



CLEAN STEAM DIRECT-ACTING PRESSURE REDUCING VALVE

MODEL DR8-P/DR8-EP

COMPACT STAINLESS STEEL DIRECT-ACTING PRV FOR CLEAN STEAM

Features

Compact pressure reducing valve for use on autoclaves, sterilizers, humidifiers, etc. in the pharmaceutical, medical, food and other industries.

1. Wetted parts are stainless steel and USP or FDA compliant rubber or resin with high durability and corrosion resistance for long service life.
2. Double-guided valve for stable operation.
3. Internal buff-polishing with an additional interior and exterior electro-polish option to 0.4 µm Ra for improved resistance to bacterial growth.
4. Easy to operate and adjust.
5. Easy access to internal parts simplifies cleaning and reduces maintenance cost.
6. High flow rate for its class.



Specifications

| Model | DR8-3P | DR8-6P | DR8-3EP* | DR8-6EP* |
|--|--|---------------------------|--------------|---|
| Connection | Clamp End | | | |
| Size | 15, 20, 25, 38 mm (ISO) ½", ¾", 1", 1½" (ASME-BPE) | | | |
| Maximum Operating Pressure (MPaG) PMO | 0.8 | | | |
| Maximum Operating Temperature (°C) TMO | 175 | | | |
| Primary Pressure Range (MPaG) | 0.2 to 0.4 | 0.4 to 0.8 | 0.2 to 0.4 | 0.4 to 0.8 |
| Adjustable Pressure Range (MPaG) | 0.018 to 0.3 | 0.27 to 0.6 | 0.018 to 0.3 | 0.27 to 0.6 |
| Secondary pressure must not exceed 75% of primary pressure | | | | |
| Minimum Adjustable Flow Rate | 20 kg/h or more | | | |
| Finishing | Internal | 0.8 µm Ra Buff-polished | | Buff-polished then 0.4 µm Ra electro-polished |
| | External | 25 µm Ra electro-polished | | |
| Applicable Fluid** | Steam | | | |

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

1 MPa = 10.197 kg/cm²

PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 1.0
Maximum Allowable Temperature (°C) TMA: 185

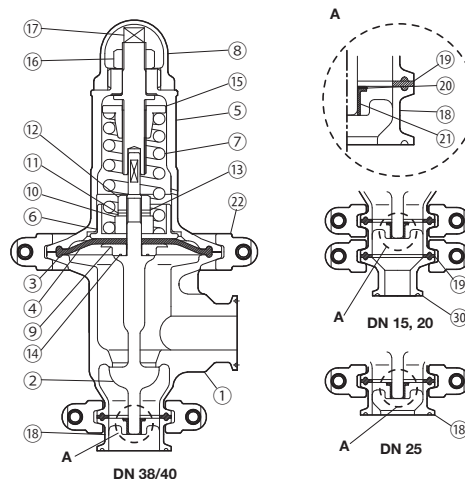


To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range.
Local regulations may restrict the use of this product to below the conditions quoted.

