

# TACOTHERM FRESH MEGA3 / MEGA3 X

FRESH HOT WATER STATION WITH INTEGRATED PUMP CONTROL



## OPERATING INSTRUCTIONS

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**Information on the operating instructions**

These instructions ensure safe and efficient use of the fresh hot water station. These instructions are a component of the product and must be kept in the immediate vicinity of the fresh hot water station, where they are readily accessible for personnel.

The personnel must carefully read these instructions, and have understood them, before starting any work. A basic prerequisite for safe work is compliance with all safety warnings and instructions specified in these instructions.

Furthermore, the local occupational health and safety regulations, and the general safety guidelines for the area of use of the fresh hot water station, apply.

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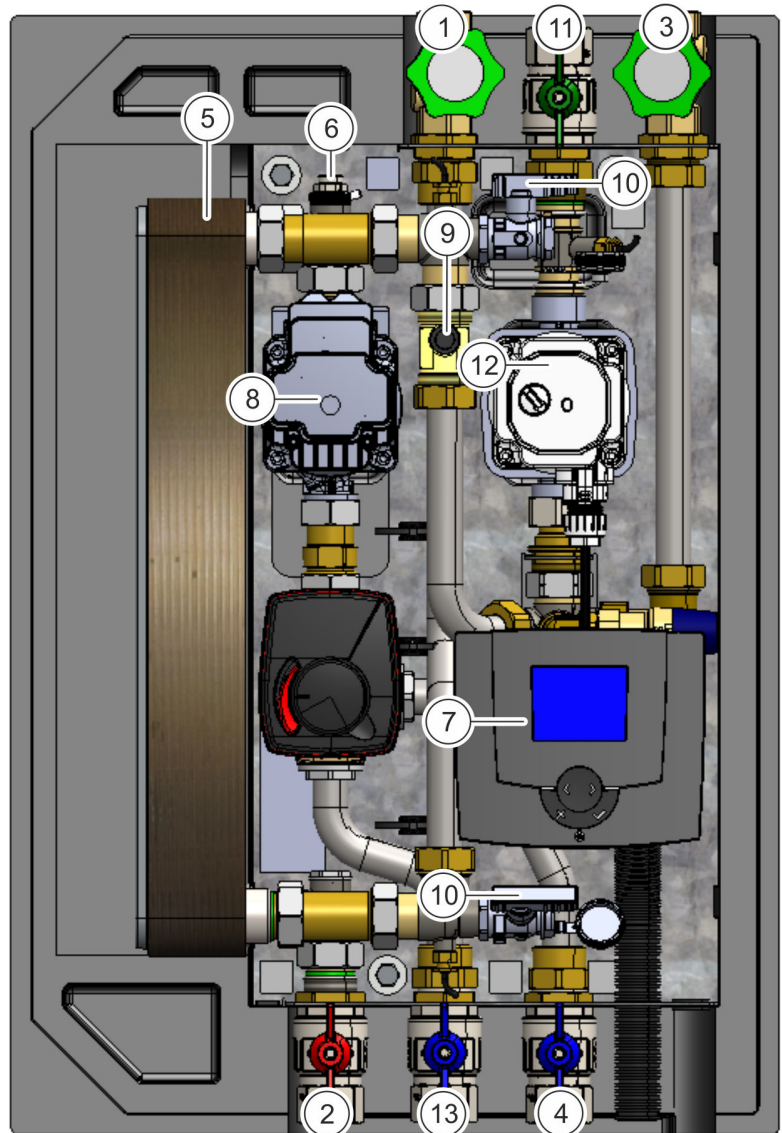
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# 1 Overview

## 1.1 Fresh water station






*Fig. 1: Fresh hot water station*

- 1 Connection for drinking water distribution (hot) ( ↗ page 23)
- 2 Primary connection for the heat supply flow line ( ↗ page 23)
- 3 Connection for main supply line for drinking water ( ↗ page 23)
- 4 Primary connection for the heat supply return line ( ↗ page 23)
- 5 Heat exchanger ( ↗ page 27)
- 6 Air bleed valve ( ↗ page 26)
- 7 Controller ( ↗ page 25)
- 8 Primary circulation pump ( ↗ page 25)

- 9 Flow rate sensor (  page 27)
- 10 Fill and drain cocks (  page 27)
- 11 Connection for circulation (optional)

Tab. 1: Options

No.	Option	Function	Additional information
12	Integrated circulation	The integrated circulation guarantees hot water is immediately available at the taps.	 Chapter 3.3.4.2 'Integrated circulation' on page 28
13	Two-zone stratifier	The two-zone stratifier is used to supply the primary return flow to the middle section of the tank in accordance with its temperature.	 Chapter 3.3.4.3 'Two-zone stratifier' on page 28
	Cascading	Cascading is the hydraulic interconnection of additional stations for increasing the tap output.	 Chapter 3.3.4.1 'Cascading' on page 28

**Scope of delivery and design**

The station is delivered ready for installation in an EPP housing, and is designed for surface mounting.

**1.2 Other applicable documents**

The following table contains an overview of other applicable documents. All documents are filed on our website, [www.taconova.com](http://www.taconova.com) on the "Download Center" tab.

Document	Remark
Declaration of conformity	In the annex to these instructions
Electrical circuit diagram	Enclosed with the fresh hot water station
Primary circulation pump instructions	
EA controller instructions 1321	
Switch valve instructions (when the two-zone stratifier option is installed)	
Data sheet	Available from the Download Center: <a href="http://www.taconova.com">www.taconova.com</a>
Data sheet for drinking water thresholds and material used for the plate heat exchanger	

## 2 Safety

### 2.1 Symbols in these instructions

#### Categories and symbols for the safety warnings

Safety warnings are indicated by symbols in these instructions. The safety warnings are introduced by signal words that indicate the extent of the danger.



#### **DANGER!**

This combination of symbol and signal word indicates an immediate, dangerous situation that can result in death or severe injury if it is not avoided.



#### **WARNING!**

This combination of symbol and signal word indicates a potentially dangerous situation that can result in death or severe injury if it is not avoided.



#### **CAUTION!**

This combination of symbol and signal word indicates a potentially dangerous situation that can result in minor or mild injury if it is not avoided.



#### **NOTICE!**

This combination of symbol and signal word indicates a potentially dangerous situation that can result in property damage if it is not avoided.



#### **ENVIRONMENT!**

This combination of symbol and signal word indicates potential dangers for the environment.

#### Safety warnings in instructions

Safety warnings may refer to specific, individual instructions. Safety warnings like this are embedded in the instructions to ensure they do not distract the reader when performing the activity. The signal words described above are used.

Example:

1. ➔ Release the screw.

2. ➔



#### **CAUTION!**




**Danger of entrapment on the cover!**

Close the cover carefully.

### 3. Tighten the screw.

## Special safety warnings

To draw attention to special dangers, the following symbols are used in safety warnings:

Warning signs	Type of danger
	Warning – high-voltage.
	Warning – hot surface.
	Warning – danger zone.





## Tips and recommendations



*This symbol highlights useful tips and recommendations, as well as information for efficient and fault-free operation.*

## Other symbols

Instructions, outcomes, lists, references and other elements are highlighted in these instructions by the following symbols:

Symbol	Explanation
	Step-by-step instructions
	Outcomes of instructions
	References to sections of these instructions and to other applicable documents
	List without a specific order
<i>[Button]</i>	Operating element (e.g. button, switch), display element (e.g. indicator lamps)
<i>'Display'</i>	Screen elements (e.g. buttons, function key allocation)

## 2.2 Proper use

The Mega3 / Mega3 X TacoTherm Fresh hot water station is specifically designed for use for heating drinking water using the continuous flow principle. It is designed for use in self-contained heating systems and drinking water systems.

Proper use also includes compliance with all information in these instructions.

Any use extending beyond, or use other than, proper use is considered improper use.

**WARNING!****Danger in the event of improper use!**

Improper use of the fresh water station may result in dangerous situations.

- Never connect the fresh water stations directly to a source of heat (e.g. boiler or solar circuit).
- Never use the fresh water station in one of the following areas:
  - Outdoors
  - Rooms susceptible to moisture
  - Rooms in which the use of electrical units is prohibited
  - Rooms susceptible to frost
- Only operate the fresh water station with a back-flow preventer connected.
- Ensure that the pipes connected are not subject to stress.

## 2.3 Safety equipment

### 2.3.1 Safety equipment installed

#### 2.3.1.1 Main shut off valve

##### Ball valves

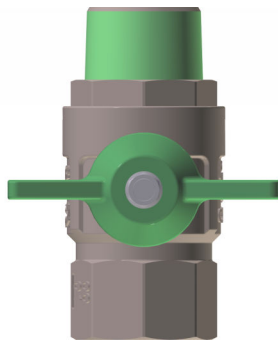


Fig. 2: Ball valve

The ball valves (Fig. 2) are used to shut off the circuits at the connection points. Shut the ball valve in the event of a fault. The ball valve is shut off once the handle is horizontal. If it is not clear which ball valve needs to be shut off, shut off all ball valves.

### Turncocks

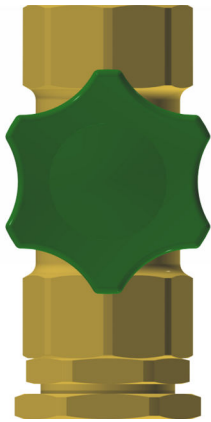


Fig. 3: Turncock

Turncocks (Fig. 3) are used to shut off the circuits at the connection points. In the event of a fault, turn the handle clockwise as far as it will go. If it is not clear which turncock needs to be shut off, shut off all turncocks.

#### 2.3.1.2 Safety DCW valve (Option)

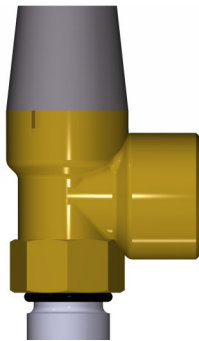


Fig. 4: Safety DCW valve

The safety DCW valve (Fig. 4) depressurises the station in the event of excess pressure on domestic cold/hot water site. The safety valve is calibrated for a pressure of 10 bar and does not need to be set during commissioning.

A pressure relief line must be connected to the safety valve during installation ( § Chapter 5.3.2 'Connecting the pressure relief line to the safety valve' on page 35).

#### 2.3.1.3 Backflow preventer

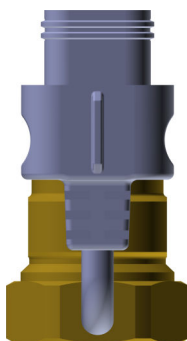


Fig. 5: Backflow preventer

The backflow preventer (Fig. 5) is installed in the screw connection for the pump. The backflow preventer prevents incorrect circulation and is integrated into the pump connections as an insert.

### 2.3.2 Safety equipment to be installed by the operator

#### Station earth

The station is wired ready for connection and equipped with protective earth (PE). If the lines connected are metallic over their full length, then equipotential bonding in accordance with DIN VDE 0100 must be provided on site.

**Fuses for electrical circuit**

The electrical circuit must be equipped with fuses in compliance with local regulations. Furthermore, an electrical fuse exclusively for the unit must be provided. This fuse must be clearly labelled. An easily visible description of the location of the fuse must be affixed to the unit.

**Pressure limits**

The operator must ensure that the pressures permitted in the in-house water system are complied with.

**Pressure relief line**

The station is equipped with a safety valve. The operator must ensure that a pressure relief line is designed and installed in accordance with technical regulations.

**Insulation**

The stations are pre-insulated. During installation at the location of use, ensure that the spacer discs enclosed are used.

## 2.4 Residual risks

The unit is designed to be state-of-the-art and complies with all current safety requirements. However, there are residual risks that make caution necessary when using the unit. The residual risks and the practices and measures they result in are listed in the following.

### 2.4.1 Electric current

#### Electric power

**DANGER!****Danger to life due to electric power!**

There is an immediate risk of fatal electric shock if live components are touched. Damage to the insulation of the individual components can be fatal.

- Have all work on the electrical equipment performed by skilled electricians.
- In the event of damage to the insulation, cut off the power supply immediately and initiate repairs.
- Before working on live components of electrical systems and equipment, de-energise these components and secure them in this state for the duration of the work. Adhere to the following safety rules in this regard:
  - Disconnect.
  - Secure against restart.
  - Verify that components have been de-energised.
  - Ground and short-circuit.
  - Cover or shield any adjacent live components.
- Never bypass or disable any fuses. Comply with the correct amperage specification when replacing fuses.
- Keep moisture away from all live components. This may lead to short circuits.

### 2.4.2 Mechanical dangers

#### Sharp edges and pointed corners

**CAUTION!****Danger of injury posed by sharp edges and pointed corners!**

Sharp edges and pointed corners may cause skin grazes and cuts.

