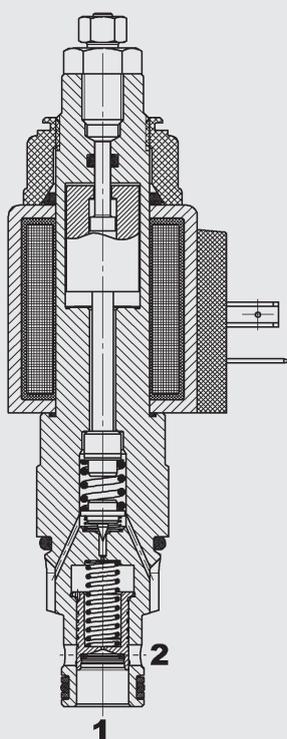


up to 120 l/min
up to 350 bar

FUNCTION



The pressure relief valve is a pilot-operated, spring-loaded spool valve, with solenoid venting. When the solenoid is energised, its function is to limit pressure in the system. If the inlet pressure at port 1 exceeds the pre-set value, the pilot stage opens and oil flows from behind the main spool to tank port 3. The resulting pressure differential causes the main spool to move against the return spring and allows oil to flow from port 1 to port 2.

This continues until the system pressure at port 1 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.

When the solenoid is de-energised, the pressure limiting function is terminated and port 1 is connected to port 2. The circulation Δp is roughly 5 bar.

Caution: Pressure at port 2 increases the cracking pressure.

Pressure relief valve spool type, pilot-operated UNF Cartridge – 350 bar DB10PY-01

FEATURES

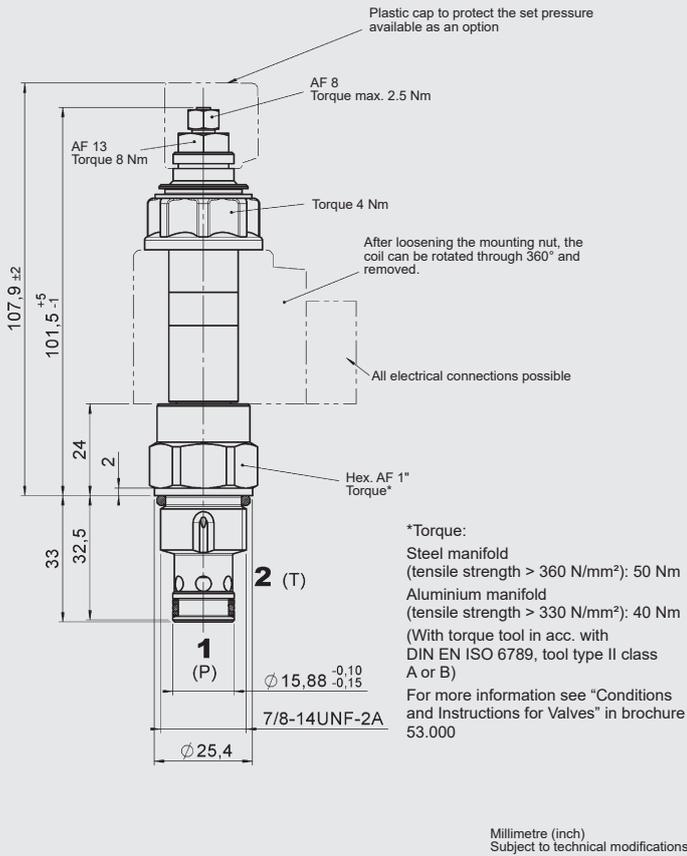
- Mechanical adjustment of minimum and maximum pressure
- Improved cavitation behaviour
- Excellent stability throughout the entire flow range
- Very good dynamic performance
- Simple control via relay is sufficient
- Various pressure ranges up to 350 bar
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1,000 h salt spray test)

SPECIFICATIONS*

Operating pressure:	max. 350 bar
Tank pressure:	max. 350 bar
Flow rate:	max. 120 l/min
Pressure setting range:	5 to 60 bar 5 to 100 bar 5 to 230 bar 5 to 350 bar
Leakage:	< 500 ml/min from port 1 to port 2 at 80% of p_{nom}
Media operating temperature range:	min. -20 °C to max. +100 °C
Ambient temperature range:	min. -20 °C to max. + 60 °C
Operating fluid:	Hydraulic oil according to DIN 51524 Part 1, 2 and 3
Viscosity range:	min. 7.4 mm ² /s to max. 420 mm ² /s
Filtration (according to ISO 4406):	< 210 bar: min. 20/18/15 > 210 bar: min. 19/17/14
Installation:	No orientation restrictions, preferably horizontal
MTTF _d :	150–1200 years, measurement according to DIN EN ISO 13849-1
Materials:	Valve body: Steel Spool: Hardened and ground steel Seals: NBR (standard) FKM (optional, media operating temperature range -20°C to 120°C) Back-up rings: PTFE
Cavity:	FC10-2
Weight:	0.5 kg
Electrical data	
Type of voltage:	DC: DC solenoid AC: AC solenoid with rectifier integrated into the coil
Nominal current at 20°C:	1.5 A at 12 V DC 0.8 A at 24 V DC
Voltage tolerance:	± 15% of the nominal voltage
Coil duty rating:	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



