

# Rapid Traverse Pressure-Control Cartridge

$Q_{\max} = 250 \text{ l/min}$ ,  $p_{\max} = 350 \text{ bar}$   
For differential cylinders, direct mounting  
Series EGP 20...



- Compact cartridge valve for creating regenerative circuits right at the cylinder
- Switching and functionality both highly reliable
- No external signal required – switches automatically
- Hold at standstill, rapid traverse, work speed, and return stroke → 4 functions in one cartridge
- With integral check valve (A → B seat tightly)
- Low headloss
- Can be used in many different areas (mobile hydraulics, industrial applications, etc.)
- Cartridge body burnished

## 1 Description

The series EGP unit is a differential valve with an M40 x 2 thread for direct mounting on cylinders.

It is a compact cartridge valve for creating regenerative circuits. Rapid-traverse valves enable a differential cylinder to be out-stroked rapidly. They do this by connecting the rod end of the cylinder to the full-bore end. The following functions are performed in the application: holding at standstill (default position), rapid-traverse, work speed, and return stroke (see Section 4, Function).

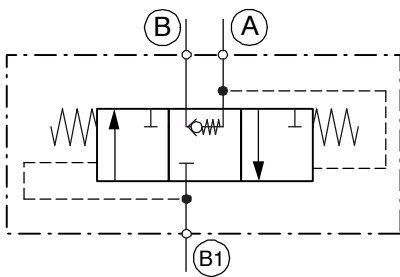
When a defined working pressure is exceeded, the rapid-traverse valve closes the connection between the rod and full-bore ends of the cylinder and the whole effective

area then produces the full force.

The integral check valve (A → B seat tightly) prevents the cylinder from out-stroking on its own. Rapid-traverse valves are used in mobile hydraulics and industrial applications to achieve short work-cycle times. For example, the rapid traverse is used for the fast-close phase of demolition shears.

Typical examples are: demolition shears / demolition grippers, hydraulic props, splitting machines, presses, etc. The rapid traverse pressure-control cartridge can be combined with other Bucher Hydraulics products (see Section 8, Application Example).

## 2 Symbol



## 3 Technical data

General characteristics	Description, value, unit
Designation	Rapid traverse pressure-control cartridge
Design	Differential valve in cartridge design
Mounting method	Screw-in cartridge, M40 x 2
Tightening torque	180 Nm ± 10 % (mounting in steel body)
Size	CA 16, for cavity type according to Bucher standard

General characteristics	Description, value, unit
Weight	1.1 kg
Mounting attitude	unrestricted
Ambient temperature range	-20 °C ... +80 °C (others on request)
Surface corrosion protection	Cartridge body burnished

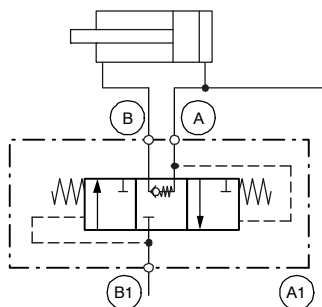
Hydraulic characteristics	Description, value, unit
Maximum operating pressure	350 bar
Switch-over pressure for work speed	180 bar (others on request)
Preload pressure, rod end (holding)	22 bar (others on request)
Maximum flow rate	250 l/min

Hydraulic characteristics	Description, value, unit
Flow direction	A → B, seat tightly B → A, prestressed check valve
Hydraulic fluid	HL and HLP mineral oil to DIN 51 524; for other fluids, please contact BUCHER
Hydraulic fluid temperature range	-20 °C ... +80 °C
Viscosity range	10...650 mm <sup>2</sup> /s (cSt), recommended 15...250 mm <sup>2</sup> /s (cSt)
Minimum fluid cleanliness Cleanliness class to ISO 4406 : 1999	class 20/18/15

## 4 Construction and function

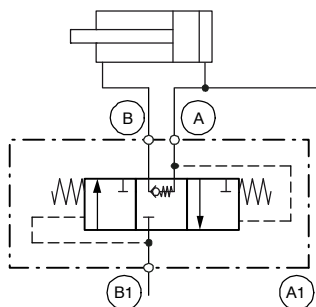
### Holding and not advancing

The preload valve in the EGP rapid traverse pressure-control cartridge holds the cylinder in position.



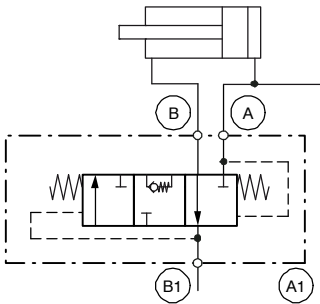
### Out-stroking at rapid-traverse speed

The EGP rapid traverse pressure-control cartridge takes the flow of oil displaced from the rod end and directs it to the full-bore end.



