

2-way logic element, direct operated

RE 64586/05.08
Replaces: 02.07

1/8

Type MH2DAD (Standard Performance)

Size 3
Component series 1X
Maximum operating pressure 420 bar
Maximum flow 2.5 l/min



H4637

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Features

- As cartridge valve
- With pressure shut-off function for load-sensing pressure
- For threaded connection
- Mounting cavity R/MH2DAD
- Various pressure ranges, optional

Information on available spare parts:
www.boschrexroth.com/spc

Ordering code

MH2DAD

03

-1X/

*

2-way logic element,
direct operated

Size 3

As cartridge valve
For threaded connection

Component series 10 to 19
(10 to 19: unchanged installation and connection dimensions)

Pressure range
30 bar (on request)
100 bar
300 bar
420 bar

= 03

= K2
= G2

= 1X

= 030
= 100
= 300
= 420

Further details in clear text

No code =
02 =

Block installation
Threaded connection

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

M =
V =

No code =
-...¹⁾ =

Without pressure pre-setting
With pressure pre-setting

1) Example:
– pre-set to 50 bar: ...-50

Standard types

Type	Material number	Type	Material number
MH2DAD 03 K2-1X/100M	R900521594	MH2DAD 03 G2-1X/100M02	R900571284
MH2DAD 03 K2-1X/300M	R900882730	MH2DAD 03 G2-1X/300M02	R900979194
MH2DAD 03 K2-1X/420M	R900905541	MH2DAD 03 G2-1X/420M02	R900906304

Further standard types and components can be found in the EPS (standard price list).

Function, section, symbol

General

Logic elements with pressure shut-off function of type MH2DAD reduce the load-sensing pressure (in short: LS pressure) in proportion to an external pressure. As the pilot pressure increases, the LS pressure is proportionally reduced from $p_{\max}$ to zero.

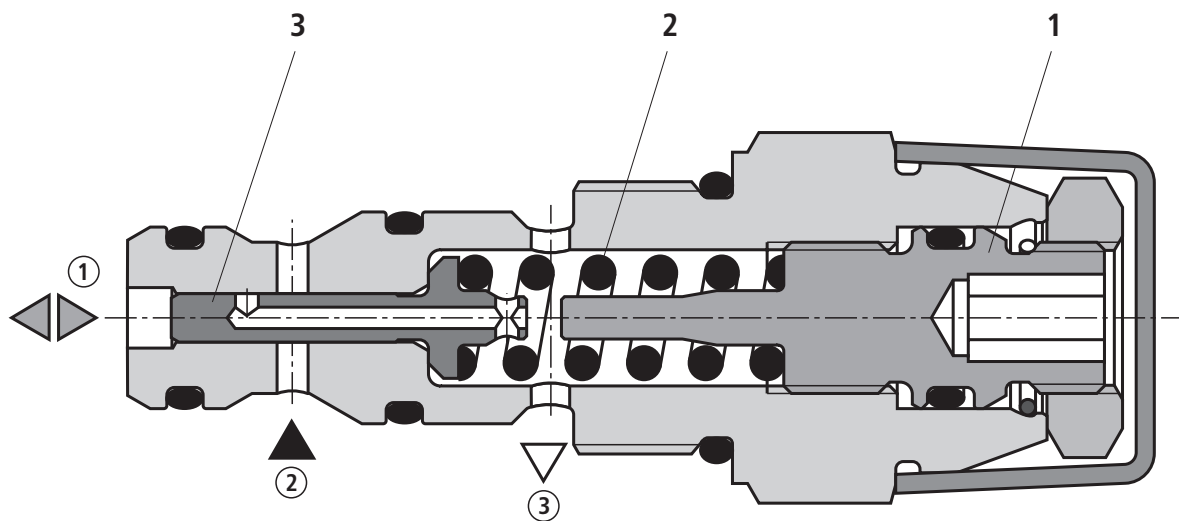
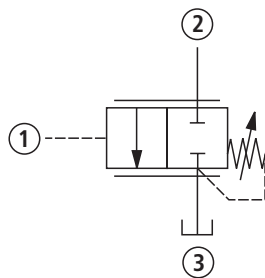
For the application of the valves, see circuit example on page 7.

