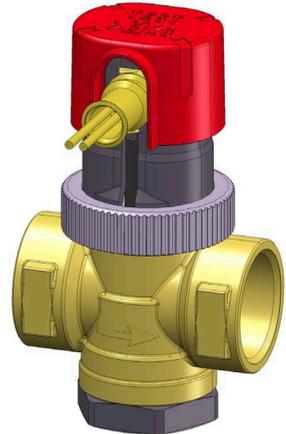


# Operating instructions



## Thermal safety valve

Type: TAS 03

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**CE** 0035

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## 1 About these operating instructions

These operating instructions describe the thermal safety valve "TAS 03" (also referred to as "product" in these operating instructions). These operating instructions are part of the product.

- You may only use the product if you have fully read and understood these operating instructions.
- Verify that these operating instructions are always accessible for any type of work performed on or with the product.
- Pass these operating instructions as well as all other product-related documents on to all owners of the product.
- If you feel that these operating instructions contain errors, inconsistencies, ambiguities or other issues, contact the manufacturer prior to using the product.

These operating instructions are protected by copyright and may only be used as provided for by the corresponding copyright legislation. We reserve the right to modifications.

The manufacturer shall not be liable in any form whatsoever for direct or consequential damage resulting from failure to observe these operating instructions or from failure to comply with directives, regulations and standards and any other statutory requirements applicable at the installation site of the product.

## 2 Information on safety

### 2.1 Safety messages and hazard categories

These operating instructions contain safety messages to alert you to potential hazards and risks. In addition to the instructions provided in these operating instructions, you must comply with all directives, standards and safety regulations applicable at the installation site of the product. Verify that you are familiar with all directives, standards and safety regulations and ensure compliance with them prior to using the product.

Safety messages in these operating instructions are highlighted with warning symbols and warning words. Depending on the severity of a hazard, the safety messages are classified according to different hazard categories.



## WARNING

WARNING indicates a potentially hazardous situation, which, if not avoided, can result in serious injury or equipment damage.

## NOTICE

NOTICE indicates a hazardous situation, which, if not avoided, can result in equipment damage.

In addition, the following symbols are used in these operating instructions:



This is the general safety alert symbol. It alerts to injury hazards or equipment damage. Comply with all safety instructions in conjunction with this symbol to help avoid possible death, injury or equipment damage.

## 2.2 Intended use

This product may exclusively be used for thermal protection of sealed or open solid fuel heating systems as per EN 12828 with a heating capacity of up to 100 kW (86,000 kcal/h).

The heat generator of the heating system must have a water heater or a safety heat exchanger.

Any use other than the application explicitly permitted in these operating instructions is not permitted and causes hazards.

Verify that the product is suitable for the application planned by you prior to using the product. In doing so, take into account at least the following:

- All directives, standards and safety regulations applicable at the installation site of the product
- All conditions and data specified for the product
- The conditions of the planned application

In addition, perform a risk assessment in view of the planned application, according to an approved risk assessment method, and implement the appropriate safety measures, based on the results of the risk assessment. Take into account the consequences of installing or integrating the product into a system or a plant.

When using the product, perform all work and all other activities in conjunction with the product in compliance with the conditions specified in the operating instructions and on the nameplate, as well as with all directives, standards and safety regulations applicable at the installation site of the product.

## 2.3 Predictable incorrect application

The product must never be used in the following cases and for the following purposes:

- The product does not replace the diaphragm safety valve for the heat generator required as per applicable safety regulations.
- The product does not replace the diaphragm safety valve for drinking water heating required as per applicable safety regulations.

## 2.4 Qualification of personnel

Only appropriately trained persons who are familiar with and understand the contents of these operating instructions and all other pertinent product documentation are authorized to work on and with this product.

These persons must have sufficient technical training, knowledge and experience and be able to foresee and detect potential hazards that may be caused by using the product.

All persons working on and with the product must be fully familiar with all directives, standards and safety regulations that must be observed for performing such work.

## 2.5 Personal protective equipment

Always wear the required personal protective equipment. When performing work on and with the product, take into account that hazards may be present at the installation site which do not directly result from the product itself.

## 2.6 Modifications to the product

Only perform work on and with the product which is explicitly described in these operating instructions. Do not make any modifications to the product which are not described in these operating instructions.

## 3 Transport and storage

The product may be damaged as a result of improper transport or storage.

