

up to 110 l/min
up to 400 bar

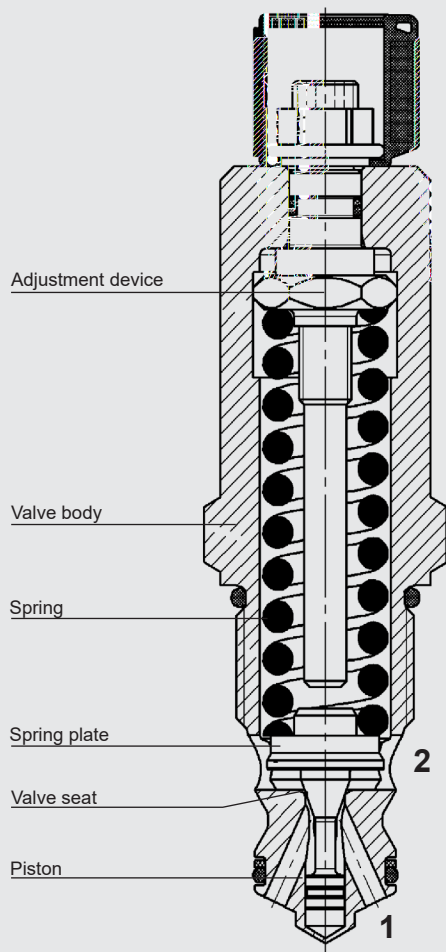
Relief valve

DB12120A-01X-CE

DB12120A-01X-UKCA

Poppet Type, Direct-Acting Cartridge Valve, Metric – 400 bar

FUNCTION



PRODUCT ADVANTAGES

- Low hysteresis and accurate pressure control
- Excellent stability throughout the entire flow range
- Various pressure ranges up to 400 bar
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1,000 h salt spray test)

DESCRIPTION OF FUNCTION

The release valve is rated in on the basis of its opening characteristics in accordance with AD 2000 as a standard relief valve. The design corresponds to that of a direct-acting, spring-loaded relief valve.

With approval for the European market and the UK

- EU: in acc. with PED 2014/68/EU and type approval test in accordance with VdTÜV
- GB: in acc. with PE(S)R 2016

The compression spring exerts a force on the closing poppet and presses it on the valve seat. If the hydraulic pressure is below the pre-set spring force, the valve is closed. Only if the hydraulic force exceeds the pre-set spring force does the valve open and flow is diverted to tank via port 2. This continues until the pressure force drops below the spring force and the valve closes again.

Please make sure to observe the operating manual in this regard, which is enclosed with the product on delivery.

The key points are stated below:

- No oil accumulation or pressure build-up permitted in the tank connection (port 2) (in accordance with DIN EN ISO 4126-1)
- If the port connections are incorrect, the safety function of the valve is disabled
- The pressure setting configured before delivery must not be altered
- Dismantling or modifying the valve is not permitted
- The system manufacturer's specifications must be adhered to when removing the valve from its installation space

