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SW: 3.56.5

HW:



Mixing circuit module for two heating circuits



Operating Instructions





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1 General

1.1 General information

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Subject to technical changes


We reserve the right to make technical modifications without notice. Printing and typesetting errors or changes of any kind made in the interim are not cause for claims. Individual configurations depicted or described here are only available optionally. In the event of contradictions between individual documents regarding delivery scope, the information in our current price list applies.

Software Description


The software version described in this documentation corresponds to the version valid at the time of publication. The software version installed on your product may differ from that described in this documentation.

 A software update to a higher version can be carried out at any time. The required files can be found with the appropriate authorisation on www.eta.co.at.

Explanation of symbols

 Instructions and information


Layout of safety instructions

 **SIGNAL WORD!**
Type and source of danger

Possible effects

- Measures for avoiding the danger

Types of safety instruction

 **CAUTION!**
On non-compliance with this safety instruction, there is a risk of material damage.

WARNING!




















On non-compliance with this safety instruction, there is a risk of physical injury.





DANGER!

On non-compliance with this safety instruction, there is a risk of major physical injury.

Explanation of pictograms

-  Switch the boiler on/off with the mains switch.
-  Perform a visual check of the components.
-  Clean the components with a soft cloth, for example.
-  Remove deposits with a vacuum cleaner or an ash vacuum.
-  Remove deposits with the poker.
-  Remove deposits with the cleaning brush.
-  Replace the wear parts (e.g., seals) with new items.
-  Lubricate the components. The lubricant to use is listed in the respective step.
-  Mount the components (e.g., screws or nuts) by hand only, without tools.
-  Tighten the components (e.g., screws or nuts) with a tool.
-  Install the components with some force (e.g., the retaining tube or the Lambda probe).
-  Handle the components carefully, since they break very easily.
-  Measure or check dimensions or clearances on the components.
-  Mark the components so that the correct position can be determined, for example, when mounting.

-  Wear a protective mask to avoid damage to the airways.
-  Seal the components. The sealant to be used is listed in the respective step.
-  Insulate the components. The insulation material to be used is indicated in the respective step.
-  Use adhesive to affix, for example, seals.
-  Use spray adhesive to affix, for example, seals.
-  Only blow out the components with your mouth.
-  Affix a seal. The required cross-section and sealing material are stated in each step.
-  Tighten screws and nuts alternately and evenly.
-  Clean the components by rinsing them with water.
-  Lubricate the components or contact surfaces with copper paste.
-  Lubricate the components or contact surfaces with a dry lubricant, e.g. PTFE.
-  Lubricate the components or contact surfaces with multipurpose grease.
-  Lubricate the components or contact surfaces with multipurpose grease.
-  Disconnect the component's electrical plug connection.
-  Connect the electrical plug connection to the component.
-  Perform a tactile check on the components.
-  Do not use compressed air to clean the components.
-  Do not use cleaning brushes to clean the components.
-  Do not use an ash vacuum or vacuum cleaner.

-  Do not lubricate the components.
-  No water or moisture in this area.
-  No leaks in the components, e.g. screw connection or maintenance cover.
-  Do not bend the components.

1.2 Warranty, guarantee and liability

Requirements

We can only accept liability for the function of our products if they are correctly installed and operated. This is only possible if the conditions below are complied with.

Installation in a dry, frost-proof room

A dry, frost-proof room is required for the installation.

pH value between 8 and 9

The pH value of water used to fill the heating system must be between 8 and 9.

Expanding the control system

Only components provided by us may be used for expanding the control system, unless these are generally available standard devices, such as thermostats.

Proper installation

The installing contractor is liable for proper installation according to the corresponding installation instructions and the relevant rules and safety regulations. If you as customer have installed the heating system partly or entirely without relevant training and in particular without up-to-date practical experience, without having the installation checked by a trained and responsible expert, we exclude defects in our delivery and consequential damages resulting from this cause from our warranty, guarantee and liability.

Repairs

Repairs are only permitted using spare parts provided by us. The only exceptions are common standardised parts such as electrical fuses or fastening materials, as long as they possess the required features and do not restrict the functionality of the system.

Repair of defects

For repairs of defects carried out by the customer or by a third party, ETA shall only bear the costs or remain obligated by warranty if this work was approved in writing in advance by the customer service of ETA Heiztechnik GmbH.

2 Declaration of conformity

CE Declaration of Conformity

Manufacturer: ETA Heiztechnik GmbH
Gewerbepark 1, 4716 Hofkirchen an der Trattnach, Austria

Product: Mixing circuit module with energy-saving pumps

Types: ETA MKM

EU Directives:

2014/30/EU Legislation on electromagnetic compatibility

2014/35/EU Legislation for electrical equipment: low voltage directive

2011/65/EU Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS 2 guideline)

Applied standards:


EN 60335-1:2020 Household and similar electrical appliances - Safety - Part 1: General requirements

IEC 61000-6 1/2:2005 Electromagnetic compatibility (EMC):
Generic standards - Immunity for residential, commercial and light-industrial environments (1) and industrial environments (2)

IEC 61000-6 3/4:2011 + A1:2011 Electromagnetic compatibility (EMC):
Generic standards - Emission standard for residential, commercial and light-industrial environments (3) and industrial environments (4)

We hereby declare that the product in its standard design as stated here corresponds to the above provisions. The sole responsibility for issuing this declaration of conformity lies with the manufacturer. The technical documentation for this product is managed by ETA Heiztechnik GmbH. Signed for and on behalf of:

Hofkirchen, 12/01/2021

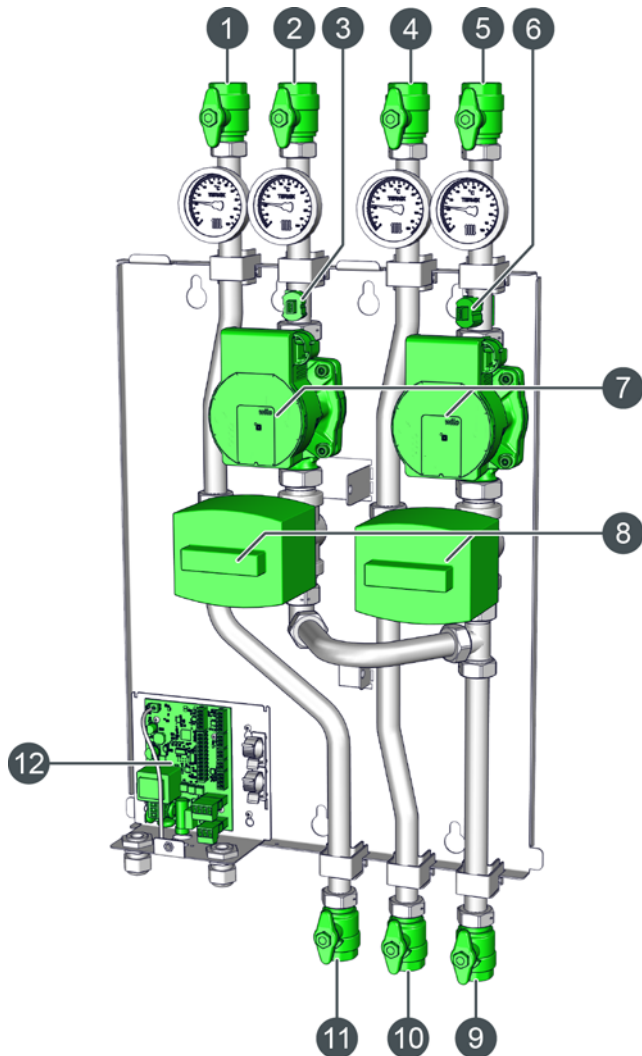

Ing. Johann Eibelhuber
Quality assurance


DI Ferdinand Tischler
Management

3 Description

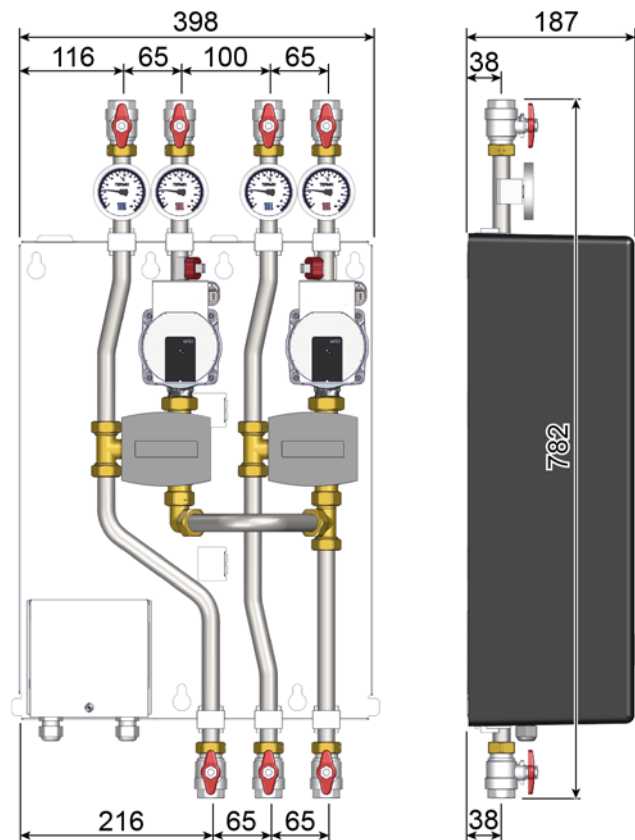
3.1 Technical data

Connections and components



- 1 Return connection for the second heating circuit
- 2 Flow connection for the second heating circuit
- 3 Flow temperature sensor for the second heating circuit
- 4 Return connection for the first heating circuit
- 5 Flow connection for the first heating circuit
- 6 Flow temperature sensor for the first heating circuit
- 7 High-efficiency pumps
- 8 Heating circuit mixing valve with 24 V DC actuator
- 9 Flow from buffer
- 10 Return of the first heating circuit to the buffer
- 11 Return of the second heating circuit to the buffer
- 12 Circuit board [EM-FC]

