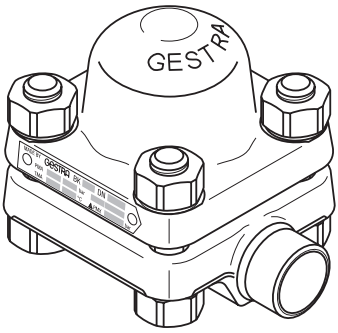
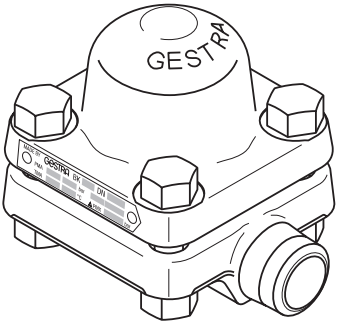
FLOWSERVE

GESTRA

Steam Trap



BK 37
BK 28
BK 29



BK 37 ASME
BK 28 ASME
BK 29 ASME

EN
English

Original Installation Instructions

818689-03

Contents

Contents – continued –

Usage for the intended purpose

Use steam traps BK 37..., BK 28... and BK 29... only for the discharge of condensed water from steam lines or for air venting. Application in steam lines for the discharge of condensate only within the specified pressure and temperature ratings. Check corrosion resistance and chemical suitability for the application in question.

Safety note

The equipment must only be installed and commissioned by qualified and competent staff.

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 injuries and burns 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 the 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 requirementes 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 ist 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.

Note on the Declaration of Conformity / Declaration by the Manufacturer

For details on the conformity of our equipment according to the European Directives see our Declaration of Conformity or our Declaration of Manufacturer.

The current Declaration of Conformity / Declaration of Manufacturer are available in the Internet under www.gestra./de/documents or can be requested from us.

Explanatory Notes

Scope of supply

BK 37, BK 37 ASME:
1 Steam trap BK 37
1 Installation manual

BK 28, BK 28 ASME:
1 Steam trap BK 28
1 Installation manual

BK 29, BK 29 ASME:
1 Steam trap BK 29
1 Installation manual

Description

Thermostatic/thermodynamic steam trap with corrosion resistant Thermovit® regulator (S. S. bimetallic plates) able to withstand waterhammer. With internal strainer and integral non-return valve action. Asbestos-free body gasket (graphite/CrNi). Installation in any position.

The default factory setting enables the steam trap to discharge condensate with virtually no banking-up.

Technical data

Name plate / marking

The temperature/pressure ratings are indicated on the 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 body indicates the type and design:

- Name/logo of the manufacturer
- Type designation
- Pressure class PN or Class
- Material number
- Direction of flow
- Stamp on trap body / name plate, e. g. $\frac{1}{09}$ specifies the quarter and the year of production (example: 1st quarter 2009)

