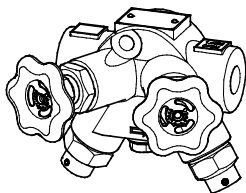


TrapStation



TS 36-1

TS 36-2

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Foreword

This installation & operating manual will help you use the TrapStation TS 36-1/TS 36-2, (referred to as "equipment" in this document) safely and efficiently for its intended purpose.

This installation & operating manual is intended for anyone commissioning, using, operating, servicing, cleaning or disposing of this equipment and, in particular, for professional after-sales service technicians, qualified personnel and authorised and trained staff.

All of these persons must read and understand the content of this installation & operating manual.

Following the instructions given in this installation & operating manual helps avoiding danger and increases the reliability and service life of the equipment. Please note that in addition to the instructions given in this installation & operating manual you must also observe all locally applicable rules and regulations concerning the prevention of accidents as well as approved safety guidelines for good professional practice.

Availability

Keep this installation & operating manual together with the plant documentation for future reference. Make sure that this installation & operating manual is available to the operator.

The installation & operating manual is part of the equipment. Please hand over this installation & operating manual when selling the equipment or passing it on.

Formatting features in the document

Certain text elements of this installation & operating manual feature a specific typographic design. You can easily distinguish the following text elements:

Standard text

Cross-reference

- ▶ Listing
 - ▶ Sub-items in listings
- Steps for action.



Here you will find additional useful information and tips serving to assist you in using the equipment to its fullest potential.

Safety

Use for the intended purpose

The TrapStation TS 36-1/TS 36-2 is designed for installation in pipelines. The equipment in conjunction with a steam trap that has to be attached to it is designed for removing condensate from steam. The two isolating valves make it possible to open and close the inlet and the condensate outlet separately from each other.

The equipment must only be used within the allowable pressure and temperature limits and only if the chemical and corrosive influences on the equipment are taken into account. This applies also to the mounted steam trap.

Correct use includes compliance with the instructions given in this installation & operating manual, in particular obedience to all safety instructions.

Any other use of the equipment is considered to be improper.

It is not allowed to use the equipment if there is no steam trap attached to it.

Note that the equipment is also used incorrectly if the materials of the equipment are not suitable for the fluid.

Basic safety notes

Risk of severe injuries

- ▶ The equipment is under pressure and hot during operation. Before carrying out any work on the equipment make sure that the following requirements are met:
 - ▶ The pipes must be depressurized (0 bar).
 - ▶ The fluid must be completely removed from the pipes and the equipment.
 - ▶ During work on the equipment the installation must be switched off and protected against unauthorised or unintended activation.
 - ▶ The pipes and the equipment must have cooled down to room temperature (approx. 20 °C, 68 °F).
- ▶ If the equipment is used in contaminated areas there is a risk of severe injuries or death caused by harmful substances in or on the equipment. Before working on the equipment make sure that it is completely decontaminated. Always wear the protective clothing prescribed for contaminated areas when working on the equipment.
- ▶ The equipment must only be used with fluids that do not attack the body material and the gaskets and sealings. Otherwise leaks may occur and hot or toxic fluid could escape.
- ▶ The equipment and its component parts must only be mounted or removed by qualified personnel. A qualified person must be acquainted with and experienced in the following:
 - ▶ Making pipe connections.
 - ▶ Working with dangerous (contaminated, hot or pressurized) fluids.

Risk of minor injuries

- ▶ Sharp edges on internals present the danger of cuts to hands. Always wear industrial gloves when servicing the equipment.
- ▶ If the support of the equipment during installation is insufficient the equipment might fall down, thereby causing bruises or injuries. Make sure the equipment is safely held in place during installation and cannot fall down. Wear protective safety footwear.

Information on property damage or malfunctions

- ▶ Malfunctions will occur if the equipment is installed in a wrong position or with the flow arrow pointing in the opposite direction of the fluid flow. This may result in damage to the equipment or the installation. Make sure that the flow arrow on the equipment body matches the indicated direction of the fluid flow in the pipe.
- ▶ If the material is unsuitable for the fluid, increased wear may occur and fluid may escape. Make sure that the material is suitable for the fluid used in your installation.
- ▶ Malfunctions may occur if the equipment is not installed in a horizontal line and with the name plate on top. Contact the manufacturer if you want to install the equipment in a different position.

Incorrect disposal can harm the environment

- ▶ For the disposal of the equipment observe the pertinent on-site regulations concerning waste disposal.

Qualification of personnel

A qualified person must be acquainted with and experienced in the following:

- ▶ the pertinent on-site rules and regulations for preventing fire and explosions
- ▶ working on pressure equipment
- ▶ making pipe connections
- ▶ working with dangerous (hot or pressurized) fluids
- ▶ observing all notes and instructions in this installation & operating manual and the applicable documents

Typographic features of warning notes



DANGER

Notes with the heading DANGER warn against imminent dangerous situations that can lead to death or serious injuries.



WARNING

Notes with the heading WARNING warn against possibly dangerous situations that could lead to death or serious injuries.



