AFRISO

EN

Technik für Umweltschutz

Messen. Regeln. Überwachen.

Operating instructions

Boiler water low level alarm
(water level limiter as per EN 12828)

WMS-WP6
WMS-WP6 OV
WMS-WP6 R2

CE 0035

Lindenstraße 20
74363 Güglingen
Telephone +49 7135 102-0
Service +49 7135 102-211
Telefax +49 7135 102-147
info@afriso.com
www.afriso.com

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1 About these operating instructions

These operating instructions describe the boiler water low level alarm "WMS-WP6" (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.

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.

DANGER

DANGER indicates a hazardous situation, which, if not avoided, will result in death or serious injury.

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.

This symbol alerts to hazardous electrical voltage. If this symbol is used in a safety message, there is a hazard of electric shock.

2.2 Intended use

This product may only be used to secure a burner at heating systems (as per EN 12828) with flow temperatures of up to 120 °C by interrupting the power supply in the case of a low water condition.

The product may only be used for the following media:

- Water
- Heating circuit water as per VDI 2035 with a maximum of 50 % glycol (ethylene glucol)

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:

- Use in heating systems with flow temperatures higher than 120 °C
- Use on water-tube boilers according to EN 12952 and shell boilers according to EN 12953

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.

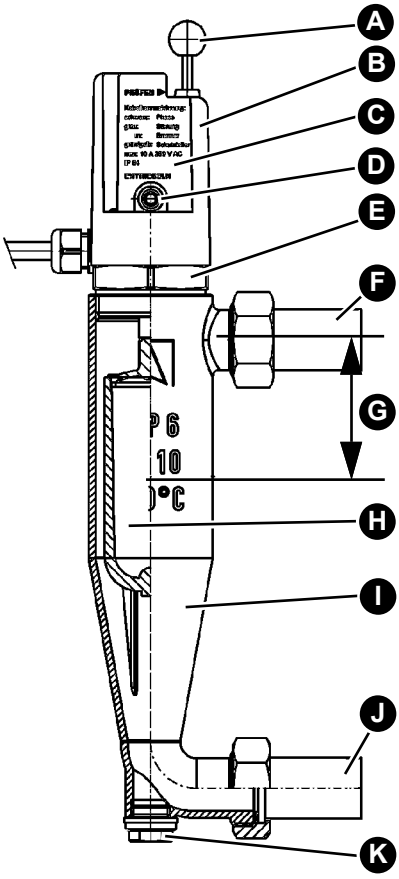
4 Product description

The product is a mechanical boiler water low level alarm with a float system for sealed heating systems to protect the burner.

As per EN 12828, heating systems with more than 300 kW must be equipped with water level limiters.

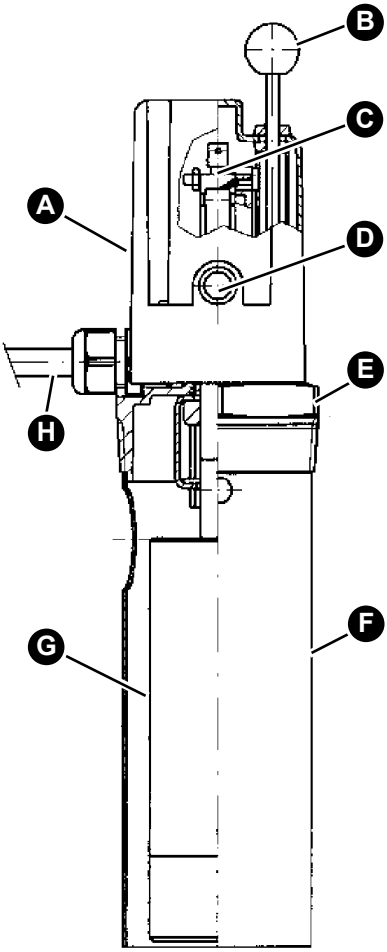
The product is suitable for continuous operation.

