FlowBox Cooling

Pump groups with diffusion-tight insulation for heating and cooling applications

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Heating and cooling are becoming increasingly important

With rising temperatures and the effects of climate change, the demand for efficient cooling systems is increasing. Combined heating and cooling systems based on modern heat pump technology can both heat and cool. They adapt flexibly to seasonal requirements, saving both energy and space.

The dew point problem in cooling mode

Pump groups are central components of modern heating and cooling systems. Using a pump group that can operate in both modes saves costs and space. However, one problem often arises in cooling mode: the dew point problem.

It occurs when the surface temperatures of hydraulic components in the pump groups fall below the dew point temperature of the room air. As a result, humidity condenses at these cold points. Components such as fittings, pipework and pumps are then particularly susceptible to damage from the resulting moisture.

Pump groups that are not specially equipped for cooling operation in particular clearly show this problem: condensation forms on the surfaces.

FlowBox Cooling - reliable protection against condensation

We have developed the FlowBox Cooling series to solve the dew point problem in cooling mode. The centrepiece of this solution is a **diffusion-tight low-temperature insulation shell** made of XPE (cross-linked polyethylene foam). This modern foam is characterised by its excellent insulating properties and high resistance to moisture.

The XPE low-temperature insulation shell consists of several precisely customised segments that precisely enclose all hydraulic components of the pump group and are already attached to the pump group at the factory using plastic grid clamps. This means that there are no gaps or air pockets between the insulation and the pump group. In addition, the pump groups are equipped with **corrosion-resistant circulation pumps** that have been specially developed for operation at low temperatures.

In heating mode, an outer, two-part thermal insulation shell made of EPP (expanded polypropylene) complements the inner XPE insulation. This combination further minimises heat loss and increases the energy efficiency of the system. Pump groups from the FlowBox Cooling series are therefore ideal for year-round use in heating and cooling systems - especially in conjunction with reversible heat pumps.

XPE low-temperature insulation shell
- for cooling and heating

EPP thermal insulation shell
- for heating

Cooling mode

Condensation prevention effect

Heating mode

Practical solutions for the XPE low-temperature insulation shell

The FlowBox Cooling pump groups are equipped with a diffusion-tight low-temperature insulation shell made of XPE (cross-linked polyethylene foam) as standard. Each XPE low-temperature insulation shell is precisely matched to the respective pump group model and is not interchangeable between different variants. Special design solutions ensure that the shell reliably prevents condensation from forming.

The segments are fastened with grid clamps, eliminating the need for adhesives and making installation and maintenance easy.

Pre-assembled ø 28 mm stainless steel connecting pipes (top and bottom).

▷ Quick installation of the pump groups without dismantling the low-temperature insulation shell.

XPE low-temperature insulation shell precisely encloses the pump groups.

▷ No condensation on the hydraulic components.

XPE low-temperature insulation shell is pre-assembled at the factory.

▷ Remains with Installation on the pump groups.

Corrosion-protected circulation pump.

▷ Ideally suited for low operating temperatures.

Segmented low-temperature insulation shell is fixed with grid clamps.

▷ Easy reuse after maintenance.

Pump groups for every application

- Diffusion-tight XPE low-temperature insulation shell prevents the formation of condensation
- Heating & cooling with one pump group
- Variants for different applications
- Quick installation without removing the XPE low-temperature insulation
- Easy maintenance with subsequent reuse of the XPE low-temperature insulation shell
- No gluing necessary thanks to grid clamps
- Greater efficiency thanks to additional EPP thermal insulation

Pump group HK25-C

for **unmixed**
heating and cooling circuits.

With special circulation pump, shut-off valves and gravity brake.

Part no.: 10088551

Pump group HK25-KH-C

for **unmixed**
heating and cooling circuits.

With special circulation pump, shut-off valves and gravity brake.

Additional ball valve below the pump.

Part no.: 10088550

Mixer group HKM25-C

for **mixed**
heating and cooling circuits.

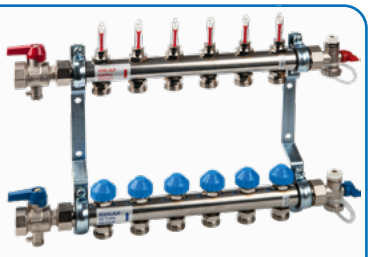
With special circulation pump, shut-off valves and gravity brake.

3-way mixing valve with actuator.

Part no.: 10088549

Complementary products

Pre-insulated pipes Microlfex HP for heat pump connection



Components for water-bearing panel heating/cooling systems

Wireless control Vision® Wireless and wired control Vision® Wired

Watts Industries Deutschland GmbH
Godramsteiner Hauptstr. 167 • 76829 Landau • Germany
Tel. +49 6341 9656 0 • Fax +49 6341 9656 560
WIDE@wattswater.com • www.watts.eu/en