### NOTICE

#### **INCORRECT HANDLING**

- Verify compliance with the specified ambient conditions during transport or storage of the product.
- Use the original packaging when transporting the product.
- Store the product in a clean and dry environment.
- Verify that the product is protected against shocks and impact during transport and storage.

**Failure to follow these instructions can result in equipment damage.**

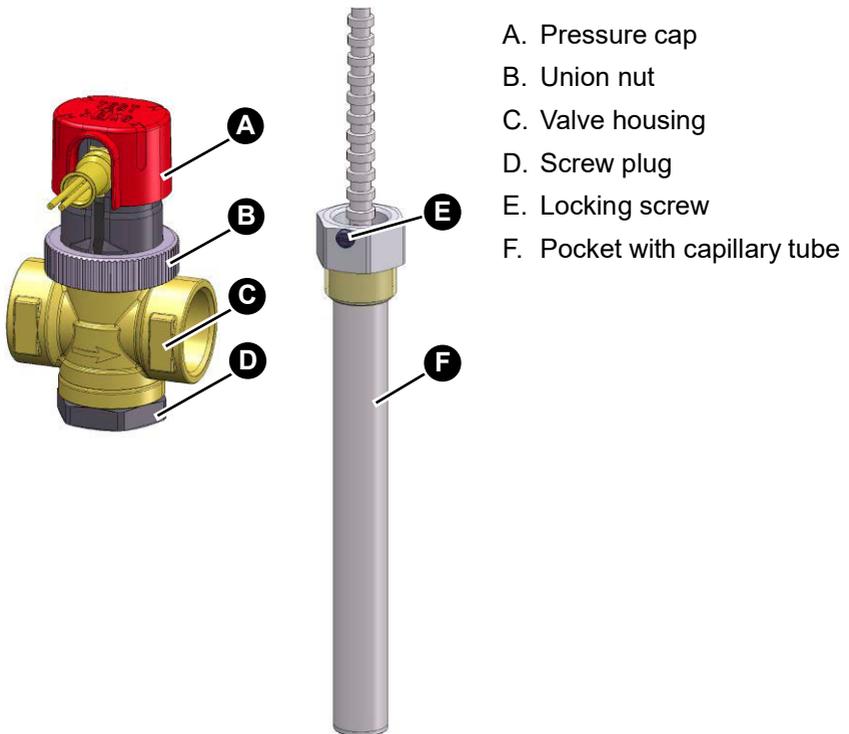
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## 4 Product description

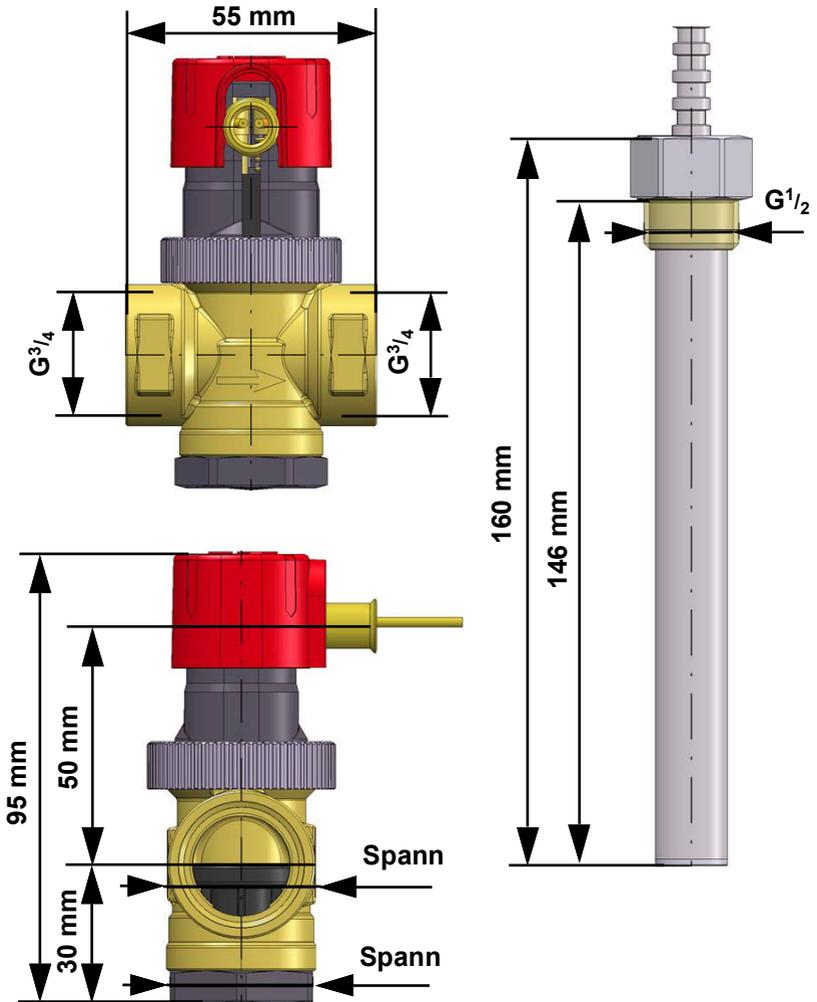
The product is a thermal safety valve with two independently working probe systems.

