

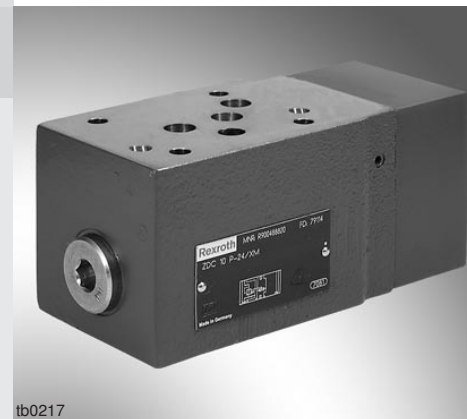
# Meter-in pressure compensator, direct operated

**RE 29224/11.07**  
Replaces: 02.03

1/12

## Type ZDC

Sizes 10 to 32  
Component series 2X  
Maximum operating pressure 350 bar  
Maximum flow 520 l/min



tb0217

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## Features

- Sandwich plate valve
- Porting pattern to ISO 4401
- Load compensation in channel P → A or P → B by integrated shuttle valve
- 2-way design "P"
- 3-way design "PT" (sizes 10 to 25)
- Flow control in interaction with proportional directional valve

Information on available spare parts:  
[www.boschrexroth.com/spc](http://www.boschrexroth.com/spc)

## Ordering code

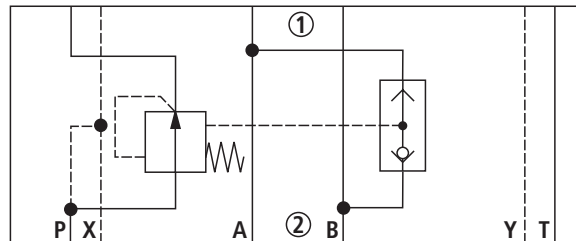
ZDC		-2X/				*	
Size 10	= 10						Further details in clear text
Size 16	= 16						
Size 25	= 25						
Size 32 (variant "P" only)	= 32						
2-way design (pressure reducing function)	= P						<b>Seal material</b> NBR seals FKM seals (other seals on request)
3-way design (pressure relief function)	= PT						
Component series 20 to 29 (20 to 29: unchanged installation and connection dimensions)	= 2X						⚠ Attention! Observe compatibility of seals with hydraulic fluid used!
Pilot oil supply "internal"	= No code						
Pilot oil supply "external"	= X						No code = Without special type of protection J = Seawater-resistant
Pilot oil supply external, port X on component side plugged (size 10 only)	= XL						

**Standard types and components can be found in the EPS (standard price list).**

## Symbols: 2-way design "P" (① = component side, ② = plate side)

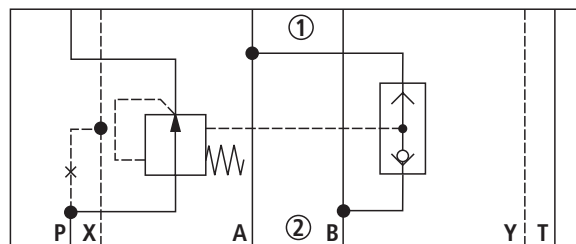
### Pilot oil supply "internal"

Type ZDC . P-2X/...



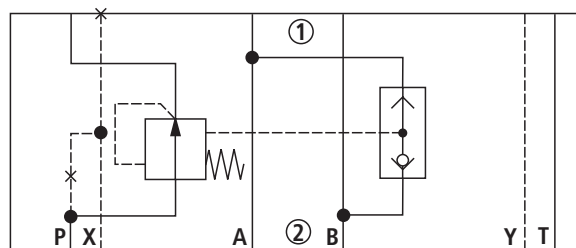
### Pilot oil supply "external"

Type ZDC . P-2X/X...



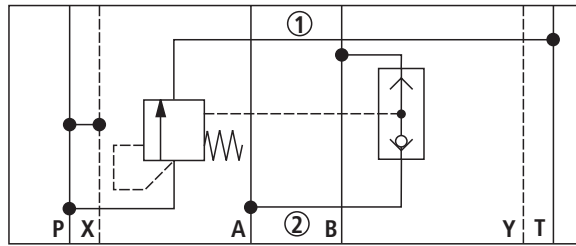
### Pilot oil supply "external", port X on component side plugged (size 10 only)

Type ZDC 10 P-2X/XL...

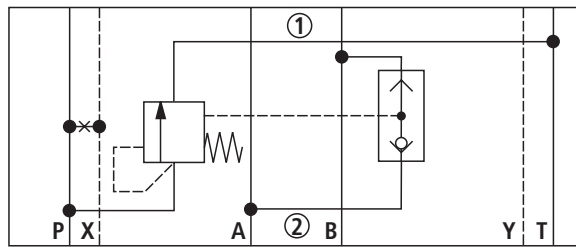


**Symbols:** 3-way design “PT” (① = component side, ② = plate side)

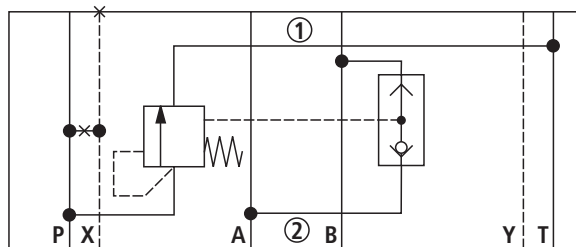
**Pilot oil supply “internal”**  
Type ZDC . PT-2X/...