- Proceed with caution when working in the vicinity of sharp edges and pointed corners.
- If in doubt, wear safety gloves.

**Stability (weight)****CAUTION!****Danger of injury due to station falling!**

If the station is not bolted to the wall, the station may fall down and cause bruises to parts of the body or damage to property.

- Bolt the station to the wall.
- As long as the station has not been bolted to the wall, lean it against the wall or place it on its rear.

**2.4.3 High temperatures****Danger of scalding****WARNING!****Danger of scalding when tank temperatures exceed 60 °C!**

When tank temperatures exceed 60 °C, there is a danger of burns on the lines in the station and scalding due to the escape of water.

- Ensure that additional thermal mixer valves are installed at the taps as protection from scalding.
- As soon as the station is operating, wear protective gloves when working on piping and on the heat exchanger.

**Hot surfaces****WARNING!****Danger of injury due to hot surfaces!**

Surfaces on components may become very hot during operation. Contact between the skin and hot surfaces can cause severe burns to the skin.

- When working near hot surfaces, always wear heatproof protective clothing and protective gloves.
- Before starting any work, ensure that all surfaces have cooled down to ambient temperature.

## 2.4.4 Chemical dangers

### Pitting corrosion



#### NOTICE!

##### Damage to metallic pipes and components due to pitting corrosion!

The water quality has an effect on the corrosion properties of the metallic materials installed.

- Observe the technical rules for installations made of mixed materials.
- Observe the corrosion protection for metallic materials in water distribution systems in accordance with EN 12502.
- Observe the guidelines on "Limits of use for TNG heat exchangers" (☞ *Chapter 1.2 'Other applicable documents' on page 8*).

## 2.4.5 Danger due to legionella outbreak

### Proliferation of legionellae



#### WARNING!

##### Proliferation of legionellae due to stagnant water!

If the unit is not used for an extended period, there is a risk of the proliferation of legionellae due to stagnant water.

- Flush drinking water pipes with hot water at a temperature of at least 55 °C when restarting the unit.



*Legionellae are bacteria of which one species is harmful to humans. Legionellae can easily proliferate in pipes with warm, stagnant water. Flushing the pipes with water at a temperature of at least 55 °C kills the legionellae.*

## 2.4.6 Danger of property damage

### Water damage due to leaks



#### NOTICE!

##### Water damage due to leaking pipes!

Leaking pipes can result in water damage due to constant dripping.

- Inspect pipes and bolted connections in accordance with the maintenance plan every year.
- If dripping noises occur, then inspect pipes and bolted connections even if this is not specified by the maintenance plan.

### Damage due to calcination



#### NOTICE!

##### Increased calcination due to poor water quality!

Depending on the composition of the water and the system operating conditions, increased calcination may cause damage to the system.

- Implement measures to increase the corrosion protection and against limescale in accordance with country-specific regulations and standards.
- Carry out drinking water analyses in accordance with country-specific regulations and standards.
- If applicable, install a suitable water softening system in the drinking water inlet line in the building infeed line.

## 2.5 Operator's responsibilities

### Operator

The operator is the person who operates the fresh water station for commercial or economic purposes, or allows a third party to use/employ the system, and who assumes the legal product liability for protecting the user, personnel or third parties during operation.

### Operator responsibilities

The fresh hot water station may be used for commercial purposes. The operator of the fresh hot water station is therefore subject to the legal obligation to ensure occupational safety.

Along with the safety instructions in these instructions, the applicable occupational health and safety regulations and environmental protection regulations, as well as the country-specific drinking water ordinances, must be complied with in the area of use of the fresh hot water station.

The following applies in particular:

- The operator must be informed about the applicable occupational safety regulations and must identify additional dangers resulting from the specific working conditions at the site at which the fresh hot water station is used in a hazard assessment. This must be implemented in the form of operating instructions for operation of the fresh hot water station.
- The operator must check whether the operating instructions created by the operator correspond to the current status of regulations, and modify them, if applicable, over the full term of use of the fresh hot water station.
- The operator must clearly assign and define responsibilities for installation, operation, troubleshooting, maintenance and cleaning.
- The operator must ensure that all persons who work with the fresh hot water station have read and understood these instructions.

Furthermore, the operator is responsible for ensuring the fresh hot water station remains in a technically flawless condition. The following therefore applies:

- The operator must take preventive measures against corrosion, limescale and calcination in accordance with country-specific regulations and standards.
- The operator must ensure drinking water hygiene and the hot water quality in the drinking water circuit in accordance with country-specific regulations and standards.
- The operator must ensure that the maintenance intervals described in these instructions are complied with.
- The operator must have all safety equipment inspected for functionality and completeness in regular intervals.
- The operator must ensure that the electrical circuit is equipped with fuses in compliance with local regulations. Furthermore, an electrical fuse must be provided exclusively for the fresh hot water station. This fuse must be clearly labelled. An easily visible description of the location of the fuse must be affixed to the fresh hot water station.

## 2.6 Personnel requirements

**WARNING!****Danger of injury due to insufficient personnel qualification!**

If unqualified personnel perform work on the unit or are standing in the danger area of the unit, this will result in dangers that can cause injury and property damage.

- All activities may only be performed by personnel qualified for the activities.
- Keep unqualified personnel away from the danger areas.

The personnel qualifications listed in the following are specified for the different areas of activity in these instructions:

**Electrician**

An electrician, due to professional training, knowledge and experience, as well as knowledge of the relevant standards and regulations, is able to perform work on electrical systems and identify and avoid potential dangers of their own accord.

The electrician is trained for the specific work environment in which work is carried out and is familiar with the relevant standards and regulations.

**Heating and sanitary technician**

The heating and sanitary technician is trained and certified for the specific area of activity in which he/she works and is familiar with the applicable standards and regulations.

The heating and sanitary technician is able to perform work on all heating and water heating systems due to his/her professional training and experience, and can identify and avoid potential dangers of his/her own accord.

Furthermore, the technician must provide proof of his/her professional qualification that certifies his/her ability to perform work on heating systems and water heating systems.

The heating and sanitary technician must have read and understood these instructions.

The skills the heating and sanitary technician must demonstrate include:

- Understanding of technical relationships
- Reading and understanding technical drawings and diagrams
- Installation of system components
- Installation and connection of heating pipes
- Performing maintenance work
- Disassembly and repair or replacement of system components when a problem occurs

**Operator**

The operator is the person who operates the unit or allows a third party to use/employ the system and who assumes the legal product liability for protecting the user or third parties during operation.

The operator is also responsible for adhering to the maintenance intervals.

The operator has been trained by manufacturer and sub-contractors in use of the unit and its components, and can identify potential dangers of their own accord and avoid dangerous situations.

**Essential requirements**

Only persons who can be expected to perform their work reliably may be approved as service personnel. Persons with an impaired ability to react, e.g. due to drugs, alcohol or medication, are not approved as service personnel.

Observe the age-related and vocation-specific regulations applicable at the site of use when choosing personnel.

**Unauthorised persons****WARNING!****Danger to life for unauthorised persons due to dangers in the work area!**

Unauthorised persons who do not satisfy the requirements described here are not aware of dangers in the work area. This is why there is a danger of severe injuries or even death for unauthorised persons.

- Keep unauthorised persons away from the danger and work area.
- If in doubt, speak to the persons and instruct them to leave the danger and work area.
- Stop work as long as unauthorised persons are in the danger and work zone.

## 2.7 Personal protective equipment

Personal protective equipment is used to protect persons from compromising their safety and health when working.

Personnel must wear personal protective equipment specifically indicated in the individual sections of these instructions when performing the different tasks on and with the fresh water station.

**Description of the personal protective equipment**

The personal protective equipment is explained in the following:

**Protective gloves**

The heat-resistant gloves are used for protection from hot lines and from crush injuries.

**Protective goggles**

The protective goggles are used to protect the eyes during assembly when working with cutting tools.

**Safety shoes**

Safety shoes protect the feet from crush injuries, falling parts and slipping on slippery surfaces.

## 2.8 Environmental protection

**ENVIRONMENT!****Danger to the environment due to incorrect use of inhibitors in hot water!**

Considerable damage to the environment can occur in the event of incorrect use of hot water with inhibitors, and in particular in the event of disposal.

- Hot water to which inhibitors have been added must not be disposed of in waste water, but rather at a collection point for toxic substances.
- Observe the safety instructions for the inhibitors used.
- If inhibitors are accidentally released into the environment, take suitable measures immediately. If in doubt, inform the responsible local authorities about the damage and ask about suitable measures to take.

## 2.9 Tools and resources

The following tools and resources are required for installation and operation:

**Tools****Adjustable spanner**

The adjustable spanner is used for releasing and tightening bolts.

**Hexagon socket screw key**

The hexagon socket screw key is used for releasing and tightening bolts.

**Spirit level**

The spirit level is used for aligning the unit horizontally and vertically during assembly.

**Resources****Cloth**

The cloth is used for collecting remaining fluids when a pipe section is opened and removed.


**Means of bolting**

Depending on the type of installation and floor conditions, suitable drills, screws and other resources must be chosen.

**Operating instructions for the fresh hot water station**

The operating instructions for the fresh hot water station should be kept in the immediate vicinity of the fresh hot water station, and be readily accessible, at all times.

**Spare parts**

Spare parts (  *Chapter 10 'Spare parts' on page 53*) can be sourced by means of the Taconova Customer Service (for contact data, see p. 3). Only perform the corresponding activity when all spare parts required are available.

### 3 Functional description

#### 3.1 Circuits and connection points in the fresh water station

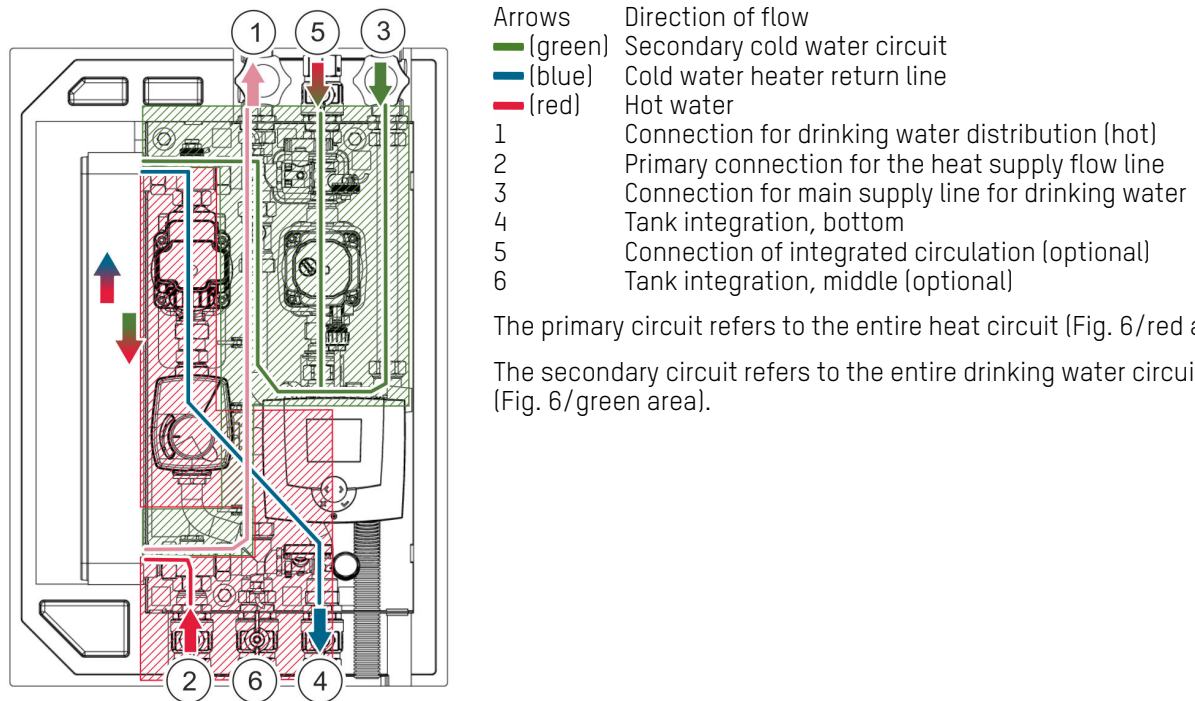


Fig. 6: Schematic overview of the lines

#### 3.2 Functional principle

The fresh hot water station is used for heating drinking water using the continuous flow principle. Depending on the performance class, the fresh water station supplies one unit of a building (e.g. a flat) or one or several buildings.

