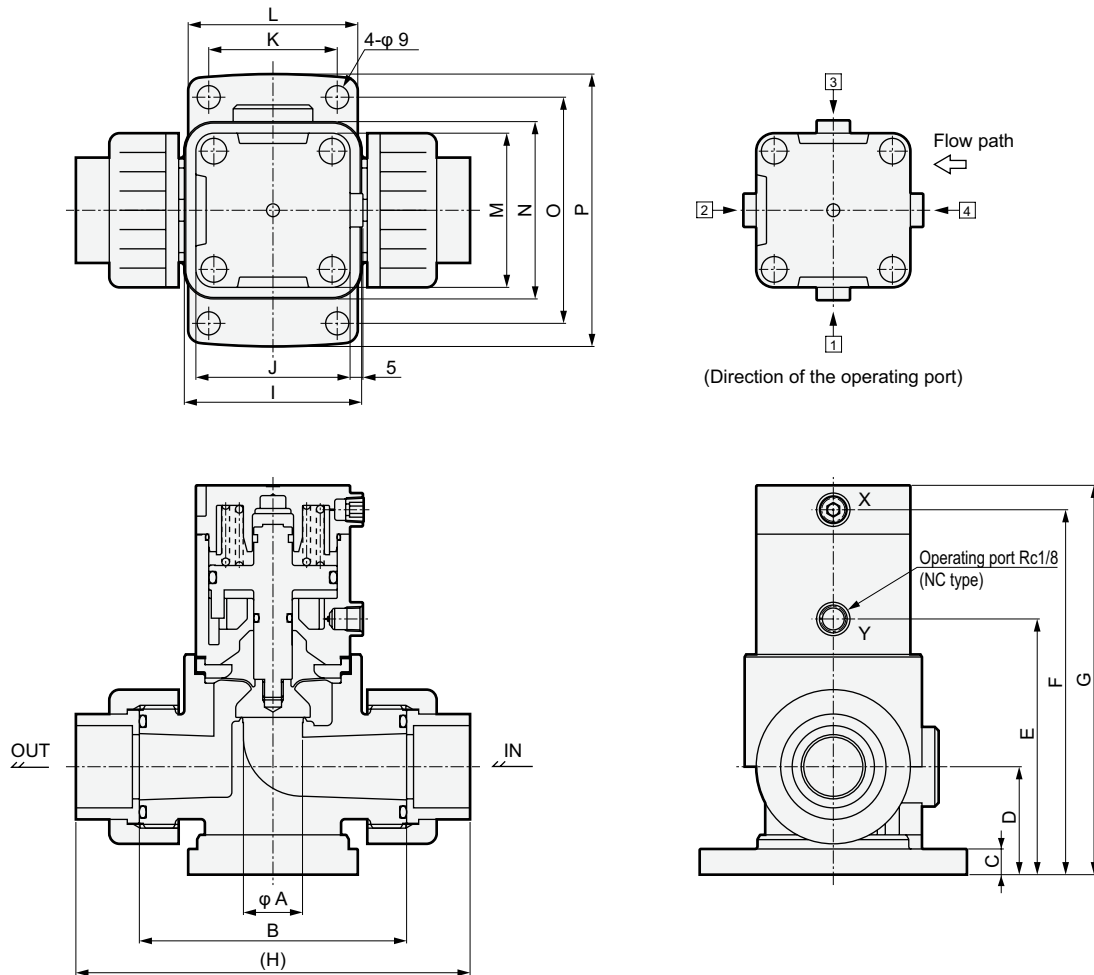
Note 1: Products with indicators are available as well. Contact CKD for details. (Except for AMD81L)

Note 2: The type with reinforcement ring R cannot be selected for the AMD81L Series.

