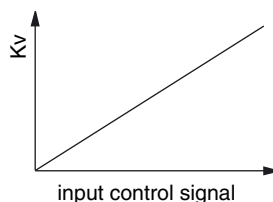


FEATURES

- Precise, quick-acting and robust valve suitable for use in outside industrial environments
- Exceptional long service life
- Variable flow proportional to the control signal
- Real-time control
- Ready-to-use valve
- The positioner can be directly connected to an external sensor (double loop control)
- Power saving function and no air consumption when position is reached
- Manual valve operator
- LED indicators for valve status display



GENERAL

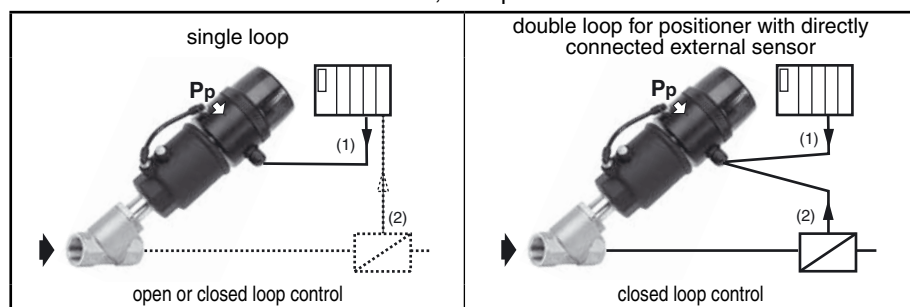
Differential pressure	0 to 16 bar [1 bar = 100 kPa]
Maximum allowable pressure	16 bar
Ambient temperature range	0°C to +50°C
Maximum viscosity	5000 cSt (mm²/s)
Pilot fluid	Air or inert gas, filtered 50 µm, lubricated or not
Pilot pressure	4 to 8 bar
Pilot fluid temperature	0°C to +50°C
Response time	See page V402-7
Fluids	For type, temperature and materials compatibility, see the catalogue pages for the standard valves V410, V420, V431 and V703

ELECTRICAL CHARACTERISTICS

Setpoint reached output	ON/OFF, 24 V PNP / max. 500 mA
Analog position feedback signal	0-10 V / 4-20 mA
Analog setpoint	0-10V ($R_{in} = 200 \text{ k}\Omega$); 4-20 mA ($R_{in} = 250 \text{ }\Omega$)
Nominal supply voltage	24 V DC $\pm 10\%$, max. ripple 10%
Power	7,6 W (3,6 W, setpoint reached)
Connection	Screw terminals, cable gland (cable Ø 5-10 mm) or connection M12 (CNOMO E03.62.520.N)
Degree of protection	IP66 (EN 60529)
Electromagnetic compatibility	EMC 2004/108/EC
Regulation characteristics	Hysteresis < 2% ; Accuracy < 2% ; Repeatability < 1%

CONSTRUCTION

Valve construction	See sections D and F
Valve disc (2/2)	Profiled disc, stainless steel and PTFE
Valve disc (3/2)	Standard disc
Positioner body	Aluminium, anodised
Cover	PA 12, transparent



(1) Setpoint
(2) Value measured by the process sensor

SPECIFICATIONS (NC valves, fluid entry under the disc)

analog setpoint	suffix for proportional valve and positioner ⁽³⁾ delivered assembled							
	fail position maintained ⁽⁴⁾				fail close ⁽⁵⁾			
	2 way cable gland	3 way M12	2 way cable gland	3 way M12	2 way cable gland	3 way M12	2 way cable gland	3 way M12
Positioner^D, single loop								
0 - 10 V DC	PDB64	PDB68	B64	B68	PDB66	PDB70	B66	B70
4 - 20 mA	PDB65	PDB69	B65	B69	PDB67	PDB71	B67	B71
Positioner^D, double loop								
0 - 10 V DC	-	-	-	-	PDB72	PDB74	B72	B74
4 - 20 mA	-	-	-	-	PDB73	PDB75	B73	B75

⁽³⁾ Place the indicated suffix after the catalogue number of the valve selected.

⁽⁴⁾ Fail position of the valve disc maintained on loss of power.

⁽⁵⁾ Fail close: valve returns to closed position on loss of power.

VALVE SPECIFICATIONS

pipe size (DN)	orifice size	pilot pressure (bar)		operator diameter	flow coefficient (Kv), programmable opening of proportional valve						
					2 way, threaded		2 way, flanges		3 way, threaded		
		min.			max.	bronze, stainless steel (E290) (V410) clamp / butt welding (S290) (V420)	bronze (T290) (V431)	bronze (E390) (V703)			
		(mm)	2 way		3 way	(mm)	(m³/h)	(l/min)	(m³/h)	(l/min)	(m³/h)
NC - Normally closed, entry under the disc											
1/2 (15)	15	5	-	8	50	4,6	77	-	-	-	-
		-	2 / 3	8	63	-	-	-	-	6	100
3/4 (20)	20	2 / 3 / 5	-	8	50/63	7,1	118	-	-	-	-
		-	2 / 3 / 5	8	90 63	-	-	-	-	9,6	160
1 (25)	25	2 / 3 / 5	2 / 3 / 5	8	63/90	15	250	11	183	16,2	270
1 1/4 (32)	32	2 / 3 / 5	5	8	63/90	21	350	14	233	24	400
		2 / 3 / 5	2 / 3 / 5	8	125	22	367	15	250	-	-
1 1/2 (40)	40	4	3 / 5	8	63/90	29	483	21	350	42,9	715
		4	5	8	125	44	733	32	533	42,9	715
2 (50)	50	4	5	8	63/90	40	667	26,5	442	52,8	880
		4	5	8	125	66	1100	44	733	52,8	880
2 1/2 (65)	65	4	-	8	90	68	1133	-	-	-	-
		4	-	8	125	74	1233	-	-	-	-

