Part number:

HYDROMA
HYDRAULICKÉ SYSTÉMY

HIDROMA SISTEMS
UKŁADY HYDRAULICZNE

HYDROMA
ГИДРАВЛИЧЕСКИЕ СИСТЕМЫ
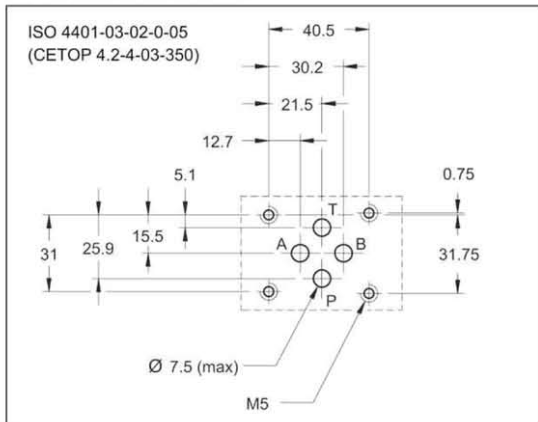
PCM3

TWO AND THREE-WAY PRESSURE COMPENSATOR WITH FIXED OR VARIABLE ADJUSTMENT
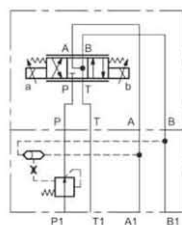### SERIES 10

MODULAR VERSION
ISO 4401-03 (CETOP 03)

p max **350** bar
Q max **40** l/min

MOUNTING INTERFACE

ISO 4401-03-02-0-05
(CETOP 4.2-4-03-350)

40.5
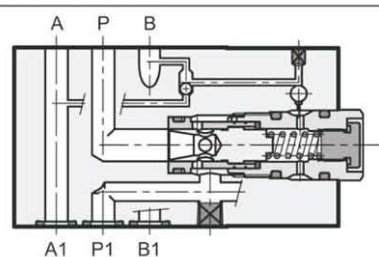30.2
21.5
12.7
5.1
0.75

31   25.9   15.5   31.75

T
A   B
P

Ø 7.5 (max)
M5

APPLICATION EXAMPLES

Two-way compensator with fixed adjustment, combined with a proportional valve type DSE3-A*

P   T   A   B

P1   T1   A1   B1
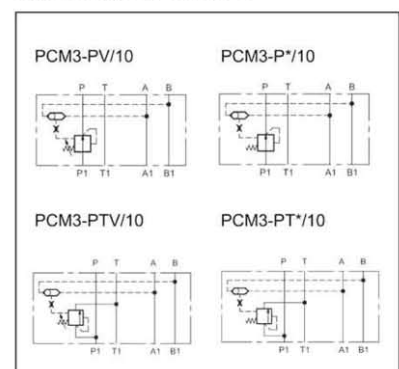
OPERATING PRINCIPLE

A   P   B

A1   P1   B1

— The PCM3 valve is a two or three-way pressure compensator, developed as a modular version with mounting surface according to the ISO 4401 (CETOP RP121H).

— Its aim is to keep the pressure drop setting (characteristic Δp) between the line P and alternatively the lines A and B, at a constant level.

— It is normally used together with proportional directional valves, in order to control the flow rate independently of the pressure variations.

— The selection of the piloting pressure on the lines A and B is carried out automatically via a shuttle check valve built into the compensator.

— The setting of the variable adjustment compensator (characteristic Δp) can be varied from 7 to 33 bar, via a countersunk hex adjustment screw or via an adjustment knob.

— The fixed adjustment compensator is available with setting (characteristic Δp) of 4 and 8 bar.

