

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<br>- ports P - A - B<br>- port T                                 | bar                                       | see paragraph 11<br>140      |
| Maximum flow  | l/min                                     | 50                           |
| Port dimensions:<br>P - pressure<br>T - lower drainage<br>T - upper drainage<br>A/B - users | BSP                                       | 3/8"<br>1/2"<br>3/8"<br>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**

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

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)

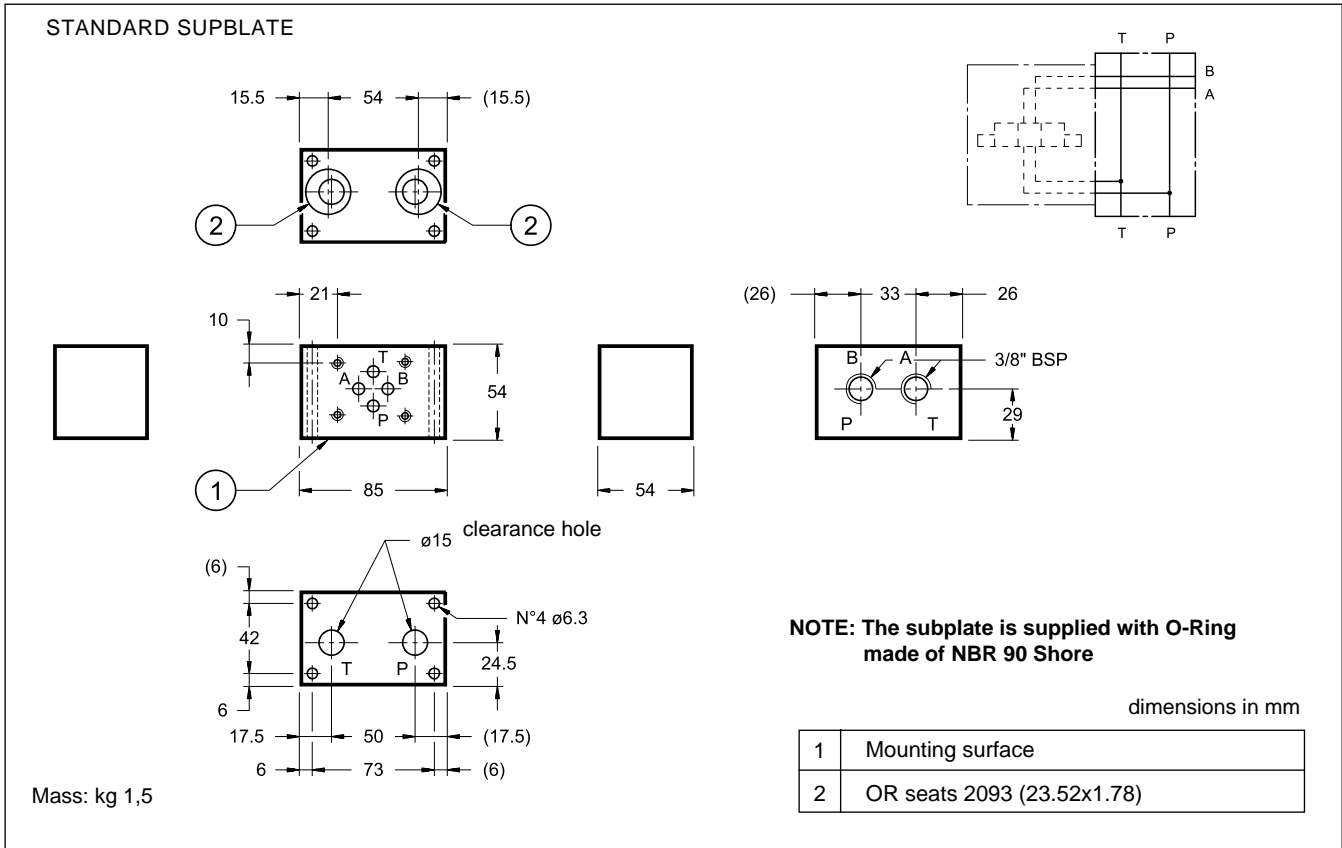
**F** = with P - T threaded ports and additional pressure port.

