ERV 8 C Leakfree check valve, pilot operated, up to 450 bar

cartridge type

3.2.1E
S 1/4

1. General description

- pilot-operated, spring-loaded, cartridge-type poppet valve
- it holds the load in neutral position
- prevents a load from falling if a burst occurs in feed pipe A
- hardened seat and poppet
- prevents creep of hydraulically clamped actuators
- shuts off pressurized working circuits

2. Advantages of Beringer's check valve

- pilot-operated check valve and pipe-rupture-valve function intergrated in one unit
- soft opening thanks to optimized pre-opening function
- suitable housing screw thread of flange connection available on request
- minimal spatial requirement thanks to compact design

3. Application

- for supporting cylinders and similar applications up to 450 bar
- when used on the rod side, a cylinder ratio of max. 2:1 is permissible

4. Characteristics

(Please contact Beringer if machinery is required for use beyond these tolerances.)

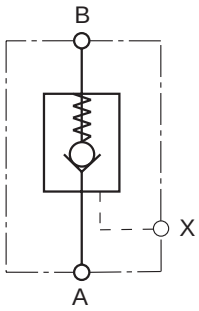
4.1 General:

• Type:	spring-loaded poppet valve with hydraulic piloting
• Mounting method:	screw-type cartridge
• Ports:	A, B = ø 10 X = ø 4
• Mounting position:	any
• Flow direction:	A è B free flow B è A blocked pressurized flow pilot-operated at port X
• Weight:	0,32 kg
• Opening ratio:	load pressure:pilot pressure
• Pre-opening:	1 : 2,5
• Main opening:	2,1 : 1

4.2 Hydraulic characteristic:

• Size:	8
• Rated flow rate:	60 l/min
• Working pressure max.:	450 bar
• Hydraulic medium:	mineral oil per DIN 51524 and DIN 51525 (HL/HLP), inquire about other media
• Hydraulic medium temperature range:	-20°C...+80°C inquire about other temperatures
• Viscosity range:	2,8 mm^2/s up to 1500 mm^2/s
• Filtering:	NAS 1638 class 9, β 10 ≥ 75.

5. Symbol



6. Safety instructions

- This valve must only be used for the purpose for which it has been designed.
- The hydraulic system must be depressurized and checked before the valve is dissassembled.
- The valve must not be opened without the express permission of the manufacturer.

7. Assembly instructions

- Observe all port designations (see dimension diagram)
- Protect seals against becoming damaged.
- Observe the tightening torques (see dimension diagram)
- Bleed the hydraulic system before putting it into operation.

8. Functional description, sectional view

This check valve is ideally suited to applications with supporting cylinders on mobile vehicles.

8.1 The existing opening ratios (load pressure B to control pressure X)

- pre-opening = 1 : 2.5 (small cross section B à A)
- main opening = 2.1 : 1 (max. cross section B à A)

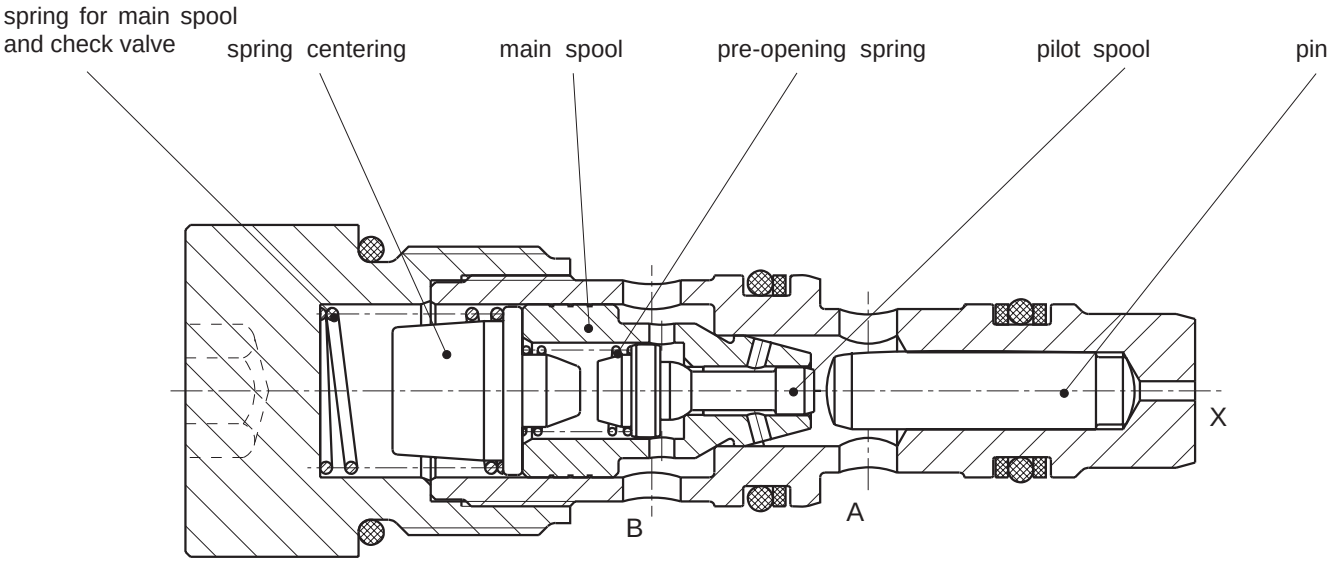
mean that loaded supporting cylinders are retracted at 2 different speeds.

