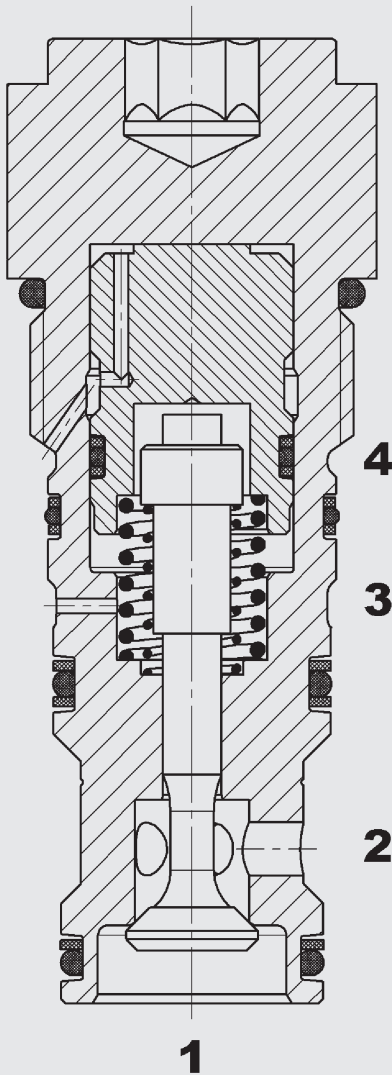


up to 150 l/min
up to 350 bar

Check Valve RPL16322-01

Pilot-to-open
Poppet type, direct acting
Cartridge Valve UNF – 350 bar

FUNCTION



PRODUCT ADVANTAGES

- very low leakage
- very low influence on the control pressure if there is pressure at port 2
- exposed surfaces zinc-nickel plated for increased corrosion protection (1,000 h salt spray test)

DESCRIPTION OF FUNCTION

The hydraulic pilot operated check valve is a direct-acting, spring-loaded poppet valve with drain at port 3 and pilot line at port 4.

When there is no flow through the valve, the compression spring holds the cone poppet in the closed position.

Free flow is possible in the flow direction from port 2 to 1.

The valve opens when the pressure at port 2 is higher than the pressure at port 1, including the pressure created by the spring force.

In the opposite direction, the poppet is therefore pressed onto the seat and blocks flow. If sufficient control pressure is applied at port 4, the poppet is lifted from the valve seat and oil flows from port 1 to 2. In this case, port 3 must be depressurised.

Note

A pressure build-up in the leakage line at port 3 acts against the pilot pressure at port 4 and can therefore control the valve.