| No. | Description | Material | JIS | ASTM/AISI ¹⁾ |
|------------------|--------------------------------|---|---------|-------------------------|
| ① | Body | Forged Stainless Steel | — | A182 Gr.F316L |
| ② ^V | Valve | Stainless Steel | SUS316L | AISI316L |
| ③ ^P | Diaphragm | Silicone Rubber ²⁾ | — | — |
| ④ ^P | Protective Sheet | Fluorine Resin ²⁾ | PTFE | — |
| ⑤ | Spring Housing | Forged Stainless Steel | — | A182 Gr.F316L |
| ⑥ | Upper Diaphragm Retainer | Stainless Steel | SUS316L | AISI316L |
| ⑦ | Coil Spring | Stainless Steel | SUS304 | AISI304 |
| ⑧ | Cap | Cast Stainless Steel | — | A351 Gr.CF3M |
| ⑨ | Lower Diaphragm Retainer | Stainless Steel | SUS316L | AISI316L |
| ⑩ | Spacer | Stainless Steel | SUS303 | AISI303 |
| ⑪ | Spring Washer | Stainless Steel | SUS304 | AISI304 |
| ⑫ | Locknut | Stainless Steel | SUS304 | AISI304 |
| ⑬ | Plain Washer | Stainless Steel | SUS304 | AISI304 |
| ⑭ ^{MDV} | Retainer Gasket | High-performance Fluorine Resin ²⁾ | PTFE | — |
| ⑮ | Spring Retainer | Stainless Steel | SUS304 | AISI304 |
| ⑯ | Locknut | Stainless Steel | SUS304 | AISI304 |
| ⑰ | Adjustment Screw | Stainless Steel | SUS420F | AISI420F |
| ⑱ ^G | Valve Guide | Cast Stainless Steel | — | A351 Gr.CF3M |
| ⑲ ^{MVG} | Inlet Clamp Gasket | High-performance Fluorine Resin ²⁾ | PTFE | — |
| ⑳ ^A | Snap Ring | Stainless Steel | SUS316 | AISI316 |
| ㉑ ^A | Slide Bearing | Polymer Resin ²⁾ | — | — |
| ㉒ | Body Clamp | Cast Stainless Steel | — | A351 Gr.CF8 |
| ㉓ | Body Clamp Bolt ³⁾ | Stainless Steel | SUS304 | AISI304 |
| ㉔ | Body Clamp Nut ³⁾ | Stainless Steel | SUS304 | AISI304 |
| ㉕ | Spring Washer ³⁾ | Stainless Steel | SUS304 | AISI304 |
| ㉖ | Inlet Clamp ³⁾ | Cast Stainless Steel | — | A351 Gr.CF8 |
| ㉗ | Inlet Clamp Bolt ³⁾ | Stainless Steel | SUS304 | AISI304 |
| ㉘ | Inlet Clamp Nut ³⁾ | Stainless Steel | SUS304 | AISI304 |
| ㉙ | Spring Washer ³⁾ | Stainless Steel | SUS304 | AISI304 |
| ㉚ | Adapter | Stainless Steel | SUS316L | AISI316L |

| Parts with USP/FDA Compliant Materials | | | Standard | |
|--|--------------------|---------------------------------|----------|------|
| | | | USP | FDA* |
| ⑭ | Retainer Gasket | High-performance Fluorine Resin | — | — |
| ③ | Diaphragm | Silicon Rubber | Class VI | — |
| ④ | Protective Sheet | Fluorine Resin | — | — |
| ㉑ | Slide Bearing | Polymer Resin | — | A |
| ⑲ | Inlet Clamp Gasket | High-performance Fluorine Resin | Class VI | — |

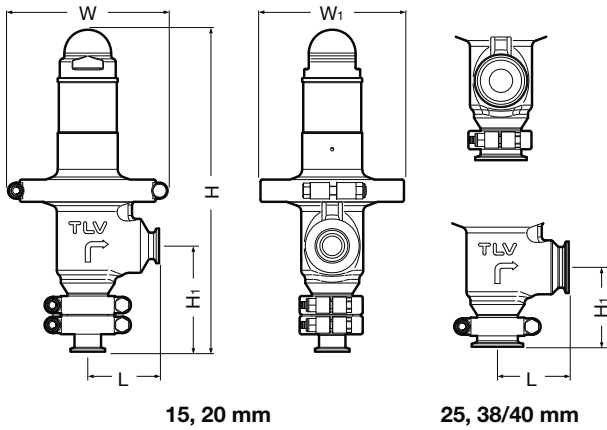
* FDA: A: 21 CFR 177.2415



¹⁾ Equivalent ²⁾ USP or PFDA compliant material. See the table above-right for details. ³⁾ Shown on reverse
Replacement kits available: (M) maintenance parts, (D) diaphragm repair parts,
(V) valve repair parts, (G) valve guide repair parts

