HVAC sensors

For manufacturers of heat pumps and potable water systems

Your products.
Our matching components!

Typical applications

Here you will find your sensor solution – regardless of whether it is a proven standard component with a short delivery time or an individual mass product that has been created through successful co-engineering.

OEM sensors from SIKA.
Quality from Germany.

TestLabs

In our TestLabs in Kaufungen, our test engineers perform over 250 tests per year. The 40 test benches include equipment for temperature cycles, water striking, rust water as well as climate and vibration tests. Many of the tests aim at optimising our sensors to difficult and demanding conditions in HVAC applications or to carry out lifetime analyses. In this way, we guarantee long, maintenance-free operation.

Requirement-specific sensor adaptation

In close cooperation with our customers, we adapt our OEM sensors to the respective requirements under specific ambient conditions and through a series of agreed tests in customer-specific piping. These practical tests as well as special hardware and software solutions guarantee the optimal functionality of the entire system in terms of accuracy, efficiency and durability.

Co-engineering

Our series products don't meet your requirements? No problem! We specialise in developing our sensors to meet your requirements in our co-engineering process.

Experience in HVAC

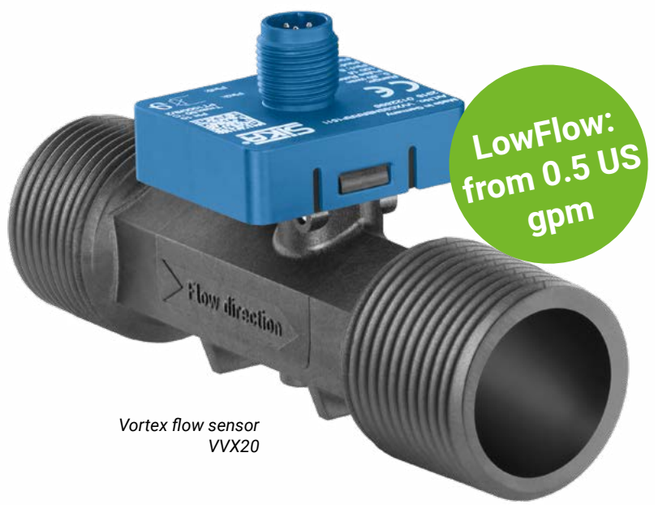
Our flow sensors have been used in HVAC applications for more than 50 years and have been used and tested millions of times over in the heating devices of market leaders in large and small series.

LowFlow sensors

For the new generations of heat pumps

Product features

- Vortex flow measurement
- Increasing the efficiency of the heat pump through control even at low flow rates
- Reliable measurement owing to the very good measuring accuracy
- The low pressure drop of the sensor can contribute to a reduction in the power consumption of the heating circuit pump
- The compact design means it can be used even if only a small space is available
- Long-term stable measurement thanks to the sensor element which is completely encapsulated in plastic to protect it against contamination
- Insensitive to pressure peaks during filling
- Threaded connection or QuickFasten
- Digital or analogue output signal
- Available in nominal pipe size ¾"
- Insensitive to contamination



Vortex flow sensor VVX20

"The new heat pump generations use continuously regulated heating circuit pumps – also known as high-efficiency pumps.

The SIKA VVX20 LowFlow measures volumetric flow rates from as little as 0.5 US gpm, thus providing demand-dependent output control of the heating circuit pump."

VX20 LowFlow in heat pumps

SIKA Vortex flow sensors are the first choice in heating circuits of various heat pump systems. They are used by leading manufacturers worldwide.

The measuring range of the flow sensor, which is perfectly tailored to the heat pump, enables even more efficient operation of the heat pump and prevents the heat exchanger from freezing.

