DIRECT-ACTING PRESSURE REDUCING VALVE FOR AIR

MODEL A-DR20
CAST STAINLESS STEEL

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.

Pressure Equipment Directive (PED)

Classification according to PED 2014/68/EU, fluid group 2

Size	Category	CE marking
DN 15 to 25	—*	Art. 4, Sec. 3 (sound engineering practice), CE marking not allowed

* Manufactured in accordance with sound engineering practice

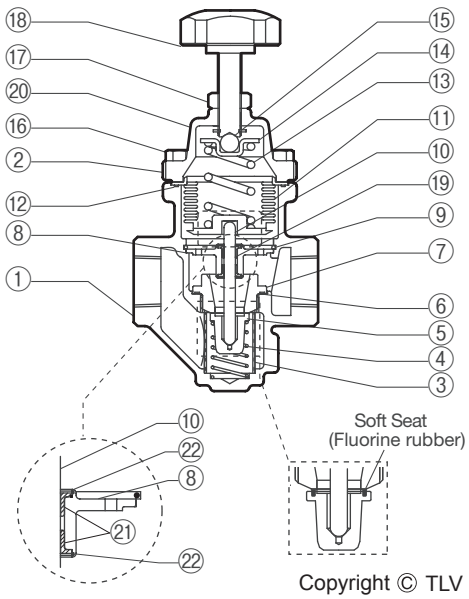
Specifications

Model	A-DR20-2	A-DR20-6	A-DR20-10
Connection	Screwed, Flanged		
Size	½″, ¾″, 1″ / DN 15, 20, 25		
Maximum Operating Pressure (barg) PMO	10		
Maximum Operating Temperature (°C) TMO	100		
Primary Pressure Range (barg)	2 to 10		6 to 10
Adjustable Pressure Range (barg)	0.14 to 2 but not less than 1/30 of primary pressure	1.8 to 6	5.4 to 9
	Secondary pressure must not exceed 90% of primary pressure		
Applicable Fluid*	Air		

* Do not use for toxic, flammable or otherwise hazardous fluids.
For installation in horizontal piping (with adjustment handle facing up).
bar = 0.1 MPaG
PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (barg) PMA: 20
Maximum Allowable Temperature (°C) TMA: 220
Minimum Allowable Temperature (°C): -40

CAUTION 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.

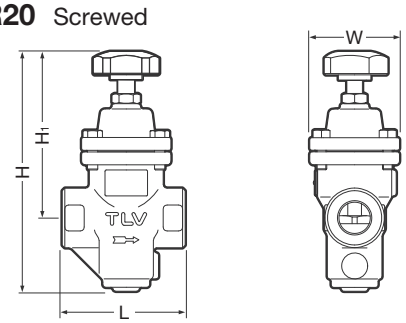
No.	Description	Material	DIN*	ASTM/AISI*
①	Body	Cast Stainless Steel A351/A351M Gr.CF8	1.4312	—
②	Cover	Cast Stainless Steel A351/A351M Gr.CF8	1.4312	—
③ V	Screen	Stainless Steel SUS430	1.4016	AISI430
④ V	Coil Spring	Stainless Steel SUS304	1.4301	AISI304
⑤ V	Main Valve	Fluorine Rubber FPM/ Stainless Steel SUS304	-/1.4301	D2000HK/AISI304
⑥ MV	Valve Seat Gasket	Fluorine Resin PTFE	—	—
⑦ V	Valve Seat	Stainless Steel SUS304	1.4301	AISI304
⑧ S	Spacer	Cast Stainless Steel A351/A351M Gr.CF8	1.4312	—
⑨	Snap Ring	Stainless Steel SUS304	1.4301	AISI304
⑩ S	Valve Stem	Stainless Steel SUS303	1.4305	AISI303
⑪ B	Bellows	Stainless Steel SUS316L	1.4404	AISI316L
⑫ MSVB	Cover Gasket	Fluorine Resin PTFE	—	—
⑬	Coil Spring	Stainless Steel SUS304	1.4301	AISI304
⑭	Spring Guide	Carbon Tool Steel SPCC	1.0330	A109
⑮	Steel Ball	High-Cr Bearing Steel SUJ2	1.2067	A485
⑯	Cover Bolt	Stainless Steel	—	—
⑰	Locknut	Stainless Steel SUS304	1.4301	AISI304
⑱	Adjustment Handle	Nylon/Stainless Steel	—	—
⑲	Nameplate	Stainless Steel SUS304	1.4301	AISI304
⑳	Retaining Ring	Stainless Steel SUS304	1.4301	AISI304
㉑ S	Slide Bearing**	Polymer Resin	—	—
㉒ S	Snap Ring**	Stainless Steel SUS316	1.4401	AISI316
㉓	Flange***	Cast Stainless Steel A351/A351M Gr.CF8 or CF3M	1.4312 or 1.4435	—



