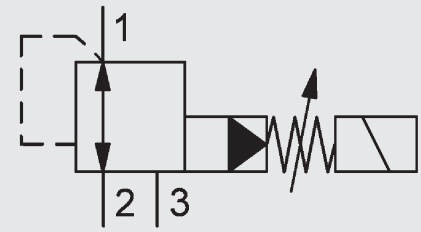
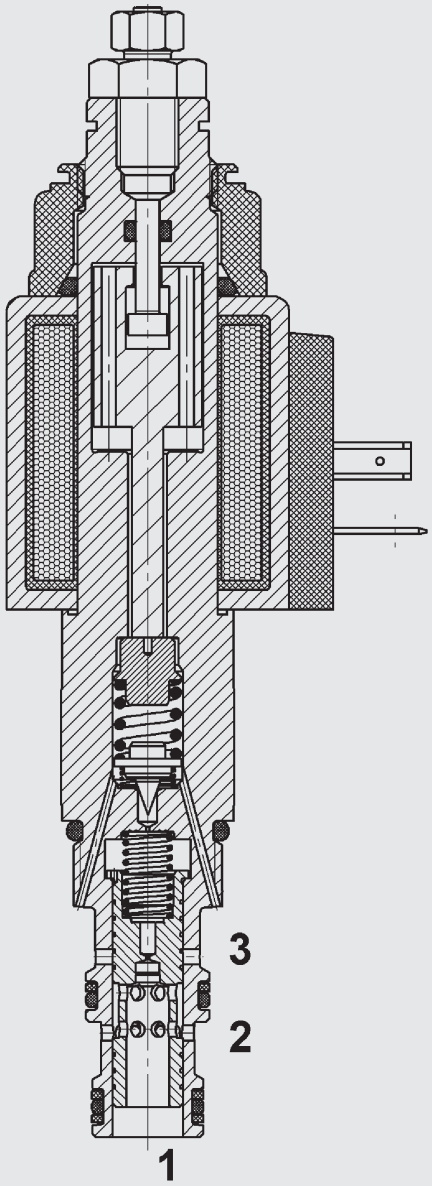


up to 60 l/min
up to 350 bar

3-way pressure reducing valve
DR08PY-01

magnetically switchable
spool type, pilot-operated
Cartridge UNF – 350 bar

FUNCTION



PRODUCT ADVANTAGES

- Extremely compact design
- Reduced weight and reduced space/installation space requirements
- Large nominal sizes available on request
- Soft-shift thanks to ramp control
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1,000 h salt spray test)

FUNCTION DESCRIPTION

The pressure reducing valve is a pilot operated, spring-loaded spool valve with solenoid change-over of the control pressure p_{min} / p_{max}.

When the solenoid is energised, its purpose is to keep the pressure p_{max} at consumer port 1 constant. If the inlet pressure at port 1 rises and exceeds the pressure value of the pilot spring, 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 controlls the pressure at port 1.

The pressure p_{max} is set by adjusting the valve, which limits the stroke of the solenoid armature and thus defines the pressure value of the pilot spring.

If the pressure at port 1 suddenly rises due to external force, the valve is relieved to tank port 3 (maximum pressure relief) until the control pressure has been reached again.

When the solenoid is de-energised, the valve's pressure control function is deactivated and port 1 is connected to port 3. If an inlet pressure is still present at port 2, the control pressure p_{min} at the consumer is at least 5 bar.

Caution: Any pressure at port 3 is additive to the pressure value of the valve's pilot spring.

