



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/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.



Specifications

Model	DR8-3P	DR8-6P	DR8-3EP*	DR8-6EP*
Connection	Clamp End			
Size	DN 15, 20, 25 (ISO) 1/2", 3/4", 1" (ASME-BPE)			
Maximum Operating Pressure (barg) PMO	8			
Maximum Operating Temperature (°C) TMO	175			
Primary Pressure Range (barg)	2 – 4	4 – 8	2 – 4	4 – 8
Adjustable Pressure Range (barg)	0.18 – 3	2.7 – 6	0.18 – 3	2.7 – 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 Fluids***	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



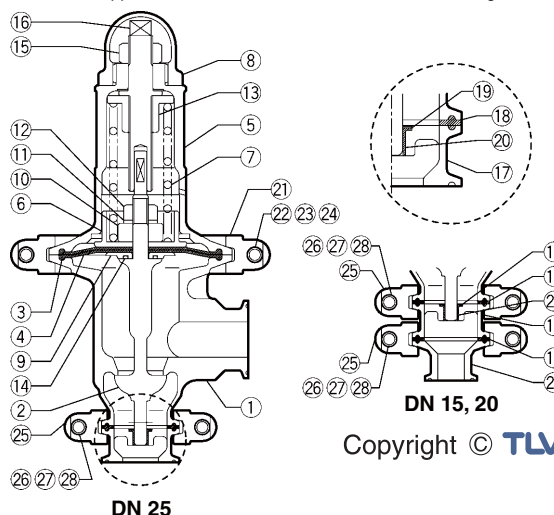
To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

No.	Description	Material	DIN ¹⁾	ASTM/AISI ¹⁾
①	Body	Cast stainless steel A351 Gr.CF3M	1.4409	—
② ^V	Valve	Stainless steel SUS316L	1.4404	AISI316L
③ ^{MD}	Diaphragm	Silicone Rubber ²⁾	—	—
④ ^{MD}	Protective Sheet	Flourine Resin PTFE ²⁾	PTFE	PTFE
⑤	Spring Case	Cast stainless steel A351 Gr.CF3M	1.4409	—
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 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	Diaphragm Nut	Stainless steel SUS304	1.4301	AISI304
⑬	Spring Retainer	Stainless steel SUS304	1.4301	AISI304
⑭ ^{DV}	O-Ring	FEP ³⁾ Coated Silicone Rubber ²⁾	—	—
⑮	Locknut	Stainless steel SUS304	1.4301	AISI304
⑯	Adjustment Screw	Stainless steel SUS420F	1.4028	AISI420F
⑰ ^G	Valve Guide	Stainless steel SUS316LCPS	1.4404	AISI316L
⑱ ^{MDVG}	Inlet Clamp Gasket	High-performance Flourine Resin ²⁾	—	—
⑲ ^G	Snap Ring	Stainless steel SUS316	1.4401	SUS316
⑳ ^G	Slide Bearing	Polymer Resin ²⁾	—	—
㉑	Body Clamp	Cast stainless steel A351 Gr.CF3M	1.4409	—
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.CF3M	1.4409	—
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

¹⁾ Equivalent materials ²⁾ FDA compliant material. See the table above-right for details.
³⁾ Fluorinated Ethylene Propylene Copolymer
 Replacement kits available: (M) maintenance parts, (D) diaphragm repair parts, (V) valve repair parts, (G) valve guide repair parts

