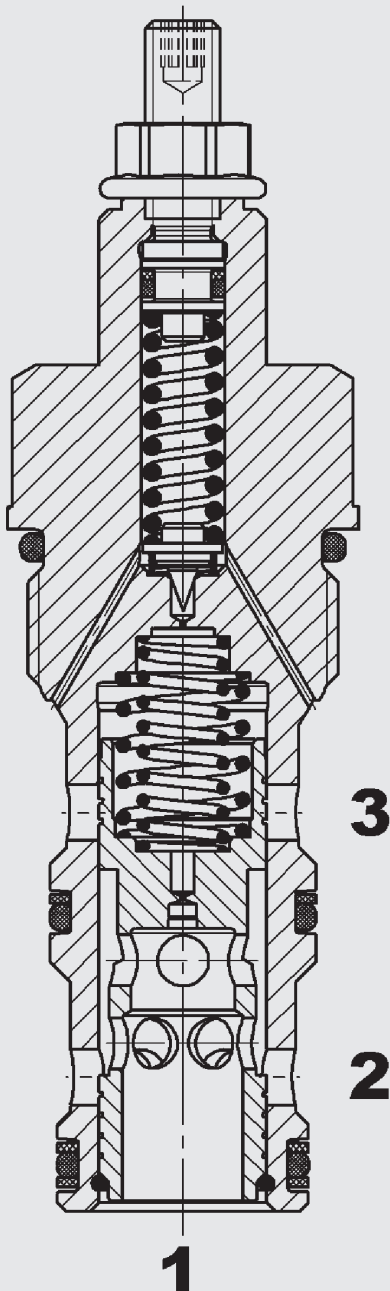


up to 240 l/min
up to 350 bar

3-way pressure reducing valve **DR16P-01**

spool type, pilot-operated
Cartridge UNF – 350 bar

FUNCTION



PRODUCT ADVANTAGES

- Screen-protected metering orifice enhances safety
- Quick response times
- Optional pressure ranges up to 345 bar
- Stability throughout the entire flow range
- Identical modules allow expansion of nominal sizes and installation of proportional valves of the same product group
- External surfaces with Zn-Ni coating for advanced corrosion protection (1,000 h salt spray test)

FUNCTION DESCRIPTION

The pressure reducing valve is a pilot-operated, spring-loaded spool valve. Its purpose is to keep the pressure at consumer port 1 constant. If the inlet pressure at port 2 rises and exceeds the pre-set spring tension, the pilot stage opens and oil flows from behind the main spool to the tank port 3. The resulting pressure differential causes the main spool to move against the return spring and allows oil to flow from port 2 to port 1. This continues until the system pressure at port 2 is equal to the pre-set value of the pressure spring and the pilot stage closes again. The return spring moves the main spool to the closing position. If the pressure at port 1 suddenly rises due to external force, the valve is relieved to tank port 3 (maximum pressure relief).

Notice:

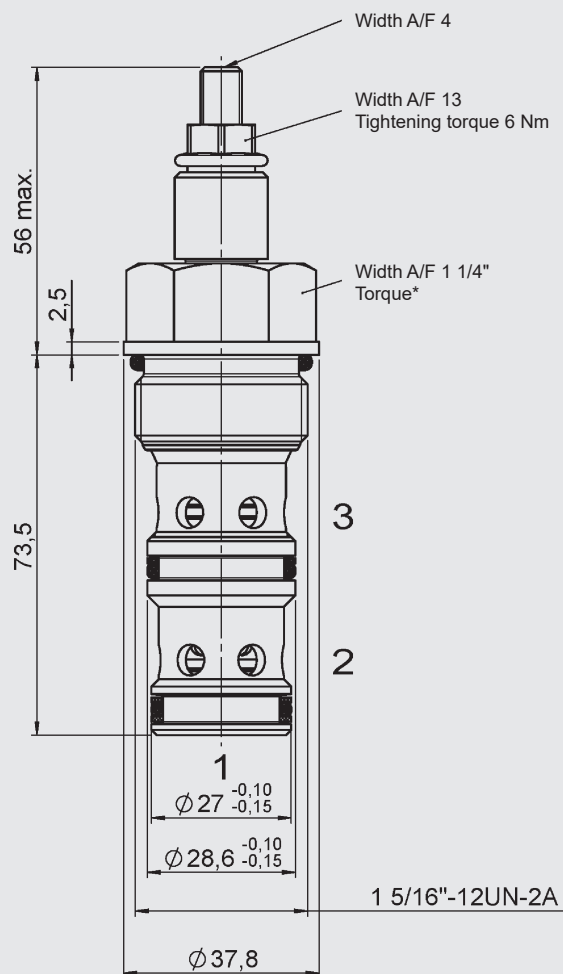
Any pressure at port 3 is additive to the valve pressure setting.

