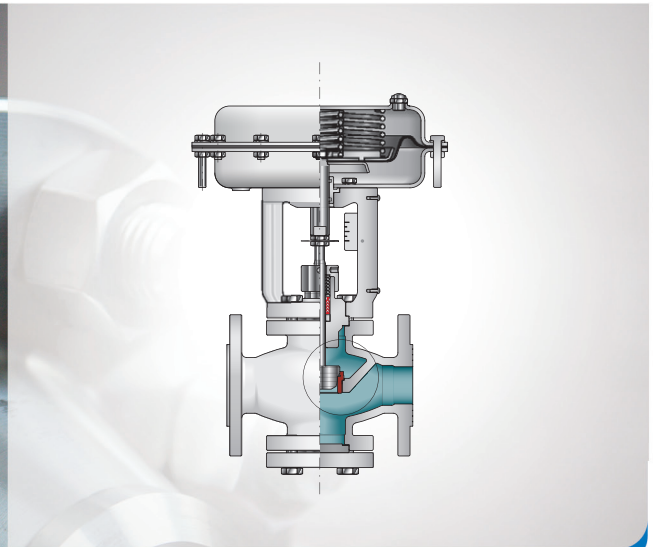


CONTROL VALVE

SERIES 2000

SERIES 2003



version 06/2020

Working: control

2V – NC – Normally closed (air open straight way)

2V – NO – Normally open (air close straight way)

3V – Diverting/Mixing

Size

DN 15 – DN 100 (1)

Rating

PN 16 – PN 40

Body material

Nodular cast iron GS 400-12 (epoxy varnish) PN 16

Carbon steel ASTM A 216 WCB (epoxy varnish) PN 40

Stainless steel AISI 316 PN 40

Seat

Stainless steel AISI 316L

Stainless steel AISI 316L stellited

End connections (2)

Flanges PN 16, PN 40

- Projection (RF) UNI 2229

Bonnet

Standard in ASTM A105, AISI 420, AISI 316

- Standard

- Finned and extended

- With bellows

- Extended for cryogenic use

Plug (3)

Equipercentual, linear, V-port, microflow, double guid.

- AISI 316L (metallic seal)

- AISI 316L (metallic seal), stellited

Self-adjusting packing box

"V" rings in PTFE + graphite ring

"V" rings in PTFE + reinforced graphite rings

"V" rings in pure PTFE

Castle

Nodular cast iron GS 400-12 (epoxy varnish)

Servocontrol

With pneumatic action (max 2,5 bar) direct and reverse in stamped plate FE (epoxy varnish)

Size: S.200, S.275, S.340, S.430

Standard spring range: 3-15 psi, 6-18 psi, 6-30 psi

Current equipment: Travel indicator

Accessories: handwheel for manual control, electropositioner, pneumatic positioner, endstroke microswitches, proximity sensors, reducing filter, converter.

Differential pressure Δp

See table "Technical Specifications"

Seal class

According to UNI EN 1349

- Metallic –class IV - class VI

Employment limits

Body in nodular cast iron: min temp. -5°C , max temp. 200°C

- max steam 12 bar, water at room temp. max 16 bar.

Body in WCB steel: min temp. -5°C , max temp. 350°C

- max steam 12 bar, overheated water max 35 bar.

Body in AISI 316: min temp. -200°C , max temp. 350°C

Employment fields

The valves serie 2000/2003, can control different kinds of fluid: steam, overheated water, diathermic oil, no-explosive gas, corrosive fluids, cryogenic gas, etc. For this reason they can be employed in several sectors as: textile dyeing and finishing plants, chemical plants, water-treating, alimentary, general industrial plants.