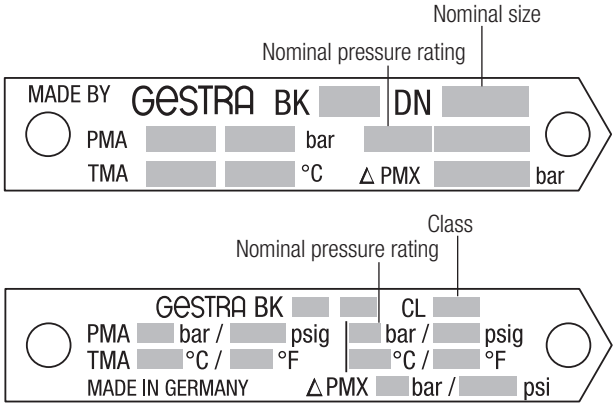


Fig. 1

Component parts BK 37

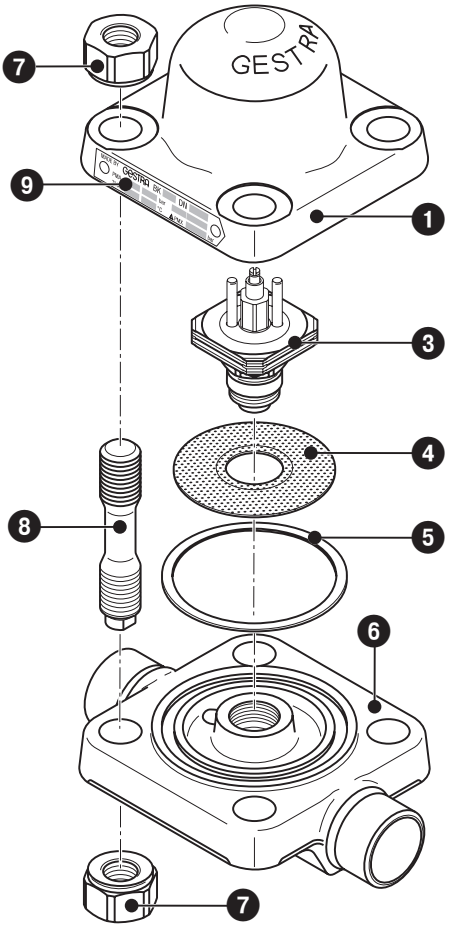


Fig. 2

Component parts BK 37 ASME

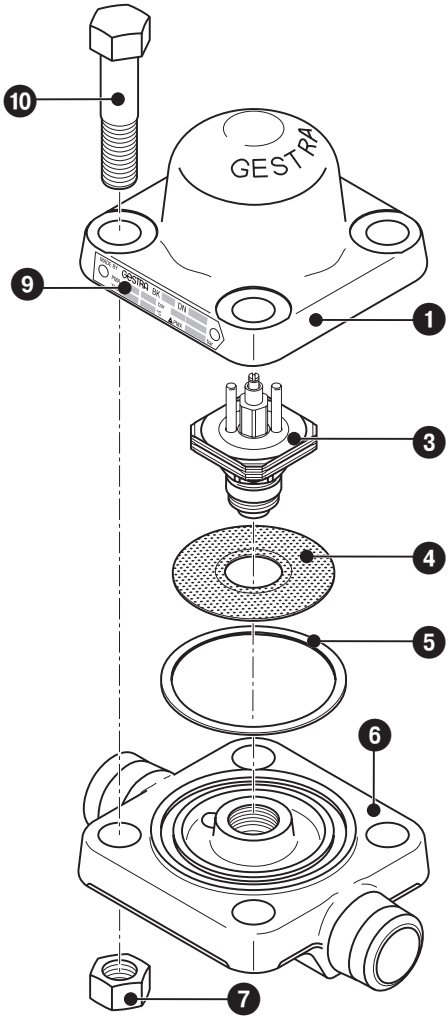


Fig. 3

Component parts BK 28, BK 29

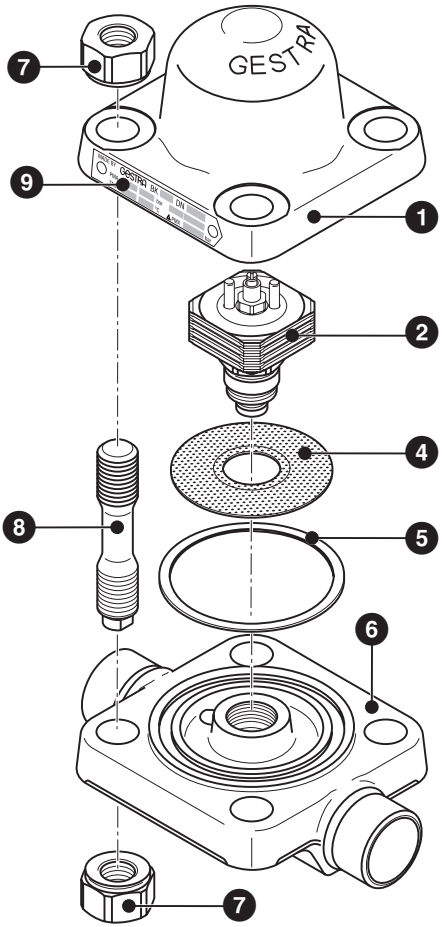


Fig. 4

Component parts BK 28 ASME, BK 29 ASME

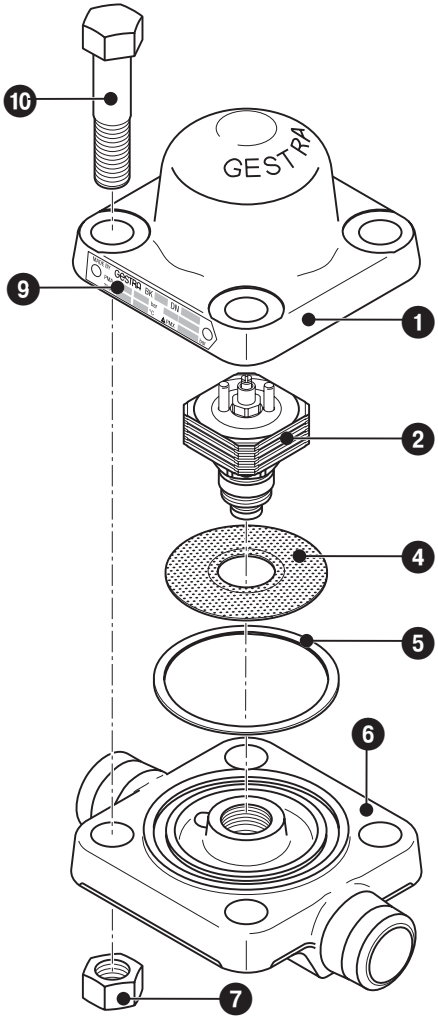


Fig. 5

Key

1. Cover
2. Thermovit® regulator BK 28, BK 28 ASME, BK 29, BK 29 ASME
3. Thermovit® regulator BK 37, BK 37 ASME
4. Strainer
5. Gasket
6. Body
7. Hexagon nut
8. Expansion bolt with reduced shank to DIN 2510
9. Name plate
10. Threaded bolt

Installation

Attention

- The nominal size of this equipment is designed for DN 25.
  Note that the admissible loads (forces, torques) acting on pipe connections with end connections larger than DN 25 are limited to the permissible pipe end loads of a size DN 25 device. Should the pipe end connection loads exceed this limit, take appropriate measures to provide additional support so as to protect the equipment.

Traps must be installed so that the flow arrow on the trap body is pointing in the same direction as the steam flow. Preferred installation of the steam trap in horizontal lines with cover at the top.

Danger

The equipment is under pressure and hot during operation. Risk of severe injuries and burns 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 the danger of cuts to hands.
Always wear industrial gloves when servicing the equipment.

Installation instructions

1. Make sure that the flow arrow on the trap body matches the direction of flow of the steam.
2. Consider space required for servicing the equipment. When the trap is installed a minimum space of at least **80 mm** is required for removing parts of the trap when servicing it.
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 steam traps with socket-weld 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 (according to DIN EN 287 or equivalent).

Heat treatment of welds

