Rexroth
Bosch Group

# Meter-in pressure compensator, direct operated

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

Ordering code

	ZDC		–2X/			*	
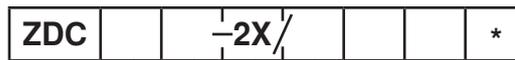
Size 10   = **10**
Size 16   = **16**
Size 25   = **25**
Size 32 (variant "P" only)   = **32**

2-way design (pressure reducing function)   = **P**
3-way design (pressure relief function)   = **PT**

Component series 20 to 29   = **2X**
(20 to 29: unchanged installation and connection dimensions)

Pilot oil supply "internal"   = **No code**
Pilot oil supply "external   = **X**
Pilot oil supply external, port X on component side   = **XL**
plugged (size 10 only)

Further details in clear text

Seal material
M =   NBR seals
V =   FKM seals
            (other seals on request)
            ⚠ Attention!
Observe compatibility of seals with hydraulic
            fluid used!

No code =   Without special type of protection
J =   Seawater-resistant

**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/…
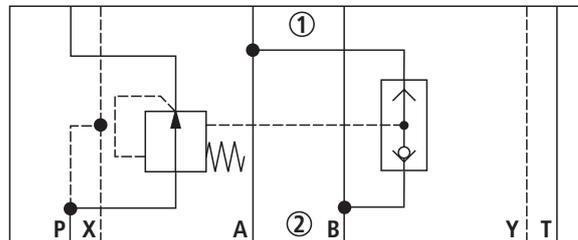
Pilot oil supply "external"
Type ZDC . P-2X/**X**…
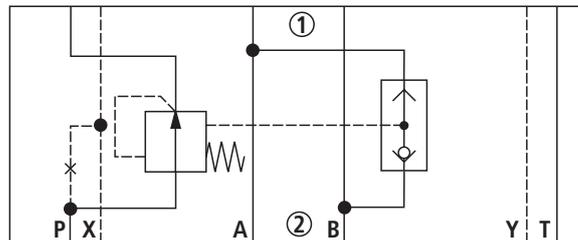
Pilot oil supply "external",
port X on component side
plugged (size 10 only)
Type ZDC 10 P-2X/**XL**…
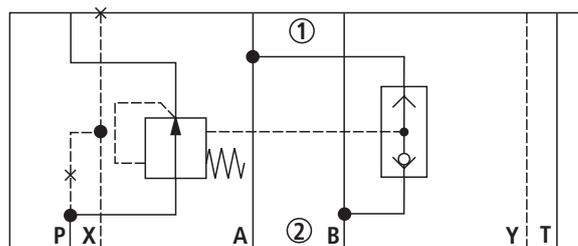
Symbols: 3-way design "PT" (① = component side, ② = plate side)

Pilot oil supply "internal"
Type ZDC . PT-2X/…
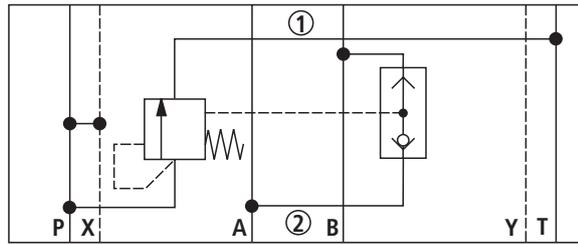
Pilot oil supply "external"
Type ZDC . PT-2X/**X**…
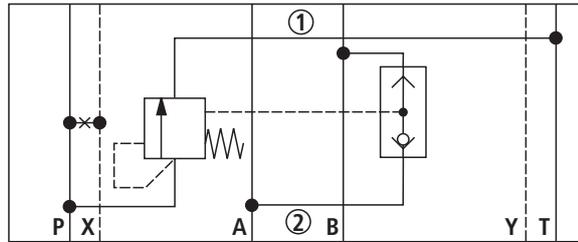
Pilot oil supply "external",
port X on component side
plugged (size 10 only)
Type ZDC 10 PT-2X/**XL**…
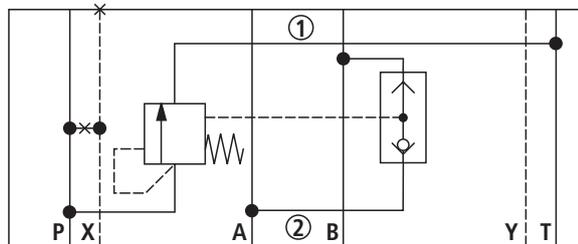
Function, section

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.

