

# DZC\*

## PRESSURE REDUCING VALVES SERIES 12



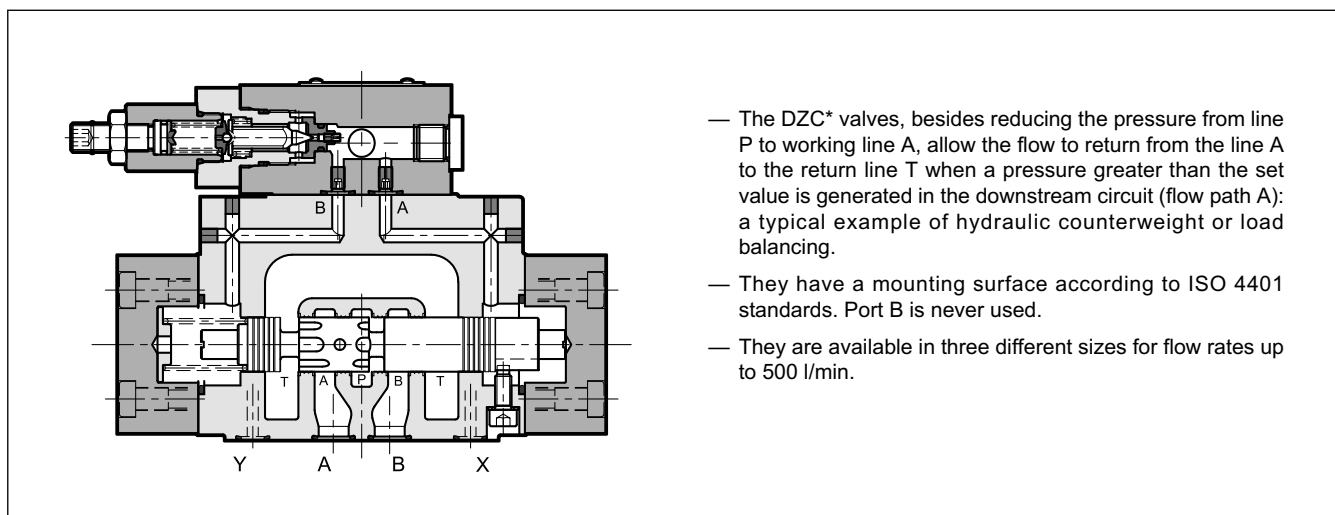
**DZC5  
DZC5R  
DZC7  
DZC8**

**CETOP P05  
ISO 4401-05  
ISO 4401-07  
ISO 4401-08**

**p max 350 bar**

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

### OPERATING PRINCIPLE



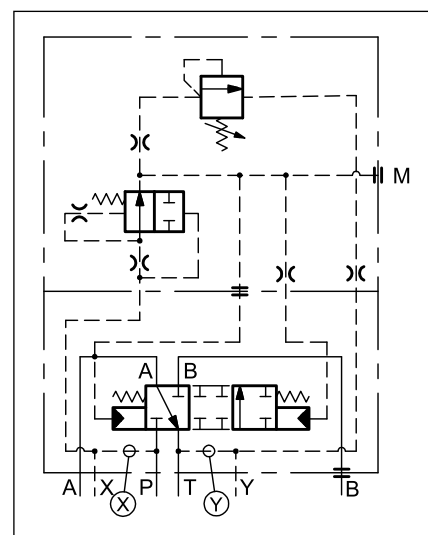
- The DZC\* valves, besides reducing the pressure from line P to working line A, allow the flow to return from the line A to the return line T when a pressure greater than the set value is generated in the downstream circuit (flow path A): a typical example of hydraulic counterweight or load balancing.
- They have a mounting surface according to ISO 4401 standards. Port B is never used.
- They are available in three different sizes for flow rates up to 500 l/min.

