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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 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
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 / +60
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

P	2	D	-		/	21
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Subplate _____

Dimension for _____
ISO 4401-03 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)

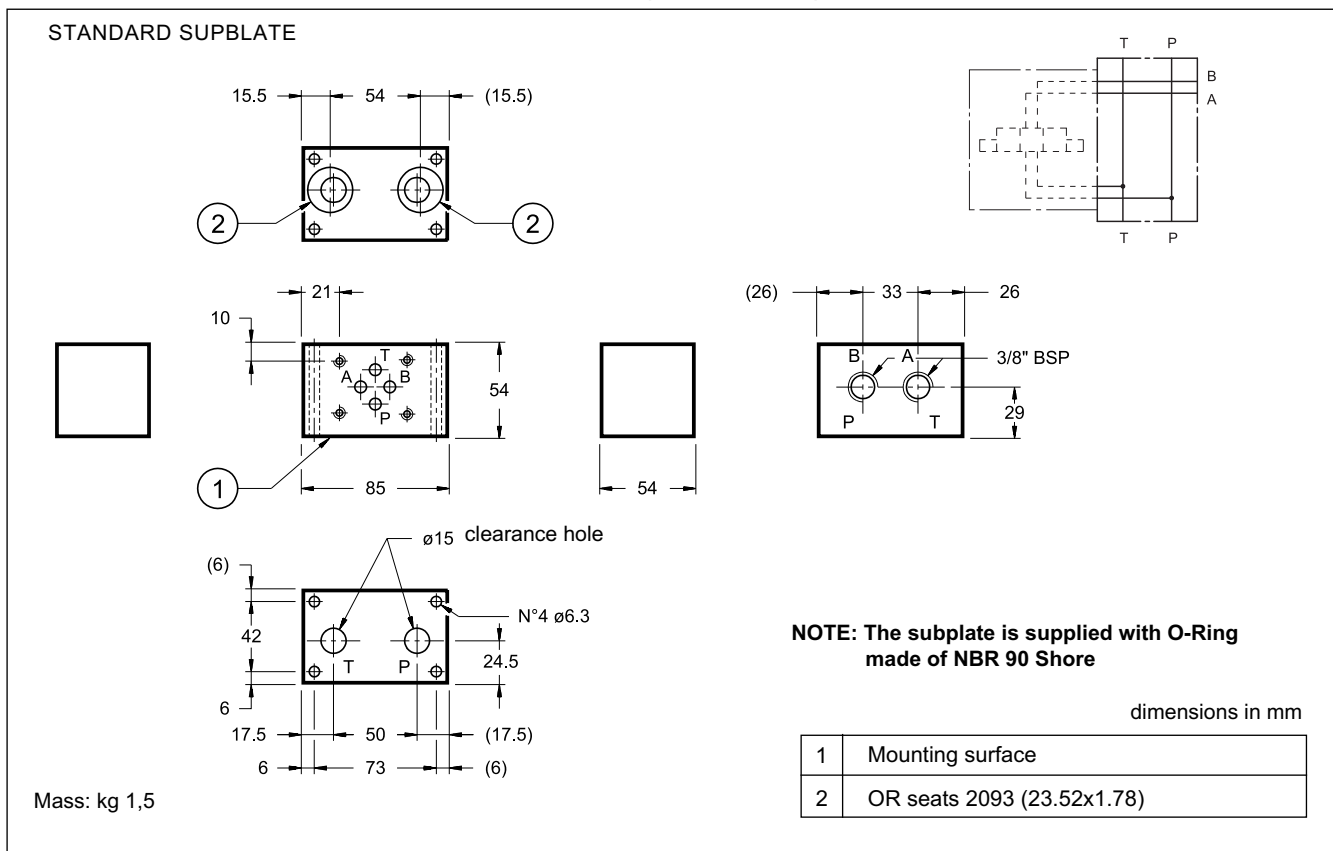
F = with P - T threaded ports and additional pressure port.

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

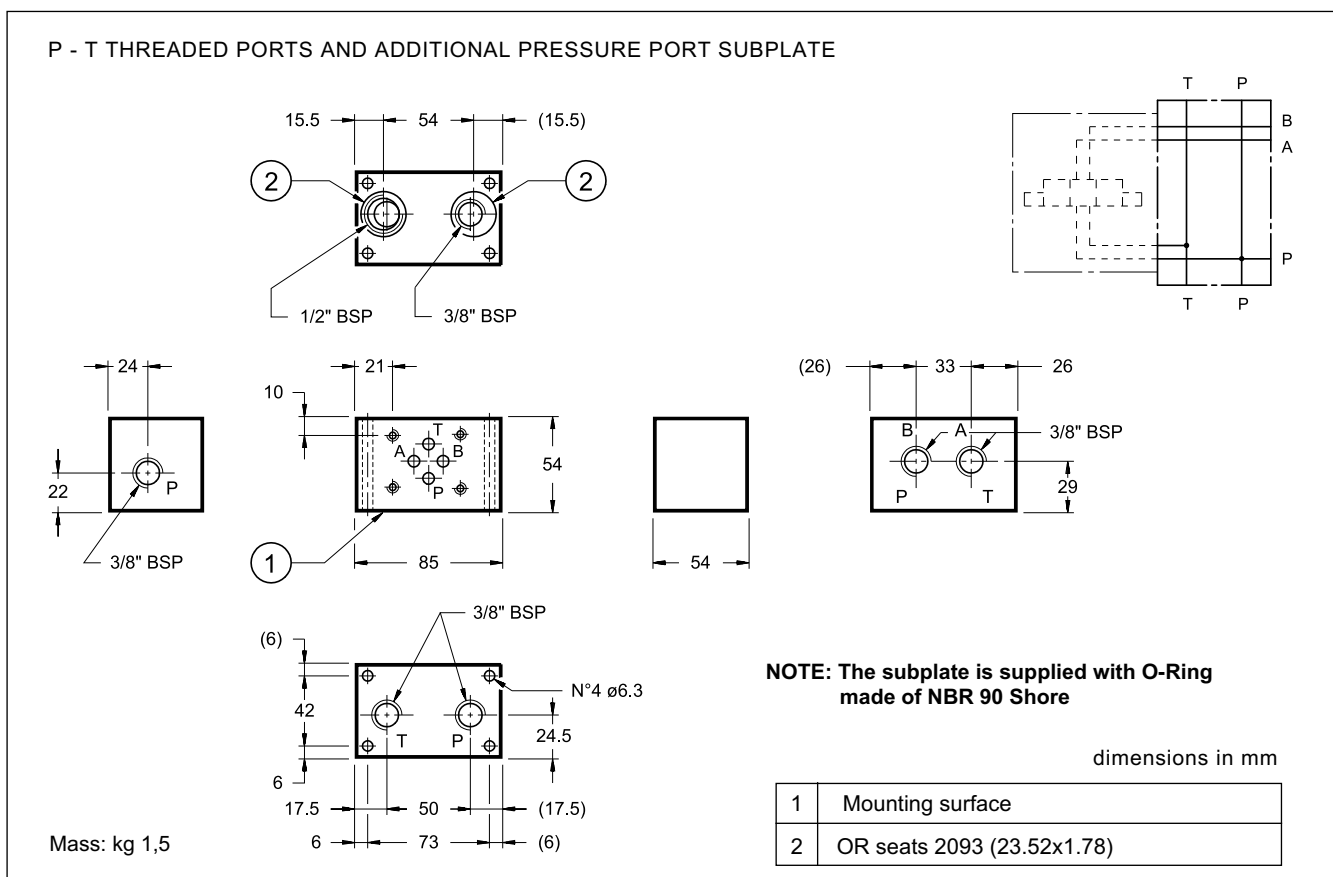
Z = arranged for the installation of an MZD pressure reducing valve

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

2 - OVERALL AND MOUNTING DIMENSIONS P2D/21 (cod. 1560121)



3 - OVERALL AND MOUNTING DIMENSIONS P2D-F/21 (cod. 1560122)



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

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

Dimensions: 15.5, 54, (15.5), 24, 22, 10, 21, 54, 85, 29, 26, 33, 26, 29, 3/8" BSP, N°4 M6x12, 1/2" BSP, 3/8" BSP, 3/8" BSP, 24.5, 6, 17.5, 50, (17.5), 6, 73, (6).

Mass: kg 1,5

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

Dimensions: 15.5, 54, (15.5), 24, 22, 10, 21, 54, 85, 29, 26, 33, 26, 29, 3/8" BSP, N°4 M6x12, 1/2" BSP, 3/8" BSP, 3/8" BSP, 24.5, 6, 17.5, 50, (17.5), 6, 73, (6).

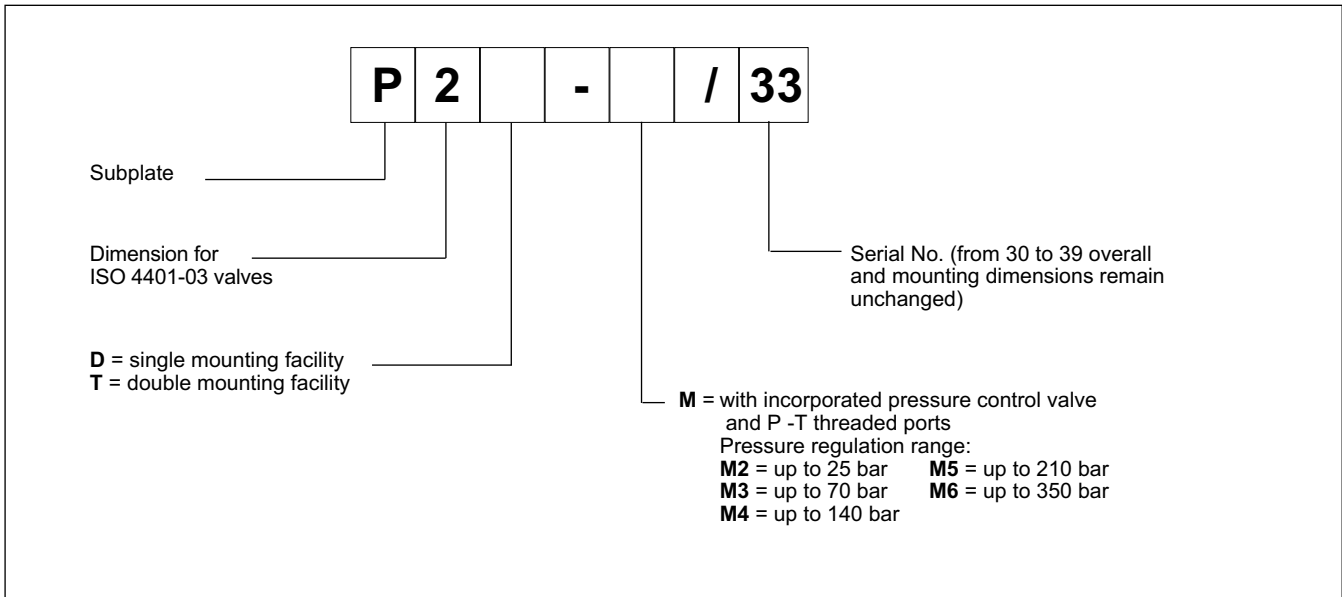
Mass: kg 1,5

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

dimensions in mm

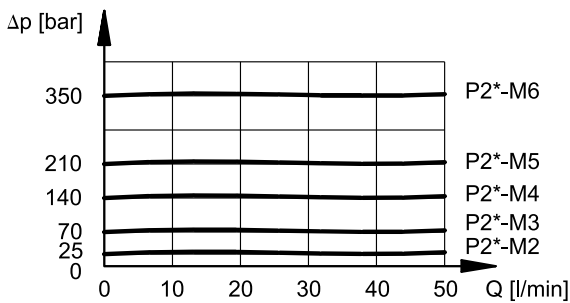
1	Mounting surface
2	OR seats 2093 (23.52x1.78)

6 - IDENTIFICATION CODE
subplates with incorporated pressure control valve

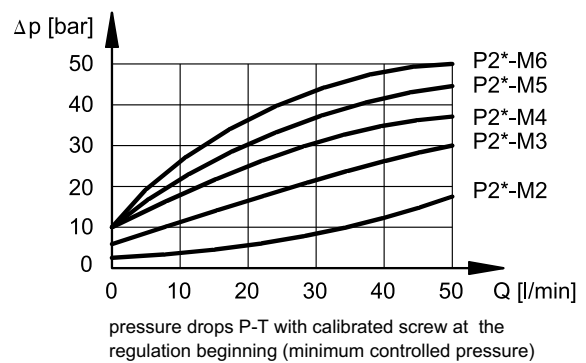


7 - CHARACTERISTIC CURVES FOR P2D-M* E P2T-M* SUBPLATES WITH PRESSURE CONTROL VALVE INCORPORATED (values obtained with viscosity of 36 cSt at 50°C)

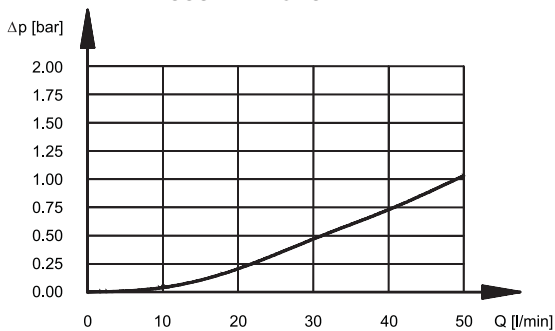
ADJUSTMENT



MINIMUM CONTROLLED PRESSURE



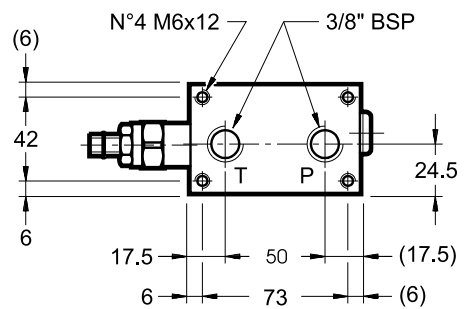
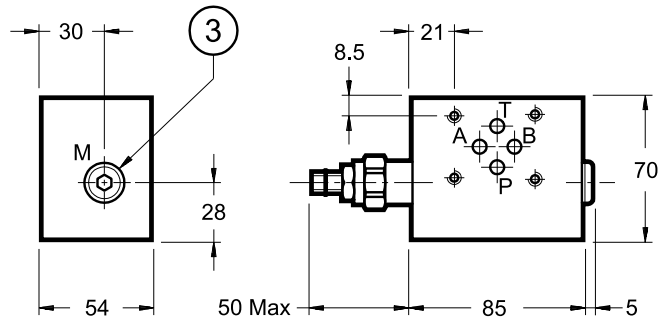
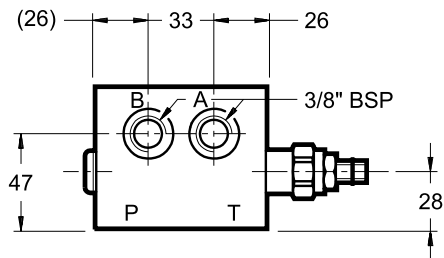
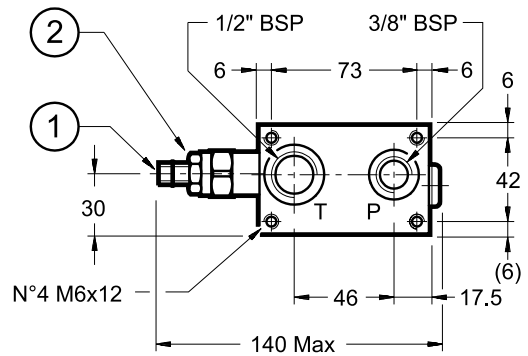
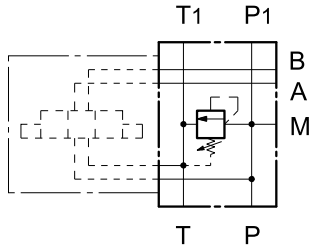
PRESSURE DROPS T1→T