Dimensions




Technical data

Residual pump head of every pump	
Underfloor heating:	15 kW; 35/28 °C; 1.87 m³/h = 2.20 mWs
Radiator heating:	45 kW; 65/45 °C; 1.96 m³/h = 1.70 mWs
Connections	
	DN20 (3/4") internal thread
Pumps	
	Two high-efficiency pumps (model "WILO Para 15/6 SCU"), for differential or constant pressure operation with bleed function.
Heating circuit mixing valve with actuator	
	kv-Wert = 6; 24 V DC control with 0-10 V analogue signal


3.2 Function

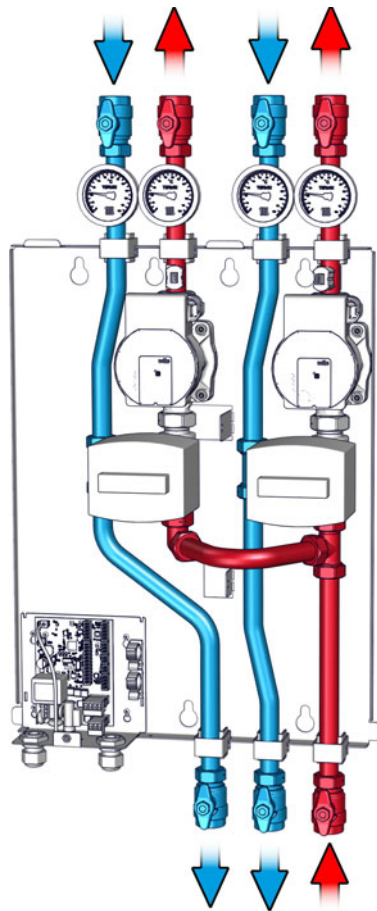
Mode of operation

The energy of the respective heat producer (e.g. buffer storage) is fed from the underside of the module to the heating circuits. Each mixer controls the feed temperature of the heating circuit using the value calculated by the control system. Both temperature sensors constantly provide information to the control system about the feed temperatures of both heating circuits.

 Only one heating circuit may be connected while the second connection is used to charge hot water.

Mixers, pumps and temperature sensors are connected at the factory. Power is supplied via a 230 V Schuko socket. Only the CAN-bus connection to the ETAtouch control system must be established.

 Contact thermostats are required for underfloor and wall heating in order to protect the heating circuits.



Bypasses and gravity brakes are intentionally omitted. The reason for this is the use of precise heat mixers with extremely low leakages and the ETAtouch control system, which closes the mixers outside of heating mode. The result is the benefit of low pressure losses, low susceptibility and conservation of the pumps by avoiding air cushions.

The two separately laid return connections ensure that, depending on the temperature level, the heating circuit (underfloor heating, radiator heating) of the return is connected at the right point in the buffer.

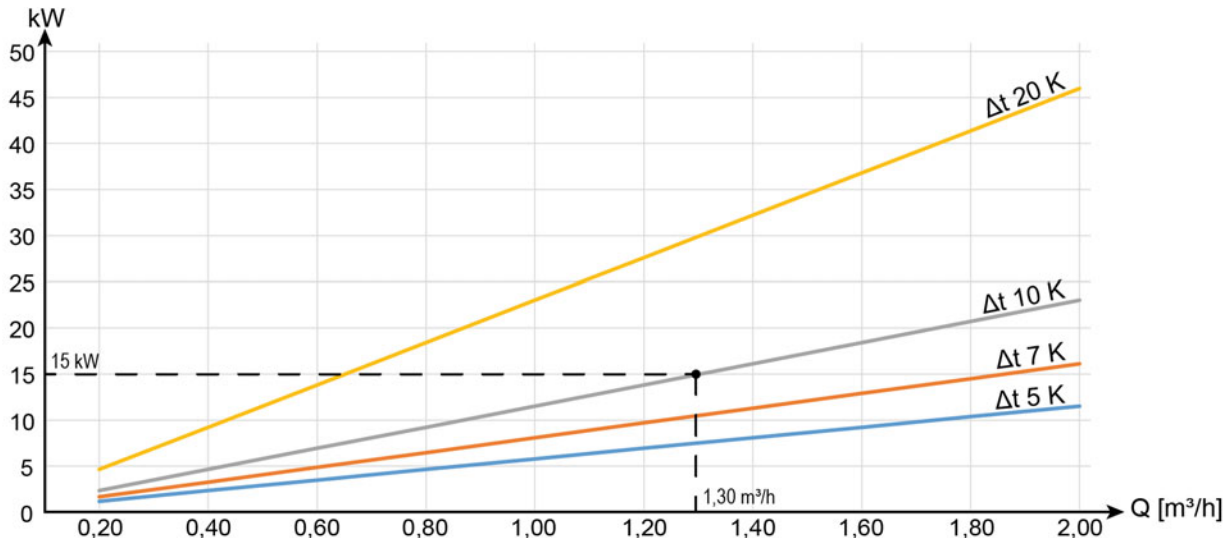
3.3 Module characteristic curves

Determining the free residual pump head

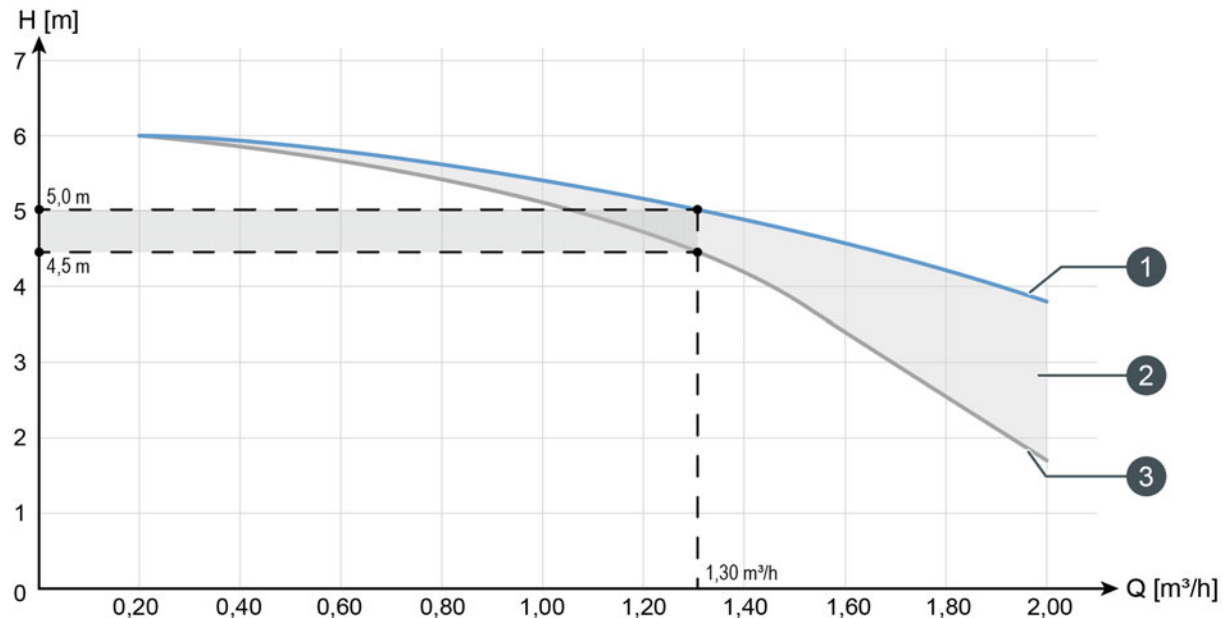
Example: radiator heating with 15 kW and 10 K spread. The performance chart shows a flow rate of approx. 1.30 m³/h.

=> 1.30 m³/h results in a free residual pump head of 4.5 m with a pressure loss of approx 0.5 m.

