

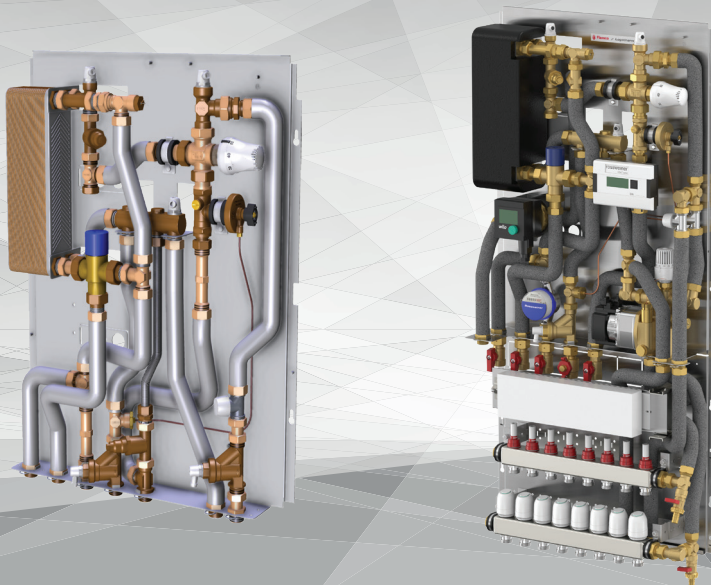


# Logotherm

*LogoThermic G2*


**Thermostatically controlled heat interface units**

S-Line, 35 kW (UC/MC) M-Line, 46 kW (UC/MC)



**ENG** Installation and servicing instructions

## Acronyms

CW	Domestic water, cold
DHW	Domestic hot water
DWC	Domestic water circulation
DWH	Domestic water heating
FL	Heating flow line
RL	Heating return line
UC	Unmixed heating circuit
MC	Mixed heating circuit
PHE	Plate heat exchanger
MT	Male thread
FT	Female thread
prim.	Primary heating circuit (heat supply)
sec.	Secondary heating circuit (heat consumer)
HFM	Heat flow meter
SM/FM	Surface-mounted / flush-mounted
	Factory setting

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# 1. Safety instructions



**Please follow these safety instructions carefully to prevent hazards and injury to persons and property.**

These operating instructions are primarily designed for the safe use and installation of the device and make no claims to completeness.

These operating instructions describe the functionality of the device and are intended to provide information about the required safety instructions and to draw attention to possible hazards. Further technical information can be found in the other applicable documents.

These operating instructions are valid only for the described device and are not subject to the manufacturer's revision service. The sketches and drawings they contain are not suitable to scale.

- Keep the operating instructions within easy reach of all employees instructed to carry out work on the device so that they can refer to them as required.
- Keep the operating instructions in a clean, complete and legible condition throughout the entire period of use.
- Read the operating instructions before working on the device for the first time and consult them whenever uncertainties or doubts arise as to how the device should be handled.
- Should you come across any discrepancies when reading these operating instructions or should anything remain unclear, please contact the manufacturer.

## Target group

These instructions are intended exclusively for authorised trained experts. Only trained experts/installers authorised by the respective competence authority are permitted to work on heating systems and domestic water, gas and electric circuits.

## Regulations

When carrying out work, you must comply with:

- The statutory accident prevention regulations,
- The statutory environmental protection regulations,
- Liability/Insurance regulations,
- The pertinent safety requirements of DIN, EN, DVGW, VDI, TRGI, TRF and VDE,
- ÖNORM, EN, ÖVGW-TR Gas, ÖVGW-TRF and ÖVE,
- SEV, SUVA, SVGW, SVTI, SWKI and VKF,
- And all new and regionally applicable regulations and standards

## Instructions for working on the system

- Disconnect the system from the mains and monitor it to ensure that no voltage is being supplied (e.g. at the separate cut-out or a main switch).
- Secure the system from restarting / switching to auxiliary power supply.
- WARNING! Risk of scalding at media temperatures: >60°C

## Permissible mains supply and operating parameters

- Heating side/primary side:
 

Permissible pressure rating:	PN10
Max. permissible operating temperature:	90°C
Max. permissible differential pressure:	2.0 bar
- With actuator for zone valve:	1.0 bar
  
- Sanitation side:
 

Permissible pressure rating:	PN10
Max. permissible operating temperature:	90°C
- In the case of an existing sanitary circulation system: (for short periods max. 70°C < 2 h)	65°C
Min. cold water pressure:	1 bar
Recommended cold water operating pressure:	2 bar

## Environmental and connection conditions:

- Permissible ambient temperature: 5...40°C (non-condensing), dry ambient conditions: Avoid installing the station in areas with high ambient humidity, as there is an increased risk of corrosion.
- The devices must be installed in enclosed, dry, frost-free spaces
- Any noise emissions or radiant heat from the station must be taken into account in the choice of installation site
- Observe the safety areas in accordance with EN 60529 when designing and installing the system
- The fire protection classes of any thermal insulation used must be observed
- Device protection code in accordance with EN 60520 IP42
- Any sanitary installation must be made safe in compliance with DIN 1988 or DIN EN 806, i.e. with the use of a safety valve and, where applicable, an expansion vessel.

## 1.1 Intended use

### 1.1.1 Use for intended purpose

Heat interface units are used to transfer heat between the supply network and the heat consumer. Heat interface units may only be used for this purpose in compliance with the maintenance and operating instructions and all relevant standards and regulations. All instructions in the operating instructions must be followed and the maintenance plan adhered to.

### **Any deviation from the intended use may cause hazards and is fundamentally not permitted.**

Appropriate use in heating and domestic water systems must be in accordance with the applicable DIN and local standards. Installing and operating the assembly incorrectly will invalidate any warranty claims. The shut-off valves may only be closed by an approved specialist when servicing, otherwise the safety valves will not work.

### **Caution:**

Do not make any changes to the electrical components, the design of the system or the hydraulic components! This would adversely impact on the safe function of the system.

### **Instructions concerning the place of use:**

Before using our products, they must be checked regarding their suitability for the respective planned application. In particular for heating systems, please take into account the properties of the heating water in accordance with VDI 2035 to protect the heating system and, for domestic water applications, the water quality at the place of use.

In the case of critical water qualities, please take suitable measures where necessary (e.g. water treatment) to prevent functional impairment and/or damage, e.g. corrosion damage.

In particular, please check the permissible limit values, e.g. electrical conductivity, the pH value, the water hardness level and the ammonium concentration. Furthermore, in Germany all applicable norms, regulations and guidelines specific to the federal states must be taken into consideration, alongside the instructions in the applicable installation and operating manuals.

Further information can be found in the download section of [www.flamcogroup.com](http://www.flamcogroup.com).

### 1.1.2 Improper use

Using the device in any way that does not correspond to the intended use may be hazardous and is therefore prohibited.

In particular, the following is not allowed:

- The use of liquids other than water with the described properties
- Use of the device without prior knowledge of the operating instructions
- Use of the device without legible warning and information signs
- Use of the device in a faulty condition

## 1.2 Device designation

Designation:	LogoThermic G2
Function:	Transfer of thermal energy to the heating supply and hot water preparation
Type:	S/M line (UC/MC)
Manufacturer:	Meibes System-Technik GmbH, Gerichshain

## 1.3 Hazard notes



The safety and warning information draws attention to residual hazards that cannot be avoided due to the design and construction of the device. Please always observe the measures shown for avoiding these hazards.

Never alter or modify the unit by yourself. Such work may only be carried out by **trained, specialist personnel**. This also applies to the electrical installation.

When the system is in operation, water-regulating components will be hot. Touching these system components can lead to scalding. The interface station and its heat-carrying components must be operated with permanent insulation. This insulation not only prevents unnecessary thermal losses, but also protects against accidental contact and burns. The insulation must therefore only be removed for maintenance or repair purposes and replaced correctly on completion of such work.

The system is operated using hot, high-pressure water, which can cause scalding on contact.

You should therefore open the bleed or drain valves carefully and not work on pressurised parts.

The control components (controller, servomotors, pumps, etc.) are powered by the mains voltage.

**Therefore, always ensure the station is disconnected from the mains supply when carrying out any maintenance or repair work.**

**Secure the system against unauthorised operation.**

Life-threatening electric shocks can be caused by spraying or splashing water. Escaping water may also disable the safety devices.

Any changes made to the unit that have not been authorised by the manufacturer will invalidate any warranty claims.

#### **Residual hazards:**

The product has been built in accordance with the most relevant and recognised safety regulations. The following residual hazards may arise during installation, commissioning, maintenance and disassembly:

#### **Warning: Risk of scalding from high media temperature**

- Work with particular caution.
- Use safety clothing (e.g. heat-resistant protective gloves).
- If necessary, surface temperature must be measured before commencing any work.
- Use only designated tools.

#### **Hazard: Risk of injury from electrical voltage**

- Only trained and qualified electricians may undertake work on electrical equipment.
- Electrical installation spaces must always be kept locked.

#### **Warning: Risk of cuts and scratches due to the possibility of sharp edges**

- Work with particular caution.
- Use safety clothing (e.g. protective gloves).

#### **Warning: there is a risk of impact/crushing if the station falls over**

- Wear personal protective equipment (such as protective work shoes).

### **1.4 What to do in the event of breakdown or leaks**

- Close media lines using the appropriate valve.
- Contact a suitably trained expert or customer service of the manufacturer.

**The device will only be cleared for operation again when the trained engineer has remedied the fault and restored the device to its intended condition.**

### **1.5 Spare and wear parts**

All spare parts to be used, must correspond to the technical requirements defined by Meibes System-Technik GmbH. This is guaranteed only by using genuine spare parts. The manufacturer is not liable for damage caused by the use of unapproved spare parts or ancillary materials. Appropriate spare parts can be found in our documentation.

### **1.6 Requirements on trained engineers**

A qualified professional must have undergone advanced technical training and have sufficient experience to independently perform complicated tasks or work associated with residual hazards. Each experience refers to a certain speciality, e.g. Maintenance, Electrical and/or HVAC Technician. In preparation for impending work, a qualified professional must be able to correctly estimate the feasibility, risks and hazards of the work as well as the equipment required. A qualified professional is expected to understand complex plans and descriptions of minimum preparation, and to obtain missing and required detailed information by suitable means.

The qualified professional must be able to restore and verify the intended/original state of the system. A worker can be a trained expert in several fields. For the performance of electrical works, only trained electricians according to DGUV regulation 3 may be used.



## 1.7 Liability and copyrights

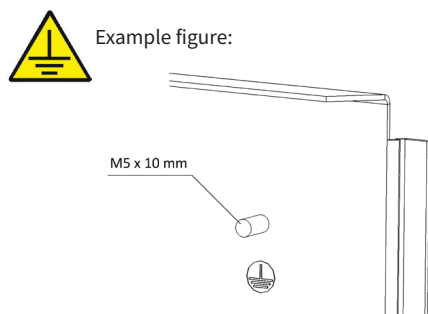
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This original operating manual may not be reproduced or distributed, either in part or in its entirety, without the express permission of the manufacturer. This also applies to translations of this document and storage on other media. This document must not be used outside its intended purpose.

These installation and operating instructions must be given to the customer. The technician carrying out and/or authorising the work (e.g. installer) must explain the functioning and operation of the system to the customer in a readily comprehensible way.

## 1.8 Earth bonding or protective earthing in accordance with VDE

A terminal for earth bonding is provided on all interface stations. An appropriately labelled stud can be found on the base plate for this purpose. Connection cross-section according to the applicable standards and regulations.



## 2. Functional description

The LogoThermic G2 interface unit provides a residential unit with domestic hot water and heating. The domestic water is heated by a stainless-steel plate heat exchanger based on the continuous flow principle.

### LogoThermic G2 - area of application

Decentralised interface transfer station for heating circuit supply and hygienic hot water preparation in renovations and new-build properties, as the hot water preparation takes place using the continuous flow principle.

Depending on the variant, a static heating circuit (radiators) and/or mixed heating circuit (surface heating) can be supplied. Water heating takes priority over the heating circuit.

### Features of hot water preparation with thermostatic control

Effective regulation of the hot water temperature with different draw-off volumes. Enhanced system efficiency thanks to low return line temperatures (even in cases of weak hot water heating loads due to RTL) and optimised adjustment of the primary flow.

Adjustable hot water temperature (approx. 35 to 70°C) and adjustable change-over temperature for priority switching.

No moving parts in the domestic water zone.

### Further features

Adaptors for a heat and cold water meter are included in the scope of supply with every station.

- Other accessories according to current price list

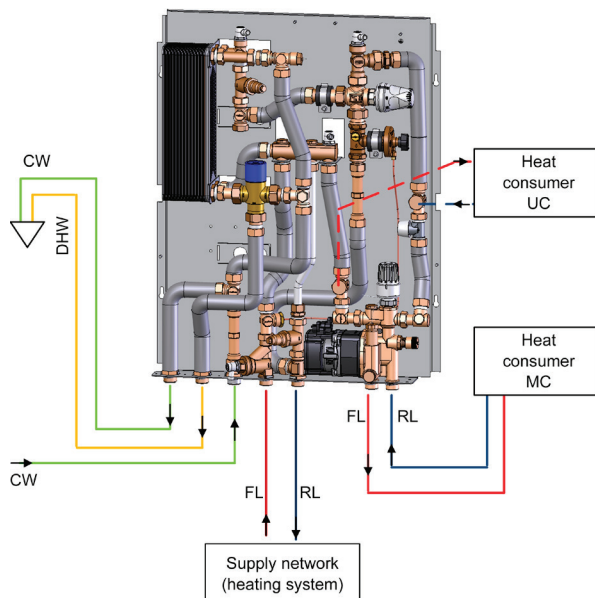


Fig. application example

## 3. LogoThermic units

### 3.1 Technical data

#### 3.1.1 HIU characteristics and performance parameters

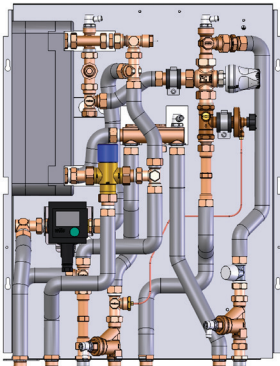
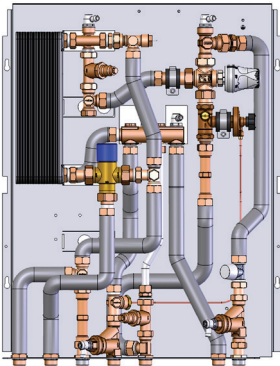
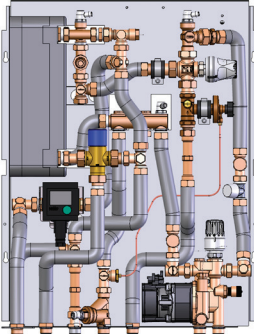
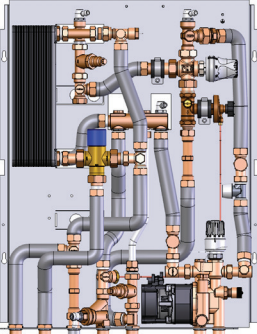
- Metallic base plate with fixed mounting rail
- Stainless steel plate heat exchanger and thermally insulated corrugated pipes
- Thermostatic control of water heating
- Adjustable zone valve in the heating circuit, adjustable thermal circulation bridge
- Venting option on the heating side
- One adaptor ( $\frac{3}{4}$ " x 110 mm) for heat flow meters included
- Adaptor for water meters included
- Integrated differential pressure regulator for hydraulic balancing
- Dirt trap in the primary inlet and secondary return flow (only for UC) to protect the station
- With MC variants, an additional UC can be connected via an optional pipe set
- Including heating circuit manifold, through ball valves  $\frac{3}{4}$ " and mounting rail
- Either wall-mounted or flush-mounted installation (optional accessory)

**Performance parameters:**

Draw-off capacity	S-Line 12 l/min (35 kW); M-Line 17 l/min (46 kW) at approx. 1 bar pressure loss, at max. 40 K heating and 65°C FL temperature
Heating capacity - residential unit	up to 10 kW (20 K)
Max. permissible temperature:	90°C
Max. permissible pressure (heating, primary side):	PN 10
Max. permissible pressure (domestic water):	PN 10

**Note on the DHW outlet temperature:** Limitation or blocking of the relevant thermostatic control elements can be used as protection against scalding and can be changed or removed (see Section 5.6).