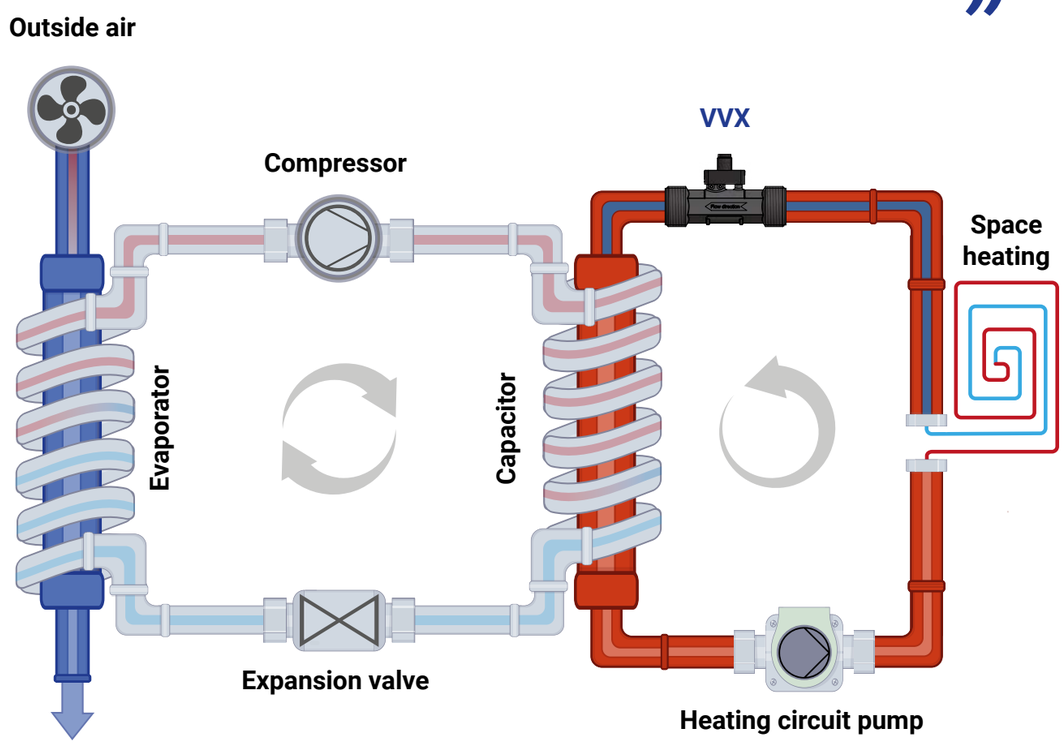
Flow sensors
For heat pumps

Product features

- Vortex flow measurement
- For energy balance and pump control
- Sensor element not in contact with medium, completely encapsulated in plastic
- Insensitive to pressure peaks during filling
- Integral temperature sensor
- Threaded connection or QuickFasten
- Digital or analogue output signal
- Available in nominal pipe sizes ½", ¾" and 1" (plastic version) and 1½" and 1¼" (brass or stainless steel version)

Vortex flow sensor VVX

"100% of the SIKA Vortex flow sensors receive a three-point or six-point calibration in the water test bench and are traceable via serial number."



VVX in heating circuits

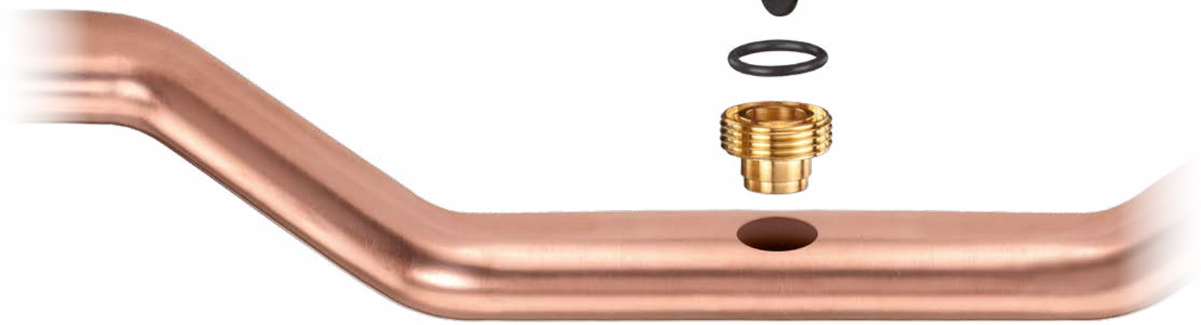
SIKA Vortex flow sensors are the first choice in heating circuits of various heat pump systems. They are used by leading manufacturers worldwide. The flow-proportional output signal of the flow sensor enables more efficient operation of the heat pump and prevents the heat exchanger from freezing.