The product consists of a valve housing with stroke valve and two with liquid-filled temperature probes operating in parallel in a pocket. If one temperature probe becomes inoperative, the functionality is still given by the second temperature probe. A flexible metal hose helps to protect the capillary tube against bending.

### 4.1 Overview



## 4.2 Dimensions and connections



## 4.3 Function

The product protects the heat generator against overheating; it is operated without supply voltage. The temperature probes are connected to a thermally controlled valve (stroke valve) by means of a capillary tube.

If the temperature in the heat generator increases, the capillary liquid in the temperature probe expands and applies pressure to the valve. As soon as the boiler temperature in the heat generator exceeds 99 °C, the valve opens and cold water flows into the heat exchanger. The cold water reduces the temperature in the heat generator. When the temperature in the heat generator has dropped below the maximum temperature, the valve closes due to the reduced volume of the capillary liquid.

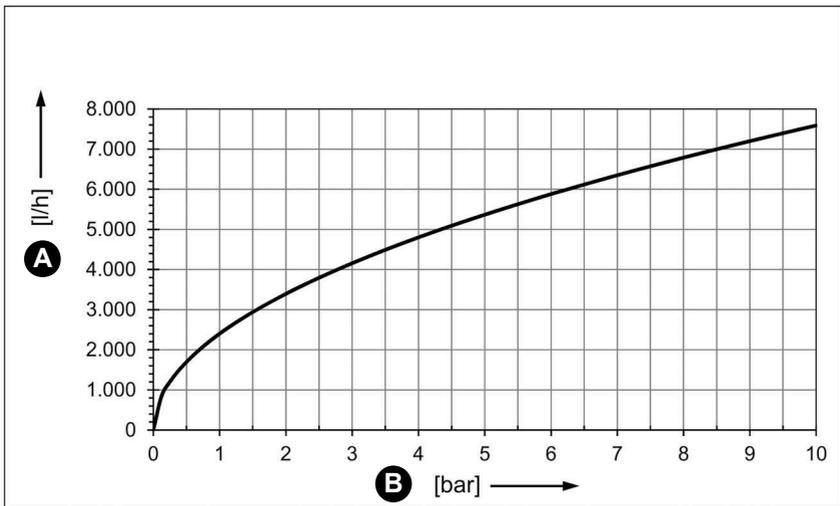
## 4.4 Technical specifications

Parameter	Value
<b>General specifications</b>	
Housing material	Brass
Spring / pressure bolt	Stainless steel
Functional parts	Plastic
Pocket	Brass, nickel-plated
Probe system	Copper with capillary liquid
Operating pressure	Max. 6 bar (pocket) Max. 10 bar (valve)
Blow-off capacity	2.4 m <sup>3</sup> /h at 110 °C and Δ p =1 bar
Connections	2 x G <sup>3</sup> / <sub>4</sub> female
Connection pocket	G <sup>1</sup> / <sub>2</sub> male
Length capillary tube	1,300 mm or 4,000 mm
Length pocket	160 mm
Installation length in heat generator	146 mm
Operating medium	Water
Mode of action (DIN EN 14597)	Type Th 2KP

Parameter	Value
<b>Operating temperature range</b>	
Operating temperature	5 ... 115 °C
At capillary tube and probe	Short-term max. 125 °C
Response temperature (DIN EN 14597)	99 °C (area opening point between 92 °C and 99 °C)
Ambient temperature valve	Max. 80 °C

## 4.5 Diagram

Maximum flow at 110 °C and inlet pressure from 0 to 10 bar



A. Flow value

B. Inlet pressure

## 4.6 Approvals, conformities, certifications

The product complies with:

- Pressure Equipment Directive (2014/68/EU)

The product is TÜV-tested as per DIN EN 14597.

