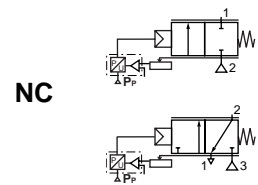




PROPORTIONAL VALVES WITH COMPACT POSITIONER

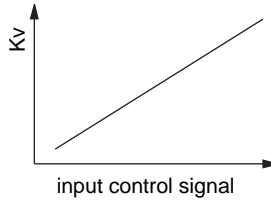
pressure operated
all standard connection types



2 way
3 way
Series
290/390

FEATURES

- Variable flow proportional to the control signal
- Position feedback value acquired with a potentiometer (sensor)
- Designed for 2-way valves with threaded bodies, flanges, clamp, or butt welding, series 290, or 3-way valves with threaded bodies, series 390, NC function, fluid entry under the disc
- Unit supplied factory-assembled and adjusted for a 2/2 airtight valve. The valve opens at 0,1% of maximum setpoint
- Valves satisfy Pressure Equipment Directive 97/23/EC, category 1 (DN > 25) or article 3.3 (DN ≤ 25)



GENERAL

Differential pressure	0 to 16 bar [1 bar =100 kPa]
Maximum allowable pressure	16 bar
Fluid temperature range	See the corresponding leaflets
Ambient temperature range	0°C to +50°C
Maximum viscosity	600 cSt (mm ² /s)
Pilot fluid	Air or inert gas, filtered 50 µm, lubricated or not
Pilot pressure	4 to 10 bar
Pilot fluid temperature	0°C to +60°C
Response time	See V402-5

fluids (*)	temperature range	disc seal (*)
DN ≤ 50 : air and gas groups 1 & 2 DN 65 : air and gas group 2 all DN : water, oil, liquids groups 1 & 2 and steam		See the corresponding leaflets

GENERAL / COMPACT POSITIONER

Pilot connection	G 1/8 (all operators)
Maximum current	150 mA
Nominal supply voltage	24 V DC ± 10%, max. ripple 10%
Max. power	3,6 W
Analog setpoint	See Specifications
Connector size 15	Spade plug, DIN 43650, 9,4 mm, industry standard B 4 pins, catalogue number: 88100240

Coil insulation class	F
Electrical enclosure protection	IP65 (EN 60529)

MATERIALS IN CONTACT WITH FLUID

(*) Ensure that the compatibility of the fluids in contact with the materials is verified.

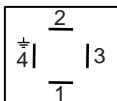
	Bronze body	St. steel body	All AISI 316L
Valve body	Bronze	AISI 316L	AISI 316L ⁽⁴⁾
Stuffing box body	PA or brass	AISI 316L	AISI 316L
Stem	Stainless steel	Stainless steel	AISI 316L
Disc	Brass	Stainless steel	AISI 316L
Stuffing box packing	NBR or PTFE chevrons	PTFE chevrons	PTFE chevrons
Wiper seal	FPM	FPM	FPM
Disc seal	NBR or PTFE	PTFE	PTFE
Valve body seal	NBR or PTFE	PTFE	PTFE

CONSTRUCTION

Valve construction	See sections D and F
Valve disc	Profiled disc (2/2) or standard (3/2)
Potentiometer (sensor)	Resistance 500 Ω (protection IP65)
Potentiometer body	Aluminium, black anodized
Positioner body	Aluminium, PA

ELECTRICAL CONNECTION

Compact positioner



- 1 : + 24 V (Power)
 - 2 : 0 V (Power)
 - 3 : Setpoint (0 - 10 V / 0 - 20 mA / 4 - 20 mA)
 - 4 : Feedback (0 - 10 V)
- Pin 4 is not an earth connection

SPECIFICATIONS (only for NC valves, fluid entry under the disc)

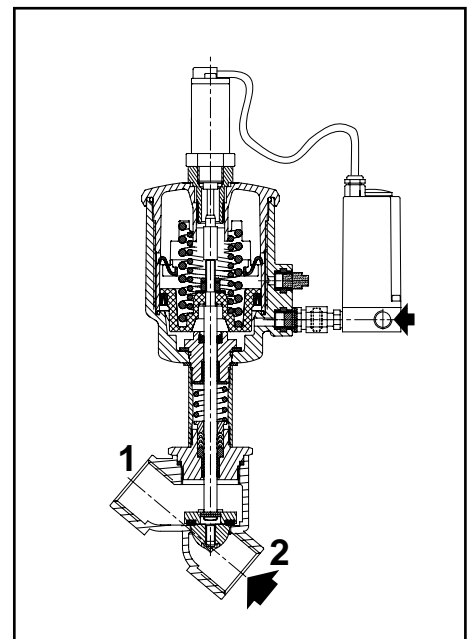
Analog setpoint	suffix for proportional valve and compact positioner ⁽¹⁾ (supplied installed on the valve and pre-adjusted)			
	fail position maintained ⁽²⁾		fail close ⁽³⁾	
	2 way	3 way	2 way	3 way
0 - 10 V DC	PDB01	B01	PDB04	B04
0 - 20 mA	PDB02	B02	PDB05	B05
4 - 20 mA	PDB03	B03	PDB06	B06

⁽¹⁾ Place the indicated suffix after the catalogue number of the valve selected.

⁽²⁾ Fail position of the valve disc maintained on loss of power.

⁽³⁾ Fail close: valve returns to closed position on loss of power.

⁽⁴⁾ Including NET-INOX treatment.