### PERFORMANCES

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

		DZC5 DZC5R	DZC7	DZC8
Maximum operating pressure	bar	350		
Maximum flow	l/min	150	300	500
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	6,3	8,6	15

### HYDRAULIC SYMBOL



## 1 - IDENTIFICATION CODE

<b>D</b>	<b>Z</b>	<b>C</b>		<b>-</b>		<b>/</b>	<b>12</b>	<b>-</b>		<b>/</b>	
----------	----------	----------	--	----------	--	----------	-----------	----------	--	----------	--

Pressure reducing valve \_\_\_\_\_

Nominal size: \_\_\_\_\_

**5** = CETOP P05 (**NOTE**)  
**5R** = ISO 4401-05  
**7** = ISO 4401-07  
**8** = ISO 4401-08

Pressure control range \_\_\_\_\_

**070** = 5 ÷ 70 bar  
**140** = 5 ÷ 140 bar  
**210** = 5 ÷ 210 bar

Series No. \_\_\_\_\_  
 (the overall and mounting dimensions remain unchanged from 10 to 19)

**K1** = Adjustment knob  
 (omit for adjustment with socket hex screw)

Drainage: **I** = internal  
**E** = external

Piloting: **I** = internal  
**E** = external

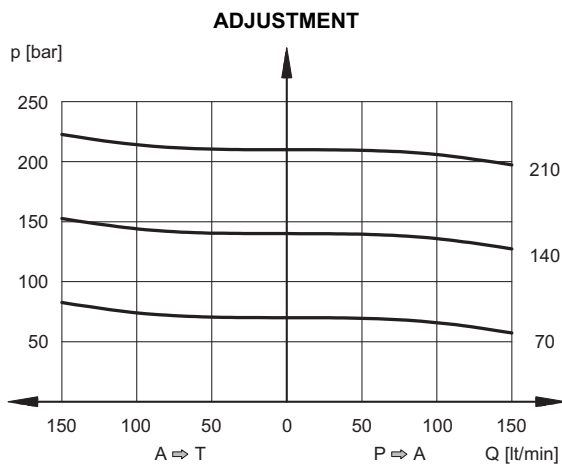
Seals:  
**N** = NBR seals for mineral oil (**standard**)  
**V** = FPM seals for special fluids

**NOTE:** This version is interchangeable with the previous model ZC4 Diplomatic

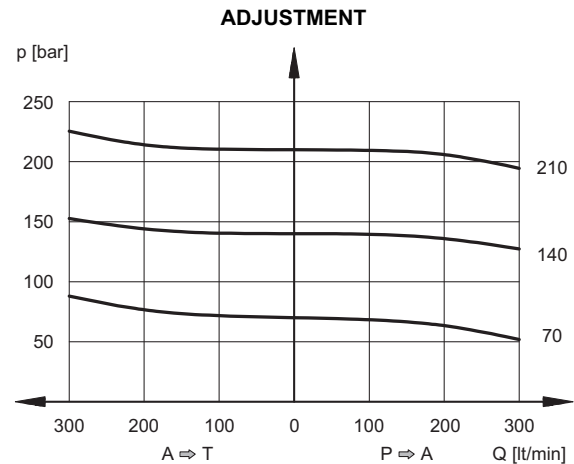
## 2 - CHARACTERISTIC CURVES

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

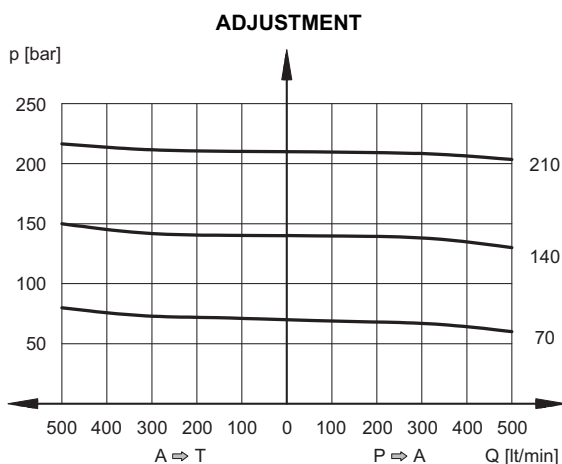
### 2.1 - Characteristic curves DZC5 and DZC5R



