

# Installation instructions for contractors

**VIESMANN**

**Divicon**

Heating circuit distributor

## **DIVICON**



## Safety instructions



Please follow these safety instructions closely to prevent accidents and material losses.

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### Safety instructions explained



#### **Danger**

This symbol warns against the risk of injury.

#### **Note**

*Details identified by the word "Note" contain additional information.*



#### **Please note**

This symbol warns against the risk of material losses and environmental pollution.

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### Target group


These instructions are exclusively intended for qualified contractors.

- Work on gas installations may only be carried out by a registered gas fitter.
- Work on electrical equipment may only be carried out by a qualified electrician.

### Regulations to be observed

- National installation regulations
- Statutory regulations for the prevention of accidents
- Statutory regulations for environmental protection
- Codes of practice of the relevant trade associations
- Relevant country-specific safety regulations

### Working on the system

- Where gas is used as the fuel, close the main gas shut-off valve and safeguard it against unintentional reopening.
  - Isolate the system from the power supply, e.g. by removing the separate fuse or by means of a mains isolator, and check that it is no longer live.
  - Safeguard the system against reconnection.
  - Wear suitable personal protective equipment when carrying out any work.
-  **Danger**  
Hot surfaces and fluids can lead to burns or scalding.
- Before maintenance and service work, switch off the appliance and let it cool down.
  - Never touch hot surfaces on the boiler, burner, flue system or pipework.

## Safety instructions (cont.)

- ! **Please note**  
Electronic assemblies can be damaged by electrostatic discharge.  
Prior to commencing work, touch earthed objects such as heating or water pipes to discharge static loads.

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## Repair work

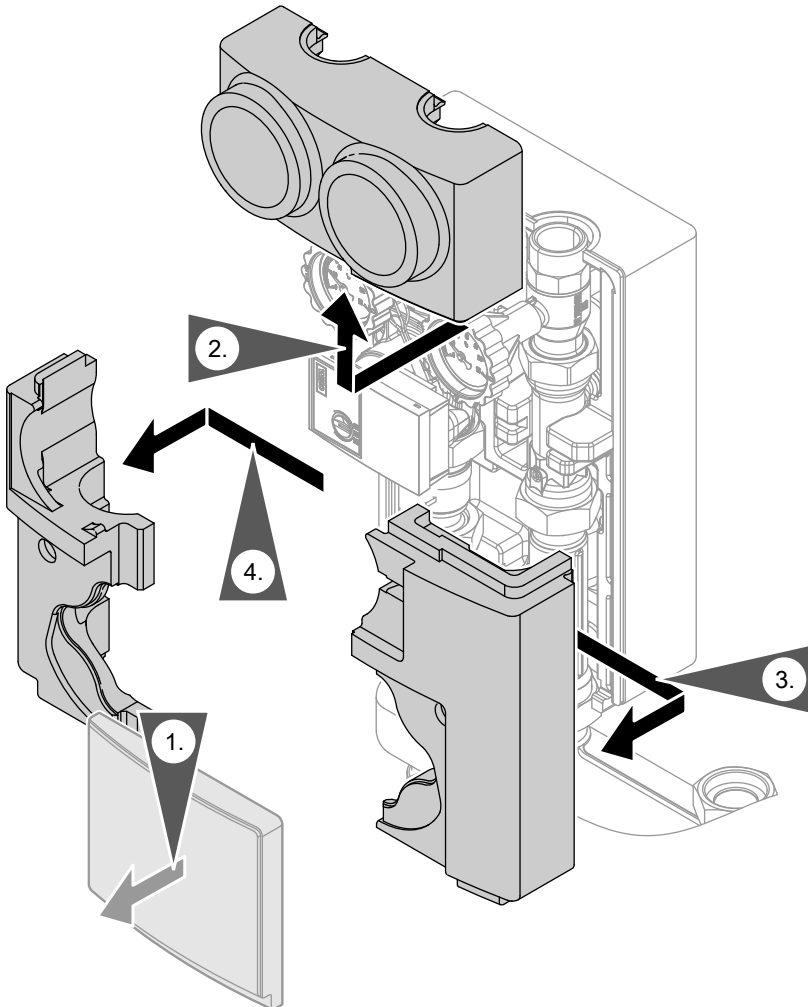
- ! **Please note**  
Repairing components that fulfil a safety function can compromise the safe operation of the system.  
Replace faulty components only with genuine Viessmann spare parts.

# Index

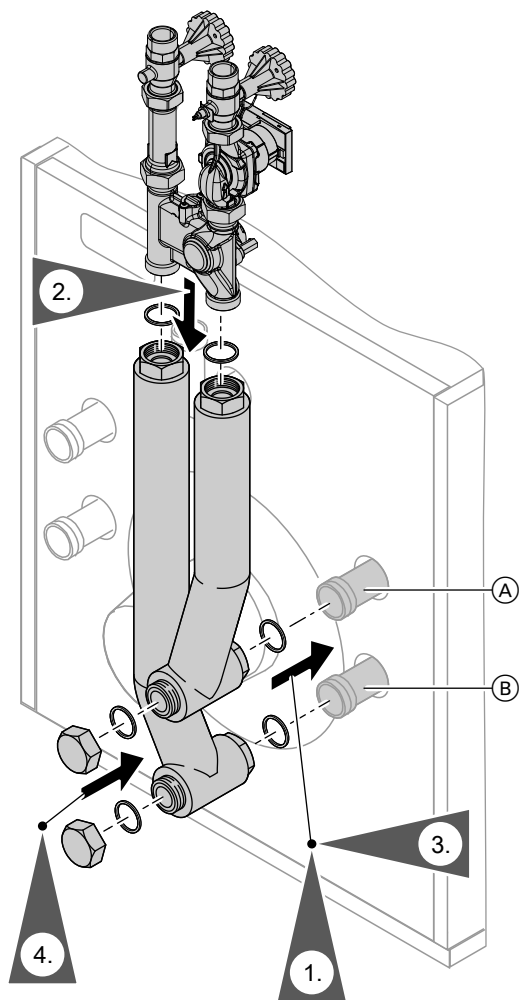
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## Preparing for installation