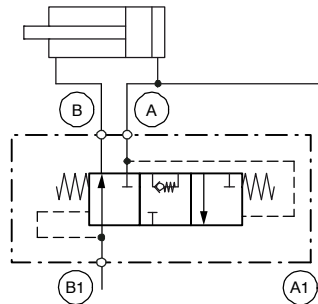
## Out-stroking at work speed

The EGP rapid traverse pressure-control cartridge channels the oil displaced from the rod end to tank.



## In-stroking the cylinder

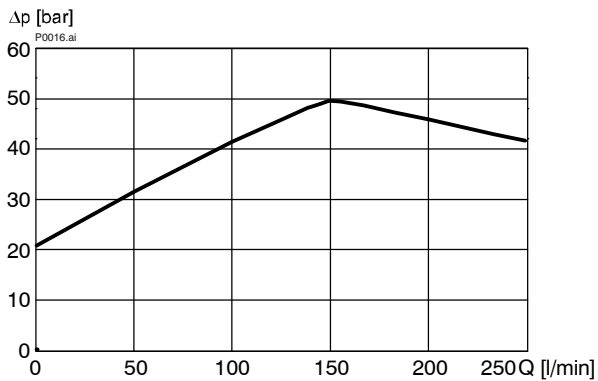
The EGP rapid traverse pressure-control cartridge closes the connection between the rod end to the full-bore end. This allows the cylinder to in-stroke normally.



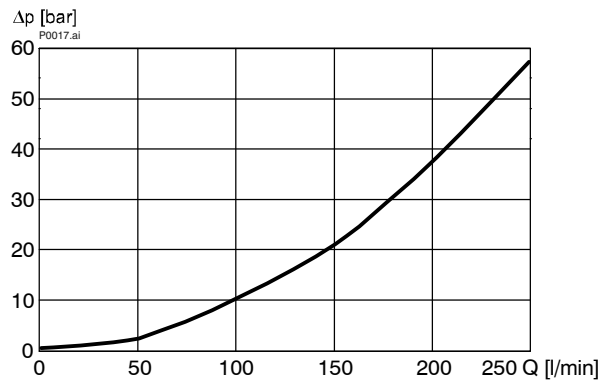
## 5 Performance graphs

measured with oil viscosity 33 mm<sup>2</sup>/s (cSt)

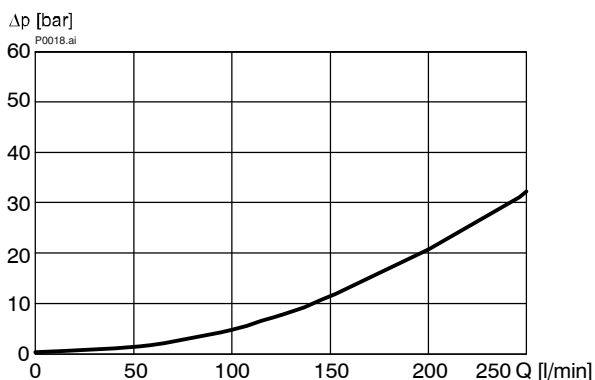
$\Delta p = f(Q)$  Pressure drop - Flow rate characteristic  
Rapid traverse (B → A)



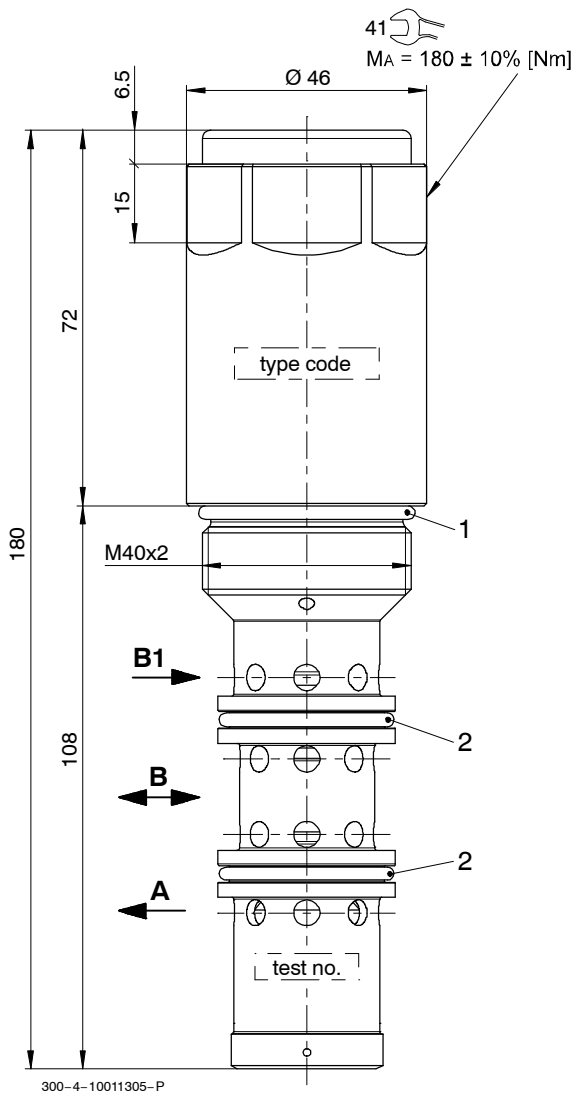
$\Delta p = f(Q)$  Pressure drop - Flow rate characteristic  
Work speed (B → B1)



