Pressure relief valve, direct operated

RE 25710-D/06.14 1/6
Replaces: 05.09

Type DBD...SO156


H7682

Size 4
Component series 1X
Maximum operating pressure 420 bar
Maximum flow 20 l/min

Table of contents

Features

- Screw-in cartridge
- It is used in applications with particularly high leak-tightness requirements
- Leakage-proof up to a maximum of 80% of the set opening pressure
- 2 adjustment types, optionally:
  - setscrew with internal hexagon
  - hand wheel

Ordering code

DBD		4	K	1X/			V	SO156	*

Pressure relief valve, direct operated **= DBD**

Adjustment type
Headless setscrew with internal hexagon **= S**
Hand wheel **= H**

Size 4 **= 4**

Screw-in cartridge **= K**

Component series 10 to 19 (10 to 19: unchanged installation and connection dimensions) **= 1X**

Pressure rating
Set pressure up to 50 bar **= 50**
Set pressure up to 100 bar **= 100**
Set pressure up to 200 bar **= 200**
Set pressure up to 315 bar **= 315**
Set pressure up to 420 bar **= 420**

– = set to cracking pressure
P = set and sealed to cracking pressure

Cracking pressure
e.g. 090 = Cracking pressure 90 +5 bar

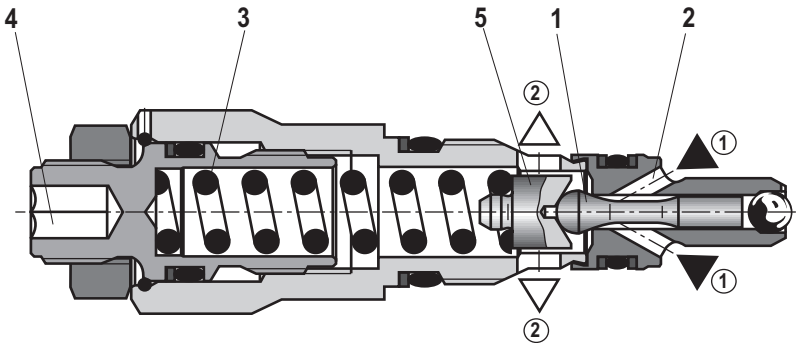
Seal material
V = FKM seals
Observe compatibility of seals with hydraulic fluid used! (Other seals upon request)

Further details in the plain text

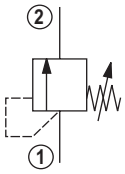
Function, section, symbol

The pressure valve type DBD...SO156 is a direct operated pressure relief valve for the installation in block designs. It is used in applications with particularly high leak-tightness requirements for limiting a system pressure. The system pressure can be set via the adjustment type (4).

In the initial position the valve is closed. The pressure in the main port ① acts on the spring plate (5) via the control line (2) and poppet (1). If the pressure in the main port ① exceeds the value set at the compression spring (3), the poppet (1) opens and hydraulic fluid flows into the main port ②.



Symbol



① = Main port 1 (P)
② = Main port 2 (T)

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

General

Weight	kg	approx. 0.05
Installation position		any
Ambient temperature range	°C	-20 … +80

Hydraulic

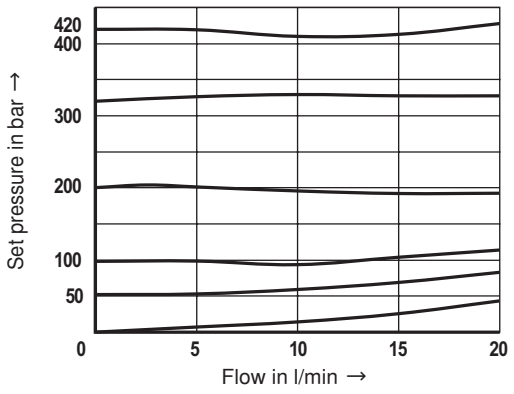
Maximum operating pressure	bar	420
Maximum flow	l/min	20
Hydraulic fluid		Mineral oil (HL, HLP) according to DIN 51524; fast biodegradable hydraulic fluids according to VDMA 24568 (see also RE 90221); HETG (rape seed oil); HEPG (polyglycols); HEES (synthetic esters), other hydraulic fluids on request
Hydraulic fluid temperature range	°C	-20 … +80
Viscosity range	mm^2/s	20 … 200
Maximum admissible degree of contamination of the hydraulic fluid cleanliness class according to ISO 4406 (c)		Class 20/18/15 [1]

[1] The cleanliness classes stated for the components need to be maintained in hydraulic systems. Effective filtration prevents faults and at the same time increases the life cycle of the components.

