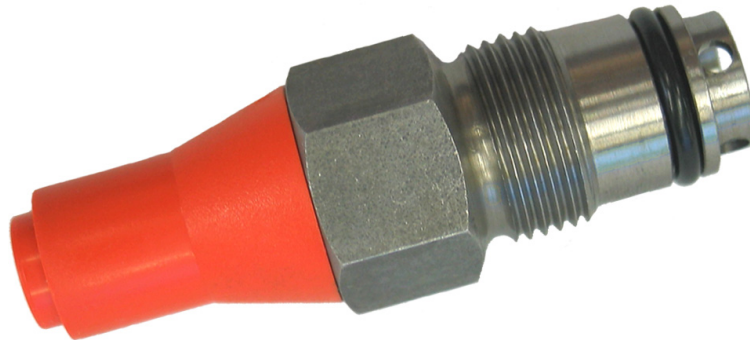


# Safety for Hydraulics

## Pressure-relief cartridge valve, series UVP 4



### 1 General description

- Protects the pump and/or actuator and system against over-pressure
- Various pressure ranges

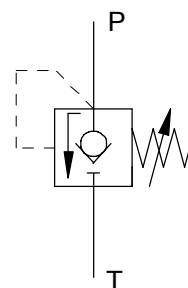
### 2 Advantages

- Leak-free when closed
- Hardened seat and poppet
- Compact design means small space requirements


### 3 Application

- For space-saving installation in hydraulic components and manifold blocks
- For pilot systems

### 4 Symbol



## 5 Main characteristics

 **Important:** for applications outside these parameters, consult Bucher Hydraulics


General characteristics	Description, value, unit
Type	seat valve
Mounting method	screw-in cartridge
Ports	P, T ⇒ section 11, mounting cavity
Mounting attitude	unrestricted
Flow direction	P → T
Weight	0.08 kg

Hydraulic characteristics	Description, value, unit
Size	4
Nominal flow rate Seat orifice dia. 4 Seat orifice dia. 2.5	20 l/min 10 l/min
Pressure setting max.	500 bar
Working pressure max.	up to 480 bar
Max. pressure at port T	350 bar
Hydraulic fluid	Mineral oil to DIN 51524 and DIN 51525 (HL/HLP). Other fluids - consult Bucher Hydraulics
Operating temperature range	-20 ... +80 °C, for other temperatures, consult Bucher Hydraulics
Temperature rating - seal materials Nitrile (standard) Nitrile (low temperature) Viton	-20 ... +80 °C -50 ... +80 °C -20 ... +200 °C
Viscosity range min. viscosity max. viscosity	10 ... 380 mm <sup>2</sup> /s (cSt) recommended 2.8 mm <sup>2</sup> /s (cSt) 1500 mm <sup>2</sup> /s (cSt)
Filtration / Cleanliness class	NAS 1638 class 9, β 10 ≥ 75 ISO 4406 class 18/15

## 6 Safety information

- This valve must only be used for the purpose for which it has been designed
- It must be adjusted by qualified personnel only
- Before removing or disassembling the valve, all hydraulic pressure must be vented from the system - double check!
- The valve must not be opened without the express permission of the manufacturer

## 8 Pressure-adjustment information

 **Important:** Valves with an orange protective cap (3) were set in the factory and shall not be altered by the customer (the orange protective will be damaged during removal).

Hence the following information is valid only for valves with a loosely attached yellow protective cap (3).

Required tools:  
for the setting screw (1): Allen key 4 mm A/F  
for the lock nut (2): open ended spanner 13 mm A/F

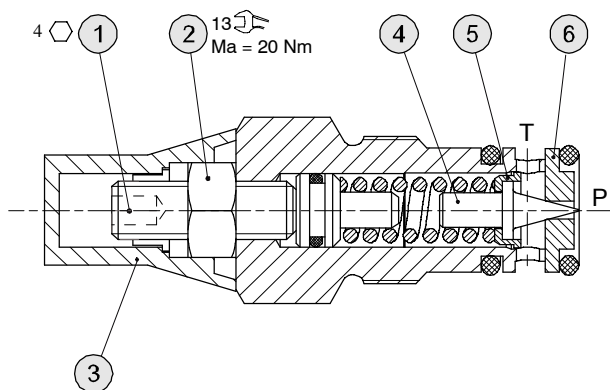
## 7 Installation information

- Observe all port designations (⇒ section 11)
- Protect seals from damage, and clean the cavity before fitting the valve
- Use the correct tightening torques (⇒ chapitre 11)
- At commissioning, bleed all air from the hydraulic system

Pressure increase → clockwise ↻  
Pressure reduction → counter-clockwise ↻  
Rate of pressure change  
→ dependent on pressure range

After the adjustment hold the setting screw (1) with the Allen key and tighten the lock nut (2) with 20 Nm.