**LogoThermic G2 - decentralised interface units, thermostatically controlled**

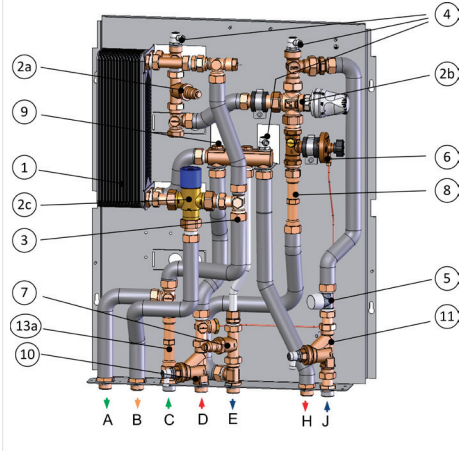
Models: each as an S or M-Line	with domestic water circulation (DWC)	without drinking water circulation (DWC)
<b>UC:</b>  -With thermostatic DHW controller, circulation bridge, plate heat exchanger, air vent, differential pressure regulator, flat sealing connections and dirt trap -Adaptor for water meter and heat flow meter, adjustable zone valve and domestic cold water connection		
<b>MC:</b>  -Components as for UC -Also with thermostatically controlled compact mixing group with high-efficiency heating circuit pump and adjustable bypass for the supply of surface heating		

\* Example figure

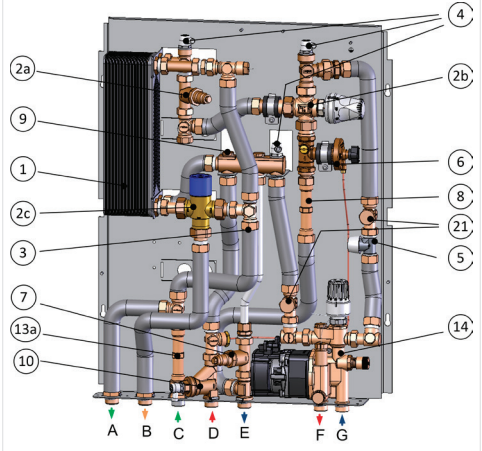
### 3.1.2 Components and hydraulic diagram

**Models:**

**LogoThermic G2, UC**

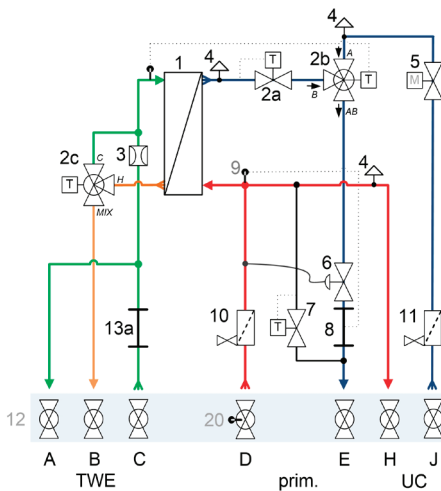


**LogoThermic G2, MC**

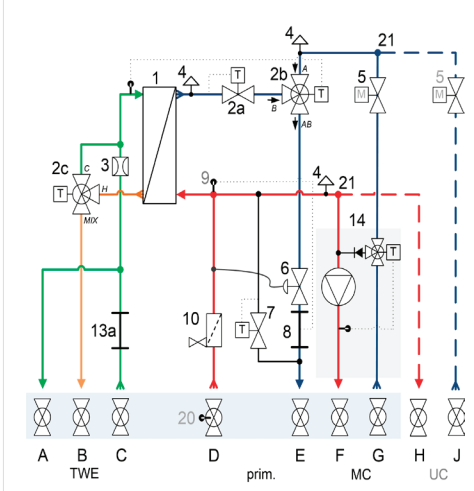


**Hydraulic function diagram:**

**LogoThermic G2, UC**



**LogoThermic G2, MC (with optional UC)**



\* Example figure

**Legend:**

No.	Description of components
1	Stainless steel plate heat exchanger (copper or stainless steel brazed; or copper brazed with sealing)
2 a	Circulation bridge (35 to 65°C) with forced leakage (for RL temperature limitation), Factory setting: 1.5 rotations up
2 b	Thermostatic three-way valve DN 20, Kvs=3.5 in RL and startec 4-M30x1.5 thermostatic head for setting the priority switching (20 to 50°C) 0.17 mm/K with 2 m remote sensor, factory setting: Mark number 30, or 45 for DWC variants
2 c	Flamcomix 1" DN20 (thermostatic drinking water mixing valve without RV) adjustable 35 to 70°C, factory setting: 50°C (3 rotations up)
3	Flow limiter as hot water limiter with corresponding colour code: S-Line: olive M-Line: purple
4	Venting plug ½", 10 bar, in heating SL and RL
5	Zone valve for heating circuits (option: living space controller)
6	Differential pressure regulator DN20, Kvs=2.5, adjustable: 20 to 40 kPa, factory setting: 38 kPa
7	Thermostatic circulation bridge adjustable 35 to 65°C (as keep-warm function)
8	Adaptor for optional heat meter (L = 110 mm, 2 x ¾" MT)
9	Possibility to accommodate a ½" immersion sleeve of an optional heat meter
10	VL dirt trap with flushing, filling and drain ball valve
11	RL dirt trap with flushing, filling and drain ball valve (only with UC variant)
12	<i>Optional shut-off ball valve ¾" union nut x ¾" FT (option)</i>
13 a	Adaptor option for cold water meter L = 110 mm, 2 x ¾" MT
14	Mixing circuit with bypass and high-efficiency pump, type GF UPM3 Auto 15-70 GGMBP, thermostatically controlled (20 to 65°C) with thermostatic valve, type Rotherm II (only with MC variant)
18	Domestic water circulation pump, type Wilo Star-Z Nova T and separate plug-in backflow preventer, on the domestic water side, depending on variant, see Section 3.2.1
20	<i>Ball valve with measuring connection for optional HFM (if item 12 available)</i>
21	Connection option for additional static heating circuit UC (only with MC version)

**Note:** Not all options are available or freely combinable for each station type.

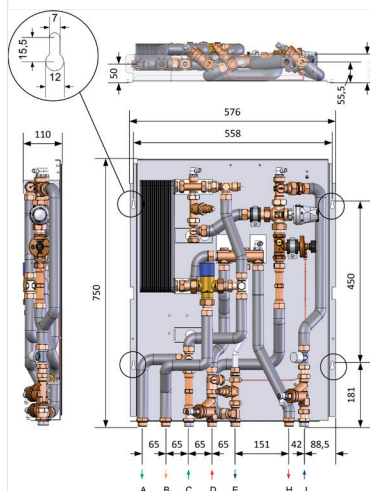
**Connections with dimensions (S, M-Line):**

<b>A</b>	Cold water – (CW) outlet in apartment	
<b>B</b>	Domestic hot water – (DHW) domestic outlet	
<b>C</b>	Cold water – (CW) inlet at building connection	
<b>D</b>	Heating – (primary FL) Supply line building connection	
<b>E</b>	Heating – (primary RL) Return line building connection	G ¾" MT (without ball valves)
<b>F</b>	Heating – (sec. SL) supply line to dwelling heating circuit, MC	
<b>G</b>	Heating – (sec. RL) return line from dwelling heating circuit, MC	
<b>H</b>	Heating – (sec. SL) supply line to dwelling heating circuit, UC	
<b>J</b>	Heating – (sec. RL) return line from dwelling heating circuit, UC	
<b>Z</b>	Domestic water circulation (DWC), depending on variant	

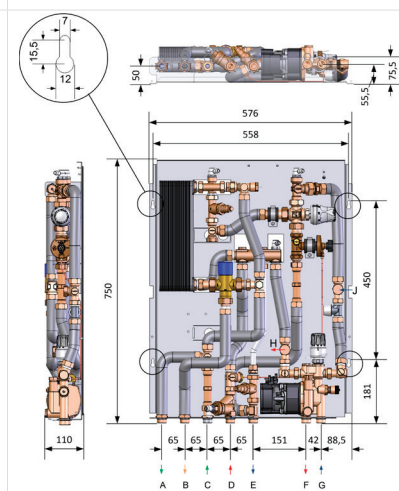
### 3.1.3 Dimensions

Dimensions of the unit with base plate and connection holes (in mm):

#### LogoThermic G2, UC



#### LogoThermic G2, MC

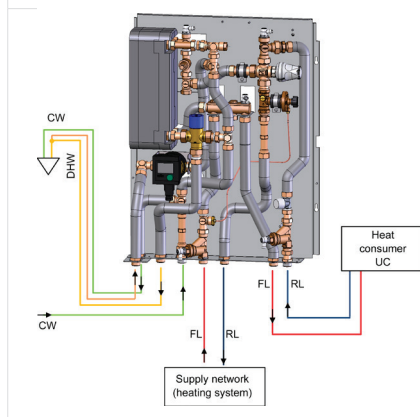


## 3.2 Variants

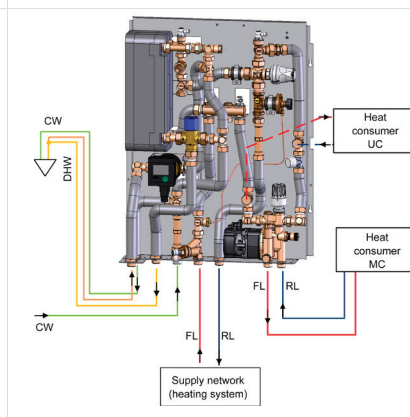
### 3.2.1 LogoThermic G2 with domestic hot water circulation (DWC)

The domestic water circulation system is (DWC) used to provide a constant supply of domestic hot water (DHW) to the taps. Long periods of disuse should be avoided! Please ensure that you comply with the relevant technical regulations and guidelines (including for cold water CW).

#### LogoThermic G2, UC with DWC



#### LogoThermic G2, MC with DWC



A backflow preventer (RV) is installed on the pressurised side of the circulation pump on the domestic water side in order to prevent unwanted circulation.

**Notes:**

The water content of the longest DHW line (without taking DWC into account) should not be greater than 3 litres. Any possible health risk (e.g. Legionella growth) versus possible energy savings must be borne in mind when setting up and operating the DWC system. The relevant applicable technical rules and valid standards must be observed and complied with.

The safety fuse of the wholesome water (sanitary) installation in a dwelling with a domestic water circulation connection must comply with DIN 1988, i.e. with a safety valve and, if necessary, an expansion vessel.

The domestic water circulation may only be put into operation once the station has been filled with domestic water (voltage supply 230 V). Otherwise the circulation function or connector must be taken out of operation in order to prevent the risk of it running dry.

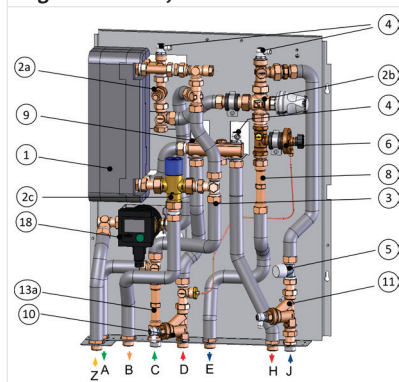
**Notes:**

The circulation pump with timer is set at the factory to run for 24 hours.

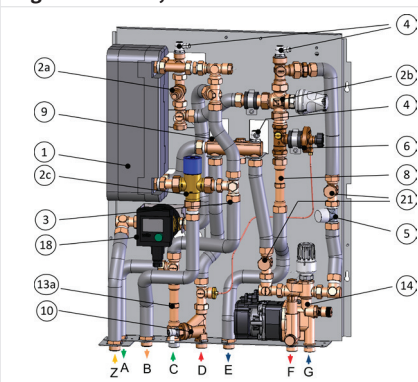
Note: the temperature control function should not be used.

**Models:**

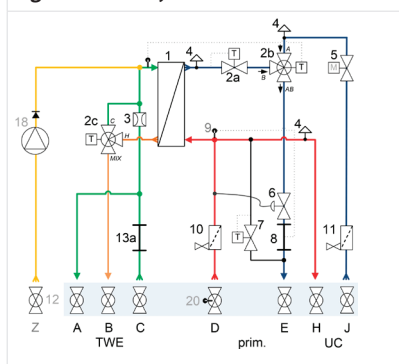
**LogoThermic G2, UC with DWC**



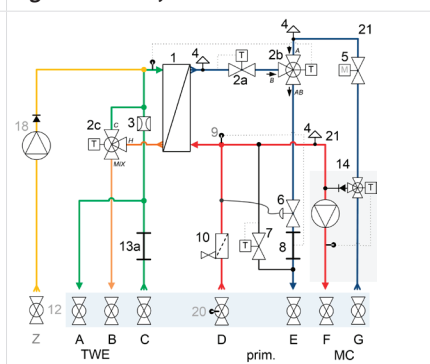
**LogoThermic G2, MC with DWC**



**Hydraulic function diagram: LogoThermic G2, UC with DWC**



**LogoThermic G2, MC with DWC**



**Note:** for the legend, see Section 3.1.2

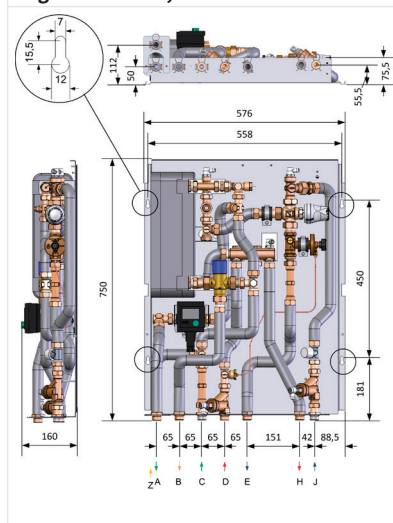
The factory-set blocking of the thermostatic heads can be subsequently adjusted or removed (see Section 5.6).