B

SPECIFICATIONS

pipe size (DN)	orifice size (mm)	pilot pressure (bar)			operator diameter (mm)	flow coefficient (Kv), programmable opening of proportional valve							
		min.		max.		2 way, threaded				2 way, flanges		3 way, threaded	
		2 way	3 way			compact valve (E290) (bronze)		bronze, stainless steel or all AISI 316L (E290) clamp / butt welding (S290)		bronze or cast iron (T290)		bronze (E390)	
		(m³/h)	(l/min)	(m³/h)		(l/min)	(m³/h)	(l/min)	(m³/h)	(l/min)	(m³/h)	(l/min)	
NC - Normally closed, fluid entry under the disc													
1/2 (15)	15	4	-	10	50	4,6	77	4,6	77	-	-	-	-
		-	3	10	63	-	-	-	-	-	-	6	100
3/4 (20)	20	4	-	10	50/63	7,1	118	7,1	118	-	-	-	-
		-	5	10	90	-	-	-	-	-	-	9,6	160
1 (25)	25	4	5	10	63/90	15	250	15	250	11	183	16,2	270
1 1/4 (32)	32	4	5	10	63/90	-	-	21	350	14	233	24	400
		4	-	10	125	-	-	22	367	15	250	-	-
1 1/2 (40)	40	4	5	10	63/90	-	-	29	483	21	350	42,9	715
		4	5	10	125	-	-	44	733	32	533	42,9	715
2 (50)	50	4	5	10	63/90	-	-	40	667	26,5	442	52,8	880
		4	5	10	125	-	-	66	1100	44	733	52,8	880
2 1/2 (65)	65	4	-	10	90	-	-	68	1133	-	-	-	-
		4	-	10	125	-	-	74	1233	-	-	-	-

OPTIONS AND ACCESSORIES (see V435/V436)

- Standard 2/2 NC valve, fluid entry under the disc, with profiled disc only, use suffix **PD**, example: E290A016PD
- Other pipe connections available on request

INSTALLATION

- Valves can be mounted in any position without affecting operation
- Installation/maintenance instructions are included with each valve

SPARE PARTS KITS

pipe size (DN)	spare parts kit no.				
	compact valve (bronze) (E290)	bronze, stainless steel or all AISI 316L (E290) clamp / butt welding (S290)	bronze (T290)	cast iron (T290)	bronze (E390)
1/2 (15)	C131201	C131204 ⁽¹⁾	-	-	C140021 ⁽¹⁾
3/4 (20)	C131202	C131205 ⁽¹⁾	-	-	C140022 ⁽¹⁾
1 (25)	C131203	C131206 ⁽¹⁾	C140017 ⁽¹⁾	C140013	C140023 ⁽¹⁾
1 1/4 (32)	-	C131207 ⁽¹⁾	C140018 ⁽¹⁾	C140014	C140024 ⁽¹⁾
1 1/2 (40)	-	C131208 ⁽¹⁾	C140019 ⁽¹⁾	C140015	C140025 ⁽¹⁾
2 (50)	-	C131209 ⁽¹⁾	C140020 ⁽¹⁾	C140016	C140026 ⁽¹⁾
2 1/2 (65)	-	C131622 ⁽¹⁾	-	-	-

⁽¹⁾ Standard suffix VM is also applicable to kits (see V435).

- Not available.

ORDERING EXAMPLES:

E	290	A	016	PDB01
E	390	A	016	B01
E	290	A	059	PDB02
E	290	A	102	PDB03

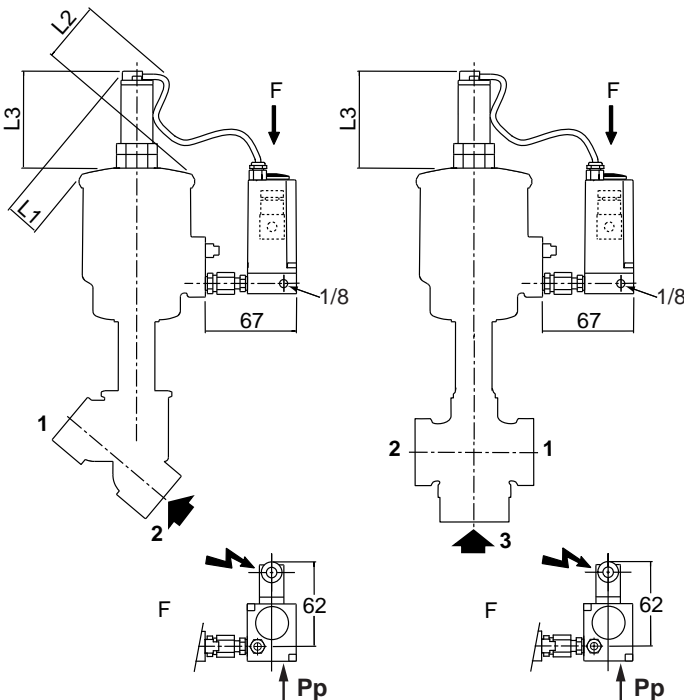
pipe thread ————
basic number ———— suffix

ORDERING EXAMPLES KITS:

C131201	
C140206	
C140205	VM

basic number ———— suffix

DIMENSIONS (mm), WEIGHT (kg)



operator diameter	L1	L2	L3	weight ⁽¹⁾
50 mm	34	54	81	0,3 ⁽¹⁾
63 mm	25	46	65	0,3 ⁽¹⁾
90 mm	15	36	65	0,3 ⁽¹⁾
125 mm	0	49	111	0,3 ⁽¹⁾

⁽¹⁾ Weight of compact positioner + potentiometer (position sensor), **without** valve.

Weight of valves:

2 way versions: weight to be added to the weight of the standard valves (see section D) :

- DN 32/40 : +0,1 kg
- DN 50 : +0,2 kg
- DN 65 : +0,4 kg

3 way versions: weight identical to that of standard valves (see section F)