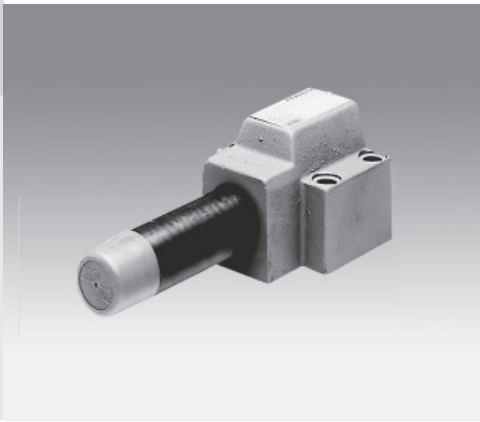
Rexroth
Bosch Group

Pressure sequence valve, direct operated

RA 26099/02.03 **1**/6
Replaces: 06.98

Models DZ 10 DP



Nominal size 10
Series 4X
Maximum operating pressure 210 bar (3050 PSI)
Maximum flow 80 L/min (21 GPM)

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Features

- For subplate mounting
- Mounts on standard ISO 5781-**06**, NFPA/ANSI **P 06** interface
- Four pressure stages
- Four adjustment elements:
  - Rotary knob
  - Set screw with hexagon and protective cap
  - Lockable rotary knob with scale
  - Rotary knob with scale
- With pressure gauge connection
- Check valve, optional

Ordering details

DZ 10 DP | –4X / | | | | | *

Direct operated
pressure sequence valve NS 10

Adjustment element
Rotary knob **= 1**
Set screw with hexagon and protective cap **= 2**
Lockable rotary knob with scale [1] **= 3**
Rotary knob with scale **= 7**

Series 40 to 49 **= 4X**
(40 to 49: unchanged installation and connection dimensions)

Max. sequence pressure 25 bar (365 PSI) **= 25**
Max. sequence pressure 75 bar (1090 PSI) **= 75**
Max. sequence pressure 150 bar (2175 PSI) **= 150**
Max. sequence pressure 210 bar (3050 PSI) **= 210**

[1] H-key with Material No. R900008158 is included within the scope of supply.

Further details in clear text

No code = NBR seals
V = FKM seals
(other seals on request)
⚠ **Attention!**
The compatibility of the seals and pressure fluid has to be taken into account!

No code = With check valve
M = Without check valve

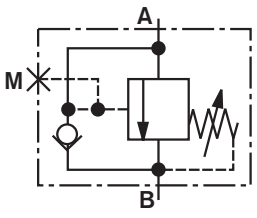
No code = Internal pilot oil supply, internal leakage oil drain
X = External pilot oil supply, internal leakage oil drain
Y = Internal pilot oil supply, external leakage oil drain
XY = External pilot oil supply, external leakage oil drain

Standard types

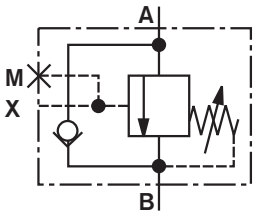
Type	Material number
DZ 10 DP2-4X/25Y	**R900503449**
DZ 10 DP2-4X/25YM	**R900512374**
DZ 10 DP2-4X/75Y	**R900503202**
DZ 10 DP2-4X/75YM	**R900500987**
DZ 10 DP2-4X/150Y	**R900503242**
DZ 10 DP2-4X/150YM	**R900505068**
DZ 10 DP2-4X/210Y	**R900599686**
DZ 10 DP2-4X/210YM	**R900517588**

Symbols

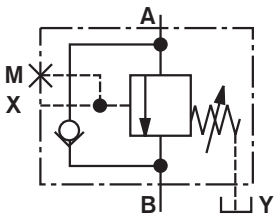
Version "–"



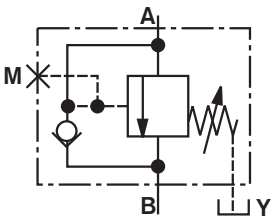
Version "X"



Version "XY"



Version "Y"



Functional description, cross-section

The valve type DZ 10 DP is a direct operated pressure sequence valve.

It is used for the pressure dependent connection of a second system.

The setting of the sequence pressure is via the adjustment element (1).

