



Steam Trap

**UBK 46**



**EN**  
English

Original Installation Instructions  
**810475-03**

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## Important Notes

### Usage for the intended purpose

Use steam traps only for discharging condensate from steam lines. Use the equipment only within the allowable pressure and temperature ratings and only if the chemical and corrosive influences on the equipment are taken into account.

### Safety note

Installation, commissioning, retrofitting and maintenance work must only be performed by qualified staff who – through adequate training – have achieved a recognised level of competence.



#### Danger

The equipment is under pressure and hot during operation. Risk of severe burns and injuries to the whole body.

Installation and maintenance work should only be carried out when the system is depressurized (0 bar) and cold (20 °C).

The equipment must be isolated and vented from both upstream and downstream pressure before installation or maintenance work is performed.

Sharp edges on internals present a danger of cuts to hands. Always wear industrial gloves when servicing the equipment.



#### Attention

The name plate specifies the technical features of the equipment.

Do not commission or operate any item of equipment that does not bear its specific name plate. The pressure and temperature ratings on the name plate of the equipment must meet the requirements of the installation.

### PED (Pressure Equipment Directive)

The equipment fulfills the requirements of the Pressure Equipment Directive PED 97/23/EC.

For use with fluids of group 2.

The equipment is excluded from the scope of the PED according to section 3.3 and must not bear a CE marking.

### ATEX (Atmosphère Explosible)

The equipment does not have its own potential source of ignition and is therefore not subject to the ATEX Directive 94/9/EC.

Applicable in Ex zones 0, 1, 2, 20, 21, 22 (1999/92/EC). The equipment is not Ex marked.

# Explanatory Notes

## Scope of supply

### UBK 46:

- 1 Steam trap UBK 46
- 1 Installation manual

## Description

Thermostatic/thermodynamic steam trap (for banking-up condensate) with adjustable discharge temperature. Flash steam is avoided. Specially designed to discharge condensate at the adjusted constant discharge temperature.

## Technical Data

### Name plate / marking

The temperature/pressure ratings are indicated on the trap body or on the name plate. For more information see GESTRA technical documents such as data sheets and the Technical Information.

The name plate or the trap body indicate the type and design:

- Name/logo of the manufacturer
- Type designation
- Pressure class PN or Class
- Material number
- Max. temperature
- Max. pressure
- Direction of flow
- Stamp on trap body, e. g.  $\frac{4}{09}$  specifies the quarter and the year of production (example: 4th quarter 2009)

