Rexroth
Bosch Group

3-way pressure reducing valve, pilot operated

RE 18111-02/06.05 1/6
Replaces: 04.05

Type KTV (High Performance)


H7320

Component size 1
Component series A
Maximum operating pressure 350 bar
Maximum flow 100 L/min

Table of contents

Features

- Mounting cavity R/KTV.1
- Available in 4 pressure stages (50, 100, 210 and 315 bar)
- Pressure reducing functions for a variety of applications
- Small system deviations in the p-qV characteristics

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

Ordering code

KTV	2		1	B	A / A		V	*

Further details in clear text

Pilot operated
3-way pressure reducing valve

Seal material
V = FKM seals
⚠ Caution!
Observe compatibility of seals with the hydraulic fluid used!

Type of adjustment [1]
Setscrew with hexagon and protective cap **= 2**

No code = Without pressure pre-setting
–… = With pressure pre-setting [2]
P… = With pressure pre-setting, sealed [2]

Pressure stage
50 bar **= C**
100 bar **= F**
210 bar **= L**
315 bar **= P**

A = High Performance and mounting cavity R/KTV.1 [3]

Component size **= 1**

A = Component series

Design principle
Spool valve **= B**

[1] Further adjustment types on enquiry

[2] Example:
– Preset to 50 bar: …/A**-50**V
– Preset to 50 bar and sealed: …/A**P50**V

[3] See page 5

Standard types

Pressure stage	Typ2	Material number
C	KTV2C1BA/AV	R900564047
F	KTV2F1BA/AV	R900564048

Pressure stage	Typ2	Material number
L	KTV2L1BA/AV	R900564049
P	KTV2P1BA/AV	R901077251

Function, section, symbol

General

Pilot operated 3-way pressure reducing valves of type KTV are used to reduce a system pressure. The secondary pressure is set by means of the adjustment element.

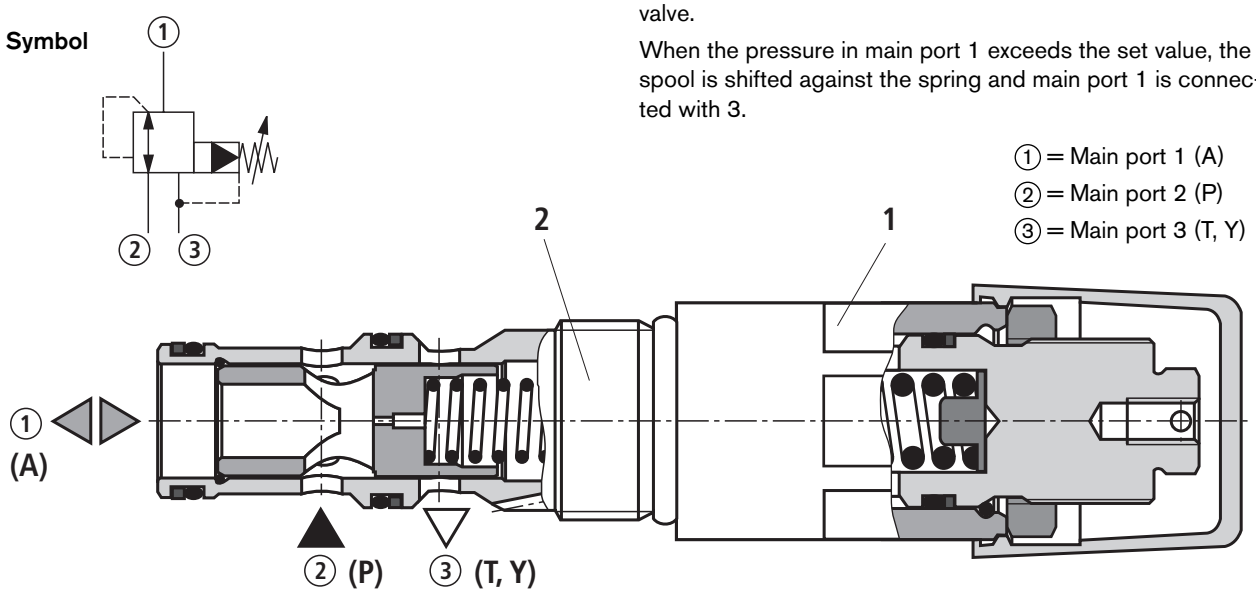
The valves basically consist of a pilot control valve with adjustment element (1) and a main valve (2).