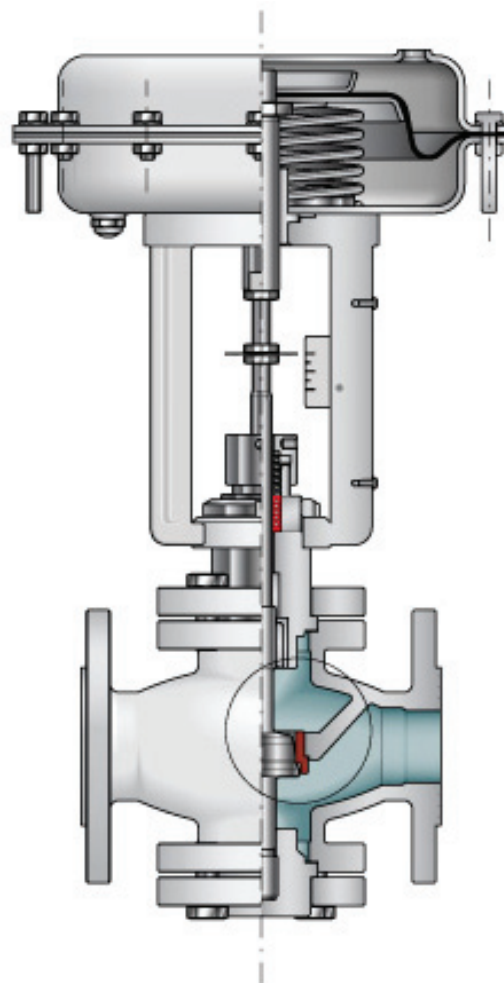
Special executions on request.

Notes

(1) Greater sizes or reduced Cv on request.

(2) Other end connections on request.

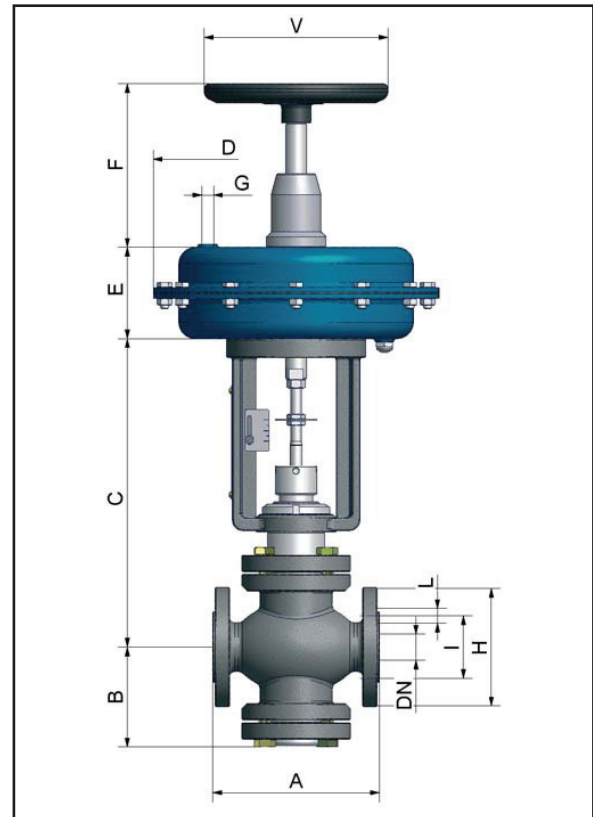
(3) Other seals on request.



PNEUMATIC CONTROL VALVE - serie 2000

The control valves serie 2000 have two way globe body with screwed single seat and lower bottom for inspection and plug replacement (inversed version). The plug has double guide and the self-adjusting packing box does not need maintenance. They are particularly indicated for regulation in medium heavy plants.

The total dimension of the valve is calculated by inserting the servocontrol size, chosen according to the pressure of the fluid to control.



SERVOCONTROL

DN	15/25	25/50	45/65	50/100
D	200	275	340	430
E	88	88	122	143
G gas	1/8"	1/4"		

HANDWHEEL (option)

