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 **AYVAZ**



USER MANUAL

THERMOSTATIC STEAM TRAP
TKK-3/ TKK-3Y

SYMBOLS AND DESCRIPTIONS

Warning Signs in User's Guide

- | | | |
|---|------------------------------|--|
|  | IMPORTANT INFORMATION | Shows useful tips and suggestions. |
|  | DANGER | Indicates danger to life and property. |
|  | HIGH VOLTAGE | Warning danger of electric shock! |
|  | FIRE DANGER | Warning danger of fire! |
|  | HOT SURFACE | Warning risk of hot surface! |

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Please read this manual before you start using it!

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1. GENERAL INFORMATION

- Products are designed and manufactured by professional team. All parts are manufactured with high quality standards and environmental factors in mind.
- The user manual describes the correct and safe use of the item. All health and safety instructions must be followed during the installation.
- The operating area must be selected correctly to avoid missapplication.
- That user manual is a part of the product and must be read.
- The installer must carry out the installation in accordance with the warnings and information specified in the user manual.
- General terms and conditions stated at sales document.
- Ayvaz reserves the right to change products, specifications at any time without any prior notice.

Product Code: TKK-3

2. GENERAL FEATURES

2.1 GENERAL SAFETY INFORMATION

Safe use of the trap is ensured if it is properly installed and maintained by a qualified person in accordance with the operating instructions. In-line installation of the trap, safety instructions, safety equipment and correct use of tools must also be appropriate.

PRESSURE

Before maintenance, be aware that there may be pressure in the pipeline to which the trap is connected. If there is pressure in the system, the pressure must be relieved safely.

TEMPERATURE

Pay attention to the temperature of the trap before maintenance. Wait for the temperature to return to normal as this may cause physical injury.

2.2 GENERAL PRODUCT INFORMATION

TKK-3; It is a combination of bimetallic, thermostatic and thermodynamic steam trap. Opening and closing is provided by bi metal plates. The dirt trap inside the trap prevents the metal plates from getting dirty. Valve design is like check valve. By paying attention to the flow direction, it can be installed horizontally, vertically and at an angle. Body cover is forged steel, internal parts are completely stainless steel.

3. SAFETY AND ENVIRONMENTAL INS.



This equipment is manufactured for commercial use. May be dangerous for home use.

3.1 General Safety Instructions

- Follow the installation and maintenance instructions of the user manual.
 - Wear protective goggles and gloves during operation.
 - Repairs should only be carried out by technical experts. Otherwise, accidents may occur.
 - Do not use non-operating switches and electronic devices. Contact the authorized service for support.
 - Signs should be placed where the fluid temperature is 60 ° C and above.
- The item must be operated in accordance with the general safety instructions listed above. Ayvaz cannot be held responsible for problems arising from use that does not comply with the safety instructions.

3.2 Operation Conditions

PRESSURE CLASS	PN40
PMA-Pressure Max Allowable (bar)	40
TMA-Temperature Max Allowable (°C)	400
PMO-Pressure Max Operation (bar)	32
TMO-Temperature Max Operation (°C)	250
PMX-Max Differencial Pressure (bar)	21

3.3 Incorrect Usage

Incorrect use may result in hazardous situations and injuries.

- Do not make any changes to the product without authorization. Otherwise the product will not be covered by the warranty.
- Do not use the product in hazardous areas.

Ayvaz cannot be held responsible for any dangerous situations and injuries caused by incorrect usage.

Do not use this item in combination with safety precautions or emergency devices.

3.4 Responsibility of the User

This item is a commercial product. Therefore, the user is responsible for legal obligations related to occupational safety.

Along with the safety instructions specified in this user manual; accident prevention measures and environmental protection laws must be considered.

To use the item safely, the user must follow the instructions below;

- The user must be regularly familiar with occupational health and safety issues, be familiar with first aid and be able to follow the instructions in this manual.
- User must read user manual and safety instructions and understand.
- Do not test the item and do not use it out of design purpose.
- Control of the safety, pressure and temperature of the facility where the item will be decided by the user.

3.5 User Competence

Operating and handling errors can cause serious injuries to the user and damages to the product.

- Actions described in this guide, a user with qualifications which is mentioned below can perform the installation.
- The installation has to be done by qualified installers.