4.1 Overview



A. Test unit
B. Cover
C. Nameplate
D. Unlock pushbutton (only for version with locking mechanism)
E. Vent screw
F. Welding socket
G. Switch off level (88 mm)
H. Float
I. Housing
J. Welding socket
K. Sludge removal opening

Fig. 1: Overview WMS-WP6



A. Cover
B. Test unit
C. Switch
D. Unlock pushbutton (only for version with locking mechanism)
E. Screw connection with venting
F. Protective pipe
G. Float
H. Connection cable

Fig. 2: WMS-WP6 2 with short protective pipe

4.2 Dimensions and connections

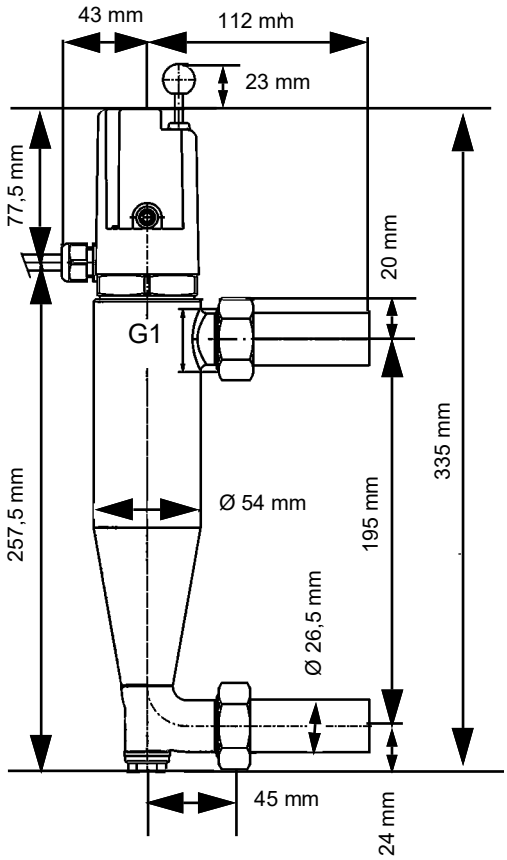


Fig. 3: WMS-WP6

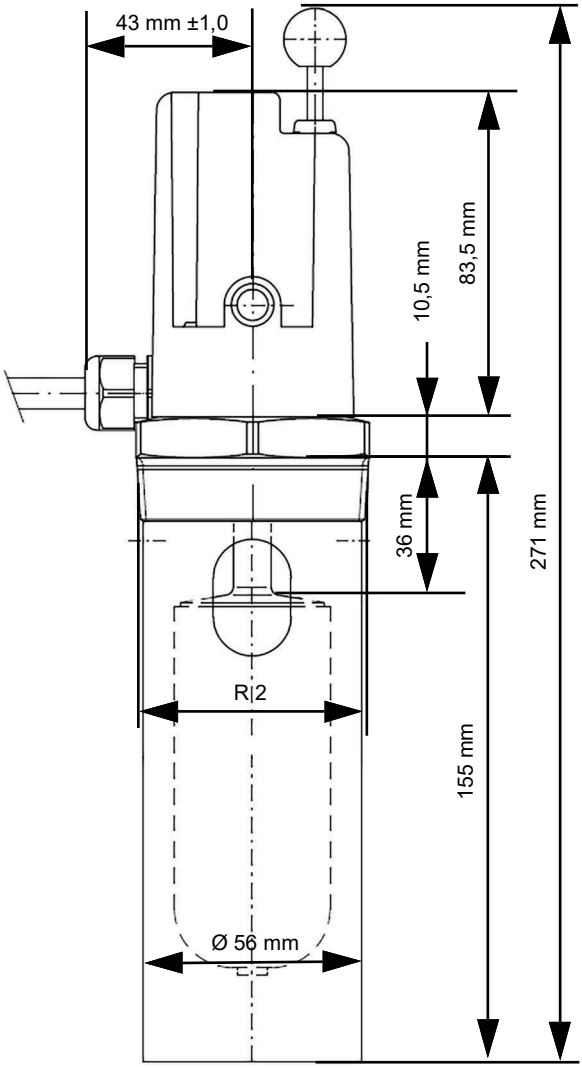
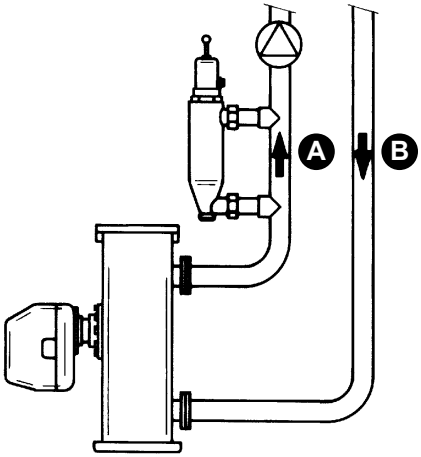