Section A–A
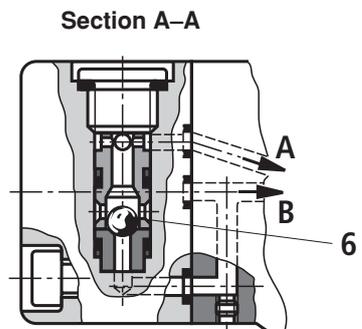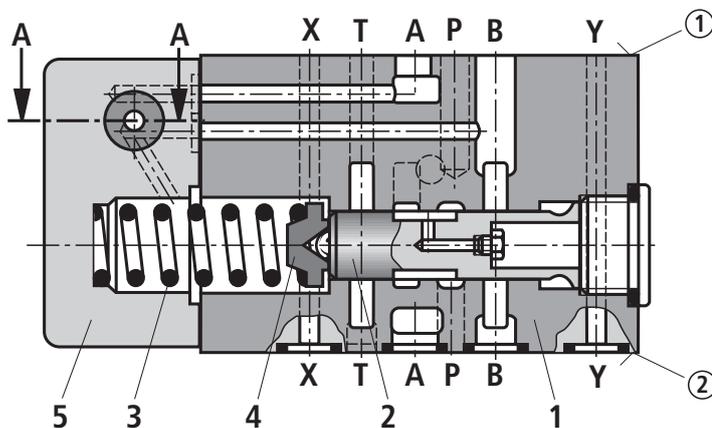
Technical data (for applications outside these parameters, please consult us!)

General

Size	Size	**10**	**16**	**25**	**32**
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 [1]; fast bio-degradable hydraulic fluids to VDMA 24568 (see also RE 90221); HETG (rape seed oil) [1]; HEPG (polyglycols) [2]; HEES (synthetic esters) [2]; other hydraulic fluids on request			
Hydraulic fluid temperature range		°C	–20 to +70			
Viscosity range		mm²/s	15 to 380			
Permissible max. degree of contamination of the hydraulic fluid - cleanliness class to ISO 4406 (c)			Class 20/18/15 [3]			

[1] Suitable for NBR and FKM seals

[2] Suitable only for FKM seals

[3] 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 ϑ_{oil} = 40 °C ±5 °C)

Flow control P to A, P to B

Size 10
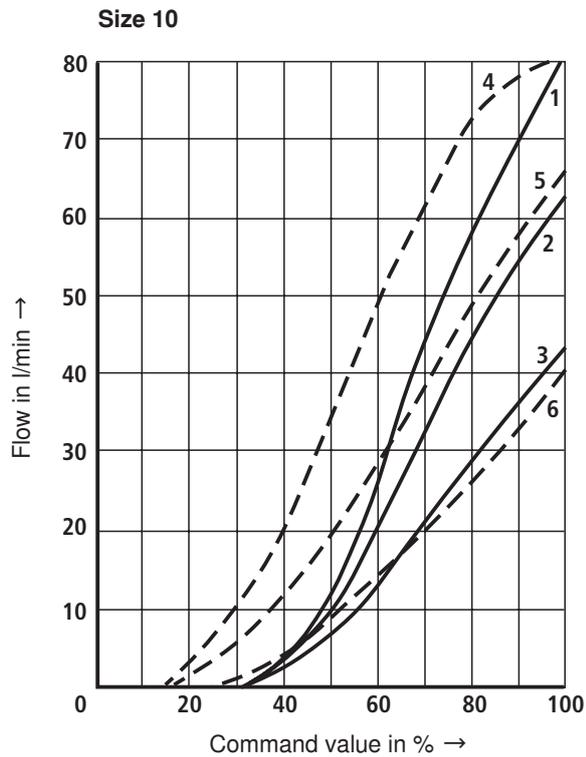
1 With type 4WRZ 10…85…   **5** With type 4WRZ 10…32…
2 With type 4WRZ 10…50…   **6** With type 4WRZ 10…16…
3 With type 4WRZ 10…25…
4 With type 4WRZ 10…64…

Size 10

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

Size 16
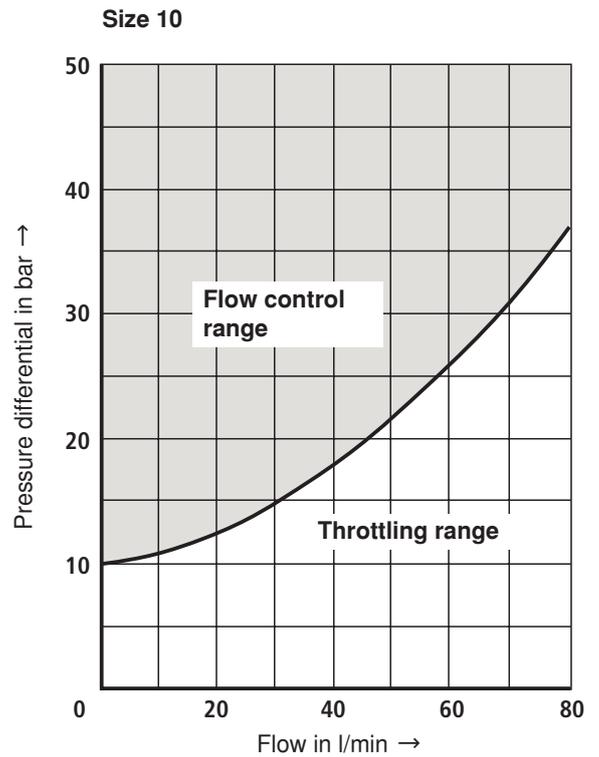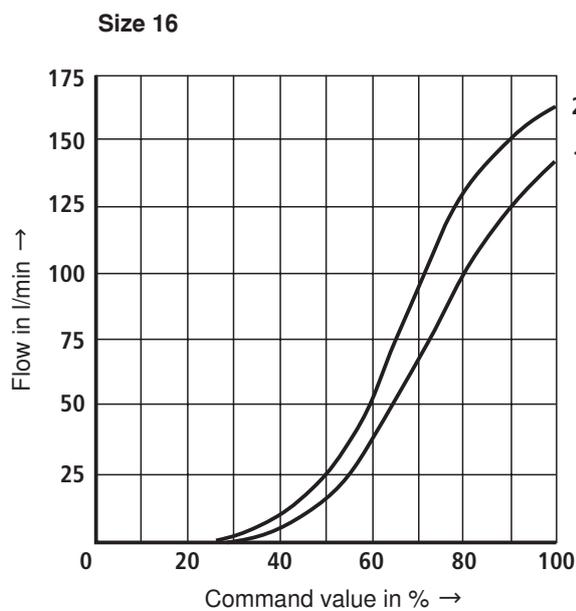
1 With type 4 WRZ 16…100…
2 With type 4 WRZ 16…150…