After welding the steam trap in place a heat treatment of the welds is required (stress-relief annealing to DIN EN 100529). The heat treatment must be restricted to the immediate area of the weld.

Installation – continued –

Tools

- Combination spanner A. F. 24 mm, DIN 3113, form B

Commissioning Procedure

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

Danger

The equipment is under pressure and hot during operation. Risk of severe injuries and burns 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 the 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 ≤ 0 °C (frost) are to be expected.

Maintenance

Periodic testing and maintenance of the equipment 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 injuries and burns 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 the danger of cuts to hands.
Always wear industrial gloves when servicing the equipment.

Checking steam traps

You can check the GESTRA steam trap BK during operation for correct functioning by using the GESTRA ultrasonic measuring equipment VAPOPHONE® or TRAPTEST®.

Cleaning / exchanging Thermovit® regulator and strainer

1. Before servicing the equipment observe the danger note!
2. Remove cover ❶ from body ❻. **Fig. 2, Fig. 3, Fig. 4, Fig. 5**
3. Remove Thermovit® regulator ❷ or ❸ using an open-end spanner (US: wrench).
4. Unscrew Thermovit® regulator ❷ or ❸ and take off strainer ❹.
5. Clean body, regulator, cover and strainer.
6. Clean sealing surfaces and insert new gasket ❺.
7. Clean seating surfaces of body ❻ and Thermovit® regulator ❷ or ❸.
8. Clean and insert strainer ❹.
9. Mount Thermovit® regulator ❷ or ❸ and tighten with the torque indicated in the table **Torques required for tightening**.
10. Apply heat-resistant lubricant to threads of stud bolts with reduced shank ❽ or threaded bolts ❿ (use for instance OKS 217®).
11. Put cover ❶ in place, fasten stud bolts with reduced shank ❽ or threaded bolts ❿ using hexagon nuts ❼ and tighen in diagonally opposite pairs with the torque indicated in the table **Torques required for tightening**.