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

SINGLE MOUNTING FACILITY SUBPLATE WITH PRESSURE RELIEF VALVE INCORPORATED

HYDRAULIC SYMBOL



dimensions in mm

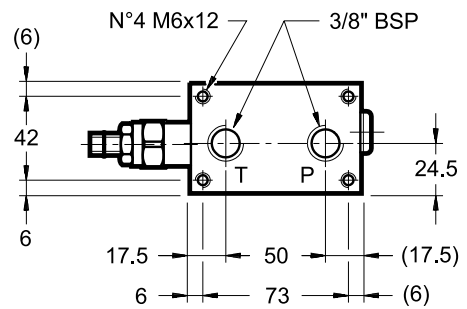
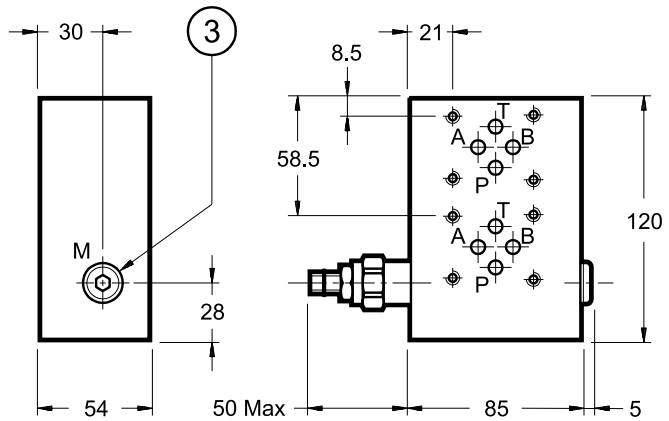
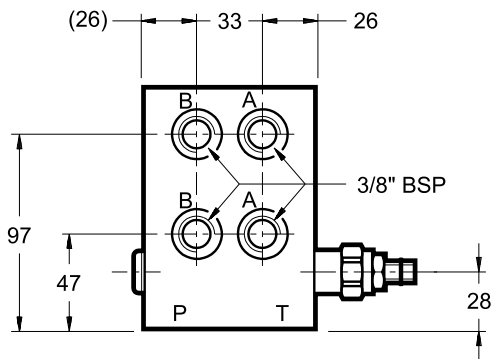
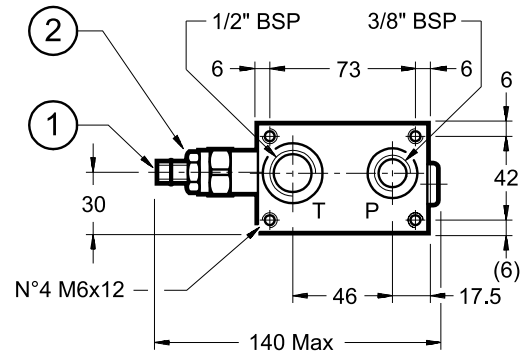
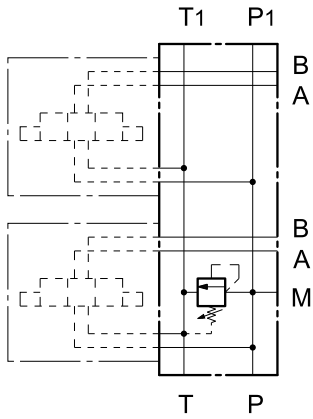
Mass: kg 2,5

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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P2A*L

MANIFOLDS FOR ISO 4401-03 VALVES WITH SIDE PORTS

SERIES 11

- The P2A*L series of manifolds is designed for connection in parallel of two or more ISO 4401-03 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.

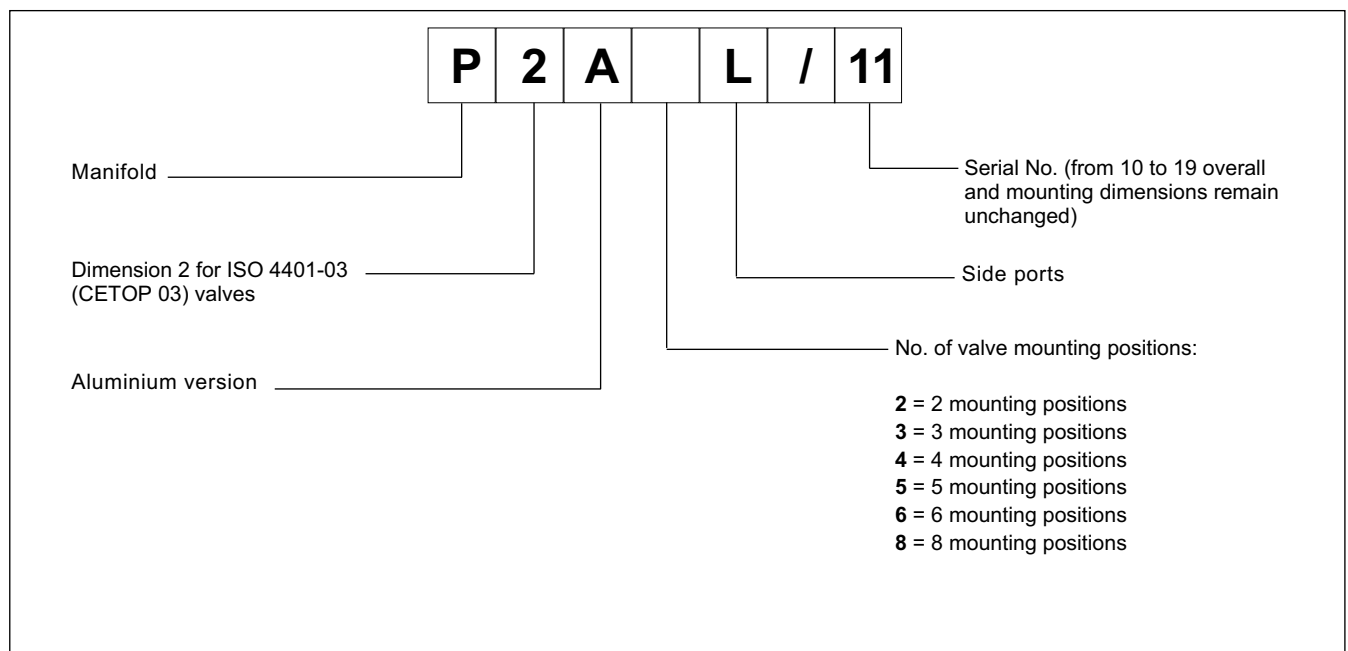
p max 210 bar

Q max 50 l/min

TECHNICAL SPECIFICATIONS

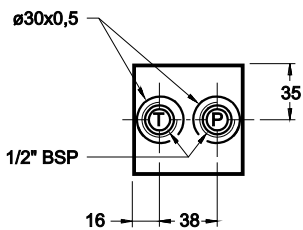
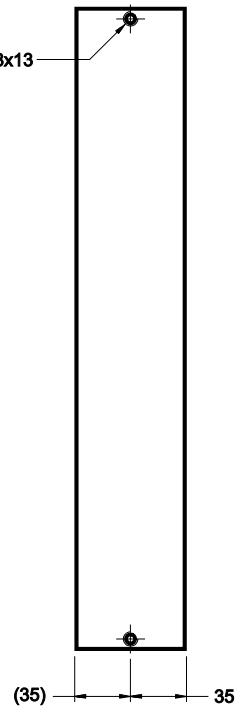
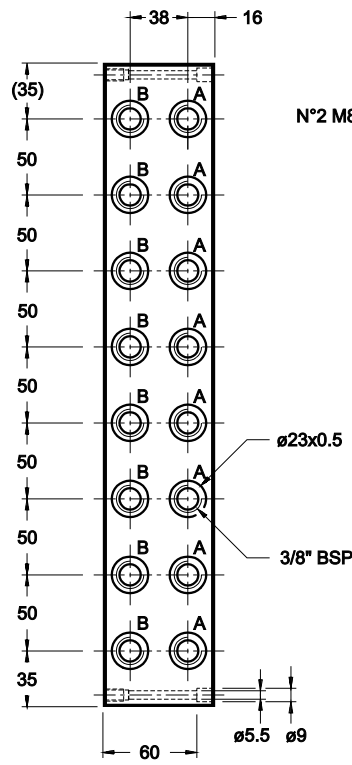
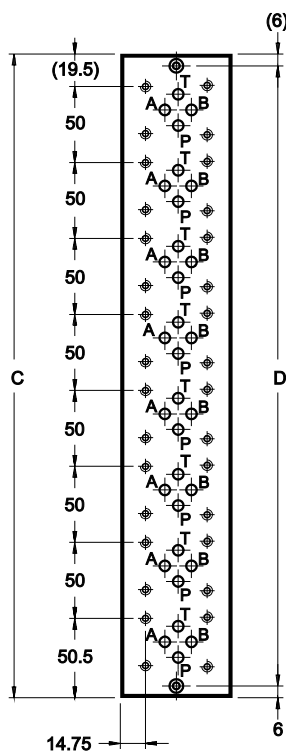
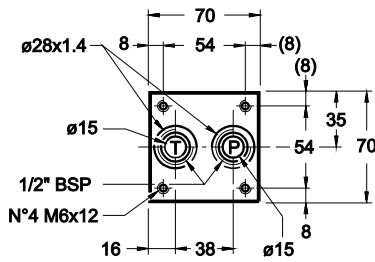
Maximum operating pressure - ports P - A - B - port T	bar	210 140
Maximum flow	l/min	50
Port dimensions: P - pressure T - lower drainage A/B - users	BSP	1/2" 1/2" 3/8"
Ambient temperature range	°C	-20 / +60
Fluid temperature range	°C	-20 / +80
Fluid viscosity range	cSt	10 ÷ 400
Fluid contamination degree	cSt	25
Recommended viscosity	According to ISO 4406:1999 class 20/18/15	

1 - IDENTIFICATION CODE





2 - OVERALL AND MOUNTING DIMENSIONS



dimensions in mm

Manifold	No. of valve mounting positions	C	E
	2	120	108
P2A3L	3	170	158
P2A4L	4	220	208
P2A5L	5	270	258
P2A6L	6	320	308
P2A8L	8	420	408

P2X*M
MANIFOLDS
FOR ISO 4401-03 VALVES
WITH PORTS ON REAR
SERIES 10

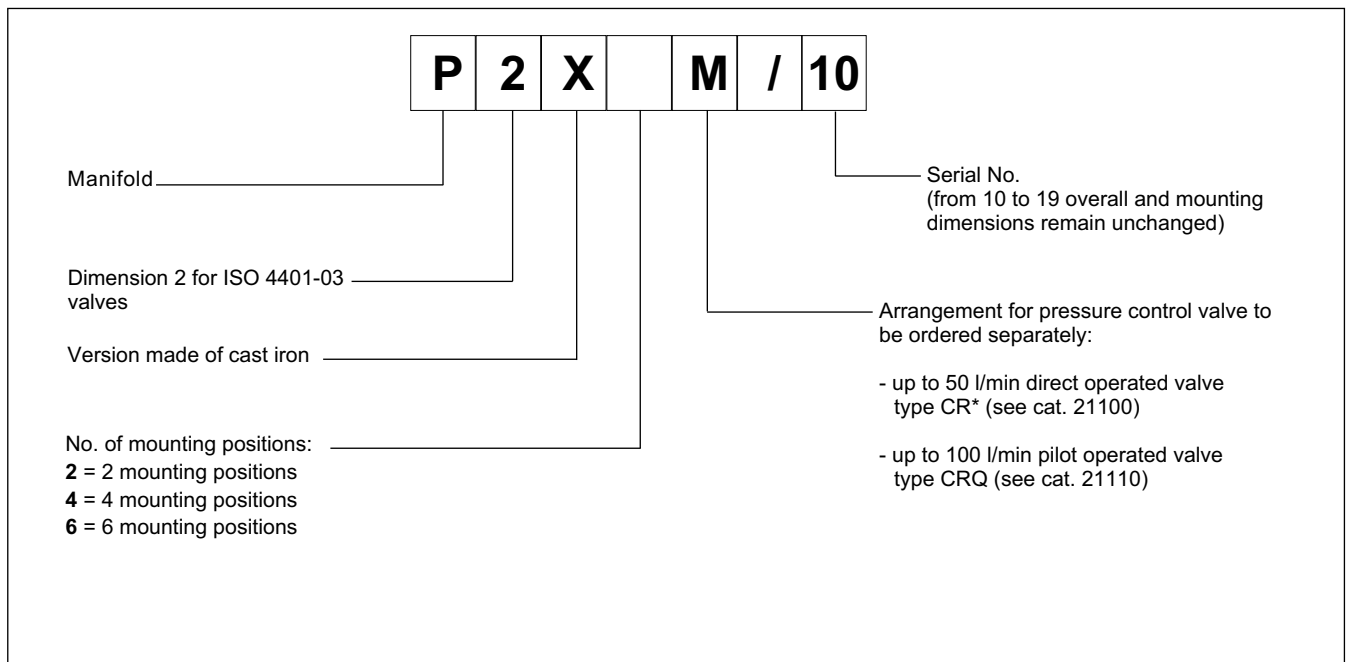
- The P2X*M series of manifolds is designed for connection in parallel of two or more ISO 4401-03 valves.
- The monobloc design enables the simple creation of circuits without the use of pipes and fittings, thereby reducing overall dimensions to a minimum.
- Subplates are arranged for the installation 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

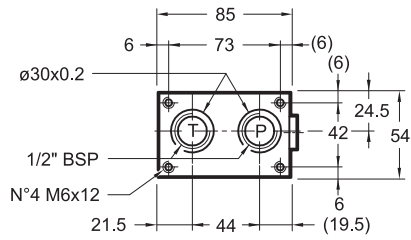
TECHNICAL SPECIFICATIONS

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 / +60
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	

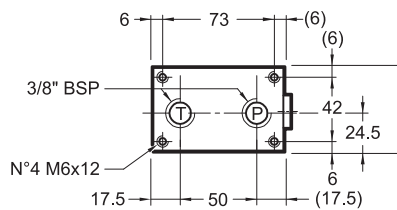
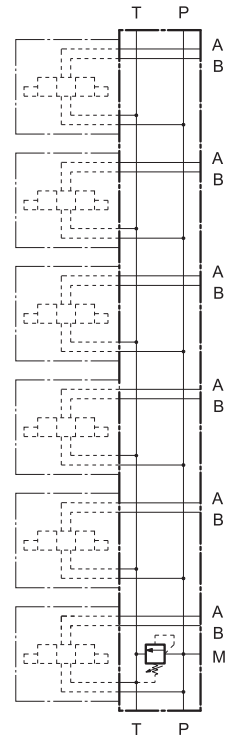
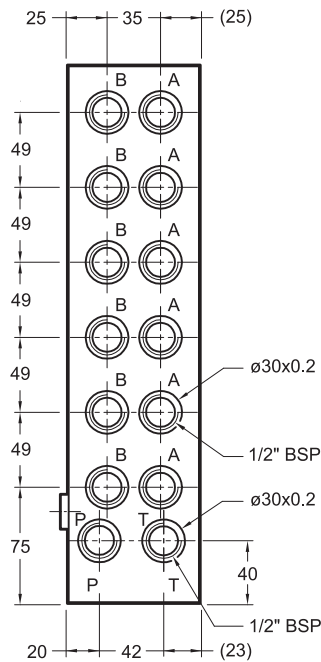
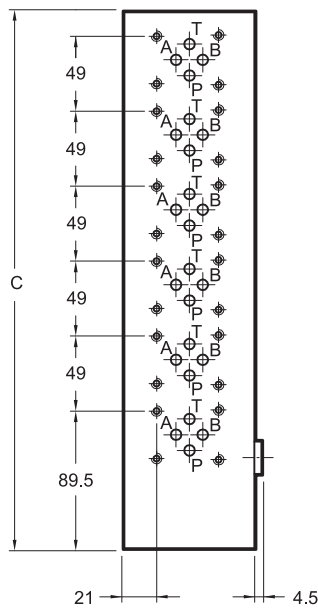
1 - IDENTIFICATION CODE