### Removing the thermal insulation



## Fitting to boiler with pipe assembly (accessories)

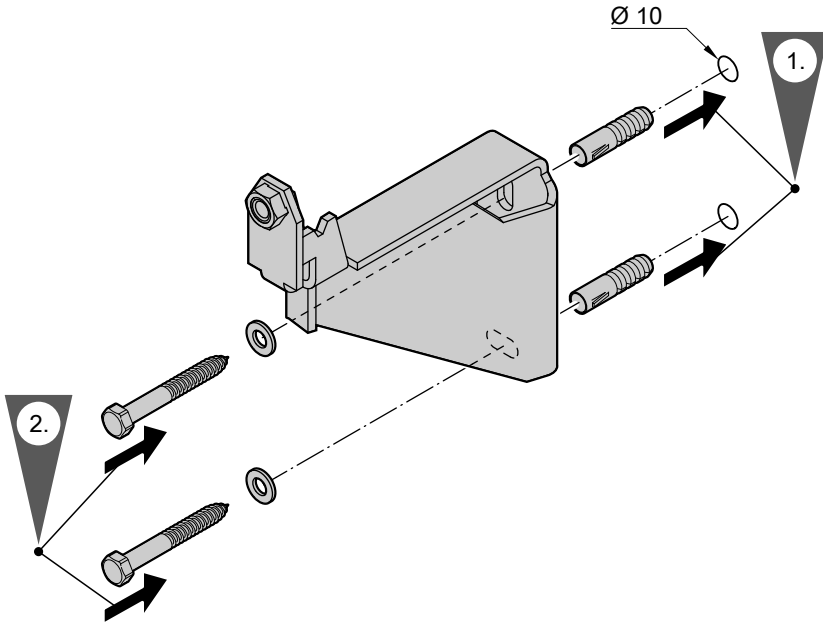


(A) Heating flow

(B) Heating return

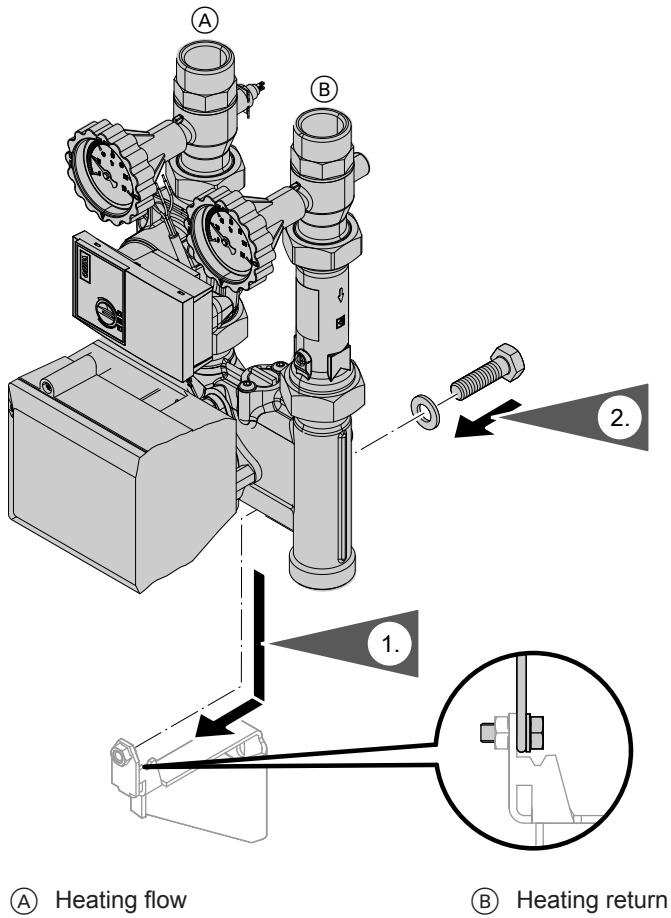
## Wall mounting

### Fitting a single module (without manifold)

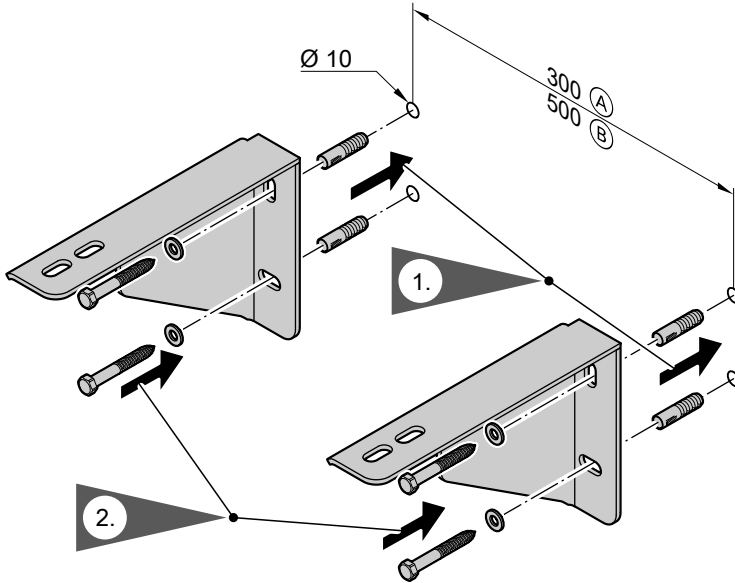




## Wall mounting (cont.)



Fitting several modules with manifold (accessories)

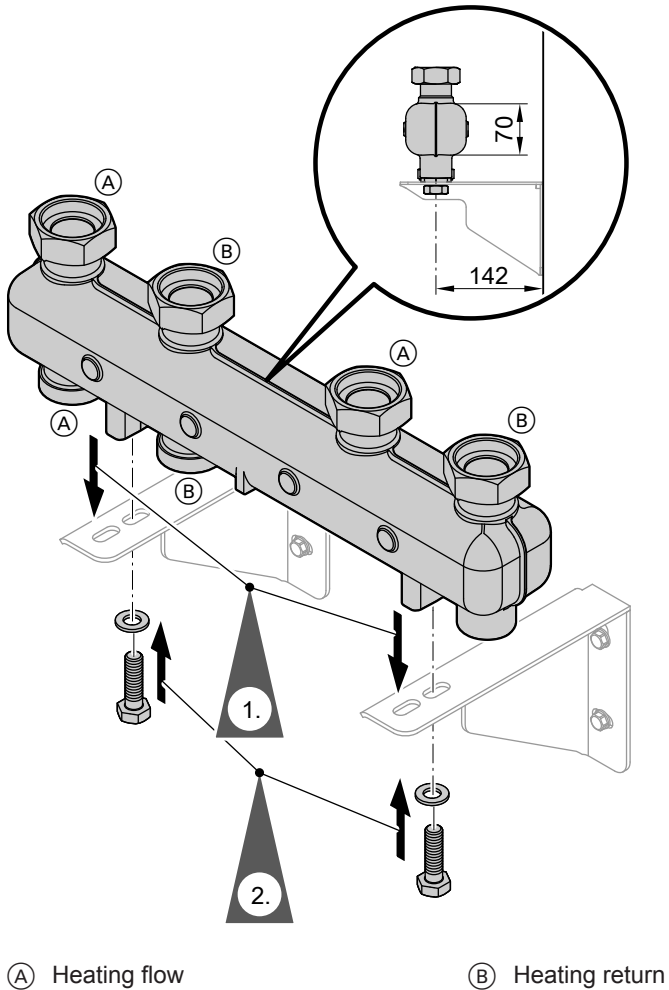


(A) Manifold for 2 Divicons

(B) Manifold for 3 Divicons

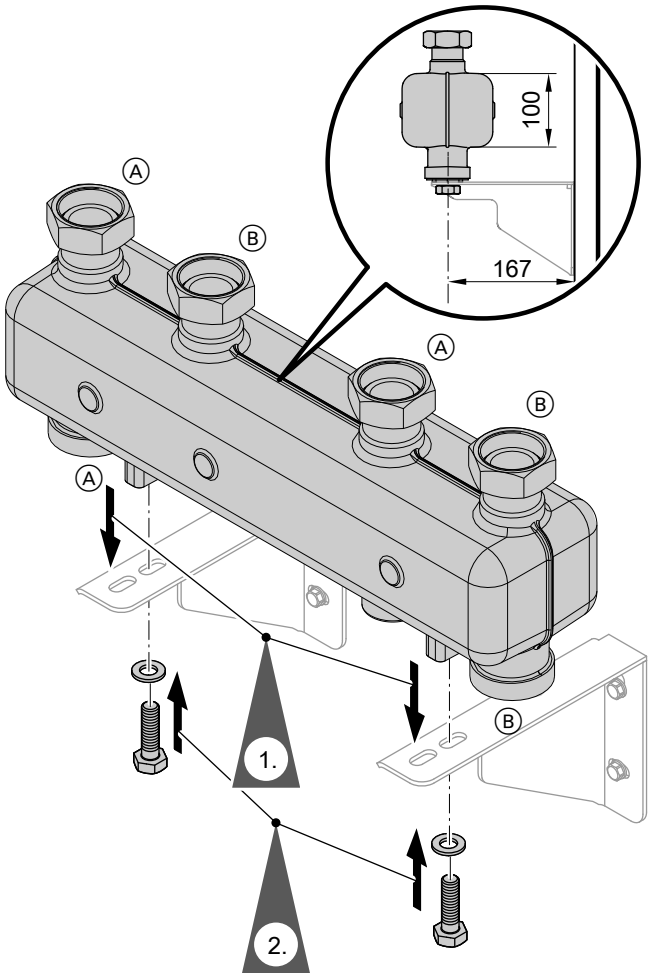
## Wall mounting (cont.)