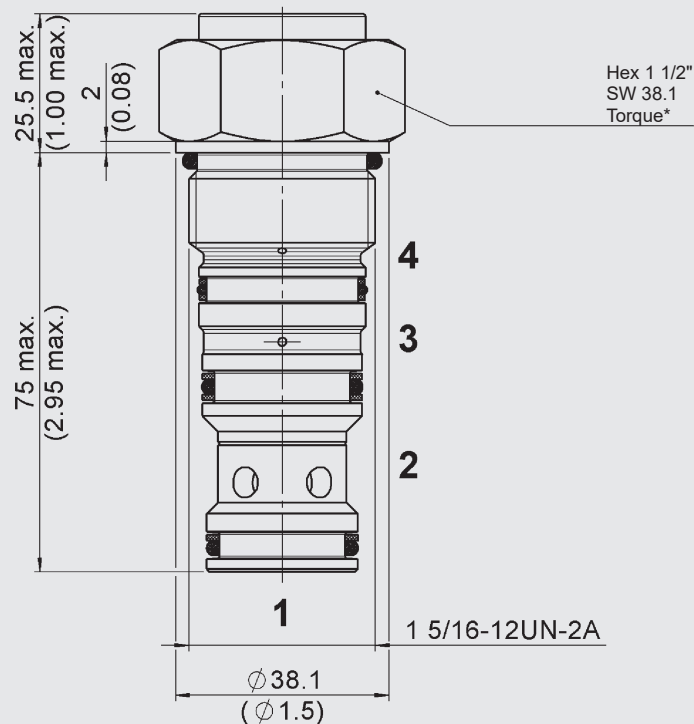
TECHNICAL SPECIFICATIONS*

Operating pressure	max. 350 bar	
Opening pressure (check valve function)	1.25 bar (when no pressure applied on port 1) $p_{\text{opening}} = (p_1 \cdot 1.353) + 1.25 \text{ bar}$	
Flow rate	max. 150 l/min	
Internal leakage	Leak-free, max. 5 drops/min (0.25 cm ³ /min) at 350 bar	
Pilot ratio	3:1 $p_4 > \frac{p_1}{3.2} - \frac{p_2}{4.32}$	
Temperature range of operating fluid	NBR: min. -30 °C up to max. +100 °C FKM: min. -20 °C up to max. +120 °C	
Ambient temperature range	NBR: min. -30 °C up to max. +100 °C FKM: min. -20 °C up to max. +100 °C	
Operating fluid	Hydraulic oil as per DIN 51524 Part 1, 2 and 3	
Viscosity range	Min. 7.4 mm ² /s to max. 420 mm ² /s	
Filtration	Permitted operating fluid contamination level according to ISO 4406 Class 19/17/14 or cleaner	
MTTF _d	150–1200 years, according to DIN EN ISO 13849-1	
Materials	Valve bodies	Steel
	Pistons	Hardened and ground steel
	Seals	NBR (Standard) FKM
	Backup rings	PTFE
Cavity	16322	
Weight	0.55 kg	

p_1 = pressure at port 1
 p_2 = pressure at port 2
 p_4 = pilot pressure at port 4
 p_{opening} = opening pressure at port 2

