



ELECTRO-PNEUMATIC CONTROL VALVE FOR STEAM

MODEL CV-COS

POSITIONER/ACTUATOR CONTROL VALVE WITH SEPARATOR AND STEAM TRAP

Features

Steam control valve with I/P positioner integrated into a compact pneumatic actuator. Built-in cyclone separator and steam trap to provide high-quality steam for process applications.

1. Built-in cyclone separator and self-modulating free float steam trap provide dry, high-quality steam supply improving productivity and product quality for process applications.
2. Removal of condensate while valve is closed reduces scale adhesion and water hammer.
3. One combination I/P positioner/actuator (I/P positioned actuator) saves space and simplifies system layout, piping and maintenance.
4. Top mounting of the I/P positioned actuator eliminates passerby damage and misadjustment associated with side-mount components.
5. Combined large-surface-area screen for trap and separator reduces cost and piping space.
6. Zero/span adjustment can be performed by simple dial rotation.
7. Self-adjusting chevron packing minimizes seal leaks, stem wear and stiction/hysteresis problems.



Specifications

VALVE

Model	CV-COS			
Body Material	Cast Iron (JIS FC250) (equivalent to A126 Cl.B)		Cast Stainless Steel (ASTM A351 Gr.CF8)	
Connection	Flanged		Flanged	
Size (mm)	15, 20, 25, 40	50	15, 20, 25, 40	50
Maximum Operating Pressure (MPaG) PMO	1.6	1.0	1.6	1.0
Maximum Operating Temperature (°C) TMO	220			
Seat Plug Sealing / Leak Rate Class (DIN EN 60 534)	Metal to Metal / Class IV			
Characteristic	Equal percentage			
Rangeability	50 : 1			

ACTUATOR

Actuator Area (cm ²)	120
Fail-safe position	Valve CLOSED (Air to open)
Bench Range (MPa)	0.21 to 0.33
Electrical Input Signal (mA)	4 to 20
Load Resistance (Ω)	Approx. 300
Air Supply Pressure for Positioner (MPaG)	0.38
Transit Time for Rated Travel (seconds)	Approx. 3
Hysteresis (%)	< 1
Protection Class	IP 54
Ambient Temperature Range (°C)	-10 to 60
Motive Medium	Oil-free air, filtered to 5μm

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.

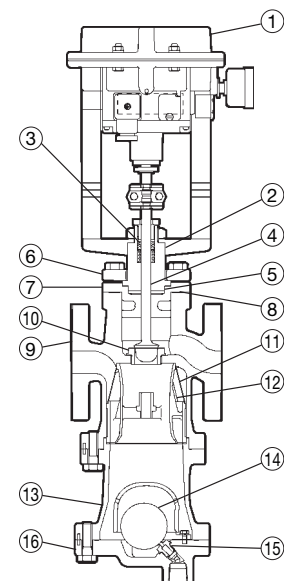
PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS):

Maximum Allowable Pressure (MPaG) PMA: 1.6

Maximum Allowable Temperature (°C) TMA: 220

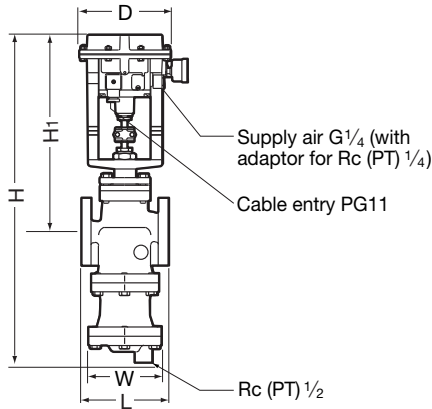
No.	Description	Material	JIS	ASTM/AISI*
①	Actuator Body	Aluminum	GD-AI Si 12	—
②	Valve Bonnet	Carbon Steel	—	A105
③	Stuffing Box V-rings	Fluorine Resin w/ Carbon	PTFE	PTFE
④	Plug and Stem	Stainless Steel	SUS304	AISI304
⑤	Valve Bonnet Gasket	Fluorine Resin	PTFE	PTFE
⑥	Flange	Cast Stainless Steel	—	A351 Gr.CF8
⑦	Valve Bonnet Guide	Cast Stainless Steel	—	A351 Gr.CF8
⑧	Valve Bonnet Guide Gasket	Fluorine Resin	PTFE	PTFE
⑨	Main Body	See Valve Specification Table for available materials		
⑩	Valve Seat	Stainless Steel	SUS304	AISI304
⑪	Separator Screen	Stainless Steel	SUS430/304	AISI430/304
⑫	Separator	Cast Stainless Steel	—	A351 Gr.CF8
⑬	Trap Body	Same material as Valve Body		
⑭	Float	Stainless Steel	SUS316L	AISI316L
⑮	Trap Valve Seat	—	—	—
⑯	Trap Cover	Same material as Valve Body		