**Pilot oil supply “external”**  
Type ZDC . PT-2X/X...



**Pilot oil supply “external”,  
port X on component side  
plugged (size 10 only)**  
Type ZDC 10 PT-2X/XL...



**Function, section**

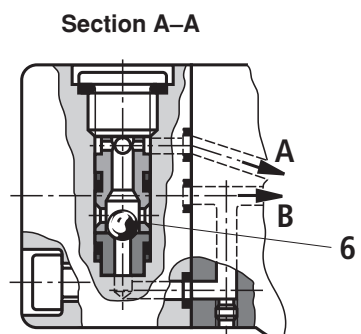
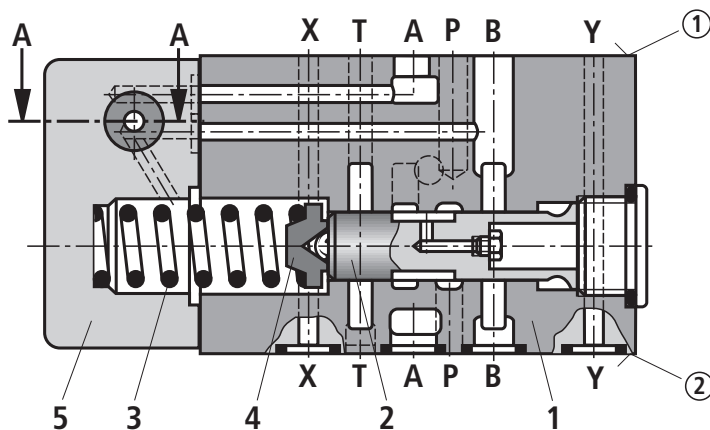
Valves of type ZDC are direct operated meter-in pressure compensators of 2- or 3-way design.

They are used for load compensation as meter-in pressure compensator in channel P.

These valves basically consist of housing (1), control spool (2), compression spring (3) with spring plate (4), and cover (5) with integrated shuttle valve (6).

Compression spring (3) holds control spool (2) in the open position from P2 to P1, when pressure differential P1 → A1 or P1 → B1 is less than 10 bar.

When the pressure differential exceeds 10 bar, control spool (2) is pushed to the left until the pressure differential is restored.



**Technical data** (for applications outside these parameters, please consult us!)**General**

Size	Size	<b>10</b>	<b>16</b>	<b>25</b>	<b>32</b>
Weight	kg	3.0	3.5	8.9	64.7
Installation position	Optional				

**Hydraulic**

Maximum operating pressure	– Ports A, B, P	bar	350		
	– Port T	bar	250		
	– Port X	bar	30 to 100		
	– Port Y	bar	150; up to 30 bar in conjunction with pilot operated proportional directional valve		
Maximum flow	l/min	85	150	325	520
Hydraulic fluid	Mineral oil (HL, HLP) to DIN 51524 <sup>1)</sup> ; fast bio-degradable hydraulic fluids to VDMA 24568 (see also RE 90221); HETG (rape seed oil) <sup>1)</sup> ; HEPG (polyglycols) <sup>2)</sup> ; HEES (synthetic esters) <sup>2)</sup> ; other hydraulic fluids on request				
Hydraulic fluid temperature range	°C	–20 to +70			
Viscosity range	mm <sup>2</sup> /s	15 to 380			
Permissible max. degree of contamination of the hydraulic fluid - cleanliness class to ISO 4406 (c)	Class 20/18/15 <sup>3)</sup>				

<sup>1)</sup> Suitable for NBR and FKM seals

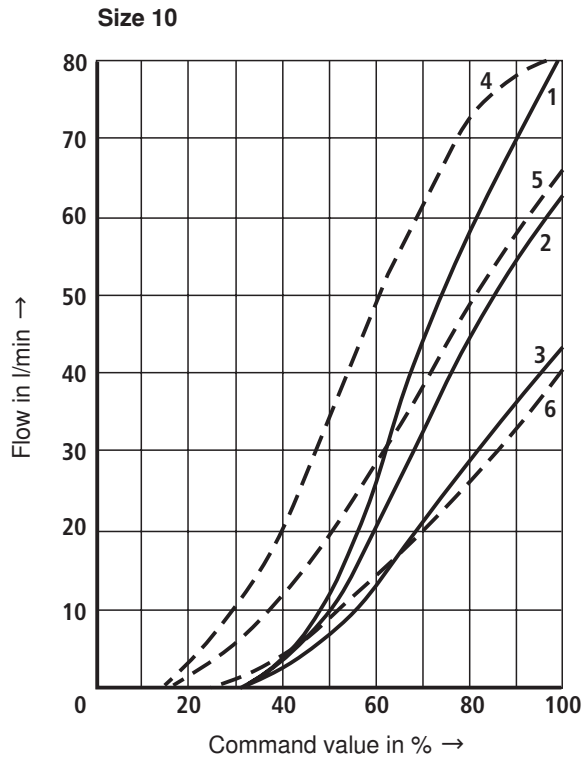
<sup>2)</sup> Suitable only for FKM seals

<sup>3)</sup> The cleanliness classes specified for components must be adhered to in hydraulic systems. Effective filtration prevents malfunction and, at the same time, prolongs the service life of components.

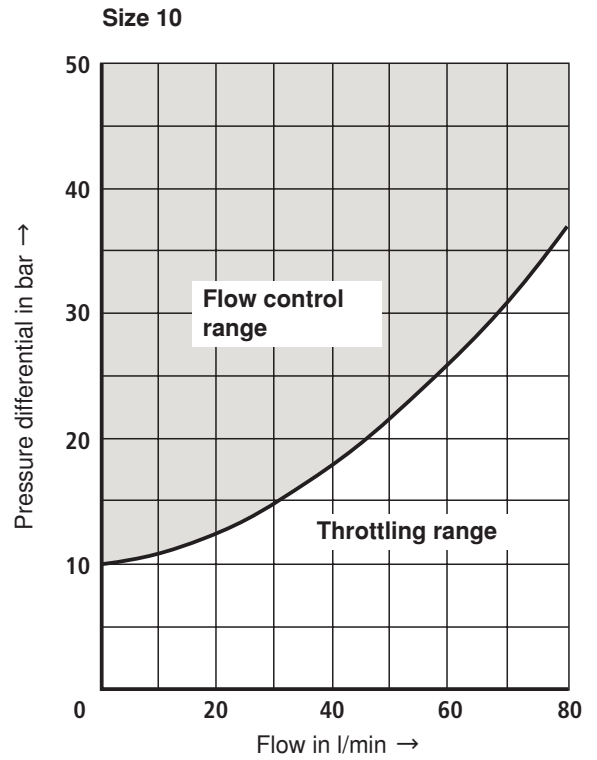
For the selection of filters, see data sheets RE 50070, RE 50076, RE 50081, RE 50086, RE 50087 and RE 50088.