Function

The valve is open in its initial position. Hydraulic fluid flows from main port 2 to 1. When the pressure in main port 1 increases to the value set by means of the adjustment element, the closing element closes the connection from 2 to 1. A further increase in the system pressure (main port 2) has no influence on the pressure in main port 1 (pressure holding function). Pressure losses in main port 1 (actuator) are balanced by the valve.

When the pressure in main port 1 exceeds the set value, the spool is shifted against the spring and main port 1 is connected with 3.

Symbol



① = Main port 1 (A)
② = Main port 2 (P)
③ = Main port 3 (T, Y)

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

General			
Weight		kg	0.3
Installation orientation			Optional
Ambient temperature range		°C	– 20 to +80

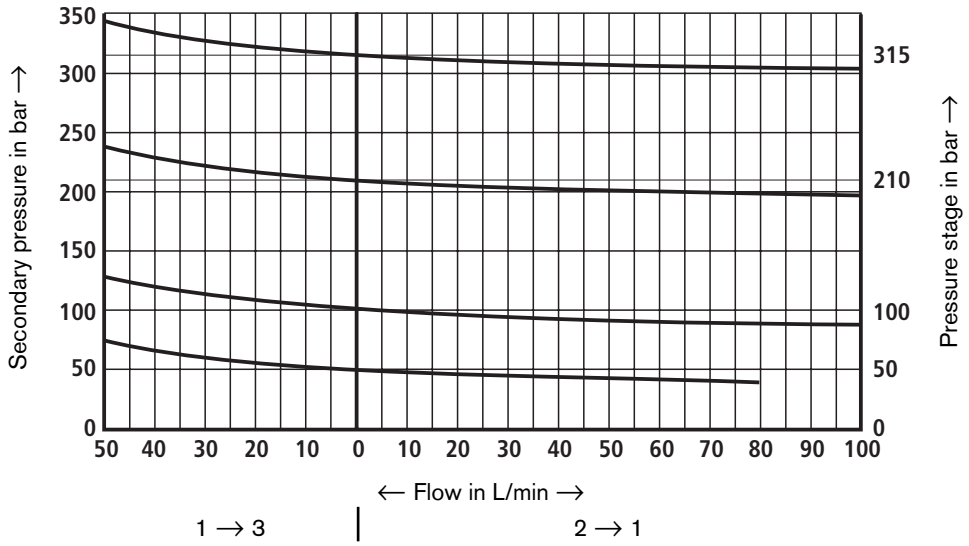
Hydraulic			
Maximum operating pressure	– Main port 2 (P)	bar	350
	– Main port 1 (A)	bar	315
	– Main port 3 (T, Y)	bar	315
Max. set pressure [1] (main port 1)	– Version „C“	bar	50
	– Version „F“	bar	100
	– Version „L“	bar	210
	– Version „P“	bar	315
Maximum flow		L/min	100
Hydraulic fluid			Mineral oil (HL, HLP) to DIN 51524 [1]; fast bio-degradable hydraulic fluids to VDMA 24568 (see also RE 90221); HETG (rape-seed oil) [1]; HEPG (polyglycols) [2]; HEES (synthetic esters) [2]; other hydraulic fluids on enquiry
Hydraulic fluid temperature range		°C	– 20 to + 80
Viscosity range		mm^2/s	10 to 800
Max. permissible degree of contamination of the hydraulic fluid - cleanliness class to ISO 4406 (c)			Class 20/18/15 [2]
Load cycles			10 million

[1] Reduced pressure can be unloaded to $p = 6$ bar.