### Manifold (H = 70 mm) for two Divicons



## Wall mounting (cont.)

### Manifold (H = 100 mm) for two Divicons

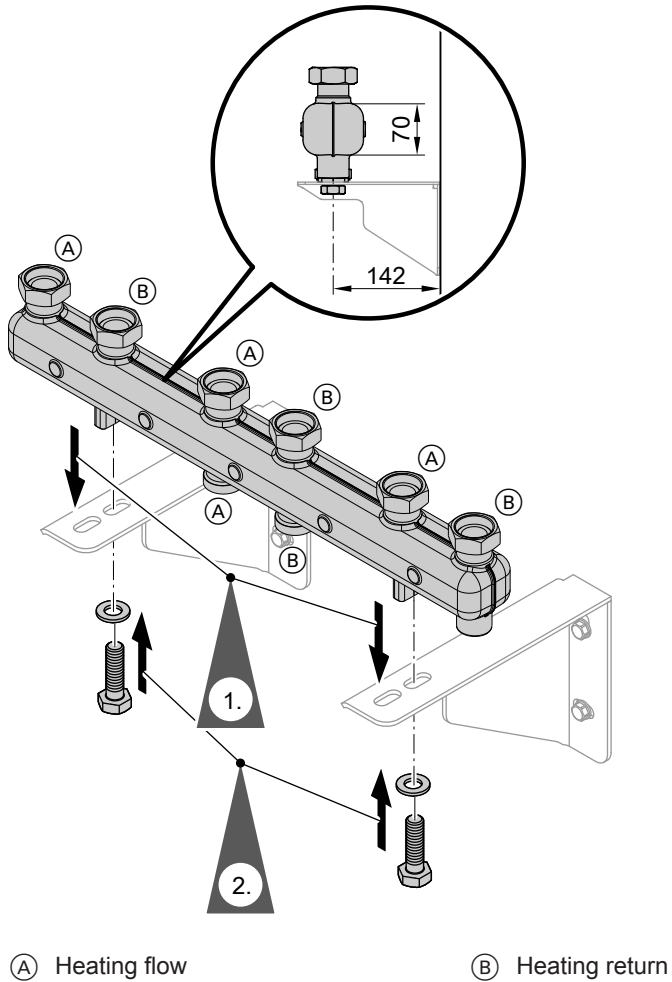


(A) Heating flow

(B) Heating return

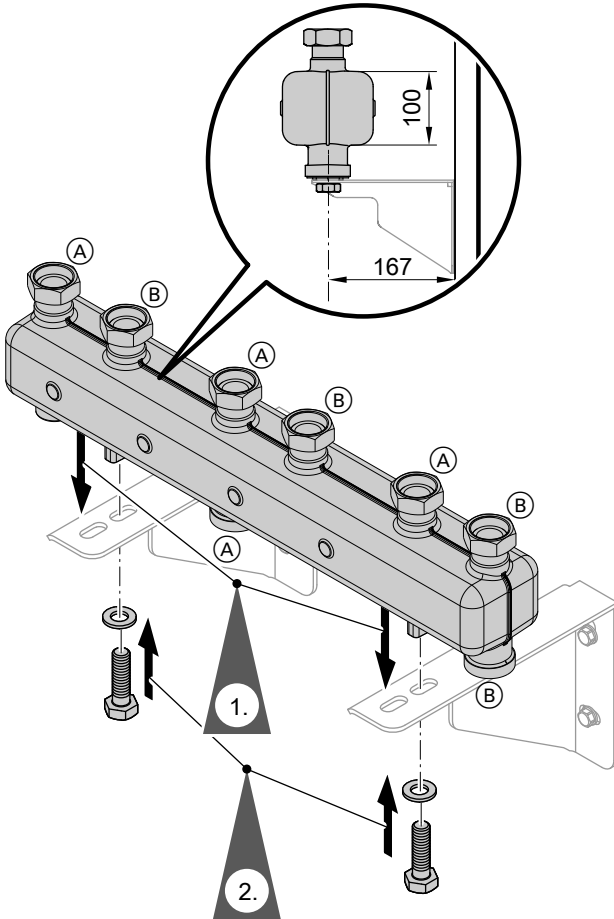
## Wall mounting (cont.)

### Manifold (H = 70 mm) for three Divicons



## Wall mounting (cont.)

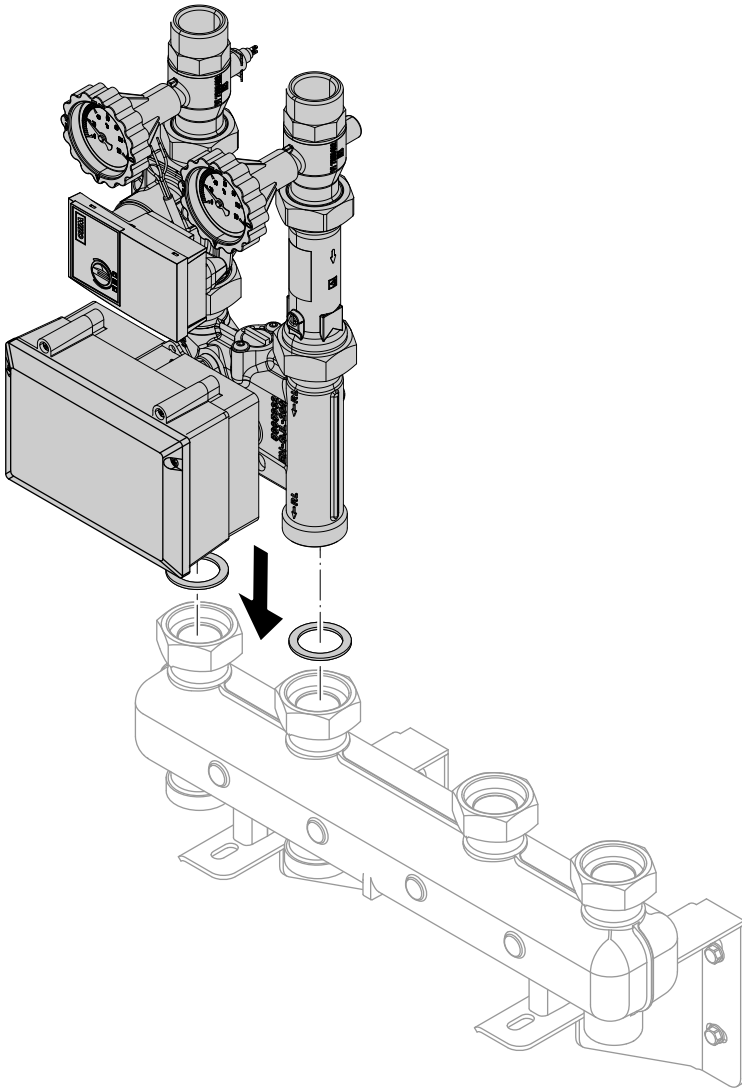
### Manifold (H = 100 mm) for three Divicons



