**RE 29282**
Edition: 2025-10
Replaces: 2019-02

# Proportional pressure reducing valve, pilot-operated

## Type Z3DRE and Z3DREE

H8127

- Size 10
- Component series 1X
- Maximum operating pressure 350 bar
- Maximum flow 120 l/min

### Features

- Operation by rotatable proportional solenoid
- Sandwich plate design
- Porting pattern according to ISO 4401-05-05-0-05
- 4 Pressure ratings
- Valve and control electronics from a single source
- External control electronics for type Z3DRE
- Linear command value pressure characteristic curve
- Integrated electronics (OBE) for type Z3DREE with low manufacturing tolerance of the command value pressure characteristic curve

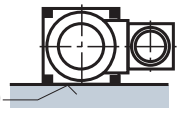
### Contents

## Ordering code

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | | 09 | | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Z | 3 | DRE | | 10 | V | P | 2 | – | 1X | / | | | | G24 | | | | * |

| | | |
|---|---|---|
| 01 | Sandwich plate design | **Z** |
| 02 | 3-way version | **3** |
| 03 | Proportional pressure reducing valve | **DRE** |
| 04 | External control electronics | **no code** |
| | Integrated electronics (OBE) | **E** ◇ |
| 05 | Size 10 | **10** |
| 06 | Pilot-operated | **V** |
| 07 | Pressure reduction in channel P① | **P** |

**Preferred position of the proportional solenoid**

| | | | |
|---|---|---|---|
| 08 |  1) | The mating connector can be brought to the desired position after loosening the nut, see "Dimensions" page 15 and 16. | **2** |

| | | |
|---|---|---|
| 09 | Component series 10 ... 19 (10 ... 19: unchanged installation and connection dimensions) | **1X** |

**Pressure rating**

| | | |
|---|---|---|
| 10 | Maximum set pressure 50 bar | **50** |
| | Maximum set pressure 100 bar | **100** ◇ |
| | Maximum set pressure 200 bar | **200** ◇ |
| | Maximum set pressure 315 bar | **315** ◇ |

**Pilot oil flow**

| | | |
|---|---|---|
| 11 | Pilot oil supply for the directional valve from port P②, pilot oil return external for directional valve and Z3DRE(E) | **Y** |
| | Pilot oil supply external for directional valve, pilot oil return external for directional valve and Z3DRE(E) | **XY** |
| | Pilot oil supply for the directional valve from port P②, pilot oil return internal for directional valve and external for Z3DRE(E) | **L** |
| | External pilot oil supply for directional valve, pilot oil return internal for directional valve and external for Z3DRE(E); directional valve without pilot oil supply | **XL** ◇ |
| | Further information see page 6 | |

**Pressure measuring port G1/4**

| | | |
|---|---|---|
| 12 | Without pressure measuring port | **no code** ◇ |
| | With pressure measuring port (secondary pressure) | **MS** |

| | | |
|---|---|---|
| 13 | Direct voltage 24 V | **G24** |

**Electrical connection**

| | | |
|---|---|---|
| 14 | **– Type Z3DRE** | |
| | Connector, 3-pole (2 + PE) according to EN 175301-803 | **K4** 2) |
| | **– Type Z3DREE** | |
| | Connector, 7-pole (6 + PE) according to EN 175201-804 | **K31** 2) ◇ |

1) Valve contact surface (seal ring recesses in the housing)

2) Mating connectors, separate order, see page 17 and data sheet 08006.

## Ordering code

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | | 09 | | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Z** | **3** | **DRE** | | **10** | **V** | **P** | **2** | **–** | **1X** | **/** | | | | **G24** | | | | ***** |

**Electrical interface**

| | | |
|---|---|---|
| 15 | External control electronics | **no code** |
| | Command value input 0 ... 10 V; actual value output 0 ... 10 V | **A1** |
| | Command value input 4 ... 20 mA; actual value output 4 ... 20 mA | **F1** |

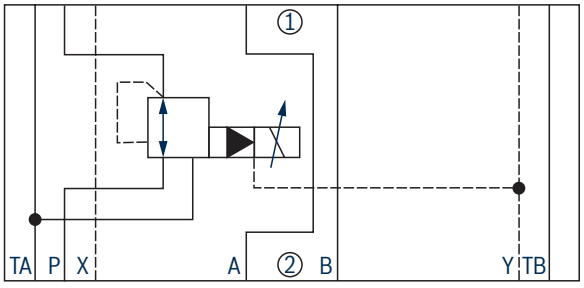
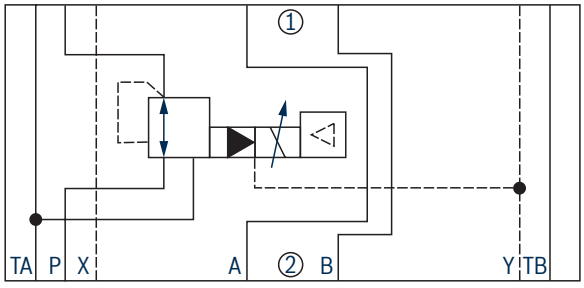
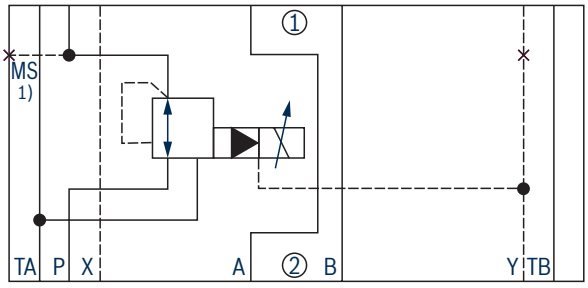
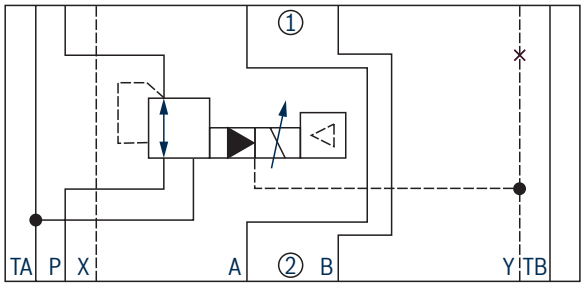
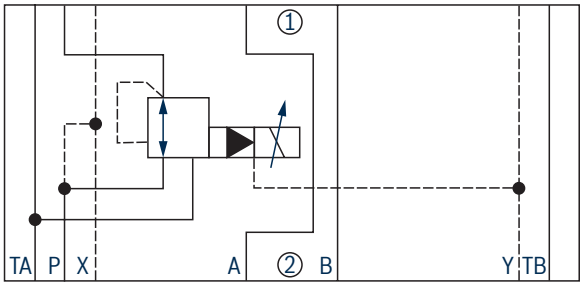
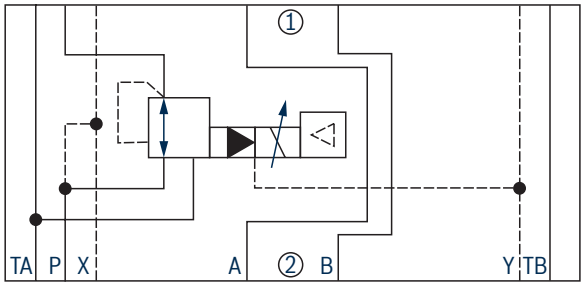
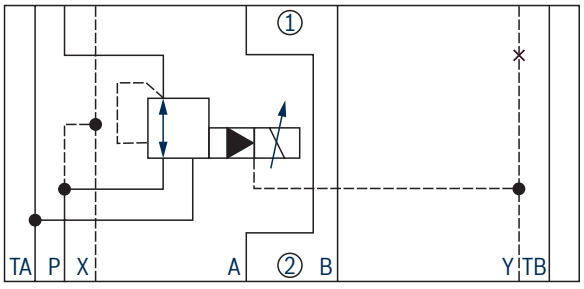
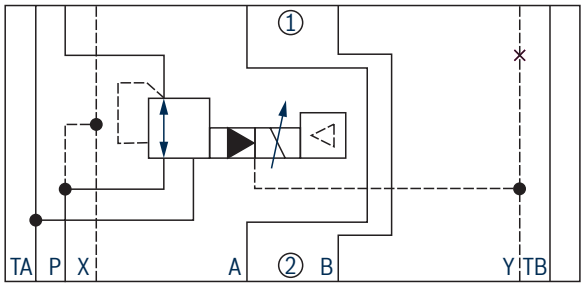
**Seal material** (observe compatibility of seals with hydraulic fluid used, see page 8)

