



ELECTRO-PNEUMATIC CONTROL VALVE

MODEL CV-COS-16

POSITIONER/ACTUATOR CONTROL VALVE WITH SEPARATOR AND STEAM TRAP

Benefits

Steam control valve featuring a digital I/P positioner combined with 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. Pneumatic actuator with digital I/P positioner in a compact configuration.
4. Rolling actuator diaphragm ensures linearity over the operating stroke and maximizes life.
5. Self-adjusting positioner features zero calibration by auto-tuning, which ensures tight shut-off and improves control during low flow.
6. Positioner LCD allows simple operation with capacitive keys and displays valve travel and error codes.
7. Self-adjusting chevron packing minimizes seal leaks, stem wear and stiction/hysteresis problems.



Specifications

VALVE

Model		CV-COS-16		
Body Material		Cast Iron FC250 (equiv. to A126 Cl.B)		
Connection		Flanged ASME		
Size (in)		1	1½	2
Max. Operating Pressure (psig)	PMO 125FF		130	
	250RF	268	246	159
Maximum Operating Temperature (°F) TMO		428		
Maximum Allowable Pressure (psig) PMA		268		
Maximum Allowable Temperature (°F) TMA		428		
Leak Rate Class (IEC 60534-4)/Seat Plug Sealing		Class IV / Metal sealing (Option: Class VI / Soft sealing)		
Characteristic		Equal percentage		
Rangeability		50 : 1		
Applicable Fluids*		Steam		

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

CV-COS-16 is a non-standard product, consult TLV for delivery time required.

ACTUATOR / POSITIONER

Fail-safe Position	Valve CLOSED (Air to Open)
Motive Medium	Oil-free air, filtered to 5 µm
Electrical Input Signal (mA)	4 to 20
Load Impedance (V)	Max. 6.3
Air Supply Pressure Range for Positioner (psig)	54 to 90
Ambient Temperature Range (°F)	-13 to +176
Protection Class	IP 66
Intrinsically Safe Rating (optional)	ATEX II 2G Ex ia IIC T4

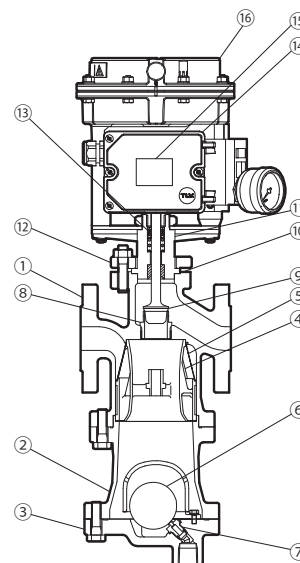


To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.

Configuration

No.	Description	Material	ASTM/AISI*	JIS
①	Main Body	See Valve Specification Table for available materials		
②	Separator Body	See Valve Specification Table for available materials		
③	Trap Cover	See Valve Specification Table for available materials		
④	Separator	Cast Stainless Steel	A351 Gr.CF8	—
⑤	Separator Screen	Stainless Steel	AISI304	SUS304
⑥	Float	Stainless Steel	AISI316L	SUS316L
⑦	Trap Valve Seat	—	—	—
⑧	Valve Seat	Stainless Steel	AISI303	SUS303
⑨	Plug and Stem	Stainless Steel	AISI303	SUS303
⑩	Valve Bonnet Gasket	Graphite	—	—
⑪	Valve Bonnet	Carbon Steel	A105	—
⑫	Flange	Carbon Steel	A105	—
⑬	Stuffing Box V-ring Packing	Fluorine Resin with Carbon	PTFE	PTFE
⑭	Positioner Housing	Polyphthalamide	PPA	PPA
⑮	Positioner Cover	Polycarbonate	PC	PC
⑯	Actuator Body	Aluminium	—	GD-Al Si 12

* Equivalent
Contact TLV for available replacement parts.

