

## 1. MID starter kit application and components

This assembly instruction applies to the following MID starter kit sets which are used for PolluCom E, PolluStat, PolluTherm and PolluWatt Duo II heating and cooling meters with screw connection flow sensors.



### 1.1. MID starter kit components

- Meter spool pieces
- Ball valves with temperature sensor port for PT 500 / 45/ 5,2 or AGFW DS 27,5
- Ball valves with temperature sensor port and integrated union nut



### 1.2. Delivery versions / variant overview

Delivery version		Content			
Suitable for	Order no.	Spool piece	Sealing washers	Special ball valve with union nut	Special ball valve
PolluCom E / PolluStat / PolluThermRF / PolluWatt Duo II Qp 0,6 / 1,5 DN 15 1 or 2 external sensors	68505006	1 x 110 mm G 3/4 B	2 x 3/4"	2 x 1/2" / union nut IG 3/4"	1 x IG 1/2"
PolluCom E / PolluStat / PolluThermRF / PolluWatt Duo II Qp 2,5 DN 20 1 or 2 external sensors	68505007	1 x 130 mm G 1 B	2 x 1"	2 x 3/4" / union nut IG 1"	1 x IG 3/4"
PolluStat / PolluTherm / PolluWatt Duo II Horizontal Qp 1,5 / 2,5 DN 20	68505024	1 x 190 mm G 1 B	2 x 1"	2 x 3/4" / union nut IG 1"	1 x IG 3/4"
PolluStat / PolluTherm / PolluWatt Duo II Upward / downward pipe Qp 1,5 / 2,5 DN 20	68505023	1 x 105 mm G 1 B	2 x 1"	2 x 3/4" / union nut IG 1"	1 x IG 3/4"
PolluStat / PolluTherm / PolluWatt Duo II - Horizontal Qp 3,5 / 6 DN 25	68505009	1 x 260 mm G 1 1/4 B	2 x 1 1/4"	2 x 1" / union nut IG 1 1/4"	1 x IG 1"
PolluTherm / PolluWatt Duo II Upward / downward pipe Qp 3,5 / 6 DN 25	68505008	1 x 150 mm G 1 1/4 B	2 x 1 1/4"	2 x 1" / union nut IG 1 1/4"	1 x IG 1"

For PolluStat, PolluTherm and PolluWatt Duo II with flanged flow sensors the ball valves, sensor pockets and spool pieces have to be ordered separately.

## 2. Safety instructions



**Important information for prevention of personal and / or property damage:**

- The installation requires adequate professional knowledge and should be carried out by specially trained persons only.
- In order to ensure correct installation please use suitable tools!
- Pipelines of heating systems contain hot water and are under pressure (danger of scalding)! Pipelines of cooling systems are also under pressure!
- Unless shut-off valves have been fitted on either side of the components to be installed and have been turned off, the heating/cooling system must be completely depressurized prior to assembly/dismantling of directly installed sensor pockets, ball valves or temperature sensors!
- The permitted operation pressure of PN16 should not be exceeded!
- Close the shut-off valves before installation / disassembly of temperature sensors in ball valves (usually this position is right-angled to the flow direction; use the correct position anyway)!
- Depending on manufacturing conditions the connection threads may have sharp edges. Therefore we recommend wearing protective gloves.

## 3. Installation and operational instructions with examples (see also EN 1434-6)

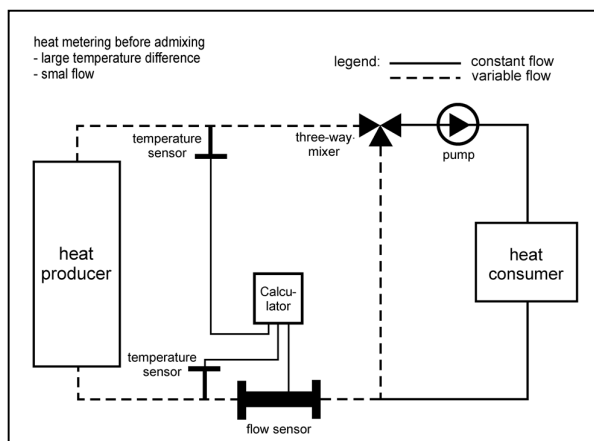
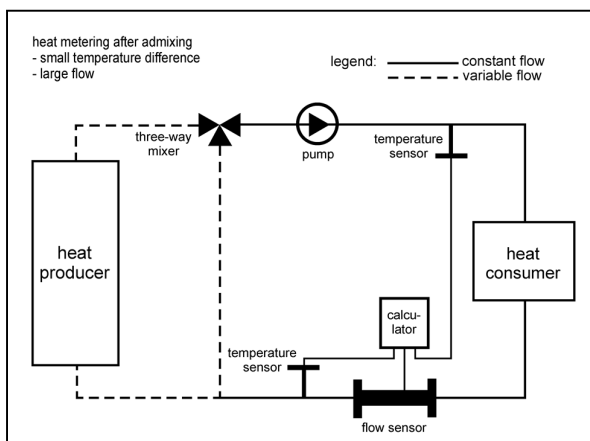
### 3.1. Requirements for the installation

The installation equipment is suitable for heating and cooling systems. Therefore the text hereinafter includes following terms:

Return pipe of heating systems: **Colder line**  
Supply pipe of heating systems: **Warmer line**

Return pipe of cooling systems: **Warmer line**  
Supply pipe of cooling systems: **Colder line**

Sensus heating and cooling meters in standard version are installed in the colder line. Sensus heating and cooling meters for installation in the warmer line are additionally marked with „X“, e.g. PolluCom EX. It is advisable to install a filter in front of the flow sensor or at another suitable point of the heating or cooling circuit as well as shut-off valves before and after the flow sensor (so that the pipe line doesn't have to be emptied if the meter has to be exchanged).