| | | |
|---|---|---|
| 16 | NBR seals | **M** ◇ |
| | FKM seals | **V** |

| | | |
|---|---|---|
| 17 | For further information, see the plain text | |

☞ **Note:** ◇ = Preferred type

## **Symbols** (① = component side, ② = plate side)

| | **"Z3DRE"** (External control electronics) | **"Z3DREE"** (Integrated electronics (OBE)) |
|---|---|---|
| **Version "XY"** |  |  |
| **Version "XL"** |  |  |
| **Version "Y"** |  |  |
| **Version "L"** |  |  |

1) Pressure measuring port "MS" as example for all types

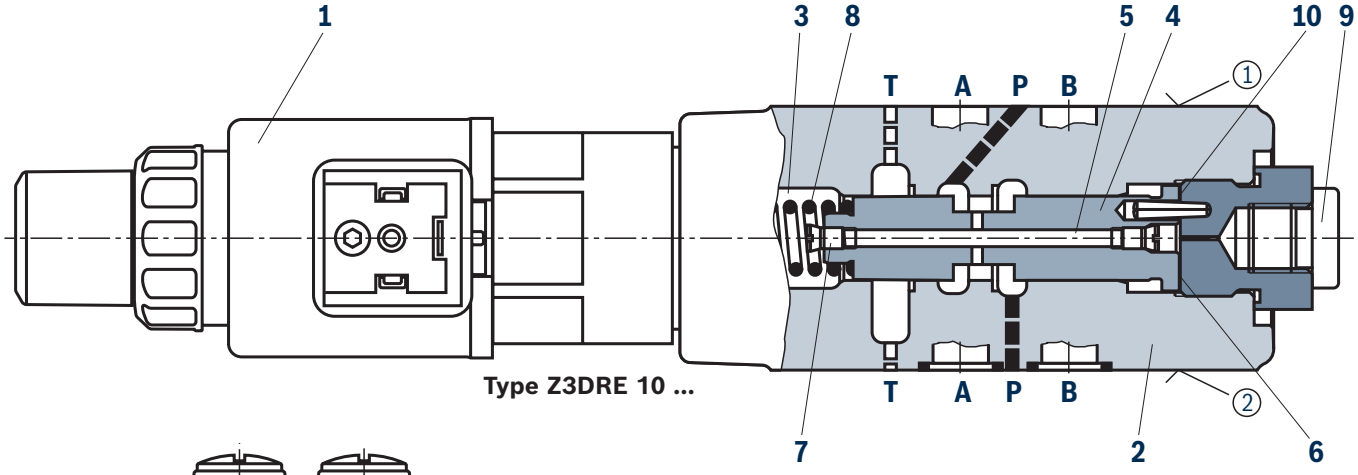
**Information:**
- Representation according to ISO 1219-1.
- Deviating from ISO 4401, port T is called TA and port T1 is called TB in this data sheet.

## Function, section

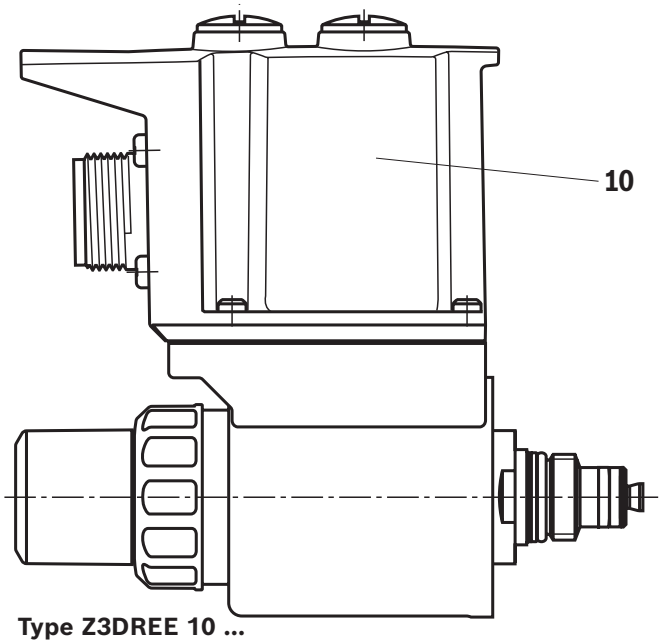
Valves of type Z3DRE... are pilot-operated pressure reducing valves in sandwich plate design and 3-way version, i. e. with pressure limitation of the actuator pressure. They are used for reducing a system pressure. The valves basically consist of a proportional pilot control valve (1), main valve (2) and control spool (4). The pressure in channel P① is set in a command value-dependent form via the pilot control valve (1).

**"Z3DRE"** (External control electronics)
In rest position, i. e. without pressure in channel P②, the control spool (4) opens the connection from channel P②→P①.
The pressure in channel P① acts on the control spool surface (6) via the bore (5). The pilot oil for the pilot control valve (1) is taken from channel P① and flows via the bore (5) and the nozzle (7) into the spring chamber (3).

The pressure required in channel P① is preset at the related amplifier. The proportional pilot control valve (1) increases the pressure in the spring chamber (3).
In this way, the two chambers (3) and (10) are pressure-compensated and the compression spring (8) moves the control spool (4) to the right in opening direction P②→P①. As soon as the actuator pressure P① has increased to the value set at the pilot control valve (1), the valve poppet (11) opens and limits the pressure in the spring chamber (3). The control spool (4) now moves to the left into the control position. If the actuator pressure P① exceeds the value set at the pilot control valve (1), the control spool (4) is moved further to the left. It blocks the volume flow from P②→P① and opens the connection P① to the container until this pressure has dropped back to the set value.
Version "MS" enables measurement and monitoring of the set secondary pressure via a pressure load cell at the measuring port (9).




Type Z3DRE 10 ...

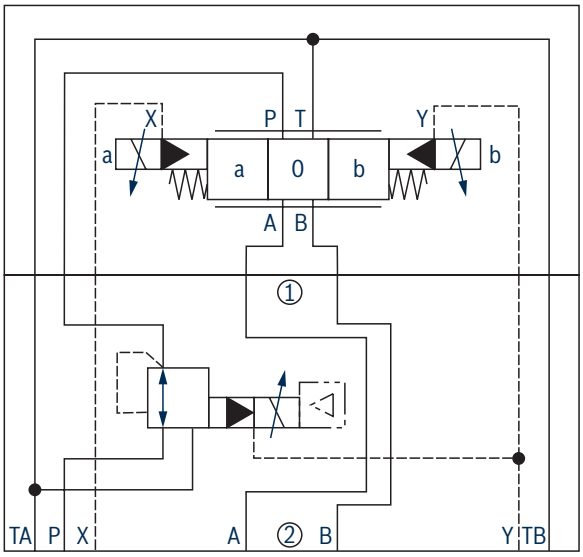



Type Z3DREE 10 ...

**"Z3DREE"** (Integrated electronics (OBE))
With regard to function and set-up, these valves correspond to type Z3DRE – except for the integrated electronics (OBE). The electronics (OBE) in the housing (10) maintain the supply and command value voltage via the mating connector.
At the factory, the command value pressure characteristic curve is adjusted with little manufacturing tolerance.
For further details on the integrated electronics (OBE), refer to page 10 and 11.

