



Air operated valve for pure water (PVC)

# AMD\*1L Series

- NC (normally closed)
- Connection PVC union fitting, Nominal 16 to 50



## Specifications

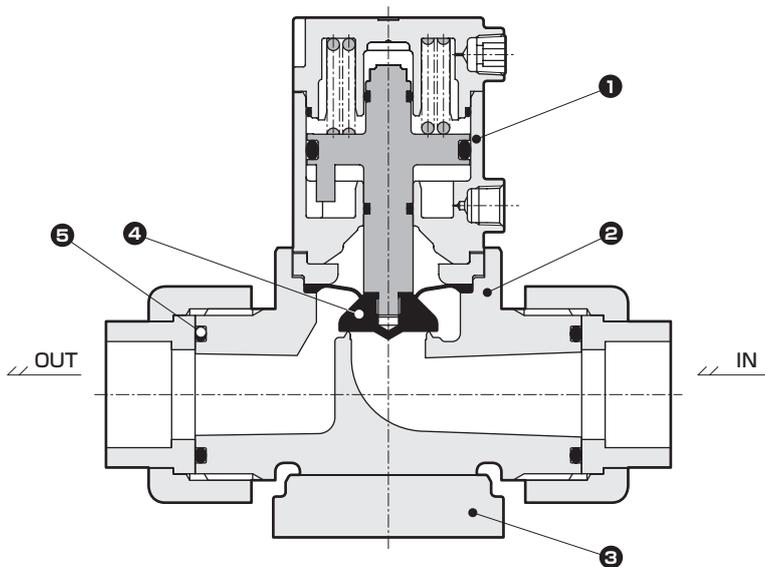
| Item                                    | AMD41L-15AU                            | AMD41L-20AU | AMD51L-25AU | AMD61L-32AU           | AMD71L-40AU | AMD81L-50AU |
|---|--|-------------|-------------|-----------------------|-------------|-------------|
| Actuation category                      | NC (normally closed) (*1)              |             |             |                       |             |             |
| Working fluid                           | Pure water/Air/N <sub>2</sub> gas (*2) |             |             |                       |             |             |
| Fluid temperature °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 cm <sup>3</sup> /min | 0 (water pressure)                     |             |             |                       |             |             |
| Back pressure MPa                       | 0 to 0.2                               |             |             |                       |             |             |
| Ambient temperature °C                  | 0 to 40                                |             |             |                       |             |             |
| Frequency                               | 10 cycles/min. or less                 |             |             | 6 cycles/min. or less |             |             |
| Mounting orientation                    | Unrestricted                           |             |             |                       |             |             |
| Connection                              | PVC union fitting integrated           |             |             |                       |             |             |
| Orifice                                 | ø18                                    | ø18         | ø23         | ø30                   | ø36         | ø50         |
| Bypass orifice (with bypass)            | ø6                                     |             |             |                       |             |             |
| Cv (*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 (*1)                     |             |             |                       |             |             |
| Weight                                  | Operating pressure connection port     |             |             |                       |             |             |
|   | Rc1/8                                  |             |             |                       |             |             |
| Weight kg                               | 0.56                                   | 0.56        | 0.89        | 1.7                   | 2.8         | 5.4         |

\*1 : Also compatible with NO. Contact CKD for details. (excluding AMD81L)

\*2 : Refer to the precautions at the end for details.

\*3 : Values in ( ) are with flow rate adjustment.

