



# DIRECT-ACTING PRESSURE REDUCING VALVE FOR AIR

## MODEL A-DR20

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

#### Benefits

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

1. Exceptionally light and compact PRV.
2. Equips a 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	<b>Screwed</b>		
Size (in)	<b>1/2, 3/4, 1</b>		
Maximum Operating Pressure (psig)	PMO	150	
Maximum Operating Temperature (°F)	TMO	212	
Maximum Allowable Pressure (psig)	PMA	285	
Maximum Allowable Temperature (°F)	TMA	428	
Primary Pressure Range (psig)	30 – 150		85 – 150
Adjustable Pressure Range (psig)	2 – 30 but not less than 1/30 of primary pressure	27 – 85	76 – 135
Applicable Fluids*	Air		
Secondary pressure must not exceed 90% of primary pressure			

\* Do not use for toxic, flammable or otherwise hazardous fluids.  
For installation in horizontal piping (with adjustment handle facing up).

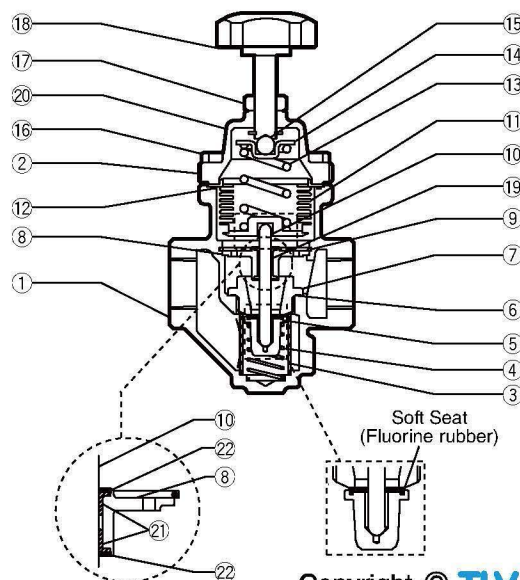
**Connections and sizes in bold are standard**



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	ASTM/AISI*	JIS
①	Body	Cast Stainless Steel	A351 Gr.CF8	—
②	Cover	Cast Stainless Steel	A351 Gr.CF8	—
③ <sup>V</sup>	Screen	Stainless Steel	AISI430	SUS430
④ <sup>V</sup>	Coil Spring	Stainless Steel	AISI304	SUS304
⑤ <sup>V</sup>	Main Valve	Fluorine Rubber/Stainless Steel	A2000HK/AISI304	FPW/SUS304
⑥ <sup>MV</sup>	Valve Seat Gasket	Fluorine Resin	PTFE	PTFE
⑦ <sup>V</sup>	Valve Seat	Stainless Steel	AISI304	SUS304
⑧ <sup>S</sup>	Spacer	Cast Stainless Steel	A351 Gr.CF8	—
⑨	Snap Ring	Stainless Steel	AISI304	SUS304
⑩ <sup>S</sup>	Valve Stem	Stainless Steel	AISI303	SUS303
⑪ <sup>B</sup>	Bellows	Stainless Steel	AISI321	SUS321
⑫ <sup>MSVB</sup>	Cover Gasket	Fluorine Resin	PTFE	PTFE
⑬	Coil Spring	Stainless Steel	AISI304	SUS304
⑭	Spring Guide	Carbon Tool Steel	A109	SPCC
⑮	Steel Ball	High-Cr Bearing Steel	A485	SUJ2
⑯	Cover Bolt	Stainless Steel	AISI304	SUS304
⑰	Locknut	Stainless Steel	AISI304	SUS304
⑱	Adjustment Handle	Nylon/Stainless Steel	—/AISI304	—/SUS304
⑲	Nameplate	Stainless Steel	AISI304	SUS304
⑳	Retaining Ring	Stainless Steel	AISI304	SUS304
㉑ <sup>S</sup>	Slide Bearing**	Polymer Resin	—	—
㉒ <sup>S</sup>	Snap Ring**	Stainless Steel	AISI316	SUS316

