



VALFONTA PNEUMATIC CONTROL VALVES

SERIES C1
C1-13A5-ENG

Control valve are designed to control of gases, vapors and liquids according to the European Pressure Equipment Directive and certificated ISO 9001 quality assurance system.

Globe body, top entry, single seated, two way, direct or reverse action, multi spring pneumatic actuator. The modular concept of valve and a wide range of different trims available, allows a lot of combinations.

When used in conjunction with the pneumatic actuator they provide modulating control or on/off service. Actuator can be changed to direct or reverse actuation on line quickly.

The body shape gives optimum flow characteristics.

VALVE FEATURES

DN15 to DN100
DN125 and DN150 (balanced inlet pressure)

DIN PN25 Nodular Iron GJS-400-18-LT (0.7043)
DIN PN25 Bronze RG-10 (EN-1982 CuSn10-CC480K)
DIN PN40 Carbon steel GP240GHN (1.0619)
DIN PN40 Stainless steel CF3M (1.4408)

Plug types equal percentage, linear or ON/OFF

Top guided standard construction

Connection Flanged Face Form B1 (acc. to EN 1092-1)
On request: Threaded BSP or NPT, BW, SW,...

Shut off capabilities:

- Class IV (metal to metal)
- Class VI (PTFE+GR seat)
-

On request, PEEK, NBR, EPDM seal, stellite faced seat,...

Double V-Rings packing as standard

Full port as standard. Reduced port on request

Low noise and anticavitation cage available

NAMUR IEC 534.6 clamp as standard



Figure 1

ACTUATOR FEATURES

Steel 1.0335 epoxy painted
Diaphragm EPDM + reinforced fabric (optionally NBR)
Temperature -20°C to +70°C
Allowable air pressure up to 4 barg (Conn. 1/4" BSP-F)
4 actuator sizes: D230, D295, D350 and D430

OPTIONS

Electro pneumatic (Ex) positioner transmitter 4-20 mA,
Smart positioner , Air filter regulator, Top-work manual
hand wheel, stainless steel construction, solenoid
valves, alarm contacts, ...



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PRESSURE – TEMPERATURE RATINGS (according to EN12516-1 and EN 1092-2)

Nominal Pressure	Body material	Services temp.	°C	-10	50	100	150	200	250	300	350
			bar	25	25	25	24	23	21	20	17
PN25 – Class 150	Nodular Iron (0.7043) EN-GJS-400-18	Working pressure	bar	40	40	36	35	34	33	30	29
PN40 – Class 300	Carbon steel GP240GH (1.0619)		bar	40	38	33	30	28	26	25	24
PN40 – Class 300	Stainless steel AISI 316 (1.4408)		bar	40	38	33	30	28	26	25	24

BONNET

Bonnet	Working Temperature	Material
Standard	-5 to +200°C	* Zinc plated Steel 1.1191
Finned	> +200°C	
Extended	< -5°C	Stainless steel AISI 316 (1.4408)
Bellow seal	Consult us	

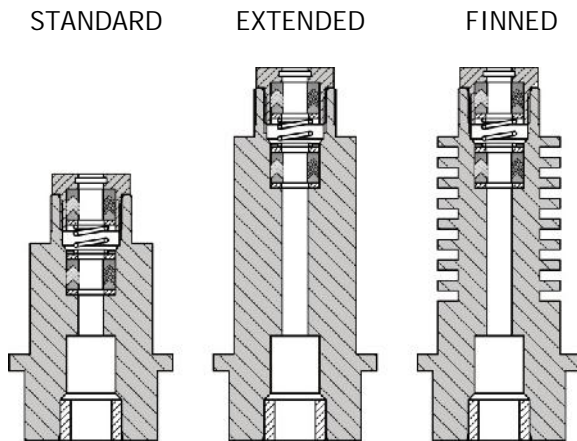


Figure 2

STEM SEALING

Material	PN	Working Temperature
* PTFE+GR V-Rings (spring loaded)	50	Up to +200°C
PTFE V-Rings	50	Up to +150°C
Graphite Rings	50	Up to +350°C
Bellow seal	25	Up to +350°C

STANDARD DOUBLE PACKING

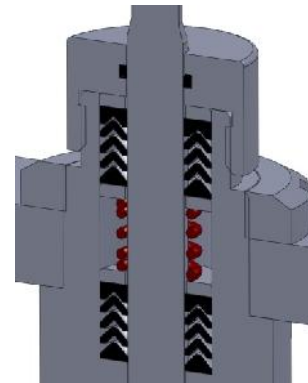


Figure 3: Packing spring: Stainless steel



VALFONTA PNEUMATIC CONTROL VALVES

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VALVE DIMENSIONS, WEIGHT AND Kv VALUES