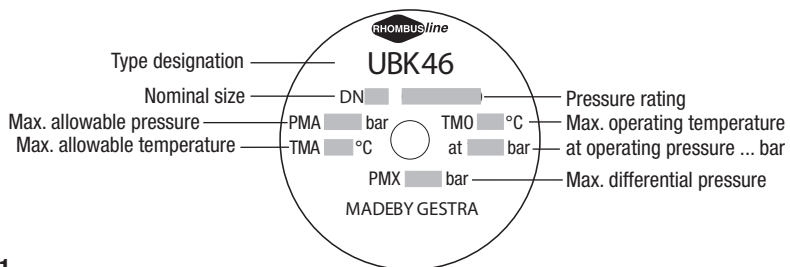


Fig. 1

# Component Parts

## Component Parts UBK 46

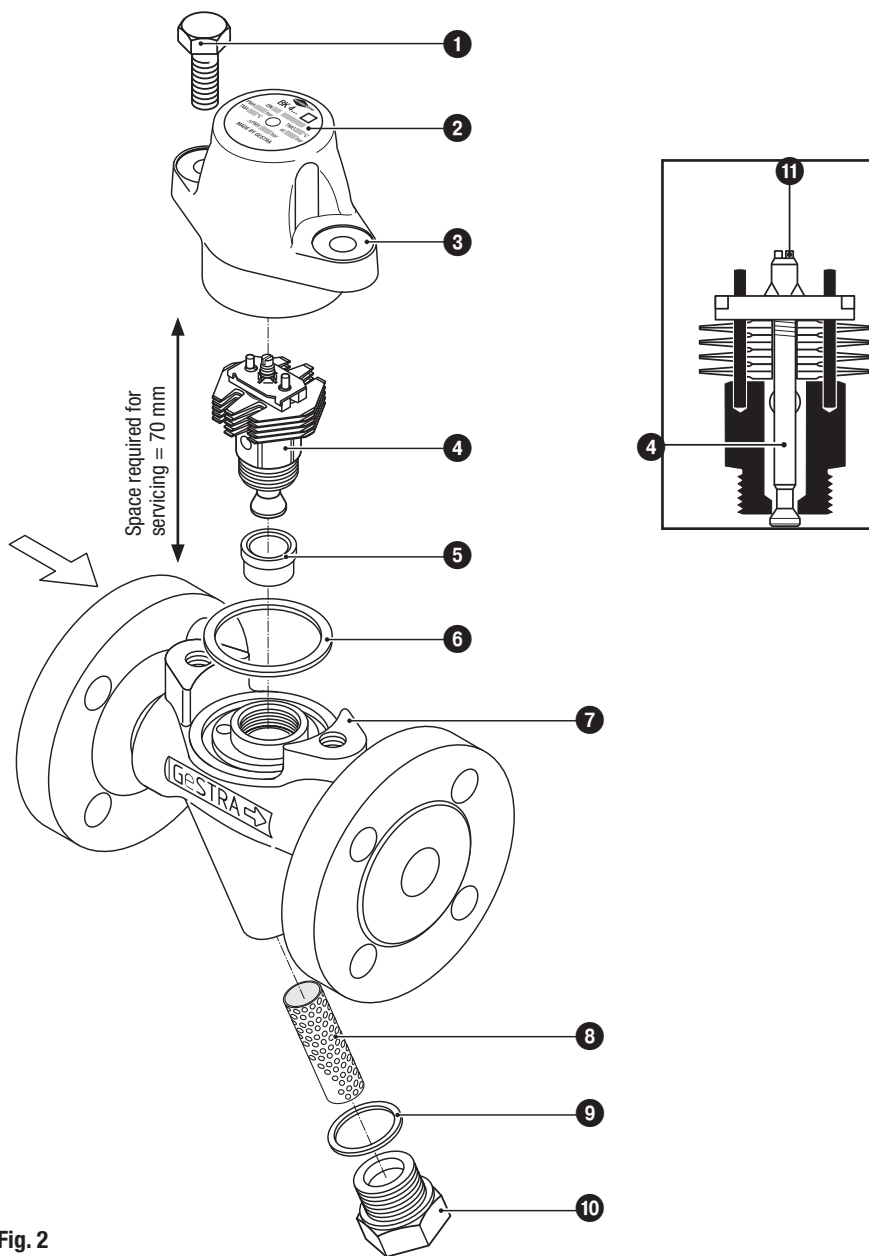


Fig. 2

## Component Parts – continued –

### Key

- 1 Hexagon-head screw M 10 x 25
- 2 Name plate
- 3 Cover
- 4 Thermovit regulator
- 5 Bushing (interference fitted, no spare part)
- 6 Gasket 40 x 48 x 2
- 7 Enclosure
- 8 Strainer
- 9 Gasket A 24 x 29
- 10 Sealing plug
- 11 Setting screw for regulator

## Installation

### UBK 46

When installing the steam trap make sure that the flow arrow on the trap body matches the direction of flow of the steam. Preferred installation of the steam trap with the strainer insert hanging downwards to facilitate cleaning. Other installation orientations are possible, please consult the factory with installation details. We recommend not to insulate the steam trap.



#### Danger

The equipment is under pressure and hot during operation. Risk of severe burns and injuries to the whole body.

Installation and maintenance work should only be carried out when the system is depressurized (0 bar) and cold (20 °C).

The equipment must be isolated and vented from both upstream and downstream pressure before installation or maintenance work is performed.

Sharp edges on internals present a danger of cuts to hands. Always wear industrial gloves when servicing the equipment.

### Installation instructions

1. The flow arrow on the trap body must match the steam flow direction.
2. Consider space required for servicing the trap. When the trap is installed a minimum withdrawal space for servicing is required for removing trap parts (see **Design, Component Parts UBK 46**).
3. Remove plastic plugs. They are only used as transit protection.
4. Clean end connections.
- 5.1 Install steam trap with releasable end connections (e. g. flanges).
- 5.2 For equipment with socket-weld ends or butt-weld ends: Apply arc welding processes 111 and 141 according to ISO 4063 (or equivalent standard).



#### Attention

- Welded trap installation should only be performed by qualified welders (certified according to DIN EN 287 or equivalent).



## Installation – continued –

### Heat treatment of welds

A subsequent heat treatment of the welds is not required.

### Tools

- Combination spanner A. F. 16 mm, DIN 3113, Form B
- Combination spanner A. F. 16 mm, DIN 3113, Form B
- Torque spanner (US: torque wrench) 20-120 Nm, ISO 6789

## Commissioning Procedure

Make sure that all connections are subjected to a suitable pressure test according to the pertinent rules and regulations.



### Danger

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The equipment must be isolated and vented from both upstream and downstream pressure before installation or maintenance work is performed.

Sharp edges on internals present a danger of cuts to hands. Always wear industrial gloves when servicing the equipment.