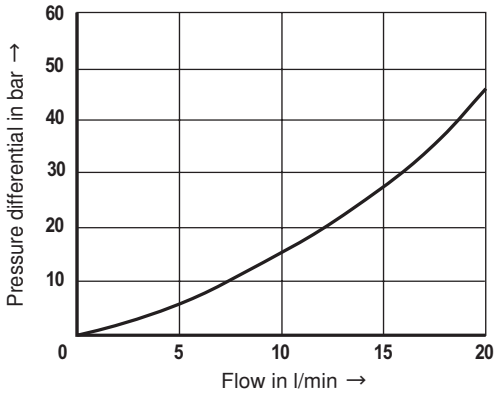
For the selection of the filters see www.boschrexroth.com/filter

Characteristic curves (measured with HLP46, ϑ_{oil} = 40 ±5 °C)

p_E-q_V-characteristic curves



Δp-q_V-characteristic curve

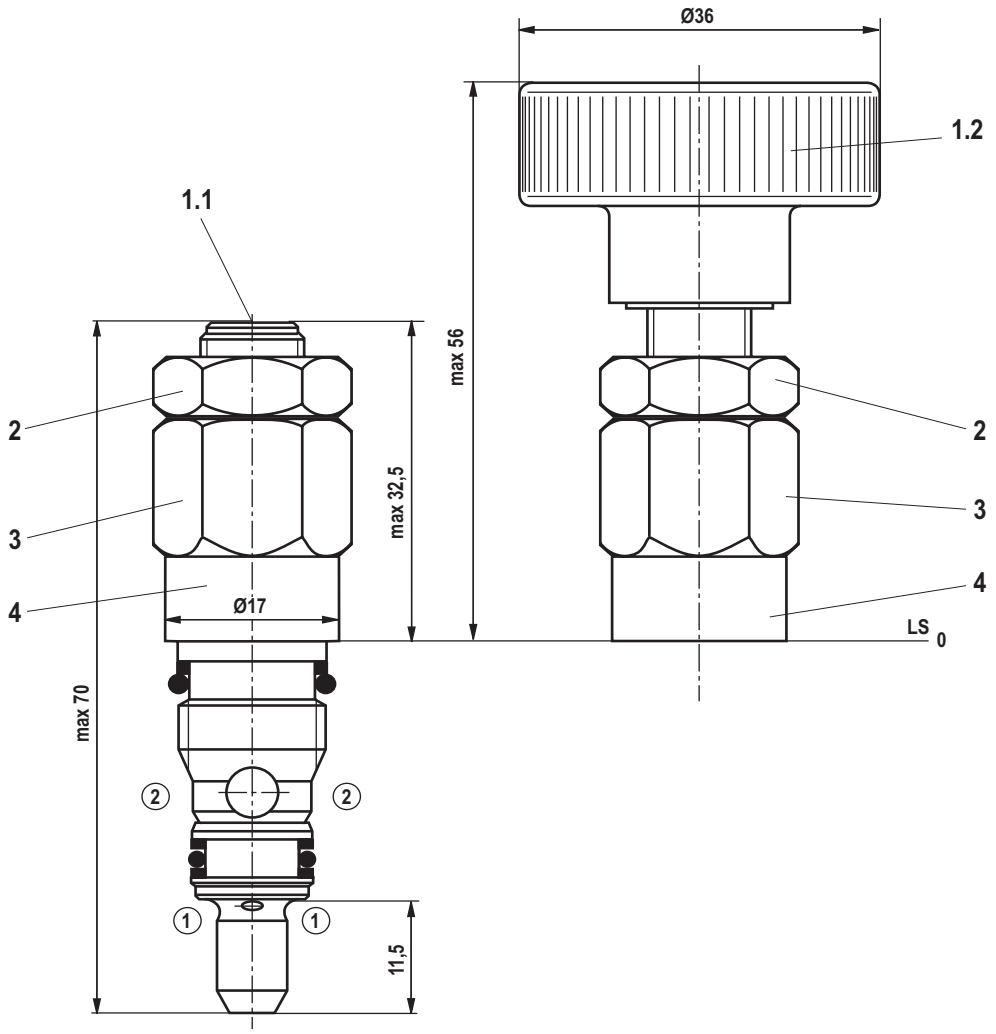


The characteristic curves apply to output pressure = 0 in the total flow range!