# AMD\*1L Series

## Dimensions (AMD41L to AMD71L)

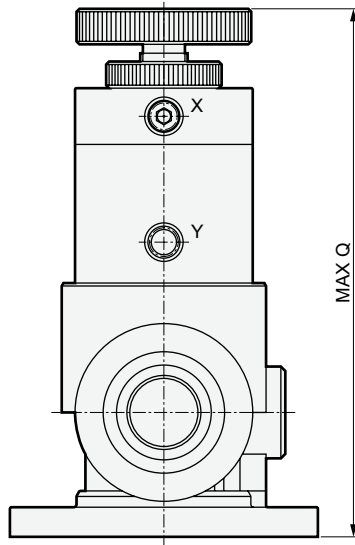
- One-piece PVC union fitting



Model No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
AMD41L-15AU AMD41L-20AU	18	94	10	35	81	118	127	138	55	46	40	56	46	55	78	96
AMD51L-25AU	23	104	10	42	99.5	142	152	154	69	60	50	66	60	69	88	106
AMD61L-32AU	30	148	20	55	129	186	199	206	79	70	80	100	70	79	120	140
AMD71L-40AU	36	148	20	55	126	208	248	216	92	88	80	100	88	92	120	140

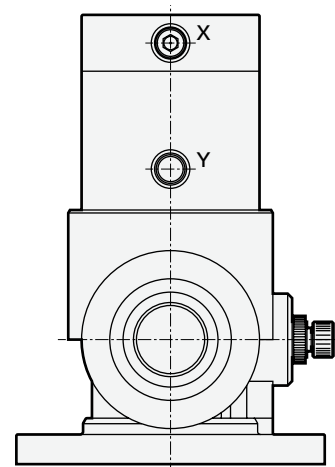
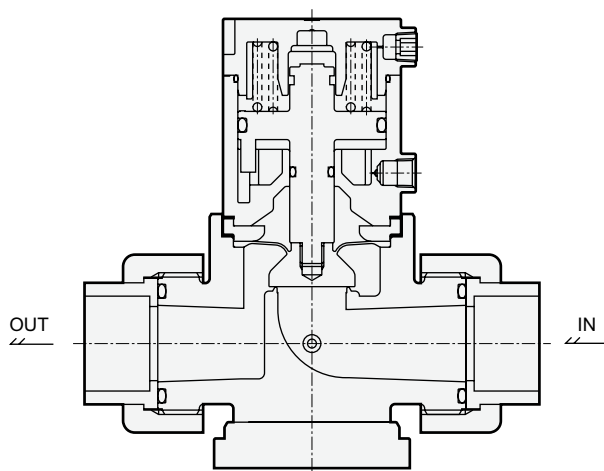
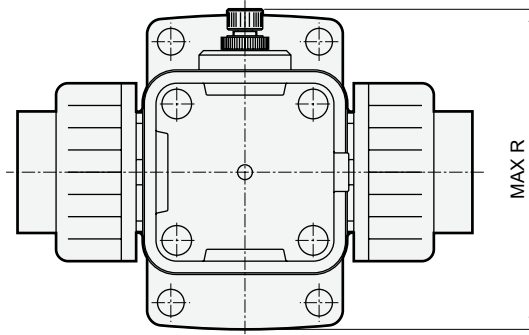
## Dimensions (AMD41L to AMD71L)

- With flow rate control
  - AMD\*1L\*- [1, 3]



Model No.	Q
AMD41L-15AU AMD41L-20AU	151
AMD51L-25AU	183
AMD61L-32AU	231
AMD71L-40AU	294

- With bypass
  - AMD\*1L\*- [2, 3]

