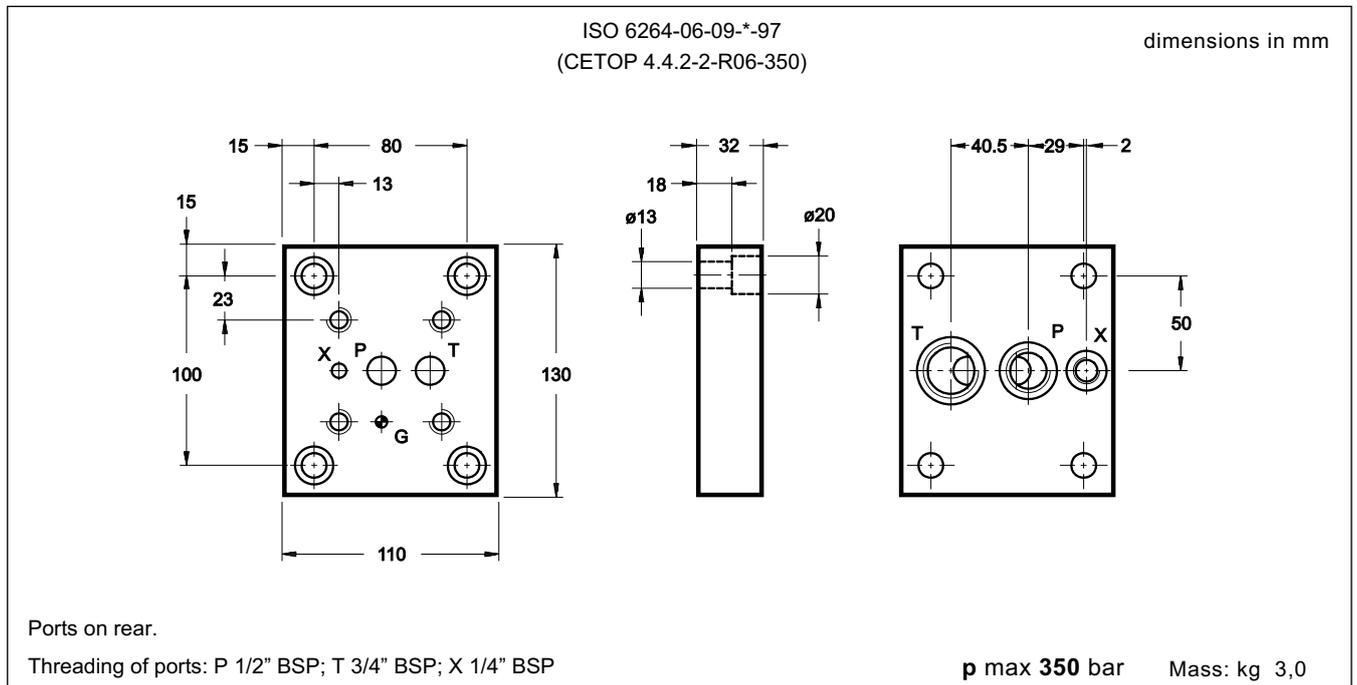


# SUBPLATES

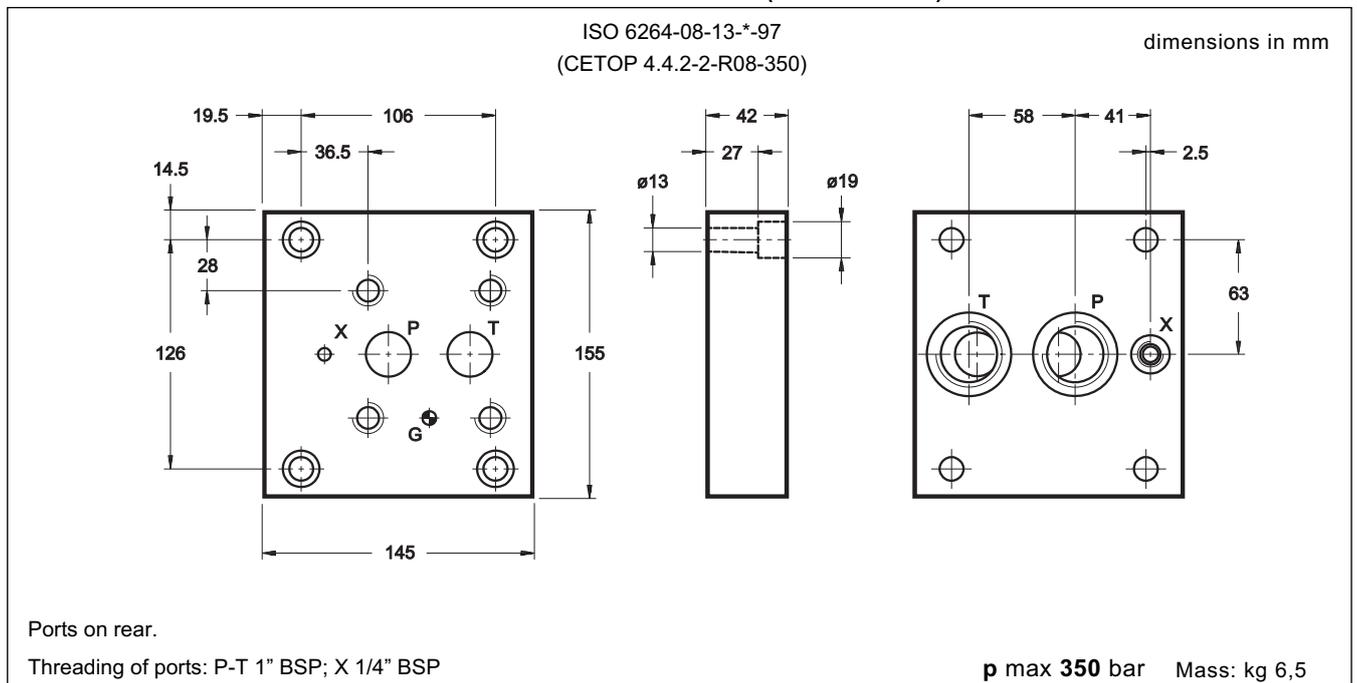
## PMRQ\*

### SUBPLATES FOR PRESSURE CONTROL VALVES

#### 1 - OVERALL AND MOUNTING DIMENSIONS PMRQ3-AI4G/20 (cod. 1961211)



#### 2 - OVERALL AND MOUNTING DIMENSIONS PMRQ5-AI5G/20 (cod. 1961221)

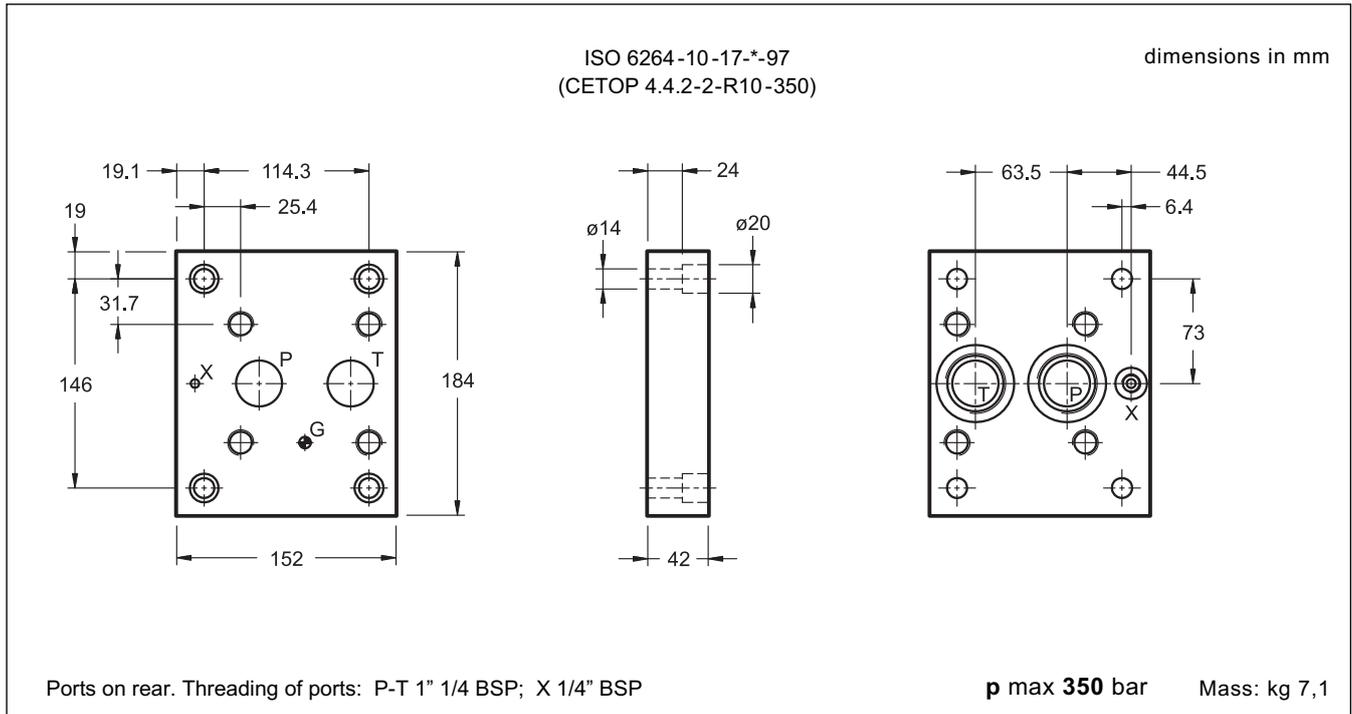




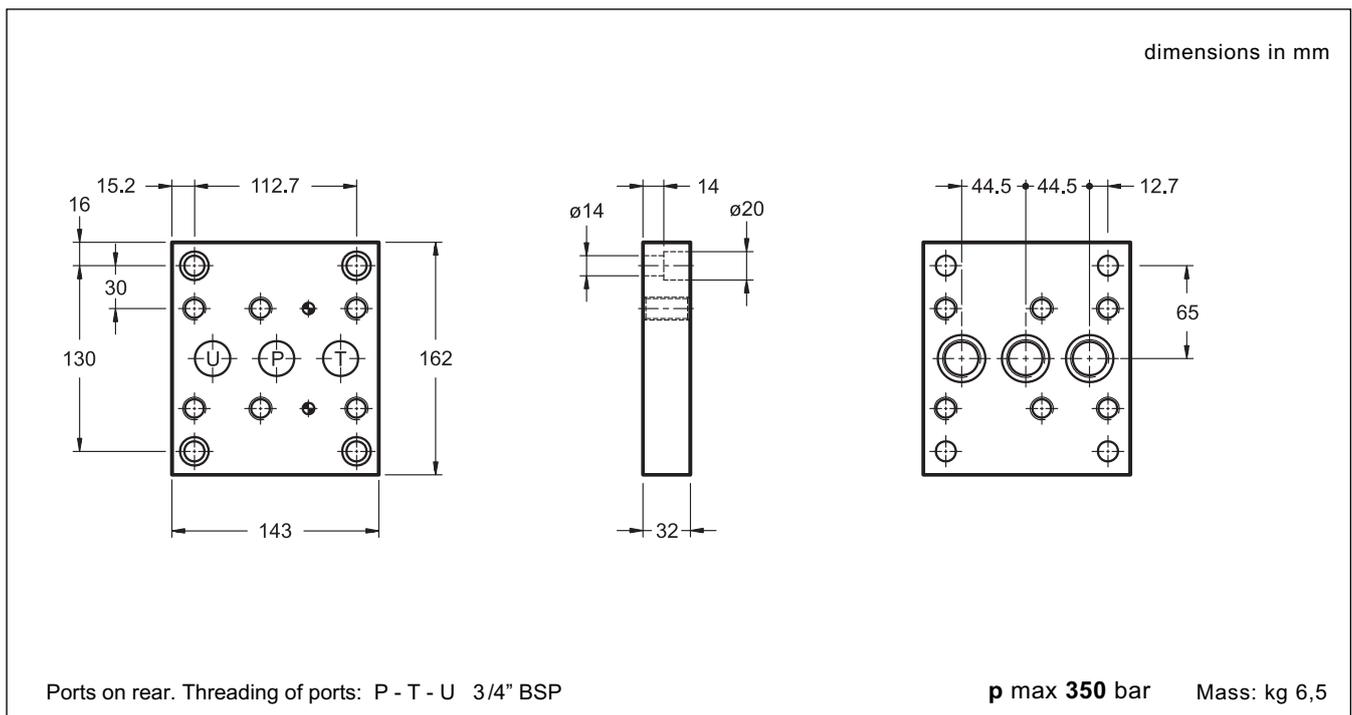
# PMRQ\*

## SUBPLATES FOR PRESSURE CONTROL VALVES

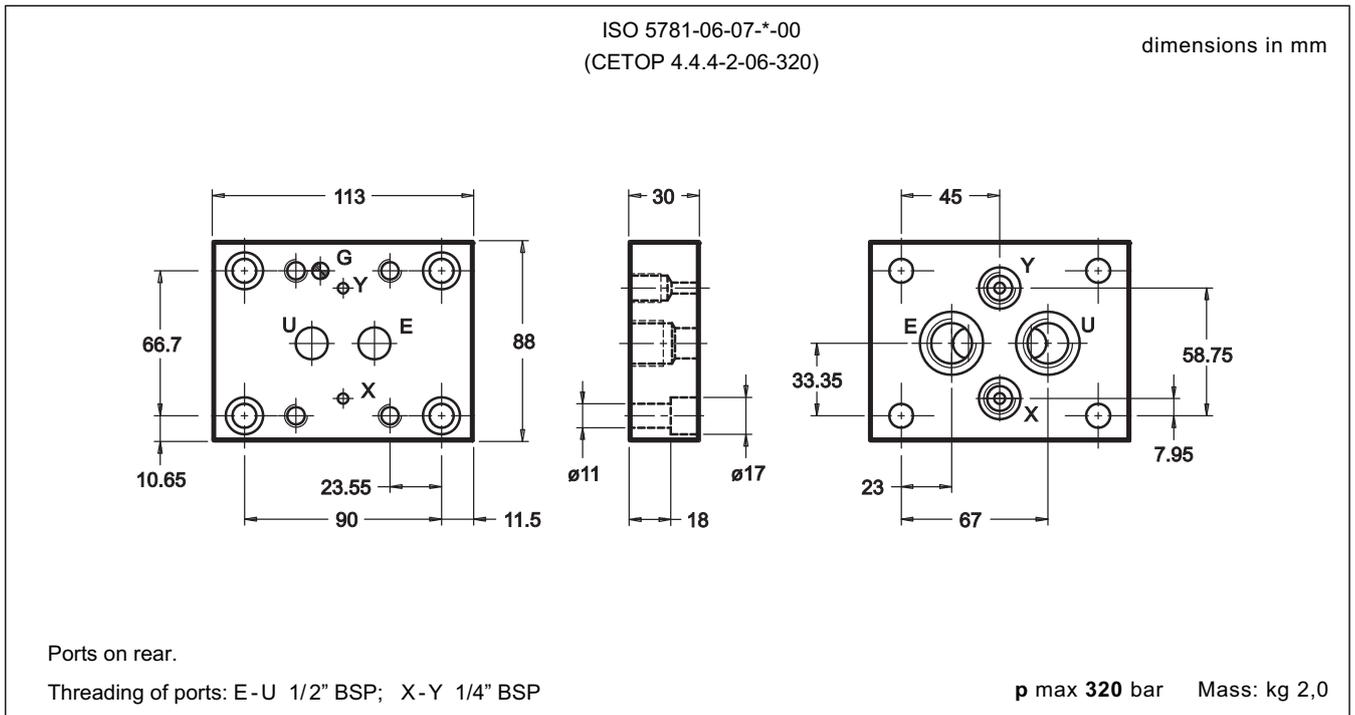
### 3 - OVERALL AND MOUNTING DIMENSIONS PMRQ7-AI7G/10 (cod. 1960051)



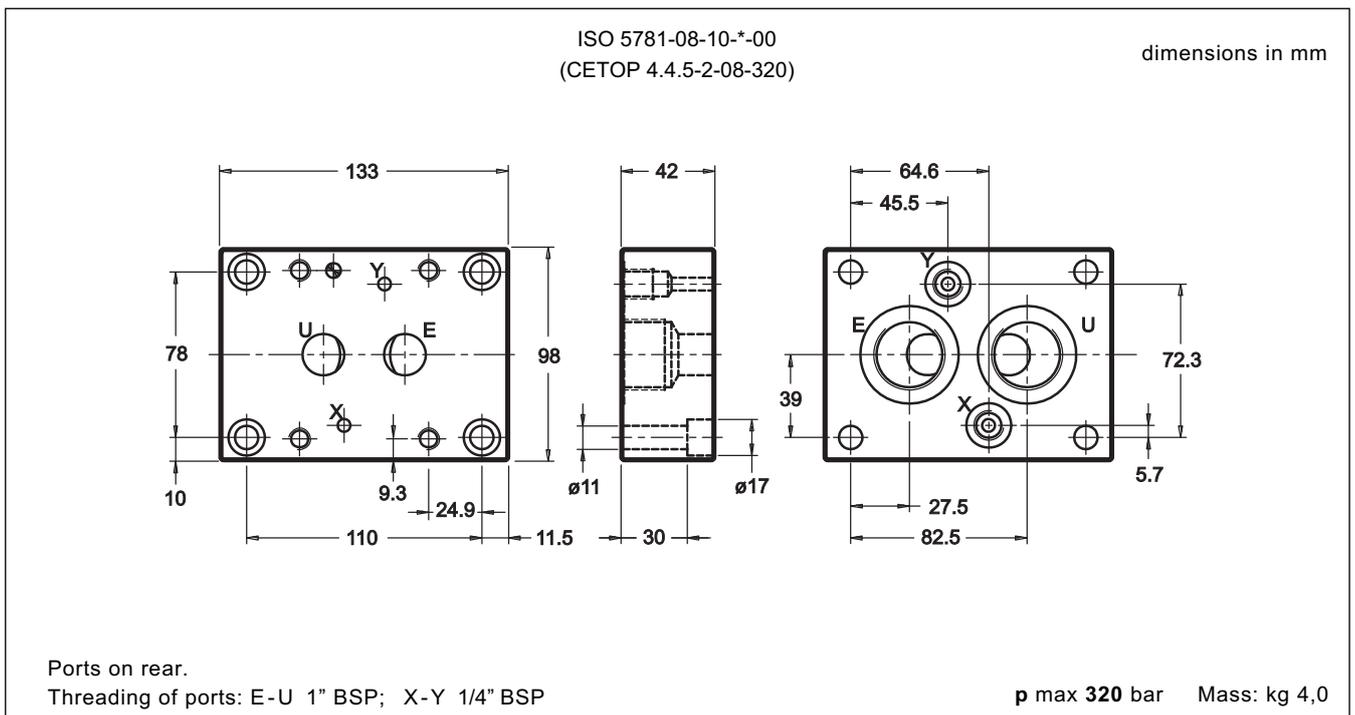
### 4 - OVERALL AND MOUNTING DIMENSIONS PMRQA5-AI5G/10 (cod. 1960070)



### 5 - OVERALL AND MOUNTING DIMENSIONS PMSZ3-AI4G/20 (cod. 1961231)



### 6 - OVERALL AND MOUNTING DIMENSIONS PMSZ5-AI6G/20 (cod. 1961241)



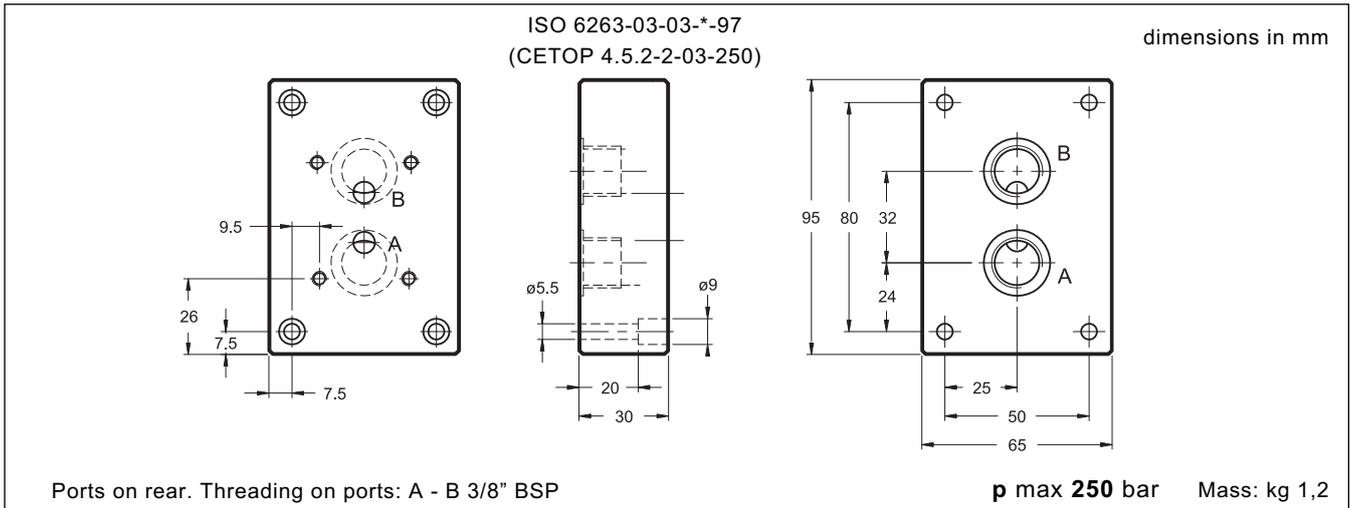


# PMRPC\*

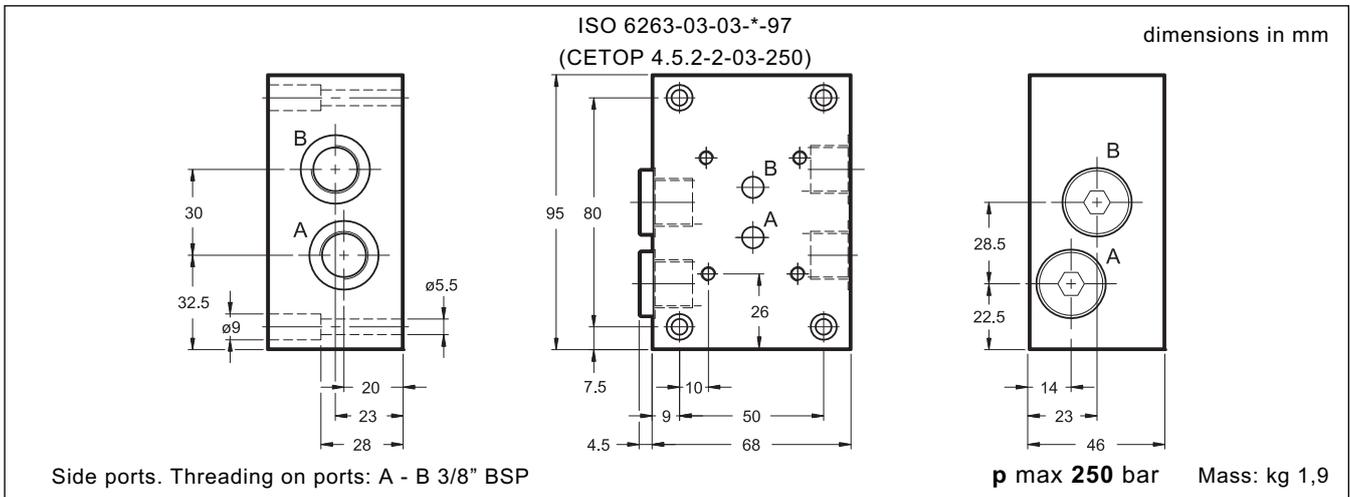
## SUBPLATES

### FOR FLOW CONTROL VALVES

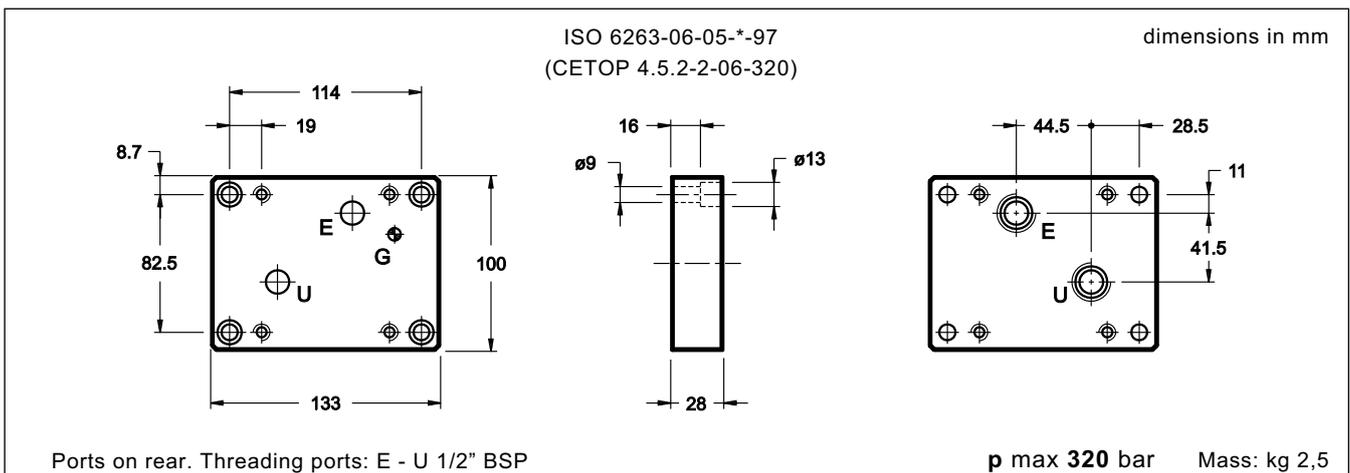
#### 7 - OVERALL AND MOUNTING DIMENSIONS PMRPC1-AI3G/10 (cod. 1961045)



#### 8 - OVERALL AND MOUNTING DIMENSIONS PMRPC1-AL3G/10 (cod. 1961051)



#### 9 - OVERALL AND MOUNTING DIMENSIONS PMRPC2-AI4G/10 (cod. 1960330)

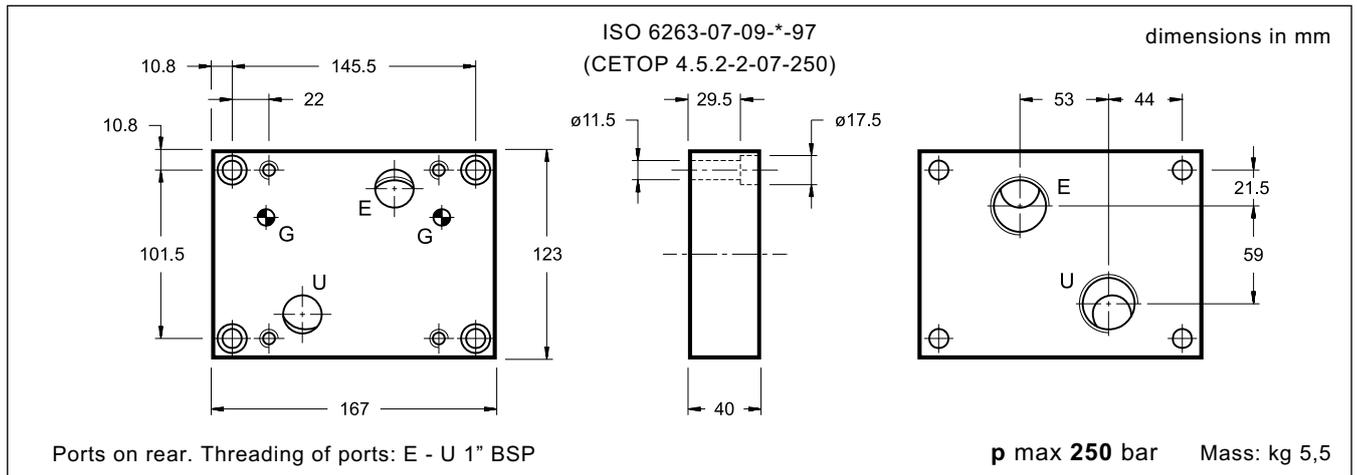




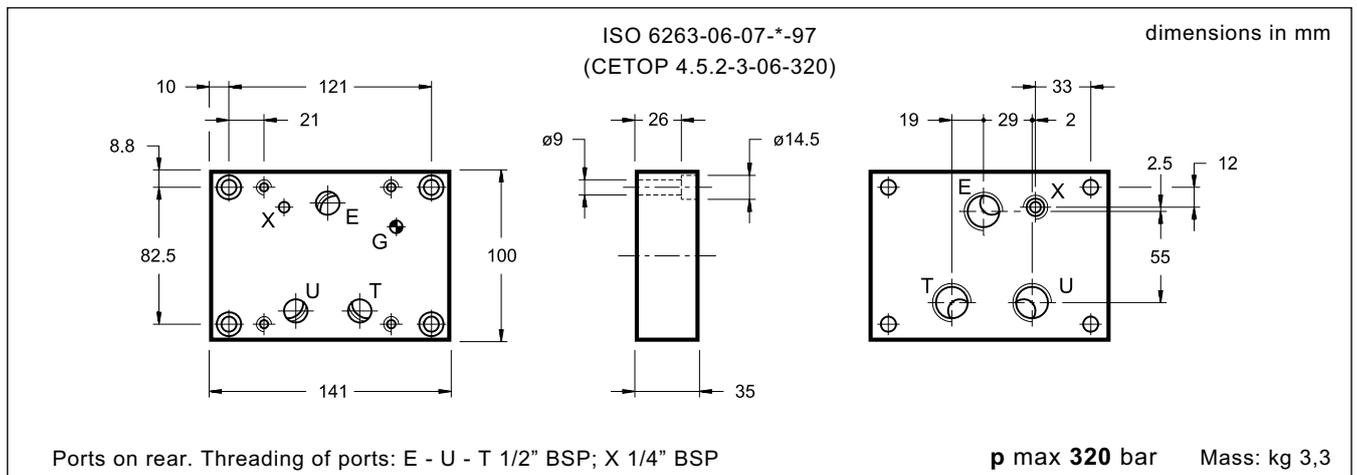
# PMRPC\*

## SUBPLATES FOR FLOW CONTROL VALVES

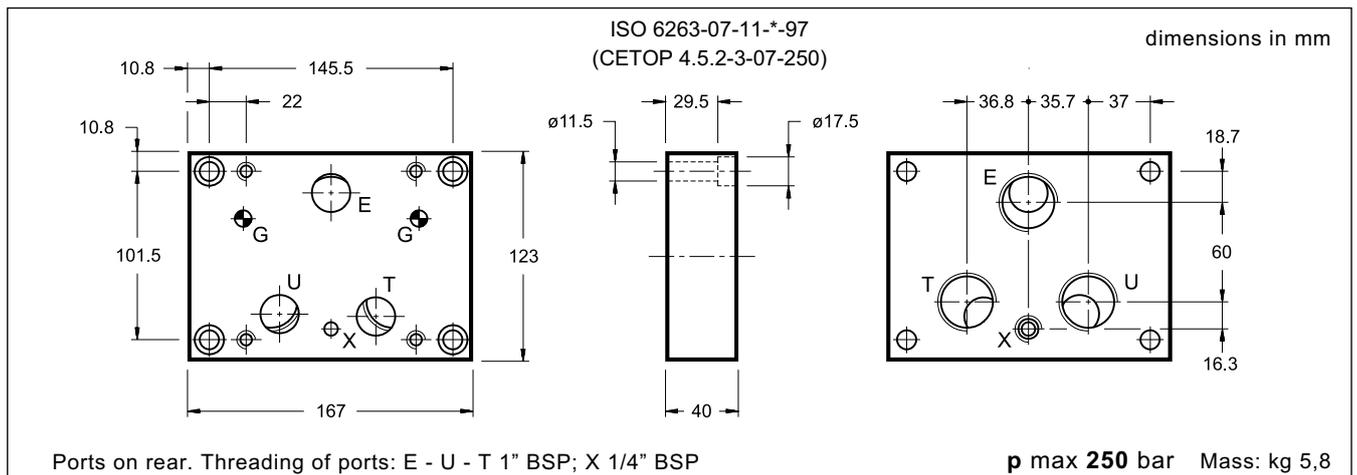
### 10 - OVERALL AND MOUNTING DIMENSIONS PMRPC3-AI6G/10 (cod. 1960511)