Performance chart



Free residual pump head (pressure side)




- 1 Pump head
- 2 Module pressure loss
- 3 Free residual pump head

4 Installation

Selecting the installation site

Attach the mixing circuit module to the wall. Note the pressure loss up to the module. The flow rates up to the module are significantly lower than the flow rates post-module due to the lower spread.

 The length of the CAN-Bus line supplied for connection to the boiler is 10 m. The digital room sensor for the heating circuit can also be connected to the [EM-FC] circuit board.

Mounting the module on the wall

Mark the position of both mounting screws at the top and bottom on the wall.

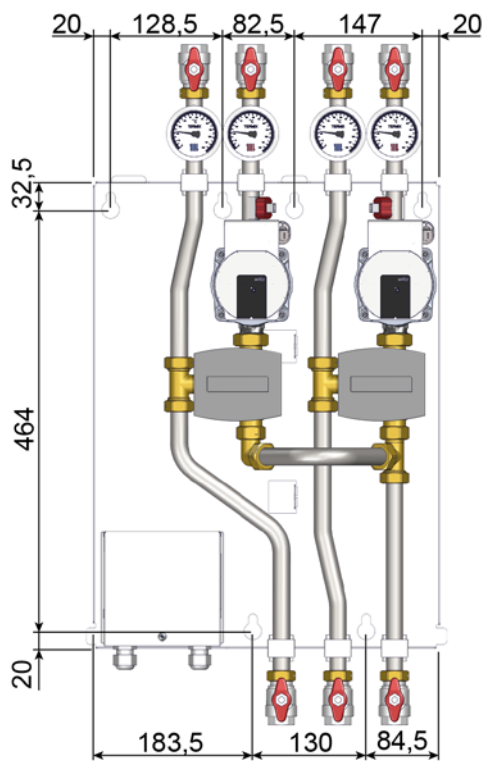


Fig. 4-1: Mounting holes for wall installation

Mount the fixing screws in the wall, hang the module and fix it in place.

Installing ball valves

On the top side, mount the ball valves on the connections for the heating circuits with the enclosed flat seals.

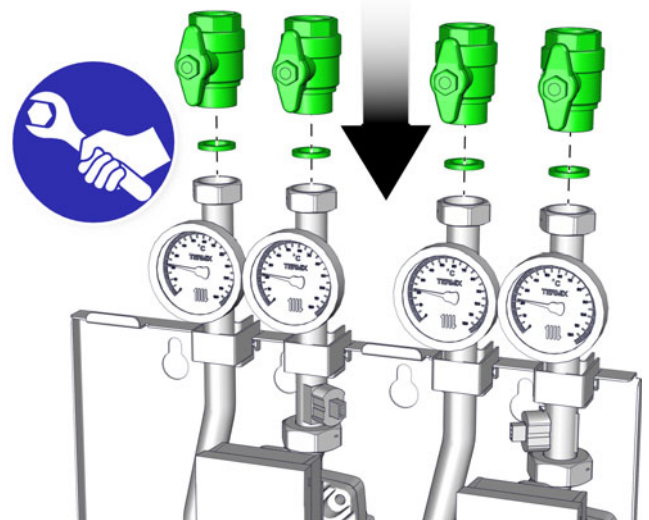


Fig. 4-2: Ball valves

On the underside, mount the ball valves on the connections to the buffer with the enclosed flat seals.

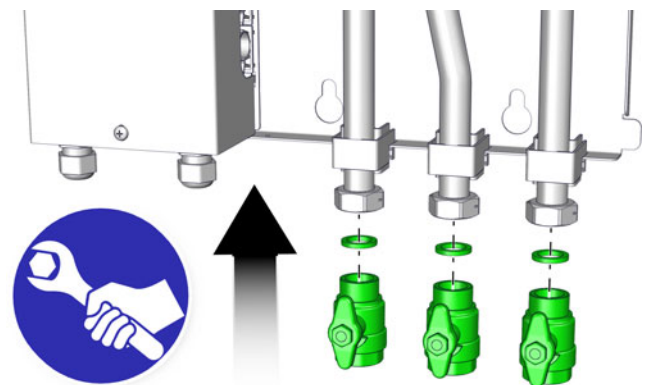


Fig. 4-3: Ball valves


Installing the piping

Connect the pipework for the two heating circuits and to the buffer on the module.

Establishing a CAN-bus connection to the boiler

Establish the bus connection between the boiler and the module with the supplied CAN-bus line. Also see [6.2 "CAN bus installation"](#) for more information.

Contact thermostats are required for underfloor heating and wall heating

 For safety reasons, contact thermostats must be installed for the operation of underfloor and wall heating. In the event of a malfunction, they switch off the affected heating circuit to protect it from excessively high flow temperatures.

They are available separately and pre-wired.



Fig. 4-4: Contact thermostat

5 Configuration

Content of this configuration

Only the steps required for the configuration of this product are described below. The configuration of the complete heating system is described in the "Configuration" manual supplied with the boiler.

Required software version

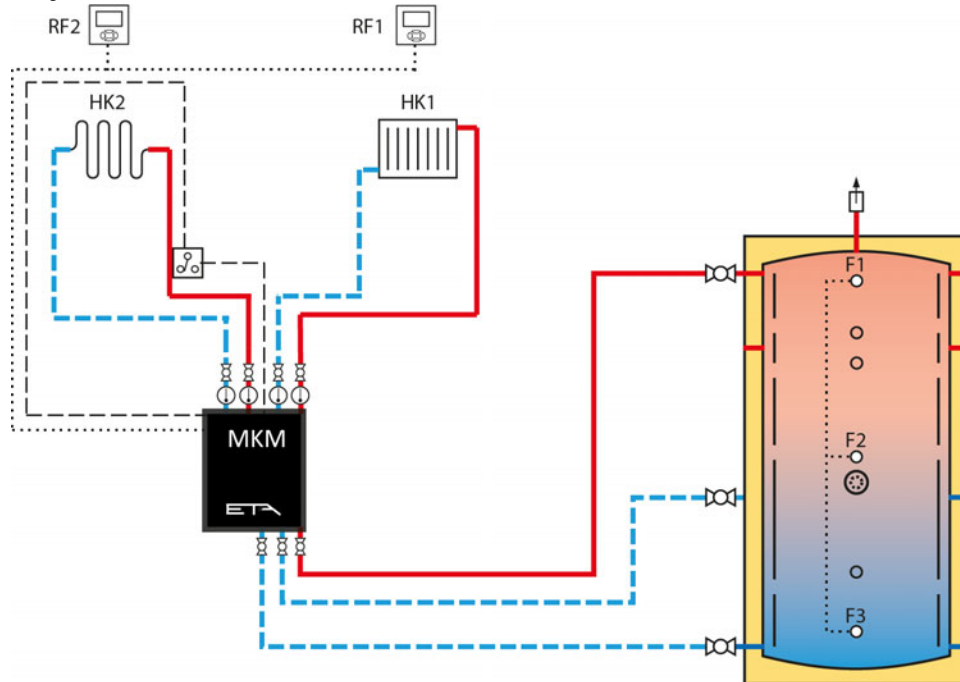


Different minimum software versions are required for the configuration. Therefore, first check the current software version of your heating system. The individual possibilities are listed below.

- up to software version X.35.X
→ Adjustments required, see chapter [9 "Operation with software version up to X.35.X"](#).
- from X.36.0 to X.55.X
→ Update to X.56.3 (or above) required
- from X.56.3
→ no update necessary

5.1 Example 1

Schematic of hydraulics

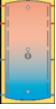


i The buffer is connected to the [GM-C] circuit board in this example.

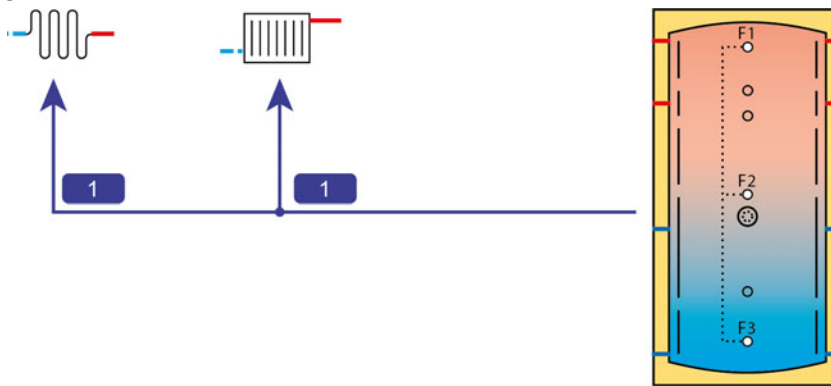
Circuit board [EM-FC 2]


Function blocks		Description
	Heating circuit	Heating circuit
	<i>Settings:</i>	
	HC type	Underfloor heating
	Heating circuit pump	Standard pump
	Heating circuit mixing valve	Analogue control (0-10V)
	Room sensor	Digital
	Heating circuit	Heating circuit
	<i>Settings:</i>	
	HC type	Radiator heating
	Heating circuit pump	Standard pump
	Heating circuit mixing valve	Analogue control (0-10V)
	Room sensor	Digital