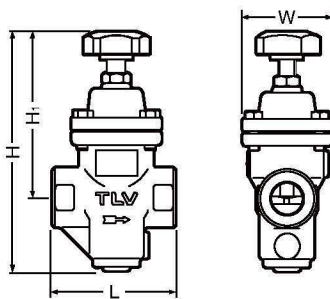
\* Equivalent \*\* Incorporated with the spacer and must be replaced as a set with the spacer.  
Replacement kits available: (M) maintenance parts, (S) repair parts for spacer,  
(V) repair parts for main valve, (B) repair parts for bellows



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## Dimensions

● **A-DR20** Screwed



**A-DR20** Screwed\* (in)

Size	L	W	H	H <sub>1</sub>	Weight (lb)
1/2	3 3/4	2 1/16	7 5/16	5 1/8	4.1
3/4					3.9
1					3.9

\* NPT, other standards available

## Capacity Table

The following tables are used for sizing the A-DR20 when adjusted for maximum flow.

(scfm)

P <sub>1</sub> (psig)	P <sub>2</sub> (psig)	Nominal Valve Size		
		1/2"	3/4"	1"
30	*27	70	80	110
	15	70	70	90
	7	60	60	70
	**2	40	50	50
40	15-30	90	100	120
	7	80	80	110
	**2	60	70	80
50	*30	100	110	130
	15	100	110	130
	**2	70	80	90
60	*30	110	120	140
	15	110	120	140
	**2	80	90	100
75	*30	120	130	150
	15	120	130	150
	**2.5	100	100	120
85	*30	140	150	170
	15	130	140	160
	**2.8	110	120	140
100	*30	150	160	190
	15	140	150	180
	**3.3	120	130	150
	*30	180	190	220
125	15	160	160	190
	**4.2	140	140	170
	*30	180	200	230
150	15	160	170	190
	**5	140	150	170

P <sub>1</sub> (psig)	P <sub>2</sub> (psig)	Nominal Valve Size		
		1/2"	3/4"	1"
30	*, **27	70	80	90
40	**27-36	90	100	120
50	*45	100	110	130
	**27-30	100	110	130
60	*54	110	110	130
	45	110	120	140
	**27-30	110	120	140
75	*67	120	120	150
	**27-50	120	130	150
85	*76	120	140	160
	30-50	140	150	150
	**27	140	140	170
100	*85	140	150	170
	80	140	150	180
	75	150	160	190
	30-50	150	170	190
125	*85	190	200	240
	80	200	210	240
	50-75	200	210	250
	45	190	210	240
150	30	180	190	220
	**27	110	180	220
	*85	210	220	260
	80	210	230	270
	75	220	230	270
	50	210	220	260
150	45	200	210	250
	30	180	190	220
	**27	110	190	220

P <sub>1</sub> (psig)	P <sub>2</sub> (psig)	Nominal Valve Size		
		1/2"	3/4"	1"
85	*, **76	130	140	160
100	*90	130	140	160
	85	140	150	170
	80	150	150	180
	**76	150	160	180
125	*112	160	170	200
	100	180	190	220
	85	190	200	240
	80	200	210	240
150	**76	200	210	250
	*135	160	170	200
	115	180	190	220
	100	200	210	240
	80-85	210	220	260
	**76	220	230	270

Capacities are equivalent capacities of air at 68°F under atmospheric pressure.

## Cv Values

Size (in)	1/2	3/4	1
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

P<sub>1</sub> = Primary Pressure P<sub>2</sub> = Secondary (Set) Pressure

\* Maximum adjustable secondary pressure \*\*Minimum adjustable secondary pressure



DO NOT DISASSEMBLE OR REMOVE THIS PRODUCT WHILE IT IS UNDER PRESSURE.

Allow internal pressure of this product to equal atmospheric pressure and its surface to cool to room temperature before disassembling or removing. Failure to do so could cause burns or other injury. READ INSTRUCTION MANUAL CAREFULLY.

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Manufacturer

ISO 9001/ISO 14001



Kakogawa, Japan

Is approved by LRQA Ltd. to ISO 9001/14001

