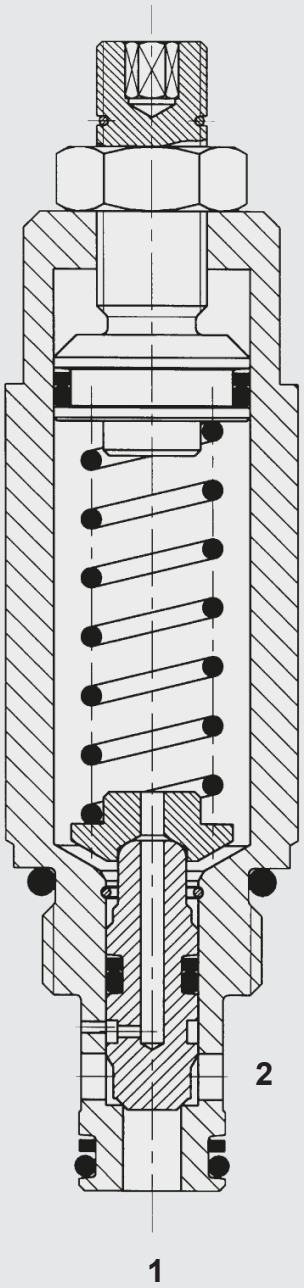


up to 38 l/min
up to 420 bar

Pressure relief valve
DB08A-01

Poppet type, direct-acting
Screw-in Cartridge Valve UNF – 420 bar

FUNCTION



PRODUCT ADVANTAGES

- Quick response
- With integrated maximum-stroke limiter
- Optimal range of pressure ratings up to 420 bar
- Large range for pressure setting
- Compact design
- External surfaces with advanced corrosion protection thanks to ZnNi coating (1,000 h salt spray test)

DESCRIPTION OF FUNCTION

The HYDAC DB08A pressure relief valve is a direct-acting, spring-loaded poppet valve.

It is responsible for limiting the pressure in the system. The compression spring exerts a force on the poppet element and presses it onto the valve seat. The system pressure is applied on the opposite side of the poppet element via port 1.

If the spring force is exceeded, the valve opens and flow is diverted to the tank via port 2. This continues until the system pressure equals the spring force and the valve closes again.

Caution:
Pressure at port 2 increases the set pressure.

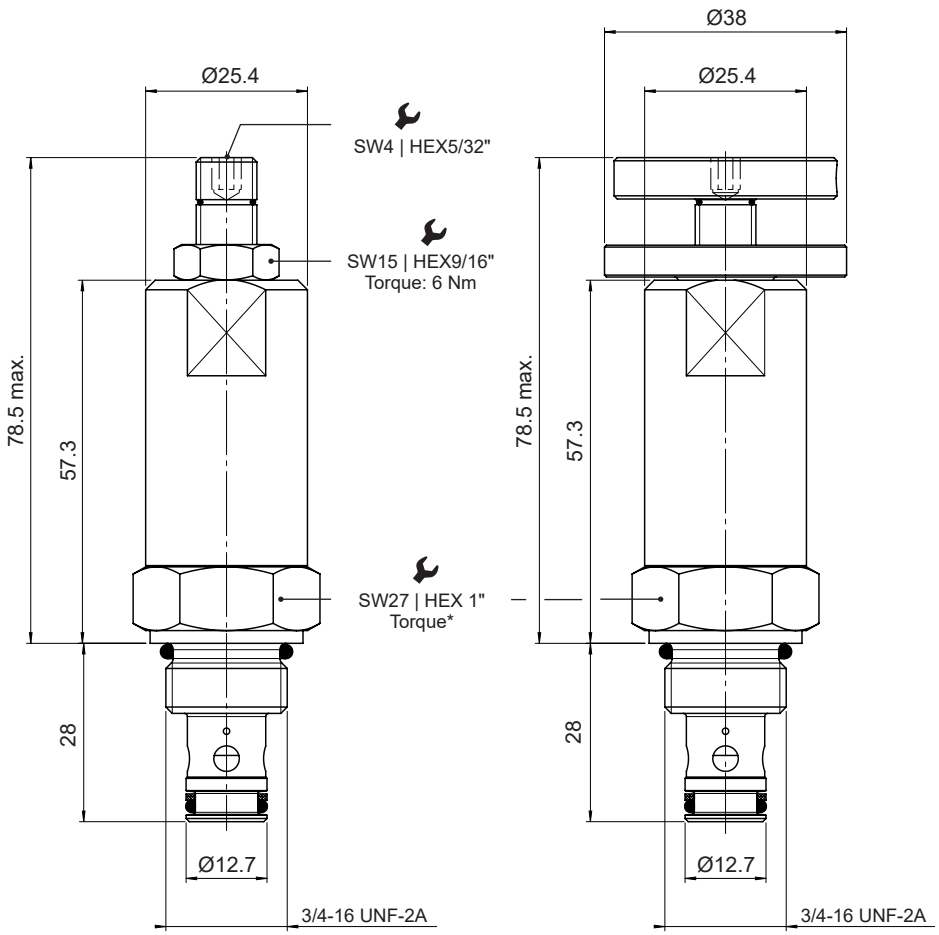
TECHNICAL DETAILS[1)]

