



# Armaturen GmbH

Armaturen, Rohre, Sonderteile aus Edelstahl  
fittings, pipes, special parts of stainless steel

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## Operating Instructions

Angle-body relief valve

M&S Article No. 65300



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**2. Symbols used**



**Danger warnings**

Danger warnings are denoted by the danger symbol which appears on the left and are framed.



**Information**

Descriptions to which particular attention must be paid are denoted by this symbol which appears on the left and are also framed.

3. Sectional drawings

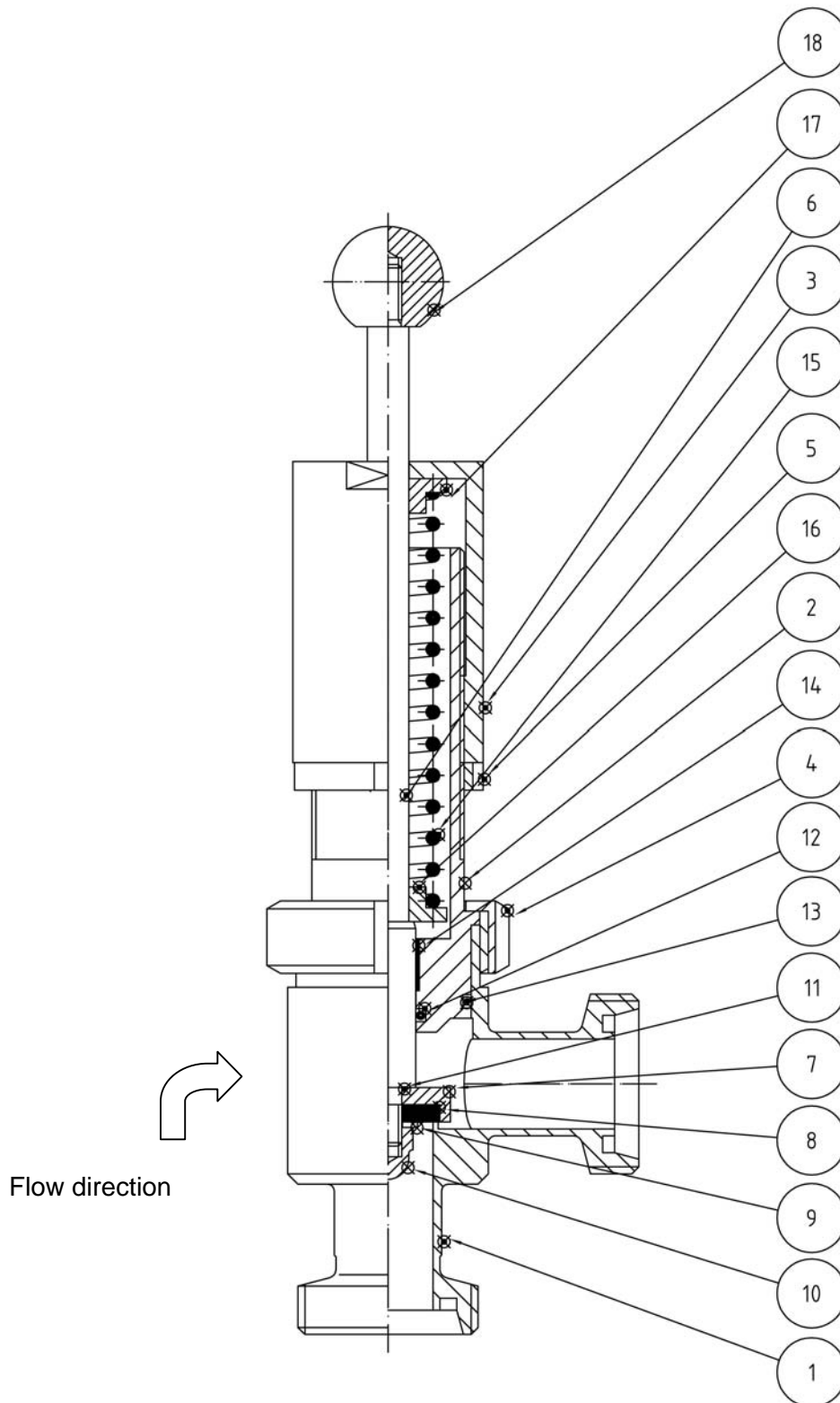


Fig. 1 Sectional view of angle-body relief valve GG (dimensions see chapter 10.1)