(A) Heating flow

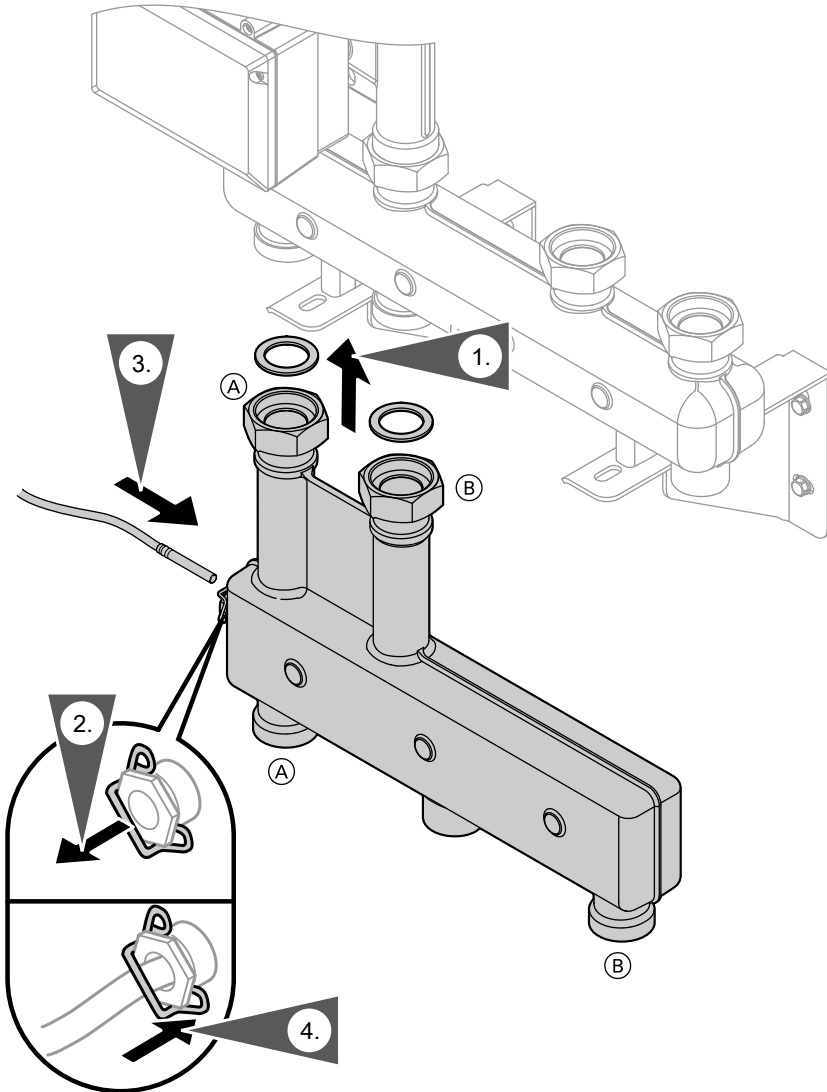
(B) Heating return

## Wall mounting (cont.)



## Wall mounting (cont.)

### Low loss header (if supplied)

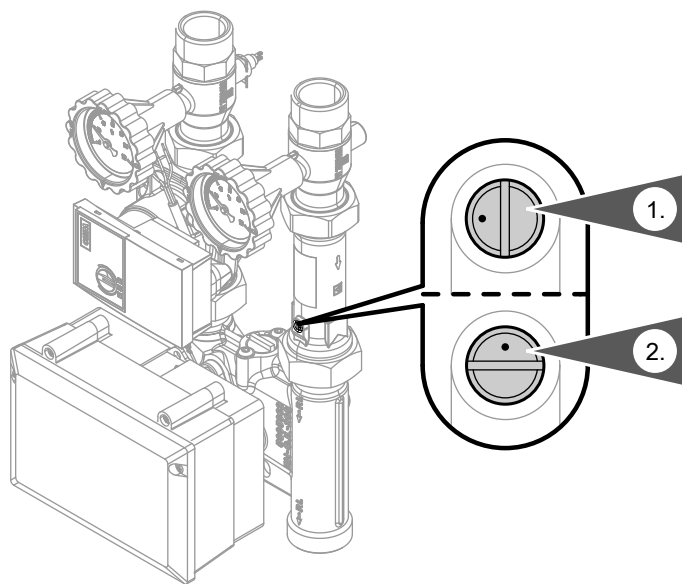


(A) Heating flow

(B) Heating return



## Filling the system



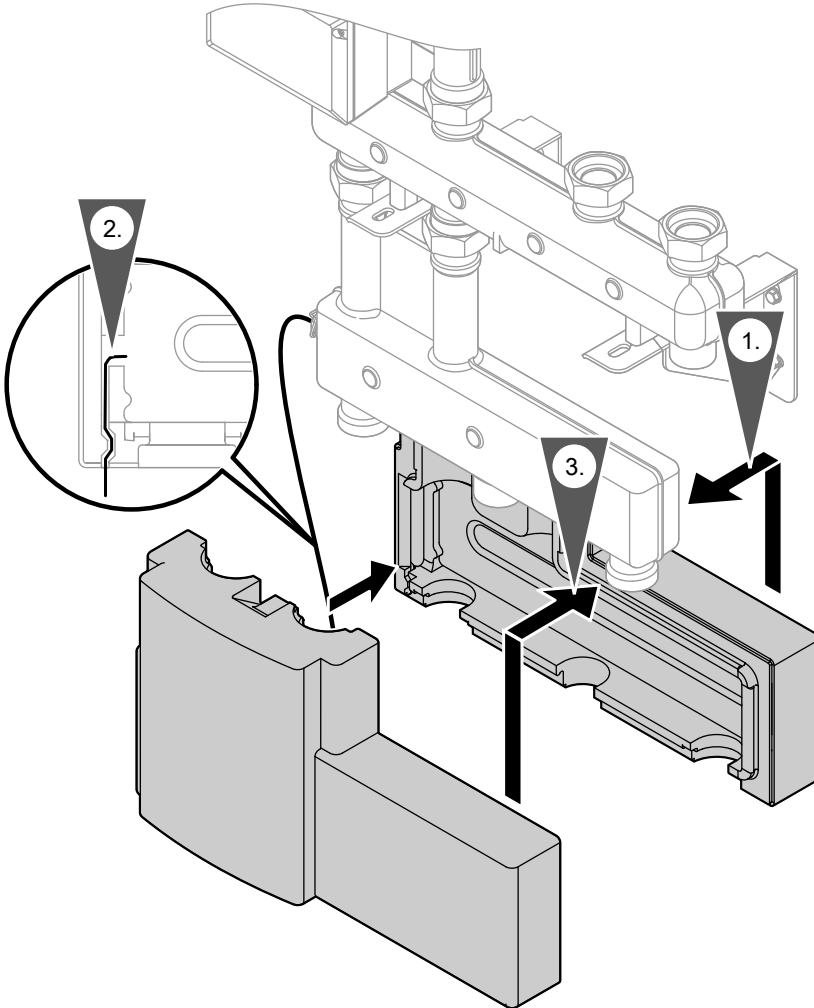
1. For filling (with heating water), open the check valve in the heating return by positioning the slot of the screw in the vertical position.
2. For operation, position the slot of the screw in the horizontal position.