Circuit board [GM-C 0]

Function blocks		Description
	BufferFlex	Buffer storage tank
	<i>Settings:</i>	
	Temperature sensor number	3
	Combination tank	No
	Consumer levels	1
	Solar heating system	not available
Start relief for log boiler	No	

Connections

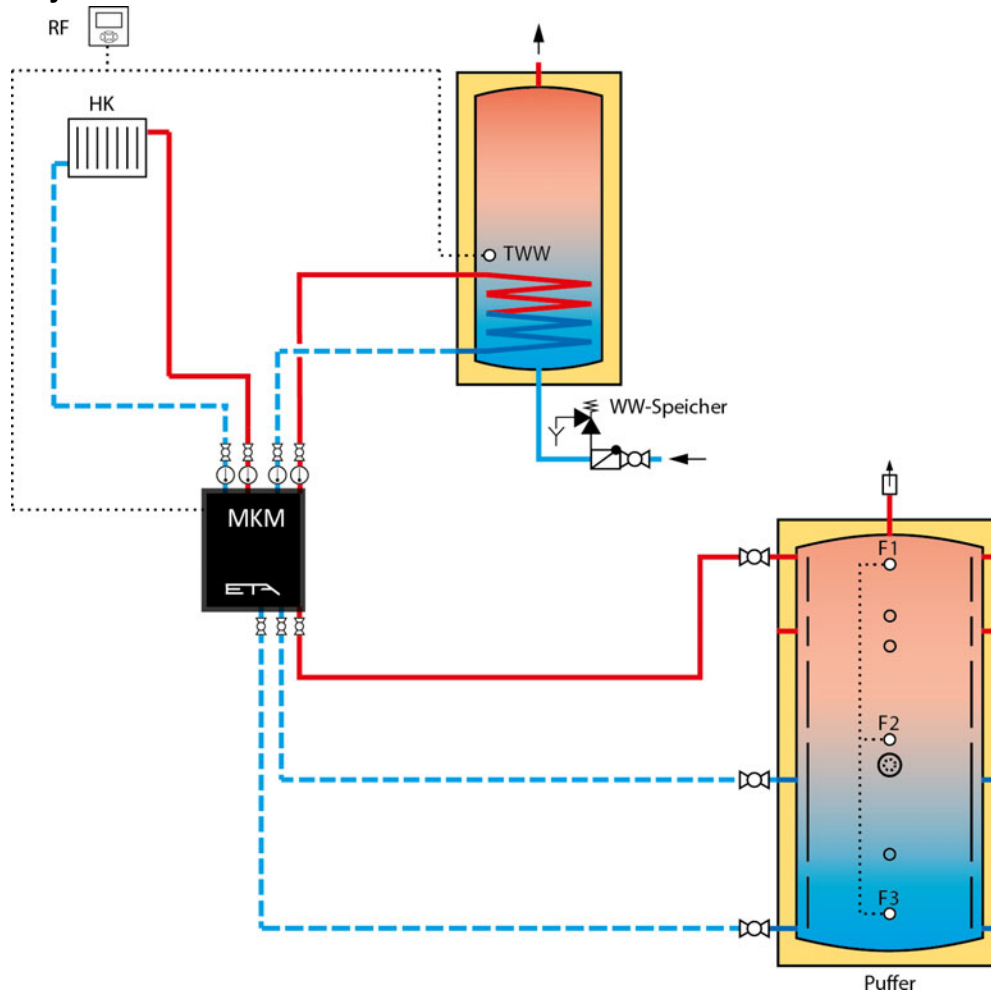


 = type [Heating water]

Producers	Consumers
 GM-C 0: BufferFlex: Consumer level 1 (top)	 EM-FC 2: HC: .
	 EM-FC 2: HC2: .



5.2 Example 2

Schematic of hydraulics

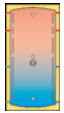


i The buffer is connected to the [GM-C] circuit board in this example.

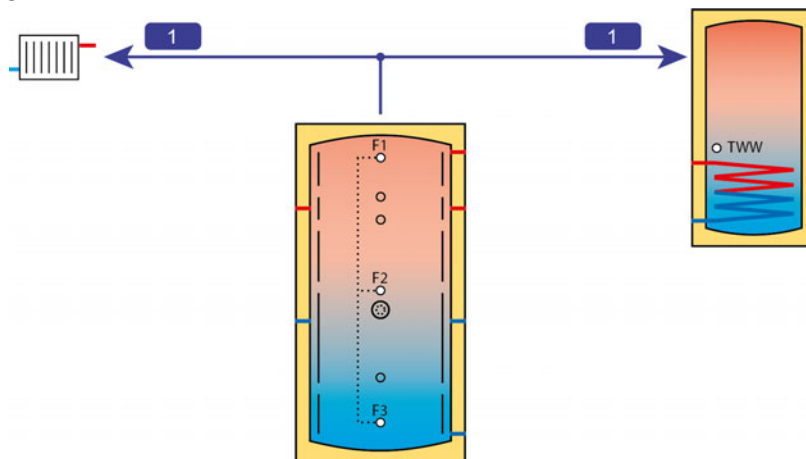
Circuit board [EM-FC 2]


Function blocks		Description
	HWT	Hot water tank
	<i>Settings:</i>	
	Charging pump	Standard pump
	Flow mixing valve	Analogue control (0-10V)
	Circulation pump	No
	Heating circuit	Heating circuit
	<i>Settings:</i>	
	HC type	Radiator heating
	Heating circuit pump	Standard pump
	Heating circuit mixing valve	Analogue control (0-10V)
	Room sensor	Digital




Circuit board [GM-C 0]

Function blocks		Description
	BufferFlex	Buffer storage tank
	Settings:	
	Temperature sensor number	3
	Combination tank	No
	Consumer levels	1
	Solar heating system	not available
Start relief for log boiler	No	


Connections




 = type [Heating water]

Producers	Consumers
 GM-C 0: BufferFlex: Consumer level 1 (top)	 EM-FC 2: HC: .
	 EM-FC 2: HW: .

Deleting an unnecessary heating circuit

 The function blocks [Heating circuit 1] and [Heating circuit 2] are already installed on the circuit board [EM-FC] at the factory. Only one heating circuit is needed for this example; therefore, the second heating circuit must be deleted.

To delete a heating circuit, select it from the [Selected function blocks] column and delete with the  button.

6 Electrical connections

6.1 Requirements

Electrical connection must only be made by qualified specialist personnel

i The electrical installation must only be performed by specialist personnel with the corresponding qualifications.

Power supply of the module

i Power is supplied to the module via the power plug that has already been mounted; this is performed independent of the boiler. However, the power supply can also be securely wired to the electronic distributor.

! DANGER!

Electric shock



There are live parts on the circuit boards. If touched, they can cause injury and property damage.

- ▶ Before beginning any work, isolate the system completely from all power sources, ensure that it cannot be switched back on, and verify that it is safely isolated from the power supply.

! WARNING!

Damage to circuit boards

Circuit boards can be damaged by electrostatic discharge. Therefore, observe the ESD protection measures when handling the circuit boards.

- ▶ Dissipate electrostatic energy before and while touching circuit boards. Discharge yourself, for example, by touching earthed metallic objects (boiler body, heating pipes). Conductive straps or special ESD work shoes are recommended.
- ▶ Do not bring the circuit board into contact with conductive objects whose electrostatic charge has not yet dissipated.
- ▶ Only touch the circuit board at the outer edges and not at the terminals and solder joints.

! CAUTION!

Flexible stranded conductors

If flexible stranded conductors are not used for the wiring, the contacts in the plug connections will be subjected to excessive mechanical strain. In this case, the warranty for the electronics would be invalidated.

- ▶ Only use flexible stranded conductors for the wiring.

Maximum outputs

230 V output	maximale Output
A single output	250 W
Sum of all outputs	700 W

6.2 CAN bus installation

Notes for CAN Bus cables

The CAN Bus cables must have the following specification:

- As topology in the CAN Bus, only one "line topology" is allowed. A "star topology" is not permitted.
 - The maximum total length of all used CAN-Bus cables is 400 m. When laying the cables, make sure the distance between the circuit boards is as short as possible. If the total length is disregarded, proper operation cannot be guaranteed.
- i** The optional CAN router circuit board [EC-R] can be used to extend the CAN network. For more information, please refer to the instructions for the circuit board [EC-R].
- If the factory-supplied CAN Bus cables are too short, CAT-6 or higher quality cables must be used instead. The CAN Bus lines must not be lengthened (split).
 - If CAN Bus lines are more than 50 m long or are laid outside the building, CAT-6 or higher quality cables must be used.