### 2.2 - Characteristic curves DZC7



### 2.3 - Characteristic curves DZC8



### 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 - PILOTING AND DRAINAGE

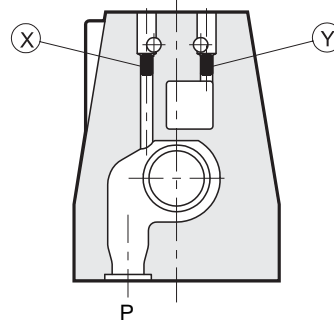
The valves are available with piloting and drainage, both internal and external. The version with external drainage allows a higher backpressure on the unloading.

TYPE OF VALVE		Plug assembly	
		X	Y
<b>IE</b>	INTERNAL PILOT AND EXTERNAL DRAIN	NO	YES
<b>II</b>	INTERNAL PILOT AND INTERNAL DRAIN	NO	NO
<b>EE</b>	EXTERNAL PILOT AND EXTERNAL DRAIN	YES	YES
<b>EI</b>	EXTERNAL PILOT AND INTERNAL DRAIN	YES	NO

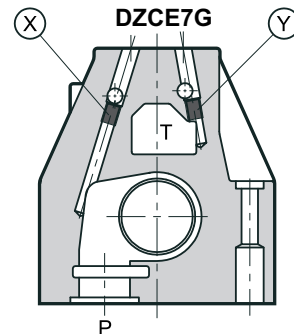
#### PRESSURES (bar)

Pressure	MIN	MAX
Pilot pressure on port X	30	210
Pressure on T port with internal drain	-	2
Pressure on T port with external drain	-	250

#### DZCE5 and DZCE5RG

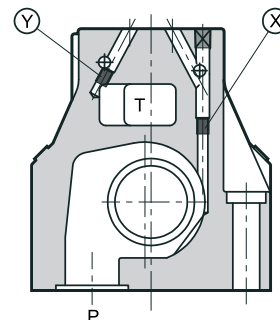


**X:** M5x6 plug for external pilot  
**Y:** M5x6 plug for external drain



**X:** M6x8 plug for external pilot  
**Y:** M6x8 plug for external drain

#### DZCE8G



**X:** M6x8 plug for external pilot  
**Y:** M6x8 plug for external drain

### 5 - INSTALLATION

The DZC\* valves can be installed in any position without impairing correct operation.

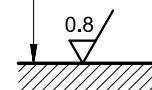
Connect the valve T port directly to the tank. Add any backpressure value detected in the T line to the controlled pressure value.

**Maximum admissible backpressure in the T line, in operating conditions, is 2 bar.**

Valves are fixed by means of screws or tie rods on a flat surface with planarity and roughness equal to or better than those indicated in the relative symbols. If minimum values are not observed, fluid can easily leak between the valve and support surface.