The spring force is adjusted by means of the adjustment element (1) (for pressure adjustment, see page 4). The valves basically consist of adjustment element (1), control spring (2) and control spool (3).

Function

In the starting position, the valve is closed. When the pressure in main port ① (P_{st}) increases to the value set by means of adjustment element (1), control spool (3) opens the connection from main port ② (P) to main port ③ (T, Y). The pressure in port ② (P) is reduced in proportion to the pressure increase in main port ① (P_{st}).

Symbol



- ① = Main port 1 (P_{st})
- ② = Main port 2 (P)
- ③ = Main port 3 (T, Y)

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

Weight	– Cartridge valve	kg	0.1
	– Housing (without valve)	kg	0.6
Installation position			Optional
Ambient temperature range		°C	–20 to +80
Surface protection			The valves are not provided with surface protection. Surface protection must be ensured by painting the components or the entire assembly (e.g. valve with housing).

Hydraulic

Maximum operating pressure	– Main port ① (P_{st})	bar	420
	– Main port ② (P)	bar	350
	– Main port ③ (T, Y)	bar	50
Maximum pressure setting ¹⁾	– Version 030	bar	30
	– Version 100	bar	100
	– Version 300	bar	300
	– Version 420	bar	420
Maximaler Volumenstrom		l/min	2.5
Hydraulic fluid			Mineral oil (HL, HLP) to DIN 51524 ²⁾ ; fast bio-degradable hydraulic fluids to VDMA 24568 (see also RE 90221); HETG (rape-seed oil) ²⁾ ; HEPG (polyglycols) ³⁾ ; HEES (synthetic esters) ³⁾ ; other hydraulic fluids on enquiry
Hydraulic fluid temperature range		°C	–30 to +80 (NBR seals) –20 to +80 (FKM seals)
Viscosity range		mm ² /s	10 to 380
Permissible max. degree of contamination of the hydraulic fluid - cleanliness class to ISO 4406 (c)			Class 20/18/15 ⁴⁾
Load cycles			2 million

¹⁾ The pressure range must be selected so that the maximum spring force is greater than the maximum pilot pressure in port P_{st} .
(Example: Pilot pressure p_{st} 300 bar → pressure range 420 bar)

²⁾ Suitable for NBR and FKM seals

³⁾ Suitable only for FKM seals

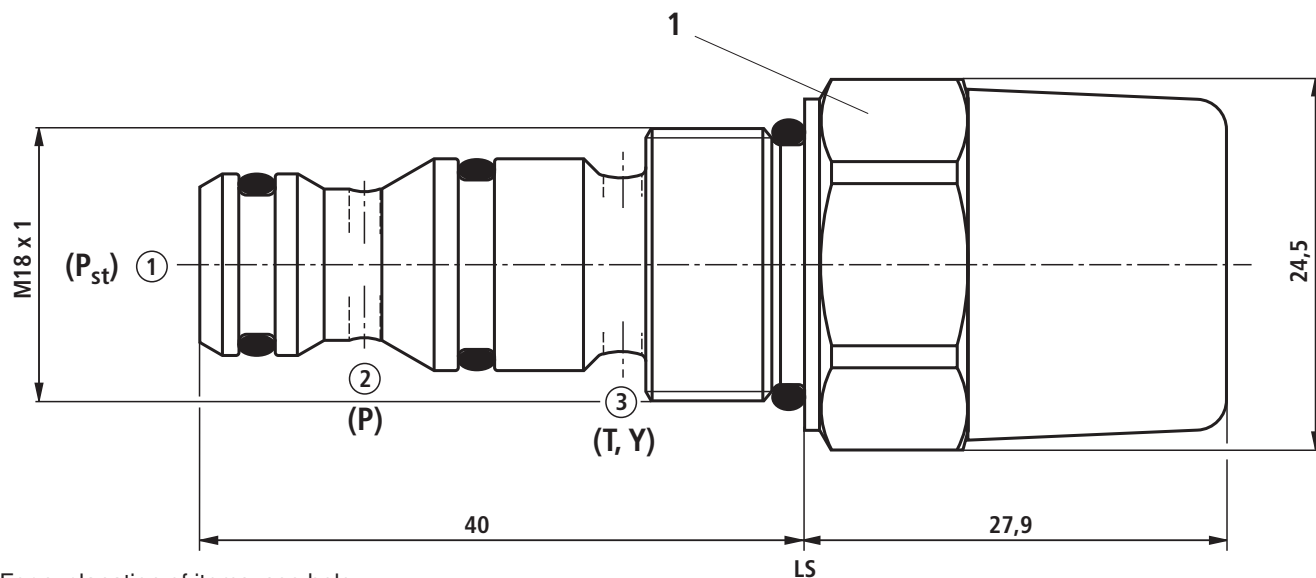
⁴⁾ The cleanliness class stated for the components must be adhered to in hydraulic systems. Effective filtration prevents faults from occurring and at the same time increases the component service life.

