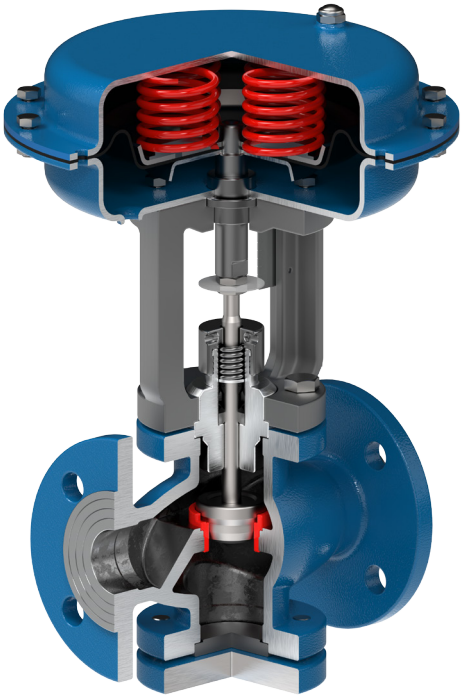
Control Valve

Type VA2011.8

Type VA2013.8

The valves series VA2011.8/VA2013.8, can control different kinds of fluid: steam, overheated water, no-explosive gas, corrosive fluids, 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.



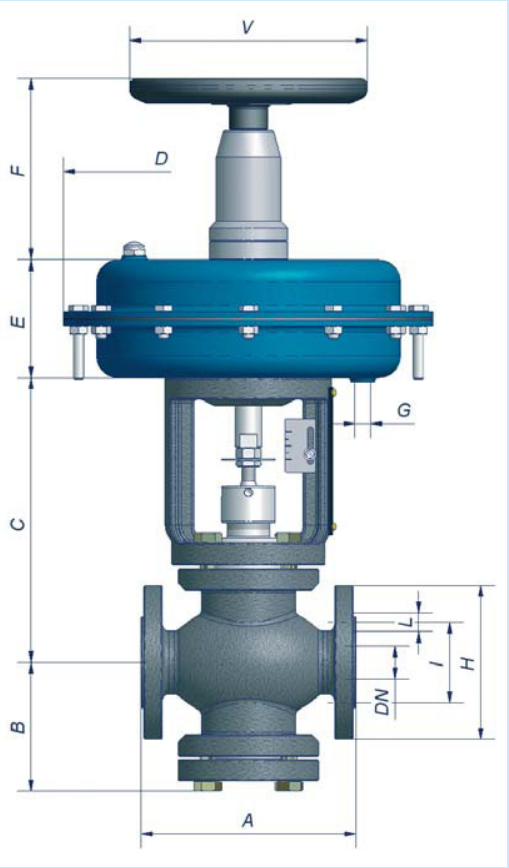
TECHNICAL PARAMETERS

Nominal dimension	DN 15 - DN 150
Nominal pressure	PN 16 - 40
Construction	-20°C to +205°C
Working temperature range	linear equipercentage
Flow characteristic, Kvs value	0.09 – 256 [m³/h-1]

Tightness class (IEC 60534 - 4)	• class IV • class V • class VI
Body material	• nodular cast iron GGG40 • carbon steel P240 GH (1.0619), A216 WCB • stainless steel CF8M
Plug and seat material	stainless steel AISI 316L, 17-4PH
End connection	flanges
Actuators	pneumatic diaphragm (with handwheel) electric

PNEUMATIC CONTROL VALVE - TYPE VA2011.8

The control valves series VA2011.8 have two-way globe body with screwed single seat and lower bottom for inspection and plug replacement (reversed version). The plug is guided in its upper part and the self-adjusting packing box does not need maintenance. They are particularly indicated for regulation in medium light 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	15/50	40/65	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	135			145
V	175			225