*Fig.1: Measurement in secondary circuit after admixing*

*Fig.2: Measurement in primary circuit before admixing*

Usually heating meters should be installed in the secondary circuit after admixing.

**Concerning installation position and length of the flow sensor please also note the installation manual and instruction of the respective meter. The meter specific instructions are ready to be downloaded from our web site (homepage [www.sensus.com](http://www.sensus.com)). The flow sensors of PolluTherm with mechanical flow sensor may only be installed in certain positions!**

### **3.2 Assembly of the installation equipment**

- The flow sensor and both temperature sensors have to be installed in the same circuit of the heating / cooling systems and should preferably be located in the secondary circuit.
- The standard cable length of the separate temperature sensors for PolluCom E, PolluStat, PolluTherm and PolluWatt Duo II is approx. 1,5 m (special version: approx. 5 m and approx. 10 m). To lay the cable an empty cable duct or conduit should be used. A minimum distance of 0.3 m must be kept from high voltage cables.
- In order to achieve accurate temperature measurement the tip of the flow sensor has to be in the middle of the pipe cross section.
- Install a spool piece during the initial installation instead of the meter and flush the pipe system thoroughly.
- After that remove the spool piece and install the meter with new sealing washers.
- When carrying out pressure testing please check that the components are correctly installed.

### **3.3 Assembly of the ball valves**

- The pipework should be precisely dimensioned and should be laid according to the generally accepted engineering standards, in order that no mechanical stresses are able to act on the ball valve. Work on ball valves must take place free of strain, in order that faultless functionality is guaranteed.
- Apply the correctly sized open-end wrench to the sleeve only on the pipe or fitting side. Attach the pipe / fitting using a suitable tool and screw it into or onto the ball valve thread.
- When installing in pipework systems avoid screwing pipes in right to the end stop. The varying expansion of the iron, steel, stainless steel, copper or plastic pipes may otherwise lead to defects or leaks with temperature fluctuations.
- Ball valves are subject to the maintenance and inspection obligations defined in EN 806 or EnEV § 10 and should therefore be actuated regularly, in order to guarantee ease of actuation and safe operation for the long term. Open and close the ball valve slowly, in order to avoid pressure shocks in the line system.
- If the ball valve is fitted with a packing gland then this can be re-tightened in the event of any leaks appearing at the spindle.

### 3.4 Installation examples

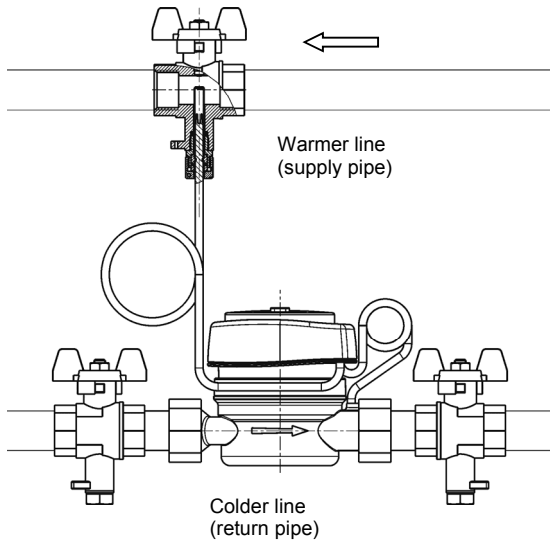


Fig.3: PolluCom E in a heating system

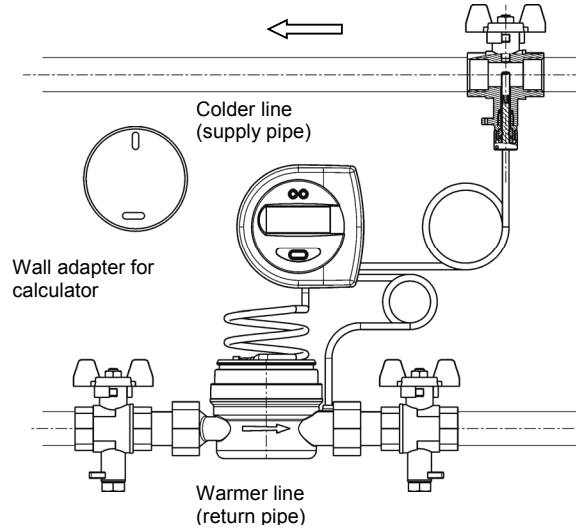


Fig.4: PolluCom EX/S in a cooling system



Fig.5 : installation of a temperature sensor in a ball valve



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