### 3.3 Components of the fresh water station

#### Position of the components

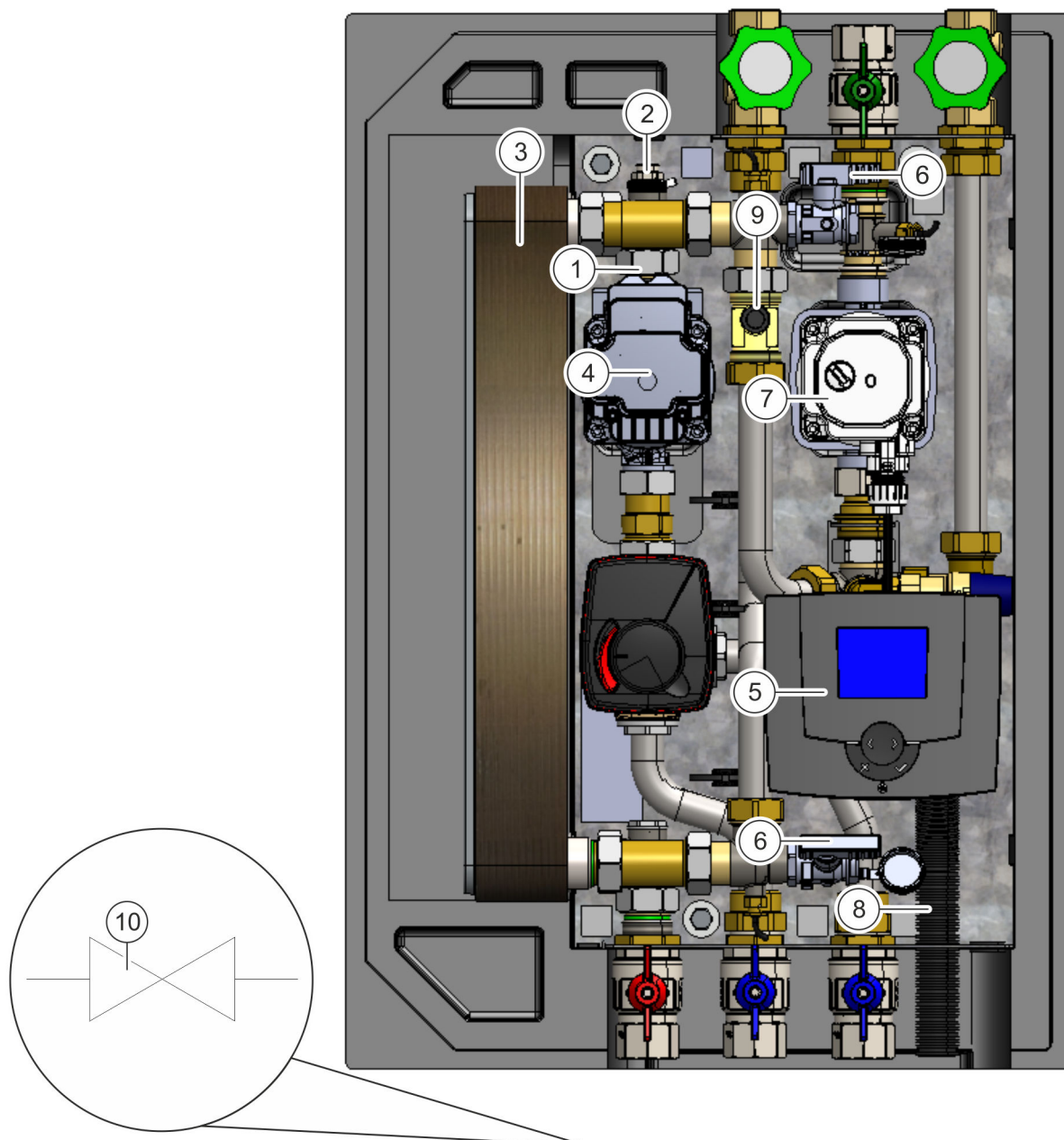


Fig. 7: Position of the components and options

- |   |  |    |  |
|---|--|----|--|
| 1 | Sensor supports ( <a href="#">page 25</a> )          | 6  | 2 fill and drain cocks ( <a href="#">page 27</a> )         |
| 2 | Air bleed valve ( <a href="#">page 26</a> )          | 7  | Option: integrated circulation ( <a href="#">page 28</a> ) |
| 3 | Heat exchanger ( <a href="#">page 27</a> )           | 8  | Safety valve discharge line                                |
| 4 | Primary circulation pump ( <a href="#">page 25</a> ) | 9  | Flow rate sensor ( <a href="#">page 27</a> )               |
| 5 | Controller ( <a href="#">page 25</a> )               | 10 | Option: Cascading ( <a href="#">page 36</a> )              |

### 3.3.1 Heating circuit

#### 3.3.1.1 Circulation pump

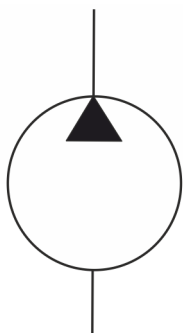


Fig. 8: Circulation pump

The circulation pump (Fig. 8) pumps the hot water between the buffer tank connected and the heat exchanger integrated in the fresh hot water station at the required flow rate.

The delivery rate of the pump is controlled in accordance with the required domestic hot water temperature.

The circulation pump must be set in accordance with the separate instructions upon commissioning ( *Chapter 1.2 'Other applicable documents' on page 8* ).

#### 3.3.1.2 Electric controller

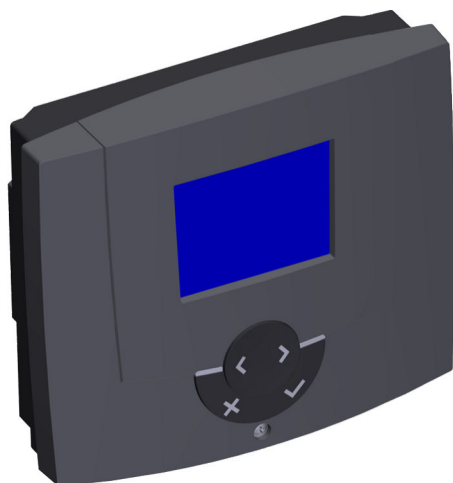


Fig. 9: Controller

The controller regulates the temperature of the hot water.

The controller must be set in accordance with the separate instructions upon commissioning. The documentation for the controller can be found in the Download Center ([www.taconova.com](http://www.taconova.com)).

#### 3.3.1.3 Temperature sensor

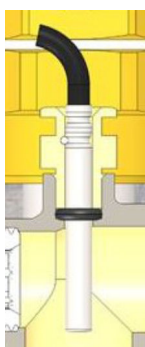
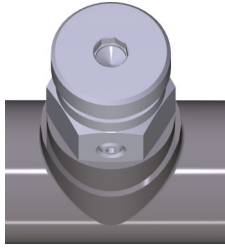


Fig. 10: Temperature sensor

The temperature sensors (Fig. 10) are used to monitor different temperature levels.

Information about setting the target temperatures can be found in the controller instructions ( *Chapter 1.2 'Other applicable documents' on page 8* ).

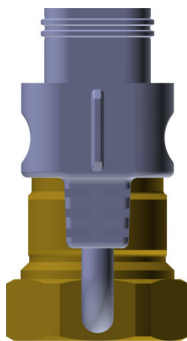
#### 3.3.1.4 Air bleed valve



*Fig. 11: Air bleed valve for hot water*

The air bleed valve (Fig. 11) is used for bleeding and ventilation when filling or draining the station and the pipe networks connected.

#### 3.3.1.5 Backflow preventer

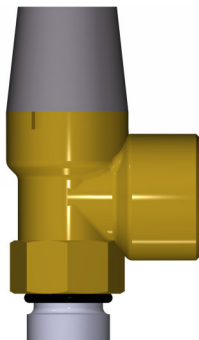


*Fig. 12: Backflow preventer*

The backflow preventer (Fig. 12) is installed in the screw connection for the pump. The backflow preventer prevents incorrect circulation and is integrated into the pump connections as an insert.

### 3.3.2 Secondary circuit

#### 3.3.2.1 Safety DCW valve (Option)



*Fig. 13: Safety DCW valve*

The safety DCW valve (Fig. 13) depressurises the station in the event of excess pressure on domestic cold/hot water site. The safety valve is calibrated for a pressure of 10 bar and does not need to be set during commissioning.

A pressure relief line must be connected to the safety valve during installation ( [↪ Chapter 5.3.2 'Connecting the pressure relief line to the safety valve' on page 35](#)).

### 3.3.2.2 Flow rate sensor



Fig. 14: Flow rate sensor

The flow rate sensor (Fig. 14) measures the flow rate, ensuring a constant flow rate can be set in the control system for the taps, regardless of the pressure.

The flow rate sensor is already connected and set ex-works.

### 3.3.2.3 Secondary circuit fill and drain cocks

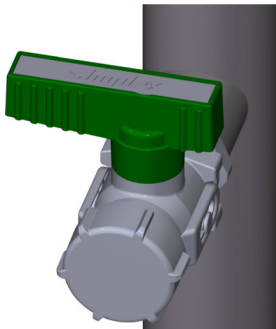


Fig. 15: Fill and drain cocks

The fill and drain cocks (Fig. 15) are used for filling and draining the corresponding pipe sections.

### 3.3.3 Heat exchanger

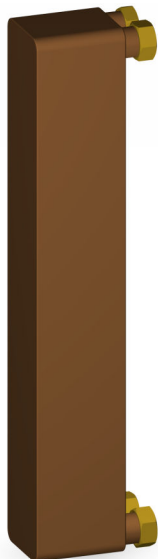


Fig. 16: Heat exchanger

Heat is exchanged between the primary and secondary circuits using the heat exchanger (Fig. 16). A copper brazed heat exchanger is used in the standard version. The copper brazed heat exchanger can be replaced with a stainless steel brazed heat exchanger if the water quality requires. Depending on the design, the primary temperature must be at least 3 °C higher than the domestic hot water temperature.



*For information about the heat exchanger that is suitable, see the data sheet "Drinking water thresholds and material used for the plate heat exchanger" in the Download Center ([www.taconova.com](http://www.taconova.com)).*

### 3.3.4 Options

#### 3.3.4.1 Cascading

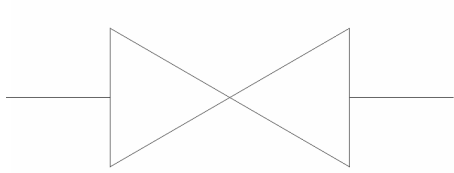


Fig. 17: Zone valve symbol

The fresh water station can be cascaded. Cascading is used to provide drinking water is prepared at peak loads, and to ensure the operational safety of the drinking water supply. This allows the fresh water station to be used in large drinking water systems.

The hydraulic interconnections possible for cascading and the corresponding position of the zone valves can be found in the hydraulic diagram in the annex.

The controller must be connected, and the parameters set, in accordance with the controller instructions.

#### 3.3.4.2 Integrated circulation

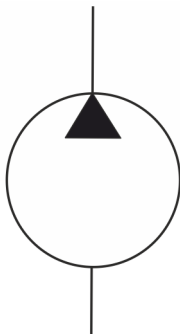


Fig. 18: Integrated circulation

The integrated circulation (Fig. 18) is used for domestic hot water lines that are long. The domestic hot water circulates continuously and shortens the time taken to discharge heated drinking water at the tap. This allows differences in temperature in the drinking water network connected to be avoided.



Observe the country-specific drinking water guidelines.

#### 3.3.4.3 Two-zone stratifier

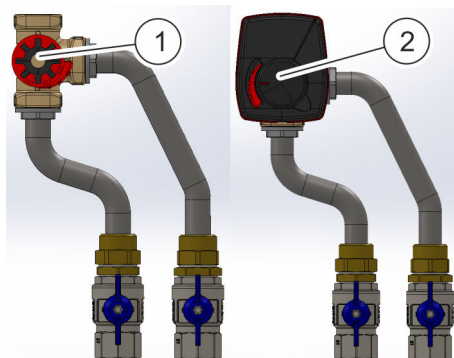


Fig. 19: Two-zone stratifier

The two-zone stratifier is comprised of a switch valve (Fig. 19/1), a drive motor (Fig. 19/2) and a return line sensor, which is affixed to the heat supply return line, as well as a tank sensor, which needs to be affixed on the buffer tank during installation.

The two-zone stratifier layers the hot water returning at different heights in the buffer tank according to temperature. The set point for the switchover temperature can be set on the controller.

## 4 Transport and storage

### 4.1 Safety during transport

Danger due to heavy packages



#### CAUTION!

##### **Danger of crushing due to falling loads!**

There is a danger of parts of the body being crushed if the fresh water station falls down.

- Wear safety shoes and protective gloves.
- Ensure that the fresh water station remains correctly attached to transport aids during transport.
- Ensure that the transport route is free of persons and obstacles.

Improper transport



#### NOTICE!

##### **Property damage due to improper transport**

Packages may fall, or be overturned, in the event of improper transport. This may cause considerable property damage.