Item 2b) Three-way valve: Number 45

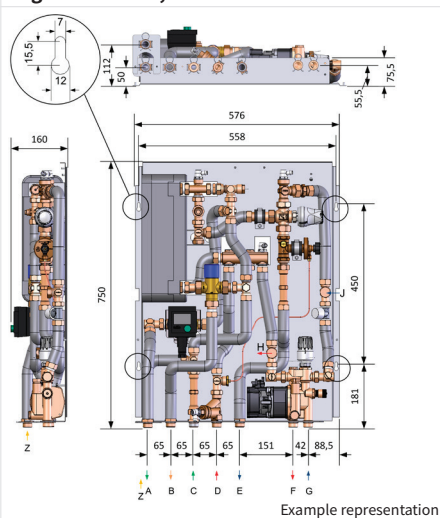
The temperatures must be adjusted on site as required. Please ensure that the settings comply with the standards when using domestic water circulation.

### Dimensions:

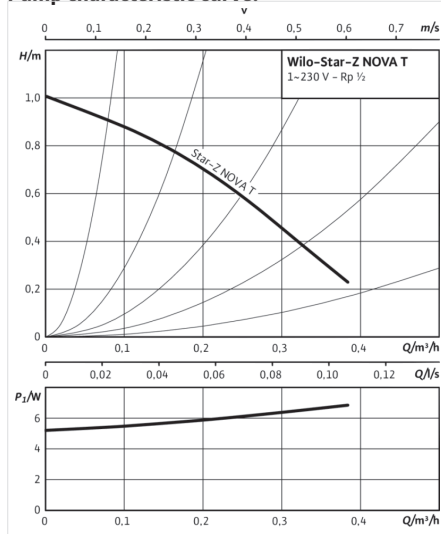
#### LogoThermic G2, UC with DWC



#### LogoThermic G2, MC with DWC



### Pump characteristic curve:



### Areas of use of the DWC pump:

Media temperature = 2 to 95°C, ambient temperature = 2 to 40°C, max. 10 bar, pump protection code: IP42

The domestic water circulation pump is suitable for use in hard water up to 20°dH.

### Electrical connection:

The pump must be connected on site with a separate 230 V power supply cable.

For the 230V/50 Hz electrical connection of the DWC pump: see separate instructions from the pump manufacturer!

### 3.2.2 Special variants

For further information and notes (e.g. connection sequence) regarding special variants, see the separate supplementary sheets.



## 4. Installation

Please follow the safety instructions contained in this document and any additional assembly instructions during installation!

Installing and operating the stations incorrectly will invalidate any warranty claims.

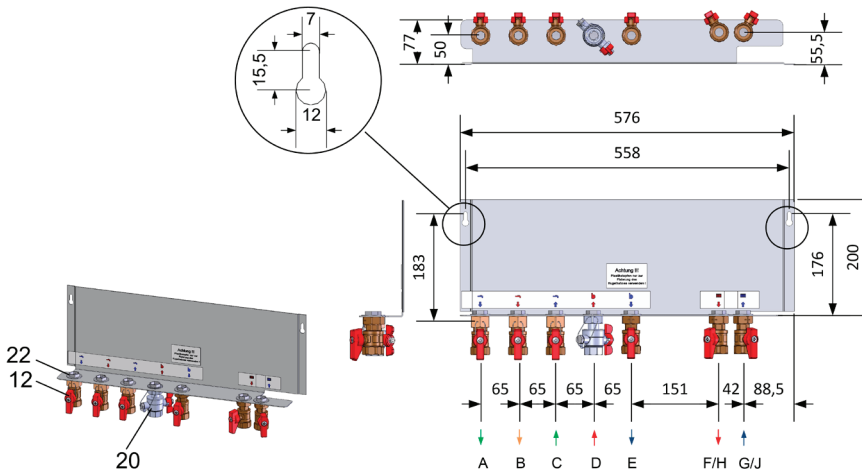
**The LogoThermic heat interface station can be installed as follows:**

**A)** Wall-mounted with surface-mounted cover

**B)** Flush or shaft-mounted (set into wall) with flush-mounted cover or corresponding installation frame

**Corresponding surface-mounted and flush-mounted covers are available as accessories**

### 4.1 SM/FM mounting rail with 7 ball valves (for MC/UC)



Art. No.: M10203.181

#### Legend:

(12) - Shut-off ball valves straight (for DW DVGW-tested)

(20) - FL ball valve with sensor mounting option for optional HFM

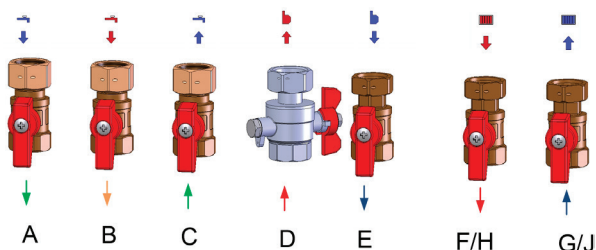
(22) - Plastic plug

#### Notes:

Use plastic plugs only to fix the ball valves.

Please note for MC variants, there is no holding point for the optional 2nd static heating circuit and for the DWC connection. For variants with DWC, a corresponding ball valve for the Z connection may have to be provided separately.

## 4.2 DN20 ball valves, straight



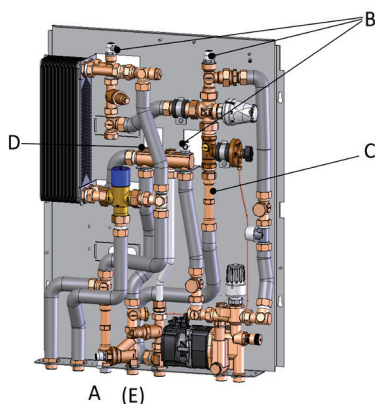
Legend, see Section 3.1.2

<b>Ball valves</b> with ¾" FT x ¾" FT union nut, with 1 ball valve with sensor mount for HFM and domestic water ball valves, DVGW-tested	<b>Art. No.</b>
Version with 7 ball valves (as shown above)	M10252.32
Version with 8 ball valves, for e.g. LogoThermic / LogoThermic Plus variants with DWC and Z-connection	M10252.33
1x domestic water ball valve DVGW tested, for e.g. Z-connection	M61801.22
Version with 5 ball valves, for e.g. LogoThermic Variant with lateral connection set and underfloor manifold (for 3-12 HC)	M10252.34

## 4.3 Completing stations

### 4.3.1 Optional heat meter installation

The heat meter may only be installed once the entire heating system has been flushed through. LogoThermic stations are fitted with an adaptor (L = 110 mm, 2x ¾" MT) for a heat meter that must be removed before the heat meter is installed.



#### **B Procedure:**

Close all shut-off valves "A" in the station.  
Lower the system pressure by opening the bleeding devices "B". Then loosen the screw fittings on the adaptor "C".

**C WARNING:** Water may leak from the system. (The unit can be drained via any available fill and drain valves.) Remove the adaptor and insert the heat meter and screw it in place.

**NOTE:** Bear in mind the direction of flow. (Do not forget the seals.)

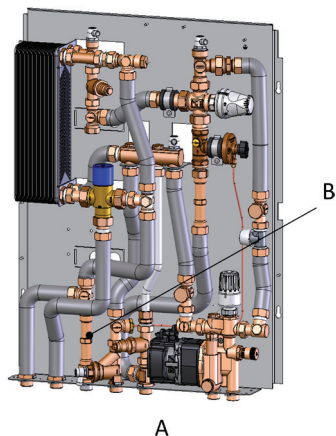
Alternatively, if ball valve with seat has been installed: Remove the lock in position "D". Screw in and seal the heat meter flow line sensor

A (E)

Once the work is complete, re-open the shut-off valves and use the bleeding devices to bleed the unit. Perform a leak-tightness check.

### 4.3.2 Optional water meter installation

LogoThermic G2 HIUs are fitted with an adaptor (with L = 110 mm, 2x ¾" MT) for a cold water meter (B1) that must be removed before the water meter is installed.



#### Procedure:

All shut-off valves "A" (if present) on the unit must be closed.

Release the screw connections on adaptor "B".

**WARNING:** Water may leak from the system.

Remove the adaptor and insert the water meter and screw into place.

**NOTE:** Bear in mind the direction of flow. Do not forget the seals.

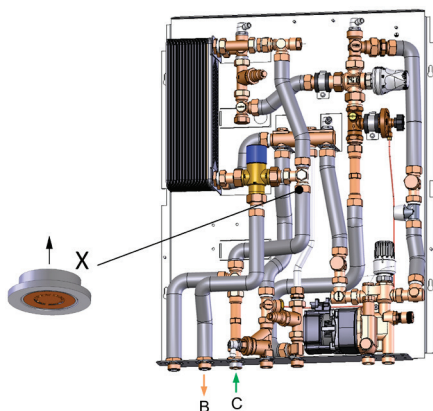
Once the work is complete, re-open the shut-off valve and check the threaded joints for leaks.

## 5. Description of individual components and setting options

### 5.1 Hot water limiter

LogoThermic G2 HIUs are fitted with a hot water limiter "X".

The model with gasket simplifies the installation process (for installation position see fig.)



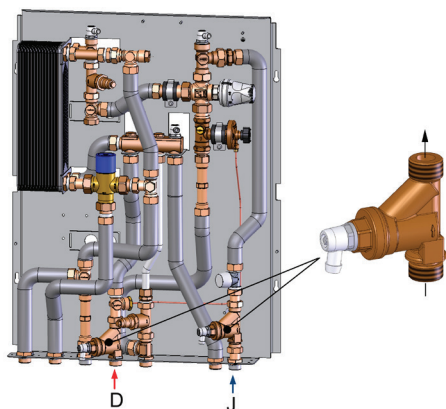
Observe the colour coding of the throttle plates, e.g.:

S-Line: - Olive

M-Line: - Purple

## 5.2 Dirt traps

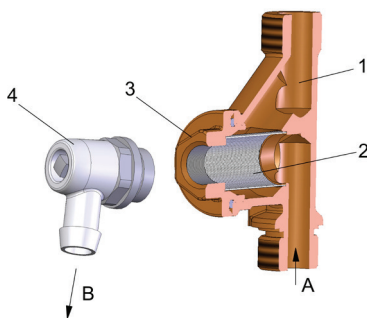
Dirt traps in the units' SL connection (and the domestic RL for UC versions) protects the system against sludge and impurities.



### Detailed structure of a dirt trap

(example illustrations):

The dirt traps can be cleaned by flushing through the drainage device (4) or by removing the locking screw (3) and removing the sieve insert. Before dismantling (item 4 or 3) and removing the sieve, depressurise the station.



### Legend:

No.	Components	Comment
1	Meibes T dirt trap	¾" ET / ET
2	Sieve insert for dirt trap	D = 20 x 40 mm, mesh size 0.5 mm
3	Locking screw	SW 24
4	Water drainage stopper	3/8"
A	Direction of flow of heating water	
B	Drainage and flushing direction	

### 5.3 Zone valve for heating circuit

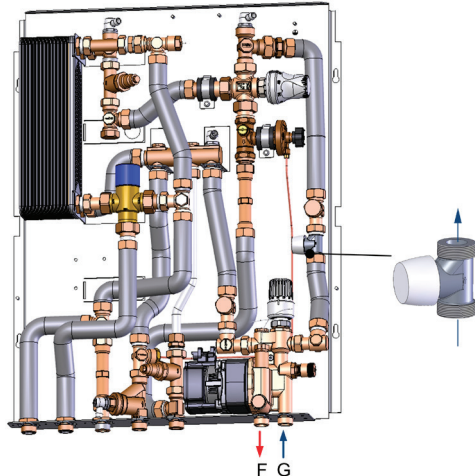
The pre-adjustable zone valve in the heat interface unit limits the hot water flow rate to the heating circuit to compensate for the higher pressure losses during the heating of the hot water. To avoid flow noise in the apartment, it is advisable to adjust the zone valve in accordance with the design documents.

**Note:** The zone valve has a Kvs value of 1.8.

As an option, an additional electric actuator can be used to switch off the domestic heating circuit (STL and room thermostat function).

Please observe the installation instructions available separately if installing an optionally available living space controller.

#### For valve presetting of the zone valve:



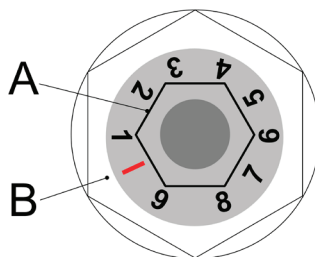
Take and adjust the setting value from the design documents according to the system for the desired heating system flow rate.

To do this, remove the protective cap (white) from the valve and carry out the following setting steps.

(Item A) Carry out valve presetting with a suitable tool (e.g. size 7 open-ended spanner):

1. Close the valve (by approx. 2 clockwise turns)
2. Mark the new "zero point" (item B)
3. Then set the desired volume flow (according to the diagram curves) using the scale 1 to 9 at the new "zero point" (turn anti-clockwise).

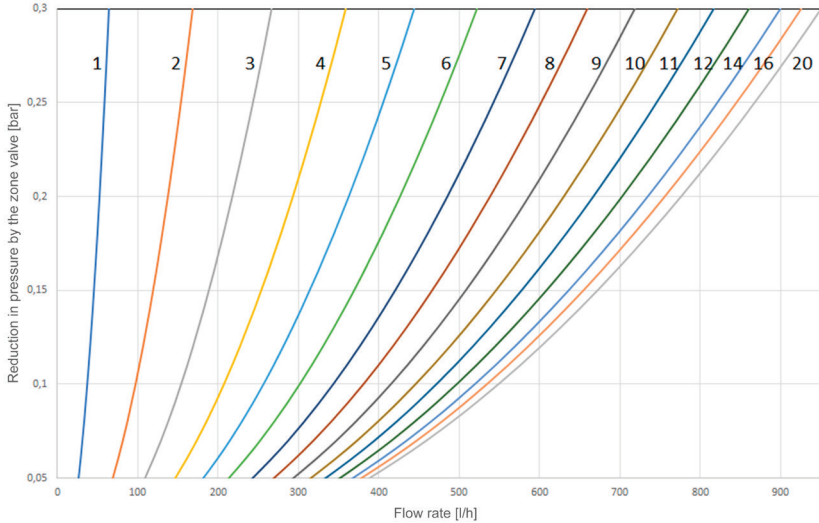
**Note:** Here, diagram curve 12 means turn one turn up and then set to 2.



Example representations

Please take account of the following guideline diagram for setting the zone valve.

### Setting curves for the zone valve:



**Note:** In the case of an existing heat meter, the volume flow can also be set with the aid of the heat meter.

### 5.4 Differential pressure regulator

For the specifications for setting the differential pressure regulator, please refer to the design documents.

Control valve: Dp regulator DN20 FT, 20-40 kPa, factory setting 38 kPa

If the desired hot water output is not achieved, then adjustments can be made to the differential pressure regulator.

