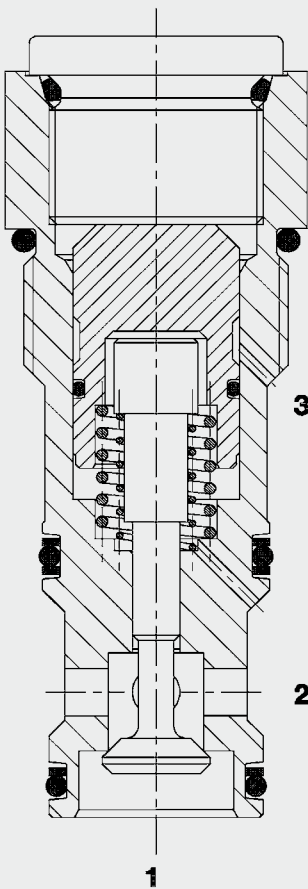


Check Valve Pilot-to-Open Poppet Type, Direct-Acting SAE-16 Cartridge – 420 bar RP16A-01

FUNCTION



The pilot-to-open check valve RP16A is a direct-acting, spring-loaded poppet valve.

The valve allows flow from port 2 to 1. In the opposite direction, the poppet is pressed onto the seat and blocks flow. If a sufficiently high control pressure is applied to port 3, the poppet is lifted from the valve seat and oil flows from 1 to 2. The necessary pilot pressure at port 3 is dependent on the pressures across port 1 and 2.

The following applies: $p_{\text{control}} = \frac{p_{\text{port 1}} - p_{\text{port 2}}}{\varphi} + p_{\text{port 2}}$

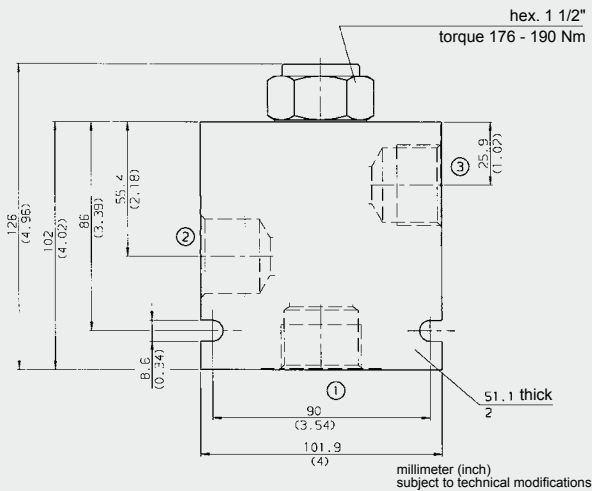
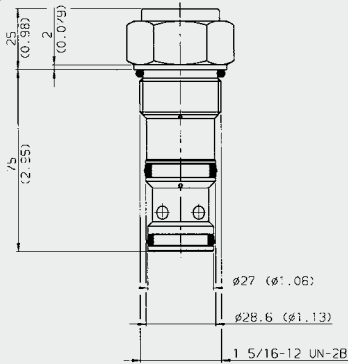
FEATURES

- External surfaces zinc-plated and corrosion-proof
- Hardened and ground internal valve components to ensure minimal wear and extended service life
- Low pressure drop due to CFD optimized flow path
- Spring return in the pilot stage for safe valve operation
- Quick response
- Low leakage design
- Optional pilot piston seal

