

*Danfoss*  
**VMTD-FI Termix  
Compact Heating  
Controller**



# Danfoss VMTD-FI Termix Compact Heating Controller Installation Guide

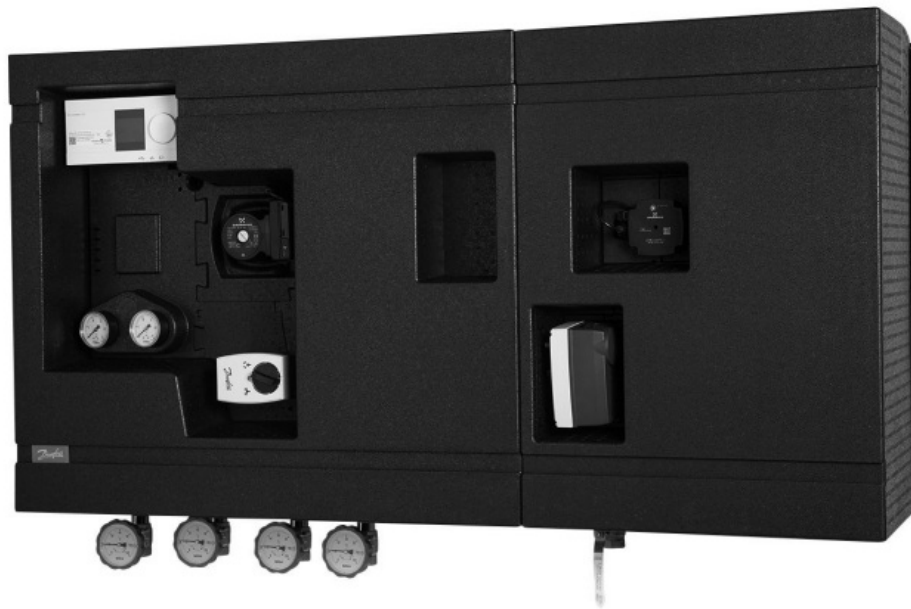
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**Danfoss VMTD-FI Termix Compact Heating Controller**



## Specifications

- **Product Name:** Termix Compact 28 VMTD-FI
- **Function:** District heating substation for direct heating and instantaneous domestic hot water
- **Features:**
  - Efficient plate heat exchanger
  - Modular design for easy installation
  - Flexible pipe connection options
  - Complete insulation for minimal heat loss
  - Reliable and easy to install
- **Origin:** Manufactured in Denmark

## Product Usage Instructions

### Mounting

To mount the Termix Compact 28 VMTD-FI, follow these steps:

1. Mount the Compactstation according to the provided instructions.
2. Proceed with the start-up process as detailed in the manual.
3. Make the necessary electrical connections as specified in the manual.

### Start-up

When starting up the unit, ensure you have completed the mounting steps and then follow these guidelines:

- Refer to the start-up section in the manual for detailed instructions.
- Check all connections and ensure they are secure.
- Power on the unit and monitor for any error messages or unusual behavior.

### Electrical Connections

For electrical connections, make sure to:

- Consult the electrical connection section in the manual for specific details.
- Follow all safety precautions when working with electrical components.
- If unsure, seek professional assistance for wiring and connections.

## Functional description

District heating substation for direct heating and instantaneous domestic hot water.

- **Space heating and domestic hot water (DHW)**

The Termix Compact 28 VMTD-FI is a complete unit for space heating and domestic hot water for direct district heating in large buildings such as sports centres, schools, blocks of flats, etc.

- **Efficient heat exchanger**

The substation is fitted with an efficient plate heat exchanger, which ensures the most favourable heat extraction and achieves optimum comfort and operating economy.

- **Electronic regulation**

- The Termix Compact 28 VMTD-FI is built with a plate heat exchanger for domestic hot water and direct system regulation for space heating. The electronic control is pre-set from the factory. Electrical components are connected, and the unit is equipped with a plug for 230 V a.c. As standard, each circuit is also supplied with its own flow controller.
- This allows the greatest degree of individual control, thus preventing oscillation at different loads.
- It is recommended that dynamic balancing valves be installed in the building's risers in the heat supply and on the heating system's return line immediately before the unit.

- **Easy installation**

The unit consists of two modules, one for space heating and one for domestic hot water production, which is easily assembled into one single module. This modular design makes work during installation significantly easier, as the weight is split between two modules during handling.

- **Flexible solution**

Pipe connection can be made from either the top or bottom, which makes this solution highly flexible. At the same time, both space and time are saved when installing.

- **Minimal heat loss**

Complete insulation of the unit ensures minimal heat loss.

- **Reliable and easy to install**

Termix Compact 28 VMTD-FI is a operationally reliable. A quality product manufactured in Denmark, which is easy to install and quickly commissioned.

## Safety

### Safety Notes – general

- The following instructions refer to the standard design of substation. Special versions of substations are available on request.
- This operating manual should be read carefully before installation and start-up of the substation. The manufacturer accepts no liability for damage or faults that result from non-compliance with the operating manual. Please read and follow all the instructions carefully to prevent accidents, injury and damage to

property. Assembly, start-up and maintenance work must be performed by qualified and authorized personnel only.

Please comply with the instructions issued by the system manufacturer or system operator.

- **Corrosion protection**

- All pipes and components are made of stainless steel and brass. The maximum chloride compounds of the flow medium should not be higher than 150 mg/l.
- The risk of equipment corrosion increases considerably if the recommended level of permissible chloride compounds is exceeded.

- **Energy source**

The substation is designed for district heating as the primary source of energy. However, also other energy sources can be used where the operating conditions allow it and always are comparable to district heating.

- **Application**

The substation is designed to be connected to the house installation in a frost-free room, where the temperature does not exceed 50 °C and the humidity does not exceed 60%. Do not cover or wall up the substation or in any other way block the entrance to the station.

- **Choice of material**

Choice of materials always in compliance with local legislation.

- **Safety valve(s)**

We recommend mounting of safety valve(s), however, always in compliance with local regulations.

- **Connection**

The substation must be equipped with features that ensure that the substation can be separated from all energy sources (also power supply).

- **Emergency**

- In case of danger or accidents – fire, leaks or other dangerous circumstances – interrupt all energy sources to the station if possible, and seek expert help.
- In case of discoloured or bad-smelling domestic hot water, close all shut-off valves on the substation, inform the operating personnel and call for expert help immediately.

- **REACH**

All Danfoss A/S products fulfill the requirements in REACH. One of the obligations in REACH is to inform customers about presence of Candidate list substances if any, we hereby inform you about one substance on the candidate list: The product contains brass parts which contains lead (CAS no: 7439-92-1) in a concentration above 0.1% w/w.

- **Storage**

Any storage of the substation which may be necessary prior to installation should be in conditions which are dry and heated.

- **Authorized personnel only**

Assembly, start-up and maintenance work must be performed by qualified and authorized personnel only.

- **Please observe instructions carefully**

To avoid injury to persons and damage to the device, it is absolutely necessary to read and observe these instructions carefully.

- **Warning of high pressure and temperature**

- Be aware of the installation's permissible system pressure and temperature.

- The maximum temperature of the flow medium in the substation is 110 °C.
- The maximum operating pressure of the substation is 16 bar.
- The risk of persons being injured and equipment damaged increases considerably if the recommended permissible operating parameters are exceeded.
- The substation installation must be equipped with safety valves, however, always in accordance with local regulations.

- **Warning of hot surface**

- The substation has got hot surfaces, which can cause skin burns. Please be extremely cautious in close proximity to the substation.
- Power failure can result in the motor valves being stuck in open position. The surfaces of the substation can get hot, which can cause skin burns. The ball valves on district heating supply and return should be closed.

- **Warning of transport damage**

Before substation installation, please make sure that the substation has not been damaged during transport.

- **IMPORTANT – Tightening of connections**

Due to vibrations during transport all flange connections, screw joints and electrical clamp and screw connections must be checked and tightened before water is added to the system. After water has been added to the system and the system has been put into operation, re-tighten ALLALLALL connections.

## **Mounting**

### **Mounting the Compactstation**

Installation must be in compliance with local standards and regulations. District heating (DH) – In the following sections, DH refers to the heat source which supplies the substations. A variety of energy sources, such as oil, gas or solar power, could be used as the primary supply to Danfoss substations. For the sake of simplicity, DH can be taken to mean the primary supply.

### **Connections:**

1. District heating (DH) supply
2. District heating (DH) return
3. Heating (HE) supply
4. Heating (HE) return
5. Domestic hot water (DHW)
6. Domestic cold water (DCW)
7. Hot water circulation (HWC)

### **Connection sizes:**

- DH + HE: G 1" (int. thread)
- DCW + DHW: G 1" (int. thread)
- HWC: G ¾" (int. thread)