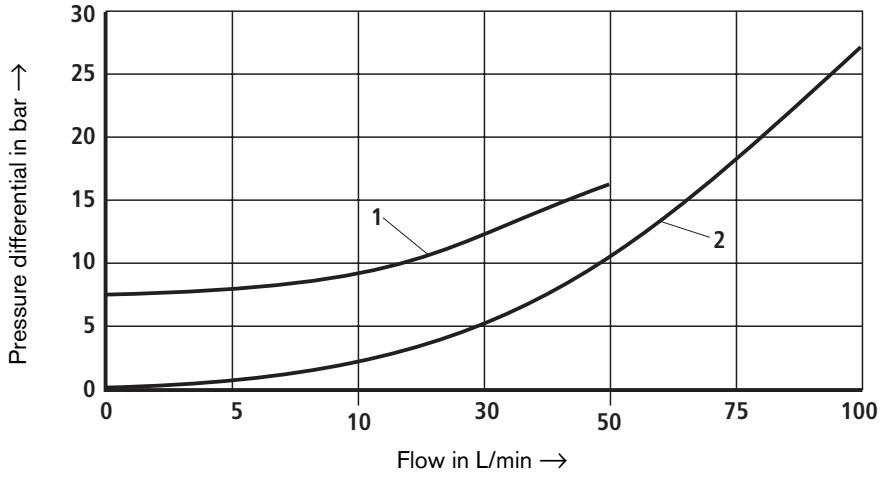
[2] The cleanliness classes specified for components must be adhered to in hydraulic systems. Effective filtration prevents malfunction and, at the same time, increases the service life of components.
For the selection of filters, see data sheets RE 50070, RE 50076, RE 50081, RE 50086 and RE 50088.