* Equivalent materials ** Incorporated with the spacer and must be replaced as a set with the spacer.
*** Shown on reverse
Replacement kits available: (M) maintenance parts, (S) repair parts for spacer,
(V) repair parts for main valve, (B) repair parts for bellows

Dimensions

● **A-DR20** Screwed

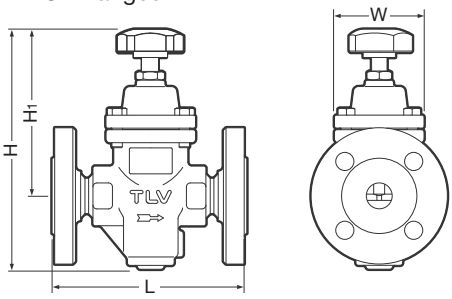


A-DR20 Screwed* (mm)

Size	L	W	H**	H_1**	Weight (kg)
½″	95	69	185	130	1.9
¾″					1.8
1″					

* BSP; other standards available
** Approx.

● **A-DR20** Flanged



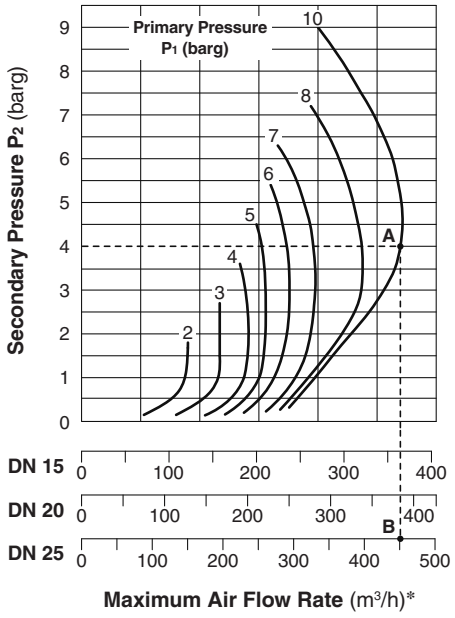
A-DR20 Flanged (mm)

DN	L			W	H*	H_1*	Weight** (kg)
	DIN 2501	ASME Class					
	PN25/40	150RF	300RF				
15	150	150	150	69	185	130	3.3
20							3.8
25	160	160	160				4.2

Other standards available, but length and weight may vary
* Approx.
** Weight is for DIN PN 25/40

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 10 barg, a set pressure of 4 barg, and a maximum air flow rate of 400 m³/h, select an appropriate size.

Locate point A, where the primary pressure (P_1 = 10 barg) intersects the set pressure (P_2 = 4 barg).
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 DN 25 flow rate line.

- The DN 25 size should be selected.
- For a set pressure of 4 barg, model A-DR20-6 should be selected (see the adjustable pressure range information given in the specifications (overleaf)).

Cv Values

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

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

(M)

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Products for intended use only.
Specifications subject to change without notice.