Dimensions

● DR8-P/DR8-EP Clamp End



DR8-P/DR8-EP Clamp End* (mm)

| Size | L | H** | H1** | W | W1 | Weight (kg) |
|----------|----|-----|------|-----|-----|-------------|
| 15 [½"] | 70 | 325 | 108 | 170 | 135 | 5.0 |
| 20 [¾"] | | | 80 | | | |
| 25 [1"] | | 80 | 4.9 | | | |
| 38 [1½"] | | | | | | |

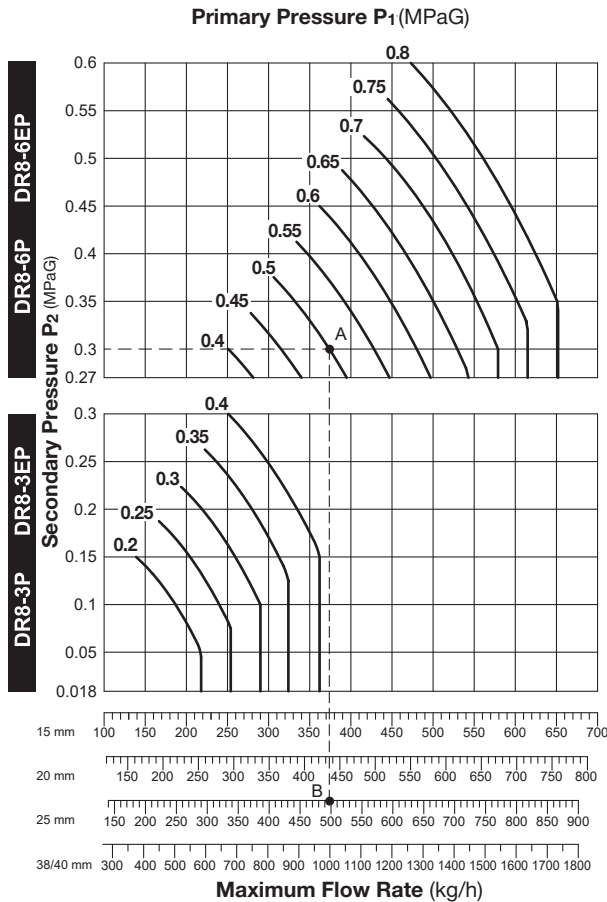
* ISO 2852 Clamp / ISO 2037 Tube or ASME-BPE (Tri-Clamp compatible)
 ** Approximate dimensions
 [] ASME-BPE (Tri-Clamp compatible)

Clamp End Dimensions (mm)

| Size | φ d | φ D |
|----------|--------------|------|
| 15 [½"] | 15.2 [9.4] | 34 |
| 20 [¾"] | 19.3 [15.75] | [25] |
| 25 [1"] | 22.6 [22.1] | 50.5 |
| 40 [1½"] | 35.6 [34.8] | |

[] ASME-BPE (Tri-Clamp compatible)

Sizing Chart and Flow Graph (Max. Flow Rate)



Sizing Example

For a primary pressure of 0.5 MPaG, a set pressure of 0.3 MPaG, and a maximum saturated steam flow rate of 450 kg/h, select an appropriate size.

Locate point A, where the primary pressure ($P_1 = 0.5$ MPaG) intersects the set pressure ($P_2 = 0.3$ 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 primary pressure of 0.5 MPaG, model DR8-6P or DR8-6EP should be selected (see the adjustable pressure range information given in the specifications (overleaf)).

Cv Values

| Size (mm) | 15 | 20 | 25 | 38/40 |
|-----------|-----|-----|-----|-------|
| Cv (US) | 6 | 7 | 8 | 16 |
| Cv (UK) | 5 | 5.8 | 6.7 | 13.3 |
| Kvs (DIN) | 5.1 | 6 | 6.8 | 13.7 |

Cv & Kvs values are for maximum flow

Manufacturer
TLV® CO., LTD.
 Kakogawa, Japan
 is approved by LRQA Ltd. to ISO 9001/14001

