

# AFRISOBasic

AFRISO Sp. z o.o.  
Szańska, ul. Kościelna 7  
42-677 Czekanów  
[www.afriso.pl](http://www.afriso.pl)

Customer Service Team  
Tel. +48 (0) 32 330 33 55  
[info@afriiso.pl](mailto:info@afriiso.pl)

## Electric flow heaters BEH

### NOTE!

The product may only be used if you have fully read and understood these operating instructions. The manual is also available on the AFRISO websites in the Internet.

### WARNING!

Electric flow heater BEH may only be installed, commissioned, and dismantled by trained personnel.

Changes and modifications carried out by unauthorised persons may cause danger and are prohibited for safety reasons.

Risk of scalding by hot medium! Perform all installation and maintenance work after the system has cooled down.

There is danger to life due to electrical voltage! Touching live parts poses an immediate threat to life.

Before any work is carried out, the heater must be disconnected from the electrical supply and protected from being switched on again.

Do not allow the heater electronics to come into contact with water or other liquids.

The device must be connected to the mains by a person with the proper qualifications and authorisation.

### APPLICATION

Electric flow heater BEH used in heating systems. Installed between the heat source and the system or buffer tank. Heats the heating medium to the set temperature.

### PREDICTABLE INCORRECT APPLICATION

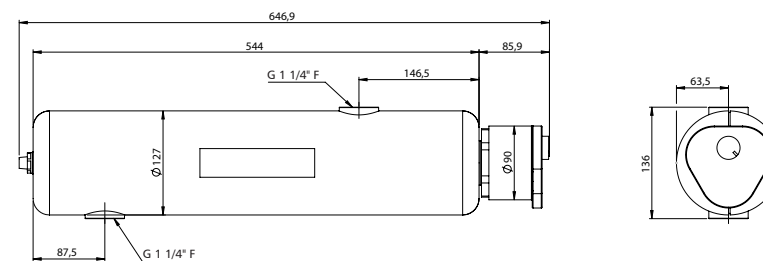
Electric flow heater BEH is not intended for use:

- with the following liquids and gases: a mix of water and glycol with a glycol concentration greater than 50%, steam, oil, petrol, drinking water;
- in explosive environments. When used in explosive areas, sparking may lead to deflagration, fire or explosion;
- for safety-related purposes;
- in combination with products that directly or indirectly serve to save human health or life, or whose operation may cause danger to humans, animals or material goods.

### DESCRIPTION AND SCOPE OF DELIVERY

Electric flow heaters BEH 462 and 463 are made of a galvanised steel housing with a 2 kW (BEH 462) or 3 kW (BEH 463) electric heating element screwed into it. The BEH 460 heater does not have a factory-fitted heating element. In addition, all heaters are fitted with a manual air vent and two-piece thermal insulation made of EPP.

### DIMENSIONS [mm]



### MOUNTING

Before installing the BEH flow heater, flush the system thoroughly, paying particular attention to the removal of solder residues, pipe cutting debris, etc. To protect the system against contamination and corrosion, we recommend installing an AFRISO ADS magnetic dirt separator and using the AFRISO BCI corrosion inhibitor.

For the BEH 460 flow heater, select and screw in an electric heating element into the G1 1/2" female connection prior to installation. The length of the heating element must not exceed 450 mm. Before installing and connecting the unit electrically, read the heater's operating instructions and follow the guidelines contained therein.

Electric flow heater BEH fitted at the factory with a heating element may be installed either vertically or horizontally. For vertical installation, the heater must be positioned such that the manual air vent is at the top and the heating element housing is at the bottom. Installation with the heating element on top is not permitted, as air accumulating in the upper part of the heater may cause uneven heat distribution and lead to the heating element burning out. In the case of horizontal installation, venting the internal space of the heater will not be effective. In such cases, an additional air vent (e.g. Art. No. 77 735 10) must be installed elsewhere in the system.

Install the heater directly onto the system piping in accordance with the application diagrams (Fig. 1, Fig. 2), using G1 1/4" female threads. In justified cases, e.g. when using plastic pipes, additional pipe clamps must be installed at the heater connections. Ensure a clearance of at least 10 cm from surrounding components during installation. If there is any shut-off or non-return valve between the heat source and the heater, a safety valve must be installed on the supply line as close to the heater as possible. The opening pressure of this valve must match the opening pressure of the safety valve installed in the heat source.

