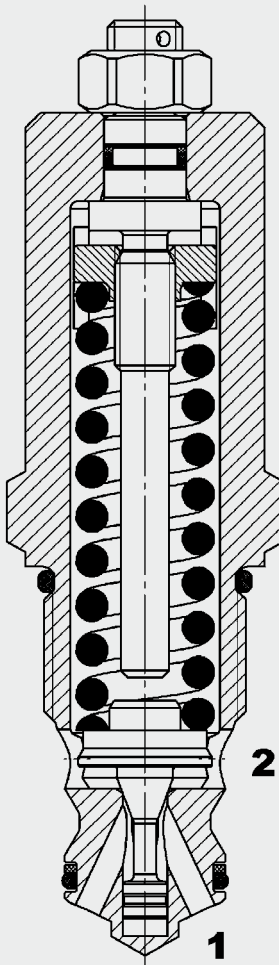


Up to 120 l/min  
Up to 420 bar

## FUNCTION



The pressure relief valve DB12120A is a direct-acting, spring-loaded poppet valve. Its function is to relieve pressure in the system. It is normally closed. If the pressure at port 1 exceeds the pre-set spring tension, the poppet is lifted off the seat and oil flows from port 1 to port 2.

This continues until the system pressure is equal to the spring tension and the valve closes again.

Important: Pressures at port 2 are additive to the opening pressure! If the connections are incorrect or if the pressure has been set above the operating pressure, the safety function of the valve is disabled.

## Pressure Relief Valve Poppet Type, Direct-Acting Metric Cartridge – 420 bar DB12120A

### FEATURES

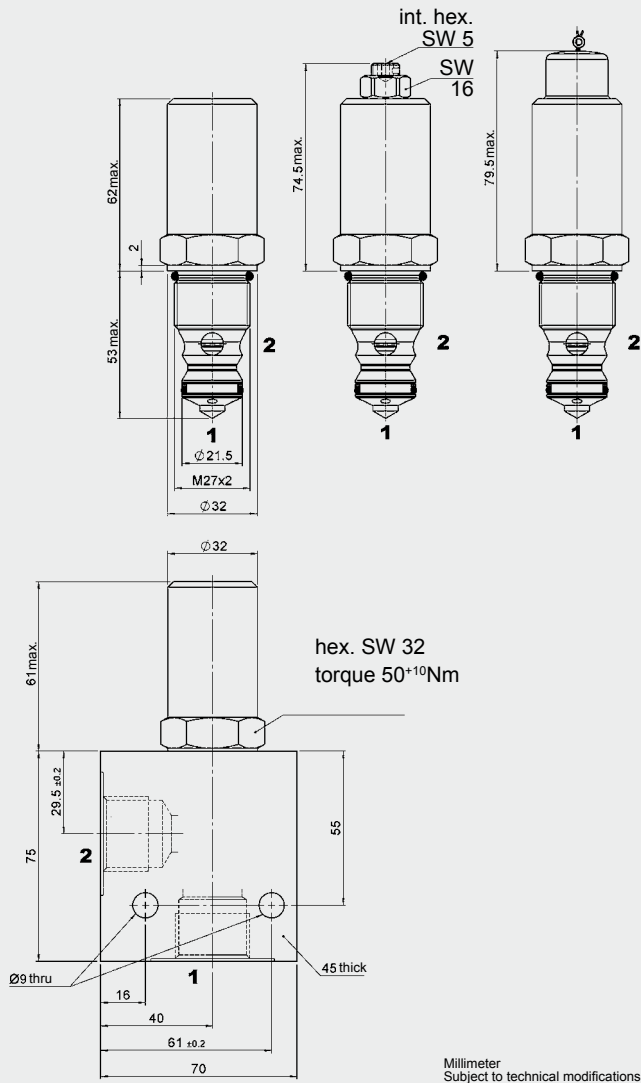
- Excellent stability throughout the entire flow range
- External surfaces zinc-plated and corrosion-proof
- Hardened and ground internal valve components to ensure minimal wear and extended service life
- Low pressure drop by CFD optimized flow path
- Various pressure ranges up to 420 bar

