PNEUMATIC CONTROL VALVE

MODEL CV10 WITH POSITIONER
CAST IRON, DUCTILE CAST IRON, CAST STEEL

Features

Reliable two-port globe-style valve with equal percentage and linear characteristics for use on steam, air or liquid service. These extremely durable control valves with actuators deliver Class IV or VI performance in severe service applications.

1. Multi-spring actuator is highly efficient, and its low overall height facilitates compact installation.
2. Size DN 40 and above utilize V-port plugs to improve control stability and provide durability resulting in a long service life.
3. Self-adjusting chevron packing minimizes seal leaks, stem wear and stiction/hysteresis problems.
4. Rolling actuator diaphragm delivers linearity over the operating stroke and maximizes life.
5. One combination I-P converter/positioner and standardized actuator sizes with field reversability maximize potential applications while minimizing spare inventory requirements.
6. Intrinsically safe version and a wide variety of other special options are available for exceptional performance in demanding duties.

Specifications

VALVE

Model	CV10									
Size (DN)	15	20	25	32	40	50	65	80	100	150
Kvs Value (DIN)	4	6.3	10	16	25	40	60	80	160	260
Cv Value (UK)	3.9	6.1	9.7	15.5	24	39	58	78	155	252
Cv Value (US)	5	7.5	12	20	30	47	70	95	190	300
Characteristic / Rangeability	Equal percentage or linear / 50 : 1 for DN 15 to 50; 30 : 1 for DN 65 and above									
Leakage Rate Class according to DIN EN 60 534	Standard: IV (metal sealing), VI (soft sealing special option) Balanced: IV (metal sealing with PTFE ring), III (metal sealing with graphite ring)									

Body Material DIN Material Number (WN) / ASTM/AISI Equivalent		Cast Iron GG-25 0.6025 / A126 Cl. B	Ductile Cast Iron GGG40.3 0.7043 / A395	Cast Steel GS-C 25 1.0619 / A216 Gr. WCB
Connection		Flanged DIN 2501 PN 16*	Flanged DIN 2501 PN 25	Flanged DIN 2501 PN 40**
Maximum Operating Pressure (barg)	PMO	13	19	25
Maximum Operating Temperature (°C)	TMO	200	200*	

* Higher values available with insulating section ** ASME standards also available

1 bar = 0.1 MPa

ELECTRO-PNEUMATIC POSITIONER

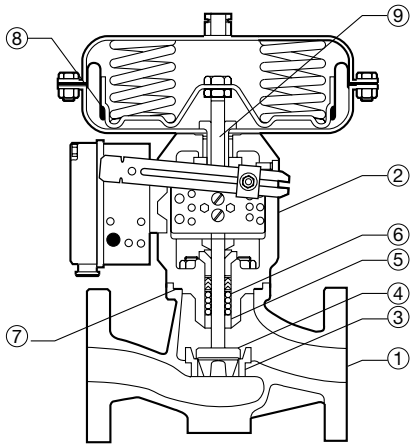
Electrical Input Signal (mA)		4 to 20	
Internal Resistance Ri at 20 °C (Ω)		approx. 200	
Air Supply Pressure Range (barg)		1.4 to 6	
Characteristic		Linear, deviation from terminal based conformity < 1.5 %	
Hysteresis	Sensitivity	< 0.5 %	< 0.1 %
Operating Direction		Field-reversible open or closed	
Ambient Temperature Range (°C)		– 20 to 55	
Protection Class		IP54, (IP65 Option)	
Intrinsically Safe Rating		CENELEC EEx ia IIC T6	

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 (barg) PMA: 13 (Cast Iron), 19 (Ductile Cast Iron), 25 (Cast Steel)
Maximum Allowable Temperature (°C) TMA: 200 (Cast Iron), 220 (Ductile Cast Iron & Cast Steel)