CAUTION

Notes with the heading CAUTION warn against dangerous situations that could lead to minor or moderate injuries.

Formatting features for warnings of property damage

Attention!

This note warns against situations that may lead to environmental and/or property damage.

Description

The equipment comes in two standard versions which differ in the direction of flow.

- ▶ TS 36-1 (flow from left to right)
- ▶ TS 36-2 (flow from right to left)



The flow direction is indicated by an arrow on the trap body.

The blow-off valve and the strainer are mounted on the inlet side of the equipment.

The test valve is mounted on the condensate discharge side of the equipment.

Scope of supply and equipment specification

Scope of supply

Our equipment is delivered packed and ready for assembly.

A steam trap is not part of the supply.

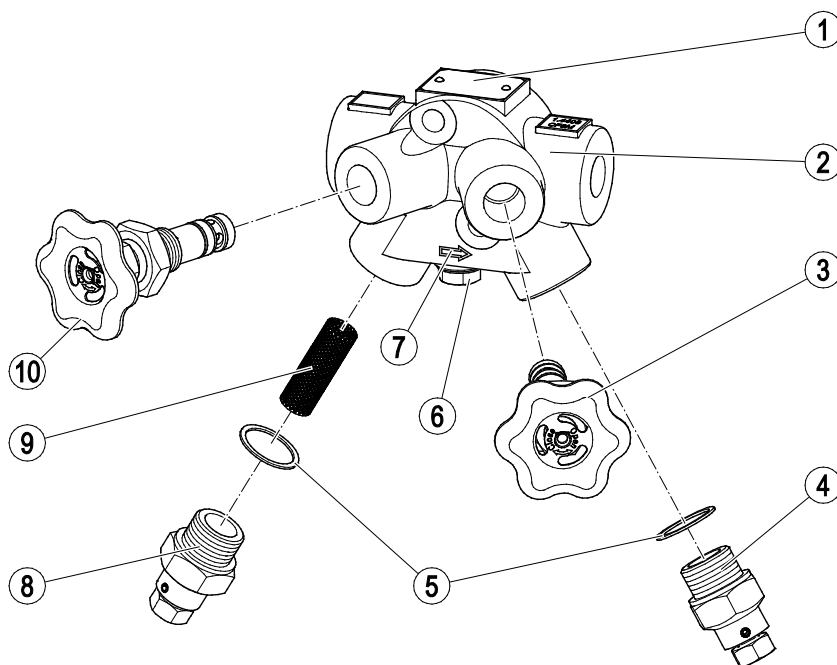
Equipment specification

The equipment consists of the following main components:

- ▶ Body
- ▶ Two isolating valves
- ▶ Test valve
- ▶ Blow-off valve
- ▶ Strainer

For the designation of the individual component parts please refer to the following pages.

The following drawing shows the equipment TS 36-1.

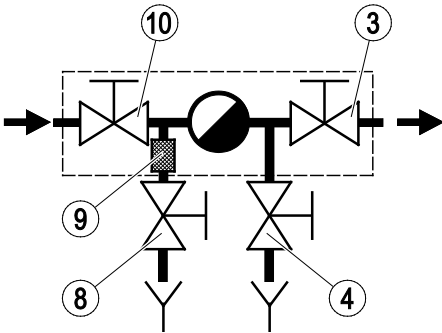


No.	Designation
1	Name plate
2	Body
3	Isolating valve at the condensate outlet (blue handwheel)
4	Test valve (condensate outlet)
5	Gasket

No.	Designation
6	Sealing plug
7	Flow arrow
8	Blow-off valve (inlet)
9	Strainer
10	Inlet isolating valve (red handwheel)

TS36-1

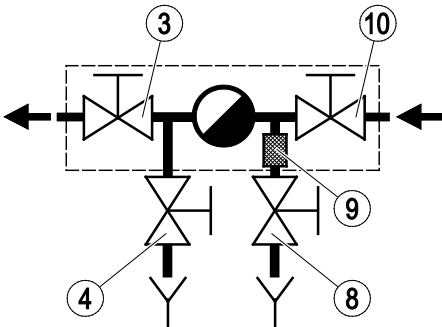
The flow direction of the TS 36-1 is from left to right.



A steam trap is not part of the supply.

TS36-2

The flow direction of the TS 36-2 is from right to left.



A steam trap is not part of the supply.

End connections

The equipment is available with the following end connections:

- ▶ Socket-weld ends
- ▶ Screwed sockets

Name plate

The following items are indicated on the name plate:

- ▶ Type designation
- ▶ Nominal pressure
- ▶ Pressure rating
- ▶ Max. admissible design pressure
- ▶ Max. admissible design temperature
- ▶ Maximum operating pressure at the associated operating temperature
- ▶ Nominal size
- ▶ Manufacturer

Instead of a nameplate the following items are specified directly on the body:

- ▶ Material
- ▶ Quarter and year of manufacturing
- ▶ Direction of flow

Application of European Directives

Pressure Equipment Directive

The equipment conforms to this directive (see "Manufacturer's Declaration" section) and can be used for the following media:

- ▶ Fluids of group 2

ATEX Directive

The equipment does not have its own potential ignition source and is not subject to this directive (see "Manufacturer's Declaration" section).