## Operation



### Attention

Drain steam trap if the installation is shut down and ambient temperatures  $\leq 0$  °C (frost) are to be expected.

## Maintenance

Periodic testing and maintenance of the trap is recommended to ensure proper functioning. Continuous monitoring is recommended for critical applications.



### Danger

The equipment is under pressure and hot during operation. Risk of severe burns and injuries to the whole body.

Installation and maintenance work should only be carried out when the system is depressurized (0 bar) and cold (20 °C).

The equipment must be isolated and vented from both upstream and downstream pressure before installation or maintenance work is performed.

Sharp edges on internals present a danger of cuts to hands. Always wear industrial gloves when servicing the equipment.

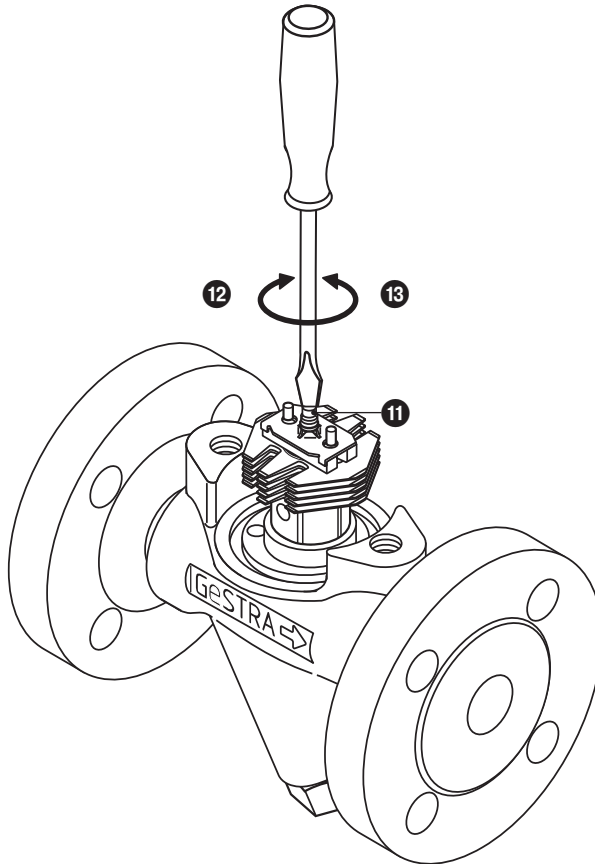
## UBK 46

The GESTRA steam trap UBK 46 requires no special maintenance. However, if used in new installations which have not been rinsed check and clean the Thermovit regulator after the commissioning procedure.

### Changing discharge temperature

The steam trap opens within its temperature/pressure range at the factory set opening temperature. The factory set opening temperature can be increased by max. 40 °C or decreased by 10 °C. **Fig. 3**

1. Unscrew body screws **1** and remove cover **3** from body **7**. **Fig. 2**
2. Wait until regulator **4** is cooled down to ambient temperature.
3. To increase the discharge temperature turn setting screw **11** of controller max. 1 turn to the left.  
 $1/8$  turn  $\triangleq$  5 K. **Fig. 3**
4. To decrease the discharge temperature turn setting screw **11** of controller max.  $2/8$  turn to the right.  
 $1/8$  turn  $\triangleq$  5 K.
5. Gasket **6** **must** be discarded and replaced if there are visible signs of damage. Use the same cover **3**. Always discard and replace gasket **6** when using a new cover **3** or the cover of another steam trap (see table **List of Spare Parts**).
6. Put cover onto body. Tighten body screws **1** alternately and in several steps with the torque indicated in the table **Tightening Torque**.



**Fig. 3**

- 12** To decrease the discharge temperature:  
Max.  $\frac{2}{8}$  turn to the right,  
 $\frac{1}{8}$  turn  $\triangleq$  temperature change of 5 K.
- 13** To increase the discharge temperature:  
Max. 1 turn to the left,  
 $\frac{1}{8}$  turn  $\triangleq$  temperature change of 5 K.

|   |       |    |    |    |    |    |     |     |     |     |
|---|-------|----|----|----|----|----|-----|-----|-----|-----|
| Service pressure                            | [bar] | 1  | 2  | 4  | 8  | 12 | 16  | 20  | 26  | 32  |
| Opening temperature<br>(at factory setting) | [°C]  | 60 | 64 | 72 | 84 | 93 | 102 | 110 | 118 | 128 |

### Restoring factory setting

1. Unscrew body screws ❶ and remove cover ❸ from body ❷. **Fig. 2**
2. Wait until regulator ❹ is cooled down to ambient temperature.
3. Turn setting screw ❶ of regulator to the right until it hits the stop. Turn setting screw  $\frac{7}{8}$  turn to the left. The factory setting is now restored. **Fig. 3**
4. Gasket ❷ **must** be discarded and replaced if there are visible signs of damage. Use the same cover ❸. Always discard and replace gasket ❷ when using a new cover ❸ or the cover of another steam trap (see table **List of Spare Parts**).
5. Put cover onto body. Tighten body screws ❶ alternately and in several steps with the torque indicated in the table **Tightening Torque**.

