

# Pressure-Relief Cartridge Valve, Size 10

$Q_{max} = 100 \text{ l/min}$ ,  $p_{max} = 350 \text{ bar}$

Poppet pilot stage, spool-type main stage with integral bypass check valve,  
Series DVPA-RV-3-10...



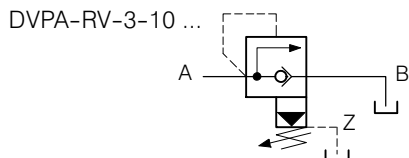
- Pilot oil drained externally to port Z
- Interchangeable with DVP-RV-3-10 ...
- Very stable in operation
- Improved pressure-setting resolution
- Very tolerant of over-tightening in cavity
- BUCHER cavity type DD

## 1. Description

Series DVPA-RV-3-10... cartridges are 2-stage pressure relief valves with a positive seat pilot stage and spool-type main stage. When the pilot stage is active (main stage relieving), pilot oil is externally drained to port Z. Port B can therefore be subjected to pressure without influencing the valve's pressure relief setting. When used to provide a pressure sequence function, the pilot oil consumption increases (see pA-Q curves overleaf). Reverse flow (B to A) is made possible by the integral check valve. Thoroughly

oil or grease external seals before inserting the cartridge in a DD cavity. The cartridge can be tightened with a 27 A/F OE spanner (note the recommended tightening torque). Form tools are available for sale or hire, should customers wish to machine cavities in their own control blocks. The BUCHER line- and manifold-mounting body type DD-12 can be used where the application requires a line mounting valve. The cartridge is also available without the integral reverse flow check valve: Type DVPA-3-10 ...

## 2. Symbols



## 3. Characteristics

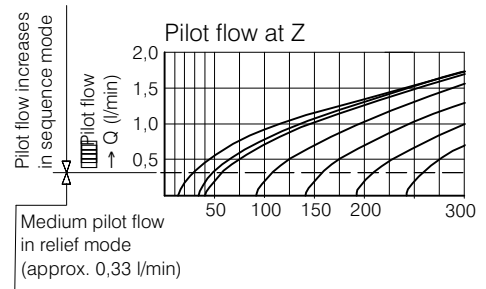
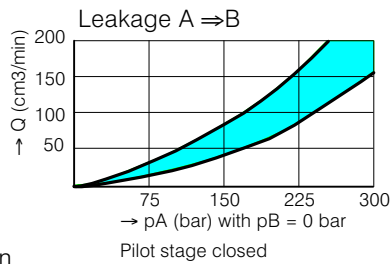
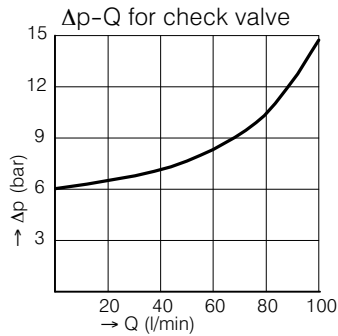
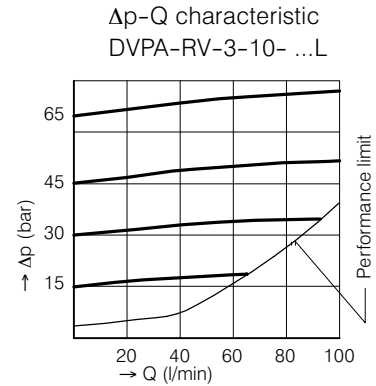
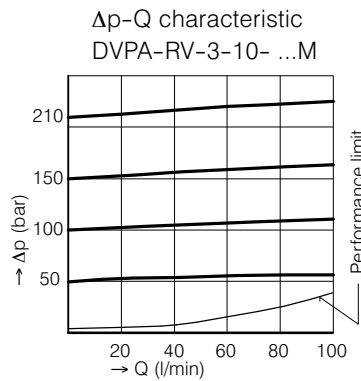
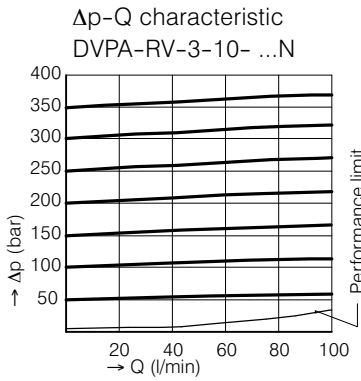
Type		pressure relief cartridge valve
Design		poppet pilot stage, spool main stage with integral spool type bypass check valve and external pilot drain to port Z
Mounting method		screw-in cartridge (M24 x 1,5)
Size		10 mm nominal size, BUCHER cavity type DD
Mass	kg	0,23
Mounting attitude		unrestricted
Flow direction		A ⇒ B, see symbol
Operating pressure	bar	... 350 max. in A, B and Z
Adjustment ranges, see performance curves	bar	pressure range N = 10 ... 350 pressure range M = 10 ... 210 pressure range L = 10 ... 65
Cracking pressure B ⇒ A	bar	approx. 6
Flow rate Q max.	l/min	1 ... 100 max. see performance characteristics
Fluids		Hydraulic oils HL and HLP to DIN 51 524 other fluids - contact BUCHER