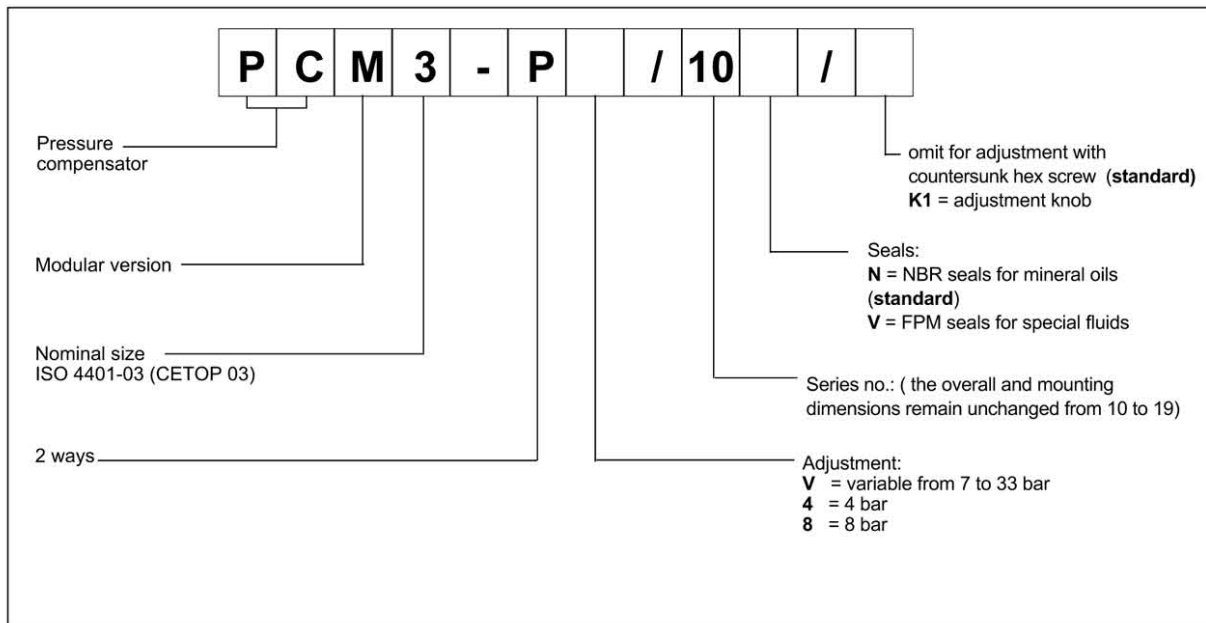## PERFORMANCES (working with mineral oil of viscosity of 36 cSt at 50°C)

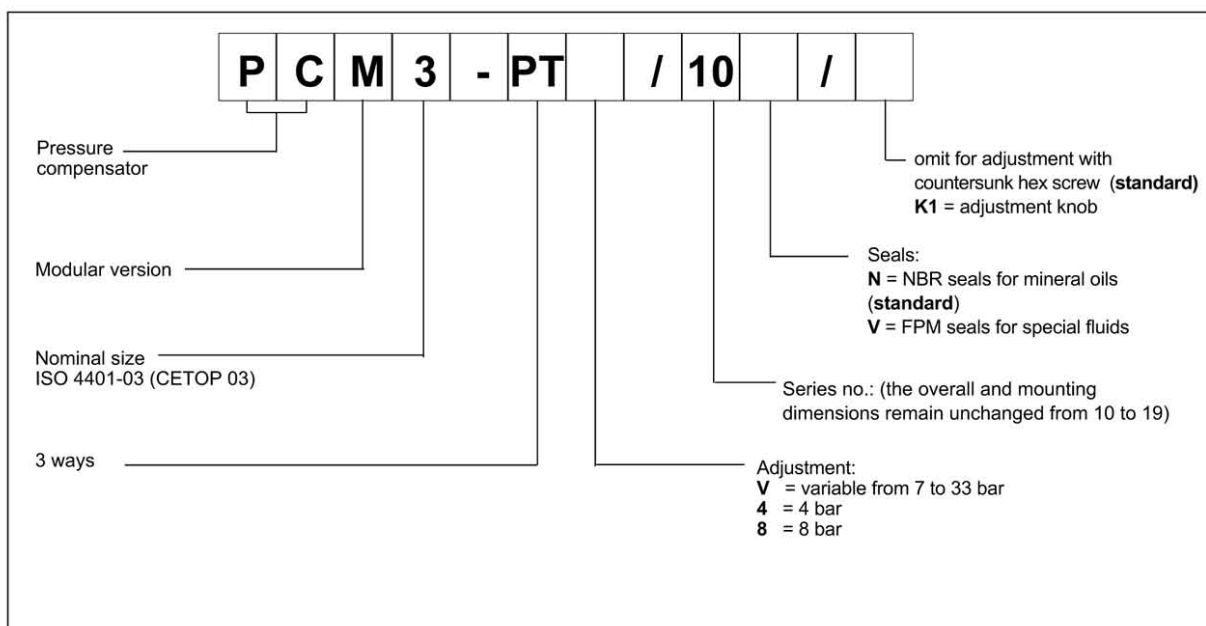|		
Max operating pressure	bar	350
Characteristic Δp: fixed adjustment variable adjustment	bar	4 - 8 7 ÷ 33
Max flow rate	l/min	40
Ambient temperature range	°C	-20 / +50
Fluid temperature range	°C	-20 / +80
Fluid viscosity range	cSt	10 ÷ 400
Fluid contamination degree	According to ISO 4406:1999 class 20/18/15	
Recommended viscosity	cSt	25
Mass	kg	1,5