SPECIFICATIONS*

Operating pressure	max. 350 bar	
Tank pressure	max. 350 bar	
Flow rate	max. 240 l/min	
Pressure setting range	15 to 35 bar	
	15 to 62 bar	
	15 to 124 bar	
	15 to 228 bar	
	15 to 345 bar	
Internal leakage:	< 0.5 l/min at 350 bar	
Temperature range of operating fluid	NBR: min. -30 °C to max. +100 °C	
	FKM: min. -20 °C to max. +120 °C	
Ambient temperature range	NBR: min. -30 °C to max. +100 °C	
	FKM: min. -20 °C to max. +100 °C	
Operating fluid	Hydraulic oil to DIN 51524 Part 1, 2 and 3	
Viscosity range	min. 10 mm ² /s to max. 420 mm ² /s	
Filtration (to ISO 4406)	< 210 bar: min. 20/18/15	
	> 210 bar: min. 19/17/14	
MTTF _d	150 – 1200 years, measurement according to DIN EN ISO 13849-1	
Materials	Valve body:	Steel
	Piston:	Hardened and ground steel
	Seals:	NBR (standard)
		FKM (optional)
	Back-up rings:	PTFE
Cavity	FC16-3	
Weight	0.395 kg	

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

DIMENSIONS

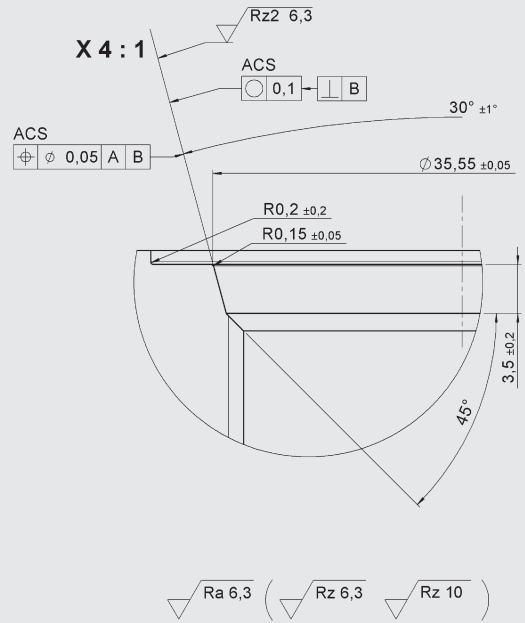
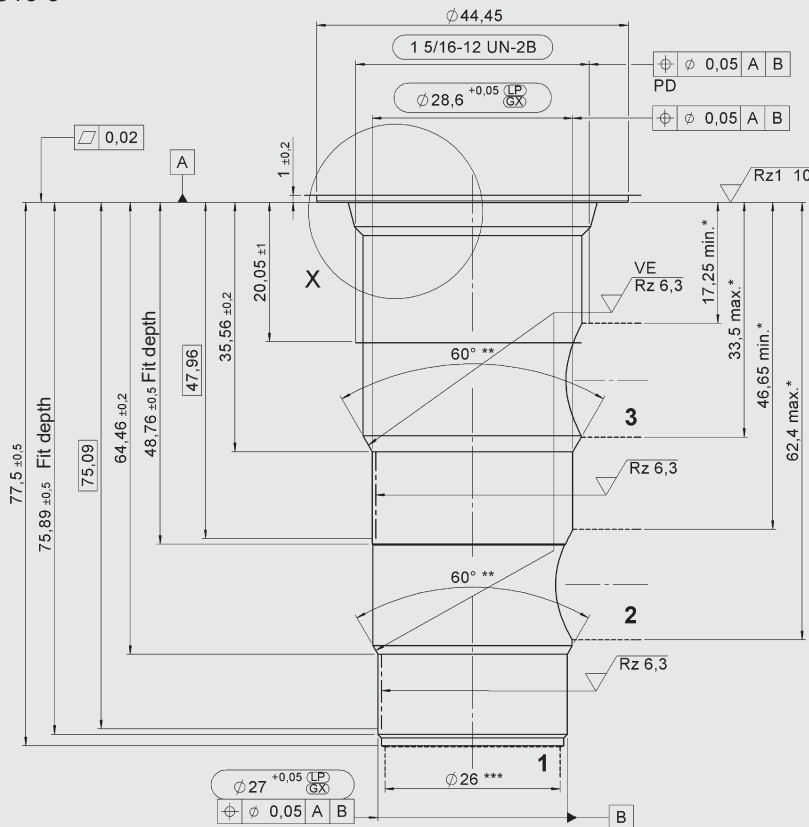