Size 16
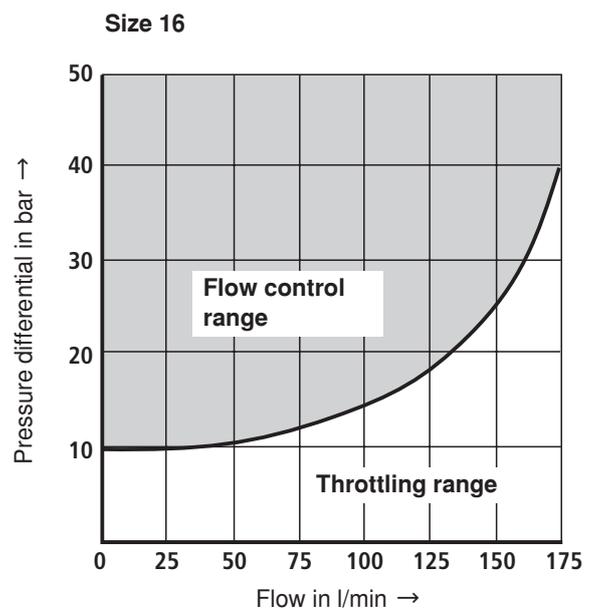
Pressure differential $\Delta p_{min} = p_{pump} - p_{load}$

Characteristic curves (measured with HLP46 and ϑ_{oil} = 40 °C ±5 °C)

Flow control P to A, P to B

Size 25
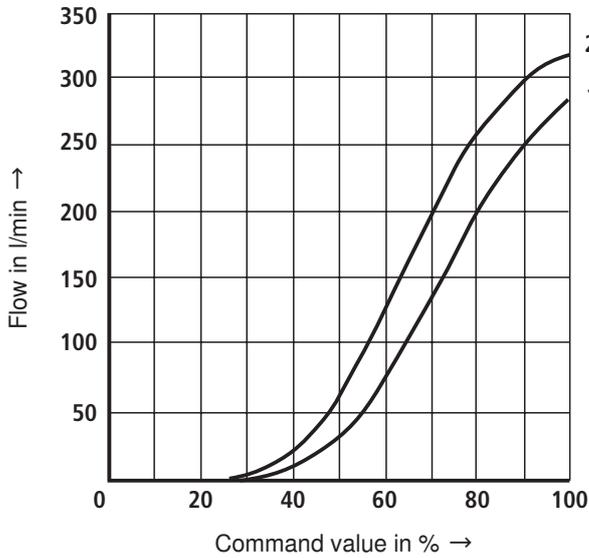
Size 25

1 With type 4 WRZ 25…270…
2 With type 4 WRZ 25…325…
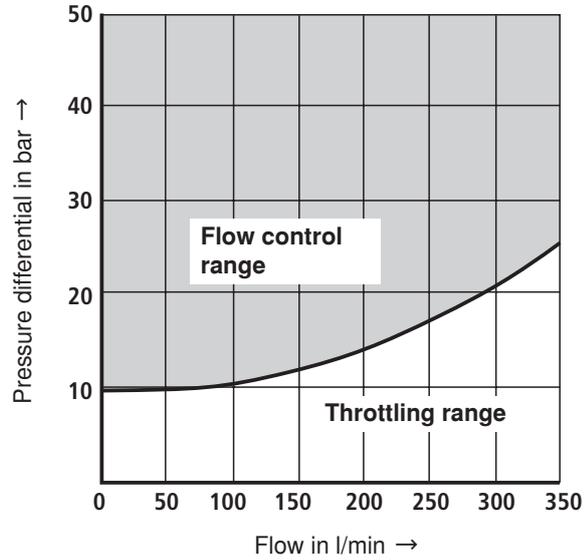
Pressure differential Δp_{min} = p_{pump} − p_{load}