## 5 Mounting



### WARNING

#### SCALDING DUE TO HOT LIQUID

Water in heating systems is under high pressure and can have temperatures of more than 100 °C.

- Verify that the heating water has cooled down before mounting the product to the system.
- Verify that hazards caused by hot water/vapour at the free outlet of the discharge line into the funnel are excluded.

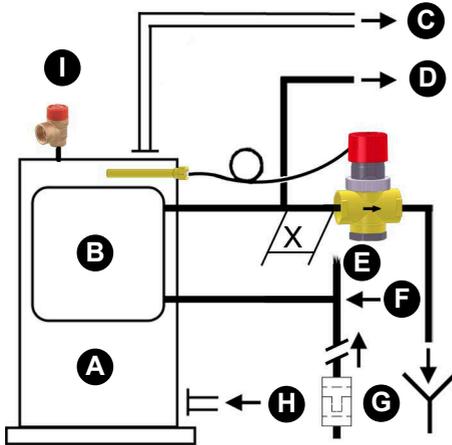
**Failure to follow these instructions can result in death, serious injury or equipment damage.**

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### 5.1 Preparing mounting

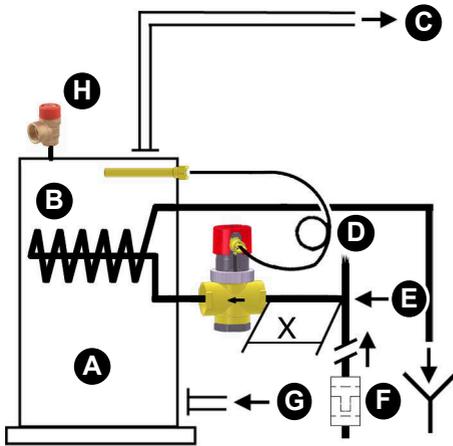
- ⇒ Verify that the area X (with stagnant water, see "Mounting examples") is as short as possible.
- ⇒ Verify that the length of the capillary tube corresponds to the local installation conditions (distance between the product and the installation location of the pocket).
- ⇒ Verify that the capillary tube is not bent or squeezed.
- ⇒ Verify that the pocket is installed in the upper part of the boiler.
- ⇒ Ensure that the maximum operating pressure of the heat generator does not exceed the maximum permissible operating pressure of the pocket.
- ⇒ Verify that the safety screw for the pocket is fitted and that the temperature probes are protected against accidental removal.
- ⇒ Verify that the product has been mounted without a shut-off element.
  - Do not install shut-off valves, filters or similar equipment.

## 5.2 Mounting examples



- A. Heat generator
  - B. Integrated drinking water heater
  - C. Flow
  - D. Hot water
  - E. Consumer (drinking water circuit)
  - F. Drinking water connection (cold)
  - G. Water filter with filter cartridge
  - H. Return
  - I. Diaphragm safety valve (2.5 or 3 bar, depending on the manufacturer specifications for the heat generator)
- X = Area with stagnant water

Figure 1: Heat generator with integrated drinking water heater



- A. Heat generator
  - B. Safety heat exchanger
  - C. Flow
  - D. Consumer  
(drinking water circuit)
  - E. Drinking water connection  
(cold)
  - F. Water filter with filter cartridge
  - G. Return
  - H. Diaphragm safety valve  
(2.5 or 3 bar, depending on the manufacturer specifications for the heat generator)
- X = Area with stagnant water

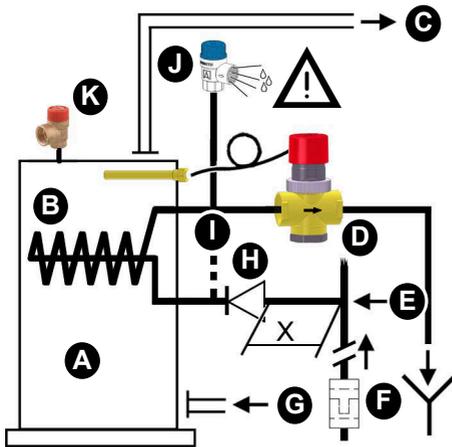
Figure 2: Heat generator with safety heat exchanger

## NOTICE

### INCORRECT OPERATION

- Verify that a diaphragm safety valve is installed.