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

p_A-q_V characteristic curves

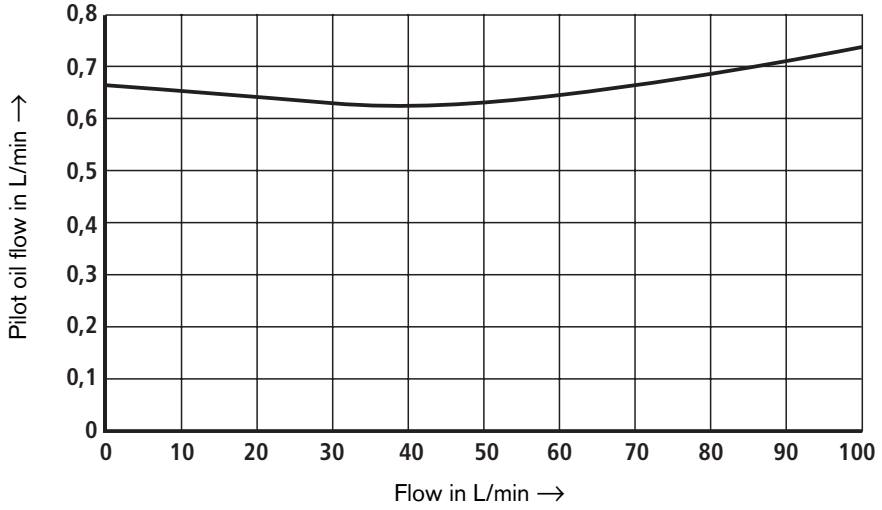


Flow resistance
Δp-q_V characteristic curves

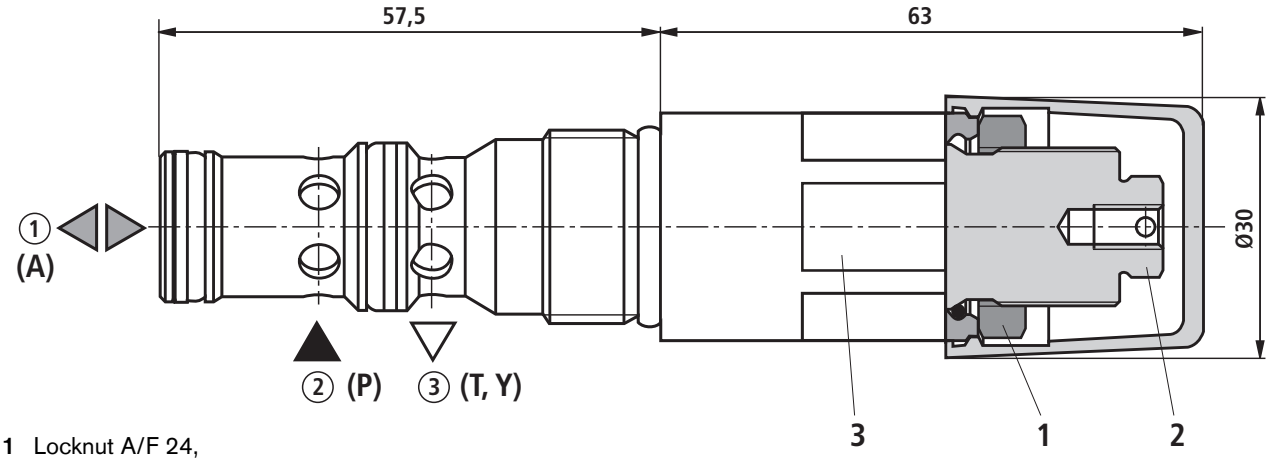


1	1 → 3
2	2 → 1

Pilot oil flow
$q_{V\,St}$-q_V characteristic curves at $\Delta p \leq 350$ bar



Unit dimensions (nominal dimensions in mm)

