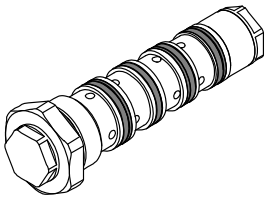
INDIVIDUAL HYDRAULICS



# Check valve cartridge double, unlockable

**421.082.401.9**

## 1 General

Pilot operated spring-loaded conical seat valve in cartridge form.
Hardened components (Seat and cone) guarantees no oil leakage in neutral position and longer life-spans.
The valve offers security against unintended lowering of load if a feed-line breaks.

### 1.1 Applications

For sensitive support cylinder movements and similar applications up to 500 bar.

### 1.2 Mounting location (Recommendation)

The pilot-operated check valve cartridge is built directly into the cylinder or used in a valve block.

## 2 Function

The valve is designed for leakagefree locking of outrigger cylinders. Without inlet pressure A1 and B1 are locked leakagefree.

The inlet to the cylinder is provided by a check valve.

The locked outlet side of the valve is opened each with the inlet pressure of the opposite side. To guarantee a vibration free retracting and extending of the outrigger cylinder the valve is designed double stage. The valve is pre-opened if the inlet pressure exceeds 11% of the pressure of the locked cylinder side (9:1). The free cross section corresponds to a 1 mm orifice. For the normally low inlet flow a vibration free extending in spite of pulling outrigger own weight and throtteld retracting caused by the machine weight is possible. The main stage opens when the load pressure is dropped by loosing contact of the outrigger to ground.

The main stage opens when inlet pressure reaches 50% of the pressure on the locked cylinder side.

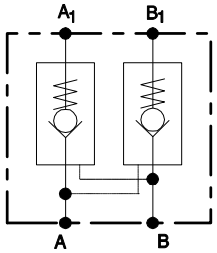
The free cross section of the main stage corresponds with a 5,4 mm orifice.

⚠ A possible pressure increase on the rod side of the cylinder has to be checked. Cylinder ratio and flows have to be considered.

## 3 Characteristics

- Leakage-free support cylinder protection

## 4 Hydraulic Diagram




**Connections:**

| | |
|---|---|
| A, B | Inlet port |
| $A_1$, $B_1$ | Cylinderport |

## 5 Technical Data

### 5.1 General

| | |
|---|---|
| Installation position: | Any |
| Weight: | 0.42 kg |
| Maximum input pressure: | 500 bar |
| Connections: | Step drill |
| Opening ratio: | 9 : 1 pilot stage<br>2 : 1 main stage |
| RV function: | A to $A_1$; B to $B_1$ |
| Leakage rate: | $Q_{max}$ = 1 $cm^3$/h<br>( = 16 drops/h) |

### 5.2 Hydraulics

| | |
|---|---|
| Inlet flow: | 25 l/min |
| Hydraulic fluid: | Mineral oil (HL, HLP) conforming with DIN 51524, other fluids upon request |
| Hydraulic fluid temperature range: | -20 – +80 °C |
| Environmental temperature: | < +50 °C |
| Viscosity range: | 2.8 – 500 $mm^2$/s |
| Contamination grade: | Filtering conforming with NAS 1638, class 9, with minimum retention rate $\beta_{10} \geq 75$ |

### 5.3 Standards

The following standards are to be observed because of the surface temperatures on the check valve:

- EN 563
  Temperatures on surfaces that can be touched.
- EN 982
  Safety-technical requirements for fluid-technical systems and their components.

## 6 Installation

**General Information**

- Observe all installation and safety information of the construction machine manufacturer.
- Only technically permitted changes are to be made on the construction machine.
- The user is to ensure that the device is suitable for the respective application.
- Application exclusively for the range of application specified by the manufacturer.
- Before installation or deinstallation, the hydraulic system is to be depressurized.
- Settings are to be made by qualified personnel only.
- Opening is only to be performed with the approval of the manufacturer, otherwise the warranty is invalidated.
- No responsibility is taken for the correctness of these connection recommendations, the functionality and the technical details of the construction machine must be checked.

