



STEAM PRESSURE REDUCING VALVE

MODEL COSR-16HT

SELF-ACTUATED PRESSURE REDUCING VALVE WITH SHOCK-ABSORBING PISTON

Features

Technologically advanced pressure reducing valve for accurate control in process steam systems.

1. High-temperature model suitable for superheated steam applications.
2. Self-aligning shock-absorbing spherical piston and advanced pilot regulator designs maintain secondary steam pressure accuracy, even during adverse process conditions.
3. Body made of durable cast steel.
4. Large surface area integral screen for pilot valve extends trouble-free service.
5. Internal secondary pressure-sensing channel makes external sensing line unnecessary.
6. Built-in silencer for noise reduction.



Specifications

Model	COSR-16HT
Connection	Flanged
Size (mm)	65, 80, 100
Body Material	Cast Steel
Max. Operating Pressure (MPaG) PMO	1.6
Max. Operating Temperature (°C) TMO	300
Primary Pressure Range (MPaG)	0.2 to 1.6
Adjustable Pressure Range (all conditions must be met)	Within 10 - 84% of primary pressure but with a minimum pressure of 0.03 MPaG
	Differential Pressure between 0.07 to 0.85 MPa
Minimum Adjustable Flow Rate	10% of rated flow rate

PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS):

Maximum Allowable Pressure (MPaG) PMA: 1.6

Maximum Allowable Temperature (°C) TMA: 300

1 MPa = 10.197 kg/cm²



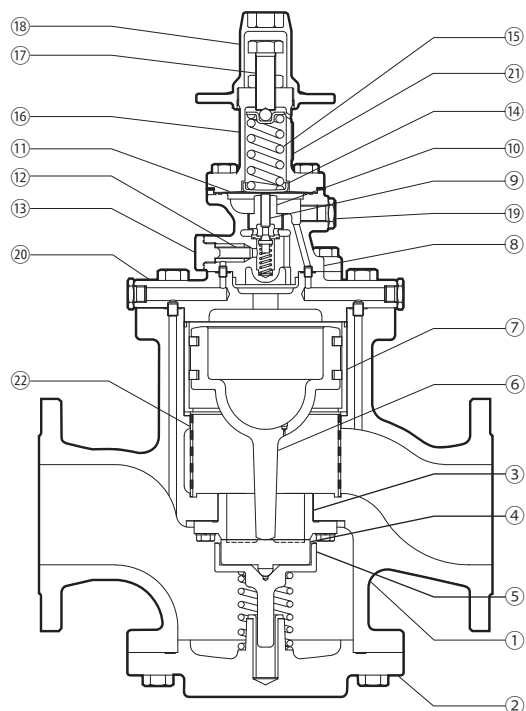
CAUTION

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.

Configuration

No.	Description	Material	ASTM/AISI
①	Main Body	Cast Steel	A216/A216M Gr.WCB
②	Cover	Cast Steel	A216/A216M Gr.WCB
③	Main Valve Seat	Stainless Steel	—
④	Main Valve	Stainless Steel	—
⑤	Main Valve Holder	Stainless Steel	—
⑥	Piston	Stainless Steel	—
⑦	Cylinder	Stainless Steel	—
⑧	Pilot Valve Body	Cast Stainless Steel	A351/A351M Gr.CF8
⑨	Pilot Valve	Stainless Steel	—
⑩	Pilot Valve Seat	Stainless Steel	—
⑪	Diaphragm	Stainless Steel	—
⑫	Pilot Screen	Stainless Steel	—
⑬	Pilot Screen Holder	Stainless Steel	A479/A479M Type 304
⑭	Diaphragm Support	Brass	—
⑮	Coil Spring	Carbon Steel	—
⑯	Spring Housing	Cast Stainless Steel	A351/A351M Gr.CF8
⑰	Adjustment Screw	Cr-Mo Steel	—
⑱	Spanner Cap	Cast Stainless Steel	A351/A351M Gr.CF8
⑲	Plug – Sensing Line Port	Stainless Steel	—
⑳	Pilot Cover	Cast Steel	A216/A216M Gr.WCB
㉑	Nameplate	Stainless Steel	—
㉒	Silencer	Stainless Steel	—

Contact TLV for available replacement parts.