**Failure to follow these instructions can result in equipment damage.**



- A. Heat generator
- B. Safety heat exchanger
- C. Flow
- D. Consumer (drinking water circuit)
- E. Drinking water connection (cold)
- F. Water filter with filter cartridge
- G. Return
- H. System separator
- I. Alternative connection point for diaphragm safety valve
- J. Diaphragm safety valve (adapted to the system, max. 10 bar)
- K. Diaphragm safety valve (2.5 or 3 bar, depending on the manufacturer specifications for the heat generator)

X = Area with stagnant water

Figure 3: Heat generator with safety heat exchanger, system separator and diaphragm safety valve

## 5.3 Mounting the product

### NOTICE

#### DAMAGE DUE TO IMPROPER MOUNTING

- Only loosen and tighten the union nut if the heat source is fully switched off and if the probe system is not in the pocket.

**Failure to follow these instructions can result in equipment damage.**

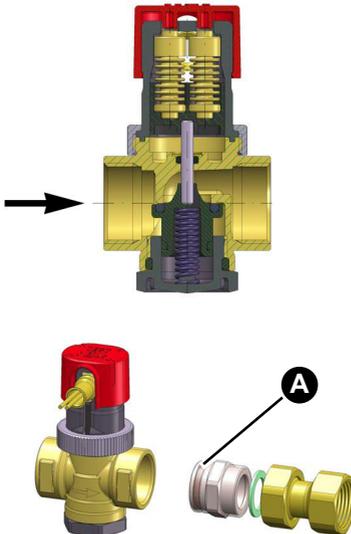
### NOTICE

#### INCORRECT OPERATION

- Only use the pocket shipped with the product.

**Failure to follow these instructions can result in equipment damage.**

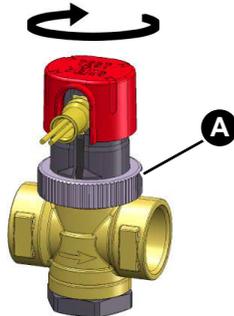
- ⇒ Verify that the product is installed with the correct direction of flow (as indicated by the direction of the arrow at the valve housing).



If the TAS 03 screw connection is used, the PTFE sealing ring (A) must be screwed into the valve housing.

Figure 4: Direction of flow and TAS 03 screw connection

1. Connect the product according to the mounting examples.
  - The product can be mounted vertically or horizontally (valve outlet pointing down).
  - The capillary tube can be mounted as required since the upper plastic parts can be aligned.



2. Loosen the union nut (A).
3. After the alignment, retighten the union nut.

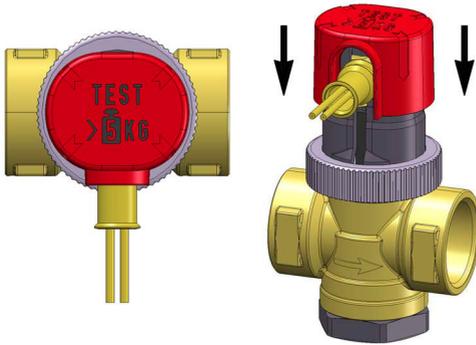
Figure 5: Aligning the capillary tube

4. The cross section of the discharge line must be DN 20 or greater.
5. Mount the discharge line with a continuous gradient and according to the table below.

Length of the discharge line	Number of elbows	Minimum nominal diameter DN
≤ 2 m	≤ 2	20
≤ 4 m	≤ 3	25

- ⇒ Verify that the end of the discharge line for inspection is approx. 20 to 40 mm above the outlet unit.
    - The discharge line must be protected against pollution, frost-protected and permanently installed.
  - ⇒ If you use a funnel, verify that cross section of the outlet of the funnel has a cross section of at least DN 40.
6. Loosen the locking screw at the pocket.
  7. Pull out the probe system.
  8. Screw the pocket into the appropriate socket of the heat generator so that it is sealed.
  9. Refit the probe system.

10. Secure the probe system with the locking screw.
11. Open the water supply.
12. Flush the pipes (see "Function test")
13. Attach a clearly visible sign to the pipe (inlet of the product) with the following text:  
**"Inlet for thermal safety valve. Only shut off for maintenance purposes!"**



## Function test

1. Press down the pressure cap to perform a function test.
  - The outlet must be able to hold at least twice the volume of the maximum flow (see chapter "Diagram").