HYDRAULIC SYMBOLS

PCM3-PV/10

P   T   A   B
P1   T1   A1   B1

PCM3-P*/10

P   T   A   B
P1   T1   A1   B1

PCM3-PTV/10

P   T   A   B
P1   T1   A1   B1

PCM3-PT*/10

P   T   A   B
P1   T1   A1   B1

1 - IDENTIFICATION CODE

1.1 - Two-way compensator identification code

| P | C | M | 3 | - | P | | / | 10 | | / | |

Pressure compensator

Modular version

Nominal size ISO 4401-03 (CETOP 03)

2 ways

Adjustment:
V = variable from 7 to 33 bar
4 = 4 bar
8 = 8 bar

Series no.: (the overall and mounting dimensions remain unchanged from 10 to 19)

Seals:
N = NBR seals for mineral oils (**standard**)
V = FPM seals for special fluids

omit for adjustment with countersunk hex screw (**standard**)
K1 = adjustment knob

1.2 - Three-way compensator identification code

| P | C | M | 3 | - | PT | | / | 10 | | / | |

Pressure compensator

Modular version

Nominal size ISO 4401-03 (CETOP 03)

3 ways

Adjustment:
V = variable from 7 to 33 bar
4 = 4 bar
8 = 8 bar

Series no.: (the overall and mounting dimensions remain unchanged from 10 to 19)

Seals:
N = NBR seals for mineral oils (**standard**)
V = FPM seals for special fluids

omit for adjustment with countersunk hex screw (**standard**)
K1 = adjustment knob
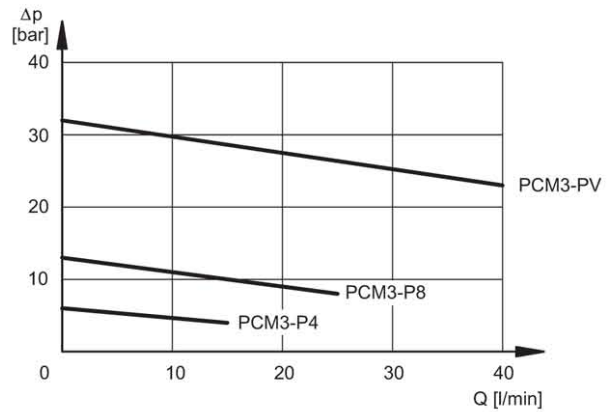
2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)

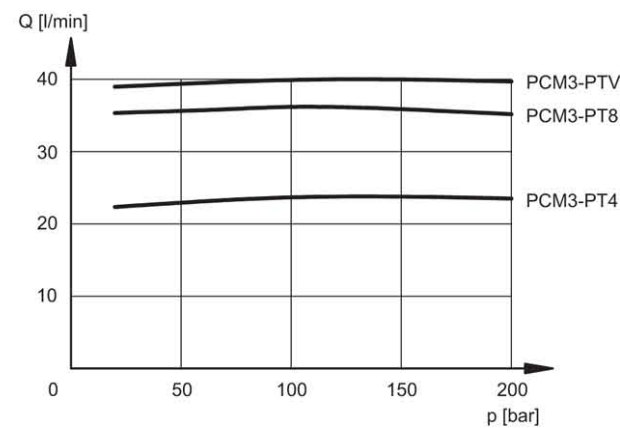### 2.1 - Two-way compensator characteristic curves
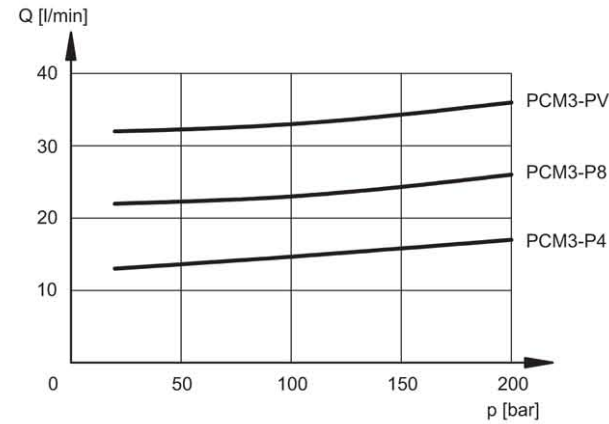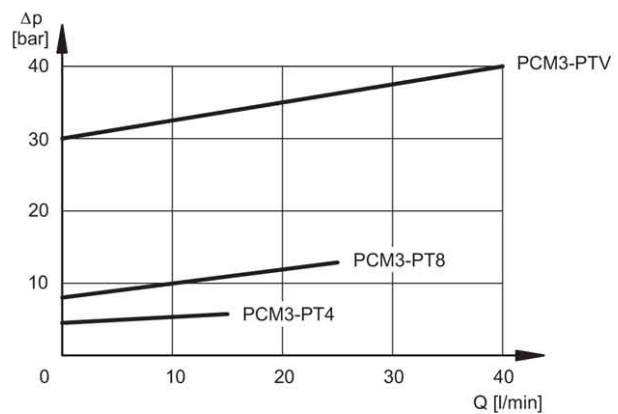
FLOW RATE - PRESSURE Q = f (p)