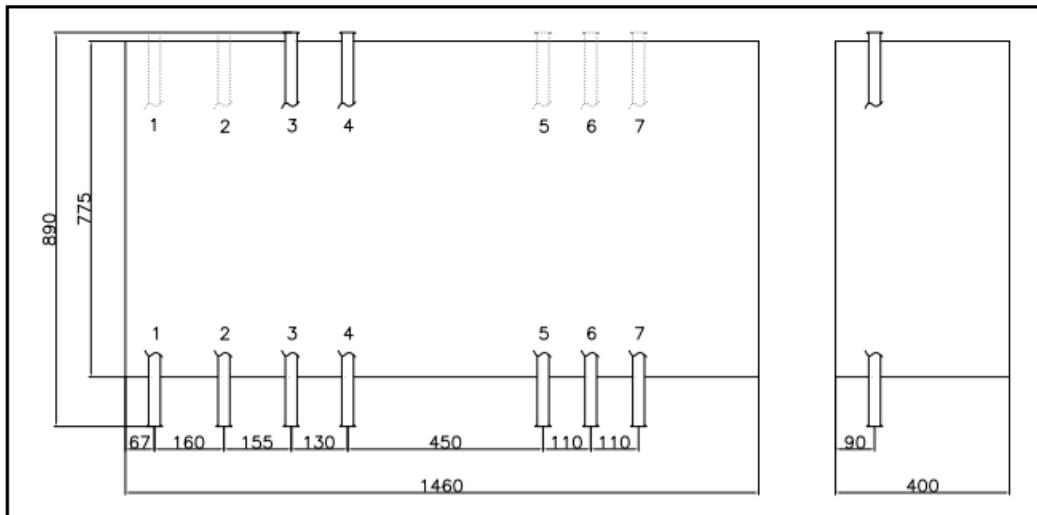
### **Dimensions (mm):**

- With insulation: H 890 x W 1460x D 400
- Weight (approx.): 95 kg

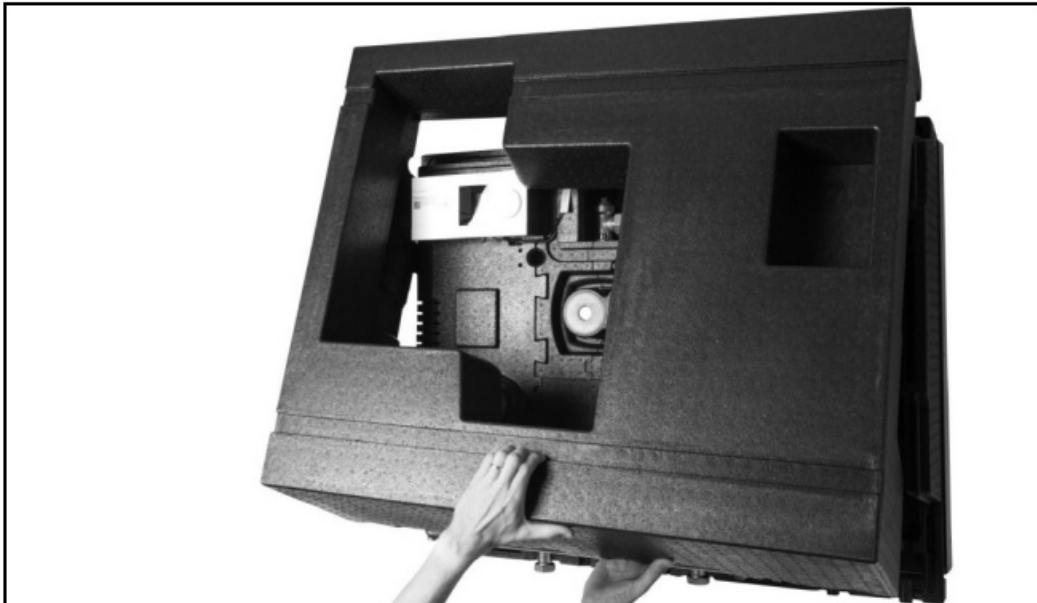
### Authorized personnel only

Assembly, start-up and maintenance work must be performed by qualified and authorized personnel only.

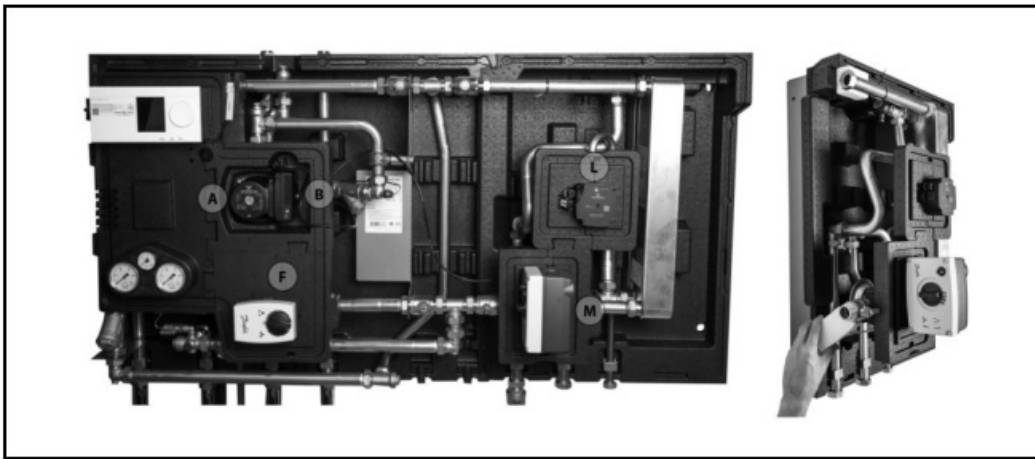
The pipe placement can deviate from the shown drawing. Please note the markings on the station.



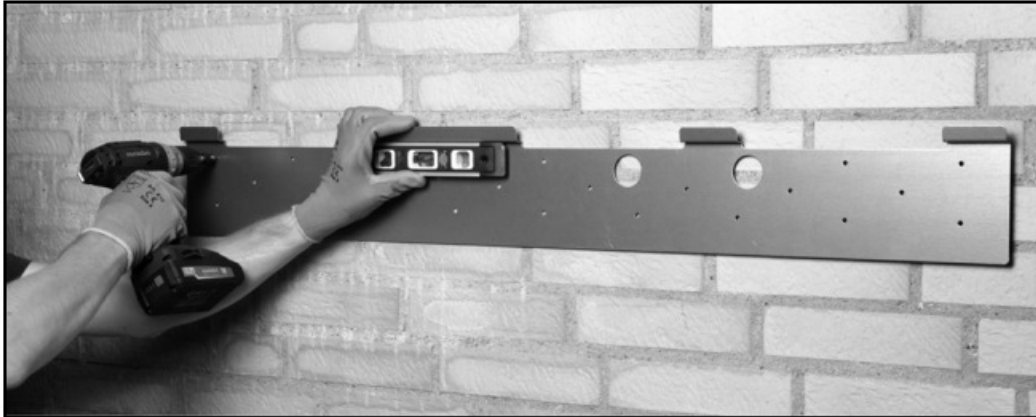
- Remove the front.



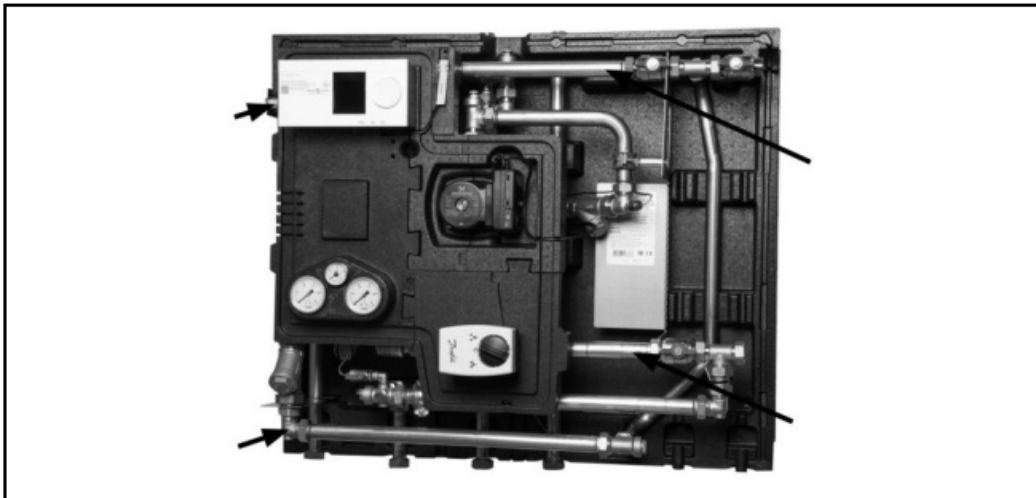
- Remove the other blocks and the white polystyrene.



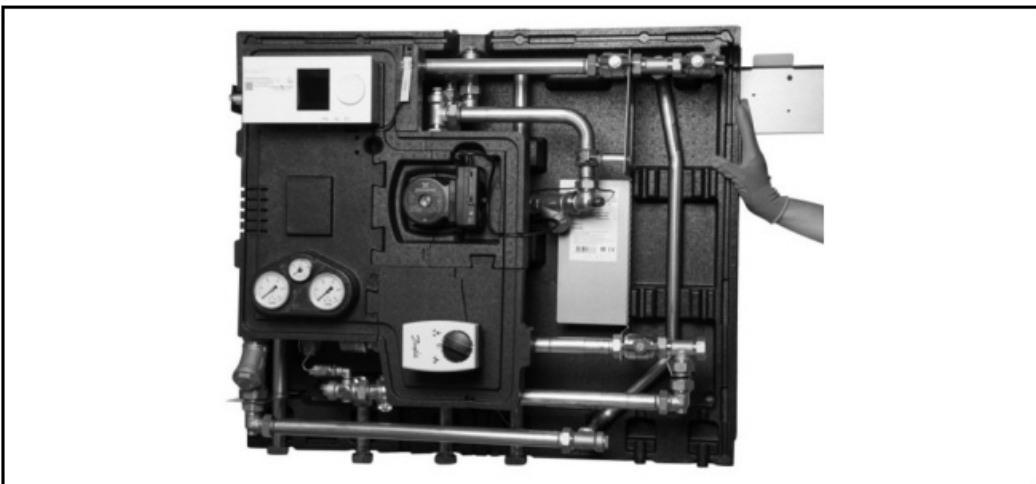
- Attach the mounting rail to the wall.



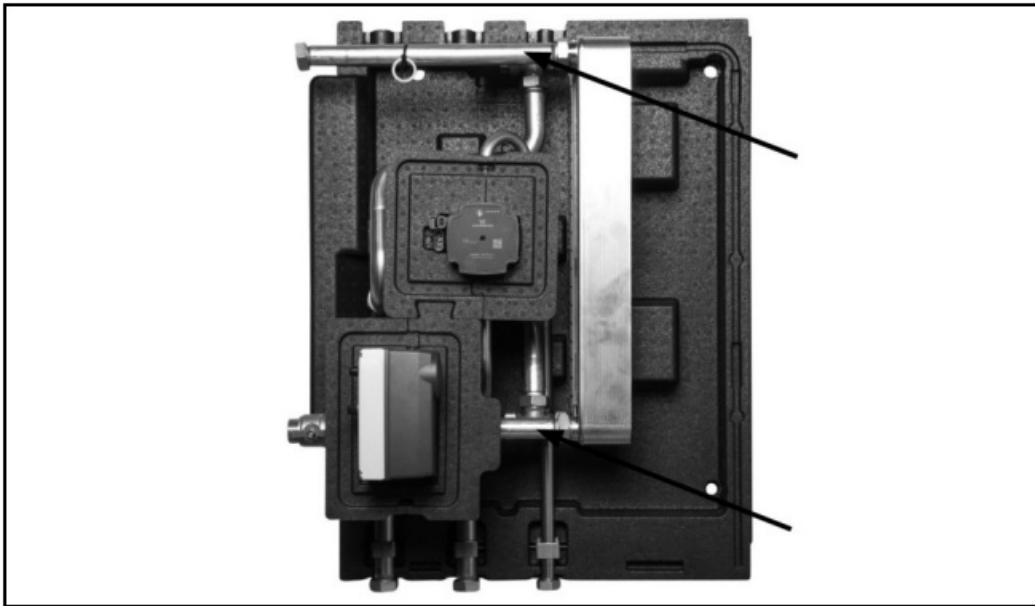
- Lift the station's heating section.