Size 32
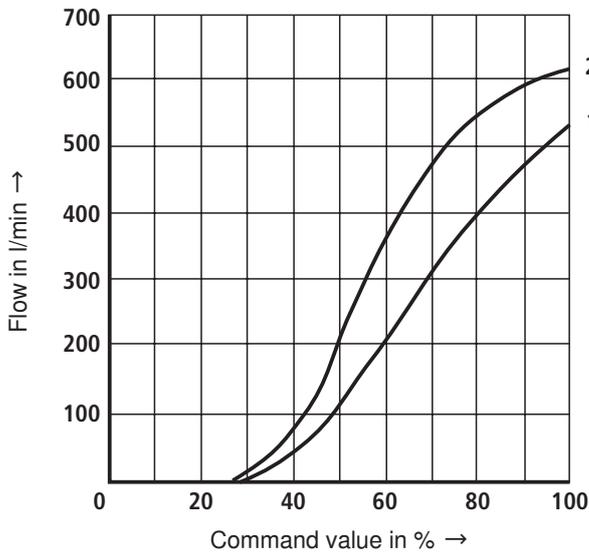
Size 32

1 With type 4 WRZ 32…360…
2 With type 4 WRZ 32…520…
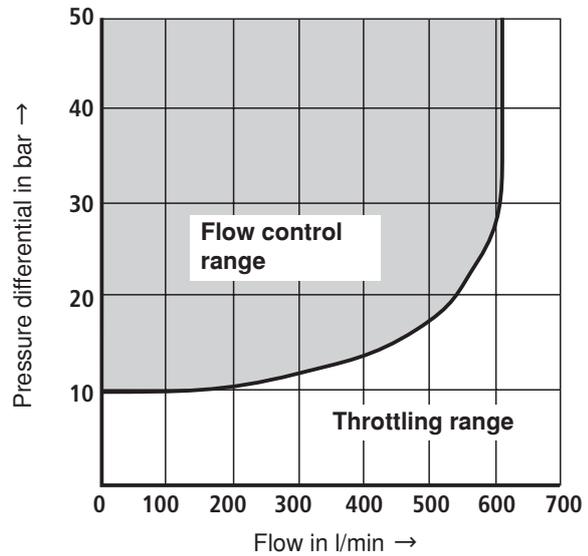
Pressure differential Δp_{min} = p_{pump} − p_{load}

Unit dimensions: Size 10 (dimensions in mm)

0,01/100

Rzmax 4

Required surface quality of
valve mounting face
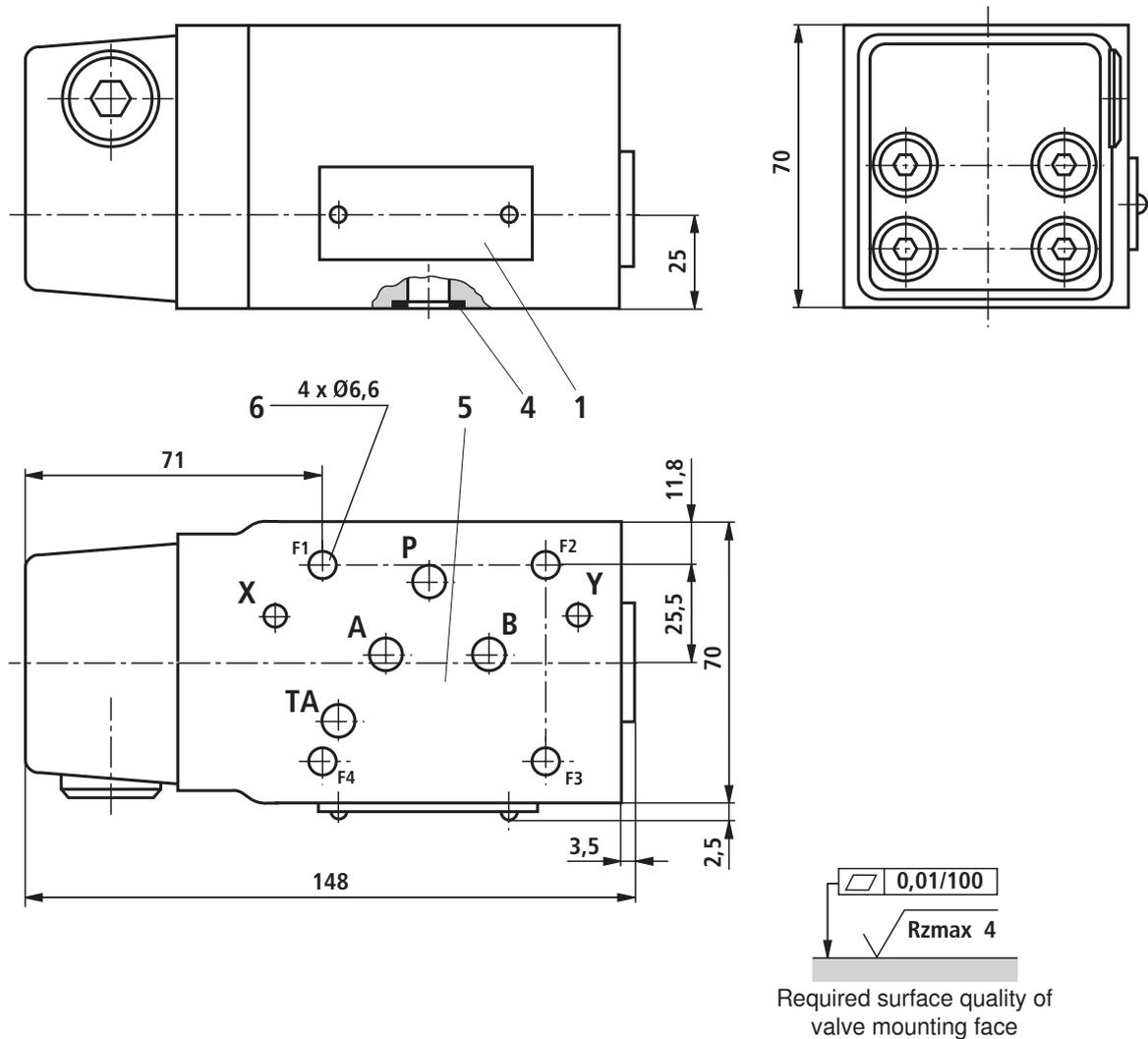
1 Nameplate
4 Idential seal rings for ports A, B, P, T;
    Idential seal rings for ports X, Y (plate side)
5 Porting pattern ISO 4401-05-05-0-05
6 Valve mounting screws (see on the right)