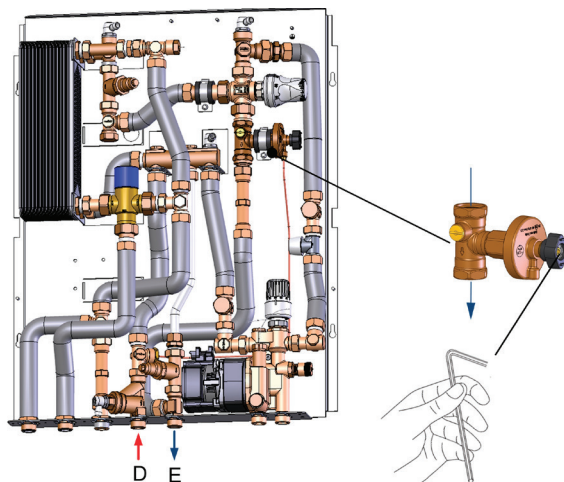


To adjust the differential pressure regulator, rotate the hexagon socket wrench anticlockwise until the end point is reached and the spring is fully released. At this point, turn the hexagon socket wrench clockwise until the setting value described in the table below (desired differential pressure) is reached.

**Note:** The black handle is used to block the flow.

## Valve settings for desired differential pressure

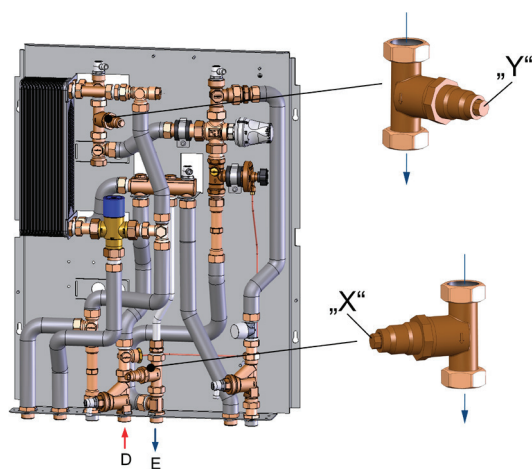
Rotations	20-40 kPa
	Dp [kPa]
0	20
1	21
2	22
3	24
4	25
5	26
6	27
7	29
8	30
9	31
10	33
11	34
12	35
13	37
14	38
15	39
16	40
17	



Setting with 4-mm hexagon socket wrench.

**Note:** a change in the differential pressure regulator leads to a change in the control behaviour.

## 5.5 Thermostatic circulation bridge



The thermostatic circulation bridge guarantees uninterrupted provision of the heating medium for water heating.

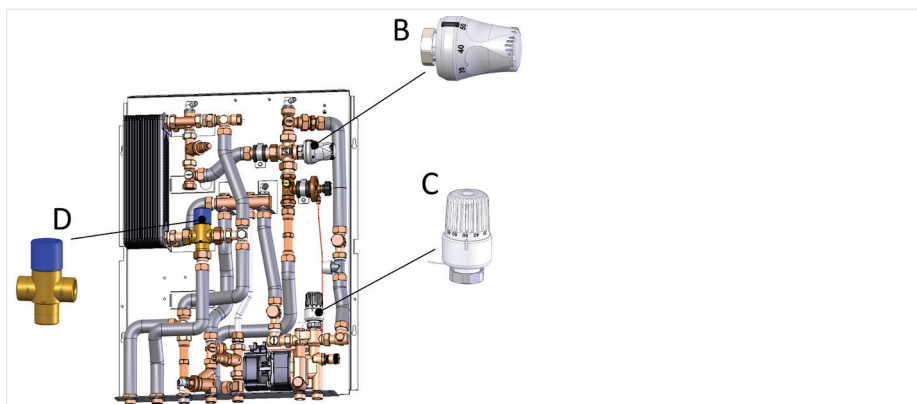
The supply temperature can be continuously adjusted between 35°C and 65°C on the temperature scale.

Adjust the value by screwing spindle "X" or "Y" in or out using an open-ended wrench (11 mm).

**Note regarding "X":** the factory setting is closed (screwed in completely)

**Note regarding "Y":** this is a circulation bridge (35 to 65°C) with forced leakage hole. The circulation bridge "Y" ensures that the return temperature is limited. (Factory setting: 1.5 turns from closed)

## 5.6 Thermostatic control valves



Item	Description
(B)	<p>The 3-way valve is for switching between heating and the DHW supply (priority switching)</p> <p>Switching occurs when cold domestic water flows into the heat exchanger.</p> <p><b>Setting recommendation for the thermostatic head:</b> Mark numbers: 30 (without sanitary circulation)   45 (with sanitary circulation)</p> <p><b>The 3-way valve consists of:</b></p> <ul style="list-style-type: none"> <li>-startec 4 (M30x1.5) thermostatic head with setting range 20 to 50 (incl. fixation option of the mark number) and 2 m remote sensor</li> <li>-Three-way valve body DN 20, kvs=3.5</li> </ul>
(C)	<p><b>This thermostatic head is only available on LT G2 MC variants. It regulates the supply temperature of the mixed heating circuit*</b></p> <p>Thermostatic head with Rotherm II remote sensor, setting range 20 to 65 (according to corresponding mark numbers).</p>
(D)	<p><b>Flamcomix DN20 as a thermostatic domestic hot water mixing valve:</b></p> <p>Temperature setting range 35 to 70°C (suitable for Legionella flushing and low temperatures)</p>

**Note:** please observe separate instructions in each case

**\*Warning:** The regulations in your country concerning domestic water hygiene and the permissible operating parameters for your domestic water & heating system must be observed when setting the temperature values. The individual thermostat heads have a locking mechanism and must be secured against inadvertent adjustment.

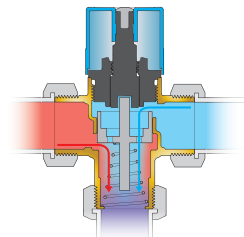
**Note:** The indications on the thermostatic heads are not temperature values, but rather mark numbers. The temperatures must be set on site.

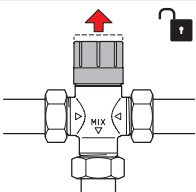
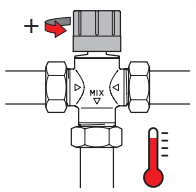
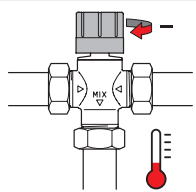
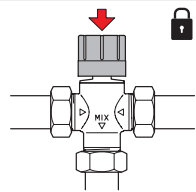
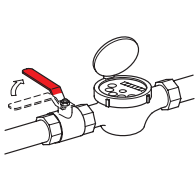
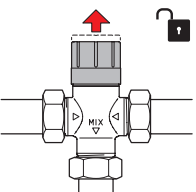
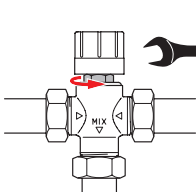
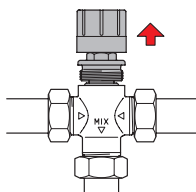
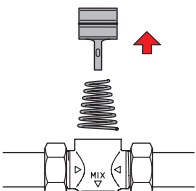
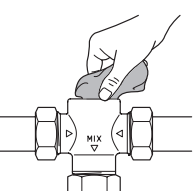
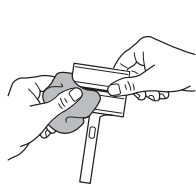

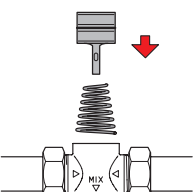
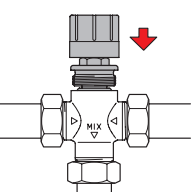
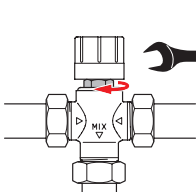
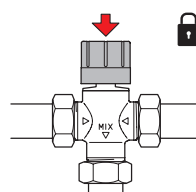


### 5.6.1 Thermostatic domestic water mixing valve, Flamcomix

Factory setting: 3 turns from closed

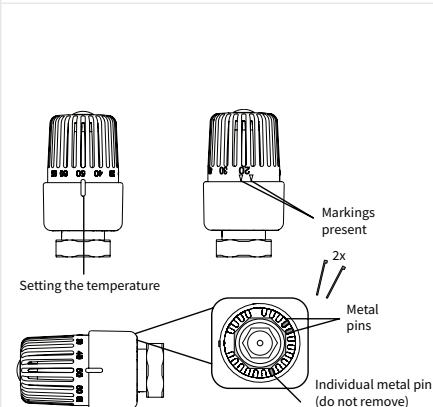
Functionality based on a sectional view:



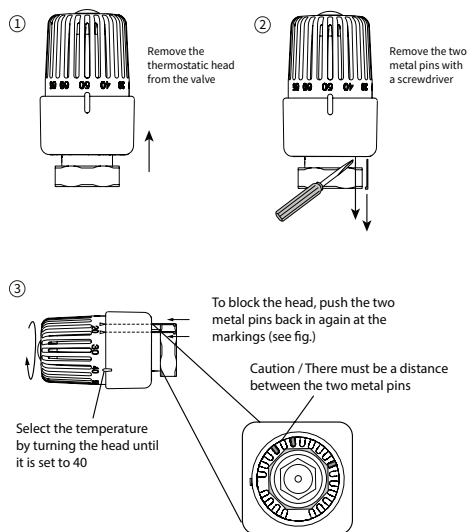
Setting options			
			
Service and maintenance			
			
			 Unisilikon L250L
			

## 5.6.2 Thermostatic head, type Rotherm II (only for stations with mixed heating circuit)

The following fixing option is available for the thermostatic head, type Rotherm II (item C)

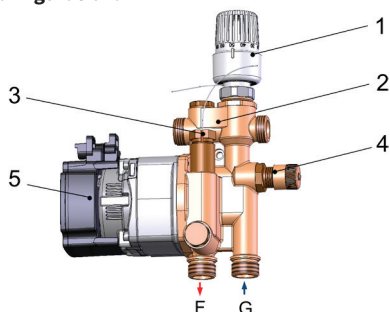


Example: Locking the thermostatic head at 40:



## 5.7 Compact mixing circuit with high-efficiency pump (only for MC variant)

Configuration:



Legend:

- 1- Thermostatic head with remote sensor and fixing option, type Rotherm II (setting range: 20 - 65)
- 2- Backflow preventer (RV)
- 3- Screw-in temperature sensor G $\frac{1}{2}$ " in immersion sleeve (for flow line sensor)
- 4- Secondary bypass (continuously adjustable)
- 5- Heating circuit pump, type Grundfos UPM3 Auto 15-70

F- Dwelling heating circuit FL  
G- Dwelling heating circuit RL

### 5.7.1 Secondary bypass on mixer (in compact mixing circuit)

The bypass (4) is set to closed in the factory. Notes on how to adjust it can be found in the following table (open by turning to the left):

Open bypass (rotation)	0.5	1	1.5	2	3	4	5	6
Flow rate	30%	44%	71%	82%	92%	96%	98%	100%

## 5.7.2 Heating circuit pump

Electrical data: 230 V, 50 Hz

Number of P1 (W) I1/1 [A]

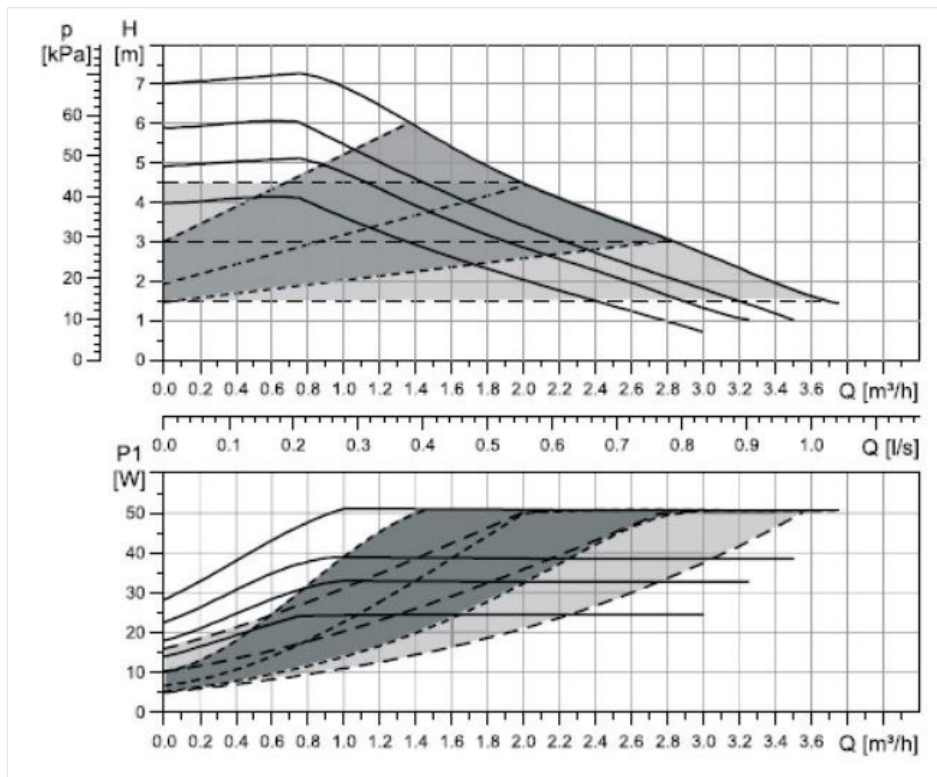
Revolutions

MIN. 5 0.07

MAX. 52 0.52



### Performance characteristic:



### Technical data:

Operating pressure: max. 1.0 MPa

Minimum supply pressure: 0.05 MPa

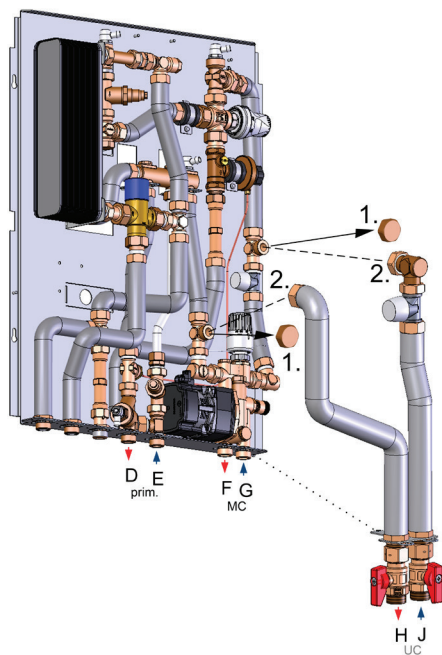
Media temperature: +2 to +110°C

The pump is equipped with an operating key. This can be used to adjust e.g. the alarm/status display or power rating. The LEDs (one red/green and four yellow) indicate the operating/alarm status. The instructions of the pump manufacturer must always be observed!