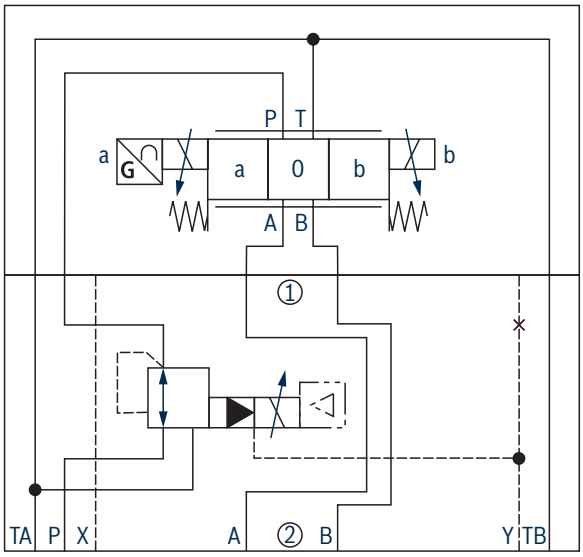
## **Pilot oil supply** (for the attached directional valve)

**Version "XY"**
(e.g. with proportional directional valve, pilot-operated, type 4WRZ)



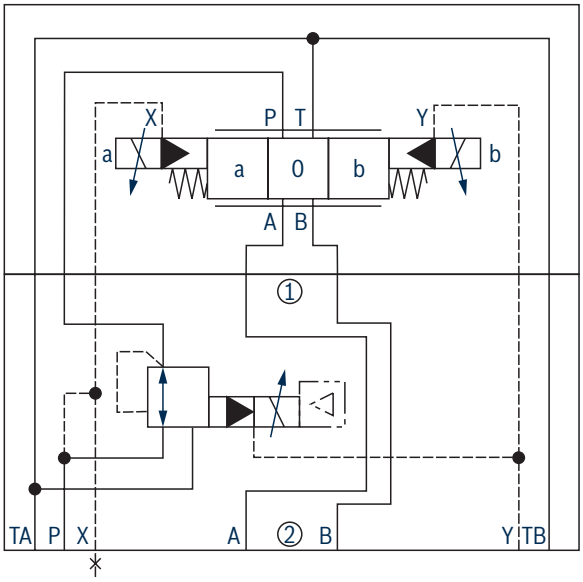

No connection between P② and X

**Version "XL"**
(e.g. with proportional directional valve, direct operated, type 4WRE)



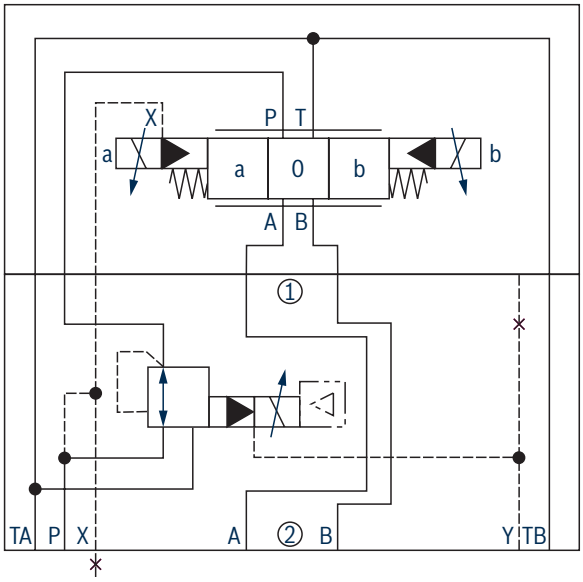

No connection between P② and X

**Version "Y"**
(e.g. with proportional directional valve, pilot-operated, type 4WRZ)




Port X in the subplate must be closed

**Version "L"**
(e.g. with proportional directional valve, pilot-operated, type 4WRZ)




Port X in the subplate must be closed

**Information:**
- Proportional directional valve, **direct operated:** Sealing for ports X and Y is missing in the mounting surface of the housing. To ensure that no hydraulic fluid leaks, the pilot oil supply from P②→X and the pilot oil return between the directional valve and "Z3DRE(E)" has to be closed (version "XL").
- Proportional directional valves, **pilot-operated:** In connection with the "Z3DRE(E)", **external pilot oil supply** is required.

**Information:**
- Representation according to ISO 1219-1.
- Deviating from ISO 4401, port T is called TA and port T1 is called TB in this data sheet.

## Technical data
(For applications outside these values, please consult us!)

| **General** | | | |
|---|---|---|---|
| Type of connection | | | Sandwich plate design |
| Porting pattern | | | ISO 4401-05-05-0-05 |
| Weight | ▶ "Z3DRE" | kg | 3.3 |
| | ▶ "Z3DREE" | kg | 3.4 |
| Installation position | | | Preferred position of the proportional solenoid downward or horizontal |
| Ambient temperature range | ▶ "Z3DRE" | °C | –20 ... +70 (NBR seals)<br>–15 ... +70 (FKM seals) |
| | ▶ "Z3DREE" | °C | –20 ... +60 (NBR seals)<br>–15 ... +60 (FKM seals) |
| Storage temperature range (with UV protection) | | °C | –20 ... +80 |
| Maximum storage time | | Years | 1 (if the storage conditions are observed, refer to the operating instructions 07600-B) |
| Maximum relative humidity (no condensation) | | % | 97 |
| Protection class according to EN 60529 | | | IP65 (if suitable and correctly mounted mating connectors are used) |
| Sine test according to EN 60068-2-6 | | | 10 ... 2000 ... 10 Hz / maximum 10 g / 10 cycles |
| Noise test according to EN 60068-2-64 | | | 20 ... 2000 Hz / 10 $g_{RMS}$ / 24 h |
| Transport shock according to EN 60068-2-27 | | | 15 g / 11 ms |
| Conformity | ▶ CE according to EMC Directive 2014/30/EU, tested according to | | EN 61000-6-2 and EN 61000-6-3 |
| | ▶ UKCA according to Electromagnetic Compatibility Regulations SI 2016/1091, tested according to | | EN 61000-6-2 and EN 61000-6-3 |
| | ▶ RoHS Directive | | 2011/65/EU [1] |

| **Hydraulic** | | | |
|---|---|---|---|
| Maximum operating pressure [2] | ▶ Port P① | bar | 350 |
| | ▶ Ports P②, A, B, X | bar | 350 |
| | ▶ Port T | bar | 250 |
| | ▶ Port Y, L | bar | Line separate and depressurized to the container |
| Hydraulic fluid | | | See table, page 8 |
| Hydraulic fluid temperature range (at the valve working ports) | | °C | –20 ... +80 (NBR seals)<br>–15 ... +80 (FKM seals) |
| Viscosity range | | $mm^2/s$ | 15 ... 380 |
| Maximum admissible degree of contamination of the hydraulic fluid; cleanliness class according to ISO 4406 (c) | | | Class 20/18/15 [3] |
| Maximum flow | | l/min | 120 |
| Maximum set pressure | ▶ Port P① | bar | 50; 100; 200; 315 |
| Minimum set pressure (port P① at command value zero) | | bar | 12 |
| Pilot flow | | l/min | 0.4 ... 0.9 |

1) The product fulfills the substance requirements of the RoHS Directive 2011/65/EU.

2) The pressure at port P② must be approx. 20 bar higher than the required set pressure that is to be achieved at port P①.

3) The cleanliness classes specified for the components must be adhered to in hydraulic systems. Effective filtration prevents faults and at the same time increases the life cycle of the components.