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 compo-
nents mounted below and above the sandwich plate valve.

Unit dimensions: Size 16 (dimensions in mm)
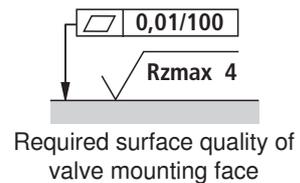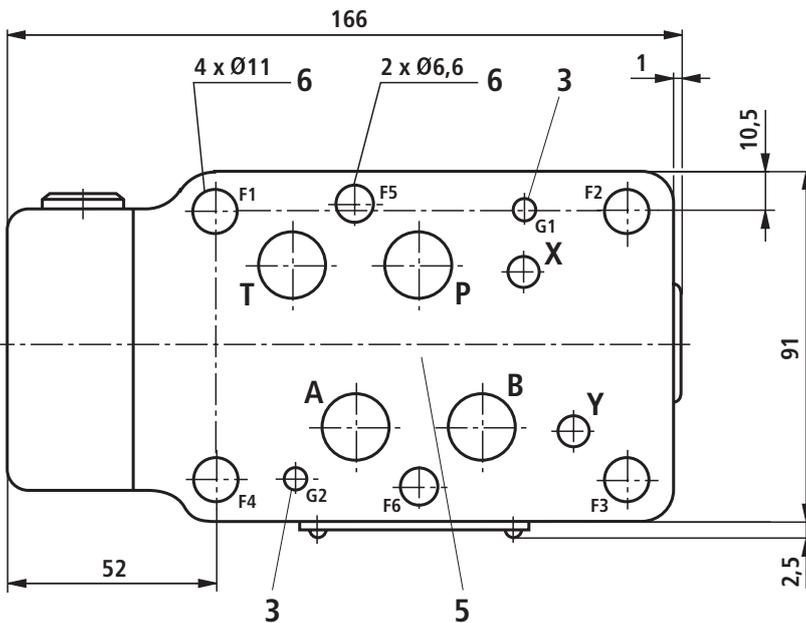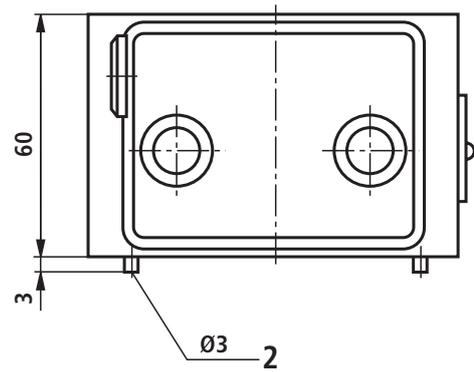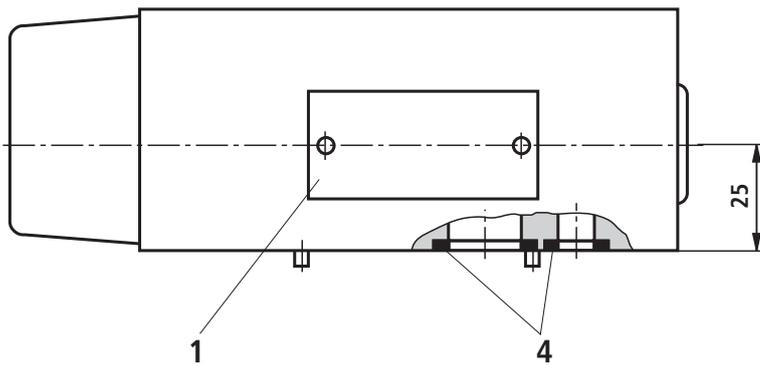
0,01/100

Rzmax 4

Required surface quality of
valve mounting face

1   Nameplate

2   Locating pin

3   Bore for locating pins

4   Idential seal rings for ports A, B, P, T;
Idential seal rings for ports X, Y (plate side)

5   Porting pattern ISO 4401-07-07-0-05

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 compo-
nents mounted below and above the sandwich plate valve.