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

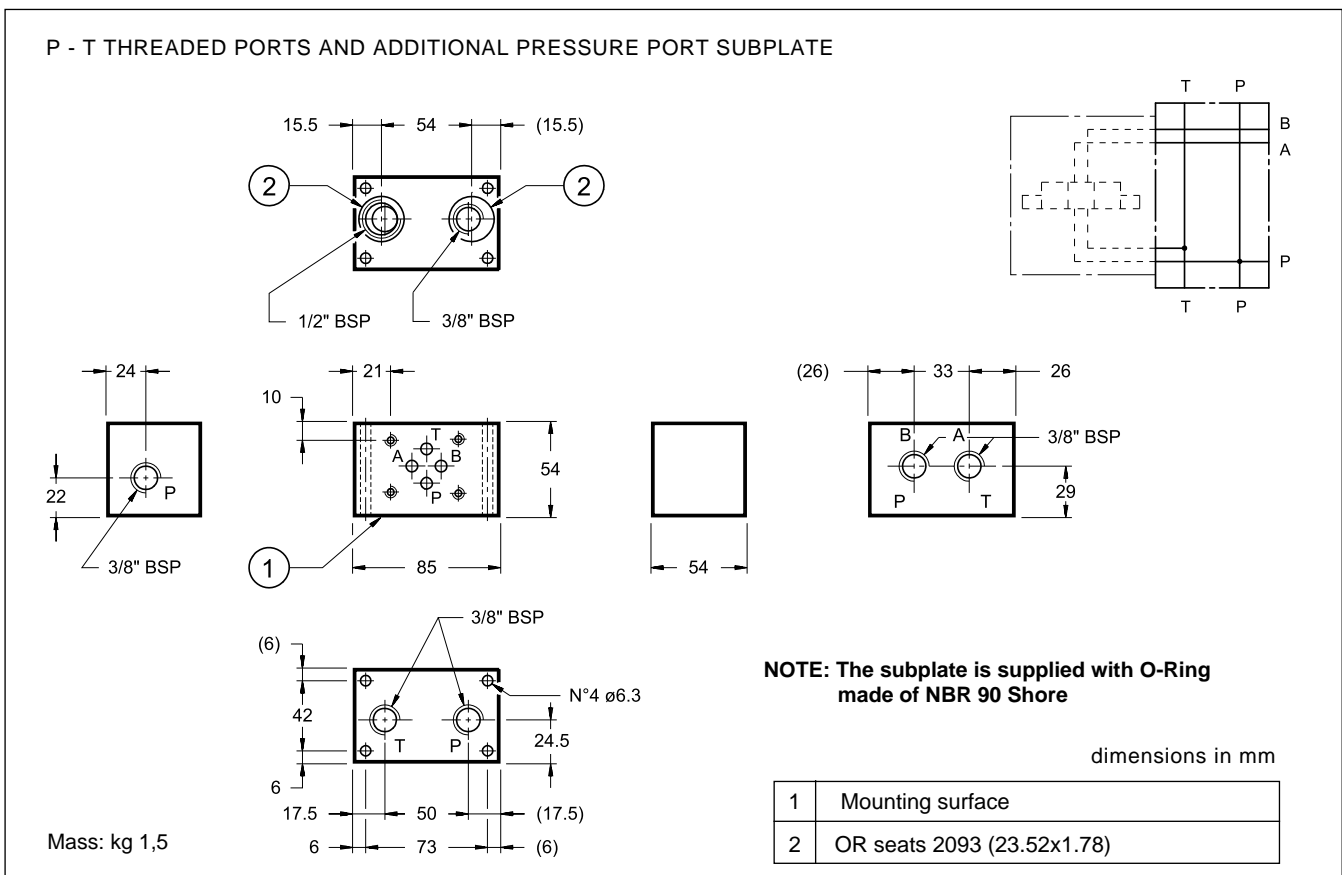
**Z** = arranged for the installation of an MZD pressure reducing valve