- When unloading the packages upon delivery, and during transport within the company, proceed with caution and observe the symbols and instructions on the packaging.
- Use suitable lifting and transport devices, such as a hand truck or forklift truck and fasten the package in place properly.
- Only remove packaging shortly before installation.

### 4.2 Transporting the fresh water station

Inspection for transport damage

Inspect the fresh water station for completeness and any transport damage immediately upon receipt.

If there is any transport damage visible, proceed as follows:

- Do not accept the delivery, or only conditionally.
- Make a note of the extent of the damage on the transport documents or on the delivery note issued by the transport company.
- Make a claim.



*Claim each defect as soon as it has been identified. Claims for compensation can only be asserted within the applicable claim periods.*

**Transporting the fresh hot water station**

- Personnel: ■ Heating and sanitary technician
- Protective equipment: ■ Protective gloves  
■ Safety shoes

➞ Transport the package to the installation location.

**4.3 Unpacking the fresh water station**

- Personnel: ■ Heating and sanitary technician

Prerequisite:

- The fresh hot water station is at the installation location.

1. ➞ Lift the fresh hot water station out of the packaging with a second person helping you.
2. ➞ Keep the packaging for any further transport of the fresh hot water station.

**4.4 Storing the fresh water station**

*If the fresh hot water station is placed in storage prior to installation, comply with the following conditions:*

- *Store the fresh hot water station in the original packaging.*
- *Store the fresh hot water station in a dry, dust-free and frost-free room.*

## 5 Assembly and installation

### 5.1 Installation on brickwork

#### Falling fresh hot water station



#### CAUTION!

**Danger of injury due to a falling fresh hot water station!**

If the load bearing capacity of the installation location or the parts used for bolting it in place are not dimensioned for the weight of the fresh hot water station, this will result a danger of crush injuries and danger of property damage due to the fresh water station falling down.

- Ensure that the wall has a sufficient load bearing capacity. If necessary, consult a structural engineer.
- Ensure that the parts used for bolting the station in place are dimensioned for the weight of the fresh hot water station.
- Observe the information on weight in the *Chapter 14 'Technical data' on page 59.*

#### Requirements for the installation location and water quality

##### Requirements of the installation location:

- The room must be dry and frost-free.
- The installation location must satisfy protection class IP30.
- The installation location must be designed for the dimensions of the fresh hot water station. The dimensions can be found in chapter *Chapter 14 'Technical data' on page 59.*
- The fresh hot water station must be connected to a mains voltage of 230 VAC  $\pm$  10% with a grid frequency of 50–60 Hz.

##### Requirements of the water quality:

- Minimise corrosion and limescale in accordance with country-specific regulations and standards.
- Carry out drinking water analyses in accordance with country-specific regulations and standards.
- If applicable, install suitable water filters in the drinking water supply line in the building infeed line.

Personnel:	■ Heating and sanitary technician
Protective equipment:	■ Protective goggles
Tool:	■ Spirit level
Material:	■ Means of bolting

1. ➤ The fresh hot water station must be lifted to the installation location by two persons.
2. ➤ Hold the fresh hot water station in position at the installation location and use a spirit level to ensure that the fresh hot water station is aligned horizontally and vertically.
3. ➤ Mark the position on the wall.

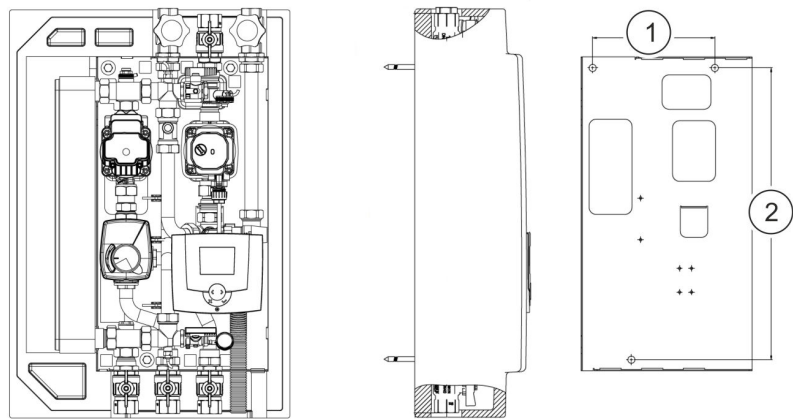



Fig. 20: Gauge for holes

- 1 205 mm
- 2 490 mm

#### Bolting the fresh hot water station in place

4. ➤ Mark the drill holes (Fig. 20/1 + 2) on the wall.

5. ➤ 



**CAUTION!**  
Danger of injury due to airborne swarf or dust!



*Choose the drill and type of bolt in accordance with the wall material.*

*Use the spacer plates provided between the wall and fresh hot water station.*

Wear protective goggles and bolt the fresh hot water station to the wall.

#### Fitting the cover

- Put the cover on.

## 5.2 Prerequisites for installation

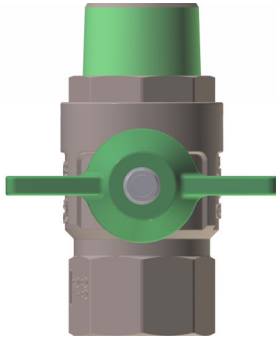


Fig. 21: Main shut off valve closed

The following items must be checked and ensured before connecting the fresh water station:

- The water quality has been tested and suitable measures were taken as necessary.
- The inlet lines have been routed to the installation location of the fresh water station in accordance with the project planning documents.
- The inlet lines are fitted with suitable transition pieces for installing the ball valves (data sheet: [Chapter 1.2 'Other applicable documents' on page 8](#)).
- The inlet lines have been flushed properly, and have been tested for leak-tightness.
- The inlet lines have been properly insulated.
- The lines to the taps have been shut off.
- The drinking water infeed (cold) has been shut off.
- The fresh water station was installed and soundproofed in accordance with [Chapter 5.1 'Installation on brickwork' on page 31](#).
- The fresh water station is not subject to stress.
- The main shut off valves (Fig. 21) are closed.

### Excess network pressure



#### NOTICE!

#### Damage to property due to excessive network pressure!

If the network pressure in the fresh hot water station is higher than the maximum operating pressure (primary and secondary) of 10 bar, then there is a danger of property damage due to leaking pipes.

- Install and set pressure reducers in the central water connection in the building in accordance with the country-specific regulations and standards, e.g. EN 12828.
- Ensure the network pressure is 1.5 bar less than the blow off pressure of the safety valve.
- Connect the pressure relief line to the safety valve ([Chapter 5.3.2 'Connecting the pressure relief line to the safety valve' on page 35](#)).

### Connecting the domestic hot water module provisionally



*If the lines are not ready, the domestic hot water module can be filled using provisional lines by means of the fill and drain cocks ([Chapter 7.1 'Filling the fresh water station and checking for leak-tightness' on page 38](#)).*

## 5.3 Connecting pipes

### 5.3.1 Connecting lines

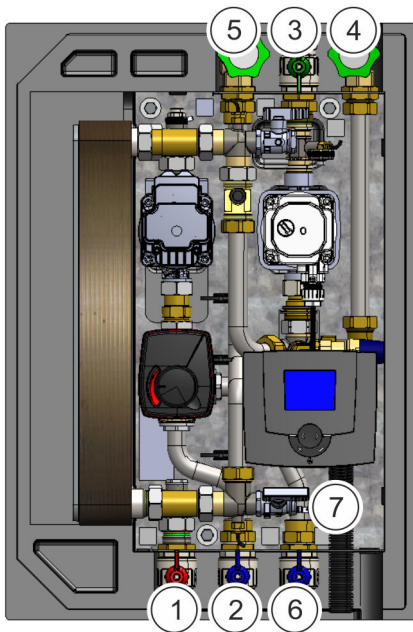
#### Connecting lines

Personnel: ■ Heating and sanitary technician

Tool: ■ Adjustable spanner

Prerequisite:

- The fresh hot water station has been prepared in accordance with Fig. 22.



1. ➤ Connect the main supply line for drinking water to the connection for the main supply line for drinking water (Fig. 22/4).
2. ➤ Connect the hot water line to the connection for drinking water distribution (hot) (Fig. 22/5).
3. ➤ Connect the main supply line for the heater flow line to the primary connection for the heat supply flow line (Fig. 22/1).
4. ➤ Connect the main supply line for the heater return line to the tank integration in the middle (optional) (Fig. 22/2).
5. ➤ If installed, connect the circulation line to the connection for integrated circulation (Fig. 22/3).

Fig. 22: Connecting cocks

- 1 Primary connection for the heat supply flow line
- 2 Tank integration, middle (optional)
- 3 Connection of integrated circulation (optional)
- 4 Connection for main supply line for drinking water
- 5 Connection for drinking water distribution (hot)
- 6 Tank integration, bottom
- 7 Safety valve discharge line

#### Tightening bolted connections

6. ➤ To avoid subjecting the pipes to excessive tension, hold the pipes in place and tighten the bolted connections using an adjustable spanner.
  - ⇒ The lines are connected.
7. ➤ Seal all connections in the ball valve.
8. ➤ Check the bolted connection for leak-tightness and, if necessary, re-tighten using the adjustable spanner.

### 5.3.2 Connecting the pressure relief line to the safety valve

Personnel: ■ Heating and sanitary technician

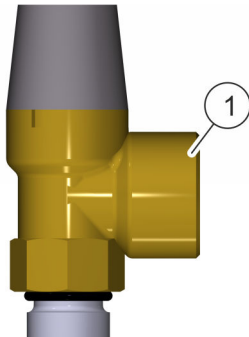


Fig. 23: Connecting the pressure relief line



*The fresh hot water station features a discharge line that leads from the safety valve to the lower edge of the station.*

Guide a pressure relief line to the discharge line of the safety valve (Fig. 23/1) and connect it.

In this regard, observe the country-specific regulations and standards, e.g. EN 12828.

## 5.4 Electrical installation

### 5.4.1 Connecting the fresh water station to earth

Personnel: ■ Electrician



*If plastic pipes are used, connect the fresh hot water station to earth at the base plate as well. Observe the country-specific regulations when doing so.*

The station is wired ready for connection and equipped with protective earth (PE). If the lines connected are metallic over their full length, then provide on-site equipotential bonding in accordance with DIN VDE 0100 Part 410.

### 5.4.2 Connecting the fresh water station to the power supply



#### **DANGER!**

#### **Danger due to electric current!**

When working with power cables, there is an immediate danger of severe, or even fatal, injury due to electric current.

- Ensure that the cable is not live when performing installation work.
- Only have work on electric cables performed by an electrician.
- Never connect voltage to open cables.
- Before connecting the cable to voltage, ensure that no persons are near electric cables.



*The station is wired ready for connection.*

Personnel: ■ Electrician

1. ➤ Ensure that there is a junction box and it is protected from short circuit by means of a residual current device.
2. ➤ Plug the connector plug for the station into the socket provided.

## 5.5 Connecting optional equipment

### 5.5.1 Installing the sensor in the tank for two-zone stratification

Personnel: ■ Heating and sanitary technician

1. ➤ Connect the sensor to the buffer tank (middle).
2. ➤ Connect the sensor to the controller for the fresh hot water station in accordance with the instructions for the controller ( ➤ *Chapter 1.2 'Other applicable documents' on page 8*).

### 5.5.2 Connecting cascading

Personnel: ■ Heating and sanitary technician

Prerequisite:

- Cascading and the zone valves have been installed in accordance with the hydraulic diagram.
- Connect the zone valves for cascading in accordance with the instructions for the controller.

## 6 Shutting down in an emergency

Personnel: ■ Operator  
■ Heating and sanitary technician

In the event of an emergency, proceed as follows:

1. ➔ Close all main shut off valves (Fig. 24) on the fresh hot water station.

⇒ The flow and return lines are blocked.

Water can no longer flow into or out of the fresh hot water station.

Only the water remaining in the pipes can flow out at the taps.

2. ➔ Have a heating and sanitary technician fix the fault.
3. ➔ Inspect the fresh hot water station before restarting it and ensure that all components are correctly installed and are functional.

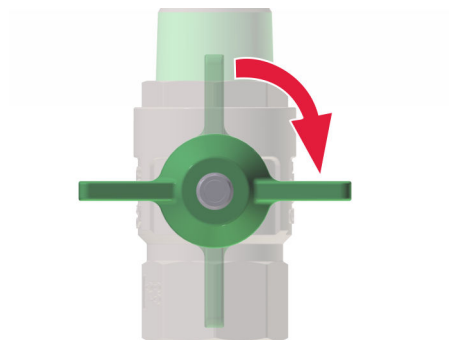


Fig. 24: Close the main shut off valves

## 7 Commissioning

### 7.1 Filling the fresh water station and checking for leak-tightness

#### Danger of scalding

**WARNING!**

**Danger of scalding when tank temperatures exceed 60 °C!**

When tank temperatures exceed 60 °C, there is a danger of burns on the lines in the station and scalding due to the escape of water.

