

## Description

The 51C type is a range of two-way cast iron single seat globe valves with pneumatic actuator in sizes DN25 to DN80 available with flanged connections, suitable for steam and liquid.

The 51C type provide characterized on/off flow control, which contains two types, Normal Close (N.C.) and Normal Open (N.O.). The pneumatic actuators are a range of single spring shut-off actuators having 3 diaphragm sizes for matching the requirements of various differential air pressures. Each actuator is fitted with a combined mechanical stroke indicator.

## Limiting Conditions

Body Design Condition	PN16
Maximum Design Temperature	Yoke A 180 °C
	Yoke B 300 °C
Maximum Cold Hydraulic Test Pressure	20 kgf/cm <sup>2</sup>
Maximum Operating Pressure	10 kgf/cm <sup>2</sup>

## Technical Data

Applicable Fluid	Steam, Liquid		
Operating	Direct Acting	Normal Close	
		Normal Open	
Type of Valve	Single Seated		
Characteristics	On-Off		
Leakage	Metal to Metal (0.01 % of Cv)		
Air Supply Actuator Connection	¼" PT		
Actuating	Pneumatic		
Air Operating Range	1 di	2 di	4 di
	45 - 70 psi	30 - 70 psi	3 - 15 psi
Flow Characteristics	Fast Acting		
Yoke Type	A: for Fluid Temp. 180 °C		
	B: for Fluid Temp. 300 °C		

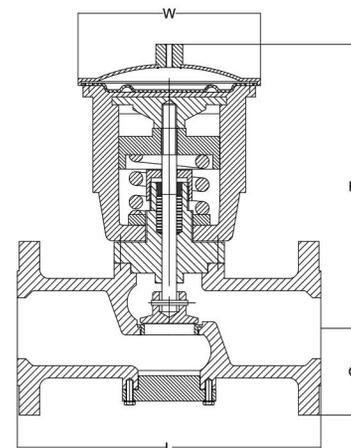
## Sizes and Pipe Connections

DN 25, 32, 40, 50, 65, 80 Flanged (DIN 2502)

## Dimensions (Approximate) mm

Size	Type of Actuators			Operating Type		H	G
	S1	S2	S4	N.C.	N.O.		
	W	W	W	L	L		
DN 25	125	-	265	125	160	185	60
DN 32	125	-	265	125	160	185	70
DN 40	-	185	265	205	205	320	75
DN 50	-	185	265	205	205	320	85
DN 65	-	185	265	320	320	340	95
DN 80	-	185	265	320	320	340	100

Constructions are a bit different according the sizes.



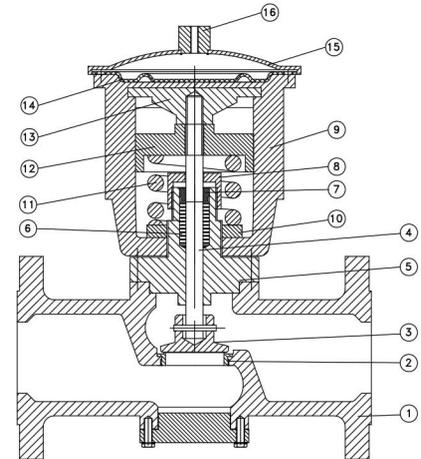
## Pneumatic Diaphragm Control Valves (On-Off)- 51C

### Weights (Approximate) kg

Size	Normal Close			Normal Open	
	S1	S2	S4	S2	S4
DN 25	6	-	10.5	7	10
DN 32	7	-	11.5	9	11
DN 40	-	16.5	22	16.5	22
DN 50	-	17.5	23	-	23
DN 65	-	26	31	-	31
DN 80	-	27	32	-	32

### Materials

No.	Part	Material
1	Body	GG 25
2	Seat	AISI 430
3	Plug	AISI 430
4	Stem	AISI 430
5	Bonnet	Gray Cast
6	Packing	Graphite or Teflon
7	Boss	Brass
8	Packing Flange	Brass
9	Yoke	GG 25
10	Yoke Lock Nut	Brass
11	Spring *	Cadmium Plate
12	Spring Washer Up	Gray Cast
13	Diaphragm Plate	Gray Cast
14	Diaphragm *	Nylon Insert
15	Upper Diaphragm Casing	C.S.
16	Actuator Stem Screw	C.S.



Note: (\*) Spare Part

### Cv Values

Size	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80
Cv	10	12	20	31	52	69

Note: The capacity of E.S.E valves is expressed as the flow co-efficient Cv. The flow co-efficient value Kvs is extensively used in Europe. Its relationship to the Cv unit is given by  $Cv=1.167 Kvs$ .

### Installation

The valve should be installed in a horizontal pipeline with the direction of flow as indicated by the arrow on the valve body. The air supply should be installed in the 1/4" PT air supply connection on top of the actuator.

### How to Order

Example: 51C - DN25 - S2 - N.C., Diaphragm Control Valve with yoke A.

Design and specification are subject to change without notice