Operating pressure	max. 420 bar	max. 6,000 psi
Tank pressure	max. 100 bar	max. 1,450 psi
Flow rate	max. 38 l/min	max. 10 gpm
Operating pressure range	5 - 35 bar 8 - 62 bar 10 - 124 bar 10 - 228 bar 20 - 345 bar 25 - 420 bar	75 - 500 psi 120 - 900 psi 145 - 1,800 psi 145 - 3,300 psi 290 - 5,000 psi 360 - 6,000 psi
Internal leakage	0.25 cm^3/min at 80% of pressure setting	
Operating fluid	Hydraulic oil to DIN 51524 Part 1, 2 and 3	
Ambient temperature range	NBR: min. -30 °C up to max. +100 °C FKM: min. -20 °C up to max. +120 °C	
Temperature range of operating fluid	NBR: min. -30 °C up to max. +100 °C FKM: min. -20 °C up to max. +120 °C	
Viscosity range	min. 7.4 mm^2/s to max. 420 mm^2/s	
Filtration	Permitted contamination level of the operating fluid as defined by ISO 4406 Class: 21/19/16	
$MTTF_D$	150 - 1,200 years, assessment according to DIN EN ISO 13849-1:2016; Table C.1, Confirmation of ISO 13849-2:2013; Tables C.1 and C.2	
Installation position	User-definable	
Materials	Valve body: Steel Spool: Steel, hardened and ground Seals: NBR (standard) FKM Support rings: PTFE	
Cavity	FC08-2	
Weight	0.22 kg	

[1)] See “Conditions and Instructions for Valves” in brochure 53.000.