When installed, static electricity may arise between the equipment and the connected system.

When used in potentially explosive atmospheres, the plant manufacturer or plant operator is responsible for discharging or preventing possible static charge.

If it is possible for medium to escape, e.g. through actuating mechanisms or leaks in threaded joints, the plant manufacturer or plant operator must take this into consideration when dividing the area into zones.

Task and function

The equipment in conjunction with a steam trap that has to be attached to it is designed for removing condensate from steam. The two isolating valves make it possible to completely shut off the inlet and the condensate outlet separately from each other.

The blow-off valve can be used to:

- ▶ depressurise the equipment (only in conjunction with the test valve)
- ▶ clean the strainer
- ▶ check the isolating valve for tight shut-off

The test valve can be used to:

- ▶ depressurise the equipment (only in conjunction with the blow-off valve)
- ▶ check the function of the fitted steam trap
- ▶ check the isolating valve for tight shut-off

The equipment is installed in pipelines. The TrapStation can only work with a steam trap attached to it. The steam trap to be mounted must have a universal (Swivel) connector.

The following trap units of the GESTRA product range are designed to work with the TrapStation:

- ▶ Thermostatic steam trap BK 36 A/7
- ▶ Thermostatic steam trap MK 36 A/71
- ▶ Thermostatic steam trap MK 36 A/72
- ▶ Thermodynamic steam trap DK 36 A/7
- ▶ Inverted bucket steam trap IB 16A-7



You can also use steam traps with universal connector (Swivel) produced by other valve manufacturers.

Storing and transporting the equipment

Attention!

Equipment can be damaged if stored or transported improperly.

- ▶ Close all openings with the sealing plugs or covers supplied with the equipment or use similar sealing covers.
- ▶ Protect the equipment against moisture and corrosive atmospheres.
- ▶ Please contact the manufacturer if the specified transport and/or storage requirements cannot be met.

Storing the equipment

Please observe the following items when storing the equipment:

- ▶ Do not store the equipment for more than 12 months.
- ▶ Use the supplied sealing plugs or other suitable seal caps in order to seal off all openings of the equipment.
- ▶ Protect the sealing surfaces and contact areas against mechanical damage.
- ▶ Protect the equipment and all components against hard shocks and impacts.
- ▶ Store the equipment only in closed rooms that meet the following environmental conditions:
 - ▶ Air humidity below 50 %, not condensing
 - ▶ Indoor air: clean, salt-free and non-corrosive
 - ▶ Temperature 5–40 °C (41–104 °F)
- ▶ Make sure that all these requirements are always met when storing the equipment.
- ▶ Please contact the manufacturer if you cannot comply with the recommended storage conditions.

Transporting the equipment

- Meet the requirements for storage also when transporting the equipment.
- Prior to transport seal off connections with sealing plugs.



If you do not have the sealing plugs supplied with the equipment use appropriate seal caps to seal off the connections.

- For short distances (only a few metres) you can transport the equipment unpacked.
- When transporting the equipment over larger distances use the original packaging.
- If you do not have the original packaging use a box that protects the equipment adequately against corrosion and physical damage.



For a short period of time the equipment may be transported even if the temperature is below 0 °C (32 °F), provided that the equipment is completely empty and dry.

Mounting and connecting the equipment

Preparing installation

- Take the equipment out of the transport packaging.
- Check the equipment for transport damage.
- Contact the manufacturer if you detect any kind of shipping damage.

When supplied by the factory, the connections may be sealed off with sealing plugs.

- Remove sealing plugs before mounting the equipment.
- Keep the sealing plugs and the packing for further use.



DANGER

Personnel working on pipes are exposed to safety risks and may suffer severe injuries, burns, poisoning or even loss of life.

- Make sure that no hot or hazardous fluid is in the equipment or the pipes.
- Make sure that the installation is switched off and protected against unauthorised or unintended activation.
- Make sure that the equipment and the pipes have cooled down to room temperatures.

- Drain pipes until they are empty.
- Make sure that the pipe system of the plant is clean.
- Switch the installation off and protect it against unauthorised or unintended re-activation.

Connecting the equipment



DANGER

Incorrectly connected equipment can cause fatal accidents or severe injuries.

- Make sure that only qualified skilled personnel connect the equipment to pipes.
- Make sure that the flow arrow on the equipment body matches the direction of flow in the pipe.
- Make sure that the steam trap is attached to the equipment.

Specialist personnel must be highly qualified and fully experienced in making pipe connections for the respective type of end connection.

Attention!

Equipment will be damaged if the end connections are undersized.

- Make sure that the connections are strong and rigid enough to support the weight of the equipment and to withstand the forces that occur during operation.

To allow easy access for routine servicing and exchanging components observe the indicated withdrawal distances and allow for clearances to adjacent installation parts.