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

TABLE VALVES DIMENSIONS

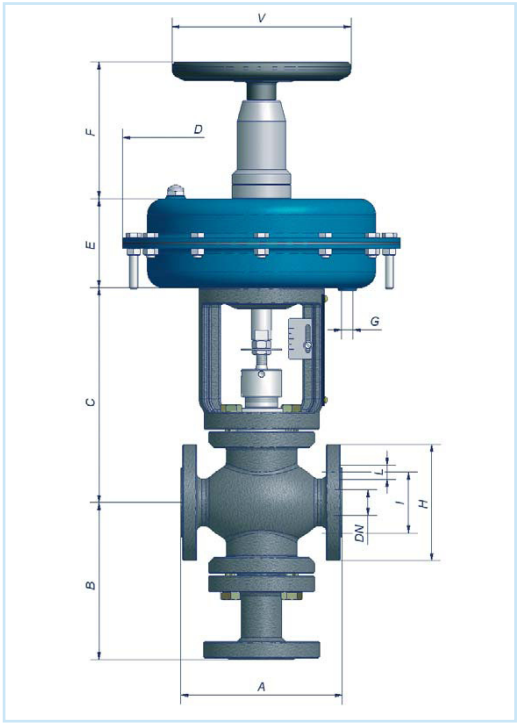
DN	A	B	C	H	I	L	Holes
15	150	96	212	95	65	14	4
20	150	96	212	105	75	14	4
25	160	96	212	115	85	14	4
32	180	96	212	140	100	18	4
40	200	96	212	150	110	18	4
50	230	100	212	165	125	18	4
65	290	136	298	185	145	18	4
							8*
80	310	136	298	200	160	18	8
100	350	158	318	220	180	18	8
				235*	190*	22*	

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

PNEUMATIC CONTROL VALVE - TYPE VA2013.8

The control valves series VA2013.8 have globe body with screwed seat and third way with welded seat. The V-port plug is guided in its upper part and the self-adjusting packing box does not need maintenance.

They are particularly indicated for regulation in medium light 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	40/65	50/100
D	275	340	430
E	88	122	143
G gas	1/4"		

HANDWHEEL (OPTION)

D	275	340	430
F	135		145
V	175		225

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

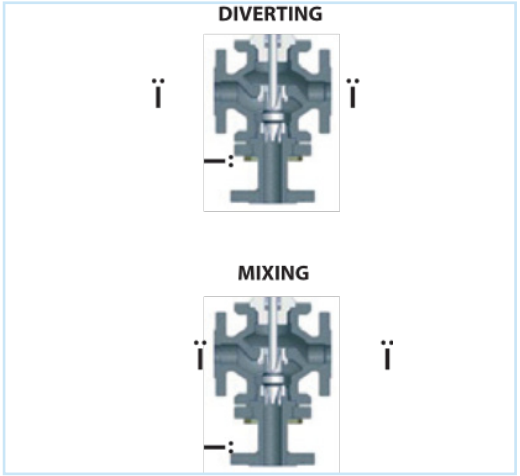


TABLE VALVES DIMENSIONS

DN	A	B	C	H	I	L	Holes
25	160	155	212	140	85	14	4
32	180	155	212	150	100	18	4
40	200	155	212	165	110	18	4
50	230	165	212	185	125	18	4
65	290	220	298	20	145	18	4
							8*
80	310	220	298	165	160	18	8
100	350	240	318	220	180	18	8
				235*	190*	22*	

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

PLUG SPECIFICATIONS

LINEAR PLUG

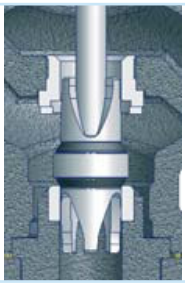
With this type of plug you obtain linearity between stroke and flow rate which results proportional to the opening degree of the valve. It is utilized when there are no important variations in working differential pressure, or in processes with limited flow rate variations.

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.

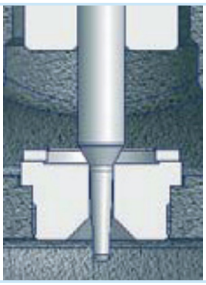
V-PORT PLUG.

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.