**Characteristic curves** (measured with HLP46 and  $\vartheta_{oil} = 40 \text{ }^\circ\text{C} \pm 5 \text{ }^\circ\text{C}$ )

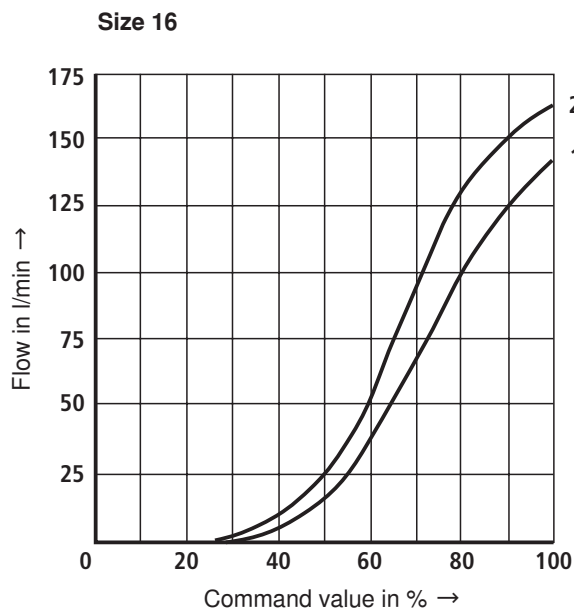
**Flow control P to A, P to B**



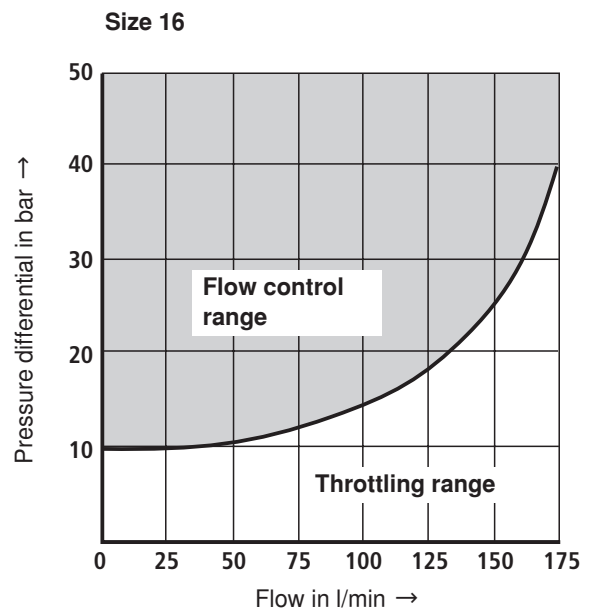
- 1 With type 4WRZ 10...85...
- 2 With type 4WRZ 10...50...
- 3 With type 4WRZ 10...25...
- 4 With type 4WRZ 10...64...
- 5 With type 4WRZ 10...32...
- 6 With type 4WRZ 10...16...



Pressure differential  $\Delta p_{min} = p_{pump} - p_{load}$



- 1 With type 4 WRZ 16...100...
- 2 With type 4 WRZ 16...150...

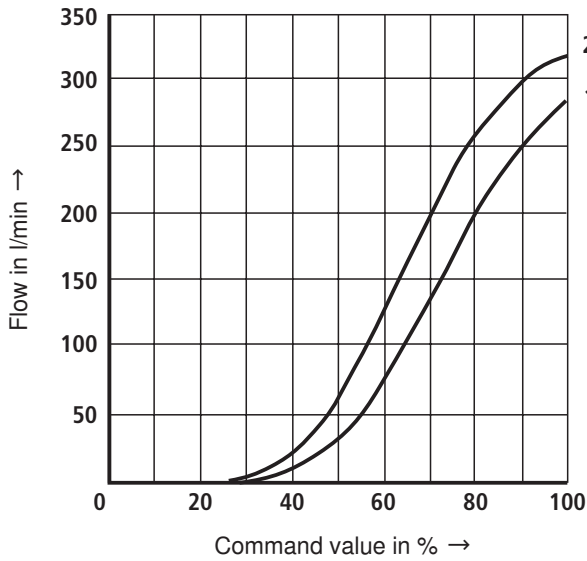


Pressure differential  $\Delta p_{min} = p_{pump} - p_{load}$

**Characteristic curves** (measured with HLP46 and  $\vartheta_{oil} = 40 \text{ }^\circ\text{C} \pm 5 \text{ }^\circ\text{C}$ )