## Internal structure and parts list



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

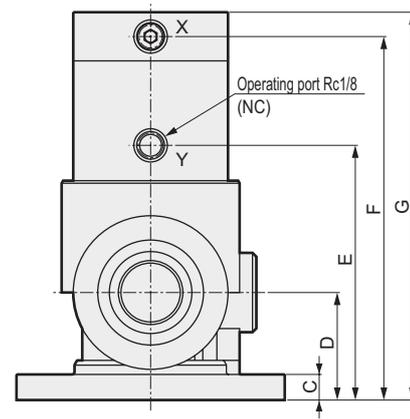
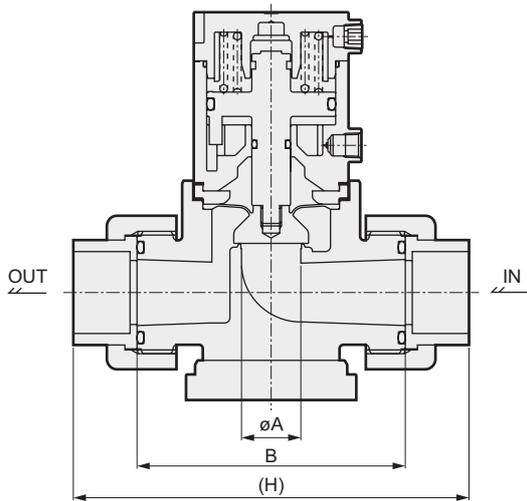
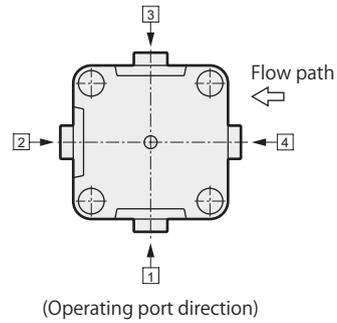
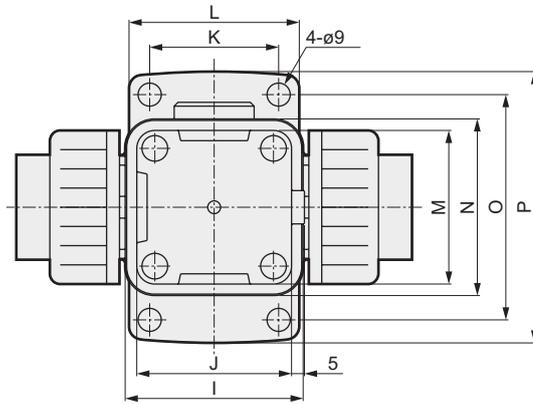
Always read the precautions on Intro Pages 7 to 14 before use.



# AMD\*1L Series

## Dimensions (AMD41L to AMD71L)

●PVC union fitting integrated

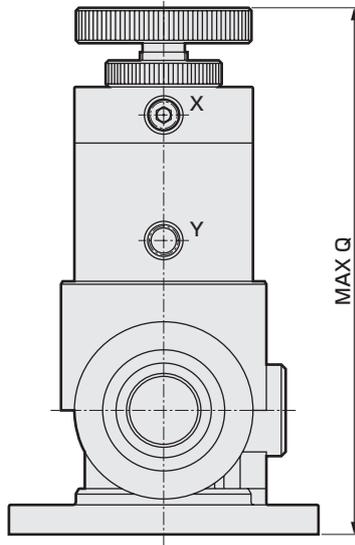


| Model No.                  | A  | B   | C  | D  | E    | F   | G   | H   | I  | J  | K  | L   | M  | N  | O   | P   |
|----------------------------|----|-----|----|----|------|-----|-----|-----|----|----|----|-----|----|----|-----|-----|
| AMD41L-15AU<br>AMD41L-20AU | 18 | 94  | 10 | 35 | 81   | 118 | 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 adjustment

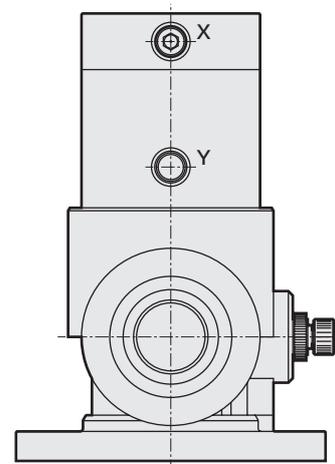
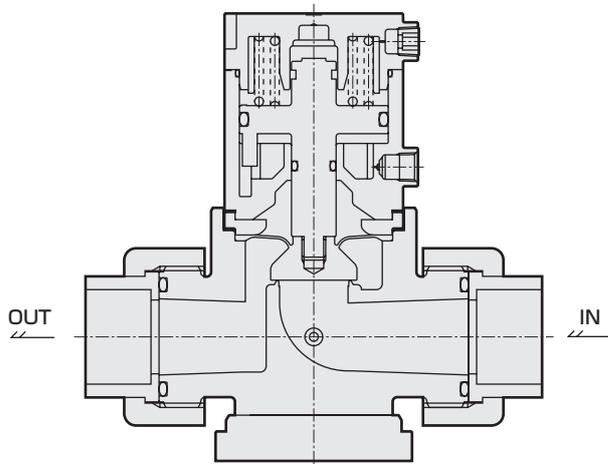
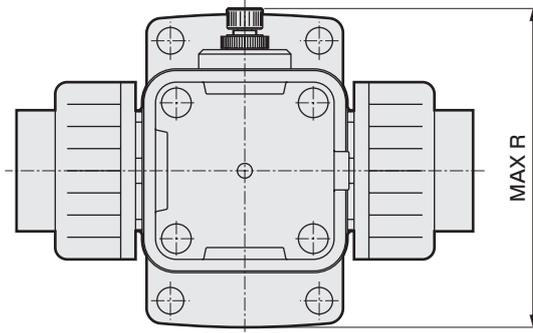
- AMD\*1L-\* - 1 / 3