DN		15	20	25	32	40	50	65	80	100	125	150
Kv	(m ³ /h)	3.5	5	9	15	22	35	60	85	130	200	260
Cv	(gpm)	4	5.8	10.4	17.5	25	41	70	100	152	234	304
Stroke	(mm)	20						30			40	
A (EN 558-1)	(mm)	130	150	160	180	200	230	290	310	350	400	480
A ANSI150	(mm) (inches)			184 7,25"	-	222 8,75"	254 10"	276 10,86"	298.5 11,75"	352.5 13,88"	-	451 17,75"
A ANSI300	(mm) (inches)			197 7,76"	-	235 9,25"	267 10,51"	292 11,5"	317.5 12,50"	368 14,49"	-	-
L (with AP295)	(mm)	345	345	411	411	436	436	470	470	490	-	-
L (with AP430)	(mm)	390	390	455	455	480	480	515	515	535	610	640
Valve Weight (without actuator)	(kg)	5	6	7	8	12	15	20	25	40	75	100

Available under request

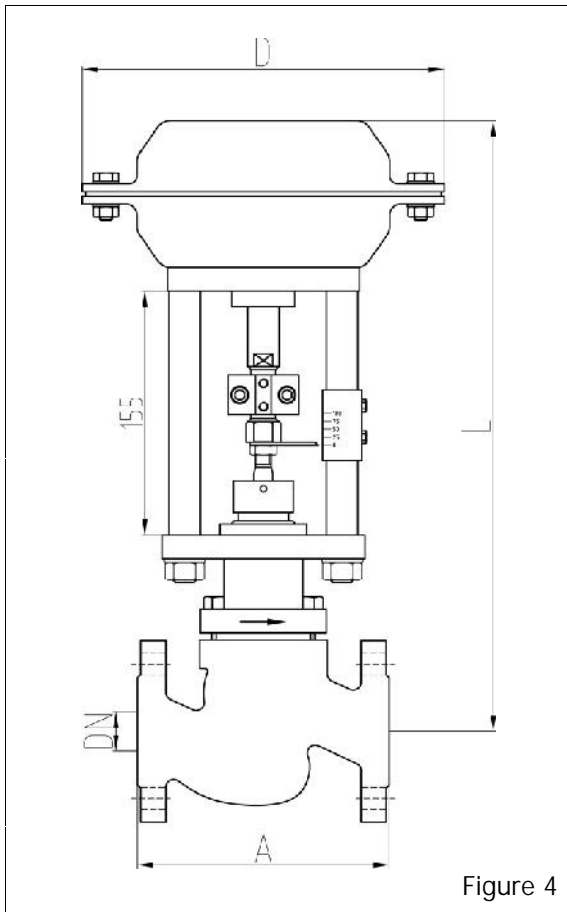


Figure 4

ACTUATOR DIMENSIONS AND WEIGHT

	AP.230	AP.295	AP.350	AP.430
D (mm)	230	295	350	430
Superficie (cm ²)	150	300	450	700
Weight (Kg)	10	13	18	25

