

ERV 8 C-600 Leakfree check valve, pilot operated, up to 600 bar cartridge type

3.2.2E
P 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 integrated in one unit
- soft opening thanks to optimized pre-opening function
- suitable housing screw thread or flange connection available on request
- minimal spatial requirement thanks to compact design

3. Application

- for supporting cylinders and similar applications up to 600 bar
- when used on the rod side, a cylinder ratio or max. 2 : 1 is permissible

4. Characteristics

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

4.1 General:

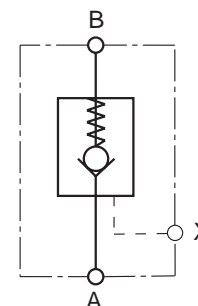
- Type: spring-loaded poppet valve with hydraulic piloting screw-type cartridge
- Mounting method: screw-type cartridge
- Ports: A, B = $\varnothing 10$
X = $\varnothing 4$
- Mounting position: any
- Flow direction: A $\hat{=}$ B free flow
B $\hat{=}$ A blocked, pressurized flow pilot-operated at port 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.: 600 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 mm²/s up to 1500 mm²/s
- Filtering: NAS 1638 class 9, $\beta 10 \geq 75$.



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 disassembled.
- 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 ÷ A)
- main opening = 2.1 : 1 (max. cross section B ÷ A)

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

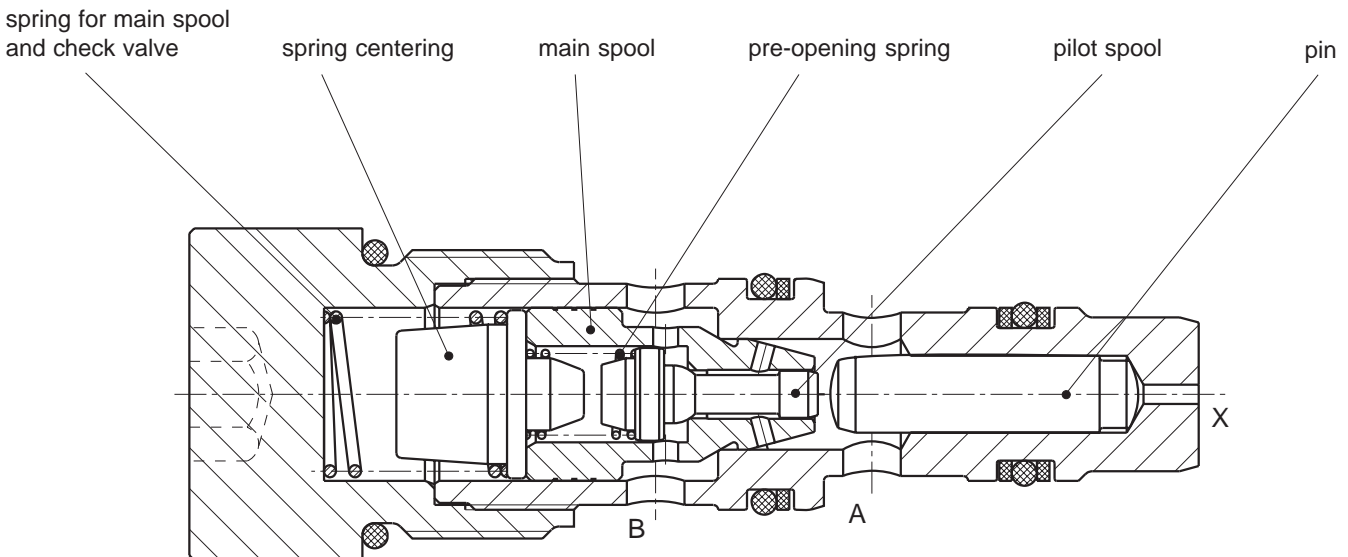
8.2 Under load

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 = $300 \times 2.1 = 630$ bar)