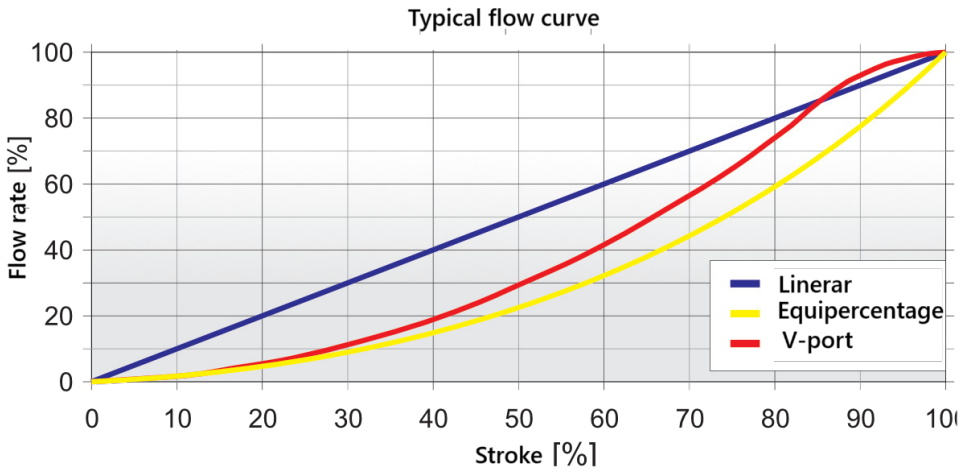


MICROFLOW PLUG.

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.



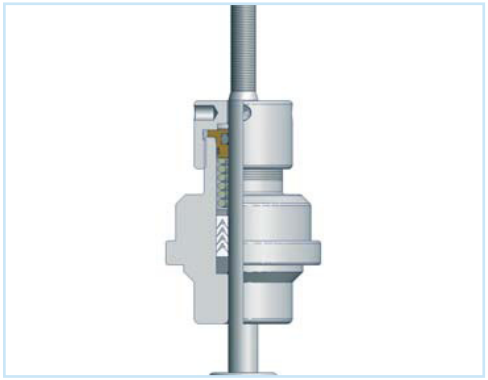
FLOW CHART



PACKING BOX SPECIFICATIONS

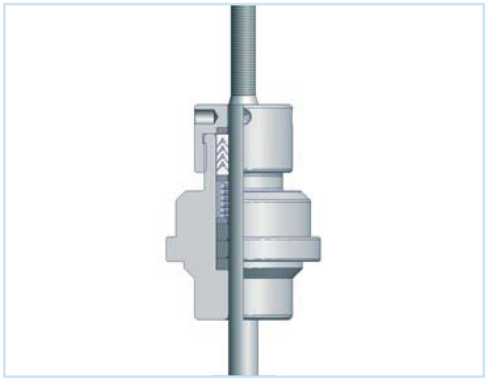
STANDARD PACKING BOX (STD)

Composed of "V" rings in PTFE packing + graphite ring and upper guide with seal. Utilized till 180 °C, combined with soft seal plug.



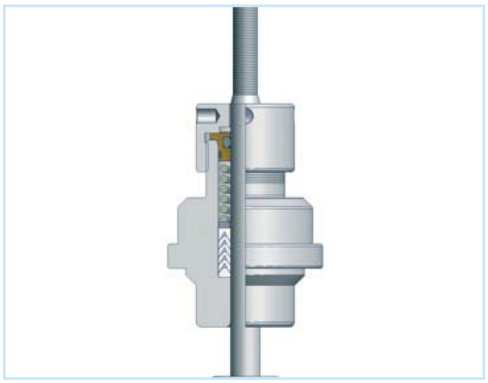
PACKING BOX FOR HIGH TEMPERATURES (HTS)

Composed of "V" rings in PTFE packing and rings in reinforced graphite packing. Utilized till 200 °C, combined with metallic seal plugs or with high performance polymer.



PACKING BOX FOR LOW TEMPERATURE S (LTS)

Composed of "V" rings in PTFE (increased in number) packing and upper guide with seal. Utilized from –20 °C to 180 °C, combined with soft seal plug. Suitable for fluids which are not compatible with graphite.