### SPECIFICATIONS

|                                    |  |
|------------------------------------|--|
| Operating pressure:                | max. 420 bar<br>max. 100 bar at port 2 (tank)  |
| Nominal flow:                      | max. 120 l/min   |
| Pressure setting ranges:           | 5 to 30 bar<br>30 to 55 bar<br>55 to 90 bar<br>10 to 150 bar<br>10 to 250 bar<br>10 to 350 bar<br>10 to 420 bar                                |
| Media operating temperature range: | min. -20 °C to max. +120 °C  |
| Ambient temperature range:         | min. -20 °C to max. +120 °C  |
| Operating fluid:                   | Hydraulic oil to DIN 51524 Part 1 and 2  |
| Viscosity range:                   | min. 7.4 mm <sup>2</sup> /s to max. 420 mm <sup>2</sup> /s   |
| Filtration:                        | Class 21/19/16 according to ISO 4406 or cleaner  |
| MTTF <sub>d</sub> :                | 150 years (see "Conditions and instructions for valves" in brochure 5.300)   |
| Installation:                      | No orientation restrictions  |
| Materials:                         | Piston: hardened and ground steel<br>Seals: FKM (standard)<br>NBR (optional, media temperature range -30 °C to +100 °C)<br>Back-up rings: PTFE |
| Cavity:                            | 12120A   |
| Weight:                            | 0.42 kg  |

## DIMENSIONS

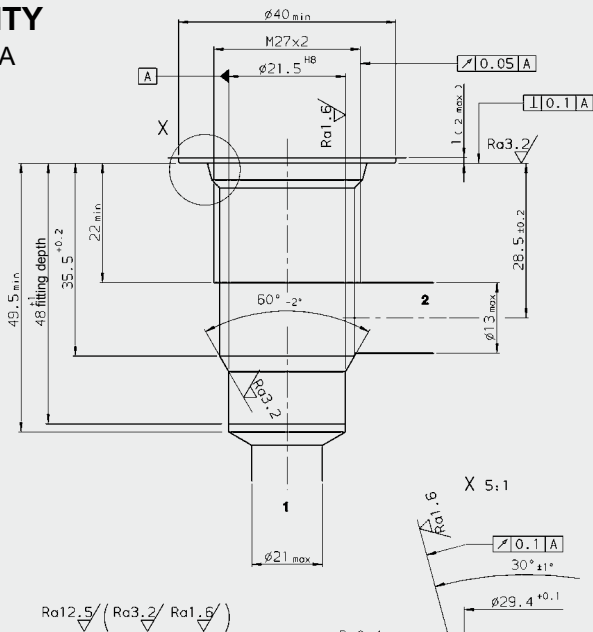
Adjustmt type F Adjustmt type V Adjustmt type PP



Millimeter  
Subject to technical modifications

## CAVITY

12120A



Millimeter  
Subject to technical modifications

### Form tools

| Tool            | Part No. |
|-----------------|----------|
| Countersink MK3 | 173958   |
| Reamer MK2      | 174874   |
| Tap             | 1002625  |

## MODEL CODE

DB 12120A - 01 X - 250 V 210

Basic model \_\_\_\_\_  
Pressure relief valve

Cavity to ISO \_\_\_\_\_  
12120A = 2-way, metric

Type \_\_\_\_\_  
01 = standard, zinc-plated

Series \_\_\_\_\_  
(determined by manufacturer)

Pressure setting range \_\_\_\_\_  
30 = 5 to 30 bar  
55 = 30 to 55 bar  
90 = 55 to 90 bar  
150 = 10 to 150 bar  
250 = 10 to 250 bar  
350 = 10 to 350 bar  
420 = 10 to 420 bar  
Other pressure ranges on request

Type of adjustment \_\_\_\_\_  
V = Allen head  
P = can be lead-sealed, adjustable with tool (with plug)  
Other types of adjustment on request

Opening pressure setting \_\_\_\_\_  
No details = no setting, spring relaxed  
210 = opening pressure in bar, factory-set  
Other pressure settings on request