### **Note**

*Observe the marking on the adjusting screw.*

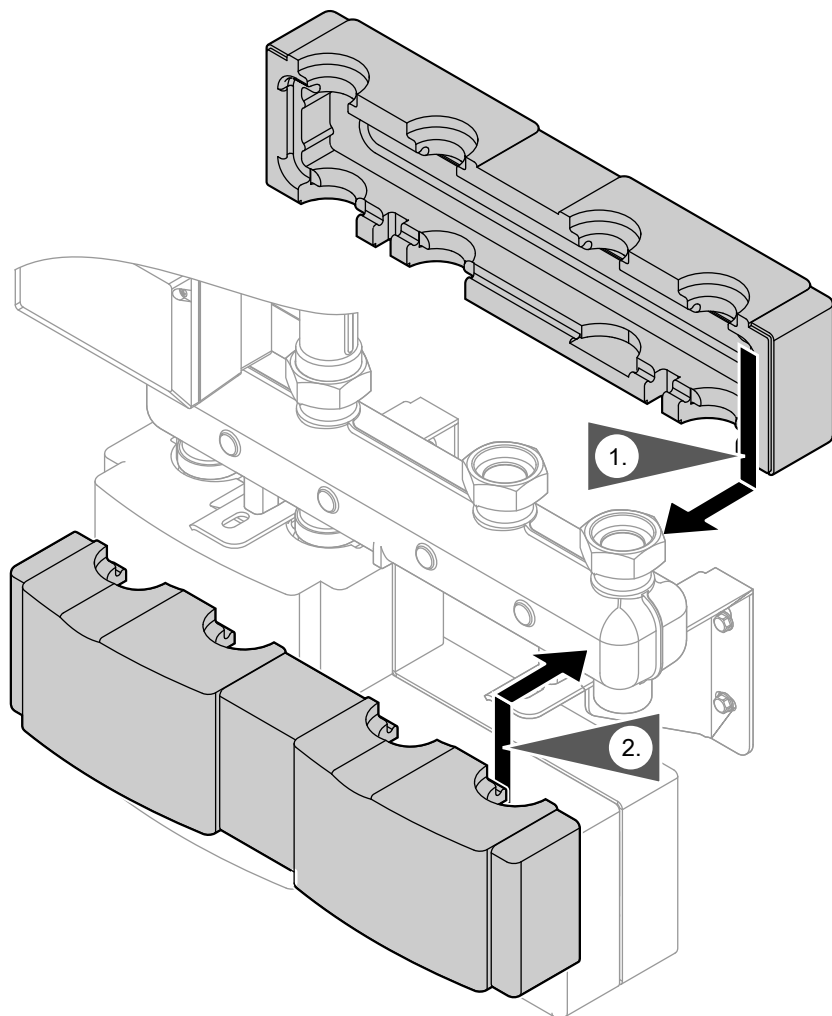
## Fitting the thermal insulation

### Low loss header (if supplied)



## Fitting the thermal insulation (cont.)

### Manifold

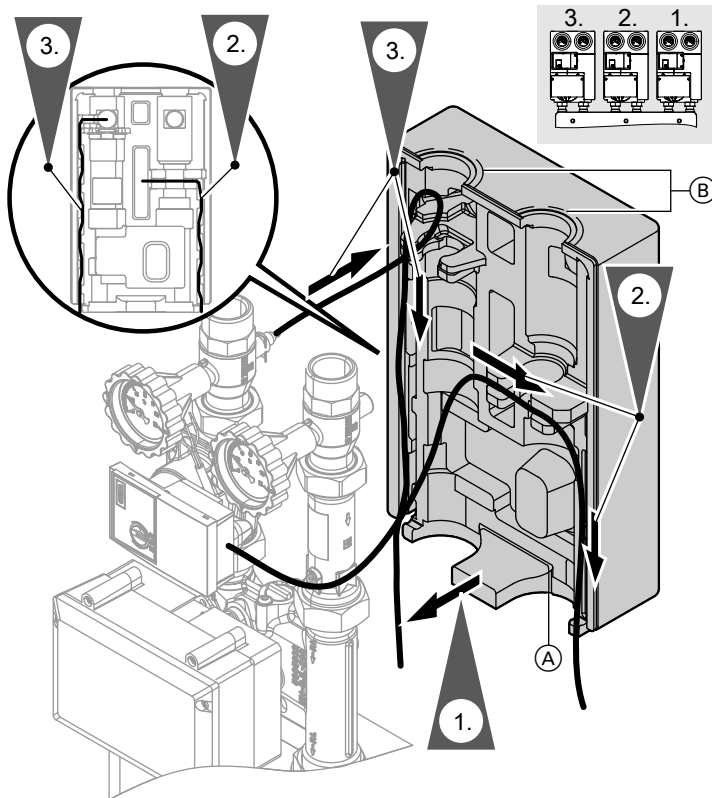


## Fitting the thermal insulation (cont.)

### Divicon with mixer

#### Note

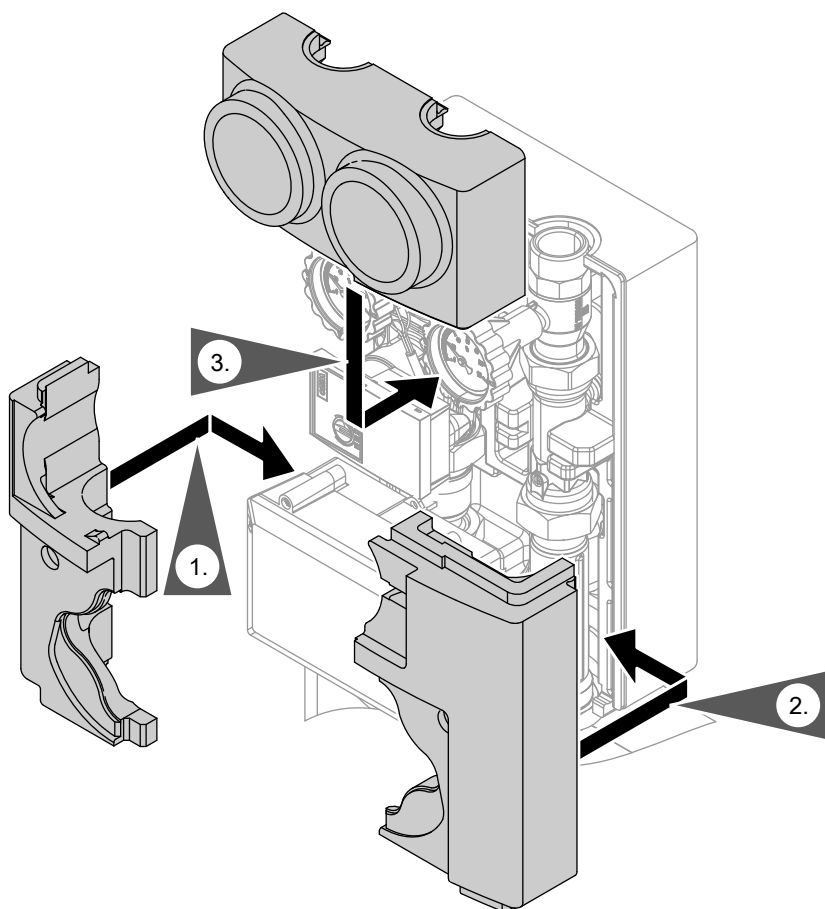
With several Divicons, first fit the thermal insulation on the right Divicon. For the remaining Divicons, fit the insulation from right to left.