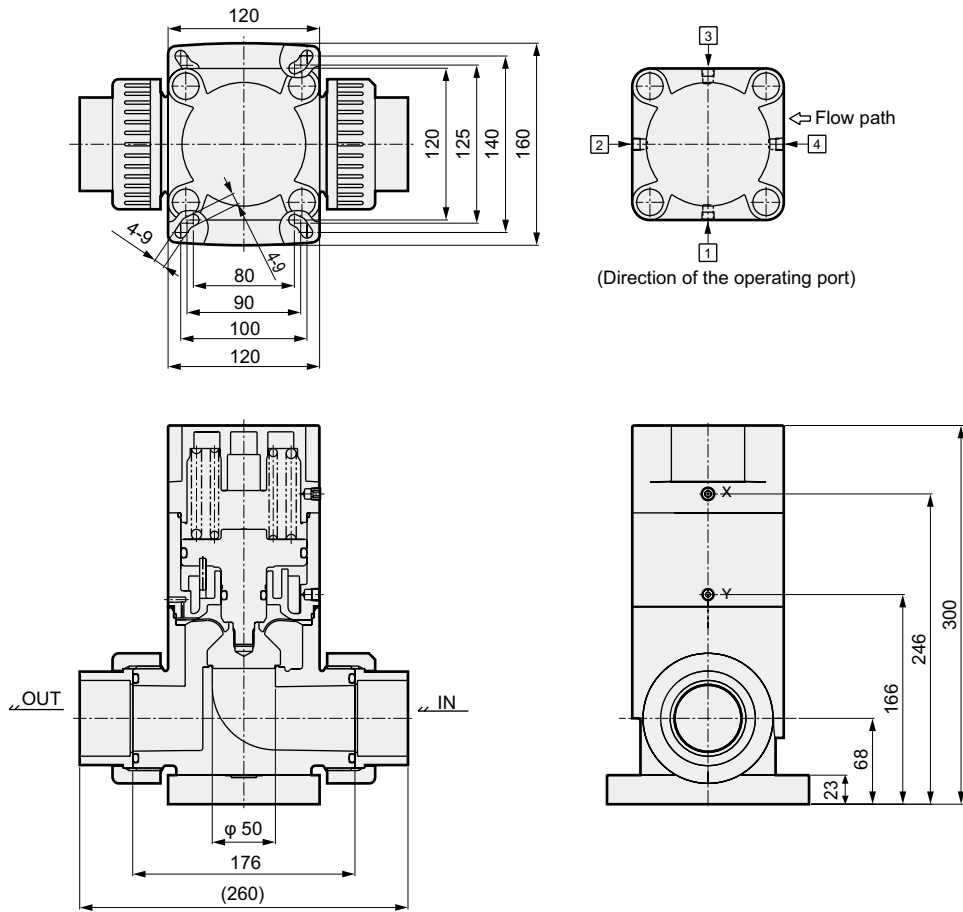


Model No.	R
AMD41L-15AU AMD41L-20AU	101
AMD51L-25AU	110
AMD61L-32AU	133.5
AMD71L-40AU	136

# AMD\*1L Series

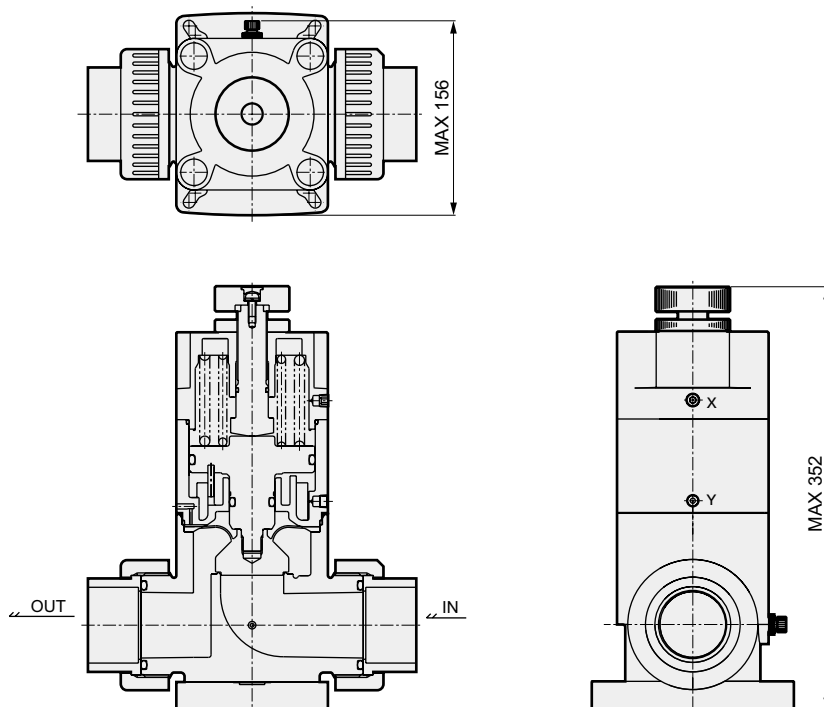
## Dimensions (AMD81L)

