



ELECTRO-PNEUMATIC CONTROL VALVE

MODEL CV5 CAST IRON CAST STEEL

COMPACT MULTI-PURPOSE CONTROL VALVE WITH COMBINATION POSITIONER/ACTUATOR

Features

Electro-pneumatic globe valve with integrated I/P positioner for steam and non-hazardous fluids.

1. One combination I/P positioner/actuator (I/P positioned actuator) fits all size valves, to minimize spare inventory requirements.
2. Integrated I/P positioner design simplifies installation. Only a single air and electrical signal needed, with no additional instrumentation or mounting kit requirements.
3. Top mounting of the I/P positioned actuator eliminates passerbly damage and misadjustment associated with side-mount components.
4. Positioner vents air automatically to simplify zero setting which ensures tight shut-off and improves control during low flow.
5. Multi-spring actuator is highly efficient, and its low overall height facilitates compact installation.
6. Self-adjusting chevron packing minimizes seal leaks, stem wear and stiction/hysteresis problems.
7. Rolling actuator diaphragm ensures linearity over the operating stroke and maximizes life.



Specifications

VALVE

Model		CV5												
Body Material		Cast Iron (GG-25)						Cast Steel (GP240GH)						
Connection		Flanged PN 16 DIN 2526 Form C						Flanged PN 40 DIN 2526 Form C*						
Size (DN)		15	20	25	32	40	50	15	20	25	32	40	50	
Maximum Operating Pressure (barg)	PMO	13			10			25			17			10
Maximum Operating Temperature (°C)	TMO	200						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												

* ASME standards also available ** Do not use with toxic, flammable or otherwise hazardous fluids.

1 bar = 0.1 MPa

ACTUATOR

Actuator Area (cm ²)	120	
Fail-safe Position	Valve CLOSED*	Valve OPEN**
Bench Range (bar)	2.1 to 3.3	0.4 to 1.4
Electrical Input Signal (mA)	4 to 20	
Air Supply Pressure Range for Positioner (barg)	3.7 to 6	
Transit Time for Rated Travel (Seconds)	Approx. 3	
Hysteresis (%)	< 1	
Protection Class	IP 54	
Ambient Temperature Range (°C)	-30 to 70	
Motive Medium	Oil-free air, filtered to 5 µm	

* Air to open ** Air to close

PRESSURE SHELL DESIGN CONDITIONS (NOT OPERATING CONDITIONS):

Maximum Allowable Pressure (barg) PMA: 13 (Cast Iron), 25 (Cast Steel)

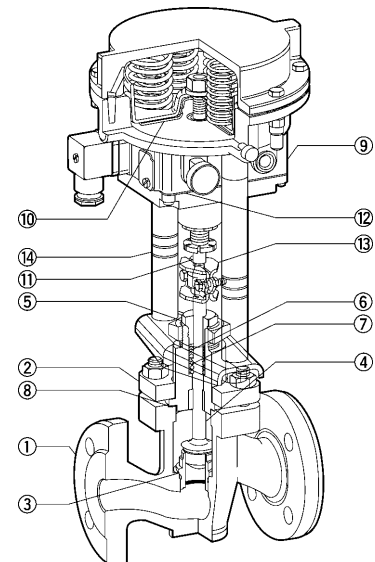
Maximum Allowable Temperature (°C) TMA: 200 (Cast Iron), 220 (Cast Steel)

No.	Description	Material	DIN	ASTM/AISI*
①	Valve Body	Cast Iron	0.6025	A126 Cl.B
		Cast Steel	1.0619	A216 Gr.WCB
②	Valve Bonnet	Carbon Steel	1.0460	A105
③	Valve Seat	Stainless Steel	1.4305	AISI303
		Stainless Steel	1.4104	AISI430F
④	Plug and Stem	Stainless Steel	1.4305	AISI303
⑤	Guide Bushing	Stainless Steel	1.4104	AISI430F
⑥	Stuffing Box V-ring	Fluorine Resin with Carbon	PTFE	PTFE
⑦	Stuffing Box Spring	Stainless Steel	1.4310	AISI301
⑧	Body Gasket	Graphite	—	—
⑨	Actuator Body	Aluminum GD-AI Si 12	—	—
⑩	Diaphragm	Nitrile Rubber NBR	NBR	D2000BF
⑪	Actuator Stem	Stainless Steel	1.4305	AISI303
⑫	Positioner Case	Synthetic Resin POM GF	—	—
⑬	Stem Bracket	Stainless Steel	1.4301	AISI304
⑭	Yoke	Carbon Steel Zinc Coated	1.0715	A1213

* Equivalent materials



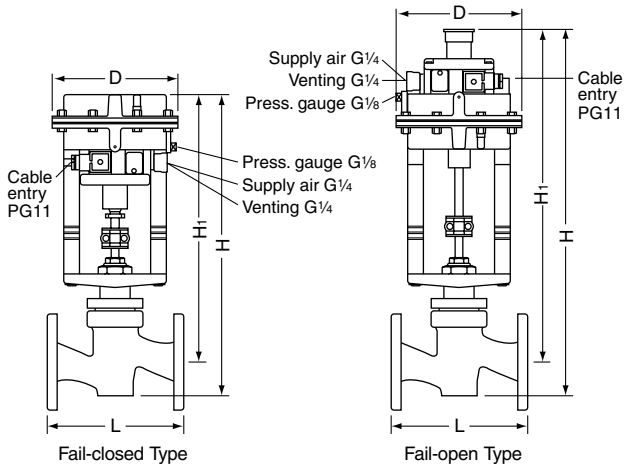
To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside of the specification range. Local regulations may restrict the use of this product to below the conditions quoted.



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Dimensions

● **CV5 Flanged**



CV5 Flanged

(mm)

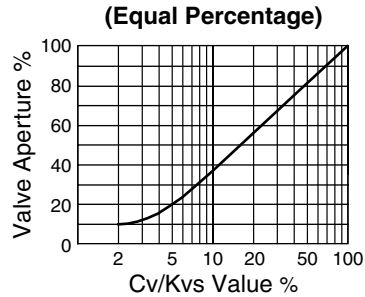
DN	L		H		H ₁		φ D	Weight* (kg)
	DIN 2526 Form C PN16	PN25/40	Fail-closed	Fail-open	Fail-closed	Fail-open		
15	130	130	386	471	346	431	168	8.7
20	150	150						9.7
25	160	160						11
32	180	180	423	508	351	436		15
40	200	200						16
50	230	230						19

ASME flanges available
* Approximate weight for PN16; add 15% for PN 25/40

Cv & Kvs Values

DN	15	20	25	32	40	50
Kvs (DIN)	4	6.3	10	16	25	35
Cv (UK)	3.9	6.1	9.7	16	24	34
Cv (US)	4.7	7.4	12	19	29	41
Seat Diameter (mm)	12	24	32	38	48	

Characteristic Graph



Options

Item	Options
Valve Plug	Plug for soft sealing to Class VI (DIN EN 60 534)
Fail-safe Position	Valve OPEN
Limit Switches	1 or 2 Limit switches
Motorized Electric Actuator	Details on request
Pneumatic Actuator without Positioner	Details on request

ISO 9001/ISO 14001

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

