

TCV SERIES

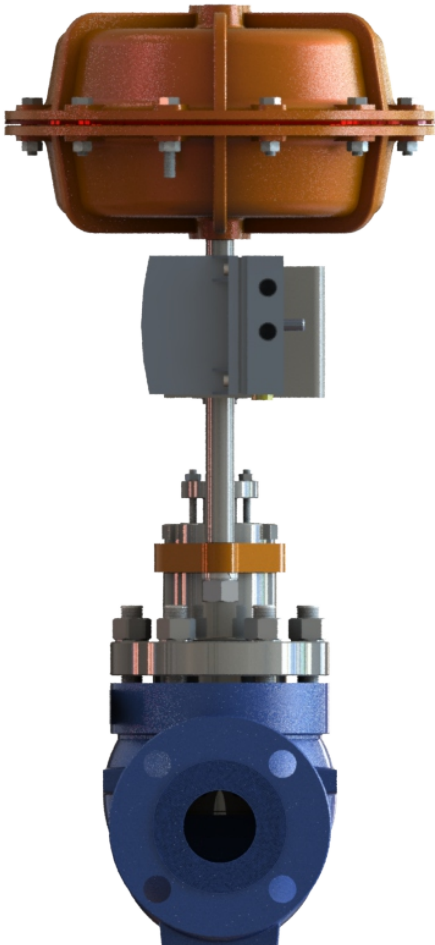
GLOBE TYPE CONTROL VALVE





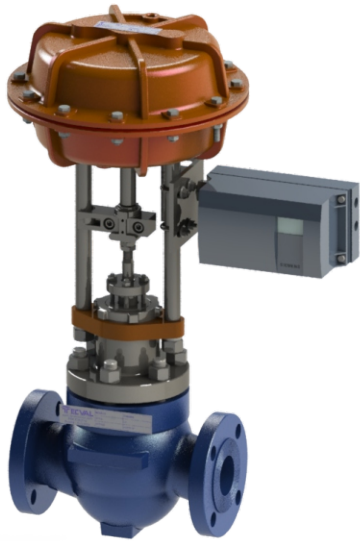
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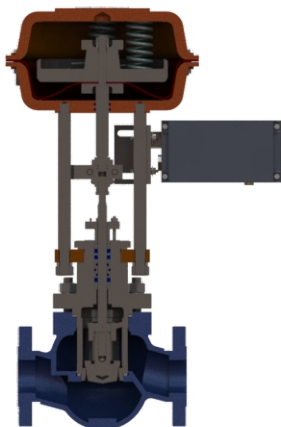
DESCRIPTION

TECVAL control valves are designed for general applications in all types of industries. The modular design of all our valves allows them to be easily modified by using different trim combinations, in order to meet a wide variety of application requirements in liquids, gases and steam management.



Fluids

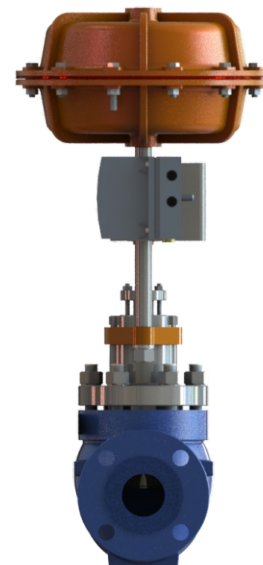
- ☒ Saturated steam
- ☒ Superheated steam
- ☒ Water
- ☒ Air, nitrogen and natural gas
- ☒ Oils and lubricants
- ☒ Chemical products
- ☒ Oil and gas
- ☒ Refined hydrocarbons
- ☒ Thermal oil
- ☒ Others