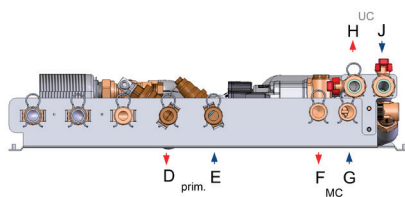
## 6. Optional accessories

**Note:** Some examples are described in the following sections. The illustrations are examples. For other products, such as terminal strips for underfloor manifolds, room temperature controllers, see the corresponding price list or planning document.

### 6.1 Additional static heating circuit (only for MC variants)



After removing the relevant  $\frac{3}{4}$ " caps, the optional pipe set (incl. zone valve and shut-off ball valves) for an additional static heating circuit can be connected to the station. This results in the following connection diagram (view from below):

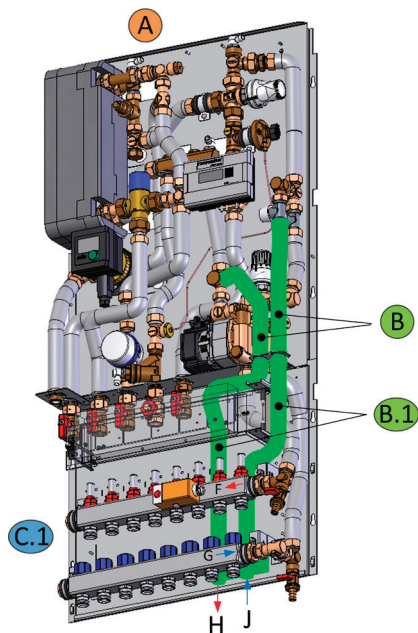


Art. No.: M10253.24

### 6.1.1 Additional static heating circuit (for MC) and simultaneous heating circuit distribution

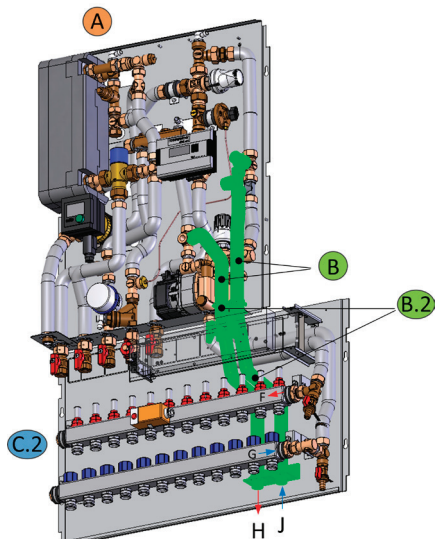
#### LogoThermic G2, MC with 3-8 HC

Example representation with optional DWC, CH, water/heat meter, STM and terminal strip



#### LogoThermic G2, MC with 3-12 HC

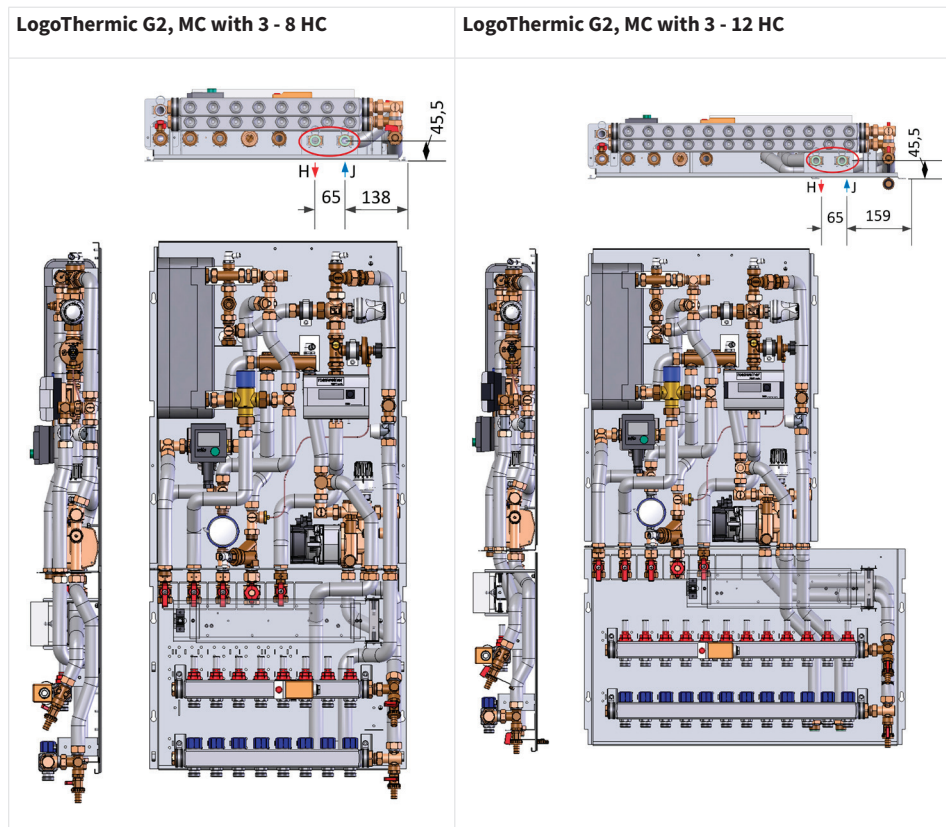
Example representation with optional DWC, CH, water/heat meter, STM and terminal strip



Item	Designation	Art. No.
A	LogoThermic G2, MC station	
B	Upper connection set (ball valves enclosed)	M10253.24
B.1*	Lower connection set (for narrow UFH manifold M10515.3 ... .8)	M10253.17
B.2*	Lower connection set (for wide UFH manifold M10512.33 ... .42)	M10253.18
C.1	Underfloor heating circuit manifold (3 - 8), standard version	See Section 6.2.1
C.2	Underfloor heating circuit manifold (9 - 12), wide version	See Section 6.2.1
F	Heating circuit FL, mixed	
G	Heating circuit RL, mixed	
H	Heating circuit FL, unmixed	
J	Heating circuit RL, unmixed	

\*fastened via riveted sheet metal to the base plate of the HC manifold

## Dimensions and connections



Example representations

## 6.2 Heating circuit manifold for surface-mounted / flush-mounted variants

Manifold variants: Standard: 3 to 8 heating circuits  
Wide version: 3 to 12 heating circuits

Features:

- Emptying, bleed valve in the flow and return line, max. 6 bar
- Flow rate limiter 0.5- 5 l/min
- Valve inserts M 30 x 1.5 with manual adjustment caps
- Stainless steel manifold mounted on base plate

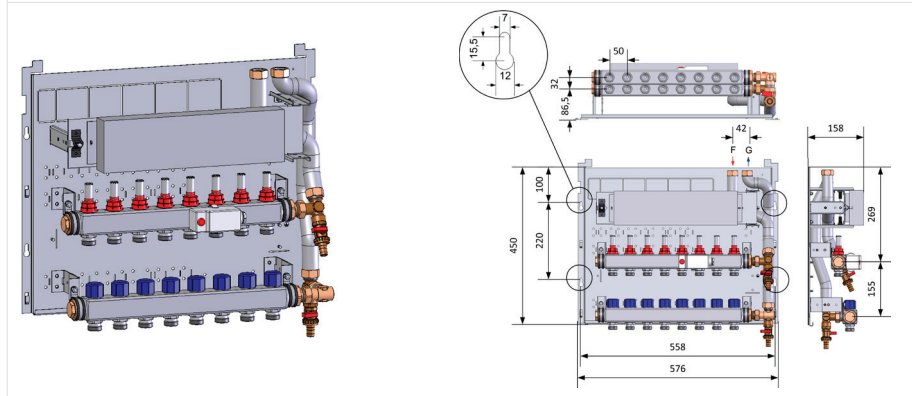
Connections: G 3/4" above to the interface unit, 3/4" MT Euro cone to the heating circuits

For 9 circuits and more, the optional side connection set is recommended as an alternative for max. volume flow.

### 6.2.1 Standard manifold with 3 to 8 heating circuits for MC variants

Heating circuit manifold (connected to compact mixing circuit) for LogoThermic G2, MC variants

**8x UFH manifold** (example representation):



**Note:** Up to 8 heating circuit outlets are supplied at 100% per outlet piece. After that, the output is divided among all the other heating circuits.

#### Art. No.: UFH manifold standard version

3x: M10515.3

5x: M10515.5

7x: M10515.7

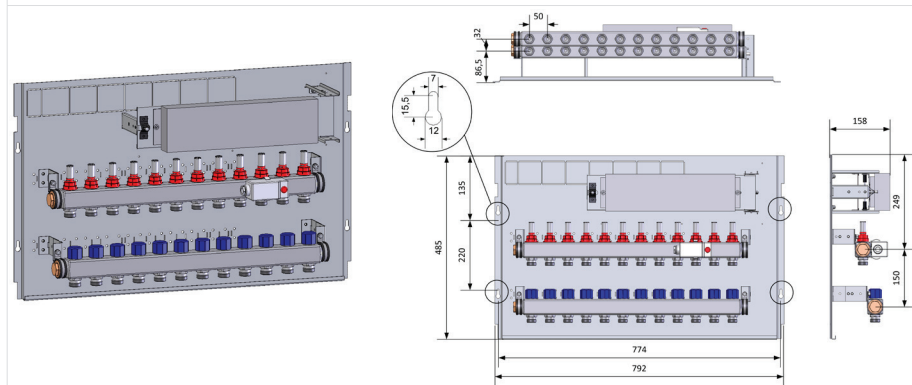
4x: M10515.4

6x: M10515.6

8x: M10515.8

### 6.2.2 Underfloor manifold with 3 to 12 heating circuits (wide version)

**12x UFH manifold** (example representation with pre-wired terminal strip and optional STM)



#### Art. No.: UFH manifold standard version

3x: M10512.33

6x: M10512.36

9x: M10512.39

12x: M10512.42

4x: M10512.34

7x: M10512.37

10x: M10512.40

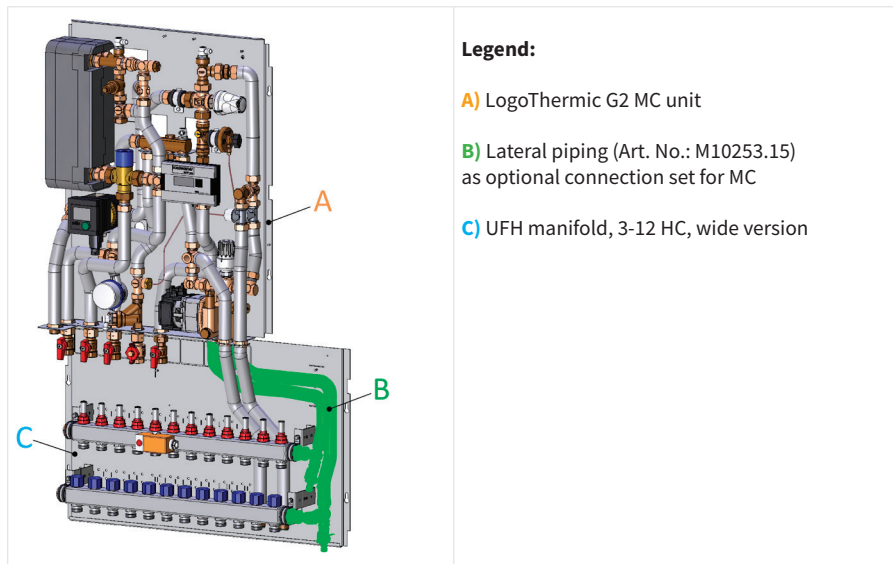
5x: M10512.35

8x: M10512.38

11x: M10512.41

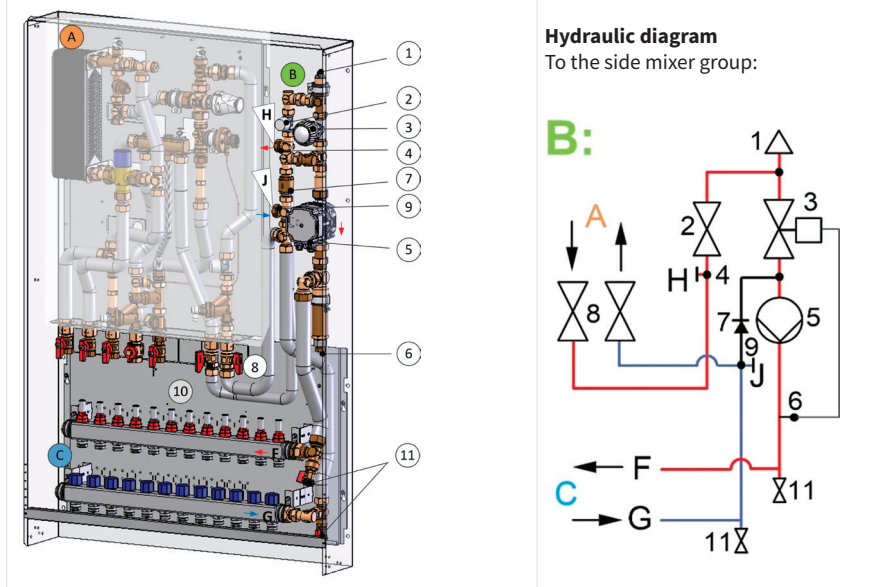
### 6.2.2.1 For MC variants

Heating circuit manifold (connected to compact mixing circuit) for LogoThermic G2 MC variants



### 6.2.2.2 For UC variants

Heating circuit manifold (connected via lateral mixer group) for LogoThermic G2 UC variants





**Legend:**

<b>A</b>	LogoThermic G2, UC station	
<b>B</b>	Side connection set with HE pump, as thermostatic mixing circuit	M10512.26
<b>C</b>	Underfloor heating circuit manifold 3-12 HC	See Section 6.2.2

Item	Components where belonging to <b>(B)</b>	Comment
<b>1</b>	Vent stoppers ½"	
<b>2</b>	Zone valve ¾"	
<b>3</b>	Thermostatic head M30x1.5 lockable, please observe the following setting values accordingly	Adjustment range: 20...70°C
<b>4</b>	FL connection option UC	closed with ¾" cap
<b>5</b>	HE pump, type GF UPM3 Hybrid 15-70, 130 mm BL	
<b>6</b>	Remote sensor for item 3 in TH ½"	
<b>7</b>	Backflow preventer ¾"	
<b>8</b>	Ball valves ¾" UN and handles	if necessary, also observe Section 4.2
<b>9</b>	RL connection option UC	closed with ¾" cap
<b>10</b>	Terminal strip, optional	See Section 6.2.3
<b>11</b>	Fill and drain ball valve ½"	

**Connections:**

<b>F</b>	Heating FL	Heating circuit mixed (to UFH manifold 3-12 HC)
<b>G</b>	Heating RL	
<b>H</b>	Heating FL	Heating circuit unmixed, optional
<b>J</b>	Heating RL	

**to the thermostatic head (item 3)**

Thermostatic head setting	approx. FL temp. in [°C] of the mixed heating circuit
2	20
3	30
4	40
5	50
6	60
7	70

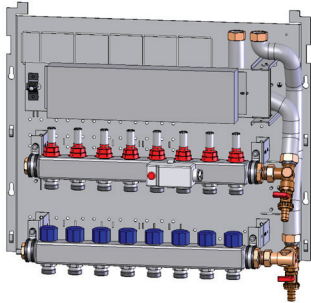
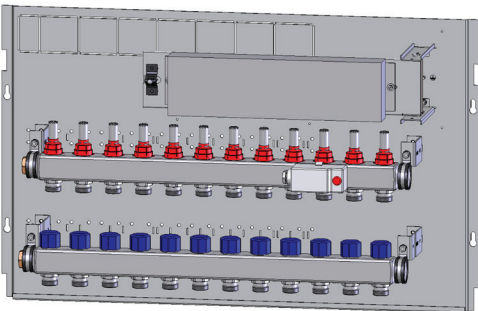
### 6.2.3 Terminal strip for underfloor heating circuit manifolds

See Section 6.2.2.2 for item 10

Notes: on UFH terminal strip (IP44, supply voltage of actuator 230 V):

- up to 8/12 zones (up to 18 actuators can be connected in total)
- with pump logic module
- incl. safety temperature monitor (STM) with thermal actuator
- with night-time lowering
- folding retaining plate for terminal strip

When using more than 10 individual zones, additional zones / heating circuits must be double-occupied with others.