For the selection of filters see catalogue sheets RE 50070, RE 50076, RE 50081, RE 50086, RE 50087 and RE 50088.

Adjustment of the pressure setting

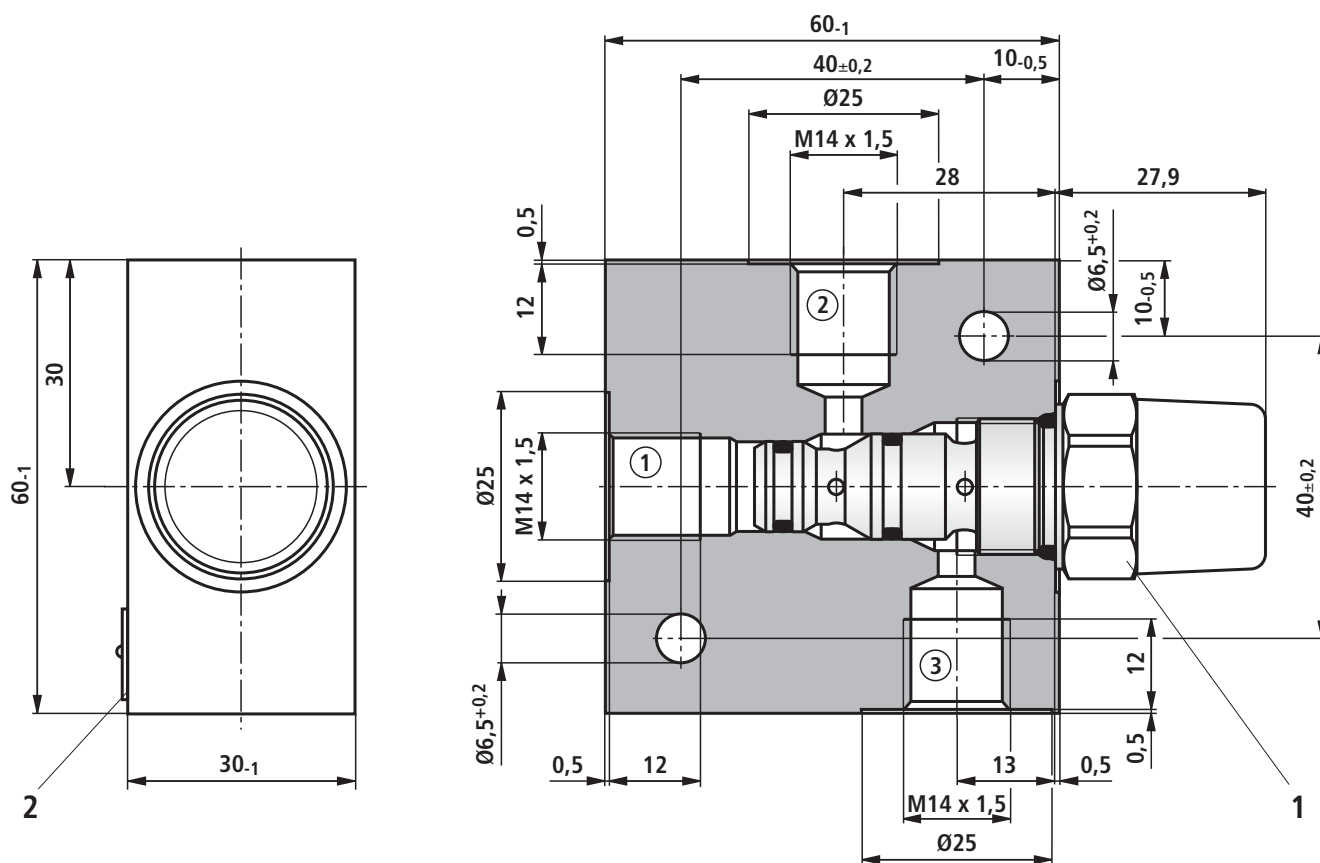
	bar/turns
Version 030	on request
Version 100	60
Version 300	160
Version 420	290