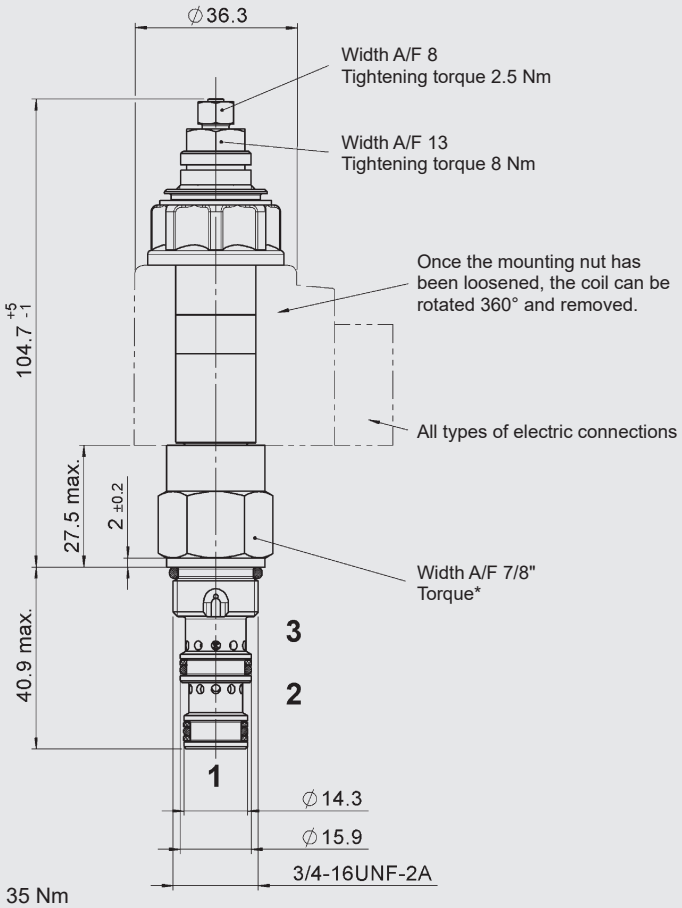
SPECIFICATIONS*

Operating pressure	max. 350 bar	
Tank pressure	max. 345 bar	
Flow rate	max. 60 l/min	
Pressure setting range	5 to 60 bar 5 to 90 bar 5 to 230 bar 5 to 345 bar	
Internal leakage:	< 0.5 l/min at 350 bar	
Media operating temperature range	NBR: min. -20 °C to max. +100 °C FKM: min. -20 °C to max. +120 °C	
Ambient temperature range	NBR: min. -20 °C to max. + 60 °C FKM: min. -20 °C to max. + 60 °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 (to ISO 4406)	≤ 210 bar: min. class 20/18/15 > 210 bar: min. class 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	FC08-3	
Weight	0.48 kg	
Electronics		
Type of voltage	DC: DC solenoid AC: solenoid with rectifier integrated into the coil	
Coil resistance	30 ohm (24 V) 8 ohm (12 V)	
Voltage tolerance	+ 20% - 15% of nominal voltage	
Duty cycle	Continuous up to max. 115% of the nominal voltage at 60 °C ambient temperature	
Coil type	Coil…-40-1836	