Reference: 400-P-280141-EN-01

Fluid temperature range	°C	-25 ... +80
Viscosity range	cSt	10 ... 650 mm <sup>2</sup> /s, recommended 15 ... 250 mm <sup>2</sup> /s
Minimum fluid cleanliness		20/18/15 to ISO 4406 : 1999

## 4. Performance characteristics

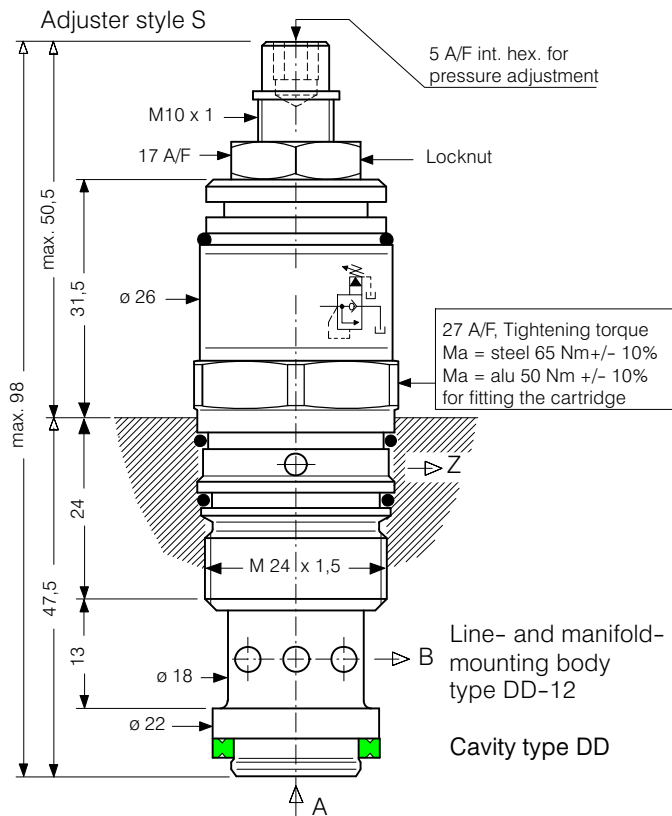
Oil viscosity 33 cSt



Rate of pressure change when turning the adjusting screw

DVPA-RV-3-10-...N: 1 turn	≈ approx. 65 bar
DVPA-RV-3-10-...M: 1 turn	≈ approx. 38 bar
DVPA-RV-3-10-...L: 1 turn	≈ approx. 13 bar