MODEL CODE

DB10PY - 01 - C - N - 330 V 270 - 24 DG

Basic model
Pressure relief valve, UNF

Type
01 = standard

Body and ports*
C = cartridge only

Sealing material
N = NBR (standard)
V = FKM

Pressure setting range
087 = 870 PSI (60 bar)
140 = 1400 PSI (100 bar)
330 = 3300 PSI (230 bar)
500 = 5000 PSI (350 bar)

Adjustment type
V = adjustable using tool

Cracking pressure
No details = no setting, spring relaxed
270 = customer-specific cracking pressure (specified in PSI/10)

Coil voltage
DC voltages
12 = 12 V DC
24 = 24 V DC

AC voltages (bridge rectifier built into the coil)
115 = 115 V AC
230 = 230 V AC

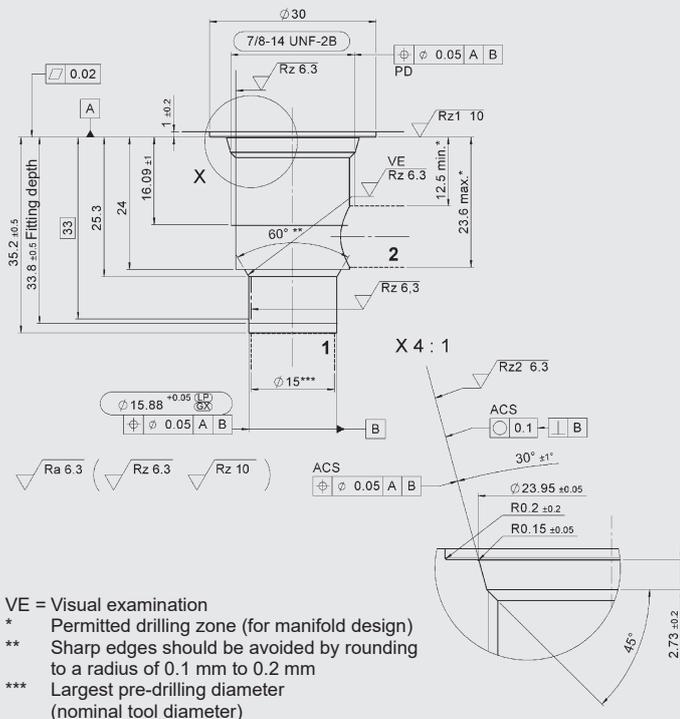
Coil connectors (40-1836)

DC: DG = DIN connector design A to EN175301-803
DK = Kostal threaded connection, M27 x 1
DL = connector with 2 flying leads, 0.75mm², 475mm long
DN = Deutsch connector DT04-2P, 2-pole, axial
DT = AMP Junior Timer, 2-pole, radial
AC: AG = DIN connector to EN 175301-803

Other versions on request

CAVITY

FC10-2



Form tools

Tool	Part no.
Countersink	176379
Reamer	165706

Millimetre (inch)
Subject to technical modifications

Standard models

Model code	Part no.
DB10PY-01-C-N-087V-0	3981011
DB10PY-01-C-V-330V319-0	3989904
DB10PY-01-C-N-500V-0	3980939

Other versions on request

*Standard in-line bodies

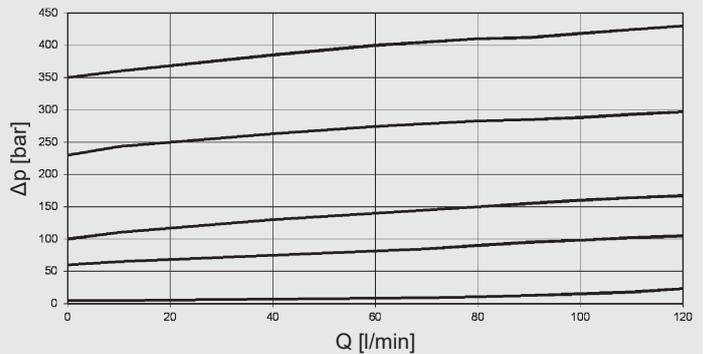
Code	Material	Ports	Pressure	Part no.
FH102-SB4	Steel, zinc-plated	G1/2"	350 bar	3037594
FH102-AB4	Aluminium, anodised	G1/2"	210 bar	3037777

Seal kits

Code	Material	Part no.
FS UNF 10/N	NBR	3651557
FS UNF 10/V	FKM	3651559

TYPICAL PERFORMANCE

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



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.

HYDAC Fluidtechnik GmbH

Justus-von-Liebig-Str.
D-66280 Sulzbach/Saar
Tel.: 0 68 97 /509-01
Fax: 0 68 97 /509-598
E-mail: valves@hydac.com