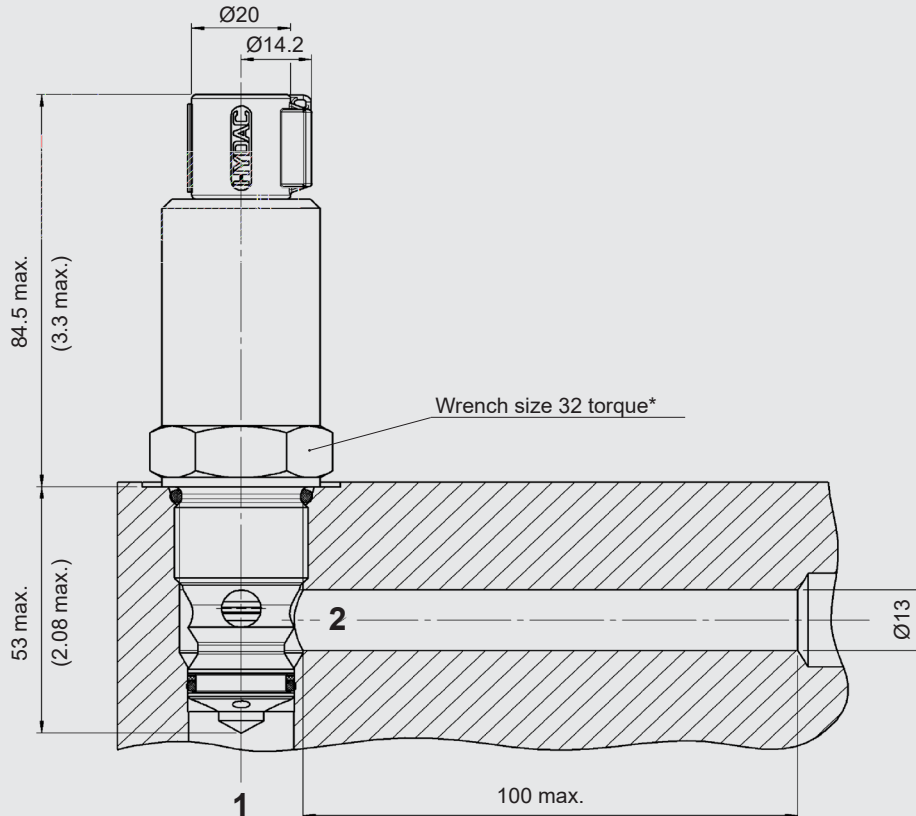
TECHNICAL CHARACTERISTICS ¹⁾

Operating pressure	Port 1: max. 400 bar Port 2: depressurised
Operating pressure range	30 to 400 bar
Flow rate	max. 110 l/min (depending on pressure range – see table “Permitted flow rate”)
Temperature range of operating fluid	min. -20 °C to max. +80 °C
Ambient temperature range	min. -20 °C to max. +80 °C
Pressure fluid	Hydraulic oil to DIN 51524 Part 1, 2 and 3
Viscosity range	min. 8 mm ² /s to max. 230 mm ² /s or 350 mm ² /s (see table “Permitted flow rate”)
Filtration:	Permitted operating fluid contamination level according to ISO 4406 Class 21/19/16 or better
Mounting position	No orientation restrictions
Materials	Valve body: Steel Closing element: Hardened and ground steel Seal rings: FKM Support rings: PTFE
MTTF _d	Not applicable, assessment according to PED already rated as Cat. IV
Cavity	12120A
Weight	0.42 kg

PERMITTED FLOW RATE

Range for cracking pressure [bar]	Max. flow rate [l/min]	Max. viscosity [mm ² /s]
30–35	4.5	230
36–39	15	
40–49	72	
50–90	80	
91–99	20	
100–109	27	
110–119	80	
120–150	110	
151–179	27	
180–400	110	
190–400	110	350

DIMENSIONS



*Torque:

Steel housing (burst strength > 360 N/mm²): 65 Nm

Aluminium housing (burst strength > 330 N/mm²): 55 Nm

(With torque tool in acc. with DIN EN ISO 6789, tool type II, class A or B)

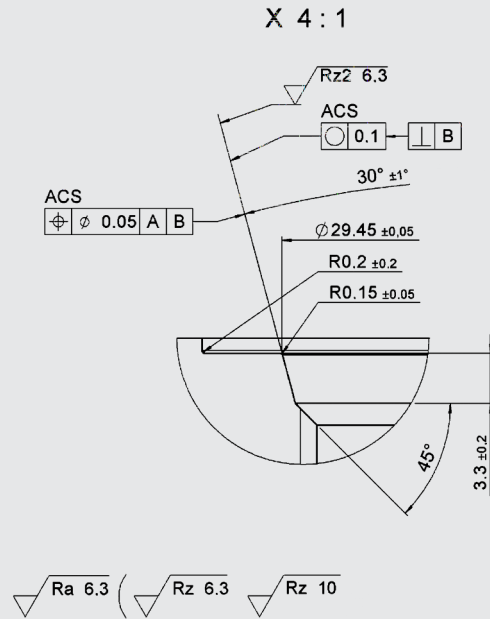
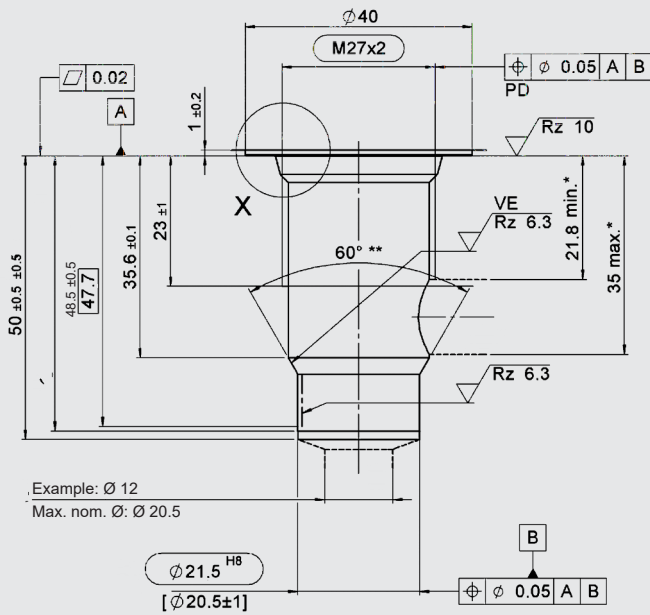
For more information see “Operating conditions and instructions for valves” in brochure 53.000

Millimetres

Subject to technical modifications.

CAVITY

12120A



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

Millimetres
Subject to technical modifications.

