up to 100 l/min
up to 350 bar

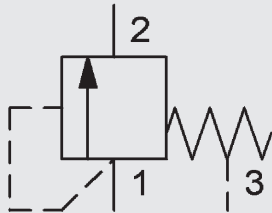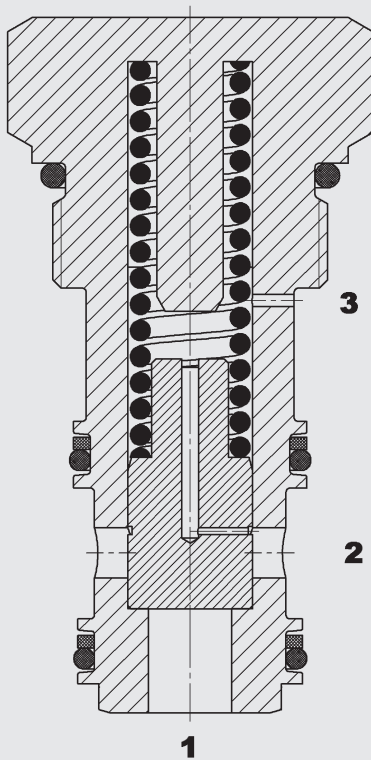## Pressure Relief Valve spool Type, direct-acting with spring chamber venting Metric Cartridge – 350 bar
DB16621E-10
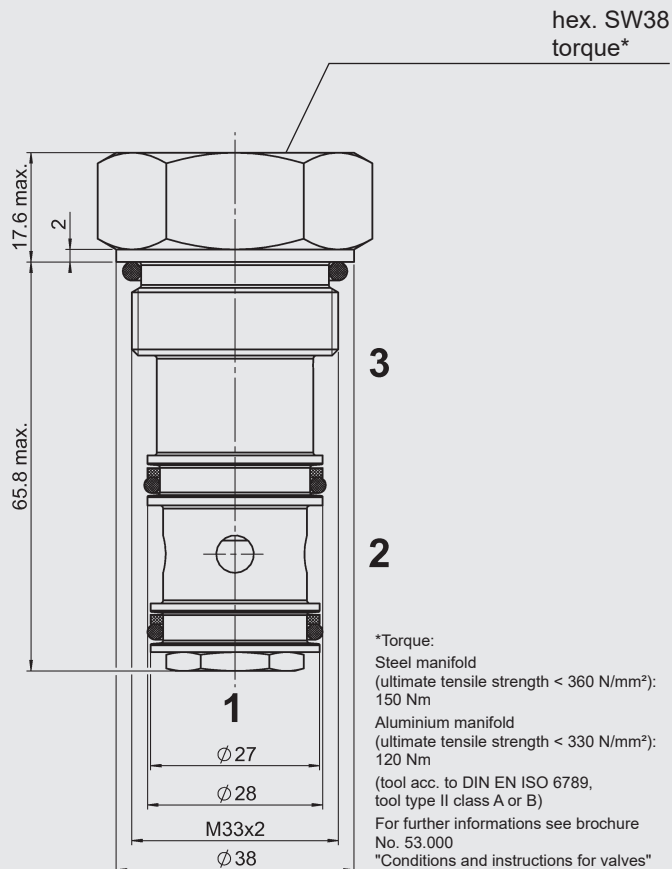
ISO

FUNCTION

FEATURES

- Pressure relief function with external venting of spring chamber
- Good, flat curve characteristics throughout the flow range
- Can also be used as a logic element or unloader valve
- Spool orifice available as an option
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1.000 h Salt spray test)

The pressure relief valve is a direct-acting, spool type valve with additional spring-chamber venting. When the pressure at port 1 exceeds the pre-set value, the spool opens and oil flows from port 1 to tank port 2. The additional spring chamber venting at port 3 to tank ensures that the valve is independent of pressures at port 2.

SPECIFICATIONS*

Operating pressure:	max. 350 bar	
Spring force:	max. 16 bar	
Nominal flow:	max. 100 l/min	
Media operating temperature range:	min. -20 °C to max. +120 °C	
Ambient temperature range:	min. -20 °C to max. +120 °C	
Operating fluid:	Hydraulic oil to DIN 51524 part 1, 2 and 3	
Viscosity range:	min. 7.4 mm²/s to max. 420 mm²/s	
Filtration:	Class 21/19/16 according to ISO 4406 or cleaner	
MTTF$_d$:	150 - 1200 years, according to DIN EN ISO 13849-1	
Installation:	No orientation restrictions, preferably horizontal	
Materials:	Valve body:	high tensile steel
	Spool:	hardened steel
	Seals:	FKM (standard) NBR (optional, media temperature range -30 °C to +100 °C)
	Back-up rings:	PTFE
Cavity:	16621	
Weight:	0.386 kg	

* see "Conditions and instructions for valves" in brochure 5.300

DIMENSIONS

hex. SW38
torque*

17.6 max.

