

Heat Meter Minocal® Combi

Coaxial-measuring capsule heat meter Qn 2,5 / 1,5 / 0,6 m³/h

Supply range

- Heat meter Minocal® Combi
- Installation set and protective cap
- Manual

Storage

Dry and frost-free

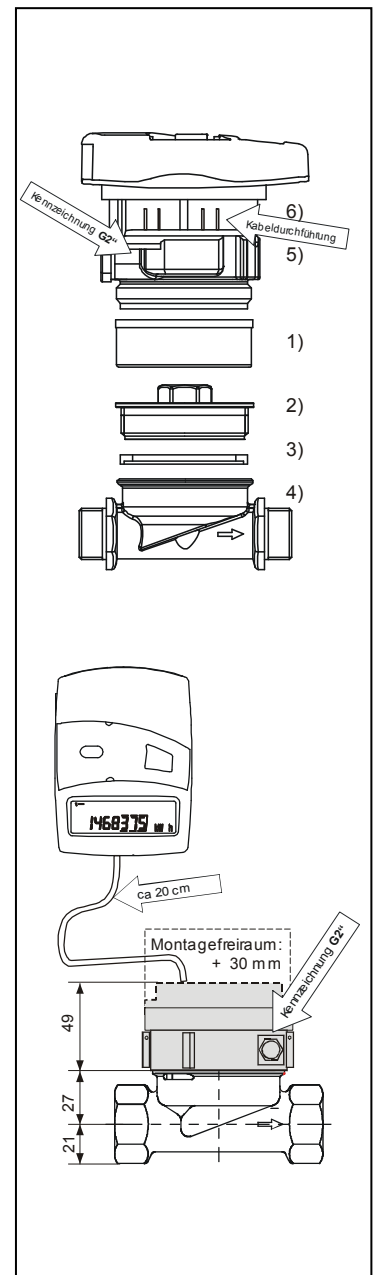
General instructions

As the measuring capsule is always installed into an already mounted single pipe connector (EAS), follow to the assembly instructions of the installation equipment.

- The maximum temperature of the heat-circuit water should not exceed 90°C. Compare the package content with the a.m. packing list before starting the assembly.
- The installation has to be carried out by qualified skilled workmen.
- Installation at the deepest point of the pipe so that there will be no air cushions.
- Provide for shut-off devices in front of and behind the heat meter.
- Protect the heat meter from contamination and magnetic iron ore with a filter or an anticorrosive agent in the heating water.
- Do not bend, shorten or lengthen the sensor cables.
- The meter is only for horizontal or vertical installation.
- Do not use lengthening pieces or flow direction converters.
- The center distance between two meters must be at least 135 mm.
- Pay attention to the installation measurements. Keep at least 3 cm mounting space.
- The processing unit can be installed separately from the flow meter: approx. 20 cm cable length. (Pay attention to the predetermined breaking point for cable feedthrough (6) at the processing unit clipping.)
- Keep a 20 cm minimum distance between the heat meter and electromagnetic interferences e.g. switches, regulator, engine etc.
- Install the heat meter only after finishing the welding activities (e.g. welding sleeve assembly).

Installation of the measuring capsule

- Compare the connection thread of the flow meter and single pipe connector (EAS). The model for EAS 2"-systems is marked with a special marking (5).
- Flush the system thoroughly, decompress or empty it and close the valves in front and behind the EAS (4).
- Use only new and faultless sealing material. Check the sealing surfaces at the measuring capsule and single pipe connector (EAS) for damages.
- Unscrew the overflow cap (2) or already existing measuring capsule.
- Remove old profile gasket and put in a new one (3) with the level side up into the EAS (4). Clean the sealing surfaces beforehand!
- Remove the thread protective cap (1) from the new measuring capsule (5) and screw it into the EAS (4).
- Tighten the measuring capsule until the metallic stop with a hook wrench (e.g. according to DIN 1810 A, 68-75 mm).



Assembly Instructions

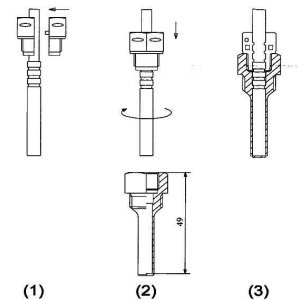
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Installation temperature sensors

- For symmetric installation use always the same way of installation for forward and return flow (the sealed blanking plug in the flow meter may not be removed). The sensor cables are set off in color: (red = forward flow, blue = return flow).
- For non-symmetric installation the return flow sensor is already installed into the flow meter and should not be removed. The forward flow sensor can be installed either in immersion sleeve or directly into the medium.
- Take care that the temperature sensors sit onto the bottom of the sleeve!
- Secure the temperature sensors after installation with adequate user sealing against unauthorized extraction (incl. in the sealing set)

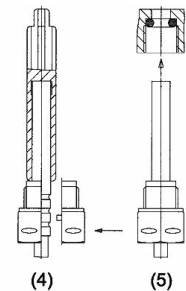
Adapter fitting for immersion sleeve installation

1. Compress the half shell of the fitting on the sensor cable above the sensor sleeve. **(1)**
Do not mount in the recess (beading)!
2. Move the assembled fitting on the cable until the stop at the sensor sleeve **(2)**.
(For immersion sleeves longer than L50 insert two O-rings of the enclosed set with the fit-up aid by slightly turning into the immersion sleeve.)
3. Screw the sensor in the immersion sleeve and screw hand-tight (3-5 Nm). **(3)**
Take care that the sleeve knocks on the bottom of the immersion sleeve.



Temperature sensor direct installation (ball valve / adapter fitting)

- Attach the O-ring of the enclosed set on the fit-up aid (2. O-Ring is for replacement purpose only).
- Insert the O-ring with the fit-up aid into the installation place by slightly turning according to DIN EN 1434.
- Put the O-ring in the correct position with the other end of the fit-up aid.
- Insert both halves of the plastic fitting in the three recesses (beading) of the sensor and compress them. Use the fit-up aid for stop and correct positioning **(4)**.
- Insert the temperature sensor into the installation place and pull hand-tight up to the stop of the sealing collar at the 12-cant **(5)**.



Operation

- Flush the system and check for leaks.
- Check if the volume display switches in operation and if the shown temperatures correspond more or less with the real temperatures e.g. with putting in a thermometer (refer to the display overview in the enclosed operator manual). Wait for the actualisation of the temperature display (1-2 sec).
- Protect the measuring capsule, EAS and temperature sensors with the enclosed sealing material from unauthorized disassembly.

Double marking at non-symmetric sensor installation

After finishing the installation of the meter cross out the line of the double marked label (below the display) which does not correspond to the installation situation on the spot.

e. g. radiator heating:

$Q \geq 120 \text{ l/h}$ and $\Delta T \geq \Delta T_{\min} = 3 \text{ K}$
or
$Q \geq 60 \text{ l/h}$ and $\Delta T \geq 6 \text{ K}$

e. g. underfloor heating:

$Q \geq 120 \text{ l/h}$ and $\Delta T \geq \Delta T_{\min} = 3 \text{ K}$
or
$Q \geq 60 \text{ l/h}$ and $\Delta T \geq 6 \text{ K}$

After finishing the installation: Check all connection parts for leaks!