## Technical data
(For applications outside these values, please consult us!)

| Hydraulic fluid | | Classification | Suitable sealing materials | Standards | Data sheet |
|---|---|---|---|---|---|
| Mineral oils | | HL, HLP, HLPD, HVLP, HVLPD | NBR, FKM | DIN 51524 | 90220 |
| Bio-degradable | ▶ Insoluble in water | HETG | FKM | ISO 15380 | 90221 |
| | | HEES | FKM | | |
| | ▶ Soluble in water | HEPG | FKM | ISO 15380 | |
| Flame-resistant | ▶ Water-free | HFDU (glycol base) | FKM | ISO 12922 | 90222 |
| | | HFDU (ester base) | FKM | | |
| | | HFDR | FKM | | |
| | ▶ Containing water | HFC (Fuchs: Hydrotherm 46M, Renosafe 500; Petrofer: Ultra Safe 620; Houghton: Safe 620; Union: Carbide HP5046) | NBR | ISO 12922 | 90223 |

☞ **Important information on hydraulic fluids:**
- ▶ For further information and data on the use of other hydraulic fluids, please refer to the data sheets above or contact us.
- ▶ There may be restrictions on the technical data (temperature, pressure range, life cycle, maintenance intervals, etc.).
- ▶ The ignition temperature of the hydraulic fluid used must be 50 K higher than the maximum surface temperature.
- ▶ **Bio-degradable and flame-resistant – containing water:**
  If components with galvanic zinc coating (e.g. version "J3" or "J5") or parts containing zinc are used, small amounts of dissolved zinc may get into the hydraulic system and cause accelerated aging of the hydraulic fluid. Zinc soap may form as a chemical reaction product, which may clog filters, nozzles and solenoid valves – particularly in connection with local heat input.
- ▶ **Flame-resistant – containing water:**
  - – Due to an increased cavitation tendency with the use of HFC hydraulic fluids, the life cycle of the component may be reduced by up to 30% as compared to use with HLP mineral oil. In order to reduce the cavitation effect, it is recommended – if possible, specific to the installation – to back up the return flow pressure in ports T to approx. 20% of the pressure differential at the component.
  - – Dependent on the hydraulic fluid used, the maximum ambient and hydraulic fluid temperature must not exceed 50 °C. In order to reduce the heat input into the component, the command value profile is to be adjusted for proportional and high-response valves.

| Static/dynamic | | | |
|---|---|---|---|
| Hysteresis [4] | | % | <6 |
| Manufacturing tolerance [4] | ▶ "Z3DRE" [5] | % | ±5 |
| | ▶ "Z3DREE" | | ±1.5 (comparison at the factory) |
| Linearity [4] | | % | ±3.5 |
| Repetition accuracy [4] | | % | <±2 |
| Step response $T_u + T_g$ [6] | ▶ 10%→90% | ms | ~140 |
| | ▶ 90%→10% | ms | ~140 |

[4] Details see page 12.
[5] Comparison at the factory
[6] Measured with 5 liters standing hydraulic fluid column at port P①.

## Technical data
(For applications outside these values, please consult us!)

| **Electrical** | | | |
|---|---|---|---|
| Minimum solenoid current | | mA | 100 |
| Maximum solenoid current | | mA | 1600 ±10% |
| Solenoid coil resistance | ▶ Cold value at 20 °C | Ω | 5.5 |
| | ▶ Maximum hot value | Ω | 8.05 |

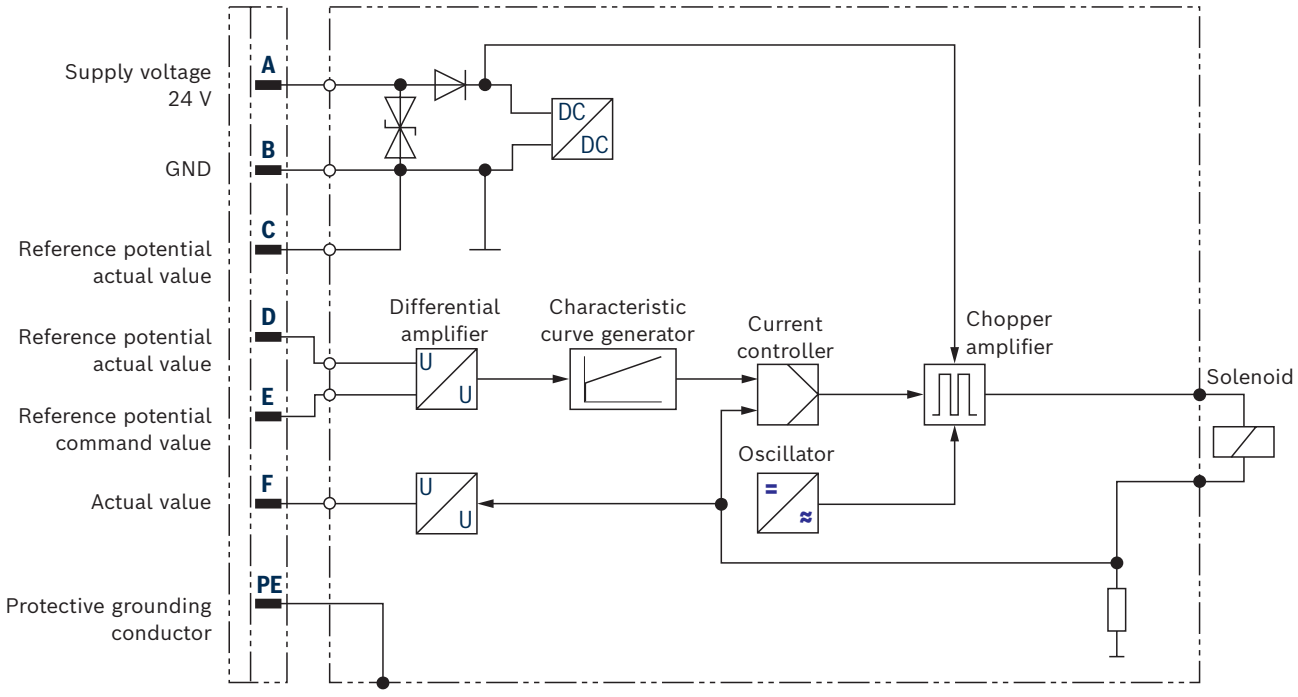
| **Electrical, integrated electronics (OBE) – interface "A1"** | | | |
|---|---|---|---|
| Supply voltage | ▶ Nominal value | VDC | 24 |
| | ▶ Minimum | VDC | 21 |
| | ▶ Maximum | VDC | 35 |
| | ▶ Maximum residual ripple | Vpp | 2.5 |
| | ▶ Maximum power consumption | VA | 30 |
| | ▶ Current consumption during operation [7] | | |
| | – Rated current | $A_{eff}$ | <1.5 |
| | – Impulse current | A | 3.2 |
| | ▶ Fuse protection, external | $A_T$ | 2 (time-lag) |
| Charging capacity (externally effective) | | µF | <60 |
| Relative duty cycle time according to VDE 0580 | | | S1 (continuous operation) |
| Functional ground and screening | | | See pin assignment, page 11 |
| Command value (differential amplifier) | ▶ Measurement range | V | 0 ... 10 |
| | ▶ Input resistance | kΩ | >100 |
| Actual value (test signal) | ▶ Output range | V | 0 ... 1.6 (1 mV ≙ 1 mA) |
| | ▶ Minimum load impedance | kΩ | >2 |

| **Electrical, integrated electronics (OBE) – interface "F1"** | | | |
|---|---|---|---|
| Supply voltage | ▶ Nominal value | VDC | 24 |
| | ▶ Minimum | VDC | 21 |
| | ▶ Maximum | VDC | 35 |
| | ▶ Maximum residual ripple | Vpp | 2.5 |
| | ▶ Maximum power consumption | VA | 30 |
| | ▶ Current consumption during operation [7] | | |
| | – Rated current | $A_{eff}$ | <1.5 |
| | – Impulse current | A | 3.2 |
| | ▶ Fuse protection, external | $A_T$ | 2 (time-lag) |
| Charging capacity (externally effective) | | µF | <60 |
| Relative duty cycle time according to VDE 0580 | | | S1 (continuous operation) |
| Functional ground and screening | | | See pin assignment, page 11 |
| Command value | ▶ Input current range | mA | 4 ... 20 |
| | ▶ Input resistance | Ω | 100 |
| Actual value (test signal) | ▶ Output range | V | 0 ... 1.6 (1 mV ≙ 1 mA) |
| | ▶ Maximum load | kΩ | >10 |

[7] The making current peak is usually higher (depending on power supply unit, supply line, and capacity).