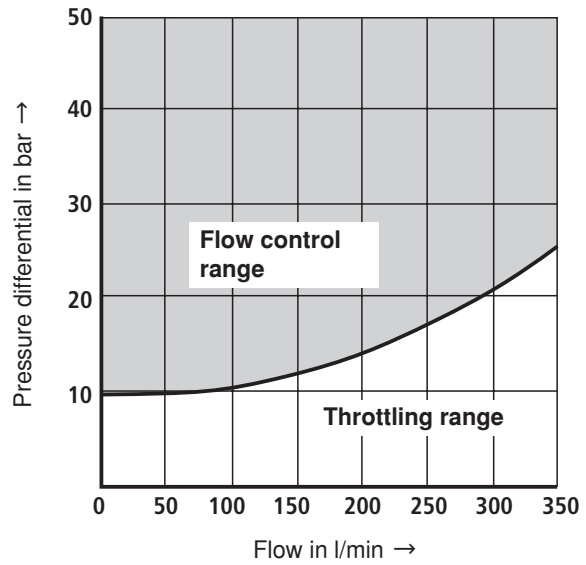
**Flow control P to A, P to B**

**Size 25**



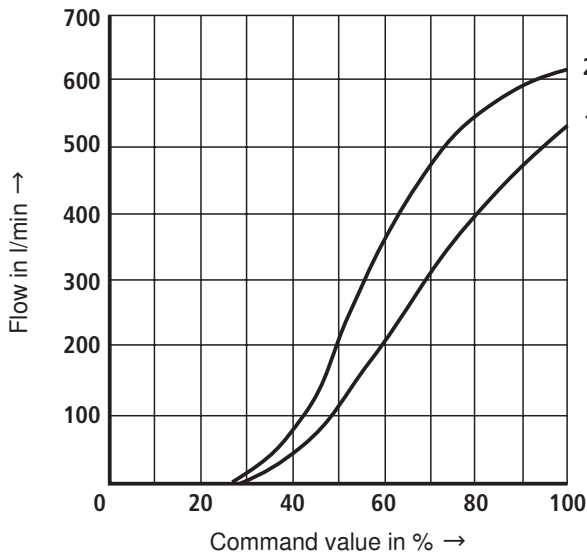
- 1 With type 4 WRZ 25...270...
- 2 With type 4 WRZ 25...325...

**Size 25**



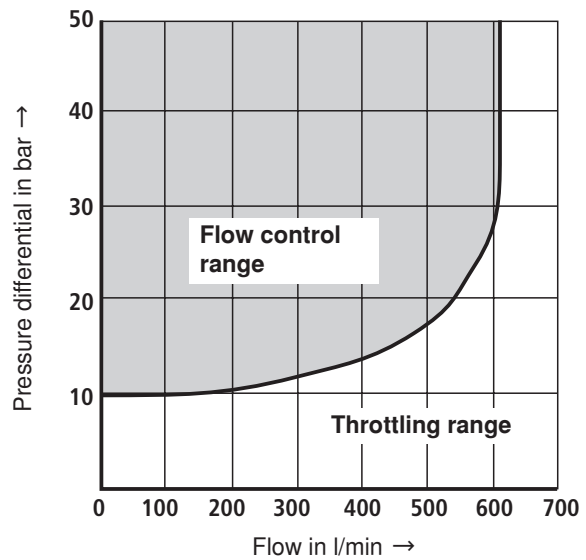
Pressure differential  $\Delta p_{min} = p_{pump} - p_{load}$