Definition cracking pressure:

Pressure in bar at q_V =0.95 +0.05 l/min

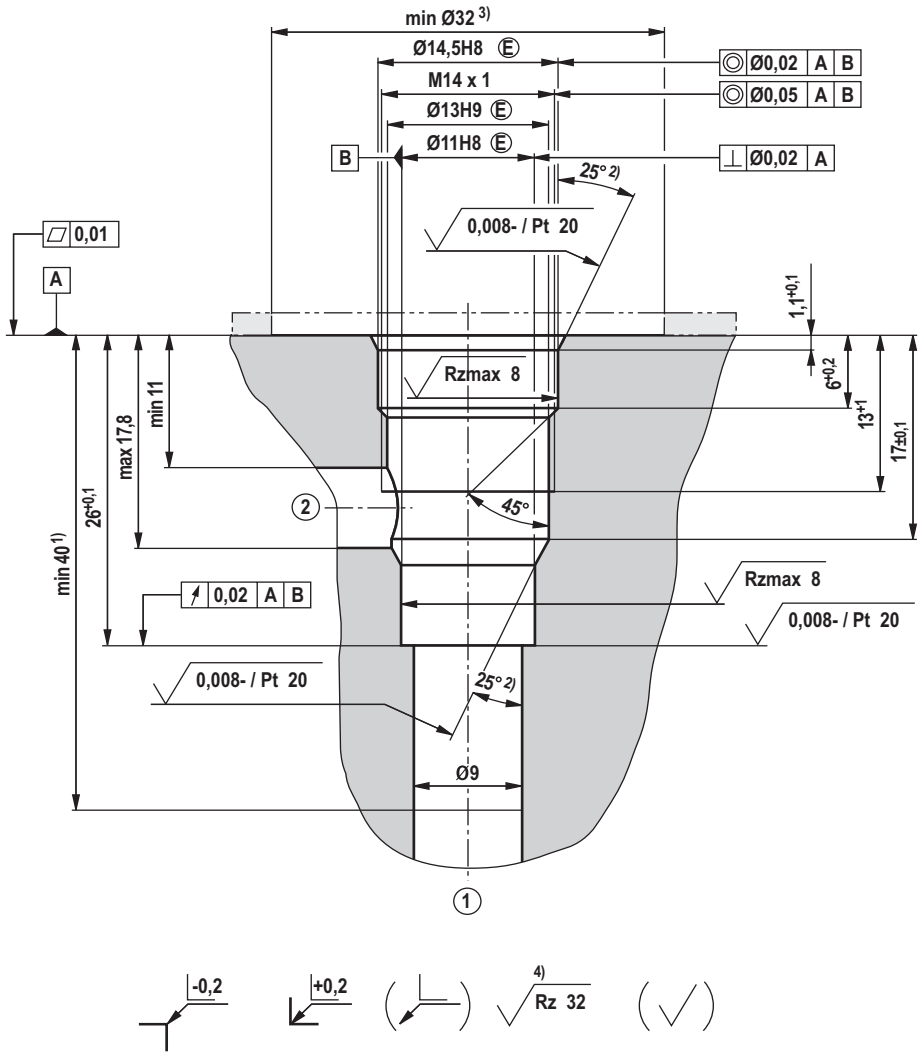
Unit dimensions (dimensions in mm)



1.1 Adjustment type "S", internal hexagon SW5
1.2 Adjustment type "H", hand wheel
2 Lock nut SW17
3 Hexagon SW17, tightening torque when screwing in M_A =23±2 Nm
4 Impressed type designation

① = Main port 1 (P)
② = Main port 2 (T)
LS = Location shoulder

Mounting cavity R/DBD . 4K; 2 main ports, thread M14 x 1
(dimensions in mm)



① = Main port 1 (P)
② = Main port 2 (T), optionally arrange at the circumference
LS = Location shoulder
Tolerance for all angles ±0.5°

1) Depth for moving parts
2) All seal ring insertion faces are rounded and free of burrs
3) With countersink
4) Visual inspection

Standards:

Workpiece edges	DIN ISO 13715
Form and position tolerance	DIN EN ISO 1101
General tolerance for metal-cutting procedures	DIN ISO 2768-mK
Tolerance	DIN ISO 8015
Surface condition	DIN EN ISO 1302