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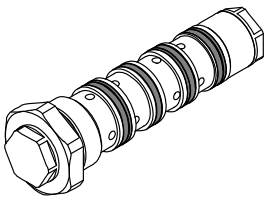

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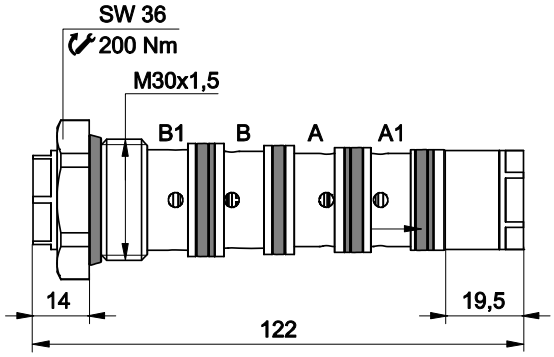
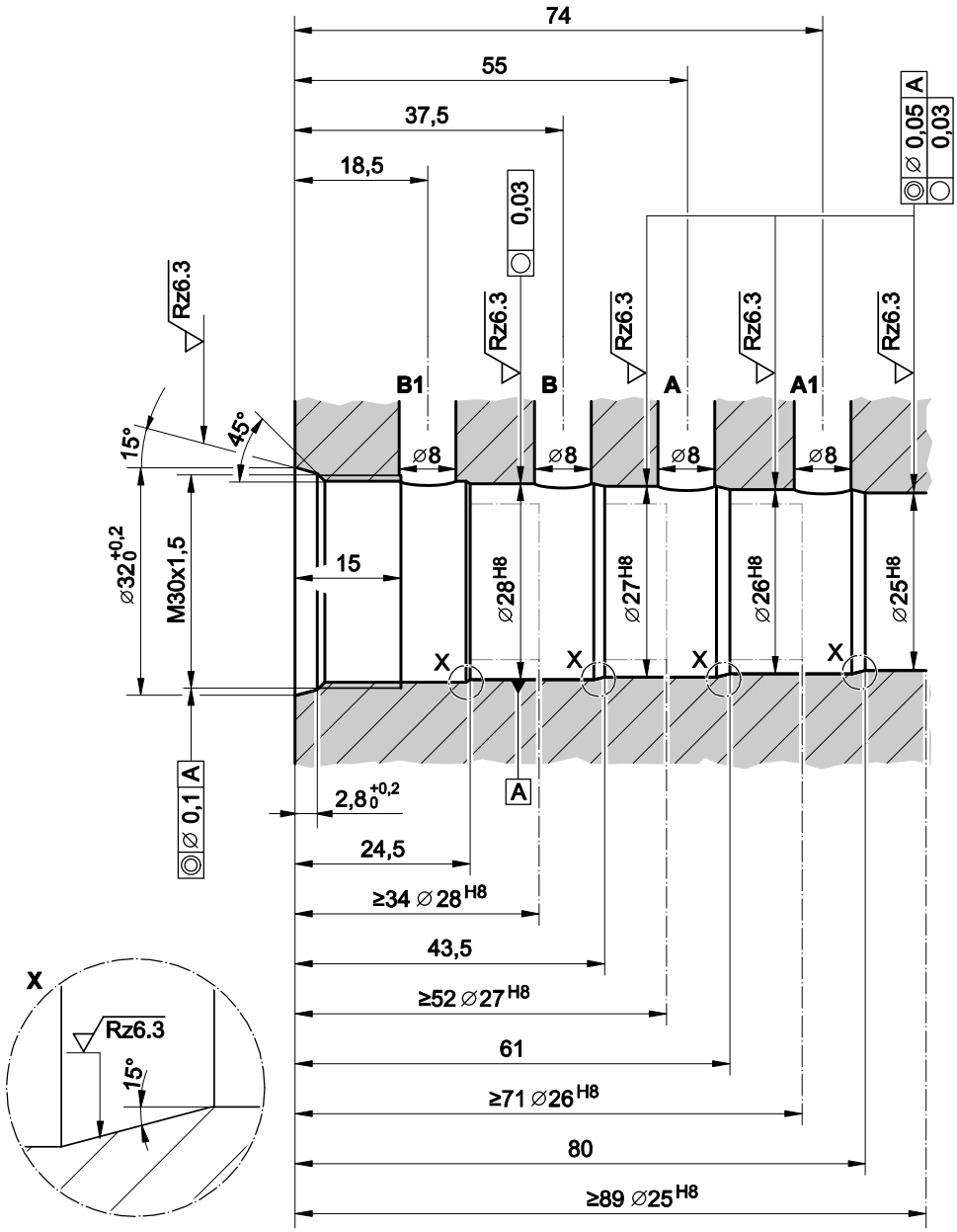
### 6.1 Installation




### 6.2 Connection Dimensions

The locations of the holes A, A1, B and B1 are optional on the edges.