Fig. 4: WMS-WP6 2 with short protective pipe

4.3 Application example(s)



A. Flow
B. Return

Fig. 5: WMS-WP6

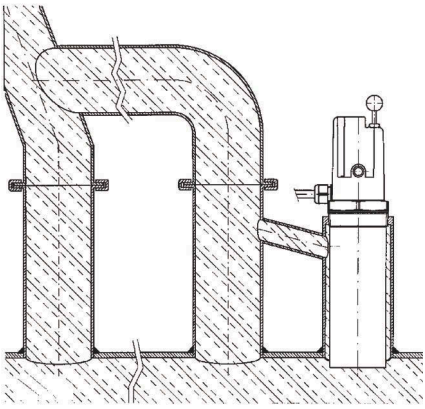


Fig. 6: WMS-WP6 R2 with short protective pipe

4.4 Function

The product contains a changeover contact. If the water level in the boiler drops below a minimum level, a switch deactivates the power supply to the burner. The contact can switch additional equipment (for example, a horn).

The test unit allows the float to be lowered to simulate a low water alarm condition.

Product with locking (WMS-WP6 / WMS-WP6 R2)

A locking mechanism keeps the burner from restarting automatically.

Product without locking (WMS-WP6 OV)

A product version without unlocking mechanism is also available for unlocking and resetting directly from the control cabinet.

4.5 Approvals, conformities, certifications

The product complies with:

- EMC Directive (2014/30/EU)
- Low Voltage Directive (2014/35/EU)
- Pressure Equipment Directive (2014/68/EU)
- RoHS Directive (2011/65/EU)

WMS-WP6, WMS-WP6 OV and WMS-WP6 R2 with short protective pipe;

- Type approval mark TÜV.WBH.YY-232

  "YY" represents the year of the approval, see chapter "Appendix"

4.6 Technical data

Parameter	Value WMS-WP6 WMS-WP6 OV	Value WMS-WP6 R2 with short protective pipe
General specifications		
Height	358 mm	271 mm
Connections	Welding socket DN 20	R2
Protective pipe material	-	Brass
Housing material	Brass	
Float material	Plastic	
Operating pressure	10 bar maximum	
Test pressure	15 bar	
Ambient conditions		
Ambient temperature operation	20 ... 70 °C	
Temperature of the medium	20 ... 120 °C	
Electrical data		
Connection cable	Four wires, 1.9 m long	
Electrical switch rating	6(2) A, AC 250 V	
Fusing of external circuit	6 A at resistive load, 2 A at inductive load	
Type of action (EN 60730-1)	Corresponds to RS type 1 B	
Protection class (EN 60730)	I	
Degree of protection (EN 60529)	IP 54	

5 Mounting

WARNING

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.

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

5.1 Preparing mounting

⇨ Verify that the pump does not influence the position of the float in the product (for example, strong flow or suction effects).

⇨ Verify that no shut-off fitting is mounted for the product.

⇨ Verify that the probe body is removed before welding work is performed.

5.2 Mounting the product

The product must be installed vertically.

1. Before performing welding work, remove the welding sockets from the probe.
2. Install the product into a vertical section of the flow line.
3. Install the product in the boiler circuit upstream of the mixer.
   - The switch-off level of the product must be at least 100 mm above the highest heated surface of the heat generator.

5.3 Electrical connection

DANGER

ELECTRIC SHOCK

- Verify that the degree of protection against electric shock (protection class, double insulation) is not reduced by the type of electrical installation.

Failure to follow these instructions will result in death or serious injury.