- Ensure that additional thermal mixer valves are installed at the taps as protection from scalding.
- As soon as the station is operating, wear protective gloves when working on piping and on the heat exchanger.

#### Damage due to calcination

**NOTICE!**

**Increased calcination due to poor water quality!**

Depending on the composition of the water and the system operating conditions, increased calcination may cause damage to the system.

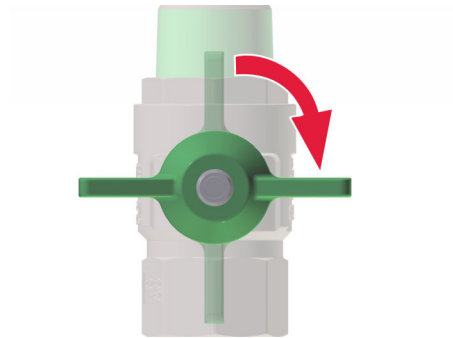
- Implement measures to increase the corrosion protection and against limescale in accordance with country-specific regulations and standards.
- Carry out drinking water analyses in accordance with country-specific regulations and standards.
- If applicable, install a suitable water softening system in the drinking water supply line in the building infeed line.
- Ensure that all main shut off valves and fill and drain cocks have been closed.

Personnel: ■ Heating and sanitary technician

Prerequisites:

- The fresh hot water station has been installed and connected in accordance with *Chapter 5 'Assembly and installation' on page 31.*
- The water quality has been tested and has been found to be good.

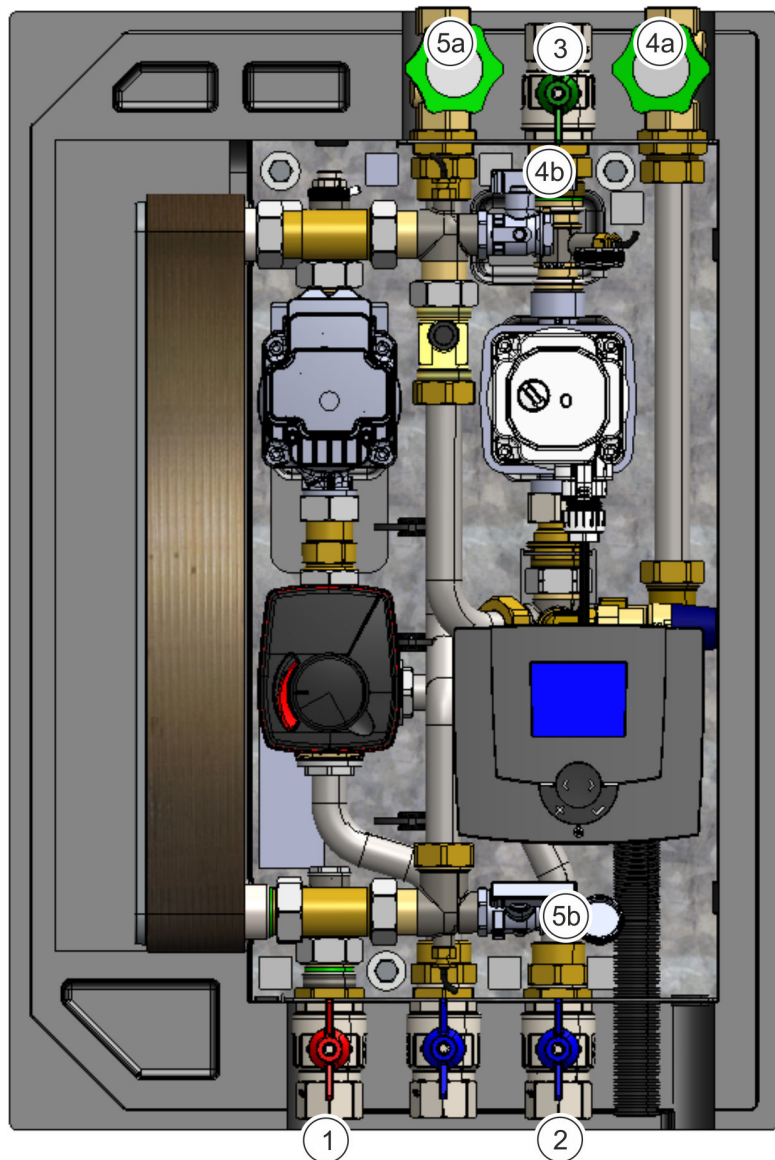
#### Preparing for filling



*Fig. 25: Closing the main shut off valve*

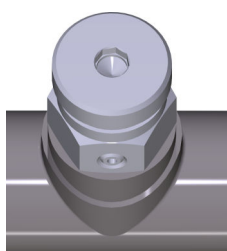
#### Filling the secondary circuit

1. ➔ Ensure that all main shut off valves (Fig. 25) and fill and drain cocks have been closed.
2. ➔ If the fresh hot water station is filled using the fill and drain cocks, connect the provisional supply lines.
3. ➔ Check all bolted connections for a tight fit, and if necessary, tighten them.
4. ➔ To fill the fresh hot water station, turn on the main supply line for drinking water outside the fresh hot water station.



*Fig. 26: Filling the fresh hot water station*

5. ➤ Slowly open the connection for the main supply line for drinking water (Fig. 26/4a or 4b).  
⇒ The secondary circuit fills up.
6. ➤ Open the connection for drinking water distribution (hot) (Fig. 26/5a or 5b).
7. ➤ If installed and already connected, open the connection for integrated circulation (Fig. 26/3).
8. ➤ In order to flush and bleed the lines, open the tap point furthest away.  
⇒ The drinking water system (hot) is filled, flushed and bled.

**Filling the primary circuit**

*Fig. 27: Air bleed valve for hot water*

**Checking bolted connections for leak-tightness****Setting the fresh hot water station**

9. ➤

**WARNING!**

**Risk of burns due to hot pipes!**

Slowly open the primary connection for the heat supply flow line (Fig. 26/1).

⇒ The primary circuit fills up.

10. ➤

Open the primary connection for the heat supply return line (Fig. 26/2).

11. ➤

If installed and already connected, open the connection for the two-zone stratifier line.

12. ➤

To bleed the primary circuit, open the air bleed valve (Fig. 27).

⇒ The primary circuit is filled and bled.

13. ➤

Check all bolted connections for leak-tightness.

14. ➤

Start up the controller in accordance with the instructions for the controller.

15. ➤

Set the parameters for the fresh hot water station in accordance with the instructions for the controller.

## 7.2 Handing over the fresh water station to the operator

Personnel:	■ Operator
	■ Heating and sanitary technician
Material:	■ Operating instructions for the fresh hot water station



*These operating instructions for the fresh hot water station and the other applicable documents should be kept in the immediate vicinity of the fresh hot water station.*

1. ➤ Hand over the operating instructions for the fresh hot water station to the operator.
2. ➤ Copy the parameters set into a separate commissioning report ( ↗ Appendix A 'Commissioning report' on page 66).
3. ➤ Instruct the operator on how the fresh hot water station functions, and its individual components.
4. ➤ Instruct the operator about the regulation and setting options.
5. ➤ Make the operator aware that the fresh hot water station cannot function correctly when the controller is not correctly set. Point out that only one heating technician should set the parameters for the fresh hot water station.
6. ➤ Point out the yearly maintenance intervals to the operator.

## 8 Cleaning and maintenance

### 8.1 Safety during maintenance

#### Securing against a restart

**WARNING!****Danger to life due to unauthorised restart!**

An unauthorised restart of the power supply during maintenance presents a danger of severe injuries or even death for persons in the danger zone.

- Before starting any work, shut off all power supplies and secure them against a restart.

#### Hot lines

**WARNING!****Danger of burns due to hot lines!**

There is a danger of being burned on the lines when working on the fresh water station.

- As soon as the fresh water station is operating, wear protective gloves when working on the fresh water station.
- Ensure that the ball valves of the hot water lines are closed when performing work on the fresh water station.
- Proceed with caution when working on the fresh water station.

### Improperly performed maintenance work



#### **WARNING!**

#### **Danger of injury due to improperly performed maintenance work!**

Improperly performed maintenance can result in severe injury and significant property damage.

- Ensure freedom of movement before starting work.
- Ensure the assembly site is tidy and clean! Loosely stacked components and tools, or those left lying around, are a cause of accidents.
- If components were removed, ensure they are installed correctly, refit all fastening elements and adhere to any screw tightening torques.
- Observe the following before restarting:
  - Ensure that all maintenance work is performed and completed in accordance with the specifications and notes in these operating instructions.
  - Ensure that there are no persons in the danger zone.
  - Ensure that all covers and safety equipment are installed and that they function properly.

## 8.2 Overview of maintenance work

The following sections describe the maintenance work that is necessary to ensure optimal and fault-free operation of the fresh hot water station.



*Observe the documentation for the pumps when performing pump maintenance.*

*Observe the documentation for the controller/pumps when performing sensor box and adjuster maintenance.*

*☞ Chapter 1.2 'Other applicable documents' on page 8*

If increased wear is identified during regular inspections, shorten the required maintenance intervals to correspond to the actual signs of wear. If you have any questions about maintenance work and intervals, contact the Taconova Customer Service (for contact data, see p. 3).

Interval	Maintenance work	Personnel
Every year	Clean the fresh hot water station ( § Chapter 8.3.1 'Cleaning the fresh water station' on page 45).	Operator
	Check the piping and bolted connections in the fresh hot water station for leak-tightness. If you are unsure, consult a heating technician.  If there is a leak at any point, replace the bolted connection/seal or pipe at this point ( § Chapter 8.3.2 'Replacing a bolted connection or pipe' on page 46).	Operator Heating and sanitary technician
	Check whether all main shut off valves can be closed and opened. To do so, close each cock once and open it again.  If you are unsure, consult a heating technician.	Operator
	Check the cabling in the main junction box, the connection module and the plug-in connectors for correct fit.	Electrician
	Check the water quality.	Heating and sanitary technician
	Check the wall fasteners and the housing of the fresh hot water station.	Operator Heating and sanitary technician

## 8.3 Maintenance work

### 8.3.1 Cleaning the fresh water station



#### NOTICE!

#### Property damage due to incorrect cleaning agents!

Aggressive cleaning agents can damage pipes, bolted connections, the controller or other components of the fresh hot water station.

- Do not use any aggressive cleaning agents.

Personnel: ■ Operator

Protective equipment: ■ Protective gloves

1. ➞ Clean the station using a moist cloth.

2. ➞



#### WARNING!

Risk of burns due to hot pipes!

3. ➞ Wait until the pipes and bolted connections have cooled down.

4. ➞ Clean pipes and bolted connections using a moist cloth or a brush, and remove any dust.

### 8.3.2 Replacing a bolted connection or pipe

Personnel:	■ Heating and sanitary technician
Protective equipment:	■ Protective gloves
Tool:	■ Adjustable spanner
Material:	■ Spare parts
	■ Cloth

#### Prerequisites:

- The leak has been pinpointed.
- Replacement material is available ( ↪ Chapter 10 'Spare parts' on page 53).

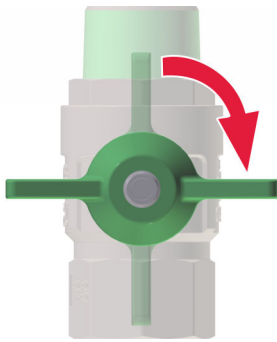


Fig. 28: Main shut off valve closed

1. ➤



Observe the flow chart ( ↪ Chapter 3.1 'Circuits and connection points in the fresh water station' on page 23).

Close the main shut off valve (Fig. 28) for the supply line to the leak location to ensure no water can flow through the leak.

If pipes or bolted connections in the main supply line are leaky, close the main supply lines.

2. ➤



#### WARNING!

Risk of burns due to hot pipes!

If the pipe section is one through which hot water flows, wait until the pipe section has cooled down.

3. ➤

Loosen and remove the bolted connection at the leak using an adjustable spanner.

4. ➤

Collect the remaining water using a cloth.

5. ➤

Insert the new pipe or new bolted connection.

6. ➤

Ensure that O-ring seals are available.

7. ➤

Tighten the new pipe or new bolted connection using an adjustable spanner.

8. ➤

Open the corresponding ball valve.

9. ➤

Check the spare part for leak-tightness.

⇒ The leak has been repaired.

## 9 Faults

### 9.1 Safety when repairing faults

Improperly performed work when repairing faults



**WARNING!**

**Danger of injury due to improperly performed fault repair!**

Improperly performed work when repairing faults can result in severe injury and significant property damage.