### Standard models

| Model code        | Part No. |
|-------------------|----------|
| DB12120A-01X-030V | 555785   |
| DB12120A-01X-055V | 3117096  |
| DB12120A-01X-090V | 3494786  |
| DB12120A-01X-150V | 552805   |
| DB12120A-01X-250V | 552806   |
| DB12120A-01X-350V | 552807   |
| DB12120A-01X-420V | 552836   |

### Standard in-line bodies

| Code           | Part No. | Material           | Ports | Pressure |
|----------------|----------|--------------------|-------|----------|
| R12120A-01X-01 | 396489   | Steel, zinc-plated | G 3/4 | 420 bar  |

Other line bodies on request

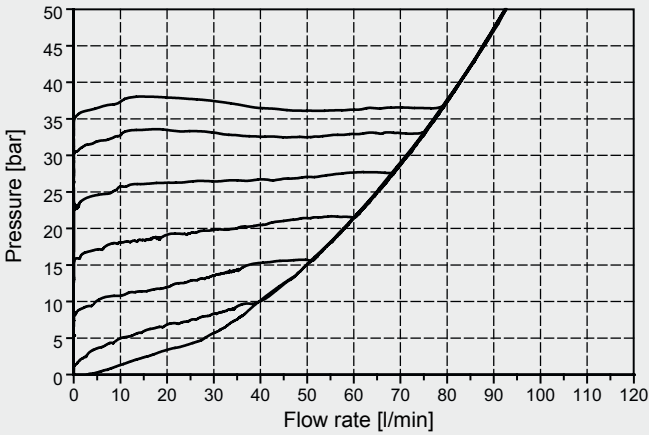
### Seal kits

| Code                       | Material | Part No. |
|----------------------------|----------|----------|
| SEAL KIT DB12120A-01X-...V | FKM      | 557399   |

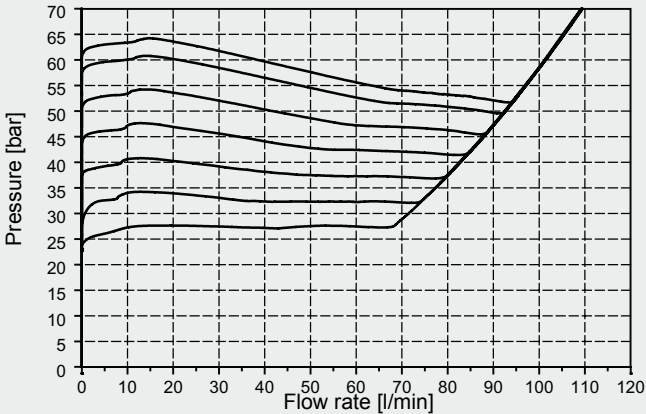
# PERFORMANCE

Measured at  $v = 33 \text{ mm}^2/\text{s}$ ,  $T_{\text{oil}} = 46 \text{ }^\circ\text{C}$