Unit dimensions: Cartridge valve (dimensions in mm)



For explanation of items, see below

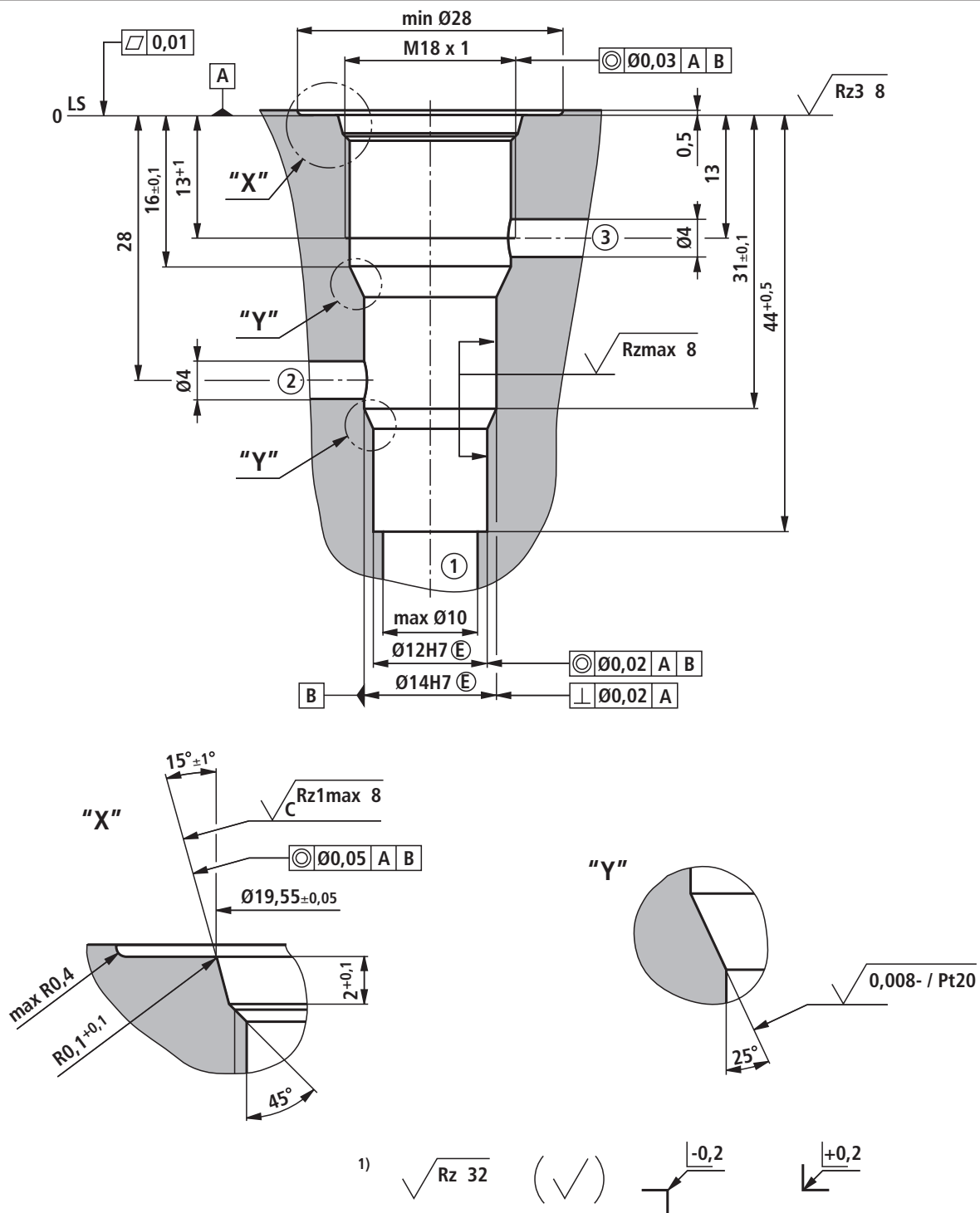
Unit dimensions: Threaded connection (dimensions in mm)