☞ **Notice:**
EMC Directive conditions see page 17.

## Block diagram/pin assignment

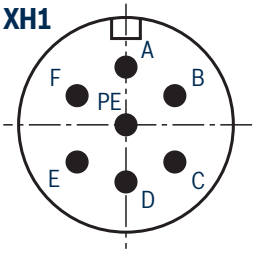


## Electrical connections and assignment

### Connector pin assignment "XH1", 6-pole + PE according to DIN 43563

| Pin | Interface assignment | |
|---|---|---|
| | "A1" | "F1" |
| A | Supply voltage | Supply voltage |
| B | GND | GND |
| C | Reference potential actual value (connect to GND on the control side) | Reference potential actual value (connect to GND on the control side) |
| D | Command value | Command value |
| E | Reference potential command value (connect with GND on control side) | Reference potential command value (connect with GND on control side; current loop $I_{D\text{-}E}$ feedback) |
| F | Actual value | Actual value |
| PE | Functional ground (directly connected to the valve housing) | |

**XH1**

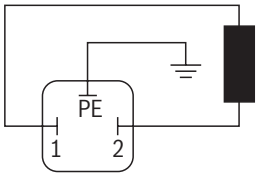
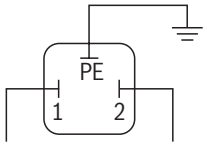



**Command value:**
- "A1": 0 ... +10 V
- "F1": 4 ... 20 mA

**Connection cable:**
- Up to 20 m cable length type LiYCY 7 x 0.75 mm²
- Up to 40 m cable length type LiYCY 7 x 1.0 mm²

**Information:**
- Mating connectors, separate order, see page 17 and data sheet 08006.
- EMC Directive conditions see page 17.

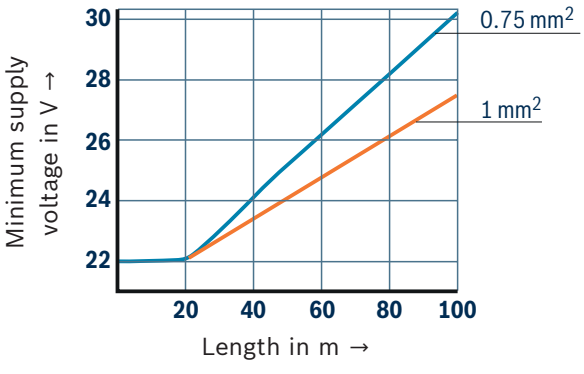
### Type Z3DRE

| Connection at device connector | Connection at mating connector |
|---|---|
|  |  |



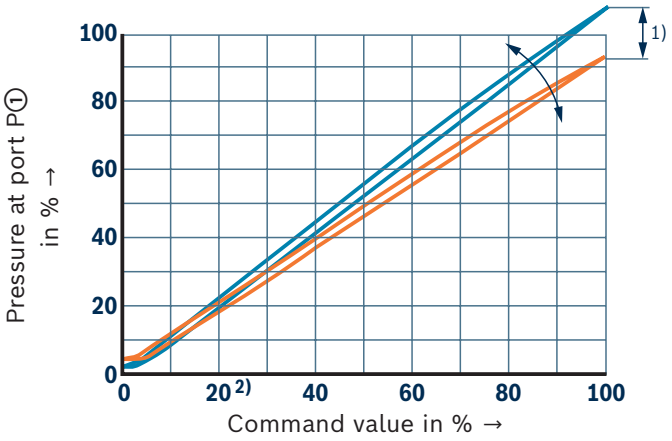
**Connection cable** (recommendation):
- 6-wire, 0.75 or 1 mm² plus protective grounding conductor and screening
- Only connect the screening to PE on the supply side
- Maximum admissible length = 100 m

The minimum supply voltage at the power supply unit depends on the length of the supply line (see diagram).



## Characteristic curves
(measured with HLP46, $\vartheta_{oil}$ = 40±5 °C)

**Reduced pressure at port P① dependent on the command value** (manufacturing tolerance)

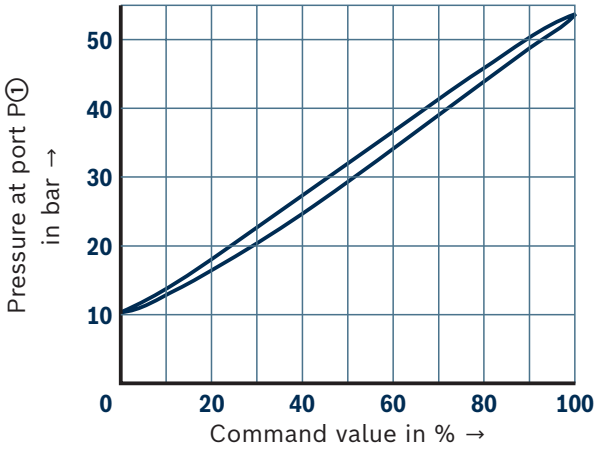



1) In order to adjust several valves to the same characteristic curve, the manufacturing tolerance on the external amplifier (see page 17) can be changed using command value attenuator "G" on the "Z3DRE" version. In this connection, do not set the pressure higher than the maximum set pressure of the pressure rating with command value 100%.

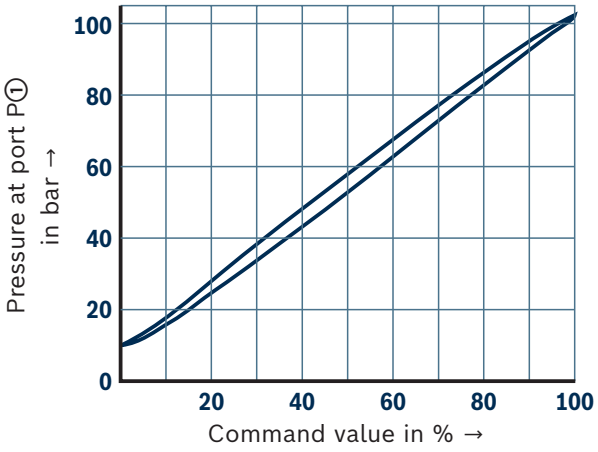
2) At 20% zero point calibration at the factory