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

● With bypass

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

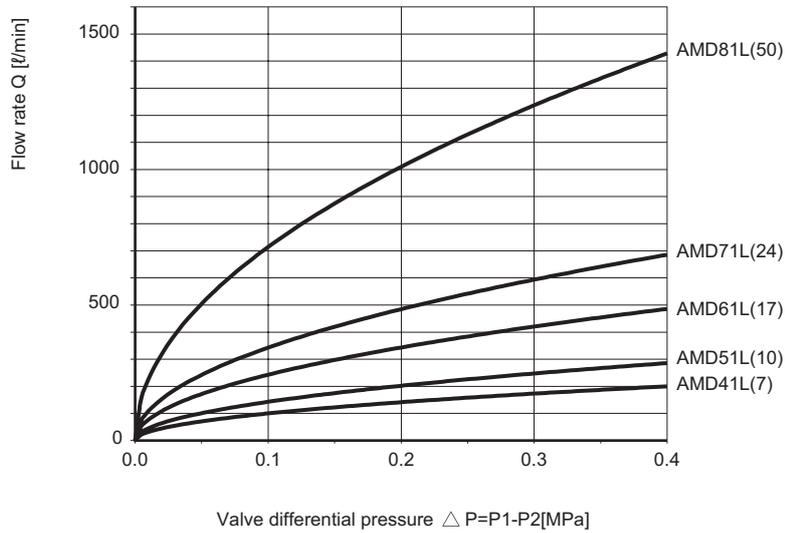
|                           |                   |                         |                   |                         |                   |                         |                   |                         |                   |                         |                   |                         |
|---------------------------|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|-------------------|-------------------------|
| Air operated valve        | Part3R            | High pressure           | Part2             | High pressure           | Part1             | High pressure           | Part3RR           | High pressure           | Part2             | High pressure           | Part1             | High pressure           |
|                           |                   | Metals-free             |
|                           |                   | Large bore size         |
|                           |                   | Polyvinyl chloride      |
| Manual valve              | Drainage          | Single unit             |
|                           |                   | Air operated integrated |
|                           |                   | Regulator               |
|                           |                   | Manual                  |
| Flow rate adjusting valve | Electric          | Manual                  |
|                           |                   | Manual/Fine flow rate   |
|                           |                   | Manual/Fine flow rate   |
| Related products          | Fine level Switch |                         |
|                           |                   |                         |                   |                         |                   |                         |                   |                         |                   |                         |                   |                         |



### Flow characteristics

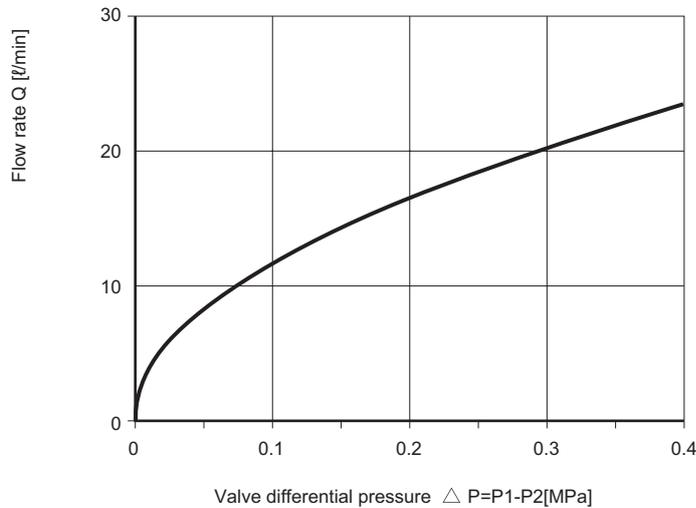
● Flow characteristics (water)

Valve differential pressure - internal flow rate ( ): Cv  
[Without flow rate adjustment]