(A) Cut if fitting a single module to the wall

(B) Cut out the thermal insulation if connecting with a union nut

## Fitting the thermal insulation (cont.)

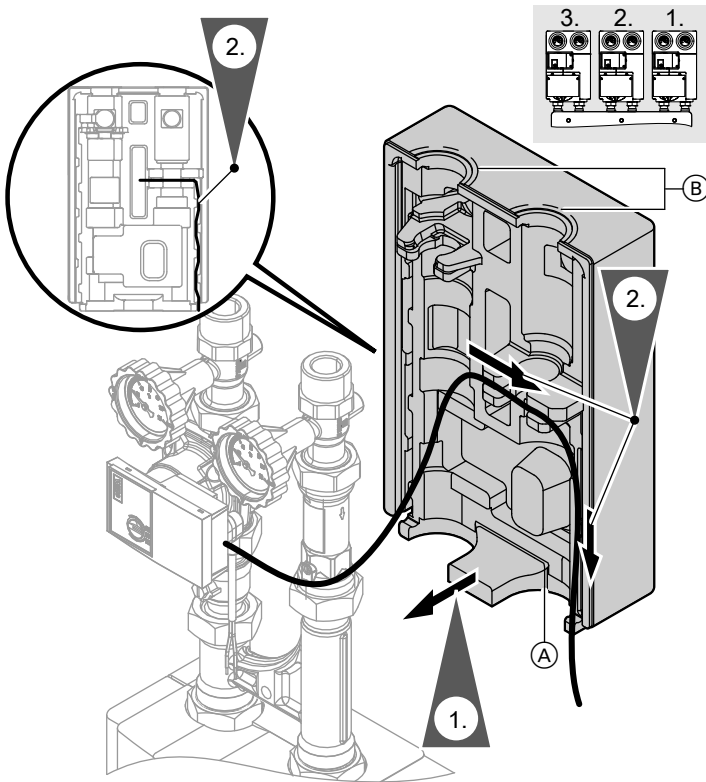


### Divicon without mixer

**Note**

*With several Divicons, first fit the thermal insulation on the right Divicon. For the remaining Divicons, fit the insulation from right to left.*

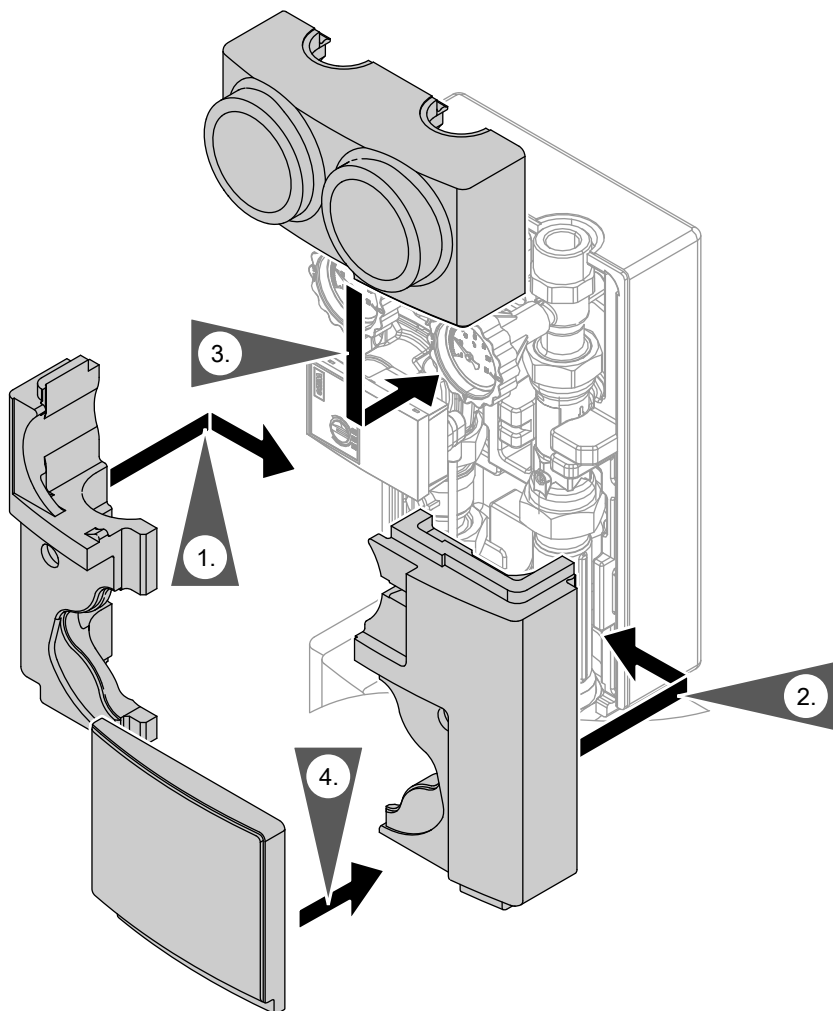
## Fitting the thermal insulation (cont.)



(A) Cut if fitting a single module to the wall

(B) Cut out the thermal insulation if connecting with a union nut

## Fitting the thermal insulation (cont.)

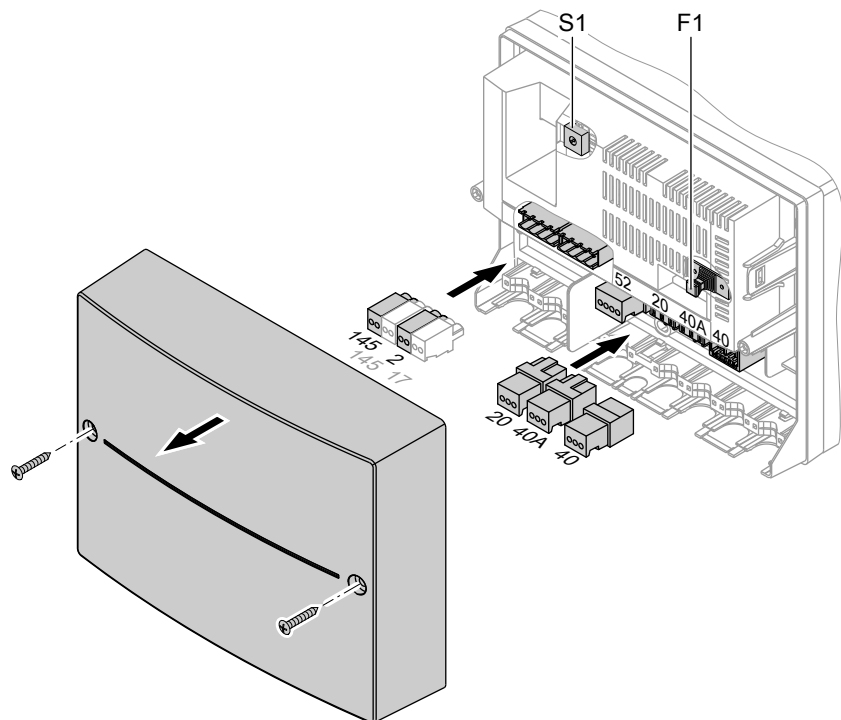


## Extension kit with mixer PCB

### Note

Bundle the power cables below the extension kit and secure with cable ties.

### Overview of electrical connections



F1 Fuse, 2A (slow)  
S1 Rotary selector

230 V~ plugs

**20** Heating circuit pump  
**40** Power supply 230 V/50 Hz  
**40A** Power supply connection of accessories  
**52** Mixer motor

Low voltage connections

**2** Flow temperature sensor  
**17** Return temperature sensor (in conjunction with the Vitotronic 300, type KW3, if installed)  
**145** KM BUS cable



## Extension kit with mixer PCB (cont.)



### Please note

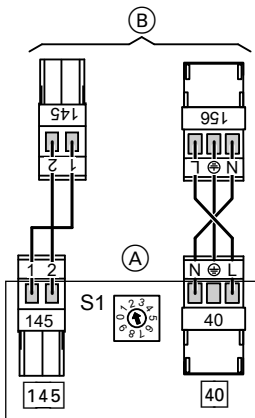
Electronic modules can be damaged by electrostatic charges. Before beginning work, touch earthed objects, such as heating or water pipes, to discharge static loads.

### Note

Apply a strain relief to all on-site cables. Close any unnecessary knockouts with cable grommets (not cut open).