- One-piece PVC union fitting



- With flow rate control and bypass

- AMD81L-50AU- 1, 2, 3

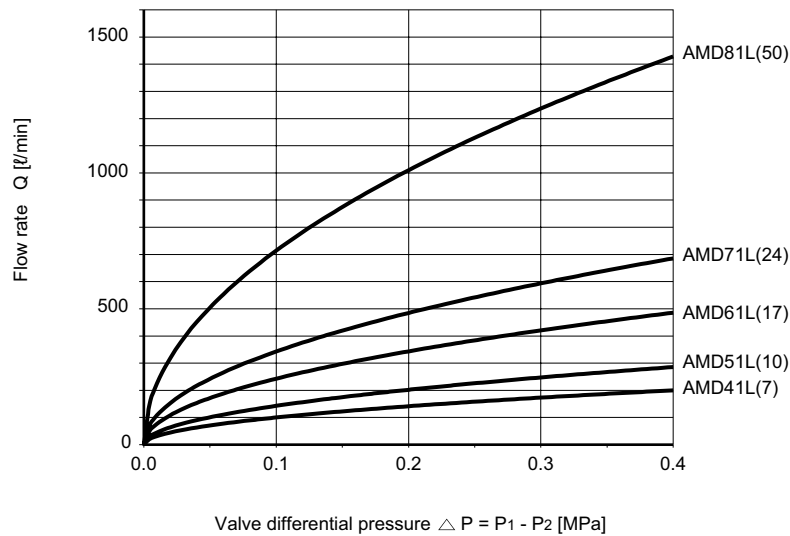


## Flow characteristics

### ● Flow characteristics (water)

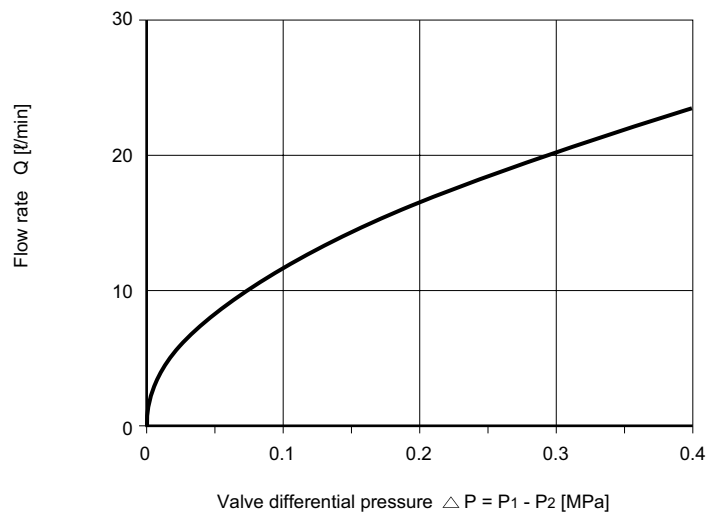
Valve differential pressure - flow rate

Values in parentheses: Cv value <no flow rate control>



### ● Flow characteristics of the bypass section (water)

Valve differential pressure - flow rate (common for AMD41L through 81L) <Dial is fully open>