See section „*Dimensions and weights*“ from page 24.

- Make sure that the equipment is free from foreign matter.
- Connect the equipment horizontally to the pipes. The name plate must be on top.



In exceptional cases it is also possible to install the equipment in a vertical position.

Attention!

If the equipment is installed in a vertical position its functions may be impaired.

- Please contact the manufacturer if a horizontal installation is not possible in your plant.

-
- Mount the equipment in the horizontal position.
 - Make sure that the equipment is safely mounted and that all connections are made correctly.
 - Mount the steam trap with the two screws supplied with the equipment as described in the installation and operating manual of the trap.
 - Make sure that the equipment is safely mounted and that all connections are made correctly.

Operation



WARNING

Danger of scalding caused by hot fluid that may escape when the sealing plug at the bottom of the equipment is removed.

- Make sure that the sealing plug is screwed into the equipment.
- Do not remove the sealing plug.

Operating isolating valves

The isolating valves allow you to regulate the inlet via the red handwheel and the condensate outlet via the blue handwheel.



CAUTION

Hot surfaces and heat radiation present the risk of burns.

- Wear protective gear that is suitable for the temperatures generated in your plant.

-
- To open an isolating valve turn the respective handwheel anticlockwise.
 - To close an isolating valve turn the respective handwheel clockwise.

Operating test valve

The test valve can be used to:

- depressurise the equipment (only in conjunction with the blow-off valve)
- check the function of the fitted steam trap
- check the isolating valve for tight shut-off

Checking function of steam trap



WARNING

Danger of scalding caused by hot fluid that may escape when the test valve is operated.

- Wear the prescribed protective gear.
 - Make sure that nobody is in the vicinity of the fluid outlet.
-



CAUTION

Hot surfaces and heat radiation present the risk of burns.

- Wear protective gear that is suitable for the temperatures generated in your plant.
-

To check the function of the steam trap proceed as follows:

- Use an open-end spanner (US: wrench) 17 mm to slowly open the test valve.

The steam trap works perfectly if condensate escapes (take the operating principle of the steam trap into account).

- Close the test valve.
-

Checking the isolating valve at condensate outlet for tight shut-off



WARNING

Danger of scalding caused by hot fluid that may escape when the test valve is operated.

- Wear the prescribed protective gear.
 - Make sure that nobody is in the vicinity of the fluid outlet.
-



CAUTION

Hot surfaces and heat radiation present the risk of burns.

- Wear protective gear that is suitable for the temperatures generated in your plant.
-

For this test a certain back pressure is required.

To check the isolating valve at the condensate outlet for tightness proceed as follows:

- Close the inlet isolating valve.
- Close the isolating valve at the condensate outlet.
- Use an open-end spanner (US: wrench) 17 mm to slowly open the test valve.

You can hear the pressure escape.

Tight shut-off is ensured when no more fluid escapes.

- Close the test valve.
 - Open the isolating valves.
-

Operating blow-off valve

The blow-off valve can be used to:

- depressurise the equipment (only in conjunction with the test valve)
 - clean the strainer
 - check the isolating valve for tight shut-off
-

Cleaning the strainer



WARNING

Danger of scalding caused by hot fluid that may escape when the blow-off valve is operated.

- Wear the prescribed protective gear.
 - Make sure that nobody is in the vicinity of the fluid outlet.
-



CAUTION

Hot surfaces and heat radiation present the risk of burns.

- Wear protective gear that is suitable for the temperatures generated in your plant.

The blow-off valve allows you to clean the strainer during operation.

- Collect any escaping fluid in a sufficiently sized vessel.
- Slowly open the blow-off valve with an open-end spanner (US: wrench) A. F. 17 mm.

The dirt particles accumulated in the strainer are being discharged.

- Close the blow-off valve.

Checking the inlet isolating valve a for tight shut-off



WARNING

Danger of scalding caused by hot fluid that may escape when the blow-off valve is operated.

- Wear the prescribed protective gear.
- Make sure that nobody is in the vicinity of the fluid outlet.



CAUTION

Hot surfaces and heat radiation present the risk of burns.

- Wear protective gear that is suitable for the temperatures generated in your plant.

To check the inlet isolating valve for tightness proceed as follows:

- Close the inlet isolating valve.
- Close the isolating valve at the condensate outlet.

- Slowly open the blow-off valve with an open-end spanner (US: wrench) A. F. 17 mm.

You can hear the pressure escape.

Tight shut-off is ensured when no more fluid escapes.

- Close the blow-off valve.
- Open the isolating valves.

Depressurising the equipment



WARNING

Danger of scalding caused by hot fluid that may escape when the test valve is operated.

- Wear the prescribed protective gear.
- Make sure that nobody is in the vicinity of the fluid outlet.



CAUTION

Hot surfaces and heat radiation present the risk of burns.

- Wear protective gear that is suitable for the temperatures generated in your plant.

