

RE 26 576/02.03

Replaces: 11.99

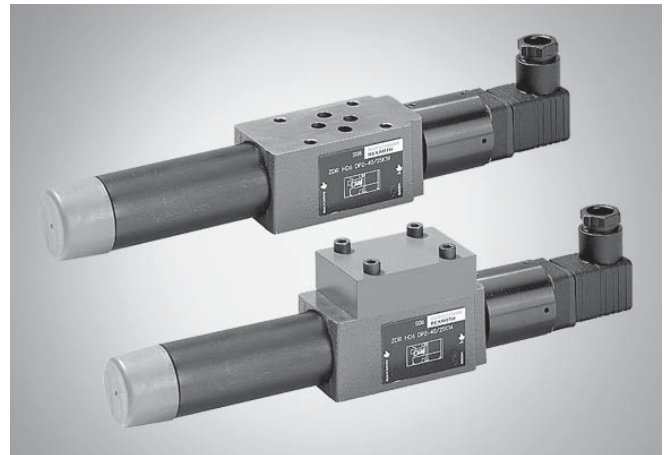
**Pressure reducing valve, direct actuated,
with pressure monitoring
Types DRHD 6 DP and ZDRHD 6 D.**

Nominal size 6

Series 4X

Maximum operating pressure 200 bar

Maximum flow 40 L/min



H6218+H6220

Type ZDRHD 6 DP2-4X/200-25K14 with plug-in connector and
type DRHD 6 DP2-4X/200-25K14 with plug-in connector

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Features

- For subplate mounting or as a sandwich plate:
Porting pattern to DIN 24 340 form A,
ISO 4401 and CETOP–RP 121 H,
for subplates see catalogue sheet RE 45 052
(separate order)
- Clamping pressure adjustment and monitoring in one unit
- Common adjustment for clamping and monitoring pressure
- Pressure monitoring optionally either internal or external
at the actuator
- The switching differential between the reduced and
monitoring pressure is adjustable
- Limitation of the minimum settable monitoring or
secondary pressure



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Ordering details

	DRHD	6	D		4X/200		K14	*
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Subplate mounting = **No code**
 Sandwich plate valve = **Z**

Pressure reducing valve with
 pressure monitoring

Nominal size 6 = **6**

Direct actuated = **D**

Primary pressure in port P (controlled from „P1“) = **P**

Primary pressure in port P (controlled from „A“) = **A**¹⁾

Primary pressure in port P (controlled from „B“) = **B**¹⁾

Adjustment element

Rotary knob = **1**

Internal hexagon with protective cap = **2**

Lockable rotary knob = **3**²⁾

Series 40 to 49 = **4X**

(40 to 49: unchanged installation and connection dimensions)

Permissible operating pressure 200 bar = **200**

Pressure stage

Maximum secondary pressure 25 bar = **25**

Maximum secondary pressure 50 bar = **50**

Maximum secondary pressure 100 bar = **100**

Further details
 in clear text

No code = NBR seals
 (other seals on
 request)

⚠ Attention!
 The compatibility of the
 seals and pressure fluid
 has to be taken into account!

Electrical connections

K14³⁾ = Individual connection;
 with component plug DIN EN 175 301-803,
 without plug-in connector

No code = Pressure connection
 (for reduced and switching pressure), internal

X = Pressure connection, external

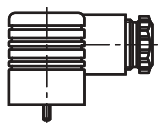
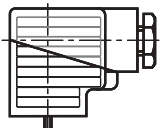
Y = Pressure connections (A; B),
 with shuttle valve
 (only with sandwich plate valves)

¹⁾ Only with sandwich plate valves

²⁾ H-key to material no. **R900008158** is included within the scope of supply.

³⁾ Plug-in connector has to be separately ordered (see below).