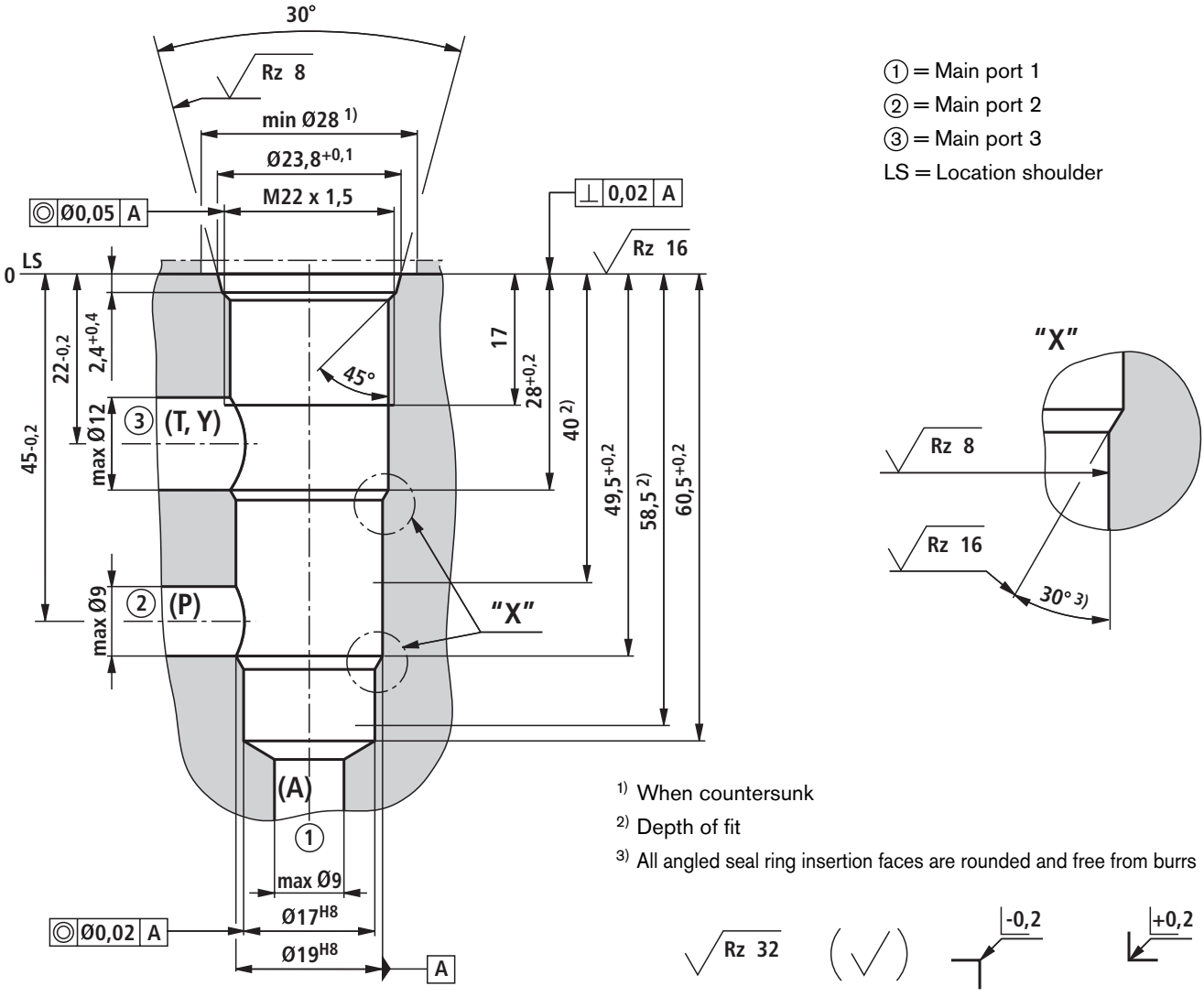


1 Locknut A/F 24,
tightening torque $M_T = 30 \pm 5$ Nm

2 Hexagon A/F 10

3 Hexagon A/F 24,
tightening torque $M_T = 50 \pm 5$ Nm

Mounting cavity R/KTV.1: 3 main ports, thread M22 x 1.5 (nominal dimensions in mm)

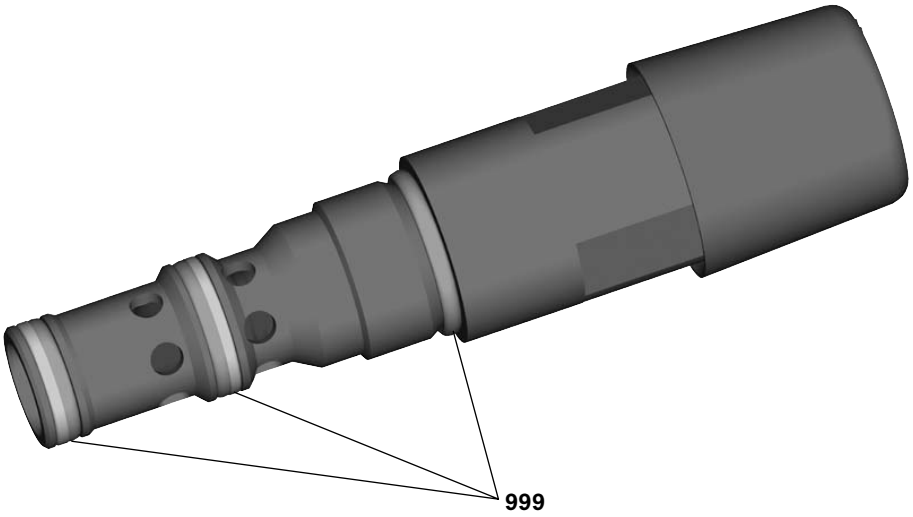


1) When countersunk

2) Depth of fit

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

Available individual components



Item	Designation	Material no.
999	Valve seal kit	R961000701

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