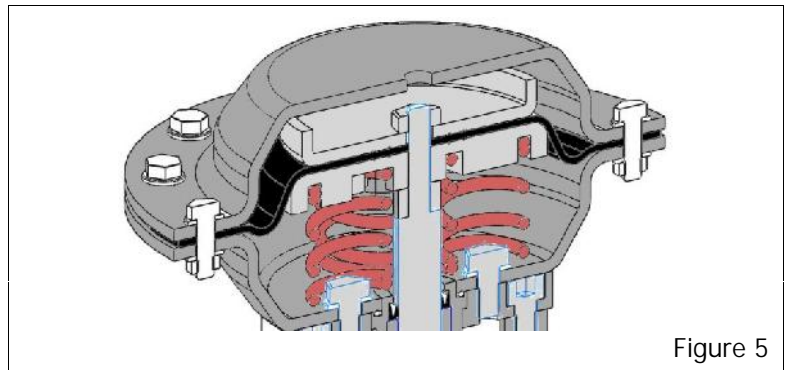


Figure 5



VALFONTA

PNEUMATIC CONTROL VALVES

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Description		Material	Description		Material
1	Body	Nodular Iron GGG40.3, Bronze RG10 Carbon steel WCB Stainless steel CF8M-316	11	Blocking Nut	Stainless steel A2-70
2	Seat	Stainless steel AISI 316L	12	Packing cap nut	Stainless steel AISI 316L
3	Guide	Stainless steel AISI 316L	13	Clamping nut	Zinc plated steel 1.1191
4	Seal	PTFE+Graphite / SS316L / consult	14	Bonnet	See Bonnet table
5	Support seal	Stainless steel AISI 316L	15	Washer	Zinc plated steel 1.1191 Stainless steel A-2
6	Block Pin	Stainless steel AISI 316L	16	Bonnet cover	Zinc plated steel 1.1191
7	Bolts	Zinc plated steel 1.1191 Stainless steel A2-70	17	Plug stem	Stainless steel AISI 316L
8	Stem	Stainless steel AISI 316L	18	Gasket	Graphite
9	Packing group	(See stem sealing table – pag. 2)	19	Guide	Stainless steel AISI 316L + Ni
10	O-ring	Viton	20	Block Pin	Stainless steel AISI 316L

Recommended spare parts

Description		Material	Description		Material
101	Nut	Zinc plated steel 1.1191	118	Screws	Zinc plated steel 1.1191
102	Pillar	Zinc plated steel 1.1191	119	Nuts	Zinc plated steel 1.1191
103	Actuator stem	Stainless steel AISI 316L	120	Washer	Brass
104	Gasket	NBR	121	Actuator support	Zinc plated steel 1.1191
105	Bolt	Zinc plated steel 1.1191	122	O-ring	NBR
106	Bolt	Zinc plated steel 1.1191	123	Actuator stem guide	Delrin
107	Lower Diaphragm plate	Zinc plated steel 1.1191	124	-	-
108	Washer	Zinc plated steel 1.1191	125	Mounting support	Zinc plated steel 1.1191
109	Spring guide plate	Aluminium	140	Connector A	Zinc plated steel 1.1191
110	Springs	1.0904 Spring carbon steel 55Si7	141	Connector B	Zinc plated steel 1.1191
111	Drain plug	Brass – Steel	142	Bolt (x2)	Zinc plated steel 1.1191
112	Guide	Zinc plated steel 1.1191	143	Connector stem	Stainless steel 1.4408
113	Nut	Zinc plated steel 1.1191	144	Nut	Stainless steel A2-70
114	Washer	Zinc plated steel 1.1191	145	Valve stem connector	Zinc plated steel 1.1191
115	Upper actuator case	1.0335 (Sheet steel with epoxy paint)	146	Stroke indicator	Stainless steel AISI-304
116	Diaphragm	EPDM + reinforced fabric	147	Bolt	Zinc plated steel 1.1191
117	Lower actuator case	1.0335 (Sheet steel with epoxy paint)			