### 11 - OVERALL AND MOUNTING DIMENSIONS PMRPC2-AI4G/10 (cod. 1960526)



### 12 - OVERALL AND MOUNTING DIMENSIONS PMRPCQ3-AI6G/10 (cod. 1960423)

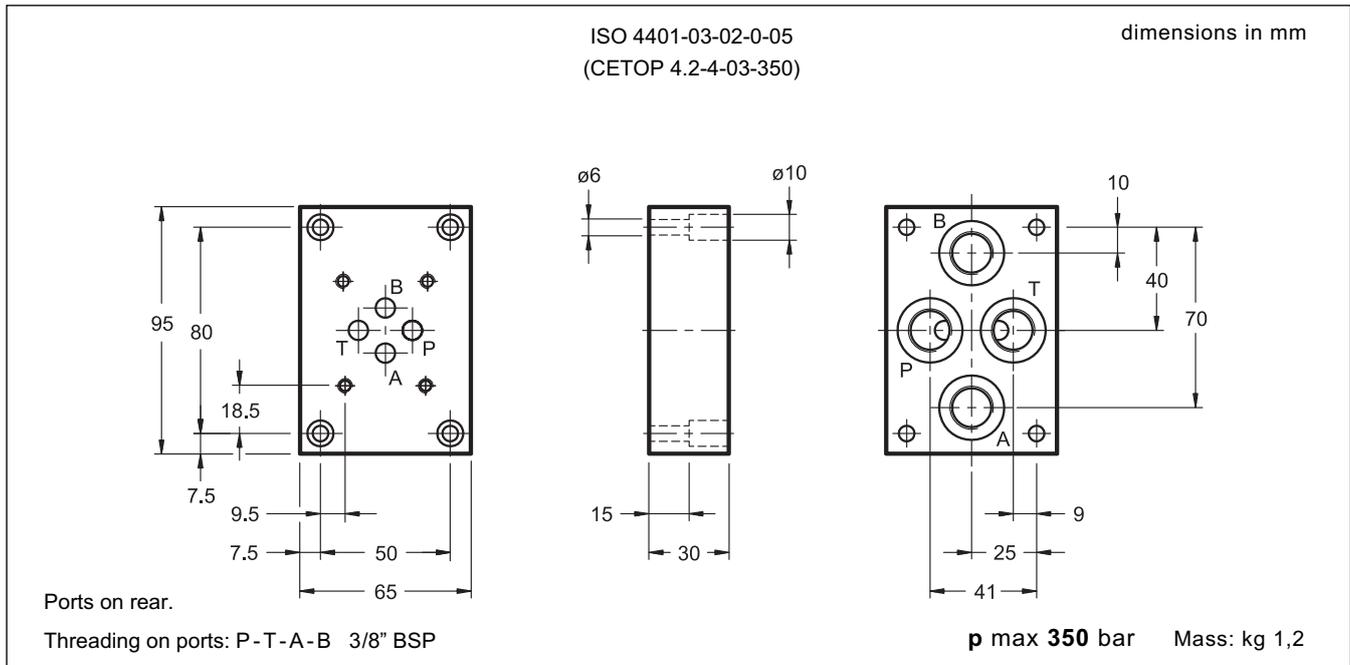




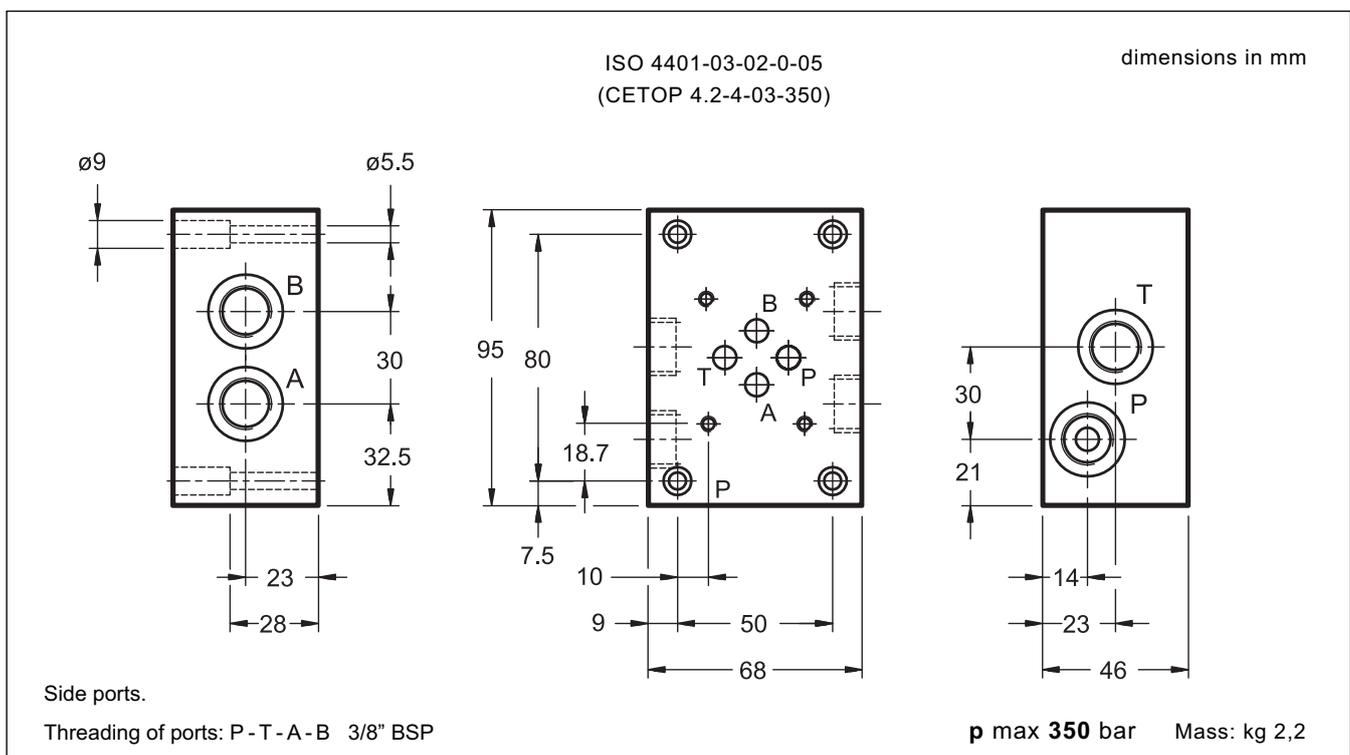
# PMMD

## SUBPLATES FOR ISO 4401-03 (CETOP 03) VALVES

### 13 - OVERALL AND MOUNTING DIMENSIONS PMMD-AI3G/20 (cod. 1961261)



### 14 - OVERALL AND MOUNTING DIMENSIONS PMMD-AL3G/11 (cod. 1961251)

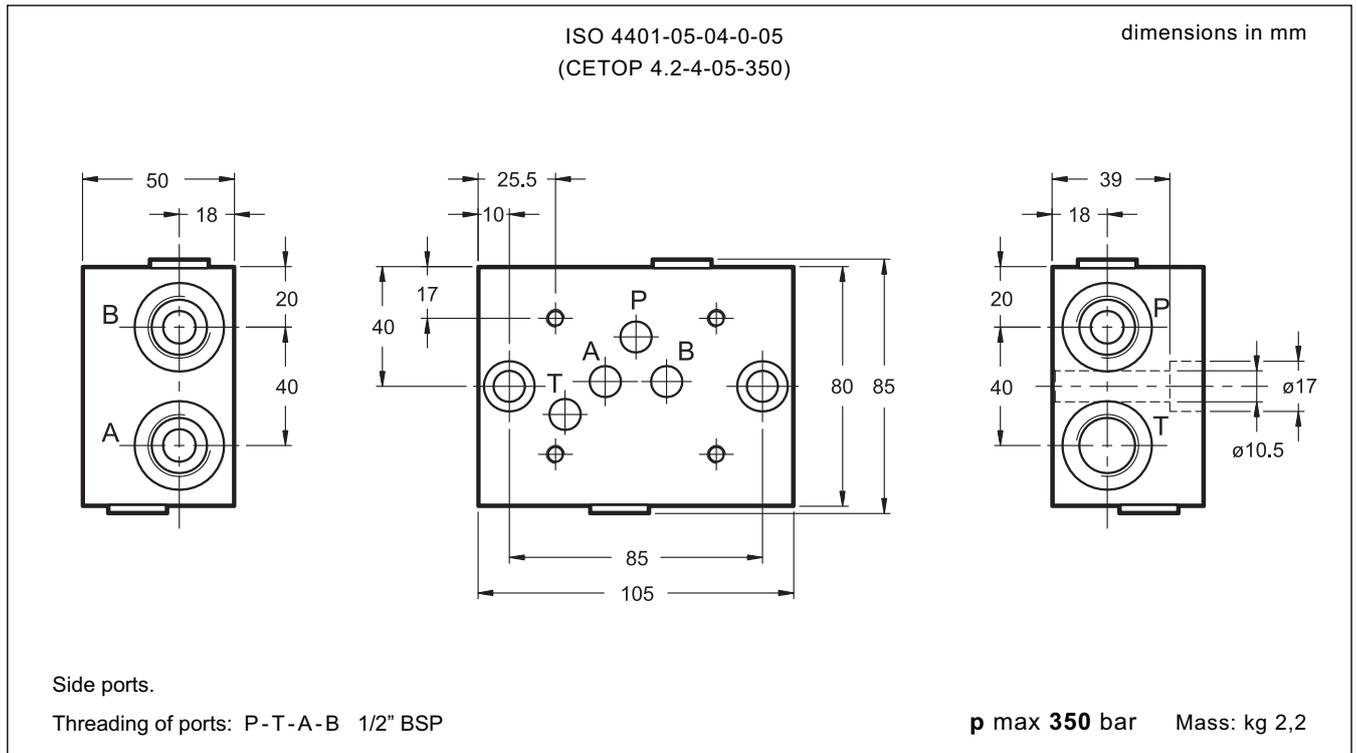




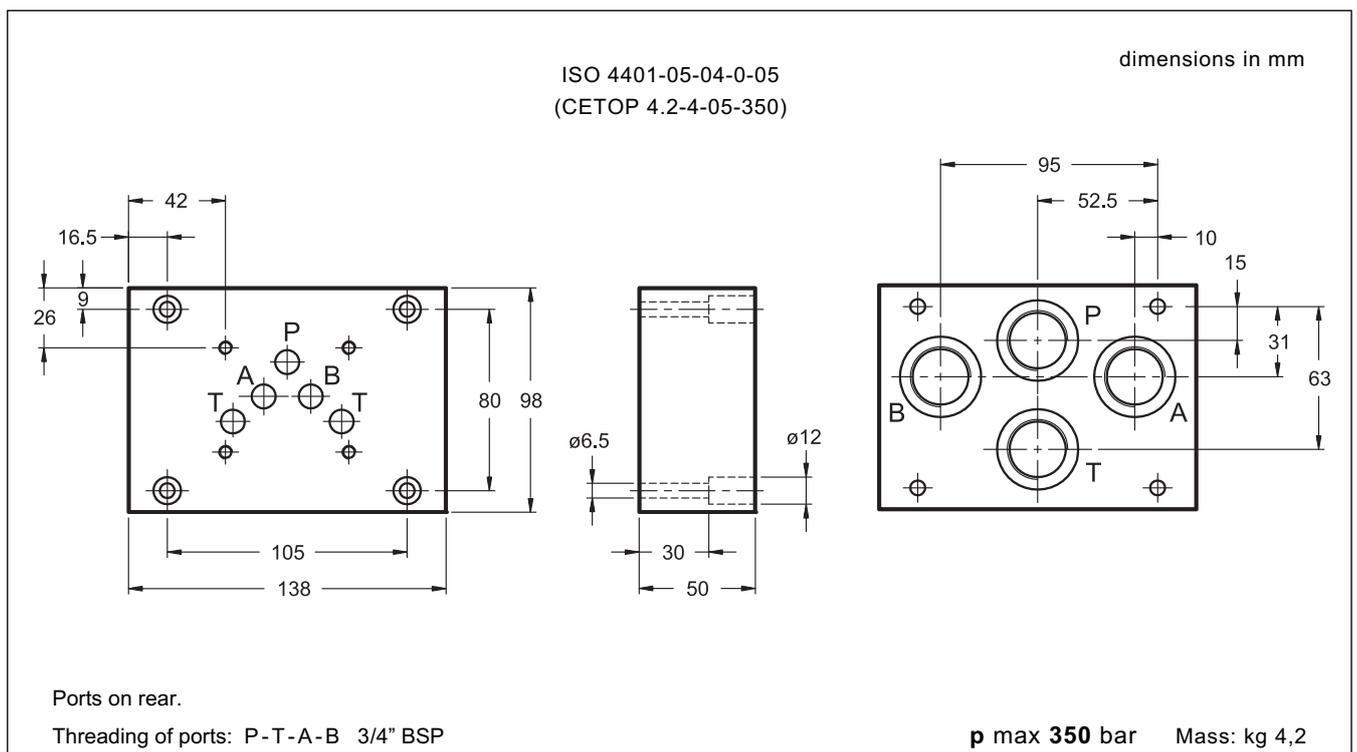
# PMD4

## SUBPLATES FOR ISO 4401-05 (CETOP 05) VALVES

### 15 - OVERALL AND MOUNTING DIMENSIONS PMD4-AL4G/10 (cod. 1960981)



### 16 - OVERALL AND MOUNTING DIMENSIONS PMD4-AI4G/20 (cod. 1961271)

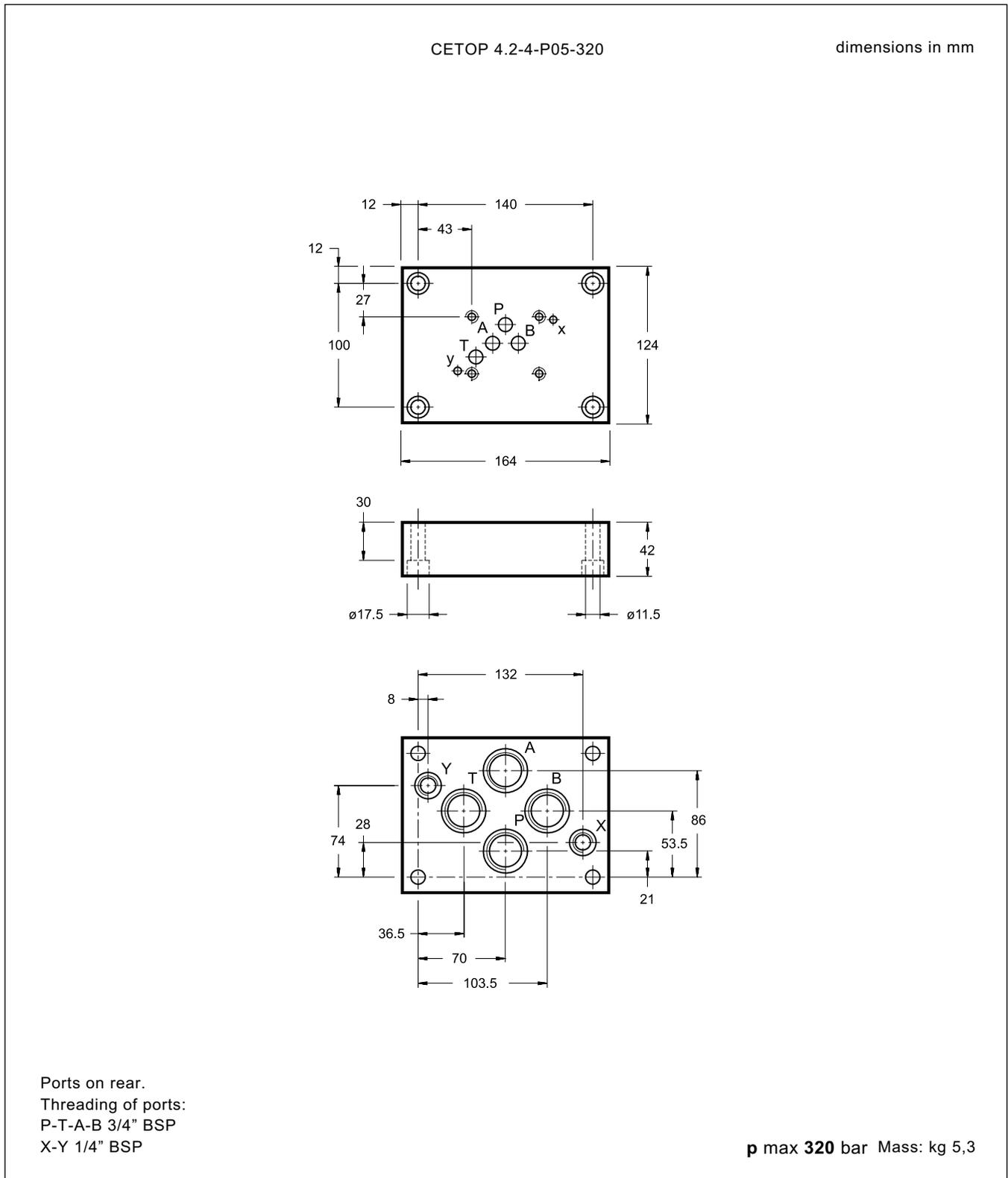




# PME4

## SUBPLATES FOR CETOP P05 VALVES

### 17 - OVERALL AND MOUNTING DIMENSIONS PME4-AI5G/10 (cod. 1961181)



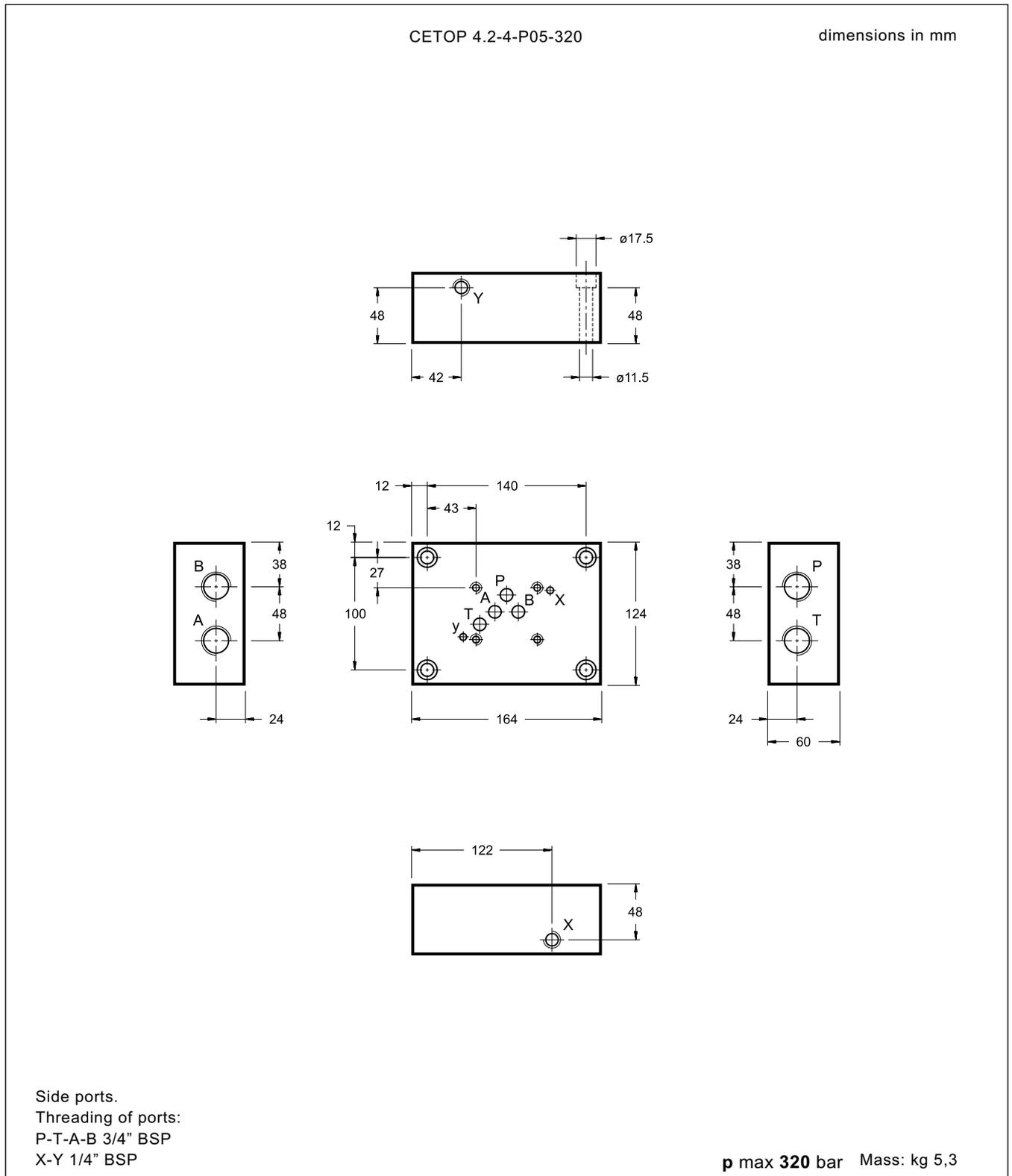


# PME4

## SUBPLATES

### FOR CETOP P05 VALVES

#### 18 - OVERALL AND MOUNTING DIMENSIONS PME4-AL5G/10 (cod. 1961201)





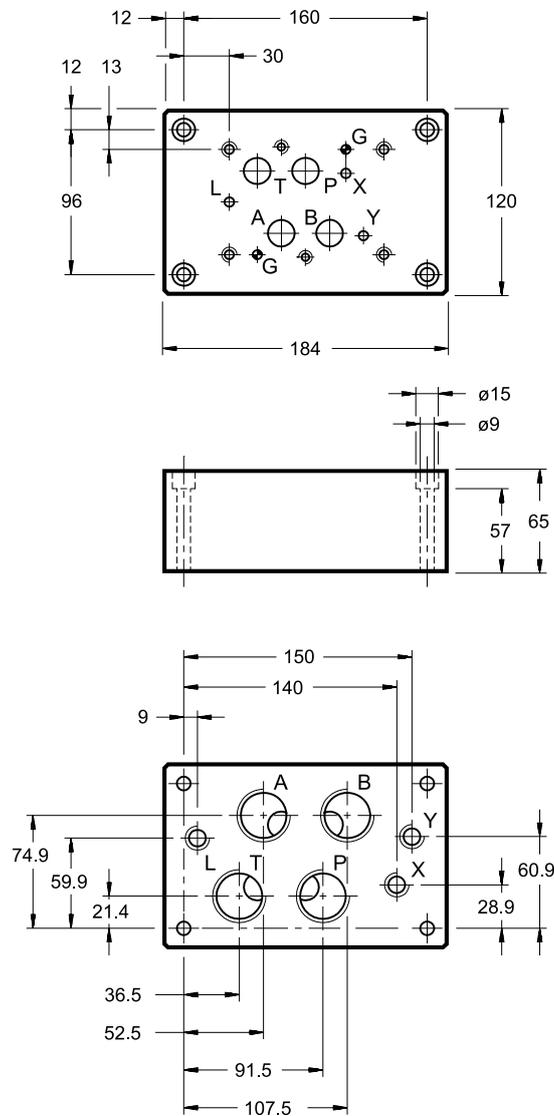
# PME07

## SUBPLATES FOR ISO 4401-07 (CETOP 07) VALVES

### 19 - OVERALL AND MOUNTING DIMENSIONS PME07-AI6G/10 (cod. 1961071)

dimensions in mm

ISO 4401-07-07-0-05  
(CETOP 4.2-4-07-350)



Ports on rear.  
Threading of ports:  
P-T-A-B 1" BSP  
X-Y-L 1/4" BSP

p max 350 bar

Mass: kg 9

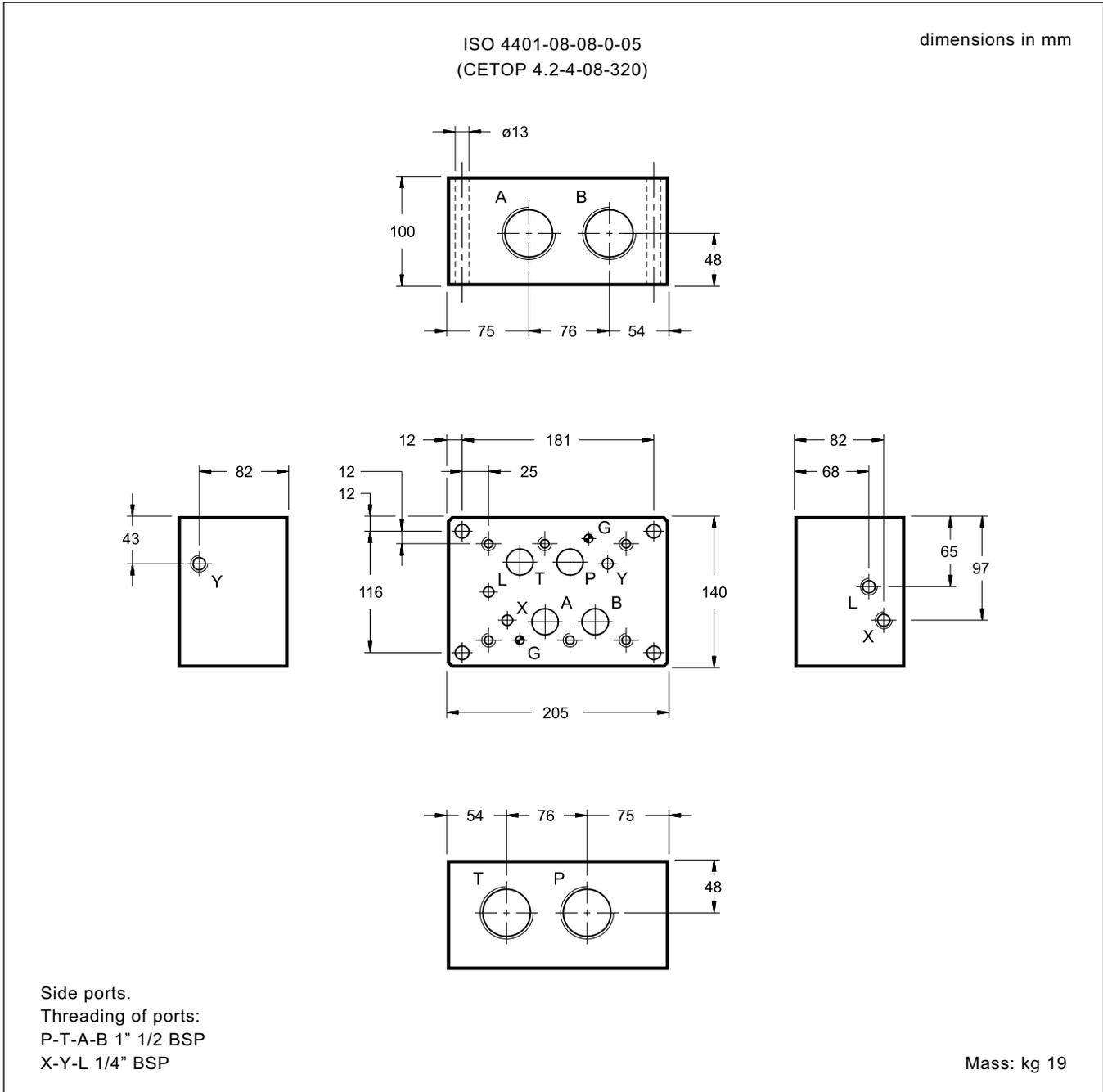




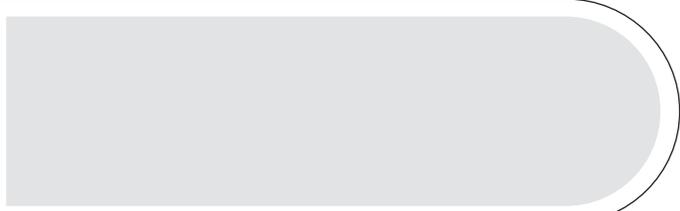
# PME5

## SUBPLATES FOR ISO 4401-08 (CETOP 08) VALVES

### 21 - OVERALL AND MOUNTING DIMENSIONS PME5-AL8G/10 (cod. 1961141)



**DIPLOMATIC OLEODINAMICA S.p.A.**  
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Tel. +39 0331.895.111  
Fax +39 0331.895.339  
www.diplomatic.com • e-mail: sales.exp@diplomatic.com



This series of modular subplates has been designed to make hydraulic circuits and can be used directly on power packs or on any other section of the machine.

The subplates are assembled by means of 4 tie-rods with seal seats incorporated in the subplate.

The above assembly achieves compact units (including pressure and discharge manifolds): one face per subplate is used for connection to services and the other to mount ISO 4401-03 (CETOP 03) valves.

Complex circuits can also be set up using modular valves.

The recommended mounting configuration for **P2\*** subplates on hydraulic power packs is with the main axis positioned vertically to obtain the bundle of pipes to utilities in two vertical rows; however assembly is not restricted to this configuration.

# P2\*

## MODULAR SUBPLATES FOR ISO 4401-03 (CETOP 03) VALVES

**p max 350 bar**

**Q max 50 l/min**

### TECHNICAL SPECIFICATIONS

Maximum operating pressure - ports P - A - B - port T	bar	see paragraph 11 140
Maximum flow	l/min	50
Port dimensions: P - pressure T - lower drainage T - upper drainage A/B - users	BSP	3/8" 1/2" 3/8" 3/8"
Ambient temperature range	°C	-20 / +50
Fluid temperature range	°C	-20 / +80
Fluid viscosity range	cSt	10 ÷ 400
Fluid contamination degree	cSt	25
Recommended viscosity	According to ISO 4406:1999 class 20/18/15	

### 1 - IDENTIFICATION CODE

<b>P</b>	<b>2</b>	<b>D</b>	<b>-</b>		<b>/</b>	<b>21</b>
----------	----------	----------	----------	--	----------	-----------

Subplate \_\_\_\_\_

Dimension for \_\_\_\_\_  
ISO 4401-03 (CETOP 03) valves

Single mounting facility \_\_\_\_\_

Serial No :  
(from 20 to 29 and from 30 to 39 overall and mounting dimensions remain unchanged)

Versions: (omit for standard subplate P2D/21)

**F** = with P - T threaded ports and additional pressure port.

**I** = intermediate with threaded fastening holes to reduce rods length and additional pressure port.

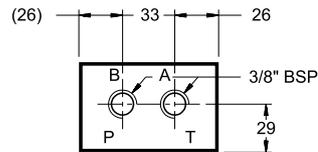
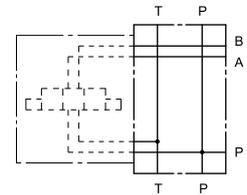
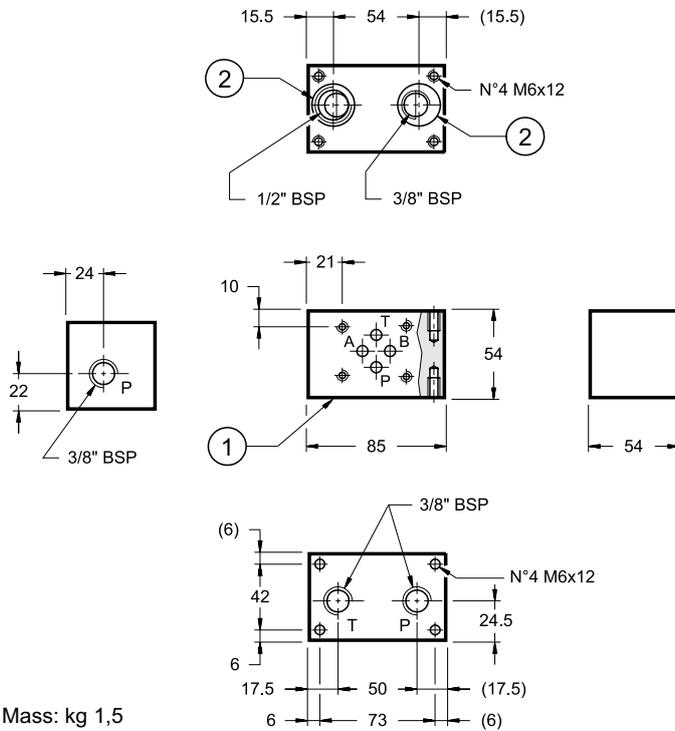
**Z** = arranged for the installation of an MZD pressure reducing valve

**NOTE: identification code of subplates P2\*-M\*/33 see paragraph 6**



4 - OVERALL AND MOUNTING DIMENSIONS P2D-I/21 (cod. 1560123)

INTERMEDIATE SUBPLATE WITH THREADED FASTENING HOLES TO REDUCE ROD LENGTH AND ADDITIONAL PRESSURE PORT



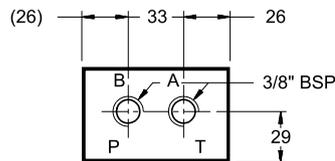
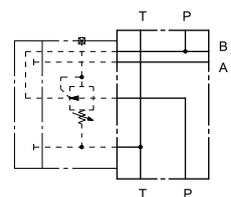
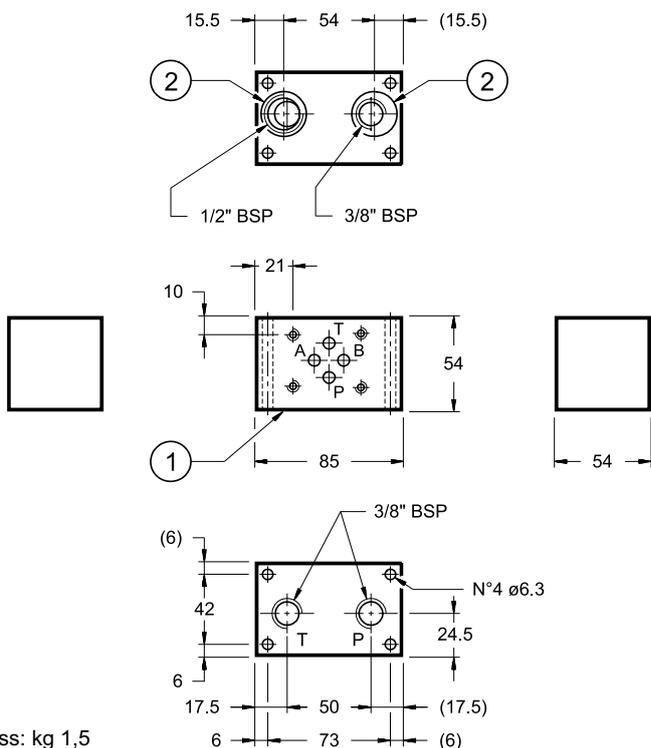
NOTE: The subplate is supplied with O-Ring made of NBR 90 Shore

dimensions in mm

1	Mounting surface
2	OR seats 2093 (23.52x1.78)

5 - OVERALL AND MOUNTING DIMENSIONS P2D-Z/21 (cod. 1560025)

SUBPLATE ARRANGED FOR THE INSTALLATION OF AN MZD PRESSURE REDUCING VALVE

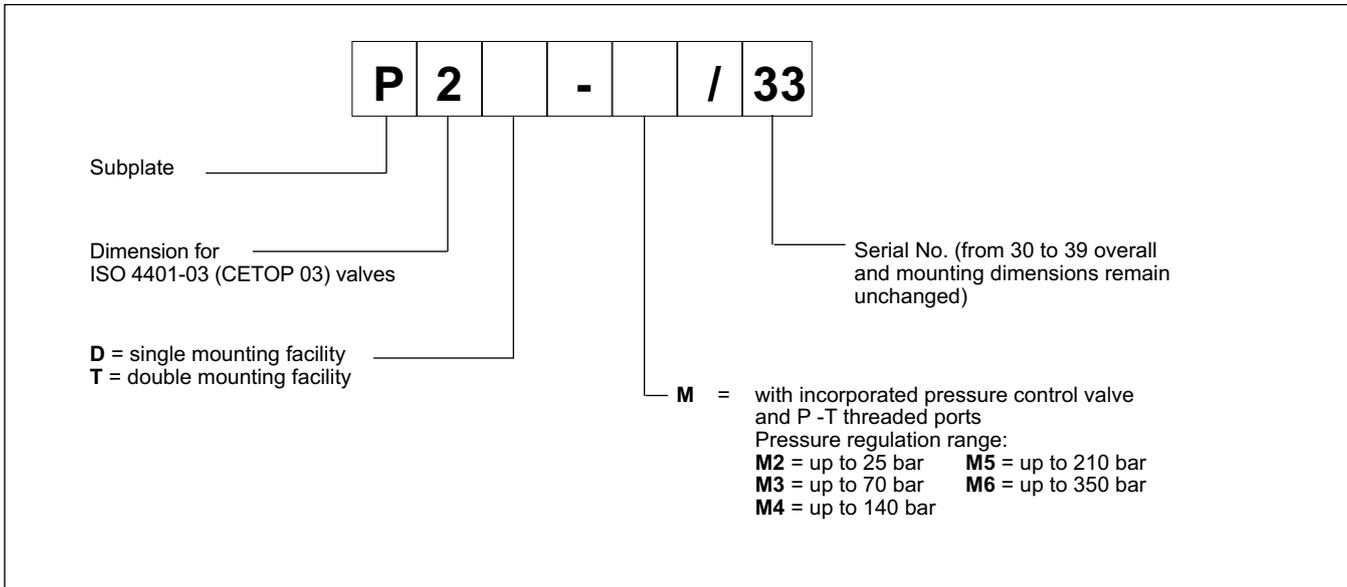


NOTE: The subplate is supplied with O-Ring made of NBR 90 Shore

dimensions in mm

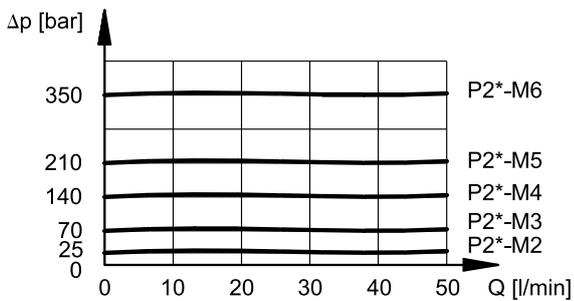
1	Mounting surface
2	OR seats 2093 (23.52x1.78)

## 6 - IDENTIFICATION CODE subplates with incorporated pressure control valve

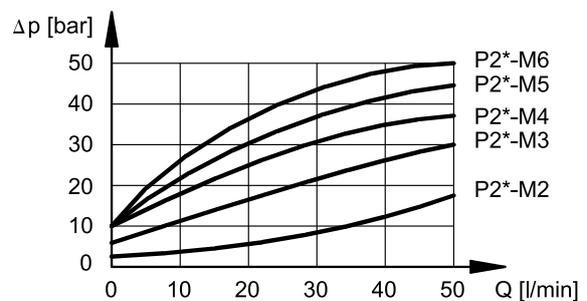


## 7 - CHARACTERISTIC CURVES FOR P2D-M\* E P2T-M\* SUBPLATES WITH PRESSURE CONTROL VALVE INCORPORATED (values obtained with viscosity of 36 cSt at 50°C)

ADJUSTMENT

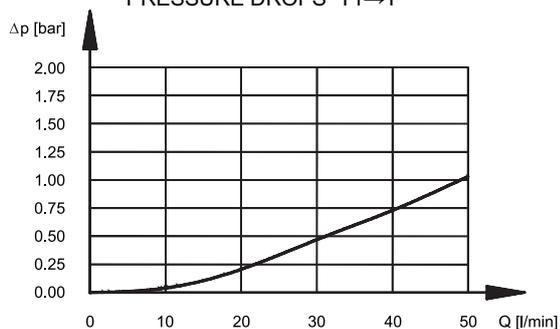


MINIMUM CONTROLLED PRESSURE



pressure drops P-T with calibrated screw at the regulation beginning (minimum controlled pressure)

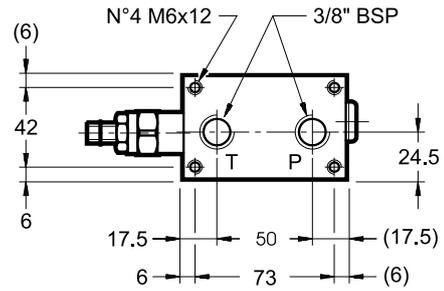
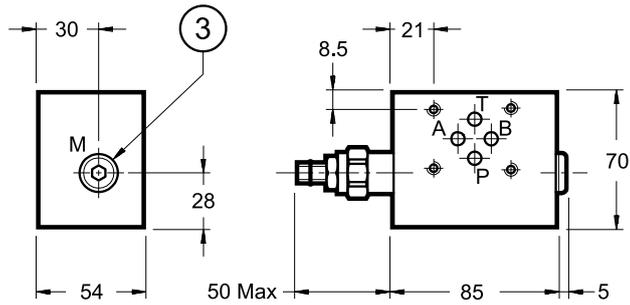
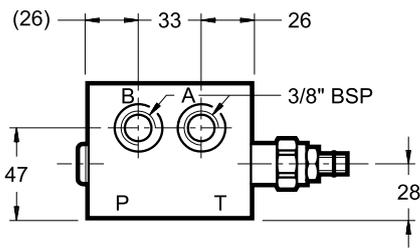
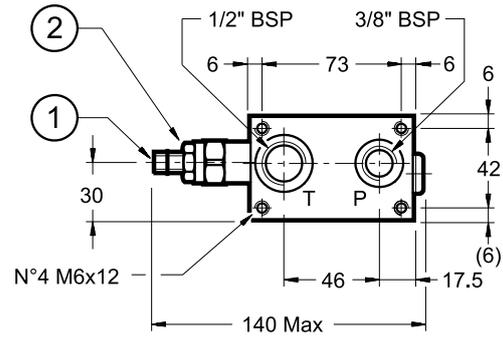
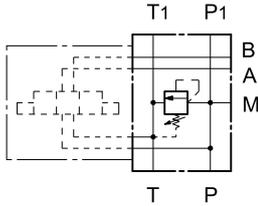
PRESSURE DROPS T1→T



8 - OVERALL AND MOUNTING DIMENSIONS P2D-M\*/ 33

SINGLE MOUNTING FACILITY SUBPLATE WITH PRESSURE RELIEF VALVE INCORPORATED

HYDRAULIC SYMBOL



dimensions in mm

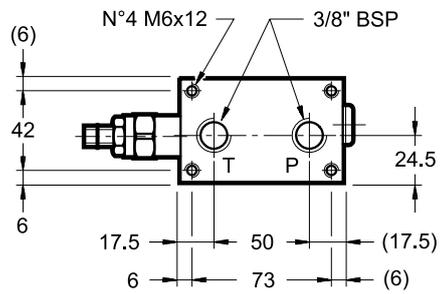
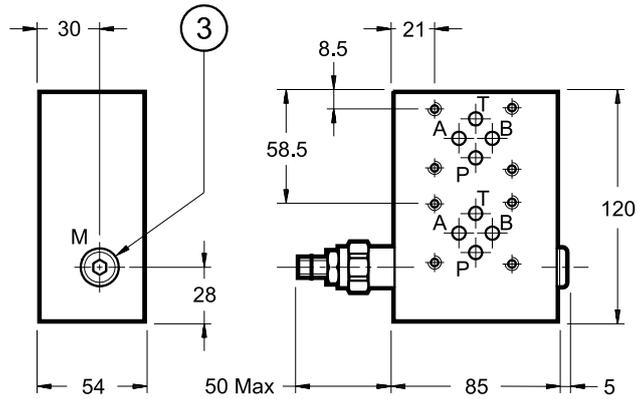
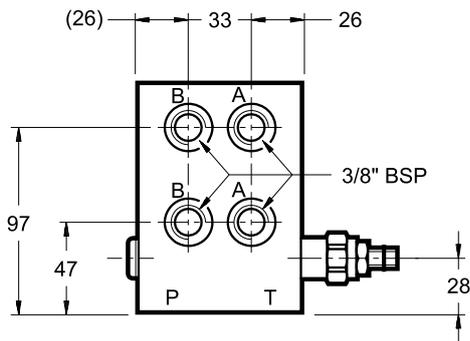
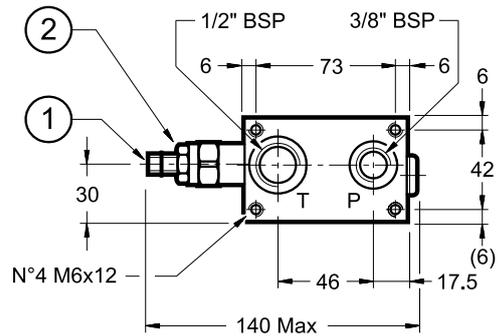
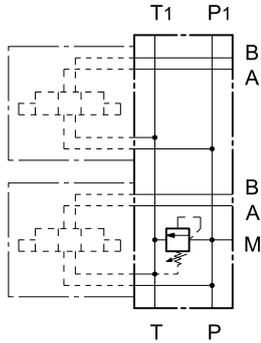
Mass: kg 2,5

1	Countersunk hex. adjustment screw: spanner 6 Clockwise rotation to increase pressure
2	Locking nut: spanner 19
3	Pressure gauge port 1/4" BSP plugged

## 9 - OVERALL AND MOUNTING DIMENSIONS P2T-M\* /33

DOUBLE MOUNTING FACILITY SUBPLATE WITH PRESSURE RELIEF VALVE INCORPORATED

### HYDRAULIC SYMBOL



dimensions in mm

1	Countersunk hex adjustment screw: spanner 6 Clockwise rotation to increase pressure
2	Locking nut: spanner 19
3	Pressure gauge port 1/4" BSP plugged

Mass: kg 5

## 10 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics.

The fluid must be preserved in its physical and chemical characteristics.

