

**RE 26 585/02.03**

Replaces: 05.02

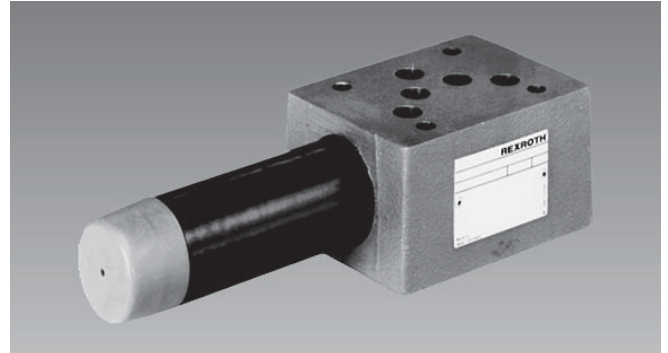
**Pressure reducing valve  
direct operated,  
Type ZDR 10 D**

Nominal size 10

Series 5X

Maximum operating pressure 210 bar

Maximum flow 80 L/min



K 4805

Type ZDR 10 DP 2-5X/..Y..

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**Features**

- Sandwich plate design
- Porting pattern to DIN 24 340 form A, ISO 4401 and CETOP-RP 121 H
- 4 pressure ratings
- 4 adjustment elements:
  - Rotary knob
  - Sleeve with hexagon and protective cap
  - Lockable rotary knob with scale
  - Rotary knob with scale
- Pressure reduction in ports A, B or P
- Check valve, optional



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## Ordering details

Z	DR	10	D		5X/	Y		*
Further details in clear text								
No code = NBR seals								
V = FKM seals (other seals on request)								
<b>⚠ Attention!</b> The compatibility of the seals and pressure fluid has to be taken into account!								
No code = With check valve (only possible for type ZDR 10 <b>DA</b> )								
M = Without check valve								
Y = Internal pilot oil supply, external leakage oil drain								
25 = Max. secondary pressure 25 bar								
75 = Max. secondary pressure 75 bar								
150 = Max. secondary pressure 150 bar								
210 = Max. secondary pressure 210 bar								
Sandwich plate valve = Z								
Pressure reducing valve = DR								
Nominal size 10 = 10								
Direct operated = D								
Pressure reduction in port A2 = A								
Pressure reduction in port P1 (pilot oil from port B) = B								
Pressure reduction in port P1 = P								
<b>Adjustment element</b>								
Rotary knob = 1								
Sleeve with hexagon and protective cap = 2								
Lockable rotary knob with scale = 3 <sup>1)</sup>								
Rotary knob with scale = 7								
Series 50 to 59 = 5X (50 to 59: unchanged installation and connection dimensions)								

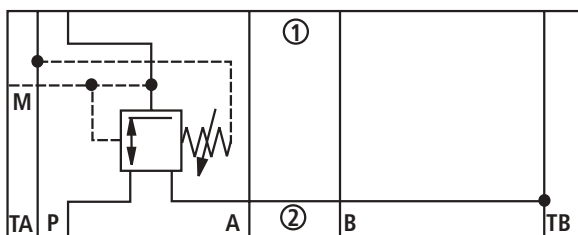
<sup>1)</sup> H-key with Material No. **R9008158** is included within the scope of supply.

## Preferred types (readily available)

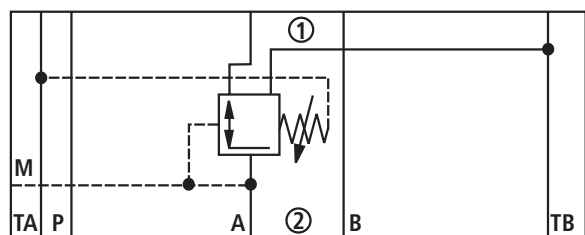
Type	Material number	Typ	Material number
ZDR 10 DA2-5X/25Y	R900407334	ZDR 10 DP2-5X/25YM	R900410899
ZDR 10 DA2-5X/75Y	R900438008	ZDR 10 DP2-5X/75YM	R900410875
ZDR 10 DA2-5X/150Y	R900410884	ZDR 10 DP2-5X/150YM	R900410880
ZDR 10 DA2-5X/210Y	R900406651	ZDR 10 DP2-5X/210YM	R900410876
ZDR 10 DB2-5X/25YM	R900426202	Further preferred types and standard units can be found in the EPS (Standard Price List).	
ZDR 10 DB2-5X/75YM	R900431509		
ZDR 10 DB2-5X/150YM	R900408340		
ZDR 10 DB2-5X/210YM	R900443484		