- Only repair faults that require action once it has been ensured that the fresh water station has been shut down and secured against a restart.
- If you have any doubts, consult the Taconova Customer Service (for contact data, see p. 3).
- Observe the following before restarting:
  - Ensure that all fault repair work is performed and completed in accordance with the specifications and notes in these instructions.
  - Ensure that there are no persons in the danger zone.
  - Ensure that all covers and safety equipment are installed and that they function properly.

Securing against a restart



**WARNING!**

**Danger to life due to unauthorised restart!**

An unauthorised restart of the power supply during maintenance presents a danger of severe injuries or even death for persons in the danger zone.

- Before starting any work, shut off all power supplies and secure them against a restart.

## 9.2 Fault repair

Fault description	Cause	Remedy	Personnel
No hot water at the taps.	Sensor box defective or power supply disconnected.	Check the power supply ( § Chapter 1.2 'Other applicable documents' on page 8).	Heating and sanitary technician Electrician
	Ball valves are closed.	Open the ball valves.	Operator
	The primary energy supply is not ensured.	Check the buffer tank temperature and primary flow line temperature.  If there is no hot water, check the function of the external heat supply.	Operator
	Heat exchanger defective.	Replace the heat exchanger ( § Chapter 9.3.1 'Replacing the heat exchanger' on page 49).	Heating and sanitary technician
	Primary circulation pump defective.	Replace the primary circulation pump ( § Chapter 9.3.2 'Replacing the pump' on page 50).	Heating and sanitary technician
	Backflow preventer defective.	Replace the backflow preventer ( § Chapter 9.3.3 'Replacing the back-flow preventer' on page 51).	Heating and sanitary technician
The hot water only emerges from the taps after a long delay.	If integrated circulation is installed, then the integrated circulation is defective.	Replace the circulation pump ( § Chapter 9.3.2 'Replacing the pump' on page 50).	Heating and sanitary technician
Insufficient hot water at peak times.	Temperature sensor or flow rate sensor defective.	Replace the temperature sensor or flow rate sensor ( § Chapter 9.3.4 'Replacing the temperature sensor' on page 52).	Heating and sanitary technician
	If stations are installed in a cascade: Zone valve defective.	Replace the zone valve in accordance with the manufacturer's documentation ( § Chapter 1.2 'Other applicable documents' on page 8).	Heating and sanitary technician
Black water at the taps.	Heat exchanger defective.	Replace the heat exchanger ( § Chapter 9.3.1 'Replacing the heat exchanger' on page 49).  Check the water quality.	Heating and sanitary technician
Insufficient water pressure at the taps.	Calcination of the outlet valve or drinking water connection pressure too low.	Clean the aerator at the outlet valve, or check the connection pressure in the building.	Operator
	Calcination of the pipes in the fresh hot water station or in the entire pipe system.	Check the water quality.	Heating and sanitary technician

Fault description	Cause	Remedy	Personnel
Stations with two-zone stratifier: Excessive tank return flow stratification.	Incorrect parameters set for the pump adjuster.	Set the parameters for the sensor box and pumps in accordance with the controller instructions. ( <i>Chapter 1.2 'Other applicable documents' on page 8</i> )	Heating and sanitary technician
	Tank sensor or return line sensor defective.	Replace the tank sensor or return line sensor.	Heating and sanitary technician
	Drive motor for the two-zone stratifier defective.	Replace the drive motor in accordance with the manufacturer's documentation.	Heating and sanitary technician
Safety valve blows off.	Safety valve defective.	Check the network pressure and, if necessary, replace the safety valve.	Heating and sanitary technician

## 9.3 Fault repair work

### 9.3.1 Replacing the heat exchanger

Personnel: ■ Heating and sanitary technician

Tool: ■ Adjustable spanner  
■ Hexagon socket screw key

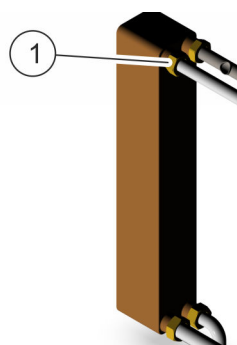


Fig. 29: Releasing bolted connections

1. ➤ Shut down the fresh hot water station for a short period ( *Chapter 11.1 'Shutting down the fresh water station for a short period (<24 h)' on page 54* ).
2. ➤ Drain the fresh hot water station ( *Chapter 11.3 'Draining the fresh water station' on page 55* ).
3. ➤ To release the heat exchanger, use an adjustable spanner to release the 4 bolted connections (Fig. 29/1).

4. ➤



*The red marking on the heat exchanger indicates how the heat exchanger should be positioned.*

Observe the position of the red marking and remove the old heat exchanger.

5. ➤ Install the new heat exchanger so that the red marking is in the same position again.
6. ➤ To bolt the new heat exchanger in place, tighten the 4 bolted connections (Fig. 29/1).
7. ➤ Using a hexagon socket screw key to tighten all pipe fasteners that were released.
8. ➤ Restart the fresh hot water station ( *Chapter 7 'Commissioning' on page 38* ).

### 9.3.2 Replacing the pump

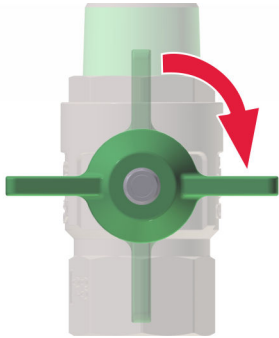




Fig. 30: Main shut off valve closed







- |                       |                                   |
|-----------------------|-----------------------------------|
| Personnel:            | ■ Heating and sanitary technician |
| Protective equipment: | ■ Protective gloves               |
| Tool:                 | ■ Adjustable spanner              |
| Material:             | ■ Spare parts                     |
|                       | ■ Cloth                           |

1.  *Observe the flow chart ( & Chapter 3.1 'Circuits and connection points in the fresh water station' on page 23).*

Close the main shut off valve (Fig. 30) for the supply line to the pump to ensure no water can flow through the pump.

2.  **WARNING!**  
**Risk of burns due to hot pipes!**

If the pipe section is one through which hot water flows, wait until the pipe section has cooled down.

3.  Release the bolted connection for the pump using an adjustable spanner, and lift the pump off.
4.  Collect the remaining water using a cloth.
5.  Install the new pump.
6.  Ensure that O-ring seals are available.
7.  Tighten the bolted connections using an adjustable spanner.
8.  Set the pump in accordance with the controller instructions for the station ( & Chapter 1.2 'Other applicable documents' on page 8).

### 9.3.3 Replacing the backflow preventer

Personnel:	■ Heating and sanitary technician
Protective equipment:	■ Protective gloves
Tool:	■ Adjustable spanner
Material:	■ Spare parts
	■ Cloth

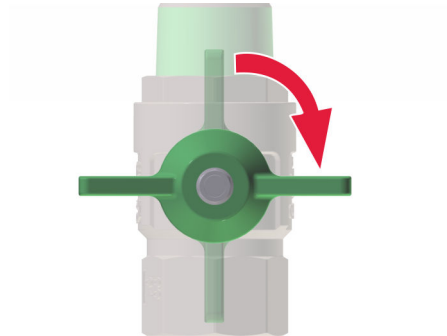


Fig. 31: Main shut off valve closed

1. ➔



*Observe the flow chart ( & Chapter 3.1 'Circuits and connection points in the fresh water station' on page 23).*

Close the main shut off valve (Fig. 31) for the supply line to the backflow preventer to ensure no water can flow through the backflow preventer.

2. ➔



**WARNING!**  
**Risk of burns due to hot pipes!**

If the pipe section is one through which hot water flows, wait until the pipe section has cooled down.

3. ➔

Release the bolted connection for the backflow preventer using an adjustable spanner, and place the backflow preventer to one side.

4. ➔

Collect the remaining water using a cloth.

5. ➔

Install a new backflow preventer.

6. ➔

Ensure that O-ring seals are available.

7. ➔

Tighten the new backflow preventer using an adjustable spanner.

### 9.3.4 Replacing the temperature sensor

Personnel: ■ Heating and sanitary technician

1. ➤ Shut down the fresh hot water station for a short period ( ➤ *Chapter 4.4 'Storing the fresh water station' on page 30*).
2. ➤ Wait until the pipes have cooled down.
3. ➤ To remove the temperature sensor (Fig. 32), release the M10 bolt.
4. ➤ Remove the bolted connection with the temperature sensor.
5. ➤ Secure the new temperature sensor against slipping out using an M10 bolt.
6. ➤ Restart the fresh hot water station ( ➤ *Chapter 7 'Commissioning' on page 38*).

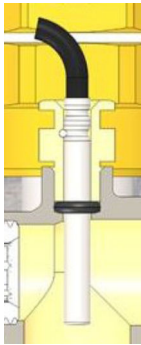


Fig. 32: Releasing the temperature sensor

## 10 Spare parts

### 10.1 Ordering spare parts

Please specify the following when ordering spare parts:

- Unit number (indicated on the type plate)
- Year of manufacture (indicated on the type plate)
- Designation of the spare part
- Order number for the spare part
- Quantity
- Preferred form of delivery (post, freight, shipment, airmail, express)
- Shipping address

### 10.2 Spare parts list

Tab. 2: Fresh hot water station

Order number		Designation
Mega3 (-/C/CL)	Mega3 X (-/C/CL)	
298.5058.000		GBE 240H-26 (CU LOT) plate heat exchanger
	298.5139.000	GBE 240H-40 (CU LOT) plate heat exchanger
298.7009.000		26 plate (VA LOT) plate heat exchanger
	298.5139.125	40 plate (VA LOT) plate heat exchanger
298.5011.000		TacoFlow3 GenS 15-80/130 C6 DS P circulation pump
	298.5012.000	Wilo Para G 25-130 IPWM1 circulation pump
298.5013.000		TacoFlow2 PURE C 15-40/130 C6 circulation pump
298.5137.000		OV20/DN20 backflow preventer, spec. oil pressure
298.5069.000		OV25/DN25 backflow preventer to circulation pumps
	298.5145.000	OV32/DN32-HT backflow preventer, spec. oil pressure
298.5142.000		Screw-in sensor M10x1 – 1.5 m to fitting, cpl.
298.5143.000		VTY 20 flow sensor SIKA 0–60 l/min
298.5144.000		TEM ES 5941 FW controller, cpl.
298.5171.000		First actuator motor (Mega2 only)
298.5173.000		ESBE actuator motor (Mega3 or higher)

## 11 Decommissioning

### 11.1 Shutting down the fresh water station for a short period (<24 h)



*Shutdown for a short period is suitable for performing maintenance work on the fresh hot water station.*

Personnel: ■ Heating and sanitary technician

1. ➤ Close all main shut off valves (Fig. 33) on the fresh hot water station.  
⇒ The flow and return lines are blocked.
2. ➤ Switch off the fuse for the fresh hot water station or disconnect the power plug and secure it against a restart.
3. ➤ Wait until the fresh hot water station has cooled down.  
⇒ The fresh hot water station has been shut down for a short period.

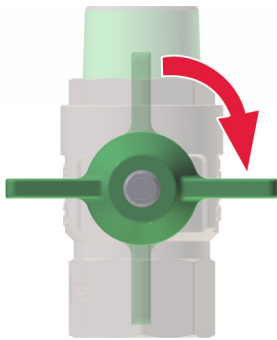


Fig. 33: Closing the main shut off valve



*In order to remove an equipment option from the piping or install an equipment option in the piping, the corresponding circuit must be drained (☞ Chapter 11.3 'Draining the fresh water station' on page 55).*

### 11.2 Shutting down the fresh water station for an extended period (>1 month)



*Shutdown for an extended period is suitable when the building section will not be occupied for an extended period.*

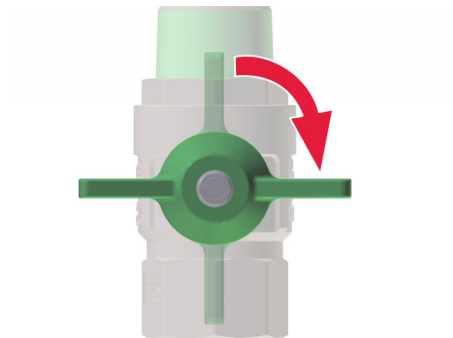


Fig. 34: Closing the main shut off valves

Personnel: ■ Operator

1. ➔ Close all main shut off valves (Fig. 34) on the fresh water station.  
⇒ The flow and return lines are blocked.
2. ➔ Switch off the fuse for the fresh water station or disconnect the power plug.
3. ➔ Drain all taps and leave them open.
4. ➔ Drain all pipes for the fresh water station ( ↗ Chapter 11.3 'Draining the fresh water station' on page 55).
5. ➔ Ensure that the fresh water station is protected from frost.