Flow switches
For heat pumps

Product features

- Reliable pump monitoring
- For soldering into existing copper pipes or with tees
- Special protection against contamination
- Application-specific switching point
- Glass fibre reinforced plastics
- Use in heating devices of the market leaders

Flow switch VK3

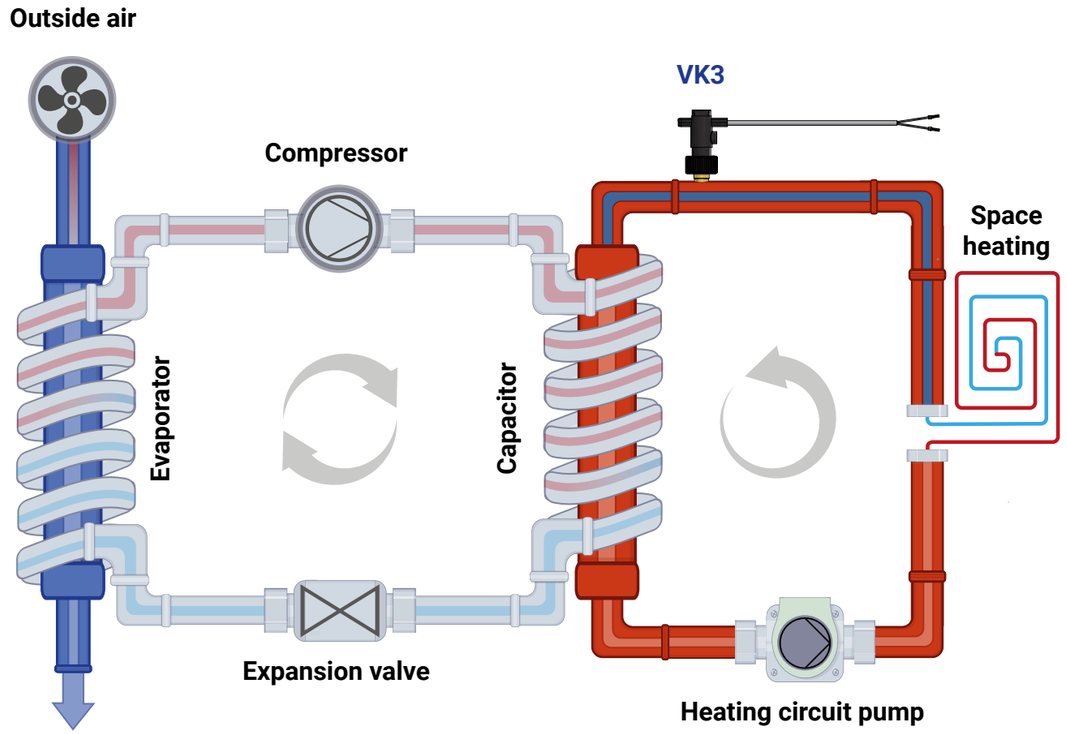


VK3 in heating circuits

SIKA flow switches are typically used in heating circuits. The most common application is in air-water heat pumps. An insufficient flow rate in the heating circuit during the cooling or defrosting process can cause a partial freeze of the heat exchanger. SIKA manufactures tailor-made flow switches for you with switching points that are matched to the minimum flow rate required for the heat exchanger. This enables the detection of critical flow values, and the heat exchanger is prevented from freezing.

It is installed in existing copper pipes and is therefore extremely cost-effective.

"The flow switch also protects the electric booster heater against overheating in the event of a flow failure."