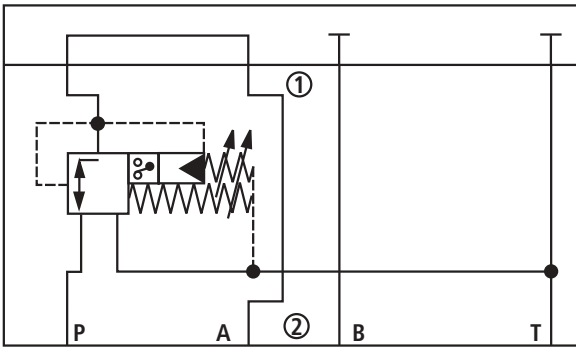
Ordering details: plug-in connector to DIN EN 175 301-803 and ISO 4400 for component plug "K14"

Further plug-in connectors see RE 08 006						
	Material no.					
Colour	Without circuitry	With circuitry (indicator light)				
		6 ... 14 V	16 ... 30 V	36 ... 60 V	90 ... 130 V	180 ... 240 V
Black	R900001260	R900545844	R900545845	R900545846	R900545847	R900545848

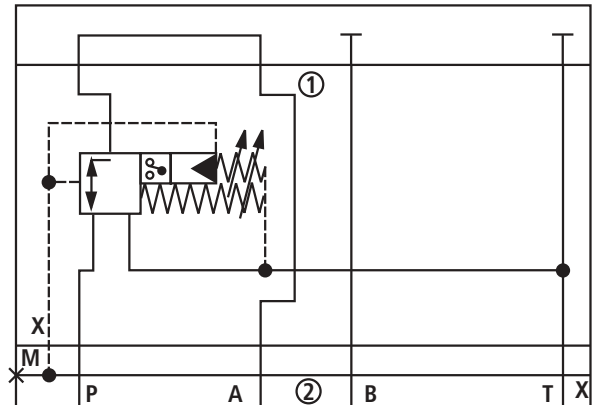
Symbols (1) = component side, (2) = subplate side

Subplate mounting

Type DRHD 6 DP...

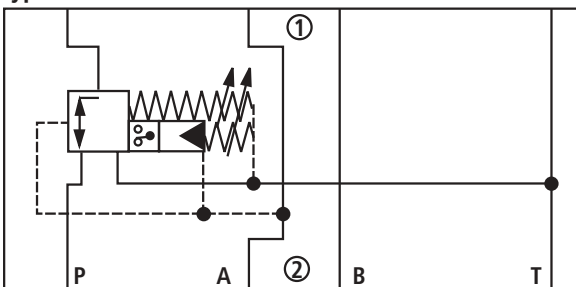


Type DRHD 6 DP...X

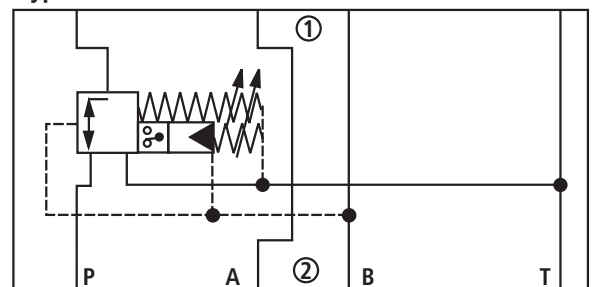


Sandwich plate valve

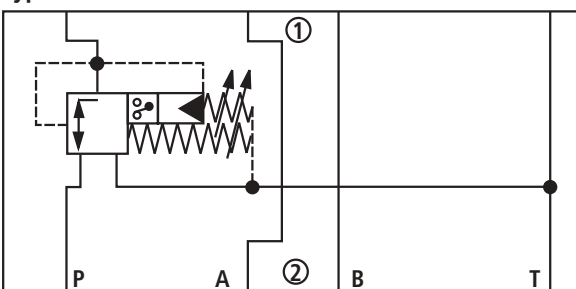
Type ZDRHD 6 DA...



Type ZDRHD 6 DB...

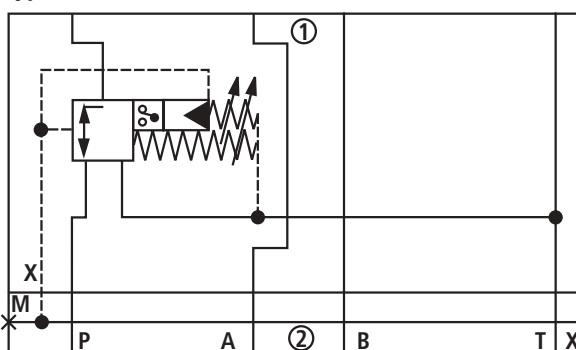


Type ZDRHD 6 DP...

