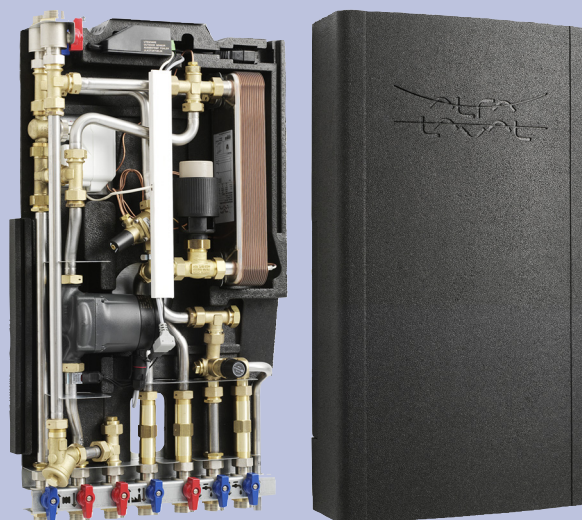




## Alfa Laval Micro STC2

Heating and domestic hot water substation for apartments and single family houses



The Alfa Laval Micro STC2 heating substation is installation-ready for complete central heating and hot water requirements. It is suitable for apartments and single family houses that are connected to a heating network.

Alfa Laval has many years of experience in district heating technology, which is put to expert use in the Micro STC2, resulting in its practical function and ease of use. All components are easily accessible for inspection and future service when required.

### High comfort

The Micro STC2 has a fully automatic individual temperature setting for central heating and hot water. Heat is supported for two separate circuits, one for high temperature (towel heaters, washing machines and radiators) and one that is automatically regulated, depending on outdoor temperature and/or the temperature desired inside the dwelling. Domestic hot water is heated separately in a high-capacity heat exchanger; thus ensuring that the hot water is always as fresh as the incoming cold water mains supply.

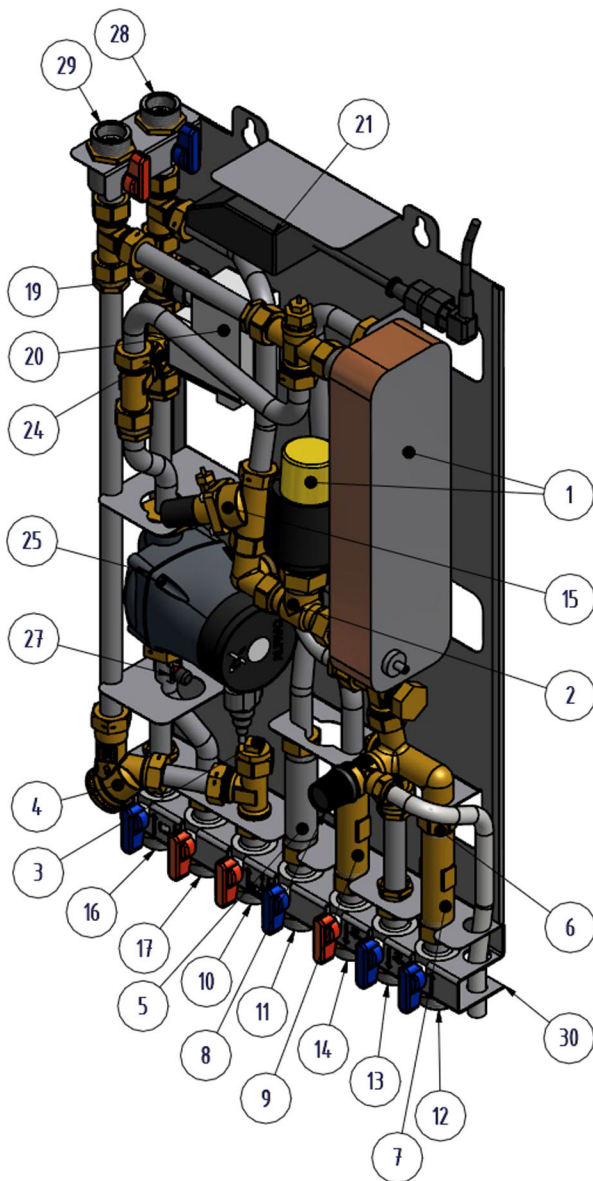
### Simple installation

Compact dimensions, light weight, well arranged plumbing and factory-complete internal wiring – all make installation very simple. A pre-programmed control unit and a power cable already fitted with a plug make things even simpler to allow immediate start-up.

