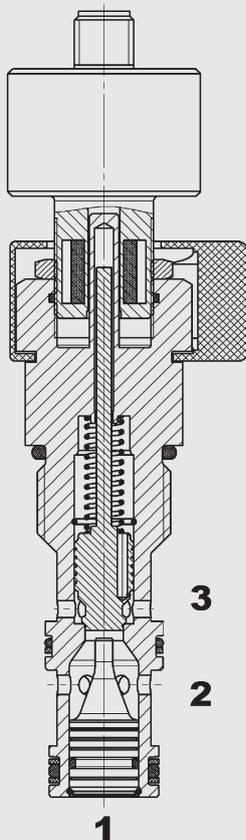


up to 80 l/min
up to 350 bar

FUNCTION



The pilot-to-open check valve is a direct-acting, spring-loaded poppet valve with electronic switch position monitoring.

The compression spring holds the poppet in the closed position and therefore shuts off flow from port 3 to port 2, even if pressure has built up at port 3. The valve opens when the pressure at port 2 is higher than the pressure at port 3, including the pressure cracking pressure.

If a control pressure is applied at port 1, the poppet is lifted from the valve seat and oil flows from port 1 to 2. The necessary pilot pressure at port 1 is dependent on the pressures across port 2 and 3.

Check Valve pilot-to-open poppet type, direct-acting with electronic switch position monitoring UNF Cartridge – 350 bar RP12B-01E

FEATURES

- With integrated, electronic switch position monitoring
- Direct connection of the sensor to the main spool ensures a direct signal
- Highly robust design
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1000 h Salt spray test)

SPECIFICATIONS*

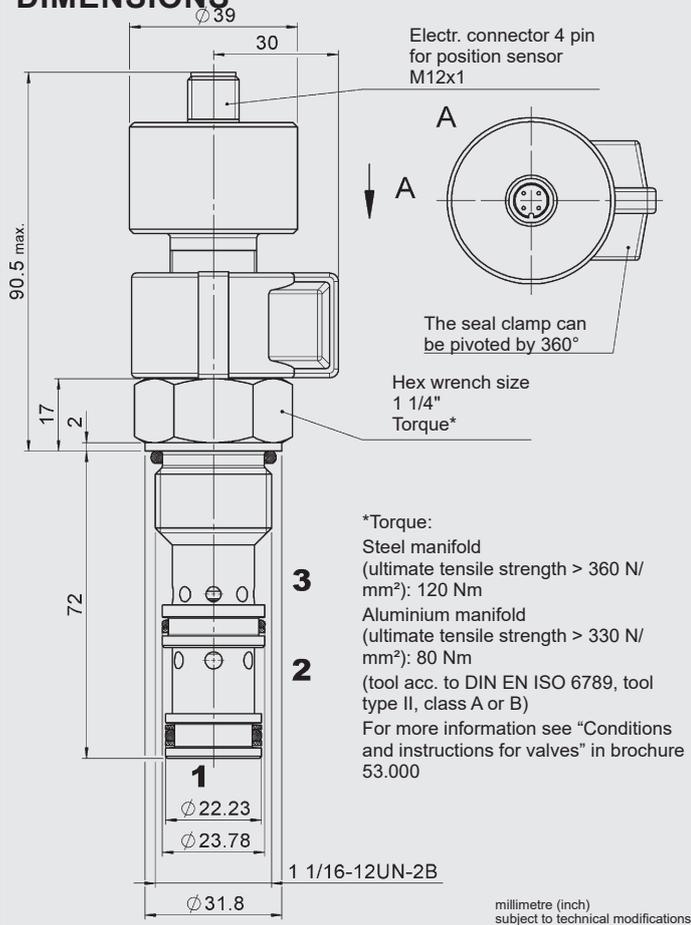
Operating pressure:	max. 350 bar	
Nominal flow:	max. 80 l/min	
Pilot ratio:	3:1	
	$p_{\text{pilot}} \pm 2 \text{ bar} = (p_2 \times 0.66) + (p_3 \times 0.33) + 0.7$	
Internal leakage:	leak-free, max. 5 drops/min (0.25 cm ³ /min) at $p_3 = 350 \text{ bar}$ and $p_2 = 0 \text{ bar}$, $v = 46 \text{ mm}^2/\text{s}$	
Cracking pressure:	approx. 2 bar (30 PSI) approx. 5 bar (70 PSI)	
Media operating temperature range:	min. -30 °C to max. +100 °C	
Ambient temperature range:	min. -30 °C to max. + 80 °C	
Operating fluid:	Hydraulic oil to DIN 51524 Part 1, 2 and 3	
Viscosity range:	min. 7.4 mm ² /s to max. 420 mm ² /s	
Filtration of operating fluid: (to ISO 4406)	$p \leq 210 \text{ bar}$: min. class 20/18/15 $p > 210 \text{ bar}$: min. class 18/16/13	
MTTF _d :	150–1200 years, according to DIN EN ISO 13849-1	
Installation:	No orientation restrictions	
Materials:	Valve body:	steel
	Piston:	hardened and ground steel
	Seals:	NBR (standard) FKM (optional, media operating temperature range -20 °C to +120 °C)
	Back-up rings:	PTFE
Cavity:	FC12-3	
Weight:	0.48 kg	