To depressurise the equipment proceed as follows:

- Close the inlet isolating valve.
- Close the isolating valve at the condensate outlet.
- Carefully open the blow-off valve with an open-end spanner (US: wrench) A. F. 17 mm.
- Carefully open the test valve with an open-end spanner (US: wrench) A. 17 mm.

You can hear the pressure escape.

- Perform the necessary work on the equipment.
- When work is completed close the blow-off valve and the test valve.
- Open the isolating valves.

After operation



DANGER

If the equipment is used in contaminated areas there is a risk of severe injuries or death caused by harmful substances in or on the equipment.

- Only qualified personnel are allowed to perform work on contaminated equipment.
 - Always wear the protective clothing prescribed for contaminated areas when working on the equipment.
 - Make sure that the equipment is completely decontaminated before carrying out any service work.
 - Follow the pertinent instructions for handling the hazardous substances in question.
-
-

Attention!

Frost damage may occur when the installation is shut down.

- Drain the equipment if ambient temperatures below 0 °C (frost) are to be expected.
-

To empty the equipment proceed as follows:

- Collect any escaping fluid in a sufficiently sized vessel.
- Open the blow-off valve with an open-end spanner (US: wrench) A. F. 17 mm.
- Open the test valve with an open-end spanner (US: wrench) A. F. 17 mm.

The fluid in the equipment escapes.

Maintaining the equipment



DANGER

Personnel working on pipes are exposed to safety risks and may suffer severe injuries, burns, poisoning or even loss of life.

- Make sure that no hot or hazardous fluid is in the equipment or the pipes.
- Make sure that the installation is switched off and protected against unauthorised or unintended activation.
- Make sure that the equipment and the pipes have cooled down to room temperatures.



WARNING

Danger of scalding caused by hot fluid that may escape when the test valve is operated.

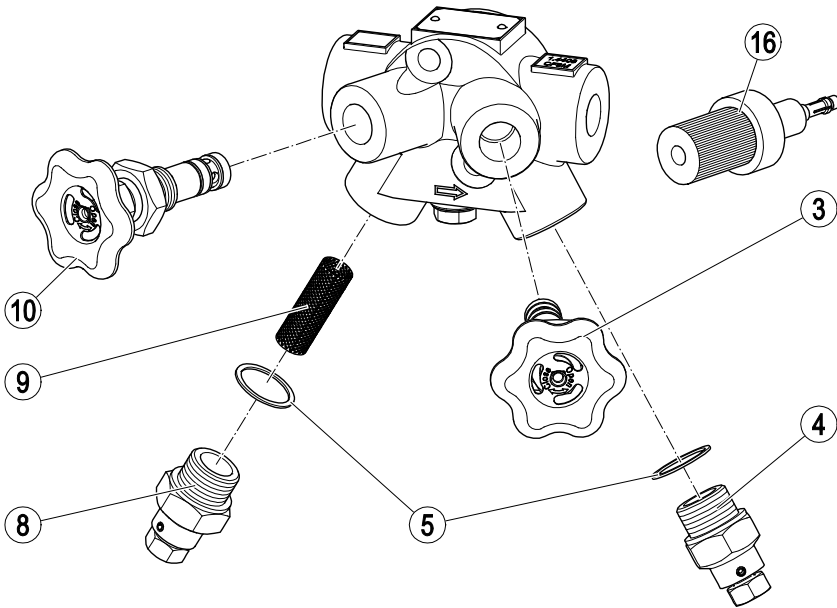
- Wear the prescribed protective gear.
- Make sure that nobody is in the vicinity of the fluid outlet.

Retighten the stuffing-box packing If the isolating valve is not tight.

- Depressurise the equipment.
- Completely open the isolating valve.
- Put the open-end spanner (US: wrench) A. F. 22 mm onto the hexagon part of the stuffing box gland.
- Make sure that the stuffing box gland does not turn when loosening the lock nut.
- Loosen the lock nut using an open-end spanner (US: wrench) A. F. 30 mm.
- Retighten the stuffing box gland using an open-end spanner (US: wrench) A. F. 22 mm to a torque of 10 Nm (7.4 ft/lbs.), max. 15 Nm (11 ft/lbs.).
- Fasten the lock nut using an open-end spanner (US: wrench) A. F. 30 mm to a torque of 70 Nm (52 ft/lbs.).
- Should the isolating valve continue to leak replace the isolating valve as described in the section „*Replacing isolating valves*“ on page 17.

Servicing the equipment and installing spare parts

Spare parts for TS 36



No.	Designation	Qty.	Stock code #
3	Isolating valve, complete, with blue handwheel (for outlet)	1	379195
4, 5	Test valve with gasket	1	379200
8, 9, 5	Blow-off valve with strainer and gasket	1	379205
10	Isolating valve, complete, with red handwheel (for inlet)	1	379190
16	Tool for removing, centering and mounting the stuffing box packing	1	379180

Replacing isolating valves



DANGER

Personnel working on pipes are exposed to safety risks and may suffer severe injuries, burns, poisoning or even loss of life.