**Tab. 1 Bill of material of angle-body relief valve GG**

Item	Designation	Item	Designation
1	Valve housing	10	Cap nut
2	Valve upper part	11	O-ring
3	Threaded bush	12	O-ring
4	Grooved nut	13	O-ring
5	Lock nut	14	Friction bearing
6	Valve spindle	15	Pressure spring
7	Valve disc	16	Guide bush
8	Flat gasket	17	Guide bush
9	Washer	18	Ball handle

#### 4. Use and operating principle

The angle-body relief valve is a spring loaded valve to adjust the system or line pressure. It secures system components like pipelines, pumps, etc. in the food, drink and pharmaceutical industry against occurring overpressure.

The valve is set to the required pressure by turning the threaded bush (3) and locked with the lock nut (5). Depending on the specified overpressure, the valve opens if the operating pressure is higher than the set pressure and closes at a set operating pressure below the set pressure. With constant pressure setting, the valve can additionally be equipped with a lifting cylinder, e.g. for pressure relief in the cleaning circle.

#### 5. Transport

##### 5.1 Checking the delivery contents



- When you receive the angle-body relief valve, check the delivery against the order to make sure they correspond.
- Check that the delivery is complete, and check its condition.

If there are visible signs of transit damage and/or packing units are missing notify the forwarding agent immediately in the consignment note. You (the recipient) should take recourse against the forwarding agent immediately in writing, and M&S Armaturen GmbH must be informed of this action.

Complaints regarding transit damage that is not immediately evident must be made to the forwarding agent within 6 days.

The recipient must bear the costs for claims made after this period.

## 5.2 Transport



- The packing units must only be transported using suitable lifting equipment and slinging gear.
- Pay attention to the graphic symbols on the packaging.
- Transport the angle-body relief valve carefully to prevent damage from sudden impacts; exercise due care when loading/unloading.

## 6. Safety advice



- Prior to maintenance works, the pipeline system containing the angle-body relief valve must be depressurised and fluid-free!
- For safe maintenance of the angle-body relief valve, observe the installation instructions (chap. 7).

## 7. Installation / disassembly / assembly

### 7.1 Installation



- Observe the relevant national guidelines and regulations.
  - Install the angle-body relief valve without tension into the pipeline system.
  - The valve may only be installed when depressurised.
  - Only assemble the device in cooled down and cleaned condition.
- 
- But pay attention to the flow direction (see Fig.1).
  - Connect the angle-body relief valve via the inlet and outlet liner of the valve housing (1) to the supply or return pipelines. To do so, attach a cone liner DIN 11851 (M&S Art.-No. 114) to the pipe ends, and screw the pipe ends to the threaded liners by means of a matching grooved nut DIN 11851-F (M&S Art.-No. 110) and using the corresponding gaskets DIN 11851-G (M&S Art.-No. 111).
  - The valve is set to the required pressure by turning the threaded bush (3) and locked with the lock nut (5).

## 7.2 Disassembly



- The valve may only be disassembled when depressurised.
- Caution: tensioned spring!

- Remove the lock nut (5) from the threaded bush (3).
- Turn the threaded bush (3) towards the ball handle (18) and release the spring (15).
- Remove the grooved nut (4) from the valve housing (1) using a sickle spanner.
- Remove the ball handle (18) from the valve spindle (6).
- Pull the upper part of the valve (2) completely with the spindle out of the valve housing (1).
- Unscrew the threaded bush (3) completely.
- Remove the spring (15) with the guide bushed (16,17) from the upper part of the valve (2).
- Remove the valve spindle (6) out of the upper part of the valve (2).
- Loosen the cap nut (10) and pull off washer (9), valve disc (7), flat gasket (8) and O-ring (11).
- Remove the O-ring (12,13) and the slide bearing (14) from the upper part of the valve (2).

## 7.3 Assembly



- The valve may only be assembled when depressurised.

- Prior to gasket installation, clean installation space and running surfaces. Grease the gaskets slightly before installation.
- Assemble in reverse order.
- Check the valve function.