D	200	275	340	430
F	157			162
V	175			225

TABLE VALVES DIMENSIONS

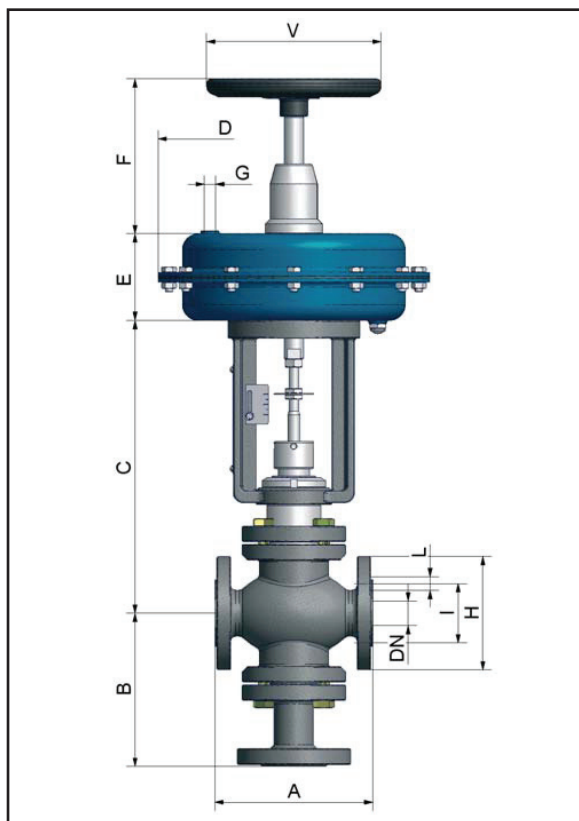
DN	A	B	C	H	I	L	Holes
15	150	96	297	95	65	14	4
20	150	96	297	105	75	14	4
25	160	156	297	115	85	14	4
32	180	156	297	140	100	18	4
45	200	156	297	150	110	18	4
50	230	166	297	165	125	18	4
65	290	219	333	185	145	18	4
							8*
80	310	220	350	220	160	18	8
100	350	240	350	200	180	18	8
				235*	190*	22*	

(*) Flanges PN 40 - N.B. Measures are in mm.

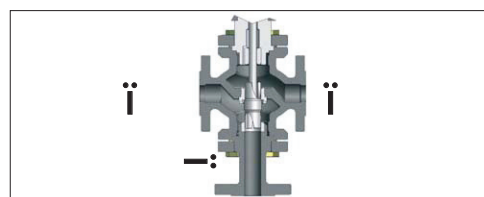
**PNEUMATIC CONTROL VALVE - serie 2003**

The control valves serie **2003** have globe body with screwed seat and third way with welded seat. The V-port plug has double guide and the self-adjusting packing box does not need maintenance. They are particularly indicated for regulation in medium heavy plants.

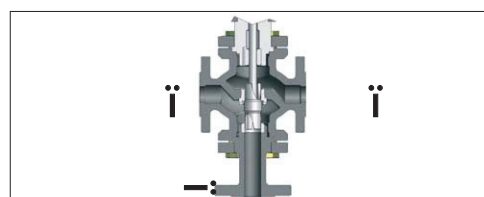
The total dimension of the valve is calculated by inserting the servocontrol size, chosen according to the pressure of the fluid to control.

**SERVOCONTROL**

DN	25/50	45/65	50/100
D	275	340	430
E	88	122	143
G gas	1/4"		

DIVERTING**HANDWHEEL (option)**

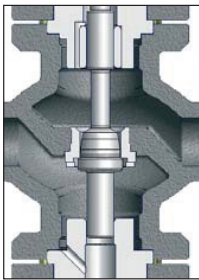
D	275	340	430
F	157		162
V	175		225

MIXING**TABLE VALVES DIMENSIONS**

DN	A	B	C	H	I	L	Holes
25	160	156	297	115	85	14	4
32	180	156	297	140	100	18	4
40	200	156	297	150	110	18	4
50	230	166	297	165	125	18	4
65	290	219	333	185	145	18	4
							8*
80	350	220	333	200	160	18	8
100	350	240	350	220	180	18	8
				235*	190*	22*	

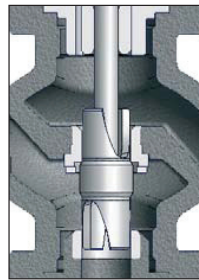
(*) Flanges PN 40 - N.B. Measures are in mm.

PLUG SPECIFICATIONS



LINEAR PLUG.

With this type of plug you obtain linearity between stroke and flow rate which results proportional to the opening degree of the valve. It is utilized when there are no important variations in working differential pressure, or in processes with limited flow rate variations.

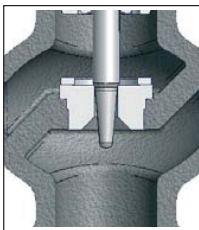


V-PORT PLUG.

The characteristic curve of this type of plug finds its rightful place between a linear and equipercentage curve with a sensible tendency to this last one. It is utilized principally for the three-way version since its extended shape assures a guided stroke without vibrations.