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

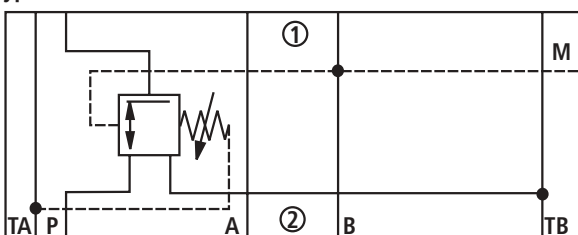
Type ZDR 10 DP..-5X/..YM..



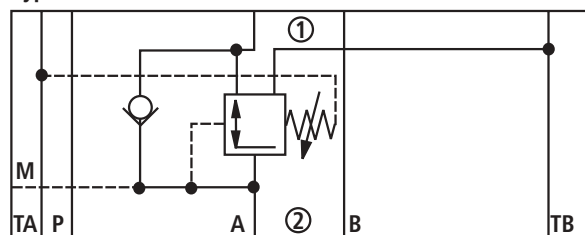
Type ZDR 10 DA..-5X/..YM..



Type ZDR 10 DB..-5X/..YM..



Type ZDR 10 DA..-5X/..Y



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

<b>General</b>		
Installation		Optional
Ambient temperature range	°C	–30 to +80 for NBR seals –20 to +80 for FKM seals
Weight	kg	Approx. 2.8
<b>Hydraulic</b>		
Pressure fluid		Mineral oil (HL, HLP) to DIN 51 524 <sup>1)</sup> ; Fast bio-degradable pressure fluids to VDMA 24 568 (also see RE 90 221); HETG (rape seed oil) <sup>1)</sup> ; HEPG (polyglycols) <sup>2)</sup> ; HEES (synthetic ester) <sup>2)</sup> ; other pressure fluids on request
Cleanliness class to ISO code		Maximum permissible degree of contamination of the pressure fluid is to ISO 4406 (C) class 20/18/15 <sup>3)</sup>
Pressure fluid temperature range	°C	–30 to +80 for NBR seals –20 to +80 for FKM seals
Viscosity range	mm <sup>2</sup> /s	10 to 800
Max. operating pressure (input)	bar	Up to 315
Secondary pressure, (output)	bar	25; 75; 150; 210
Back pressure port T	bar	Up to 160
Max. flow	L/min	Up to 80

1) Suitable for NBR **and** FKM seals

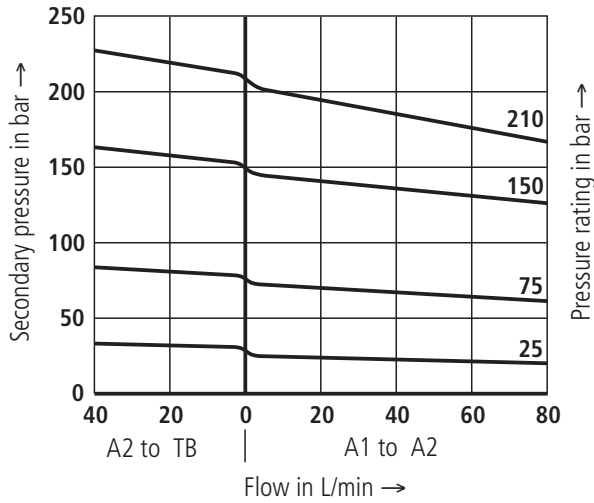
2) **Only** suitable for FKM seals

3) 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.