## Connecting the extension kit to the control unit

### Weather-compensated Vitotronic control unit



### Danger

Incorrect core assignment can result in serious injury and damage to the appliance. Take care not to interchange wires "L1" and "N".

- (A) Extension kit
- (B) To the control unit
- S1 Rotary switch: See the following table for position
- 145 KM-BUS to the control unit or to the KM-BUS distributor (accessories)
- 156 Power supply via control unit or via power distributor (accessories)

## Extension kit with mixer PCB (cont.)

### Set rotary selector:

Heating circuit affected by the mixer	Sensors connected	Rotary selector S1
Heating circuit with mixer M2	Flow temperature sensor	"2" (delivered condition)
	Flow temperature sensor and return temperature sensor	"3"
Heating circuit with mixer M3	Flow temperature sensor	"4"
	Flow temperature sensor and return temperature sensor	"5"

### Connection to a heat pump with Vitotronic 200 WO1B/C

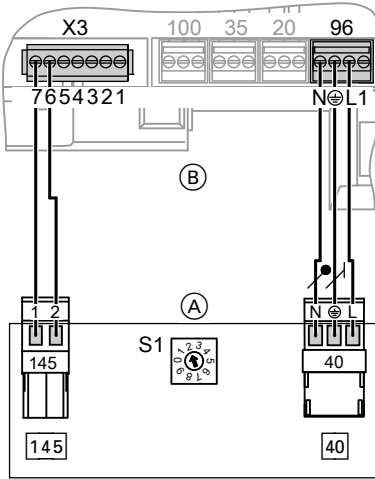
Power supply to the mixer PCB:  
Connect phase "L" to X3.1, neutral conductor "N" to any X2 terminal and protective conductor "PE" to any X1 terminal.



Service instructions for  
Vitotronic 200, type WO1B/C

## Extension kit with mixer PCB (cont.)

### Wall mounted and storage combi boilers



### Danger

Incorrect core assignment can result in serious injury and damage to the appliance. Take care not to interchange wires "L1" and "N".

### Note

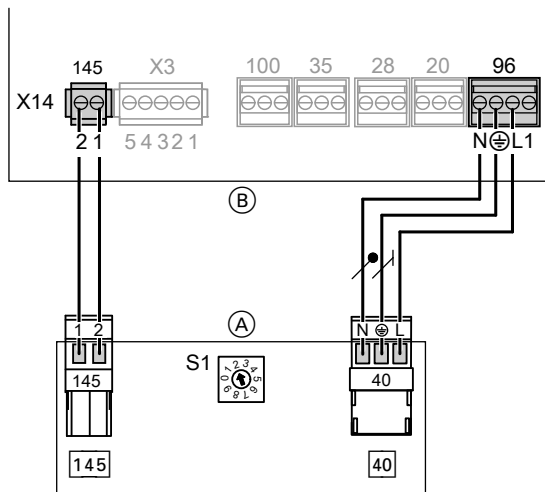
If the power supply has already been allocated, see chapter "Power supply".

- (A) Extension kit  
 40 Power supply  
 145 KM-BUS  
 S1 Rotary switch: See the following table for position
- (B) Control unit  
 "X3" KM-BUS at terminals "7" and "6" (disconnect plug 145)  
 or  
 with plug 145 to the KM-BUS distributor (accessories)  
 96 Power supply

### Set rotary selector:

Heating circuit which should be influenced by the mixer	Rotary selector S1
Heating circuit with mixer M2	"2" (delivered condition)
Heating circuit with mixer M3	"4"

## Extension kit with mixer PCB (cont.)



- (A) Extension kit  
 40 Power supply  
 145 KM-BUS  
 S1 For rotary selector position,  
 see the following table
- (B) Control unit  
 "X14" KM-BUS at terminals "1"  
 and "2" (disconnect plug  
 145)  
 or  
 with plug 145 to the KM-  
 BUS distributor (accesso-  
 ries)  
 96 Power supply

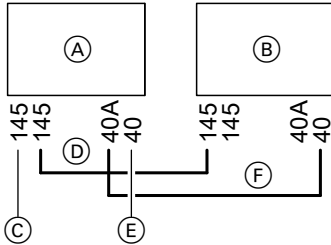
### Note

If the power supply has already been allocated, see chapter "Power supply".

### Set rotary selector:

Heating circuit which should be influenced by the mixer	Rotary selector S1
Heating circuit with mixer M2	"2" (delivered condition)
Heating circuit with mixer M3	"4"

### Connecting two extension kits



- (A) Extension kit for a heating circuit with mixer M2
- (B) Extension kit for heating circuit with mixer M3
- (C) KM BUS cable (standard delivery) to the control unit
- (D) KM BUS cable, 0.8 m long (cable kit accessory, part no. 7424 960)
- (E) Power supply (connect the power cable supplied, see the following chapter)
- (F) Power cable with plug  $\overline{40}$  and  $\overline{40A}$  (cable kit accessory, part no. 7424 960)

### Power supply

Connect accessories with a total wattage **above 400 W directly** to the mains power supply.



#### Danger

Incorrectly executed electrical installations can result in injuries from electrical current and damage to the appliance.

Connect the power supply and implement all safety measures (e.g. RCD circuit) in accordance with the following regulations:

- IEC 60364-4-41
- VDE regulations
- Connection requirements specified by your local power supply utility
- Protect the power cable with a fuse/MCB of up to 16 A.



## Extension kit with mixer PCB (cont.)



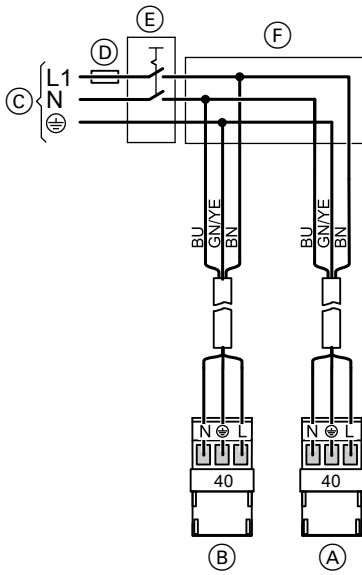
### Danger

The absence of system component earthing can lead to serious injury from electric current if an electrical fault occurs.

The appliance and pipework must be connected to the equipotential bonding of the building.

- The mains isolator (if installed) must simultaneously isolate all non-earthed conductors from the mains with a minimum contact separation of 3 mm.
- If **no** mains isolator is installed, all non-earthed conductors must be isolated from the power supply by the upstream circuit breaker with a minimum contact separation of 3 mm.
- In addition, we recommend installing an AC/DC-sensitive RCD (RCD class B  ) for DC (fault) currents that can occur with energy efficient equipment.

## Extension kit with mixer PCB (cont.)



- (A) Extension kit power supply
- (B) Control unit power supply
- (C) Power supply 230 V/50 Hz
- (D) Fuse (max. 16 A)
- (E) Mains isolator, 2-pole, on site
- (F) Junction box, on site

Connect the power supply in accordance with the diagram.



### Danger

Incorrect core assignment can result in serious injury and damage to the appliance. Never interchange cores "L" and "N".



### Please note

Incorrect phase sequence can cause damage to the appliance. Ensure phase equality with the control unit power supply.