Recommended spare parts



VALVE PARTS

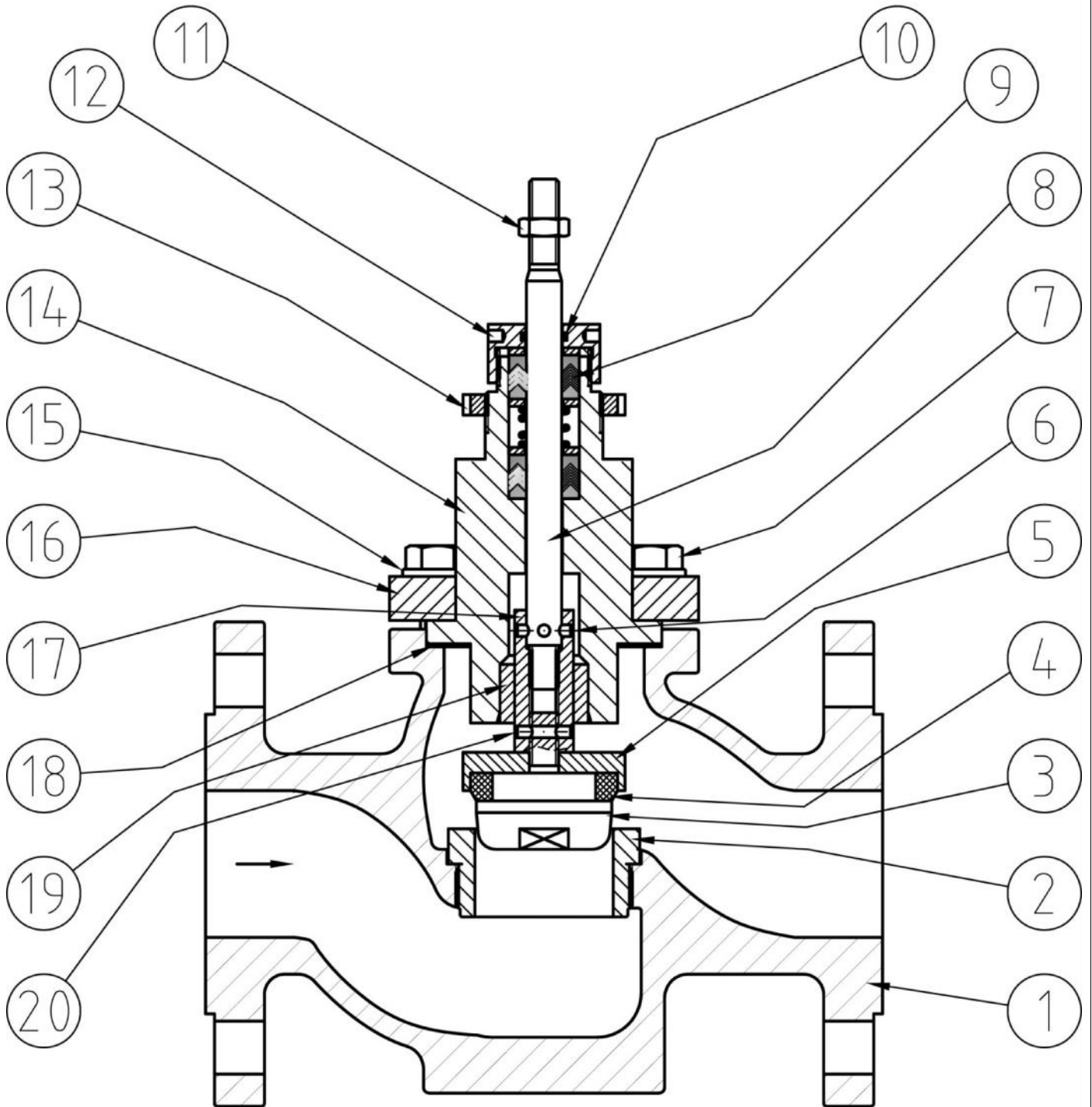


FIGURE 6



ACTUATOR PARTS

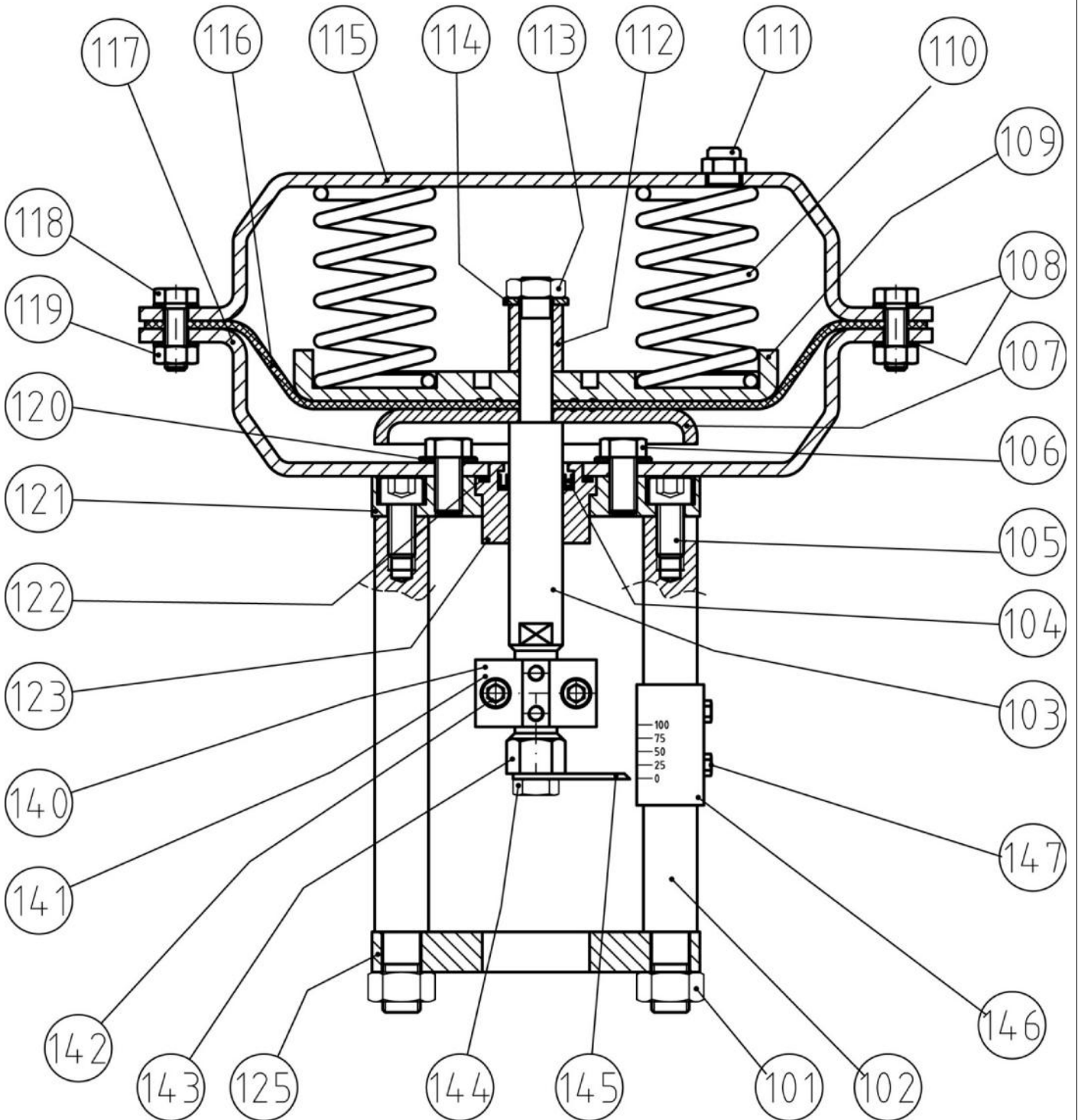


FIGURE 7



VALFONTA PNEUMATIC CONTROL VALVES

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FLOW RATE COEFFICIENTS (Kv = Flowrate in m³/h with 1 bar of differential pressure)

Kv	15	20	25	32	40	50	65	80	100	125	150
0.1 to 2				-	-	-	-	-	-	-	-
3.5						-	-	-	-	-	-
5	-					-	-	-	-	-	-
9	-	-					-	-	-	-	-
15	-	-	-					-	-	-	-
22	-	-	-	-					-	-	-
35	-	-	-	-	-					-	-
60	-	-	-	-	-	-					-
85	-	-	-	-	-	-	-				
130	-	-	-	-	-	-	-	-			
200	-	-	-	-	-	-	-	-	-		
260	-	-	-	-	-	-	-	-	-	-	

Standard

Available under request

- Not available

MAXIMUM ADMISSIBLE PRESSURE DROPS WHEN FLUID OPENS (bar)

