

RE 21 460/06.02

Replaces: 10.95

**Check valve;
hydraulically pilot operated
Types SV and SL**

Nominal size 6

Series 6X

Maximum operating pressure 315 bar

Maximum flow 60 L/min



HAD 6090/98

Type SL 6 PB1-6X...

Overview of contents

Contents	Page
Features	1
Ordering details, preferred types	1
Symbols, function, section	2
Technical data	3
Characteristic curves	3
Unit dimensions	4

Features

- For subplate mounting, porting pattern to ISO 4401 and CETOP – RP 121 H, **with** locating pin hole; Subplates to catalogue sheet RE 45 052 (separate order), see page 4
- With or without drain port
- 4 opening pressures, optional

Ordering details

	S	6	P	B	6X	*
Without drain port	= V					
With drain port	= L					
Nominal size 6		= 6				
For subplate mounting			= P			
Without decompression feature				= B		
Opening pressure						
See Δp - q_V -characteristic curves						= 1
A to B						= 2
						= 3
						= 4
						6X =
						No code =
						V =
						Further details in clear text
						NBR seals
						FKM seals
						(other seals on request)
						⚠ Attention!
						The compatibility of the seals and pressure fluid has to be taken into account!
						Series 60 to 69
						(60 to 69: unchanged installation and connection dimensions)

Preferred types (readily available)

Type	Material No.
SL 6 PB1-6X/	00491117
SV 6 PB1-6X/	00494086

Preferred types and standard components are highlighted in the RPS (Standard Price list).

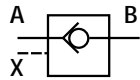
© 2002
by Bosch Rexroth AG, Industrial Hydraulics, D-97813 Lohr am Main

All rights reserved. No part of this document may be reproduced or stored, processed, duplicated or circulated using electronic systems, in any form or by any means, without the prior written authorisation of Bosch Rexroth AG. In the event of contravention of the above provisions, the contravening party is obliged to pay compensation.

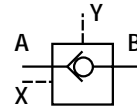
This document was prepared with the greatest of care, and all statements have been examined for correctness. This document is subject to alterations for reason of the continuing further developments of products. No liability can be accepted for any incorrect or incomplete statements.

Symbols

Version SV



Version SL (with drain port)



Function, section

The SV and SL valves are hydraulic pilot operated check valves of poppet type design which may be opened to permit flow in the reverse direction.

These valves are used for the isolation of operating circuits which are under pressure, i.e. as a safe guard against the lowering of a load when a line break occurs or against creeping movements of hydraulically locked actuators.

The valve basically comprises of the housing (1), the poppet (2), a compression spring (3) and the control spool (4).

Type SV... (without drain port)

The valve permits free-flow from A to B. In the reverse direction the poppet (2) is held firmly on to its seat in addition to the spring force by the system pressure.

By applying pressure to pilot connection X, the control spool (4) is moved to the right. This lifts poppet (2) off its seat, now the valve also permits free-flow from B to A.

In order to ensure that the valve opens due to pressure applied to the pilot piston (4), a certain minimum pilot pressure is required, (see page 3)

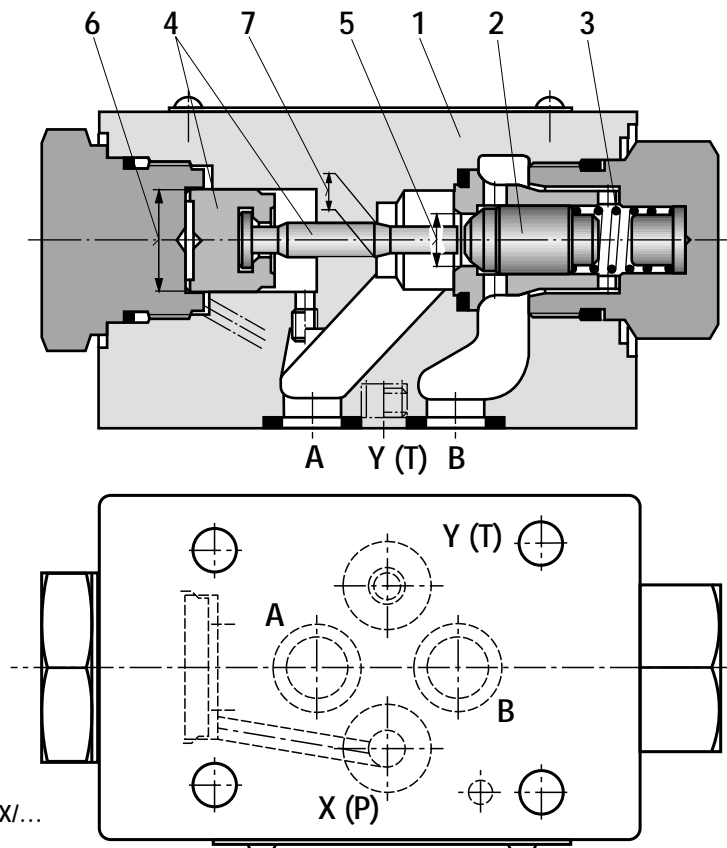
The drain port Y is plugged.