Flow sensors

For large heat pumps and chillers

Product features VVX

- Vortex flow measurement
- For energy balance and pump control
- Low-cost OEM device, even available in nominal pipe sizes up to 1½"
- Long-term stable measurement thanks to the sensor element which is completely encapsulated in plastic to protect it against contamination
- Insensitive to pressure peaks during filling
- Very fast-responding and accurate temperature sensor
- Threaded connection
- Digital or analogue output signal

Product features VMM

- Magnetic inductive flow measurement
- Available in nominal pipe sizes ½"...8"
- Available in pressure stages 142 psi...285 psi (depending on the selected process connection)
- For energy balance and pump control
- Simple operation, programming via display unit
- Frequency and analogue output and HART protocol available
- No mechanical wear
- Various process connections available (flange according to EN, JIS, ANSI, G female thread)
- Compact and separate design available

VVX & VMM in large heat pumps

With our Vortex products in nominal pipe sizes 1½" and 1¼", you get all the advantages of our VVX series even for large flow rates at a very attractive price-performance ratio.

If it needs to be a bit bigger: Our magnetic inductive flow sensors of the series VMM are available up to the nominal pipe size 8".

Product features VHS06 and VK309

- Universal flow switch for copper pipes Ø 1¼"...3.5"
- Adaptation to nominal diameter and setpoint setting by shortening the paddle
- Soldering adapter for copper pipes

Flow sensors
For electronic heat interface units

Product features VTY

- Drinking water approval according to system 1+
- Space-saving due to very compact design
- Pressure drop optimized
- Low wear and extremely long service life thanks to high-quality turbine bodies made of brass or glass fibre reinforced plastic
- Insensitive to contamination thanks to sophisticated flushing hole
- Available in nominal pipe sizes ⅜", ½", ¾" and 1"
- As push-in version or variant with pipe section

Turbine flow sensor VTY, including pipe section

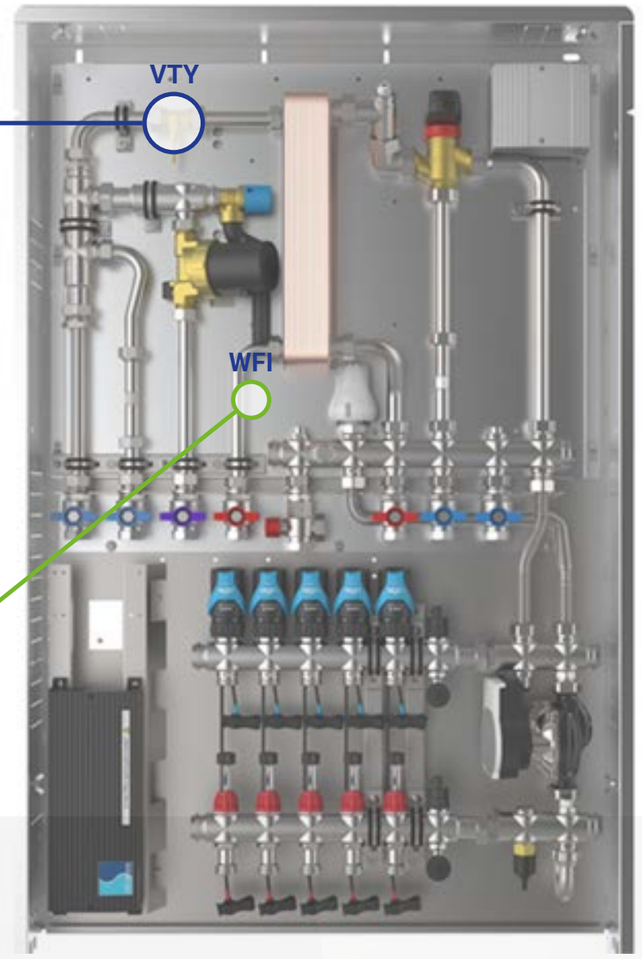
Turbine flow sensor VTY, push-in

Product features WFI

- Rapid response time
- Long-term stability
- Proven in temperature cycle tests

Temperature sensor WFI

"The turbine flow sensor VTY is almost independent of the inlet section and installation position."



VTY and WFI for heat interface units

The station's decentralized water heating makes storing hot potable water in a reservoir unnecessary. In the heat exchanger, potable water is only heated when it is required. The SIKA turbine flow sensor detects the hot water demand. The target hot water temperature is preset.