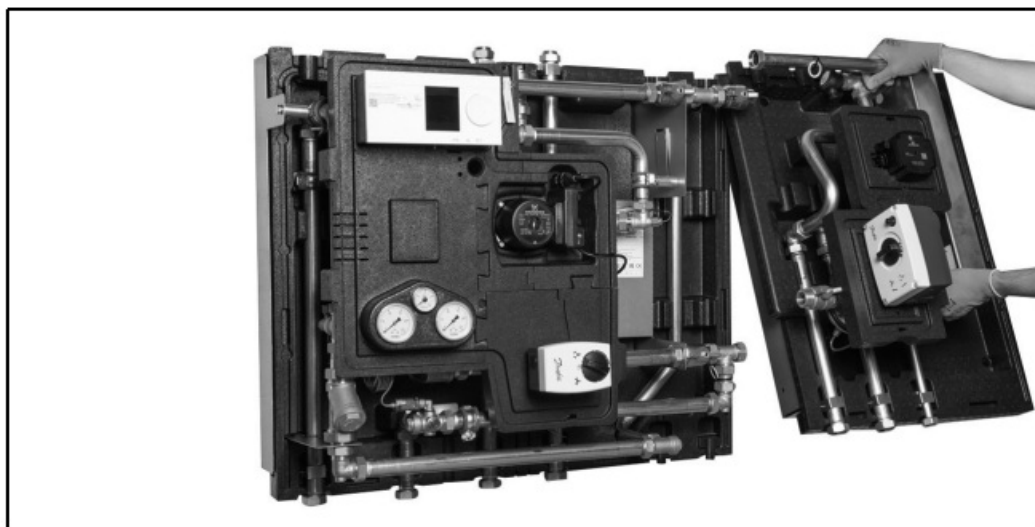
- Mount the station as far to the left on the rail as possible.



- Lift the station's instantaneous domestic hot water part.

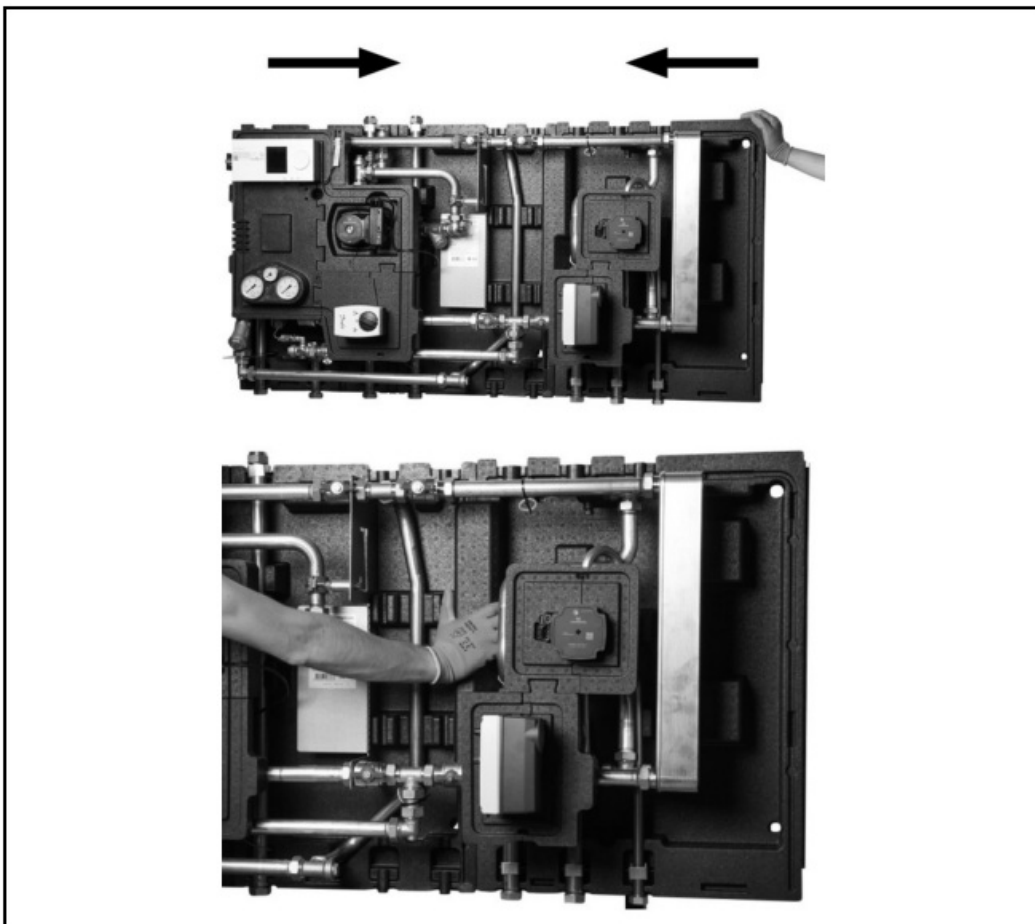


- Mount the instantaneous domestic hot water part on the right-hand side of the fittings.

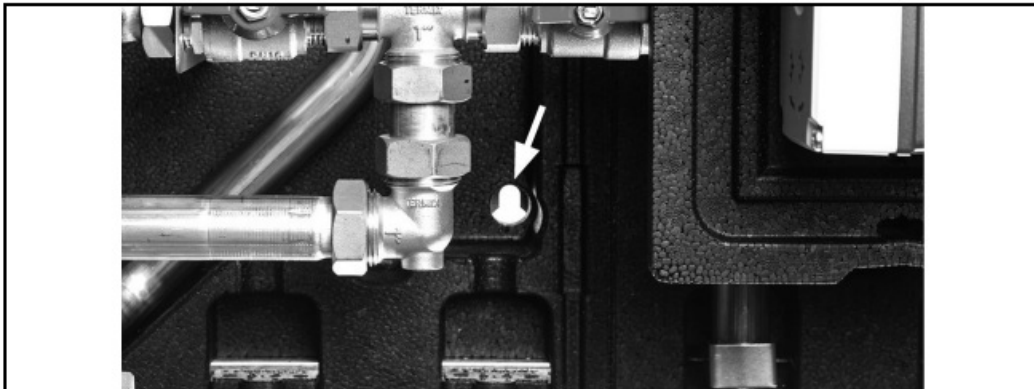


- Push the two parts together. The two mounting plates must click together in the overlap.





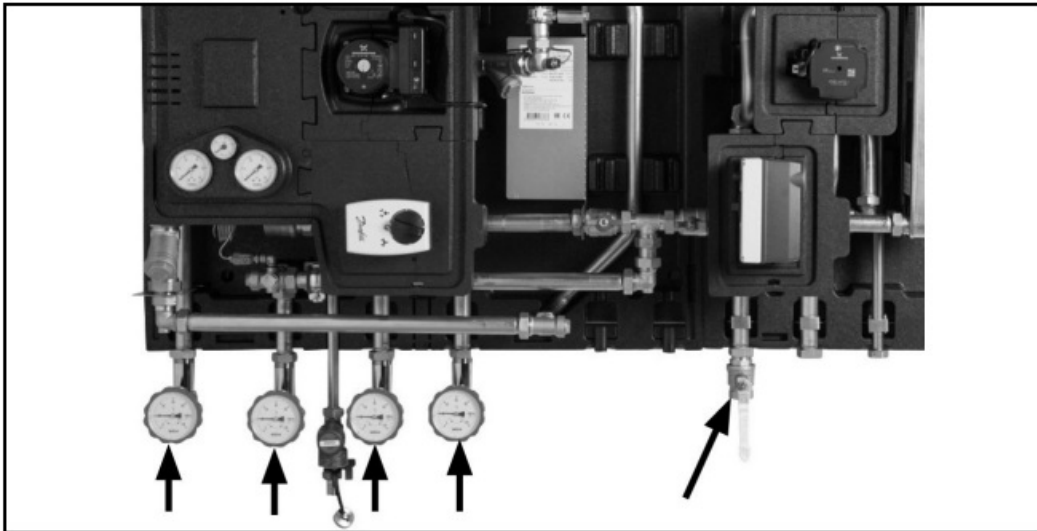
- Attach the station to the wall in the holes on the mounting plate.



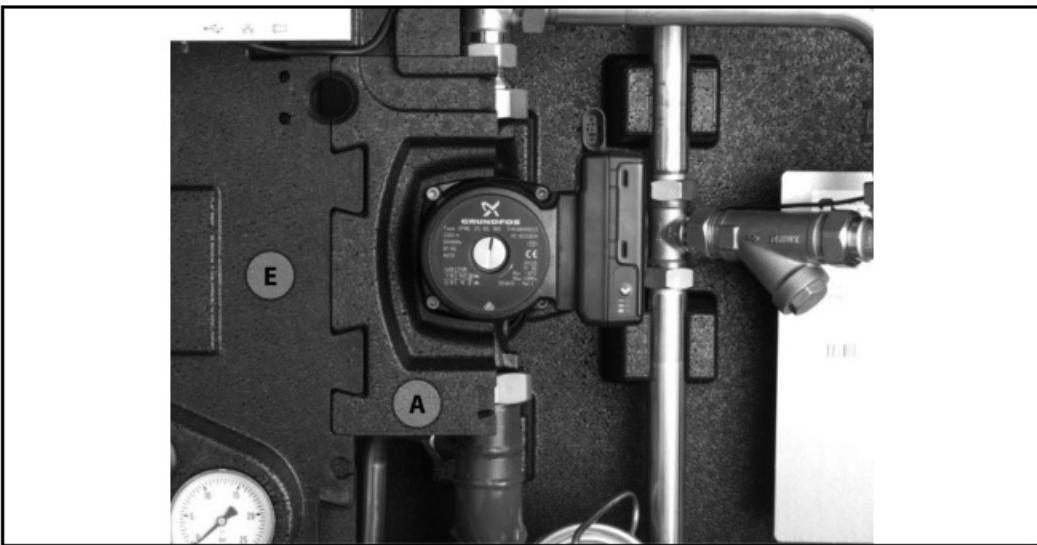
- Assemble the power connector on the hot water part of the station. For proper functionality, connectors must be paired by colour.