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 VALVES

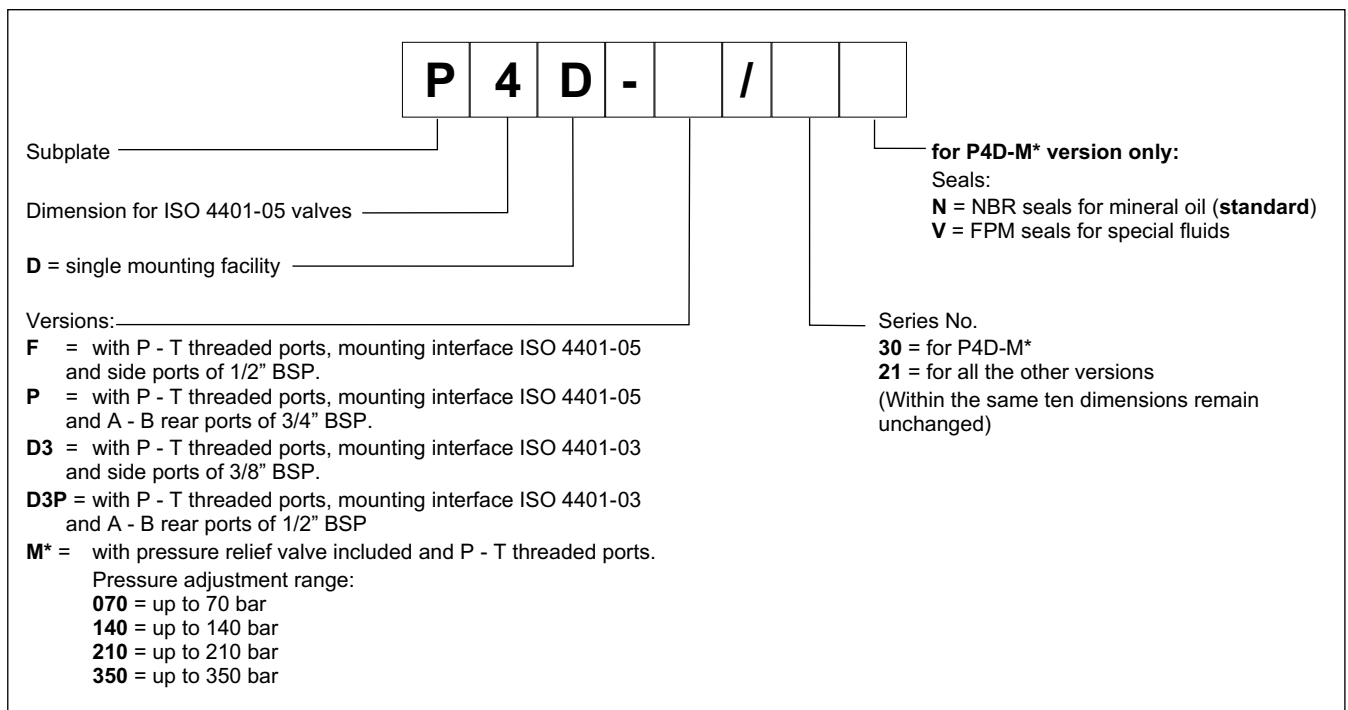
- This series of modular subplates has been designed to make hydraulic circuits and can be used directly on power packs or on any other section of the machine.
- The subplates are assembled by means of 4 tie-rods with seal seats incorporated in the subplate.
- The above assembly achieves compact units (including pressure and discharge manifolds): one face per subplate is used for connection to services and the other to mount ISO 4401-05 or ISO 4401-03 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 / +60
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	

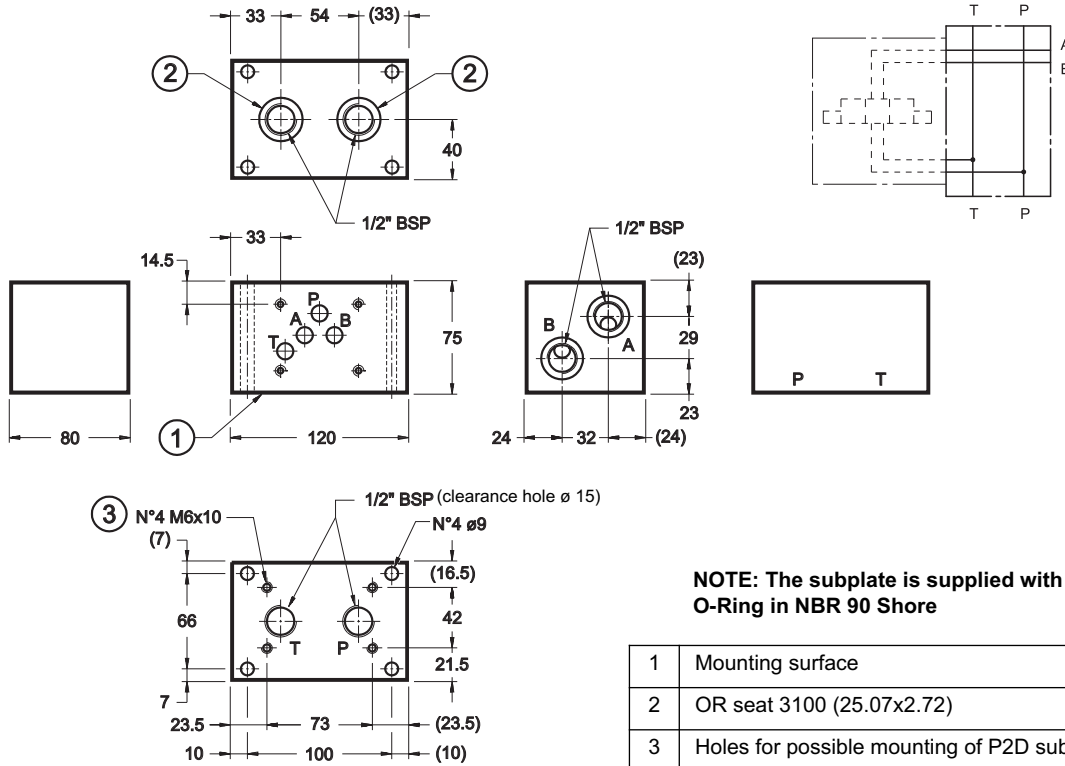
1 - IDENTIFICATION CODE



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

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

dimensions in mm

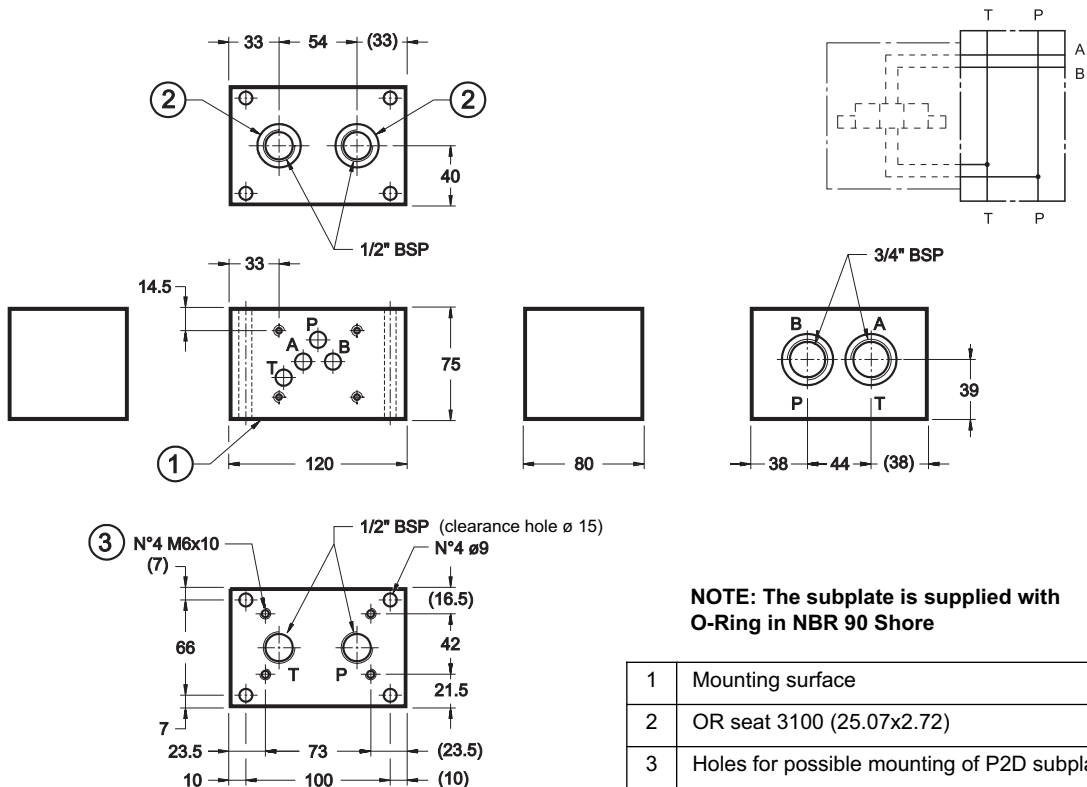


Mass: kg 4,8

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

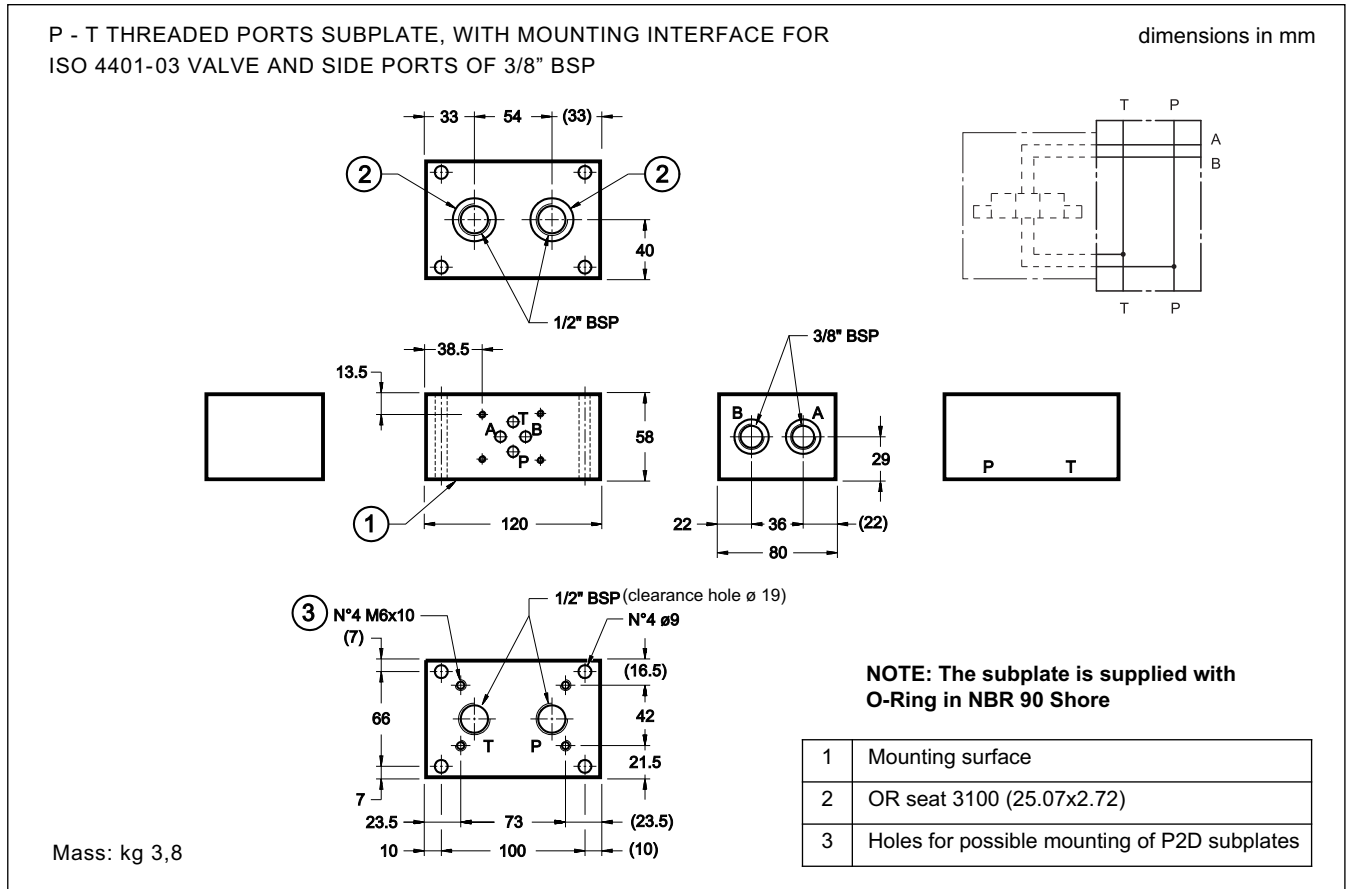
P - T THREADED PORTS SUBPLATE WITH MOUNTING INTERFACE FOR ISO 4401-05 VALVE AND A -B REAR PORTS OF 3/4" BSP

