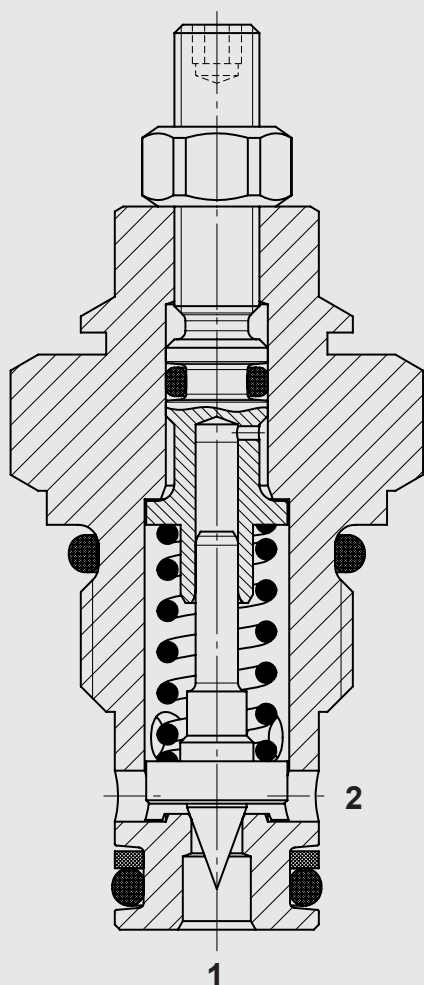


up to 15 l/min
up to 350 bar

FUNCTION



Pressure Relief Valve **DB3E-02**

Poppet type, direct-acting
Screw-in Cartridge Valve, metric – 350 bar

PRODUCT ADVANTAGES

- Low hysteresis
- Guided closing element
- Can be adjusted across the entire setting range
- Various pressure ranges up to 350 bar
- External surfaces with advanced corrosion protection thanks to ZnNi coating (1,000 h salt spray test)

DESCRIPTION OF FUNCTION

The HYDAC pressure relief valve DB3E-02 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 hydraulic pressure is below the pre-set spring force, the valve will stay closed. Only if the hydraulic force exceeds the pre-set spring force does the valve open and volume flow is diverted to the tank via port 2.

Note:

Pressure at port 2 increase the set pressure. If the port assignment is incorrect or the pressure setting is above the operating pressure, the valve does not operate.

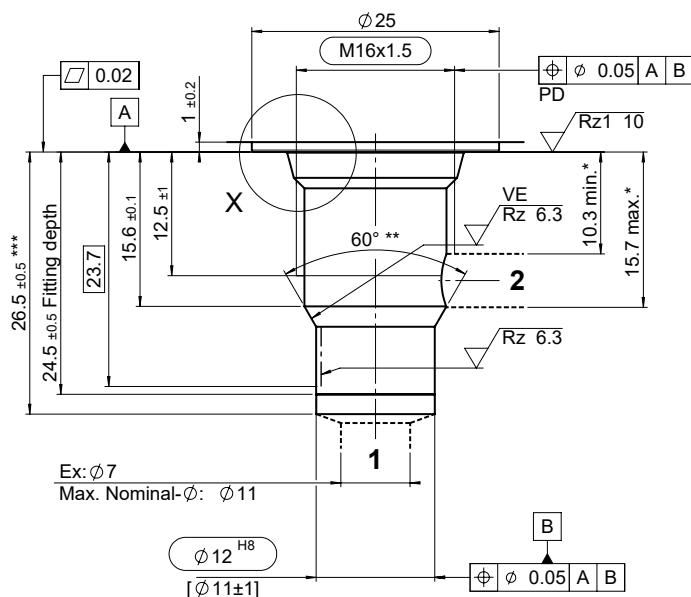
TECHNICAL CHARACTERISTICS¹⁾

Operating pressure	max. 350 bar max. 100 bar at port 2 (tank)	max. 5,000 psi max. 1,450 psi at port 2 (tank)
Flow rate	max. 15 l/min	max. 3.95 gpm
Operating pressure ranges	025 = 5 - 25 bar 050 = 5 - 50 bar 100 = 10 - 100 bar 250 = 10 - 250 bar 350 = 20 - 350 bar	75 - 350 psi 75 - 700 psi 150 - 1,500 psi 150 - 3,600 psi 300 - 5,000 psi
Internal leakage	Leak-free, max. 5 drops/min (0.25 cm ³ /min) at 80% of the nominal set pressure at port 1	
Operating fluid	Hydraulic oil according 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. +100 °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 up to max. 420 mm ² /s	
Filtration	Permitted operating fluid contamination level according to ISO 4406 Class 21/19/16 or better	
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	
Material	Valve body: Steel, Poppet: Steel, hardened and ground Seals: NBR (standard) FKM Support rings: PTFE	
Cavity	05220	
Weight	0.053 kg	