Unit dimensions: Size 25 (dimensions in mm)
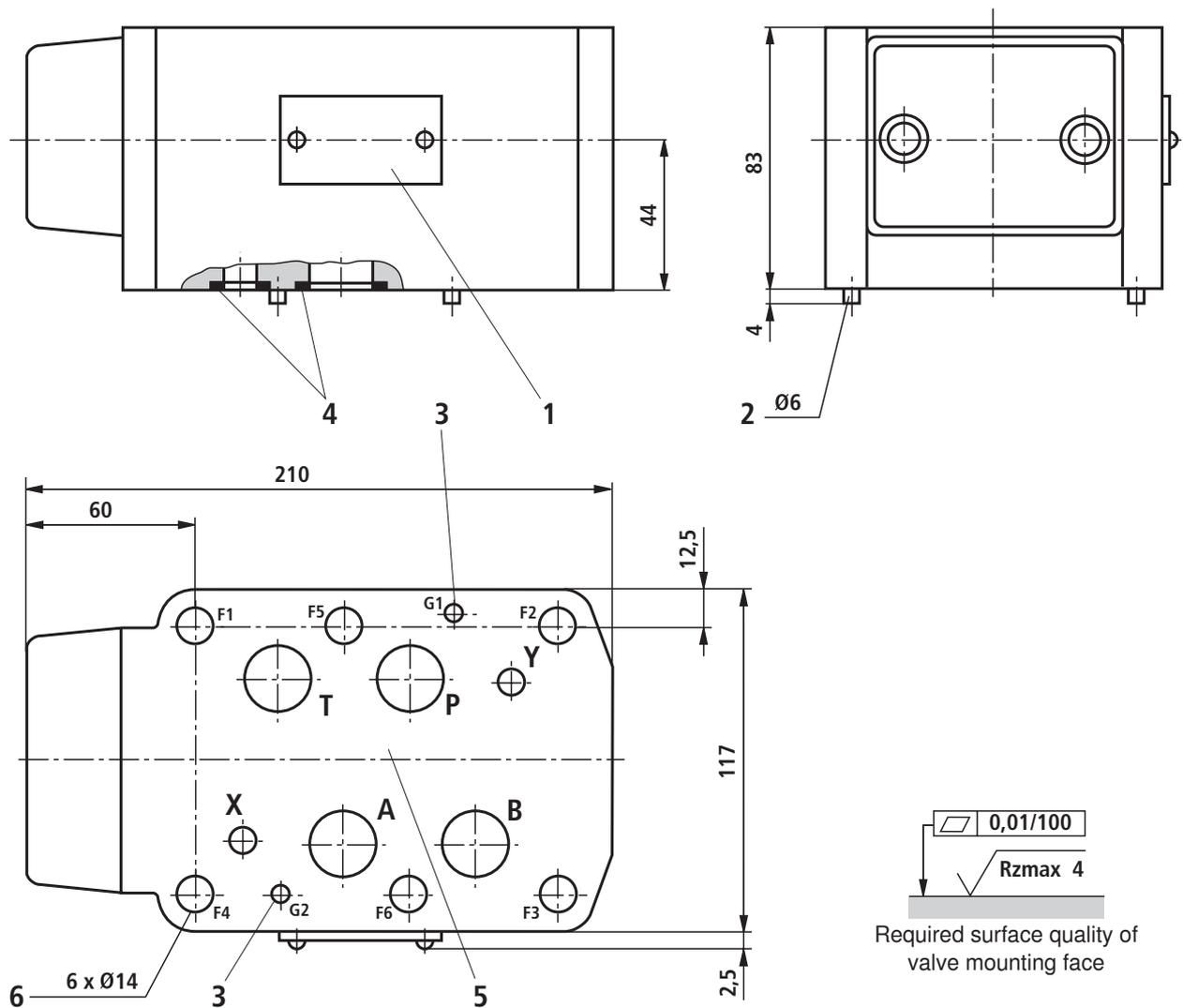
0,01/100

Rzmax 4

Required surface quality of
valve mounting face

1   Nameplate

2   Locating pin

3   Bore for locating pins

4   Idential seal rings for ports A, B, P, T;
     Idential 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 compo-
nents mounted below and above the sandwich plate valve.

