



# CLEAN STEAM DIRECT-ACTING PRESSURE REDUCING VALVE

## MODEL DR8-P/DR8-EP CAST STAINLESS STEEL

### 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.

#### Pressure Equipment Directive (PED)

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

Size	Category	CE marking
DN 15 to DN 38	—*	Art. 4, Sec. 3 (sound engineering practice), CE marking not allowed

\* Manufactured in accordance with sound engineering practice



#### Specifications

Model	DR8-3P	DR8-6P	DR8-3EP*	DR8-6EP*
Connection	Clamp End			
Size	DN 15, 20, 25, 38 (ISO) ½", ¾", 1", 1½" (ASME-BPE)			
Maximum Operating Pressure (barg) PMO	8			
Maximum Operating Temperature (°C) TMO	175			
Primary Pressure Range (barg)	2 to 4	4 to 8	2 to 4	4 to 8
Adjustable Pressure Range (barg)	0.18 to 3	2.7 to 6	0.18 to 3	2.7 to 6
Secondary pressure must not exceed 75% of primary pressure				
Finishing**	Internal	0.8µm Ra Buff-polished		Buff-polished then 0.4µm Ra electro-polished
	External	25µm Ra electro-polished		
Applicable Fluid***	Steam			

\* Option \*\* Treated base surfaces are lost-wax cast \*\*\* Do not use for toxic, flammable, or otherwise hazardous fluids. 1 bar = 0.1 MPa  
 PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS): Maximum Allowable Pressure (barg) PMA: 10  
 Maximum Allowable Temperature (°C) TMA: 185

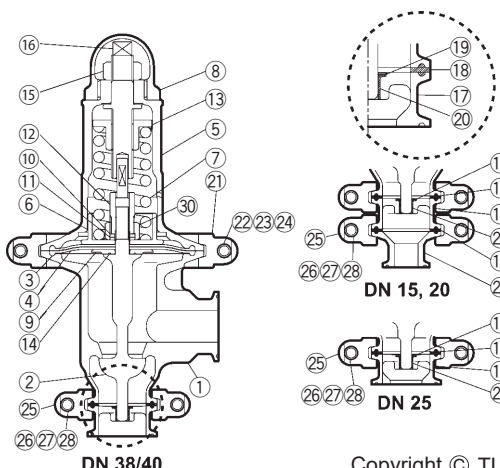
**CAUTION** To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

No.	Description	Material	DIN <sup>1)</sup>	ASTM/AISI <sup>1)</sup>
①	Body	Cast Stainless Steel A351 Gr.CF3M	1.4409	—
② <sup>D</sup>	Valve	Stainless Steel SUS316L	1.4404	AISI316L
③ <sup>MD</sup>	Diaphragm	Silicone Rubber <sup>2)</sup>	—	—
④ <sup>MD</sup>	Protective Sheet	Fluorine Resin PTFE <sup>2)</sup>	PTFE	PTFE
⑤	Spring Case	Cast Stainless Steel A351 Gr.CF3M	1.4409	—
⑥	Upper Diaphragm Retainer	Stainless Steel SUS316L	1.4404	AISI316L
⑦ <sup>D</sup>	Coil Spring	Stainless Steel SUS304	1.4301	AISI304
⑧	Cap	Cast Stainless Steel A351 Gr.CF3M	1.4409	—
⑨ <sup>D</sup>	Lower Diaphragm Retainer	Stainless Steel SUS316L	1.4404	AISI316L
⑩ <sup>D</sup>	Plain washer	Stainless Steel SUS304	1.4301	AISI304
⑪ <sup>D</sup>	Spring Washer	Stainless Steel SUS304	1.4301	AISI304
⑫ <sup>D</sup>	High nut	Stainless Steel SUS304	1.4301	AISI304
⑬ <sup>D</sup>	Spring Retainer	Stainless Steel SUS304	1.4301	AISI304
⑭ <sup>D</sup>	Retainer Gasket	Fluorine Resin PTFE <sup>2)</sup>	PTFE	PTFE
⑮	Locknut	Stainless Steel SUS304	1.4301	AISI304
⑯ <sup>D</sup>	Adjustment Screw	Stainless Steel SUS420F	1.4028	AISI420F
⑰ <sup>DG</sup>	Valve Guide	Cast Stainless Steel A351 Gr.CF3M	1.4409	—
⑱ <sup>MDG</sup>	Inlet Clamp Gasket	High-performance Fluorine Resin <sup>2)</sup>	—	—
⑲ <sup>G</sup>	Snap Ring	Stainless Steel SUS316CPS	1.4401	AISI316
⑳ <sup>G</sup>	Slide Bearing	Polymer Resin <sup>2)</sup>	—	—
㉑	Body Clamp	Cast Stainless Steel A351 Gr.CF8	1.4312	—
㉒	Body Clamp Bolt	Stainless Steel SUS304	1.4301	AISI304
㉓	Body Clamp Nut	Stainless Steel SUS304	1.4301	AISI304
㉔	Spring Washer	Stainless Steel SUS304	1.4301	AISI304
㉕	Inlet Clamp	Cast Stainless Steel A351 Gr.CF8	1.4312	—
㉖	Inlet Clamp Bolt	Stainless Steel SUS304	1.4301	AISI304
㉗	Inlet Clamp Nut	Stainless Steel SUS304	1.4301	AISI304
㉘	Spring Washer	Stainless Steel SUS304	1.4301	AISI304
㉙	Adapter	Stainless Steel SUS316L	1.4404	AISI316L
㉚ <sup>D</sup>	Coil Spring Guide	Stainless Steel SUS304	1.4301	AISI304