**Size 32**

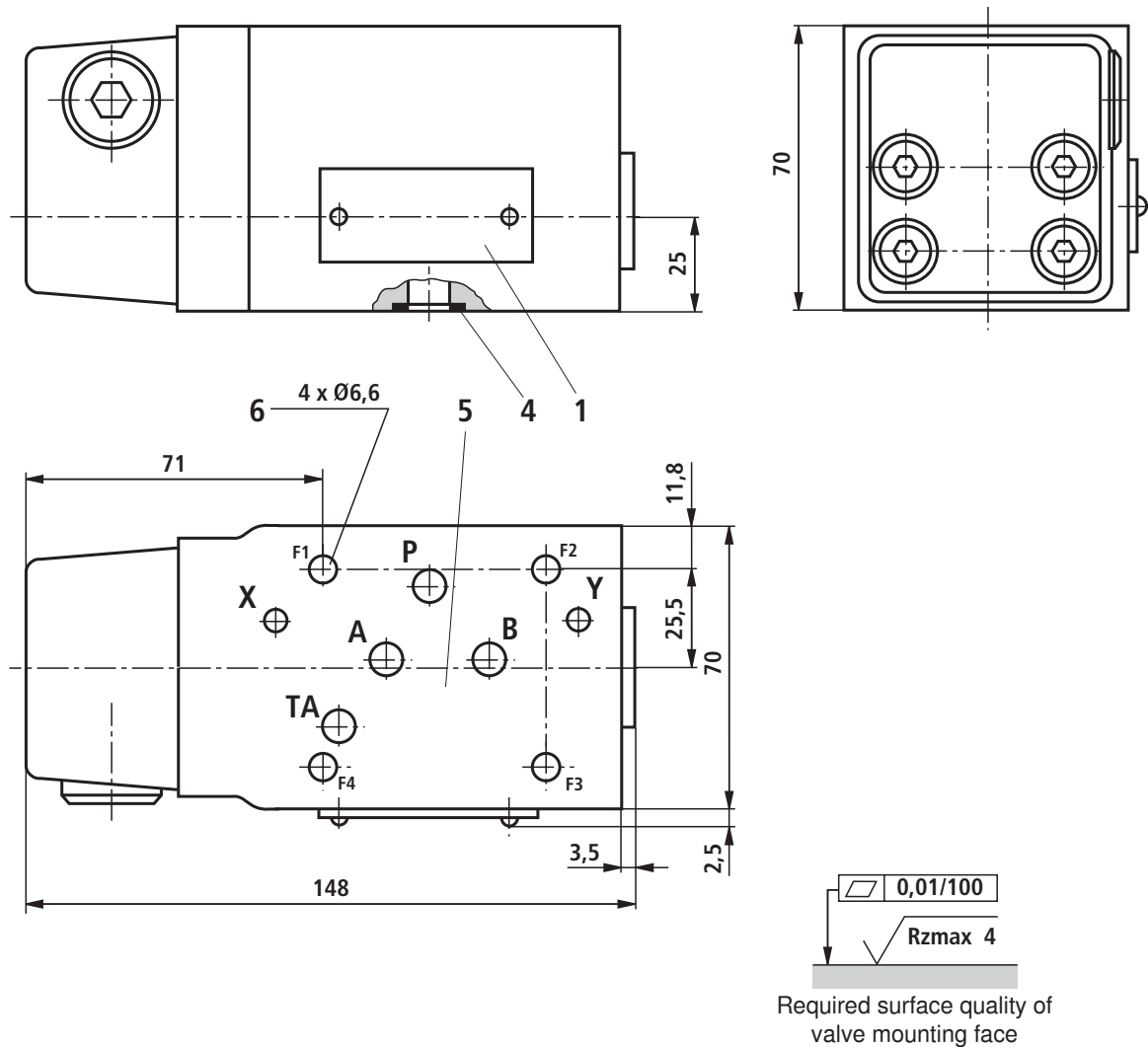


- 1 With type 4 WRZ 32...360...
- 2 With type 4 WRZ 32...520...

**Size 32**



Pressure differential  $\Delta p_{min} = p_{pump} - p_{load}$

**Unit dimensions: Size 10 (dimensions in mm)**

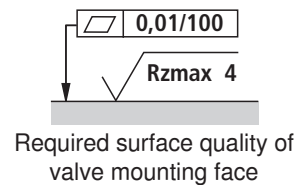
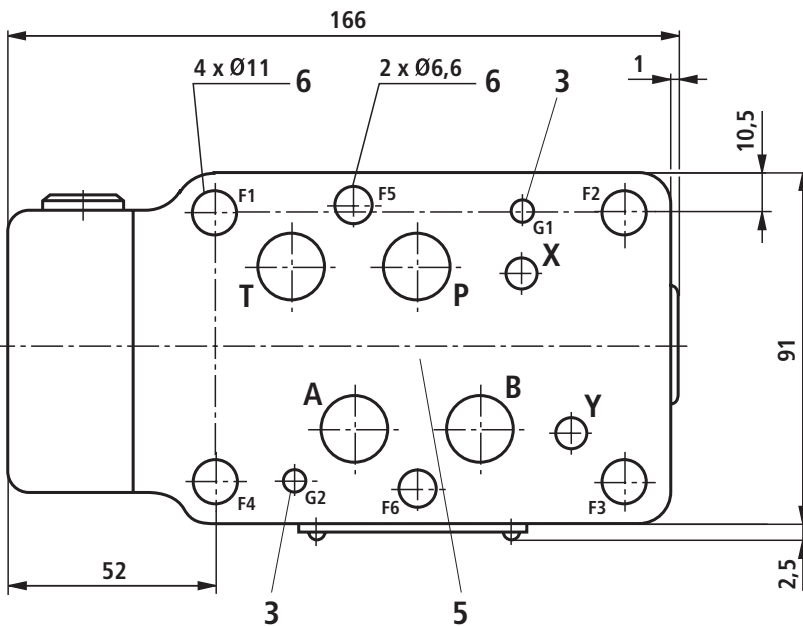
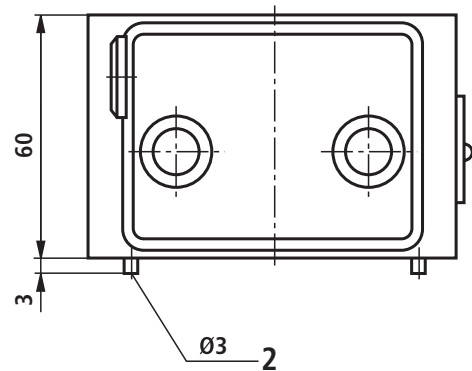
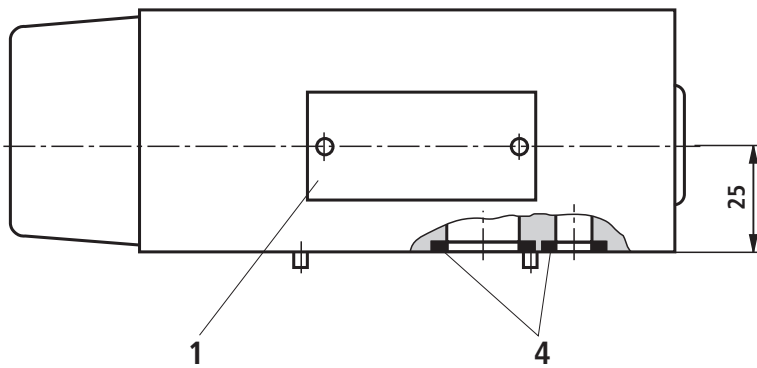
- 1 Nameplate
- 4 Identical seal rings for ports A, B, P, T;  
Identical seal rings for ports X, Y (plate side)
- 5 Porting pattern ISO 4401-05-05-005
- 6 Valve mounting screws (see on the right)

**Valve mounting screws** (separate order)

**4 hexagon socket head cap screws ISO 4762 - M6 - 10.9**

**Note!**

The length and tightening torque of the valve mounting screws must be calculated in conjunction with the components mounted below and above the sandwich plate valve.