DANGER

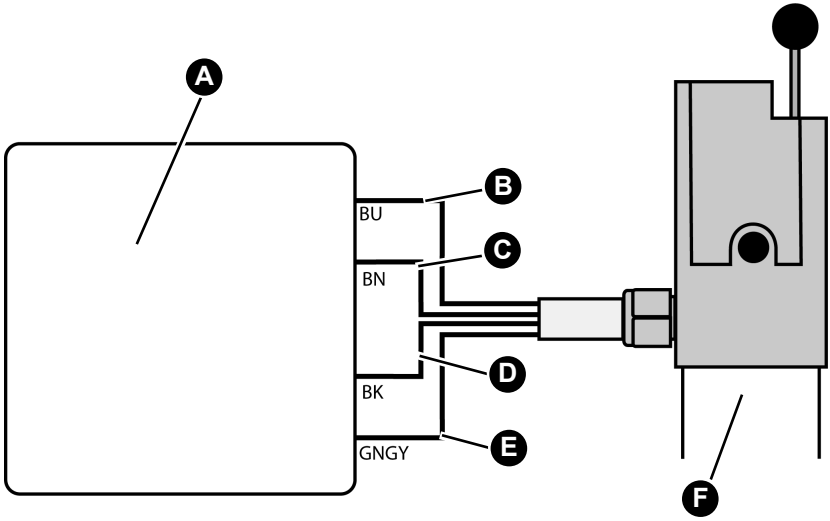
ELECTRIC SHOCK CAUSED BY LIVE PARTS

- Disconnect the mains voltage supply before performing the work and ensure that it cannot be switched on.
- Verify that no hazards can be caused by electrically conductive objects or media.

Failure to follow these instructions will result in death or serious injury.

5.3.1 Product with locking (WMS-WP6 / WMS-WP6 R2)

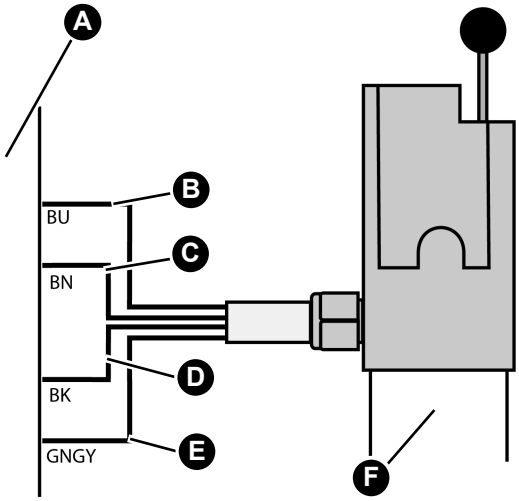
1. Connect the four-wire connection cable and the connection line to the burner in a moisture-proof junction box.



A. Moisture-proof junction box
B. Blue, additional equipment (for example, horn) on/off (230 V)
C. Brown, burner on/off (230 V)
D. Black, L (230 V)
E. Green yellow, protective earth conductor
F. Product with locking

5.3.2 Product without locking (WMS-WP6 OV)

1. Connect the locking unit provided on site.



A. Locking to be provided by customer
B. Blue, additional equipment (for example, horn) on/off (230 V)
C. Brown, burner on/off (230 V)
D. Black, L (230 V)
E. Green yellow, protective earth conductor
F. Product without locking

6 Commissioning

6.1 Commissioning the product

Product with locking:

1. Press the "Unlock" pushbutton after you have filled and vented the heating system.
   - The burner is released.

Product without locking:

The burner is automatically released by the product after filling and venting. If a locking unit is required, it must be provided on site.

6.2 Performing the function test

You can perform the function test without lowering the water level.

1. Press the test unit.
   - The burner switches off.

Product with locking:

2. Press the unlock pushbutton to release the burner.

Product without locking:

After you release the test unit, the product automatically releases the burner.

6.3 Operation

If the water level is too low, the product interrupts the power supply to the burner.

Product with locking:

- Remove the cause and press the unlock pushbutton.

Product without locking:

- After you have removed the cause, the product unlocks automatically.

7 Maintenance

7.1 Maintenance intervals

When	Activity
Once per year	Perform a function test (see chapter "Performing the function test").

8 Troubleshooting

Malfunctions of the product may only be repaired by the manufacturer.

9 Decommissioning, disposal

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

Electronic components must not be disposed of together with the normal household waste.

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

10 Returning the device

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

11 Warranty

See our terms and conditions at www.afriso.com or your purchase contract for information on warranty.

12 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
Boiler water low level alarm "WMS-WP6" with welding socket DN 20	42300 (AFRISO) 42325	
Boiler water low level alarm "WMS-WP6 OV" without locking, with welding socket DN 20	42305 (AFRISO) 42326	
Boiler water low level alarm "WMS-WP6 R2" with protective pipe"	42319	-

Spare parts and accessories

Product designation	Part no.	Figure
Upper part "WMS-WP6" with locking (for "WMS-WP6", year of manufacturer 1994 and later)	42310	-
Upper part "WMS-WP6" without locking (for "WMS-WP6", year of manufacturer 1994 and later)	42311	-
Probe body for "WMS-WP6" (for "WMS-WP6" year of manufacture 2008 and later)	42368	-

13 Appendix

Approval documents and the EU declaration of conformity can be found in the German operating instructions.