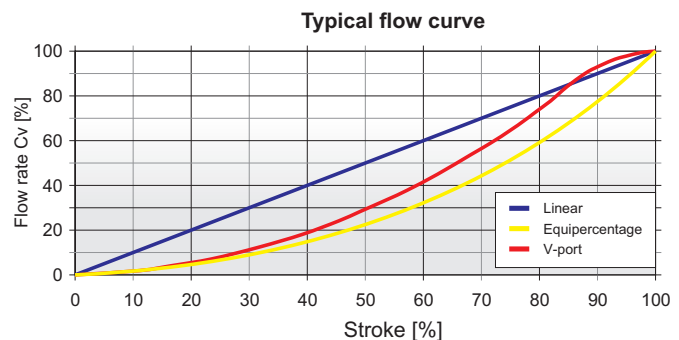
EQUIPERCENTAGE PLUG.

With this plug there is a constant percentage of flow increase for an equal increase in the opening stroke; under the same differential pressure, a stroke increase of 10% usually corresponds to a flow increase equal to 50% of the valve preceding the variation. The result is that the valve delivers the most of the flow rate in its last opening fraction. It is utilized when there are notable variations in flow rate or in differential pressure.

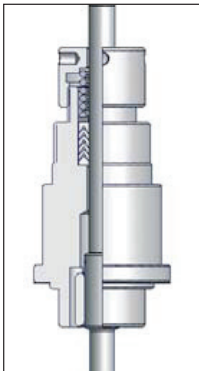


MICROFLOW PLUG.

For this type of plug we have three profiles: linear pin, single spline and doublespline equipercentage. Rate coefficients from CV 0,1 to CV 2, for a fine and precise regulation.

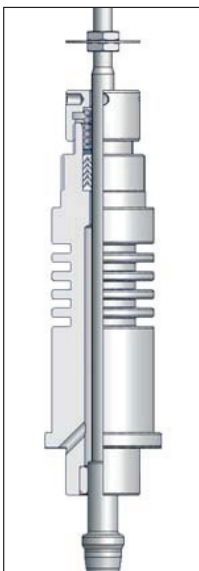


BONNET SPECIFICATIONS



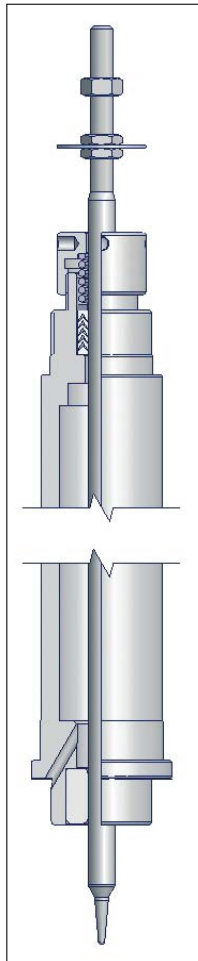
STANDARD BONNET.

Bonnet for the regulation of fluids with temperatures no higher than 200 °C. The packing box is composed of "V" rings in PTFE (also available in double seal version), or of "V" rings in PTFE + graphite rings.



EXTENDED AND FINNED BONNET.

Purposely studied bonnet for use with fluids with temperatures up to about 300 °C (diathermic oil and overheated water). The bonnet is extended and has fins to space the packing box from the body valve and allow a better loss of heat. This device permits the use of a standard packing box composed of "V" rings in PTFE + graphite rings.

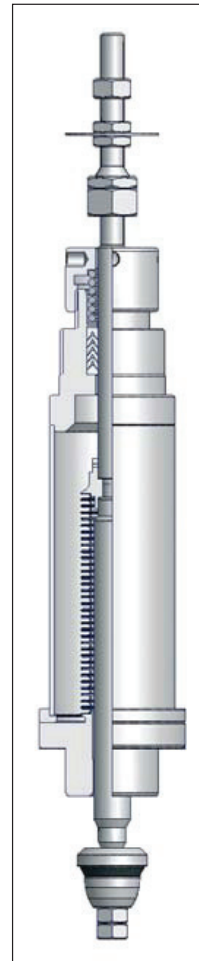


EXTENDED BONNET FOR CRYOGENIC USE.

Studied bonnet for applications with fluids with extremely low temperatures, up to -196 °C which liquefy gas as nitrogen, oxygen, argon, helium etc. The isolation extension for low temperatures avoids the heat exchange inside the valve and protects the security packing box and the servocontrol from the icing. There are two versions of extensions in AISI 316 for use with cryogenic fluids:

- Extended bonnet for -60°C.
- Extended bonnet for -200°C (minimum working temperature -196°C).

The packing box is composed of "V" rings in PTFE.



BONNET WITH BELLOWS.