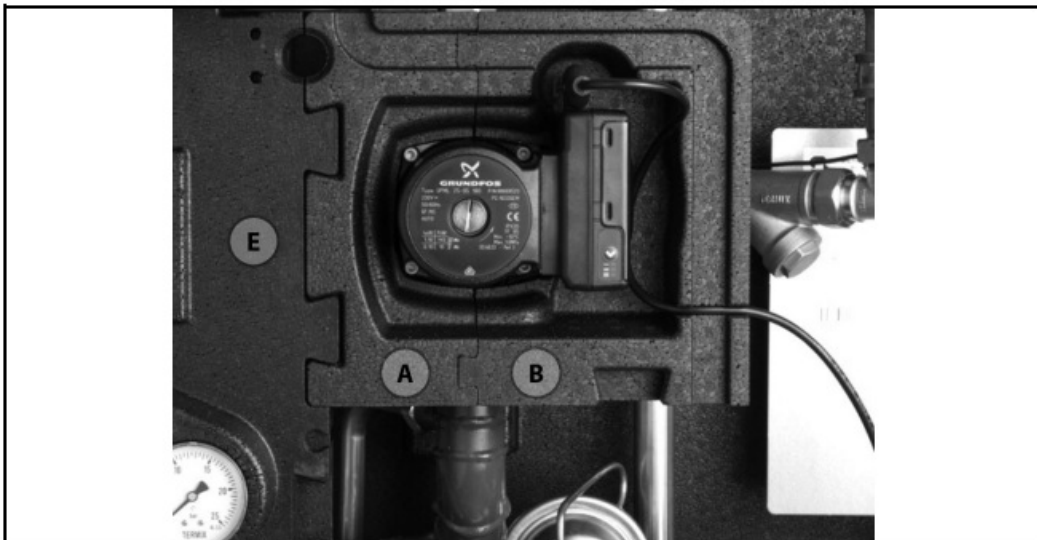
- Install the ball valves.



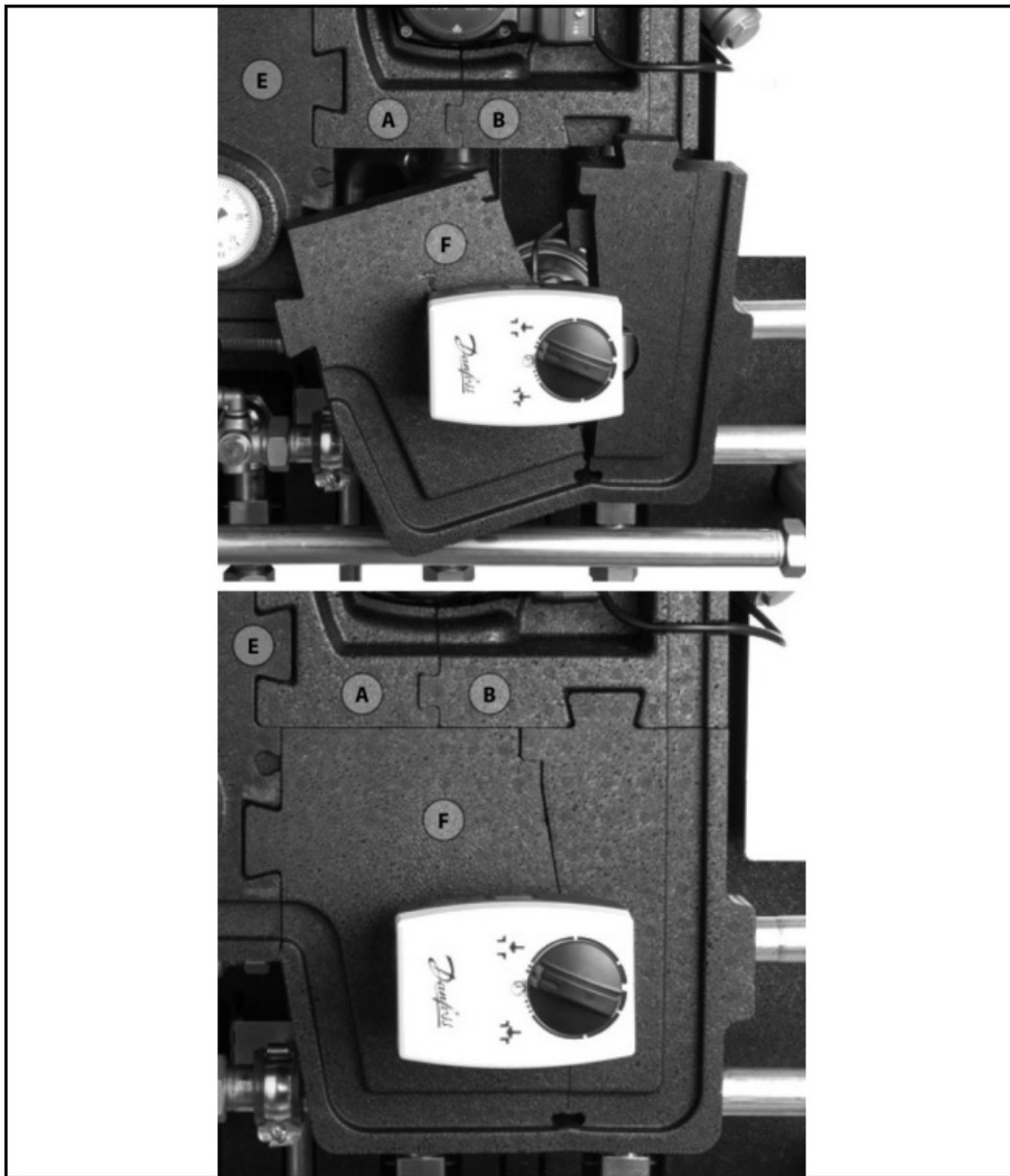
- Mount block A (C if it is the Magna pump) on the left-hand side of the pump. Attach block E to block A/C, and attach it to the pipe above the pump by clicking it in place.



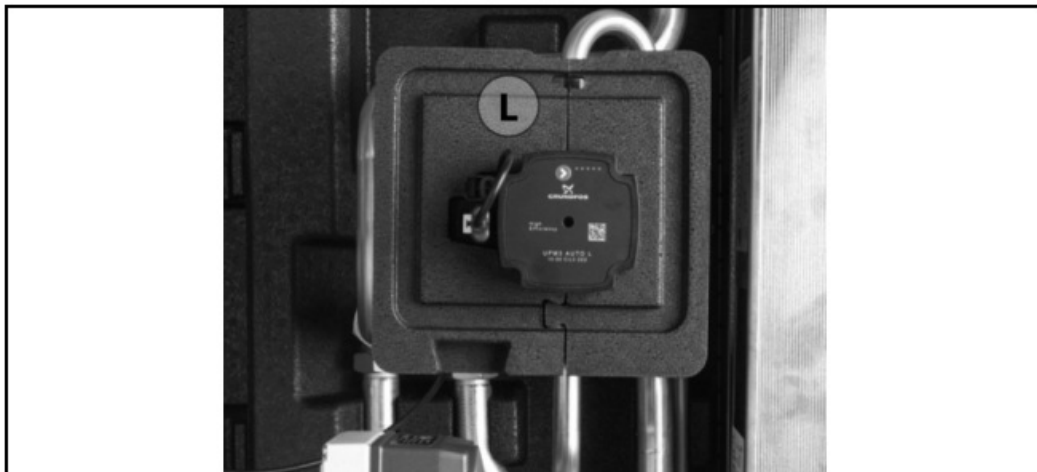
- Mount block B (D if it is the Magna pump) on the right-hand side of the pump.



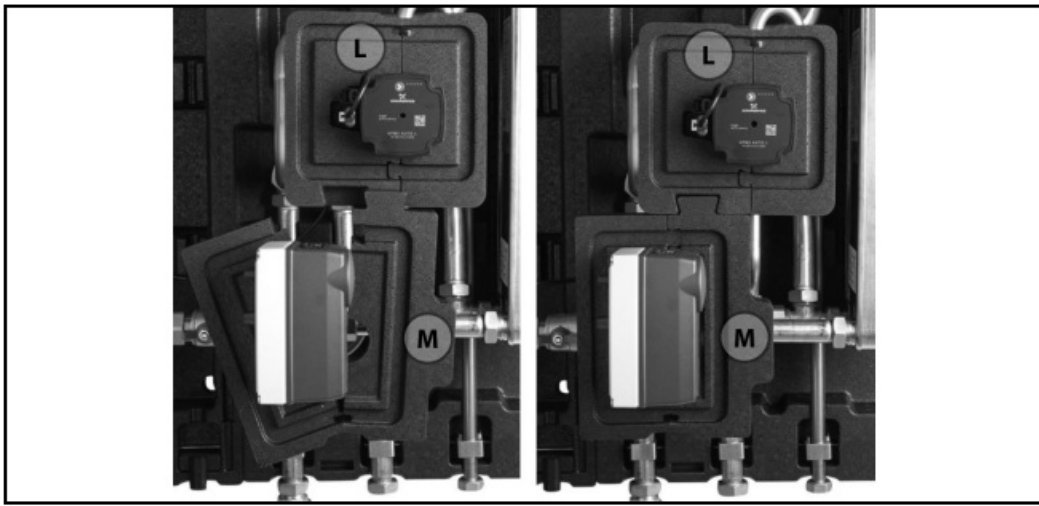
- Mount block F (G for VM2 valve). The block is hinged and can be drawn around the valve. Attach the block to block B/D and E.



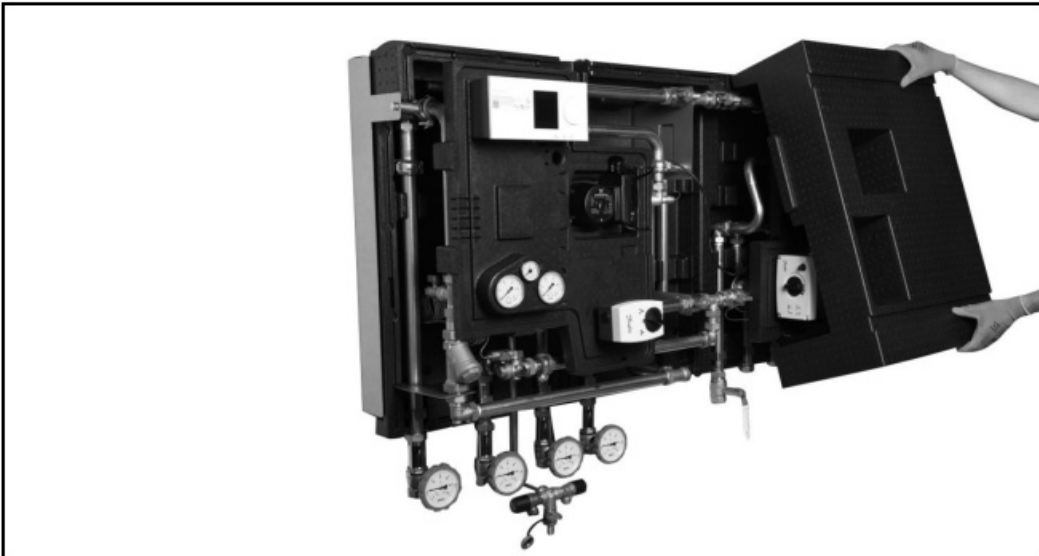
- Mount block L. The block is hinged and can be pulled around the UPM3 pump.