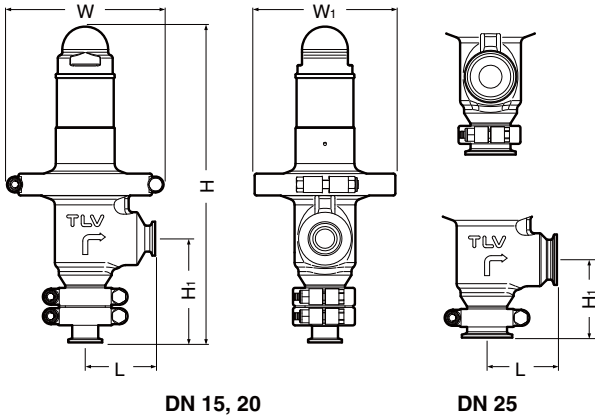
Parts with USP/FDA Compliant Materials			Standard	
			USP	FDA*
⑭	O-Ring	FEP Coated Silicone Rubber	—**	A
		Internal (Silicone) Coating (FEP)		
③	Diaphragm	Silicon Rubber	Class VI	A
		Flourine Resin		
		Polymer Resin		
⑳	Slide Bearing	Polymer Resin	C	
⑱	Inlet Clamp Gasket	High-performance Flourine Resin	B	

* FDA: A: 21 CFR 177.2600, B: 21 CFR 177.1550, C: 21 CFR 177.2415
 ** USP not applied for because whetted material is FEP coating.



Dimensions

● DR8-P/DR8-EP Clamp End



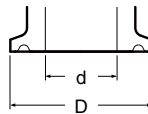
DR8-P/DR8-EP Clamp End* (mm)

DN	L	H**	H1**	W	W1	Weight (kg)
15 (1/2")	70	323	108	170	136	5.0
20 (3/4")		295	80			
25 (1")						

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

Clamp End Dimensions

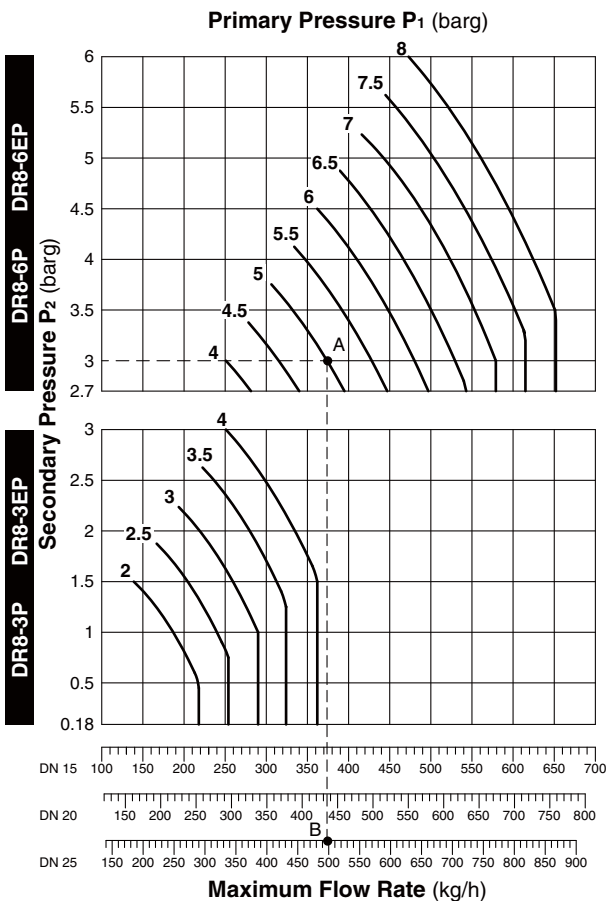
Size (DN)	φ d	φ D
15 (1/2")	15.2 (9.4)	34 (25)
20 (3/4")	19.3 (15.75)	
25 (1")	22.6 (22.1)	50.5



() ASME-BPE (Tri-Clamp compatible)

Tri-Clamp is a registered trademark of Tri-Clover Inc.

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
Kvs (DIN)	5.1	6	6.8
Cv (UK)	5	5.8	6.7
Cv (US)	6	7	8

Cv & Kvs values are for maximum flow

Manufacturer

ISO 9001/ISO 14001

TLV CO., LTD.
Kakogawa, Japan

is approved by LRQA Ltd. to ISO 9001/14001