## 9 Sectional view



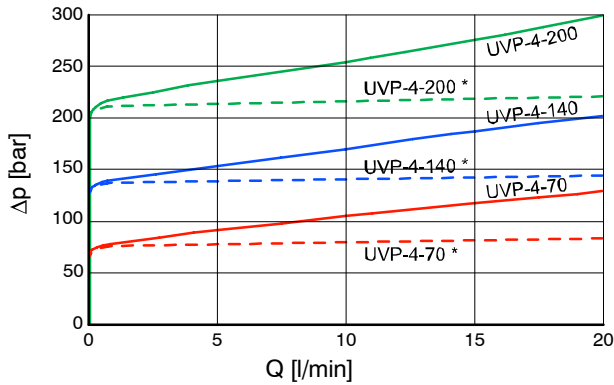
1	setting screw
2	lock nut

3	protective cap orange = the cracking pressure is set in the factory; removal will damage the cap yellow = loosely attached; to be mounted by the customer after setting the cracking pressure
4	poppet
5	damping bush (optional for seat orifice diameter = 4 mm)
6	seat

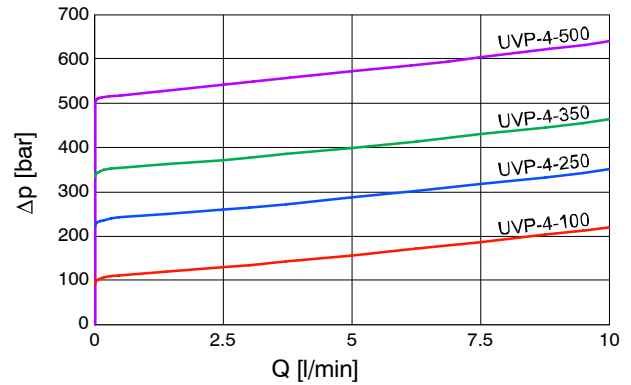
## 10 Performance graphs

measured at 33 mm<sup>2</sup>/s (cSt)

UVP-4, seat orifice diameter = 4 mm



UVP-4, seat orifice diameter = 2.5 mm



\* with damping bush (for a better characteristic)

## 11 Dimensions, mounting cavity

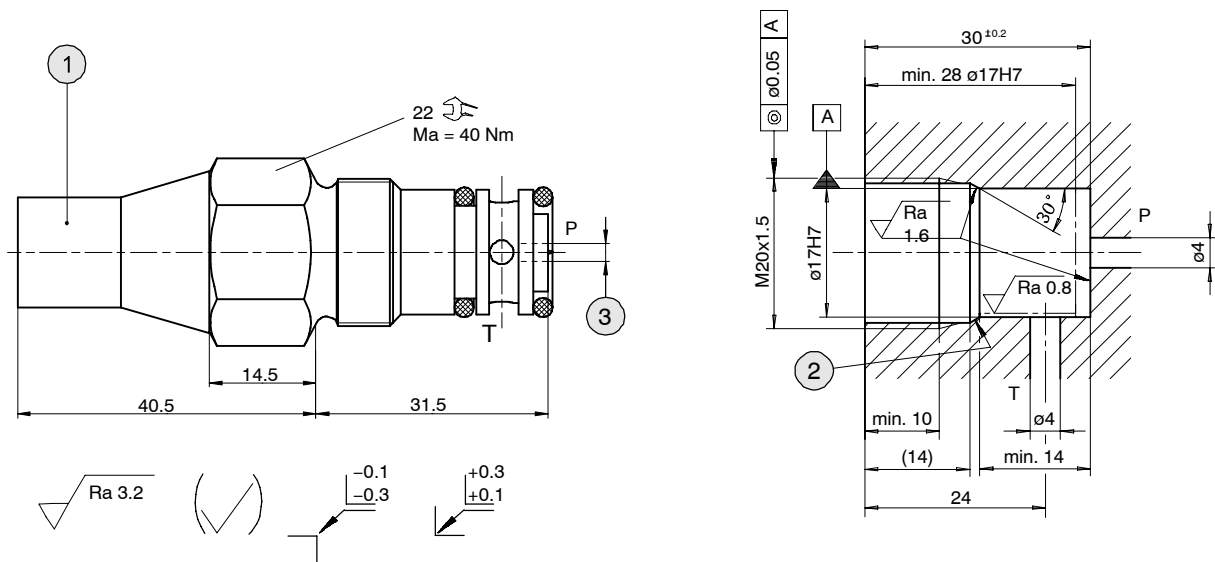


Fig. 1

300-7-10005933

Legend	<b>1</b>	protective cap
	<b>2</b>	thread runout must not damage the 30° countersink
	<b>3</b>	seat Ø



**Important:** bore T can be positioned anywhere around the circumference.

Max. cracking pressure bar	Seat ø (3) mm
70	4
100	2.5
140	4

200	4
250	2.5
350	2.5
500	2.5

## 12 Model code key

UVP - 4 / / / /

### Nominal size

NG 4 = 4

### Max. cracking pressure

70 bar	(seat ø4)	= 70
100 bar	(seat ø2.5)	= 100
140 bar	(seat ø4)	= 140
200 bar	(seat ø4)	= 200
250 bar	(seat ø2.5)	= 250
350 bar	(seat ø2.5)	= 350
500 bar	(seat ø2.5)	= 500

### Seal material

Nitrile (standard)	= N
Nitrile (low temperature)	= T
Viton	= V

### Factory pressure setting

without specific factory pressure setting	= O
up to 450 bar	= ...

### Option

without damping bush (standard)	(blank)
with damping bush	= O

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