**Unit dimensions: Size 16 (dimensions in mm)**

- 1 Nameplate
- 2 Locating pin
- 3 Bore for locating pins
- 4 Identical seal rings for ports A, B, P, T;  
Identical seal rings for ports X, Y (plate side)
- 5 Porting pattern ISO 4401-07-07-05
- 6 Valve mounting screws (see on the right)

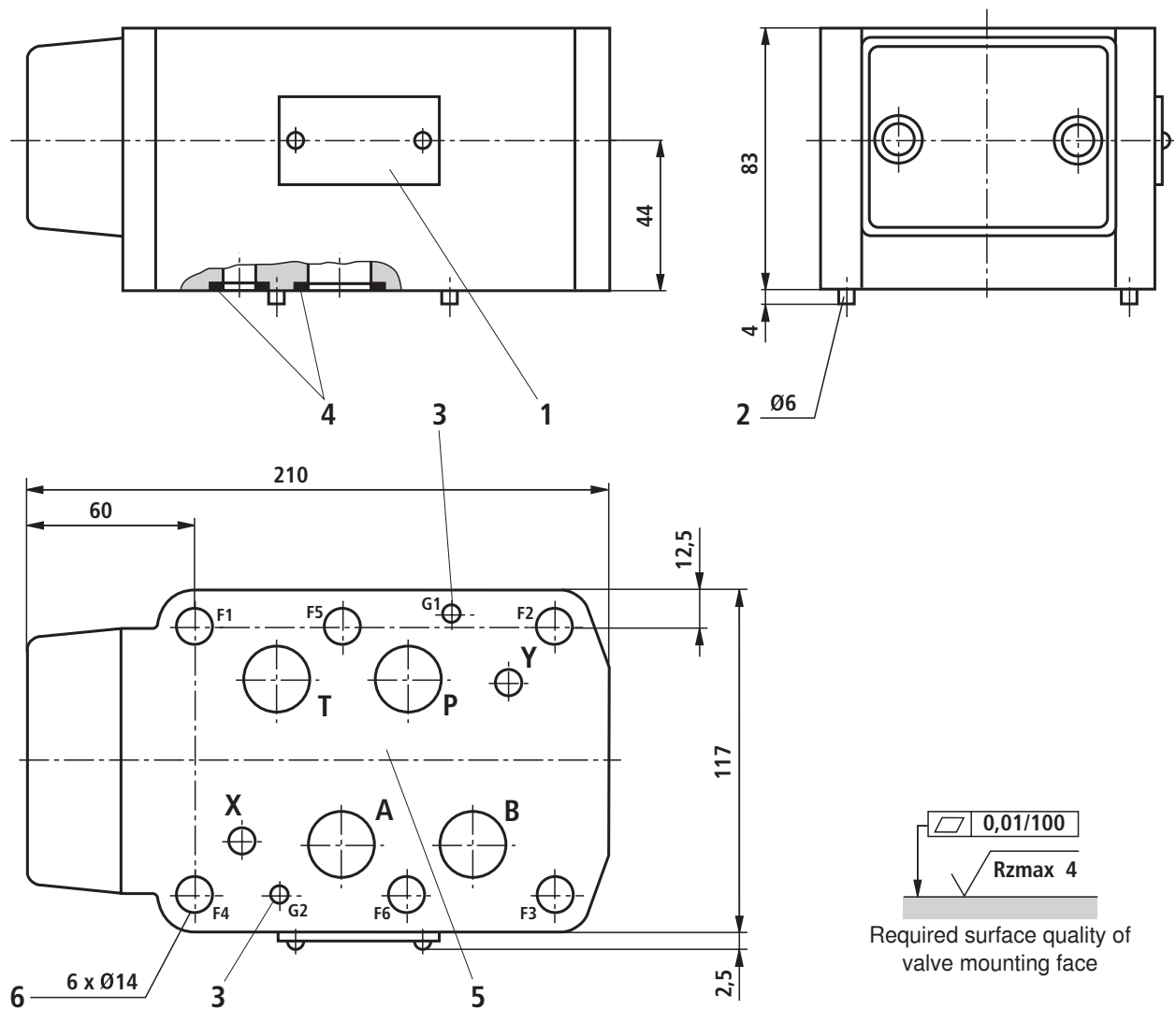
**Valve mounting screws** (separate order)

- 4 hexagon socket head cap screws ISO 4762 - M10 - 10.9**  
**2 hexagon socket head cap screws ISO 4762 - M6 - 10.9**

**Note!**

The length and tightening torque of the valve mounting screws must be calculated in conjunction with the components mounted below and above the sandwich plate valve.



**Unit dimensions: Size 25 (dimensions in mm)**

- 1 Nameplate
- 2 Locating pin
- 3 Bore for locating pins
- 4 Identical seal rings for ports A, B, P, T;  
Identical seal rings for ports X, Y (plate side)
- 5 Porting pattern ISO 4401-08-08-0-05
- 6 Valve mounting screws (see on the right)