## 11 - PRESSURE LIMIT ON P

Depending on the tie-rod type and on the number of assembled subplates it is necessary to pay attention to the maximum pressure on P in order to avoid extruding the O-Rings.

n° of assembled subplates	Threaded bar class B7 DIN 975	Stud class 8.8 UNI 5911	Stud class 12.9
2	350 bar	350 bar	350 bar
3	300 bar	350 bar	350 bar
4	250 bar	300 bar	350 bar
5	200 bar	250 bar	300 bar
6	150 bar	200 bar	250 bar
Tightening torque	8 Nm	8 Nm	12 Nm



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[www.diplomatic.com](http://www.diplomatic.com) • e-mail: [sales.exp@diplomatic.com](mailto:sales.exp@diplomatic.com)



- The P2A\*L series of manifolds is designed for connection in parallel of two or more ISO 4401-03 (CETOP 03) valves.
- The monocast design enables the simple creation of circuits without the use of pipes and fittings, thereby reducing overall dimensions to a minimum.
- All sections feature a common pressure and discharge fitting on both ends of the subplate.
- Maximum flow rate can be increased up to double the output if the sub-plates are powered at both ends.
- Each section is fitted with work ports A and B positioned on the side of the sub-plate.
- Subplates are available in aluminium.

# P2A\*L

## MANIFOLDS FOR ISO 4401-03 (CETOP 03) VALVES WITH SIDE PORTS

### SERIES 11

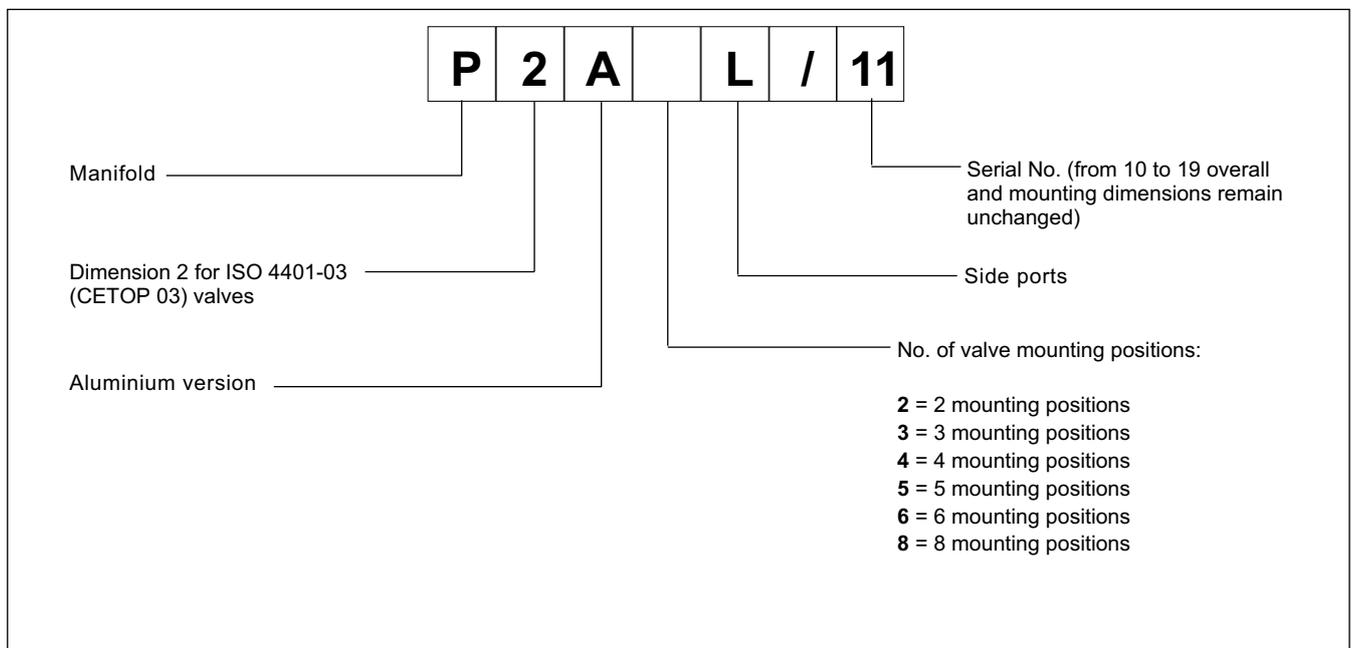
**p max 210 bar**

**Q max 50 l/min**

#### TECHNICAL SPECIFICATIONS

Maximum operating pressure - ports P - A - B - port T	bar	210 140
Maximum flow	l/min	50
Port dimensions: P - pressure T - lower drainage A/B - users	BSP	1/2" 1/2" 3/8"
Ambient temperature range	°C	-20 / +50
Fluid temperature range	°C	-20 / +80
Fluid viscosity range	cSt	10 ÷ 400
Fluid contamination degree	cSt	25
Recommended viscosity	According to ISO 4406:1999 class 20/18/15	

#### 1 - IDENTIFICATION CODE





# P2X\*M

## MANIFOLDS

### FOR ISO 4401-03 (CETOP 03)

### VALVES WITH PORTS ON REAR

#### SERIES 10

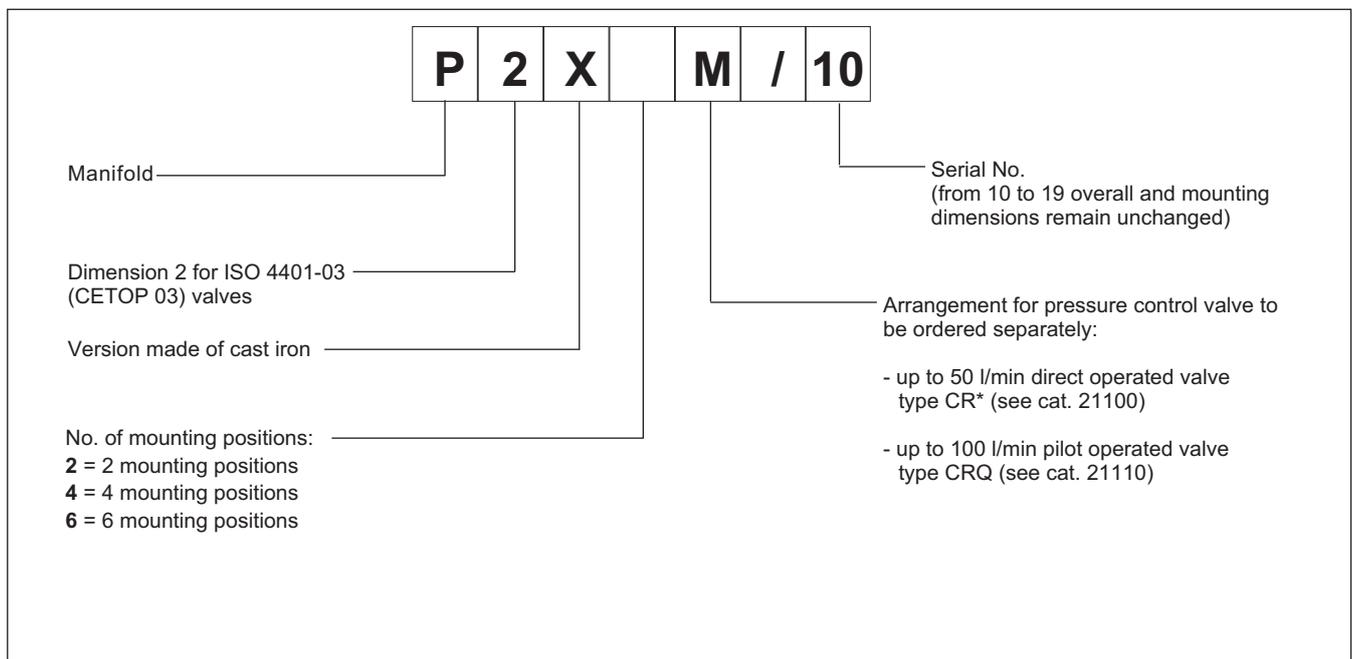
- The P2X\*M series of manifolds is designed for connection in parallel of two or more ISO 4401-03 (CETOP 03) valves.
- The monobloc design enables the simple creation of circuits without the use of pipes and fittings, thereby reducing overall dimensions to a minimum.
- Subplates are arranged for the installation of a pressure control valve with cartridge.
- Each section is fitted with work ports A and B positioned on the rear of the subplate.
- Subplates are fitted with additional rear ports P and T.
- Subplates are made of cast iron.

**p max 350 bar**  
**Q max 100 l/min**

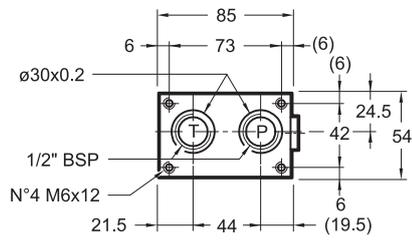
#### TECHNICAL SPECIFICATIONS

Maximum operating pressure - ports P - A - B - port T	bar	350 140
Maximum flow	l/min	100
Port dimensions: P - pressure T - drainage B - users A - drainage	BSP	1/2"
Ambient temperature range	°C	-20 / +50
Fluid temperature range	°C	-20 / +80
Fluid viscosity range	cSt	10 ÷ 400
Fluid contamination degree	cSt	25
Recommended viscosity	According to ISO 4406:1999 class 20/18/15	

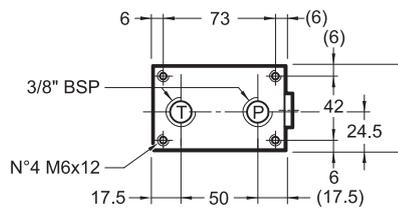
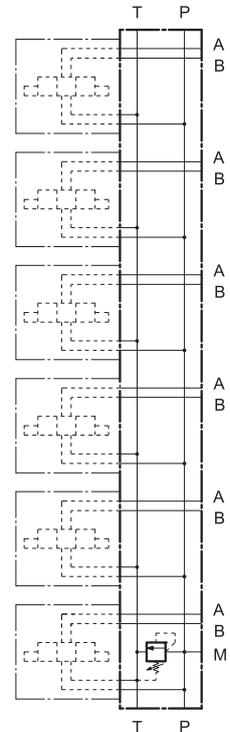
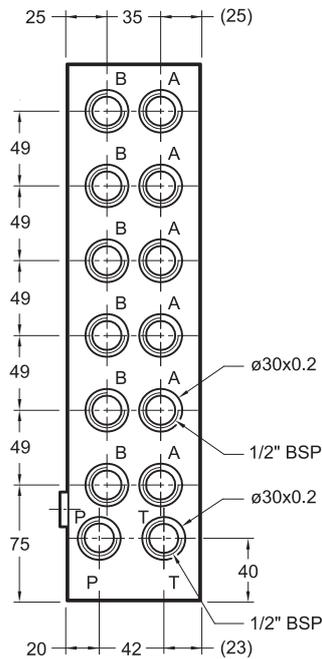
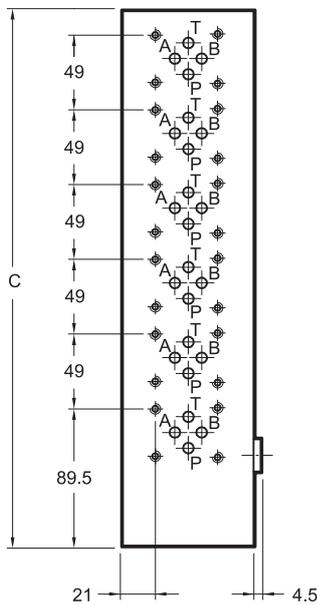
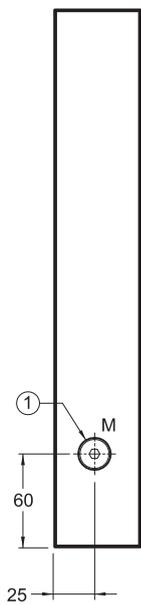
#### 1 - IDENTIFICATION CODE



### 2 - OVERALL AND MOUNTING DIMENSIONS



Es. Subplate with 6 mounting positions and pressure control valve type CR\*/21



dimensions in mm

Manifold	No. of valves mounting positions	C
P2X2M/10	2	150
P2X4M/10	4	250
P2X6M/10	6	350

1	Pressure gauge port 1/4" BSP plugged
2	Arranged for the installation of a pressure control valve (to be ordered separately - see par. 1)

# P4D\*

## MODULAR SUBPLATES FOR ISO 4401-05 (CETOP 05) VALVES

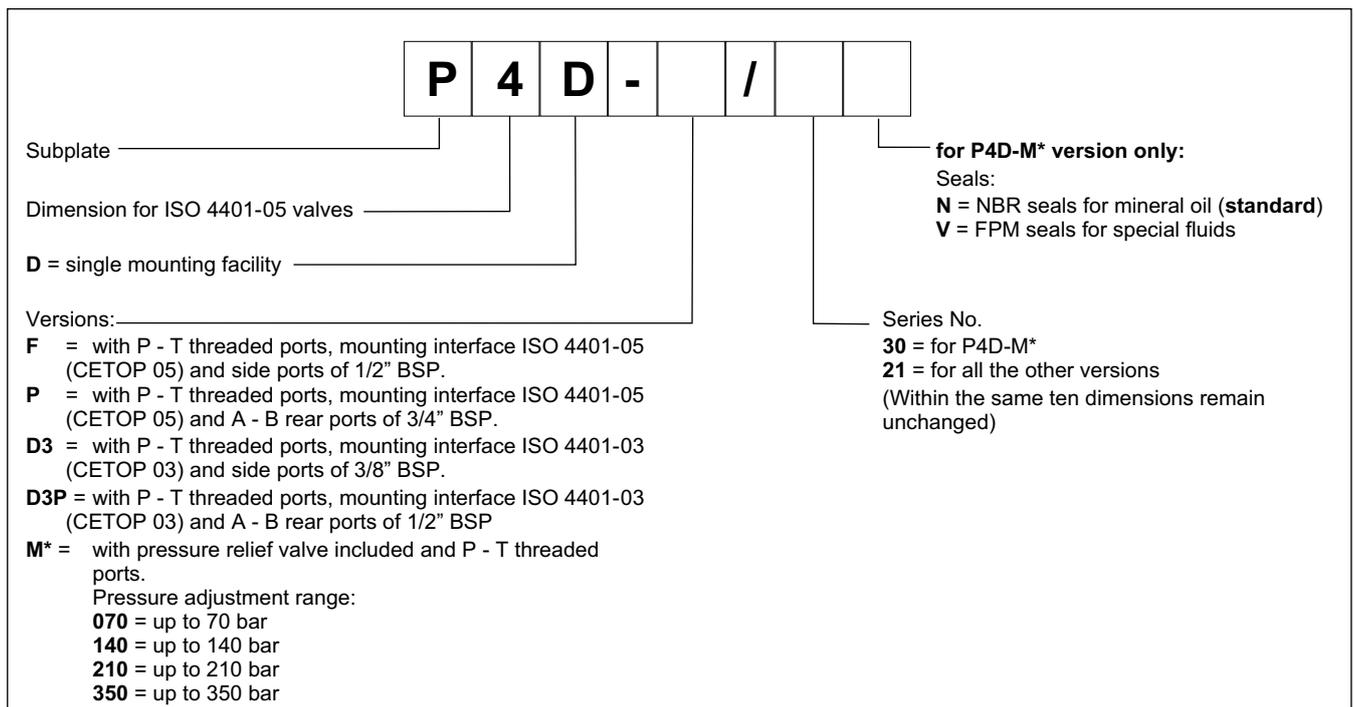
- This series of modular subplates has been designed to make hydraulic circuits and can be used directly on power packs or on any other section of the machine.
- The subplates are assembled by means of 4 tie-rods with seal seats incorporated in the subplate.
- The above assembly achieves compact units (including pressure and discharge manifolds): one face per subplate is used for connection to services and the other to mount ISO 4401-05 (CETOP 05) or ISO 4401-03 (CETOP 03) valves.
- Complex circuits can also be set up using modular valves.
- The recommended mounting configuration for **P4D** subplates on hydraulic power packs is with the main axis positioned vertically to obtain the bundle of pipes to utilities in two vertical rows; however, assembly is not restricted to this configuration.

**p** max **350** bar  
**Q** max **100** l/min

### TECHNICAL SPECIFICATIONS

Maximum operating pressure - ports P - A - B - port T	bar	see paragraph 8 140
Maximum flow	l/min	100
Ambient temperature range	°C	-20 / +50
Fluid temperature range	°C	-20 / +80
Fluid viscosity range	cSt	10 + 400
Fluid contamination degree	cSt	25
Recommended viscosity	According to ISO 4406:1999 class 20/18/15	

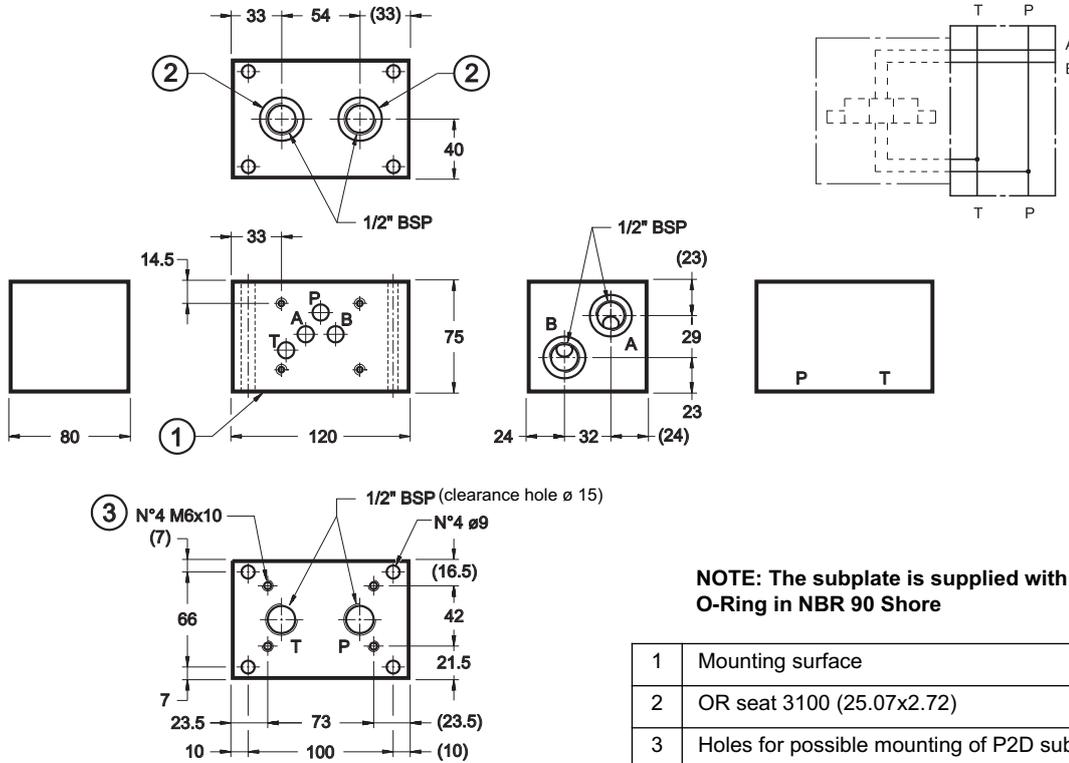
### 1 - IDENTIFICATION CODE



## 2 - OVERALL AND MOUNTING DIMENSIONS P4D-F/21 (COD. 1561441)

P - T THREADED PORTS SUBPLATE, WITH MOUNTING INTERFACE FOR ISO 4401-05 (CETOP 05) VALVE AND A-B SIDE PORTS OF 1/2" BSP

dimensions in mm

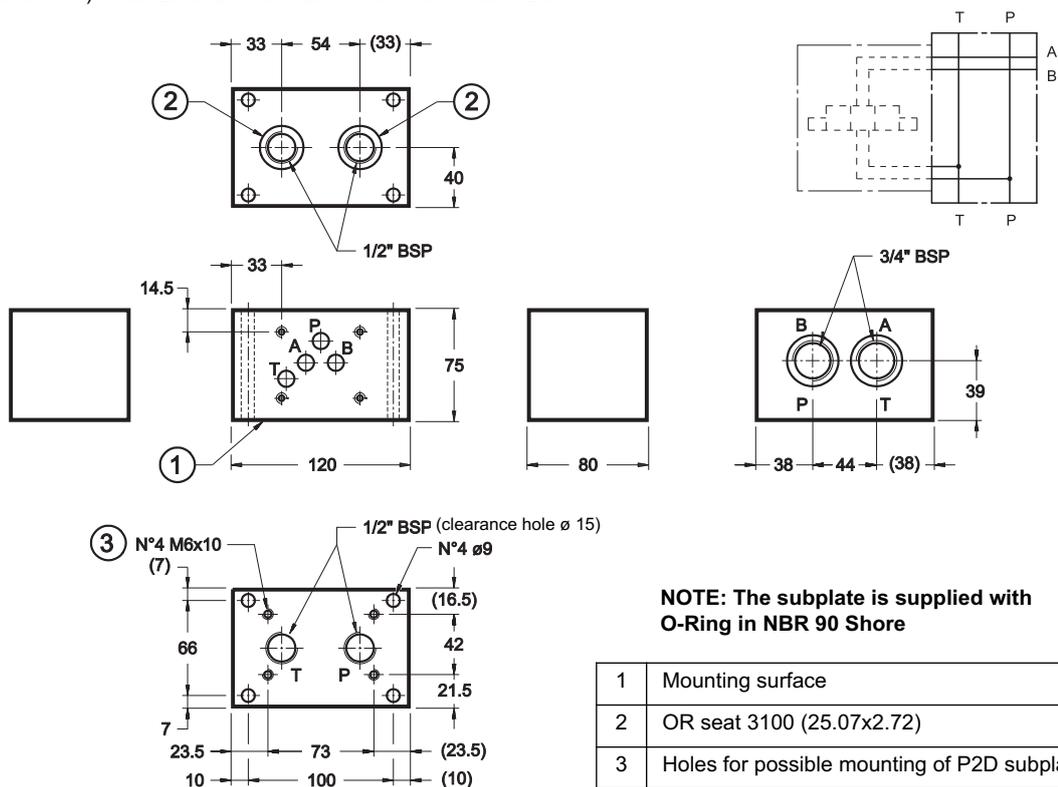


Mass: kg 4,8

## 3 - OVERALL AND MOUNTING DIMENSIONS P4D-P/21 (COD. 1561461)

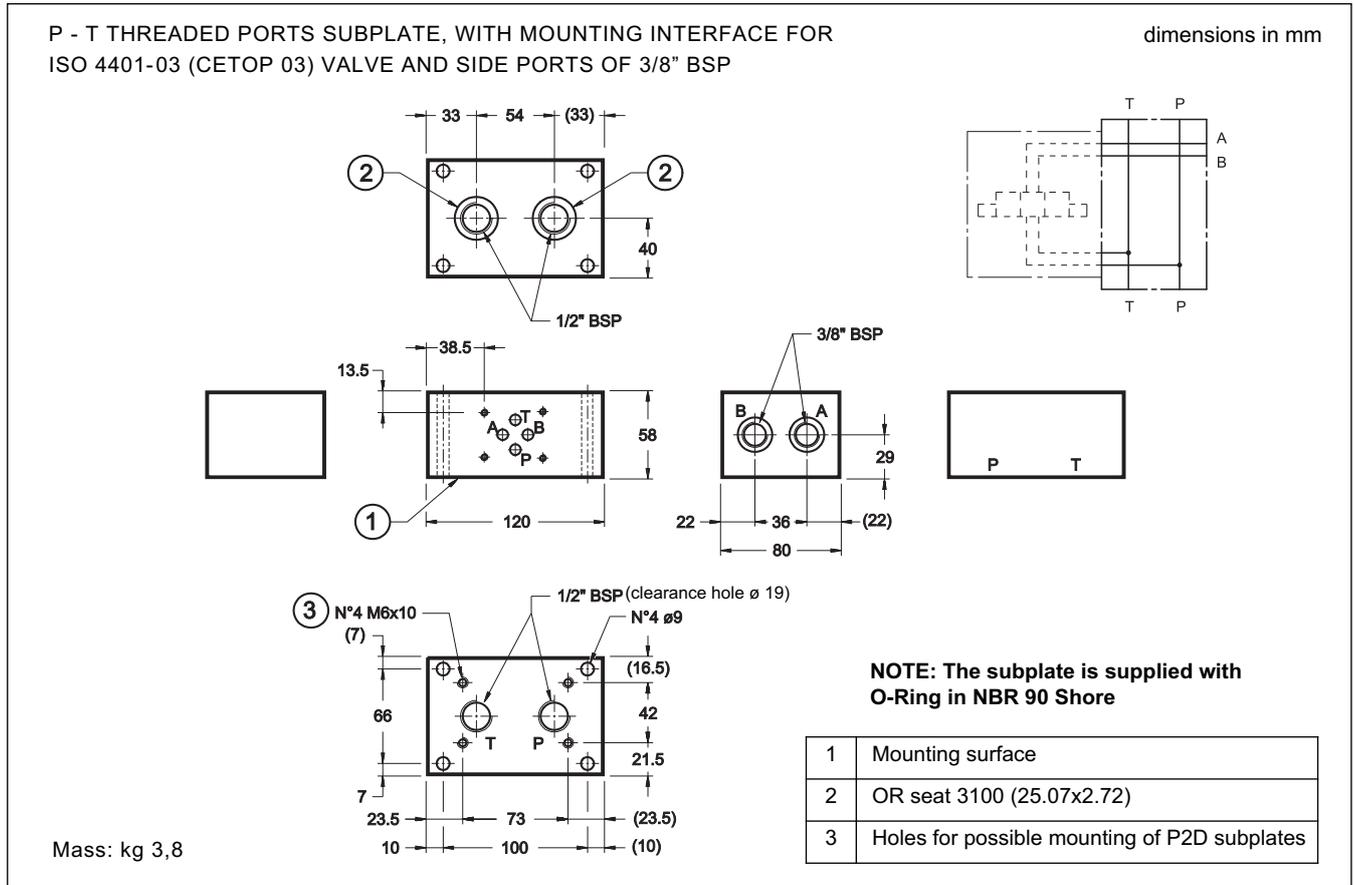
P - T THREADED PORTS SUBPLATE WITH MOUNTING INTERFACE FOR ISO 4401-05 (CETOP 05) VALVE AND A -B REAR PORTS OF 3/4" BSP

dimensions in mm

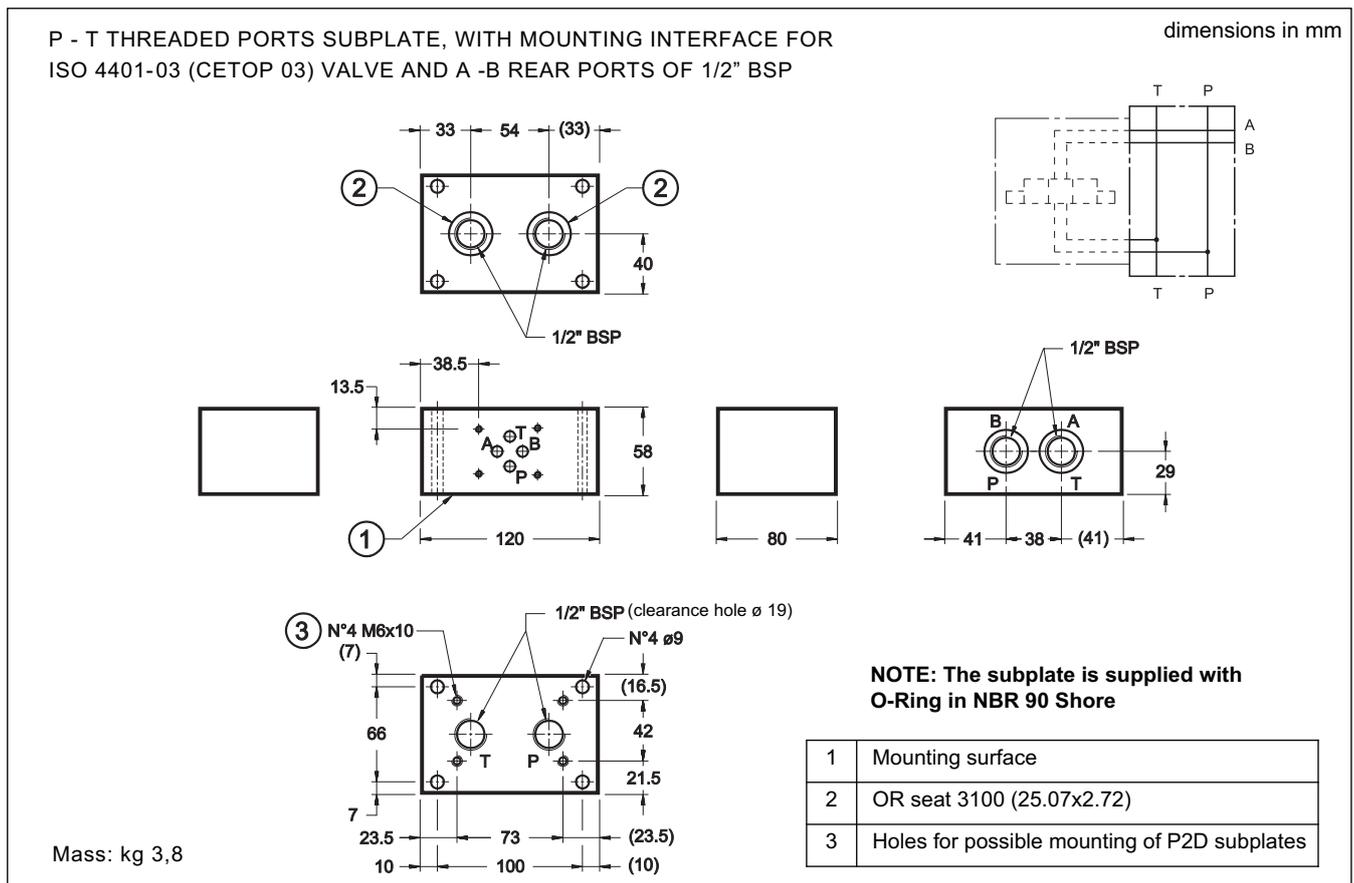


Mass: kg 4,8

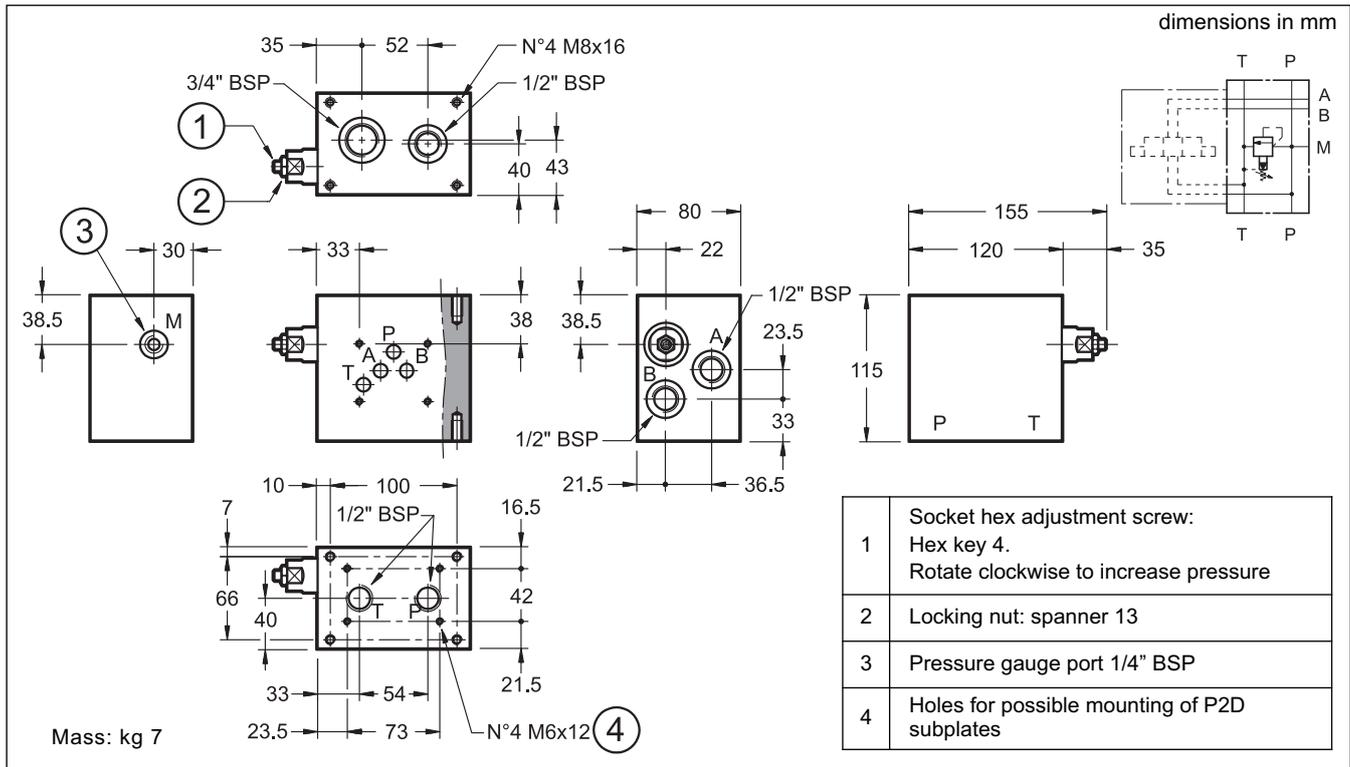
## 4 - OVERALL AND MOUNTING DIMENSIONS P4D-D3/21 (COD. 1561451)



## 5 - OVERALL AND MOUNTING DIMENSIONS P4D-D3P/21 (COD. 1561481)

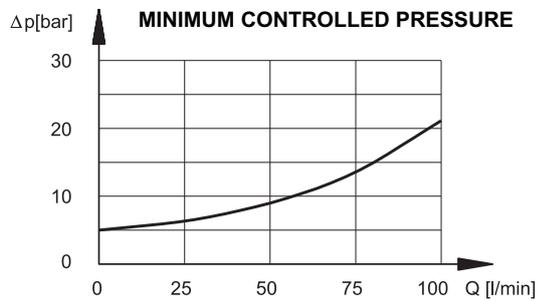
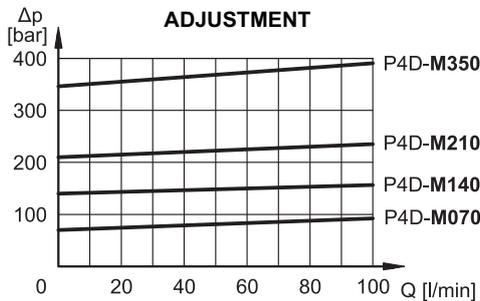


## 6 - OVERALL AND MOUNTING DIMENSIONS P4D-M\*/30



## 7 - CHARACTERISTIC CURVES

(values obtained with viscosity of 36 cSt at 50°C)



## 8 - MAXIMUM PRESSURE ON P

Depending on the tie-rod type and on the number of assembled subplates it is necessary to pay attention to the maximum pressure on P in order to avoid extruding the O-Ring.

