



# ELECTRO-PNEUMATIC CONTROL VALVE

## MODEL CV-COSR DUCTILE CAST IRON STAINLESS STEEL

### POSITIONER/ACTUATOR CONTROL VALVE

#### Features

Control valve with I/P positioner integrated into a compact pneumatic actuator.

1. One combination I/P positioner/actuator (I/P positioned actuator) saves space and simplifies system layout, piping and maintenance.
2. Top mounting of the I/P positioned actuator eliminates passerby damage and misadjustment associated with side-mount components.
3. Zero/span adjustment can be performed by simple dial rotation.
4. Self-adjusting chevron packing minimizes seal leaks, stem wear and stiction/hysteresis problems.
5. A condensate drainage port is prepared at the bottom of the body to facilitate piping for installing a blow valve or steam/air trap to eliminate condensate.



#### Specifications

##### VALVE

Model	CV-COSR			
Body Material	Ductile Cast Iron (GGG40.3)		Cast Stainless Steel (ASTM A351 Gr.CF8) (equivalent to 1.4312)	
Connection	Flanged		Flanged	
Size	DN 15, 20, 25, 32, 40	DN 50	DN 15, 20, 25, 32, 40	DN 50
Maximum Operating Pressure (barg)	16	10	16	10
Maximum Operating Temperature (°C)	220			
Seat Plug Sealing / Leak Rate Class (DIN EN 60 534)	Metal to Metal / Class IV			
Characteristic	Equal percentage			
Rangeability	50 : 1			
Applicable Fluids*	Steam, Water, Air			

\*Do not use for toxic, flammable or otherwise hazardous fluids.

1 bar = 0.1 MPa

##### ACTUATOR

Actuator Area (cm <sup>2</sup> )	120
Fail-safe position	Valve CLOSED (Air to open)
Bench Range (bar)	2.1 to 3.3
Electrical Input Signal (mA)	4 to 20
Load Resistance (Ω)	Approx. 300
Air Supply Pressure for Positioner (barg)	3.8
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 5 μm

PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS):

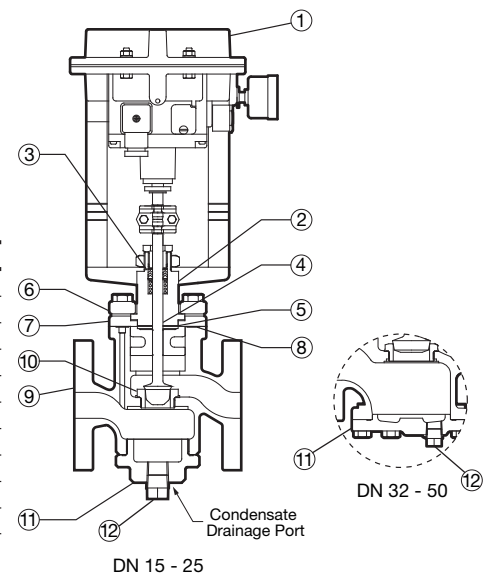
Maximum Allowable Pressure (barg) PMA: 16

Maximum Allowable Temperature (°C) TMA: 220

No.	Description	Material	DIN*	ASTM/AISI*	
①	Actuator Body	Aluminum GD-Al Si 12	—	—	
②	Valve Bonnet	Carbon Steel A105	1.0460	—	
③	Stuffing Box V-rings	Fluorine Resin PTFE w/ Carbon	PTFE	PTFE	
④	Valve Plug and Stem	Stainless Steel SUS304	1.4301	AISI304	
⑤	Valve Bonnet Gasket	Fluorine Resin PTFE	PTFE	PTFE	
⑥	Flange	Cast Stainl. Stl. A351 Gr.CF8	1.4312	—	
⑦	Valve Bonnet Guide	Cast Stainl. Stl. A351 Gr.CF8	1.4312	—	
⑧	Valve Bonnet Guide Gasket	Fluorine Resin PTFE	PTFE	PTFE	
⑨	Body	See Valve Specification Table for available materials			
⑩	Valve Seat	Stainless Steel SUS304	1.4301	AISI304	
⑪	Cover Plug	Same material as Valve Body	DN 15 - 25	DN 32 - 50	
	Cover				
⑫	Drain Plug	Ductile Body	Carbon Steel SS400	1.0037	A6
		Stain. Steel Body	Stainless Steel SUS304	1.4301	AISI304

\* Equivalent materials

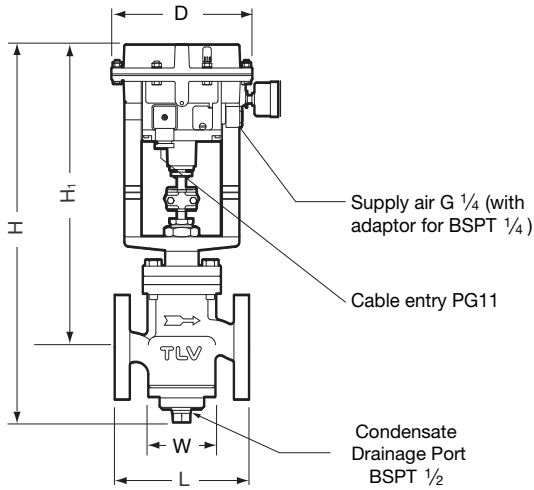
**CAUTION** To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.



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**Dimensions**

● **CV-COSR Flanged**



Size DN 15 - 25 shown.  
Configuration of larger sizes differs slightly

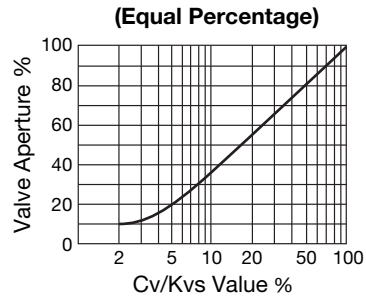
**CV-COSR Flanged** (mm)

DN	L		H	H <sub>1</sub>	W	φ D	Weight (kg)
	DIN 2501	PN25/40					
	15	130					
20	150					14	
25	160		452	362	93	16	
32	180		475	377	126	22	
40	200					23	
50	230		503	391	157	30	

**Cv & Kvs Values**

DN	15	20	25	32	40	50
Kvs (DIN)	3.0	5.1	7.7	14	23	34
Cv (UK)	2.9	5.0	7.5	14	23	33
Cv (US)	3.5	6.0	9.0	17	27	40
Seat Diameter (mm)	12	24		38		48

**Characteristic Graph**



Manufacturer

ISO 9001/ISO 14001

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