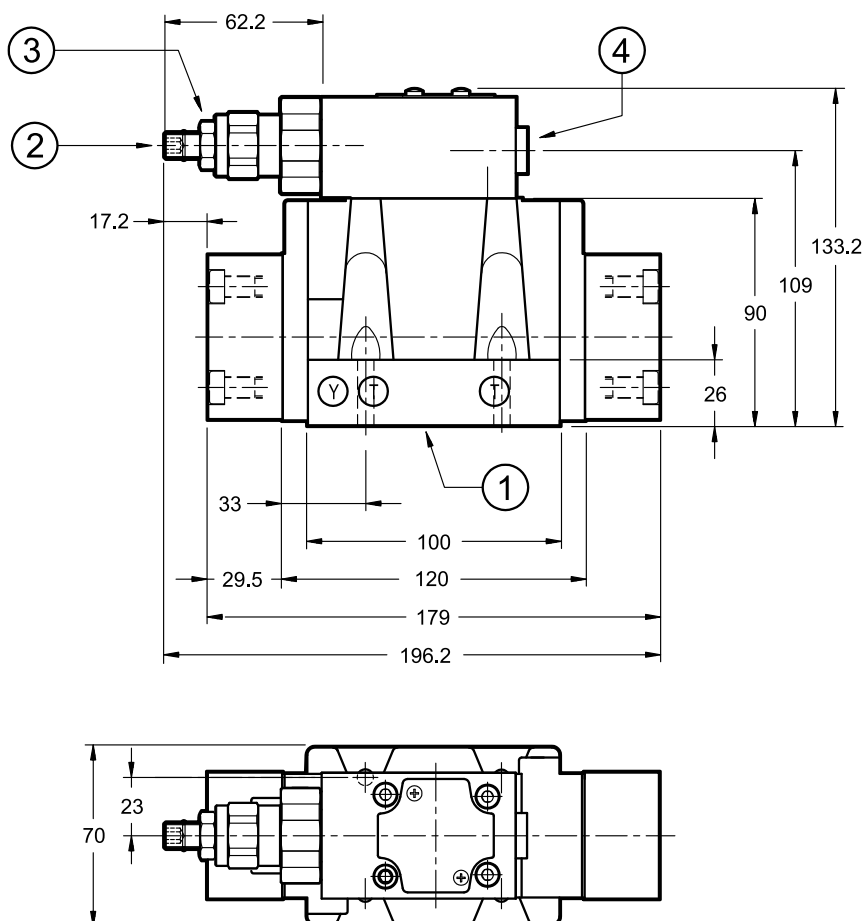
surface finishing

0.01/100



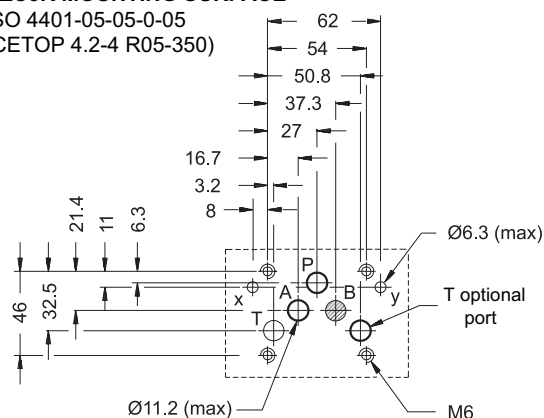
## 6 - DZC5 AND DZC5R OVERALL AND MOUNTING DIMENSIONS

dimensions in mm



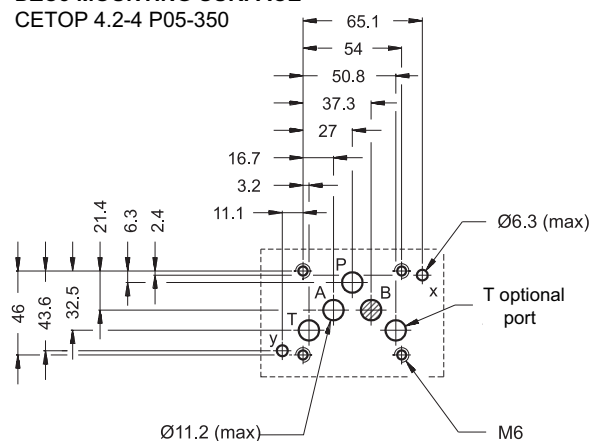
### DZC5R MOUNTING SURFACE

ISO 4401-05-05-0-05  
(CETOP 4.2-4 R05-350)