dimensions in mm

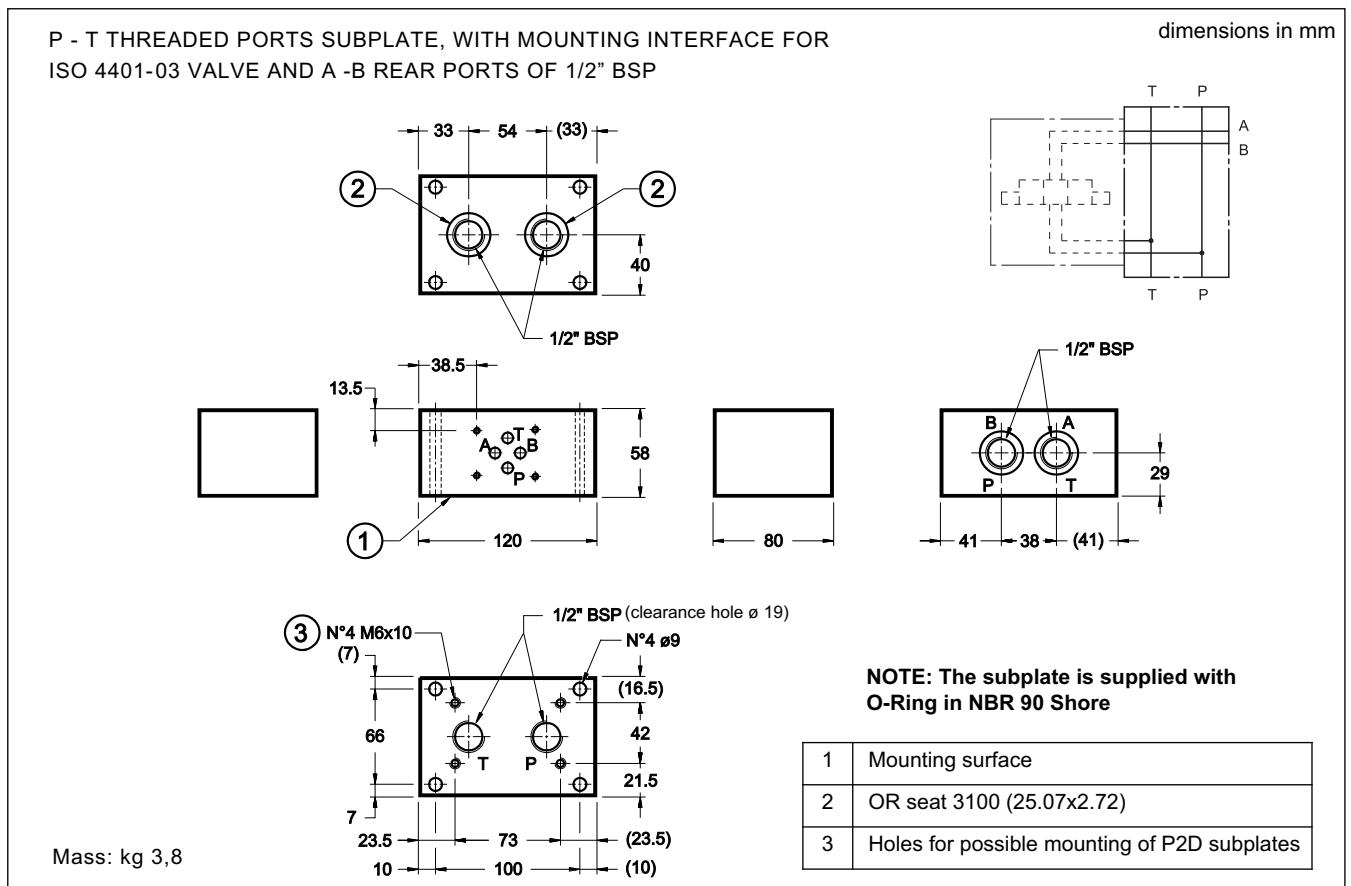


Mass: kg 4,8

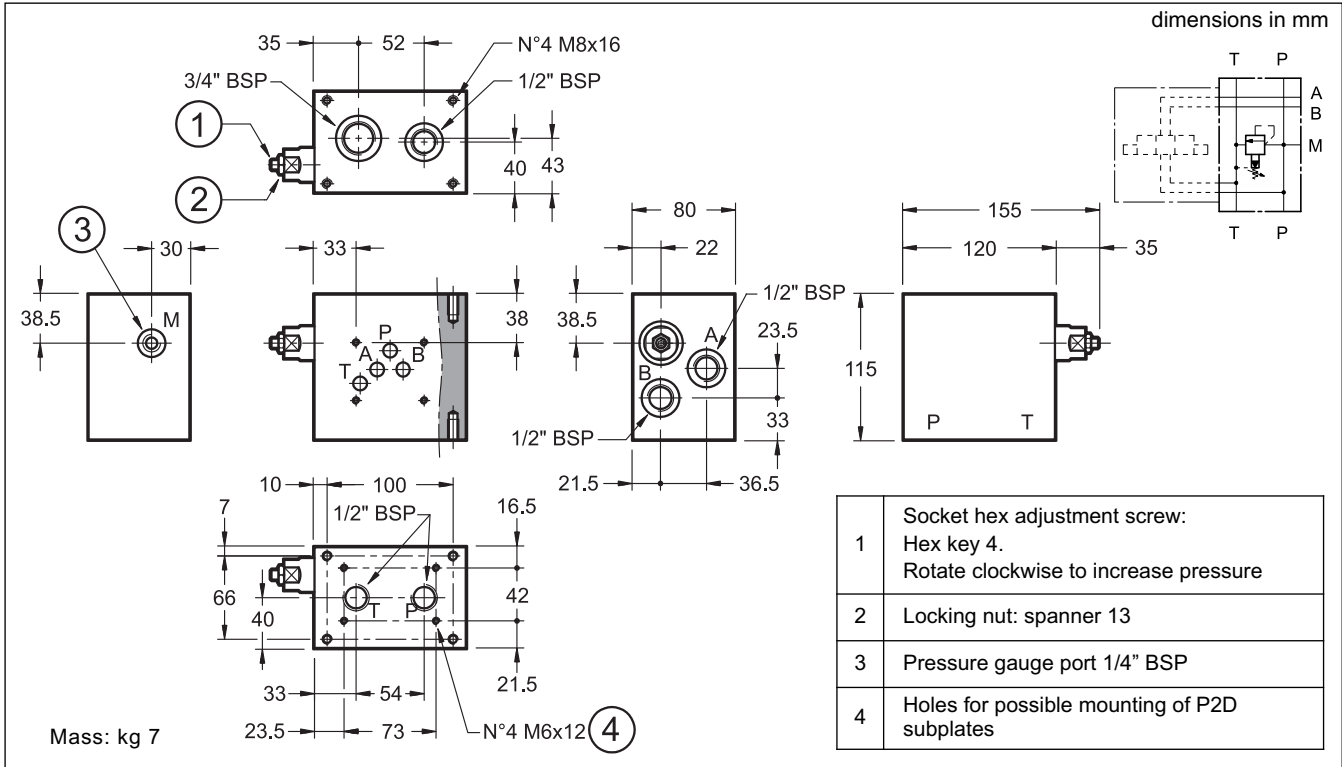
4 - OVERALL AND MOUNTING DIMENSIONS P4D-D3/21 (COD. 1561451)



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

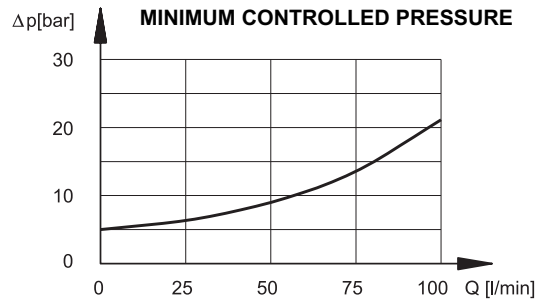
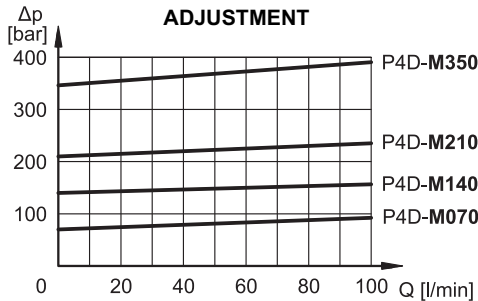


6 - OVERALL AND MOUNTING DIMENSIONS P4D-M*/30



7 - CHARACTERISTIC CURVES

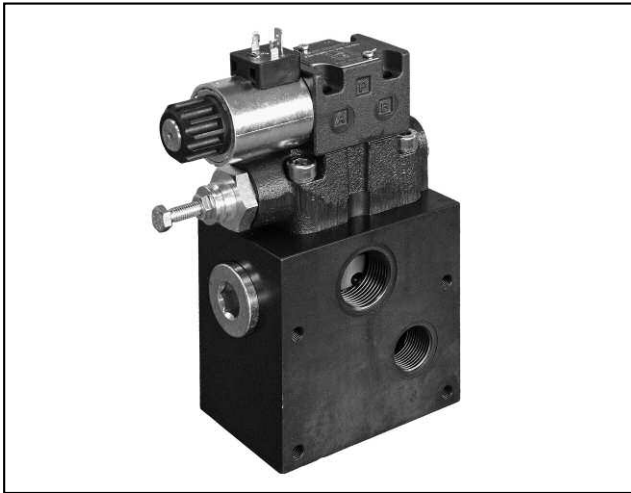
(values obtained with viscosity of 36 cSt at 50°C)



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



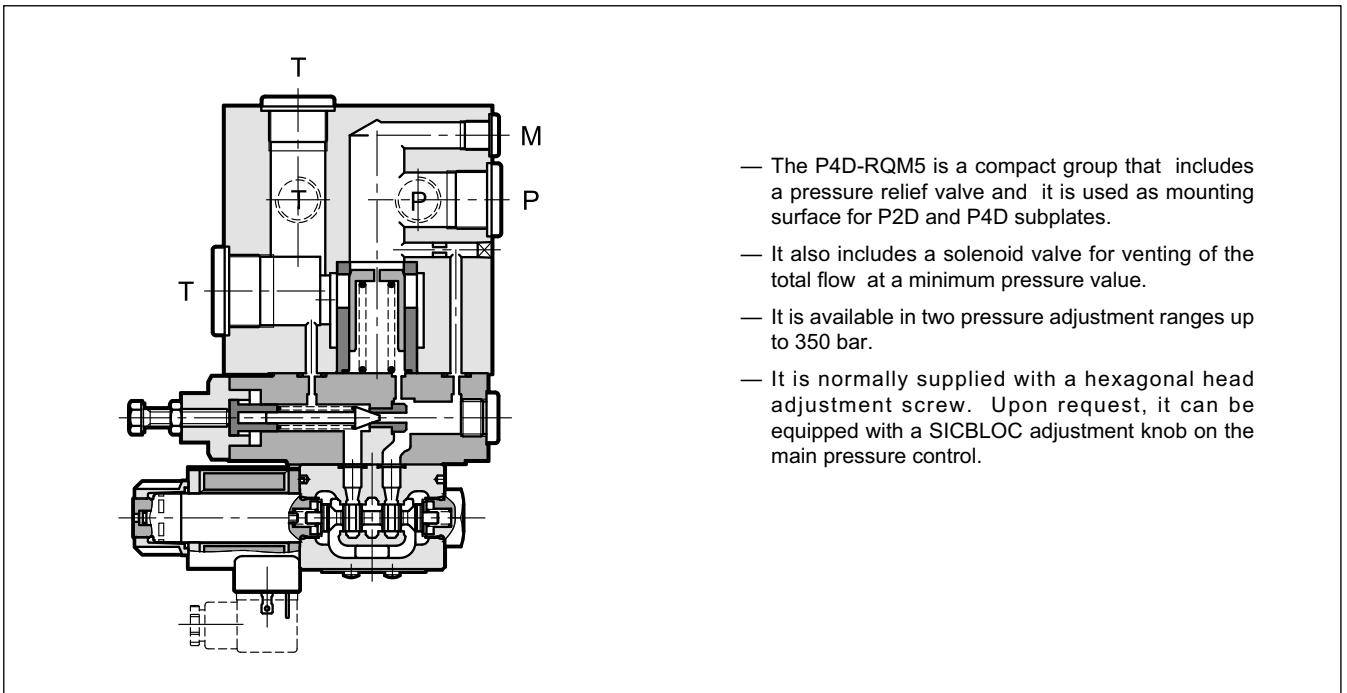
P4D-RQM5

MODULAR SUBPLATE WITH PRESSURE RELIEF VALVE AND UNLOADING SOLENOID VALVE

SERIES 30

p max 350 bar
Q max 250 l/min

OPERATING PRINCIPLE



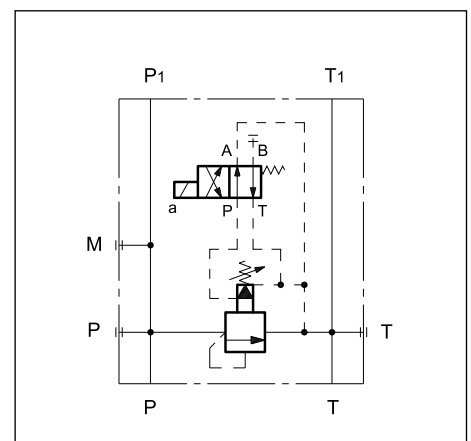
- The P4D-RQM5 is a compact group that includes a pressure relief valve and it is used as mounting surface for P2D and P4D subplates.
- It also includes a solenoid valve for venting of the total flow at a minimum pressure value.
- It is available in two pressure adjustment ranges up to 350 bar.
- It 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")	l/min	250
Maximum flow on P ₁ and T ₁ (1/2")		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

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

HYDRAULIC SYMBOL



1 - IDENTIFICATION CODE

P	4	D	-	R	Q	M	5	-	/	/	30	-	K1	/	
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Subplate ———
ISO 4401-05 dimension

Pressure relief valve ———
with unloading solenoid valve

ND 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

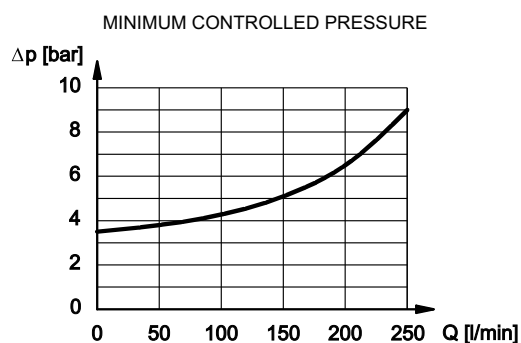
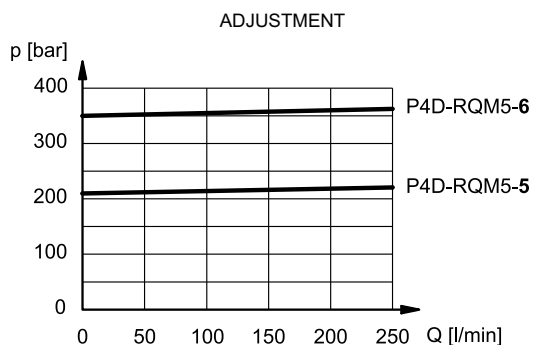
Coil electrical connection:
plug for connector type
EN 175301-803
(ex DIN 43650) (**standard**)

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)



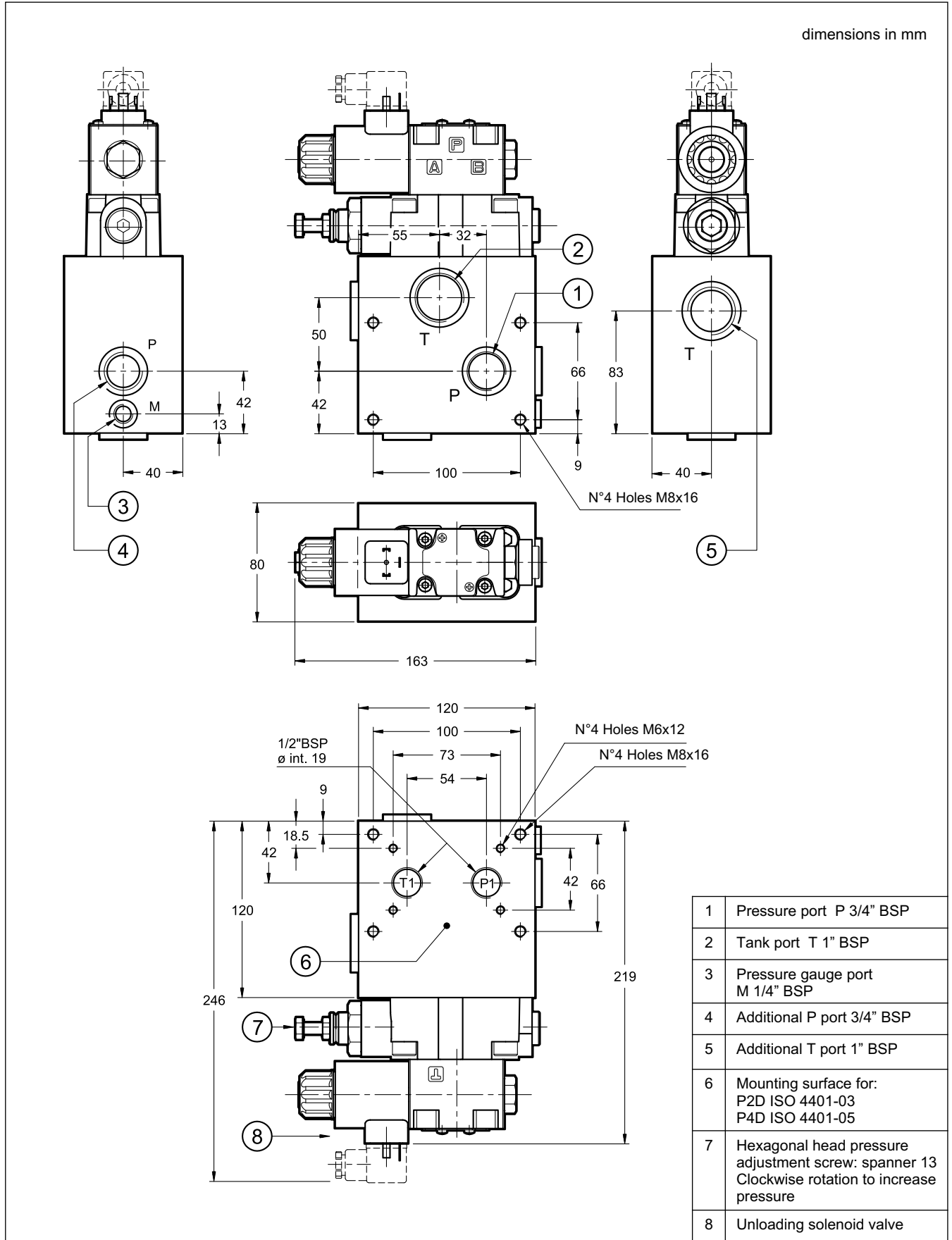
NOTE: The maximum flow deliverable to P1 port is 120 l/min (for P2D and P4D modular subplates).
The maximum flow through the pressure relief valve (additional 3/4" BSP P port) is 250 l/min.

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





P4D-RQM5

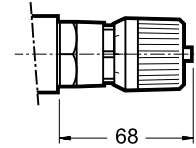
SERIES 30

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 paragraph 1).



6 - ELECTRIC CONNECTORS

Solenoid operated valves are delivered without connectors.

Connectors type EN 175301-803 (ex DIN 43650) for K1 connections can be ordered separately. 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.