8.2 Under load

E.g. with a load pressure of 300 bar, the pre-opening opens when the control pressure X = 300 : 2,5 = 120 bar, and the cylinder retracts "slowly".
(Theoretically required control pressure X for main opening = 300 x 2.1 = 630 bar)

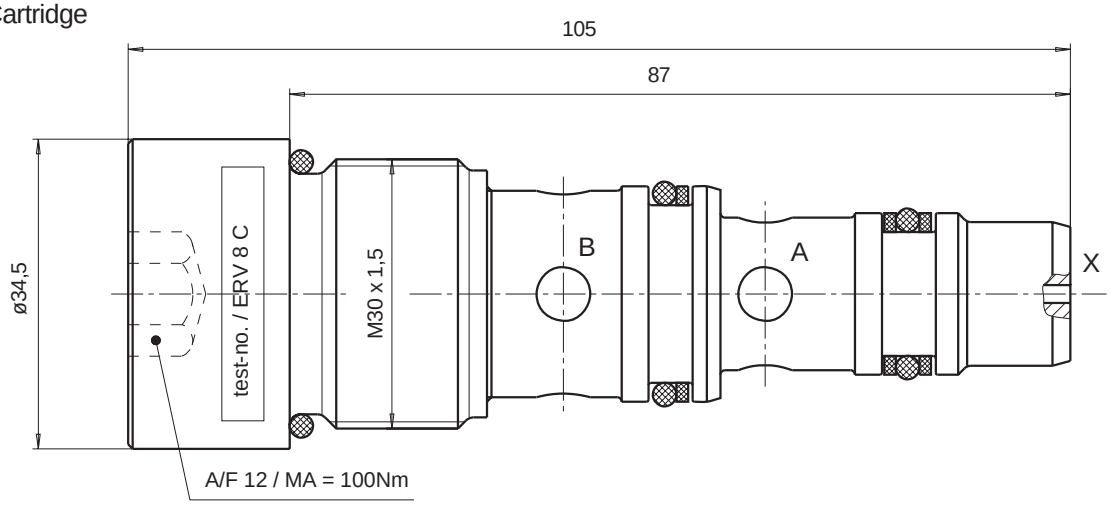
8.3 After raising

the supporting cylinder from the floor, the load pressure B is reduced to, e.g. 30 bar, and the main opening (max. cross section) opens at a control pressure X of 30 x 2.1 = 63 bar, and the cylinder retracts "quickly".