## 7.4 Pressure adjustment

- Remove the lock nut (5) from the threaded bush (3).
- Set the pressure by turning the threaded bush (3).
- Set the required pressure by turning the threaded bush (3).
- Secure the threaded bush (3) with the lock nut (3).

## 8. Repairs/Maintenance



- The maintenance intervals differ from case to case, the operator should define them by himself basing on sporadic checks.
- To replace the gaskets, refer to the installation instructions (chap. 7) or the cleaning instructions (chap. 9).



- M&S Armaturen GmbH cannot accept liability for claims made as a result of non-observance of these Operating Instructions or constructional changes to the angle-body relief valve.
- Any other use or use outside the defined scope is considered to be improper use. M&S Armaturen GmbH will not accept liability for losses incurred as a result of improper use.

## 9. Cleaning



- Observe the safety data sheets by the cleaning agent manufacturers!
- 
- The valve can be lifted for cleaning the valve and the connected lines. The lifting is done at the specified operating pressure by pulling the ball handle (18). In this process you can rinse the contact surface between valve body gasket and seat as well as the housing by the cleaning agent.
  - In depressurised condition, the spring-tension must be completely released to achieve sufficient manual force the lift the valve.

10. Technical Data

10.1 Dimensions

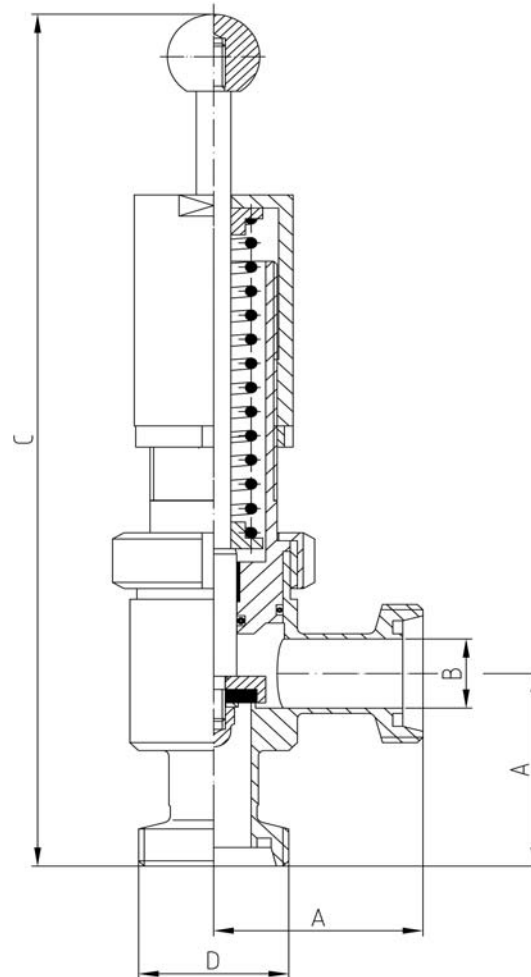


Fig. 2 Dimensions of angle-body relief valve GG

Tab. 2 Dimensions of angle-body relief valve GG

DN	A [mm]	Ø B [mm]	C [mm]	D [DIN 405-1]
25	72	26	320	Rd52x1/6
32	77	32	342	Rd58x1/6
40	82	38	360	Rd65x1/6
50	93	50	435	Rd78x1/6
65	105	66	530	Rd95x1/6
80	115	81	504	Rd110x1/4



## 10.2 Pressure range

The angle-body relief valve is available for the following pressure ranges

Tab. 3 Pressure range

DN	Pressure range [bar]
25	0.5 – 8.0
32	0.5 – 8.0
40	0.5 – 8.0
50	0.5 – 8.0
65	0.5 – 8.0
80	0.5 – 6.0

- Further pressure ranges upon request
- Max. operating temperature: depending on the gasket material

## 11. Material and surfaces

In contact with product:	1.4301/1.4307	AISI 304/304L
	1.4404	AISI 316L (optional)
Not in contact with product:	1.4301/1.4307	AISI 304/304L

Gaskets:	NBR, EPDM or FKM (depending on specification and/or version)
Inner surface:	depending on specification
Outer surface:	depending on specification