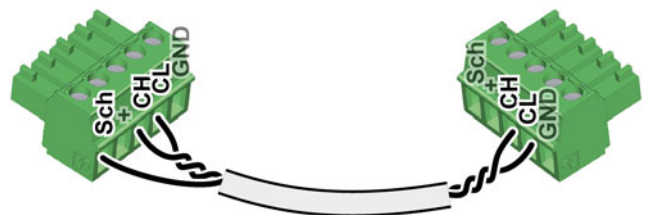


Fig. 6-1: CAN Bus cable (2-wire and one-sided shield)

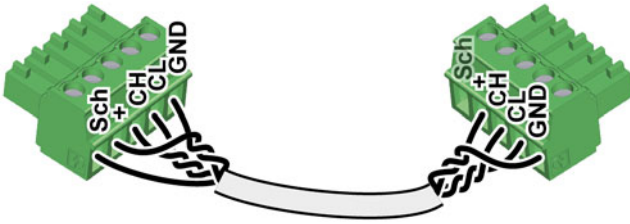


Fig. 6-2: CAN Bus cable (4-wire and one-sided shield)

Terminal designation

Sch	Shield
+	Power supply
CH	Data line CH
CL	Data line CL
GND	Earth

Establishing a CAN-Bus connection

To establish the CAN-Bus connection to the boiler, there are two terminals and the associated cable in the delivery scope.

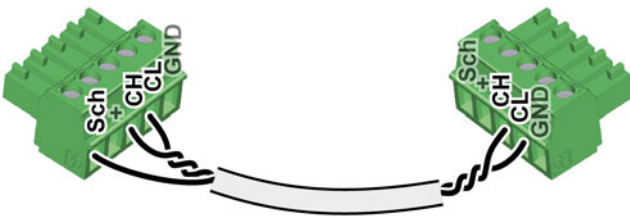
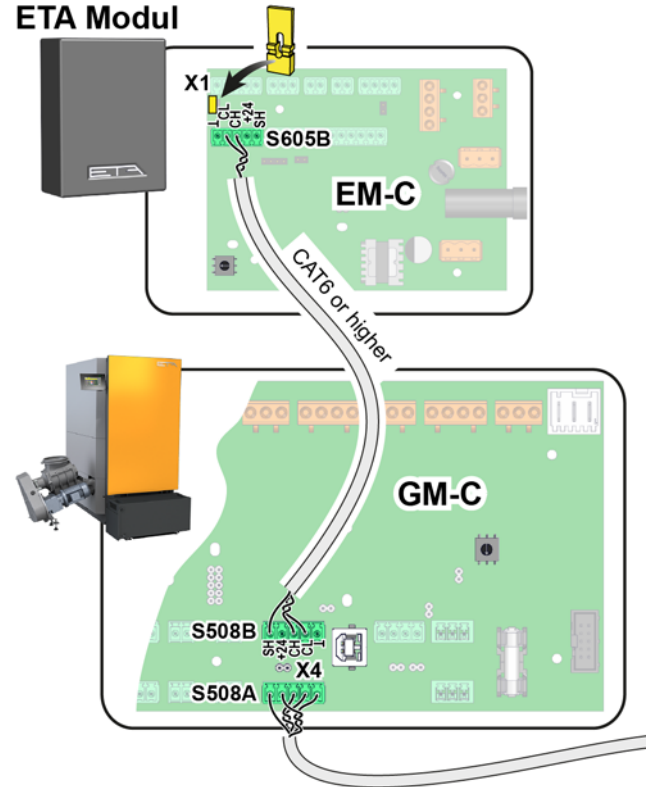


Fig. 6-3: CAN-Bus cable

i Only clamp the "Sch" shield on one side. Do **not** connect the "+" and "Gnd" wires.

Example: connection to circuit board [GM-C] ETA Modul



i A terminal resistor (yellow jumper) must be set at the end of the CAN-Bus. If both CAN-Bus terminals are allocated, the terminal resistor must be removed on this circuit board.

In the example above, the terminal resistor must be removed from the [GM-C] circuit board at [X4] and placed on the [EM-FC] circuit board at [X1].

Check the node numbers if the circuit boards are the same design

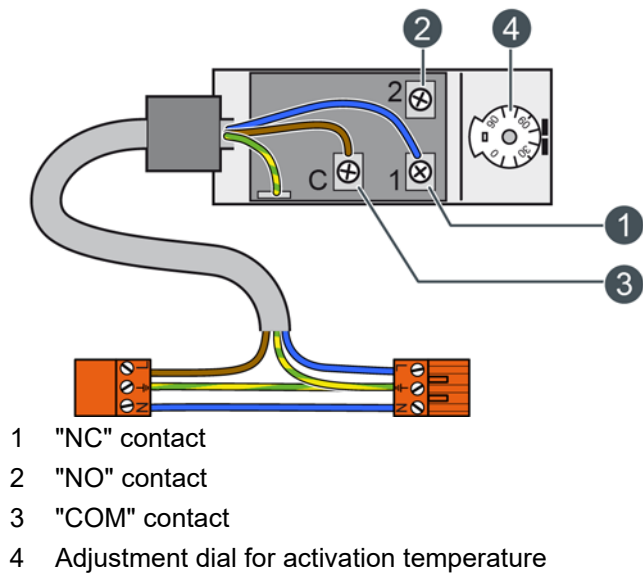
If several identical circuit boards (for example: two [EM-FC]) are connected to each other via CAN-Bus, these circuit boards must have consecutive node numbers. So that these can be identified and configured in the CAN-Bus.

i Therefore, compare the node numbers of the individual circuit boards of the same design and set them as needed using the node switch.

6.3 Contact thermostat

Contact thermostat as overheating protection

An additional contact thermostat (ready wired) is available for protection of the underfloor and wall heating. It switches off the pump in order to protect the consumer from flow temperatures that are too high.



i The contact thermostat is inserted between the circuit board terminal and the pump.

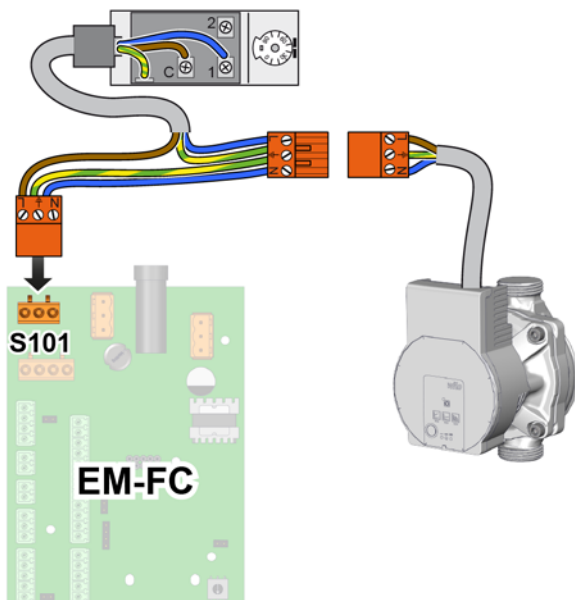
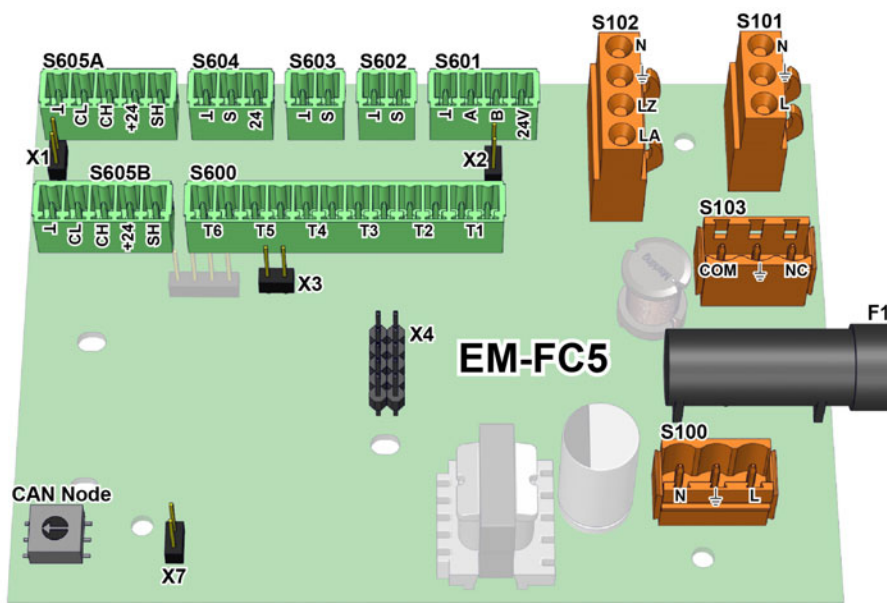


Fig. 6-4: Connection of the contact thermostat

6.4 Circuit board [EM-FC5]



i Only use flexible cables, e.g. for: pumps, mixers and temperature sensors. Please observe the wiring instructions, see [6.1 "Requirements"](#) and CAN-Bus lines see [6.2 "CAN bus installation"](#).