* Equivalent



Dimensions

● CV-COS Flanged



CV-COS Flanged

(mm)

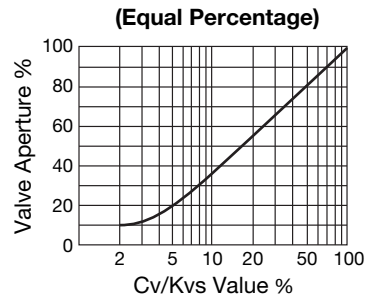
Size	L (Cast Iron)				L (Cast Stainless Steel)		H	H _i	W	φD	Weight* (kg)
	ASME Class				ASME Class						
	125FF	(150RF)	250RF	(300RF)	150RF	300RF					
(15)	—	170	—	170	141	147	574	364	105	168	18
(20)	—	182	—	182	140	146					19
25	176	188	188	192	153	159					24
40	209	220	222	224	199	206					30
50	255	255	260	261	254	260					47

() No ASME standard exists for cast iron; machined to fit steel flanges
 Class 125 FF can connect to 150 RF, 250 RF can connect to 300 RF
 Other standards available, but length and weight may vary
 * Weight is for Class 250 RF/300 RF

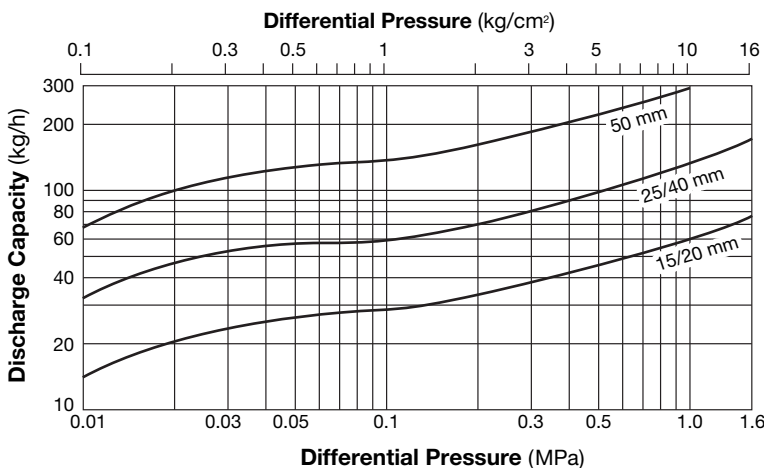
Cv Values

	Nominal Valve Size (mm)				
	15	20	25	40	50
Cv (US)	3.5	6.0	9.0	27	40
Cv (UK)	2.9	5.0	7.5	23	33
Kvs (DIN)	3.0	5.1	7.7	23	34
Seat Diameter (mm)	12	24		38	48

Characteristic Graph



Trap Discharge Capacity



1. The discharge capacity is the maximum continuous condensate discharge 6°C below saturated steam temperature.
2. The differential pressure is the difference between the CV-COS inlet and its trap outlet pressure.

CAUTION DO NOT use this product under conditions that exceed maximum differential pressure, as condensate backup will occur!

Manufacturer

ISO 9001/ISO 14001

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