Sensor data

Supply voltage:	24 volt: 20 to 32 VDC 12 volt: 10.5 to 16 VDC	
Reverse polarity protection of supply:	yes	
Outputs:	2 with change-over function PNP, positive switching	
Output load:	≤ 400 mA, 100% continuous	
Short circuit protection:	Resistant to short circuits	
Connector:	Round connector M12x1 (4-pin)	
Protection class:	IP65 to DIN 40050	
EC conformity:	93/68/EEC 2014/30/EU	
EMC:	DIN EN 6100-6-1-2-3-4	
Humidity requirements:	0 – 95% rel. (to DIN 40040)	
Sensor connections:		

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

DIMENSIONS



*Torque:
 Steel manifold
 (ultimate tensile strength > 360 N/mm²): 120 Nm
 Aluminium manifold
 (ultimate tensile strength > 330 N/mm²): 80 Nm
 (tool acc. to DIN EN ISO 6789, tool type II, class A or B)
 For more information see "Conditions and instructions for valves" in brochure 53.000

millimetre (inch)
 subject to technical modifications

MODEL CODE

RP12B - 01E - C - N - 3 - 30 - 12

Basic model

Check valve, UNF

Type

01E = with el. switch position monitoring

Body and ports*

C = cartridge only

Seals

N = NBR (standard)

V = FKM

Pilot ratio

3 = 3:1

Cracking pressure

30 = 30 PSI (2 bar)

70 = 70 PSI (5 bar)

Sensor voltage

Omission = 24 V

12 = 12 V

Standard models

Code	Part no.
RP12B-01E-C-N-3-30	4032153
RP12B-01E-C-N-3-70	4032154

Other versions on request

*Standard in-line bodies

Code	Material	Ports	Pressure	Part no.
FH123-AB6	Steel, zinc-plated	G3/4"	350 bar	3053872
FH123-SB6	Aluminium, anodised	G3/4"	210 bar	3053908

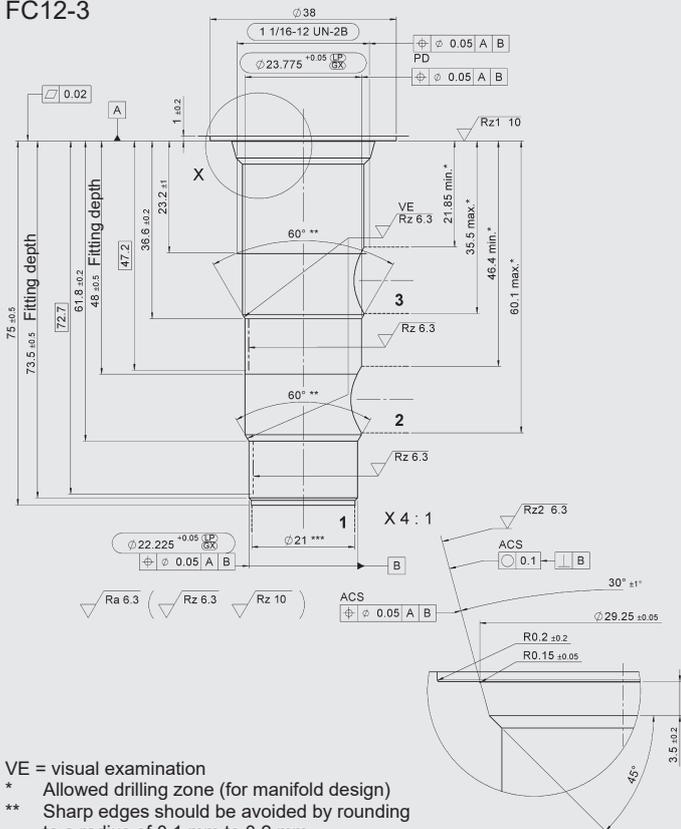
Other connection housings on request

Seal kits

Code	Material	Part no.
FS UNF 12/N	NBR	3651563
FS UNF 12/V	FKM	3919374

CAVITY

FC12-3



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

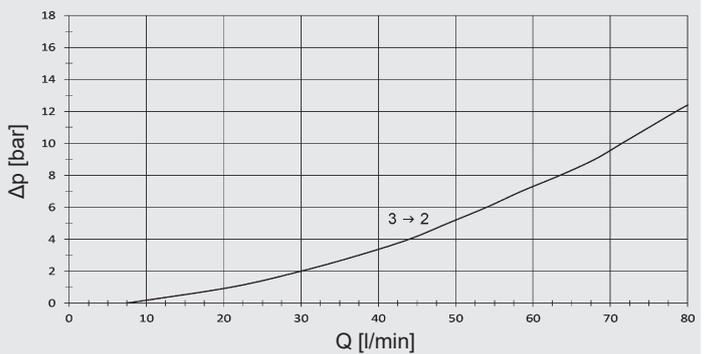
Tool	Part no.
on request	

millimetre (inch)
 subject to technical modifications

TYPICAL PERFORMANCE

measured at $v = 46 \text{ mm}^2/\text{s}$, $T_{\text{oil}} = 40 \text{ }^\circ\text{C}$

(valve unblocked)



Note

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

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