During operation, the SIKA temperature sensor continuously measures the temperature of the hot water at the hot water outlet of the heat exchanger.

The SIKA temperature sensor forwards this information to the electronic control unit. The information from the SIKA turbine flow sensor and the SIKA temperature sensor is forwarded to the actuator by the electronic control unit.

The actuator opens and closes the control valve. Depending on the position of the control valve, more or less water for heating flows from the heating flow into the heat exchanger as required.

Flow sensors & temperature sensors

For fresh water modules

Product features VTY

- Drinking water approval according to system 1+
- Space-saving due to very compact design
- Pressure drop optimized
- Low wear and extremely long service life through high-quality bearing
- Brass turbine body
- Insensitive to contamination thanks to sophisticated flushing hole
- Available in nominal pipe sizes ⅜", ½", ¾" and 1"
- As push-in version or variant with pipe section

Product features WFI

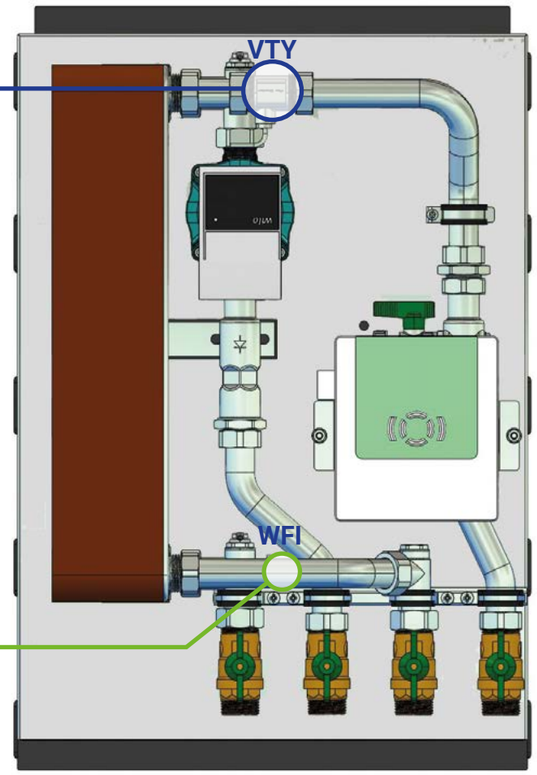
- Rapid response time
- Long-term stability
- Proven in temperature cycle tests

Turbine flow sensor VTY, including pipe section

Turbine flow sensor VTY, push-in

Temperature sensor WFI

"The excellent performance of the VTY series even at low flow rates and its wide flow range are ideal for fresh water modules."



VTY for fresh water modules

SIKA flow sensors have various drinking water approvals. They are typically used in fresh water modules to detect the current hot water draw-off.

The most common installation position is in the cold water inlet. The robust brass housing is an ideal interface for external piping.

WFI for fresh water modules

The extremely fast temperature sensors allow a fast temperature control and increase the comfort for the user. They are preferably used in the hot water outlet.

Flow sensors
For potable water applications

Product features VTY

- For flow measurement in limescale protection devices, hygiene flushing devices, leakage protection devices, comfort fittings
- Low series dispersion, fixed pulse rate, soft start-up
- High measuring accuracy, compact dimensions
- Tested in numerous large-scale applications
- Available in nominal pipe sizes ⅜", ½", ¾" and 1"
- Drinking water approval according to KTW-BWGL System1+, KIWA, NSF/ANSI 61, WRAS and ACS available

VTY e.g. for limescale protection devices

It isn't just the fact that limescale deposits look bad: a layer of limescale on heat exchangers of only 0,12" can cause an energy transfer loss of 20%. In addition, the service life of devices affected by limescale decreases, while at the same time the energy consumption increases. This is why limescale protection devices are becoming increasingly popular.

SIKA turbine flow sensors in the VTY series are perfectly suitable for integration into limescale protection devices. The turbine plug-in together with the Hall sensor can be designed by the customer in a simple, space-saving way with a perfect fit. We will be happy to support you at the design level.

"Long-term stability due to extremely low bearing friction due to force splitting by means of a perforated disk as well as flushing bore in the bearing system."