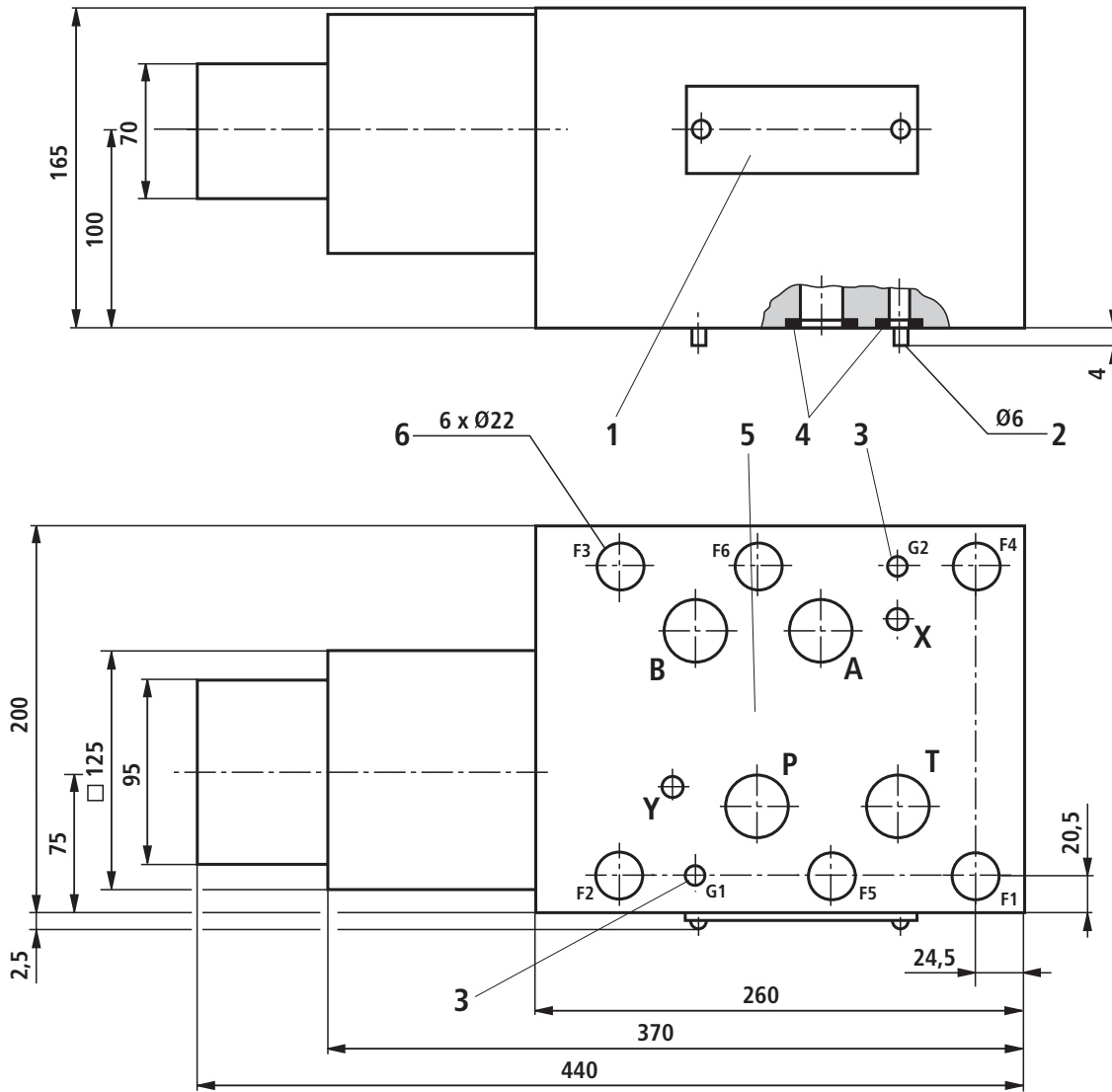
**Valve mounting screws** (separate order)

**6 hexagon socket head cap screws ISO 4762 - M12 - 10.9**

**Note!**

The length and tightening torque of the valve mounting screws must be calculated in conjunction with the components mounted below and above the sandwich plate valve.

**Unit dimensions: Size 32 (dimensions in mm)**



Required surface quality of valve mounting face

- 1 Nameplate
- 2 Locating pin
- 3 Bore for locating pins
- 4 Identical seal rings for ports A, B, P, T;  
Identical seal rings for ports X, Y (plate side)
- 5 Porting pattern ISO 4401-10-09-0-05
- 6 Valve mounting screws (see on the right)

**Valve mounting screws** (separate order)  
**6 hexagon socket head cap screws ISO 4762 - M20 - 10.9**

**Note!**

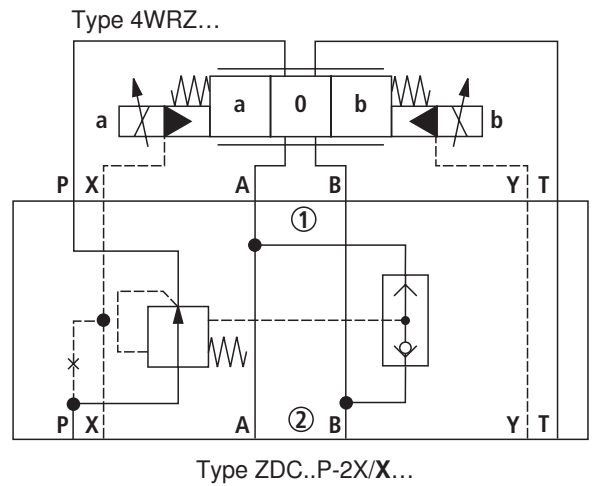
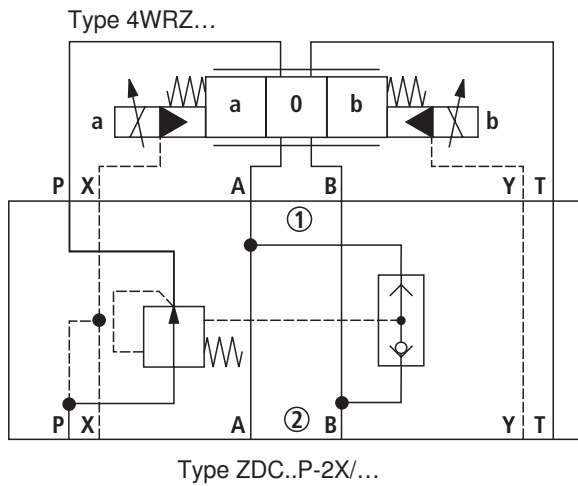
The length and tightening torque of the valve mounting screws must be calculated in conjunction with the components mounted below and above the sandwich plate valve.