NECESSARY DATA FOR CORRECT CHOICE OF THE VALVE

Working fluid	Size (DN)
Specific weight/Density (γ)	Nominal pressure (PN)
Fluid temperature in °C	Body shape (2 - 3 way)
Upstream pressure of the valve (bar)	Body material
Differential pressure (Δp)	Valve action (NC - NA)
Maximum flow rate (Q)	Plug specifications
Rate coefficient (CV - KV)	Control signal (psi)

TECNICAL SPECIFICATION

MAX DIFFERENTIAL PRESSURES AT CLOSED VALVE (bar) - AIR TO 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						
		2.5	2.1	24.1	40	40	20.2	24.6	40						
32		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			
		2.5	2.1				20.2	24.6	40	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			
		2.5	2.1				20.2	24.6	40	40	40	40			
50		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
		4	3.5				15.4	33.1	40	25.8	40	40	40	40	40
65	30	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
80		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
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

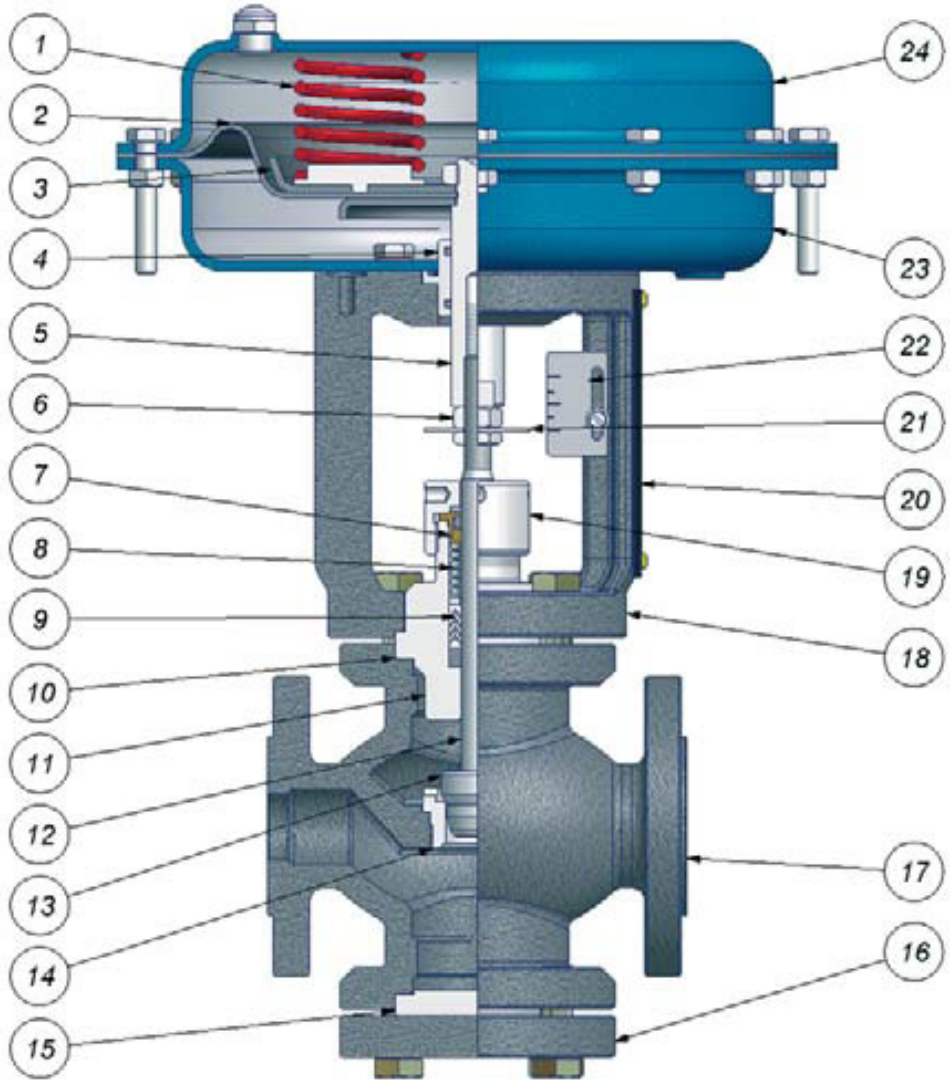
= Standard

TECNICAL SPECIFICATION

MAX DIFFERENTIAL PRESSURES AT CLOSED VALVE (bar) - AIR TO CLOSE ACTIO																
DN	STROKE	Cv	Kv	S200			S275			S340			S430		
				Input 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						
		2.5	2.1	24.1	40	40	40	40	40						
25		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						
		2.5	2.1	24.1	40	40	40	40	40						
32		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