Actuator	Signal	Minim air supply	Kv								
			3.5 (DN15)	5 (DN20)	9 (DN25)	15 (DN32)	22 (DN40)	35 (DN50)	60 (DN65)	85 (DN80)	130 (DN100)
Stroke (mm)			20						30		
AP 230	0.2÷1	1.2	29	16	10	6	4	2.5	-	-	-
	0.4÷1.2	1.4	50	33	21	13	8	5	-	-	-
	0.4÷2.5	2.7	-	50	43	26	16	10	-	-	-
AP 295	0.2÷1	1.2	50	38	24	15	9	6	-	-	-
	0.4÷1.2	1.4	50	50	32	20	12	8	-	-	-
	0.4÷2	2.4	50	50	49	30	19	12	-	-	-
	1÷4	4.2	50	50	50	50	36	23	-	-	-
	1÷4	4.2	-	-	-	-	47	30	18	11	7.5
AP 350	0.2÷1	1.2	50	47	30	18	11	7	4	3	1.5
	0.4÷1.2	1.4	50	50	45	27	17	11	6.5	4	2.5
	0.4÷2	2.4	50	50	50	37	23	15	9	6	3.5
	1÷4	4.2	50	50	50	50	39	25	14	9	6
	1÷4	4.2	-	-	-	-	50	37	22	14	9
AP 430	0.2÷1	1.2	-	50	42	26	16	10	6	4	2.5
	0.4÷1.2	1.4	-	-	50	35	22	14	8	5.5	3.5
	0.4÷2	2.4	-	-	-	50	33	21	12	8	5
	1÷4	4.2	-	-	-	-	50	44	26	17	11