These terminals can be used


Terminal	Function	Minimum cross-section	Standard assignment
S102 LZ	230 V output	3 x 1 mm ²	
S600 T3	Temperature input	2 x 0.5 mm ²	
S600 T4	Temperature input	2 x 0.5 mm ²	
S600 T5	Temperature input	2 x 0.5 mm ²	
S600 T6	Temperature input	2 x 0.5 mm ²	
S601	RS-485 bus	see the room sensor instructions	digital room sensor
S605A	CAN-Bus	see 6.2 "CAN bus installation"	From boiler
S605B	CAN-Bus	see 6.2 "CAN bus installation"	

These terminals are already pre-wired at the factory

Terminal	Function	Standard assignment
CAN node	CAN-Bus node switch	Position "2"
F1	Fuse T 3,15 A (Mains power input)	
S100	Supply 230 V	Mains power input
S101	230 V output	1st heating circuit pump (right)
S102 LA	230 V output	2nd heating circuit pump (left)
S103	230 V input	Water shortage switch (bridged)
S600 T1	Temperature input	1st heating circuit flow temperature
S600 T2	Temperature input	2nd heating circuit flow temperature
S602	PWM output	Mixer controller for 1st heating circuit
S603	PWM output	Mixer controller for 2nd heating circuit
S604	Analogue, digital, counter input	Supplying both heating circuit mixing valves
X1	CAN-Bus terminal resistor	
X2	RS-485 bus terminal resistor	

These terminals are already pre-wired at the factory

Terminal	Function	Standard assignment
X3	Terminal resistor	 To simply delete the configuration the jumper must be set once when restarting.
X7	Terminal resistor for software X.35.X	 The jumper must only be set for operation with the software version up to X.35.X.

 Counter inputs or frequency inputs capture digital frequencies and are therefore intended for special sensors (e.g. digital flow rate sensors).

7 Commissioning

7.1 Filling the heating system

Monitoring the screw joints

i Due to vibration and thermal expansion, all screw joints must be inspected and tightened prior to commissioning.

Permissible media

- Heating water according to ÖNORM H 5195-1.

The permissible water hardness for the heating water can be determined from the table in Section 8 "Water hardness".

i The requirements of ÖNORM H 5195-1 apply as minimum requirements for the heating water. If stricter country-specific regulations exist, they are to be heeded.

- Water/glycol mixtures with a glycol ratio of minimum 20% and maximum of 30%

i Glycol has a higher viscosity than water. When admixing glycol, the pumping data must be corrected according to the mixing ratio. Proper use includes compliance with these instructions as well as the information and labelling on the pump.

Filling and bleeding the heating system

Fill the heating system and take note of the maximum water pressure. Carefully bleed the heating system after filling.

Bleeding the pump

i The heating system must be filled and bled before the pump can be bled. The pump automatically bleeds itself when starting for the first time. If it does not, carry out the following steps.

1. If the pump is not in operation, start it manually. To do this, carry out the following intermediate steps:
Increase the authorisation to [Service]. Switch to the inputs and outputs menu in the function block of the heating circuit . Tap on the symbol on the heating circuit pump. Use the buttons to switch the pump on or off manually.
2. If the pump is in operation, press the control button on the pump for 3 seconds.

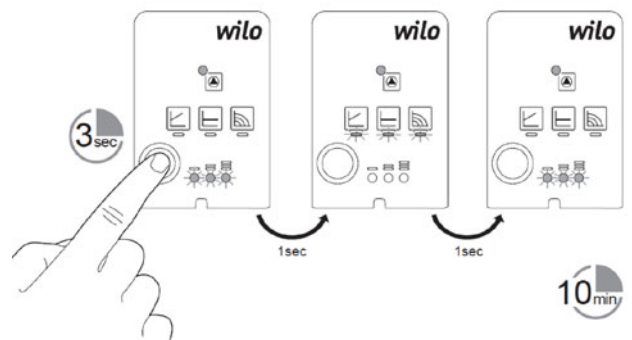
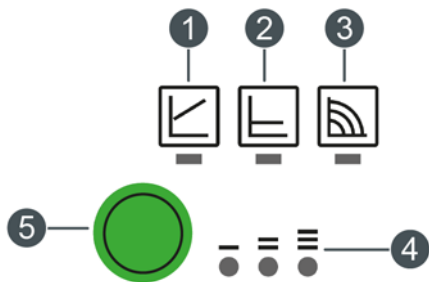


Fig. 7-1: Venting

3. The venting function now starts and lasts for 10 minutes. The upper and lower LED rows flash alternately every second.
i To cancel, press the control button again for 3 seconds.
i After venting, the LED display shows the operating mode of the pump that was previously set. After bleeding, the operating mode of the pump may need to be adjusted.

7.2 Setting the pump

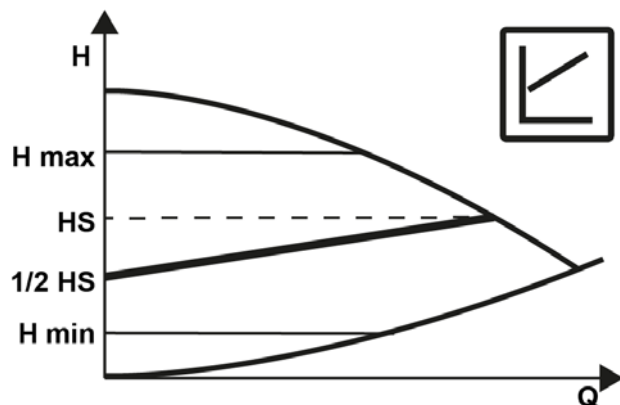
Operating modes of the pump




- 1 Operation: differential pressure variable ($\Delta p-v$)
- 2 Operation: differential pressure constant ($\Delta p-c$)
- 3 Operation: constant speed
- 4 Operating phase
- 5 Operating button for setting the operating mode and operating phase

Differential pressure variable ($\Delta p-v$)

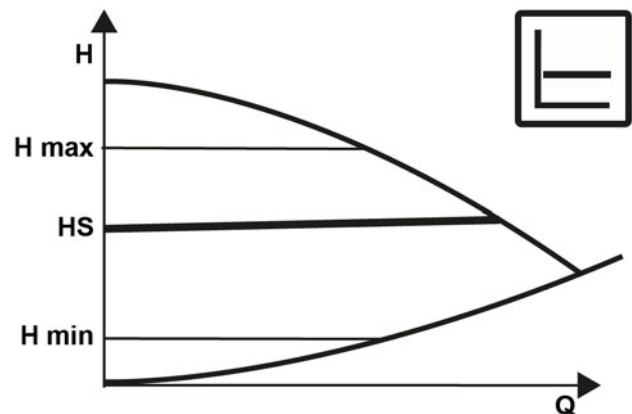
- The differential pressure target value "H" is increased linearly from " $\frac{1}{2} H$ " to "H" over the volume flow "Q". The differential pressure produced by the pump is set to the respective differential pressure target value.




-  This operating mode is recommended for radiators to reduce flow noise at the thermostatic valves.

Differential pressure constant ($\Delta p-c$)

- The differential pressure is held constant at the set differential pressure target value "H".

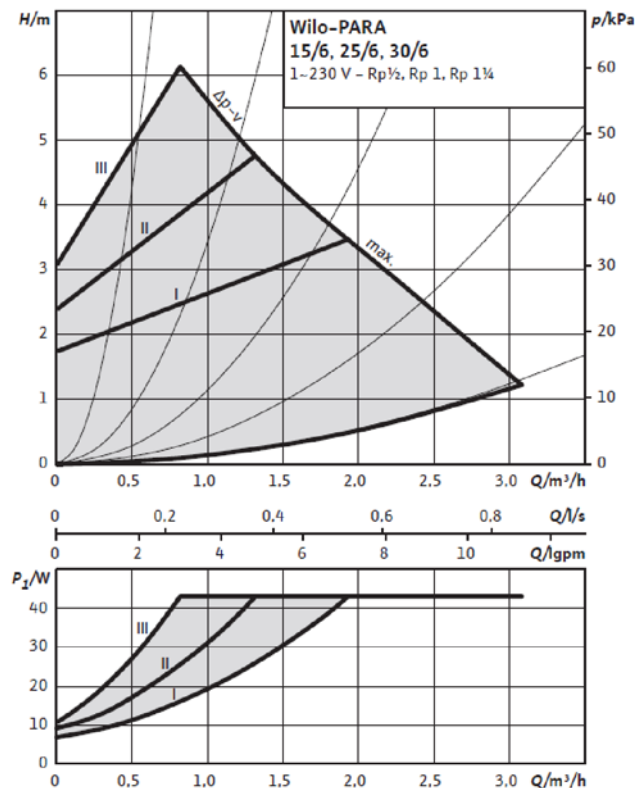


-  This operating mode is recommended for underfloor heating systems, large pipes and all applications without a variable pipe network characteristic (e.g. hot water charging pumps).