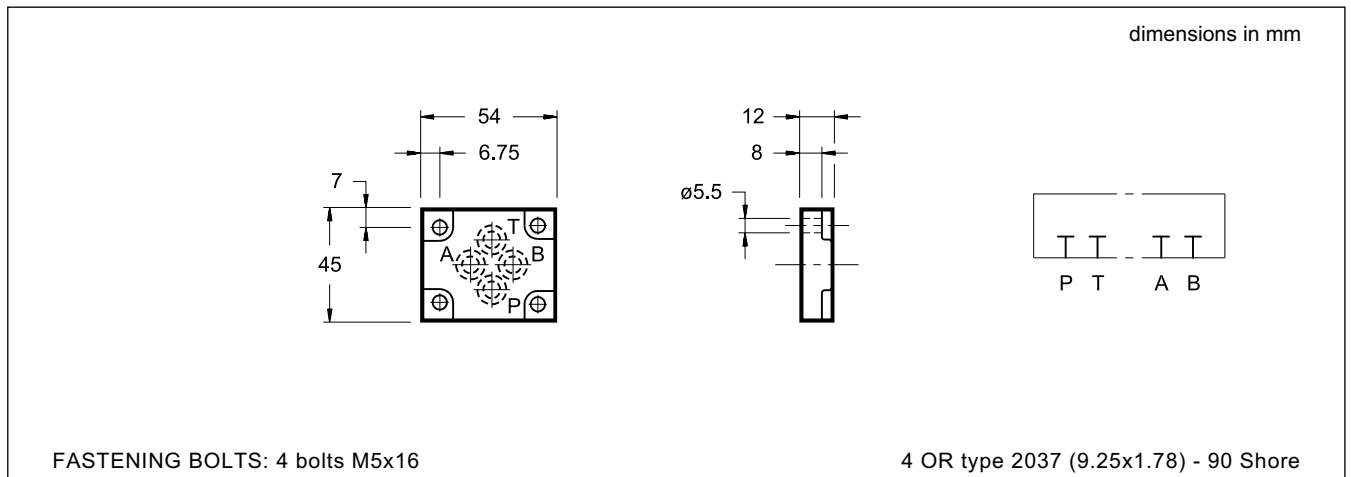
Add the suffix **CM** to request this device (see paragraph 1).

For overall dimensions see catalogue 41 150.

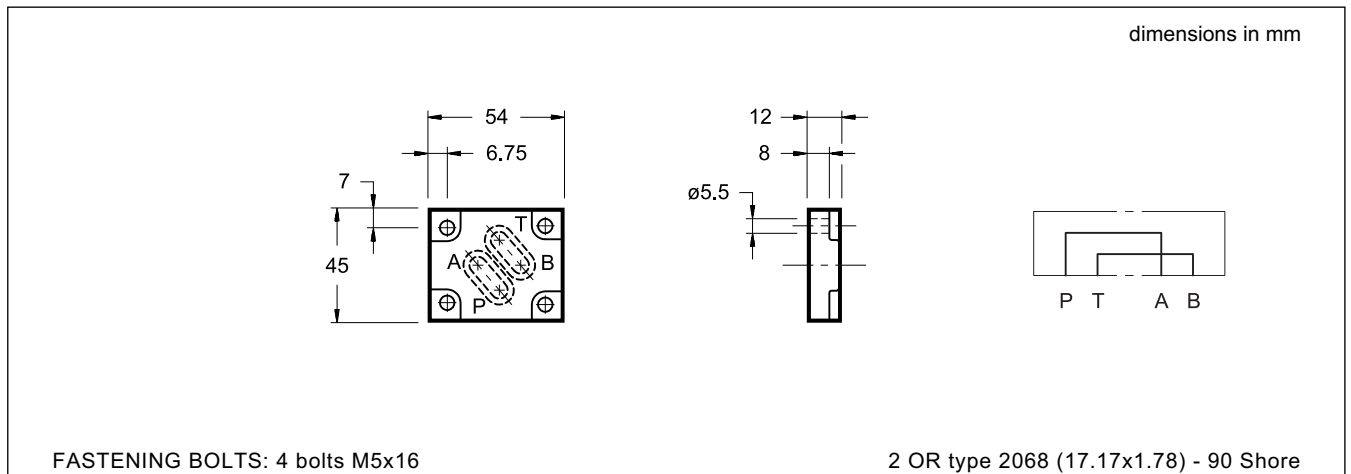
PE BLANKING PLATE

p max 350 bar

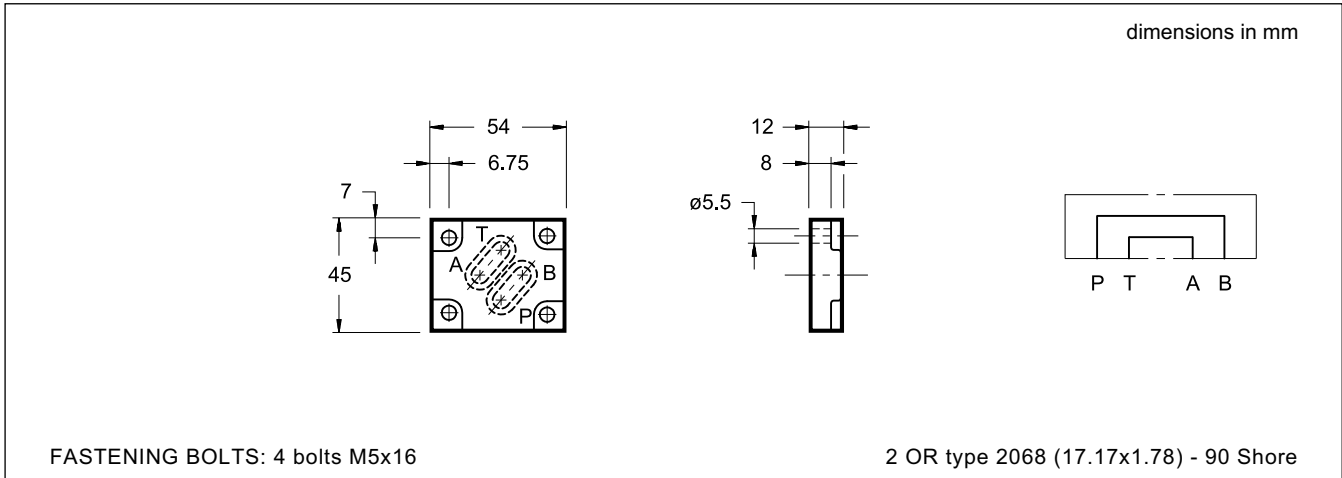
1 - OVERALL AND MOUNTING DIMENSIONS PE-MD1/20 (cod. 1950591)



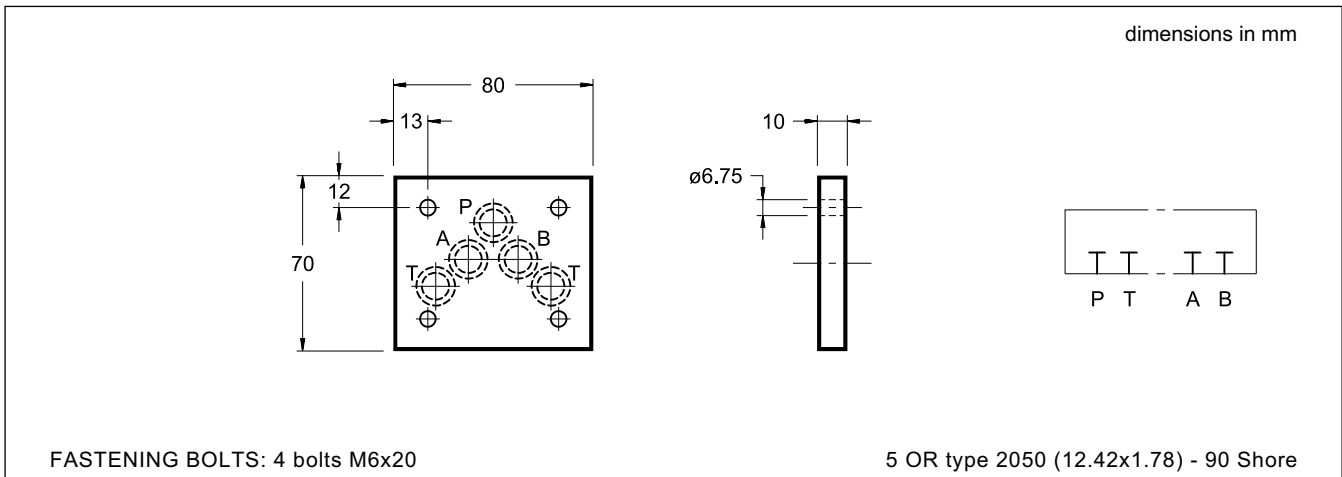
2 - OVERALL AND MOUNTING DIMENSIONS PE-C/PA/MD1/20 (cod. 1950751)



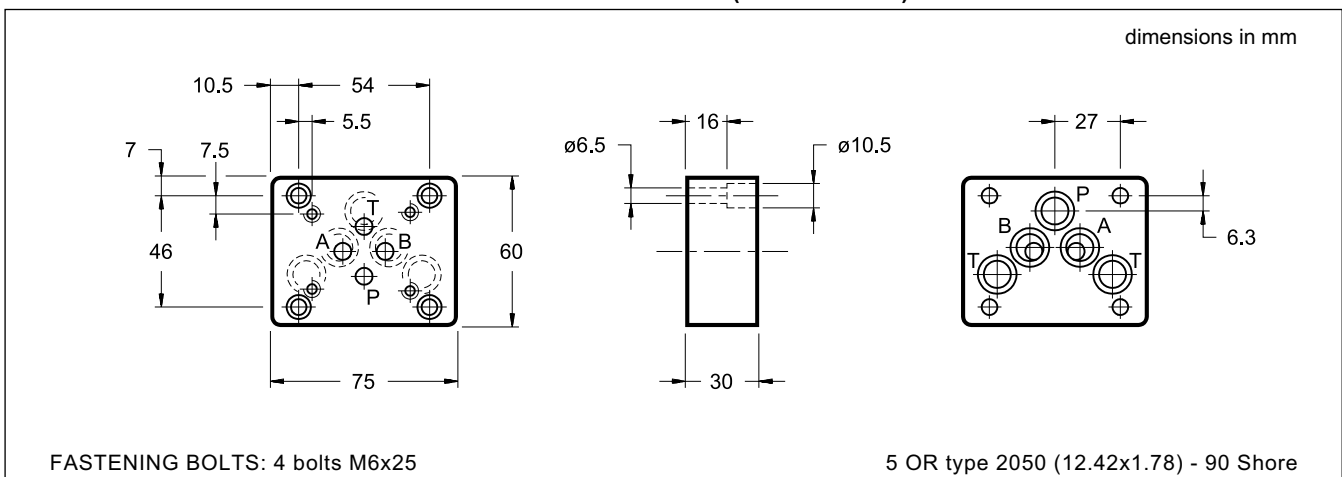
3 - OVERALL AND MOUNTING DIMENSIONS PE-C/PB/MD1/20 (cod. 1950601)



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



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



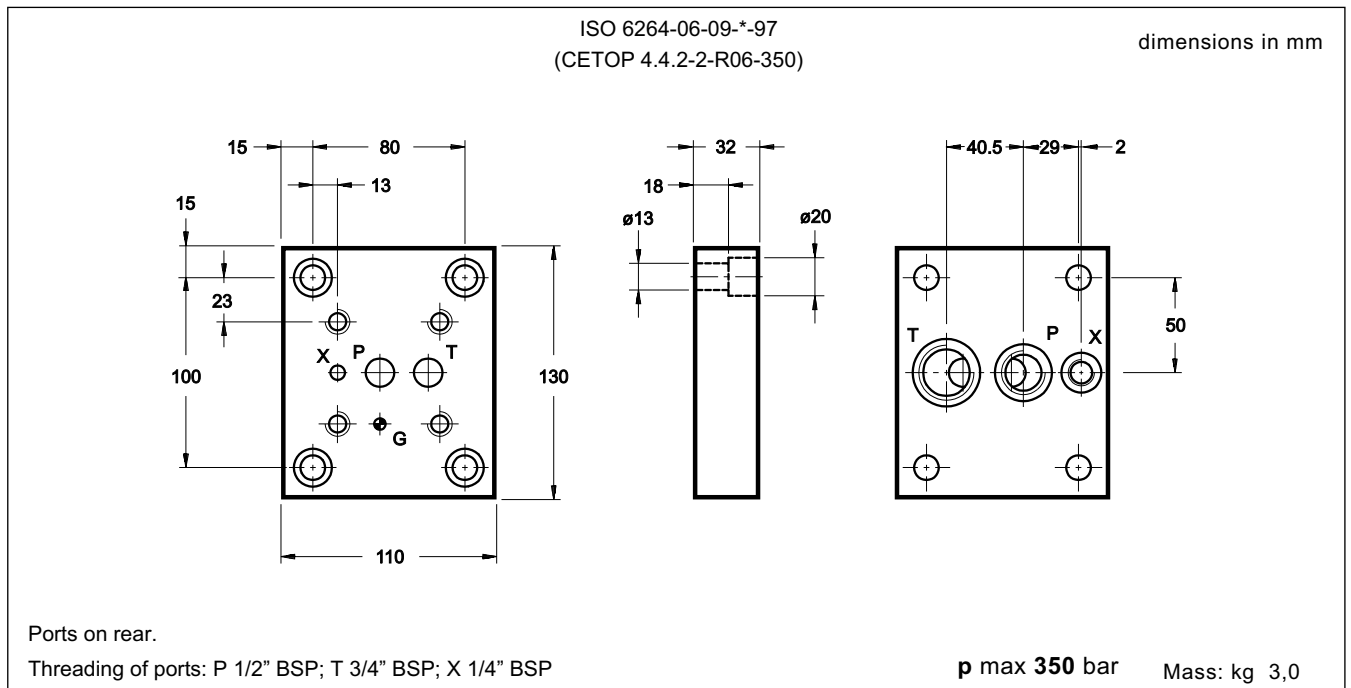
NOTE: On request, plates can be supplied with the O-Rings in viton. To order it, please indicate the letter /V at the end of the identification code of the plate.

SUBPLATES

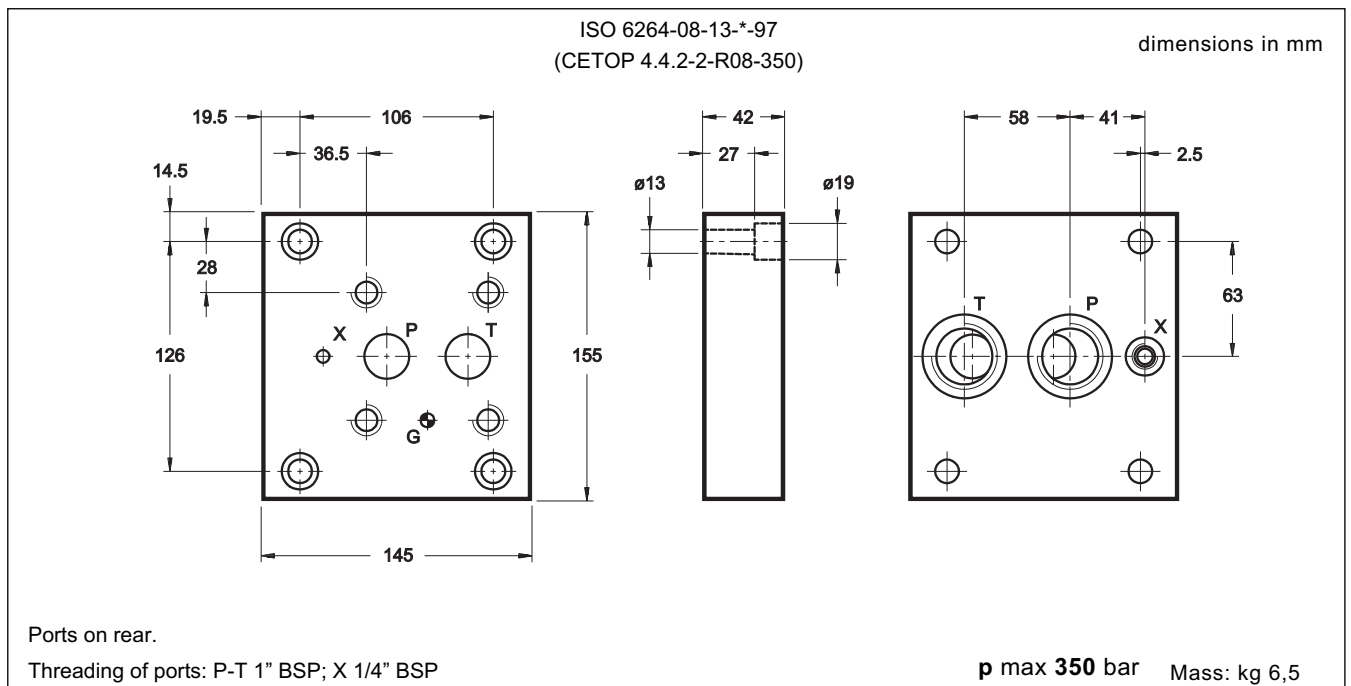
PMRQ*

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)