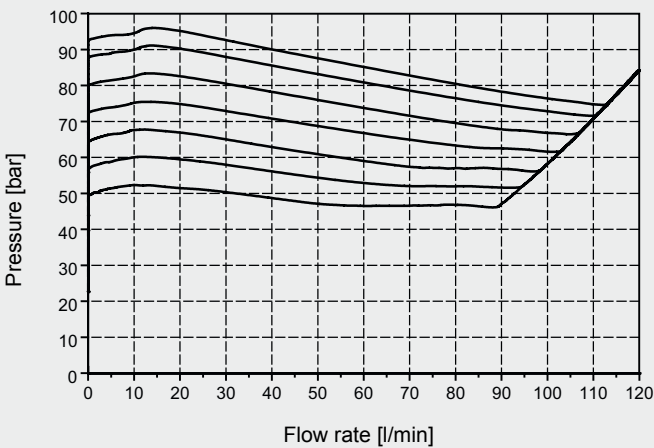
## Pressure range ... 30 bar



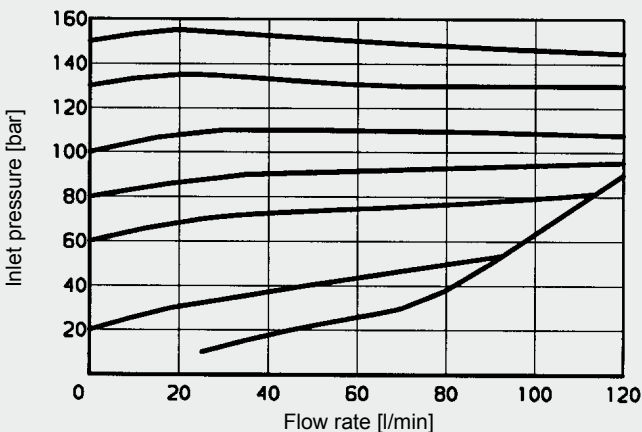
## Pressure range ... 55 bar



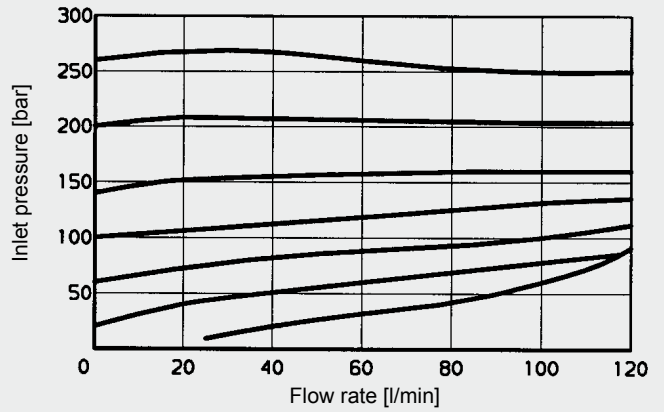
## Pressure range ... 90 bar



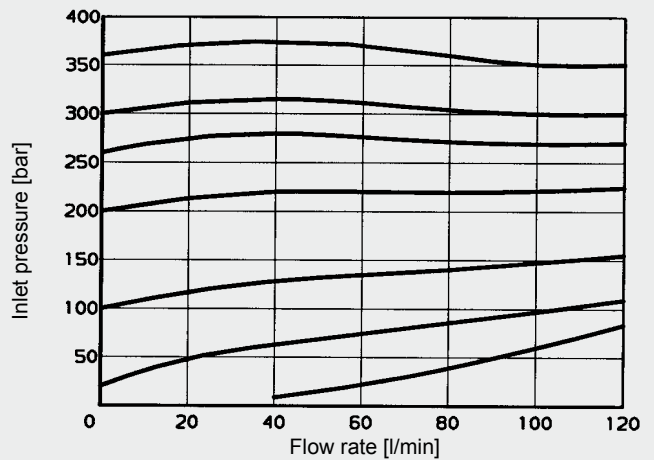
## Pressure range ... 150 bar



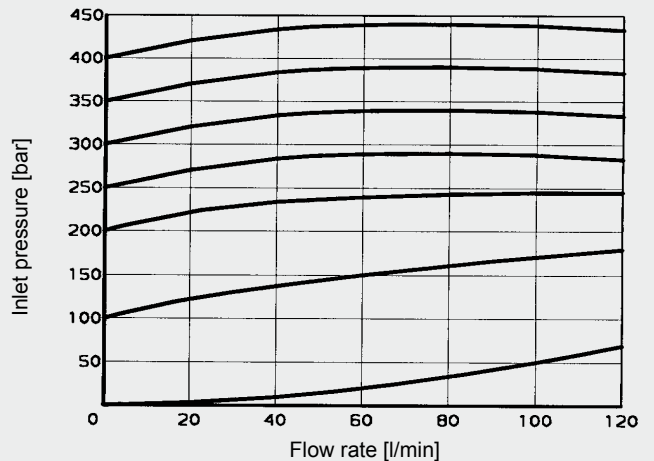
## Pressure range ... 250 bar



## Pressure range ... 350 bar



## Pressure range ... 420 bar



### 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.

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