DIMENSIONS

Adjustment type: **V** **H**

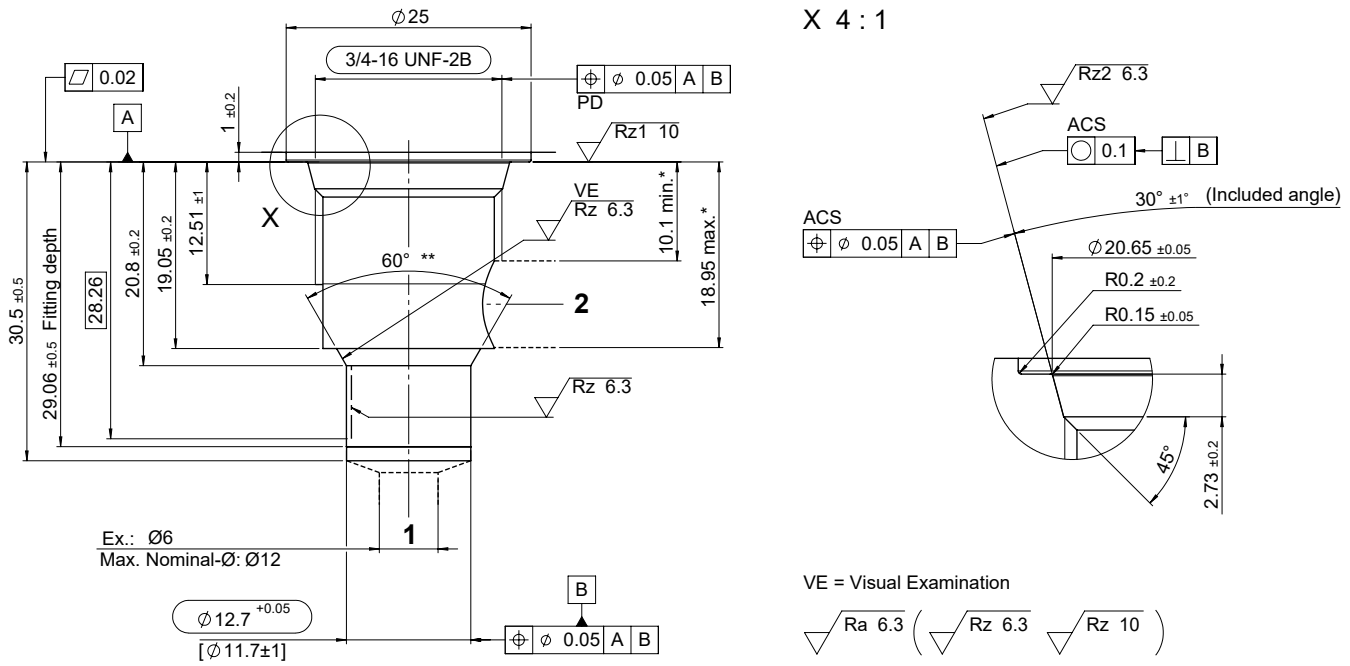


*Tightening torque:
Steel housing burst strength >360 N/mm^2: 30 Nm | Aluminium housing burst strength >210 N/mm^2: 30 Nm
Torque tool acc. to DIN EN ISO 6789, tool type II class A or B.

Millimetre
Subject to technical modifications.