<b>Position of the terminal strip</b>	For SM/FM variants: (above the manifold bars)
Up to 8 HC	
Up to 12 HC	

**Art. no. for UFH terminal strips:**

with pre-wiring concept up to 8 HC / zones

MB-10560.09

with pre-wiring concept up to 12 HC / zones

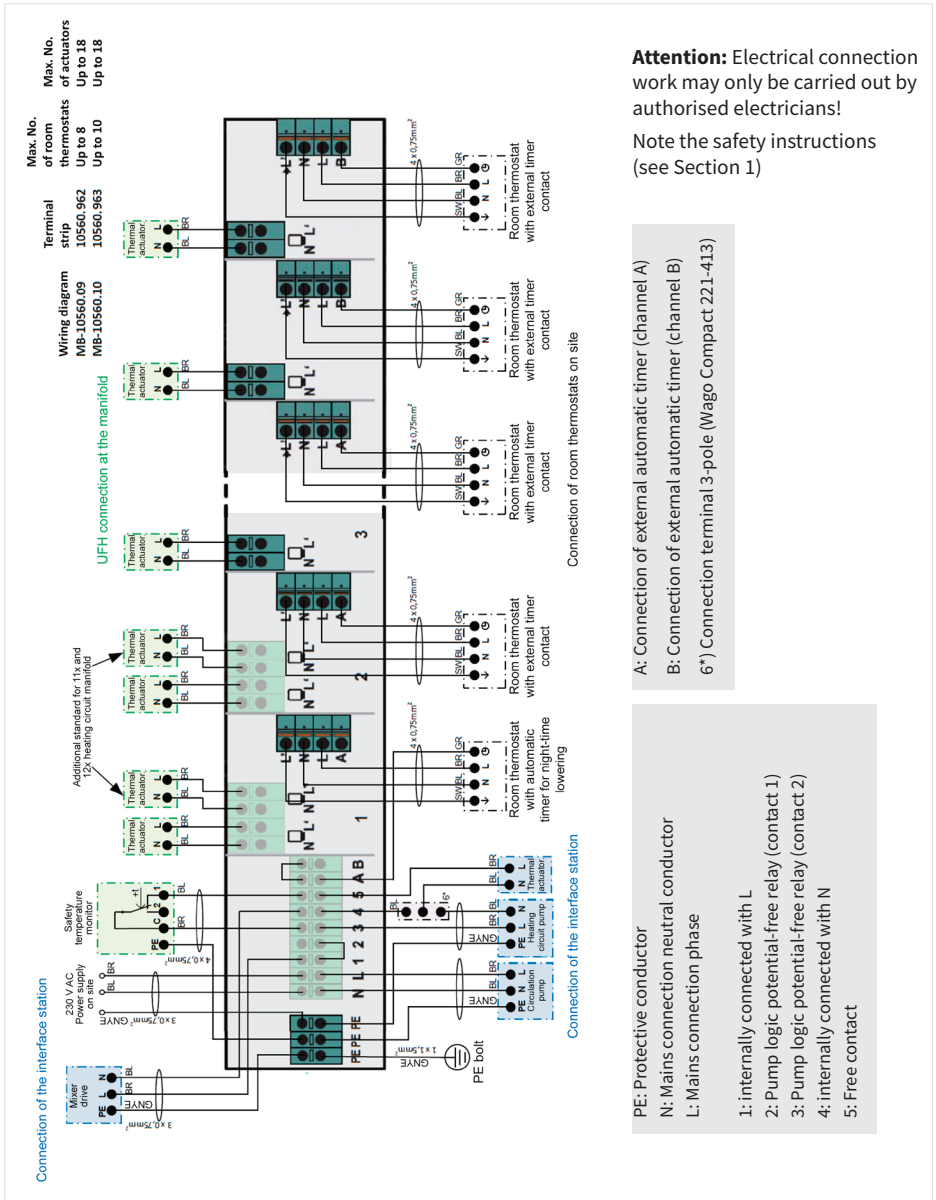
MB-10560.10

**Warning:**

The actuators required must be ordered separately according to the number of heating circuits!

### Wiring plan for controlling actuators in HC manifolds

Electrical connection and wiring plan for controlling LogoThermic G2 stations with optional components (such as room thermostats):



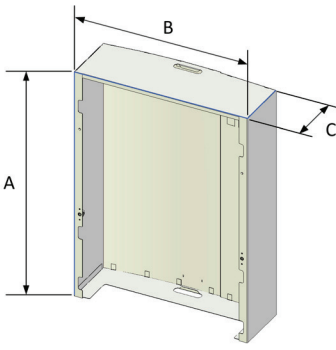
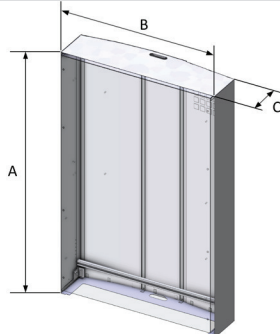
## 6.3 Covers and installation examples

**Depth specifications** of LogoThermic G2 UC/MC stations depending on equipment:

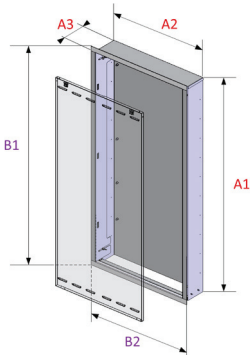
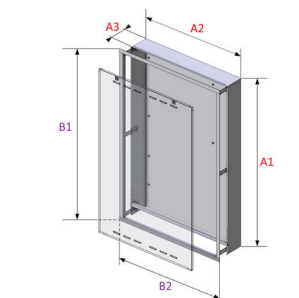


UC	MC	with heating circuit manifold	with pre-wiring concept	With DWC	FM [mm]	SM [mm]
✓					110	210
	✓				140	
✓	✓				140	
	✓	✓			160	
✓	✓			✓	160	
	✓	✓	✓	✓	160	
	✓	✓	✓	✓	160	

**Note:** If several modules are present at the same time, the larger value must be taken into account!  
Please also note the depth dimensions C and A3 of the covers in the following overviews and examples

### 6.3.1 Overview of surface-mounted covers (SM)

Fig. SM, dimensions in [mm]	Height A	Width B	Depth C	Notes
	900	600	210	Surface-mounted cover, coated steel, white (RAL 9016) Art. No.: M11100.11  <b>Note:</b> For wireless use, select plastic variant (-K). Art. No.: M11100.11K
	1330	600	210	For MC variant: Long cover for underfloor manifolds with max. 8 circuits, coated steel, white (RAL 9016) Art. No.: M11100.46 /-K
	1330	850	210	Version for wide UFH manifold and/or adjacent mixer group: Art. No.: M11100.43  also as a plastic version: Art. No.: M11100.43K

### 6.3.2 Overview of flush-mounted covers (FM)

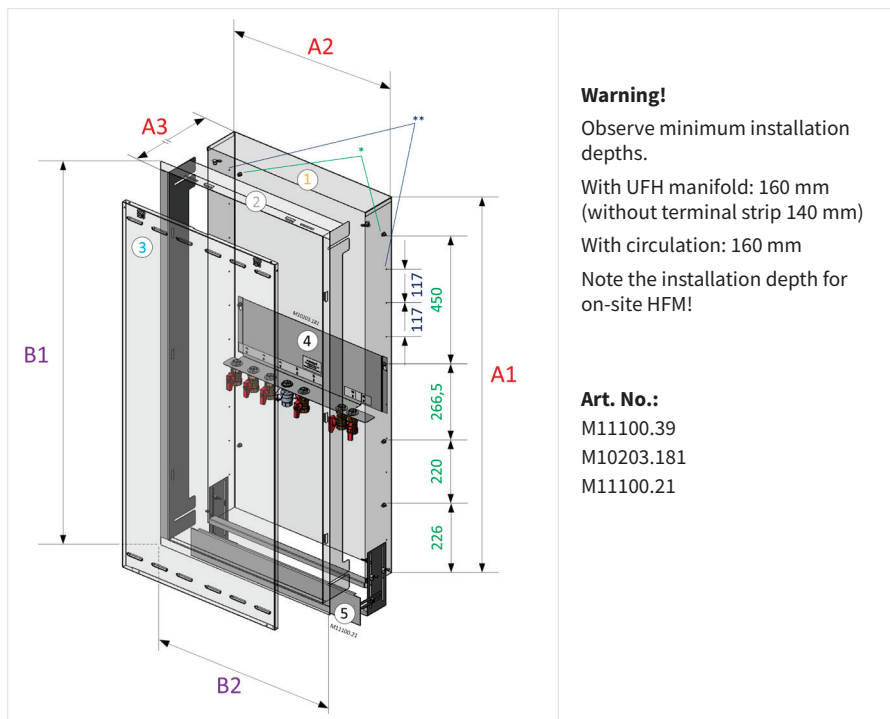
Fig. FM, dimensions in [mm]	Installation dimensions A			External dimensions B	
Flush-mounted cover, completely sealed, coated steel, white (RAL 9016)	Height A1	Width A2	Depth A3 (from-to)	Cover trim height B1	Cover trim width B2
	930	610	110-160	953	655
	for MC variant with underfloor heating connection (manifold with max. 8 circuits):			Art. No.: M11100.38	Plastic design: M11100.38K
Height-adjustable feet with cover trim	220	610	Height adjustable from: 100 to 170 mm	100	655
				Art. No.: M11100.21	<b>Note:</b> for covers M11100.38 /-38K Art. No.: M11100.35
				Height-adjustable feet with cover trim	220
				Art. No.: M11100.42	Version for wide UFH manifold and/or adjacent mixer group, also as plastic version: Art. No.: M11100.29K
	Height-adjustable feet with cover trim	220	826	Height adjustable from: 100 to 170 mm	100
				Art. No.: M11100.71	

### 6.3.3 FM installation examples

#### 6.3.3.1 Long version

Flush-mounted cover: open at bottom, wall-hanging (white, RAL 9016)

#### Structure and dimensions:



#### Warning!

Observe minimum installation depths.

With UFH manifold: 160 mm (without terminal strip 140 mm)

With circulation: 160 mm

Note the installation depth for on-site HFM!

#### Art. No.:

M11100.39

M10203.181

M11100.21

#### Legend:

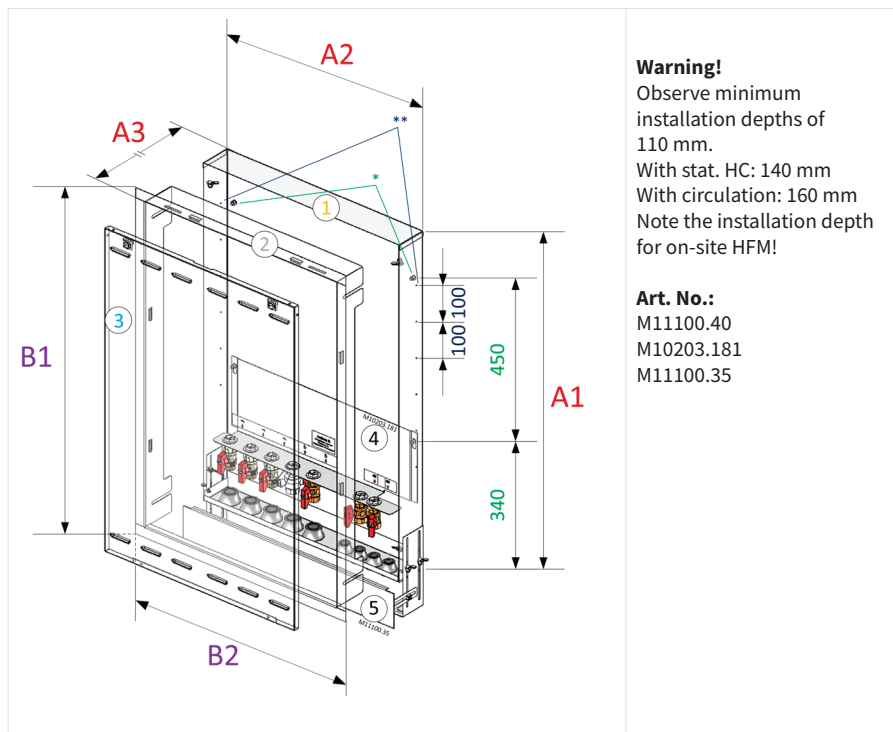
(1)	Mounting frame
(2)	Revision frame (depth adjustable)
(3)	Door with locks
(4)	Optional mounting rail (further details: see sep. instructions)
(5)	Opt. height-adjustable feet (100-170 mm) with cover trim
*	Holding points M6 for Logotherm unit
**	Wall mounting holes diameter 3 mm

Installation dimensions A [mm]			External dimensions B [mm]	
Height A1	Width A2	Depth A3 (from-to)	Cover trim height B1	Cover trim width B2
1300	610	130-210	1327	655

### 6.3.3.2 Standard version

Flush-mounted cover: completely sealed, wall-hanging, incl. drip tray (white, RAL 9016)

#### Structure and dimensions:



#### Legend:

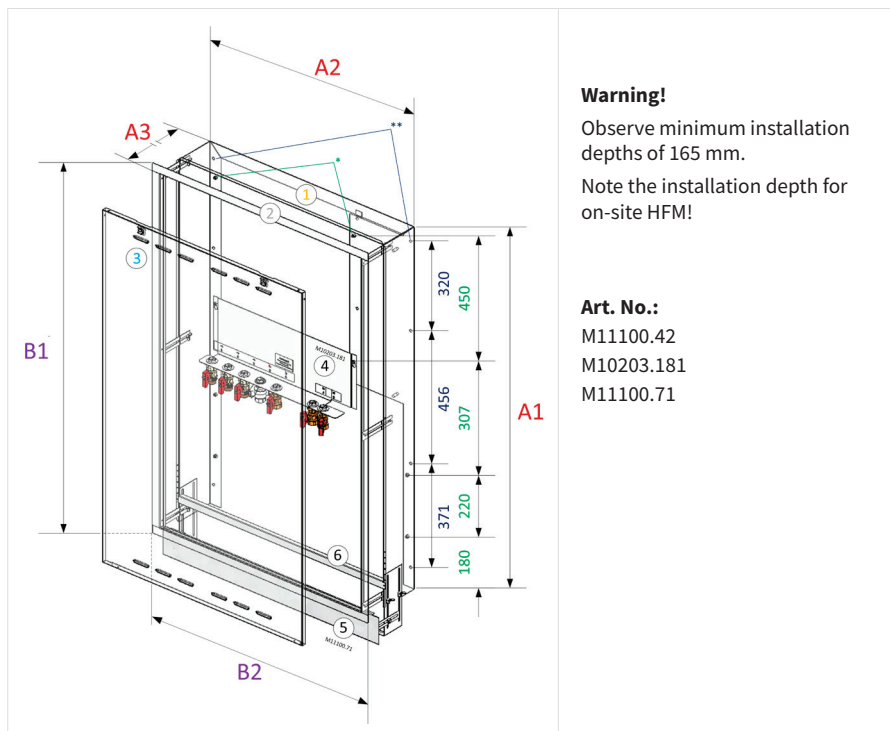
(1)	Mounting frame with drip tray
(2)	Revision frame (depth adjustable)
(3)	Door with locks
(4)	Optional mounting rail (further details: see sep. instructions)
(5)	Opt. height-adjustable feet (100-170 mm) with cover trim
*	Holding points M6 for Logotherm station
**	Wall mounting holes diameter 3 mm

Installation dimensions A [mm]			External dimensions B [mm]	
Height A1	Width A2	Depth A3 (from-to)	Cover trim height B1	Cover trim width B2
935	610	110-160	953	655

### 6.3.3.3 Wide version

Flush-mounted cover: open at bottom, wall-hanging (white, RAL 9016)

#### Structure and dimensions:



#### Warning!

Observe minimum installation depths of 165 mm.