### ● Flow rate calculation method (water)

$$Q = 45.16 \times C_v \times \frac{\sqrt{(P_1 - P_2)}}{\sqrt{G}}$$

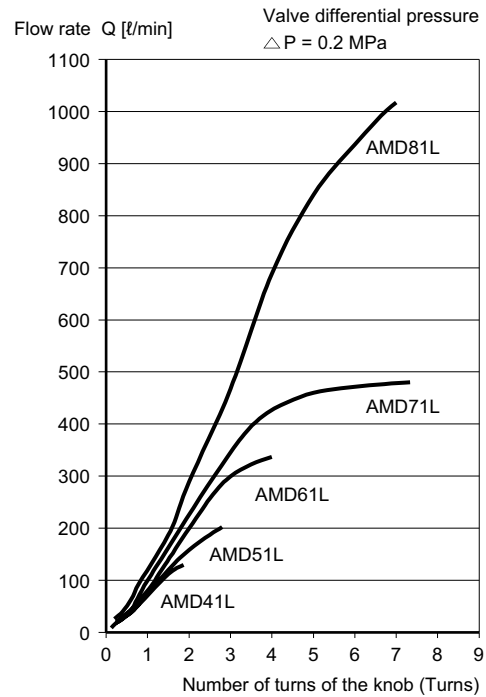
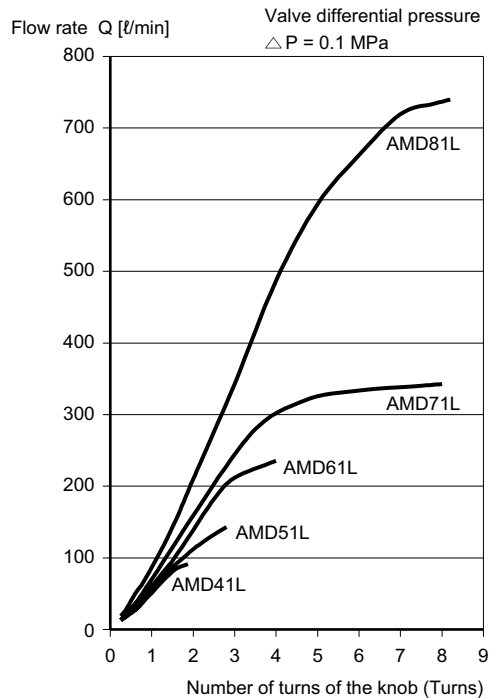
- Q : Flow rate ℓ/min
- P1 : Primary pressure MPa
- P2 : Secondary pressure MPa
- G : Specific gravity (water = 1)
- $\Delta P = P_1 - P_2$  : Valve differential pressure (pressure loss) MPa

Note 1: The flow rate is a calculated value. Actual flow rate may vary.  
Actual values may vary depending on the operating conditions (type of fluid, piping layout, etc.). This is just a reference value.

## Flow characteristics

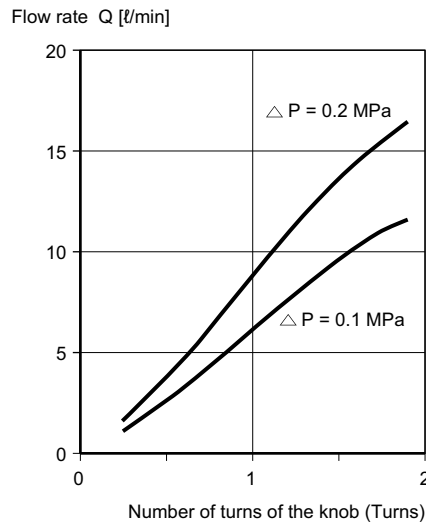
### ● Flow characteristics (water)

Number of turns of the knob - flow rate



### ● Flow characteristics of the bypass section (water)

Number of turns of the knob - flow rate (common for AMD41L through 81L)



Note 1: Set the adjustment knob at least 1/4 rotation from the fully closed position when using the valve.

Using the product with less opening may cause vibration or fluctuation in flow rate, depending on the operating conditions.

Note 2: The flow rate is a calculated value. Actual flow rate may vary.

Actual values may vary depending on the operating conditions (type of fluid, piping layout, etc.). This is just a reference value.