### DZC5 MOUNTING SURFACE

CETOP 4.2-4 P05-350

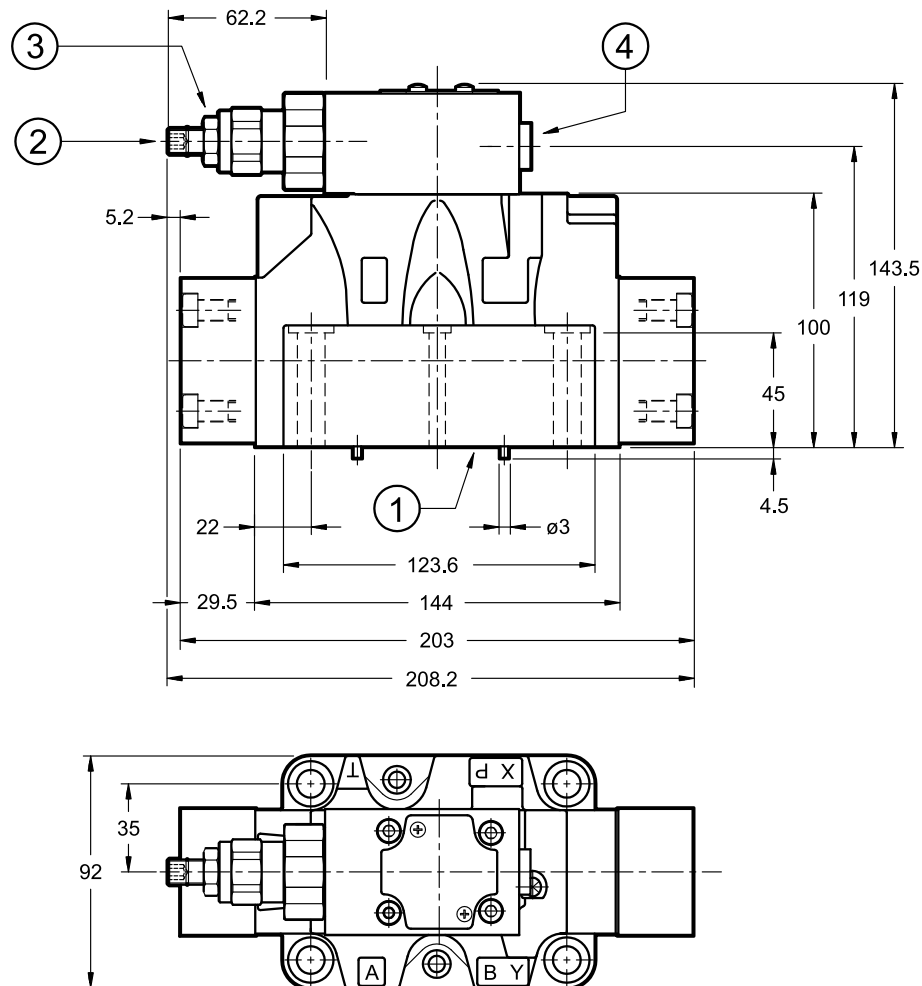


Valve fastening: N. 4 bolts SHC ISO 4762 M6x35
Tightening torque: 8 Nm (A 8.8 bolts)
Thread of mounting holes: M6x10

1	Mounting surface with sealing rings: N. 5 OR type 2050 (12.42x1.78) - 90 Shore N. 2 OR type 2037 (9.25x1.78) - 90 Shore
2	Socket hex adjustment screw: Allen key 5. Clockwise rotation to increase pressure
3	Locking nut: spanner 17
4	Pressure gauge port 1/4" BSP

## 7 - DZC7 OVERALL AND MOUNTING DIMENSIONS

dimensions in mm

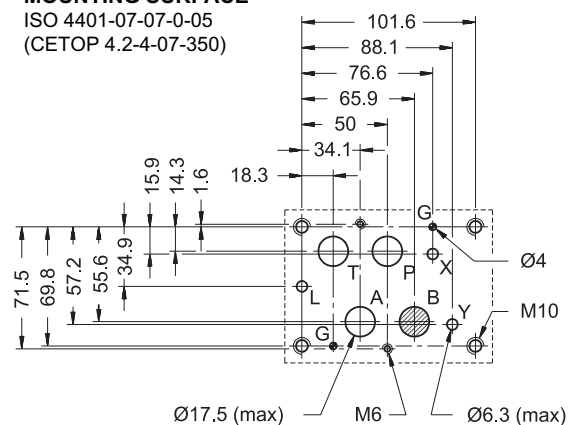


1	Mounting surface with sealing rings: N. 4 OR type 130 (22.22x2.62) - 90 Shore N. 2 OR type 2043 (10.82x1.78) - 90 Shore
2	Socket hex adjustment screw: Allen key 5. Clockwise rotation to increase pressure
3	Locking nut: spanner 17
4	Pressure gauge port 1/4" BSP