⁽¹⁾ For best control loop operation, we recommend the following pilot pressures:
max. 3 bar (valve with 1,5 bar operator) ; max. 5 bar (valve with 2,5 bar operator) ; max. 7 bar (valve with 4 bar operator)

OPTIONS AND ACCESSORIES

- Standard 2/2 NC valve, fluid entry under the disc, with profiled disc only, use suffix PD, example: E290A016PD
- Female M12 connector: straight catalogue number: **88100256**
- 5 pins, with screw terminals, 5 x 0,25 mm², catalogue number: **88130212**
- Supply cable 5 m, 6 x 0,5 mm², catalogue number: **88100728**
- Supply cable 10 m, 6 x 0,5 mm², catalogue number: **88100730**
- APC software for modification of control parameters (software required for double loop control) available for download at: www.asconumatics.eu
- RS-232 converter, 2 m cable with 9 pin Sub-D connector for PC link, catalogue number **88100732**
- Oxygen service (except DN 65), pressure limited to 15 bar, temperature limited to + 60°C, suffix **N**
- Vacuum applications up to 1,33 10⁻³ mbar, suffix **VM**
- Other pipe connections are available on request

INSTALLATION

- Pilot port G 1/8 according to ISO 228/1
- Compatible with ASTM 1, 2 and 3 oils
- Installation/maintenance instructions are included with each valve
- LED indicators for operating status display and diagnostic functions (Unit can be rotated through 360° around the centreline of the valve operator)

status	hold position
	valve OPEN
	valve CLOSED
	valve moves to open
	valve moves to close
	positioner in initialisation mode
	positioner in manual mode
diagnostics	setpoint > 20,5 mA / 10,25 V
	setpoint < 3,5 mA
	positioner not initialised
	component error



Electrical connection:

Positioner^D, single loop
screw terminals



1	+ 24 V DC, supply	1
2	GND supply	3
3	+ setpoint (0-10 V or 4-20 mA)	2
4	GND setpoint	3
6	disc position feedback	4
7	+ 24V ON/OFF output	5

Positioner^D, double loop
screw terminals



1	+ 24 V DC, supply	1
2	GND supply	3
3	+ setpoint (0-10 V or 4-20 mA)	2
4	GND setpoint	3
5	external sensor input	4
7	+ 24V ON/OFF output	5

SPARE PARTS KITS

		spare parts kit no. Positioner ^D only	
cable gland (cable Ø 5-10 mm)		connection M12	
Fail position maintained, single loop			
0-10 V	60568108	60569108	
4-20 mA	60568308	60569308	
Fail close, single loop			
0-10 V	60568118	60569118	
4-20 mA	60568318	60569318	
Fail close, double loop			
0-10 V	60568418	60569418	
4-20 mA	60568518	60569518	
Mounting kit			
all	C140423	C140423	

pipe size (DN)	spare parts kit no.		
	bronze, stainless steel (E290) clamp / butt welding (S290)	bronze (T290)	bronze (E390)
Valve disc seals			
1/2 (15)	C131204 ⁽¹⁾	-	C140021 ⁽¹⁾
3/4 (20)	C131205 ⁽¹⁾	-	C140022 ⁽¹⁾
1 (25)	C131206 ⁽¹⁾	C140017 ⁽¹⁾	C140023 ⁽¹⁾
1 1/4 (32)	C131207 ⁽¹⁾	C140018 ⁽¹⁾	C140024 ⁽¹⁾
1 1/2 (40)	C131208 ⁽¹⁾	C140019 ⁽¹⁾	C140025 ⁽¹⁾
2 (50)	C131209 ⁽¹⁾	C140020 ⁽¹⁾	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	PDB64
E	390	A	016	B64
E	290	A	059	PDB68
E	290	A	102	PDB71

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

ORDERING EXAMPLES KITS:

C131204	
C140206	
C140205	VM

basic number ———— suffix

DIMENSIONS (mm), WEIGHT (kg)



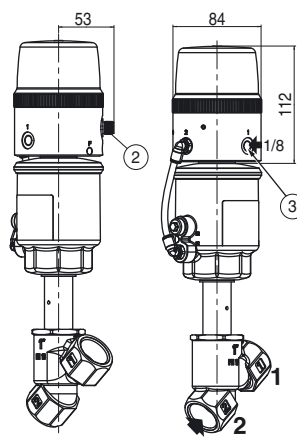
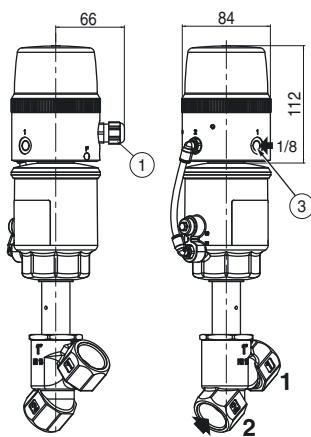
TYPE 01

Enclosure with cable gland
50 to 125 mm operators
Fluid entry:
under the disc at 2



TYPE 02

Enclosure with M12 connection
50 to 125 mm operators
Fluid entry:
under the disc at 2



- ① M16 x 1,5 mm cable gland (cable Ø 5-10 mm)
- ② M12 connection
- ③ G 1/8 pilot connection

Weight of positioner without valve: 0,3 kg