Micro STC2 is mounted on an insulated frame and includes an insulated cover. Better insulation means less energy usage and better energy efficiency.

### Long-term security

The Micro STC2 represents the most modern technology, and provides the answer to stringent demands for longterm performance. The heat exchanger plates and all piping are manufactured in acid-resistant stainless steel. All components are closely matched and carefully tested for function in accordance with Alfa Laval's quality assurance system ISO 9001:2008. Micro STC2 is built in compliance with PED 97/23/EC.



### Components

1. Heat exchanger and temperature controller for hot water
2. Control valve for hot water
3. Temperature sensor connection, heating media supply
4. Filter for heating media
5. Adapter for energy meter
6. Check valve for cold water
7. Adapter for Cold water flow meter
8. Safety valve for domestic hot water
9. Adapter for Hot water flow meter
10. Heating network media, supply
11. Heating network media, return
12. Cold water inlet(cw)
13. Cold water outlet (cw)
14. Hot water (hw)
15. Differential pressure controller
16. Heating circuit, return
17. Heating circuit, supply
19. Control valve, heating circuit
20. Actuator, heating circuit
21. Connection box for electric power and sensors, heating circuit
22. Room thermostat/control panel
23. Outdoor temperature sensor (option)
24. Check valve for heating circuit
25. Circulation pump, heating circuit
26. Underfloor heating thermostat (option)
27. Supply temperature sensor, heating circuit
28. Heating circuit primary temp, return
29. Heating circuit primary temp, supply
30. First fix jig including shut-off valves (option)

### Heating network – a good source of heat

A heating network is an efficient technology that meets the need for central heating and hot water in a simple, convenient and secure way.

### Operation

Micro STC2 is used for the direct connection of apartments and single family houses to the heating network. With this kind of connection, the heating water from the heating network is used for heating the radiator system of the apartment or single family house.

A heat exchanger is used to transfer heat from the heating network medium to the hot water system. Heat is transferred through a package of thin, acid-resistant, stainless steel plates, which keeps the heating network medium separate from the domestic hot water system.

Micro STC2 has two separate circuits for central heating. One circuit for high temperature connection of towel heaters, washing machines or radiators. The second circuit can be connected to under floor heating systems or radiators and has automatic temperature control for central heating. This heating circuit is adjusted in relation to the outdoor temperature and

the required indoor temperature via a thermostatic control, outdoor sensor and/or indoor sensor.

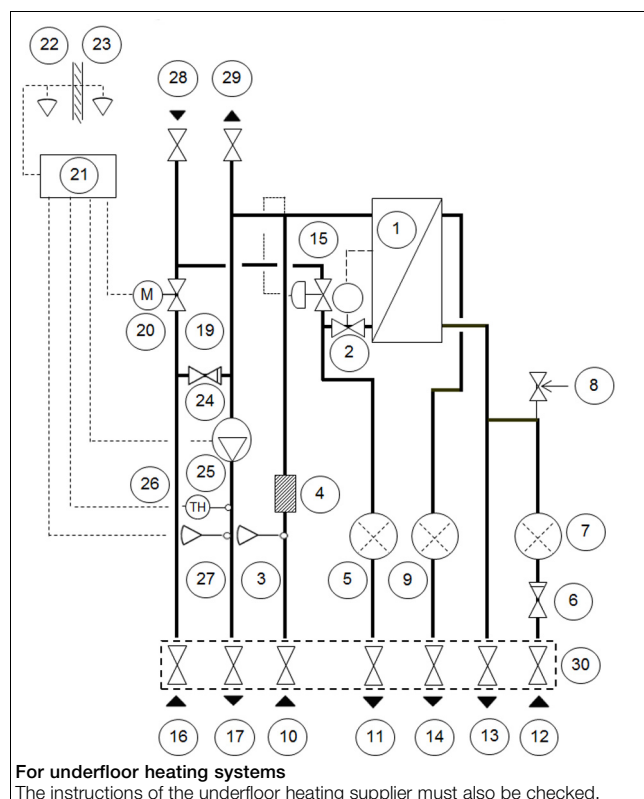
The indoor panel with the indoor sensor is always included and increase the comfort and saves energy.

When no heating flow is required, the heating circulation pump stops automatically, but is run occasionally to prevent seizing up due to standing still for a long time. The pump is energy optimized and comply with the EuP2015 directive. The heating controller has an easy to use interface and built in energy saving functions.