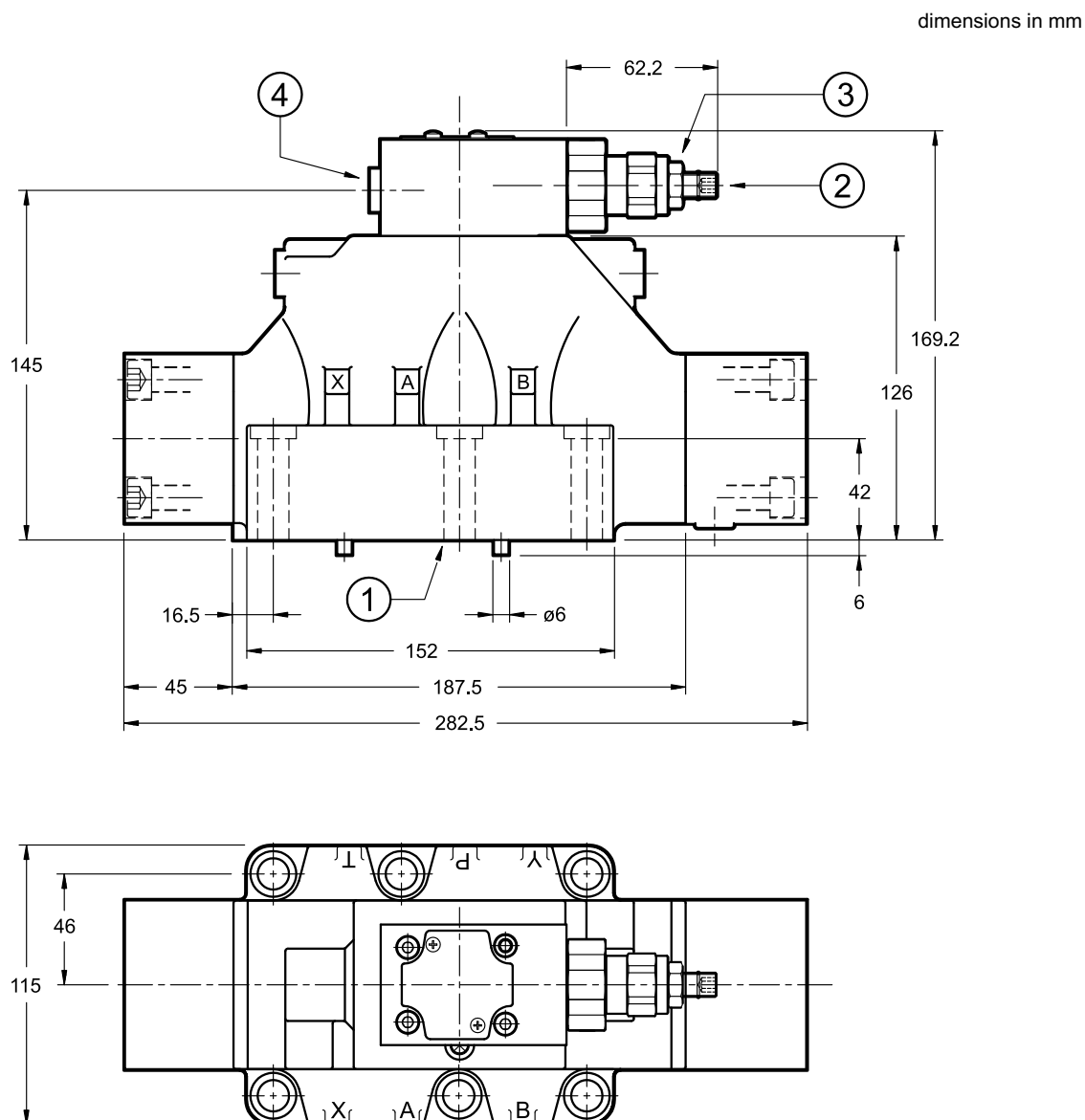
Single valve fastening:	N. 4 SHC bolts ISO 4762 M10x60 N. 2 SHC bolts ISO 4762 M6x60
Tightening torque M10x60:	40 Nm (A 8.8 bolts)
M6x60:	8 Nm (A 8.8 bolts)
Thread of mounting holes:	M6x18; M10x18