USUAL APPLICATIONS

Industries

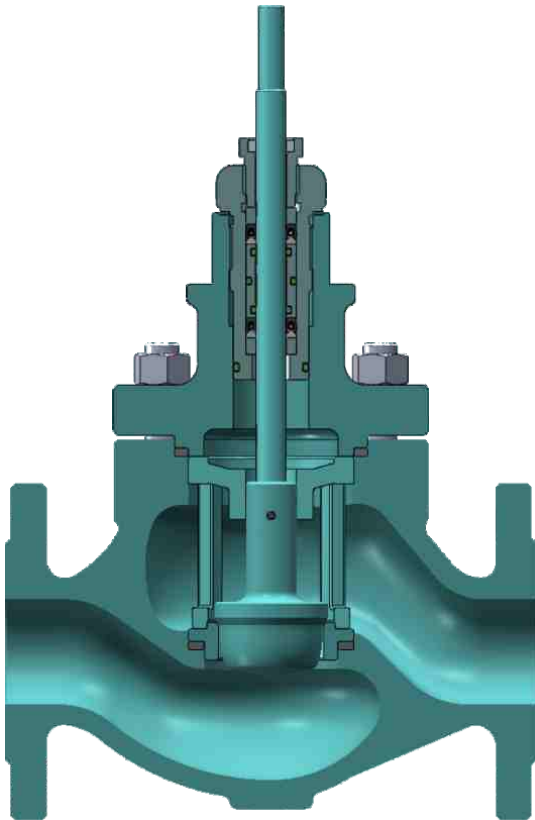
- ☒ Food and beverage production
- ☒ Oil extraction
- ☒ Chemistry and pharmaceutical
- ☒ Pulp and paper
- ☒ Plastic processing
- ☒ Oil and gas
- ☒ Petrochemistry



Application

- ☒ Reactors
- ☒ Boilers
- ☒ Heat exchangers
- ☒ Chillers and cooling towers
- ☒ Storage tanks
- ☒ Dryers and autoclaves
- ☒ Calenders

UNBALANCED TRIM CONTROL VALVE



Description

The TCV-2 series control valve features a top-guided unbalanced trim. Indicated for medium pressure and heavy duty applications and strict shut-off requirements, which allows it to handle the most common services in the industry.

The cage design reduces loading and vibration, minimizing friction and extending valve life cycle.

The process flow tends to open the valve, which creates great control and a very small flow.

General information

OPTIONS	
Trim	Top guided Unbalanced
Body	180°
Bonnet	Standard*
Temperature range	-196 °C to 538 °C
Bonnet seal	Graphite*
Leak	Class V <small>(standard, metal seal)</small> Class VI <small>(standard, soft seal)</small>
Standard leakage	ANSI B16.104
Connection	Flanged ANSI B16.5*
Rangeability	50:1
Actuator	Pneumatic diaphragm
Flow features	Equal%, linear*
Balance seal	PTFE/PTL

*Other configurations available upon request.

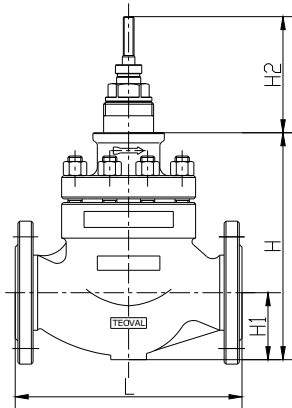
Construction materials

Item	Description	Material
1	Body	ASTM A216 WCB
2	Bonnet	ASTM A216 WCB
3	Trim	ASTM A182 F316
4	Seat	AISI 316
5	Plug	AISI 316
6	Cage	ASTM A351 CF8M

Cv Value and distance

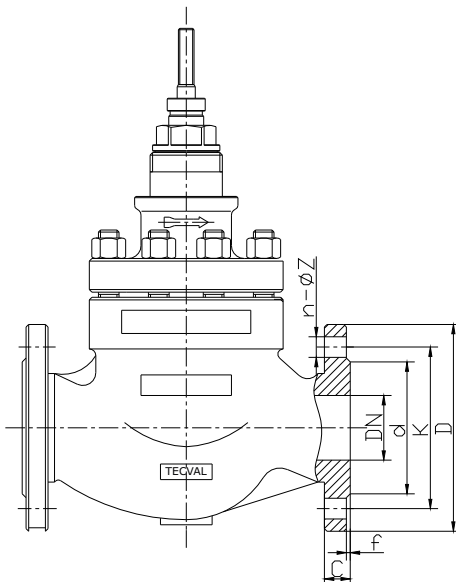
Size valve		Size plug (mm)	CV Value		Route (mm)
NPS	(mm)		EQ%	Lineal	
1"	25	6	1	---	16
		8	1.5	---	16
		10	2	---	16
		15	4	---	16
		20	8	10	16
		25	13	16	16
1½"	40	40	32	35	25
2"	50	50	46	55	25
2½"	65	65	75	85	40
3"	80	80	110	135	40
4"	100	100	185	210	40

