

# AFRISOBasic

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## Insulated low-loss header BLH 850

### 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!



Low-loss header BLH 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.

### APPLICATION

Low-loss headers are used to divide heating systems compliant with PN-EN 12828 into a primary heat source circuit and a secondary circuit (or circuits) of the receiving installation. Dividing the system in this way ensures the correct hydraulic conditions for the operation of circulation pumps by balancing the flows. This guarantees smooth operation of the system and heat source when some heat receivers are switched off and increases the service life of the circulation pumps.

Thanks to its design and properties, the low-loss header also helps to vent and separate dirt, which can be removed using a drain valve. Another function of the header is to increase the temperature of the water returning to the heat source.

### PREDICTABLE INCORRECT APPLICATION

Low-loss headers BLH 850 must not be used in the following cases:

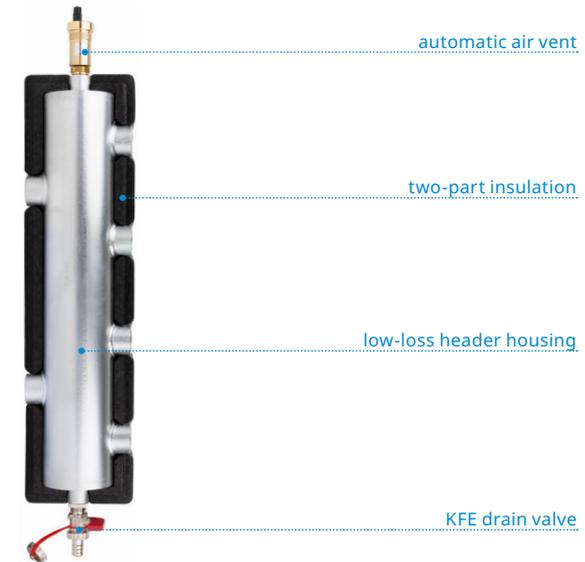
- under conditions exceeding the maximum permissible pressure and temperature parameters of the medium,
- with the following liquids and gases: a mixture of water and glycol with a glycol concentration greater than 50%, steam, oil, petrol, water intended for human consumption, other media that have a destructive effect on valve components or interfere with its operation.

### DESCRIPTION AND SCOPE OF DELIVERY

The low-loss header with manifold BLH 850 consists of a galvanised steel body, two-part insulation and equipment in the form of an automatic air vent with a stop valve and a KFE drain valve. The low-loss header BLH 850 is fitted with internal G1" threads. On one side of the header there are two outlets for heating circuits, which can also be used to connect two heat sources.

The automatic air vent and drain valve should be screwed into the G½" internal threads. If no additional equipment is used, the holes should be plugged with a G½" plug.

### CONSTRUCTION



### MOUNTING

Before installing the low-loss header, thoroughly flush the system, paying particular attention to removing any residues from soldering, pipe cutting, etc. We also recommend using proper filters in the system.

Install the low-loss header vertically, directly on the system pipes, in accordance with the application diagram (Fig. 1 or Fig. 2), using G1" internal threads. In justified cases, e.g. when the pipes are made of plastic, additional clamps should be used on the pipes at the low-loss header connections.

In the first case (Fig. 1), connect the heat source to a single pair of connections, and connect the heating circuits to the side with two pairs of connections. In the second case (Fig. 2), connect two heat sources to the side with two pairs of connections, and connect the outlet to the system's pump circuit to the side with a single pair of connections. Then screw the stop valve of the air vent into the upper G½" connection and screw the KFE drain valve into the lower G½" connection. If you are not using additional equipment, the holes should be plugged with plugs.