* See "Conditions and Instructions for Valves" in brochure 53.000

DIMENSIONS

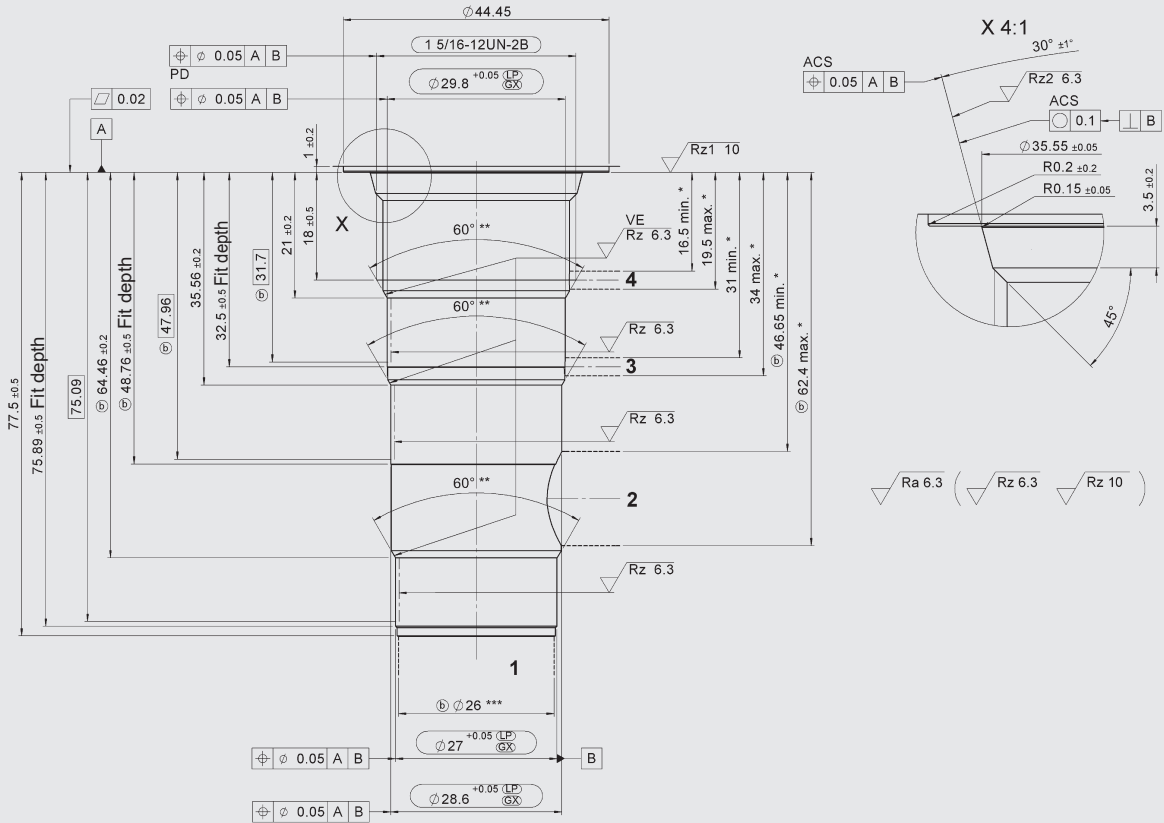


*Torque:
 Steel housing (burst strength > 360 N/mm²): 200 Nm
 Aluminium housing (burst strength > 330 N/mm²): 150 Nm
 (With torque tool in acc. with DIN EN ISO 6789, tool type II, class A or B)
 For more information see "Operating conditions and instructions for valves" in brochure 53.000

millimeter (inch)
 subject to technical modifications

INSTALLATION SPACE

16322



- VE = visual examination
- ACS = user definable cross-sectional area
- PD = pitch diameter
- * Permitted boring zone (for block design)
- ** Sharp edges should be avoided using a radius of 0.1 mm to 0.2 mm
- *** Largest pre-drilling diameter (nominal tool diameter)

millimeter (inch)
subject to technical modifications

MODEL CODE

RPL16322 - 01 - C - N S - 18 - 3

Designation

Shut-off valve, UNF

Design

01 = Standard

Type of connection

C = cartridge valve only

Sealing material

N = NBR (Standard)

V = FKM

Piston seal

Not specified - no seal on the control piston

S = with seal on the control piston

Opening pressure

1.25 bar (18 PSI)

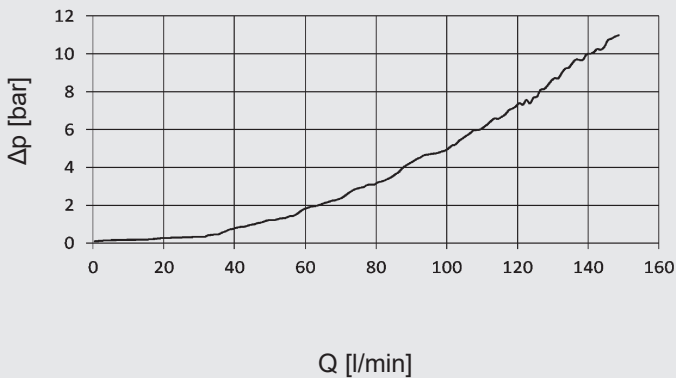
Pilot ratio

3 = 3:1

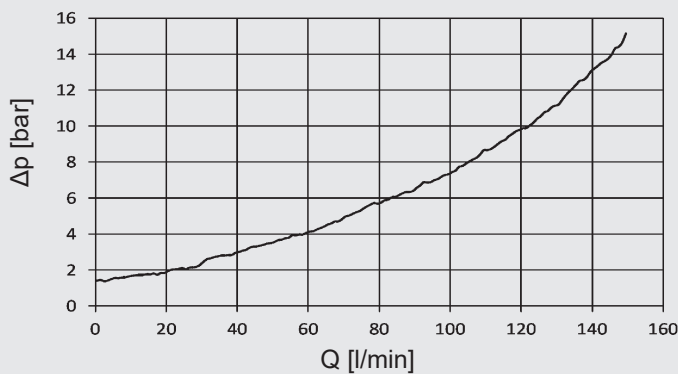
EXAMPLE CHARACTERISTICS

measured at $v = 34 \text{ mm}^2/\text{s}$, $T_{\text{Oil}} = 46 \text{ }^\circ\text{C}$

Flow from port 1 → 2 (pilot operated, opened)



Flow from port 2 → 1



MATERIAL OVERVIEW

Standard models

Description	Part no.
RPL16322-01-C-NS-18-3	4304473

Other versions on request

Spare parts, seal kits

Description	Material	Part no.
FS UNF 08/V	FKM	4380670

Accessories, inline connection housing

Description	Material	Ports	Pressure	Part no.
On request				

Accessories, cavity tools

Description	Part no.
In preparation	

NOTE

The information in this brochure relates to the operating conditions and applications described.

For fields of applications not described, please contact the relevant technical department.

Subject to technical modifications.

HYDAC Fluidtechnik GmbH
 Justus-von-Liebig-Str.
 66280 Sulzbach/Saar, Germany
 Tel: 0 68 97 /509-01
 Fax: 0 68 97 /509-598
 Email: valves@hydac.com