## 6 Maintenance

The product is safety-related equipment; maintenance may only be performed by a specialised company.

### 6.1 Maintenance intervals

When	Activity
At least once per year	Perform a function test (see "Function test").

## 7 Troubleshooting

Any malfunctions that cannot be removed by means of the measures described in this chapter may only be repaired by the manufacturer.

# NOTICE

### DAMAGE TO THE SYSTEM

Excess heat may not be dissipated if the probe element is damaged or the capillary tube is damaged.

- Verify that the product is not damaged.

**Failure to follow these instructions can result in equipment damage.**

Problem	Possible reason	Repair
The product only opens at a temperature higher than 100°C	Union nut is loose	Check union nut after system has cooled down
	Probe system damaged	Check the probe element and the capillary tube
	Discharge line clogged	Check the discharge line

Problem	Possible reason	Repair
The product opens at temperatures of less than 92 °C or a small volume of water escapes on an ongoing basis	Sealing elements damaged or worn	<p>Press the pressure cap several times to flush away pollution that may be present</p> <p>Loosen the screw plug and the sealing elements. Clean the sealing surface with water. Mount the screw plug with piston under tension.</p> <p>Grease the bottom O ring. Only use grease approved for drinking water. Replace the product because of potentially incorrect mounting/damage to the seals.</p>
	Incorrect installation (direction of flow)	Mount the product with correct direction of flow
	The ambient temperature is higher than 80 °C	Mount the product at a different position or provide thermal insulation
No water escapes during the function test	The probe system is defective	Replace the product
	The water supply is interrupted.	Check the water supply
Other malfunctions	-	Contact the AFRISO service hotline

## 8 Decommissioning, disposal

Dispose of the product in compliance with all applicable directives, standards and safety regulations.

1. Dismount the product (see chapter "Mounting", reverse sequence of steps).
2. Dispose of the product.

## 9 Returning the device

Get in touch with us before returning your product ([service@afriso.de](mailto:service@afriso.de)).

## 10 Warranty

See our terms and conditions at [www.afriso.com](http://www.afriso.com) or your purchase contract for information on warranty.

## 11 Spare parts and accessories

### NOTICE

#### UNSUITABLE PARTS

- Only use genuine spare parts and accessories provided by the manufacturer.

**Failure to follow these instructions can result in equipment damage.**

#### Product

Product designation	Part no.	Figure
Thermal safety valve "TAS 03" with capillary tube length 1,300 mm	42415	
Thermal safety valve "TAS 03" with capillary tube length 4,000 mm	42418	-

#### Spare parts and accessories

Product designation	Part no.	Figure
Pocket G $\frac{1}{2}$ „TAS 03“	42449	-
Screw connection G $\frac{3}{4}$ "TAS 03"	42450	-

## 12 Appendix

### 12.1 Approval documents

<h1>Zertifikat</h1>	
<b>EU-Baumusterprüfung (Baumuster) nach Richtlinie 2014/68/EU</b>	
Zertifikat-Nr.:	01 202 969/B-25 0009
Name und Anschrift des Herstellers:	Afriso-Euro-Index GmbH Lindenstrasse 20 74363 Güglingen Germany
Hiermit wird bescheinigt, dass das unten genannte EU-Baumuster die Anforderungen der Richtlinie 2014/68/EU erfüllt.	
Geprüft nach Richtlinie 2014/68/EU:	<b>Modul B EU-Baumusterprüfung (Baumuster)</b>
Prüfbericht-Nr.:	968/FSP 2491.01/25
Beschreibung des Baumusters:	Thermische Ablaufsicherung zur thermischen Absicherung von geschlossenen oder offenen feststoffbefeuchten Heizungsanlagen mit maximal 100 kW Heizleistung.
Typ:	TAS 03
Fertigungsstätte/Lieferer:	Afriso Euro-Index GmbH Lindenstrasse 20 74363 Güglingen Germany
Gültig bis:	10/2035 Dieses Zertifikat verliert seine Gültigkeit, wenn das Produkt in irgendeiner Weise geändert oder modifiziert wird.
Das CE-Zeichen darf erst am Produkt angebracht und die Konformitätserklärung erst ausgestellt werden, wenn ein korrespondierendes Konformitätsbewertungsverfahren der Richtlinie 2014/68/EU bezogen auf die Produktion/das Produkt vollständig erfüllt ist.	
Köln, 03.11.2025	  Dip.-Ing. Wolf Rückwart
<small>TÜV Rheinland Industrie Service GmbH Notifizierte Stelle für Druckgeräte, Kennnummer 0035 Am Grauen Stein, D-51105 Köln, DEUTSCHLAND</small>	
 <b>TÜVRheinland®</b> Genau. Richtig.	
<small>T1.51 MS-0001602 Rev.6 <a href="http://www.tuv.com">www.tuv.com</a></small>	