● Bypass Flow characteristics (water)

Valve differential pressure - Flow rate (common for AMD41L to 81L) [when knob is fully open]



● Flow rate calculation method (water)

$$Q = 45.6 \times C_v \times \frac{\sqrt{(P_1 - P_2)}}{\sqrt{G}}$$

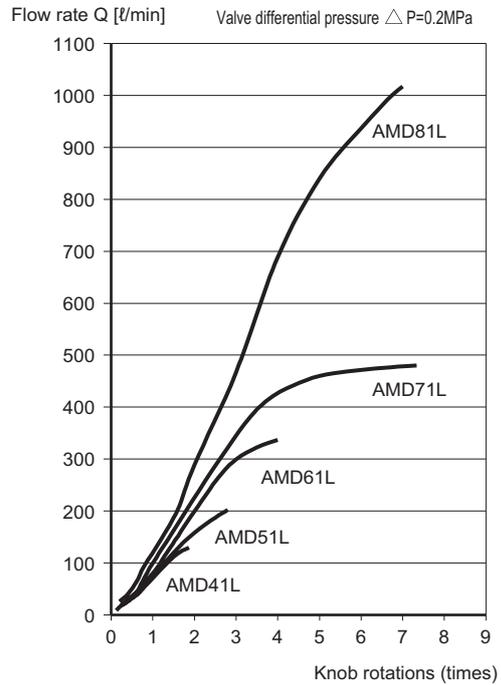
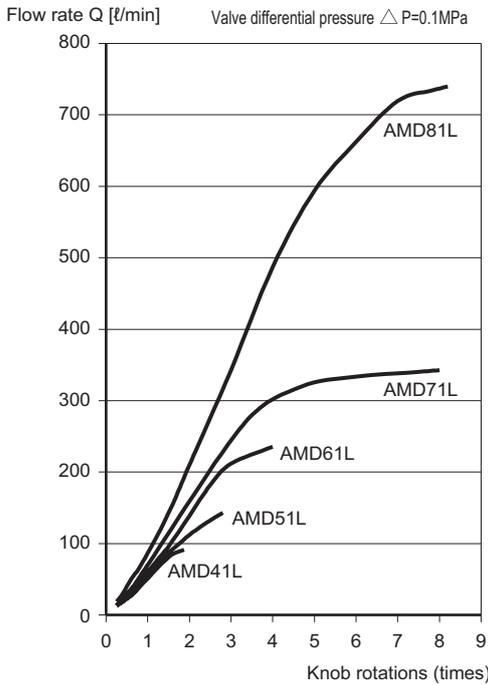
- Q : Flow rate l/min
- P<sub>1</sub> : Primary pressure MPa
- P<sub>2</sub> : Secondary pressure MPa
- G : Specific gravity (water = 1)
- Δ P=P<sub>1</sub>-P<sub>2</sub> : Valve differential pressure (pressure loss) MPa

\*1: The flow rate is a calculated value and may differ in actual use.  
Also, the value depends on the operating conditions (fluid, piping, etc.), so use it as a reference only.

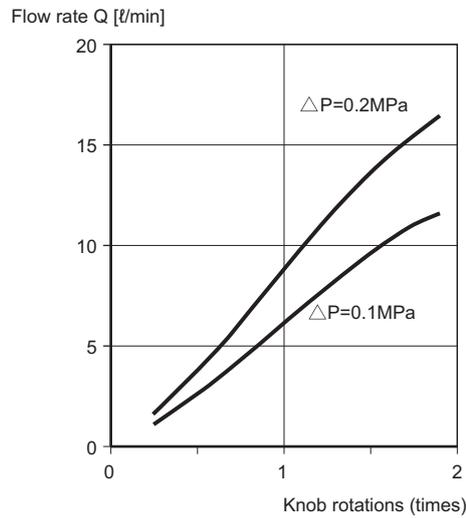
|                           |                   |                  |            |                 |                       |                         |
|---------------------------|-------------------|------------------|------------|-----------------|-----------------------|-------------------------|
|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

## Flow characteristics

● Flow characteristics (water)  
Knob rotations - Flow rate



● Bypass Flow characteristics (water)  
Knob rotation speed - flow rate (common to AMD41L to 81L)



\*1 : Vibration and flow rate fluctuation may occur depending on the working conditions such as fluid temperature, differential pressure, and opening. Confirm that the product is acceptable under actual working conditions before use.