PRESSURE DROPS Δp = f (Q)

Q [l/min]

40 — PCM3-PV

30 — PCM3-P8

20 — PCM3-P4

10

0   50   100   150   200
p [bar]

Δp [bar]

40

30 — PCM3-PV

20

10 — PCM3-P8 — PCM3-P4

0   10   20   30   40
Q [l/min]

2.2 - Three-way compensator characteristic curves

FLOW RATE - PRESSURE Q = f (p)

PRESSURE DROPS Δp = f (Q)

Q [l/min]

40 — PCM3-PTV — PCM3-PT8

30

20 — PCM3-PT4

10

0   50   100   150   200
p [bar]

Δp [bar]

40 — PCM3-PTV

30

20

10 — PCM3-PT8 — PCM3-PT4

0   10   20   30   40
Q [l/min]

3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. With this kind of fluids, use NBR seals type. With fluids HFDR type (phosphate esters) use FPM seals (code V).
Using other fluid types such as HFA, HFB, HFC, please consult our technical department.
Using fluids at temperatures higher than 80 °C causes a faster degradation of the fluid itself and of the seals characteristics.
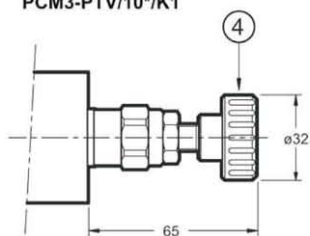The fluid must be preserved in its physical and chemical characteristics.
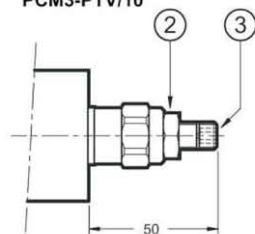
4 - OVERALL AND MOUNTING DIMENSIONS

PCM3-P*/10
PCM3-PT*/10

50
25

24.5 on PCM3/P*
23 on PCM3/PT*

DUPLOMATIC

①

65.5
100
8

11.5
7.5
49
46

T
A   B
P
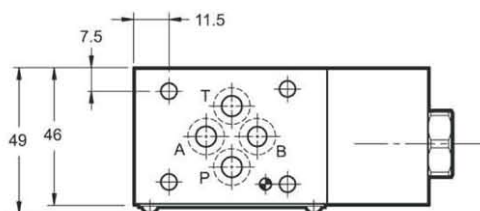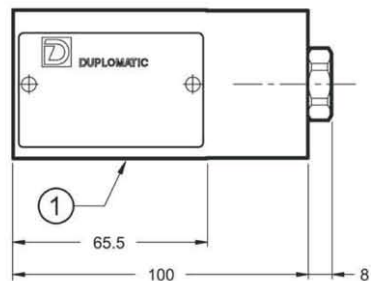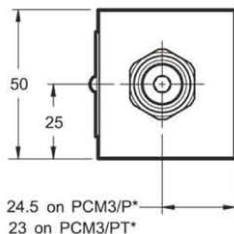
PCM3-PV/10*/K1
PCM3-PTV/10*/K1

④

ø32
65

dimensions in mm

PCM3-PV/10
PCM3-PTV/10

②   ③

50

1	Mounting surface with sealing rings: 4 OR type 2037 - (9.25x1.78) 90 shore
2	Locking nut: spanner 17
3	Countersunk hex adjustment screw: spanner 5 Clockwise rotation to increase pressure
4	Adjustment knob: **K1**