$\Delta p = f(Q)$  Pressure drop - Flow rate characteristic  
Return stroke (B1 → B / CV characteristic)



## 6 Dimensions & sectional view



## 7 Installation information



### ATTENTION!

Only qualified personnel with mechanical skills may carry out any maintenance work. Generally, the only work that should ever be undertaken is to check, and possibly replace, the seals. When changing seals, oil or grease the new seals thoroughly before fitting them.



### IMPORTANT!

When fitting the cartridge valve, use the specified tightening torque. No adjustments are necessary, because the cartridge valve is set and tested in the factory.

NBR seal kit → Art. No.: 3000306093 <sup>1)</sup>

Item	Qty.	Description
1	1	O-Ring Ø 36,17 x 2,62
2	2	O-Ring Ø 28,24 x 2,62



### IMPORTANT!

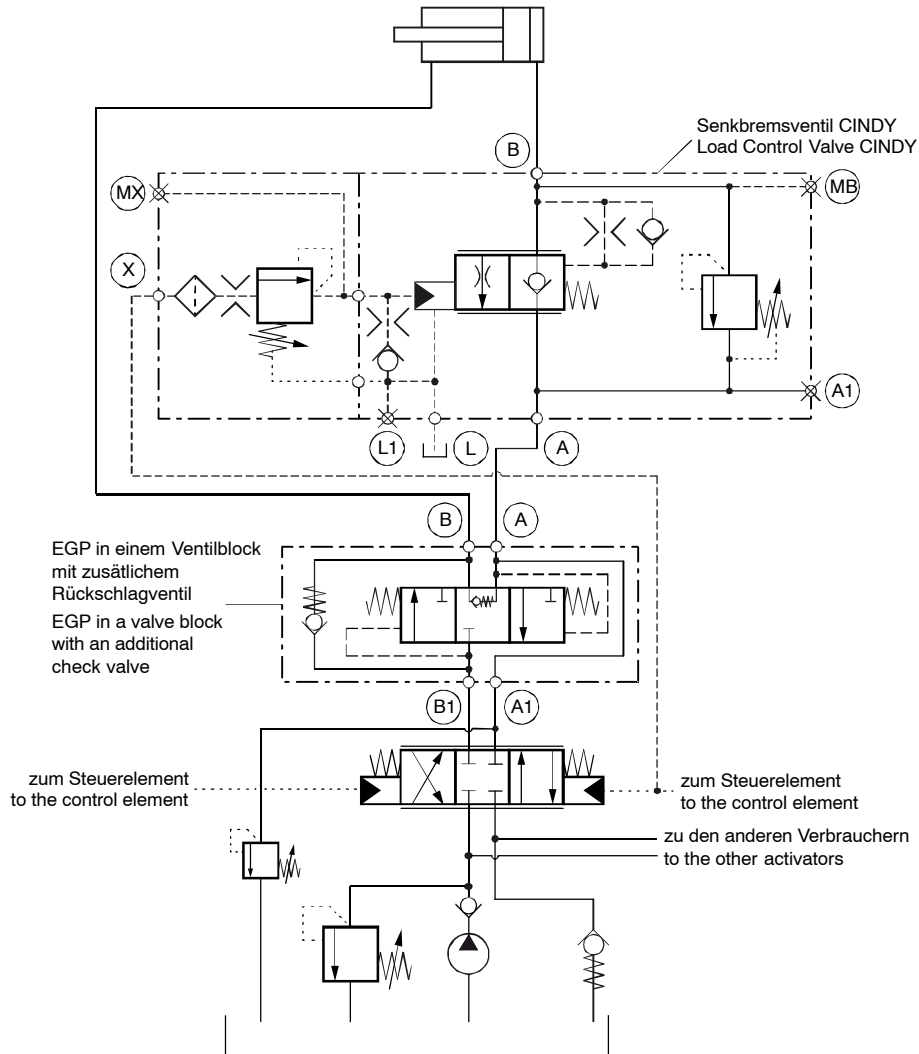
<sup>1)</sup> Seal kit with FKM and MIL seals on application.