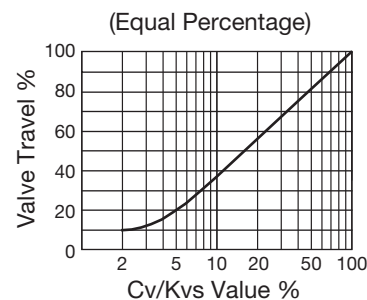


Cv & Kvs Values

Size	1	1½	2
Cv (US)	12 [5.0]	30 [12]	40 [20]
Cv (UK)	9.7 [3.9]	24 [9.7]	34 [15.5]
Kvs (DIN)	10 [4.0]	25 [10]	35 [16]
Seat Diameter (in)	¹⁵ / ₁₆ [½]	1½ [¹⁵ / ₁₆]	¹³ / ₄ [¹ / ₄]

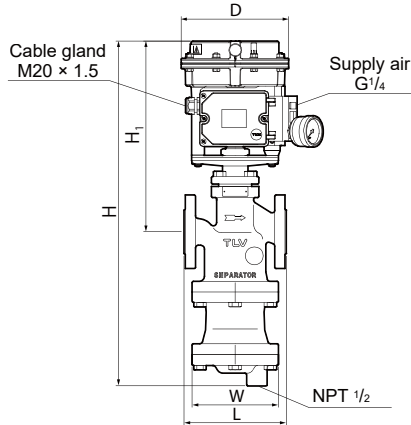
[] Optional

Characteristic Graph



Dimensions

● **CV-COS-16 Flanged**

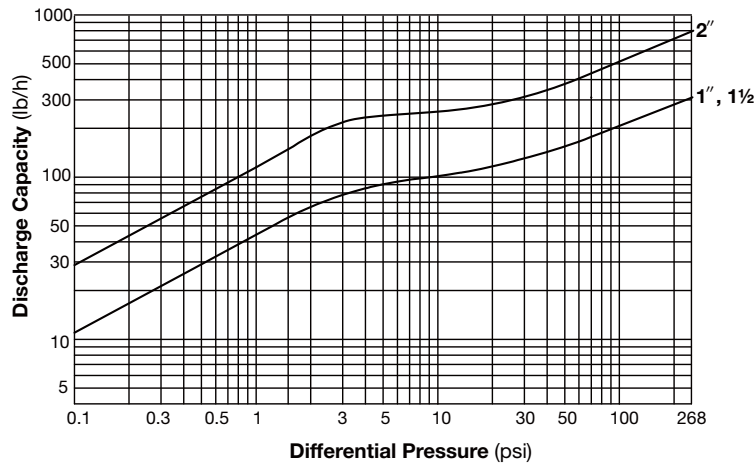


CV-COS-16 Flanged (in)

Size	L		Actuator Area (in ²)	H	H ₁	W	φ D	Weight* (lb)
	Connects to ASME Class							
	125FF	250RF						
1	7 ¹ / ₄	7 ³ / ₄	18.6	21 ¹ / ₁₆	11 ¹ / ₂	5 ⁷ / ₈	6 ⁵ / ₈	24
1 ¹ / ₂	8 ³ / ₄	9 ¹ / ₄		22 ¹⁰ / ₁₆	11 ¹¹ / ₁₆	6 ¹ / ₂		35
2	10	10 ¹ / ₂		24 ¹³ / ₁₆		7 ¹ / ₁₆		40

Other standards available, but length and weight may vary
 * Weight is for Class 250 RF

Trap Discharge Capacity



1. The discharge capacity is the maximum continuous condensate discharge 11 °F below saturated steam temperature.
2. The differential pressure is the difference between the CV-COS inlet and its trap outlet pressure.



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

Options

Intrinsically Safe Positioner	ATEX II 2G Ex ia IIC T4
Pressure Gauge for Positioner	Fitted as standard, available without
Electric Actuator*	Details on request

* Manufacturer: Samson AG

Memo:



DO NOT DISASSEMBLE OR REMOVE THIS PRODUCT WHILE IT IS UNDER PRESSURE.
Allow internal pressure of this product to equal atmospheric pressure and its surface to cool to room temperature before disassembling or removing. Failure to do so could cause burns or other injury. **READ INSTRUCTION MANUAL CAREFULLY.**

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