MODEL CODE



DB12120A - 01 1 - CEXXXX.ENISO4126.6L. XXX. XXX

Description

Relief valve

Design

Version number

Determined by manufacturer

Type approval code

XXX stands for the identification number of the notified body and CE to EN ISO 4126

Max. permitted flow rate

080 = 80 l/min

Rate depends on the pressure range (see table "Permitted flow rate")

Cracking pressure

050 = 50 bar, cracking pressure, factory-set (see table "Permitted flow rate")

Notice: Cracking pressure setting available in 5 bar increments, e.g.: ... 50; 55; 60 ... bar

TYPE APPROVAL CODE (only valid for EU)

TÜV.SV.XX-981.6.F. XXX. XXX

Type approval code

Year of type approval test

Flow rate [l/min]

Cracking pressure [bar]

DB12120A-01 X - UKCA0168.6L . XXX . XXX

Designation

Relief valve

Version number

Type approval code

UKCA and notified body

Flow rate [l/min]

Cracking pressure [bar]

DOCUMENTATION

The following documents are enclosed with every valve:

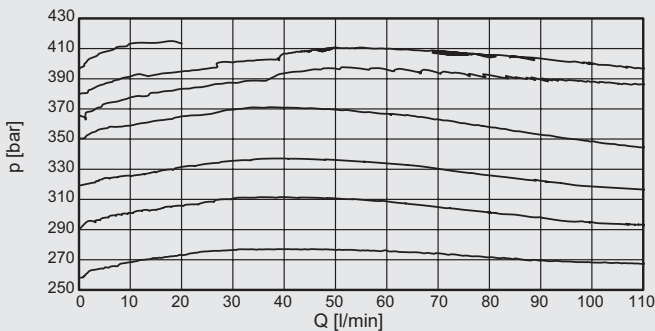
- Operating instructions
- Declaration of conformity
- Conformity certificate

SAMPLE CHARACTERISTICS

Corresponds to fluid HLP 32 at fluid temperature 40 °C. The performance curves display an extended flow range, because of a reduced viscosity value. The max. permitted flow rate depends on pressure and viscosity.

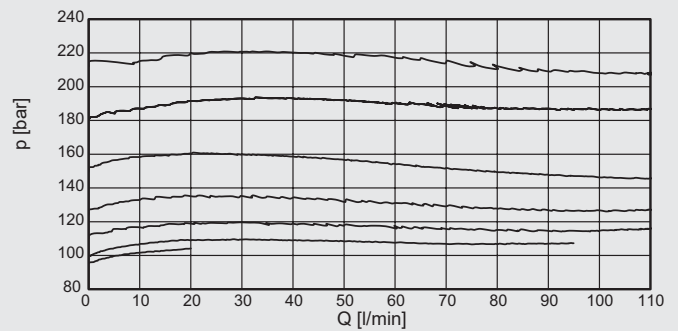
p/Q curve at viscosity 32 mm²/s

Cracking pressure 255 / 290 / 320 / 350 / 365 / 380 / 400



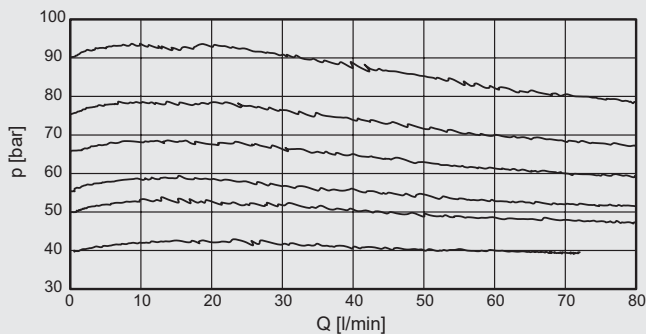
p/Q curve at viscosity 32 mm²/s

Cracking pressure 95 / 100 / 110 / 125 / 150 / 180 / 210



p/Q curve at viscosity 32 mm²/s

Cracking pressure 40 / 50 / 55 / 65 / 75 / 90



MATERIAL OVERVIEW

Standard models

Designation	Part no.
DB12120A-011-CEXXXX.ENISO4126.6L.4.5.035	4726633
DB12120A-011-CEXXXX.ENISO4126.6L.027.100	4727083
DB12120A-011-CEXXXX.ENISO4126.6L.027.160	4727156
DB12120A-011-CEXXXX.ENISO4126.6L.080.070	3108605
DB12120A-011-CEXXXX.ENISO4126.6L.110.140	3108620
DB12120A-011-CEXXXX.ENISO4126.6L.110.210	3108627
DB12120A-011-CEXXXX.ENISO4126.6L.110.250	3108629
DB12120A-011-CEXXXX.ENISO4126.6L.110.280	3108631
DB12120A-011-CEXXXX.ENISO4126.6L.110.315	3108633
DB12120A-011-CEXXXX.ENISO4126.6L.110.350	3087728

Other versions on request.

Spare parts, seal kits

Description	Material	Part no.
FS METRISCH 121..A/V	FKM	3651611

Accessories, cavity tools

Description	Part no.
Countersink	173958
Reamer	174874
Tap	1002625

Inline connection housing

Description	Material	Ports	Pressure	Part no.
R12120A-01X-01	Steel, zinc-plated	G 3/4"	400 bar	396489

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.

Documents are only valid if they have been obtained via the website and are up-to-date.

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