



CLEAN STEAM DIRECT-ACTING PRESSURE REDUCING VALVE

MODEL DR8-P/DR8-EP FORGED 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
Minimum Adjustable Flow Rate	Secondary pressure must not exceed 75% of primary pressure 20 kg/h or more			
Finishing	Internal	0.8 µm Ra Buff-polished		Buff-polished then 0.4 µm Ra electro-polished
	External	Electro-polished		
Applicable Fluid**	Steam			

* Option ** 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
Minimum Allowable Temperature (°C): 0

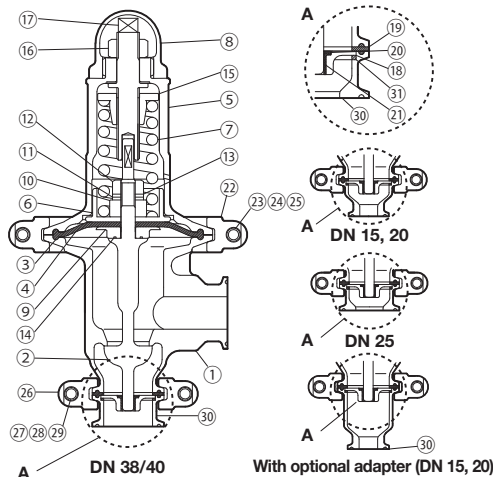


To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

No.	Description	Material	DIN ¹⁾	ASTM/AISI ¹⁾
①	Body	Forged Stainless Steel A182/A182M Gr.F316L	1.4404	—
② ^V	Valve	Stainless Steel SUS316L	1.4404	AISI316L
③ ^D	Diaphragm	Silicone Rubber ²⁾	—	—
④ ^D	Protective Sheet	Fluorine Resin ²⁾	PTFE	PTFE
⑤	Spring Housing	Forged Stainless Steel A182/A182M Gr.F316L	1.4404	—
⑥	Upper Diaphragm Retainer	Stainless Steel SUS316L	1.4404	AISI316L
⑦	Coil Spring	Stainless Steel SUS304	1.4301	AISI304
⑧	Cap	Cast Stainless Steel A351/A351M Gr.CF3M	1.4409	—
⑨	Lower Diaphragm Retainer	Stainless Steel SUS316L	1.4404	AISI316L
⑩	Spacer	Stainless Steel SUS303	1.4305	AISI303
⑪	Spring Washer	Stainless Steel SUS304	1.4301	AISI304
⑫	Locknut	Stainless Steel SUS304	1.4301	AISI304
⑬	Plain Washer	Stainless Steel SUS304	1.4301	AISI304
⑭ ^{MDV}	Retainer Gasket	High-performance Fluorine Resin ²⁾	PTFE	PTFE
⑮	Spring Retainer	Stainless Steel SUS304	1.4301	AISI304
⑯	Locknut	Stainless Steel SUS304	1.4301	AISI304
⑰	Adjustment Screw	Stainless Steel SUS420F	1.4028	AISI420F
⑱ ^G	Valve Guide	Stainless Steel SUS316L	1.4404	AISI316L
⑲ ^{MVG}	Inlet Clamp Gasket	High-performance Fluorine Resin ²⁾	PTFE	PTFE
⑳ ^G	Snap Ring	Stainless Steel SUS316	1.4401	AISI316
㉑ ^G	Slide Bearing	Polymer Resin ²⁾	—	—
㉒	Body Clamp	Cast Stainless Steel A351/A351M Gr.CF8	1.4308	—
㉓	Body Clamp Bolt ³⁾	Stainless Steel SUS304	1.4301	AISI304
㉔	Body Clamp Nut ³⁾	Stainless Steel SUS304	1.4301	AISI304
㉕	Spring Washer ³⁾	Stainless Steel SUS304	1.4301	AISI304
㉖	Inlet Clamp ³⁾	Cast Stainless Steel A351/A351M Gr.CF8	1.4308	—
㉗	Inlet Clamp Bolt ³⁾	Stainless Steel SUS304	1.4301	AISI304
㉘	Inlet Clamp Nut ³⁾	Stainless Steel SUS304	1.4301	AISI304
㉙	Spring Washer ³⁾	Stainless Steel SUS304	1.4301	AISI304
㉚	Adapter	Stainless Steel SUS316L	1.4404	AISI316L
㉛ ^{MVG}	Valve Guide Gasket	High-performance Fluorine Resin ²⁾	PTFE	—