Type SL... (with drain port)

In principle, the function of this valve corresponds to that of the type SV.

The difference lies in the additional drain port Y. Here, the annular area of the control spool (4) is separated from the port A. Pressure present in port A acts only on area A_3 (7) of the control spool (4).

- 5 Area A_1
- 6 Area A_2
- 7 Area A_3



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

General

Installation		Optional
Ambient temperature range	°C	- 30 ... + 80 (NBR seals)
	°C	- 20 ... + 80 (FKM seals)
Weight	kg	Approx. 0.8

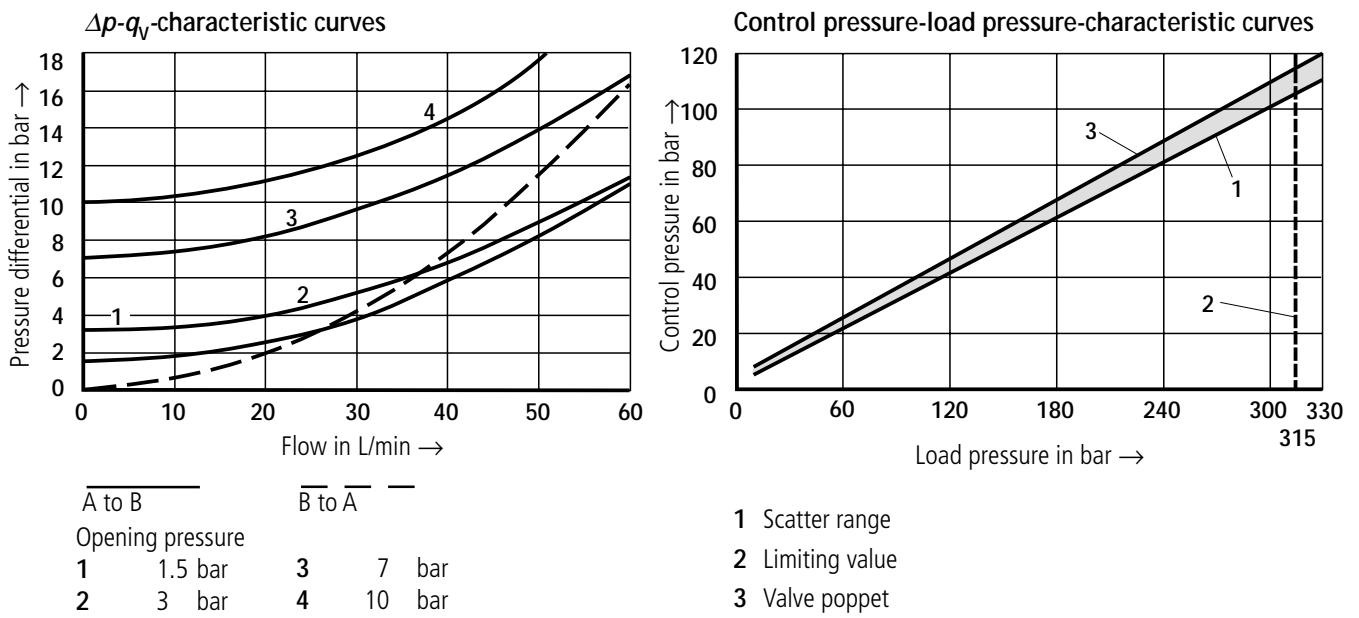
Hydraulic

Maximum operating pressure	bar	315	
Maximum flow	L/min	60	
Direction of flow		Free-flow from A to B, from B to A when pilot operated	
Control pressure	bar	5 to 315	
Control volume	Port X	cm ³	0.68
	Port Y (only type SL)	cm ³	0.58
Control areas (areas according to sectional drawing, see page 2)	Area A ₁	cm ²	0.42
	Area A ₂	cm ²	1.33
	Area A ₃	cm ²	0.19
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	- 30 ... + 80 (NBR seals)	
	°C	- 20 ... + 80 (FKM seals)	
Viscosity range	mm ² /s	2.8 ... 500	
Degree of contamination		Maximum permissible degree of contamination of the pressure fluid is to NAS 1638 class 9. We therefore recommend a filter with a minimum retention rate of $\beta_{10} \geq 75$.	