Purposely studied bonnet which can be used when you need a perfect seal of the valve, for example in presence of dangerous fluids. This bonnet has a metallic seal bellows with double wall (thickness 0,2 mm) in stainless steel AISI 316. The maximum application temperature is 350 °C.

The packing box is composed of "V" rings in PTFE and "V" rings in PTFE + graphite rings.



TECNICAL SPECIFICATION

MAX DIFFERENTIAL PRESSURES AT CLOSED VALVE (bar) - AIR TO CLOSE/OPEN ACTION																
DN	STROKE	Cv	Kv	S200			S275			S340			S430			
				Input pressure												
				1.4		2.5	1.4		2.5	1.4		2.5	1.4		2.5	
				Spring range (Bar & Psi)												
				0.2	0.4	0.4	0.2	0.4	0.4	0.2	0.4	0.4	0.2	0.4	0.4	
				1	1.2	2.1	1	1.2	2.1	1	1.2	2.1	1	1.2	2.1	
				3-15 psi	6-18 psi	6-30 psi	3-15 psi	6-18 psi	6-30 psi	3-15 psi	6-18 psi	6-30 psi	3-15 psi	6-18 psi	6-30 psi	
15	20	4	3.5	5.8	13.8	22	15.4	33.1	40							
		2.5	2.1	24.1	40	40	20.2	24.6	40							
20		7	6	5.8	13.8	18	15.4	33.1	40							
		4	3.5	5.8	13.8	22	15.4	33.1	40							
		2.5	2.1	24.1	40	40	20.2	24.6	40							
25		12	10	3.9	9.5	14	10.6	23	40							
		7	6	5.8	13.8	18	15.4	33.1	40							
		4	3.5	5.8	13.8	22	15.4	33.1	40							
32		2.5	2.1	24.1	40	40	20.2	24.6	40							
		18	15.5				5.9	12.9	26.9	10	21.1	30				
		12	10				10.6	23	40	17.9	37.5	40				
		7	6				15.4	33.1	40	25.8	40	40				
		4	3.5				15.4	33.1	40	25.8	40	40				
40		2.5	2.1				20.2	24.6	40	40	40	40				
		28	24				4.1	9.1	19.1	7	15	25				
		18	15.5				5.9	12.9	26.9	10	21.1	30				
		12	10				10.6	23	40	17.9	37.5	40				
		7	6				15.4	33.1	40	25.8	40	40				
		4	3.5				15.4	33.1	40	25.8	40	40				
50		2.5	2.1				20.2	24.6	40	40	40	40				
		48	41				2.3	5.2	11	4	8.6	14	7.1	15	22	
		28	24				4.1	9.1	14.3	7	15	25	12.5	22	30	
		18	15.5				5.9	12.9	19.1	10	21.1	30	17.7	36.6	40	
		12	10				10.6	23	26.9	17.9	37.5	40	31.5	40	40	
		7	6				15.4	33.1	40	25.8	40	40	40	40	40	
65		30	4	3.5				15.4	33.1	40	25.8	40	40	40	40	40
	72		61.5							2.4	5.2	9	4.3	9.1	12	
	48		41							4	8.6	14	7.1	15	20	
	28		24							7	15	25	12.5	22	30	
	18		15.5							10	21.1	30	17.7	36.6	40	
	105		90							1.9	4.2	5.5	3.5	7.4	9	
	72		61.5							2.4	5.2	9	4.3	9.1	12	
	48		41							4	8.6	14	7.1	15	20	
80	28	24							7	15	25	12.5	22	30		
	100	35	160	136							1	2.3	3.6	1.9	4	5
			105	90							1.9	4.2	5.5	3.5	7.4	9
			72	61.5							2.4	5.2	9	4.3	9.1	12
			48	41							4	8.6	14	7.1	15	20
28			24							7	15	25	12.5	22	30	

