



DIRECT-ACTING PRESSURE REDUCING VALVE FOR STEAM AND AIR

MODEL DR20

COMPACT STAINLESS STEEL DIRECT-ACTING PRV FOR STEAM AND AIR

Features

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

1. Exceptionally light and compact PRV.
2. Wetted parts are of all stainless steel construction with high durability and corrosion resistance for long service life.
3. Stable secondary pressure.
4. High flow rate for its class.
5. Capable of a 30:1 pressure reduction.
6. Easy to operate and adjust.
7. Built-in screen ensures extended trouble-free operation.
8. Easy, in-line access to internal parts simplifies cleaning and reduces maintenance cost.

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



Specifications

Model	DR20-2	DR20-6	DR20-10
Connection	Screwed		
Size (mm)	15, 20, 25		
Maximum Operating Pressure (MPaG) PMO	1.6		
Maximum Operating Temperature (°C) TMO	220		
Primary Pressure Range (MPaG)	0.2 – 1.6		0.6 – 1.6
Adjustable Pressure Range (MPaG)	0.014 – 0.2, but not less than 1/30 of primary pressure	0.18 – 0.6	0.54 – 1.0
	Secondary pressure must not exceed 90% of primary pressure		
Applicable Fluids*	Steam, Air		

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

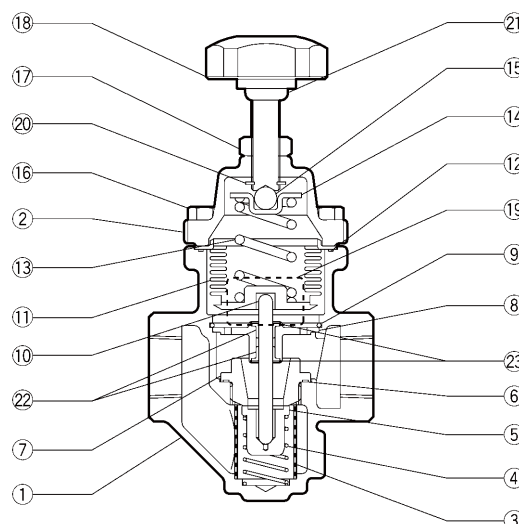
1 MPa = 10.197 kg/cm²

PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (MPaG) PMA: 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 Gr.CF8
②	Cover	Cast Stainless Steel	—	A351 Gr.CF8
③ ^V	Screen	Stainless Steel	SUS430	AISI430
④ ^V	Coil Spring	Stainless Steel	SUS304	AISI304
⑤ ^V	Main Valve	Stainless Steel	SUS420F	AISI420F
⑥ ^{MV}	Valve Seat Gasket	Fluorine Resin	PTFE	PTFE
⑦ ^V	Valve Seat	Stainless Steel	SUS420F	AISI420F
⑧ ^S	Spacer	Cast Stainless Steel	—	A351 Gr.CF8
⑨	Snap Ring	Stainless Steel	SUS304	AISI304
⑩ ^S	Valve Stem	Stainless Steel	SUS303	AISI303
⑪ ^B	Bellows	Stainless Steel	SUS321	AISI321
⑫ ^{MSVB}	Cover Gasket	Fluorine Resin	PTFE	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	SUS304	AISI304
⑰	Locknut	Stainless Steel	SUS304	AISI304
⑱	Adjustment Handle	Nylon/Stainless Steel	—/SUS304	—/AISI304
⑲	Nameplate	Stainless Steel	SUS304	AISI304
⑳	Retaining Ring	Stainless Steel	SUS304	AISI304
㉑	Retainer	Carbon Tool Steel	SPCC	A109
㉒ ^S	Slide Bearing**	Polymer Resin	—	—
㉓ ^S	Snap Ring**	Stainless Steel	SUS316	AISI316



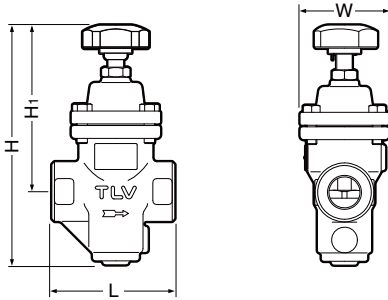
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* Equivalent ** Incorporated with the spacer and must be replaced as a set with the spacer.

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

Dimensions

● DR20 Screwed



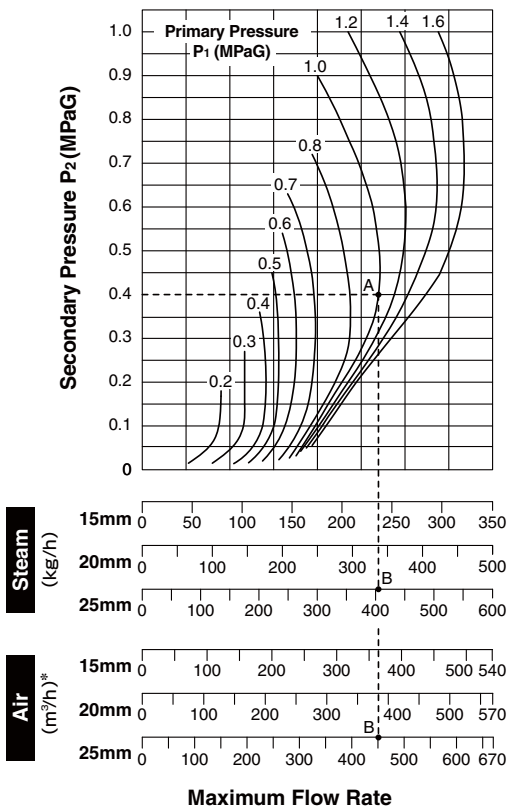
DR20 Screwed* (mm)

Size	L	W	H	H ₁	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 DR20 when adjusted for maximum flow.



Sizing Example

For a primary pressure of 1.0 MPaG, a set pressure of 0.4 MPaG, and a maximum saturated steam flow rate of 400 kg/h, or an air flow rate of 400 m³/h, select an appropriate size.

Locate point A, where the primary pressure (P₁ = 1.0 MPaG) intersects the set pressure (P₂ = 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 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

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

Manufacturer

ISO 9001/ISO 14001

TLV CO., LTD.
Kakogawa, Japan

is approved by LRQA Ltd. to ISO 9001/14001