Unit dimensions: Size 32 (dimensions in mm)
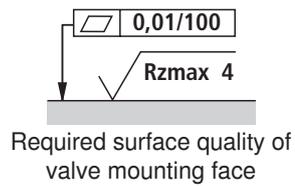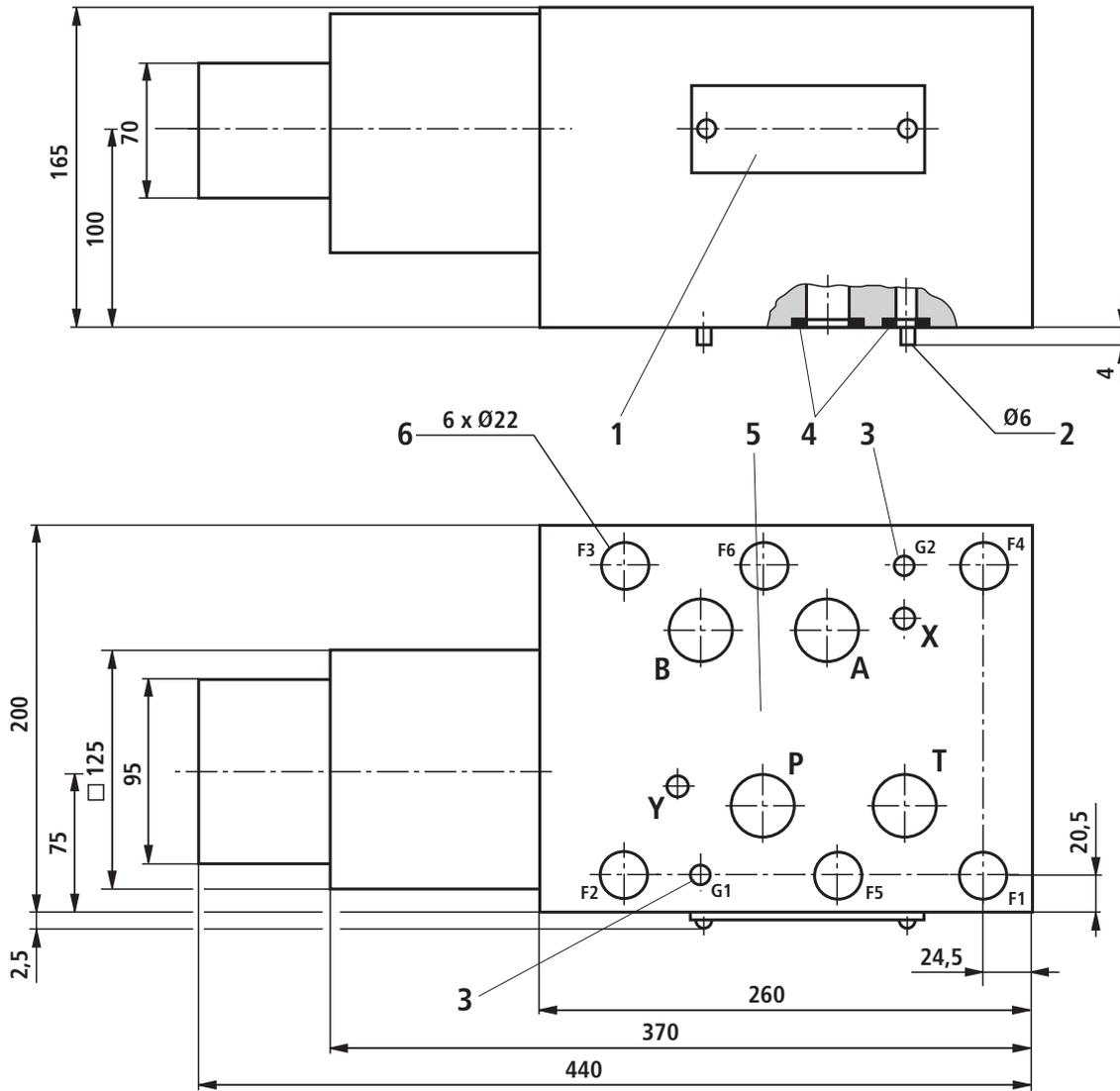
0,01/100

Rzmax 4

Required surface quality of
valve mounting face

1 Nameplate

2 Locating pin

3 Bore for locating pins

4 Idential seal rings for ports A, B, P, T;
Idential 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 compo-
nents 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).