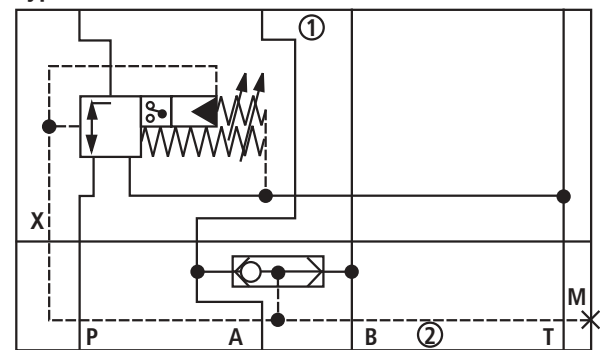


Port T has to be drained at zero pressure!

Type ZDRHD 6 DP...X



Type ZDRHD 6 DP...Y



Function, section

The valve type .DRHD 6 D. is a direct actuated 3-way pressure reducing valve with pressure limitation of the secondary circuit and integrated pressure monitoring. It is used to reduce the system pressure and is optionally available with internal or external pressure monitoring, as well as a shuttle valve plate for monitoring ports A or B.

The pressure reducing valve basically comprises of the housing (1), a pressure reducing spool (2), a pressure monitoring spool (3), two compression springs (4 and 5) as well as a pressure adjustment element (6). The conversion from the sandwich plate version to the subplate mounting version is via a conversion plate (7) P1 to A1.

In the initial position the valve is open; pressure fluid flows from port P2 to port P1. The pressure in port P1 is, at the same time, applied to the pressure reducing spool (2) and the pressure monitoring spool (3) via the control line (8), this pressure acts against the springs (4 and 5). If the pressure in port P1 rises above the value set at the adjustment element (6), the pressure reducing spool (2) moves against the compression spring (4) into the control position and thereby holds the set pressure in port P1 constant. The pressure reduction results from pressure being applied to the pressure reducing spool (2) from port P1.

The secondary pressure which is to be monitored also acts via control line (8) on the ring area of the pressure monitoring spool (3) (common pressure chamber for spools (2) and (3)).

At a defined pressure, which lies below the secondary pressure, the switch (9) is actuated and an electrical signal is given. This signal can, for example, be used to switch on a chuck as soon as the minimum (switch actuation pressure) required pressure is reached. If the secondary pressure falls below the minimum pressure the chuck will be automatically switched off.

The minimum settable monitoring or secondary pressure is adjustable via screw (10).

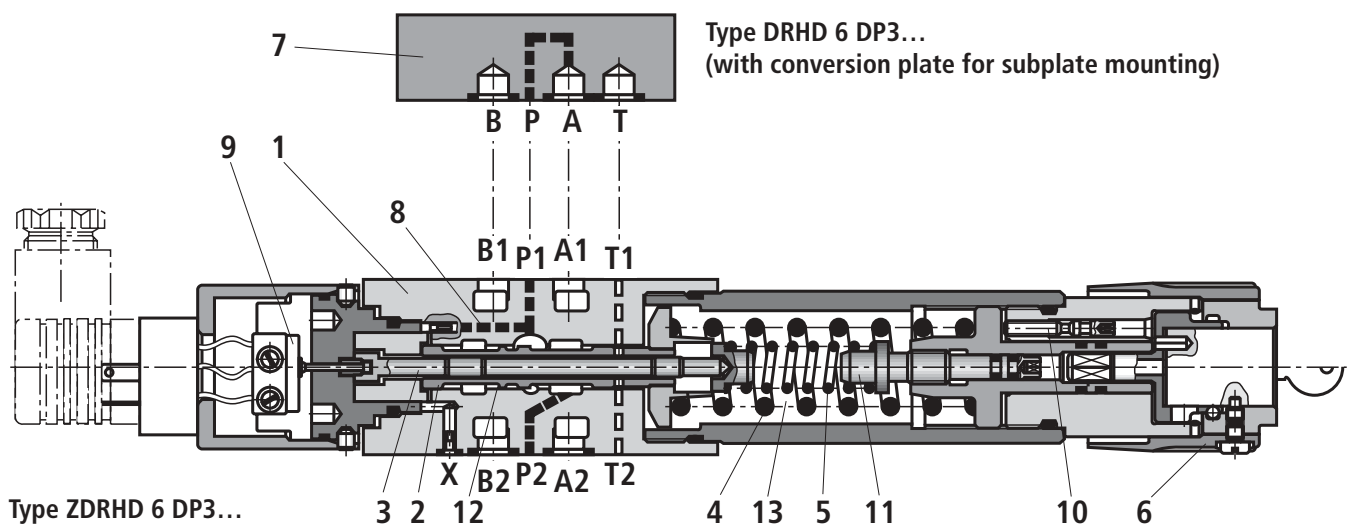
The switching differential between the minimum clamping pressure and the working pressure can be optimally adjusted via the spindle (11).