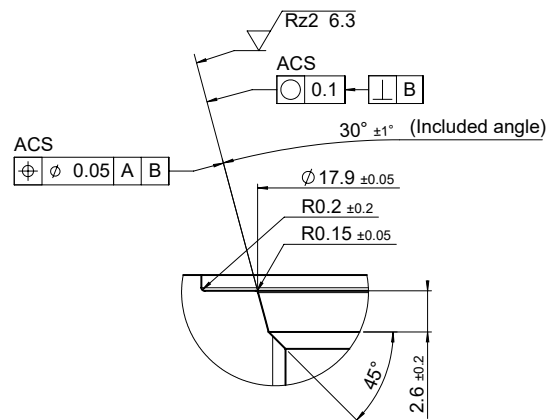
¹⁾ See "Conditions and Instructions for Valves" in brochure 53.000.

CAVITY

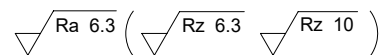
05220



X 4 : 1



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 (unless otherwise stated).

*** Largest pilot hole diameter (nominal tool diameter)

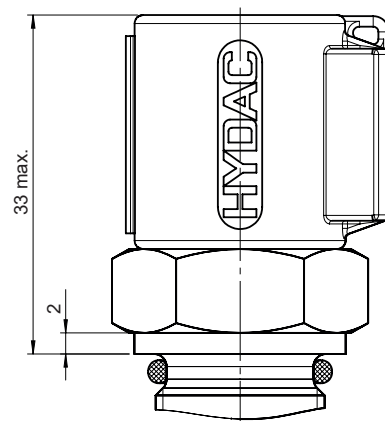
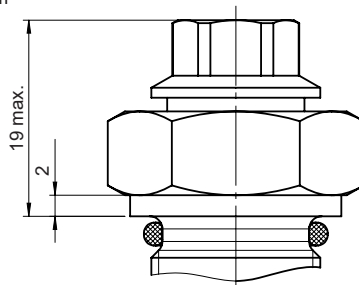
Millimetres

Subject to technical modifications.

Adjustment type:

F

C



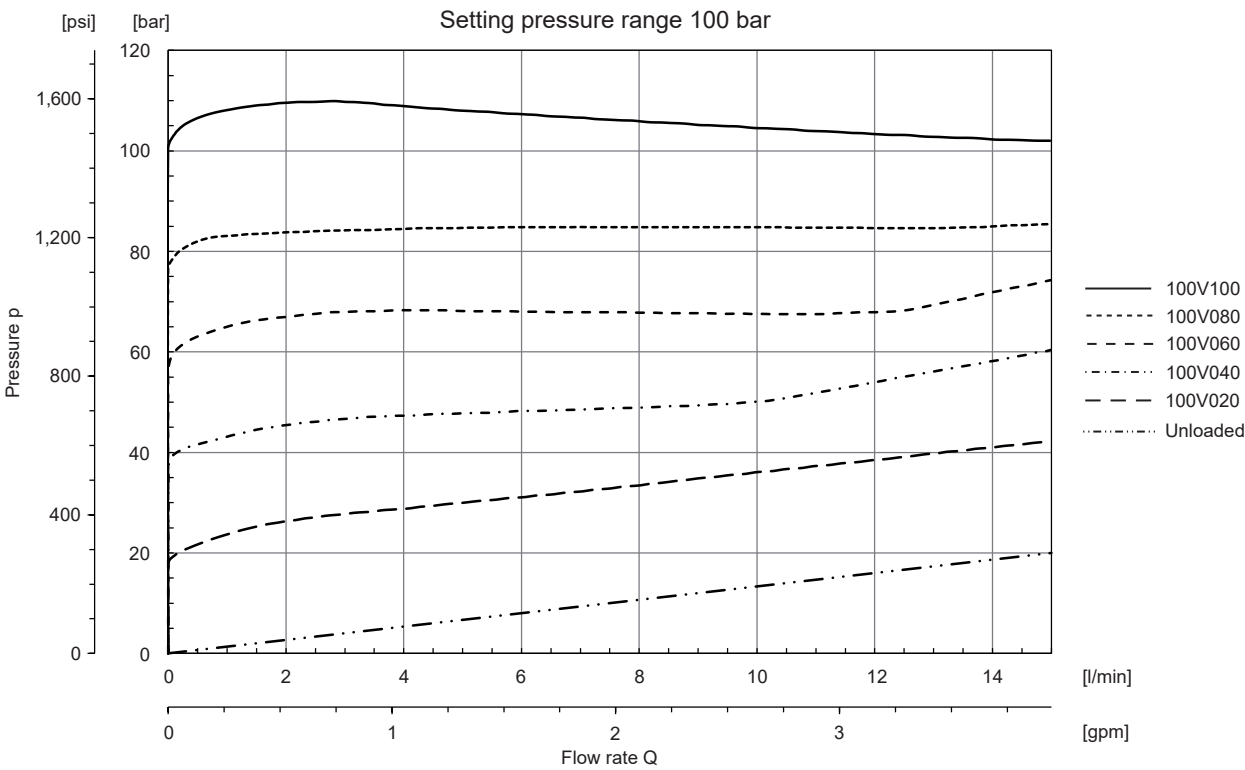
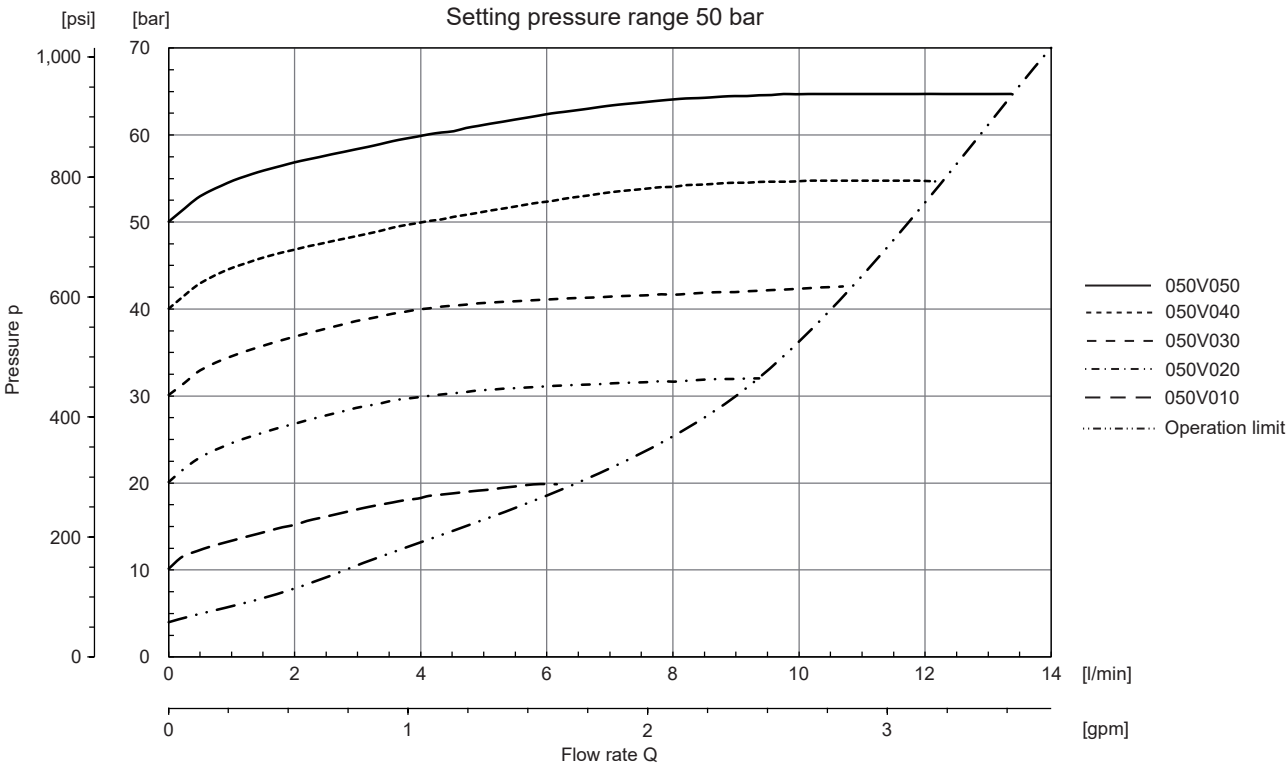
Millimetre
Subject to technical modifications.