### 11.3 Draining the fresh water station



*A heat interface unit may only be drained within the scope of a shutdown for a short period or extended period.*

*Observe the preceding steps in the relevant chapter:*

- ↗ Chapter 11.1 'Shutting down the fresh water station for a short period (<24 h)' on page 54
- ↗ Chapter 11.2 'Shutting down the fresh water station for an extended period (>1 month)' on page 54

#### Draining the fresh hot water station on the primary side

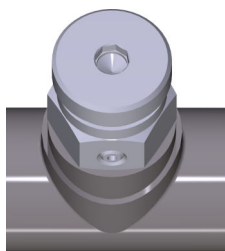


Fig. 35: Opening the valve

Personnel: ■ Heating and sanitary technician

1. ➔ Close the connection for the main supply line for drinking water.
2. ➔



*The valve (Fig. 35) is used for bleeding when draining.*

Shut down the central heating connection in accordance with the project planning documents.

#### Draining the fresh hot water station on the secondary side

Personnel: ■ Heating and sanitary technician

- ➔ To drain the fresh hot water station and the drinking water lines, open the closest tap.  
⇒ The secondary circuit for the fresh hot water station and the drinking water pipes are drained.

## 12 Restarting

### Proliferation of legionellae

**WARNING!****Proliferation of legionellae due to stagnant water!**

If the unit is not used for an extended period, there is a risk of the proliferation of legionellae due to stagnant water.

- Flush drinking water pipes with hot water at a temperature of at least 55 °C when restarting the unit.



*Legionellae are bacteria of which one species is harmful to humans. Legionellae can easily proliferate in pipes with warm, stagnant water. Flushing the pipes with water at a temperature of at least 55 °C kills the legionellae.*



*Restart the fresh hot water station in accordance with ↻ Chapter 7 'Commissioning' on page 38.*

## 13 Disassembly, disposal

### 13.1 Safety during disassembly and disposal

#### Improper disassembly



#### **WARNING!**

#### **Risk of injury in the event of improper disassembly!**

Any residual energy still present, sharp-edged components, sharp angles and corners on or in the station, or on the tools required, can cause injuries.

- Ensure there is sufficient space before starting the work.
- Handle exposed sharp-edged components with care.
- Ensure that the workplace is clean and tidy! Loosely stacked components and tools, or those left lying around, can cause accidents.
- Disassemble components correctly. Observe the high inherent weight of certain components. If necessary, use lifting equipment.
- Secure components to ensure they do not fall down or topple over.
- If anything is not clear, consult the Taconova Customer Service (for contact data, see p. 3).

### 13.2 Disassembling the fresh water station

Before starting disassembly:

- Switch off the fresh water station and secure it against a restart.
- Decommission the fresh water station for an extended period ( ➔ *Chapter 11.2 'Shutting down the fresh water station for an extended period (>1 month)' on page 54*).
- Physically disconnect the full energy supply from the fresh water station, allow any residual energy still present to discharge.
- Remove operating materials and resources, and any remaining materials used for work on the station, and dispose of them in an environmentally friendly manner.

Then clean subassemblies and components correctly and dismantle them in accordance with the applicable local occupational health and safety regulations.

### 13.3 Disposing of the fresh water station

**ENVIRONMENT!****Danger to the environment due to incorrect disposal!**

Incorrect disposal can cause a hazard for the environment.

- Have electrical scrap, electronic components, lubricants and other resources disposed of by a certified specialist company.
- If in doubt, obtain information about environmentally responsible disposal from the local authorities or specialised disposal companies.

If no agreement covering return and disposal was made, then dispose of dismantled components by recycling them:

- Scrap metals.
- Give plastic elements to a recycling company.
- Dispose of other components after sorting them by material.

## 14 Technical data

### 14.1 Design and operating data



*Observe the supplementary design and operating data in the data sheet (Chapter 1.2 'Other applicable documents' on page 8).*

#### Power values

Specification	Value		Unit
	Mega3	Mega3 X	
Tap output at primary flow line temperature 70 °C and cold water heating from 10 to 60 °C	22.5	34	l/min
Maximum primary operating temperature	95	95	°C
Maximum secondary operating temperature	85	85	°C
Maximum primary operating pressure	6	10	bar
Maximum secondary operating pressure	10	10	bar

### 14.2 Components

#### Materials

Specification	Value
Heat exchanger	Stainless steel 1.4401, copper brazed or upon request: Stainless steel 1.4400, stainless steel brazed
Pipes	Stainless steel
Valves	Brass
Seals	EPDM, Centellen

### 14.3 Installation dimensions and weights

Data	Value	Unit
Maximum weight without installation frame	22	kg

Data	Value	Unit
Width	470	mm
Depth	193.2	mm
Height	685	mm

#### 14.4 Connections

Specification	Value
Ball valves	3/4" female
Cold water connection	3/4" female

#### 14.5 Type plate

The type plate is installed on the base plate.

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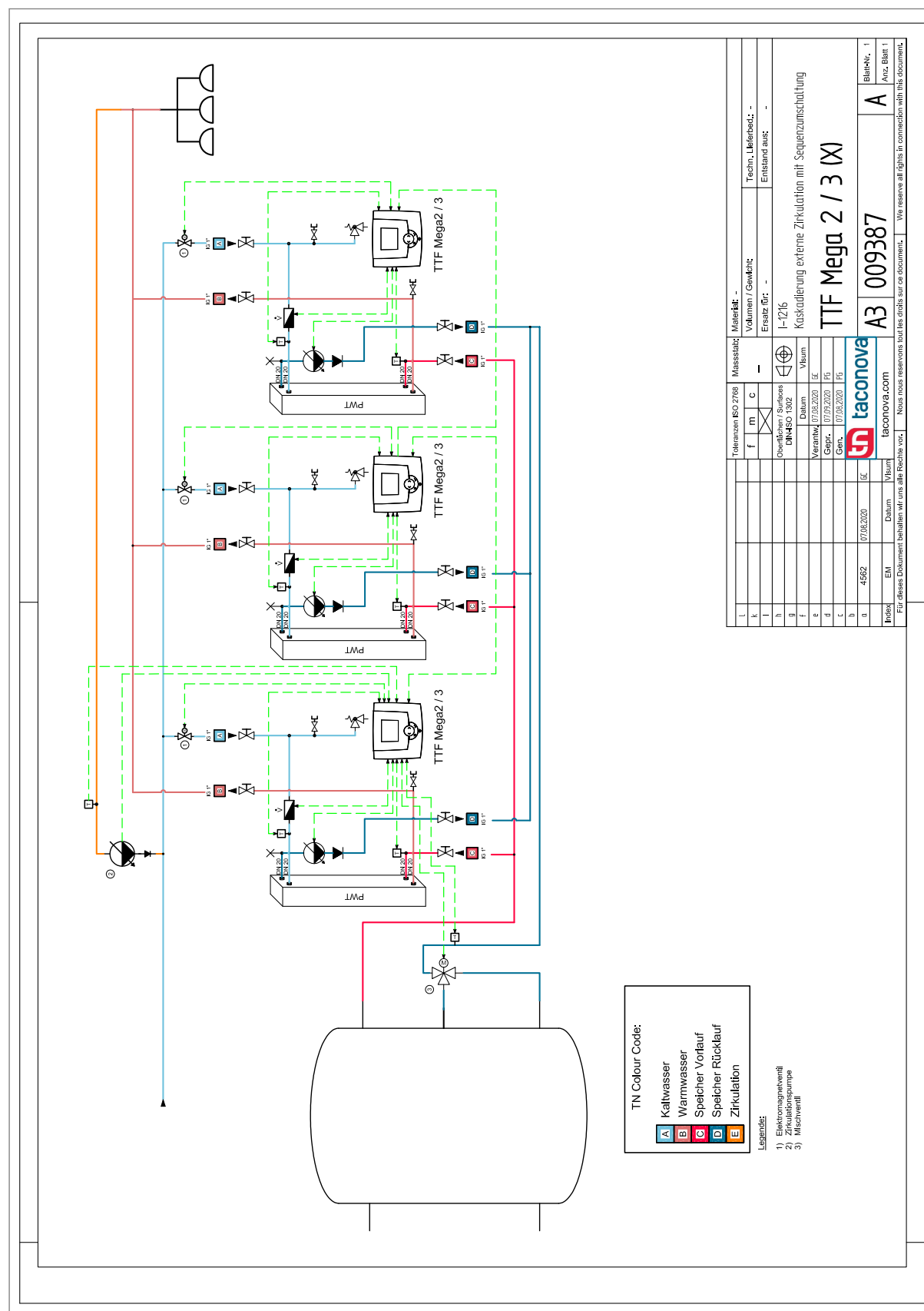
## A Commissioning report