## 8 Application examples

### EGP rapid traverse pressure-control cartridge in combination with a CINDY load-control valve

In this application example, the EGP rapid traverse pressure-control cartridge is shown in combination with a

CINDY load-control valve (with R-cover). The EGP can also be used with tandem cylinders.

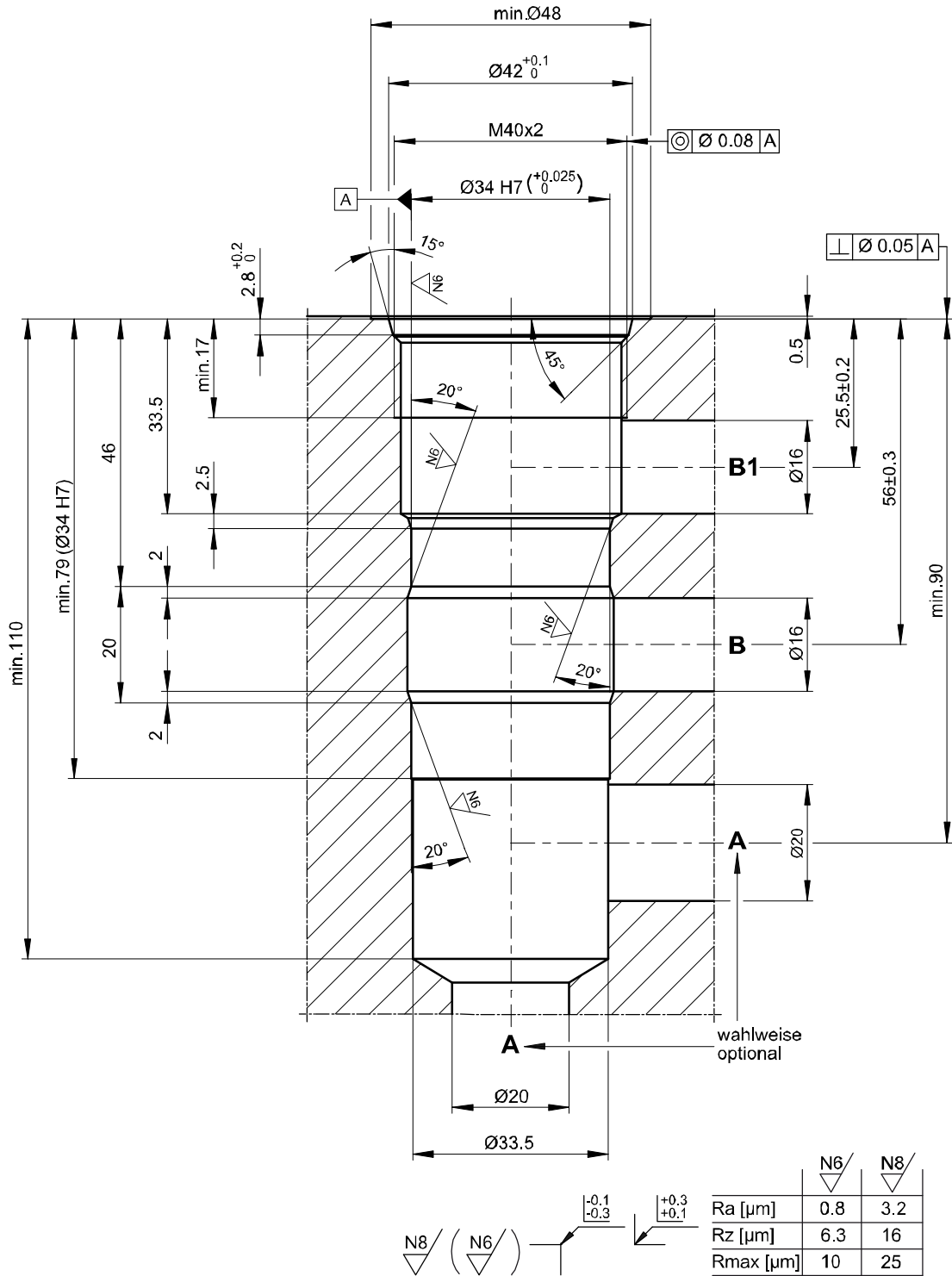


## 9 Ordering code

EGP 20 - G - 22 - 180 - N - D

- EGP 20 = rapid traverse pressure-control cartridge type 20  
= (Size CA 16)
- G = model / version
- 22 = preload pressure, rod end (holding) 22 bar (others on request)
- 180 = swith-over pressure for work speed 180 bar (others on request)
- N = NBR (Nitril) seals (standard)
- V = FKM (Viton) seals
- T = MIL (Low temperature) seals
- D = with seal in check valve (B → A)

10 Cartridge cavity



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Classification: 430.305.390. 305. 330.380