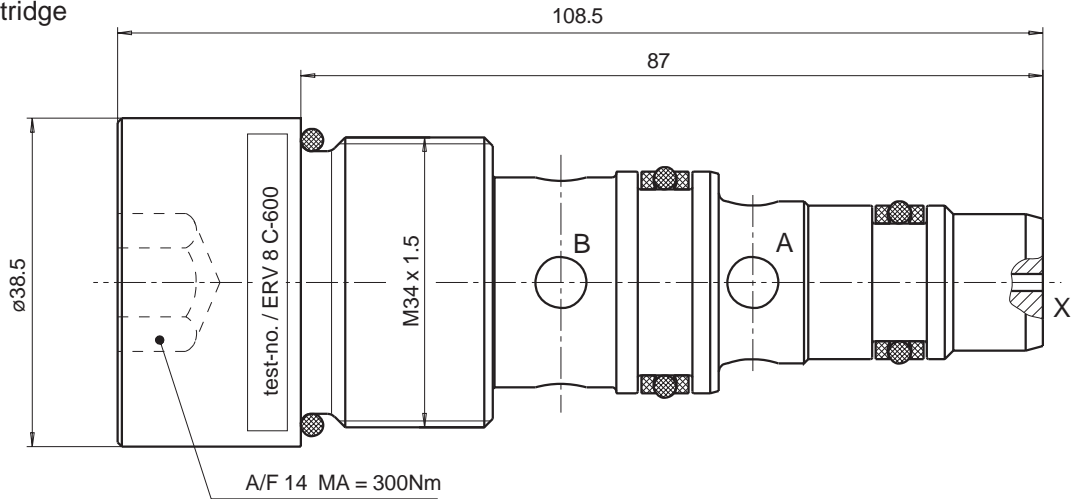
8.3 After raising

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 $30 \times 2.1 = 63$ bar, and the cylinder retracts "quickly".