SPECIFICATIONS

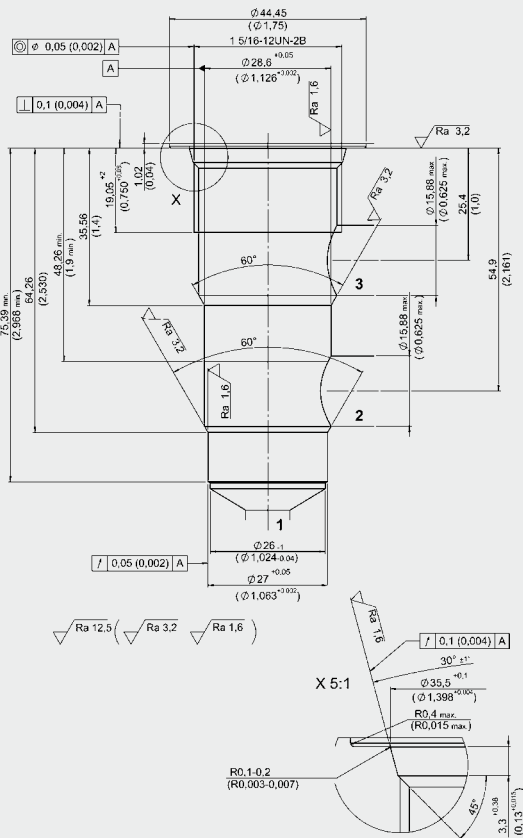
Operating pressure:	max. 420 bar
Nominal flow:	max. 150 l/min
Internal leakage:	max. 0.1 cm ³ /min at 420 bar (Version N/V)
Cracking pressure:	1.00 bar
Pilot ratio:	3 = 3:1 4 = 4:1
Media operating temperature range:	min. -30 °C to max. +100 °C
Ambient temperature range:	min. -30 °C to max. +100 °C
Operating fluid:	Hydraulic oil to DIN 51524 Part 1 and 2
Viscosity range:	min. 7.4 mm ² /s to max. 420 mm ² /s
Filtration:	Class 21/19/16 according to ISO 4406 or cleaner
MTTF _d :	150 years (see "Conditions and instructions for valves" in brochure 5.300)
Installation:	No orientation restrictions
Materials:	Valve body: steel Poppet: hardened and ground steel Seals: NBR (standard) FKM (optional, media temperature range -20 °C to +120 °C) Back-up rings: PTFE
Cavity:	FC16-3
Weight:	0.51 kg

DIMENSIONS



CAVITY

FC16-3



Form tools

Tool	Part No.
Countersink FC16-3	176375
Reamer FC16-3	176376

millimeter (inch)
subject to technical modifications

MODEL CODE

RP16-A01 - C - NS - 15 - 3

Basic model _____
Check valve, pilot-to-open UNF

Body and Ports* _____
C = cartridge only
SB8 = G1 ports, steel body
AB8 = G1 ports, aluminium body
Versions with line bodies on request

Seals _____
N = NBR
NS = NBR with piston seal
V = FKM
VS = FKM with piston seal

Cracking pressure _____
1.00 bar (15 PSI)

Pilot ratio _____
3 = 3:1
4 = 4:1

Standard models

Model code	Part No.
RP16A-01-C-N-15-3	561996
RP16A-01-C-N-15-4	561998
RP16A-01-C-NS-15-3	561997
RP16A-01-C-NS-15-4	561999

*Standard in-line bodies

Code	Part No.	Material	Ports	Pressure
FH163-SB8	3036257	Steel, zinc-plated	G1	420 bar
FH163-AB8	3037208	Aluminium, anodized	G1	210 bar

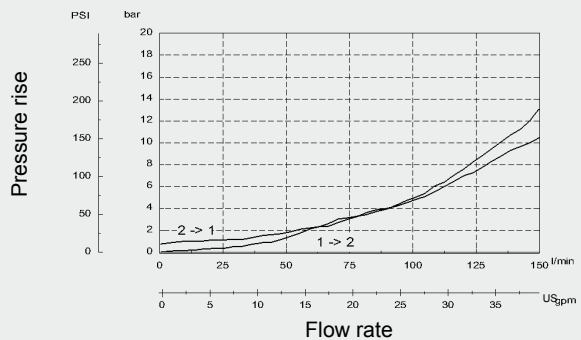
Seal kits

Code	Part No.
FS163-N seal kit	3071303
FS163-V seal kit	3071304

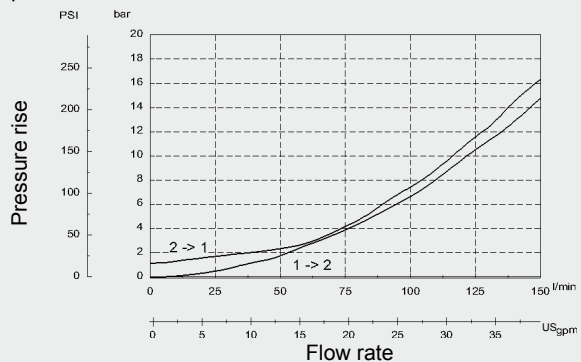
PERFORMANCE

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

phi=3:1



phi=4:1



NOTE

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department.
Subject to technical modifications.

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