



DIRECT-ACTING PRESSURE REDUCING VALVE FOR AIR

MODEL A-DR20

COMPACT STAINLESS STEEL DIRECT-ACTING PRV WITH SOFT SEAT FOR AIR

Features

Extremely compact pressure reducing valve for use on small process equipment.

1. Exceptionally light and compact PRV.
2. Soft seat for extra-tight sealing.
3. Body and major parts are of all stainless steel construction with high durability and corrosion resistance for long service life.
4. Stable secondary pressure.
5. High flow rate for its class.
6. Capable of a 30:1 pressure reduction.
7. Easy to operate and adjust.
8. Built-in screen ensures extended trouble-free operation.



Specifications

| Model | A-DR20-2 | A-DR20-6 | A-DR20-10 |
|--|---|-------------|-------------|
| Connection | Screwed | | |
| Size (mm) | 15, 20, 25 | | |
| Maximum Operating Pressure (MPaG) PMO | 1.0 | | |
| Maximum Operating Temperature (°C) TMO | 100 | | |
| Primary Pressure Range (MPaG) | 0.2 to 1.0 | | 0.6 to 1.0 |
| Adjustable Pressure Range (MPaG) | 0.014 to 0.2 but not less than 1/30 of primary pressure | 0.18 to 0.6 | 0.54 to 0.9 |
| Secondary pressure must not exceed 90% of primary pressure | | | |
| Applicable Fluids* | Air | | |

* Do not use for toxic, flammable or otherwise hazardous fluids.

1 MPa = 10.197 kg/cm²

For installation in horizontal piping (with adjustment handle facing up).

PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 2.0

Maximum Allowable Temperature (°C) TMA: 220

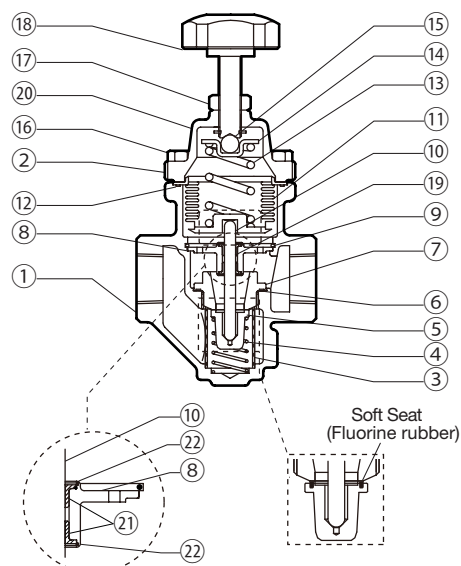


To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

| No. | Description | Material | JIS | ASTM/AISI* |
|-------------------|-------------------|---------------------------------|------------|-------------------|
| ① | Body | Cast Stainless Steel | — | A351/A351M Gr.CF8 |
| ② | Cover | Cast Stainless Steel | — | A351/A351M Gr.CF8 |
| ③ ^V | Screen | Stainless Steel | SUS430 | AISI430 |
| ④ ^V | Coil Spring | Stainless Steel | SUS304 | AISI304 |
| ⑤ ^V | Main Valve | Fluorine Rubber/Stainless Steel | FPM/SUS304 | D2000HK/AISI304 |
| ⑥ ^{MV} | Valve Seat Gasket | Fluorine Resin | PTFE | — |
| ⑦ ^V | Valve Seat | Stainless Steel | SUS304 | AISI304 |
| ⑧ ^S | Spacer | Cast Stainless Steel | — | A351/A351M Gr.CF8 |
| ⑨ | Snap Ring | Stainless Steel | SUS304 | AISI304 |
| ⑩ ^S | Valve Stem | Stainless Steel | SUS303 | AISI303 |
| ⑪ ^B | Bellows | Stainless Steel | SUS316L | AISI316L |
| ⑫ ^{MSVB} | Cover Gasket | Fluorine Resin | PTFE | — |
| ⑬ | Coil Spring | Stainless Steel | SUS304 | AISI304 |
| ⑭ | Spring Guide | Carbon Tool Steel | SPCC | A109 |
| ⑮ | Steel Ball | High-Cr Bearing Steel | SUJ2 | A485 |
| ⑯ | Cover Bolt | Stainless Steel | — | — |
| ⑰ | Locknut | Stainless Steel | SUS304 | AISI304 |
| ⑱ | Adjustment Handle | Nylon/Stainless Steel | — | — |
| ⑲ | Nameplate | Stainless Steel | SUS304 | AISI304 |
| ⑳ | Retaining Ring | Stainless Steel | SUS304 | AISI304 |
| ㉑ ^S | Slide Bearing** | Polymer Resin | — | — |
| ㉒ ^S | Snap Ring** | Stainless Steel | SUS316 | AISI316 |

* Equivalent ** Incorporated with the spacer and must be replaced as a set with the spacer.