No. of assembled subplates	Threaded bar class B7 ISO 6547 (DIN 975)	Stud class 8.8 UNI 5911	Stud class 12.9
2	350 bar	350 bar	350 bar
3	300 bar	350 bar	350 bar
4	250 bar	300 bar	350 bar
5	200 bar	250 bar	300 bar
6	150 bar	200 bar	250 bar
Tightening torque	20 Nm	20 Nm	30 Nm

# RM4-\*-MP

## SUBPLATE WITH PRESSURE RELIEF VALVE

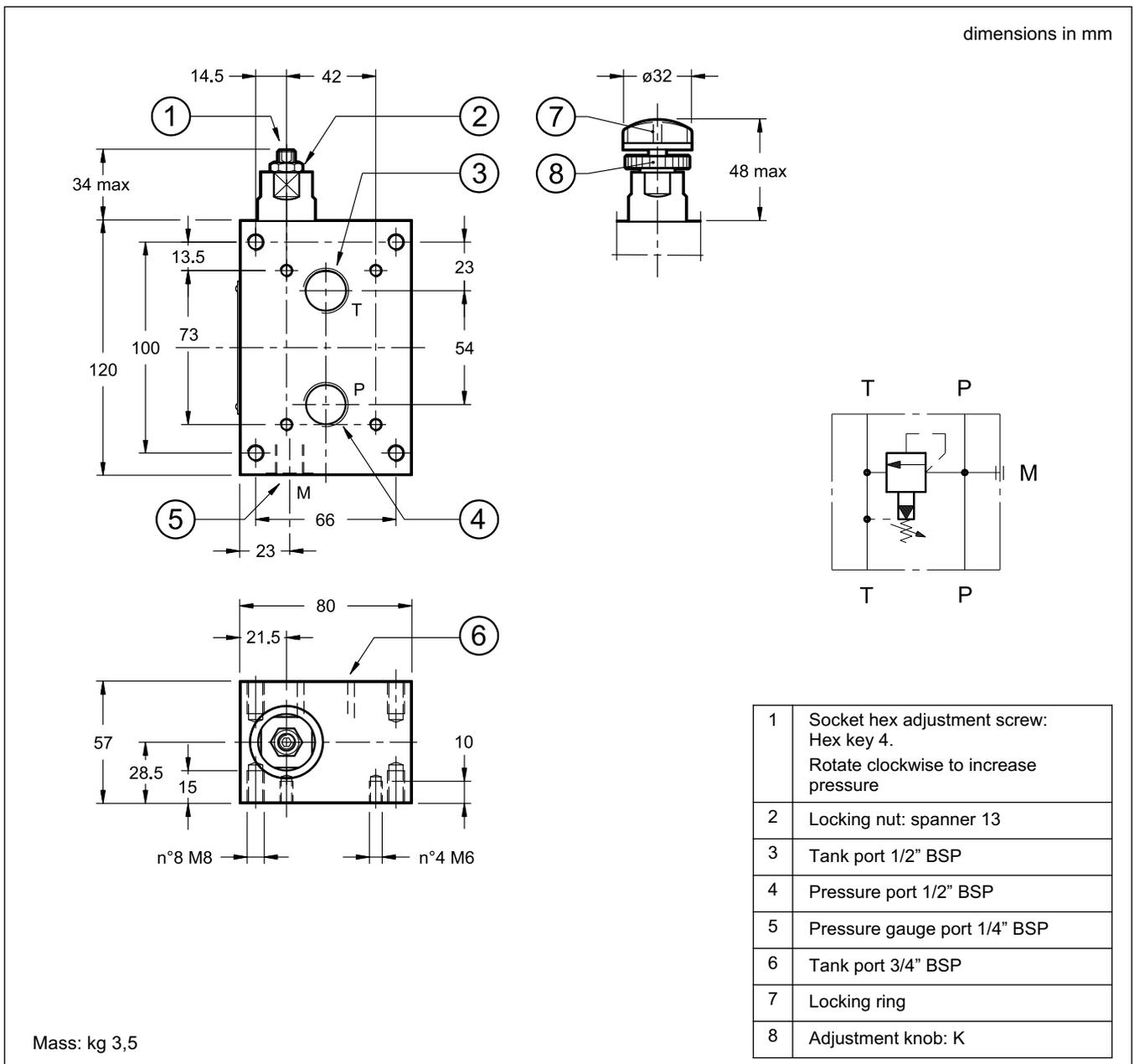
### SERIES 40

- The RM4-\*-MP subplate includes a pressure relief valve with P and T threaded ports.
- It is used as mounting surface for P2D and P4D subplates on power packs.
- It is available in four pressure adjustment ranges up to 350 bar.
- It is supplied with a socket set screw with locking nut, or alternatively with knob and maximum adjustment limiting device.

### THREADED PORTS

**p** max 350 bar  
**Q** max 100 l/min

### 1 - OVERALL AND MOUNTING DIMENSIONS

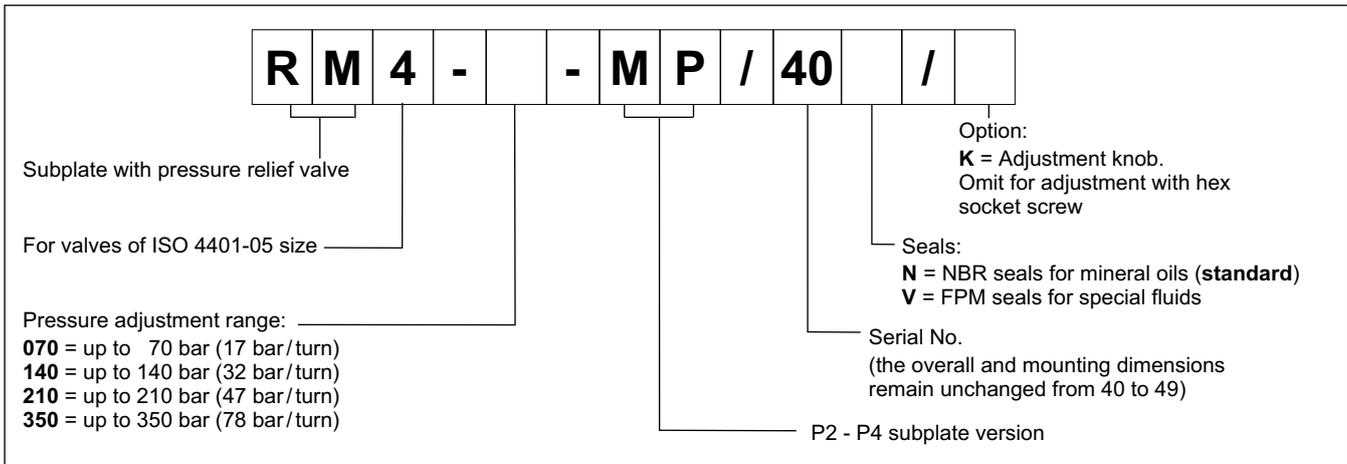




# RM4-\* -MP

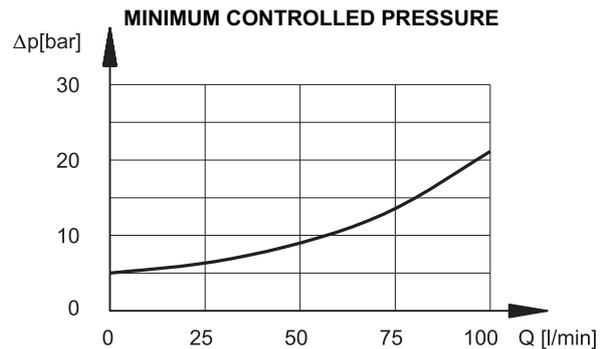
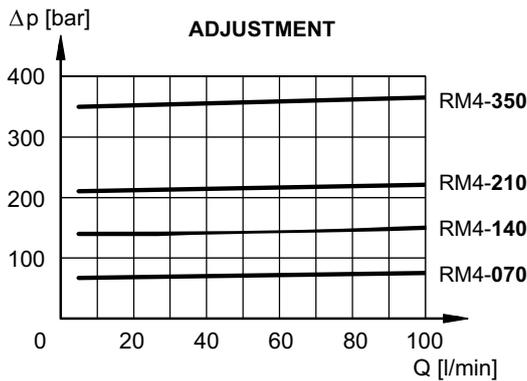
SERIES 40

## 2 - IDENTIFICATION CODE



## 3 - CHARACTERISTIC CURVES

(values obtained with viscosity of 36 cSt at 50°C)



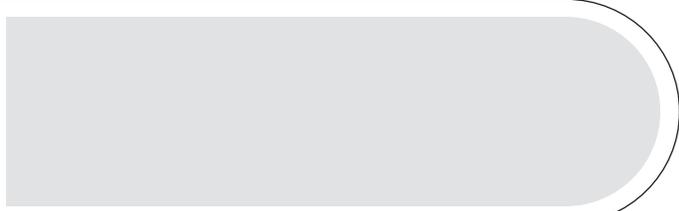
## 4 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals (code N). For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.



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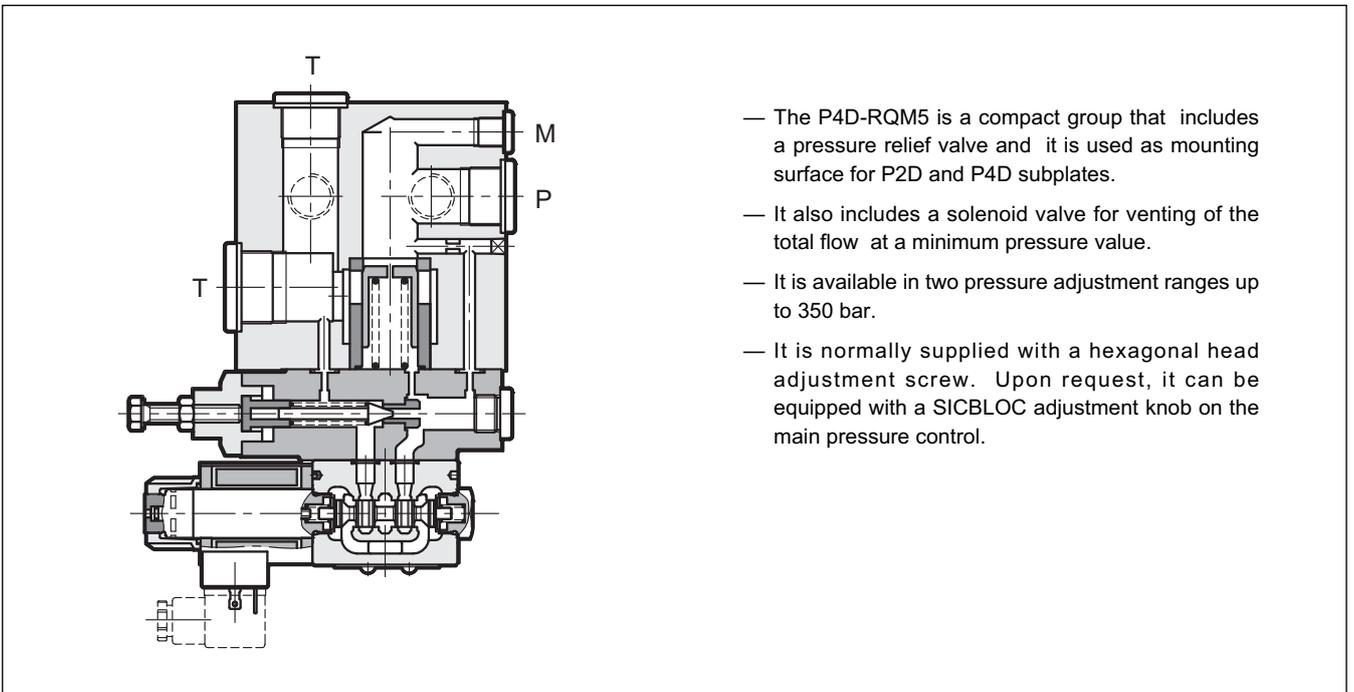
# P4D-RQM5

## MODULAR SUBPLATE WITH PRESSURE RELIEF VALVE AND UNLOADING SOLENOID VALVE

### SERIES 30

**p** max 350 bar  
**Q** max 250 l/min

#### OPERATING PRINCIPLE

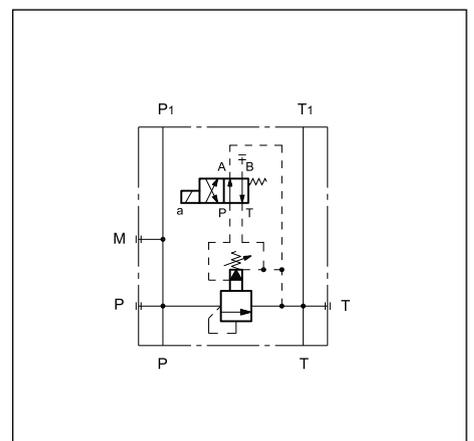


- The P4D-RQM5 is a compact group that includes a pressure relief valve and it is used as mounting surface for P2D and P4D subplates.
- It also includes a solenoid valve for venting of the total flow at a minimum pressure value.
- It is available in two pressure adjustment ranges up to 350 bar.
- It is normally supplied with a hexagonal head adjustment screw. Upon request, it can be equipped with a SICBLOC adjustment knob on the main pressure control.

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

Maximum operating pressure	bar	350
Maximum flow on P (3/4") and T(1")		250
Maximum flow on P <sub>1</sub> and T <sub>1</sub> (1/2")	l/min	120
Minimum flow		10
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	10

#### HYDRAULIC SYMBOL



**NOTE:** for the solenoid valve DS3 characteristics see catalogue 41 150

## 1 - IDENTIFICATION CODE

<b>P</b>	<b>4</b>	<b>D</b>	<b>-</b>	<b>R</b>	<b>Q</b>	<b>M</b>	<b>5</b>	<b>-</b>	<b>/</b>	<b>/</b>	<b>30</b>	<b>-</b>	<b>K1</b>	<b>/</b>	
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Subplate ISO 4401-05 (CETOP 05) dimension

Pressure relief valve with unloading solenoid valve

DN 25 nominal dimension

Pressure adjustment range  
5 = 250 bar 6 = 350 bar

**M** = SICBLOC adjustment knob (omit for hexagonal head adjustment screw)

Series: (the overall and mounting dimensions remain unchanged from 30 to 39)

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

**NOTE:** The locking rings of the coils and the relevant O-Rings are supplied together with valves.

Manual override: omit for override integrated in the tube (**standard**)  
**CM** = manual override, boot protected

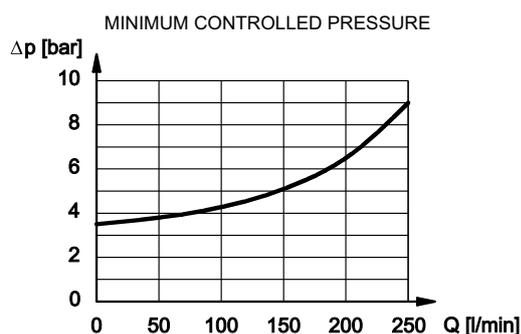
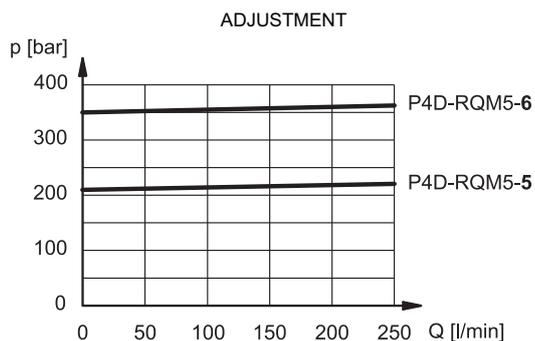
Coil electrical connection: plug for connector type DIN 43650 (**standard**)

DC power supply  
**D12** = 12 V  
**D24** = 24 V  
**D48** = 48 V  
**D110** = 110 V  
**D220** = 220 V  
**D00** = valve without coils (see **NOTE**)

AC power supply  
**A24** = 24 V - 50 Hz  
**A48** = 48 V - 50 Hz  
**A110** = 110 V - 50 Hz / 120 V - 60 Hz  
**A230** = 230 V - 50 Hz / 240 V - 60 Hz  
**A00** = valve without coils (see **NOTE**)

**F110** = 110 V - 60 Hz  
**F220** = 220 V - 60 Hz

## 2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)



**NOTE:** The maximum flow deliverable to P1 port is 120 l/min (for P2D and P4D modular subplates). The maximum flow through the pressure relief valve (additional 3/4" BSP P port) is 250 l/min.

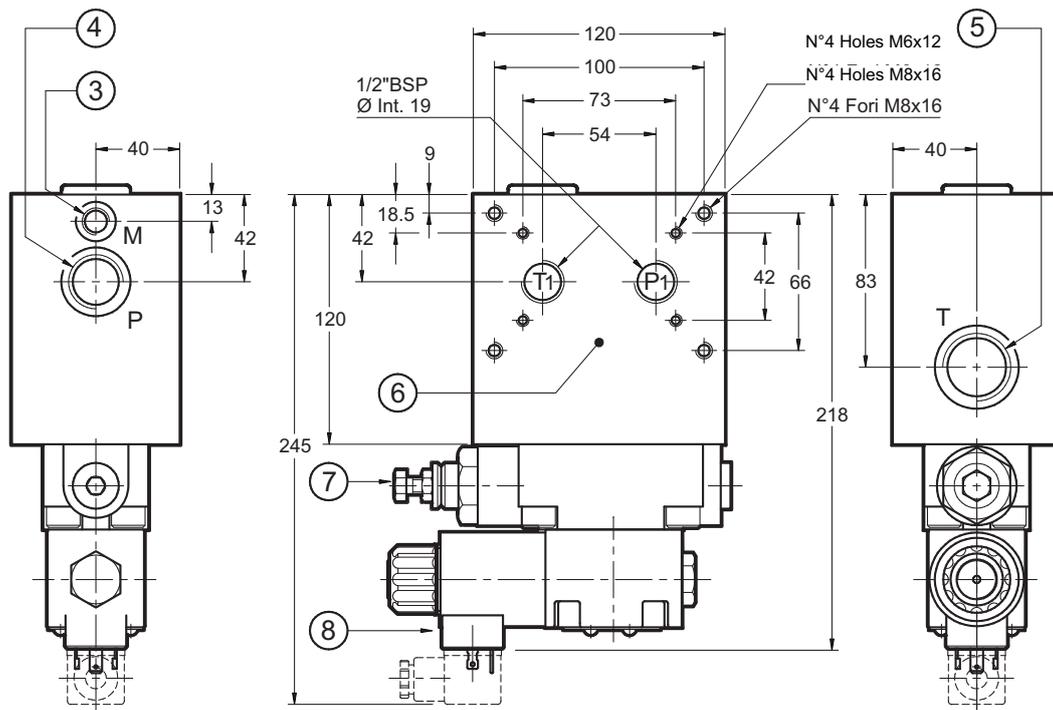
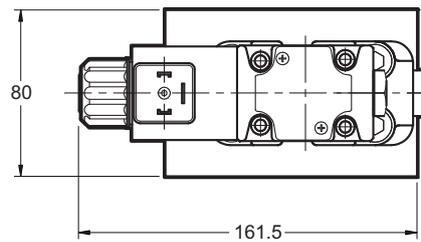
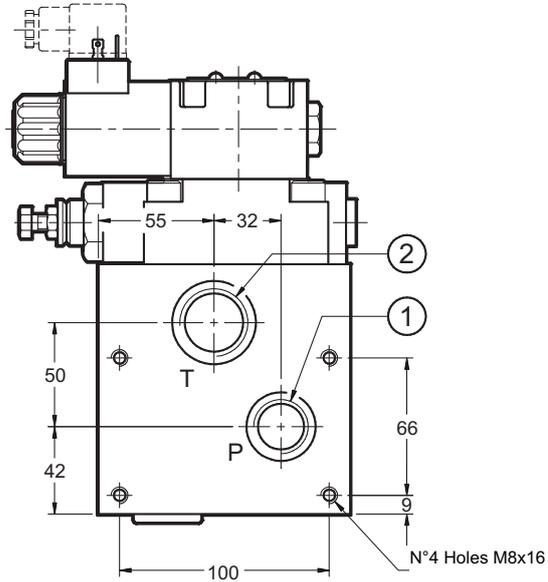
## 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.

## 4 - OVERALL AND MOUNTING DIMENSIONS

1	Pressure port P 3/4" BSP
2	Tank port T 1" BSP
3	Pressure gauge port M 1/4" BSP
4	Additional P port 3/4" BSP
5	Additional T port 1" BSP
6	Mounting surface for: P2D ISO 4401-03 (CETOP 03) P4D ISO 4401-05 (CETOP 05)
7	Hexagonal head pressure adjustment screw: spanner 13 Clockwise rotation to increase pressure
8	Unloading solenoid valve

dimensions in mm



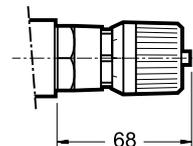


# P4D-RQM5

## SERIES 30

### 5 - ADJUSTMENT KNOB

The P4D-RQM5 valves can be equipped with a SICBLOC adjustment knob.  
To operate it, push and rotate at the same time.  
To request this option, add: /M (see par.1).



### 6 - ELECTRIC CONNECTORS

The solenoid valves are never supplied with connector. Connectors must be ordered separately. For the identification of the connector type to be ordered, please see catalogue 49 000.

### 7 - MANUAL OVERRIDE, BOOT PROTECTED: CM

Whenever the solenoid valve installation may involve exposure to atmospheric agents or utilization in tropical climates, use of the manual override, boot protected, is recommended.

Add the suffix **CM** to request this device (see paragraph 1).  
For overall dimensions see catalogue 41 150.



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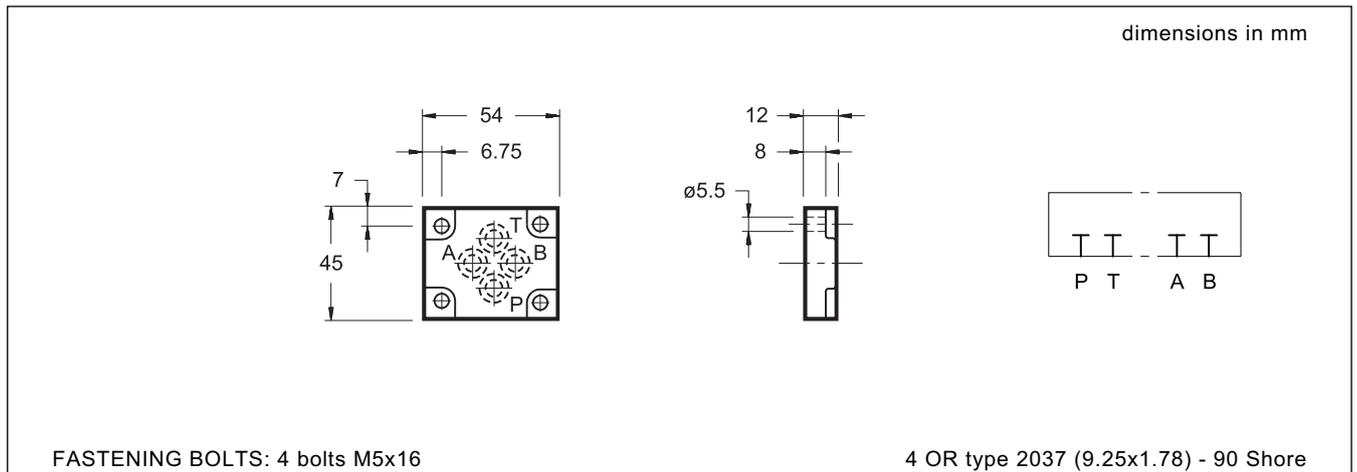
Fax +39 0331.895.339

www.diplomatic.com • e-mail: sales.exp@diplomatic.com

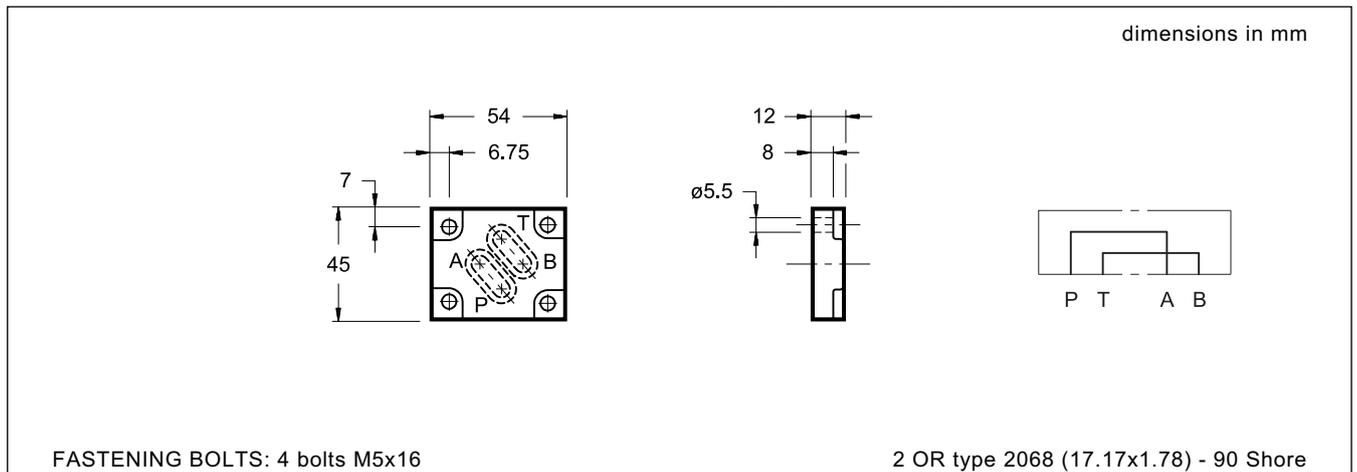
# PE BLANKING PLATE

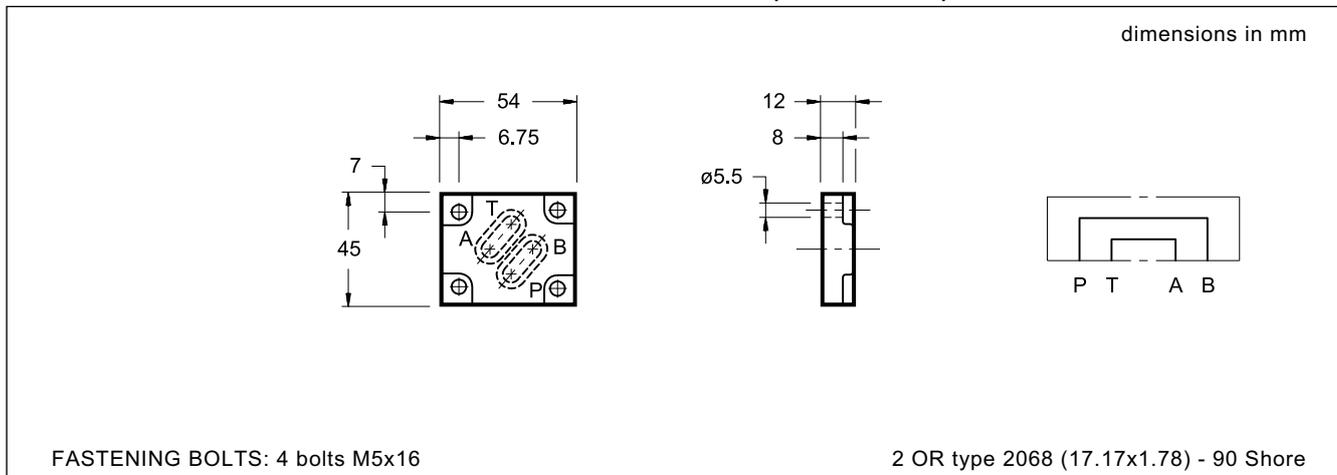
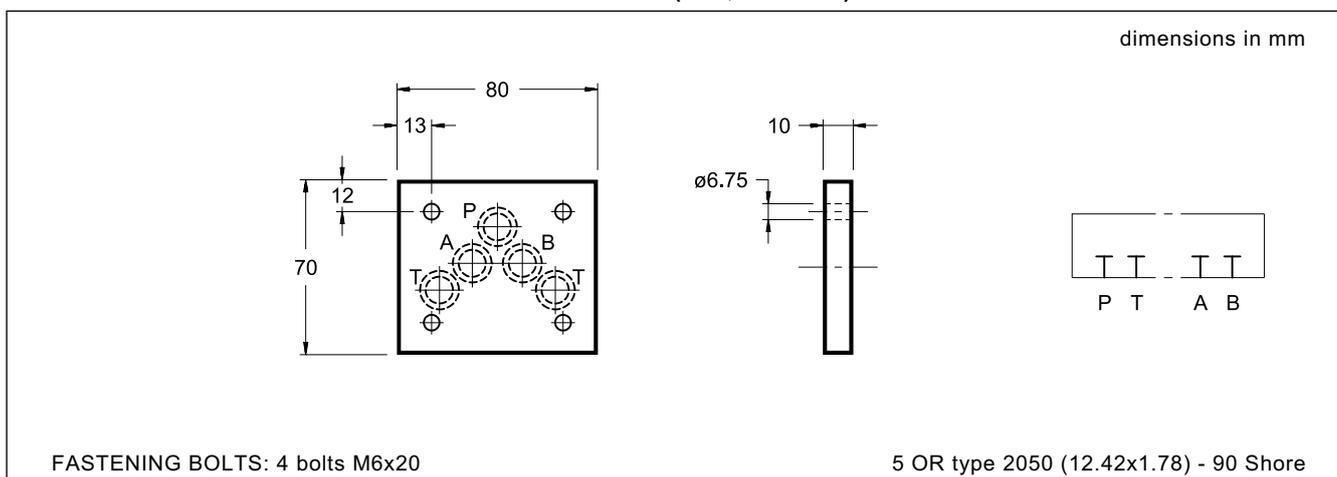
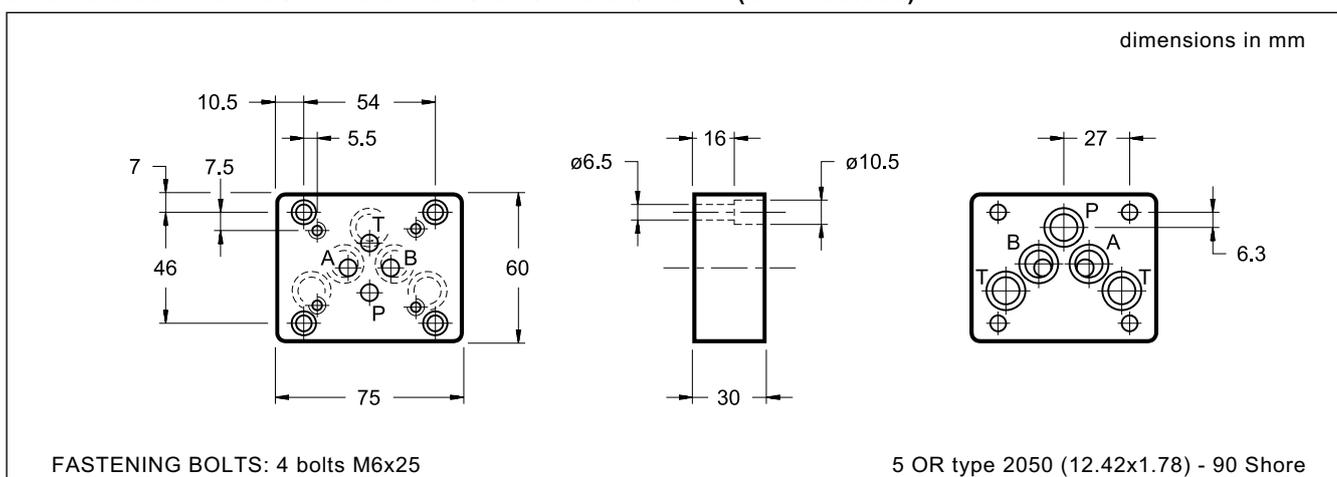
**p max 350 bar**

## 1 - OVERALL AND MOUNTING DIMENSIONS PE-MD1/20 (cod. 1950591)



## 2 - OVERALL AND MOUNTING DIMENSIONS PE-C/PA/MD1/20 (cod. 1950751)



**3 - OVERALL AND MOUNTING DIMENSIONS PE-C/PB/MD1/20 (cod. 1950601)**

**4 - OVERALL AND MOUNTING DIMENSIONS PE/D4-M (cod, 1950042)**

**5 - OVERALL AND MOUNTING DIMENSIONS PC-D4/MD1-M (cod. 1950222)**


**NOTE:** On request, plates can be supplied with the O-Rings in viton. To order it, please indicate the letter /V at the end of the identification code of the plate.