If the pressure in port P1 continues to increase due to outside forces at the actuator, then the pressure reducing spool (2) moves further against the compression spring (4).

Due to this port P1, via control land (12) at the pressure reducing spool (2) and housing (1) is connection to port T.

Pressure fluid continues to flow to the reservoir until the pressure no longer increases (secondary pressure limitation).

The oil drain from the spring chamber (13) is always via port T.



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

General

Installation	optional				
Weight			„No code“	„X“	„Y“
	– Subplate mounting	kg	2.2	3.0	–
	– Sandwich plate valve	kg	1.8	2.6	2.6

Hydraulic

Maximum operating pressure	Port P	bar	200	
Maximum secondary pressure	– Subplate mounting:	Port A	bar	100
	– Sandwich plate valve:	Port P1	bar	100
Maximum permissible pressure in port T	– Subplate mounting	bar	2	
	– Sandwich plate valve	bar	2	
Maximum flow		L/min	40	
Pressure fluid	Mineral oil (HL, HLP) to DIN 51 524; Fast bio-degradable pressure fluids to VDMA 24 568 (also see RE 90 221); HETG (rape seed oil); other pressure fluids on request			
Pressure fluid temperature range		°C	–30 to +80 (with NBR seals)	
Viscosity range		mm ² /s	10 to 800	
Cleanliness class to ISO code	Maximum permissible degree of contamination of the pressure fluid is to ISO 4406 (C) class 20/18/15 ¹⁾			

Electrical

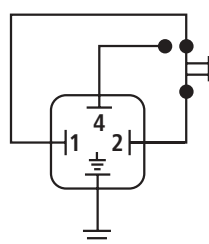
Electrical connection to DIN EN 175 301-803	plug connector 3-pin + SL (PE)		
Maximum connection cross-section		mm ²	1.5
Contact loading	– AC	up to 250 V; 5A	
	– DC	up to 50 V; 1A up to 250 V; 0.02A	

¹⁾ The cleanliness class stated for the components must be adhered too in hydraulic systems. Effective filtration prevents faults from occurring and at the same time increases the component service life.

For the selection of filters see catalogue sheets RE 50 070, RE 50 076 and RE 50 081.