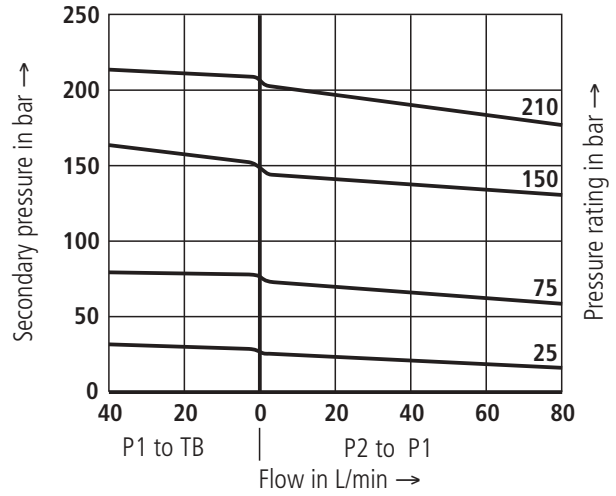
**Type ZDR 10 DA..-5X/..**

$p_A$ - $q_V$ -characteristic curves



**Type ZDR 10 DP..-5X/.. and  
Type ZDR 10 DB..-5X/..**

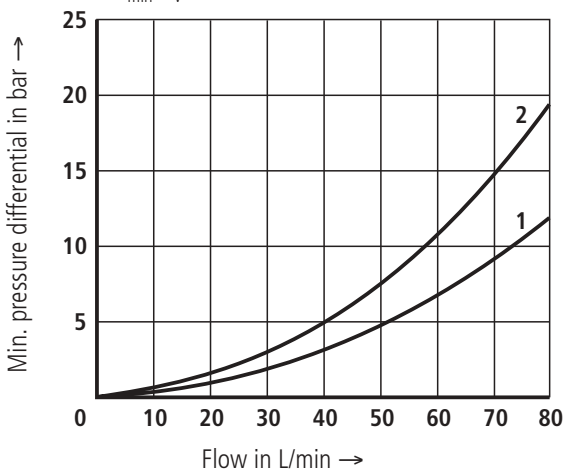
$p_A$ - $q_V$ -characteristic curves



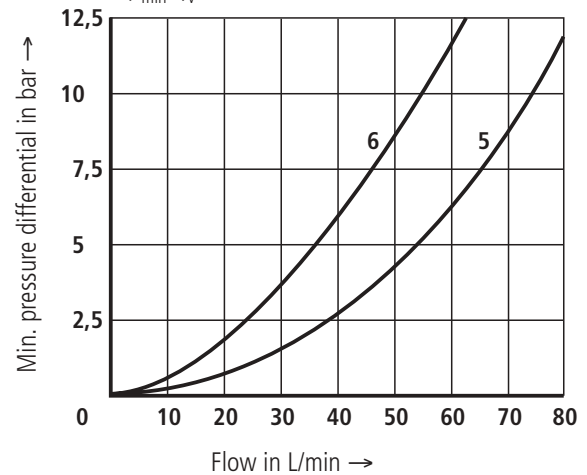
**Note**

The curve characteristics remain, with low set pressures, the same in relation to the pressure rating.

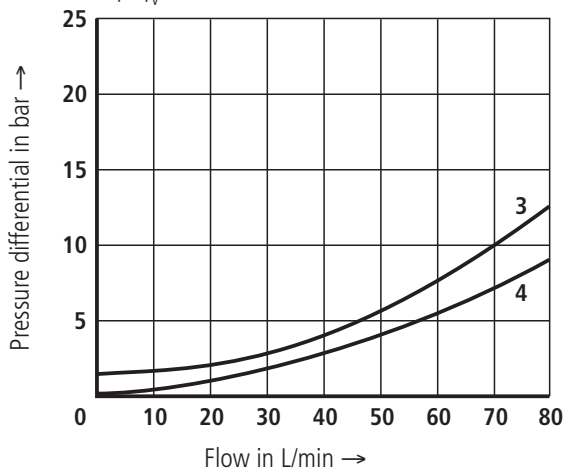
$\Delta p_{min}$ - $q_V$ -characteristic curves