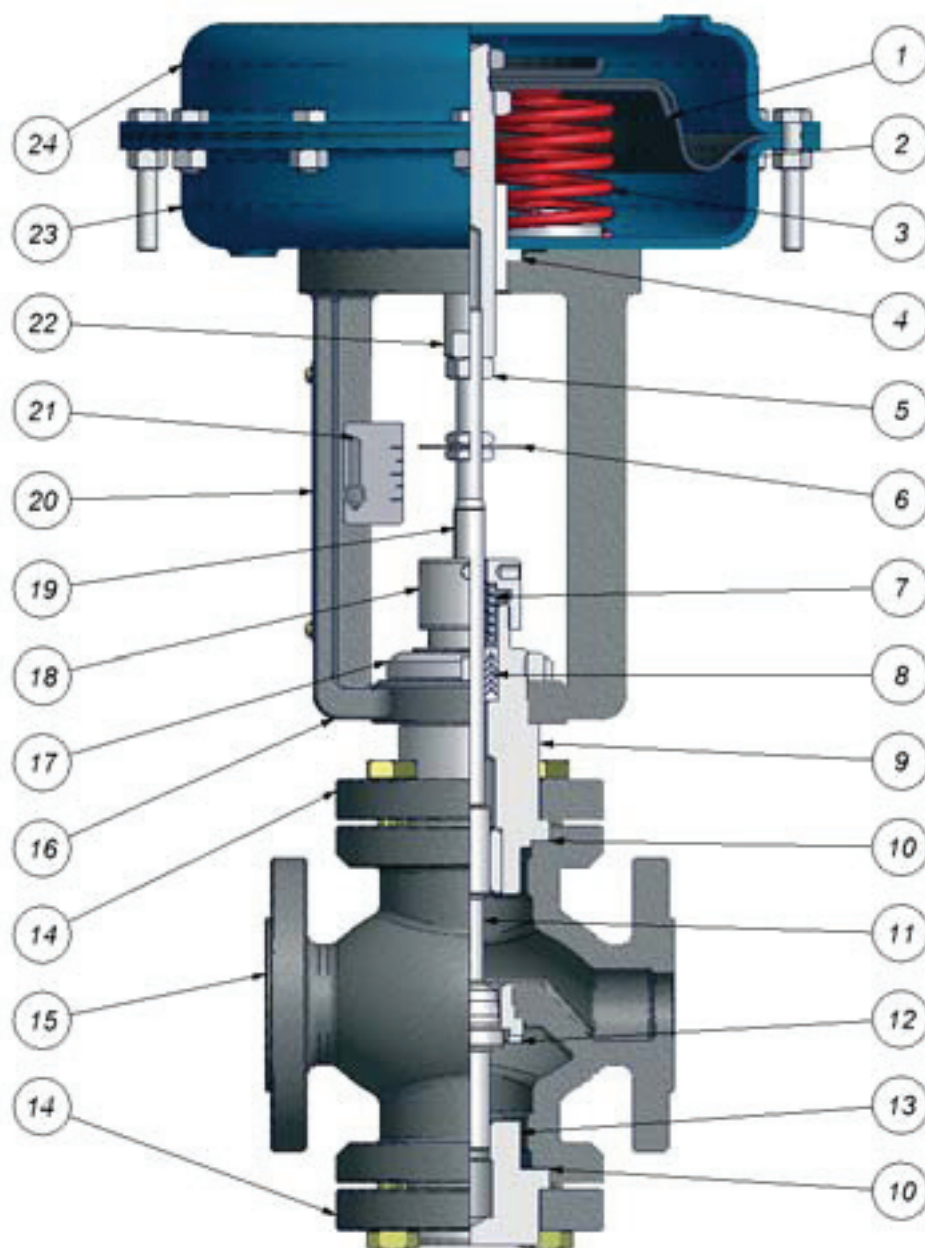
= Standard



TECNICAL SPECIFICATION

MAX DIFFERENTIAL PRESSURES AT CLOSED VALVE (bar) - AIR TO CLOSE ACTION																
DN	STROKE	Cv	Kv	S200			S275			S340			S430			
				Imput pressure												
				1.2	1.4	3	1.2	1.4	3	1.2	1.4	3	1.2	1.4	3	
				Spring range (Bar)												
				0.2-1												
				Spring range (Psi)												
				3-15												
15	20	4	3.5	5.8	13.8	40	15.4	33.1	40							
		2.5	2.1	24.1	40	40	40	40	40							
20		7	6	5.8	13.8	40	15.4	33.1	40							
		4	3.5	5.8	13.8	40	15.4	33.1	40							
25		2.5	2.1	24.1	40	40	40	40	40							
		12	10	3.9	9.5	40	10.6	23	40							
		7	6	5.8	13.8	40	15.4	33.1	40							
		4	3.5	5.8	13.8	40	15.4	33.1	40							
32		2.5	2.1	24.1	40	40	40	40	40							
		18	15.5				5.9	12.9	40	10	21.1	40				
		12	10				10.6	23	40	17.9	37.5	40				
		7	6				15.4	33.1	40	25.8	40	40				
		4	3.5				15.4	33.1	40	25.8	40	40				
		2.5	2.1				40	40	40	40	40	40				
40		28	24				4.1	9.1	40	7	15	40				
		18	15.5				5.9	12.9	40	10	21.1	40				
		12	10				10.6	23	40	17.9	37.5	40				
		7	6				15.4	33.1	40	25.8	40	40				
		4	3.5				15.4	33.1	40	25.8	40	40				
		2.5	2.1				40	40	40	40	40	40				
50		48	41				2.3	5.2	28.4	4	8.6	36,1	7.1	15	40	
		28	24				4.1	9.1	40	7	15	40	12.5	22	40	
		18	15.5				5.9	12.9	40	10	21.1	40	17.7	36.6	40	
		12	10				10.3	23	40	17.9	37.5	40	31.5	40	40	
		7	6				15.4	33.1	40	25.8	40	40	40	40	40	
		4	3.5				15.4	33.1	40	25.8	40	40	40	40	40	
65	30	72	61.5							2.3	5.1	22	4.3	9	40	
		48	41							4	8.6	36.1	7.1	15	40	
		28	24							7	15	40	12.5	26	40	
		18	15.5							10	21.1	40	17.7	36.6	40	
80		105	90								1.8	4.2	18	3.4	7.4	38.6
		72	61.5								2.3	5.1	22	4.3	9	40
		48	41								4	8.6	36.1	7.1	15	40
		28	24								7	15	40	12.5	26	40
100	35	160	136							1	2.2	10	1.9	4	21.4	
		105	90								1.8	4.2	18	3.4	7.4	38.6