Competent User

A competent user is an individual authorized by the company, who is eligible to understand the technical information contained in this manual, has knowledge of measurement and control, knows the legal responsibilities of the country in which he performs the operation or installation operation, is able to operate independently in dangerous areas, in compliance with current standards and regulations.

3.6 Personal protective equipment

Personal protective equipment is a means of protecting competent users from hazards that may occur during operation. The competent user must wear personal protective equipment during installation. Follow the protection directives at the work site. Personal protective equipment must be supplied by the company that purchased the product.

4. TRANSPORT, PACKAGING AND STORAGE

4.1 Transport

After the item reaches you, check for damage caused by the transport. Report any significant damage immediately.

4.2 Packaging and Storage

Do not remove the package before installing the item. Keep the item in a safe place for damage.

5. INSTALLATION



Before the installation, you should read safety instructions carefully.

- a- Check the label and technical information sheet if the product is suitable for the required installation.
- b- Check the maximum pressure and temperature values. If the pressure in the system is higher than the maximum value of the product, provide the use of safety tools in order to prevent the excess pressure.
- c- Remove the product from package carefully. Parts of the product may resemble the packaging element. In this case, please contact your dealer.
- d- Consider the temperature of the released condense as 100°C if there is discharge of condense into atmosphere. Be sure that the system is working correctly after the installation and maintenance.
- e- Be sure to install on the correct equipment by referring to the product label.
- f- Make sure that the straps are fully seated and tightened.
- g- Tighten the jacket by using metal wires.

INSTALLATION STEPS

- a- Unscrew the cover body connection bolts.
- b- Take out the capsule.
- c- Unscrew the capsule seat.
- d- Clean the entire body, interior parts and gasket seating surfaces.
- e- Use a new cover gasket while assembling. Check the operation of the capsule. Replace with a new one if necessary.

6. OPERATION



In bi-metallic traps, the main element is the valve and the bi-metal itself. Bi metal is a composite material consisting of two separate plates with different expansion coefficients.

OPENING

When the system is cold, the valve is open and non-condensable gases and cold condensate are discharged. While the system is in operation, the bi-metallic plates, which contract with the cooling of the condensate coming to the trap, push the valve from the seat and allow the condensate to be discharged.

CLOSING

When hot condensate comes, the amount of bending at different temperatures is proportional to the length of the protrusions, so the long protrusions and then the short ones are bent respectively. Therefore, they gradually pull the valve towards its seat. As the temperature increases, the applied force also increases and stabilizes the bearing. As can be understood from its working principle, it keeps the condensate in the steam chamber and waits for the temperature to drop a few degrees below. This feature should be considered in practice .

7. MAINTENANCE AND CLEANING



7.1 Maintenance

Before performing any operation on the steam trap; The trap must be isolated from the supply line and the return line, and the pressure in the system must be safely relieved.

The trap must then be left to cool. Care must be taken to ensure that all connection surfaces are clean while reassembling the system.

7.2 Cleaning

It may cause physical injury, product damage, and environmental damage.

The fluid in the device may pose a risk to the user, the environment and the device itself.

- If there is a shut-off valve, first the lower and then the upper shut-off valve is closed. The fluid in the device is discharged into a suitable container by means of a drain plug or valve.
- The device is carefully disassembled.
- The inside of the device is cleaned with a soft brush and the outside with a wet cloth and left to dry.
- The electrical connections must not come into contact with the wet area.

It may cause product damage and environmental damage.

- Do not use aggressive cleaning materials.
- Do not clean with sharp or hard objects.

8. DISASSEMBLY, SEND TO MAINTENANCE AND DISABLE



Fluid that can cause physical injury, product damage, and environmental damage.

- Carefully clean the disassembled device to avoid physical injury, product damage, and environmental damage from fluid.

8.1 Disassembly

If there are shut-off valves; Safely disassemble the device after closing the shut-off valves.

If there is no shut-off valve, only remove the device on the tank to be removed when the system pressure and electrical connections are disconnected.

8.2 Sending to maintenance

Before sending for service, carefully clean the device to prevent physical injury, product damage, and environmental damage from fluid.