The compression spring (2) holds the control spool (3) in its initial position, the valve is closed. The pressure in port A is applied to the piston area of the control spool (3) via the control line (4) at the opposite side to the spring (2).

When the pressure reaches the set value of the spring (2), then the control spool (3) moves and the connection from A to B is opened. The system connected to port B is connected without a pressure decrease occuring in port A.

The control signal originates internally via the control line (4) from port A or externally via port X.

Depending on the use of the valve the leakage oil drain is externally via port Y or internally via B.

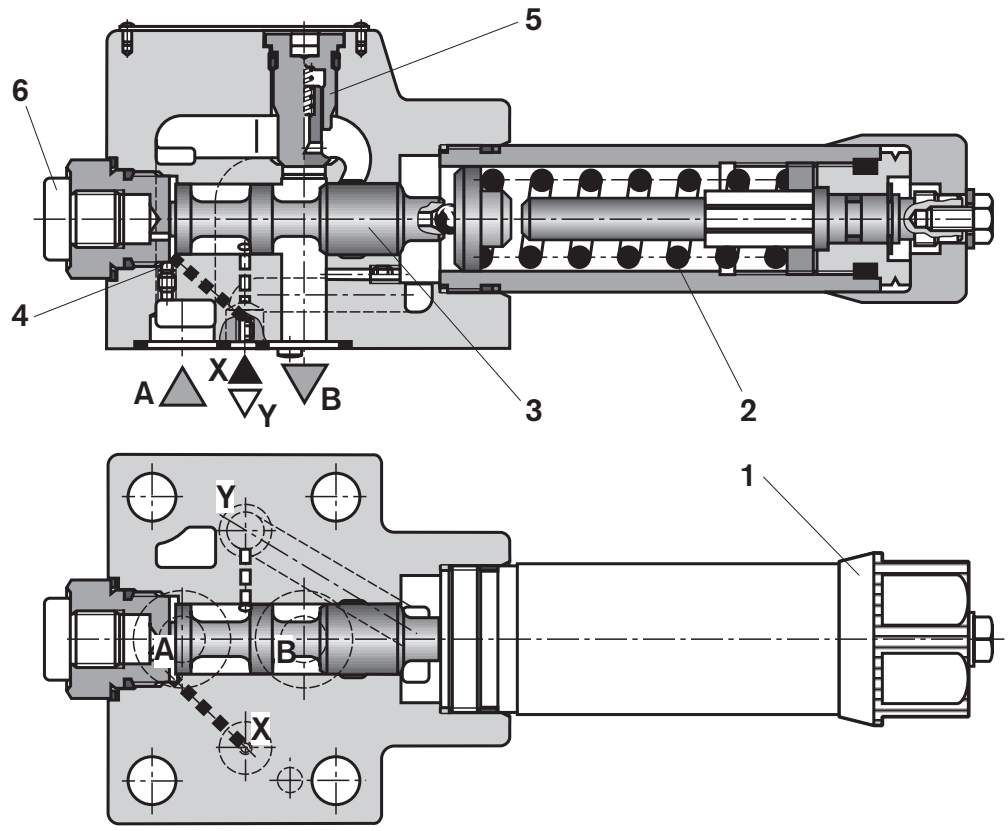
⚠ **Attention!**

With **internal** leakage oil drain the **set** opening pressure **increases** by the pressure present in port "B".

For the free return flow of the pressure fluid from port B to port A a check valve (5) may be optionally be installed.

A pressure gauge port (6) enables the monitoring of the sequence pressure set at the valve.

Type DZ 10 DP1-4X/...XY..



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

General

Installation		Optional
Ambient temperature range	°C (°F)	–30 to +80 (–22 to 176) (NBR seals)
		–20 to +80 (–4 to 176) (FKM seals)
Weight	kg (lbs)	Approx. 1.2 (2.6)

