

Series CP directly operated proportional solenoid valves

2/2-way NC

Nominal diameters: 1mm - 1.5mm - 2mm

2

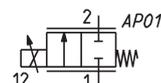
CONTROL



- » High flow
- » Great precision
- » Low hysteresis

Series CP valves have been designed to optimize dimensions and reduce friction and stick-slip effects. The output flow is proportional to the control signal. As they can work also in vacuum, a minimum working pressure is not required. Their cartridge design makes them particularly compact, thus they can be mounted directly near the workstation.

Series CP directly operated proportional solenoid valves can be used where an open loop flow control is required, with gas mixtures or to control flows.



GENERAL DATA

TECHNICAL FEATURES

Function	2/2 NC
Operation	proportional directly operated
Pneumatic connections	cartridge
Nominal diameters	1 - 1.5 - 2 mm
Free flow capacity	70 - 80 - 90 l/min
Operating pressure	8 - 5 - 3 bar
Max overpressure	16 bar
Linearity	3% FS
Hysteresis	10% FS
Repeatability	5% FS
Operating temperature	+10°C / +50°C
Media	filtered compressed air, unlubricated, according to ISO 8573-1 class 3.4.3, inert gas
Response time	see the following page
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	brass, stainless steel, PPS
Seals	FKM

ELECTRICAL FEATURES

Operation	PWM > 1000 Hz or current control
Operation voltage	6 - 11 - 24 V DC
Max power consumption	3.2 W
Nominal resistance	11.8 - 37.6 - 184.7 Ohm
Rated current	0.103 - 0.238 - 0.410 A
Duty cycle	100%
Electrical connection	cabl 300mm AWG24
Protection class	IP00 / IP40
Average lifecycles	50000000
Versions available on demand	- base with 1/8 - 1/4 ports - seals in EPDM (in progress)

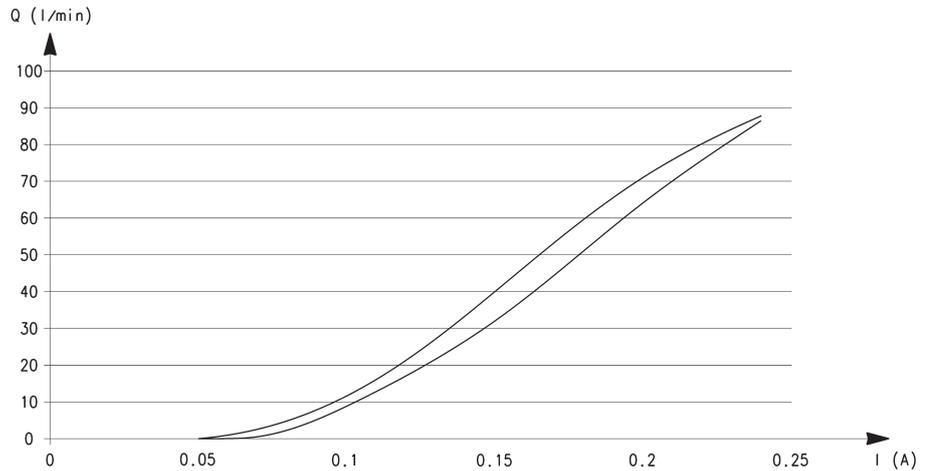
CODING EXAMPLE

CP - C 6 2 1 - G W 2 - 0 P 5

CP	SERIES
C	PORTS: C = cartridge
6	BODY SIZE: 6 = 16mm
2	NUMBER OF PORTS: 2 = 2-way
1	FUNCTION: 1 = NC
G	ORIFICE DIAMETRES: F = ø 1mm G = ø 1.5mm N = ø 2mm
W	GASKETS MATERIAL: W = FKM
2	BODY MATERIAL: 2 = BRASS
0	OVERMOULDING MATERIAL OF COIL: 0 = cartridge
P	DIMENSIONS OF THE COIL: P = ø 16
5	VOLTAGE: 1 = 6V DC 3.2W 3 = 24V DC 3.2W 5 = 11V DC 3.2W

TYPICAL HYSTERESIS DIAGRAM and RESPONSE TIMES

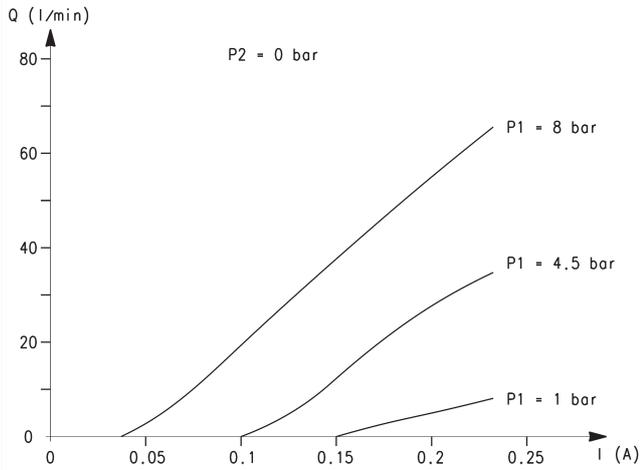
DIAGRAM LEGEND:
Q = flow (l/min)
I = current (A)



SIZE 16mm - RESPONSE TIMES calculated according to the maximum flow at each operating pressure. [Electromechanical response time: 10 ms]