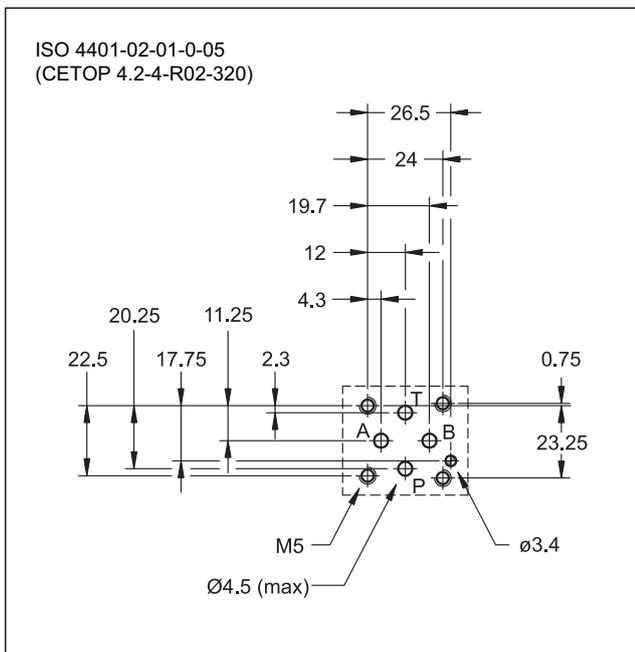
# PRM2

## DIRECT OPERATED PRESSURE RELIEF VALVE SERIES 10

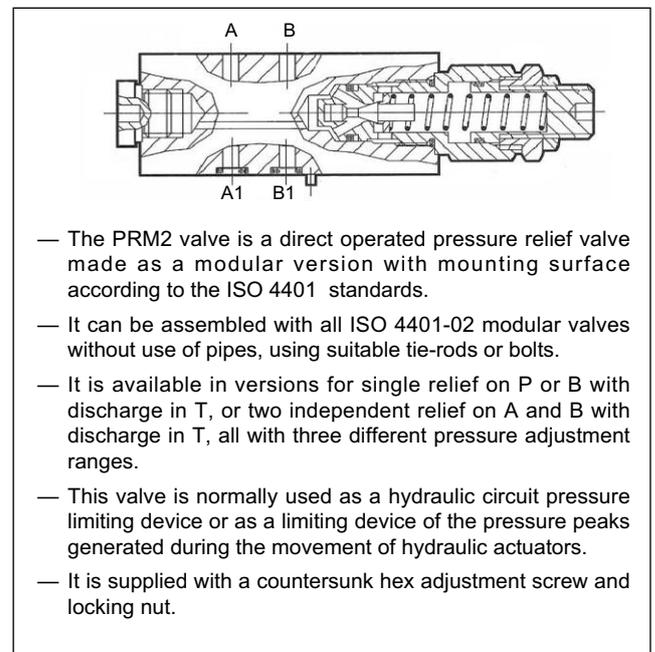
### MODULAR VERSION ISO 4401-02

**p** max 320 bar  
**Q** max 20 l/min

### MOUNTING SURFACE



### OPERATING PRINCIPLE

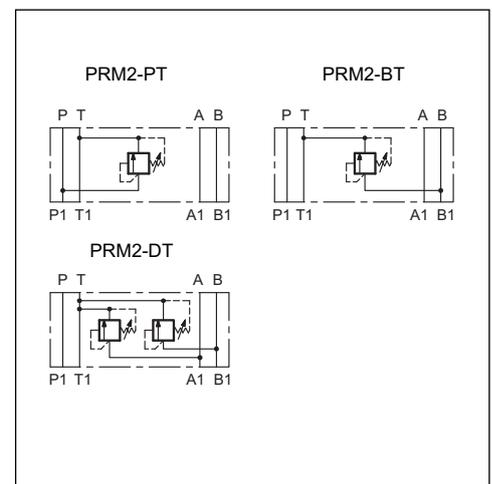


### PERFORMANCES

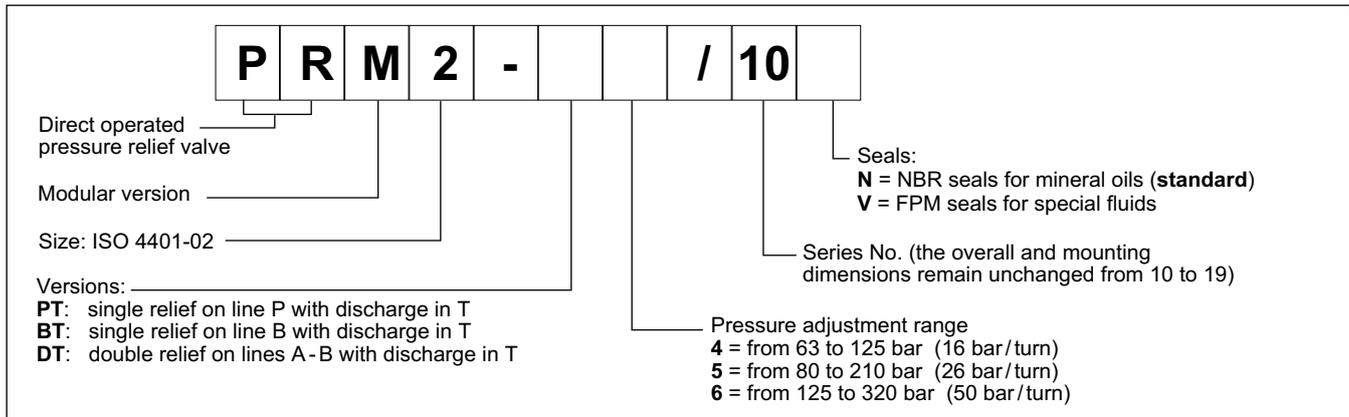
(measured with mineral oil of viscosity 36cSt at 50°C)

Maximum operating pressure	bar	320
Minimum controlled pressure	see $\Delta p$ diagram.	
Maximum flow rate	l/min	20
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: PRM2-PT and PRM2-BT PRM2-DT	kg	0.85 1

### HYDRAULIC SYMBOLS

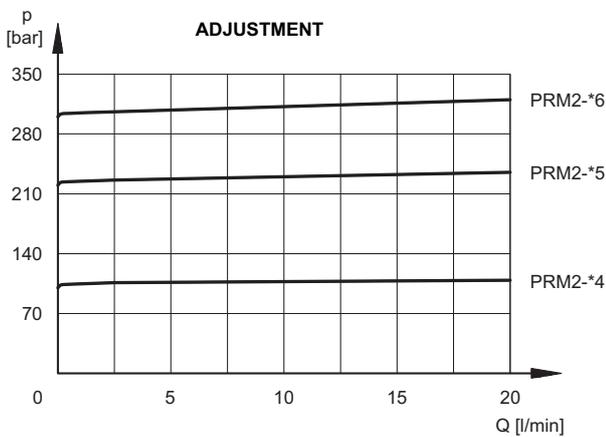


### 1 - IDENTIFICATION CODE



### 2 - CHARACTERISTIC CURVES

(values obtained with viscosity of 36 cSt at 50°C)



### 3 - HYDRAULIC FLUIDS

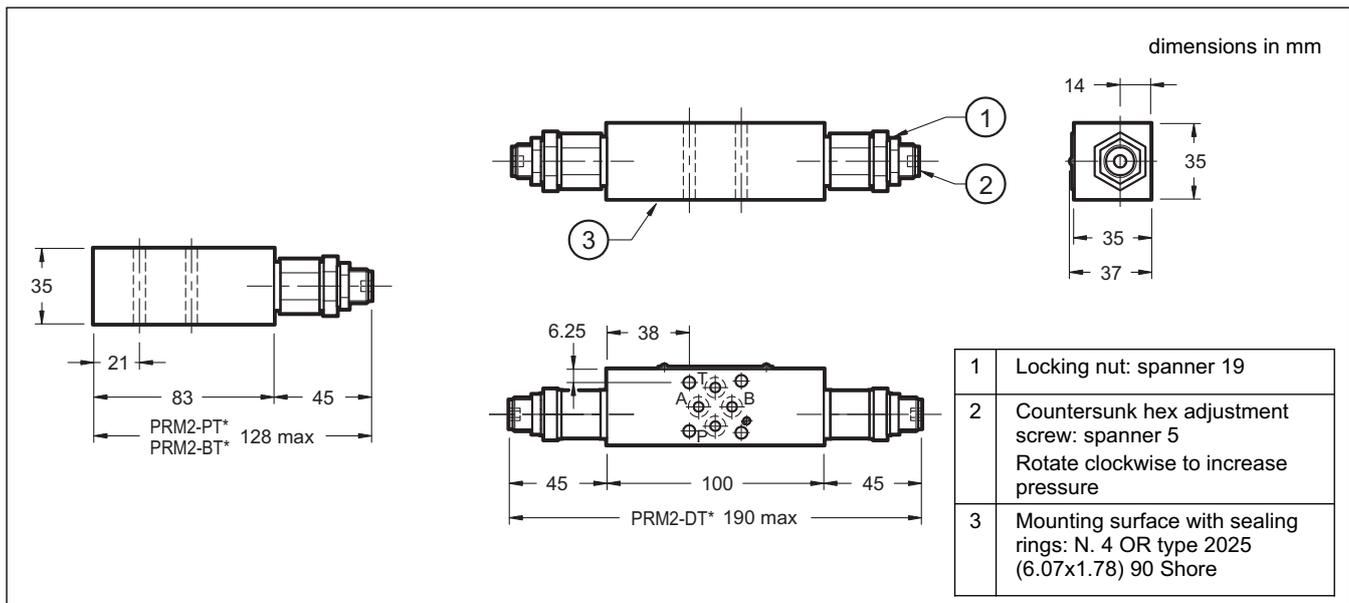
Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V).

For the use of other kinds of fluid 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 and of the seals characteristics.

The fluid must be preserved in its physical and chemical characteristics.

### 4 - OVERALL AND MOUNTING DIMENSIONS





# MCD

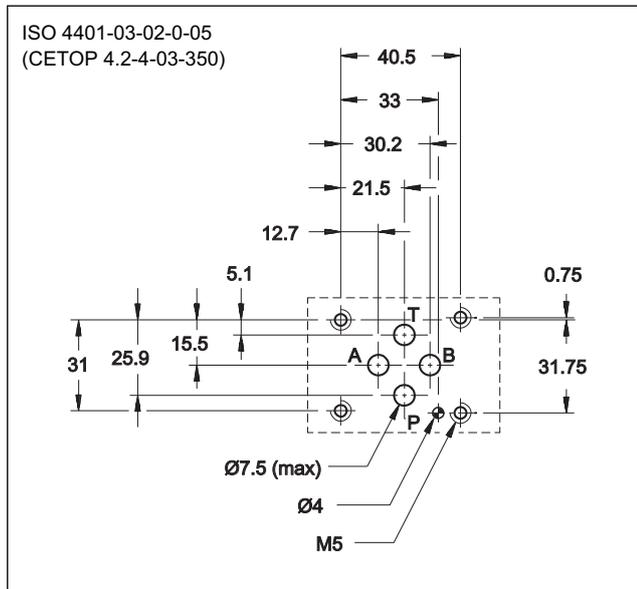
## DIRECT OPERATED PRESSURE RELIEF VALVE

### SERIES 51

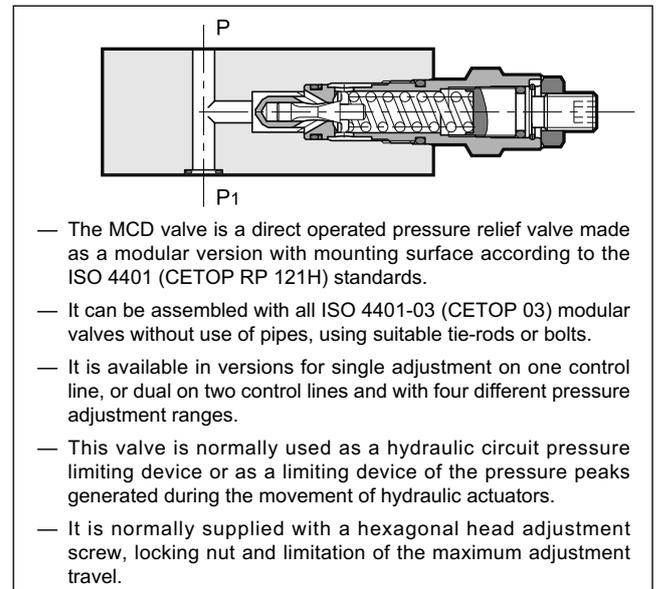
#### MODULAR VERSION ISO 4401-03 (CETOP 03)

**p** max 350 bar  
**Q** max (see table of performances)

#### MOUNTING INTERFACE



#### OPERATING PRINCIPLE



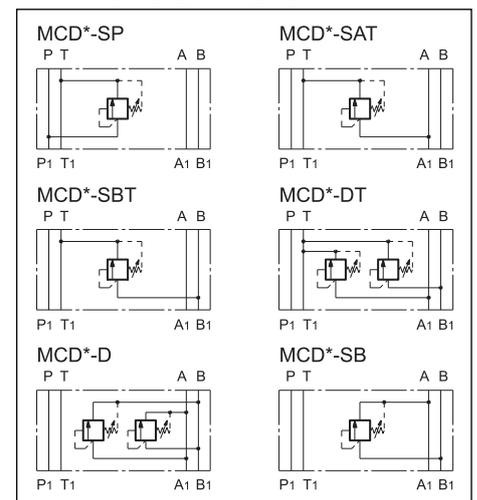
#### CONFIGURATIONS (see Hydraulic symbols table)

- “SP”: controls the pressure on line P with discharge in T.
- “SAT”: controls the pressure on line A with discharge in T.
- “SBT”: controls the pressure on line B with discharge in T.
- “DT”: controls the pressure on lines A-B with discharge in T.
- “D”: controls the pressure on lines A-B with crossed discharges
- “SB”: controls the pressure on line B with discharge in A.

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

Maximum operating pressure	bar	350
Minimum controlled pressure	see $\Delta p$ diagram.	
Maximum flow rate in controlled lines	l/min	50
Maximum flow rate in the free lines		75
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: MCD-SP / MCD-SAT / MCD-SBT / MCD-SB	kg	1,4
MCD-DT / MCD-D		2,0

#### HYDRAULIC SYMBOLS



### 1 - IDENTIFICATION CODE

<b>M</b>	<b>C</b>	<b>D</b>	<b>-</b>	<b>/ 51</b>	<b>/</b>
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Size: ISO 4401-03 (CETOP 03). Modular version

Direct operated pressure relief valve

Pressure adjustment range  
**2** = up to 25 bar    **5** = up to 210 bar  
**3** = up to 70 bar    **6** = up to 350 bar  
**4** = up to 140 bar

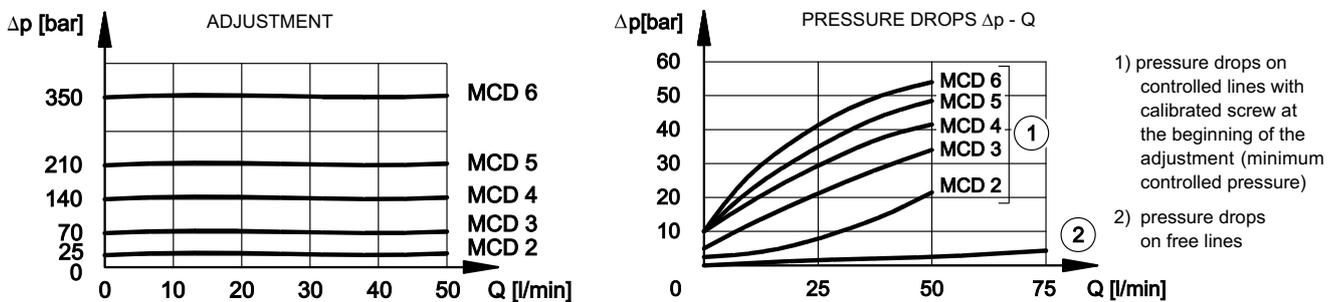
Configurations:  
**SP**: single on line P with discharge in T  
**SAT**: single on line A with discharge in T  
**SBT**: single on line B with discharge in T  
**DT**: double on lines A-B with discharge in T  
**D**: double on lines A-B with crossed discharges  
**SB**: single on line B with discharge in A

omit for adjustment with countersunk hex screw - **standard**  
**K** = Adjustment knob

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

Series No. (the overall and mounting dimensions remain unchanged from 50 to 59)

### 2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)



### 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.

### 4 - OVERALL AND MOUNTING DIMENSIONS

dimensioni in mm

1	Locking nut: spanner 19
2	Countersunk hex adjustment screw: spanner 6 ( <b>standard</b> ) Rotate clockwise to increase pressure
3	Mounting surface with sealing rings: 4 OR type 2037 (9.25x1.78) 90 Shore
4	Adjustment knob: K
5	Locking ring



# MRQ

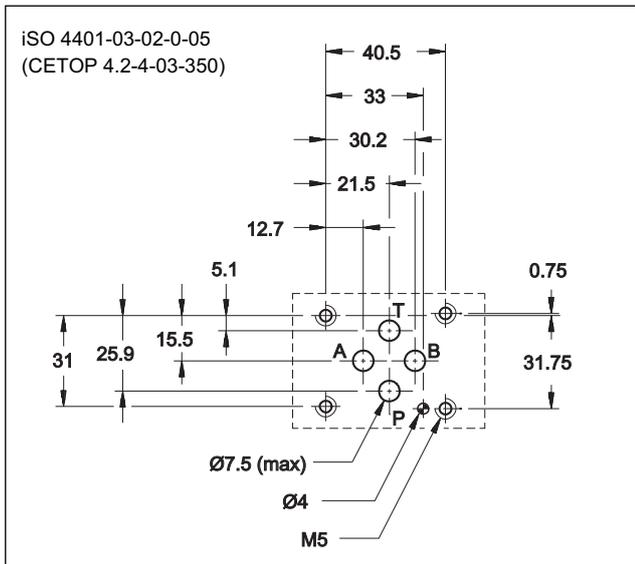
## PILOT OPERATED PRESSURE RELIEF VALVE

### SERIES 51

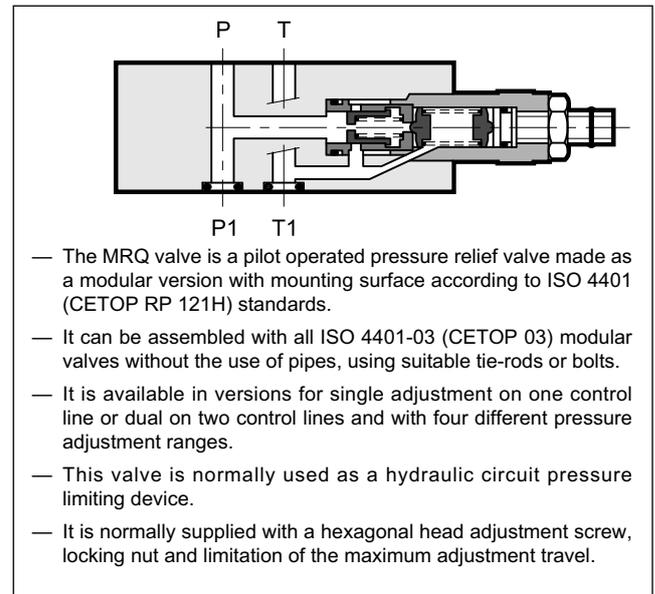
**MODULAR VERSION**  
**ISO 4401-03 (CETOP 03)**

**p max 350 bar**  
**Q max 75 l/min**

#### MOUNTING INTERFACE



#### OPERATING PRINCIPLE



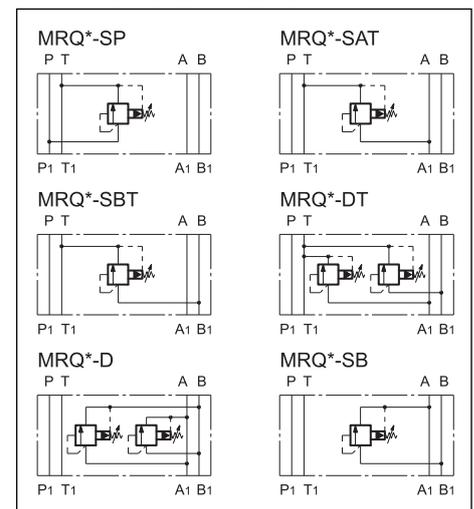
#### CONFIGURATIONS (see Hydraulic symbols table)

- “SP”: controls the pressure on line P with discharge in T.
- “SAT”: controls the pressure on line A with discharge in T.
- “SBT”: controls the pressure on line B with discharge in T.
- “DT”: controls the pressure on lines A-B with discharge in T.
- “D”: controls the pressure on lines A-B with crossed discharges.
- “SB”: controls the pressure on line B with discharge in A.

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

Maximum operating pressure	bar	350
Minimum controlled pressure	see $\Delta p$ diagram.	
Maximum flow rate in controlled lines and in the free lines	l/min	75
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: MRQ-SP / MRQ-SAT / MRQ-SBT / MRQ-SB / MRQ-DT / MRQ-D	kg	1,4 2,1

#### HYDRAULIC SYMBOLS



### 1 - IDENTIFICATION CODE

M	R	Q	-	/	/	51	/	/
---	---	---	---	---	---	----	---	---

ISO 4401-03 (CETOP 03) size. Modular version

Pilot operated pressure relief valve

Pressure adjustment range:  
**3** = up to 70 bar    **5** = up to 210 bar  
**4** = up to 140 bar    **6** = up to 350 bar

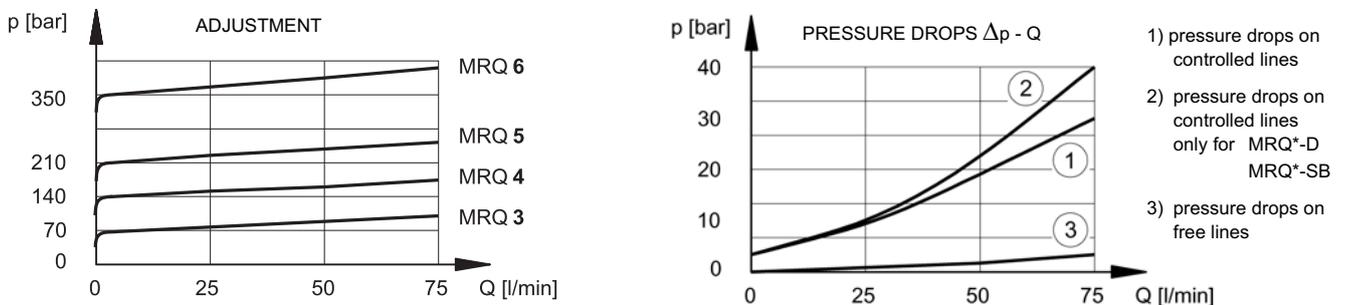
Configurations:  
**SP**: single on line P with discharge in T  
**SAT**: single on line A with discharge in T  
**SBT**: single on line B with discharge in T  
**DT**: double on lines A-B with discharge in T  
**D**: double on lines A-B with crossed discharges  
**SB**: single on line B with discharge in A

Seals: omit for mineral oils  
**V** = viton for special fluids

Series No. (the overall and mounting dimensions remain unchanged from 50 to 59)

**M1** = Adjustment knob (omit for adjustment with countersunk hex screw)

### 2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)



### 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.

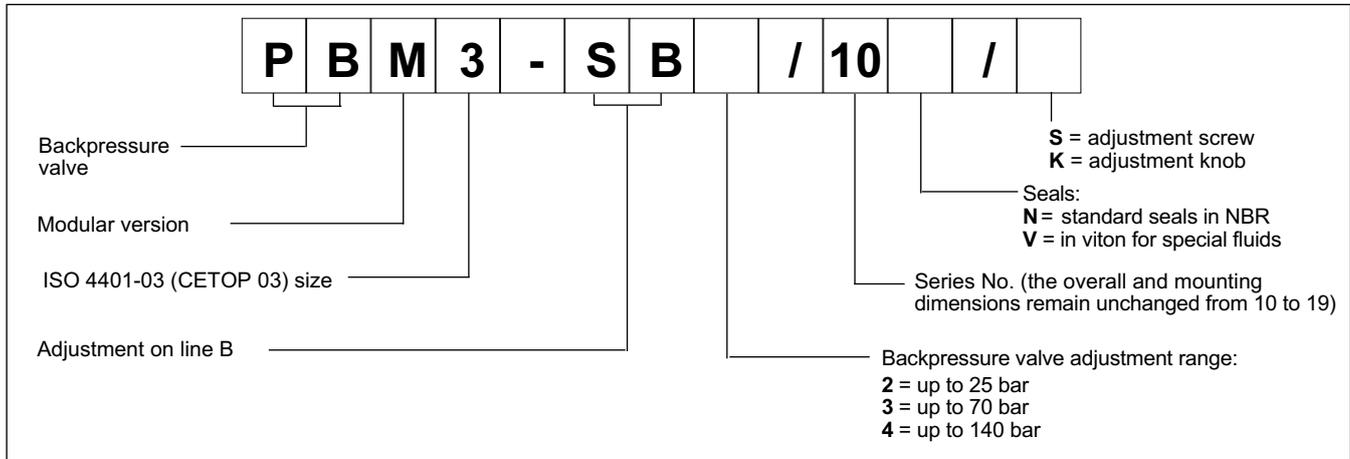
### 4 - OVERALL AND MOUNTING DIMENSIONS

dimensions in mm

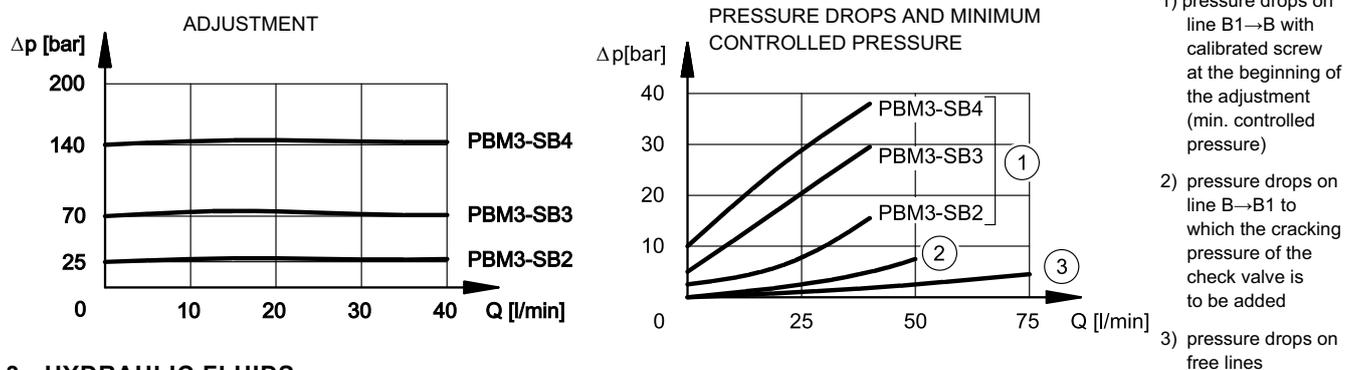
1	Locking nut: spanner 19
2	Countersunk hex adjustment screw: spanner 5 Rotate clockwise to increase pressure
3	Mounting surface with sealing rings: 4 OR type 2037 (9.25x1.78) 90 Shore
4	Adjustment knob: M1



### 1 - IDENTIFICATION CODE



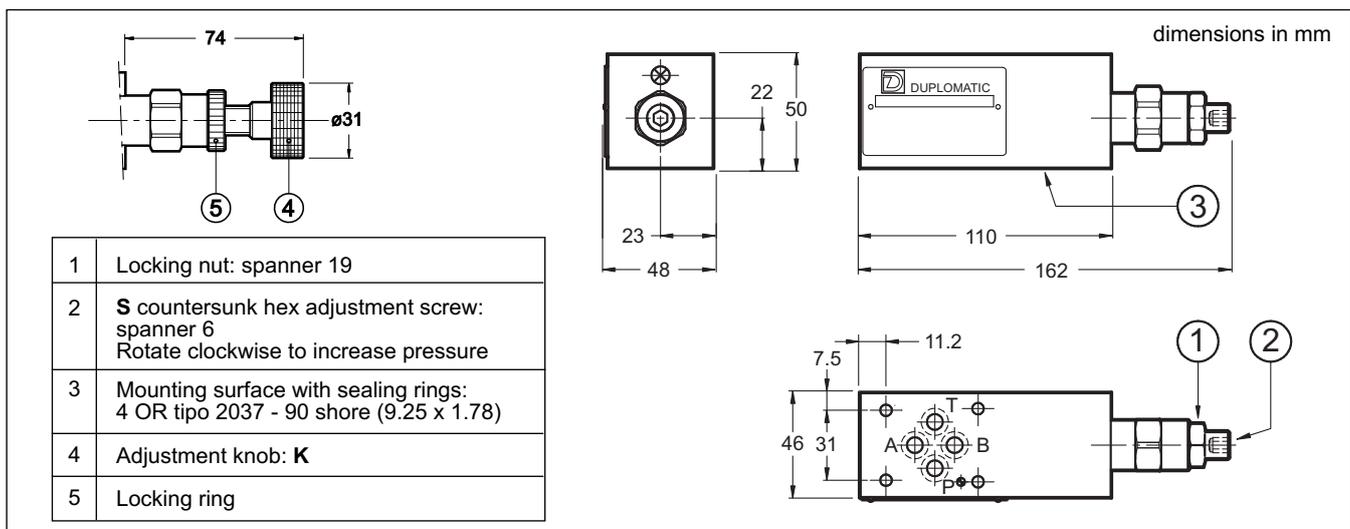
### 2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)



### 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.

### 4 - OVERALL AND MOUNTING DIMENSIONS





# PRM5

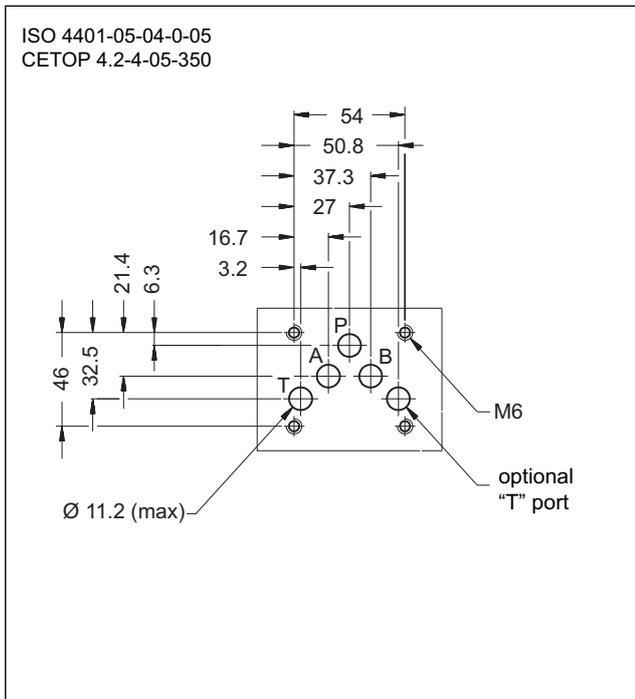
## PILOT OPERATED PRESSURE RELIEF VALVE

### SERIES 10

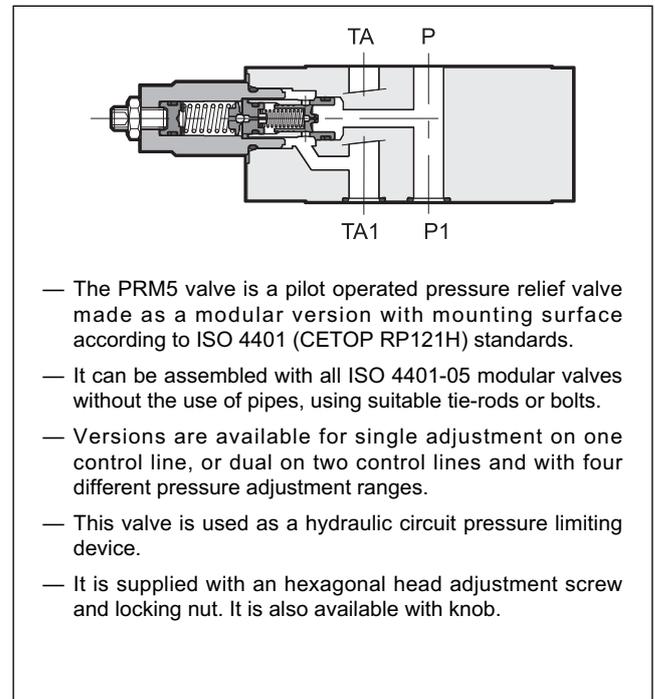
**MODULAR VERSION**  
**ISO 4401-05 (CETOP 05)**

**p** max **350** bar  
**Q** max **120** l/min

#### MOUNTING SURFACE



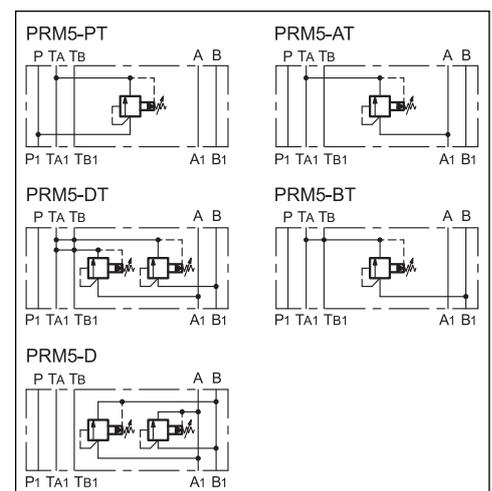
#### OPERATING PRINCIPLE



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

Maximum operating pressure	bar	350
Minimum controlled pressure	bar	see $\Delta p - Q$ diagram
Max flow	l/min	120
Ambient temperature range	°C	-20 / +60
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: PRM5-PT, -AT, -BT PRM5-DT, -D	kg	2,8 3

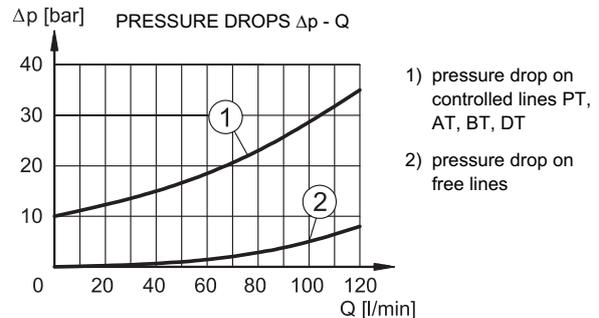
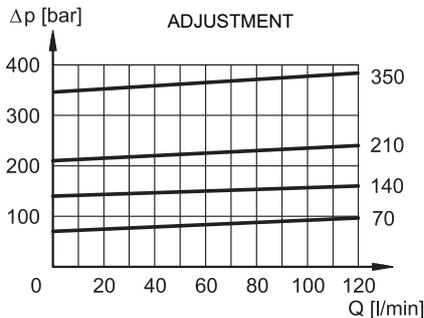
#### HYDRAULIC SYMBOLS



### 1 - IDENTIFICATION CODE

<b>P R M 5 -</b>	<b>/ 10</b>	<b>/</b>					
<p>Pilot operated pressure relief valve</p> <p>Modular version</p> <p>ISO 4401-05 (CETOP 05) size</p> <p>Options:  <b>K</b> = Adjustment knob. Omit for adjustment with hex socket screw (<b>standard</b>)</p> <p>Seals:  <b>N</b> = NBR seals for mineral oils (<b>standard</b>)  <b>V</b> = FPM seals for special fluids</p> <p>Series No. (the overall and mounting dimensions remain unchanged from 10 to 19)</p>	<p>Option: W7 surface treatment. Omit if not required (<b>NOTE</b>)</p>	<p>Pressure adjustment range:</p> <table style="width: 100%;"> <tr> <td><b>070</b> = 6 ÷ 70 bar (17 bar/turn)</td> <td><b>210</b> = 6 ÷ 210 bar (47 bar/turn)</td> </tr> <tr> <td><b>140</b> = 6 ÷ 140 bar (32 bar/turn)</td> <td><b>350</b> = 6 ÷ 350 bar (78 bar/turn)</td> </tr> </table>	<b>070</b> = 6 ÷ 70 bar (17 bar/turn)	<b>210</b> = 6 ÷ 210 bar (47 bar/turn)	<b>140</b> = 6 ÷ 140 bar (32 bar/turn)	<b>350</b> = 6 ÷ 350 bar (78 bar/turn)	<p><b>NOTE:</b> Upon request we can supply these valves completely with zinc-nickel surface treatment on the body. Add the suffix <b>/W7</b> at the end of the identification code.</p>
<b>070</b> = 6 ÷ 70 bar (17 bar/turn)	<b>210</b> = 6 ÷ 210 bar (47 bar/turn)						
<b>140</b> = 6 ÷ 140 bar (32 bar/turn)	<b>350</b> = 6 ÷ 350 bar (78 bar/turn)						

### 2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)



### 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals (code N). For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.

### 4 - OVERALL AND MOUNTING DIMENSIONS

dimensions in mm

**K VERSION**

1	Socket hex adjustment screw: Hex key 4. Rotate clockwise to increase pressure
2	Locking nut: spanner 13
3	Mounting surface with sealing rings: 5 OR type 2050 (12.42 x 1.78) 90 Shore



# PRM7

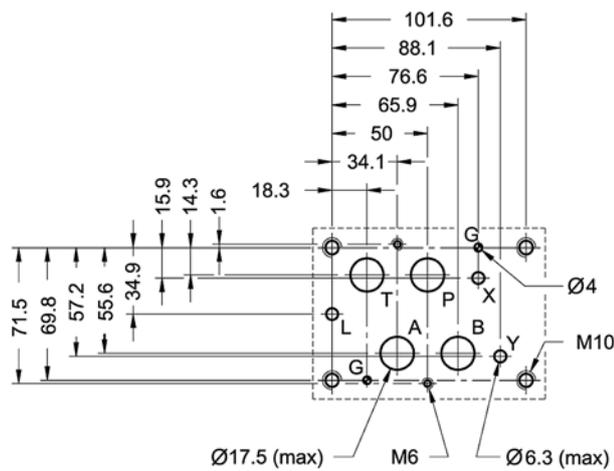
## PILOT OPERATED PRESSURE RELIEF VALVE SERIES 10

**MODULAR VERSION**  
**ISO 4401-07 (CETOP 07)**

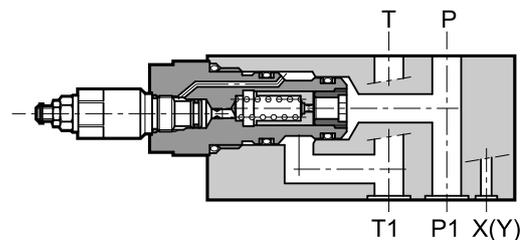
**p** max **350** bar  
**Q** max **300** l/min

### MOUNTING INTERFACE

ISO 4401-07-07-0-05  
(CETOP 4.2-4-07)



### OPERATING PRINCIPLE

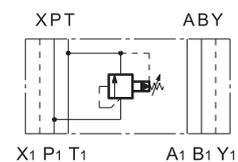


- The PMR7 valve is a pilot operated pressure relief valve made as a modular version with a mounting surface according to ISO 4401 (CETOP RP 121H) standards.
- It can be assembled with all ISO 4401-07 (CETOP 07) modular valves without the use of pipes, using suitable tie-rods or bolts.
- It is available in the type for single adjustment on line P and discharge in T with two pressure adjustment ranges.
- This valve is normally used as a hydraulic circuit pressure limiting device.
- It is normally supplied with an adjustment screw.