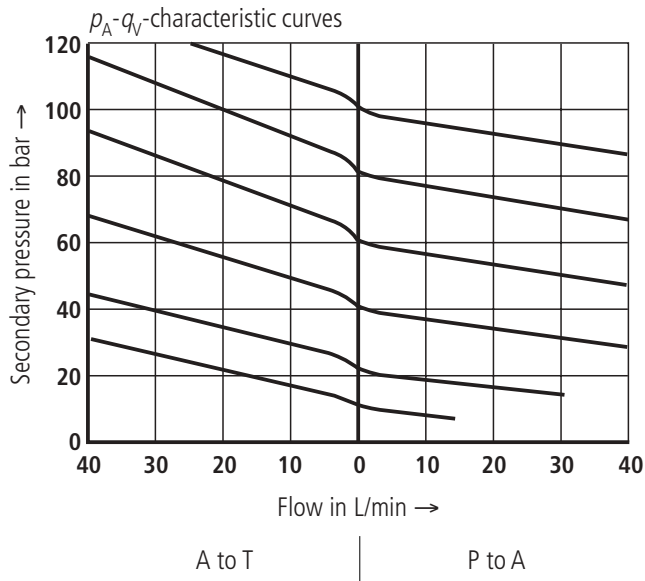
Electrical connections

Connections at plug connector

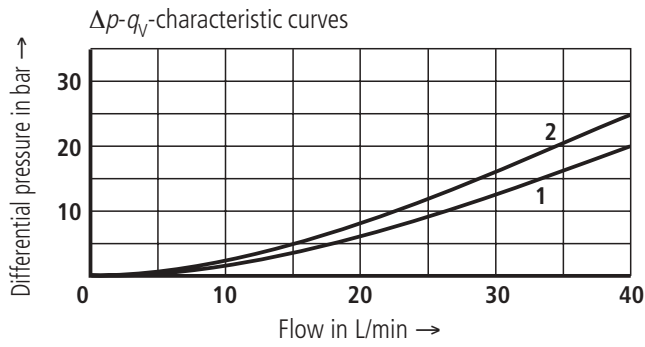
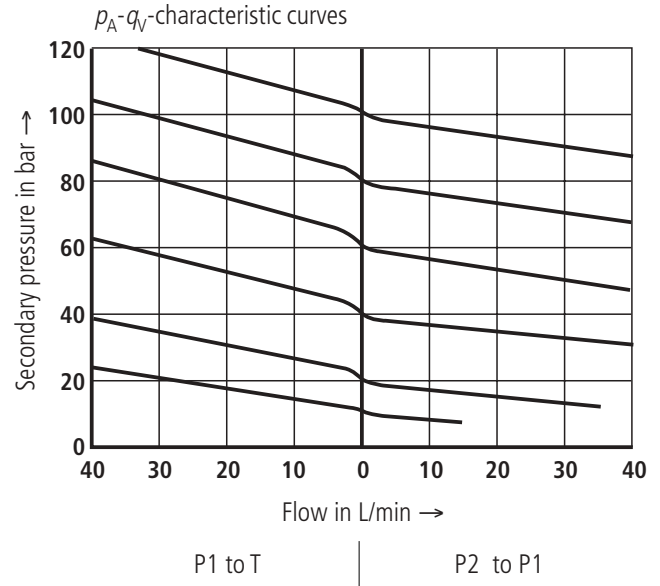


Characteristic curves (measured with HLP46, $\vartheta_{oil} = 40 \text{ }^\circ\text{C} \pm 5 \text{ }^\circ\text{C}$)

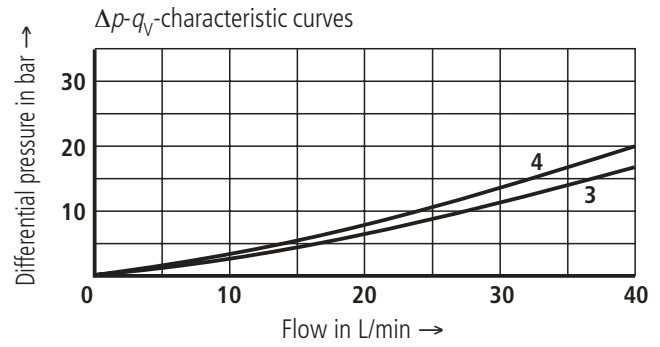
Type DRHD 6 DP (subplate mounting)



Type ZDRHD 6 D. (sandwich plate valve)