**Pressure at port P① dependent on the command value** (flow 0 l/min)

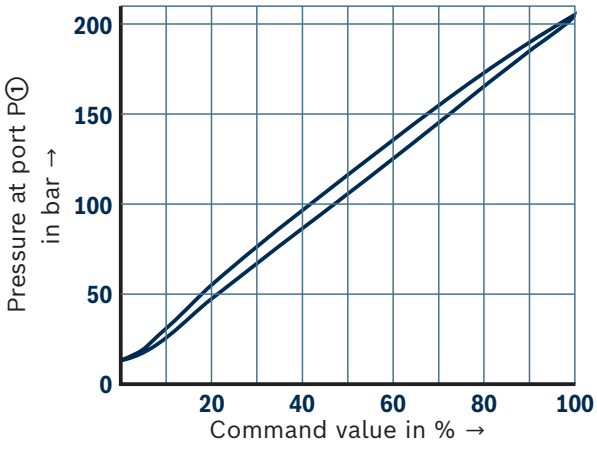
**Pressure rating 50 bar**



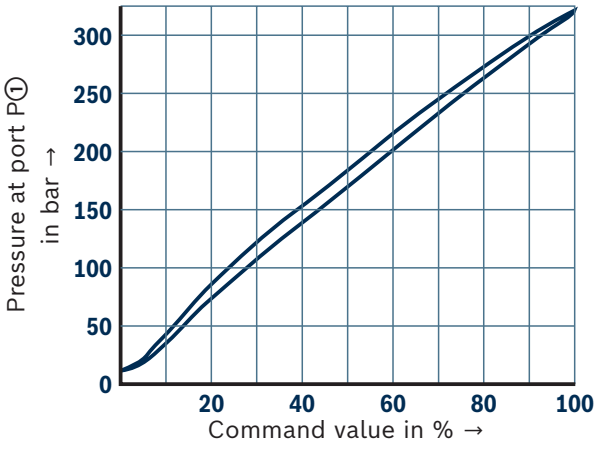

**Pressure rating 100 bar**




**Pressure rating 200 bar**




**Pressure rating 315 bar**

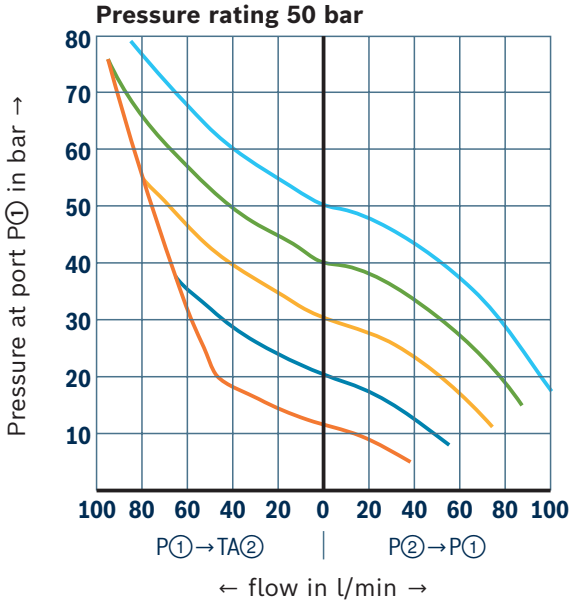



**Notice:**
Typical characteristic curves which are subject to tolerance variations.

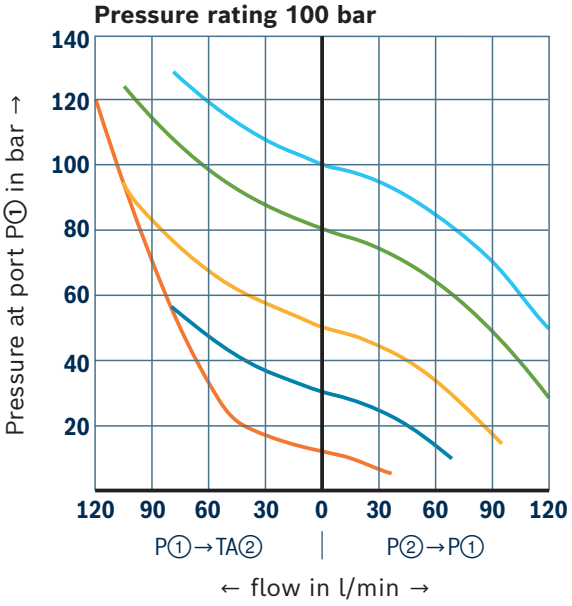
## Characteristic curves
(measured with HLP46, $\vartheta_{oil}$ = 40±5 °C)