- Make sure that no hot or hazardous fluid is in the equipment or the pipes.
- Make sure that the installation is switched off and protected against unauthorised or unintended activation.
- Make sure that the equipment and the pipes have cooled down to room temperatures.



WARNING

Danger of scalding caused by hot fluid that may escape when the test valve is operated.

- Wear the prescribed protective gear.
- Make sure that nobody is in the vicinity of the fluid outlet.

To replace the isolating valve proceed as follows:

- Depressurise the equipment.
- Loosen the lock nut of the isolating valve using an open-end spanner A. F. 30 mm.
- Unscrew the isolating valve from the equipment using an open-end spanner A. F. 22 mm.

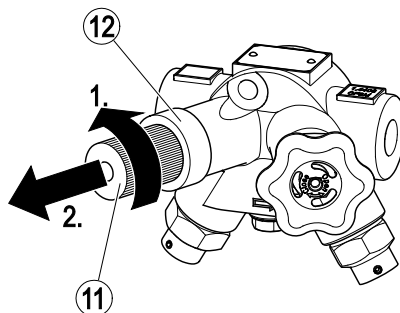


To remove and mount the stuffing-box packing use the mounting and centering tool.

To remove the stuffing-box packing still in the bore proceed as follows:

- Turn the knurled nut of the mounting and centering tool clockwise until it hits the stop.
- Make sure that the knurled nut is flush with the centering piece (12) of the tool.
- Put the mounting and centering tool into the bore of the equipment until it hits the stop.

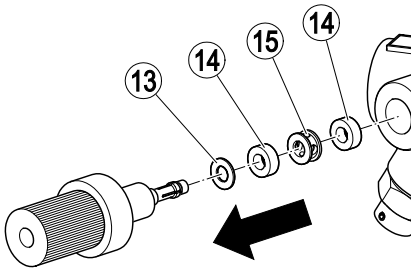
- Hold the centering piece (12) of the tool and turn the knurled nut (11) anticlockwise until it hits the stop (1.).
- Pull the mounting and centering tool out of the bore (2.).



- Turn the knurled nut of the mounting and centering tool clockwise until it hits the stop.
- Pull the stuffing-box packing off the spindle.
- Remove any gasket remains from the bore.
- Clean the gasket surfaces without damaging them.

To insert a new stuffing-box packing proceed as follows:

- Turn the knurled nut of the mounting and centering tool clockwise until it hits the stop.
- Make sure that the knurled nut is flush with the centering piece (12) of the tool.
- Put the disk (13), the first graphite ring (14), the flow body (15) and the second graphite ring (14) onto the spindle of the mounting and centering tool as shown in the drawing.



- Slightly press the mounting and centering tool into the bore of the equipment until it hits the stop.
- Slowly pull the mounting and centering tool out of the bore.
- Make sure that all parts of the stuffing-box packing are perfectly centered in the bore.
- Make sure that the isolating valve is fully open during installation.
- Mount the isolating valve with red handwheel at the inlet.
- Mount the isolating valve with blue handwheel at the condensate outlet.
- Fasten the stuffing box nut using an open-end spanner A. F. 22 to a torque of 10 Nm (7.4 ft/lbs.).
- Fasten the lock nut using an open-end spanner (US: wrench) A. F. 30 mm to a torque of 75 Nm (55 ft/lbs.).
- Close the blow-off valve.

Replacing test valve



DANGER

Personnel working on pipes are exposed to safety risks and may suffer severe injuries, burns, poisoning or even loss of life.

- Make sure that no hot or hazardous fluid is in the equipment or the pipes.
- Make sure that the installation is switched off and protected against unauthorised or unintended activation.
- Make sure that the equipment and the pipes have cooled down to room temperatures.



WARNING

Danger of scalding caused by hot fluid that may escape when the test valve is operated.

- Wear the prescribed protective gear.
- Make sure that nobody is in the vicinity of the fluid outlet.

To replace the test valve proceed as follows:

- Depressurise the equipment.
- Unscrew the test valve from the equipment using an open-end spanner A. F. 30 mm.
- Remove the gasket.
- Clean gasket seating surfaces.
- Insert a new gasket.
- Screw the new test valve into the equipment.
- Fasten the test valve using an open-end spanner A. F. 30 mm to a torque of 75 Nm (55 ft/lbs.).

Replacing blow-off valve



DANGER

Personnel working on pipes are exposed to safety risks and may suffer severe injuries, burns, poisoning or even loss of life.

- Make sure that no hot or hazardous fluid is in the equipment or the pipes.
- Make sure that the installation is switched off and protected against unauthorised or unintended activation.
- Make sure that the equipment and the pipes have cooled down to room temperatures.



WARNING

Danger of scalding caused by hot fluid that may escape when the test valve is operated.

- Wear the prescribed protective gear.
- Make sure that nobody is in the vicinity of the fluid outlet.

To replace the blow-off valve proceed as follows:

- Depressurise the equipment.
- Unscrew the blow-off valve from the equipment using an open-end spanner A. F. 30 mm.
- Remove the gasket.
- Clean gasket seating surfaces.
- Insert a new gasket.
- Screw the new blow-off valve into the equipment.
- Fasten the blow-off valve using an open-end spanner A. F. 30 mm to a torque of 75 Nm (55 ft/lbs.).