Hydraulic

Maximum operating pressure	Ports P, A, X	bar (PSI)	Up to 210 (3100)
	Port Y	bar (PSI)	Up to 160 (2300)
Maximum sequence pressure (adjustable)	Port B	bar (PSI)	Up to 25; up to 75; up to 150; up to 210 (360; 1100; 2100; 3100)
Maximum flow		L/min (GPM)	Up to 80 (21)
Pressure fluid			Mineral oil (HL, HLP) to DIN 51 524 [1]; Fast bio-degradable pressure fluids to VDMA 24 568 (also see RE 90 221); HETG (rape seed oil) [1]; HEPG (polyglycols) [2]; HEES (synthetic ester) [2]; other pressure fluids on request
Pressure fluid temperature range		°C (°F)	–30 to +80 (–22 to 176) (with NBR seals)
		°C (°F)	–20 to +80 (–4 to 176) (with FKM seals)
Viscosity range		mm^2/s (SUS)	10 to 800 (60 to 3710)
Cleanliness class to ISO codes			Maximum permissible degree of contamination of the pressure fluid is to ISO 4406 (C) class 20/18/15 [3]

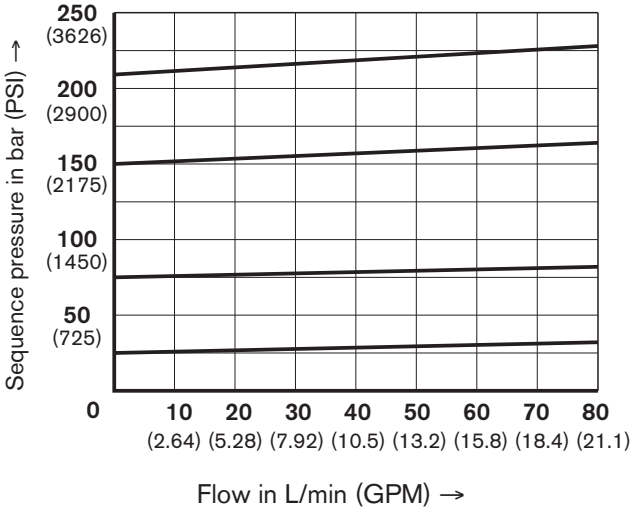
[1] Suitable for NBR **and** FKM seals

[2] **Only** suitable for FKM seals

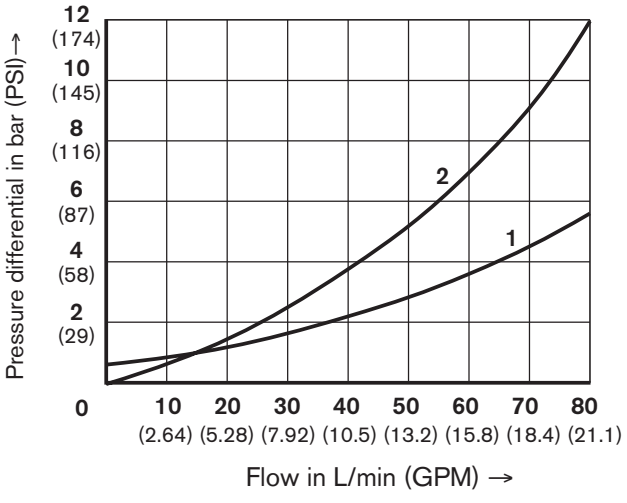
[3] **The cleanliness class stated for the components must be adhered to in hydraulic systems. Effective filtration prevents faults from occuring and at the same time increases the component service life.**
For the selection of filters see catalog sheets RE 50 070, RE 50 076 and RE 50 081.

Characteristic curves – measured with HLP46, $\vartheta_{oil} = 40\ °C \pm 5\ °C$ (104 °F ±41 °F)