Tools

- Combination spanner (US: wrench) A. F. 24 mm, DIN 3113, form B
- Combination spanner (US: wrench) A.F. ¾", A.F. 19 mm, ISO 3318
- Torque spanner (US: torque wrench) 20 - 100 Nm, ISO 6789
- Torque spanner (US: torque wrench) 80 - 400 Nm, ISO 6789

Tightening torques

Item	Designation	Torque for tightening [Nm]
❷ / ❸	Thermovit® regulator	100
❼	Hexagon nut	60

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

OKS 217® is a registered trademark of OKS Schmierstoffe GmbH, München, Germany

BK 37, BK 37 ASME, BK 28, BK 28 ASME, BK 29, BK 29 ASME

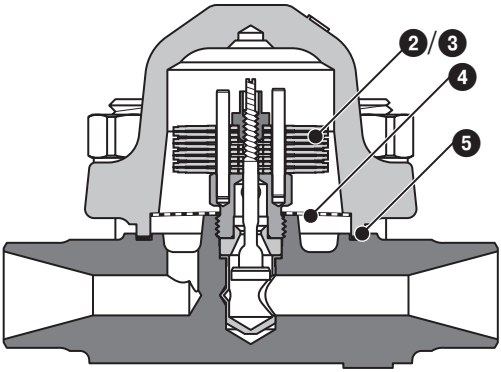


Fig. 6

Spare parts list

Item	Designation	Stock code #
2	Thermovit®regulator for BK 28..., BK 29... complete including gasket 5	370281
3	Thermovit® regulator for BK 37... complete including gasket 5	377722
5	Gasket (graphite/CrNi)	372095
4	Strainer	096701

Decommissioning

Danger

The equipment is under pressure and hot during operation. Risk of severe injuries and burns 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 the 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 ≤ 0 °C (frost) are to be expected.

Disposal

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

FLOWSERVE GESTRA

Agencies all over the world: **www.gestra.de**

Branch offices:

España

GESTRA ESPAÑOLA S.A.
Luis Cabrera, 86-88
E-28002 Madrid
Tel. 0034 91 / 5 15 20 32
Fax 0034 91 / 4 13 67 47; 5 15 20 36
E-mail: gestra@gestra.es

Polska

GESTRA POLONIA Spolka z.o.o.
Ul. Schuberta 104
PL - 80-172 Gdansk
Tel. 0048 58 / 3 06 10 - 02
0048 58 / 3 06 10 - 10
Fax 0048 58 / 3 06 33 00
E-mail: gestrapolonia@flowserve.com

Great Britain

Flowserve GB Limited
Abex Road
Newbury, Berkshire RG14 5EY
Tel. 0044 16 35 / 46 99 90
Fax 0044 16 35 / 3 60 34
E-mail: gestraukinfo@flowserve.com

Portugal

Flowserve Portuguesa, Lda.
Av. Dr. Antunes Guimarães, 1159
Porto 4100-082
Tel. 00351 22 / 6 19 87 70
Fax 00351 22 / 6 10 75 75
E-mail: jtavares@flowserve.com

Italia

Flowserve S.r.l.
Flow Control Division
Via Prealpi, 30/32
I-20032 Cormano (MI)
Tel. 0039 02 / 66 32 51
Fax 0039 02 / 66 32 55 60
E-mail: infoitaly@flowserve.com

USA

Flowserve GESTRA U.S.
2341 Ampere Drive
Louisville, KY 40299
Tel. 001 502 / 267-2205
Fax 001 502 / 266-5397
E-mail: FCD-Gestra-USA@flowserve.com

GESTRA AG

P. O. Box10 54 60, D-28054 Bremen
Münchener Str. 77, D-28215 Bremen
Telephone 0049 (0) 421 / 35 03 - 0
Fax 0049 (0) 421 / 35 03 - 393
E mail gestra.ag@flowserve.com
Internet www.gestra.de

GESTRA

818689-03/09-2010cm (803738-05) · GESTRA AG · Bremen · Printed in Germany