Replacing strainer



DANGER

Personnel working on pipes are exposed to safety risks and may suffer severe injuries, burns, poisoning or even loss of life.

- Make sure that no hot or hazardous fluid is in the equipment or the pipes.
- Make sure that the installation is switched off and protected against unauthorised or unintended activation.
- Make sure that the equipment and the pipes have cooled down to room temperatures.



WARNING

Danger of scalding caused by hot fluid that may escape when the test valve is operated.

- Wear the prescribed protective gear.
- Make sure that nobody is in the vicinity of the fluid outlet.

To replace the strainer proceed as follows:

- Depressurise the equipment.
- Unscrew the blow-off valve from the equipment using an open-end spanner A. F. 30 mm.
- Take out the strainer.
- Clean gasket seating surfaces.
- Insert the new strainer.
- Fasten the blow-off valve using an open-end spanner A. F. 30 mm to a torque of 75 Nm (55 ft/lbs.).

Exchanging steam trap



DANGER

Personnel working on pipes are exposed to safety risks and may suffer severe injuries, burns, poisoning or even loss of life.

- Make sure that no hot or hazardous fluid is in the equipment or the pipes.
- Make sure that the installation is switched off and protected against unauthorised or unintended activation.
- Make sure that the equipment and the pipes have cooled down to room temperatures.



WARNING

Danger of scalding caused by hot fluid that may escape when the test valve is operated.

- Wear the prescribed protective gear.
- Make sure that nobody is in the vicinity of the fluid outlet.

To replace the steam trap proceed as follows:

- Depressurise the equipment.
- Loosen the two screws that fasten the steam trap to the equipment.
- Remove the steam trap.
- Clean the sealing surfaces.
- Mount the steam trap and fasten it with the two screws. For more information see the respective installation and operating manual.

Troubleshooting

Problem	Cause	Remedy
The TrapStation is cold or only hand-hot.	The isolating valves for condensate inlet and/or outlet are closed.	Open the isolating valves.
	The strainer is dirty.	Open the blow-off valve in order to blow clean the strainer.
The TrapStation blows off steam.	The blow-off valve is open.	Close the blow-off valve.
The mounted steam trap is blowing off steam.	Refer to the installation & operating manual of the steam trap.	Refer to the installation & operating manual of the steam trap.
Condensate discharge effected by TrapStation is insufficient.	The isolating valves for condensate inlet and/or outlet are closed.	Open the isolating valves.
	The test valve is open.	Close the test valve.
	The blow-off valve is open.	Close the blow-off valve.
	The strainer is dirty.	Open the blow-off valve in order to blow clean the strainer.
	The condensate line does not have a slight fall from the the drain point towards the TrapStation. The condensate is lifted upstream of the TrapStation.	Lay the condensate line with a gradient so that the condensate is free to fall towards the steam trap. Change the orientation of the condensate line.
Condensate discharge effected by steam trap is insufficient.	Refer to the installation & operating manual of the steam trap.	Refer to the installation & operating manual of the steam trap.
Fluid escapes (equipment is leaking).	The end connections are not tight.	Seal off the end connections (e. g. screwed ends).
	The isolating valve is not tight.	Retighten the stuffing box. Replace the blow-off valve.
	The test valve is not tight.	Repalce the test valve.
	The blow-off valve is not tight.	Replace the blow-off valve.
	The mounted steam trap is not tight.	Refer to the installation & operating manual of the steam trap.

- If faults occur that are not listed above or cannot be corrected, please contact our Technical Service or authorized agency in your country.

Putting the equipment out of operation

Removing harmful substances



DANGER

If the equipment is used in contaminated areas there is a risk of severe injuries or death caused by harmful substances in or on the equipment.

- Only qualified personnel are allowed to perform work on contaminated equipment.
- Always wear the protective clothing prescribed for contaminated areas when working on the equipment.
- Make sure that the equipment is completely decontaminated before carrying out any service work.
- Follow the pertinent instructions for handling the hazardous substances in question.

Qualified personnel must have extensive experience with and a working knowledge of:

- ◆ pertinent rules and regulations concerning handling hazardous substances
- ◆ special regulations for handling the hazardous substances encountered on site
- ◆ using the required personal protective equipment (PPE) and clothing

Attention!

Environmental damage may be caused by poisonous fluid residues.

- Before disposing of the equipment make sure that it is clean and free of fluid residues.
 - For the disposal of all materials observe the pertinent legal regulations concerning waste disposal.
-
- Remove all residues from the equipment.
 - For the disposal of all residues observe the pertinent legal regulations concerning waste disposal.

Removing the equipment



DANGER

Personnel working on pipes are exposed to safety risks and may suffer severe injuries, burns, poisoning or even loss of life.

- Make sure that no hot or hazardous fluid is in the equipment or the pipes.
- Make sure that the installation is switched off and protected against unauthorised or unintended activation.
- Make sure that the equipment and the pipes have cooled down to room temperatures.