Dimensions



NPS	Size (DN)	L		H	H1	H2
		ANSI 150 PN 16	ANSI 300 PN 40	Standard		
1"	25	184	197	184	52	130
1½"	40	222	235	238	68	130
2"	50	254	267	262	83	130
2½"	65	276	292	307	93	130
3"	80	298	317	319	98	130
4"	100	352	368	351	117	130

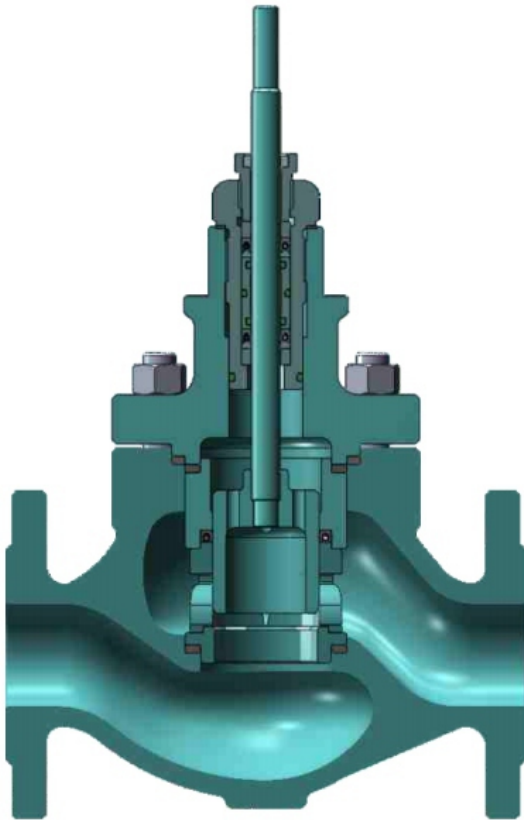
Flanged connection dimensions



ANSI 150							
(DN)	NPS	D	K	d	C	f	n-Φz
25	1	110	79.5	51	14.5	1.6	4-Φ16
40	1½	130	98.5	73	17.5	1.6	4-Φ16
50	2	150	120.5	92	19.5	1.6	4-Φ18
65	2½	180	139.5	105	22.5	1.6	4-Φ18
80	3	190	152.5	127	24	1.6	4-Φ18
100	4	230	190.5	157.5	24	1.6	8-Φ18

ANSI 300							
(DN)	NPS	D	K	d	C	f	n-Φz
25	1	125	89	51	17.5	1.6	4-Φ18
40	1½	155	114.5	73	21	1.6	4-Φ22
50	2	165	127	92	22.5	1.6	8-Φ18
65	2½	190	149	105	25.5	1.6	8-Φ22
80	3	210	168.5	127	29	1.6	8-Φ22
100	4	255	200	157.5	32	1.6	8-Φ22

BALANCED TRIM CONTROL VALVE



Descripción

The TCV-4 series control valve features a balanced trim design for heavy load and high capacity applications and wide control ranges.

Cage-guided plugs provide stable operation for severe conditions, reducing the dynamic forces acting on the plug by choosing a smaller actuator compared to the required one when the trim is unbalanced.

General information

OPTIONS	
Trim	Boxed guided Balanced
Body	180°
Bonnet	Standard*
Temperature range	-60 °C to 250 °C
Bonnet seal	Graphite*
Leak	Class V <small>(standard, metal seal)</small> Class VI <small>(standard, soft seal)</small>
Standard leakage	ANSI B16.104
Connection	Flanged ANSI B16.5*
Rangeability	50:1
Actuator	Pneumatic diaphragm
Flow features	Equal%, linear*
Balance seal	PTFE/PTL

*Other configurations available upon request.