Capacity Table COSR-16HT

With internal (factory standard) or external (option) secondary pressure-sensing channel or line (kg/h)

Primary Steam Pressure (MPaG)	Secondary (Set) Steam Pressure (MPaG)		Nominal Valve Size (mm)		
	Internal Channel	External Line (option)	65	80	100
0.2	*0.13	*0.13	1460	2090	3150
	0.11	0.11	1570	2250	3400
	0.1	**0.03 – 0.1	1610	2310	3480
	0.07		1600	2300	3470
	**0.03		1590	2290	3460
0.3	*0.23	*0.23	1740	2500	3760
	0.2	0.2	1790	2820	4250
	0.15	**0.03 – 0.15	2180	3120	4700
	0.1		2080	2980	4480
	**0.03		1830	2630	3950
0.4	*0.33	*0.33	1980	2840	4280
	0.3	0.3	2270	3250	4900
	0.25	0.25	2570	3690	5560
	0.2	**0.04 – 0.2	2790	3990	6020
	0.1		2370	3390	5110
	**0.04		2090	3000	4510
0.5	*0.42	*0.42	2320	3330	5010
	0.4	0.4	2530	3630	5470
	0.3	0.3	3050	4510	6800
	0.25	**0.05 – 0.25	3320	4760	7170
	0.15		2760	3950	5950
	**0.05		2190	3140	4730
0.6	*0.5	*0.5	2770	3970	5980
	0.4	0.4	3520	5040	7590
	0.35	0.35	3710	5320	8010
	0.3	**0.06 – 0.3	3860	5530	8330
	0.15		2550	3800	5500
	**0.06		2260	3250	4890
0.7	*0.58	*0.58	3220	4610	6940
	0.5	0.5	3850	5520	8320
	0.4	0.4	4260	6110	9200
	0.35	**0.07 – 0.35	4390	6290	9480
	0.2		3250	4660	7010
	**0.07		2310	3310	4980
0.8	*0.67	*0.67	3550	5100	7620
	0.6	0.6	4160	5970	8980
	0.5	0.5	4670	6690	10100
	0.4	**0.08 – 0.4	4920	7060	10600
	0.2		3250	4660	7010
	**0.08		2220	3180	4780
1.0	*0.84	*0.84	4330	6210	9360
	0.7	0.7	5390	7730	11600
	0.6	0.6	5780	8280	12500
	0.5	**0.15 – 0.5	5990	8580	12900
	0.3		3950	5790	8520
	**0.15		2390	3430	5170
1.2	*1.0	*1.0	5220	7480	11300
	0.8	0.8	6560	9400	14200
	0.7	0.7	6870	9850	14800
	0.6	**0.35 – 0.6	7050	10100	15200
	0.5		5850	8380	12600
	**0.35		4760	6820	10300
1.4	*1.17	*1.17	6000	8590	12400
	1.0	1.0	7260	10400	15600
	0.8	0.8	7950	11400	17200
	0.7	**0.55 – 0.7	8110	11600	17500
	0.6		6650	9530	14300
	**0.55		6040	8660	13000
1.6	*1.34	*1.34	6770	9710	14600
	1.0	1.0	8800	12600	19000
	0.9	0.9	9030	12900	19500
	0.8	**0.75 – 0.8	9170	13100	19800
	**0.75		8390	12000	18100

* Maximum adjustable secondary pressure ** Minimum adjustable secondary pressure

1 MPa = 10.197 kg/cm²

Cv Values

Size	Nominal Valve Size (mm)		
	65	80	100
Cv (US)	59.3	85.0	128
Cv (UK)	49.4	70.8	107
Kvs (DIN)	50.8	72.9	110



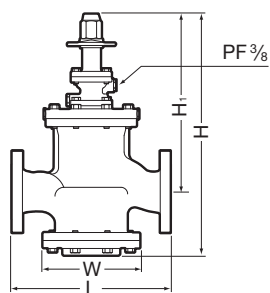
CAUTION

The Cv & Kvs values shown are for the valve in the full fail open position. These values are not to be used for COSR sizing, and instead may be used as one of the factors in calculations for safety valve selection.

Dimensions

• COSR-16HT

Flanged



COSR-16HT Flanged

(mm)

Size	L		H*	H ₁ *	φ W	Weight** (kg)
	ASME Class					
	150RF	300RF				
65	372	378	560	415	220	60
80	374	384				65
100	434	450	635	450	265	105

Other standards available, but length and weight may vary

* Approximate dimensions

** Weight is for Class 300 RF

Manufacturer

TLV® CO., LTD.

Kakogawa, Japan

is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001
ISO 14001