Parts with USP/FDA Compliant Materials			Standard	
			USP	FDA*
⑭	Retainer Gasket	High-performance Fluorine Resin	—	—
⑳	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



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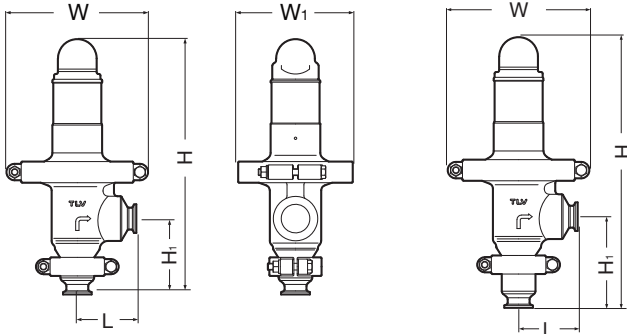
¹⁾ Equivalent materials ²⁾ USP or FDA compliant material. See the table above-right for details. ³⁾ Shown on reverse
Replacement kits available: (M) maintenance parts, (D) diaphragm repair parts,
(V) valve repair parts, (G) valve guide repair parts

Dimensions

● **DR8-P/DR8-EP** Clamp End

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

DN	L	H**	H ₁	W**	φ W ₁ **	Weight (kg)
15 [½"]	70	305 (325)	90 (108)	170 (170)	135	4.9
20 [¾"]						
25 [1"]	70	295	80	170		
38 [1½"]						



With optional adapter (DN 15, 20)

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

Clamp End Dimensions (mm)

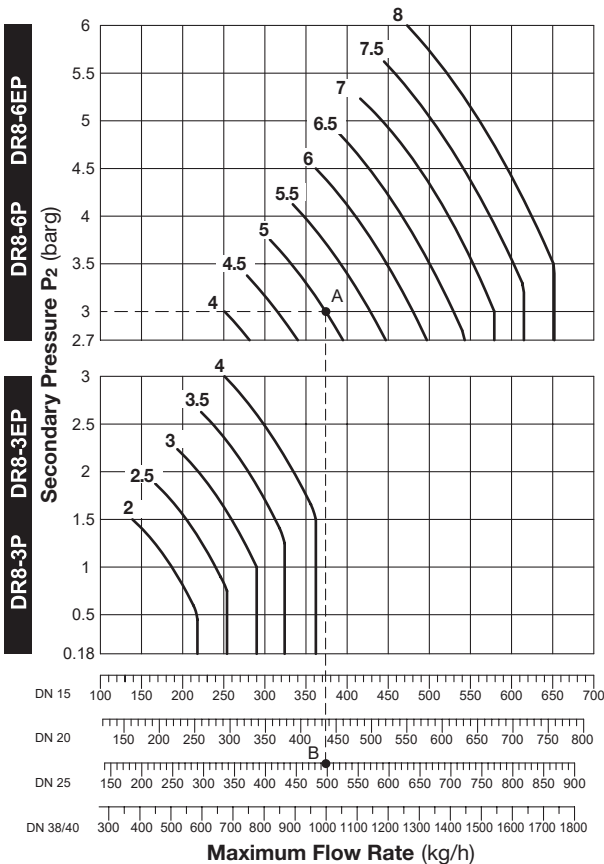
Size (DN)	φ d	φ D
15 [½"]	15.2 [9.4]	34
20 [¾"]	19.3 [15.75]	[25]
25 [1"]	22.6 [22.1]	50.5
40 [1½"]	35.6 [34.8]	

[] ASME-BPE (Tri-Clamp compatible)

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

Sizing Chart and Flow Graph (Max. Flow Rate)

Primary Pressure P₁ (barg)



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 (P₁ = 5 barg) intersects the set pressure (P₂ = 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

ISO 9001
ISO 14001