CAUTION

Danger of bruising if the equipment falls down.

- When removing the equipment make sure the it is safely held in place and cannot fall down.

Suitable measures are for instance:

- ▶ Equipment that is not too heavy may be supported by a second person.
- ▶ For heavy equipment use suitable lifting equipment of sufficient strength.
- Detach the end connections of the equipment from the pipes.
- Put the equipment onto a suitable base.
- Store the equipment as described in section "Storing the equipment" on page 9.

Re-using equipment after storage

Observe the following instructions if you want to remove the equipment and use it again somewhere else:

- ▶ Make sure that the equipment is free of any fluid residues.
- ▶ Make sure that all connections are in good condition and leak-free.
- ▶ If necessary re-work welded connections in order to ensure that they are in good working condition.
- Use the equipment only for its intended purpose and the service conditions for which it was specified.

Disposing of the equipment

Attention!

Environmental damage may be caused by poisonous fluid residues.

- Before disposing of the equipment make sure that it is clean and free of fluid residues.
- For the disposal of all materials observe the pertinent legal regulations concerning waste disposal.

The equipment is made from the following materials:

Connector

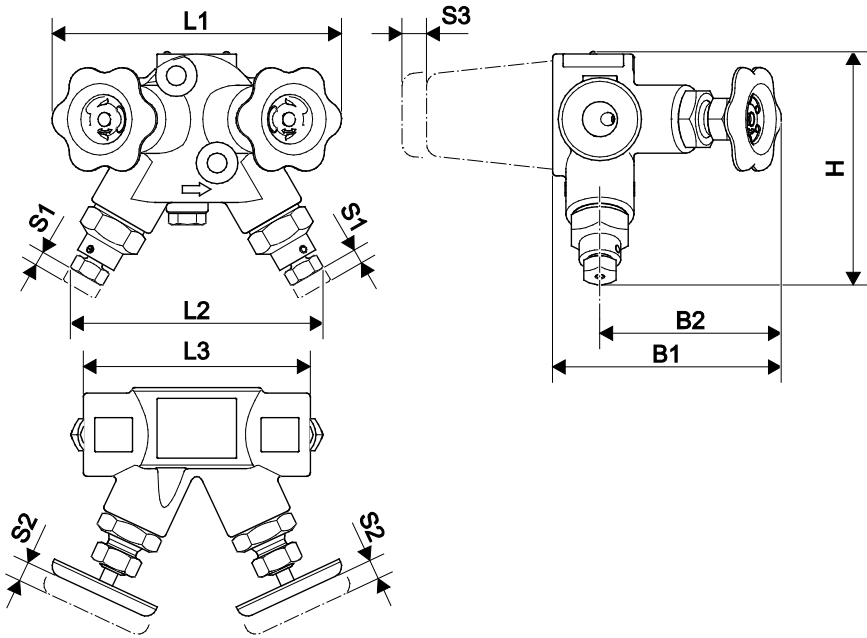
Component	EN	ASTM
Body	1.4408	A351-CF8M
Strainer	1.4301	A182-F304
Test valve	Stainless steel	
Blow-off valve	Stainless steel	

Isolating valves

Component	EN	ASTM
Handwheel	Steel, powder coated	
Stuffing box gland	1.4404	A182F-316L
Valve spindle	1.4021	
Stem	1.4301	A182-F304
Flow body	1.4301	A182-F304
Gasket	Graphite	

Technical data

Dimensions and weights



	Screwed socket NPT, socket-weld ends, screwed sockets G		
Nominal size DN	1/2"	3/4"	1"
B1	120 mm / 4.73"		
B2	96 mm / 3.78"		
H	130 mm / 5.12"		
L1	155 mm / 6.10"		
L2	135 mm / 5.32"		
L3	120 mm / 4.73"		
S1	35 mm / 1.38"		
S2	55 mm / 2.17"		
S3	20 mm / 0.79"		
Weight	3.3 kg / 7.28 lbs.		

*) On request

Pressure & temperature ratings

ASME B 16.5 Class 300 (PN 50) Material Group 2.2					
p (pressure) [bar]	49.6	42.2	35.7	31.6	29.4
T (temperature) [°C]	38	100	200	300	400
PMO (max. operating pressure)	33.7 bar at 242 °C				

Based on ASME B 16.5, ASME B 16.34

ASME B 16.5 Class 300 (PN 50) Material Group 2.2					
p (pressure) [psi]	720	613	519	460	425
T (temperature) [°F]	100	212	392	572	750
PMO (max. operating pressure)	489 psi at 467 °F				

Based on ASME B 16.5, ASME B 16.34

Manufacturer's declaration

For more information on the Conformity Assessment according to European rules refer to our Declaration of Conformity or our Declaration by Manufacturer.

To download the current Declaration of Conformity or Declaration by Manufacturer go to www.gestra.com/documents or contact:

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This declaration is no longer valid if modifications are made to the equipment without consultation with us.



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