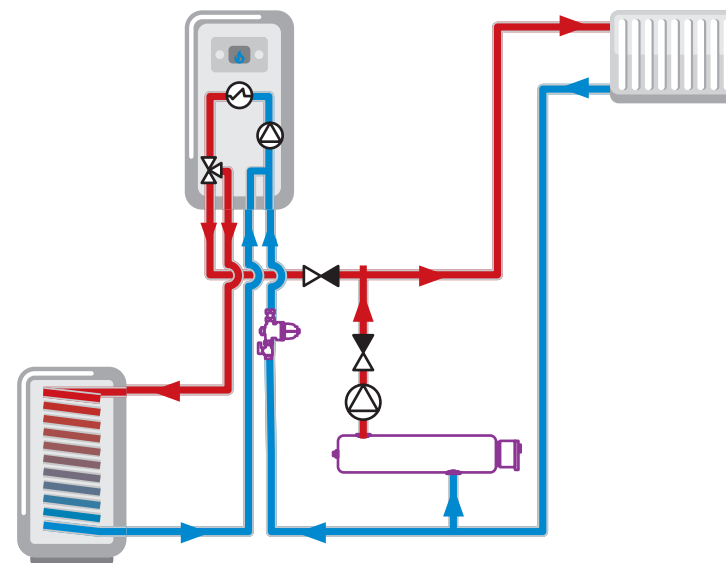


Fig. 1. Electric flow heater BEH used in a gas boiler installation

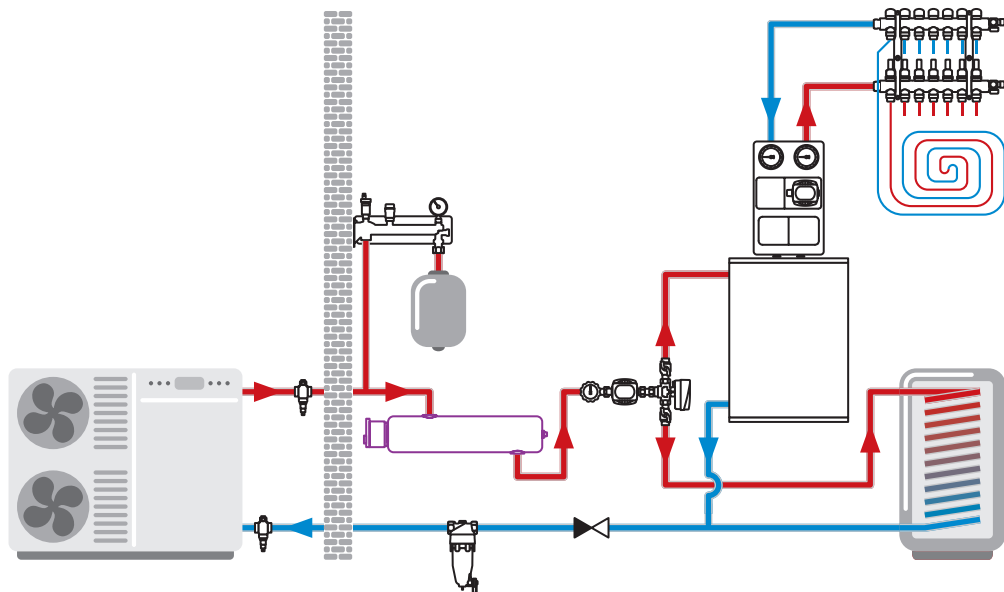


Fig. 2. Electric flow heater BEH used in a system with a monoblock heat pump

In order for the flow heater to operate properly, constant circulation of the medium must be ensured in the system, especially when the flow heater is operating as an auxiliary source or independently. In auxiliary operation, the main heat source, which is equipped with a circulation pump, will switch off when it detects a high temperature of the returning medium. In most cases, the circulation pump will switch off at the same time or shortly thereafter. In this case, the medium will stop flowing through the heater, and the system will no longer receive heat from the heater.

#### ELECTRICAL CONNECTION OF THE HEATING ELEMENT (APPLIES TO BEH 462 AND BEH 463)

After installing the heater in the system, connect it to a 230 V mains supply or to a controller using the factory-supplied three-core cable. The heating element must only be activated after the system has been filled and vented.

#### USING THE HEATING ELEMENT (APPLIES TO BEH 462 AND BEH 463)

The heating element has a temperature adjustment range of 5÷65°C. The desired temperature is set using a knob. An LED located near the temperature control knob indicates the current operating status of the heating element. When the LED is lit, the heating element is operating.



Fig. 3. Position of the LED and knob



Fig. 4. Location of the reset button

The heating element is fitted with a built-in safety thermostat with manual reset, which protects the heating element and the system from overheating when the temperature rises above 100°C. If it is activated, the heating element will not work. To reset the safety device, first disconnect the heating element from the power supply and determine the cause of the thermostat activation. Then remove the temperature adjustment knob and press the reset button using a thin object. After resetting, replace the knob. The knob fits in only one position. After completing the process, restore the power supply.

Do not open the heating element housing. There are no serviceable parts inside the appliance.

#### APPROVALS AND CERTIFICATES

AFRISO Sp. z o.o. hereby declares that the product complies with:

- LVD directive: 2014/35/EU,
- EMC directive: 2014/30/EU,
- RoHS directive: (2011/65/EU),
- PED Directive: 2014/68/EU.



The full text of the EU declaration of conformity is available at the following internet address: [www.afriso.pl](http://www.afriso.pl).

#### TECHNICAL DATA

Parameter	Value / material
Connections to the installation	G1¼" F
Connection for accessories	G½" F
Heater connection	G1½" F
Maximum length of the heating element	450 mm
Flow	max 6,0 m³/h
Heater capacity	BEH 462: 2,0 kW BEH 463: 3,0 kW
Length of heating element	BEH 462: 390 mm (straight element) BEH 463: 370 mm (bent element)
Temperature control range (if applicable)	5÷65°C
Heater supply voltage (if applicable)	230 V AC
Cable length (if applicable)	1,2 m
Heating element housing protection rating (if applicable)	IP44
Operating pressure	max 6 bar
Operating temperature	max 90°C
Glycol concentration	max 50%
Housing material	galvanised steel
Heating element cover tube material (if applicable)	stainless steel 1.4404

#### MAINTENANCE

Check the connections for leaks periodically. It is recommended to use a manual air vent at regular intervals to remove any accumulated air in the heater.

#### DECOMMISSIONING, DISPOSAL



1. Disconnect the power supply.
2. Dismount the device.
3. Dispose of the product according to local directives and guidelines. Electronic parts and batteries should not be disposed of with household waste.

Return the product to the appropriate collecting point or to the manufacturer's or distributor's collecting point.

#### WARRANTY

Product guarantee in accordance with the general conditions of sale and delivery.

#### CUSTOMER SATISFACTION

For AFRISO customer satisfaction is paramount. If you have any questions, suggestions or product problems, please contact us.