**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

15.5 54 (15.5)  
 2 N°4 M6x12  
 1/2" BSP 3/8" BSP

24 22 3/8" BSP

10 21 54 85 54

26 33 26 3/8" BSP 29

6 3/8" BSP N°4 M6x12 24.5 42 6 T P 17.5 50 (17.5) 6 73 (6)

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) |

Mass: kg 1,5

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

SUBPLATE ARRANGED FOR THE INSTALLATION OF AN MZD PRESSURE REDUCING VALVE

15.5 54 (15.5)  
 2 2  
 1/2" BSP 3/8" BSP

10 21 54 85 54

26 33 26 3/8" BSP 29

6 3/8" BSP N°4 ø6.3 24.5 42 6 T P 17.5 50 (17.5) 6 73 (6)

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

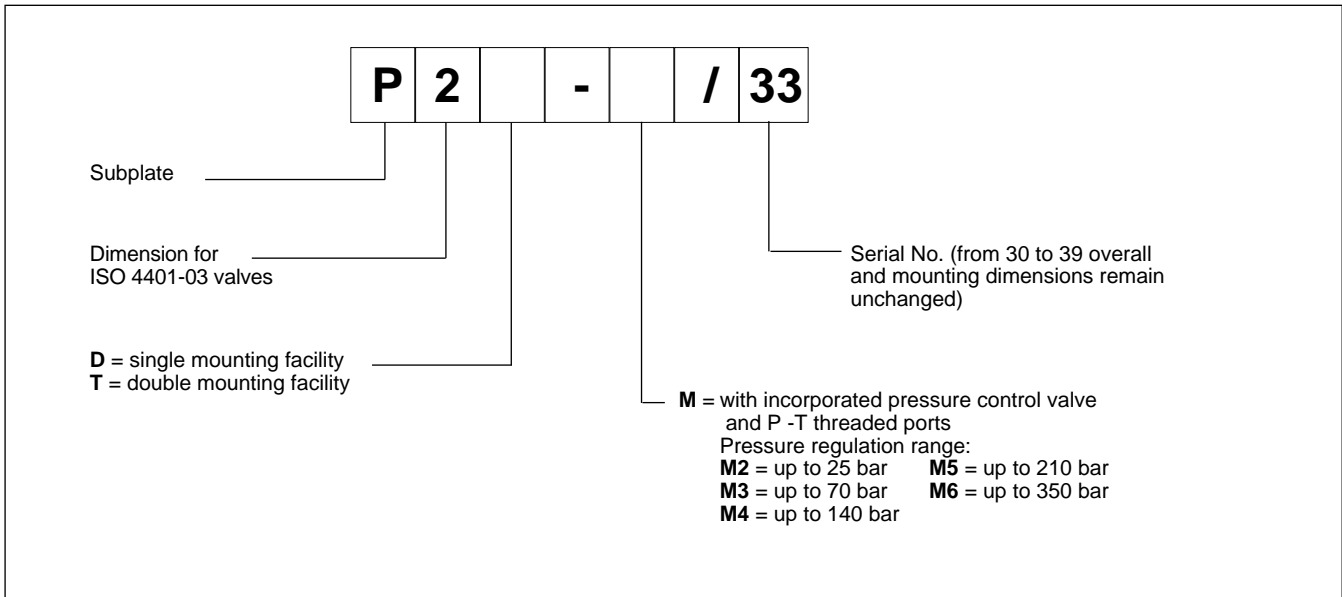
dimensions in mm