PARTS LIST

No.	Name	No.	Name
1	Spring	13	Plug
2	Membrane	14	Seat
3	Membrane disc	15	Bottom
4	Stem guide	16	Flange/Third way
5	Servocontrol stem	17	Valve body
6	Regulation nut	18	Castle
7	Upper guide	19	Packing box nut
8	Packing box spring	20	Data plate
9	Packing box	21	Position indicator
10	Gasket	22	Stoke plate
11	Bonnet	23	Lower head
12	Stem plug	24	Upper head

ACCESSORIES

ELECTROPNEUMTATIC CONVERTER

HANDWHEEL

PNEUMATIC POSITIONER
AND REDUCING FILTER

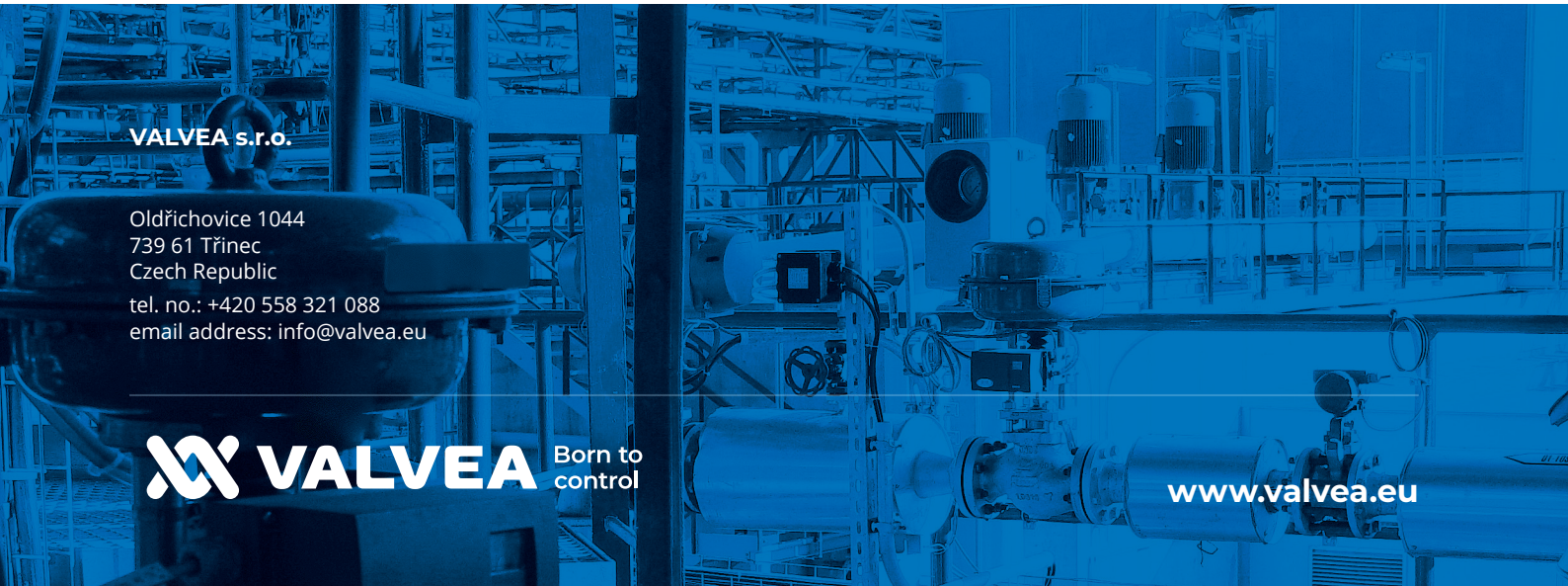
LIMIT MICROSWITCHES

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.

Oldřichovice 1044
739 61 Třinec
Czech Republic
tel. no.: +420 558 321 088
email address: info@valvea.eu

VALVEA Born to control

www.valvea.eu