* see “Conditions and Instructions for Valves” in brochure 53.000

DIMENSIONS

Adjustment type V

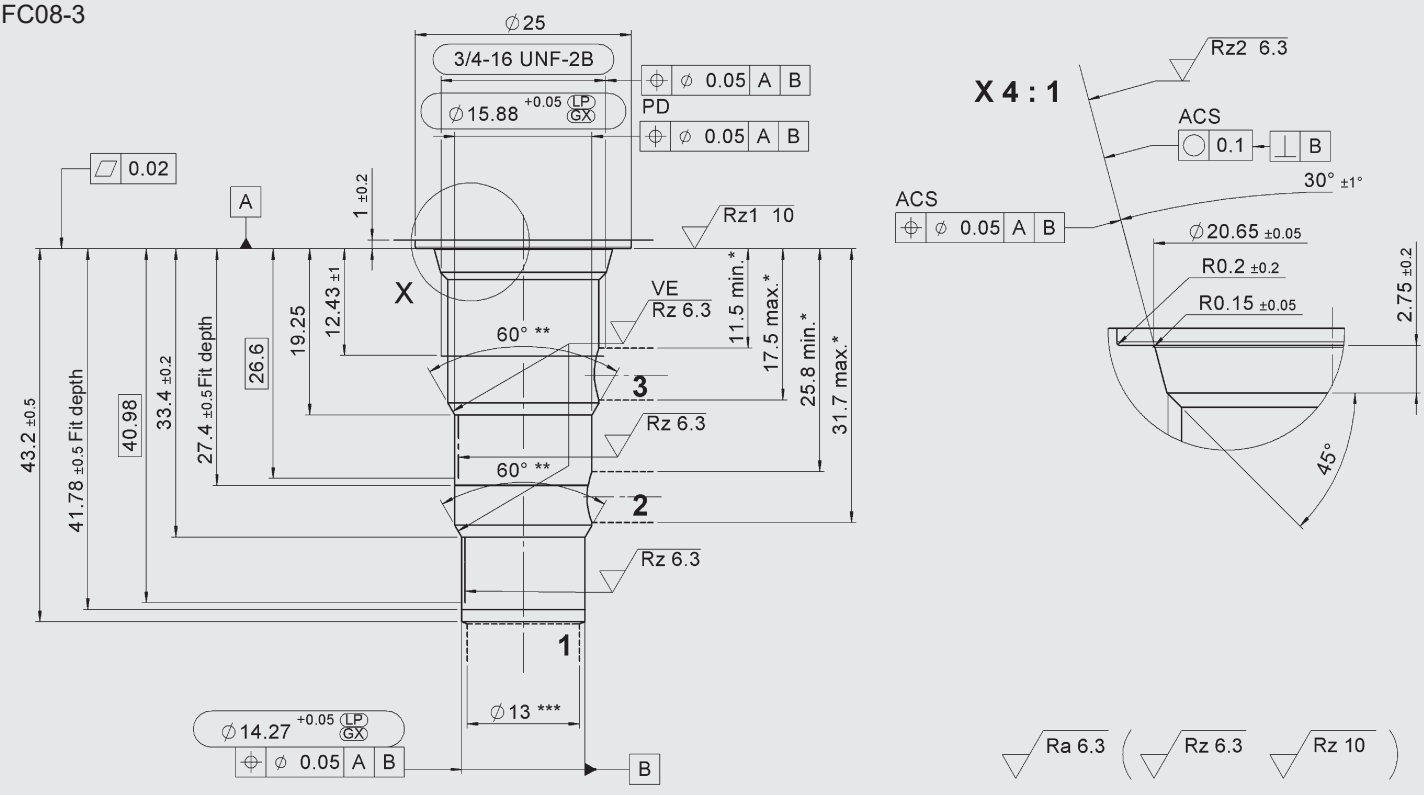


*Torque:
Steel manifold (burst strength > 360 N/mm²): 35 Nm
Aluminium manifold (burst strength > 330 N/mm²): 35 Nm
(With torque tool in acc. with DIN EN ISO 6789, tool type II class A or B)
For more information see "Conditions and Instructions for Valves" in brochure 53.000

millimetre (inch)
subject to technical modifications

CAVITY

FC08-3



VE = Visual examination
* Permitted 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)

millimetre (inch)
subject to technical modifications

MODEL CODE

DR08PY – 01 – C – V – 330 V 330 - 24 DG

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
090 = 5 – 60 bar
130 = 5 – 90 bar
330 = 5 – 230 bar
500 = 5 – 345 bar

Adjustment type
V = adjustable and sealable using tool

Maximum pressure
Not specified = no maximum pressure setting
330 = customer-specific preset maximum pressure (PSI/10)

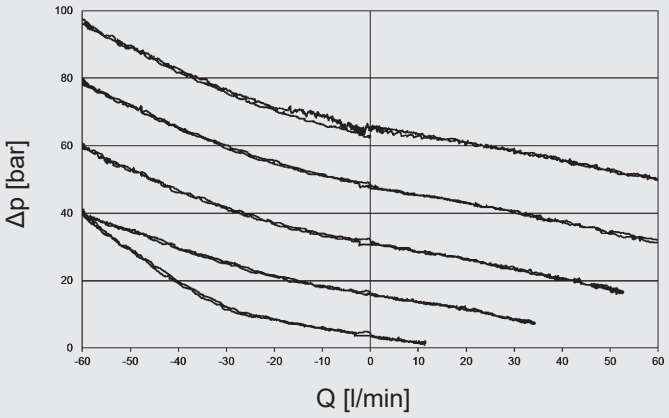
Rated voltage for actuation solenoid
DC
12 = 12 VDC
24 = 24 VDC
AC (rectifier integrated into coil)
115 = 115 V AC
230 = 230 V AC
Other voltages on request

