



# ELECTRO-PNEUMATIC CONTROL VALVE

MODEL **CT16** DUCTILE CAST IRON  
STAINLESS STEEL

## COMPACT MULTI-PURPOSE CONTROL VALVE WITH ELECTRO-PNEUMATIC POSITIONER

### Features

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

1. Pneumatic actuator with digital I/P positioner in a compact configuration.
2. Rolling actuator diaphragm ensures linearity over the operating stroke and maximizes life.
3. Self-adjusting positioner features zero calibration by auto-tuning, which ensures tight shut-off and improves control during low flow.
4. Positioner LCD allows simple operation with capacitive keys and displays valve travel and error codes.
5. Self-adjusting chevron packing minimizes seal leaks, stem wear and stiction/hysteresis problems.
6. Multi-spring actuator is highly efficient, and its low overall height facilitates compact installation.
7. CT16, DN 32 to DN 50 have a silencer for noise reduction.

### Pressure Equipment Directive (PED)

Classification according to PED 2014/68/EU, fluid group 2

Size*	Category	CE Marking
DN 15 to DN 40 [DN 15 to DN 25]	—**	Art. 4, Sec. 3 (sound engineering practice), CE marking not allowed
DN 50 [DN 32 to DN 50]	I	with CE marking and Declaration of Conformity

\* [ ] for cast stainless steel \*\* Manufactured in accordance with sound engineering practice



### Specifications

#### VALVE

Model	CT16											
Body Material	Ductile Cast Iron (EN 5.3103)						Cast Stainless Steel (A351 Gr.CF8M)					
Connection	Flanged PN25 DIN EN 1092-2						Flanged PN40 DIN EN 1092-2					
Size (DN)	15	20	25	32	40	50	15	20	25	32	40	50
Maximum Operating Pressure (barg)    PMO	22				17	11	32			25	17	11
Maximum Operating Temperature (°C)    TMO	220											
Leak Rate Class (IEC 60534-4)/Seat Plug Sealing	Class IV / Metal sealing											
Characteristic	Equal percentage											
Rangeability	50 : 1											
Applicable Fluids*	Steam, Water, Air											

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

1 bar = 0.1 MPa

PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (barg) PMA: 22 (EN 5.3103), 32 (CF8M)

Maximum Allowable Temperature (°C) TMA: 220

Minimum Allowable Temperature (°C): 0

#### 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 (barg)	3.7 to 6
Ambient Temperature Range (°C)	-25 to +80
Protection Class	IP 66
Intrinsically Safe Rating (optional)	ATEX II 2G Ex ia IIC T4

No.	Description	Material	DIN*	ASTM/AISI*
①	Valve Body	See Valve Specification Table for available materials		
②	Valve Seat	Stainless Steel X8CrNiS18-9	1.4305	AISI303
③	Plug and Stem	Stainless Steel X8CrNiS18-9	1.4305	AISI303
④	Valve Bonnet Gasket	Graphite	—	—
⑤	Valve Bonnet	Carbon Steel A105/ Stainless Steel SUS316Ti**	1.0460/ 1.4571**	—/ A479 Type 316Ti**
⑥	Flange	Carbon Steel A105	1.0460	—
⑦	Stuffing Box V-ring Packing	Fluorine Resin PTFE with Carbon	PTFE	PTFE
⑧	Positioner Housing	Polyphthalamide PPA	—	—
⑨	Positioner Cover	Polycarbonate PC	—	—
⑩	Actuator Body	Aluminium GD-Al Si 12	—	—
⑪	Drain Plug	Carbon Steel	—	—
⑫	Silencer	Stainless Steel	—	—

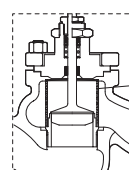
\* Equivalent materials \*\* For cast stainless steel model  
Contact TLV for available replacement parts.



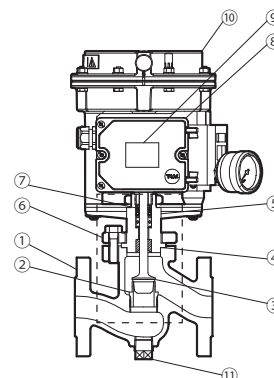
regulations may restrict the use of this product to below the conditions quoted.

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.

DN 32, DN 40, DN 50



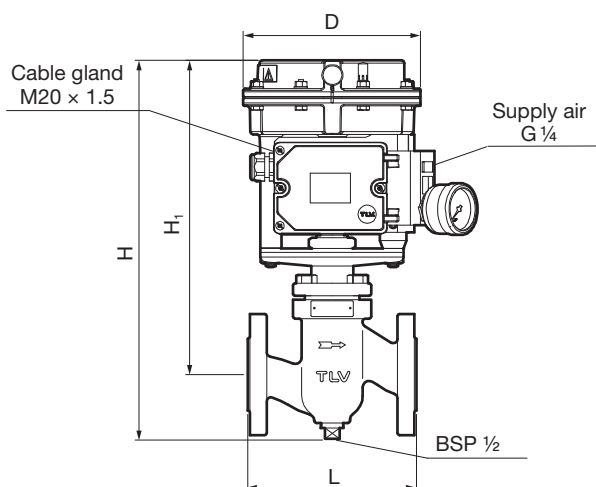
The parts configuration of sizes DN 32 to DN 50 differs slightly from that of DN 15 to DN 25.



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## Dimensions

### ● CT16 Flanged



### CT16 Flanged (mm)

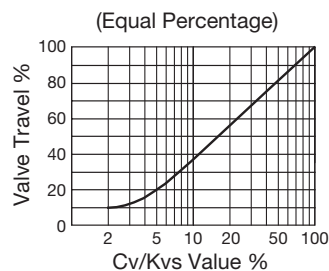
DN	L		Actuator Area Area (cm²)	H	H <sub>1</sub>	ø D	Weight* (kg)
	DIN EN 1092-2						
	PN25	PN40					
15	130	130	120	350	292	168	8.6
20	150	150		355			9.1
25	160	160					10
32	180	180		380	297		15
40	200	200					15
50	230	230		385			17

Other standards available, but length and weight may vary  
\* Weight is for DIN PN 25 in ductile cast iron

## Cv & Kvs Values

DN	15	20	25	32	40	50
Kvs (DIN)	4.0	6.3	10	16	25	35
Cv (UK)	3.9	6.1	9.7	15.5	24	34
Cv (US)	5.0	7.5	12	20	30	40
Seat Diameter (mm)	12	24	32	38	48	

## Characteristic Graph



## Options

Body Material	Cast Steel (A216 Gr.WCB)
Intrinsically Safe Positioner	ATEX II 2G Ex ia IIC T4
Pressure Gauge for Positioner	Details on request
Electric Actuator*	Details on request

\* Manufacturer: Samson AG

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

ISO 9001  
ISO 14001