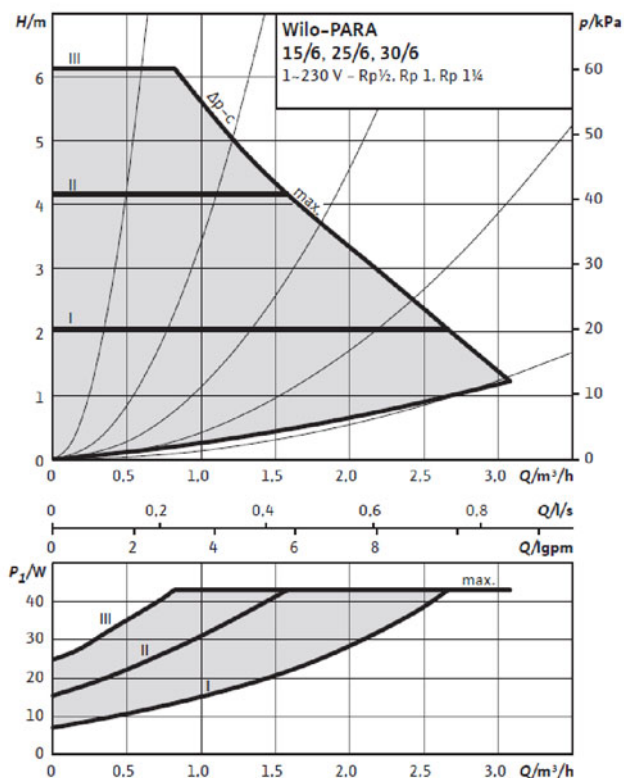
Pump characteristic curves

The pump setting for the respective heating circuit must be adjusted by an expert on-site.

Differential pressure variable ($\Delta p-v$)



Differential pressure constant ($\Delta p-c$)



7.3 Concluding activities

Mounting the plastic cover

Reattach the plastic cover after commissioning. Pull off the protective film and affix the ETA logo in the corresponding recess.

8 Water hardness

Determine the permissible water hardness for the heating water according to ÖNORM H 5195-1

Specific water content (litres/kW)		Table 1 Heat producer with large (> 0.3 l/ kW) water content			Table 2 Heat producer with small (≤ 0.3 l/ kW) water content		
		< 20 l/kW	≥ 20 l/kW < 50 l/kW	≥ 50 l/kW	< 20 l/kW	≥ 20 l/kW < 50 l/kW	≥ 50 l/kW
Total output of the heat producer	≤ 50 kW	16.8 °dH	11.2 °dH	5.6 °dH	11.2 °dH	5.6 °dH	0.6 °dH
	> 50 kW ≤ 200 kW	11.2 °dH	5.6 °dH	2.8 °dH	5.6 °dH	2.8 °dH	0.6 °dH
	> 200 kW ≤ 600 kW	5.6 °dH	2.8 °dH	0.6 °dH	2.8 °dH	0.6 °dH	0.6 °dH
	> 600 kW	2.8 °dH	0.6 °dH	0.6 °dH	0.6 °dH	0.6 °dH	0.6 °dH

Instructions for determination:

1. Determine the water content of the heat producer (in litres) and divide it by its output (in kW). If the result is larger than 0.3 l/kW, Table 1 applies. If the value is smaller or equal to 0.3 l/kW, Table 2 applies.
2. Divide the total heating water volume (in litres) by the output (in kW) of the smallest heat producer. The result is the specific water content and this determines the column within the previously calculated table.
3. Read the data for the permissible water hardness from the respective line using the total output of the heat producer.

Example: a heating system with a 45 kW boiler and 1500 litre total water volume

1. The ratio of water content to output is more than 0.3 l/kW ($1500:45=2.6$) => table 1.
2. The specific water content is 33,3 l/kW ($1500:45 = 33.3$) => middle column in table 1.
3. The total output of the boiler is 45 kW; therefore, only the data from the first line (≤ 50 kW) are relevant.

The permissible water hardness in this example is 11.2 °dH.

9 Operation with software version up to X.35.X

The following steps are only required for use with software versions up to X.35.X

i The ETA module is delivered from the factory with software 3.56.3 and can therefore not be operated immediately with an ETAtouch control system up to software version X.35.X. Therefore, the following steps are only necessary if:

- the ETA module is connected via CAN-Bus in a heating system with the ETAtouch control system
- and in addition the heating system is used with software up to version X.35.X

i If the ETA module is operated without a CAN-Bus connection (if possible), i.e. standalone, then these steps can be skipped.

Install software X.35.17 (or above)

In order to install the X.35.17 (or later) software, the factory-installed X.56.3 software must first be deleted from the circuit board.

i Before carrying out the following steps, first disconnect the power supply to the ETA module (e.g.: fresh water module, stratified charging module or others). If there is already a CAN-Bus connection between the ETA module and the heating system, this must also be disconnected.

1. Download software version X.35.17 (or above) and save it on a USB drive. Then update the software of the heating system to this version.

i The required files for the software update can be found in the login area on the website www.eta.co.at and also on www.meinETA.at.

2. Remove the covers on the ETA module to access the circuit board. Set a jumper at terminal [X3] so that the factory-installed software is deleted after switching on.

Only necessary for the [EM-FC] circuit board:
Set another jumper at terminal [X7] so that the [EM-FC] is recognised in the CAN-Bus.

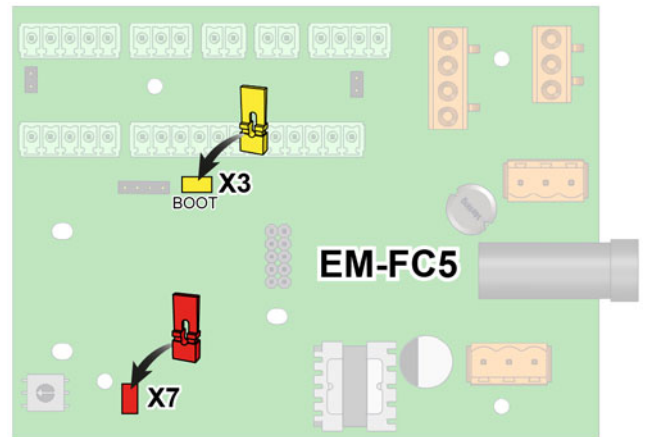


Fig. 9-1: Setting the jumper

3. Restore the power supply and also the CAN-Bus connection from the ETA module to the heating system. After switching on the power supply, a software update is performed on the circuit board.

Approximately 10 seconds after switching on, remove the jumper from terminal [X3].

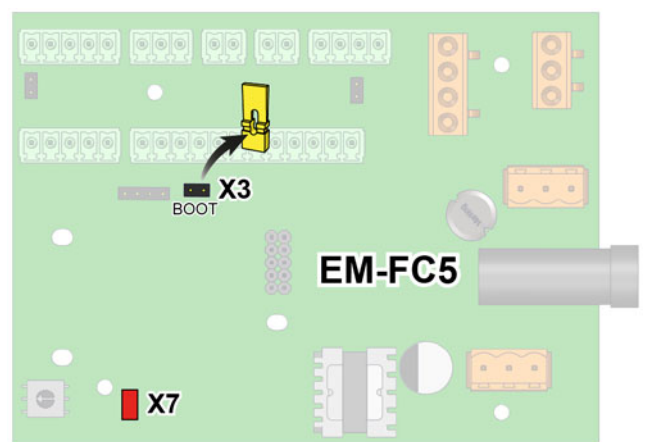



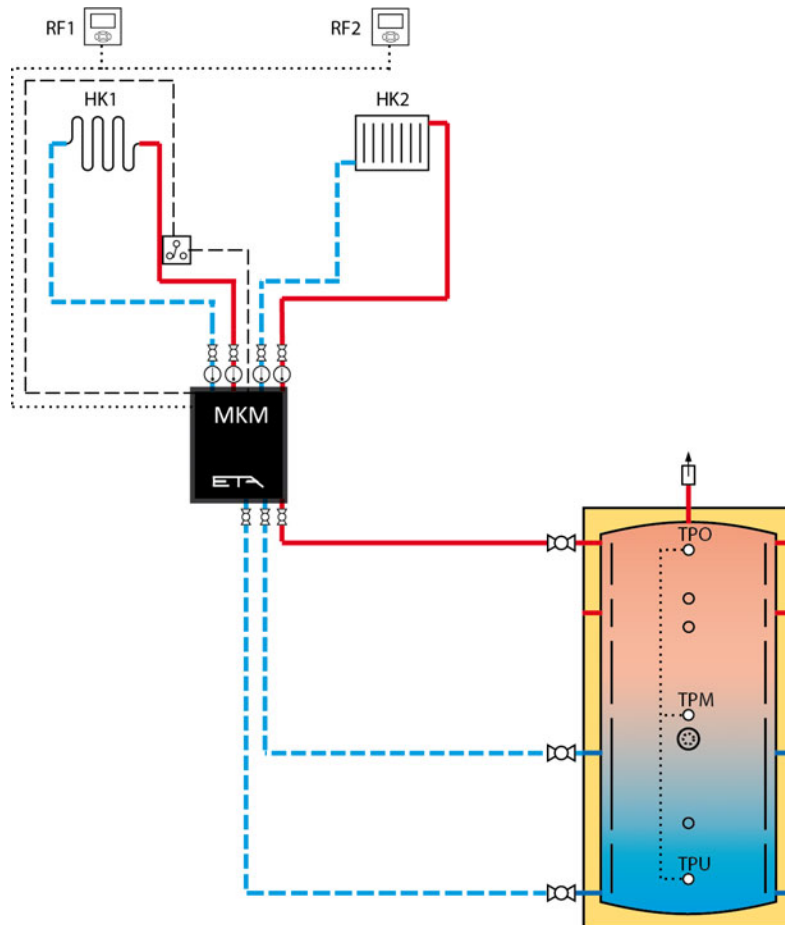
Fig. 9-2: Removing the jumper from [X3]


As soon as the software update is complete, start the configuration wizard. See the steps below for this.