- Mount block M. The block is hinged and can be drawn around the valve. Attach the block to block L.



- Mount the small front cover.



- Mount the large front cover.



## Installing the Compactstation

- **Mounting: Adequate space**

Please allow adequate space around the substation for mounting and maintenance purposes.

- **Orientation**

The station must be mounted so that components, keyholes and labels are placed correctly. If you wish to mount the station differently please contact your supplier.

- **Drillings**

Where substations are to be wall-mounted, drillings are provided in the back mounting plate. Floor-mounted units have support.

- **Labelling**

Each connection on the substation is labelled.

**Before installation:**

- **Clean and rinse**

Prior to installation, all substation pipes and connections should be cleaned and rinsed.

- **Tightening**

Due to vibration during transport, all substation connections must be checked and tightened before installation.

- **Unused connections**

Unused connections and shut-off valves must be sealed with a plug. Should the plugs require removal, this must only be done by an authorized service technician.

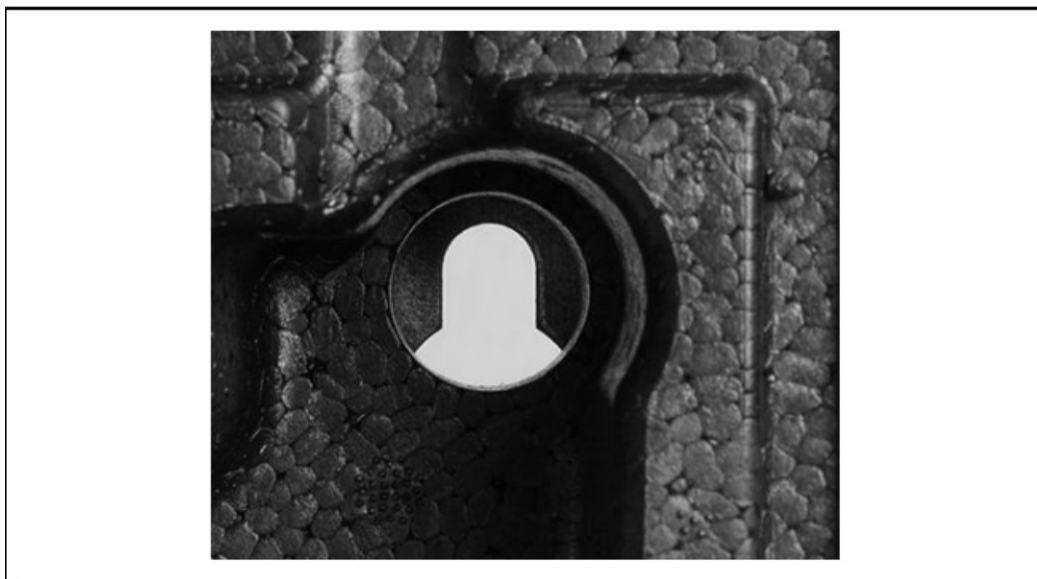
- **Installation:**

- **Strainer**

If a strainer is supplied with the station it must be fitted according to schematic diagram. Please note that the strainer may be supplied loose.

- **Connections**

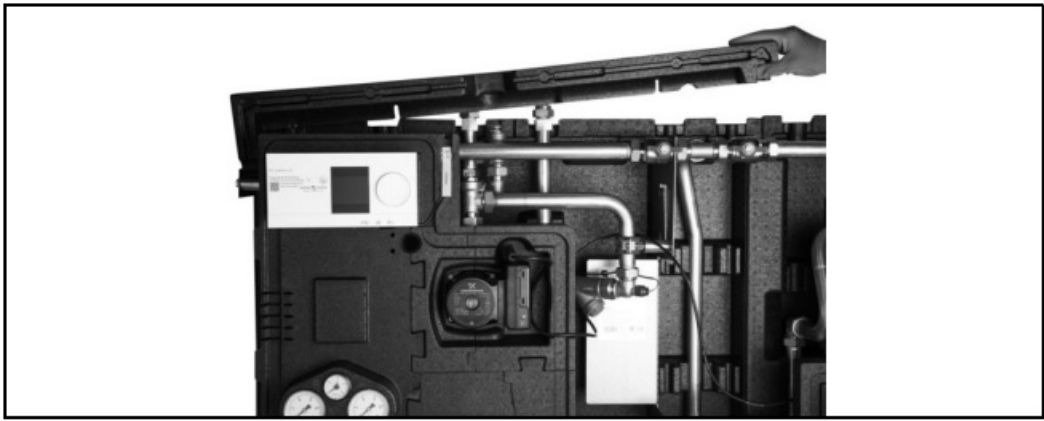
Internal installation and district heating pipes connections must be made using threaded, flanged or welded connections.



*Keyhole for mounting.*

**Pipe connections up**

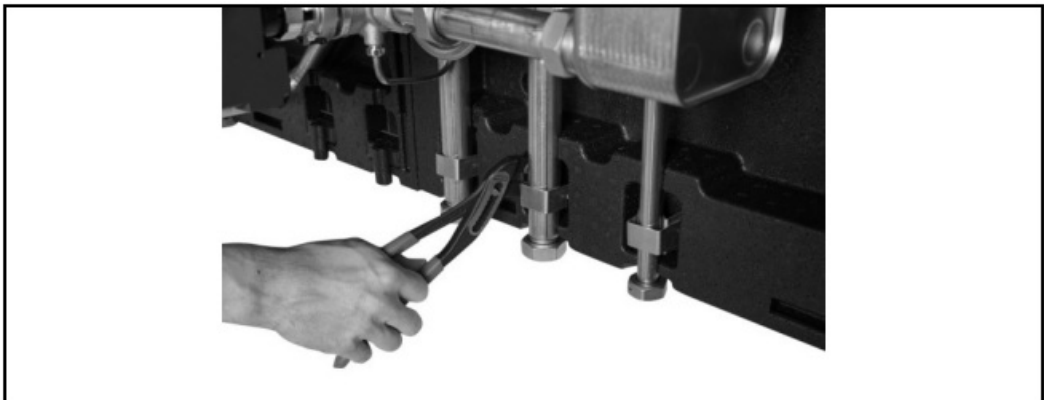
- Remove the top block.



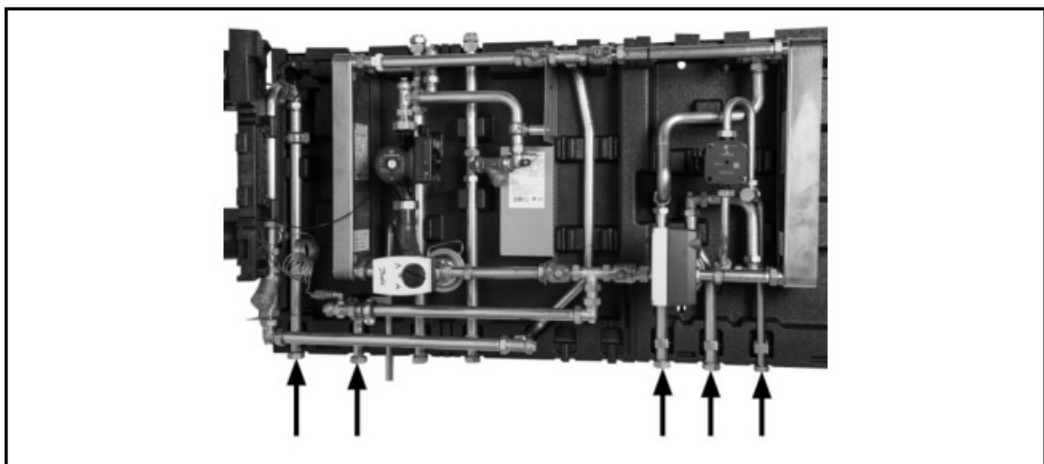
- Remove the pipe plugs at the top of the station.



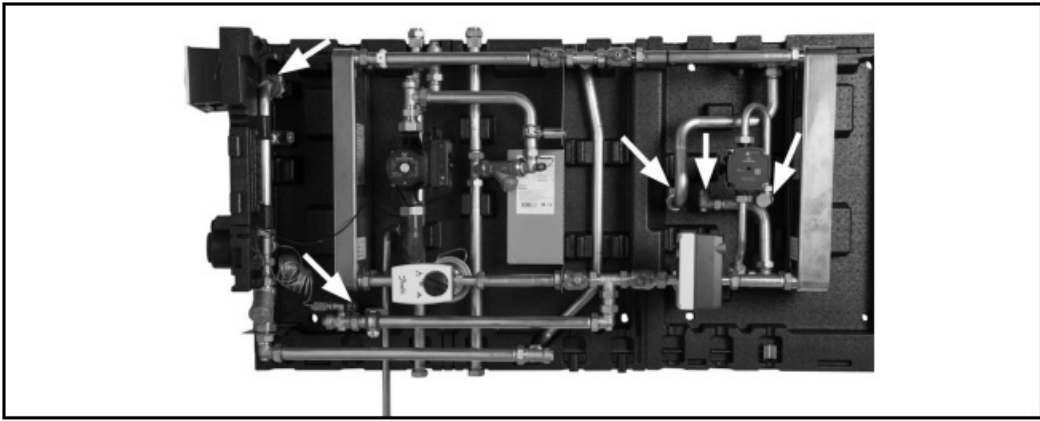
- Remove U-clamps.