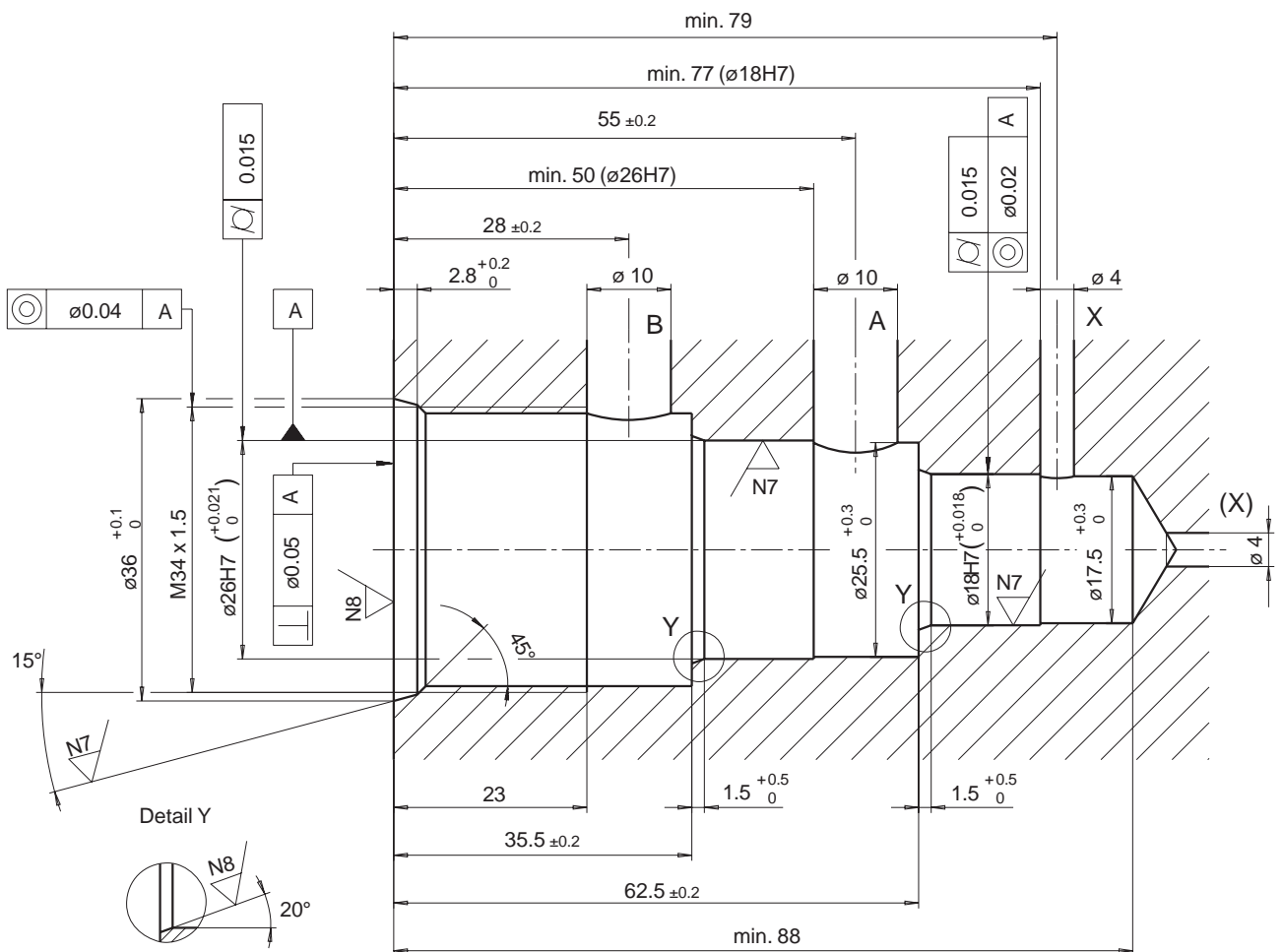


9. Dimension diagram, location hole

9.1 Cartridge



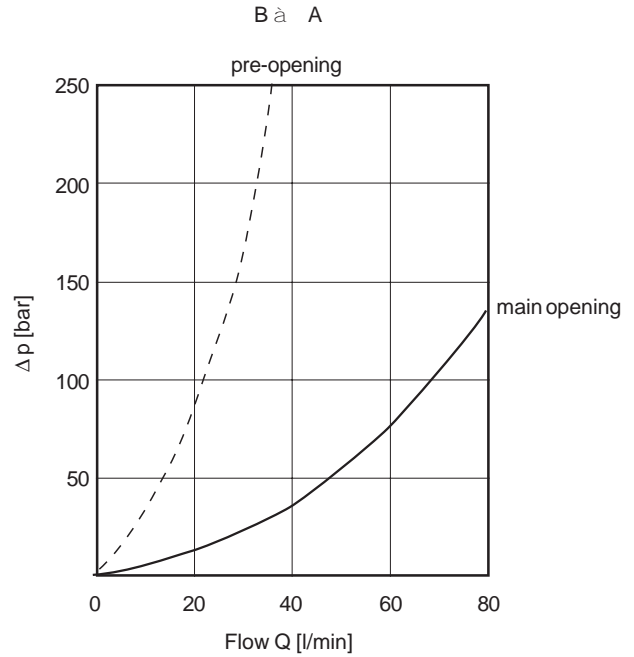
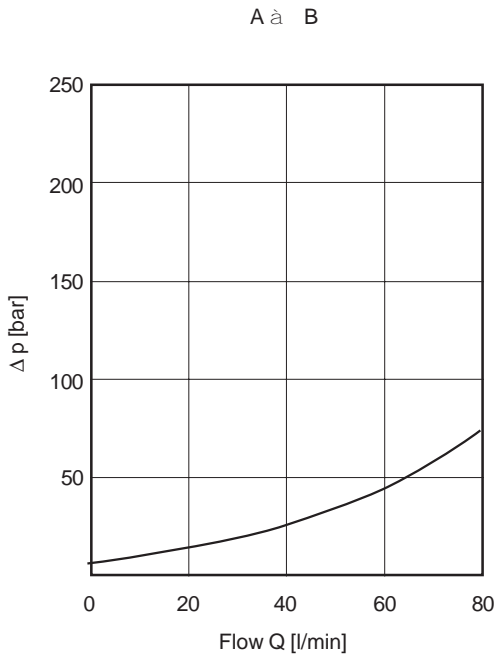
9.2 Location hole



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

10. Characteristic curves

measured at 33 mm²/s



11. Type code

ERV 8 C - 600

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|-----------------------------------|-------------|
| Pilot operated check valve | ERV |
| Size | 8 |
| Series | C |
| Working pressure | 600 bar |
| Seal material | N V T |