*Torque:
 Steel manifold (tensile strength > 360 N/mm²): 190 Nm
 Aluminium manifold (tensile strength > 330 N/mm²): 130 Nm
 (With torque tool in acc. with DIN EN ISO 6789, tool type II class A or B)
 For more information see "Conditions and Instructions for Valves" in brochure 53.000

millimetre (inch)
 subject to technical modifications

CAVITY

FC16-3



VE = Visual examination
 * Permitted boring zone (for block design)
 ** Sharp edges should be avoided by using a radius of 0.1 mm to 0.2 mm
 *** Largest pre-drilling diameter (nominal tool diameter)

millimetre (inch)
 subject to technical modifications

MODEL CODE

DR16P - 01 - C - N - 330 V 330

Basic model

3-way pressure reducing valve, UNF

Type

01 = standard

Body and ports

C = cartridge only

Sealing material

N = NBR (standard)
 V = FKM

Pressure setting range

050 = 15 - 35 bar
 090 = 15 - 62 bar
 180 = 15 - 124 bar
 330 = 15 - 228 bar
 500 = 15 - 345 bar

Adjustment type

V = adjustable using tool
 Other types of adjustment on request

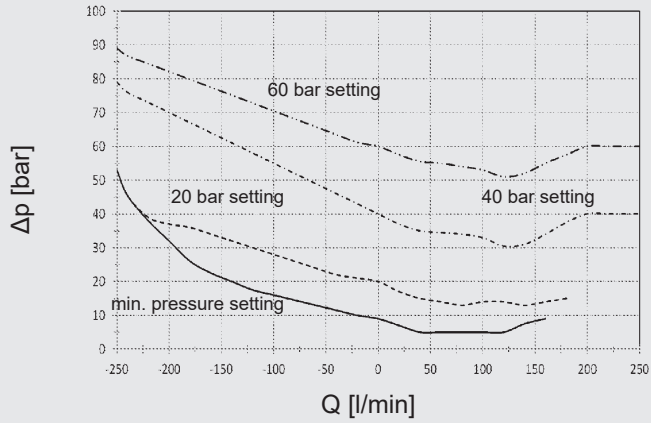
Cracking pressure

Not specified = no cracking pressure
 330 = customer-specific cracking pressure (specified in PSI/10)