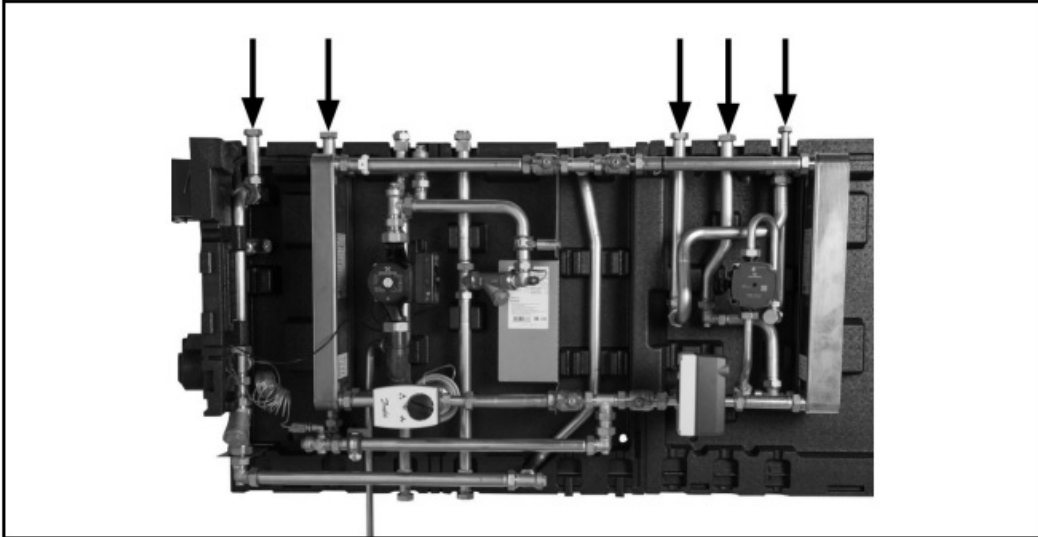
- Remove pipes.



- Angles and tees are turned so that pipes can be installed from above.



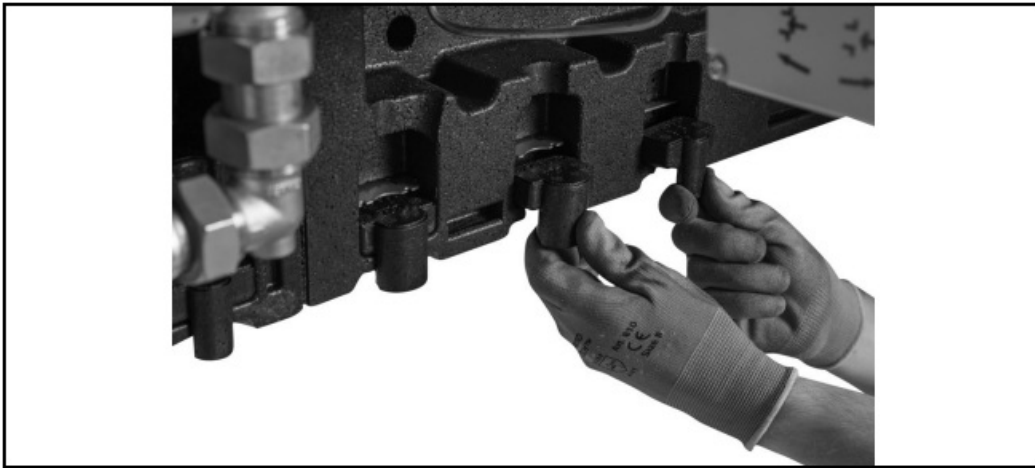
- Install the pipes. District heating supply pipes to be interchanged.



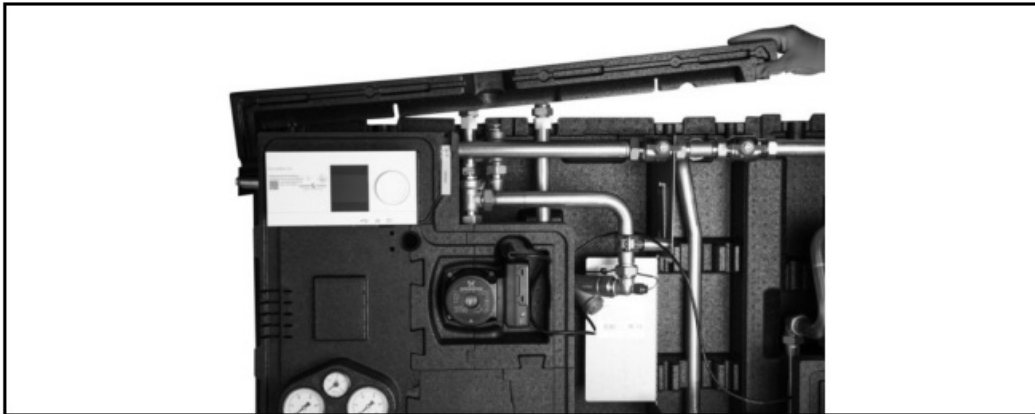
- Fit U-clamps.



- Fit the pipe plugs at the bottom of the station.



- Fit the top block.



## Start-up

Start-up, Heating with mixing loop

### 1. Pump speed

Set the pump to highest speed before start-up.

### 2. Start pump

Start the pump and heat through the system.

### 3. Open shut-off valves

The shut-off valves should then be opened and the unit observed as it enters service. Visual checking should confirm temperatures, pressures, acceptable thermal expansion and absence of leakage. If the system operates in accordance with design, it can be put to regular use.

### 4. Vent system

Switch off the pump and vent the installation after the radiators have been warmed up.

### 5. Adjust pump speed

- Set the pump to the lowest speed consistent with comfort and electricity consumption.
- Normally the change-over switch is set in the mid position (default). However for systems with under floor heating or single pipe loop systems, it may be necessary to turn the change-over switch upwards.
- Higher pump speeds are only used if the heating requirement increases.

## Under floor heating:

### • Pump stop function

If the substation is used in connection with under floor heating, the circulation pump must be connected to the



pump stop function in the under floor heating controller. The pump must be stopped if all under floor heating circuits are closed.

- **Warranty**

If this is not possible, then flow must be continued through the by-pass. Failing this, the pump will be at risk of seizure and any remaining warranty will be withdrawn.

### **Summer operation:**

- **Switch off pump**

In summer the circulation pump must be switched off and the shut-off valve to HE supply closed.

- **Running pump bi-weekly**

It is recommended to start up the circulation pump (for 2 minutes) once a month during summer; the shut-off valve of the HE supply must be shut.

- **Electronic controller**

Most electronic controllers will start up the pump automatically (please note manufacturer's instructions).

### **Re-tighten connections**

After water has been added to the system and the system has been put into operation, re-tighten ALLALLALL connections.

### **Pump**

The pump must be switched off during system fill.

### **Electrical connections**

Before making electrical connections, please note the following:

- **Safety notes**

Please read the relevant parts of the safety notes.

- **230 V**

The substation must be connected to 230 V AC and earth.

- **Potential bonding**

- Potential bonding should be carried out according to 60364-4-41:2007 and IEC 60364-5-54:2011.
- Bonding point on the mounting plate below right corner marked with earth symbol.

- **Disconnection**

The substation must be electrically connected so that it can be disconnected for repairs.

- **Outdoor temperature sensor**

- Outdoor sensors should be mounted so as to avoid exposure to direct sunlight. They should not be placed close to doors, windows or ventilation outlets.
- The outdoor sensor must be connected to the station on the terminal block under the electronic control.

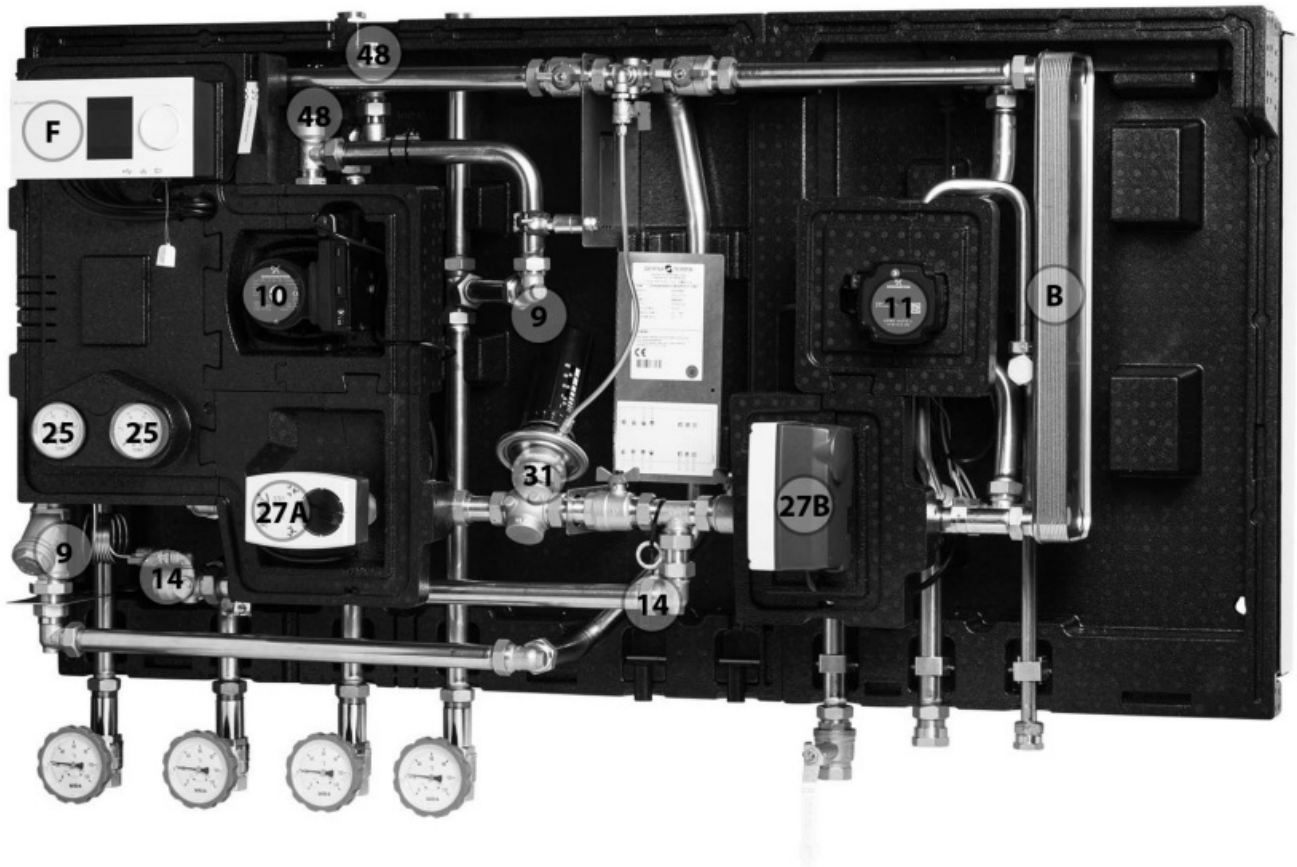
- **Authorized electrician**

Electrical connections must be made by an authorized electrician only.

- **Local standards**

Electrical connections must be made in accordance with current regulations and local standards.