$\Delta p_{min}$ - $q_V$ -characteristic curves



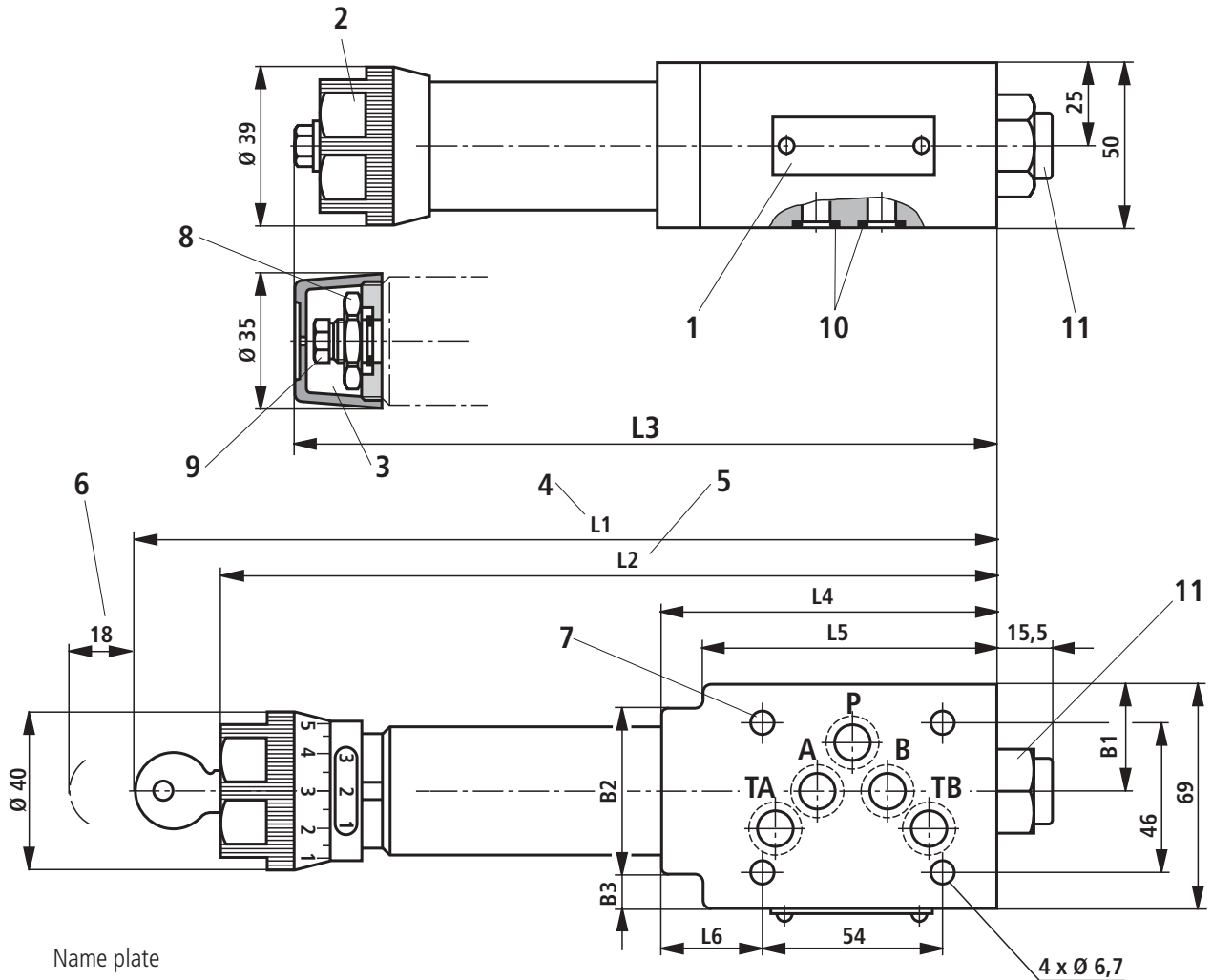
$\Delta p$ - $q_V$ -characteristic curves



- 1 A1 to A2
- 2 A2 to TB (3rd flow path)
- 3 A2 to A1 flow via check valve only
- 4 A2 to A1 flow via check valve and fully open control cross-section
- 5 P2 to P1
- 6 P1 to TB (3rd flow path)

**The characteristic curves for the pressure relief function are valid for the output pressure = zero over the entire flow range!**

**Unit dimensions** (dimensions in mm)



- 1 Name plate
- 2 Adjustment element "1"
- 3 Adjustment element "2"
- 4 Adjustment element "3"
- 5 Adjustment element "7"
- 6 Space required to remove the key
- 7 Valve fixing screw holes
- 8 Locknut 24A/F
- 9 Hexagon 10A/F
- 10 Same seal rings for ports A, B, P, TA and TB
- 11 Pressure gauge port G 1/4; 12 deep; internal hexagon 6A/F

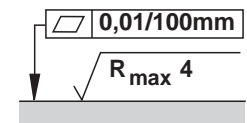
**Note:**

For X and Y ports  
(e. g. for NS 10 pilot operated directional valves)  
the special version code is **SO30!**

Valve fixing screws  
M6 DIN 912 - 10.9,  
Tightening torque  $M_A = 15.5 \text{ Nm}$ ,  
must be ordered separately.

Version	L1	L2	L3	L4	L5	L6	B1	B2	B3
"DA"	254	230	210	104	93	31.5	32.9	51	12
"DB" and "DP"	242	218	198	91	–	18.5	35	–	–

Pipe threads "G" to ISO 228/1



Required surface finish of mating piece

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