**Pressure at port P① dependent on the flow**

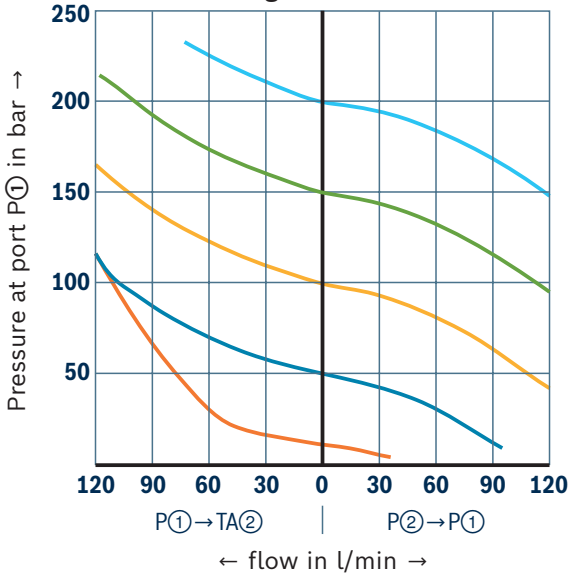
**Pressure rating 50 bar**



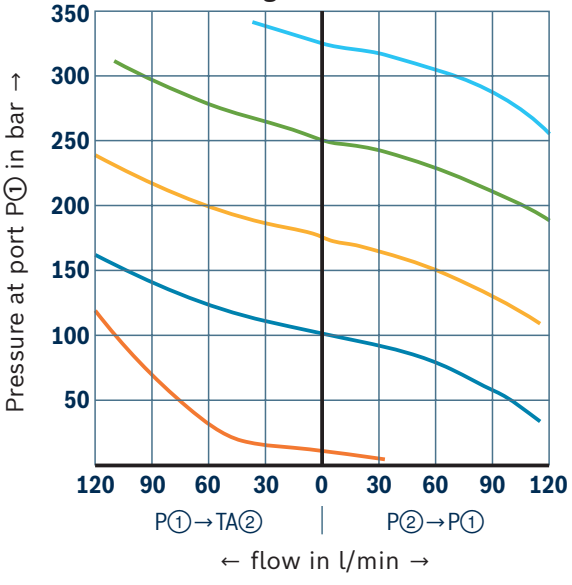

**Pressure rating 100 bar**




**Pressure rating 200 bar**



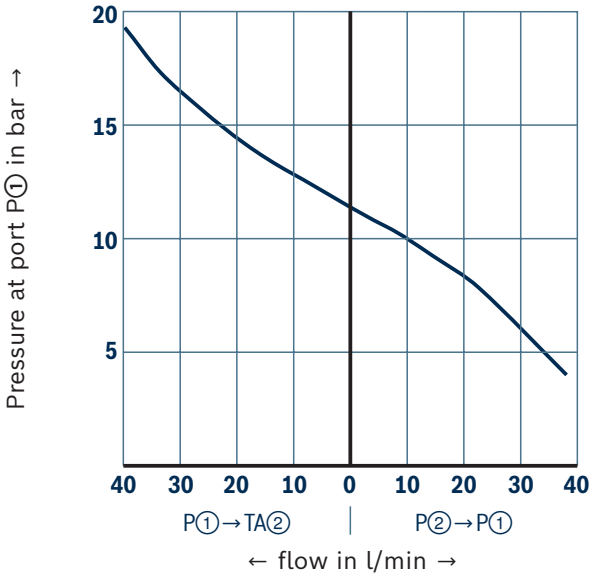

**Pressure rating 315 bar**



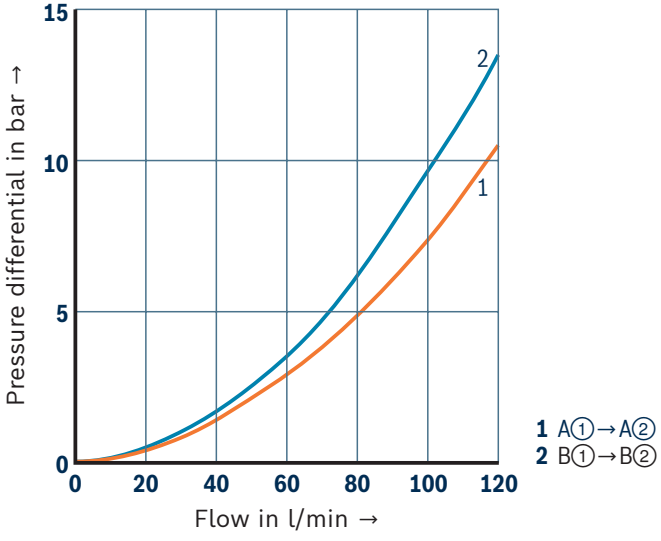

**Notice:**
Typical characteristic curves which are subject to tolerance variations.

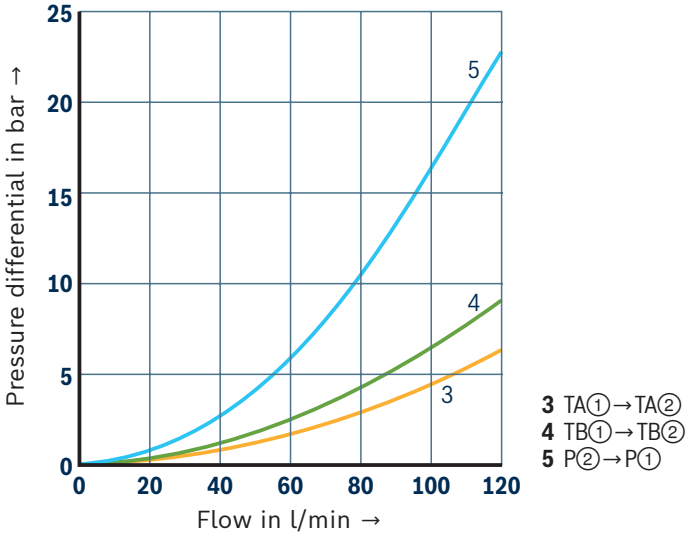
## Characteristic curves
(measured with HLP46, $\vartheta_{oil}$ = 40±5 °C)

**Minimum set pressure in port P① dependent on the flow** (command value 0 V)



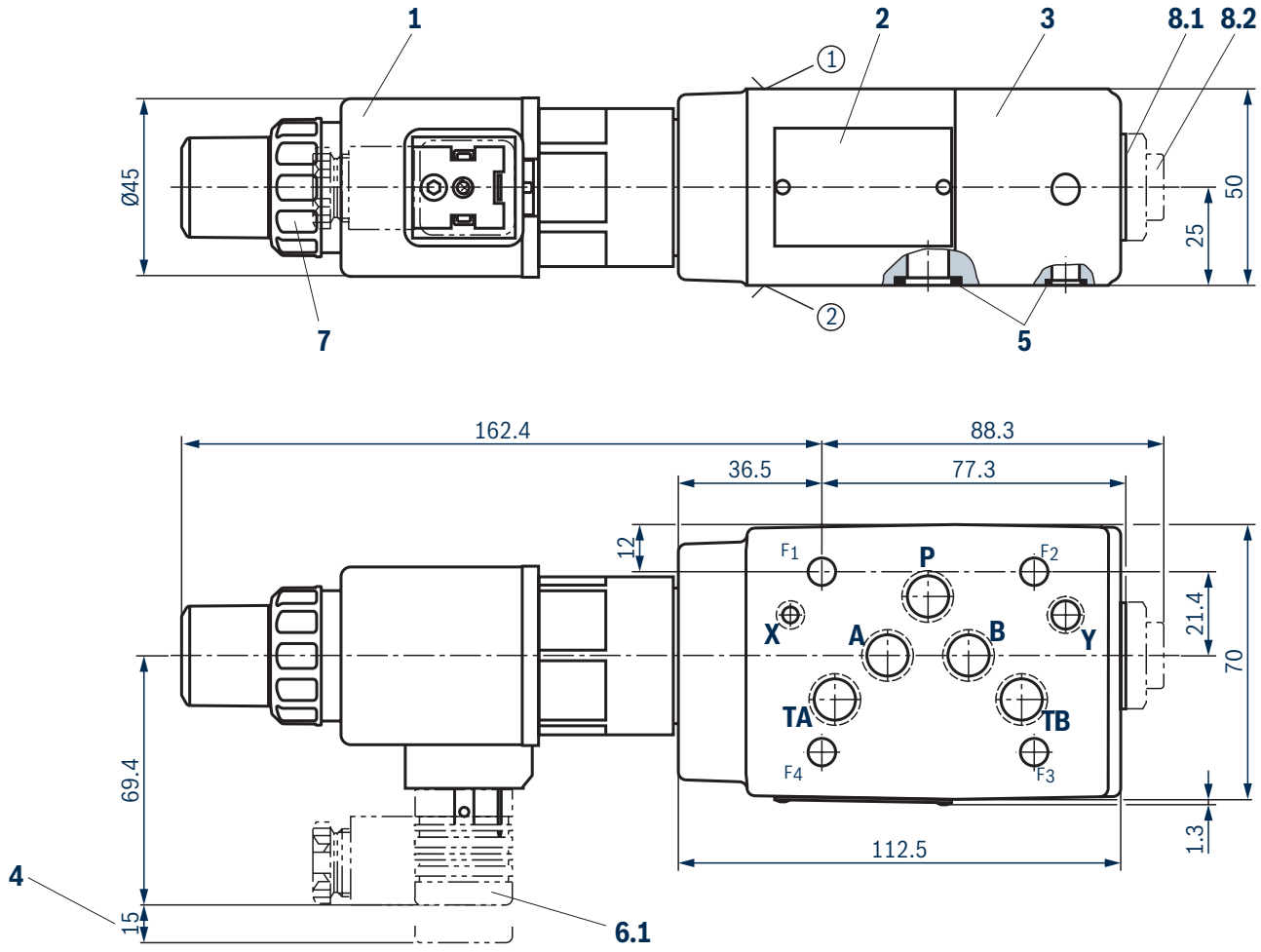

***Δp-q*$_V$ characteristic curves**

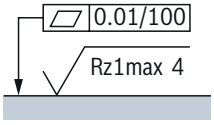



☞ **Notice:**
Typical characteristic curves which are subject to tolerance variations.

## **Dimensions:** "Z3DRE" (dimensions in mm)




Required surface quality of the valve contact surface

① component side – porting pattern according to ISO 4401-05-05-0-05

② plate side – porting pattern according to ISO 4401-05-05-0-05

**1** Solenoid coil

**2** Name plate

**3** Valve housing

**4** Space required for removing the mating connector

**5** Identical seal rings for ports A, B, P, T (plate side)
Identical seal rings for ports X and Y (plate side)

**6,1** Mating connector, separate order, see page 17.

**7** O-ring and plastic nut SW32 for coil fixation. The nut can be loosened by rotating it counterclockwise (1 turn). The solenoid coil can then be rotated to the required position before fixing it again by tightening the nut (tightening torque $4^{+1}$ Nm)