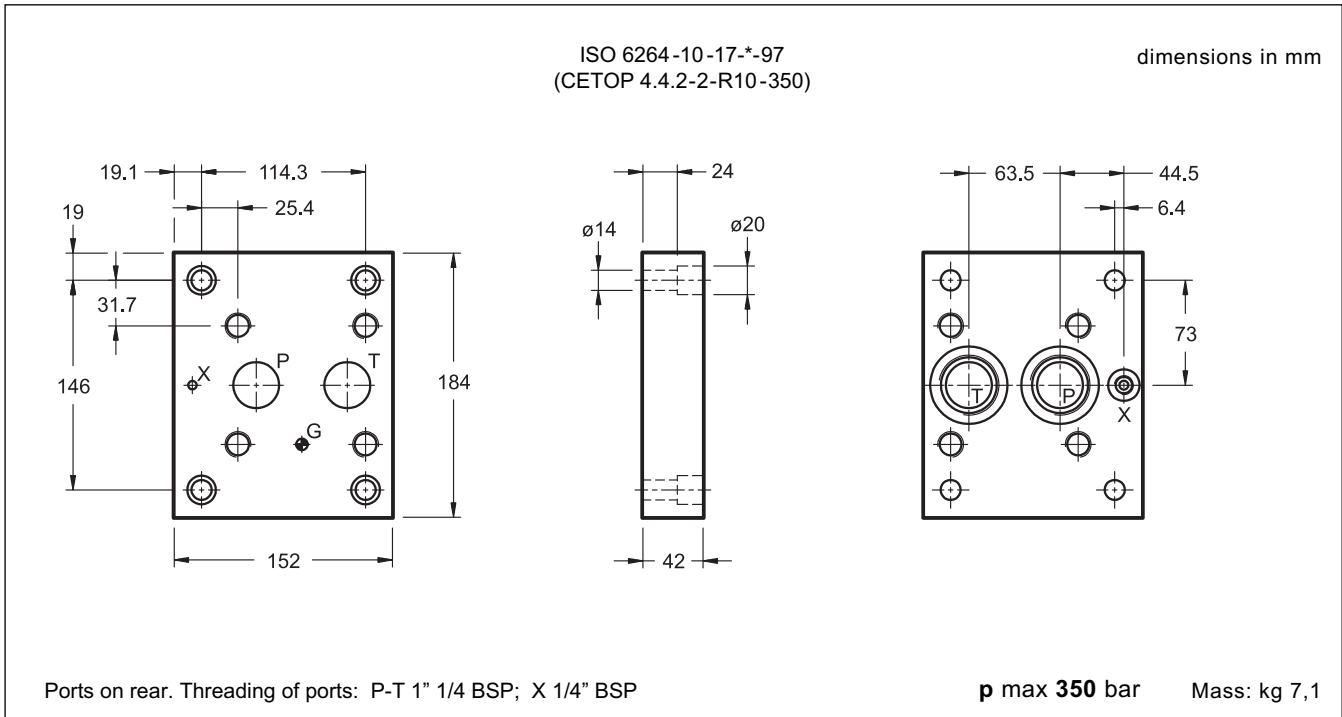




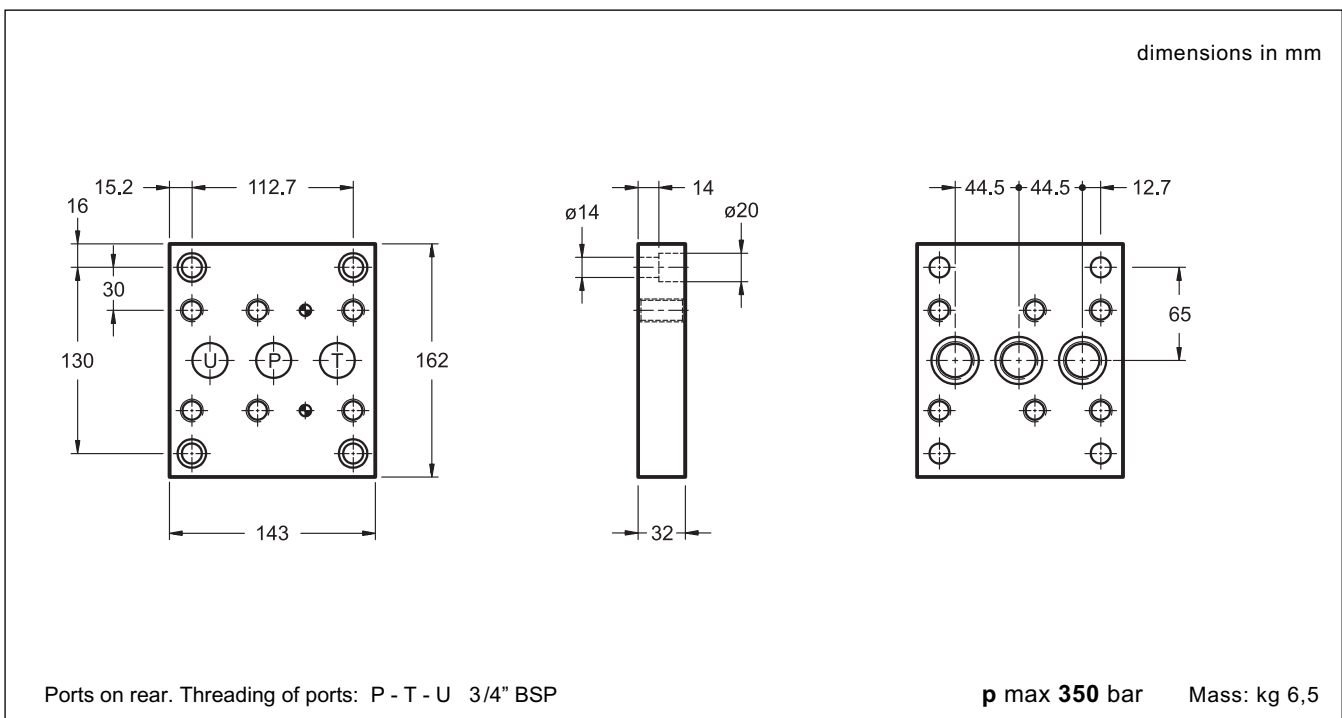
PMRQ*

SUBPLATES FOR PRESSURE CONTROL VALVES

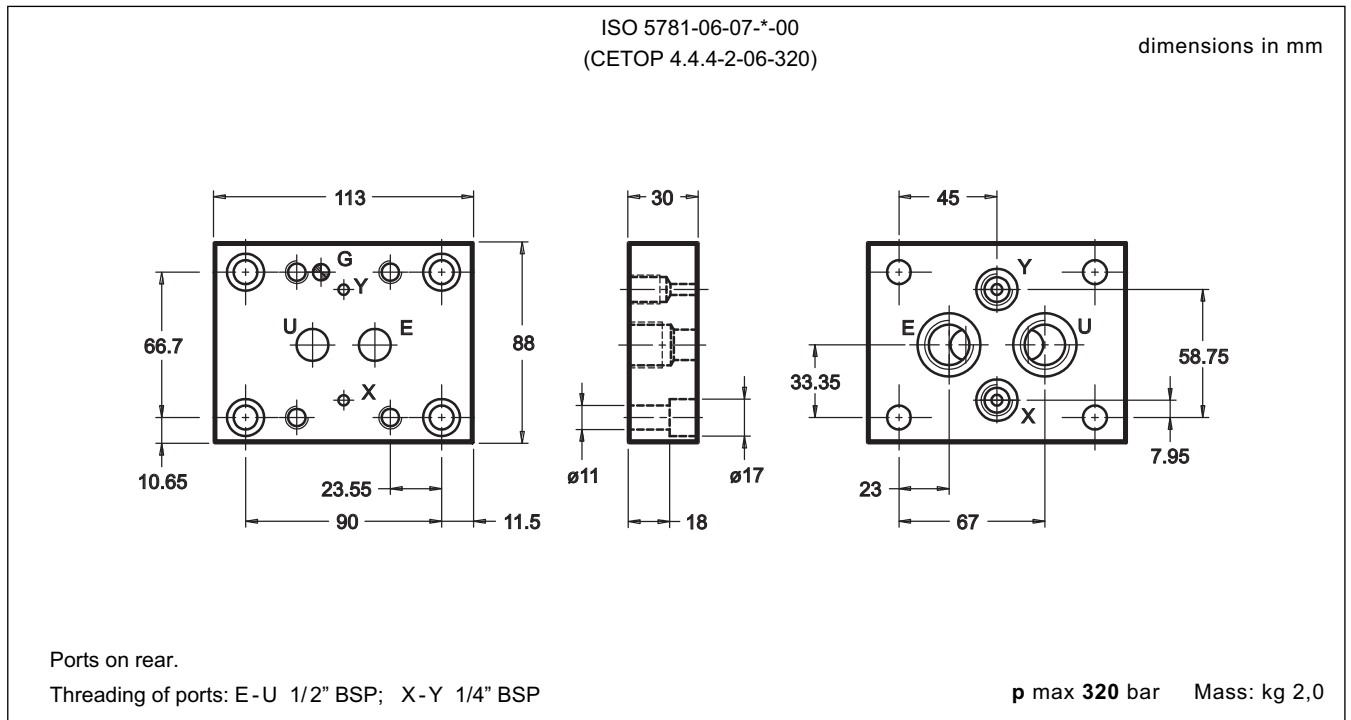
3 - OVERALL AND MOUNTING DIMENSIONS PMRQ7-AI7G/10 (cod. 1960051)



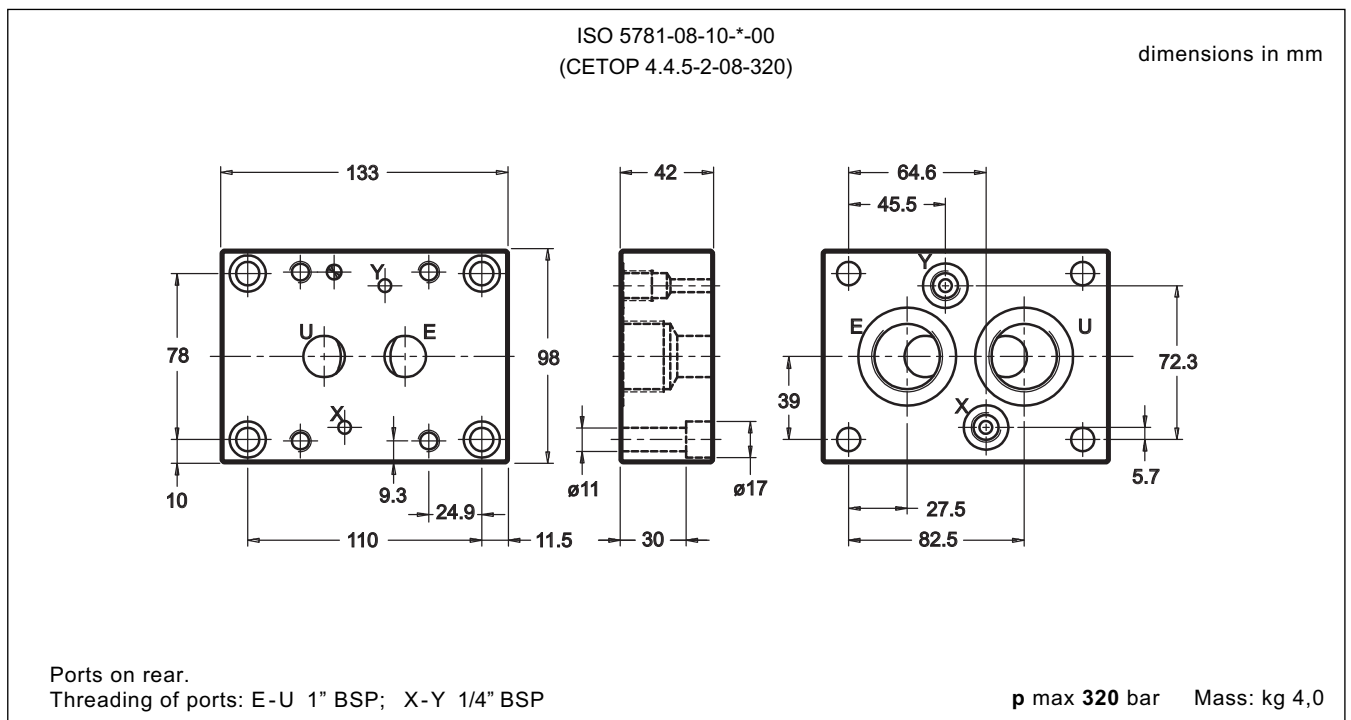
4 - OVERALL AND MOUNTING DIMENSIONS PMRQA5-AI5G/10 (cod. 1960070)