2

65.8 max.

3

2

1

⌀ 27

⌀ 28

M33x2

⌀ 38

*Torque:
Steel manifold
(ultimate tensile strength < 360 N/mm²):
150 Nm
Aluminium manifold
(ultimate tensile strength < 330 N/mm²):
120 Nm
(tool acc. to DIN EN ISO 6789,
tool type II class A or B)
For further informations see brochure
No. 53.000
"Conditions and instructions for valves"

Millimeter
Subject to technical modifications

MODEL CODE

DB16621E – 10 – C – V – 16 F

Basic model
Pressure relief valve, metric

Type
10 = standard

Body and ports
C = cartridge only
*versions with body on request

Seals
V = FKM (standard)
N = NBR

Setting pressure range
16 = 16 bar

Type of adjustment
F = fixed setting, cannot be adjusted

Standard models

Model code	Part No.
DB16621E-10-C-V-16F	3979709
Other models on request	

*Standard in-line bodies

Code	Part No.	Material	Ports	Pressure
R16621-01X-01	3477778	Steel	G1", G1/4"	350 bar

Seal kits

Code	Part No.
SEAL KIT 16621-FKM	3178282
SEAL KIT 16621-NBR	3506920

CAVITY

Metric 16621

⌀46,3

M33 x 2

⊕ ⌀ 0,05 A B

⌀28 H8 (⅃P/ⒼX)

PD
⊕ ⌀ 0,05 A B

⬜ 0,02

A

1 ±0,2

Rz 10

X

VE
Rz 6,3

60° **

15,05 min.*

24,95 max.*

3

Rz 6,3

38,35 min.*

51,65 max.*

18 ±1

27,7 ±0,1

41,7

42,5 ±0,5 fitting depth

54,3 ±0,1

63,2

64 ±0,5 fitting depth

66,5 ±0,5 fitting depth

60° **

2

Rz 6,3

⌀ 27 H8 (⅃P/ⒼX)
⊕ ⌀ 0,05 A B

⌀ 26***

1

Ra 6,3 (Rz 6,3 Rz 10

X 3 : 1

Rz2 6,3

ACS
⌀ 0,1 ⊥ B

B

30° ±1°

ACS
⊕ ⌀ 0,05 A B

⌀35,45 ±0,05

R0,2 ±0,2
R0,15 ±0,05

45°

3,3 ±0,2

VE = Visual Examination
*   Allowed drilling zone (for manifold design)
**   Sharp edges should be avoided by rounding
      to a radius of 0.1 mm to 0.2 mm
*** largest pre-drilling diameter
      (nominal tool diameter)

Form tools

Tool	Part No.
on request	

Millimeter
Subject to technical modifications

TYPICAL PERFORMANCE

Measured at ν = 33 mm²/s, T_{oil} = 46 °C

Relieving pressure [bar] vs Flow rate [l/min]
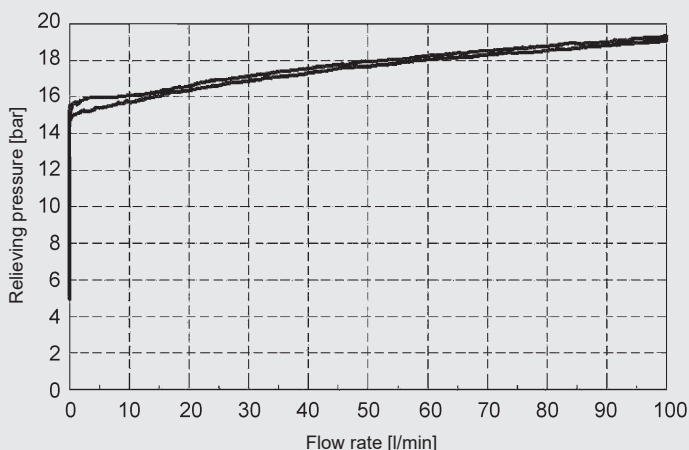
NOTE
The information in this brochure relates to the operating conditions and applications described. For applications and operating conditions not described, please contact the proper HYDAC department. Subject to technical modifications.

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