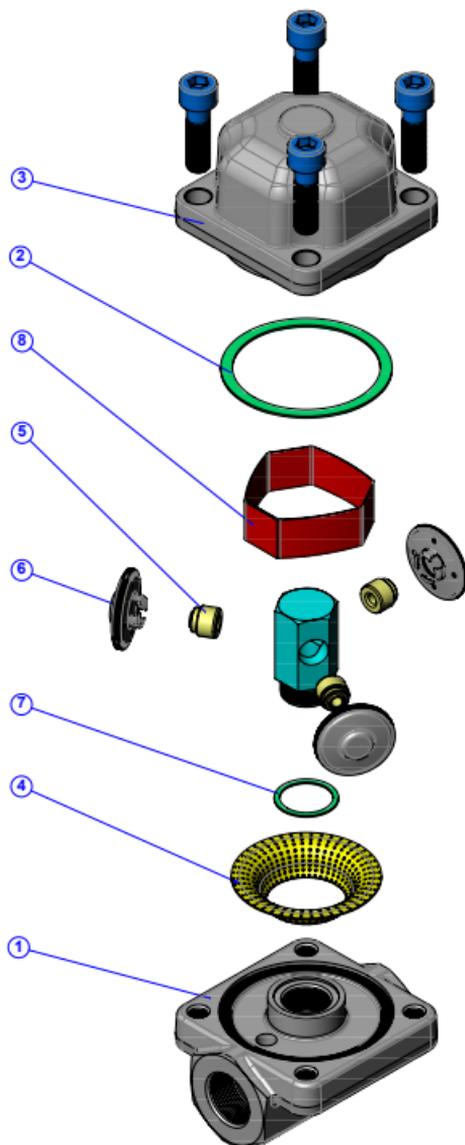
Contact our customer representative for shipping procedures.

8.3 Disable

This product is manufactured from high quality parts and materials that can be recycled and reused. Therefore, do not dispose of the product with household or other waste at the end of its service life.

You can take it for evaluation at metal recycling facilities.

9. TECHNICAL DRAWINGS



MATERIALS		
1	Body	Stainless Steel
2	Cover Gasket	Klingirit
3	Cover	Stainless Steel
4	Filter	Stainless Steel
5	Capsule Seat	Stainless Steel
6	Thermostatic Capsule	Stainless Steel
7	Cover Gasket	Stainless Steel
8	Spring	Stainless Steel

USER MANUAL

THERMOSTATIC STEAM TRAP

TKK-3 / TKK-3Y



HEAD OFFICE - FACTORY

Atatürk Sanayi Bölgesi Hadımköy Mahallesi Mustafa İnan Caddesi No: 44 Arnavutköy - İSTANBUL

Tel: +90 212 771 01 45 (pbx) | Fax: +90 212 771 47 27

info@ayvaz.com | www.ayvaz.com

Cona
Caserta/Italy
Tel: +39 0823 187 3988
rmolara@ayvaz.com

Ayvaz Germany
Viemheim/Germany
Tel: +49 62046014399
germany@ayvaz.com

Ayvaz Ukraine
Kiev/Ukraine
Tel: +380 44 390 57 57
info@ayvaz.com.ua

Tricorr
Warsaw/Poland
Tel: +48 530 030 810
+48 533 603 335
tricorr@tricorr.eu

Ayvaz Azerbaijan
Baku/Azerbaijan
Tel: +99 (455) 579-84-32
ahayatov@ayvaz.com

Ayvaz Egypt
Cairo/Egypt
Tel: +20 122 819 78 29
andrew.eld@ayvaz.com

Ayvaz Gulf
Dubai/U.A.E
Tel: +971 563550822
+971 501306871
mideast@ayvaz.com

Ayvaz China
Ningbo/China
Tel: +86 152 5830 7361
msahin@ayvaz.com

Ayvaz Kazakhstan LLP
Almaty/Kazakhstan
Tel: +7 (727) 327 97 57
info_kz@ayvaz.com

Ayvaz N
Isperih/Bulgaria
Tel: +359 8431 27 32
office@ayvaz-n.eu

Ayvaz Serbia
Belgrade/Serbia
Tel: +381 61 658 70 52
yakbilyk@ayvaz.com

Ayvaz Vietnam
HCMC/Vietnam
ggursoy@ayvaz.com
Tel: +84 89 8508345

Ayvaz Americas
Rhode Island,USA
Tel: +1 401 737 8380
americas@ayvaz.com