Flushing hole in the bearing system

Flow switches
For pool heat pumps

Product features

- Pump monitoring
- For pool heaters or for water disinfection
- Protection against overheating, dry operation and gas formation
- Installation by means of a union nut or push-in
- Magnet paddle reset
- More than 1,000,000 switching cycles (load-dependent)
- Metal-free for seawater pools
- Proven in pool heaters from market leaders

Flow switch VKX05

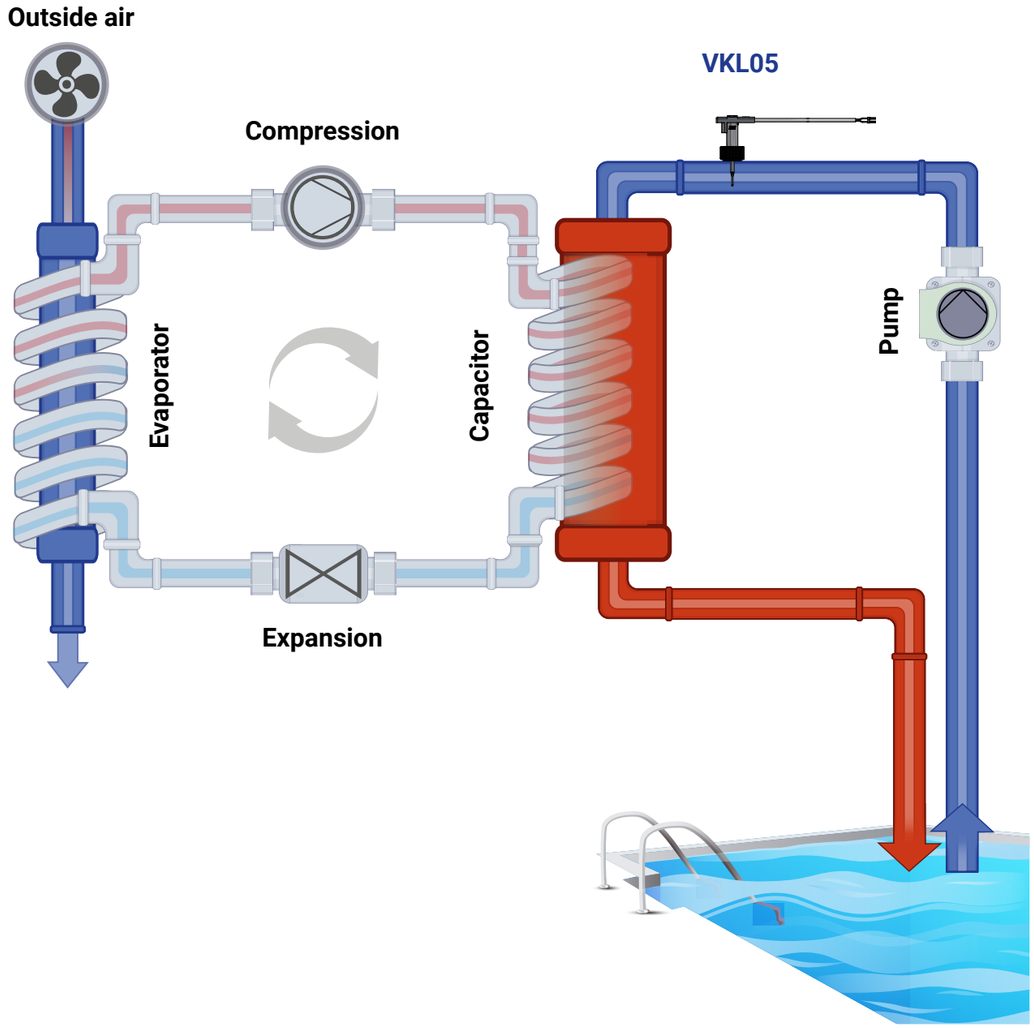
Flow switch VKL05

VKL05 for pool heat pumps

The flow switches are typically used in pool heaters or disinfectors for pool water. You can prevent overheating (heaters) or overdosing (disinfectors).