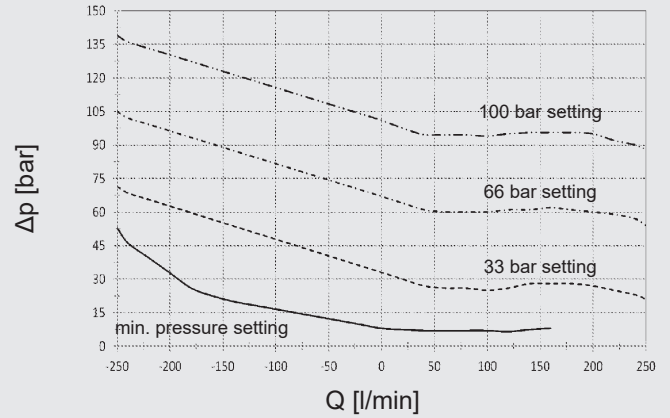
TYPICAL PERFORMANCE

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

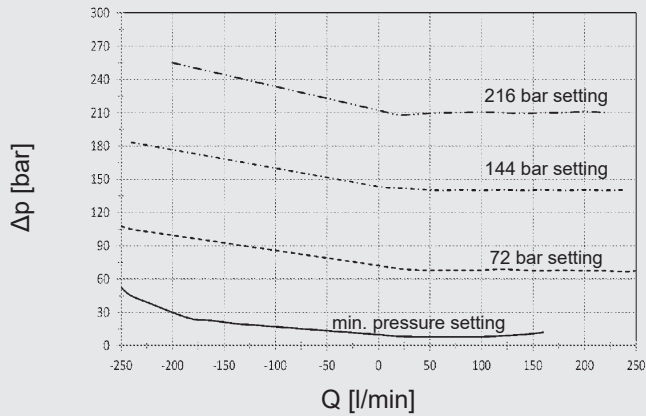
35 bar



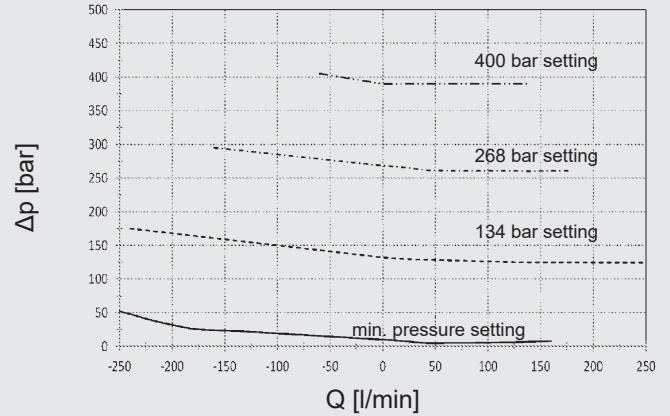
62 bar



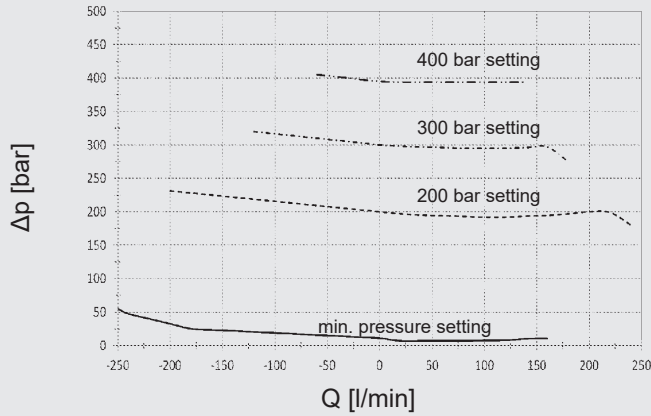
124 bar



228 bar



345 bar



MATERIAL OVERVIEW

Standard models

Model code	Part No.
DR16P-01-C-N-050V	4010508
DR16P-01-C-N-090V	4010507
DR16P-01-C-N-180V	4010505
DR16P-01-C-N-330V	4010484
DR16P-01-C-N-500V	3914812

Other versions on request

Seal kits

Code	Material	Part no.
FS UNF 16/N	NBR	3651395
FS UNF 16/V	FKM	3651396

Accessories, standard in-line bodies

Code	Material	Ports	Pressure	Part no.
FH163-SB8	Steel, zinc-plated	G1"	350 bar	3036257
FH163-AB8	Aluminium, anodised	G1"	210 bar	3037208

Other connections housing on request

Accessories, form tools for cavity

Tool	Part no.
Countersink	176375
Reamer	176376

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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