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

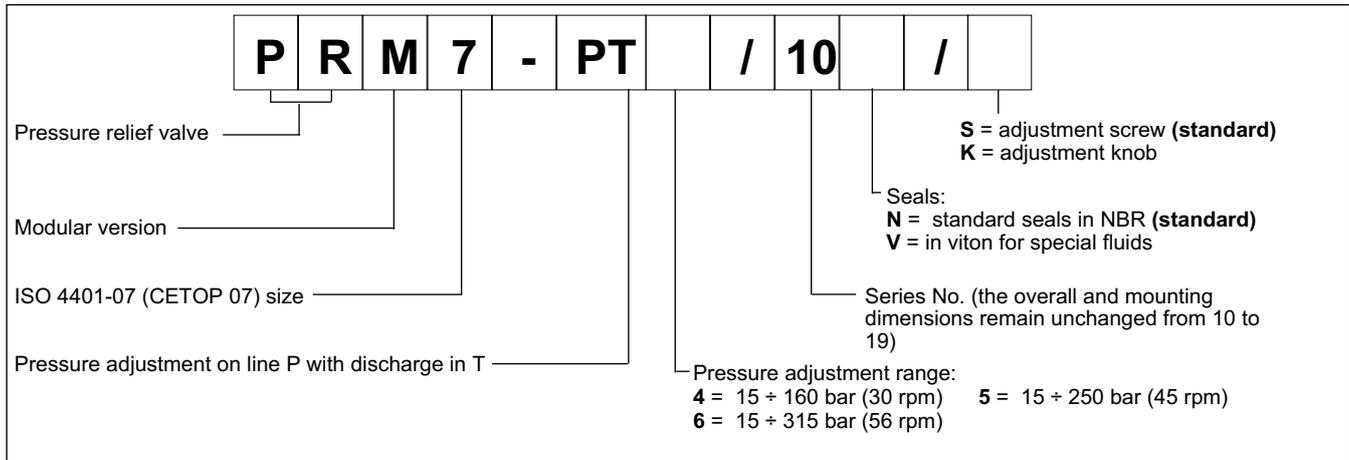
Maximum operating pressure	bar	350
Maximum flow rate	l/min	300
Ambient temperature range	°C	-20 / +50
Fluid temperature range	°C	-20 / +80
Fluid viscosity range	cSt	10 ÷ 400
Fluid contamination degree	According to ISO 4406:1999 class 20/18/15	
Recommended viscosity	cSt	25
Mass:	kg	8,5

### HYDRAULIC SYMBOL

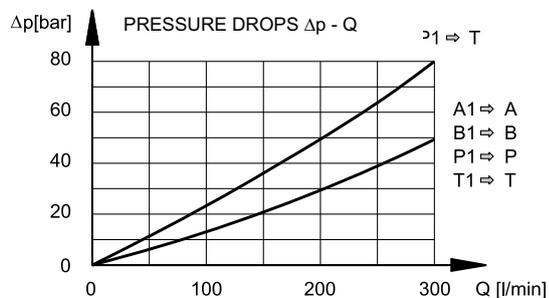
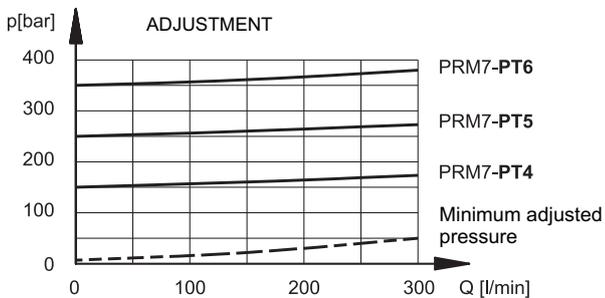




### 1 - IDENTIFICATION CODE



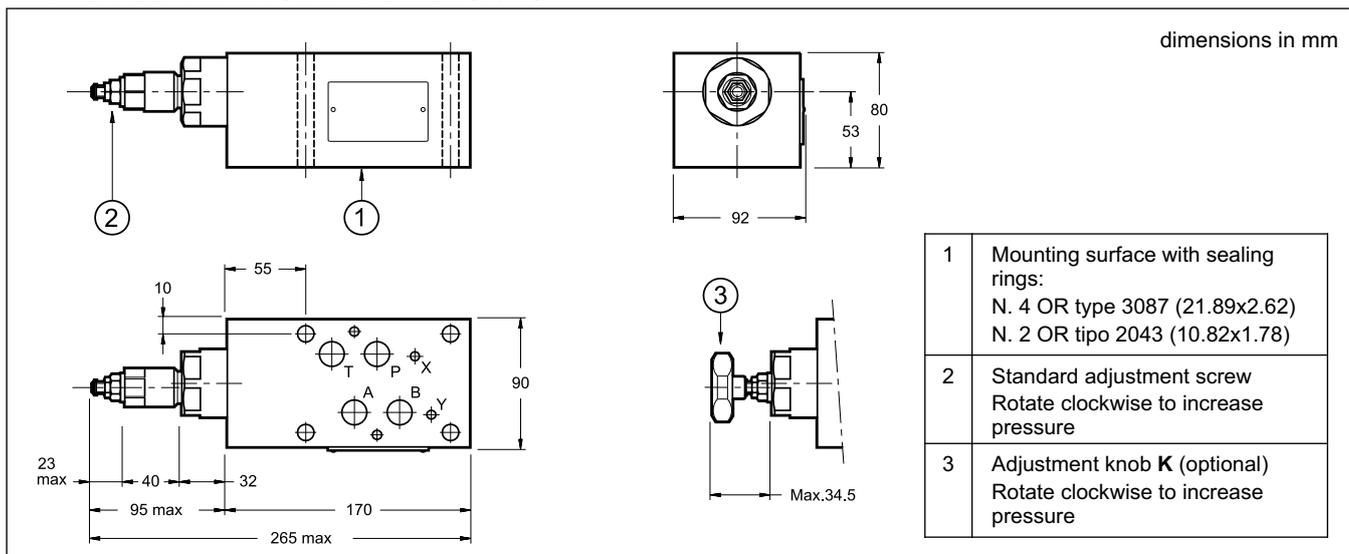
### 2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)



### 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.

### 4 - OVERALL AND MOUNTING DIMENSIONS



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Fax +39 0331.895.339  
www.diplomatic.com • e-mail: sales.exp@diplomatic.com

# PZM2

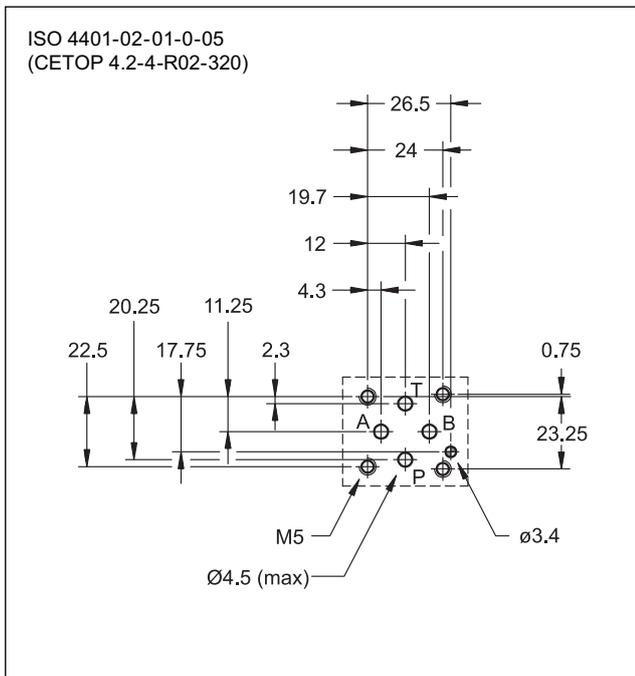
## PRESSURE REDUCING VALVE DIRECT OPERATED WITH VARIABLE ADJUSTMENT SERIES 10



### MODULAR VERSION ISO 4401-02

**p** max **320** bar  
**Q** max **20** l/min

### MOUNTING SURFACE



### OPERATING PRINCIPLE

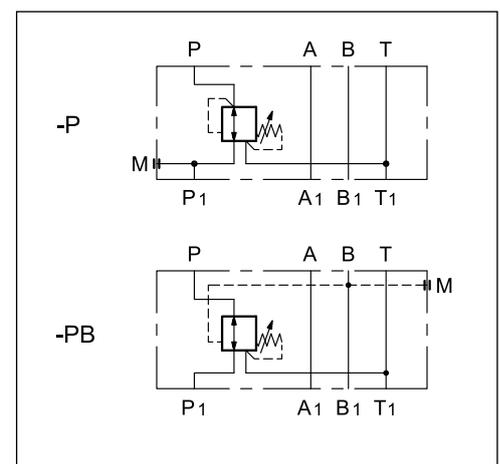
- The PZM2 valve is a three-ports pressure reducing valve, direct operated, spool type, made as modular version, with ports according to the ISO 4401 standards and can be assembled quickly, without use of pipes, under the ISO 4401-02 solenoid valves.
- The PZM2 is a normally open valve. The hydraulic fluid flows freely in the pressure line. When the inlet pressure in P exceeds the value set by the spring, the valve opens the outlet port to the tank line until the outlet pressure has been reduced to the set value.
- The valve construction provides good adjustment sensitivity with reduced drainage flow. The drainage to the tank line is internal.
- The three-ports design provides protection of the secondary circuit from pressure surges since it allows a reverse flow from the actuator to the tank line.

### PERFORMANCES

(measured with mineral oil of viscosity 36cSt at 50°C)

Maximum operating pressure	bar	320
Maximum pressure on port T		100
Maximum flow rate in the controlled lines	l/min	20
Maximum flow rate in the free lines		30
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	0,7

### HYDRAULIC SYMBOL

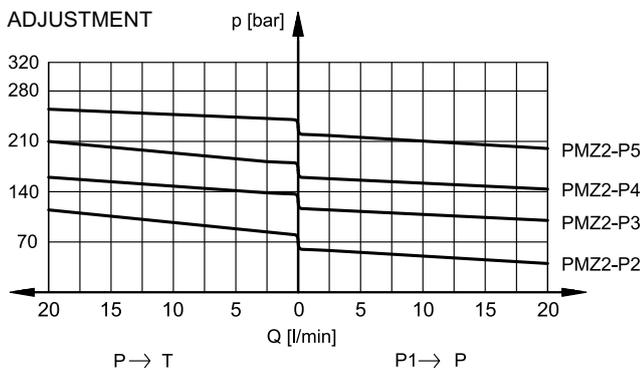


### 1 - IDENTIFICATION CODE

<b>PZ</b>	<b>M</b>	<b>2</b>	<b>-</b>	<b>/</b>	<b>10</b>	<b>/</b>	<b>S</b>
Pressure-reducing valve, direct operated	Modular version	Size: ISO 4401-02	Adjustment screw	Seals: <b>N</b> = NBR seals for mineral oils ( <b>standard</b> ) <b>V</b> = FPM seals for special fluids	Series No. (the overall and mounting dimensions remain unchanged from 10 to 19)	Pressure adj. range: <b>2</b> = 4 ÷ 32 bar <b>3</b> = 5 ÷ 80 bar	<b>4</b> = 10 ÷ 200 bar <b>5</b> = 25 ÷ 250 bar
Versions <b>P</b> = pressure reduction on line P <b>PB</b> = pressure reduction on line P with pilot signal from line B							

### 2 - CHARACTERISTIC CURVES

(values obtained with viscosity of 36 cSt at 50°C)



### 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals (code N).

For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics.

The fluid must be preserved in its physical and chemical characteristics.

### 4 - OVERALL AND MOUNTING DIMENSIONS

dimensions in mm

1	Mounting surface with sealing rings: n. 4 KANTSEAL type DKAR00011 (7.65x1.68x1.68) - 70 Shore
2	Hex adjustment screw with lead-sealing hole: spanner 6. Rotate clockwise to increase pressure
3	Locking nut : spanner 20
4	Pressure gauge port 1/4" BSP
5	Plastic cap for sealing



# MZD

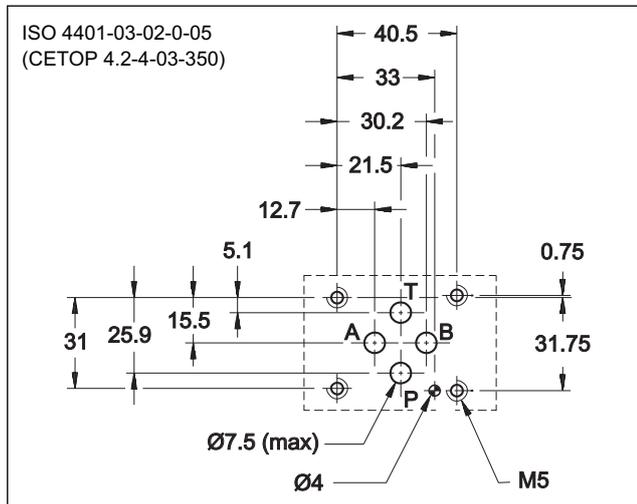
## DIRECT OPERATED THREE-WAY PRESSURE REDUCING VALVE WITH FIXED OR VARIABLE ADJUSTMENT

### MODULAR VERSION ISO 4401-03 (CETOP 03)

**p** max **350** bar

**Q** max (see table of performances)

#### MOUNTING INTERFACE



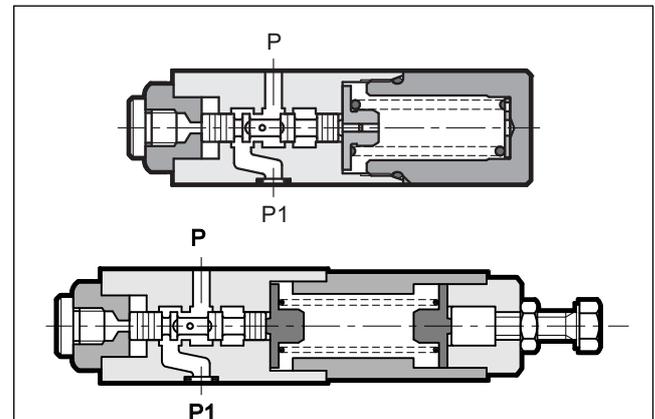
#### CONFIGURATIONS (see Hydraulic symbols at par.1)

- MZD\*: pressure reduction on line P, drainage connected with line T.
- MZD\*/A and MZD\*/RA: pressure reduction on line A toward the actuator and maximum pressure in line B, drainage connected with line T.
- MZD\*/B and MZD\*/RB: pressure reduction on line B toward the actuator and maximum pressure in line A, drainage connected with line T.

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

Maximum operating pressure	bar	350
Maximum pressure on port T		10
Maximum flow rate in the controlled lines	l/min	50
Maximum flow rate in the free lines		75
Drainage flow rate		≤ 0,08
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	1,4

#### OPERATING PRINCIPLE



— The MZD valve is a three-way spool type direct operated pressure reducing valve. It is normally open in the rest position and the hydraulic fluid passes freely from the P1 line to the P line.

The spool is subjected to the line P pressure on one side, and on the other side by the adjustment spring. When the pressure in line P exceeds the value set by the spring, the valve closes until the pressure in P (reduced) equals the calibrated value.

— The valve construction provides good adjustment sensitivity with reduced drainage flow. The drainage is connected to line T inside the valve.

— The three-way design provides protection of the secondary circuit from pressure surges since it allows a reverse flow from the actuator to the T discharge line.

— It is made as a modular version with ports according to the ISO 4401 (CETOP RP 121H) standards and can be assembled quickly, without use of pipes, under the ISO 4401-03 (CETOP 03) solenoid valves.

— The variable adjustment version is supplied with a hexagonal head adjustment screw. Upon request, it can be equipped with a SICBLOC adjustment knob.

— The fixed adjustment version is available set at value 20, 25 or 30 bar pressure.

## 1 - IDENTIFICATION CODE OF MZD VARIABLE ADJUSTMENT VERSION

<b>M</b>	<b>Z</b>	<b>D</b>	<b>/</b>	<b>/</b>	<b>/</b>	<b>/</b>
----------	----------	----------	----------	----------	----------	----------

Size: ISO 4401-03 (CETOP 03)  
Modular version

Direct operated pressure reducing valve

Pressure adjustment range:

<b>2</b> = 3 ÷ 35 bar	<b>4</b> = 30 ÷ 140 bar
<b>3</b> = 10 ÷ 70 bar	<b>5</b> = 50 ÷ 280 bar

Configurations  
(omit for MZD with pressure reduction on line P and regulation unit on side B)

**A:** pressure reduction on line A and full pressure on line B with regulation unit on side B

**B:** pressure reduction on line B and full pressure on line A with regulation unit on side B

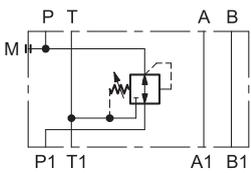
**RP:** pressure reduction on line P with regulation unit on side A

**RA:** pressure reduction on line A and full pressure on line B with regulation unit on side A

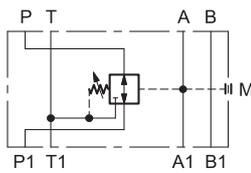
**RB:** pressure reduction on line B and full pressure on line A with regulation unit on side A

**Hydraulic symbols**

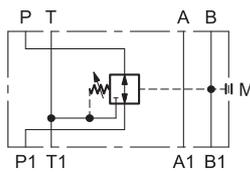
MZD\*  
MZD\*/RP



MZD\*/A  
MZD\*/RA



MZD\*/B  
MZD\*/RB



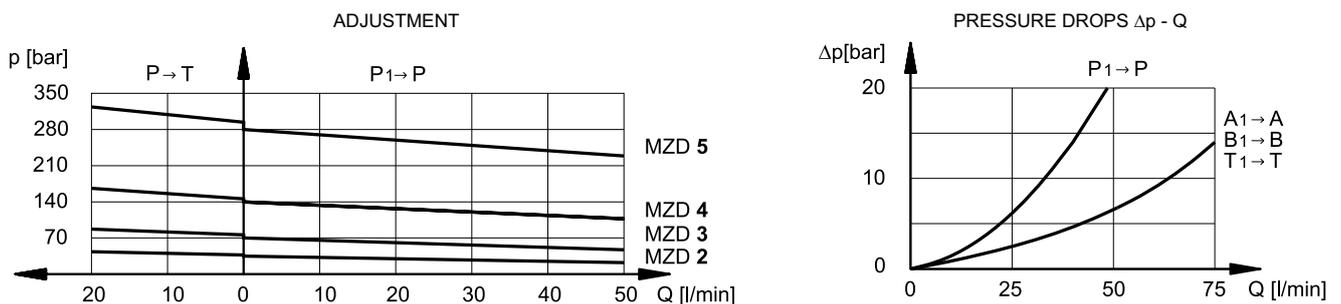
Seals:  
omit for mineral oils  
**V** = viton for special fluids

Series No.:  
**50** - for MZD\*, MZD\*/RP, MZD\*/A, MZD\*/RA, MZD\*/B valves  
**51** - for MZD\*/RB valves  
(the overall and mounting dimensions remain unchanged from 50 to 59)

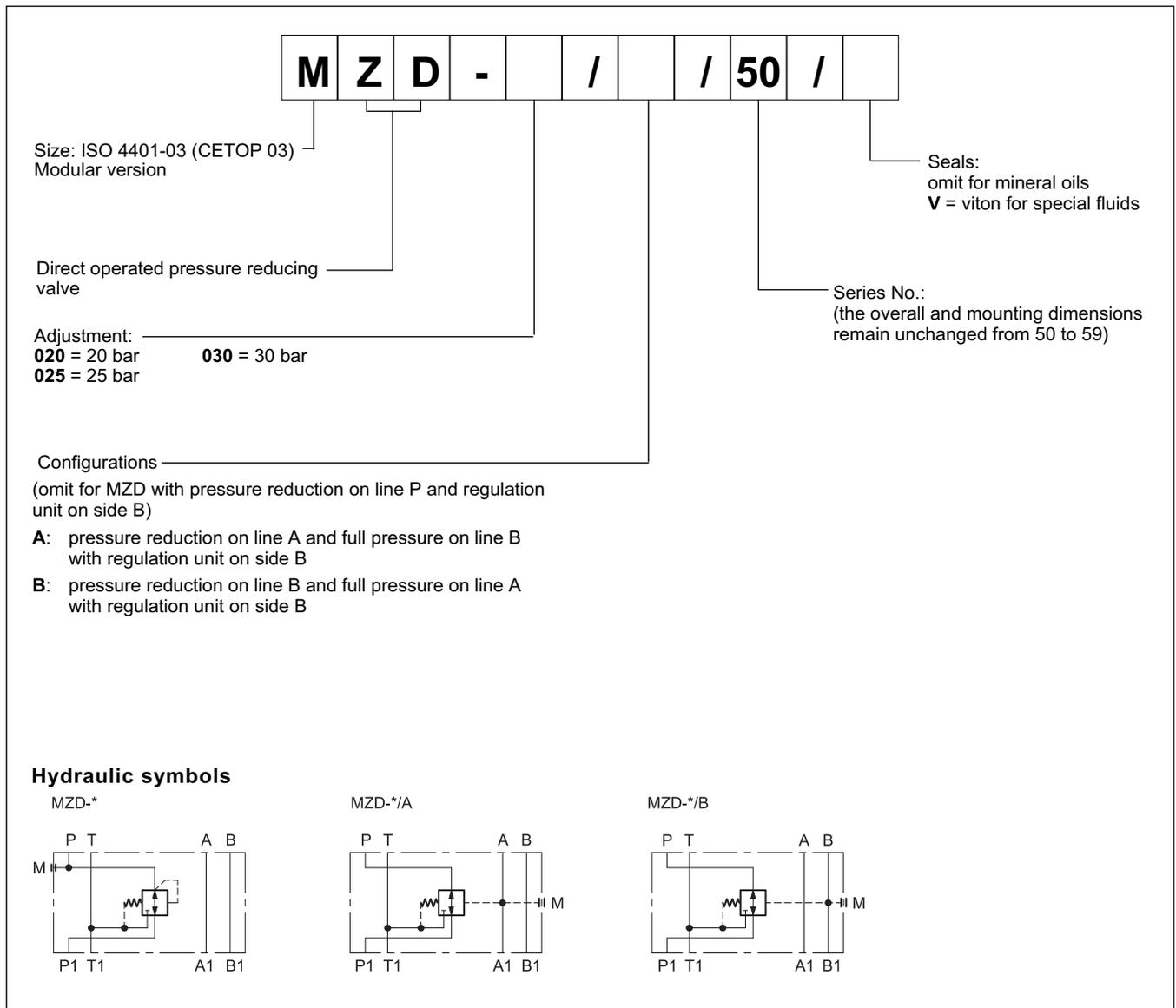
**M** = Adjustment with SICBLOC knob  
(omit for adjustment with hexagonal head screw)

**NOTE:** the versions RP, RA and RB have been realised with regulation unit on side A, so as to be interchangeable with valves produced by other companies.  
The standard version is equipped with regulation unit on side B.

## 2 - MZD VARIABLE ADJUSTMENT VERSION CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)



### 3 - IDENTIFICATION CODE OF MZD FIXED ADJUSTMENT VERSION

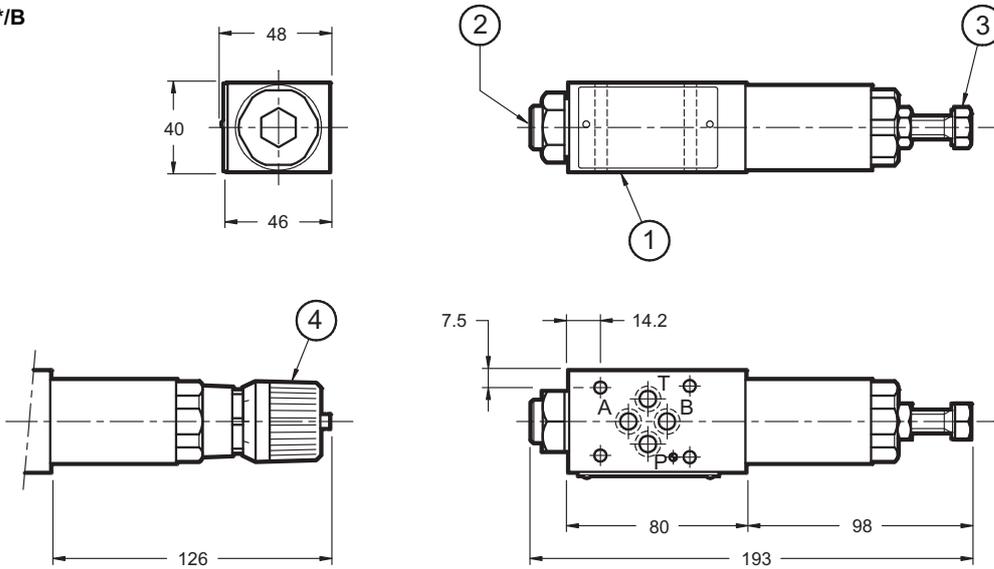


### 4 - HYDRAULIC FLUIDS

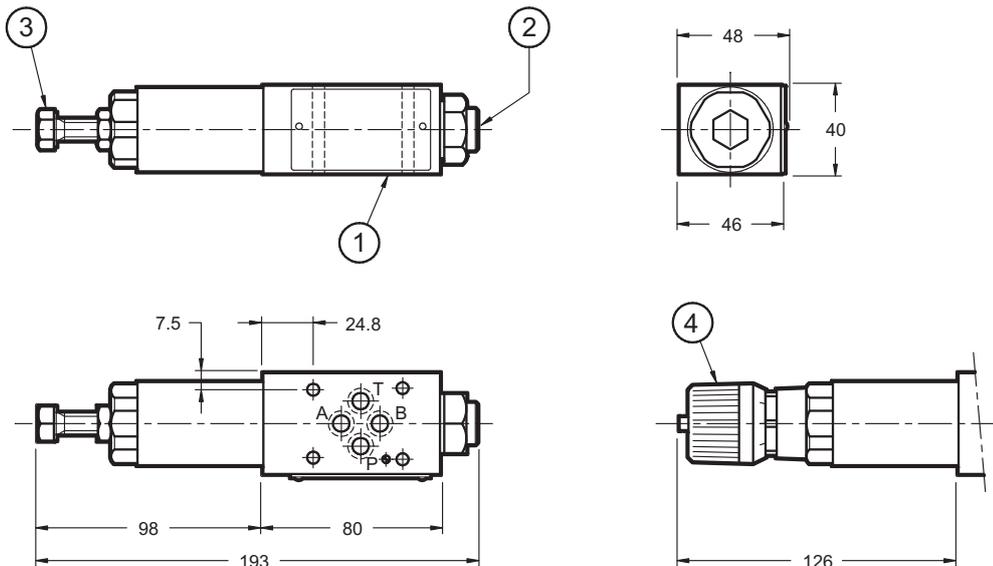
Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid such as HFA, HFB, HFC, please consult our technical department. Using fluids at temperatures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

5 - OVERALL AND MOUNTING DIMENSIONS VARIABLE ADJUSTMENT VERSION

MZD\*  
MZD\*/A  
MZD\*/B



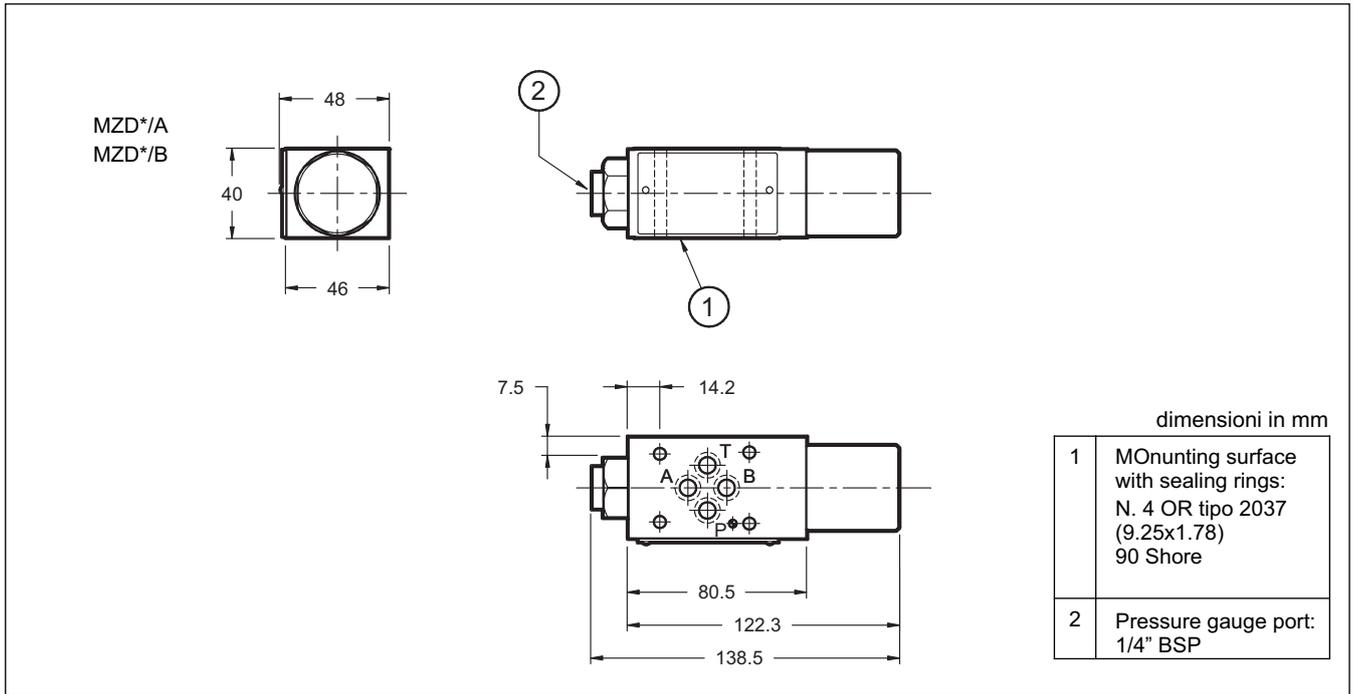
MZD\*/RP  
MZD\*/RA  
MZD\*/RB



dimensions in mm

1	Mounting surface with sealing rings: 4 OR type 2037 (9.25x1.78) 90 Shore
2	Pressure gauge port 1/4" BSP
3	Hexagonal head adjustment screw. Spanner 17. Rotate clockwise to increase pressure
4	SICBLOC knob. To operate, push and rotate at the same time.

## 6 - OVERALL AND MOUNTING DIMENSIONS FIXED ADJUSTMENT VERSION





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# Z4M

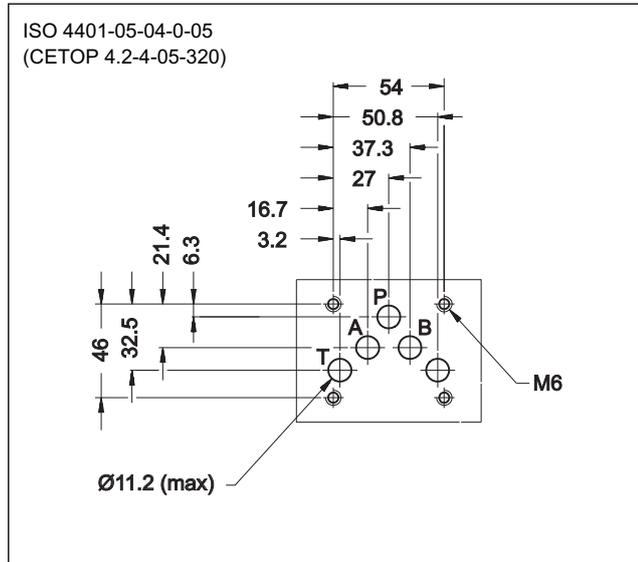
## PILOT OPERATED PRESSURE REDUCING VALVE

### SERIES 50

#### MODULAR VERSION ISO 4401-05 (CETOP 05)

**p** max **320** bar  
**Q** max (see table of performances)

#### MOUNTING INTERFACE



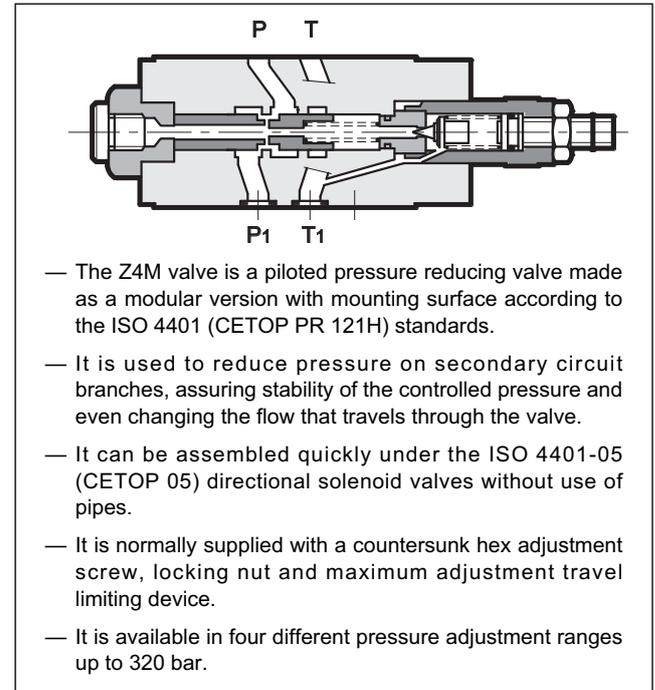
#### CONFIGURATIONS (see Hydraulic symbols table)

- Z4M\*-I: pressure reduction on line P - drainage connected to line T.
- Z4M\*-A: pressure reduction on line A and full pressure on line B.
- Z4M\*-B: pressure reduction on line B and full pressure on line A.