A self-sensing temperature regulator controls the hot water temperature. This measures the temperature of the hot water in the heat exchanger and automatically adjusts the outgoing flow. This patented, in-house Alfa Laval design gives a constant hot water temperature irrespective of volume and pressure flow.

The energy supplier registers use of energy. Measurement is done by recording the flow of heating network medium through the system, and by measuring the temperature difference between the medium's supply and return flow.

## Diagrammatic flow chart for Micro STC2



### Operating data

|                                     | Heating medium | Heating circuit | Hot water circuit |
|-------------------------------------|----------------|-----------------|-------------------|
| Design pressure, MPa                | 1.0            | 1.0             | 1.0               |
| Design temperature, °C              | 100            | 100             | 100               |
| Opening pressure, safety valve, MPa | -              | -               | 0.9               |
| Volume, l                           | 0.34           | -               | 0.36              |

### Performance at available differential pressure 50-400 kPa

| Designed temperature programme (°C) | Capacity (kW) | Primary flow (l/s) | Actual return temp. (°C) | Secondary flow (l/s) |
|-------------------------------------|---------------|--------------------|--------------------------|----------------------|
| <b>Hot water circuit</b>            |               |                    |                          |                      |
| 80-25/10-55                         | 79            | 0.34               | 25                       | 0.42                 |
| 70-25/10-58                         | 36            | 0.19               | 25                       | 0.18                 |
| 65-25/10-50                         | 55            | 0.33               | 25                       | 0.33                 |
| <b>Heating circuit 1</b>            |               |                    |                          |                      |
| 80-50/50-70                         | 10            | 0.08               | 50                       | 0.12                 |
| 80-60/60-70                         | 7             | 0.08               | 60                       | 0.16                 |
| 80-45/45-60                         | 12            | 0.08               | 45                       | 0.19                 |
| 80-30/30-35                         | 7             | 0.03               | 30                       | 0.33                 |
| <b>Heating circuit 2</b>            |               |                    |                          |                      |
| 80-50                               | 10            | 0.08               | 50                       | 0.08                 |

## An easily manageable, economical and durable source of heat

The Micro STC2 uses the heating network medium for heating the domestic hot water (providing an uninterrupted supply) as well as the water in the central heating system. The Micro STC2 is a wall-mounted unit and is very compact. Substations may generate sounds during operation caused by pumps, regulator systems, flow etc. The unit is discreet and to minimize transmission of operational sounds, we recommend installing it on well insulated walls or on walls of concrete. Micro STC2 requires no attendance or maintenance and has a very long operational life. In the event of requiring service or component exchange at some future date, all parts are easily accessible and individually replaceable.

To save time and efficiency the installation, Alfa Laval offers a first-fix- jig including shut-off valves.

### Other information

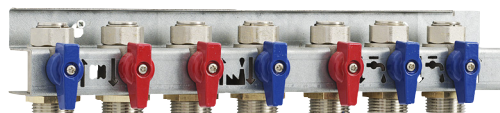
|   |
|---|
| Electrical data: 230 V, 1-phase, 50 W                                   |
| Dimensions (cover): 430 mm width x 160 mm depth, 775 mm height          |
| Dimensions (with out cover): 400 mm width x 120 mm depth, 630 mm height |
| Weight: 15 kg, cover 2 kg   |
| Transport particulars: Total weight 22 kg, 0.,08 m³                     |

| Connections first-fix jig    | Internal thread | External thread |
|------------------------------|-----------------|-----------------|
| Heating network media supply | G ¾             | G 1             |
| Heating network media return | G ¾             | G 1             |
| Heating circuit supply 1     | G ¾             | G 1             |
| Heating circuit return 1     | G ¾             | G 1             |
| Cold water, inlet            | G ¾             | G 1             |
| Cold water, outlet           | G ¾             | G 1             |
| Hot water                    | G ¾             | G 1             |

| Connections Heating Circuit 2 | Internal thread | External thread |
|-------------------------------|-----------------|-----------------|
| Heating circuit supply 2      | G ¾             | G 1             |
| Heating circuit return 2      | G ¾             | G 1             |

### Option

First fix jig with shut-off valves.



**How to contact Alfa Laval**

Up-to-date AlfaLaval contact details for all countries are always available on our website on [www.alfalaval.com](http://www.alfalaval.com)