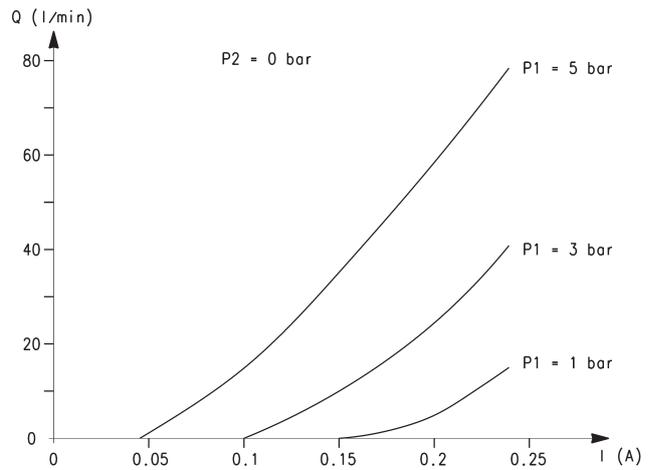
ø	Pin [bar]	Load response time [ms]			Exhaust response time [ms]		
		0% - 10%	0% - 90%	10% - 90%	100% - 90%	100% - 10%	90% - 10%
1 mm	8	12	42	30	9	33	24
1.5 mm	5	12	39	27	9	33	24
2 mm	3	11	39	28	9	33	26

FLOW DIAGRAMS



Nominal diameter 1mm

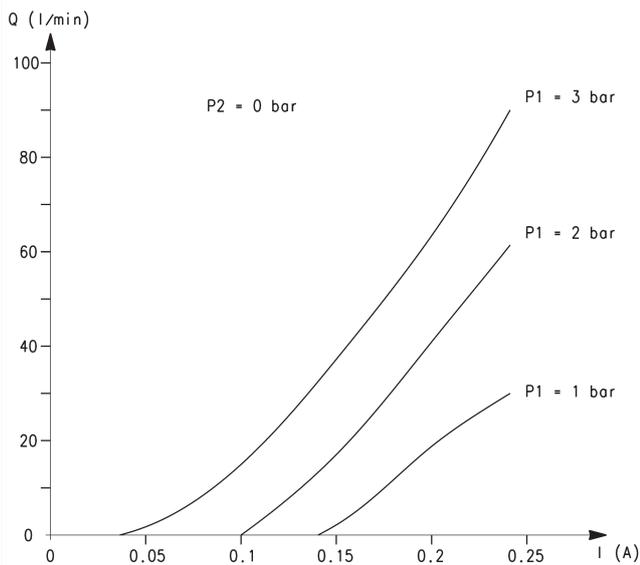
Q = flow (l/min)
 I = current (A)
 P1 = pressure in load (bar)
 P2 = 0 [free flow pressure] (bar)



Nominal diameter 1.5mm

Q = flow (l/min)
 I = current (A)
 P1 = pressure in load (bar)
 P2 = 0 [free flow pressure] (bar)

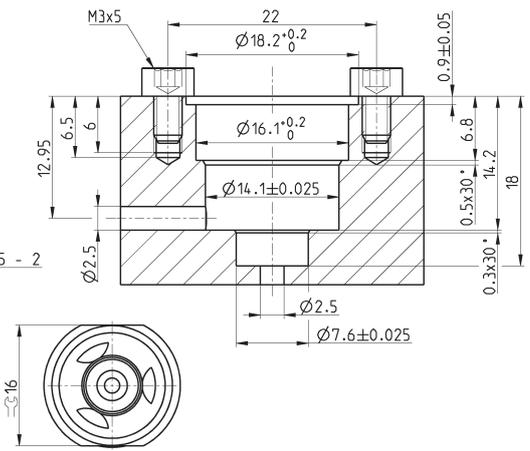
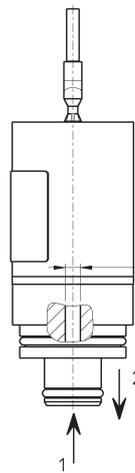
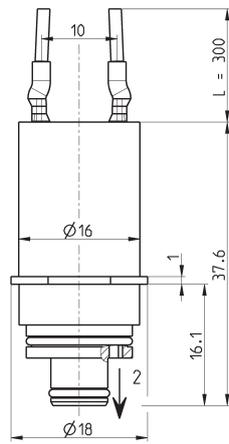
FLOW DIAGRAMS



Nominal diameter 2mm

Q = flow (l/min)
 I = current (A)
 P1 = pressure in load (bar)
 P2 = 0 [free flow pressure] (bar)

Solenoid valves, size 16mm - dimensions



Mod.	Orifices Ø (mm)	Max operating pressure (bar)	Flow at the max pressure (l/min)	Flow at the max pressure Kv (l/min)	Operation voltage (V DC)	Max current (A)
CP-C621-FW2-0P1	1	8	70	0.55	6	0.410
CP-C621-GW2-0P1	1.5	5	80	0.88	6	0.410
CP-C621-NW2-0P1	2	3	90	1.42	6	0.410
CP-C621-FW2-0P3	1	8	70	0.55	24	0.103
CP-C621-GW2-0P3	1.5	5	80	0.88	24	0.103
CP-C621-NW2-0P3	2	3	90	1.42	24	0.103
CP-C621-FW2-0P5	1	8	70	0.55	11	0.238
CP-C621-GW2-0P5	1.5	5	80	0.88	11	0.238
CP-C621-NW2-0P5	2	3	90	1.42	11	0.238