## Pilot oil supply

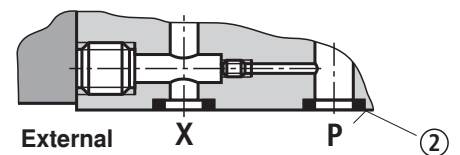
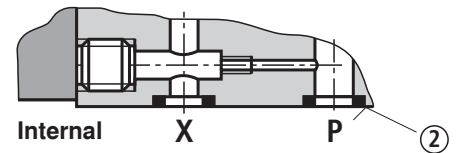
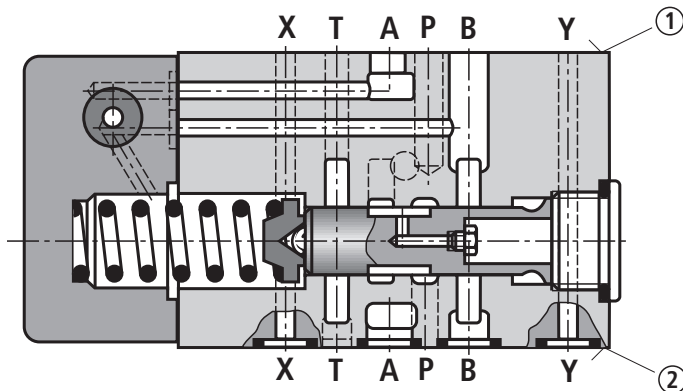
### ⚠ Attention!

In conjunction with the meter-in pressure compensator the pilot operated proportional valve must be used in the variant with "external pilot oil supply"!

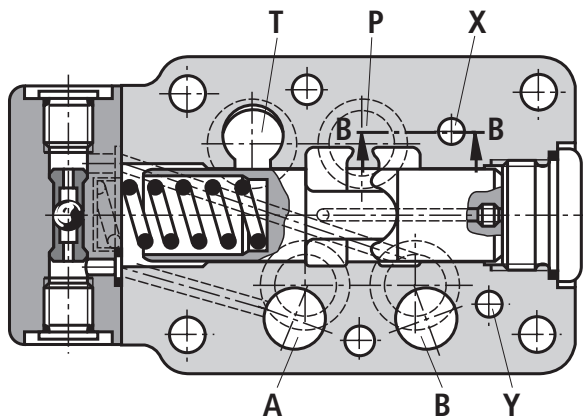
With **external** pilot oil supply the connection to channel P is closed. The pilot oil is taken from a separate control circuit. With **internal** pilot oil supply the connection to channel P is open. The pilot oil is taken from the throttle side of the pressure compensator (port X in the subplate is closed).



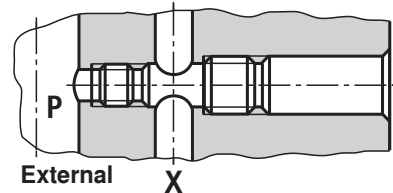
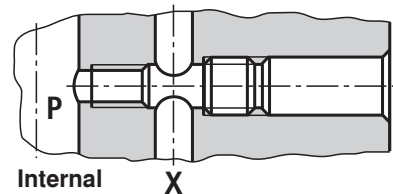
Size 10



Size 16

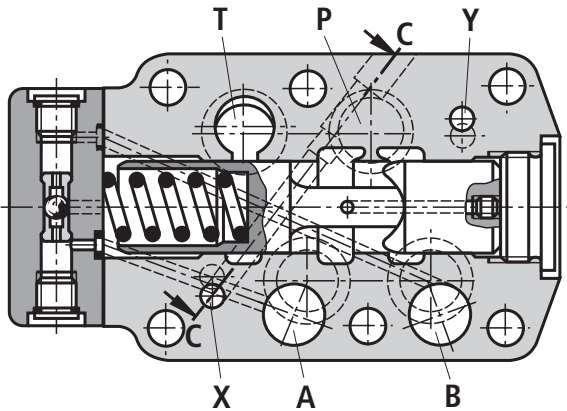


Section B-B

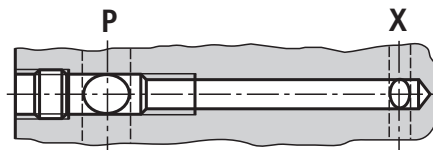


## Pilot oil supply

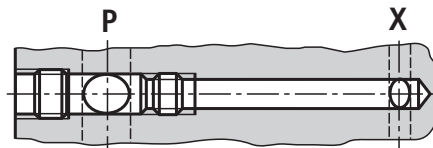
Size 25



Section C-C

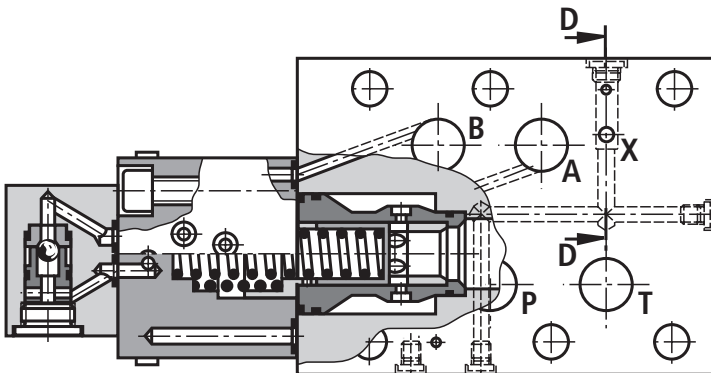


Internal

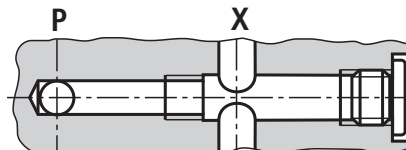


External

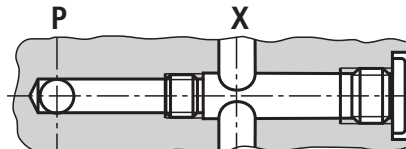
Size 32



Section D-D



Internal



External