DB3E – 02 – C – VU – 350 V 250

*Further versions on request.

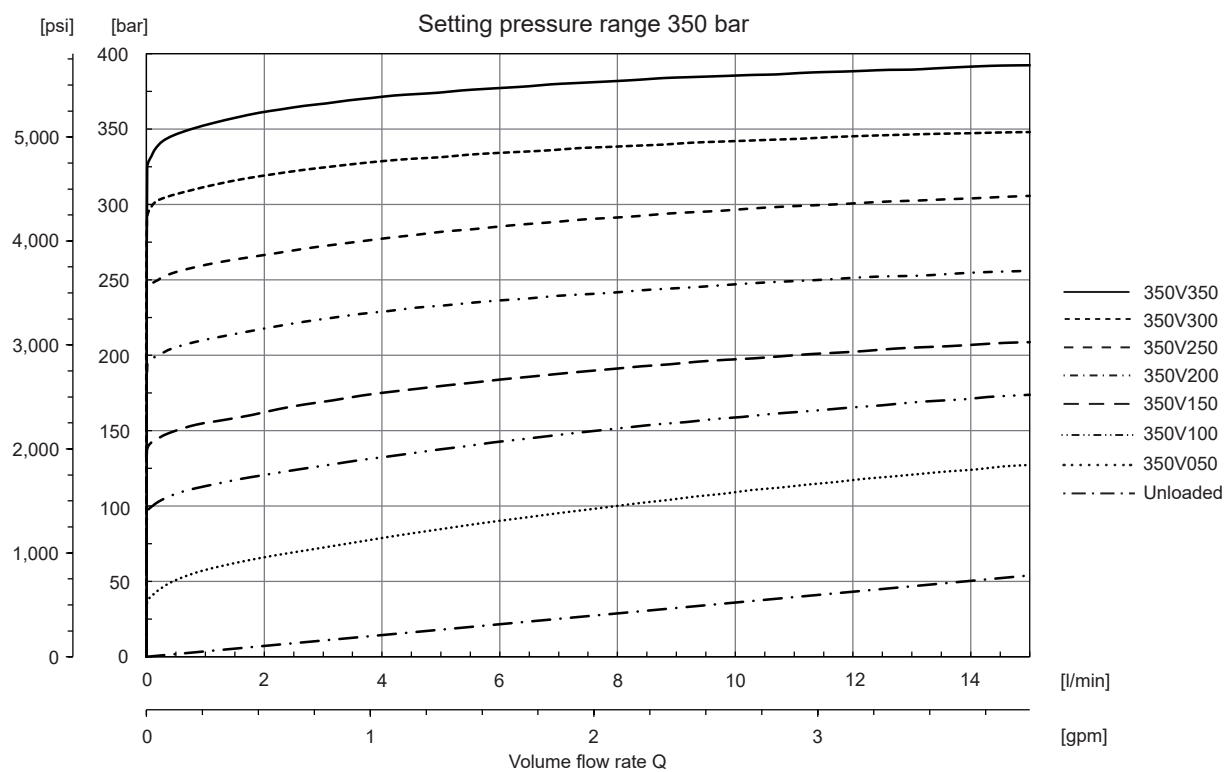
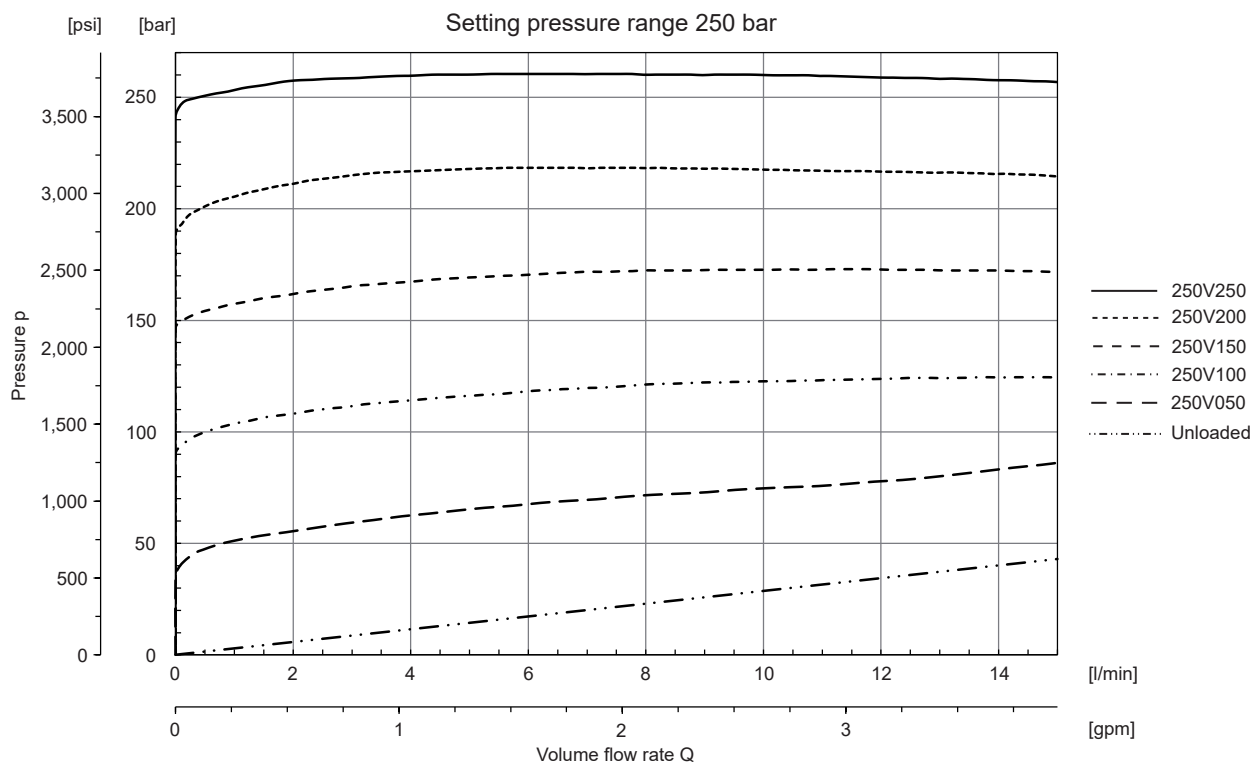
TYPICAL CHARACTERISTICS