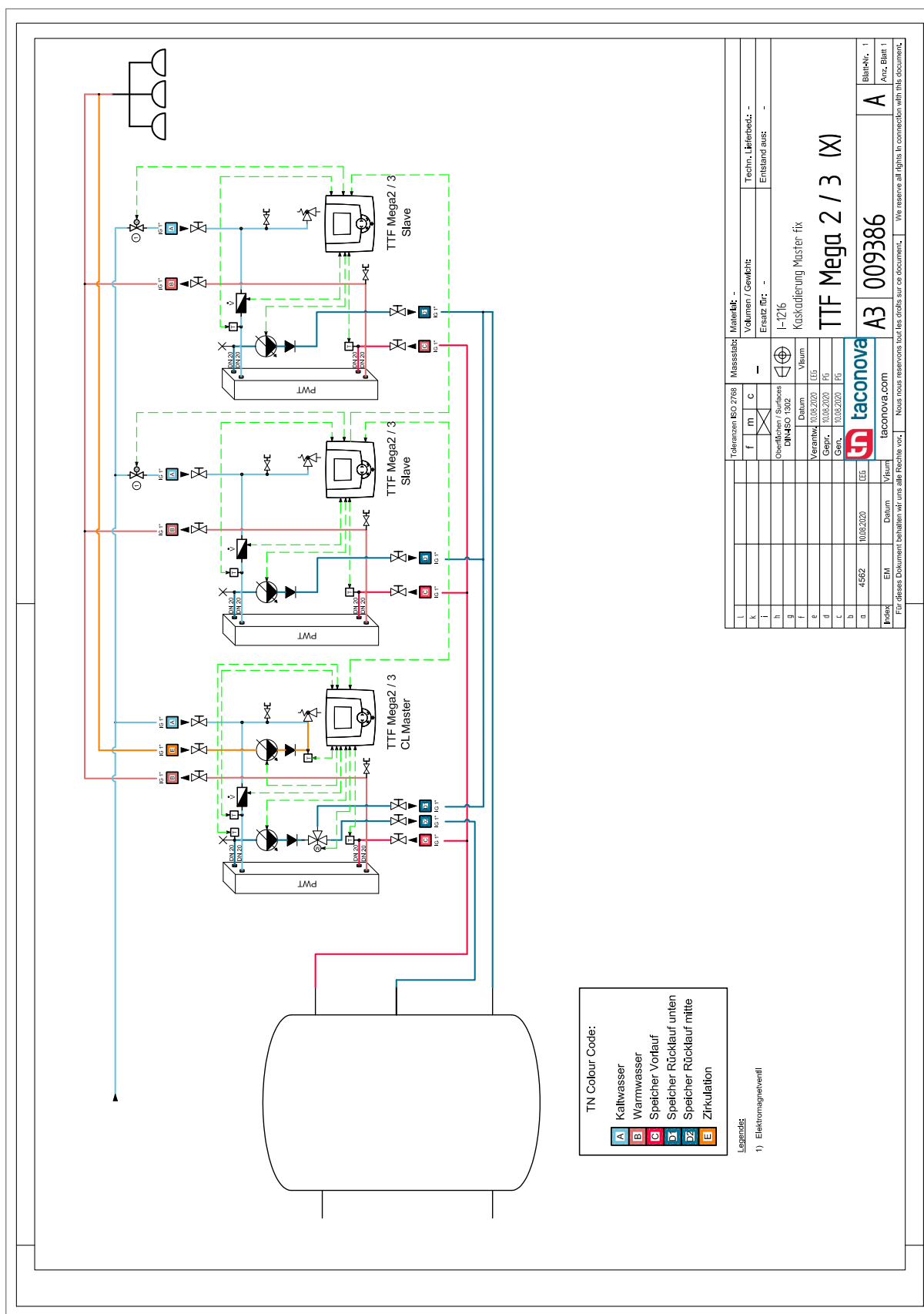


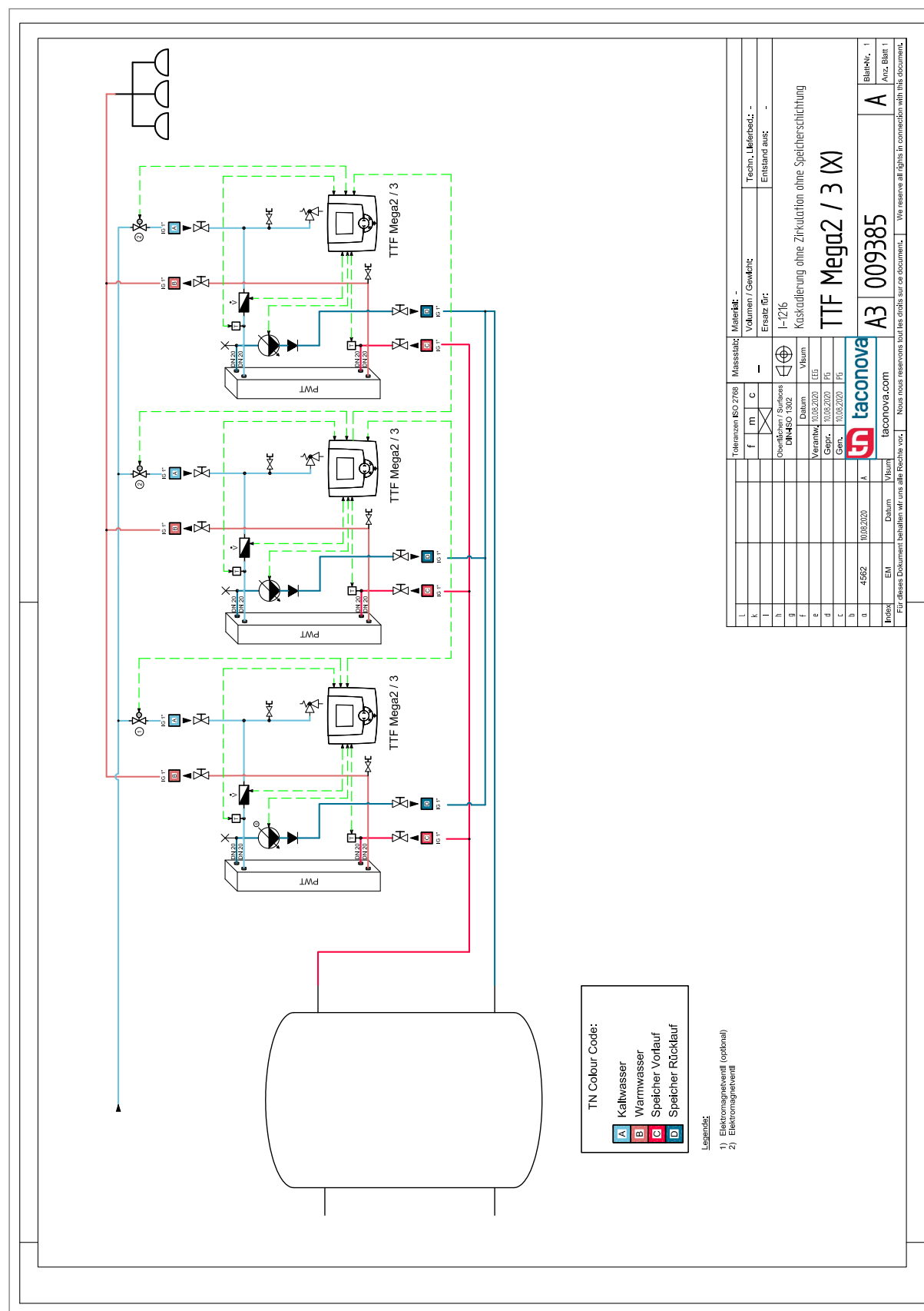
*Fill in the table below before handover to the operator:*

Parameter	Value
Primary supply flow line temperature	
Primary supply return line temperature	
Set domestic hot water temperature at the unit	
Set secondary heating temperature at the unit	
Measured domestic hot water temperature at the taps	

## **B      Hydraulic diagrams**







## **C Declaration of conformity**

**CE**  
**KONFORMITÄTSERKLÄRUNG**  
**DECLARATION OF CONFORMITY**  
**DECLARATION DE CONFORMITE**

**Wir**  
**We**  
**Nous**

Taconova Group AG

(Name des Anbieters) (supplier's name) (nom du fournisseur)

**erklären in alleiniger Verantwortung, dass das Produkt**  
**declare under our sole responsibility that the product**  
**declarons sous notre seule responsabilité que le produit**

**TacoTherm Fresh Mega3 C/CL/XCL**

Typen: 273.2226.xxx // 273.2229.xxx//272.2026.xxx//272.5076.xxx//273.5276.xxx//273.5279.000  
Nennweiten: DN 25

(Bezeichnung Typ oder Modell, Los-, Chargen- oder Seriennummer)  
(name, type or model, lot, batch or serial number)  
(nom, type ou modele, no de lot, d'échantillon ou de serie)

**auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokument(en)**  
**übereinstimmt**  
**to which this declaration relates is in conformity with the following standard(s) or other normative**  
**document(s)**  
**auquel se réfère cette déclaration est conforme à la (aux) norme(s) ou autre(s) document(s) normatif(s)**

EN60335-2-51:2003/A1:2008/A2:2012 //	EN50581 :2012 //	EN55014-2:2006+2015 //
EN55014-1:2006/A1:2009/A2:2011 //	EN61000-3-3:2013 //	EN62233:2008 //
EN60335-1 2012/AC:2014/A11:2014 //	EN60730-1 : 2011 //	EN60730-2-9 :2010 //
EN60730-2-14:1997+A1:2001+A2:2008+A11:2005 //		
EN61000-3-2:2006+2014+A1,A2:2009 //		

(Titel und/oder Nummer sowie Ausgabedatum der Norm(en) oder der anderen normativen Dokumente)  
(title and/or number and date of issue of the standard(s) or other normative document(s))  
(titre et/ou no et date de publication de la (des) norme(s) ou autre(s) document(s) normatif(s))

**Gemäss den Bestimmungen der Richtlinie(n),**  
**following the provisions of Directive(s),**  
**conformement aux dispositions de(s) directive(s)**  
(falls zutreffend) (if applicable) (le cas echeant)

Pressure Equipment directive (PED) 2014/68/EU  
Low Voltage directive 2014/35/EU  
Directive for electromagnetic compatibility 2014/30/EU

(Ort und Datum der Ausstellung) (Place and date of issue) (Lieu et date)	(Name und Unterschrift oder gleichwertige Kennzeichnung des Befugten) (name and signature or equivalent marking of authorized person) (nom et signature du signataire autorisé)
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Zürich, den 01.09.2020

  
Andrin Stump  
Head Product Development

  
René Freudrich  
Head Product Management

**CE**  
**KONFORMITÄTSERKLÄRUNG**  
**DICHIARAZIONE DI CONFORMITÀ**  
**DECLARACIÓN DE CONFORMIDAD**

**Wir****Noi****Nosotros**

Taconova Group AG

(Name des Anbieters) (nome del fornitore) (Nombre del proveedor)

**erklären in alleiniger Verantwortung, dass das Produkt**  
**dichiariamo con esclusiva responsabilità che il prodotto**  
**declaramos bajo nuestra única responsabilidad, que el producto**

**TacoTherm Fresh Mega3 C/CL/XCL**

Typ/ Tipi: 273.2226.xxx // 273.2229.xxx//272.2026.xxx//272.5076.xxx//273.5276.xxx//273.5279.000  
Dimension/Dimensión: DN 25

(Bezeichnung Typ oder Modell, Los-, Chargen- oder Seriennummer)  
(descrizione del tipo o del modello, numero di lotto, carico o serie)  
(Denominación de tipo o modelo, número de serie, lote o carga)

**auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokument(en)**  
**übereinstimmt**  
**al quale si riferisce questa dichiarazione, corrisponde alla/alle seguente/i norma/e o al/ai documento/i**  
**normativo/i**  
**al que se refiere esta declaración coincide con el/la(s) siguiente(s) norma(s) o documento(s) normativos**

EN60335-2-51:2003/A1:2008/A2:2012 //	EN50581 :2012 //	EN55014-2:2006+2015 //
EN55014-1:2006/A1:2009/A2:2011 //	EN61000-3-3:2013 //	EN62233:2008 //
EN60335-1 2012/AC:2014/A11:2014 //	EN60730-1 : 2011 //	EN60730-2-9 :2010 //
EN60730-2-14:1997+A1:2001+A2:2008+A11:2005 //		
EN61000-3-2:2006+2014+A1,A2:2009 //		

(Titel und/oder Nummer sowie Ausgabedatum der Norm(en) oder der anderen normativen Dokumente)  
(titolo e/o numero nonché data di edizione della/e norma/e o degli altri documenti normativi)  
(Título y/o número, así como fecha de publicación de la(s) norma(s) o los demás documentos normativos)

**Gemäss den Bestimmungen der Richtlinie(n),**  
**conformemente alle disposizioni della/e direttiva/e,**  
**Conforme a las disposiciones de la(s) directiva(s),**  
(falls zutreffend) (se adeguato) (si procede)

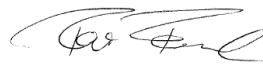
Pressure Equipment directive (PED) 2014/68/EU  
Low Voltage directive 2014/35/EU  
Directive for electromagnetic compatibility 2014/30/EU

(Ort und Datum der Ausstellung)	(Name und Unterschrift oder gleichwertige Kennzeichnung des Befugten)
(Luogo e data)	(Nome e firma oppure contrassegno di equal valore da parte dell'incaricato)
(Lugar y fecha de exposición)	(Nombre y firma o identificación equivalente de la persona autorizada)

Zürich, den/li/a 01.09.2020



Andrin Stump  
Head Product Development



René Freudrich  
Head Product Management

**CE**  
**KONFORMITÄTSERKLÄRUNG**  
**PROHLÁŠENÍ O SHODĚ**  
**DEKLARACJA ZGODNOŚCI**

**Wir  
My**

Taconova Group AG

(Name des Anbieters) (Jméno dodavatele) (nazwa oferenta)

**erklären in alleiniger Verantwortung, dass das Produkt  
prohlašujeme na svou vlastní zodpovědnost, že výrobek  
deklarujemy na własną odpowiedzialność, że produkt**

**TacoTherm Fresh Mega3 C/CL/XCL**

Typ: 273.2226.xxx // 273.2229.xxx//272.2026.xxx//272.5076.xxx//273.5276.xxx//273.5279.000  
Rozměr/wymiary: DN 25

(Bezeichnung Typ oder Modell, Los-, Chargen- oder Seriennummer)  
(Název, typ nebo model, výrobní dávka, šarže nebo sériové číslo)  
(nazwa, typ lub model, numer partii towaru lub numer seryjny),

**auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokument(en)  
übereinstimmt  
na který se toto prohlášení vztahuje, je ve shodě s následující (-mi) normou (-ami) nebo normativním (-i)  
dokumentem (-ty)  
do którego odnosi się niniejsza deklaracja, jest zgodny z poniższą/ poniższymi normami(a) lub  
normatywnym(i) dokumentem(ami)**

EN60335-2-51:2003/A1:2008/A2:2012 //	EN50581 :2012 //	EN55014-2:2006+2015 //
EN55014-1:2006/A1:2009/A2:2011 //	EN61000-3-3:2013 //	EN62233:2008 //
EN60335-1 2012/AC:2014/A11:2014 //	EN60730-1 : 2011 //	EN60730-2-9 :2010 //
EN60730-2-14:1997+A1:2001+A2:2008+A11:2005 //		
EN61000-3-2:2006+2014+A1,A2:2009 //		

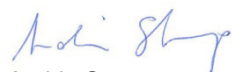
(Titel und/oder Nummer sowie Ausgabedatum der Norm(en) oder der anderen normativen Dokumente)  
(Název a/nebo číslo a datum vydání normy (-y) nebo jiný normativní dokument)  
(Tytuł i/ lub numer oraz data wydania normy (norm) lub innego normatywnego(ych) dokumentu(ów))

**Gemäss den Bestimmungen der Richtlinie(n),  
v souladu s předpisy směrnice (-ic ),  
zgodnie z postanowieniami dyrektywy (dyrektyw),**  
(falls zutreffend) (je-li k dispozici) (jeżeli dotyczy)

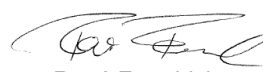
Pressure Equipment directive (PED) 2014/68/EU  
Low Voltage directive 2014/35/EU  
Directive for electromagnetic compatibility 2014/30/EU

(Ort und Datum der Ausstellung)	(Name und Unterschrift oder gleichwertige Kennzeichnung des Befugten)
(Místo a datum vydání)	(Jméno a podpis nebo rovnocenné označení odpovědné osoby)
(Miejscość i data wystawienia)	(Nazwisko i podpis lub równoważne oznaczenie osoby upoważnionej)

Zürich, den 01.09.2020



Andrin Stump  
Head Product Development



René Freudrich  
Head Product Management