		72	61.5								2.3	5.1	22	4.3	9	40
		48	41								4	8.6	36.1	7.1	15	40
		28	24								7	15	40	12.5	26	40

= Standard

**VALVE PARTS NOMENCLATURE**

1	Membrane disc	13	Bottom/Third way
2	Membrane	14	Flange
3	Servocontrol spring	15	Valve body
4	Stem guide	16	Castle
5	Regulation nut	17	Ring nut
6	Position indicator	18	Packing box nut
7	Packing box spring	19	Stem plug
8	Packing box	20	Data plate
9	Bonnet	21	Stoke plate
10	Gasket	22	Servocontrol stem
11	Plug	23	Lower head
12	Seat	24	Upper head

ACCESSORIES



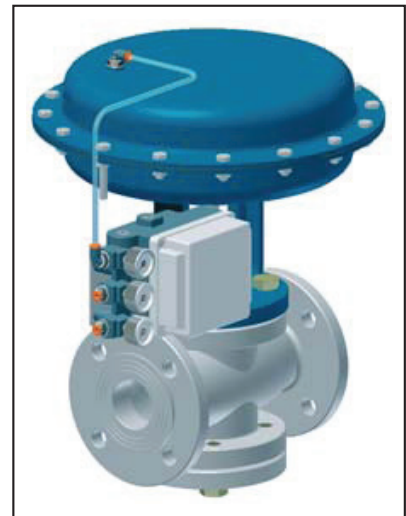
ELECTROPNEUMATIC CONVERTER

PNEUMATIC POSITIONER
AND REDUCING FILTER

HANDWHEEL



LIMIT MICROSWITCHES



ELECTROPNEUMATIC POSITIONER

WARNING

Before starting the plant the pipes must be cleaned carefully with the fluid pressure at maximum and the valve fully open. It is advisable to place a filter on the valve inlet to prevent foreign objects from entering between the seat and the valve plug. (We recommend to utilize filtered, dry air to feed the pneumatic servocontrol). The best fitting position of the valve is in vertical, and its best working is when the flow direction is opposite to the valve plug (see the arrow on the body valve). After some hours of full working at temperature, check the correct lock of the screws of the body valve. Verify that with valve fitted on the plant a sufficient space is left for removing the servocontrol for maintenance operations. Before removing the servocontrol check that there is no fluid in pressure and at temperature in the plant and set the valve in opening position. In case of a complete dismantling of the servocontrol use proper instruments and proceed with attention to discharge springs tension.

IMPORTANT: do not insert hands, tools or other objects inside the valve body.







VALVEA s.r.o.

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