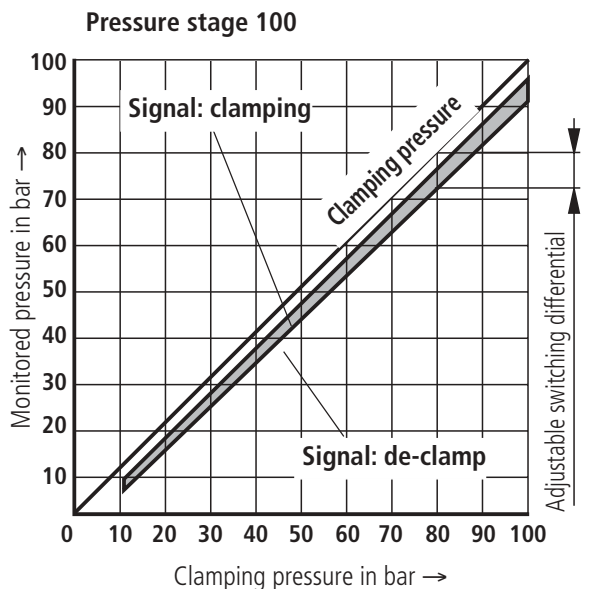
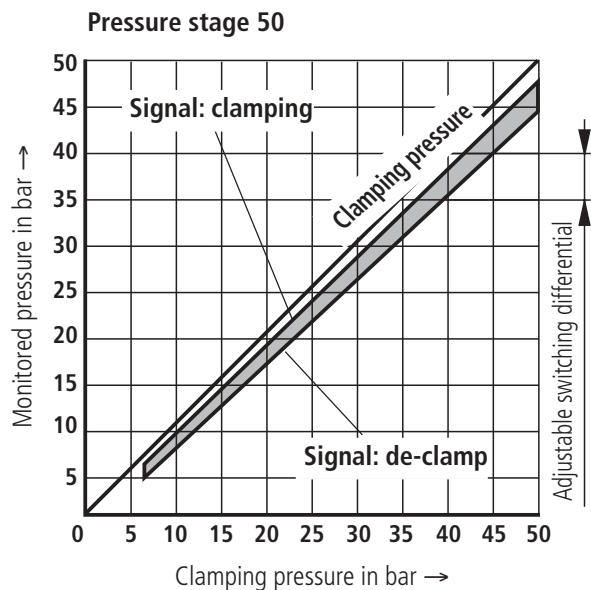
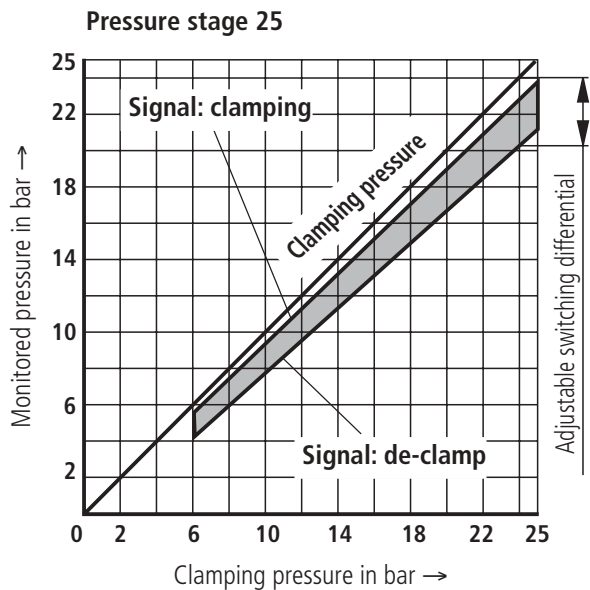


- 1 P to A
- 2 A to T



- 3 P2 to P1
- 4 P1 to T

The characteristic curves are valid for an output pressure $p_T = \text{zero}$ over the entire flow range!