### MOUNTING SURFACE

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



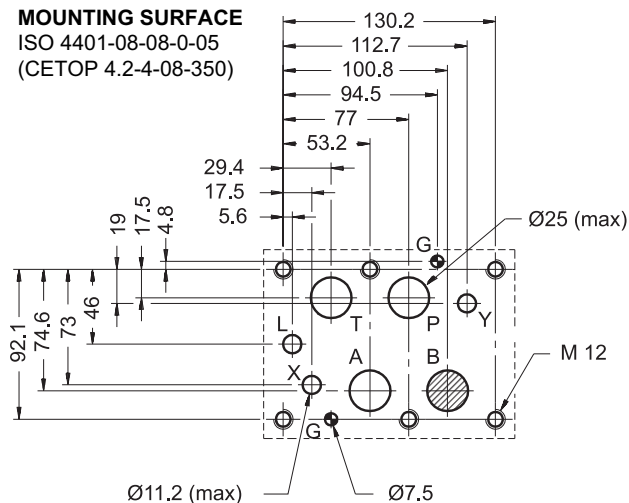
## 8 - DZC8 OVERALL AND MOUNTING DIMENSIONS



1	Mounting surface with sealing rings: N: 4 OR type 3118 (29.82x2.62) - 90 Shore N: 2 OR type 3081 (20.24x2.62) - 90 Shore
2	Socket hex adjustment screw: Allen key 5. Clockwise rotation to increase pressure
3	Locking nut: spanner 17
5	Pressure gauge port 1/4" BSP

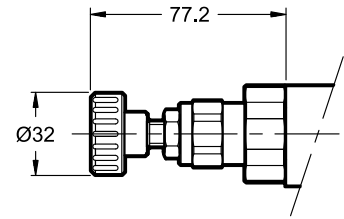
Valve fastening: N. 6 SHC bolts ISO 4762 M12x60
Tightening torque: 69 Nm (A 8.8 bolts)
Thread of mounting holes: M12x20

**MOUNTING SURFACE**  
ISO 4401-08-08-0-05  
(CETOP 4.2-4-08-350)



## 9 - OPTIONS

The valves can be equipped with adjustment knob instead of the standard socket head screw.  
Add **K1** at the identification code end (see par.1).



## 10 - SUBPLATES

(See catalogue 51 000)

	<b>DZC5</b>	<b>DZC7</b>	<b>DZC8</b>
Model with rear ports	PME4-AI5G	PME07-AI6G	-
Model with side ports	PME4-AL5G	PME07-AL6G	PME5-AL8G
Thread of ports:	P - T - A - B X - Y	3/4" BSP 1/4" BSP	1 1/2" BSP 1/4" BSP



**DZC\***  
SERIES 12

**DUPLOMATIC**  
MOTION SOLUTIONS

**DUPLOMATIC MS S.p.A.**

via M. Re Depaolini 24 ▪ 20015 PARABIAGO (MI) ▪ ITALY  
tel. +39 0331.895.111 ▪ [www.duplomatic.com](http://www.duplomatic.com) ▪ e-mail: [sales.exp@duplomatic.com](mailto:sales.exp@duplomatic.com)