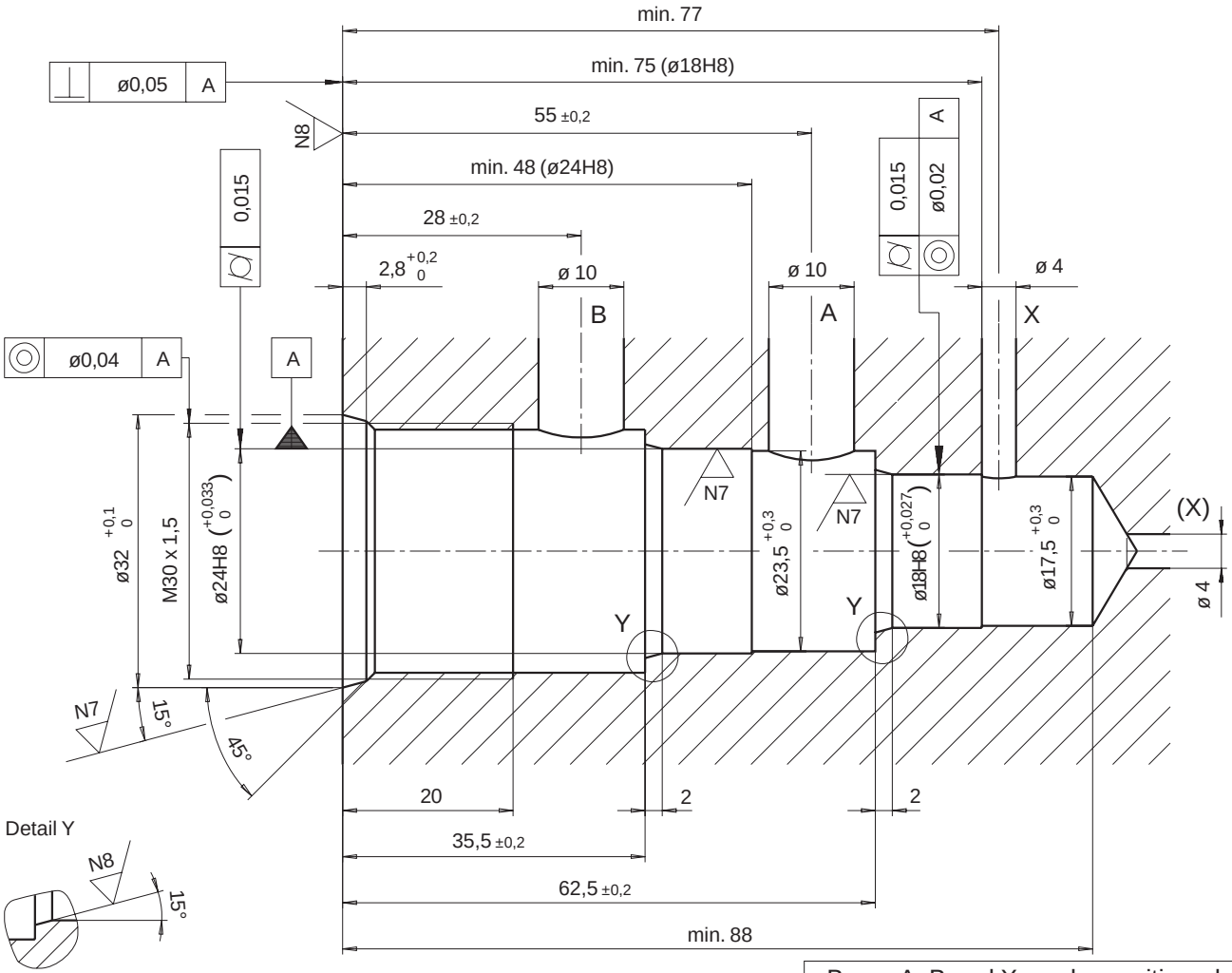


9. Dimension diagram, location hole

9.1 Cartridge



9.2 Location hole

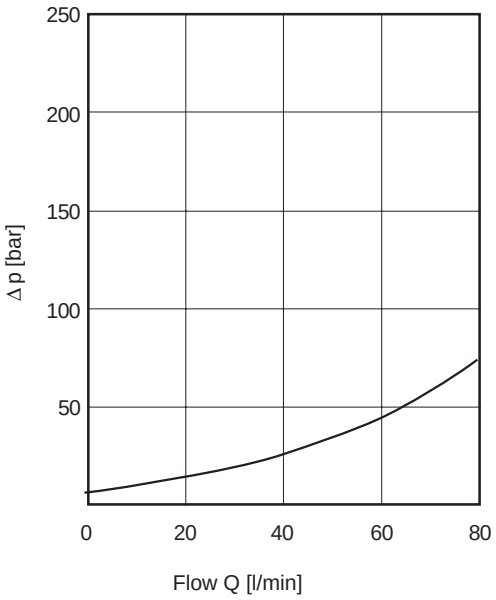


Bores A, B and X can be positioned anywhere around circumference.

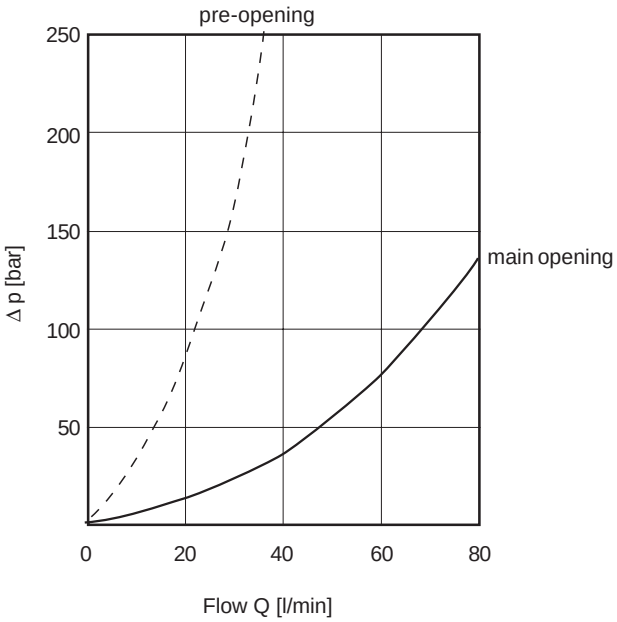
10. Characteristic curves

measured at 33 mm^2/s

A à B



B à A



11. Type code

ERV	8	C	

Pilot operated check valve

ERV	**ERV**

Size

8	**8**

Series

C	**C**

Seal material

NBR standard	**N**
Viton	**V**
Low-temperature seal	**T**