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



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



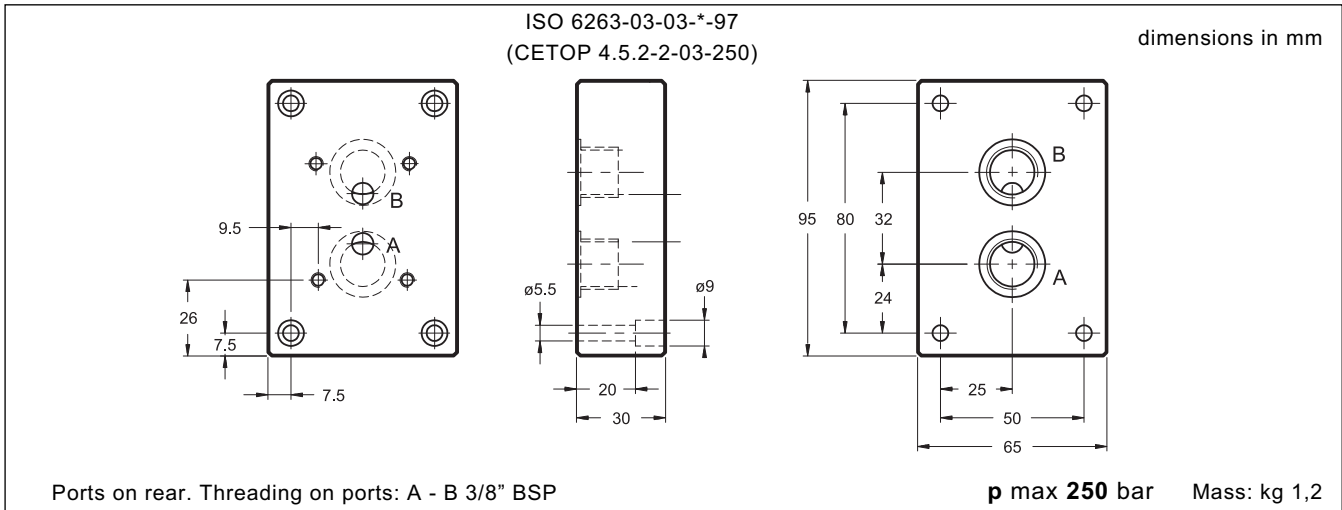


PMRPC*

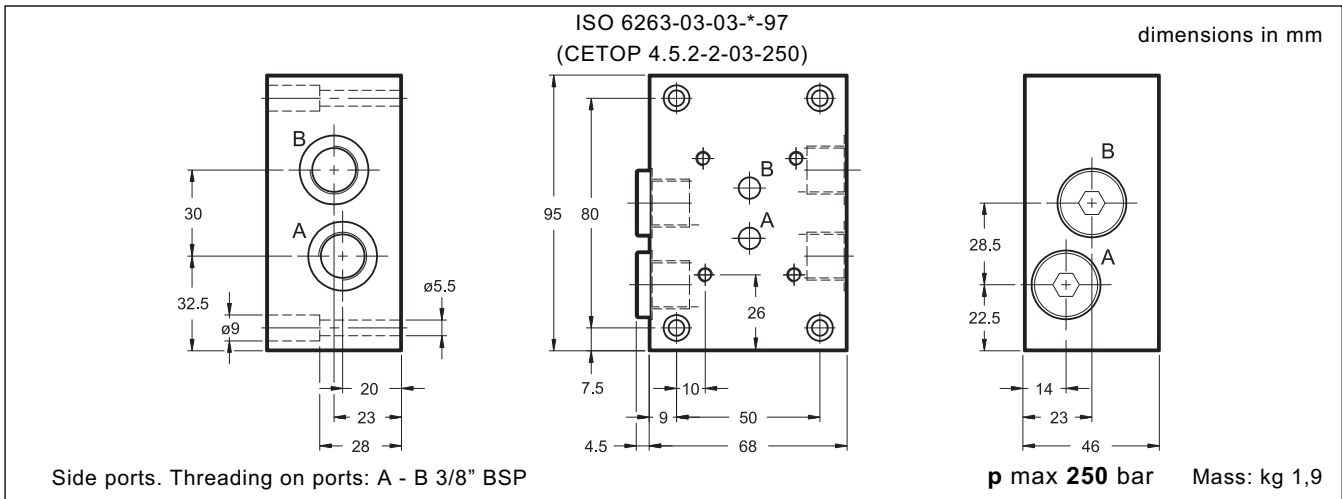
SUBPLATES

FOR FLOW CONTROL VALVES

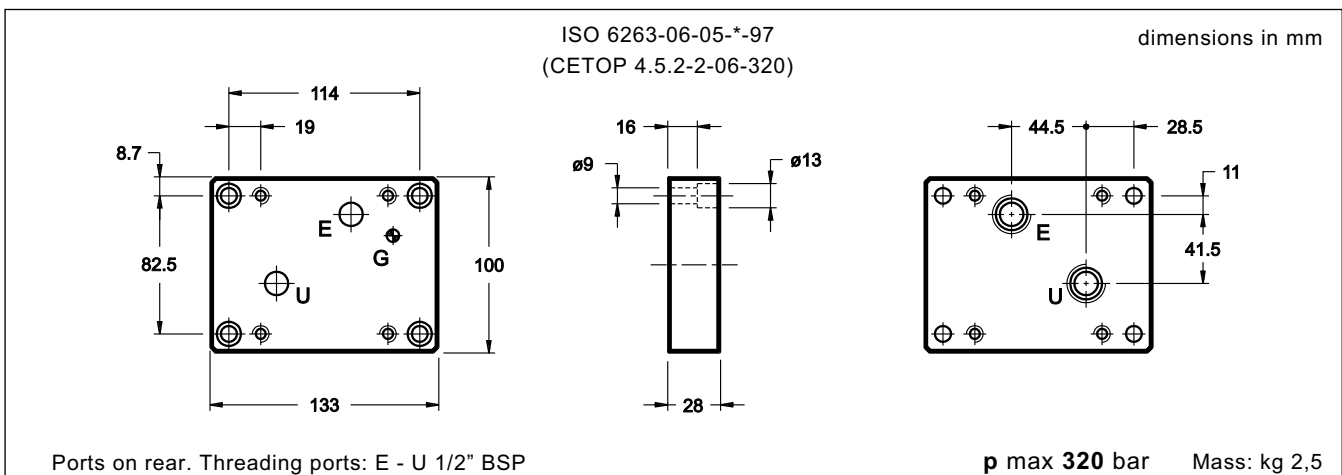
7 - OVERALL AND MOUNTING DIMENSIONS PMRPC1-AI3G/10 (cod. 1961045)



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



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

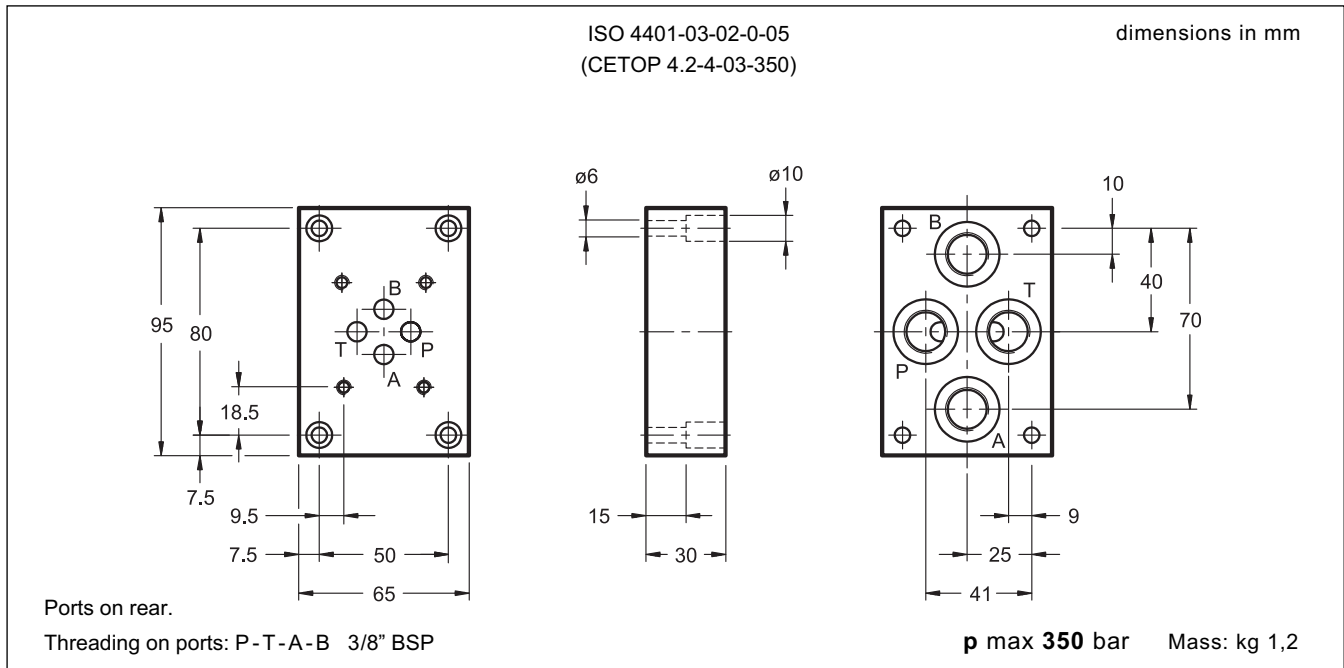




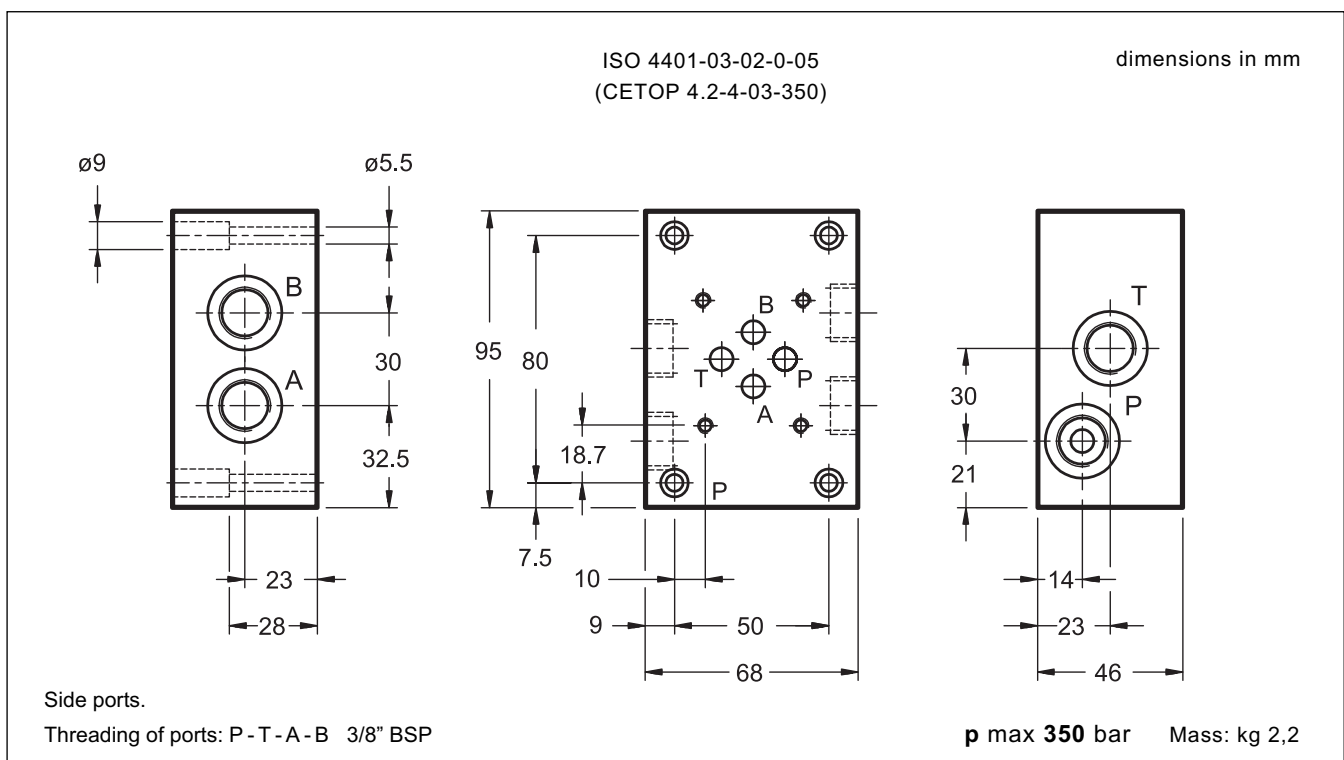
PMMD

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)

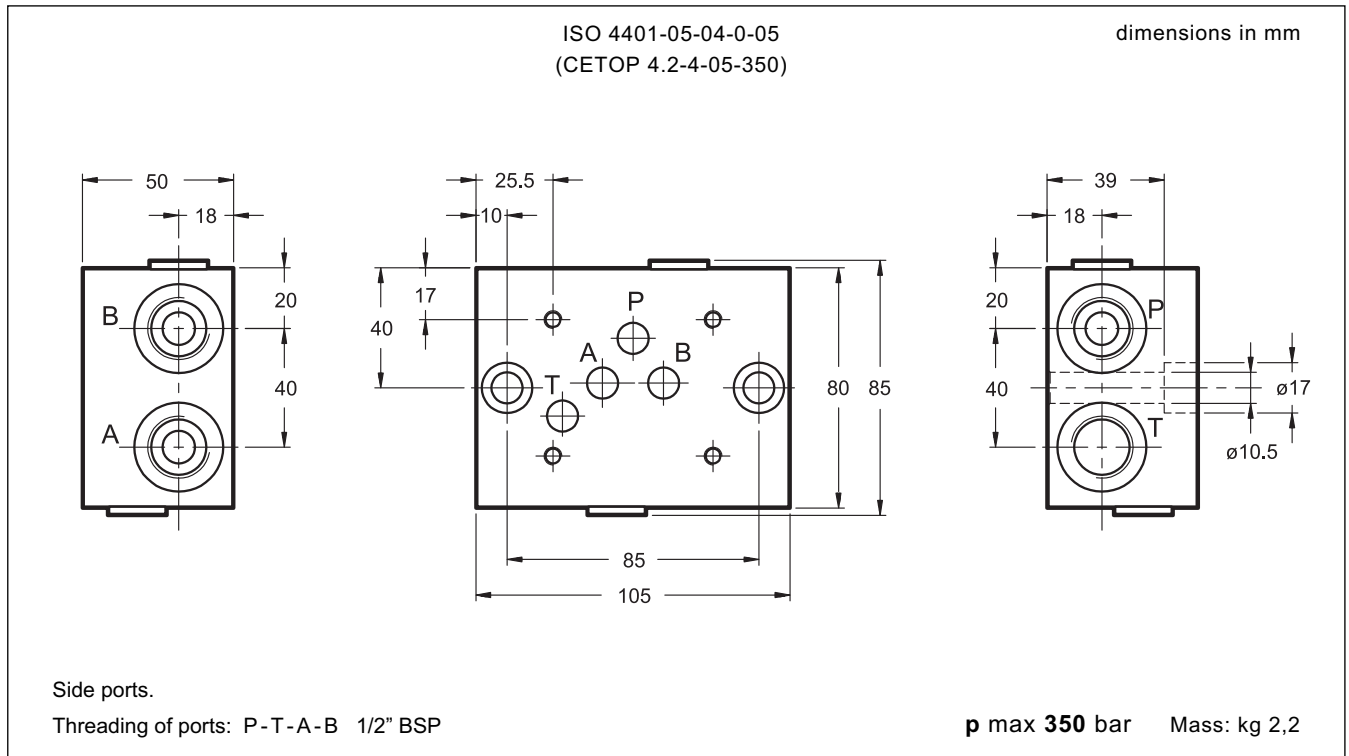




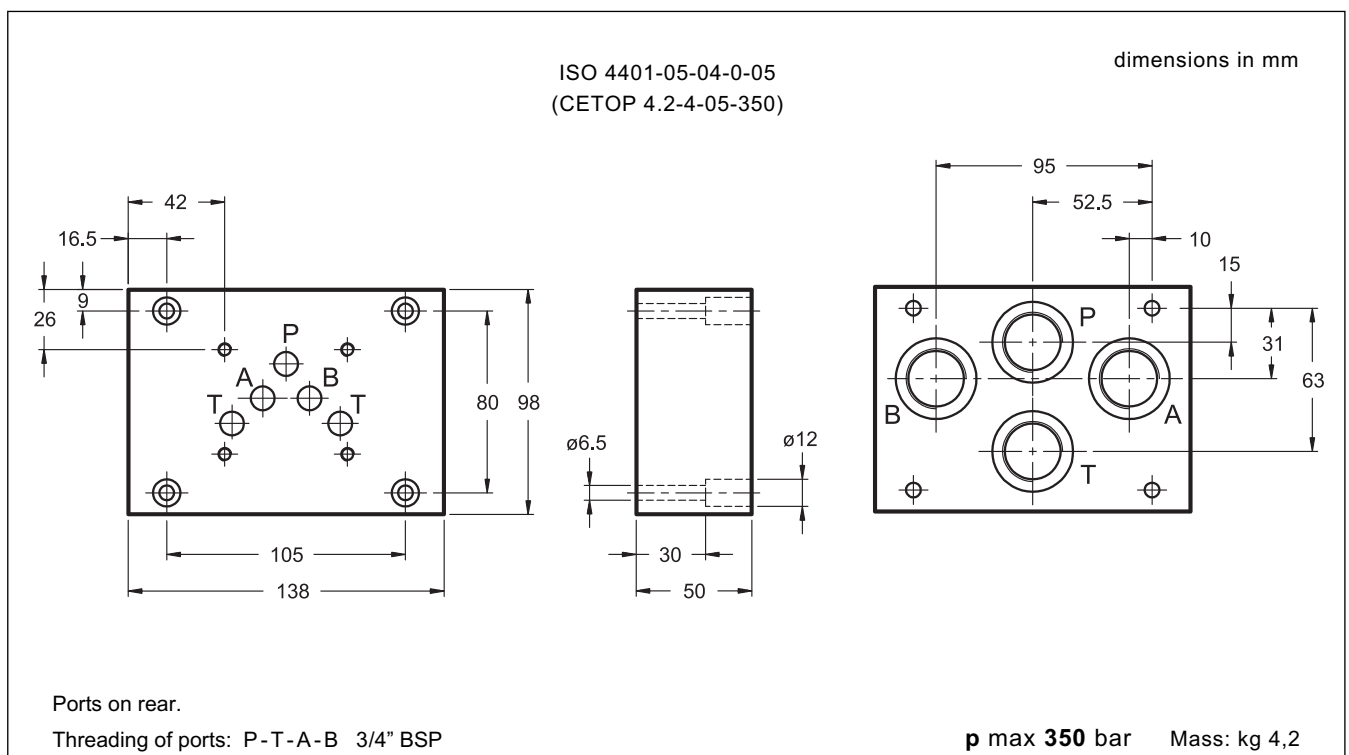
PMD4

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)