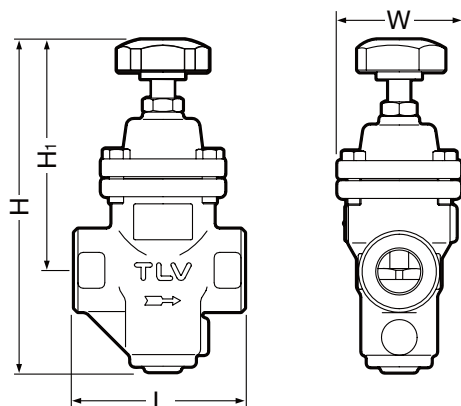
Replacement kits available: (M) maintenance parts, (S) repair parts for spacer,
(V) repair parts for main valve, (B) repair parts for bellows



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Dimensions

● A-DR20 Screwed



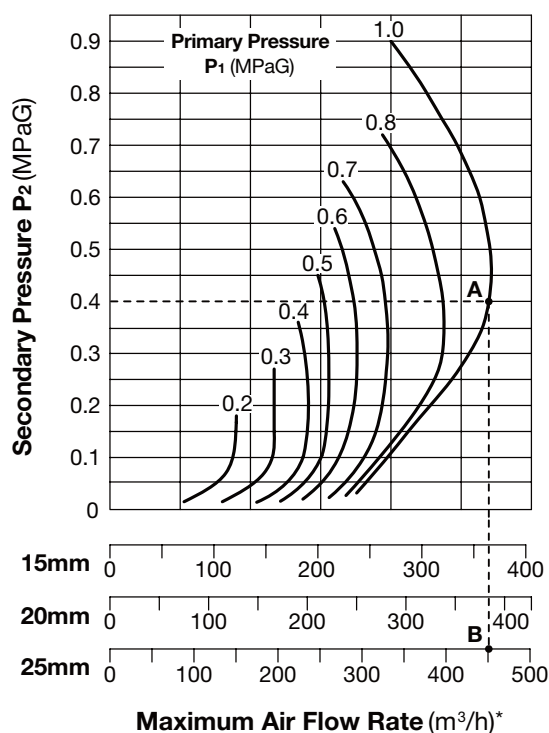
A-DR20 Screwed* (mm)

| Size | L | W | H | H1 | Weight (kg) |
|------|----|----|-----|-----|-------------|
| 15 | 95 | 69 | 185 | 130 | 1.9 |
| 20 | | | | | 1.8 |
| 25 | | | | | |

* Rc (PT); other standards available

Sizing Chart and Flow Graph

The following graph is used for sizing the A-DR20 when adjusted for maximum flow.



* Equivalent flow of air at 20 °C under atmospheric pressure

Sizing Example

For a primary pressure of 1.0 MPaG, a set pressure of 0.4 MPaG, and a maximum air flow rate of 400 m^3/h , select an appropriate size.

Locate point A, where the primary pressure ($P_1 = 1.0$ MPaG) intersects the set pressure ($P_2 = 0.4$ MPaG).

Move straight down from point A until reaching a size with a rated flow rate exceeding the desired flow rate. This first occurs at point B on the 25 mm flow rate line.

- The 25 mm size should be selected.
- For a set pressure of 0.4 MPaG, model A-DR20-6 should be selected (see the adjustable pressure range information given in the specifications (overleaf)).

Cv Values

| Size (mm) | 15 | 20 | 25 |
|-----------|-----|-----|-----|
| Cv (US) | 2.0 | 3.0 | 3.6 |
| Cv (UK) | 1.7 | 2.5 | 3.0 |
| Kvs (DIN) | 1.7 | 2.6 | 3.1 |

Cv & Kvs values are for maximum flow

Manufacturer

TLV® CO., LTD.
Kakogawa, Japan

is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001
ISO 14001