Type 4WRZ…

Type ZDC..P-2X/…

Type 4WRZ…

Type ZDC..P-2X/**X**…

Size 10

Internal   X   P   ②

External   X   P   ②
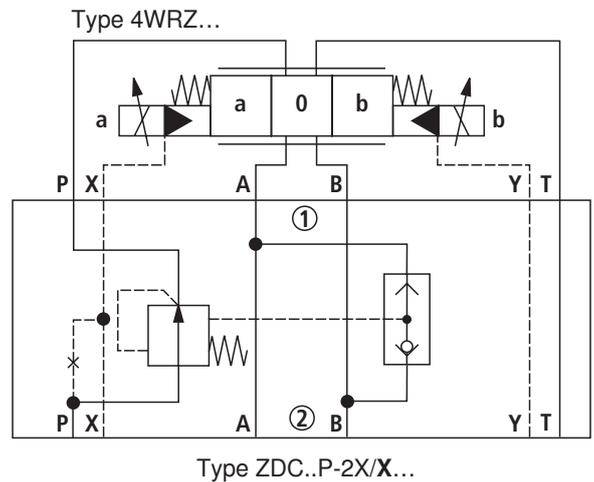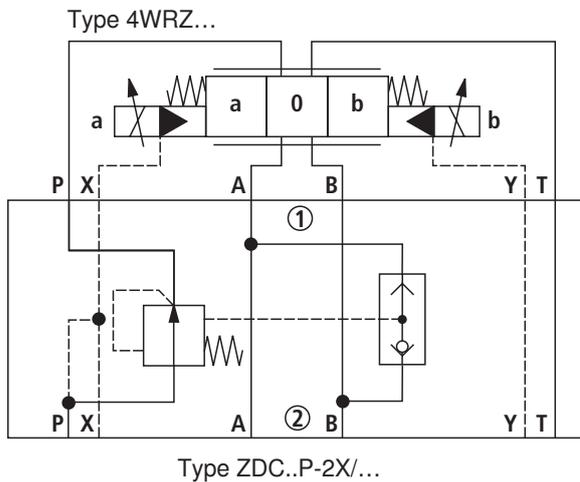
Size 16
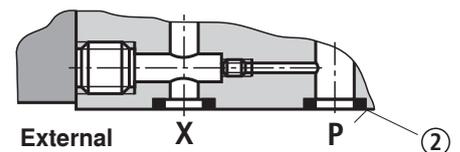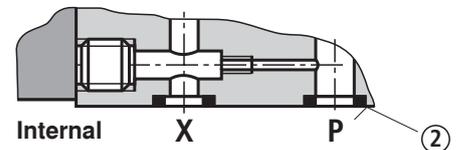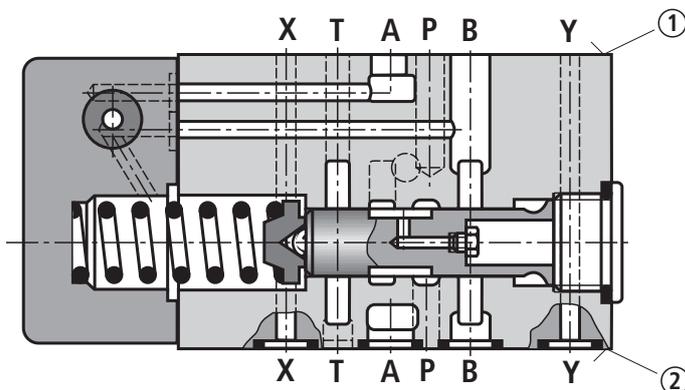
Section B–B
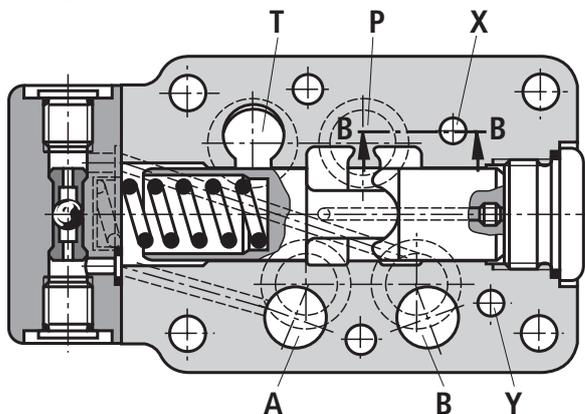
Internal   X
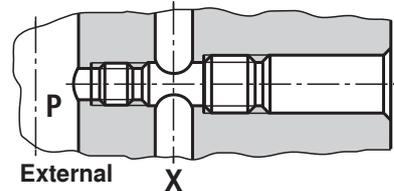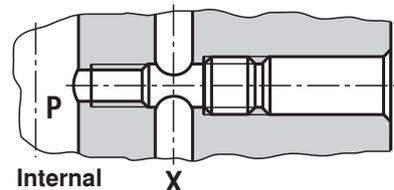
External   X

Pilot oil supply

Size 25
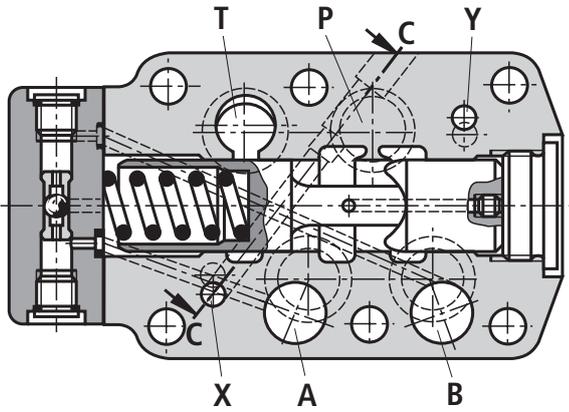
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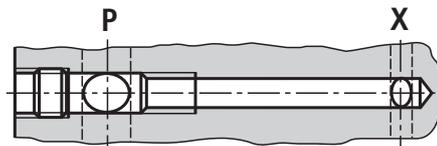
Internal
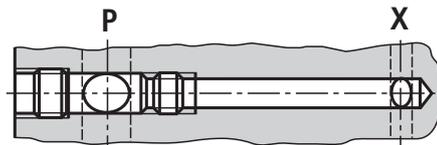
External

Size 32
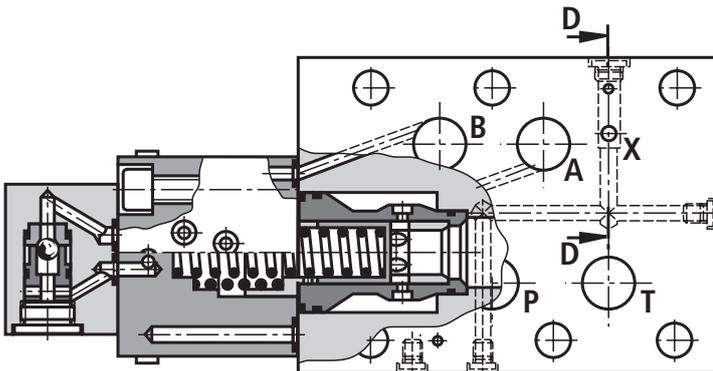
Section D–D

Internal

External