- 1 22 A/F, tightening torque $M_T = 60 \pm 10$ Nm
- 2 Nameplate

- ① = Main port 1 (P_{st})
- ② = Main port 2 (P)
- ③ = Main port 3 (T, Y)
- LS = Location shoulder

Mounting cavity R/MH2DAD.K; 3 main ports; thread M18 x 1 (dimensions in mm)



1) All seal ring insertion faces are rounded and free from burrs

Tolerance for all angles $\pm 0,5^\circ$

① = Main port 1 (P_{st})

② = Main port 2 (P)

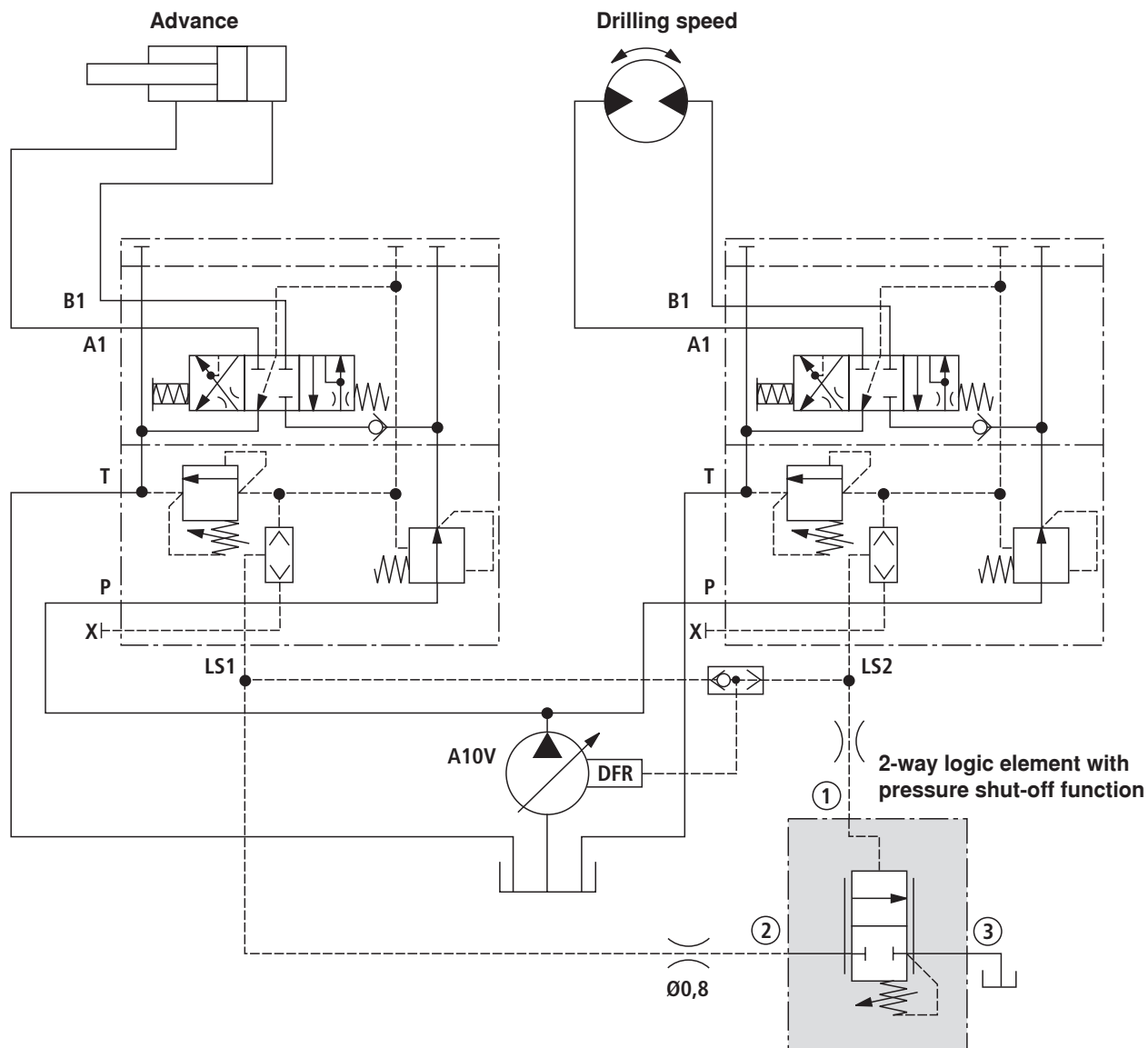
③ = Main port 3 (T, Y)