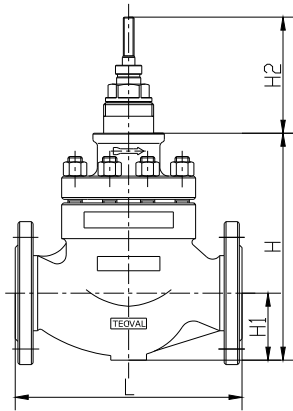
Construction materials

Item	Description	Material
1	Body	ASTM A216 WCB
2	Bonnet	ASTM A216 WCB
3	Trim	ASTM A182 F316
4	Seat	AISI 316
5	Plug	AISI 316
6	Cage	ASTM A351 CF8M

Cv Value and distance

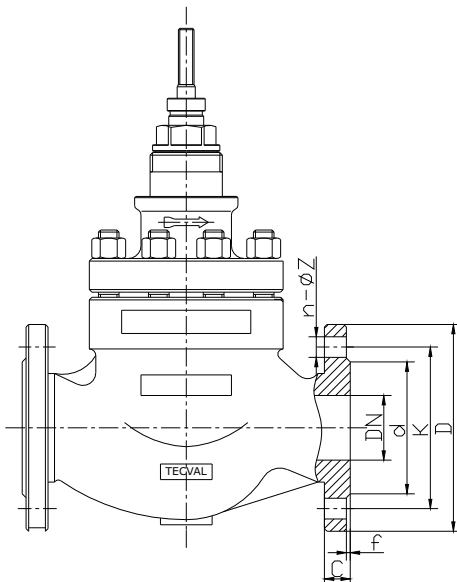
Size valve		Size plug (mm)	CV Value		Route (mm)
NPS	(mm)		EQ%	Lineal	
1½"	40	6	1	---	25
		8	1.5	---	25
		10	2	---	25
		15	4	---	25
		20	8	10	25
		25	13	16	25
		32	20	25	25
40	32	35	25		
2"	50	50	46	55	25
2½"	65	65	75	85	40
3"	80	80	110	135	40
4"	100	100	185	210	40

Dimensions



NPS	Size (DN)	L		H	H1	H2
		ANSI 150 PN 16	ANSI 300 PN 40	Standard		
1½"	40	222	235	238	68	130
2"	50	254	267	262	83	130
2½"	65	276	292	307	93	130
3"	80	298	317	319	98	130
4"	100	352	368	351	117	130

Flanged connection dimensions



ANSI 150							
(DN)	NPS	D	K	d	C	f	n-Φz
40	1 ½	130	98.5	73	17.5	1.6	4-Φ16
50	2	150	120.5	92	19.5	1.6	4-Φ18
65	2 ½	180	139.5	105	22.5	1.6	4-Φ18
80	3	190	152.5	127	24	1.6	4-Φ18
100	4	230	190.5	157.5	24	1.6	8-Φ18

ANSI 300							
(DN)	NPS	D	K	d	C	f	n-Φz
40	1 ½	155	114.5	73	21	1.6	4-Φ22
50	2	165	127	92	22.5	1.6	8-Φ18
65	2 ½	190	149	105	25.5	1.6	8-Φ22
80	3	210	168.5	127	29	1.6	8-Φ22
100	4	255	200	157.5	32	1.6	8-Φ22

PNEUMATIC ACTUATOR

Description



The AD series is a pneumatic diaphragm actuator used to operate linear valves.

The positioner regulates the air pressure so that the actuator moves the stem, generating a control action. These actuators can operate under "air to open (ATO)", "air to close (ATC)" or double acting modes.

✚ The actuator has a compact design for easy installation in small spaces.

✚ It has several spring kits with different ranges to ensure good adaptation to different operating conditions.

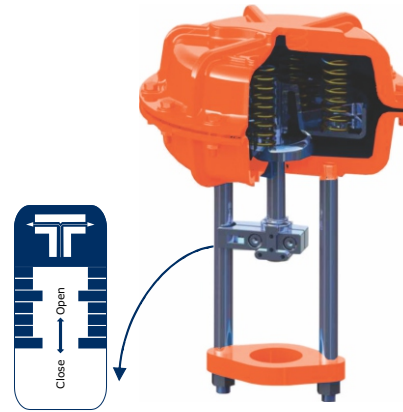
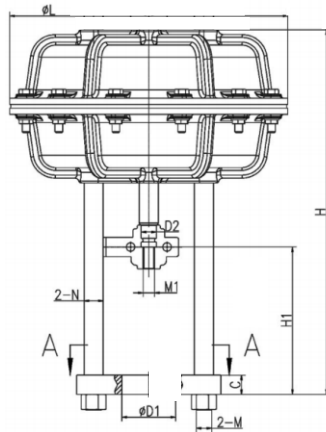
✚ The fault position (open or closed) can be reversed without requiring any spare parts or special tools.