Note the installation depth for on-site HFM!

#### Art. No.:

M11100.42

M10203.181

M11100.71

#### Legend:

(1)	Mounting frame with drip tray
(2)	Revision frame (depth adjustable)
(3)	Door with locks
(4)	Optional mounting rail (further details: see separate instructions)
(5)	Opt. height-adjustable feet (100-170 mm) with cover trim
*	Holding points M6 for Logotherm unit
**	Wall mounting holes diameter 9 mm

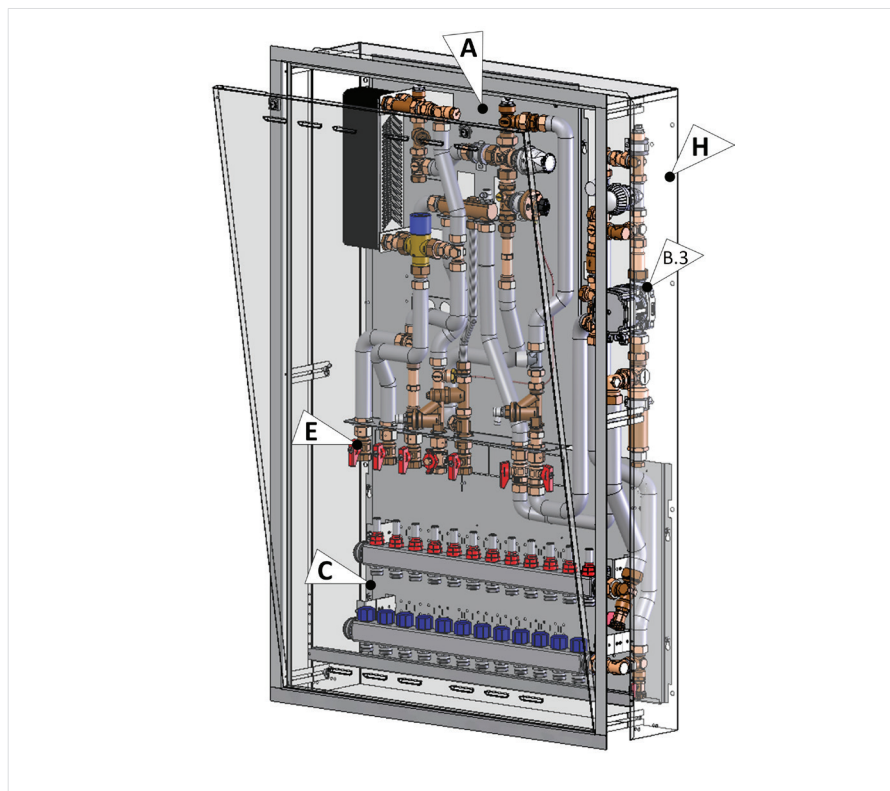
Installation dimensions A [mm]			External dimensions B [mm]	
Height A1	Width A2	Depth A3 (from-to)	Cover trim height B1	Cover trim width B2
1295	826	165-245	1322	871

**Note:** On the wide version, the lower stabilising strut (6) can be dismantled to change the depth from 165 mm to 150 mm depth.



## 6.4 Configuration examples

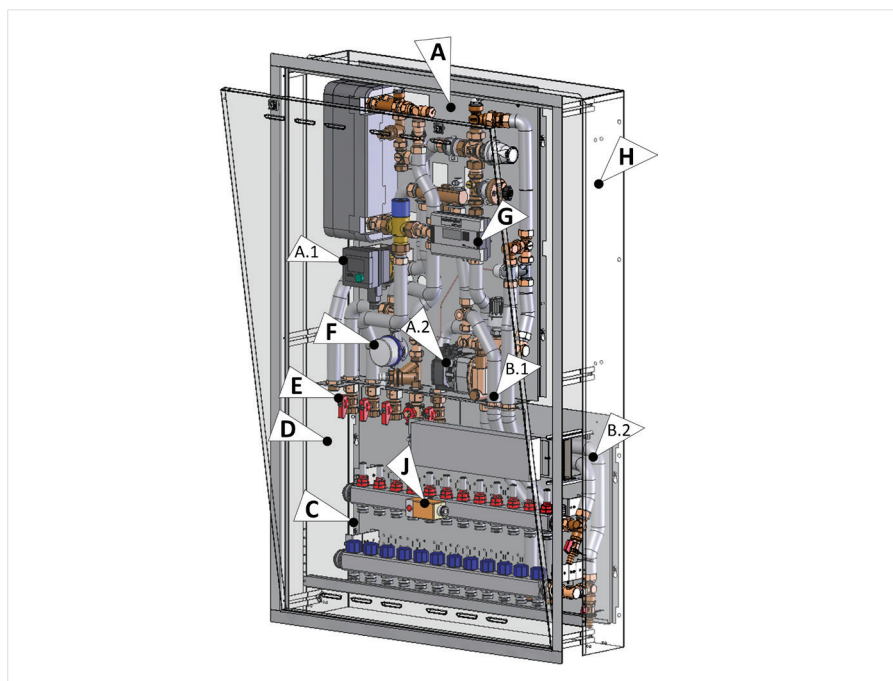
### 6.4.1 Example I - LT M-Line with 12x UFH manifold via side mixer group



#### Component list (I)

Item	Designation	Art. No. (example)
A	LogoThermic G2, UC, M-Line 17 L station	M11124.81
B.3	Lateral mixer group with zone valve and HE pump	M10512.26
C	12x UFH manifold	M10512.42
E	Set: 5x ball valves DN20, straight	M10252.34
H	Flush-mounted cover 1300 x 845 x 150-245 mm, wall-hanging, incl. frame, white RAL9016, with lockable front flap	M11100.42

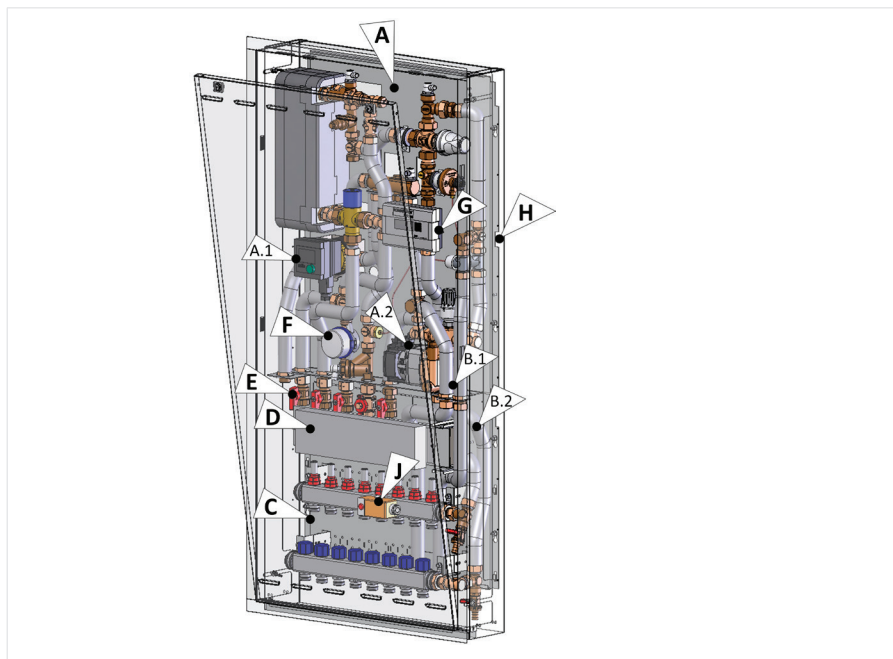
### 6.4.2 Example II - LT + M-Line with DWC, stat. HC and 12x UFH manifold via connection set



#### Component list (II)

Item	Designation	Art. No. (example)
<b>A</b>	LogoThermic G2, MC, DHW-C, M-Line 17 L unit	M11124.911
<b>A.1</b>	with DWC connection and Z-pump	For item A incl.
<b>A.2</b>	with thermost. compact mixing circuit incl. HE pump	
<b>B.1</b>	Upper connection set stat. HC and lower connection set stat. HC (ball valves enclosed)	M10253.24 M10253.18
<b>B.2</b>	Connection set for (wide) heating circuit manifold	M10253.15
<b>C</b>	12x UFH manifold	M10512.42
<b>D</b>	UFH terminal strip with pre-wiring concept up to 12 zones	MB-10560.10
<b>E</b>	Set: 5x ball valves DN20, straight	M10252.34
<b>F</b>	Cold water meter, connection 2x 3/4" MT x 110 mm	optional
<b>G</b>	Heat flow meter, connection 2x 3/4" MT x 110 mm	optional
<b>H</b>	Flush-mounted cover 1300 x 845 x 150-245 mm, wall-hanging, incl. frame, white RAL 9016, with lockable front flap	M11100.42
<b>J</b>	Contact thermostat as STM (M45160.01)	For item D incl.

### 6.4.3 Example III - LT+, M-Line with DWC, stat. HC and 8x UFH manifold



#### Component list (III)

Item	Designation	Art. No. (example)
<b>A</b>	LogoThermic G2, MC, DHW-C, M-Line 17 L unit	M11124.911
<b>A.1</b>	with DWC connection and Z-pump	For item A incl.
<b>A.2</b>	with thermostat. compact mixing circuit incl. HE pump	
<b>B.1</b>	Upper connection set stat. HC and lower connection set stat. HC (ball valves enclosed)	M10253.24 M10253.17
<b>B.2</b>	Connection set for heating circuit manifold	For item C incl.
<b>C</b>	8x UFH manifold	M10515.8
<b>D</b>	UFH terminal strip with pre-wiring concept up to 8 zones	MB-10560.09
<b>E</b>	Set: 5x ball valves DN20, straight	M10252.34
<b>F</b>	Cold water meter, connection 2x 3/4" MT x 110 mm	optional
<b>G</b>	Heat flow meter, connection 2x 3/4" MT x 110 mm	optional
<b>H</b>	Flush-mounted cover 610 x 1300 x 130-210 mm, wall-hanging, white, with lockable front flap	M11100.39
<b>J</b>	Contact thermostat as STM (M45160.01)	For item C incl.

**Note:** Other configurations possible, current Art. No.: see also website, PL and brochures.

## 7. Commissioning

Before using our products, they must be checked for suitability for the respective planned application.

Please bear in mind the water quality at the installation location, particularly for domestic water applications.

In the case of critical domestic water qualities, please take suitable measures where necessary (e.g. water treatment) in order to prevent functional impairment and/or damage, e.g. to avoid corrosion damage.

In particular, please check the permissible limit values, e.g. for electrical conductivity, the pH value, the local hardness level and the ammonium concentration.

Further information can be found in the "Docfinder" area at: [www.flamcogroup.com](http://www.flamcogroup.com)

"Information on water quality, preventing limescale and stone formation and corrosion in systems with decentralised hot water preparation".

After installation or maintenance work and before commissioning, all media lines must be connected according to the existing plans and the intended condition must be established.

Ensure that all materials, tools and other equipment required for the models have been removed from the device's working area.

### 7.1 Flushing and filling

#### **Note for the installer:**

Heating systems must be flushed through prior to commissioning in accordance with local regulations, such as DIN EN 14336 or VOB ATV C DIN 18380. After the system has been filled for the first time, the recirculation pump must be left to run for about 1 hour before it can be switched off for a longer period.

**Prior to filling, connection and commissioning of the station, the entire system must be thoroughly flushed.**

Check all connections for leak-tightness and correct them if necessary. Ensure all threaded joints are screwed tightly.

Once the system has been filled, bleed the station and refill the heating system as required.

**Any dirt traps in the device must be cleaned prior to commissioning.**

### 7.2 Initial start-up

Only commission the station once it has been flushed and filled and a pressure test carried out.

All heating and sanitary installation work must be complete. Bleed the system every so often during the commissioning process (bleeding devices: cf. Point 4.3.1).

Commissioning must be carried out by a trained expert and the settings must be recorded in a log (for subsequent maintenance work).

**Please also observe the instructions set out in Section 8 during commissioning.**

The voltage supply to the pump regulators must be present at all times when the system is full.

The following requirements must be met for successful commissioning:

- All components of the system are installed and assembled.
- The entire system is leak free.
- All necessary electrical connections have been made.

### 7.3 Notes on thermostatically controlled interface stations

With a thermostatically controlled heat interface unit, fluctuations in the outlet temperature may occur in the initial phase of hot water preparation (start phase) before a stable hot water temperature is reached after a few seconds. This starting behaviour is system-dependent and can be attributed to the control characteristics of the thermostatic valve (P controller). It does not represent a defect or deficiency in your unit.

To minimise the effects, it is therefore important to carry out the commissioning of the unit correctly and to set all adjustment values according to the heating system's planning and design parameters.