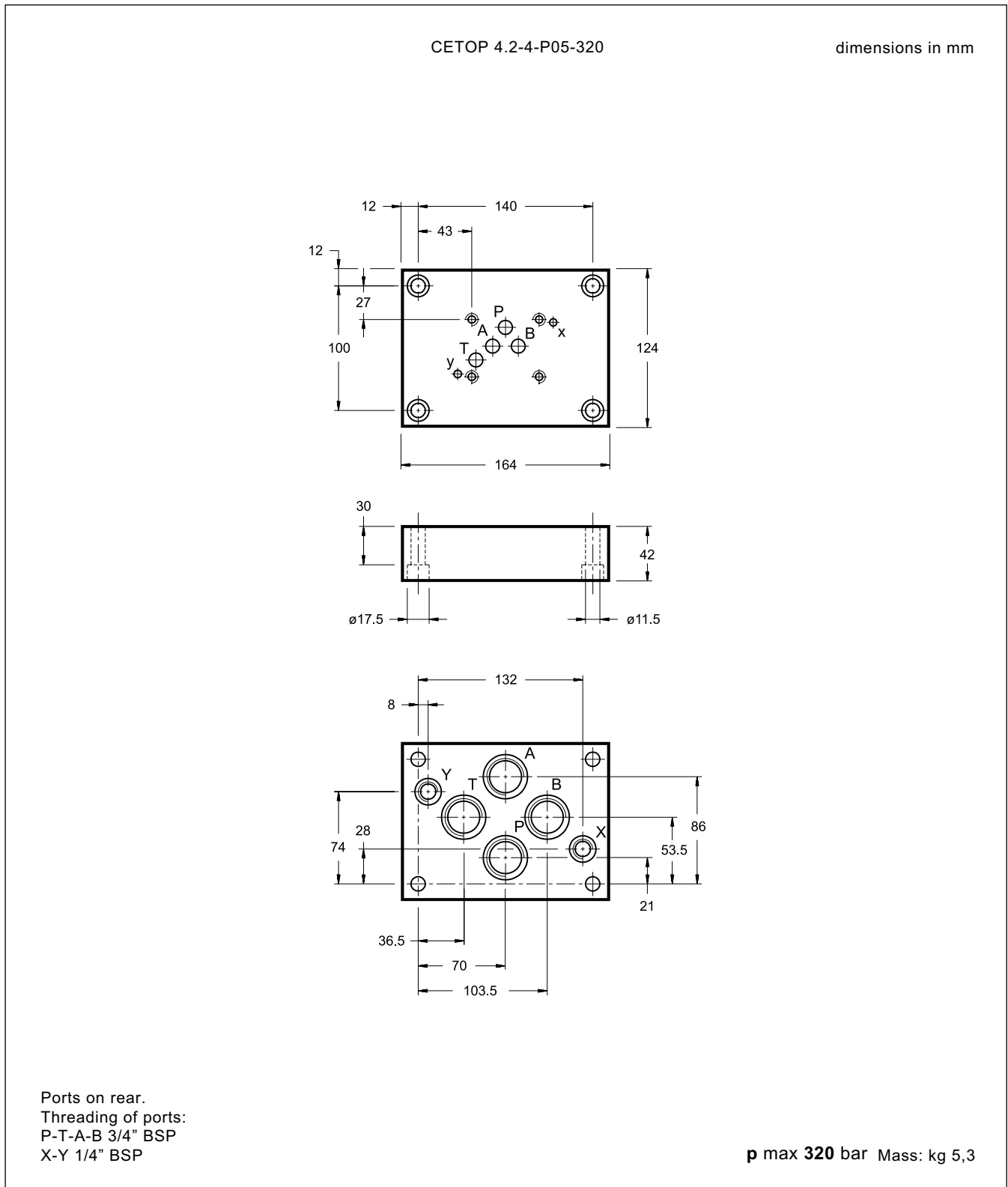




PME4

SUBPLATES FOR CETOP P05 VALVES

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





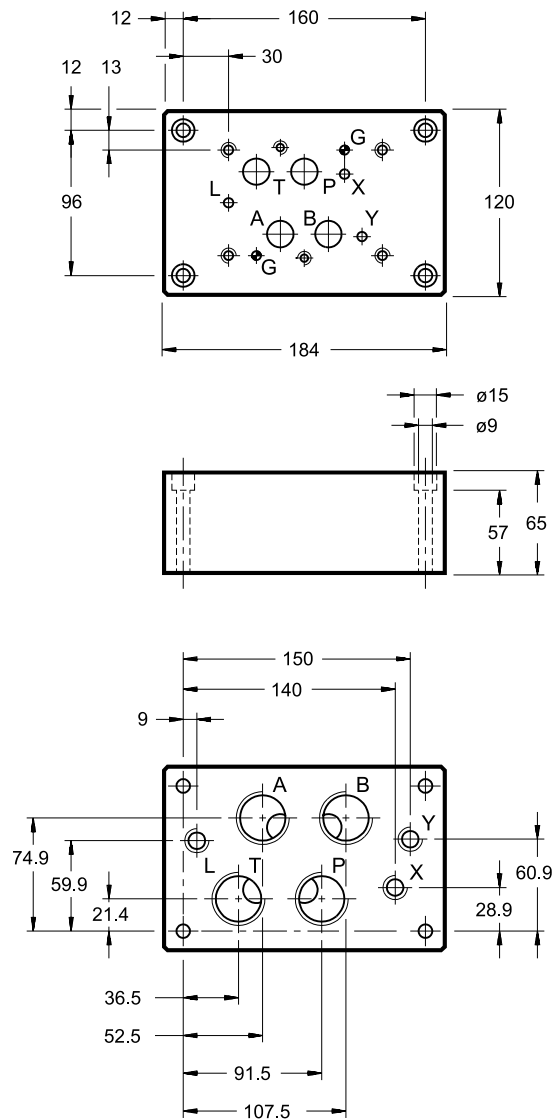
PME07

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

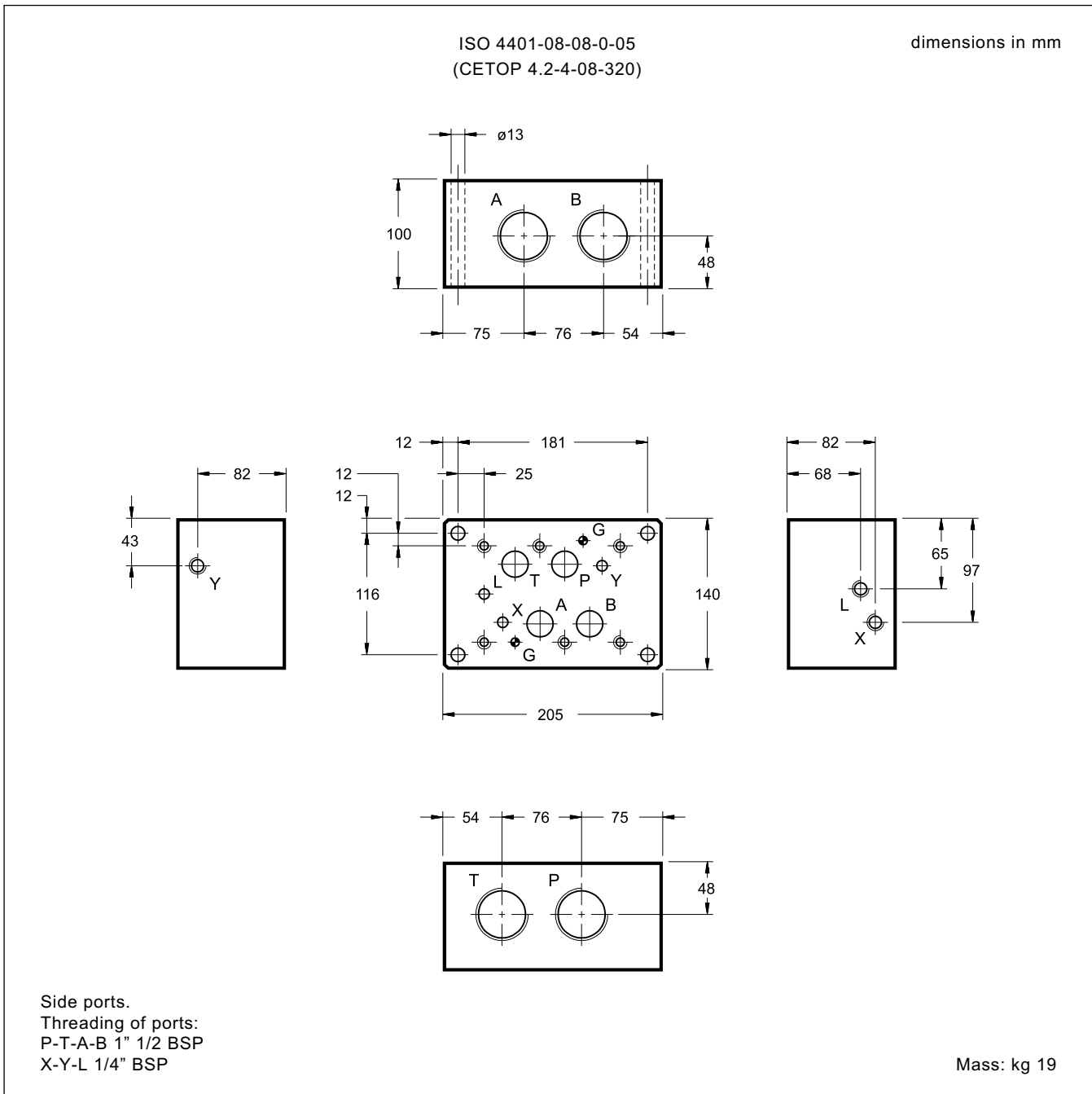
Mass: kg 9



PME5

SUBPLATES FOR ISO 4401-08 (CETOP 08) VALVES

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



RM4-* -MP

SUBPLATE WITH PRESSURE RELIEF VALVE

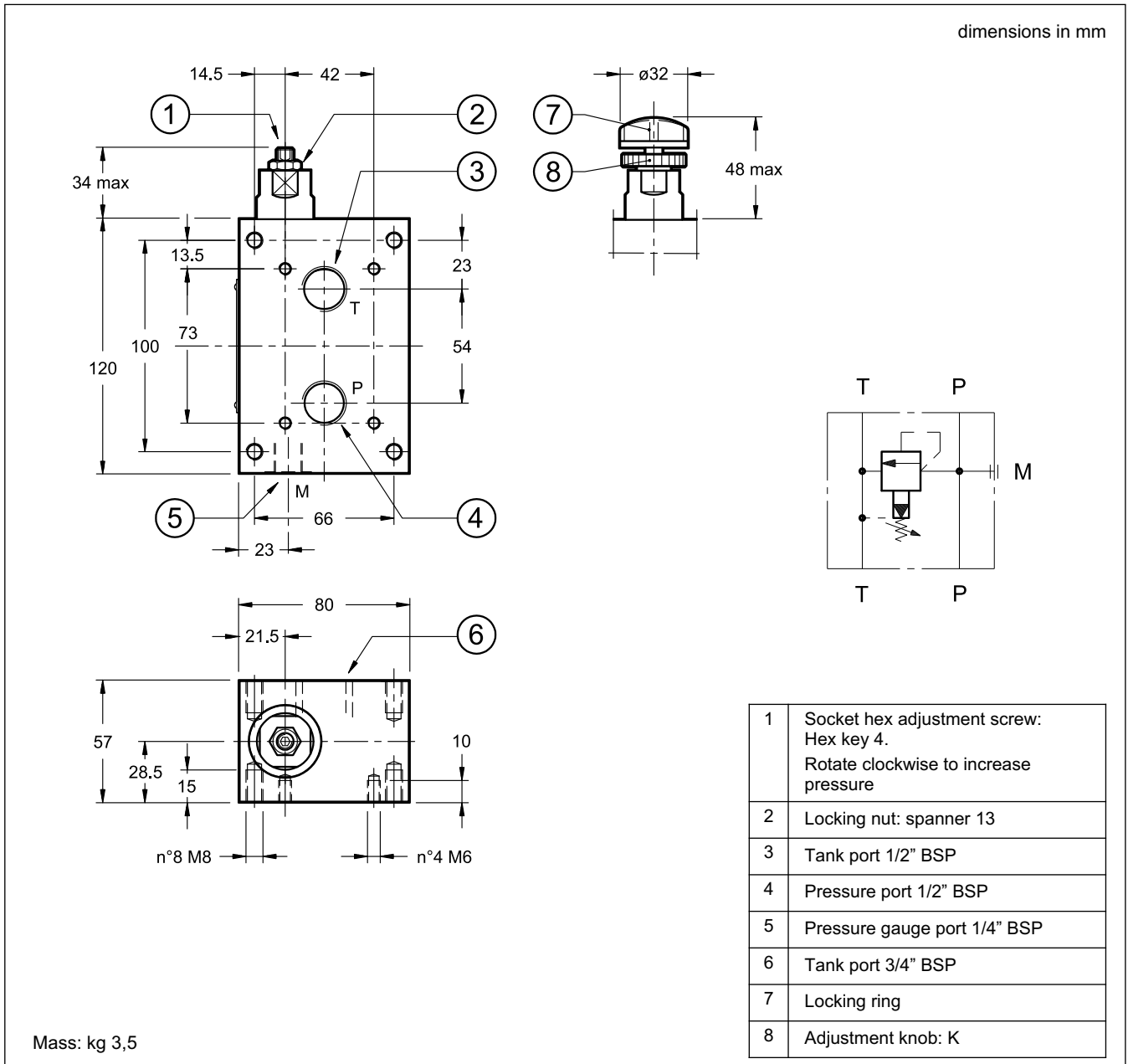
SERIES 40

- 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

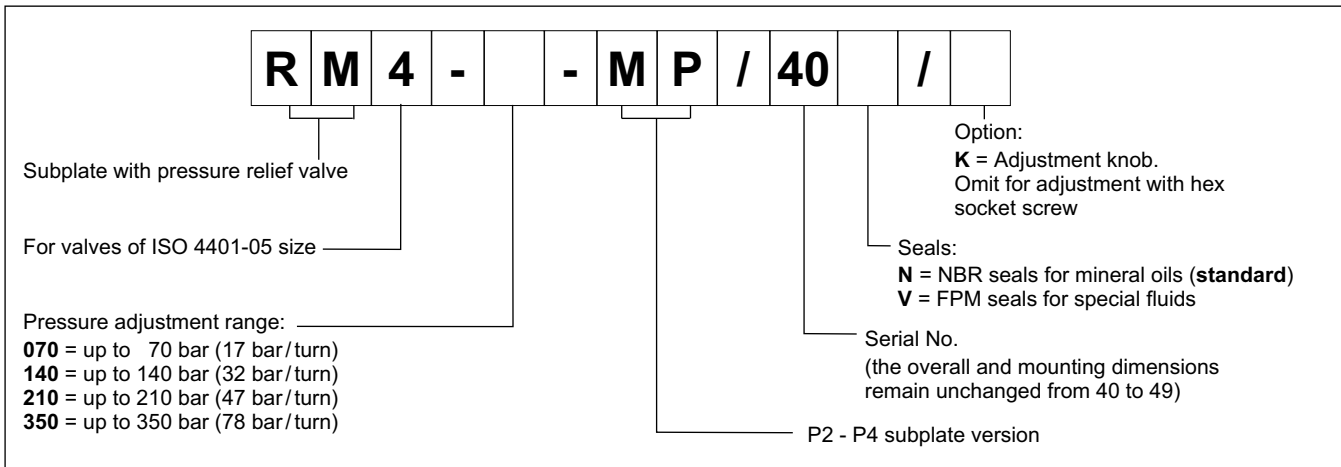
p max 350 bar
Q max 100 l/min

1 - OVERALL AND MOUNTING DIMENSIONS



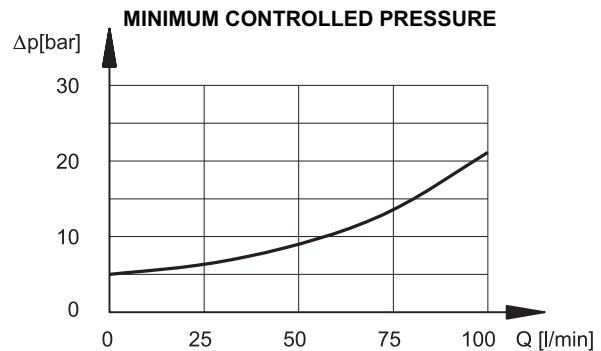
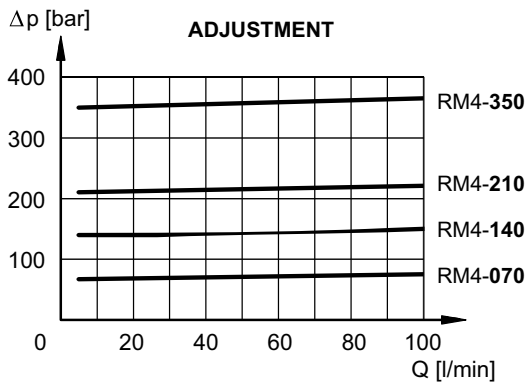


2 - IDENTIFICATION CODE



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.