CAVITY

FC08-2

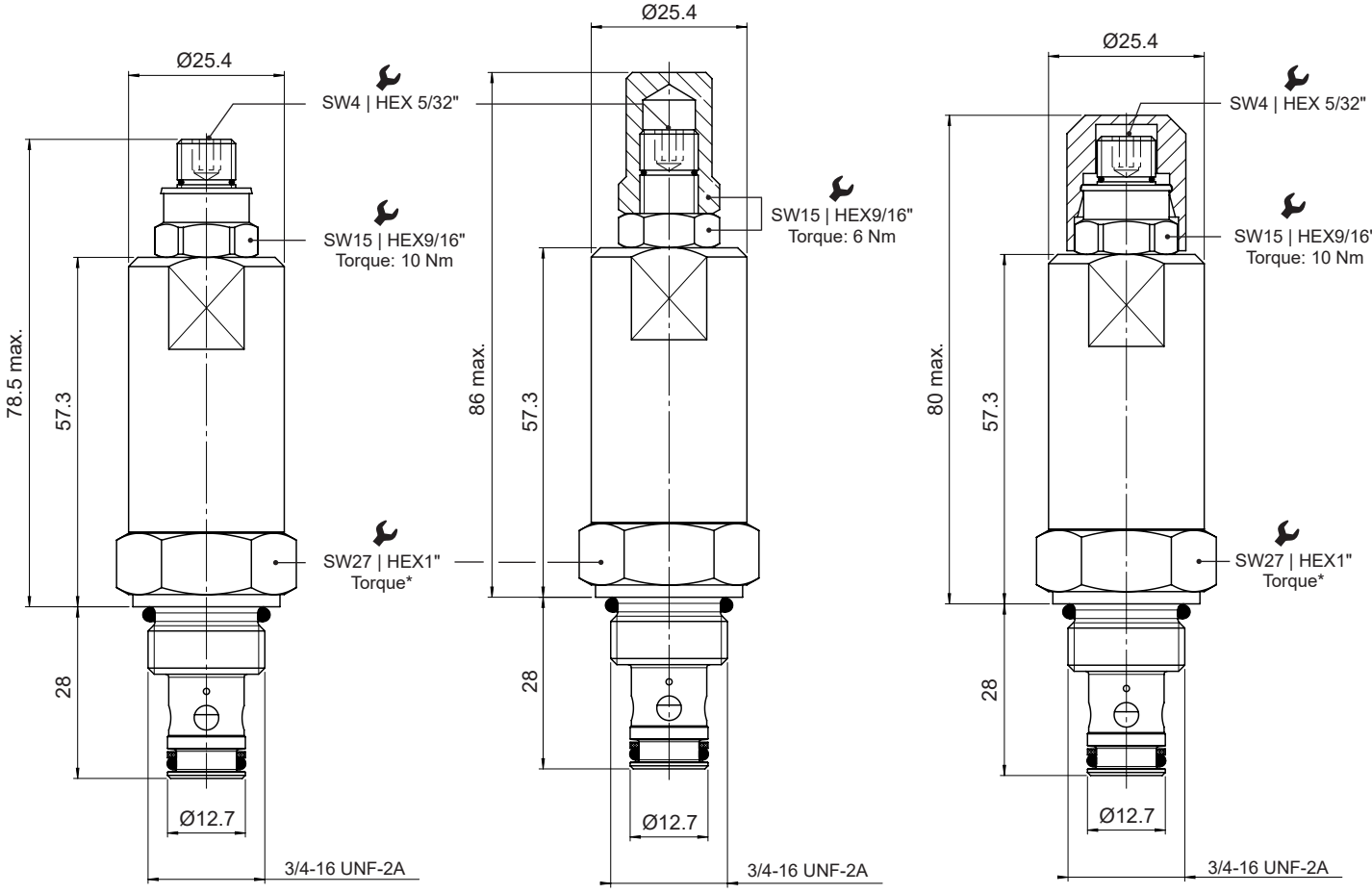


* Permitted boring zone (for block design)
** Sharp edges should be avoided by using a radius of 0.1 mm to 0.2 mm (unless otherwise stated).
*** Largest pilot hole diameter (nominal tool diameter)

Millimetres
Subject to technical modifications.

DIMENSIONS

Adjustment type: **C** **K** **F**



MODEL CODE

DB08A - 01 - C - N - 330 V 300

Designation
Pressure relief valve, UNF

Design
01 = standard

Connection type
C = Screw-in cartridge valve

Seals
N = NBR (standard)
V = FKM

Pressure setting range* in psi/10
050 = 5 - 35 bar | 75 - 500 psi
090 = 8 - 62 bar | 120 - 900 psi
180 = 10 - 124 bar | 145 - 1,800 psi
330 = 10 - 228 bar | 145 - 3,300 psi
500 = 20 - 345 bar | 290 - 5,000 psi
600 = 25 - 420 bar | 360 - 6,000 psi