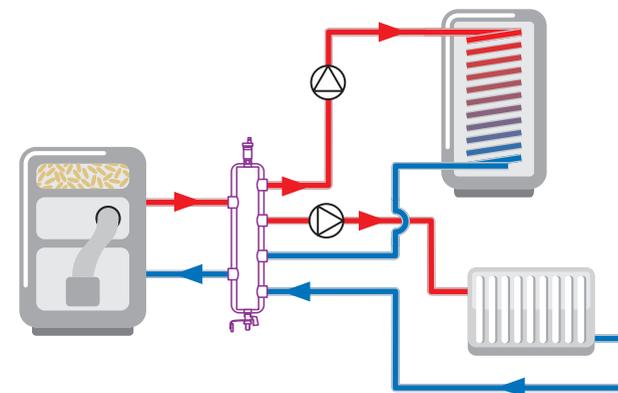


Fig. 1. Two heating circuits

## MOUNTING

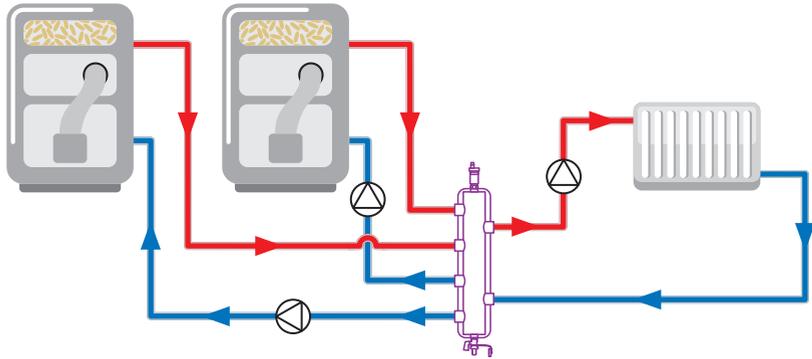
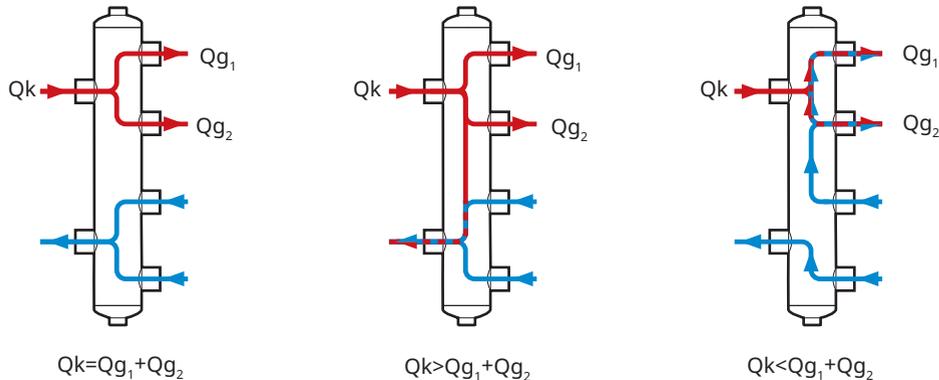


Fig. 2. Two heat sources

## OPERATING PRINCIPLE



Situation I - The sum of the heating medium flows in the pump circuits of the heating system ( $Q_g$ ) is equal to the flow of the medium in the pump circuit of the heat source ( $Q_k$ ). There is no mixing of the supply and return medium flows from the system in the low-loss header.

Situation II - The total flow of the heating medium in the heating system's pump circuits ( $Q_g$ ) is lower than the flow of the medium in the heat source's pump circuit ( $Q_k$ ). Part of the hot medium from the boiler mixes in the low-loss header with the cold flow from the system return, raising the temperature of the medium returning to the heat source.

Situation III - The total flow of the heating medium in the heating system's pump circuits ( $Q_g$ ) is greater than the flow of the medium in the heat source's pump circuit ( $Q_k$ ). Part of the cold medium from the system return mixes in the low-loss header with the hot stream from the boiler, lowering the temperature of the medium supplying the system.

## TECHNICAL DATA

Parameter / part	Wartość / materiał
Connections to the installation	G1" F
Accessory connections	G½" F
Flow	max 4.0 m³/h
Capacity	max 70 kW at $\Delta T = 15K$
Set nominal pressure	PN10
Set operating temperature	max 90°C
Nominal pressure of the low-loss header (without additional equipment)	PN16
Operating temperature of the low-loss header (without additional equipment and insulation)	max 110°C
Glycol concentration	max 50%
Low-loss header housing	galvanised steel
Zinc coating thickness	min 8 $\mu m$
Insulation	polypropylene (EPP)
Automatic air vent	G¾" with stop valve R½"
KFE drain valve	nickel-plated, G½"

## MAINTENANCE

Periodically check the tightness of connections and the condition of the automatic air vent for dirt. At regular intervals, we recommend using the KFE drain valve to remove dirt separated from the medium from the system.

## APPROVALS AND CERTIFICATES

The insulated low-loss header BLH 850 is subject to the Pressure Directive 2014 /68/EU and is not CE marked in accordance with Article 4.3 (recognised engineering practice). The product is marked with the B construction mark, in accordance with the regulations in force in Poland.

## DECOMMISSIONING, DISPOSAL

1. Dismount the product.
2. Dispose of the product according to local directives and guidelines.

The product is built from recyclable materials.

If you have any questions or problems with disposal, please contact the appropriate distributor or manufacturer's 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.