9.1 Configuration



 The following description shows the configuration with the circuit board [EM-FC].

Hydraulic schematic

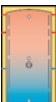


 The buffer is connected to the [GM-C] circuit board in this example.

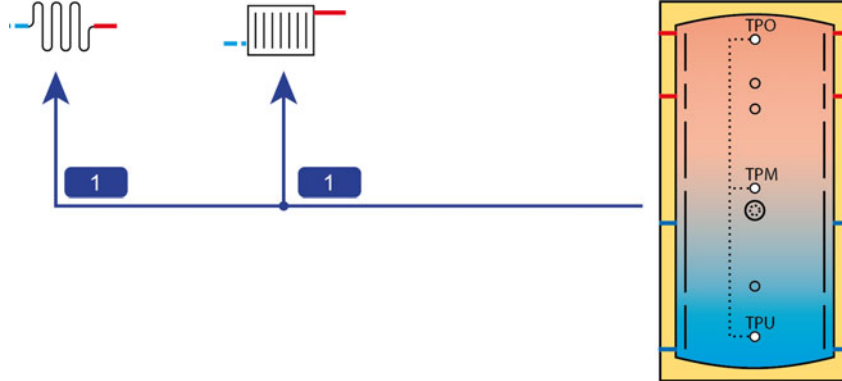
Circuit board [EM-FC 2]

Function blocks	Description
 Heating circuit <input checked="" type="checkbox"/> Heating circuit pump <input checked="" type="checkbox"/> Raumfühler digital <input checked="" type="checkbox"/> Mixer with 0...10 V control	Heating circuit as radiator heating
 Heating circuit <input checked="" type="checkbox"/> Heating circuit pump <input checked="" type="checkbox"/> Raumfühler digital <input checked="" type="checkbox"/> Mixer with 0...10 V control	Heating circuit as underfloor heating

Circuit board [GM-C 0]

Function blocks	Description
 Buffer <input checked="" type="checkbox"/> Temp. sensor at buffer middle	Buffer

Connections



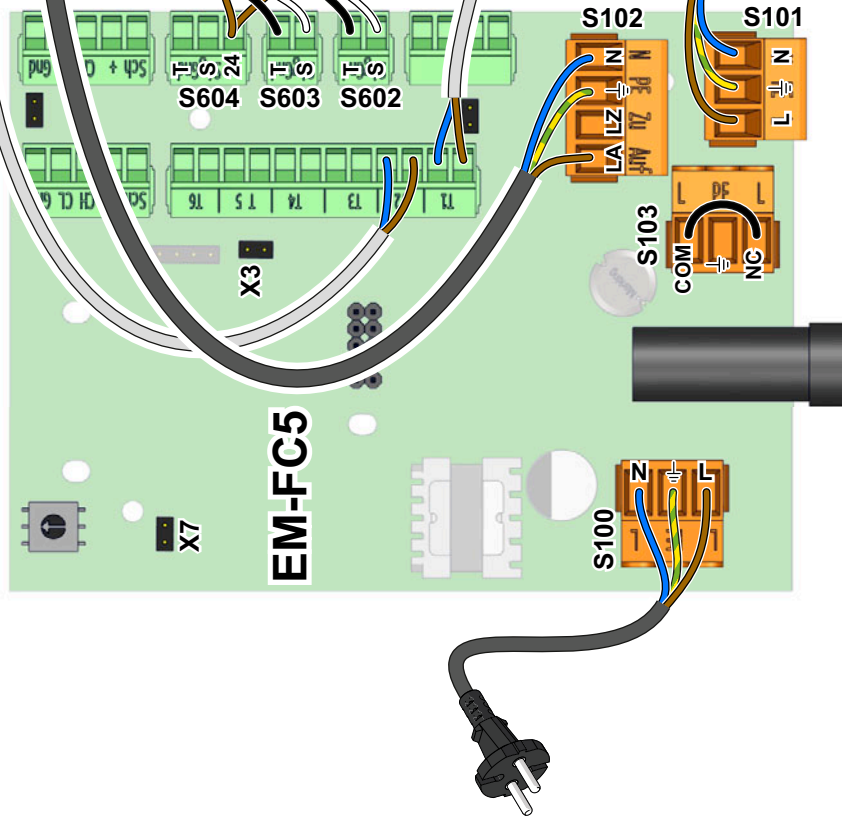
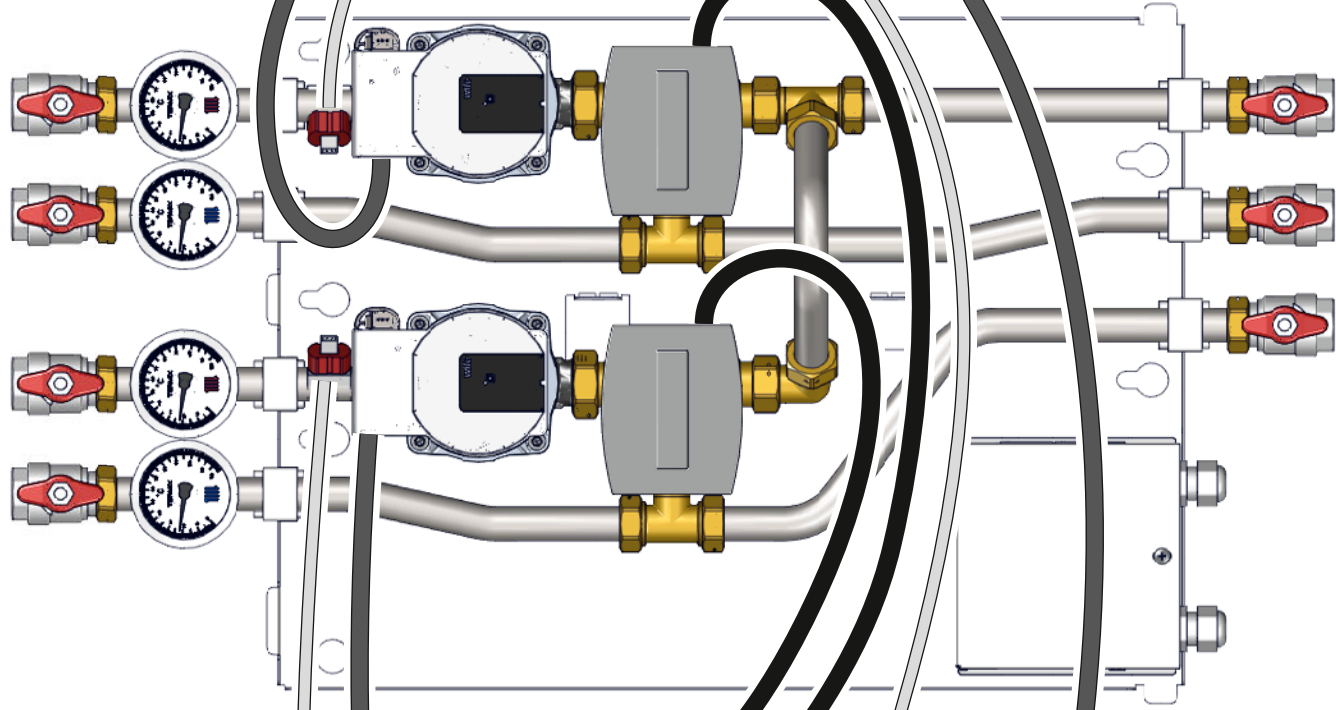
1 = type [Heating water]

Producers	Consumers
1 GM-C 0: Buffer: HC/HWT	1 EM-FC 2: HC: .
	1 EM-FC 2: HC2: .

Continue installation

Continue the installation from chapter [6 "Electrical connections"](#).

10 Simplified electrical connection (overview)





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