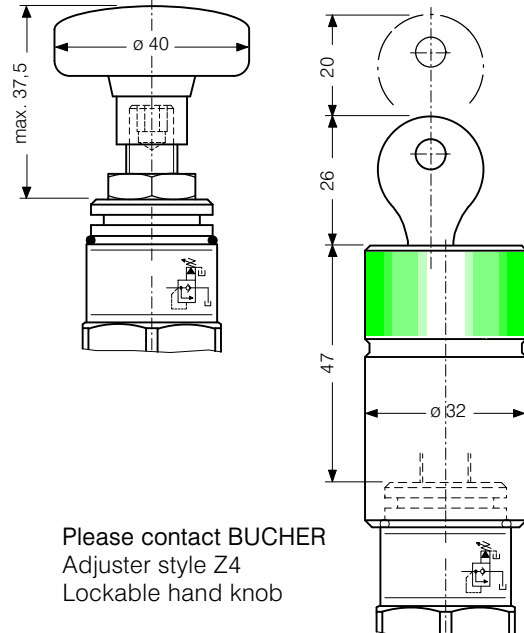
## 5. Dimensions



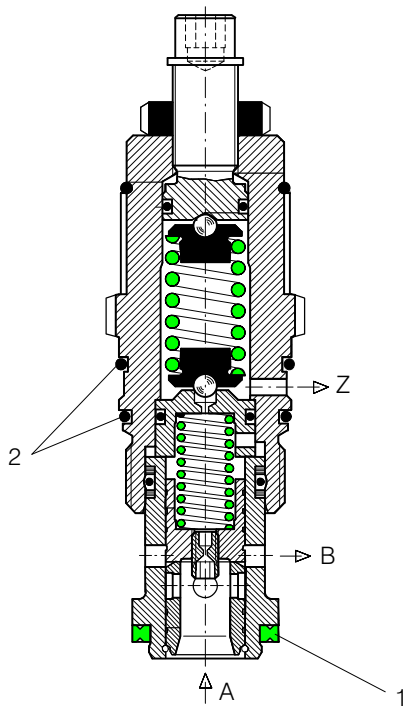
### Adjuster styles / OPTIONAL

Cartridges can also be supplied with adjuster styles H and Z4 (see model code key)

#### Adjuster style H Hand knob



## 6. Schematic section



Seal kit no. DS-216-N, comprising:

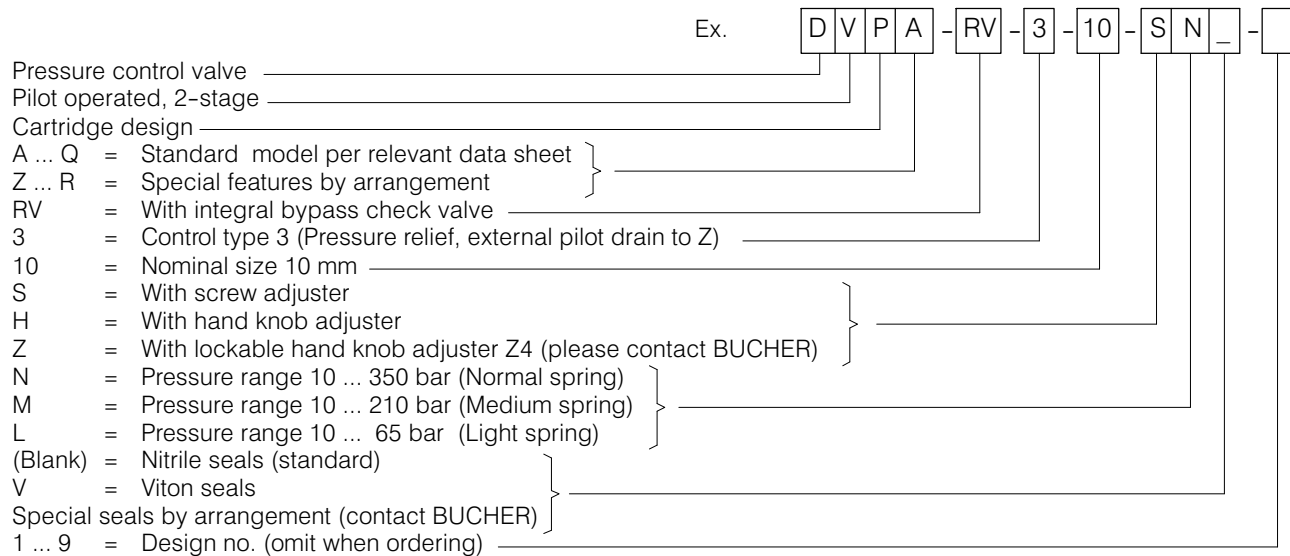
Itm.	Qty.	Description	Size
1	1	Sealing ring	Ø 22,1 / 16,5 x 2,5
2	2	O-ring no. 020	Ø 21,95 x 1,78 N90

## 7. Installation and servicing

All installation and servicing must be carried out with care, and by qualified personnel only. Use the correct tightening torque when fitting the cartridge. When changing seals, the

new seals must be thoroughly oiled or greased before they are fitted.

## 8. Model code key



## 9. Related data sheets

Old no.	New no.	
D-4.33	400-P-280121-EN	Pressure relief cartridge valve without integral bypass check valve type DVPA-3-10 ...
G-24.21	400-P-740111-EN	BUCHER Line- and manifold-mounting body type DD-12 (G 1/2")
i-32	400-P-040011-EN	The Form tool hire programme
i-45.2	400-P-060121-EN	BUCHER cavity type DD

info.ch@bucherhydraulics.com

www.bucherhydraulics.com

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