<sup>1)</sup> Equivalent materials <sup>2)</sup> USP or FDA compliant material. See the table above-right for details.  
 Replacement kits available: (M) maintenance parts, (D) diaphragm and valve repair parts, (G) valve guide repair parts

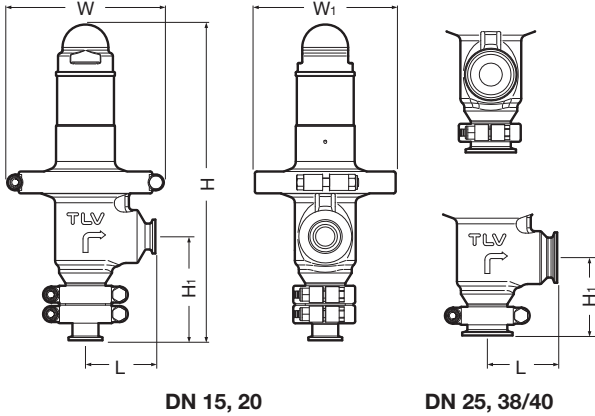
Parts with USP/FDA Compliant Materials			Standard	
			USP	FDA*
⑭	Retainer Gasket	Fluorine Resin	—	A
③	Diaphragm	Silicon Rubber	Class VI	—
④	Protective Sheet	Fluorine Resin	—	—
⑳	Slide Bearing	Polymer Resin	—	B
⑱	Inlet Clamp Gasket	High-performance Fluorine Resin	Class VI	—

\* FDA: A: 21 CFR 177.1550, B: 21 CFR 177.2415



**Dimensions**

● **DR8-P/DR8-EP** Clamp End



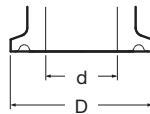
**DR8-P/DR8-EP** Clamp End\*

DN	L	H**	H1**	W**	W1**	Weight (kg)
15 [1/2"]	70	325	108	170	135	5.0
20 [3/4"]						4.9
25 [1"]		295	80	170	135	4.9
38 [1 1/2"]						

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

**Clamp End Dimensions**

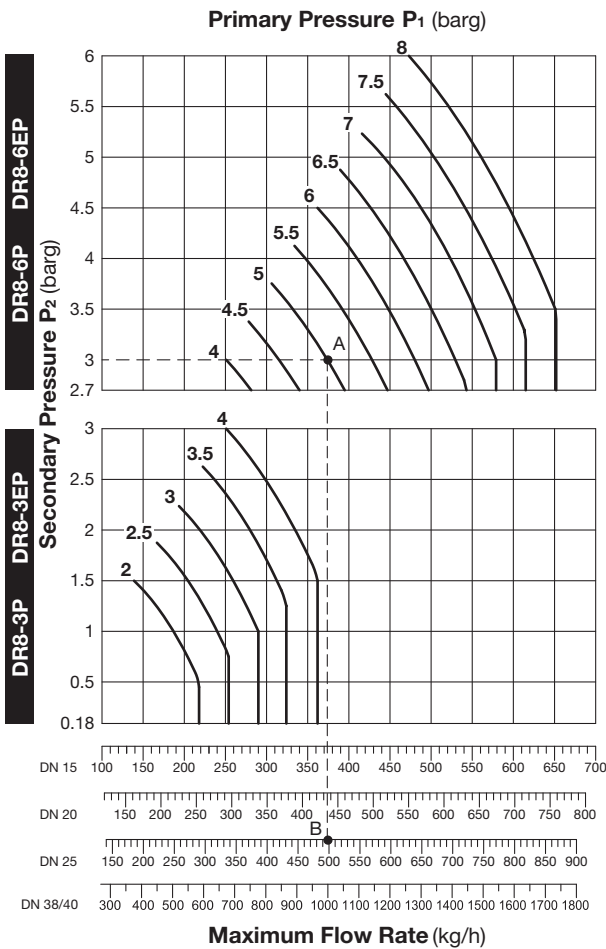
Size (DN)	$\phi d$	$\phi D$
15 [1/2"]	15.2 [9.4]	34
20 [3/4"]	19.3 [15.75]	[25]
25 [1"]	22.6 [22.1]	50.5
40 [1 1/2"]	35.6 [34.8]	



Tri-Clamp is a registered trademark of Alfa Laval Corporate AB.

[ ] ASME-BPE (Tri-Clamp compatible)

**Sizing Chart and Flow Graph (Max. Flow Rate)**



**Sizing Example**

For a primary pressure of 5 barg, a set pressure of 3 barg, and a maximum saturated steam flow rate of 450 kg/h, select an appropriate size.

Locate point A, where the primary pressure ( $P_1 = 5$  barg) intersects the set pressure ( $P_2 = 3$  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 primary pressure of 5 barg, model DR8-6P or DR8-6EP should be selected (see the adjustable pressure range information given in the specifications (overleaf)).

**Cv & Kvs Values**

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

Cv & Kvs values are for maximum flow

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