### **Design**

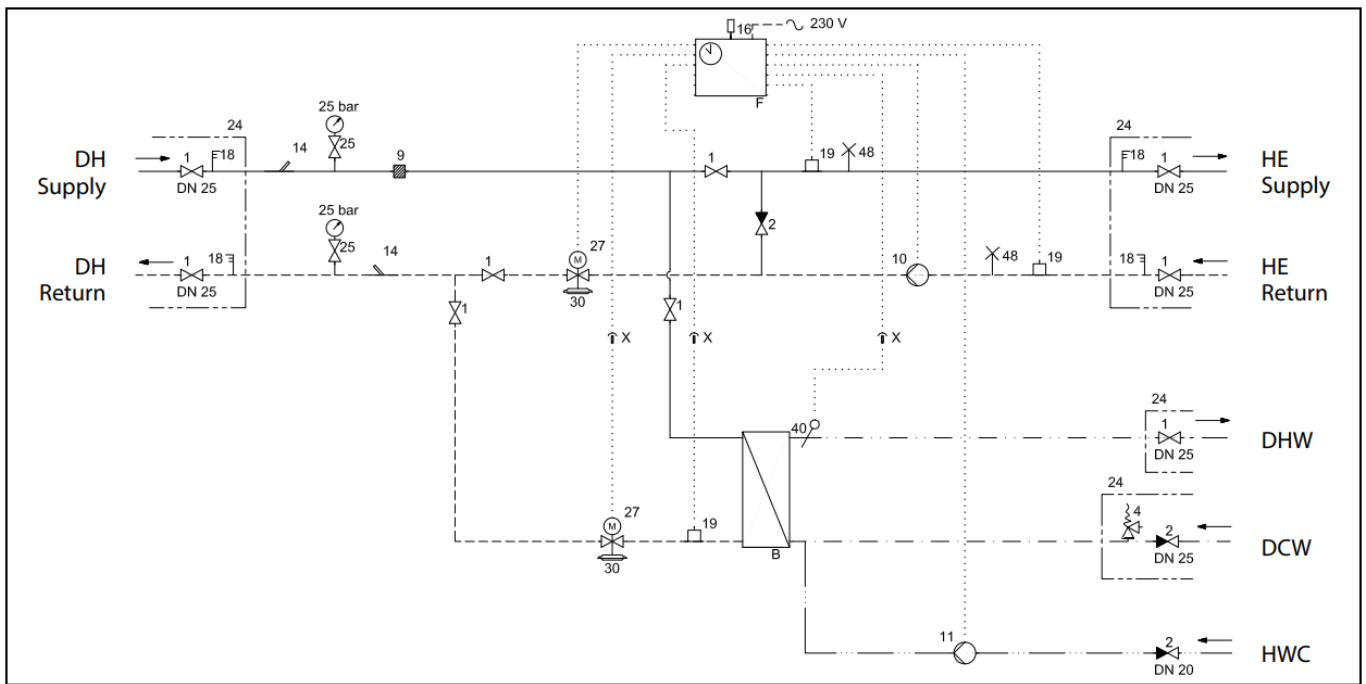


Your substation might look different than the substation shown.

### Design description

- B Heat exchanger,
- DHW F
- Electronic controller
- 9 Strainer
- 10 Circulator pump
- 11 Domestic hot water pump
- 14 Sensor pocket, energy meter
- 20 Filling/drain valve
- 25 Pressure gauge with ball valve
- 27A Actuator, HE
- 27B Actuator, DHW
- 48 Air vent, manual

### Schematic diagram



Your substation might look different than the schematic diagram shown.

### Component List

Code	Description	Code	Description
B	Heat exchanger	10	Circulator pump (Delivered loose with unit)
F	Electronic controller	11	Domestic hot water pump
X	Plug connections	14	Sensor pocket, energy meter
1	Ball valve	16	Outdoor sensor
2	Single check valve	18	Thermometer
9	Strainer	19	Surface sensor
25	Pressure gauge with ball valve	27	Actuator
30	Flow controller with integrated valve	40	Immersion sensor
48	Air vent, manual		

### Abbreviations

- **DH Supply:** District Heating Supply
- **DH Return:** District Heating Return
- **HE Supply:** Heating Supply
- **HE Return:** Heating Return
- **DHW:** Domestic Hot Water
- **HWC:** Hot Water Circulation
- **DCW:** Domestic Cold Water

### Technical Parameters

- **Nominal pressure:** PN 16
- **Max. DH supply temperature:** 110 °C
- **Min. DCW static pressure:** 0.5 bar
- **Brazing material (HEX):** Copper
- **Heat exchangers test pressure:** 30 bar
- **Sound level:** P 55 dB

## Controls

### Heating circuit:

- **Differential pressure controller**

The differential pressure controller smooths out the fluctuations in pressure arriving from the district heating network. The operating pressure in the substation is thus held steady.



- **HE temperature control**

The HE flow temperature in the heating circuit is controlled by the HE temperature controller.

- **Flow controller with integrated control valve**

The controller is a self-acting flow controller with integrated control valve. The controller closes when set max. flow is exceeded and can be used in combination with Danfoss electrical actuators with or without safety function. Spring return motor can be used as safety function by power failure.



- **Electric 2-way motorized valve**

Actuators with or without safety function are available for 3-point controls. Spring-return actuators can be used to provide safety shut-off in the event of power failure.



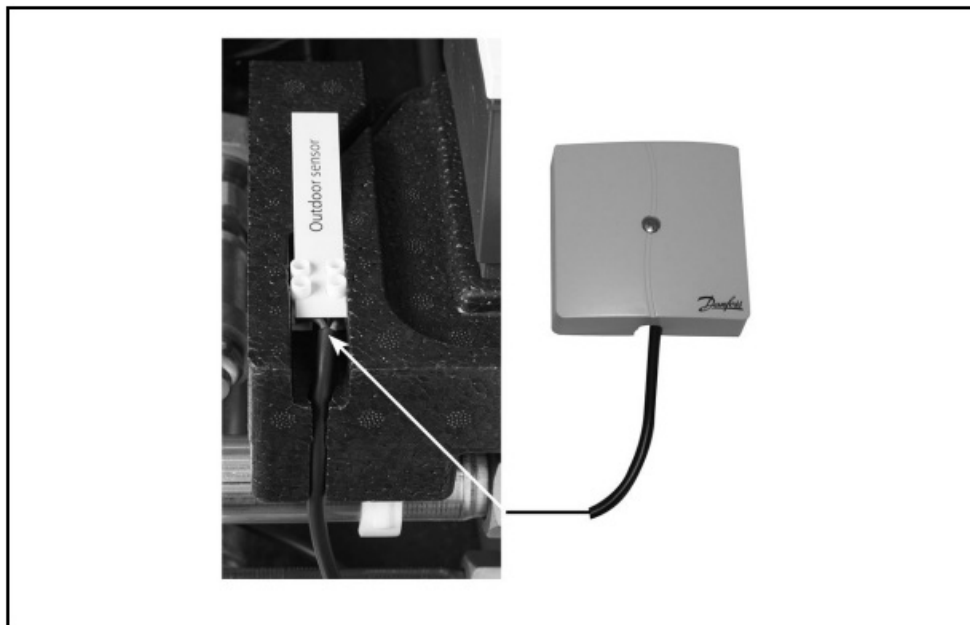
- **Electronic control**

- Substations with electronic control must be set in accordance with manufacturer's instructions.
- Where the room temperature is controlled by radiator thermostats, it is recommended that thermostats be set for minimum temperature in each room.



- **Outside temperature sensor**

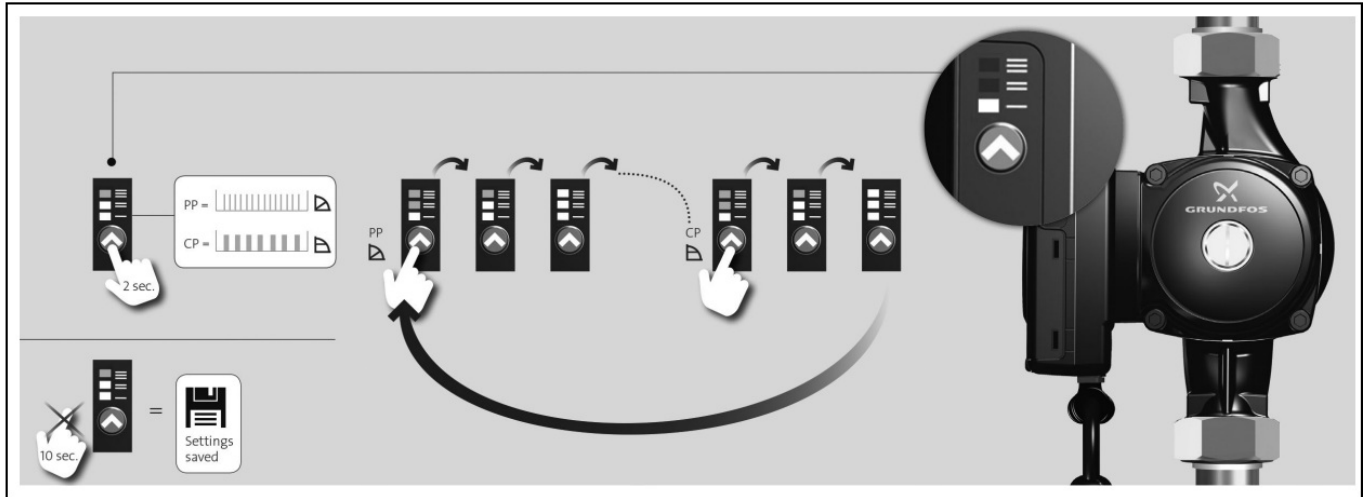
Outdoor sensors should be mounted so as to avoid exposure to direct sunlight. They should not be placed close to doors, windows or ventilation outlets.



### • Circulator pump

- The UPML, UPMXL circulator pumps are designed for circulating liquids in heating systems with variable flows, internally controlled with three proportional pressure curves and three constant pressure/power curves to be selected via user interface.
- EuP 2015 Ready.
- The MAGNA3 circulator pumps are designed for circulating liquids in heating systems with variable flows where you want to optimise the setting of the pump duty point, thus reducing energy costs.
- EuP 2015 Ready.





- **PP** = Proportional pressure (fast flash)
- **CP** = Constant pressure (slow flash)

## DHW temperature control

### DHW temperature control

There are various types of DHW temperature control used in Danfoss substations. DHW temperature should be adjusted to 45-50 °C, as this provides optimal utilisation of DH water. At DHW temperatures above 55 °C, the possibility of lime scale deposits increases significantly.

- **Flow controller with integrated control valve**

The controller is a self-acting flow controller with integrated control valve. The controller closes when set max. flow is exceeded and can be used in combination with Danfoss electrical actuators with or without safety function. Spring return motor can be used as safety function by power failure.