The flow switch monitors the flow rate and can easily detect pump failures. Cost-effective insertion installation in 2" or 2 ½" plastic pipes is the most common type of installation. The metal-free types are suitable for seawater pools.

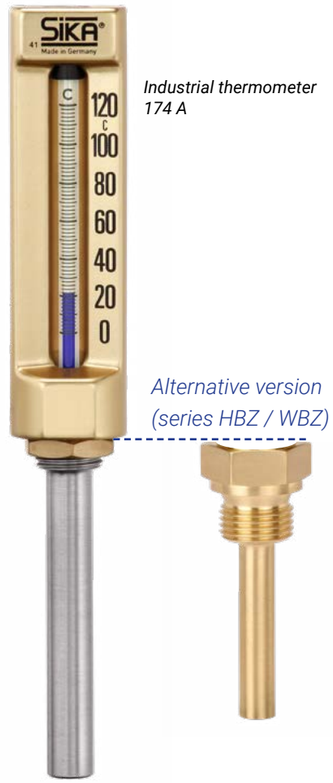
"Flow monitoring is independent of pressure differences that occur when the pool and heating are installed at different heights."



Industrial thermometers
For heat transfer stations

Product features

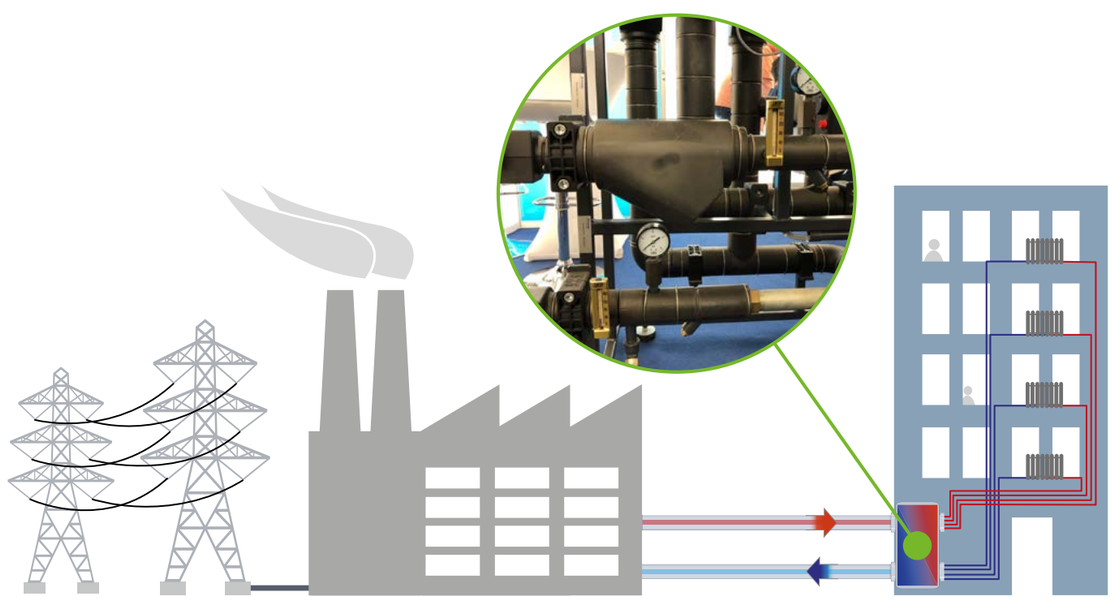
- Installation in heat transfer stations
- With immersion tube for welding or screwing into place
- Non-manipulable
- No auxiliary electrical energy required
- Maintenance-free
- Life-long accuracy according to DIN 16195



Industrial thermometer 174 A

Alternative version (series HBZ / WBZ)

"Reliable measurement technology from the inventor of the industrial thermometer"



Industrial thermometer for heat transfer stations

Reliable display during acceptance and inspection of the system. Maintenance-free and reliable for many years.

- Installation lengths can be adapted to the nominal diameter and installation conditions.
- Custom-designed special solutions are also possible for your applications.

For steel pipes, welding versions are available, alternatively versions with brass dip pipe and fixed male thread are available.

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