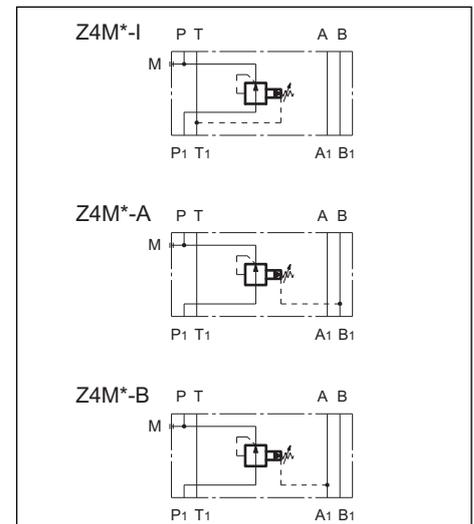
#### PERFORMANCES (measured with mineral oil of viscosity 36cSt at 50°C)

Maximum operating pressure	bar	320
Maximum flow rate in the controlled line P		80
Maximum flow rate in the free lines	l/min	100
Drainage flow rate		≤ 0,07
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	2,7

#### OPERATING PRINCIPLE



#### HYDRAULIC SYMBOLS



### 1 - IDENTIFICATION CODE

<b>Z</b>	<b>4</b>	<b>M</b>	<b>-</b>	<b>/</b>	<b>/</b>	<b>50</b>	<b>/</b>
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Pressure reducing valve ————

Size: ISO 4401-05 (CETOP 05) ————

Modular version ————

Pressure adjustment range: ————

3 = 5 ÷ 70 bar  
4 = 8 ÷ 140 bar  
5 = 10 ÷ 210 bar  
6 = 15 ÷ 320 bar

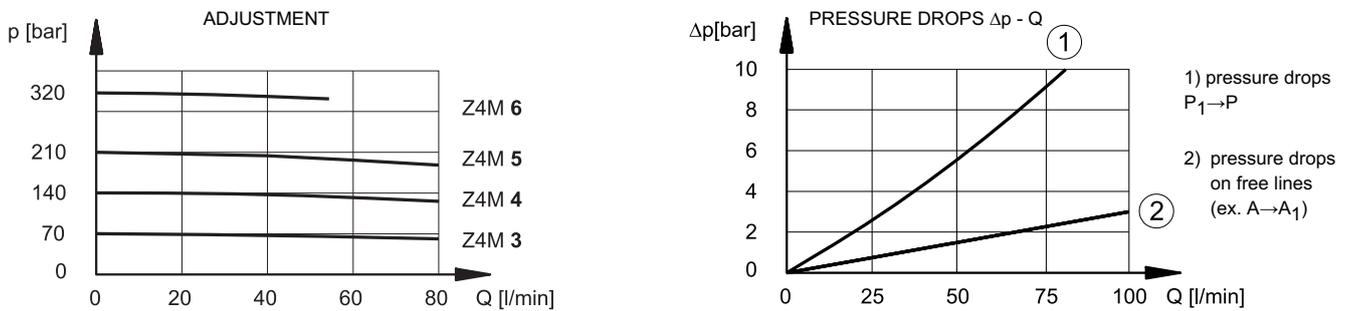
Seals: omit for mineral oils  
V = viton for special fluids

Series No. (the overall and mounting dimensions remain unchanged from 50 to 59)

M1 = Adjustment knob  
(omit for adjustment with countersunk hex screw)

Configurations: I: pressure reduction on line P. Internal drainage connected to line T  
A: pressure reduction on line A and full pressure on line B  
B: pressure reduction on line B and full pressure on line A

### 2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)



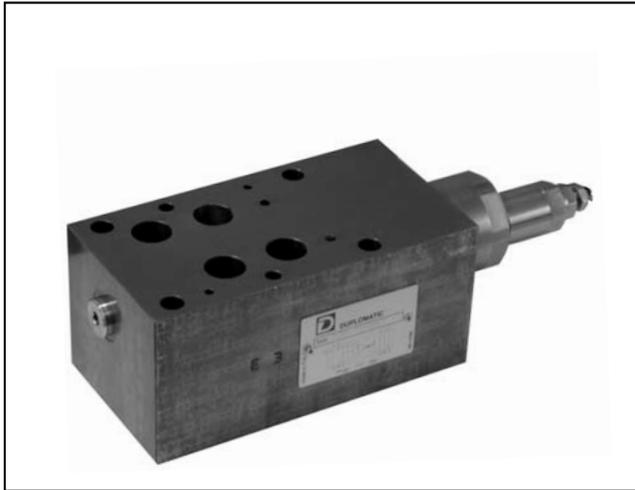
### 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.

### 4 - OVERALL AND MOUNTING DIMENSIONS

dimensions in mm

1	Locking nut spanner 17
2	Countersunk hex adjustment screw: Spanner 5. Rotate clockwise to increase pressure
3	Mounting surface with sealing rings: 5 OR type 2050 (12.42x1.78) 90 Shore
4	Pressure gauge port 1/4" BSP



# PZM7

## PRESSURE REDUCING VALVE

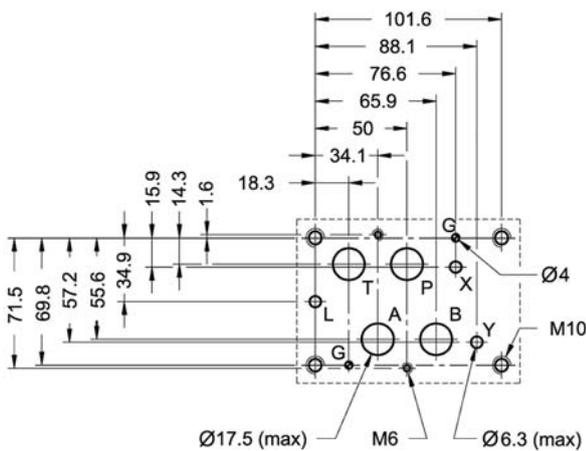
### SERIES 10

**MODULAR VERSION**  
**ISO 4401-07 (CETOP 07)**

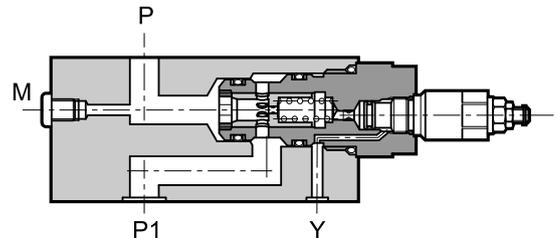
**p max 350 bar**  
**Q max 250 l/min**

#### MOUNTING INTERFACE

ISO 4401-07-0-05  
(CETOP 4.2-4-07)



#### OPERATING PRINCIPLE



- The PZM7 valve is made as a modular valve and has a mounting surface according to the ISO 4401 (CETOP RP 121H) standards.
- It is a two-stage type and is used to assure stability of the controlled pressure, even changing the flow that travels through the valve.
- The PZM7M valve can be assembled quickly under the DSP7 directional valves (see catalogue 41 420) without use of pipes, using suitable tie-rods or bolts, forming compact modular groups.
- It is normally supplied with an adjustment knob.

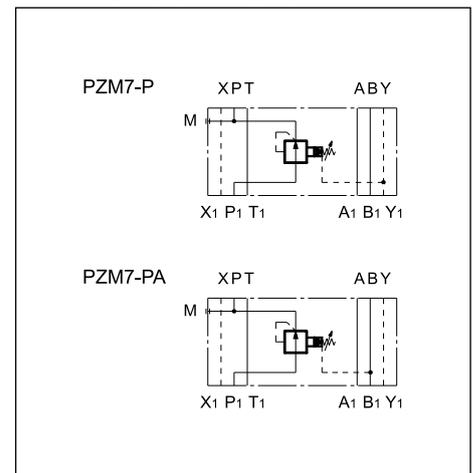
#### CONFIGURATIONS (see Hydraulic symbols table)

- Configuration "PZM7-P": pressure reduction on line P - external drainage.
- Configuration "PZM7-PA": pressure reduction on line A and valve on line P.

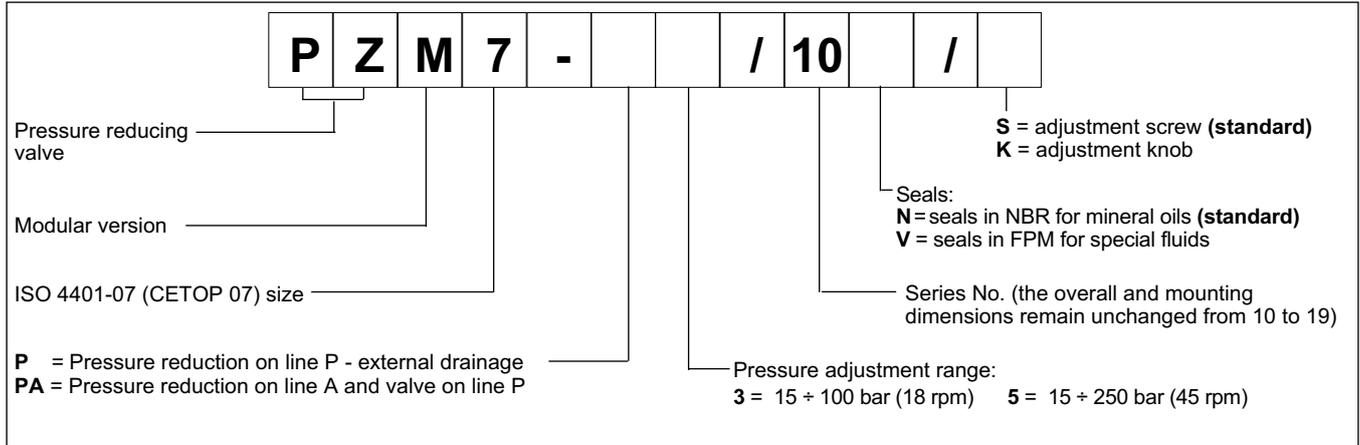
#### PERFORMANCES (measured with mineral oil of viscosity 36cSt at 50°C)

Maximum operating pressure	bar	350
Maximum flow rate	l/min	250
Drainage flow rate	l/min	≤ 0,8
Ambient temperature range	°C	-20 / +50
Fluid temperature range	°C	-20 / +80
Fluid viscosity range	cSt	10 ÷ 400
Fluid contamination degree	Secondo ISO 4406:1999 classe 20/18/15	
Recommended viscosity	cSt	25
Mass:	kg	8,65

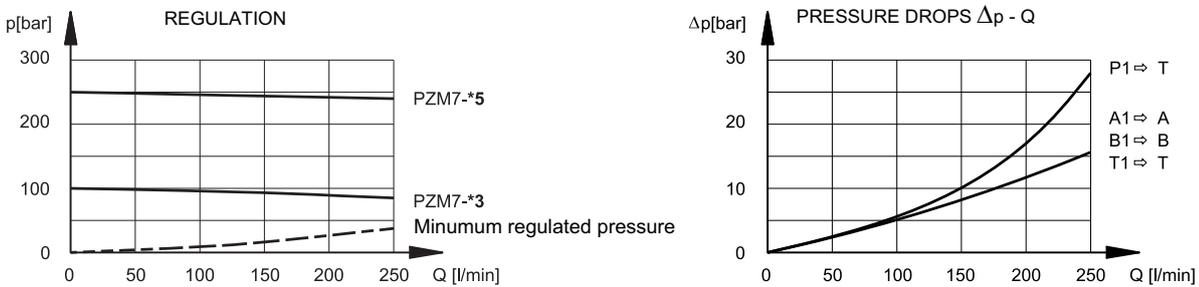
#### HYDRAULIC SYMBOLS



### 1 - IDENTIFICATION CODE



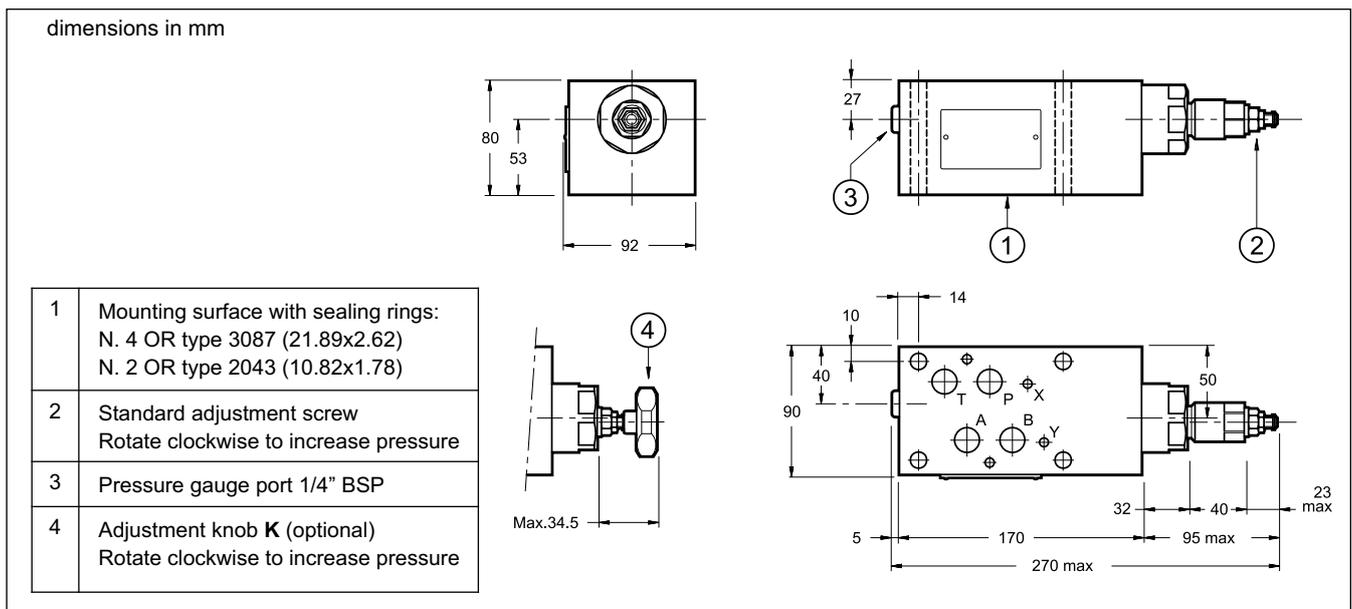
### 2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)



### 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.

### 4 - OVERALL AND MOUNTING DIMENSIONS





# MSD

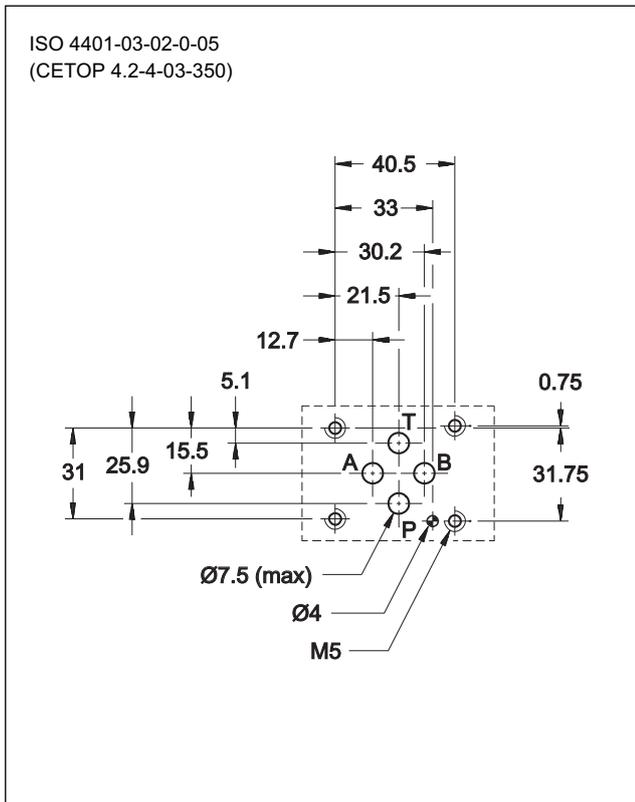
## DIRECT OPERATED SEQUENCE VALVE

### SERIES 50

#### MODULAR VERSION ISO 4401-03 (CETOP 03)

**p** max 350 bar  
**Q** max (see table of performances)

#### MOUNTING INTERFACE



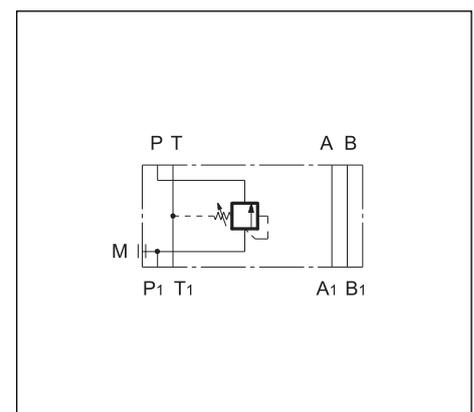
#### OPERATING PRINCIPLE

- The MSD valve is a direct operated sequence valve of the spool type and is used to control two or more actuators in succession.
- At rest position, it is normally closed and the spool is subject to pressure in line P1 on one side and to the adjustment screw on the other side. When the pressure in line P1 reaches the set value of the screw, the valve opens and allows passage of the fluid in the pressure line of the main circuit.
- The valve stays open until the pressure in the circuit drops below the calibrated value set by the spring.
- It is made as a modular version with ports according to the ISO 4401 (CETOP PR 121H) standards and can be assembled quickly without the use of pipes under the ISO 4401-03 (CETOP 03) directional solenoid valves.
- It is normally supplied with a hexagonal head adjustment screw. Upon request, it can be equipped with a SICBLOC adjustment knob with micrometric indication and automatic locking.

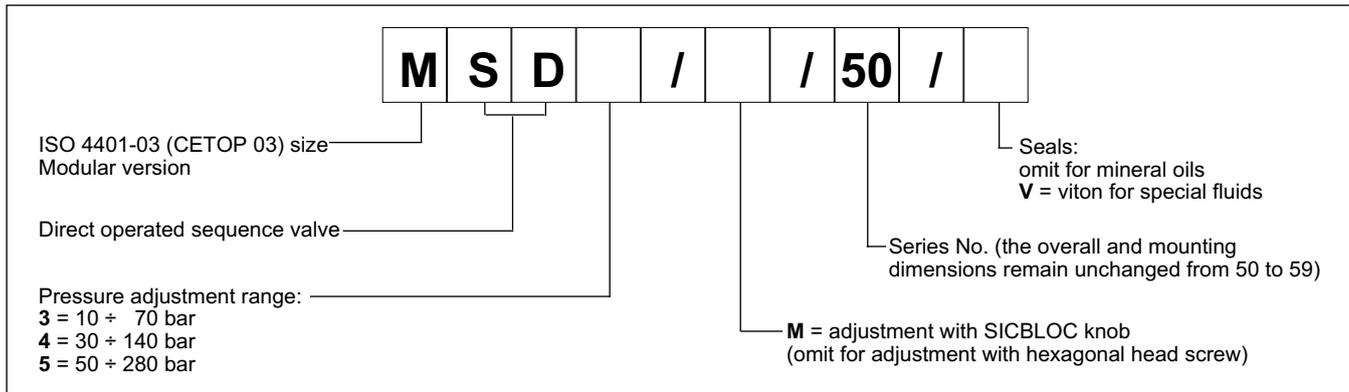
#### PERFORMANCES (measured with mineral oil of viscosity 36cSt at 50°C)

Maximum operating pressure maximum pressure on port T	bar	350 10
Maximum flow rate in the controlled lines Maximum flow rate in the free lines	l/min	50 75
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	1,4

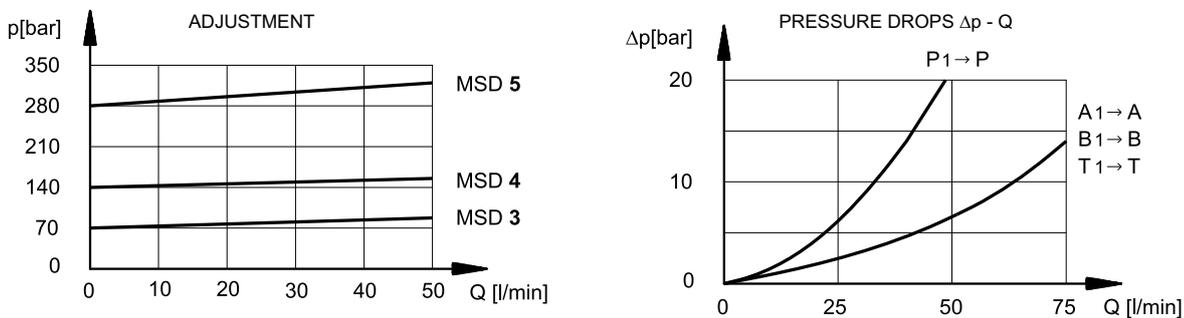
#### HYDRAULIC SYMBOLS



### 1 - IDENTIFICATION CODE



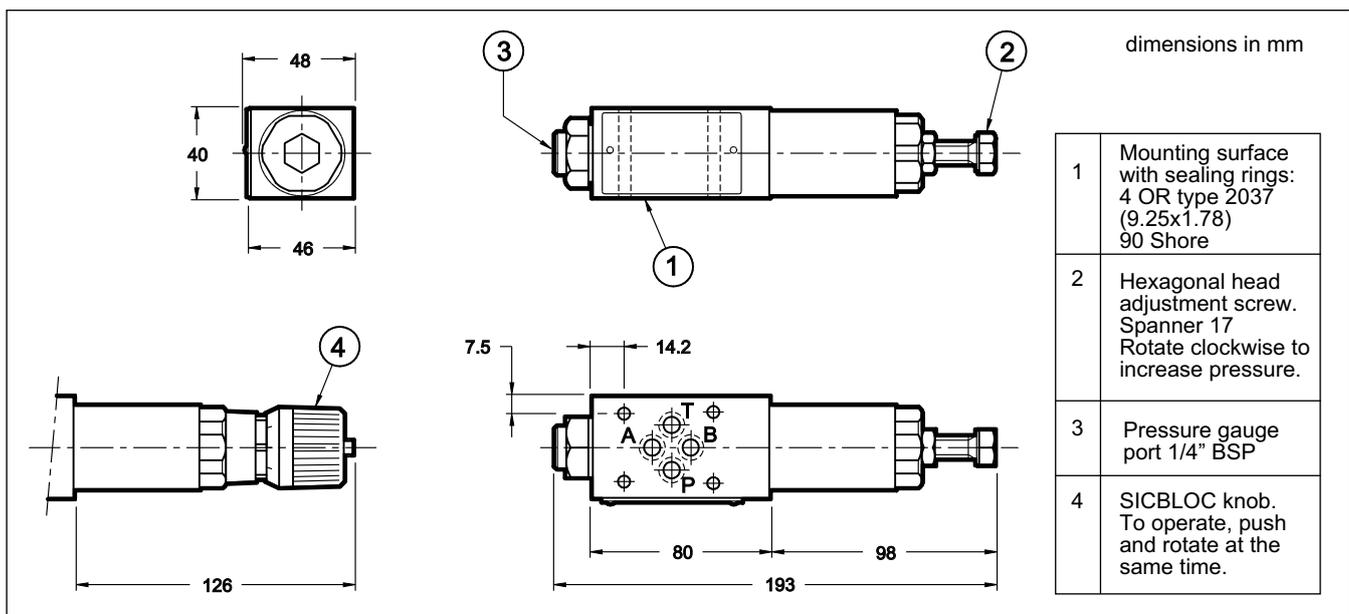
### 2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)



### 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.

### 4 - OVERALL AND MOUNTING DIMENSIONS





# SD4M

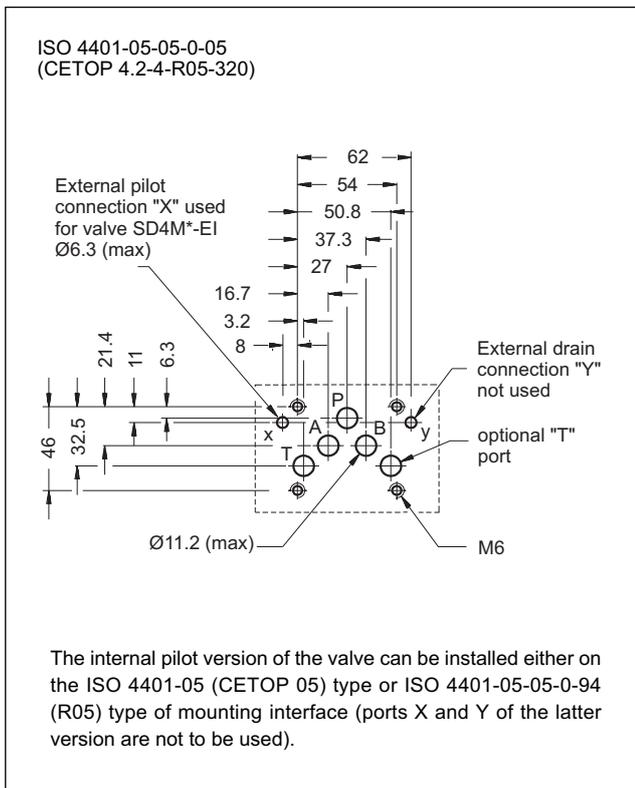
## DIRECT OPERATED SEQUENCE VALVE

### SERIES 50

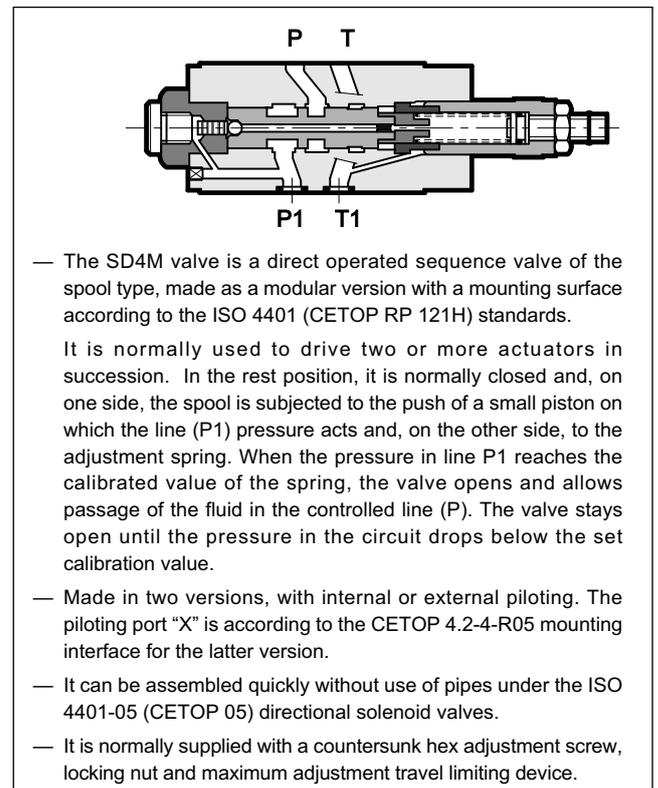
#### MODULAR VERSION ISO 4401-05 (CETOP 05)

**p** max 320 bar  
**Q** max (see table of performances)

#### MOUNTING INTERFACE



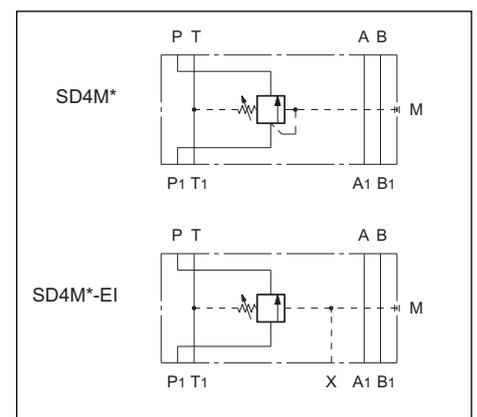
#### OPERATING PRINCIPLE



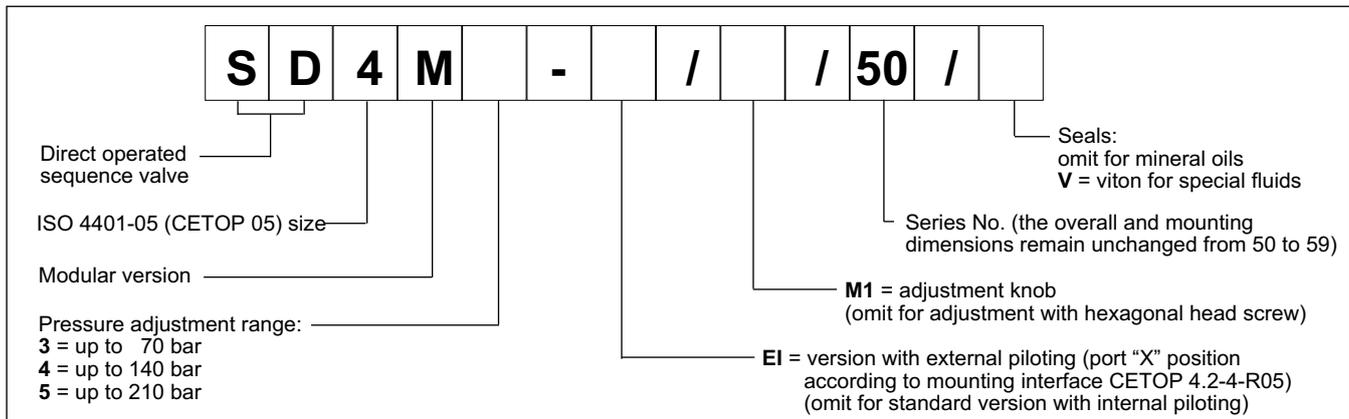
#### PERFORMANCES (measured with mineral oil of viscosity 36 cSt at 50°C)

Maximum operating pressure maximum pressure on port T	bar	320 10
Maximum flow rate in the controlled lines Maximum flow rate in the free lines	l/min	80 100
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	2,7

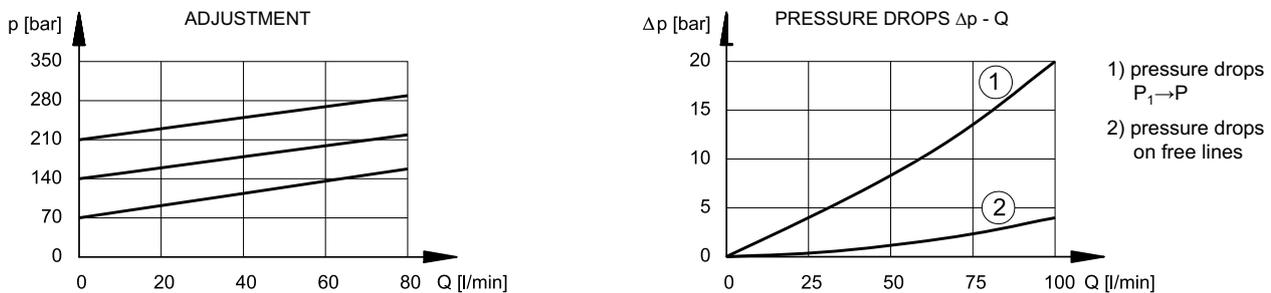
#### HYDRAULIC SYMBOLS



### 1 - IDENTIFICATION CODE



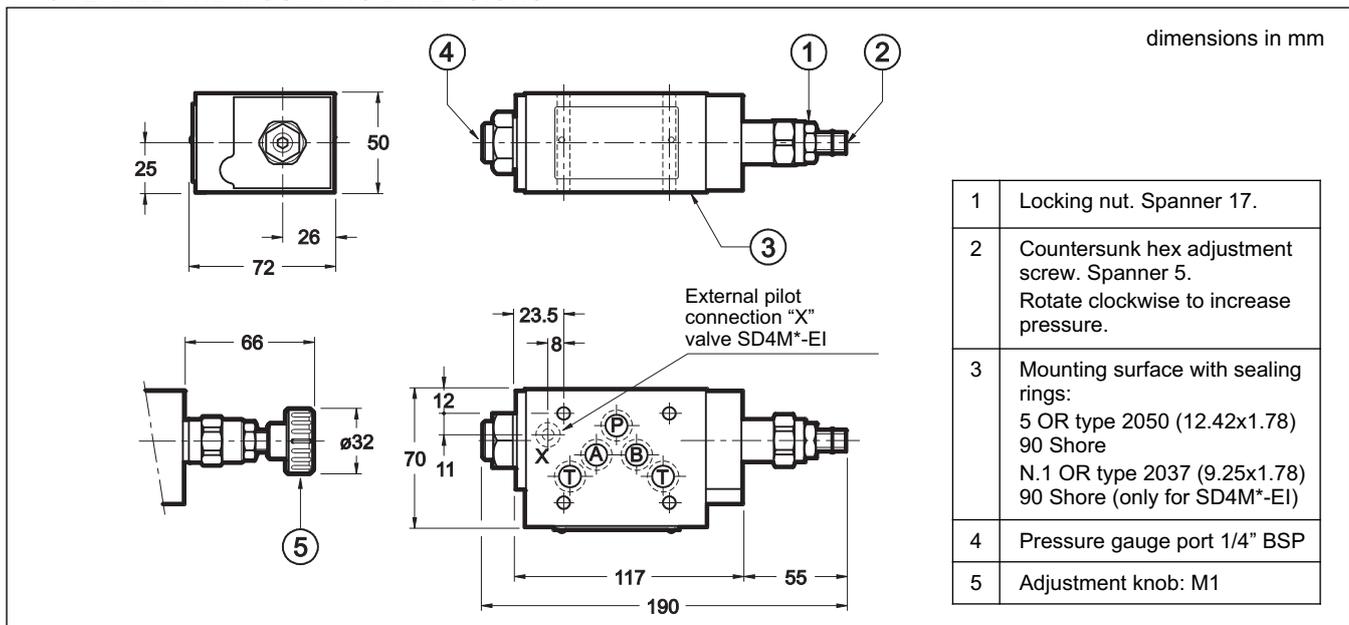
### 2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)



### 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.

### 4 - OVERALL AND MOUNTING DIMENSIONS





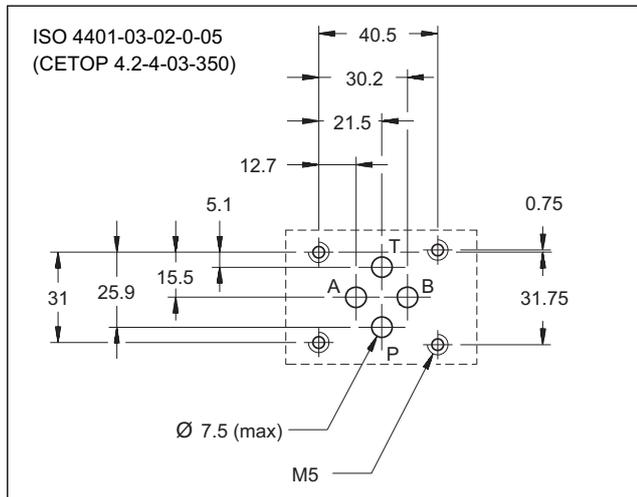
# PCM3

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

**MODULAR VERSION**  
**ISO 4401-03 (CETOP 03)**

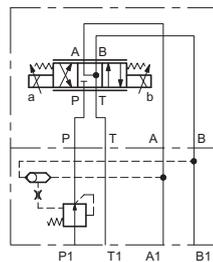
**p** max 350 bar  
**Q** max 40 l/min

### MOUNTING INTERFACE

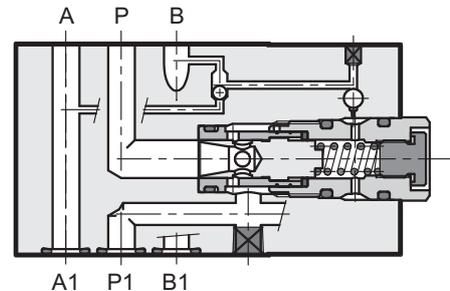


### APPLICATION EXAMPLES

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



### OPERATING PRINCIPLE

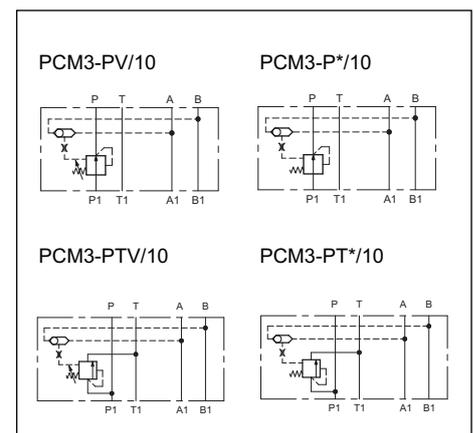


- The PCM3 valve is a two or three-way pressure compensator, developed as a modular version with mounting surface according to the ISO 4401 (CETOP RP121H).
- Its aim is to keep the pressure drop setting (characteristic  $\Delta p$ ) between the line P and alternatively the lines A and B, at a constant 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  $\Delta p$ ) 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  $\Delta p$ ) of 4 and 8 bar.