General information

OPTIONS	
Series	AD
Actuator type*	ATO= Air to open ATC= Air to close
Effective diaphragm area	163 cm ² 314 cm ² 490 cm ² 855 cm ²
Distance	16-40 mm
Control signal	7.0 bar(g) max
Materials	Diaphragm and spring chamber: A383 aluminum alloy Yoke: SS304 Axis: SS304 Spring: 60Si2MnA
Room operating temperature	-20 °C to 80 °C
No. of springs	3/4/6

* Other configurations available upon request.

Actuator dimensions



Tipo	H	H1	ΦL	ΦD1	ΦD2	C	K	ΦB	2-M	2-N	M1	Route
ADSC-2	338	135	Φ226	Φ56.5	Φ16	20	104	Φ90	M12	Φ16	M12X1.25	16
ADSA-2		151										
ADSC-3	385	135	Φ294	Φ56.5	Φ16	20	115	Φ90	M16	Φ20	M12X1.25	25
ADSA-3		160										
ADSC-4	465	135	Φ370	Φ68.5	Φ20	20	136	Φ108	M18	Φ25	M12X1.25	40
ADSA-4		175										
ADSC-5	590	165	Φ475	Φ80	Φ20	26	160	Φ120	M24	Φ35	M12X1.25	60
ADSA-5		225										

POSITIONER



SIEMENS

SIPART Ps2 electroneumatic positioner

- ☐ 4-20mA protocol
- ☐ Simple installation and programming
- ☐ Possibility of having a remote positioner
- ☐ Low air consumption
- ☐ Input signal: 4-20mA
- ☐ Output signal (feedback):4-20mA
- ☐ Possibility of using the HART protocol
- ☐ Case: Makrolon



POWER GENEX

SS2 Smart Positioner

- ☐ Easy and fast self-calibration
- ☐ Temperature range from -40°C to 80°C
- ☐ Low air consumption
- ☐ Input signal: 4-20mA Q 24 VDC
- ☐ Min. / Max.: 3.6mA / 50mA
- ☐ Air pressure: 1.4 - 7.0 bar (20 - 100 psi)
- ☐ 4-digit LCD display
- ☐ Pneumatic connections: PT 1/4, NPT 1/4

OTHERS

- ☐ Other brands upon request
- ☐ Adaptation of existing customer-owned positioner

ORDER CODE

To identify the valve, use the following guide:

TCV - X - - - L4 X

VALVE

ACTUATOR

TCV - X - -

Model	
2	Unbalanced
4	Balanced

Trim type	
2	Guided single seat (cage pressure in seat)
6	Single seat guided by cage (cage single seat)
7	Cage-guided noise control (multi-hole cage / noise control)

Connection	
1	Flanged

Plug size	
For example 50 (en mm)	

Class	
For example 150#, 300#	

Flow path	
1	Lineal

Bonnet	
1	Standard

Size valve	
1.0	1"
1.5	1½"
2.0	2"
2.5	2½"
3.0	3"
4.0	4"

Characteristics	
D	Equal percentage
Z	Lineal
X	Quick opening - QO

L4 X

oTrim type	
5	Simple air to open effect (fail close)
6	Simple air to close effect (fail open)

Diaphragm size	
2	163 cm ²
3	314 cm ²
4	490 cm ²
5	855 cm ²

Accessories kit	
S	3 Springs
C	4 Springs
N	3 Springs



We are Operational Reliability

www.tecvalonline.com

E-mail: soporte@tecvalsas.com

PBX: 601 678 2714

Phone: 318 3513071

Factory and Head Office: Av. Calle 22 No. 43^a – 31 / Bogotá

Valle Service Center: Calle 15 N° 31 - 99, Bodega 1 - Parcelación Acerosa / autopista Cali - Yumbo

Atlantic Coast Service Center: Centro Logístico Stock Caribe - Km 1, Vía la Cordialidad - Warehouse 3B / Barranquilla