Solenoid coil design (type 40-1836)*
DC: DG = DIN connector, design A to EN 175301-803
DK = KOSTAL threaded connection M27x1
DL = 2 jacketed cables, 457 mm long, 0.75 mm²
DN = Deutsch connector DT04-2P, 2-pole, axial
DT = AMP Junior Timer, 2-pole, radial
AC: AG = DIN connector, design A to EN 175301-803
*See "Solenoid coils for directional valves" in brochure 5.207

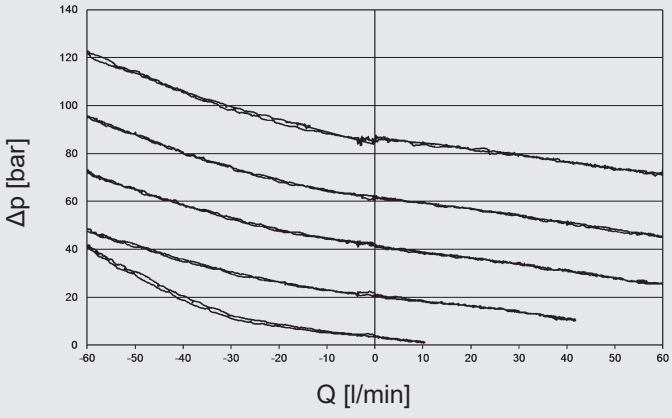
TYPICAL PERFORMANCE

measured at ν = 46 mm²/s, T_{oil} = 40 °C

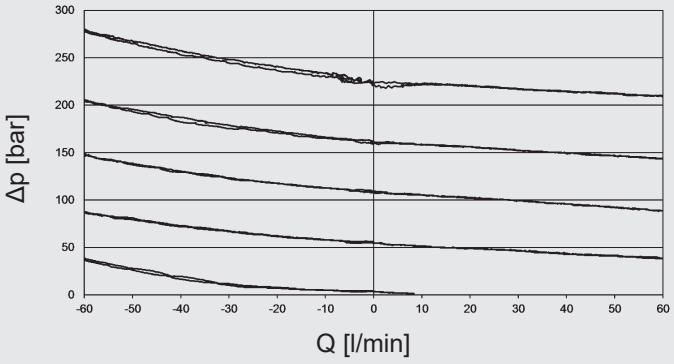
DR08PY-01-C-.-090V



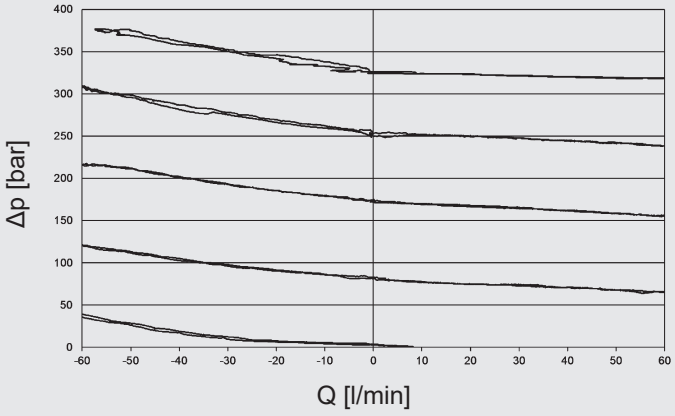
DR08PY-01-C-.-130V



DR08PY-01-C-.-330V



DR08PY-01-C-.-500V



MATERIAL OVERVIEW

Standard models

Model code	Part no.
DR08PY-01-C-V-090V-0	4373695
DR08PY-01-C-V-330V-0	4352629
DR08PY-01-C-V-500V-0	4373697

Other versions on request

Spare parts seal kits

Code	Material	Part no.
FS UNF 08/V	FKM	3651356
FS UNF 08/N	NBR	3651385

Accessories, standard in-line bodies*

Code	Material	Ports	Pressure	Part no.
FH083-SB3	Steel, zinc-plated	G3/8”	350 bar	560922
FH083-AB3	Aluminium, anodised	G3/8”	210 bar	3011427

Other connection housings on request

Accessories, form tools for cavity

Tool	Part no.
Countersink	175644
Reamer	175645

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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