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## 12.2 EU Declaration of Conformity

		
<b>Technik für Umweltschutz</b> <span style="float: right; font-size: small;">Messen. Regeln. Überwachen.</span>		
<b>EU - Konformitätserklärung</b> <i>EU Declaration of Conformity / Déclaration EU de conformité / Declaración de conformidad CE / Declaração de conformidade CE / Deklaracja zgodności UE</i>		
<b>Formblatt FB 27 - 03</b>		
<p>Name und Anschrift des Herstellers: <u>AFRISO-EURO-INDEX GmbH, Lindenstraße 20, 74363 Güglingen</u>  <i>Manufacturer / Fabricant / Fabricante / Nome e endereço do fabricante / Producent:</i></p> <p>Erzeugnis: <u>Thermische Ablaufsicherung / thermal safety valve</u>  <i>Product / Produit / Produto / Producto / Produkt:</i></p> <p>Typenbezeichnung: <u>TAS 03</u>  <i>Type / Type / Tipo / Tipo / Typ:</i></p> <p>Betriebsdaten: <u>Ventil / valve: max. 10 bar (Trinkwasserseite / drinking water circuit);</u>  <u>Tauchhülse / thermometer pocket: max. 6 bar (Wärmeerzeugerseite / heating site)</u>  <i>Techn. Details / Características / Detalhes técnicos / Dane techniczne:</i></p> <p>Wir erklären in alleiniger Verantwortung, dass das bezeichnete Erzeugnis mit den Vorschriften folgender Europäischer Richtlinien übereinstimmt:  <i>We declare under our sole responsibility that the above mentioned product meets the requirements of the following European Directives:</i>  <i>Le produit mentionné est conforme aux prescriptions des Directives Européennes suivantes:</i>  <i>El producto indicado cumple con las prescripciones de las Directivas Europeas siguientes:</i>  <i>O produto indicado cumpre com as prescrições das seguintes Diretivas Europeias:</i>  <i>Wymieniony wyżej produkt spełnia wymagania następujących Dyrektyw Europejskich:</i></p> <p><b>Druckgeräterichtlinie (2014/68/EU)</b>  <i>Pressure Equipment Directive / Directive équipements sous pression / Directiva equipos a presión / Dyrektywa ciśnieniowa</i>  <u>DIN EN 14597:2015</u></p> <p><b>Notifizierte Stelle / Notified Body:</b>  <u>TÜV Rheinland Industrie Service GmbH, Am Grauen Stein, D-51105 Köln, Kennnummer 0035</u></p> <p><b>EU-Baumusterprüfung (Modul B) / EU type examination (type B):</b>  <u>Zertifikatsnr. / Certificate no.: 01 202 969/B-25 0009</u></p> <p><b>Qualitätssicherungssystem (Modul D) / Quality Assurance System (Module D):</b>  <u>Zertifikatsnr. / Certificate no.: 01 202 642/Q-18 0001.01</u></p> <p>Unterzeichner: <u>Dr. Späth, Geschäftsführer Technik</u>  <i>Signed / Signataire / Firmante / Assinado por / Podpisal:</i> <span style="float: right;"><i>Technical Director / Diretor Técnico / Dyrektor Techniczny</i></span></p> <p style="text-align: center;"> <u>3. November 2025</u>  <i>Datum / Date / Fecha / Data</i> </p> <div style="text-align: right; margin-top: 10px;">  <p style="font-size: x-small;">AFRISO-EURO-INDEX GmbH Lindenstraße 20 • 74363 Güglingen Tel. +49 7142 102 0 • www.afriso.de</p> <p><b>Unterschrift / Signature / Firma / Assinatura / Podpis</b></p> </div>		
Version: 3 Index: 5	AFRISO-EURO-INDEX GmbH D-74363 Güglingen	Seite 1 von 1

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