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

Mass: kg 1,5

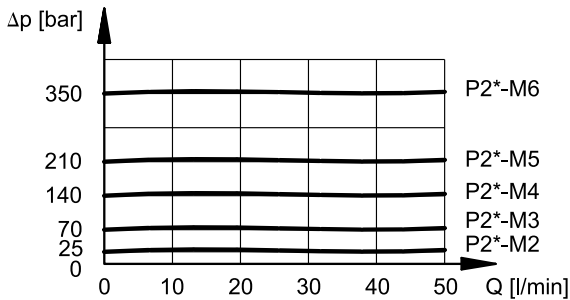
6 - IDENTIFICATION CODE

subplates with incorporated pressure control valve

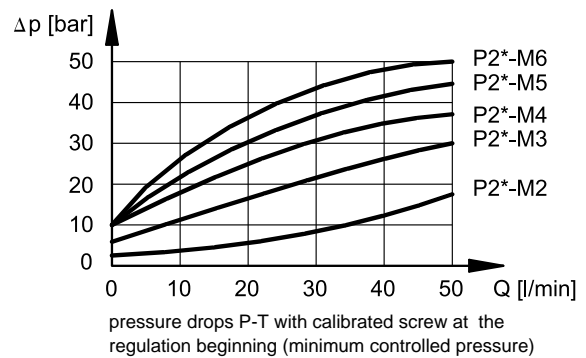


7 - CHARACTERISTIC CURVES FOR P2D-M\* E P2T-M\* SUBPLATES WITH PRESSURE CONTROL VALVE INCORPORATED (values obtained with viscosity of 36 cSt at 50°C)

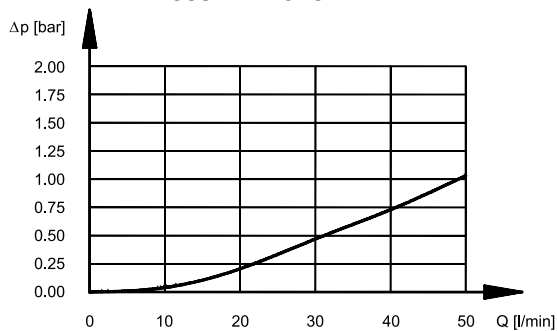
ADJUSTMENT



MINIMUM CONTROLLED PRESSURE



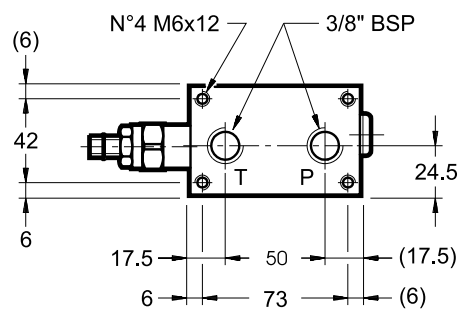
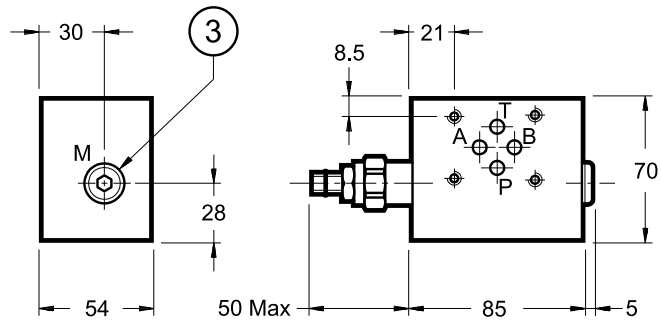
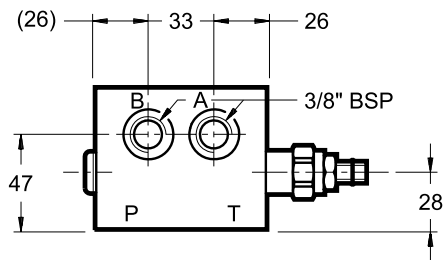
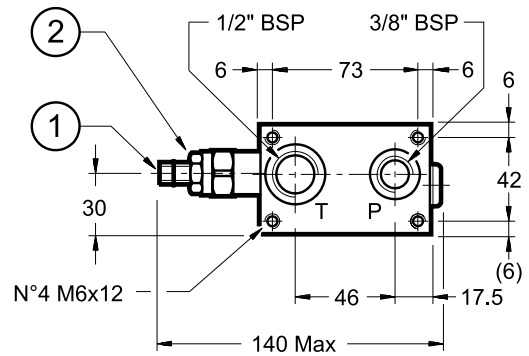
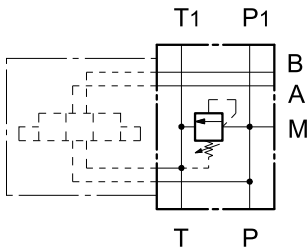
PRESSURE DROPS T1→T