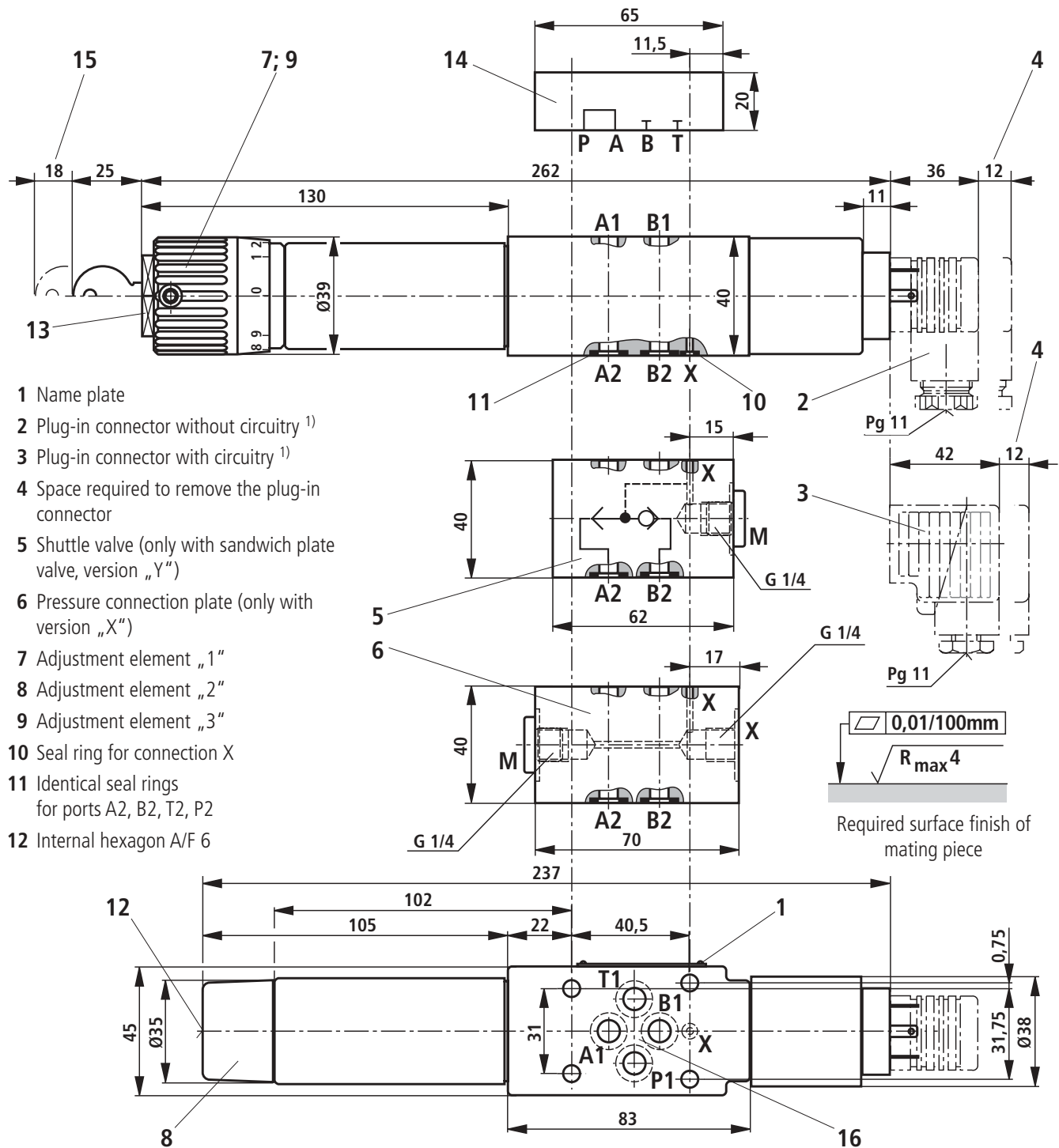


Note:

For readjusting the switching differential by means of the spindle (11), see sectional drawing on page 4:

- Turning in the clockwise direction → switching differential increases
- Turning in the anti-clockwise direction → switching differential becomes smaller

Unit dimensions (Dimensions in mm)



- 1 Name plate
- 2 Plug-in connector without circuitry ¹⁾
- 3 Plug-in connector with circuitry ¹⁾
- 4 Space required to remove the plug-in connector
- 5 Shuttle valve (only with sandwich plate valve, version „Y“)
- 6 Pressure connection plate (only with version „X“)
- 7 Adjustment element „1“
- 8 Adjustment element „2“
- 9 Adjustment element „3“
- 10 Seal ring for connection X
- 11 Identical seal rings for ports A2, B2, T2, P2
- 12 Internal hexagon A/F 6

- 13 Hexagon A/F 27
- 14 Conversion plate for subplate mounting
- 15 Space required to remove the key

- 16 Porting pattern to DIN 24 340 form A, ISO 4401 and CETOP-RP 121 H,
Valve fixing screws
 M5 DIN 912-10.9
 tightening torque $M_A = 8.9 \text{ Nm}$,
 must be ordered separately.

¹⁾ must be ordered separately, see page 2.

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