p/Q characteristics measured at $v = 34 \text{ mm}^2/\text{s}$, $T_{\text{Oil}} = 46 \text{ }^\circ\text{C}$



TYPICAL CHARACTERISTICS

p/Q characteristics measured at $v = 34 \text{ mm}^2/\text{s}$, $T_{\text{Oil}} = 46 \text{ }^\circ\text{C}$



MATERIAL OVERVIEW

Standard designs

Designation	Part no.
DB3E-02-C-NU-025V	4424702
DB3E-02-C-NU-250V	4585482
DB3E-02-C-NU-350V	4852423
DB3E-02-C-VU-025V	4024774
DB3E-02-C-VU-050V	716125
DB3E-02-C-VU-050V050	4547606
DB3E-02-C-VU-100F050	4710276
DB3E-02-C-VU-100F100	3075468
DB3E-02-C-VU-100V	716147
DB3E-02-C-VU-100V080	4430272
DB3E-02-C-VU-100V100	3074596
DB3E-02-C-VU-250F200	480238
DB3E-02-C-VU-250F250	3501428
DB3E-02-C-VU-250V	716146
DB3E-02-C-VU-250V200	552693
DB3E-02-C-VU-250V250	3150764
DB3E-02-C-VU-350F350	716132
DB3E-02-C-VU-350V	397405
DB3E-02-C-VU-350V250	4232989

Further versions on request.

Spare parts, seal kits

Designation	Material	Part no.
Seal kit	FKM	715797
Seal kit	NBR	4945079

Housing

Designation	Material	Code	Pressure	Ports	Weight	Part no.
Pipe connection housing	Steel, zinc-plated	H-R05220-02-SB3	350 bar	G3/8	0.4 kg	277372

Further versions on request.

Accessories adjustment type V

Designation	Material	Part no.
Seal cap, black	Polyamide	3882068

Tools

Designation	Part no.
Rougher (Countersink)	170040
Finisher (Reamer)	1014203
Screw tap	1002605
Plug gauge	172827

NOTE

The information in this brochure relates to the operating conditions and applications described. For applications 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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