#### Tips for minimising fluctuations in hot water preparation:

- Set the differential pressure regulator and the thermostatic valves of the interface station exactly according to the design documents. Then check the primary volume flow during hot water preparation via the heat meter.
- Excessively high heating medium or flow line temperatures at the heat interface unit will make temperature fluctuations more likely during hot water preparation. If necessary, reduce the flow line temperature in your heating system to a practical level.
- Set the hot water temperature on the thermostatic head accordingly (recommendation: between 50 to max. 60°C). The greater the difference between the set domestic hot water temperature and the flow line temperature of the heating system, the less favourable the control dynamics and thus the starting behaviour.
- Avoid unnecessary readjustment at the draw-off points! Open the domestic hot water tap and wait until a stable temperature has been reached. Then slowly readjust the temperature at the tap.

## 8. Maintenance and service

Inspection, maintenance and service work on the Heat Interface Unit and heating system must be carried out and documented (in accordance with the relevant inspection guidelines) by a trained expert (installation company or Flamco customer service).

The condition of wear parts must be checked and these must be replaced if necessary. The Heat Interface Units must be checked regularly for leaks.

During maintenance work, the safety instructions and residual dangers (see Section 1) must be observed!

For recommissioning, please also follow the points in Section 7.

When using nitrite-free anti-freeze and corrosion protection agents with an ethylene glycol base, please pay close attention to the manufacturer's documentation, particularly with respect to the concentration and specific additives.

Different water qualities and degrees of hardness can also influence the service life of individual components of devices. Therefore, regular inspection and maintenance (according to current technical rules) should be carried out annually to maintain the system's efficiency and functional safety.

If you have any questions, please contact your installation company or Flamco customer service.

## 8.1 Information regarding domestic water hardness

The propensity for natural water to form limescale deposits depends, among other things, on various factors such as the concentration of calcium and magnesium salts, the pH value and the temperature.

If what is known as the lime-carbonic acid balance has been disturbed by an increase in the pH value and/or the temperature, the calcium carbonate precipitates in the form of calcite crystals.

The applicable standards and corresponding technical regulations (e.g. DIN and DVGW) must therefore be observed.

### Note:

Request a water analysis from the local utility companies for testing in the event of known regional risks or contested water quality.

### Propensity for scaling guidelines as per VDI 2035

Hardness ranges	Millimoles of calcium carbonate/litre	Degree of hardness in °dH	Domestic water temperatures		
			< 60°C	60 - 70°C	> 70°C
<b>Soft</b>	< 1.5	< 8.4	Low	Low	Low
<b>Medium</b>	1.5 – 2.5	8.4 - 14	Low	Low	Medium
<b>Hard</b>	> 2.5	> 14	Low	Medium	High

## 8.2 Maintenance checklist

### Work to be carried out during annual maintenance

(by the specialist installer or factory customer service)

#### 1. Visual inspection \*

			Completed and OK?
1.	Screw connections and fittings	- Leak-tightness check	
2.	Heat exchanger	- Leak-tightness check	
3.	Electrical wiring	- Check the electrical wiring for abnormalities (e.g. damaged cable sheathing, loose plug connections, etc.)	
4.	Potential equalisation	- Check whether the potential equalisation is connected.	

\*Should the visual inspection reveal the presence of leaks or deposits on screwed or connecting parts or entire components, the component(s) or, in the case of screwed connections, the seal or seal set must be replaced immediately.

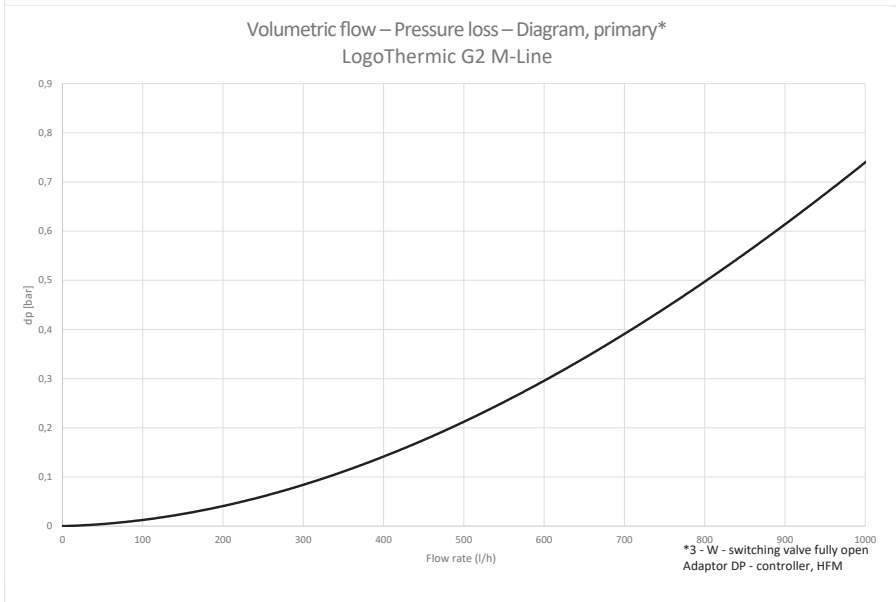
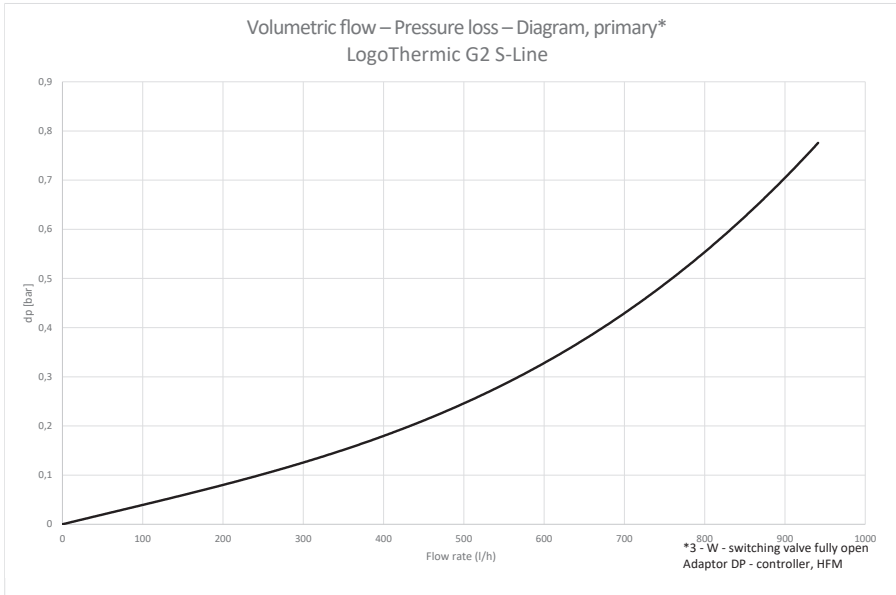
#### 2. Function check

			Completed and OK?
1.	Dirt trap	- Check and clean the sieve insert	
2.	Shut-off valves	- Check functionality and operability; replace if defective	
3.	Zone valve	- Check the functionality of the valve tappet; replace if defective	
4.	Flow line temperature for hot water preparation	- Temperature according to specification (cf. commissioning report)	
5.	Flow rate for domestic hot water preparation	- Flow rate according to specification (cf. commissioning report)	
6.	Circulation bridge	- After the DHW draw-off is finished, the primary RL must remain cold	
7.	Circulation bridge with trickle bypass	- Check	
		If the desired values under points 4 and 5 are not achieved despite the work carried out, the mains hydraulics must be checked. Please contact your responsible system operator regarding this.	

#### 3. op = optional (not integrated into all devices)

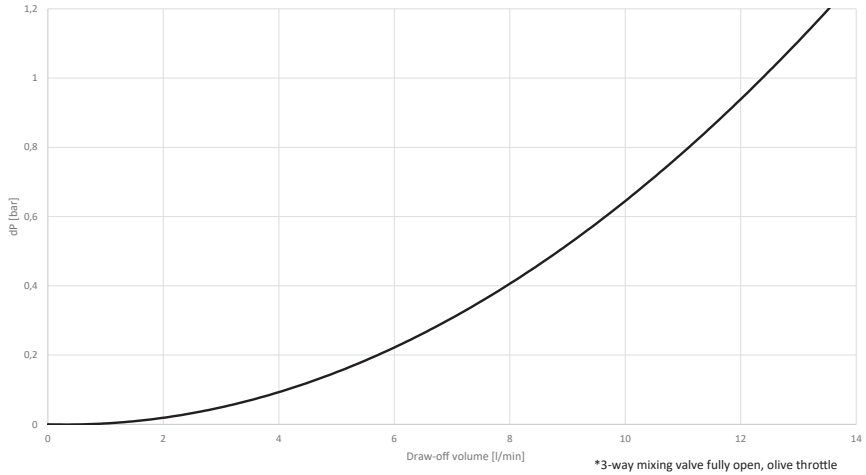
			Completed and OK?
1.	Heating circuit pump (op)	Function check (cf. manufacturer's instructions)	
2.	Differential pressure regulator (op)	Function check and check of the correct setting (cf. commissioning report)	

## 9. Pressure loss diagram

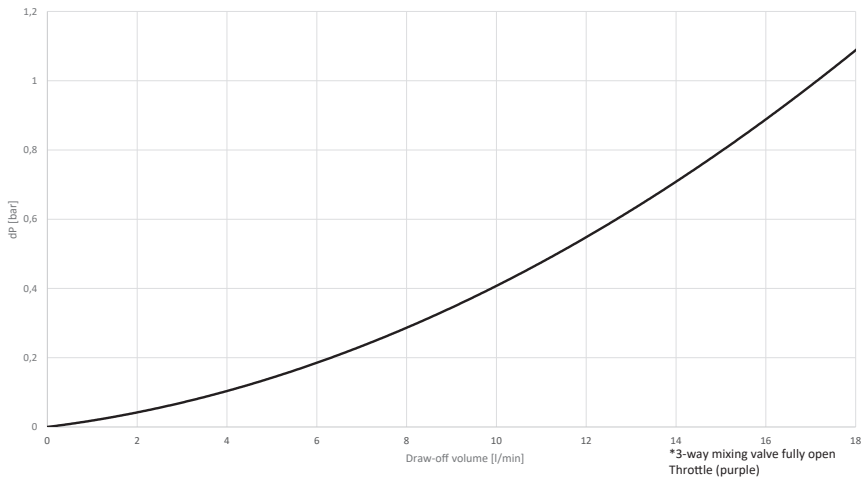









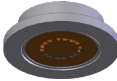
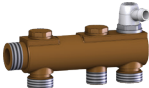
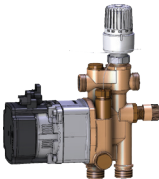

Volumetric flow – Pressure loss – Diagram\*  
Domestic water side  
LogoThermic G2 S-Line



Volumetric flow – Pressure loss – Diagram\*  
Domestic water side  
LogoThermic G2 M-Line



## 10. Spare parts

Designation	Example fig.	Order No.
Circulation bridge with leakage hole		ME-10510.491
Switching valve		ME-80582.24
Thermostatic head to switching valve		ME-80582.24K
Plate heat exchanger, type E8ASx24/1P-SC-S		ME-10230.515
Plate heat exchanger, type E8ASx40		ME-10230.612
Plate heat exchanger, type SXE8ASx40		ME-10230.613
Plate heat exchanger, type IC8x24, 16 bar		ME-10230.5
Thermal insulation for plate heat exchanger, type IC8T/ 24		ME-10230.51
Domestic hot water throttle: Flow regulator and sealing bush (note corresponding colour code of the limiter plates)		ME-10240.80
Manifold bar ¾" MT with side connection, incl. dummy and vent stoppers		ME-10511.32
TKM group complete, incl. bypass, pump and thermostatic head		ME-27419.2
TKM valve insert		ME-27419.1

Thermostatic domestic water mixing valve, type Flamcomix 35-70 FS DN20		ME-28774
DWC pump, type Wilo Star-Z Nova T, incl. backflow preventer (RV)		ME-45101.174
STM: Contact thermostat 16 (2.5)A/230 V		ME-45160.01
Stainless steel corrugated tube assembly 2x DN16 x 1000 mm, with thermal insulation		ME-46123
Meibes T dirt trap 3/4" MT and fill-and-drain ball valve 3/8"		ME-58326.3
Zone valve heating circuit, valve body 3/4" flat sealing		ME-80576.01
Differential pressure regulator, type Ballorex DP DN20, 20-40 kPa		M80597.563
Service kit for Heat Interface Units, 3/4" connection (incl. filters, O-rings, drain plugs and seals)		ME-10000.01
Separate seal set 2x 1", 5x 3/4" Gaskets		ME-43.6615

**Notes:**

- Observe safety, installation and setting instructions
- When replacing components, use new seals accordingly

## 11. Decommissioning, dismantling, disposal, environmental protection and disposal of electrical and electronic equipment

During dismantling, the safety instructions and residual dangers mentioned (see Section 1) must be observed!

### Removal and disposal:

Removal and disposal of the device should only be carried out by suitable trained experts. When disposing of the auxiliary and operating materials, always observe the specifications in the safety data sheets, which must be provided by the suppliers of the auxiliary and operating materials. No environmental damage must be caused during disposal. If the device is intended for scrapping, care must be taken to ensure that the individual components are of the correct type when disposing of them. It is necessary to check which way the materials can be recycled properly.

### Information according to the Electrical and Electronic Equipment Act (ElektroG)\*:

#### Disposal of electrical and electronic equipment



The "crossed-out wheeled bin" symbol means that you are legally obliged to dispose of these devices separately from unsorted municipal waste. Disposal via household waste, such as the residual waste bin or the yellow bin, is prohibited. Avoid misdirected waste by disposing of it correctly at special collection and return points. As a matter of principle, waste prevention measures take priority over waste management measures. Waste prevention measures for electrical and electronic equipment include, in particular, extending their service life by repairing defective equipment and selling functioning used equipment instead of sending it for disposal.

#### Options for returning old devices

- Owners of old devices can return or collect them free of charge within the framework of the possibilities for returning or collecting old devices set up and provided by public waste management authorities. In addition, returns are also possible to distributors under certain conditions.
- The distributor must take back the device free of charge when a new device of the same type is purchased (1:1 take-back). There is also the possibility to return old devices to the distributor free of charge if the external dimensions do not exceed 25 centimetres and the return is limited to three old devices per type of device (0:1 take-back).
- Retail: Distributors who have a sales area for electrical and electronic equipment of at least 400 square metres are obliged to take back old electronic equipment. Food retailers who have a total sales area of at least 800 square metres and who also offer electrical and electronic equipment several times a calendar year or on a permanent basis and make it available on the market are also obliged to take it back.
- Distance selling market: Distributors who sell their products using means of distance communication are obliged to take back old devices if the storage and dispatch areas for electrical and electronic equipment are at least 400 m<sup>2</sup>.

**Removal of batteries and lamps**

- If the products contain batteries and rechargeable batteries or lamps that can be removed from the old device without destroying it, these must be removed before disposal and disposed of separately as batteries or lamps.

**Data privacy**

We would like to point out to all end users of electrical and electronic equipment that you are responsible for deleting personal data on the electrical and electronic equipment to be disposed of.

\*Please observe the country-specific national implementation of the European WEEE Directive 2012/19/EU on waste electrical and electronic equipment that is currently in force.





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