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

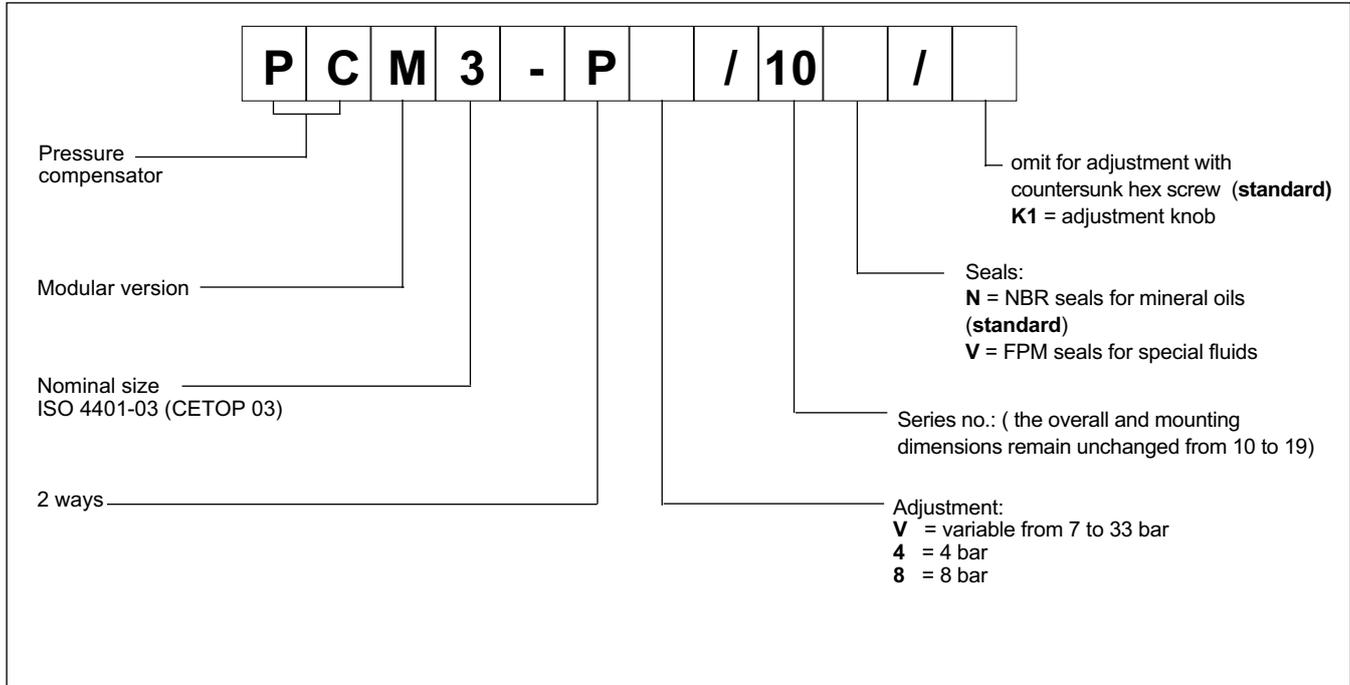
Max operating pressure	bar	350
Characteristic $\Delta p$ : fixed adjustment variable adjustment	bar	4 - 8 7 ÷ 33
Max flow rate	l/min	40
Ambient temperature range	°C	-20 / +50
Fluid temperature range	°C	-20 / +80
Fluid viscosity range	cSt	10 ÷ 400
Fluid contamination degree	According to ISO 4406:1999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

### HYDRAULIC SYMBOLS

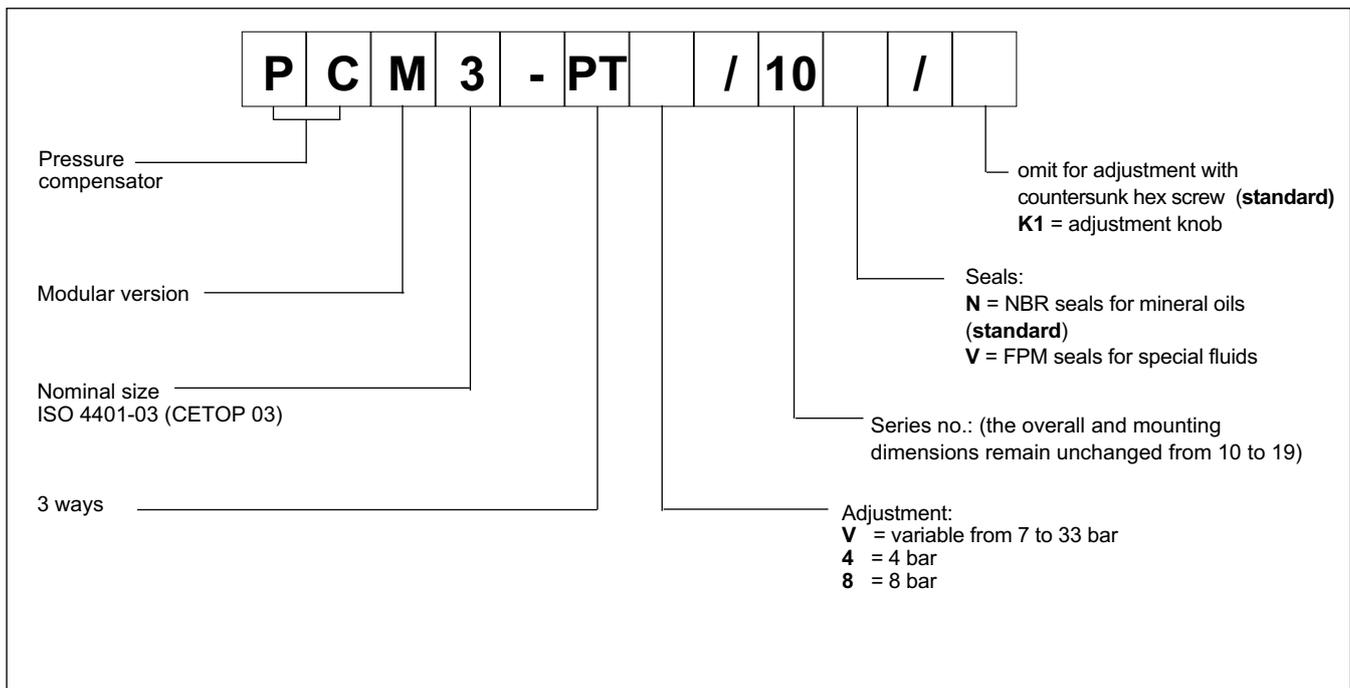


## 1 - IDENTIFICATION CODE

### 1.1 - Two-way compensator identification code



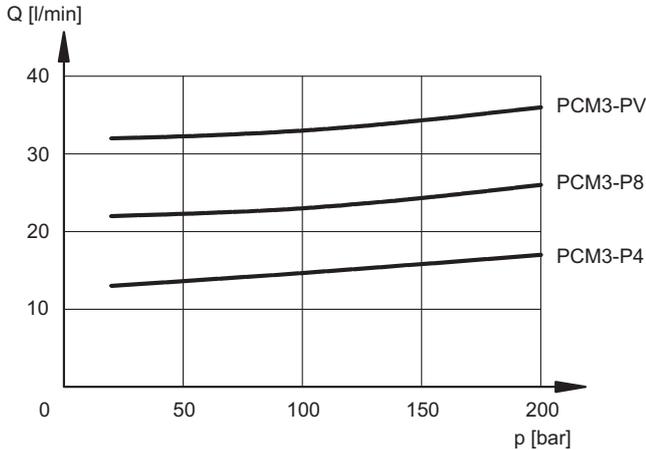
### 1.2 - Three-way compensator identification code



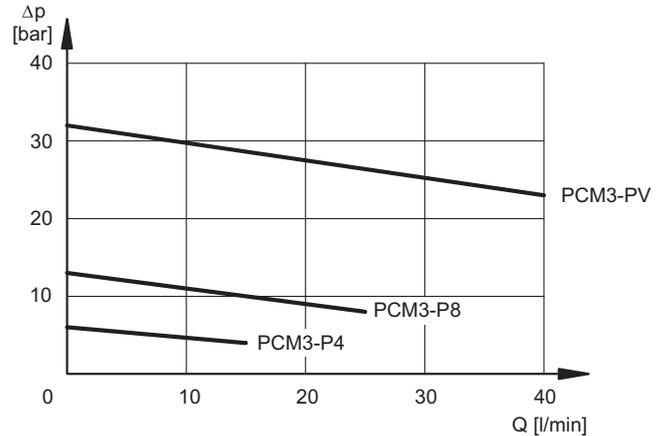
## 2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)

### 2.1 - Two-way compensator characteristic curves

FLOW RATE - PRESSURE  $Q = f(p)$

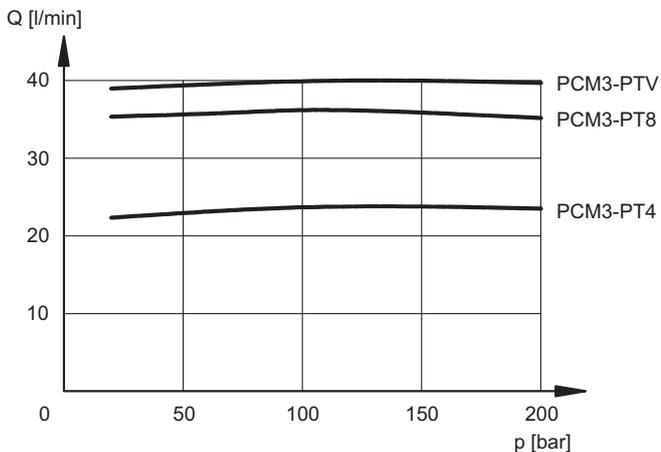


PRESSURE DROPS  $\Delta p = f(Q)$

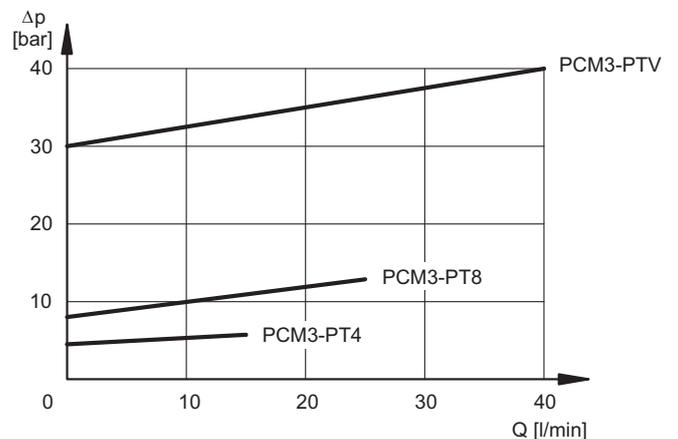


### 2.2 - Three-way compensator characteristic curves

FLOW RATE - PRESSURE  $Q = f(p)$



PRESSURE DROPS  $\Delta p = f(Q)$



## 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).

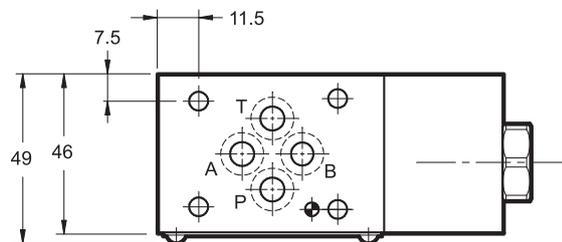
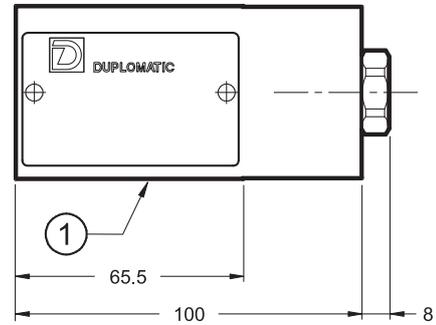
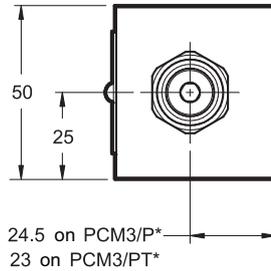
Using other fluid types such as HFA, HFB, HFC, please consult our technical department.

Using fluids at temperatures higher than 80 °C causes a faster degradation of the fluid itself and of the seals characteristics.

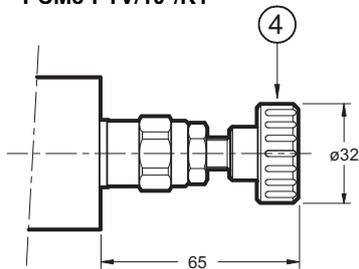
The fluid must be preserved in its physical and chemical characteristics.

## 4 - OVERALL AND MOUNTING DIMENSIONS

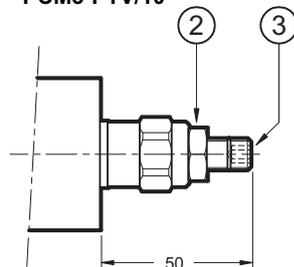
PCM3-P\*/10  
PCM3-PT\*/10



PCM3-PV/10\*/K1  
PCM3-PTV/10\*/K1



PCM3-PV/10  
PCM3-PTV/10



dimensions in mm

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: <b>K1</b>



# PCM5

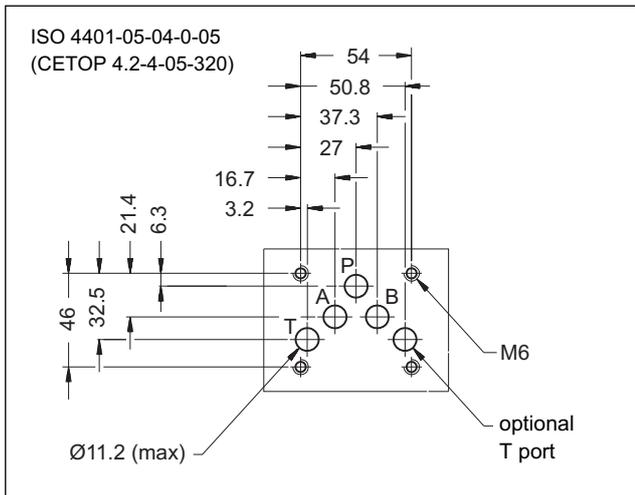
## TWO- AND THREE-WAY PRESSURE COMPENSATOR WITH FIXED ADJUSTMENT

### SERIES 11

**MODULAR VERSION**  
**ISO 4401-05 (CETOP 05)**

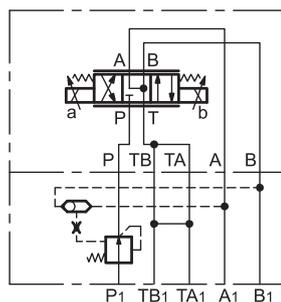
**p** max **320** bar  
**Q** max **100** l/min

#### MOUNTING INTERFACE

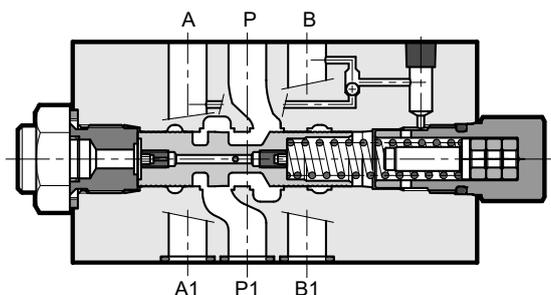


#### APPLICATION EXAMPLES

2-way compensator combined with a proportional valve type DSE5-A\*



#### OPERATING PRINCIPLE

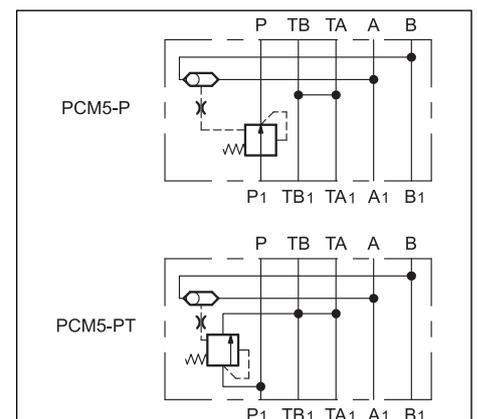


- The PCM5 valve is a two- or three- way pressure compensator, designed as a modular version with mounting surface according to ISO 4401-05 (CETOP RP121H).
- It keeps the pressure drop setting (characteristic  $\Delta p$ ) between the line P and alternatively the lines A and B at a constant level.
- It is 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.

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

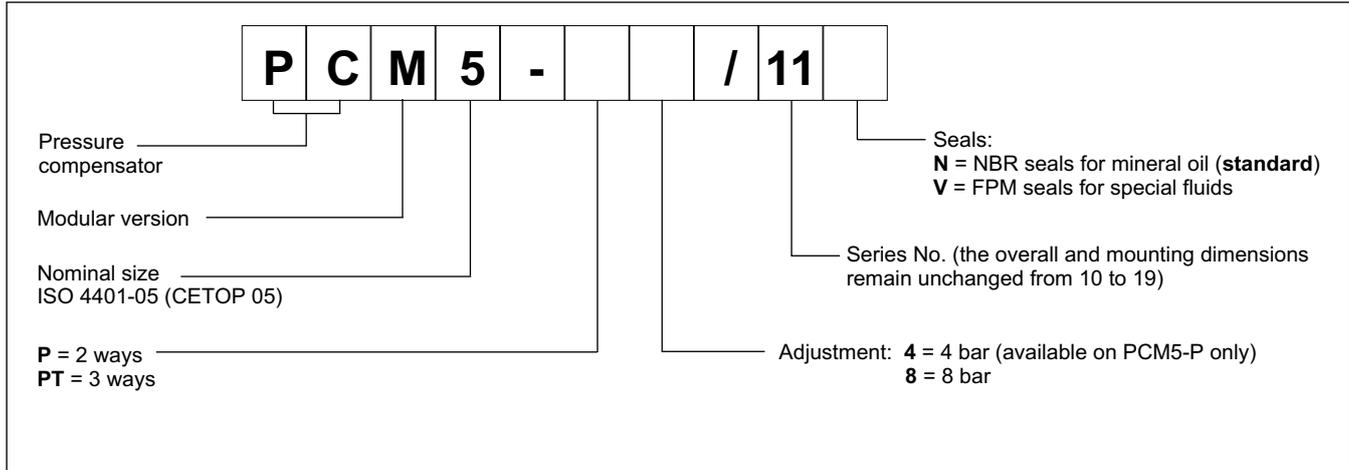
Max operating pressure	bar	320
Characteristic $\Delta p$	bar	4 - 8
Max flow rate	l/min	100
Ambient temperature range	°C	-20 / +60
Fluid temperature range	°C	-20 / +80
Fluid viscosity range	cSt	10 ÷ 400
Fluid contamination degree	According to ISO 4406:1999 class 20/18/15	
Recommended viscosity	cSt	25
Mass	kg	2,7

#### HYDRAULIC SYMBOL

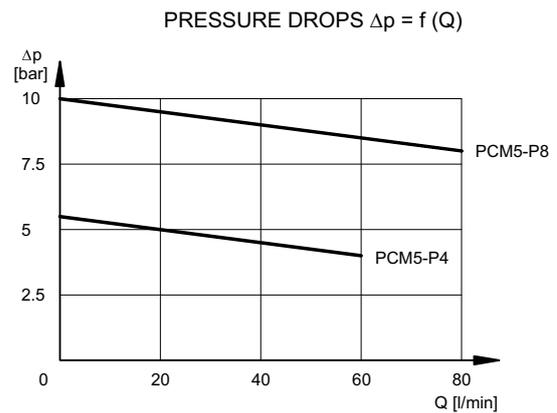
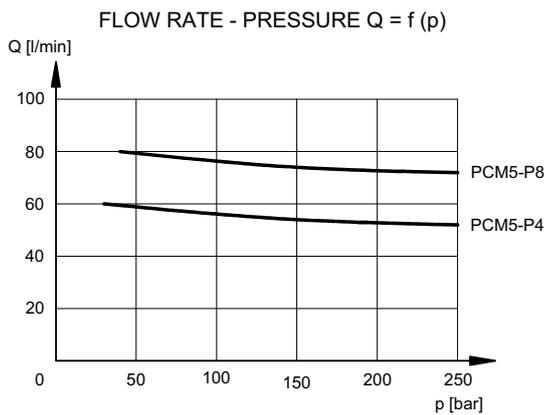




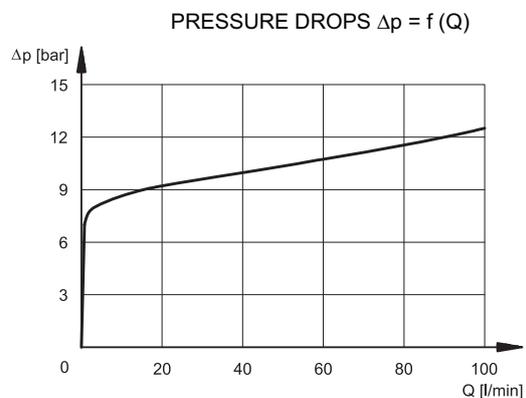
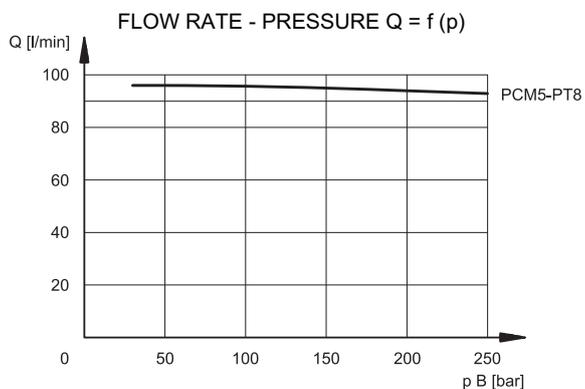
### 1 - IDENTIFICATION CODE



### 2 - CHARACTERISTIC CURVES PCM5-P\* (2-way) (values obtained with viscosity of 36 cSt at 50°C)



### 3 - CHARACTERISTIC CURVES PCM5-PT8 (3-way) (values obtained with viscosity of 36 cSt at 50°C)

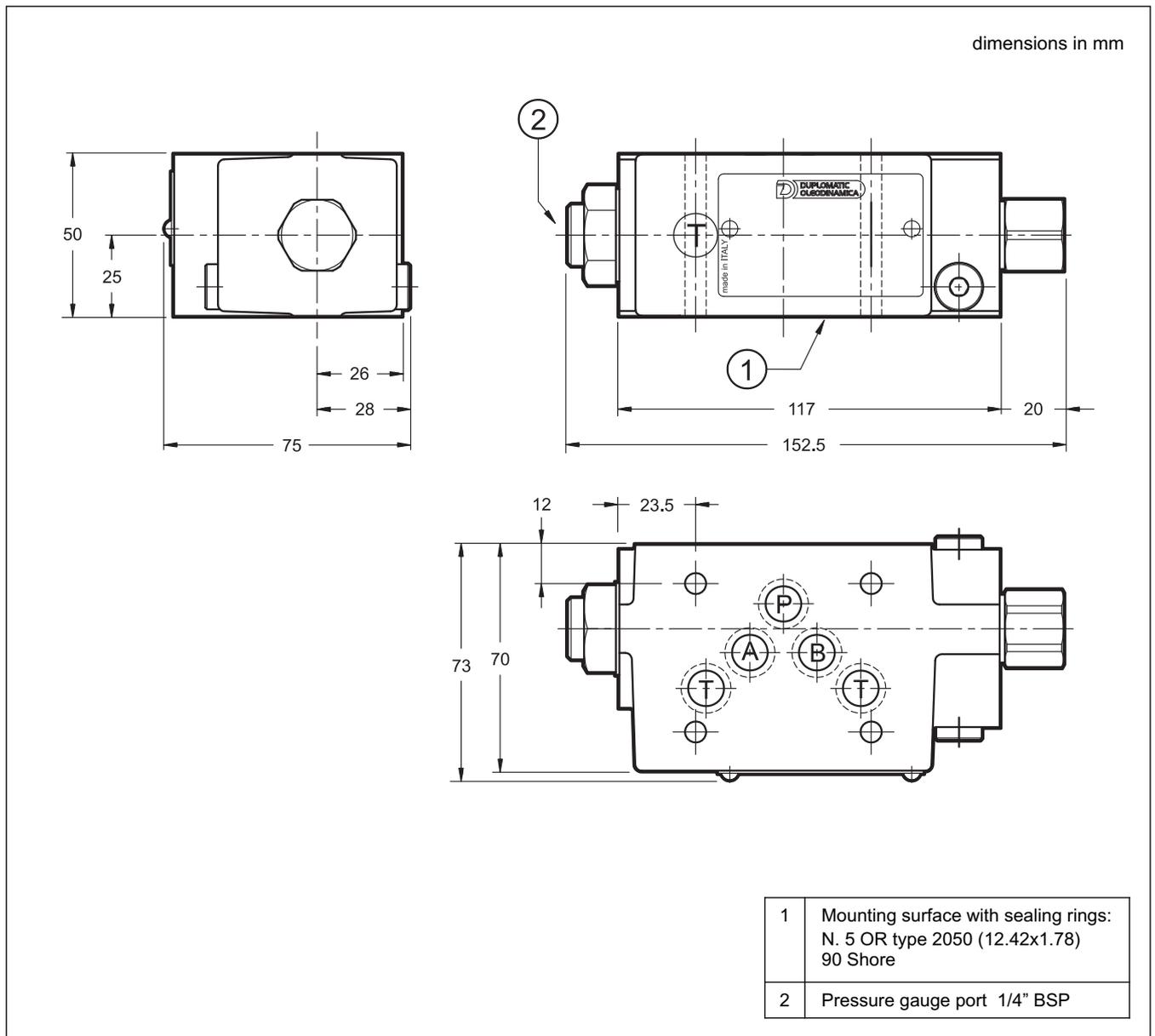


## 4 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals (code N). For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.

## 5 - OVERALL AND MOUNTING DIMENSIONS





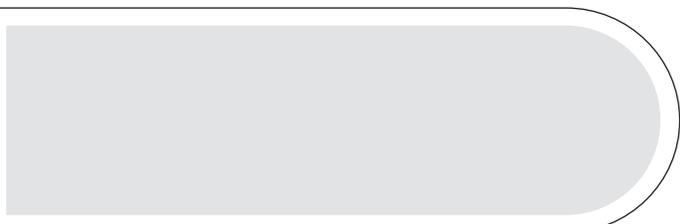
# PCM5

SERIES 11



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Tel. +39 0331.895.111  
Fax +39 0331.895.339

www.diplomatic.com • e-mail: sales.exp@diplomatic.com





# PCM8

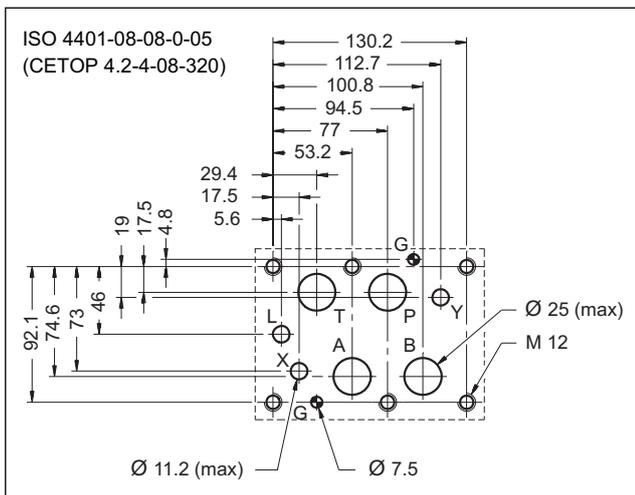
## TWO- AND THREE-WAY PRESSURE COMPENSATOR WITH FIXED ADJUSTMENT

### SERIES 10

**MODULAR VERSION**  
**ISO 4401-08 (CETOP 08)**

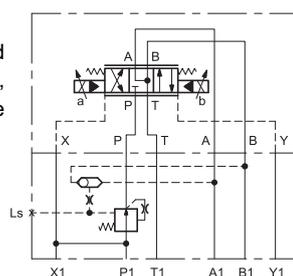
**p** max 320 bar  
**Q** max 300 l/min

#### MOUNTING INTERFACE



#### APPLICATION EXAMPLES

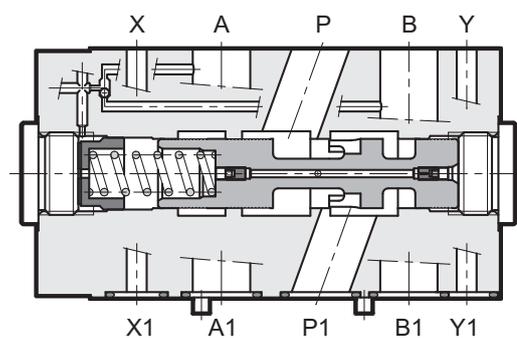
Two-way compensator with fixed adjustment and internal piloting, combined with a proportional valve type E5E-S9\*/E



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

Max operating pressure	bar	320
Characteristic $\Delta p$ :	bar	4 - 8
Max flow rate	l/min	300
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	13,5

#### OPERATING PRINCIPLE



- The PCM8 valve is a two or three-way pressure compensator, developed as a modular version with mounting surface according to ISO 4401 (CETOP RP 121H).
- Its function is to keep the pressure drop setting (characteristic  $\Delta p$ ) 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.
- They are available with fixed adjustment (characteristic  $\Delta p$ ) of 4 and 8 bar.
- The load sensing port can also be used as pressure gauge port or as remote pressure control.

## 1 - IDENTIFICATION CODE

### 1.1 - Two-way compensator identification code

<b>P</b>	<b>C</b>	<b>M</b>	<b>8</b>	<b>-</b>	<b>P</b>	<b>/</b>	<b>E</b>	<b>/</b>	<b>10</b>
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Pressure compensator

Modular version

Nominal size  
ISO 4401-08 (CETOP 08)

2 ways

Adjustment: **4** = 4 bar  
**8** = 8 bar

Piloting: (relevant to the combined directional valve, that must always have external piloting)  
**I** = internal (withdrawn inside the compensator, upstream the narrowing)  
**E** = external (passing line X)

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

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

External drain (passing line Y)

**Hydraulic symbols**

PCM8-P\*/IE/10                      PCM8-P\*/EE/10

### 1.2 - Three-way compensator identification code

<b>P</b>	<b>C</b>	<b>M</b>	<b>8</b>	<b>-</b>	<b>PT</b>	<b>/</b>	<b>E</b>	<b>/</b>	<b>10</b>
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Pressure compensator

Modular version

Nominal size  
ISO 4401-08 (CETOP 08)

3 ways

Adjustment: **4** = 4 bar  
**8** = 8 bar

Piloting: (relevant to the combined directional valve, that must always have external piloting)  
**I** = internal (withdrawn inside the compensator, upstream the narrowing)  
**E** = external (passing line X)

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

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

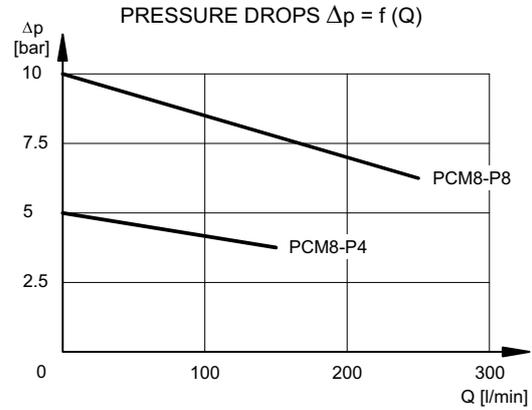
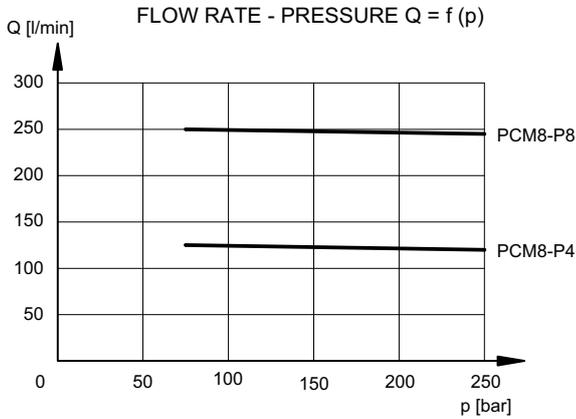
External drain (passing line Y)

**Hydraulic symbols**

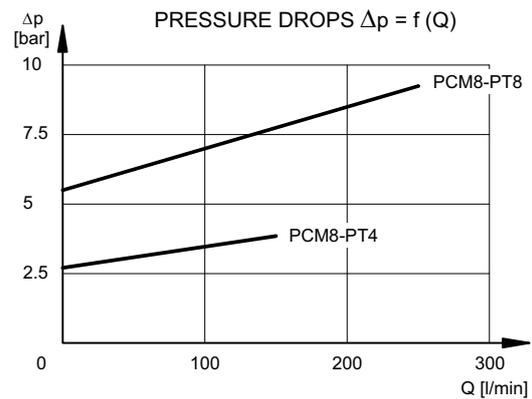
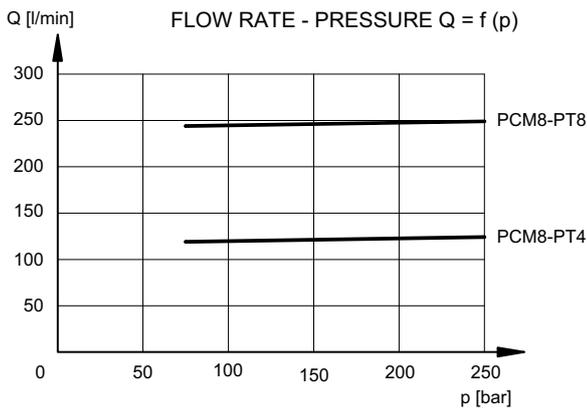
PCM8-PT\*/IE/10                      PCM8-PT\*/EE/10

### 2 - CHARACTERISTIC CURVES (values obtained with viscosity of 36 cSt at 50°C)

#### 2.1 - Two-way compensator characteristic curves



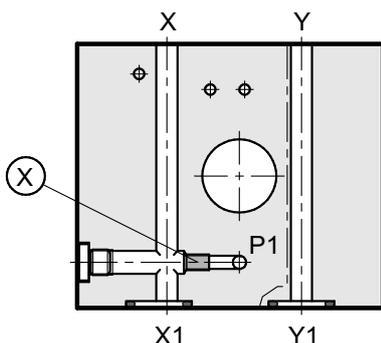
#### 2.2 - Three-way compensator characteristic curves



### 3 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid 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 and of the seals characteristics. The fluid must be preserved in its physical and chemical characteristics.

### 4 - PILOTING AND DRAINAGE



X: plug M6x10 for external piloting  
Drainage always external

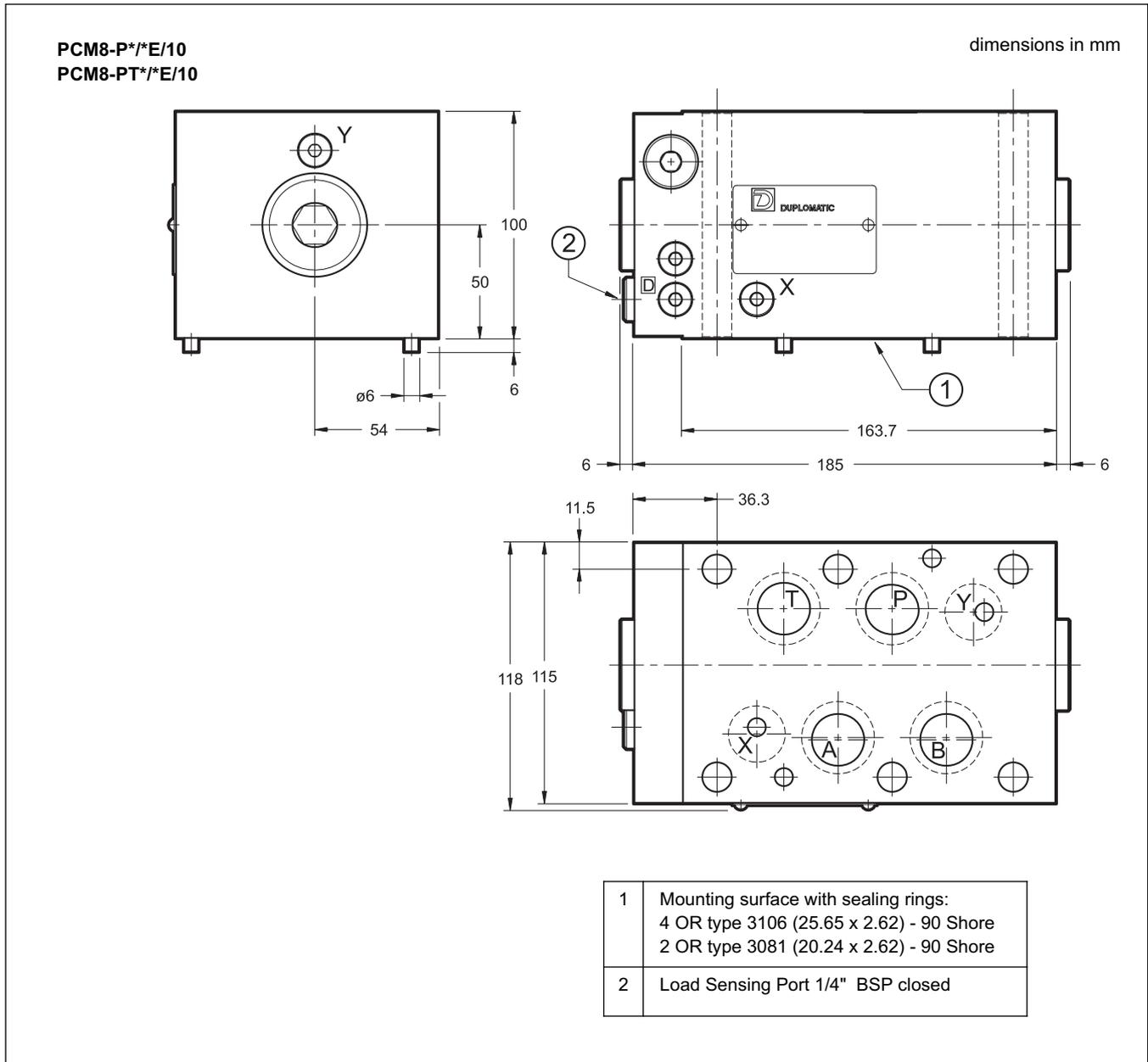
The PCM8 compensators are available with the X piloting line both internal and external. The internal piloting line is withdrawn from the P1 line, upstream the narrowing of the compensator, while the external piloting line comes from a separate piloting circuit. Drainage is always external (passing line Y).

**The combined directional valve must always have an external piloting configuration. Drainage can be both internal and external.**

VALVE TYPE		X plug
PCM8-P*/IE	INTERNAL PILOTING AND EXTERNAL DRAINAGE	NO
PCM8-P*/EE	INTERNAL PILOTING AND EXTERNAL DRAINAGE	YES



## 5 - OVERALL AND MOUNTING DIMENSIONS



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