- **Electric 2-way motorized valve**

Actuators with or without safety function are available for 3-point controls. Spring-return actuators can be used to provide safety shut-off in the event of power failure.



- Domestic hot water pump

**Important!** It is necessary to mount a domestic hot water circulation pump on the water heater to avoid regulation problems. The circulation pump can not be switched off, since this will result in regulation problems. (no flow at the sensor).



## Other

### 1. Strainer

Strainers should be cleaned regularly by authorized personnel. The frequency of cleaning would depend on operating conditions and the manufacturer's instructions.

### 2. Fitting piece

The substation is equipped with a fitting piece for energy meter.





#### Assembly of energy meters:



##### 1. Close ball valves

Close the ball valves on DH Supply and DH Return, if there is water on the system.

##### 2. Loosen nuts

Loosen the nuts on the fitting piece.

##### 3. Remove fitting piece

Remove the fitting piece and replace it with the energy meter. Do not forget the gaskets.

##### 4. Tighten connections

After mounting of the energy meter remember to check and tighten all threaded connections.

#### Sensor pocket, energy meter

The sensors of the energy meter is mounted in the sensor pockets.



## **Maintenance**

The substation requires little monitoring, apart from routine checks. It is recommended to read the energy meter at regular intervals, and to write down the meter readings. Regular inspections of the substation according to this Instruction are recommended, which should include:

- **Strainers**

Cleaning of strainers.

- **Meters**

Checking of all operating parameters such as meter readings.

- **Temperatures**

Checking of all temperatures, such as DH supply temperature and DHW temperature.

- **Connections**

Checking all connections for leakages.

- **Safety valves**

The operation of the safety valves should be checked by turning the valve head in the indicated direction.

- **Venting**

- Checking that the system is thoroughly vented.
- Inspections should be carried out minimum every two years.
- Spare parts can be ordered from Danfoss. Please ensure that any enquiry includes the substation serial number.

## **Authorized personnel only**

Assembly, start-up and maintenance work must be performed by qualified and authorized personnel only.

## **Troubleshooting**

### **Troubleshooting in general**

In the event of operating disturbances, the following basic features should be checked before carrying out actual troubleshooting:

- The substation is connected to electricity,
- The strainer on the DH supply pipe is clean,
- The supply temperature of the DH is at the normal level (summer, at least 60 °C – winter, at least 70 °C),
- The differential pressure is equal to or higher than the normal (local) differential pressure in the DH network – if in doubt, ask the DH plant supervisor,

- Pressure on the system – check the HE pressure gauge.

### Authorized personnel only

Assembly, start-up and maintenance work must be performed by qualified and authorized personnel only.

### Troubleshooting DHW

Problem	Possible cause	Solution
Too little or no DHW.	Strainer in supply or return line clogged.	Clean strainer(s).
	DHW circulation pump out of order or with too low setting.	Check circulation pump.
	Defective or clogged non-return valve.	Replace – clean.
	No electricity.	Check.
	Wrong setting of automatic controls, if any.	To adjust an electronic controller for DHW, pls. note enclosed instructions for electronic controller.
	Scaling of the plate heat exchanger.	Replace – rinse out.
	Defective motorized valve.	Check (use manual function) – replace.
	Defective temperature sensors.	Check – replace.
	Defective controller.	Check – replace.
Hot water in some taps but not in all.	DCW is being mixed with the DHW, e.g. in a defective thermostatic mixing valve.	Check – replace.
	Defective or clogged non-return valve on circulation valve.	Replace – clean.
Tap temperature too high; DHW tap load too high.	Thermostatic valve adjusted to a too high level.	Check – set.
Temperature drop during tapping.	Scaling of the plate heat exchanger.	Replace – rinse out.
	Larger DHW flow than the substation has been designed for.	Reduce DHW flow.
Thermostatic control valve does not close	Temperature difference between DH supply and DHW set point too low.	Lower the set point temperature or increase the DH supply temperature.

### Troubleshooting HE

Problem	Possible cause	Solution
	Strainer clogged in DH or HE circuit (radiator circuit).	Clean gate/strainer(s).


Too little or no heat.	The filter in the energy meter on DH circuit clogged.	Clean the filter (after consulting the DH plant operator).
	Defective or wrongly adjusted differential pressure controller.	Check the operation of the differential pressure controller – clean the valve seat if required.
	Sensor defective – or possibly dirt in the valve housing.	Check the operation of the thermostat – clean the valve seat if required.
	Automatic controls, if any, wrongly set or defective – possibly power failure.	Check if the setting of the controller is correct – see separate instructions.  Check the power supply. Temporary setting of motor to “manual” control – see instructions on automatic controls.
	Pump out of operation.	Check if the pump is receiving power and that it turns. Check if there is air trapped in the pump housing – see pump manual.
	The pump is set at too low speed of rotation.	Set the pump at higher speed of rotation.
	Pressure drop – the pressure drop on the radiator circuit shows lower than recommended operating pressure.	Fill water on the system and check the functioning of the pressure expansion vessel if required.
	Air pockets in the system.	Vent the installation thoroughly.
	Limiting of the return temperature adjusted too low.	Adjust according to instructions.
	Defective radiator valves.	Check – replace.
	Uneven heat distribution in building because of incorrectly set balancing valves, or because there are no balancing valves.	Adjust/install balancing valves.
	Diameter of pipe to substation too small or branch pipe too long.	Check pipe dimensions.
Uneven heat distribution.	Air pockets in the system.	Vent the installation thoroughly.
DH supply temperature too high.	Wrong setting of thermostat or of automatic controls, if any.	Adjust automatic controls, – see instructions for automatic controls.
	Defective controller. The controller does not react as it should according to the instructions.	Call automatic controls manufacturer or replace the regulator.
	Defective sensor on self-acting thermostat.	Replace thermostat – or sensor only.

DH supply temperature too low.	Wrong setting of automatic controls , if any.	Adjust automatic controls – see instructions for automatic controls.
	Defective controller. The controller does not react as it should according to the instructions.	Call in automatic controls manufacturer or replace controller.
	Defective sensor on self-acting thermostat.	Replace thermostat – or sensor only.
	Wrong placement/fitting of outdoor temperature sensor.	Adjust location of outdoor temperature sensor.
	Strainer clogged.	Clean gate/strainer.

Too high DH return temperature.	Too small heating surface/too small radiators compared to the total heating requirement of the building.	Increase total heating surface.
	Poor utilization of existing heating surface. Defective sensor on self-acting thermostat.	Make sure the heat is distributed evenly across the full heating surface – open all radiators and keep the radiators in the system from heating up at the bottom. It is extremely important to keep the supply temperature to the radiators as low as possible , while maintaining a reasonable level of comfort.
	The system is single pipe loop.	The system should feature electronic controls as well as return sensors.
	Pump pressure too high.	Adjust pump to a lower level.
	Air in system.	Vent the system.
	Defective or incorrectly set radiator valve(s). Single pipe loop systems require special one-pipe radiator valves.	Check – set/replace.
	Dirt in the motorized valve or in the differential pressure controller.	Check – clean out.
	Defective motorized valve, sensor or automatic controller.	Check – replace.
	Electronic controller not adjusted correctly.	Adjust according to instructions.
Noise in system.	Pump pressure too high.	Adjust pump to a lower level.
Heat load too high.	Defective motorized valve, sensor or electronic controller.	Check – replace.

## Disposal



This  symbol on the product indicates that it may not be disposed of as household waste.. It must be handed over to the applicable take-back scheme for the recycling of electrical and electronic equipment.

- Dispose of the product through channels provided for this purpose.
- Comply with all local and currently applicable laws and regulations.

## Declaration of conformity

**Declare under our sole responsibility that the:**

**Product category:** Small substations

018	C28	C32	C40
HD	CS 28 HD	CS 32 HD	CS 40 HD
BTD	CS 28 BV	CS 32 BV	CS 40 BV
BVX	CS 28 VMTD	CS 32 VMTD	CS 40 VMTD
BV	CS 28 VX	CS 32 VX	CS 40 VX
VMTD mini mix	CS 28 VVX	CS 32 VVX	CS 40 VVX
KST-I	CS 28 BL	CS 32 BL	CS 40 BL
One Solar A+/B+			
VMTD mix			
KST-M			
One Solar			
Mixing loop			
CS 28 HD			
VMTD F mix			
KST-L			
FLS			
Measuring Unit			
VX			
VVX			
BL			

Covered by this declaration is in conformity with the following directives, standards or other normative documents, provided that the product is used in accordance with our instructions.

- **Machinery Directive 2006/42/EC**
  - **EN ISO 12100:2011**  
Safety of machinery – General principles for design – Risk assessment and risk reduction
  - **EN 60204-1:2018**  
Safety of machinery – Electrical equipment of machines –
- **Part 1: General requirements**

- **RoHS Directive 2011/65/EU**

Including amendment 2015/863

- **EN IEC 63000:2018**

Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

- **EMC Directive – 2014/30/EU**

- **EN 61000-6-1:2007**



Electromagnetic compatibility (EMC) – Part 6-1: Generic standards – Immunity residential, commercial and light-industrial environments

- **EN 61000-6-2:2005**

Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments

- **EN 61000-6-3:2007 + A1:2011**

Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments

<b>Date:</b> 2021.07.20  <b>Place of issue:</b> DK-7451 Sunds	<b>Issued by:</b>  <b>Signature:</b> <b>Name:</b> Claus G. Mortensen <b>Title:</b> Quality Manager	<b>Date:</b> 2021.07.20  <b>Place of issue:</b> DK-7451 Sunds	<b>Approved by:</b>  <b>Signature:</b> <b>Name:</b> Karina Friis Skov <b>Title:</b> Director, Engineering
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Danfoss only vouches for the correctness of the English version of this declaration. In the event of the declaration being translated into any other language, the translator concerned shall be liable for the correctness of the translation

## **Gemina Termix A/S**

- **Member of the Danfoss Group**

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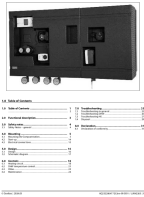
## **FAQ**

**Q: What should I do if I exceed the recommended level of permissible chloride compounds in the flow**

medium?

A: If you exceed the recommended level of 150 mg/l of chloride compounds, you risk equipment corrosion. It is advisable to consult with a professional to address this issue promptly and prevent further damage to the equipment.

## Documents / Resources



[Danfoss VMTD-FI Termix Compact Heating Controller](#) [pdf] Installation Guide  
AQ232286477252en-010301, VMTD-FI Termix Compact Heating Controller, Termix Compact H  
eating Controller, Compact Heating Controller, Heating Controller, Controller

## References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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