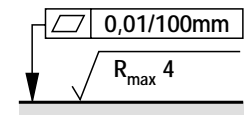
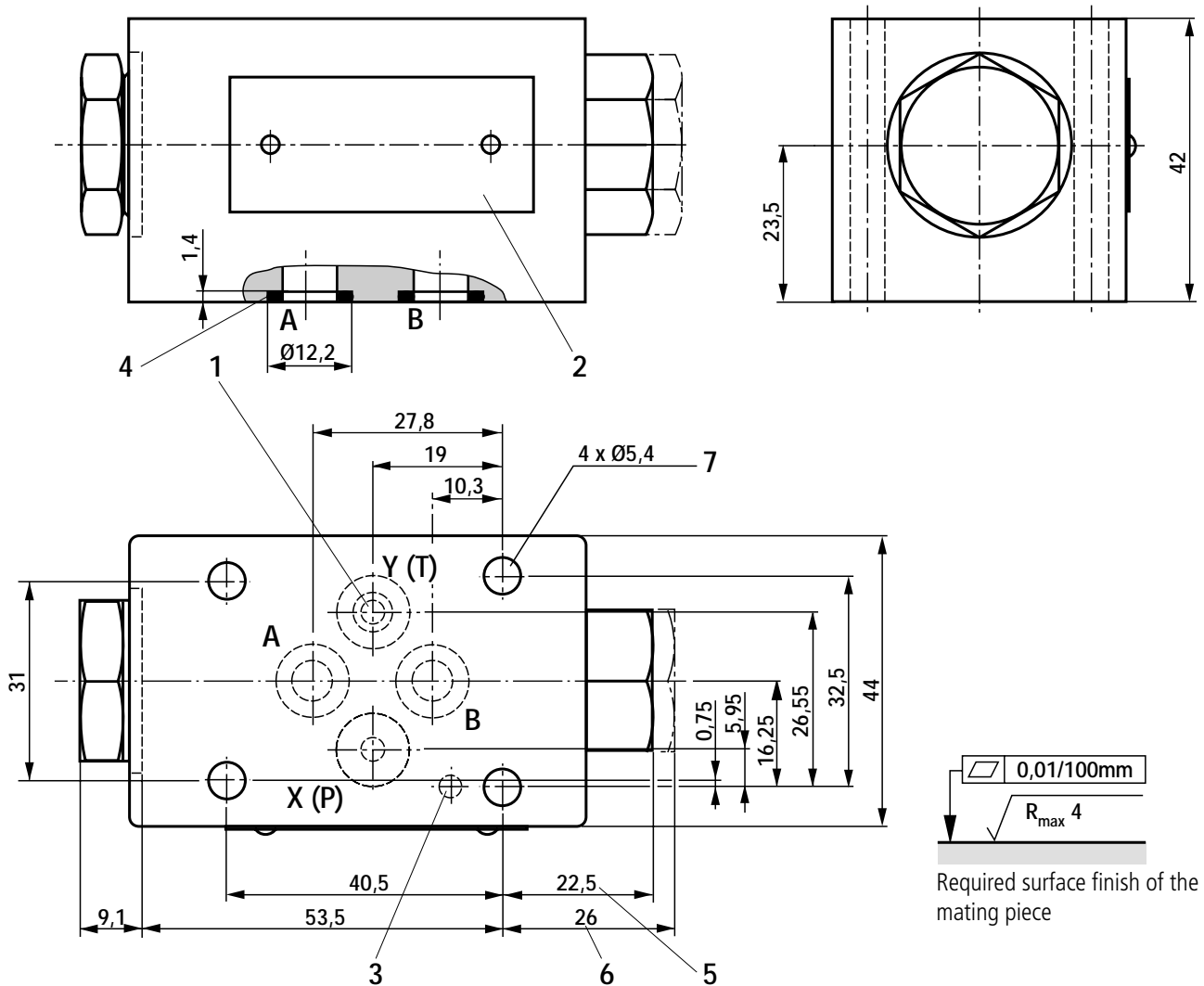
¹⁾ Suitable for NBR **and** FKM seals

²⁾ **Only** suitable for FKM seals

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



Unit dimensions (dimensions in mm)



Required surface finish of the mating piece

- 1 Port Y with valve type "SL" (with valve type "SV" this port is plugged)
- 2 Name plate
- 3 Locating pin hole 3 x 8 DIN EN ISO 8752 Material No. 00005694 (separate order)
- 4 Same seal rings for ports A, B, X, Y
- 5 Dimension for valve with opening pressure types "1", "2", "3"
- 6 Dimension for valve with opening pressure type "4"
- 7 Through-hole for valve fixing screws

Subplates

- G 341/01 (G 1/4)
- G 342/01 (G 3/8)
- G 502/01 (G 1/2)

Subplates to catalogue sheet RE 45 052 and

Valve fixing screws

M5 x 50 DIN 912-10.9; $M_A = 8.9 \text{ Nm}$ must be ordered separately.

Bosch Rexroth AG Industrial Hydraulics

D-97813 Lohr am Main
Zum Eisengießer 1 • D-97816 Lohr am Main
Telefon 0 93 52 / 18-0
Telefax 0 93 52 / 18-23 58 • Telex 6 89 418-0
eMail documentation@boschrexroth.de
Internet www.boschrexroth.de

Bosch Rexroth Limited

Cromwell Road, St Neots,
Cambs, PE19 2ES
Tel: 0 14 80/22 32 56
Fax: 0 14 80/21 90 52
E-mail: info@boschrexroth.co.uk

The data specified above only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. It must be remembered that our products are subject to a natural process of wear and ageing.