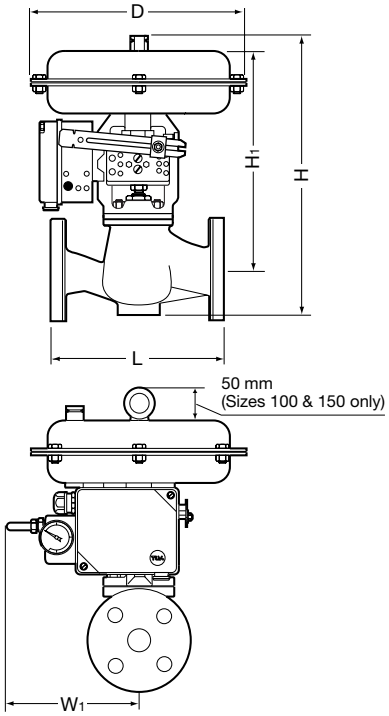
No.	Description	Material	DIN	ASTM/AISI*
1	Valve Body	See above		
2	Valve Bonnet	Cast Steel	1.0460	A105
3	Valve Seat	Stainless Steel	1.4006	AISI410
4	Valve Plug	Stainless Steel	1.4006	AISI410
5	Guide Bushing	Stainless Steel	1.4104	AISI430F
6	Stuffing Box V-ring Packing	PTFE with Carbon	PTFE	PTFE
7	Body Gasket	Metal/Graphite	—	—
8	Rolling Diaphragm	NBR with Fabric Insert	NBR	D2000BF
9	Actuator Stem	Stainless Steel	1.4305	AISI303

* Equivalent



Dimensions

● **CV10** Flanged



CV10 Flanged (mm)

Size (DN)	L DIN 2501 PN16	L DIN 2501 PN25	L DIN 2501 PN40	Actuator Area (cm^2)	H	H_1	ϕ D	W_1	Weight (approx. kg)
15	130	130	130	240	350	282	240	200	12
20	150	150	150						13
25	160	160	160						14
32	180	180	180						18
40	200	200	200	240	377	282	240		19
				350	400	305	280		22
50	230	230	230	240	374	282	240		22
				350	397	305	280		25
65	290	290	290	350	463	345	280		34
				700	512	394	390		48
80	310	310	310	350	463	345	280		40
				700	512	394	390		54
100	350	350	350	700	618	484	390		66
150	480	480	480	700	720	524	390		144

ASME flanges available

Maximum Operating Differential Pressure* PMX (Air to open)

Size (DN)	Actuator Area (cm^2)	Spring Bench Range (bar)	Minimum Air Supply Pressure (barg)	Maximum Differential Pressure* (bar)
15	240	0.2 - 1.0	1.4	28
20	240	0.4 - 2	2.2	14.8
	240	0.6 - 3	3.2	24
25	240	0.4 - 2	2.2	14.8
	240	0.6 - 3	3.2	24
32	240	0.6 - 3	3.2	14
	240	0.9 - 3.3**	3.8	23
40	240	0.9 - 3.3**	3.8	15
	350	1.4 - 2.3	2.5	37

Size (DN)	Actuator Area (cm^2)	Spring Bench Range (bar)	Minimum Air Supply Pressure (barg)	Maximum Differential Pressure* (bar)
50	240	0.9 - 3.3**	3.8	9
	350	1.4 - 2.3	2.5	23
65	350	1.4 - 2.3	2.5	13
	350	2.1 - 3.3	3.5	20
	700	1.2 - 2	2.2	23
80	350	2.1 - 3.3	3.5	12
	700	1.2 - 2	2.2	14
	700	1.85 - 2.03	2.5	22
100	700	0.2 - 1	1.2	12***
150	700	0.4 - 2	2.2	40***

* Subject to limitation of maximum operating pressure rating of valve (PMO)
** Pre-tensioned spring
*** Balanced plug

Options*

- Air Filter Regulator
- Manual Hand Wheel
- Limit Switches
- Reduced Kvs (Cv) Plug and Seat
- Pneumatic Positioners

* Details available on request

ISO 9001/ISO 14001

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