### Cleaning / exchanging Thermovit regulator and nozzle insert

1. Unscrew body screws ❶ and remove cover ❸ from body ❷. **Fig. 2**
2. Unscrew and clean Thermovit regulator ❹.
3. Discard and replace Thermovit regulator ❹ in case of visible signs of wear or damage (see table **List of Spare Parts**).
4. Clean body and internals. Clean all gasket surfaces.
5. Apply heat-resistant lubricant to all threads, the seating surfaces of the nozzle insert and the cover (use for instance OKS® 217)
6. Screw in Thermovit regulator and tighten with the torque indicated in the table **Torques required for tightening**.
7. Gasket ❷ **must** be discarded and replaced if there are visible signs of damage. Use the same cover ❸. Always discard and replace gasket ❷ when using a new cover ❸ or the cover of another steam trap (see table **List of Spare Parts**).
8. Put cover onto body. Tighten body screws ❶ alternately and in several steps with the torque indicated in the table **Tightening Torque**.

### Cleaning / replacing strainer

1. Unscrew sealing plug ⑩ and strainer ⑧. **Fig. 2**
2. Clean strainer, sealing plug and gasket surfaces.
3. Discard and replace strainer and sealing plug in case of visible signs of wear or damage (see table **List of Spare Parts**).
4. Discard and replace gasket ⑨ if damaged (see table **List of Spare Parts**).
5. Apply heat-resistant lubricant to the thread of the sealing plug (e. g. OKS® 217).
6. Unscrew sealing plug ⑩ with gasket ⑨ and strainer ⑧. Screw in sealing plug and tighten it with the torque indicated in the table **Tightening Torques**.

### Tools

- Combination spanner A. F. 16 mm, DIN 3113, Form B
- Combination spanner A. F. 22 mm, DIN 3113, Form B
- Combination spanner A. F. 30 mm, DIN 3113, Form B
- Torque spanner (US: torque wrench) 20-120 Nm, ISO 6789

### Tightening torques

| Item | Designation          | Torque [Nm] |
|------|----------------------|-------------|
| ④    | Thermovit® regulator | 90          |
| ①    | Body screws          | 25          |
| ⑩    | Sealing plug         | 75          |

All torques indicated in the table are based at a room temperature of 20 °C.

## Spare Parts

UBK 46

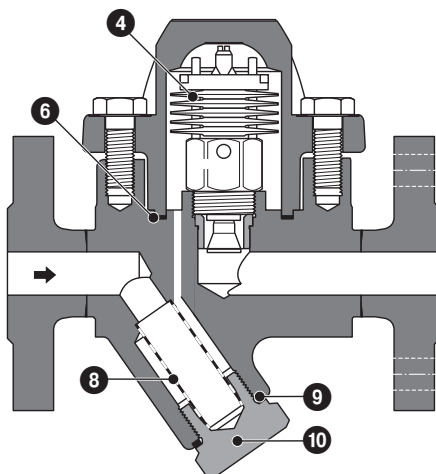


Fig. 4

### Spare parts list

| Item   | Designation                         | Stock code<br>UBK 46 |
|--------|-------------------------------------|----------------------|
| 4 6    | Thermovit regulator with gasket     | 375 324              |
| 8 9 10 | Strainer set, cpl.                  | 375 113              |
| 6      | Gasket*) 40 x 48 x 2, graphite      | 375 159              |
| 9      | Gasket*) A 24 x 29, stainless steel | 375 162              |

\*) Minimum purchasing quantity 50 items. For smaller quantities please contact your local dealer.

## Decommissioning



### Danger

The equipment is under pressure and hot during operation. Risk of severe burns and injuries to the whole body.

Installation and maintenance work should only be carried out when the system is depressurized (0 bar) and cold (20 °C).

The equipment must be isolated and vented from both upstream and downstream pressure before installation or maintenance work is performed.

Sharp edges on internals present a danger of cuts to hands. Always wear industrial gloves when servicing the equipment.



### Attention

Drain steam trap if the installation is shut down and ambient temperatures  $\leq 0$  °C (frost) are to be expected.

## Disposal

For the disposal of the equipment observe the pertinent legal regulations concerning waste disposal.



Agencies all over the world: [www.gestra.de](http://www.gestra.de)

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