# DIRECT OPERATED FLOW CONTROL VALVE
# PFC-78-*
## 100 l/min - 350 bar

## 1 DESCRIPTION

The PFC-78 is a proportional solenoid operated, two-way, poppet-type, normally closed, piloted, screw-in hydraulic cartridge valve in cavity 3/4"-16 UNF for low leakage blocking and load-holding applications. When de-energized, the valve operates as a check valve and allows flow from 2 to 1, while blocking flow from 1 to 2. When energized, the 1 to 2 flow path is opened: flow is directly proportional to the current applied to the coil.

## 2 ORDERING CODE

| (1) | | (2) | | (3) | | (4) | | (5) |
|---|---|---|---|---|---|---|---|---|
| PFC | - | 78 | - | | - | | - | |

(1) PFC: proportional flow control valve

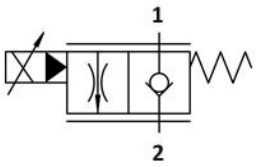
(2) 78: cavity SAE10 (7/8"-14 UNF)

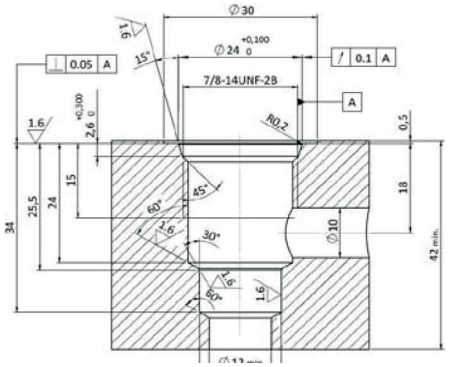
(3) 03: without manual override
05: screw manual override

(4) Electric voltage and solenoid coils (see table 5 ):
0000: no coil
012C coil for V12DC
024C coil for V24DC

(5) Options for coil connection:
No designation: standard connection ISO4400/DIN 43650/A
AMP: AMP Junior
C: flying leads

(6) Design number (progressive) of the valve.



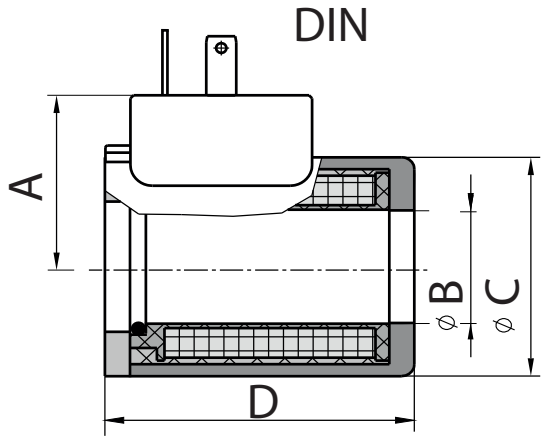

## 3 TECHNICAL DATA

| | |
|---|---|
| Nominal flow 2→1 with △p=35 bar | 70 l/min |
| Maximum rec. flow rate | 100 l/min |
| Maximum nominal pressure | 100 MPa (350 bar) |
| Optimal dither control | 70 Hz |
| Valve Hysteresis | <5 % |
| Protection | IP 67 |
| Duty cycle | 100% |
| Installation and dimension | (see 5 ) |
| Valve Body | Steel |
| Mass | 0,3 kg |
| Note: pressure in T line influences valve performances | |

Electric characters:

Valve type PFC-78-* are operated by solenoid that are energized from a D.C.
voltage supply:
V 12 DC = 012C
V 24 DC = 024C
With an appropriate electrical driver in order to control the input current at the valve

## 4 COILS DIMENSIONS




| | DIN | FL | AMP |
|---|---|---|---|
| ØA | 16,1 | 16,1 | 16,1 |
| ØB | 16,1 | 16,1 | 16,1 |
| ØC | 20 | 20 | 20 |
| ØD | 20 | 20 | 20 |

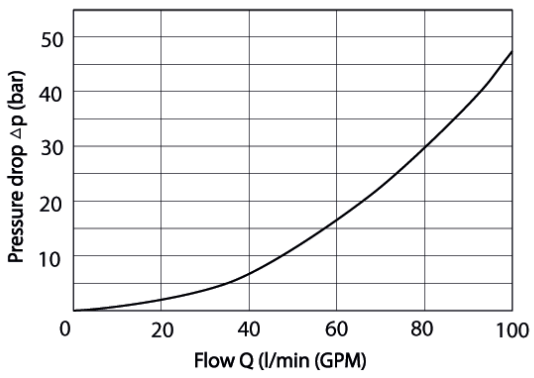
## 5 COILS TYPE BO2 ( Ø 19 mm)

| Coils ISO/DIN | voltage DC/RAC | nominal current (A) | resistance 20 C ( ) | nominal power (W) | insulation class |
|---|---|---|---|---|---|
| BO2-12R2 | 12 | 1,7 | 4,68 | 20 | F |
| BO2-24R4 | 24 | 0,8 | 20,6 | 19 | |

## 6 TYPICAL DIAGRAMS

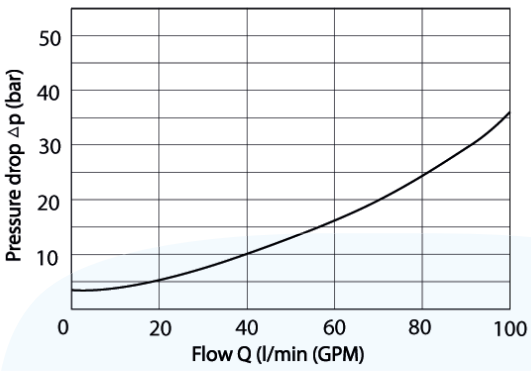
**Pressure drop related to flow rate**

Flow direction 2 -> 1, Control current $I_c$ =1,25 $I_{max}$




**Pressure drop related to flow rate**

Flow direction 2 -> 1, Control current $I_c$ = 0 mA




## 7 HYDRAULIC FLUIDS

Seals and materials used on standard valves PFC-78-* are fully compatible with hydraulics fluids of mineral base, upgraded with antifoaming and anti oxidizing agents. The hydraulic fluid must be kept clean and filtered to ISO 4406 class 19/17/14, or better, and used in a recommended viscosity range from 10 cSt to 60 cSt.