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

SINGLE MOUNTING FACILITY SUBPLATE WITH PRESSURE RELIEF VALVE INCORPORATED

HYDRAULIC SYMBOL



dimensions in mm

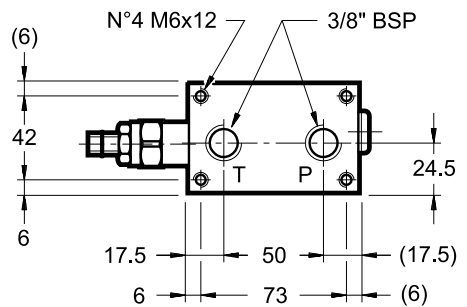
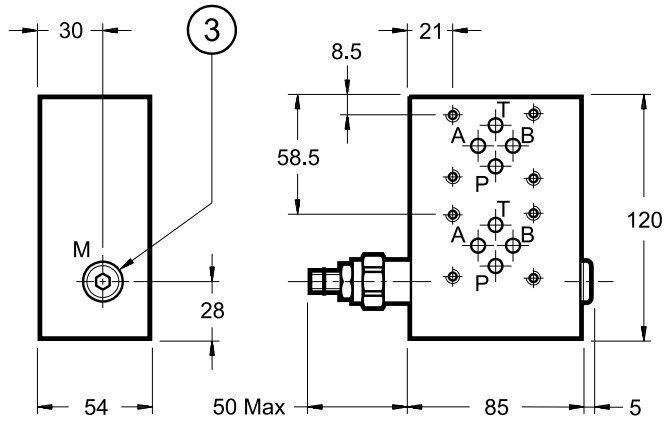
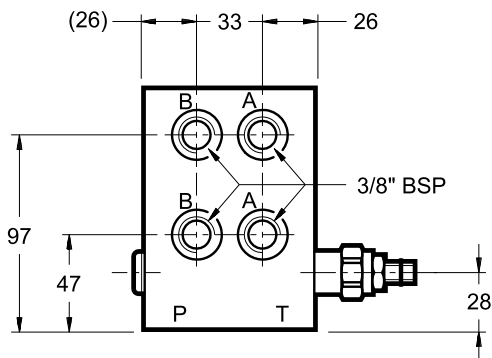
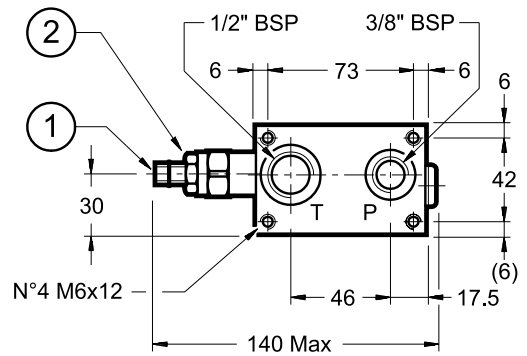
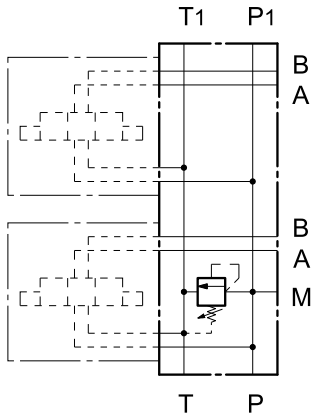
Mass: kg 2,5

|   |  |
|---|--|
| 1 | Countersunk hex. adjustment screw:<br>spanner 6<br>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:<br>spanner 6<br>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<br>DIN 975 | Stud class 8.8<br>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           |



P2\*

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