p-q$_V$-characteristic curves



Δ*p-q*$_V$-characteristic curves

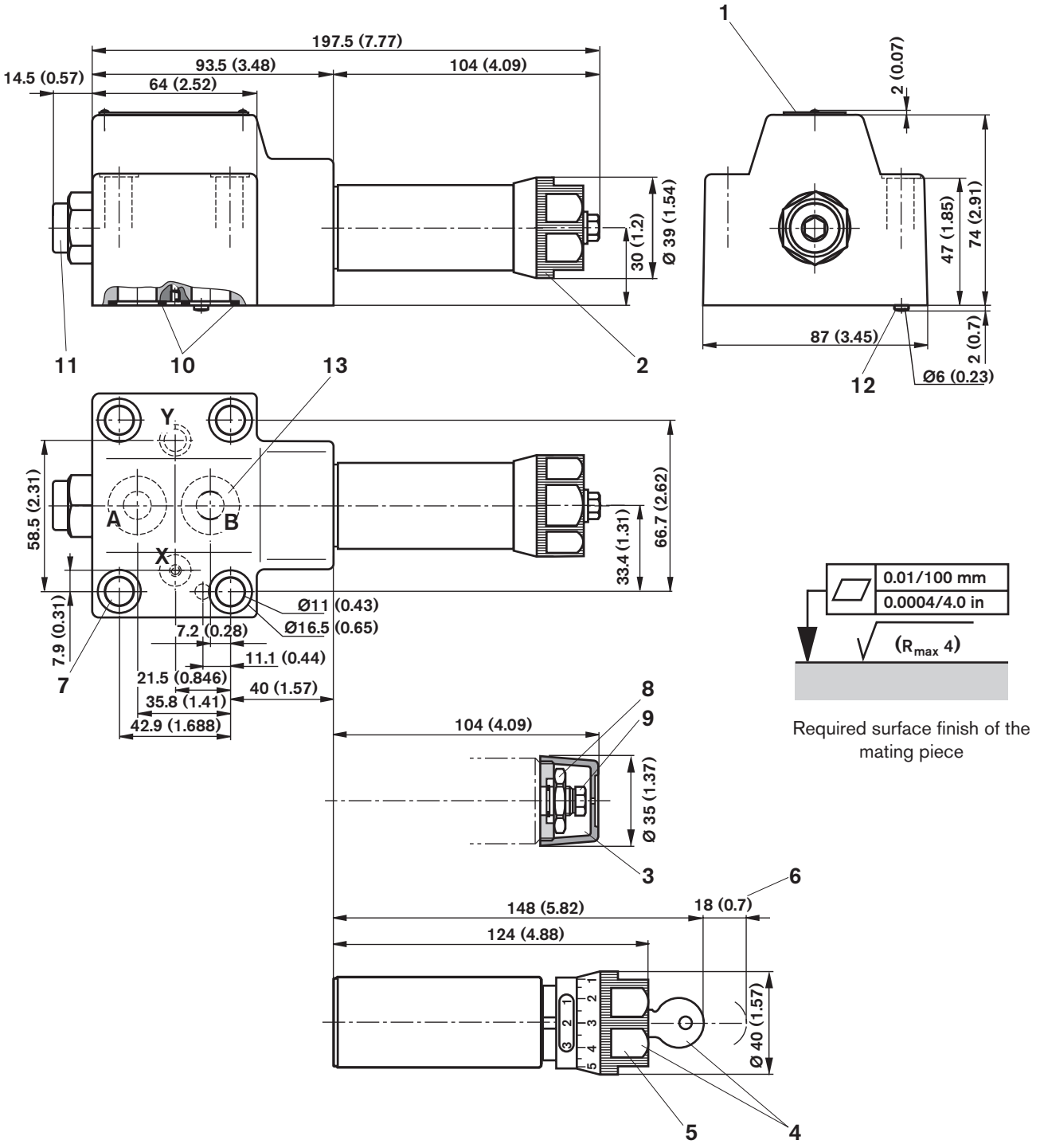


1 Δ*p*–*q*$_V$–characteristic curve via check valve, flow from B to A

2 Δ*p*–*q*$_V$–characteristic curve, flow from A to B

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

Unit dimensions – dimensions in millimeters (inches)



Required surface finish of the mating piece

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 holes
8 Locknut 24A/F
9 Hexagon 10A/F
10 Identical seal rings for ports A and B
Identical seal rings for ports X and Y
11 Pressure gauge connection G 1/4; 12 deep; internal hexagon 6A/F
12 Locating pin
13 Porting pattern to DIN 24 340, form D, ISO 5781 and CETOP–RP 121 H

Subplates:
G 460/01, G 3/8
G460/12 (SAE-6; 9/16-16)
G 461/01, G 1/2
G461/12 (SAE-8; 3/4-16)
to catalogue sheet RE 45 062 and
Valve fixing screws
M10 x 60 DIN 912 - 10.9
(3/8-16 UNC x 2-1/4")
Tightening torque $M_A = 75$ Nm
(51 lb-ft)
Must be ordered separately.

Notes

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