**8,1** Without pressure measuring port (standard)

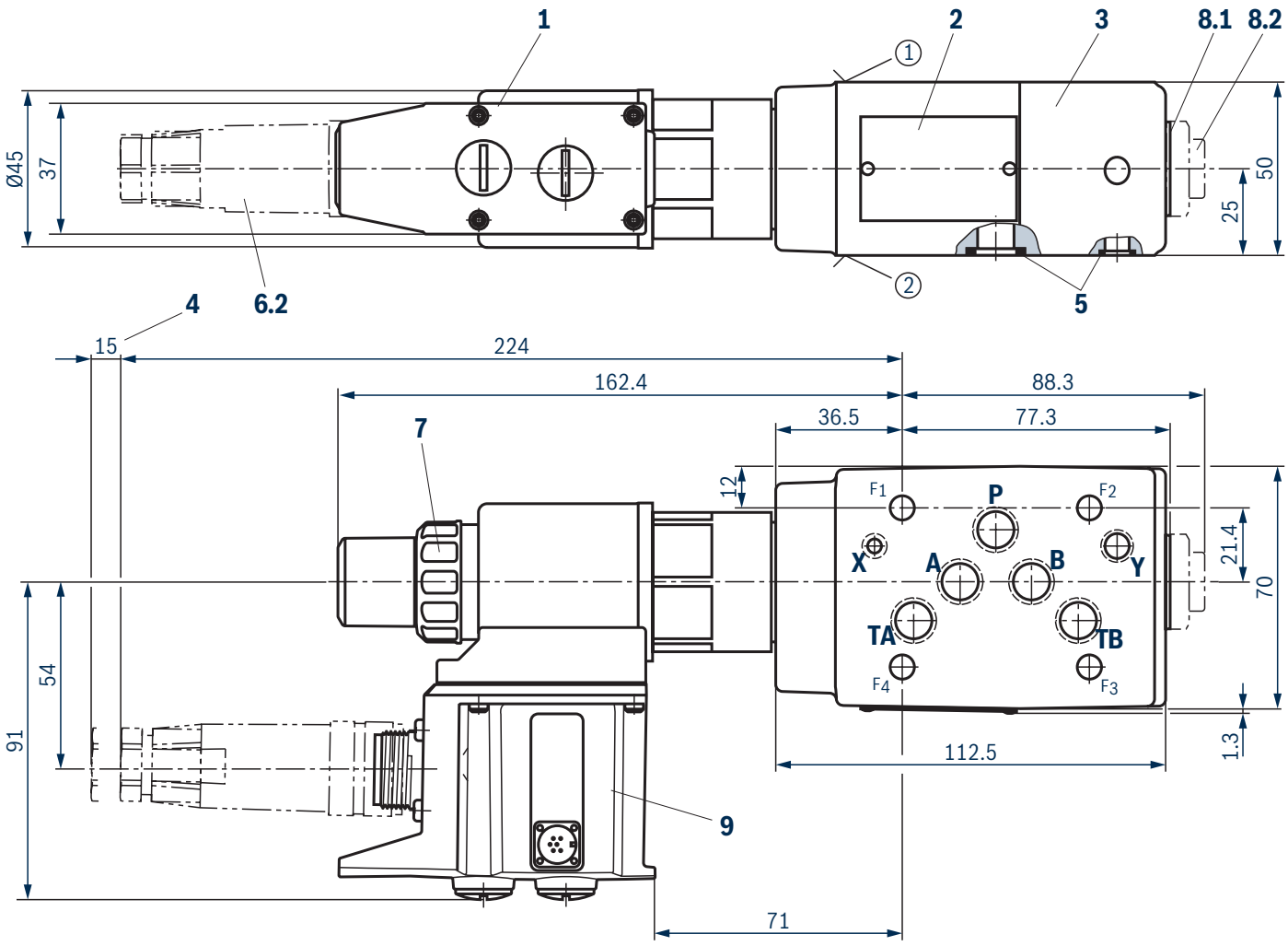
**8,2** Pressure measuring port (version "MS"); when loosening the plug screw (internal hexagon SW6, tightening torque $M_A$ = 20 Nm ±10%), hold the reducing piece SW24.

**Valve mounting screws** (separate order)
**4 hexagon socket head cap screws ISO 4762 - M6 - 10.9**

**Information:**

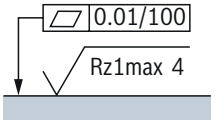
- Length and tightening torque of the valve mounting screws must be calculated in connection with the components mounted underneath and above the sandwich plate valve.
- Deviating from ISO 4401, port T is called TA and port T1 is called TB in this data sheet.
- The dimensions are nominal dimensions which are subject to tolerances.

## **Dimensions:** "Z3DREE"
(dimensions in mm)




① component side – porting pattern according to ISO 4401-05-05-0-05

② plate side – porting pattern according to ISO 4401-05-05-0-05




Required surface quality of the valve contact surface

**1** Solenoid coil

**2** Name plate

**3** Valve housing

**4** Space required for removing the mating connector

**5** Identical seal rings for ports A, B, P, T (plate side)
Identical seal rings for ports X and Y (plate side)

**6,2** Mating connector, separate order, see page 17.

**7** O-ring and plastic nut SW32 for coil fixation. The nut can be loosened by rotating it counterclockwise (1 turn). The solenoid coil can then be rotated to the required position before fixing it again by tightening the nut (tightening torque $4^{+1}$ Nm)

**8,1** Without pressure measuring port (standard)

**8,2** Pressure measuring port (version "MS"); when loosening the plug screw (internal hexagon SW6, tightening torque $M_A$ = 20 Nm ±10%), hold the reducing piece SW24.

**9** Integrated electronics with connector

**Valve mounting screws** (separate order)
**4 hexagon socket head cap screws ISO 4762 - M6 - 10.9**

**Information:**
- Length and tightening torque of the valve mounting screws must be calculated in connection with the components mounted underneath and above the sandwich plate valve.
- Deviating from ISO 4401, port T is called TA and port T1 is called TB in this data sheet.
- The dimensions are nominal dimensions which are subject to tolerances.

## **Accessories** (separate order)

### Mating connectors

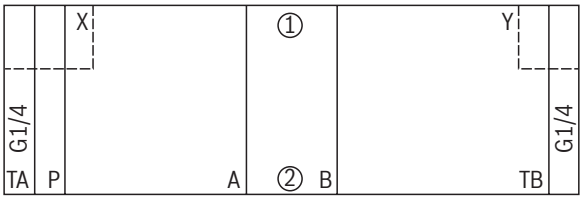
| Item [1] | Designation | Version | Short designation | Material number | Data sheet |
|---|---|---|---|---|---|
| **6,1** | Mating connector;<br>for valves with "K4" connector,<br>2-pole + PE, design A | Without circuitry, M16 x 1.5, 0 ... 250 V, "b" | Z4 | **R901017011** | 08006 |
| **6,2** | Mating connector;<br>for valves with round connector,<br>6-pole + PE | Straight, metal, PG11 | 7PZ31...M | **R900223890** | 08006 |

[1] See dimensions on pages 15 and 16.

### External control electronics

| | Type | Material number | Data sheet |
|---|---|---|---|
| Modular design | Type VT-MSPA1-2X | – | 30232 |

### Sandwich plate type HSZ




Sandwich plate type HSZ 10 B097-3X/M01

| | |
|---|---|
| Dimensions<br>(length x width x height) | 100 x 70 x 30 mm |
| Weight | 2.5 kg |
| Size of ports X and Y | G1/4 |
| Material no. | **R900320785** |
| Data sheet | 48052 |

**Subplates** (separate order) with porting pattern according to ISO 4401-05-05-0-05, see data sheet 45100.

## EMC Directive requirements

- Shielded connection cables must be used for the electrical connection. The shielding must be placed on both sides.
- A metal mating connector must be used to make contact between the cable shielding and the valve.
- A separate EMC-approved power supply unit must be provided for each valve, e.g. one that is CE-compliant.
- The production of a low impedance connection is established via the professional installation of the valve on a grounded metal manifold block in the system.
- For electric supply lines over 30 m, overvoltage protection must be provided in the control cabinet.
- In a strong electro-magnetic environment, further EMC measures may be required, such as shielding of the complete device via metal housings or the use of ferrites on supply and signal lines.

## Further information

| | |
|---|---|
| ▶ Valve amplifier for proportional valves without electrical position feedback | Data sheet 30232 |
| ▶ Subplates | Data sheet 45100 |
| ▶ Hydraulic fluids on mineral oil basis | Data sheet 90220 |
| ▶ Environmentally compatible hydraulic fluids | Data sheet 90221 |
| ▶ Flame-resistant, water-free hydraulic fluids | Data sheet 90222 |
| ▶ Flame-resistant hydraulic fluids – containing water (HFAE, HFAS, HFB, HFC) | Data sheet 90223 |
| ▶ Reliability characteristics according to EN ISO 13849 | Data sheet 08012 |
| ▶ Mating connectors and cable sets for valves and sensors | Data sheet 08006 |
| ▶ Hydraulic valves for industrial applications | Operating instructions 07600-B |
| ▶ Information on available spare parts | www.boschrexroth.com/spc |

## Notes

## Notes

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