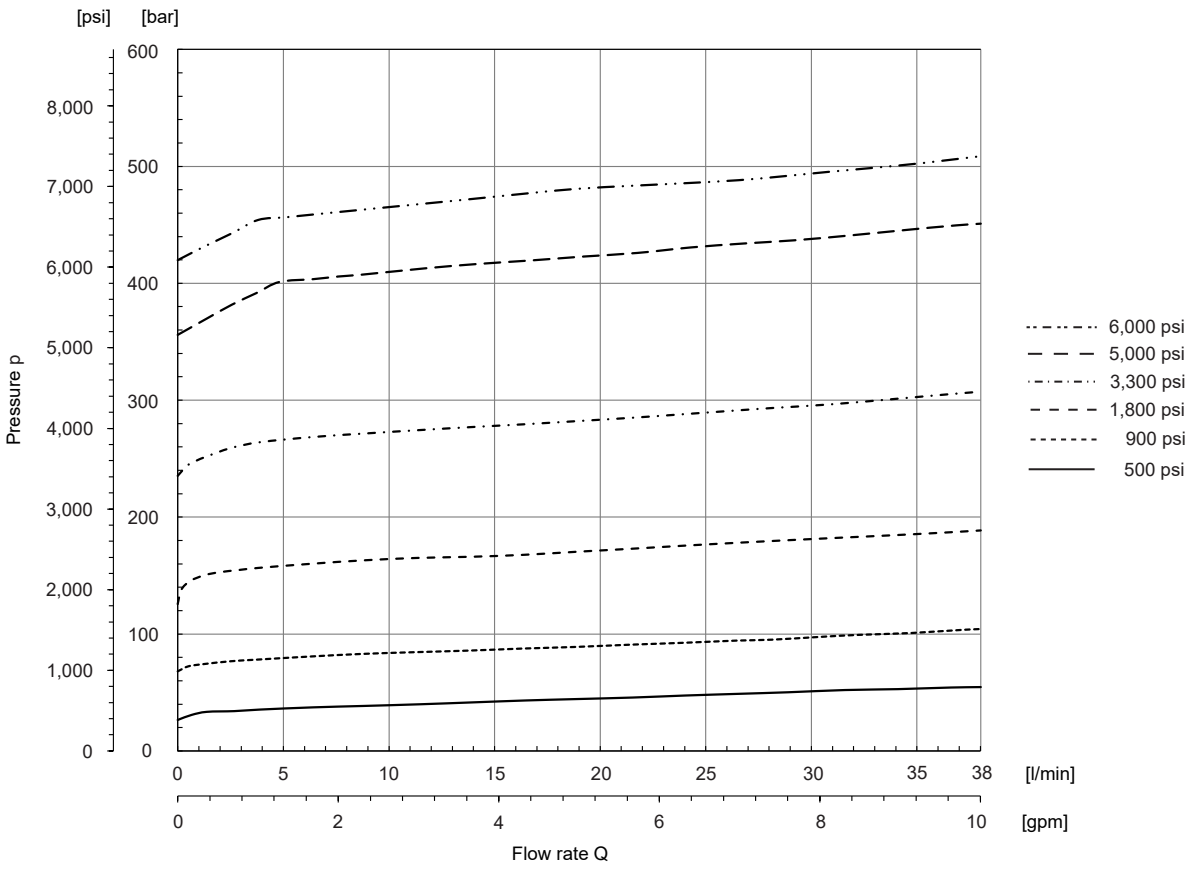
Adjustment type
C = adjustable with tool, with holder for optional protective cap | Part no. 3040641
F = fixed setting, not adjustable
H = adjustable via rotary knob
K = adjustable using tool, with protective cap
V = adjustable with tool

Cracking pressure setting in psi/10
n/s = no setting, spring relaxed
300 = pressure set before delivery*

*Further versions on request.

TYPICAL PERFORMANCE CURVES

p/Q characteristics measured at ν = 34 mm²/s, T_{oil} = 46 °C



MATERIAL OVERVIEW

Standard design

Designation	Part no.
DB08A-01-C-N-050H	3076569
DB08A-01-C-N-050V	560416
DB08A-01-C-N-090H	3144735
DB08A-01-C-N-090V	560417
DB08A-01-C-N-090V050	2597353
DB08A-01-C-N-180H	3144736
DB08A-01-C-N-180V	560418
DB08A-01-C-N-330C	4118903
DB08A-01-C-N-330H	3080951
DB08A-01-C-N-330V	560419
DB08A-01-C-N-330V180	2595750
DB08A-01-C-N-500C	4088076
DB08A-01-C-N-500H	3115258
DB08A-01-C-N-500V	560420
DB08A-01-C-N-600H	4157169
DB08A-01-C-N-600V	560421
DB08A-01-C-N-600V500	4086029
DB08A-01-C-V-050V	3010141
DB08A-01-C-V-090V	3010143
DB08A-01-C-V-180V	3010144
DB08A-01-C-V-330V	3010145
DB08A-01-C-V-500V	3010146
DB08A-01-C-V-600V	3010147

Further versions on request.

Spare parts

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

Housing

Designation	Material	Code	Pressure	Ports	Weight	Part no.
Pipe connection housing	Steel, zinc-plated	H-R082-SB3	350 bar	G3/8"	0.45 kg	560919
Pipe connection housing	Aluminium, anodised	H-R082-AB3	210 bar	G3/8"	0.16 kg	3011423

Cavity tools

Designation	Part no.
Rougher (Countersink)	175473
Finisher (Reamer)	175474

NOTE

The information given in this brochure refers to the described operating conditions and applications. For applications and operating conditions not described, please contact the relevant technical departments.
Subject to technical modifications.
Documents are only valid if they have been obtained via the website and are up-to-date.

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