LS = Location shoulder

Circuit example

⚠ Attention!

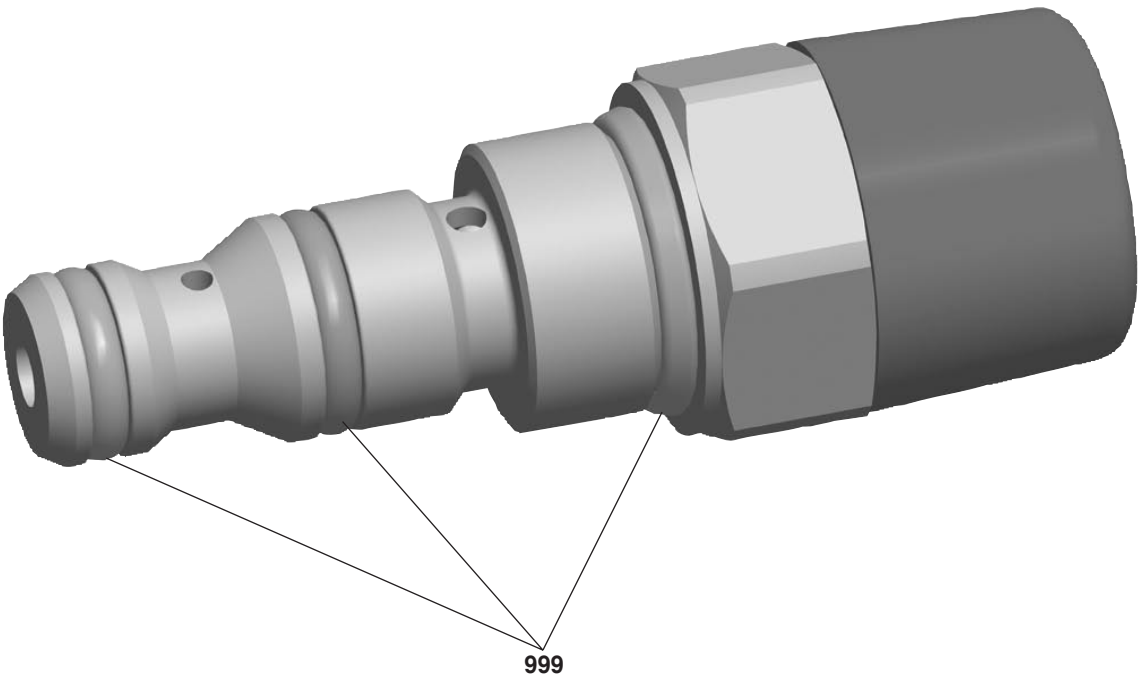
No system responsibility on the part of Bosch Rexroth can be derived from this circuit example!



- ① = Main port 1 (P_{st})
- ② = Main port 2 (P)
- ③ = Main port 3 (T, Y)

This circuit example is suitable for an automatic anti-jamming system of a drill rig. When the drill rod jams, the rotational pressure increases and valve type MH2DAD reduces (limits) the LS pressure of the advance valve accordingly and the flow via the 2-way pressure compensator.

Available individual components



Item	Designation	Material no.
999	DICHTUNGSSATZ R/MH2DAD.K1X/..	R961003368
	GEHAEUSE MH2DAD 03 G10/02 M14X1,5	R900826055