Colour coding to IEC 60757

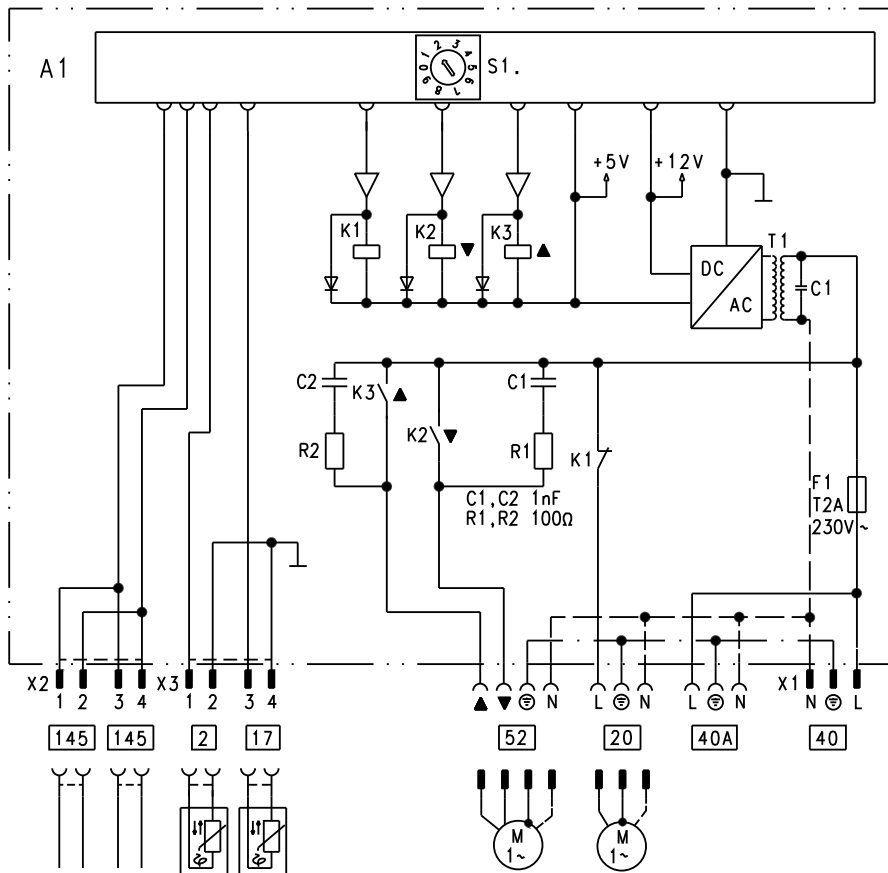
BN Brown

BU Blue

GN/YE Green/yellow

## Extension kit with mixer PCB (cont.)

### Connection and wiring diagram



A1 Main PCB

F1 Fuse

S1 Rotary selector

Plug 230 V~

20 Heating circuit pump

40 Power supply 230 V/50 Hz

40A Power supply connection of accessories

52 Mixer motor




## Extension kit with mixer PCB (cont.)

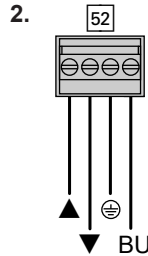
Low voltage plugs

- 2 Flow temperature sensor
- 17 Return temperature sensor (in conjunction with the Vitotronic 300, type KW3, if installed)
- 145 KM BUS cable for connection with the control unit and an additional extension kit

### Changing the rotational direction (if required)

1.  **Danger**  
An electric shock can be life threatening.  
Before opening the boiler, disconnect it from the mains voltage, e.g. at the fuse or mains isolator.

Remove the casing cover (see chapter "Overview of electrical connections").



Switch cores BK ▲ and BK ▼ on plug 52.

3. Refit the casing cover.
4. Check the rotational direction.

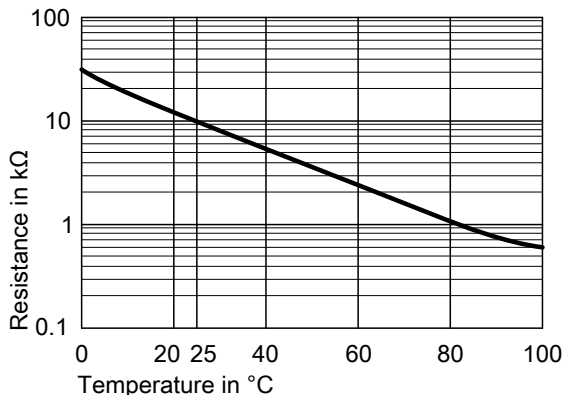
### Specification

#### Flow temperature sensor

Sensor type	Viessmann cylinder temperature sensor (NTC)
IP rating	IP 53 to EN 60 529; ensure through design/installation
Permissible ambient temperature	
■ During operation	-20 to +90 °C
■ During storage and transport	-20 to +70 °C

## Extension kit with mixer PCB (cont.)

### Curve



### Mixer motor

Rated voltage	230 V~
Rated frequency	50 Hz
Rated current	2 A
Power consumption	5.5 W
Protection class	I
IP rating	IP 32 D to EN 60 529, ensure through design/installation
Permissible ambient temperature	
■ During operation	0 to +40 °C
■ During storage and transport	-20 to +65 °C
Rated relay output breaking capacity	
■ Heating circuit pump	2 (1) A 230 V~
■ Mixer motor	0.2 (0.1) A 230 V~

## Extension kit without mixer PCB

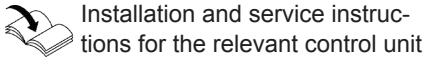
### Note

Bundle the power cables below the extension kit and secure with cable ties.

### Connecting the extension kit to the control unit

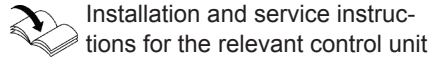
#### Connecting the flow temperature sensor

Push sensor plug **2** into the corresponding socket of the control unit.



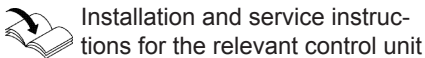
#### Connecting the heating circuit pump

Push heating circuit pump plug **20** into the corresponding socket of the control unit.

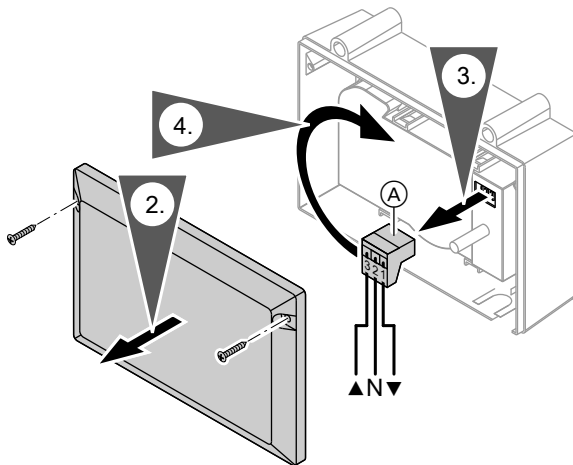


#### Connecting the mixer motor

Push connecting cable plug **52** into the corresponding socket of the control unit.



### Changing the rotational direction (if required)



1. Switch OFF the power supply at the control unit.
2. Undo the casing cover.

## Extension kit without mixer PCB (cont.)

3. Disconnect 3-pin plug (A) in the mixer motor.
4. Insert the 3-pin plug in the mixer motor rotated through 180°.
5. Check the rotational direction.

## Declaration of Conformity

### Mixer extension kit

We, Viessmann Werke GmbH & Co. KG, D-35107 Allendorf, declare as sole responsible body that the named product complies with the provisions of the following directives and regulations:

2014/30/EU	EMC Directive
2014/35/EU	Low Voltage Directive
2011/65/EU	RoHS II
2006/42/EEC	Machinery Directive

### Applied standards

EN 55014-1: 2006 + A1:2009 + A2:2011  
EN 55014-2: 2015  
EN 60335-1: 2012 / AC:2014  
EN 60335-2-102: 2016  
EN 60730-1: 2011  
EN 62233: 2008

In accordance with the listed directives, this product is designated with **CE**.

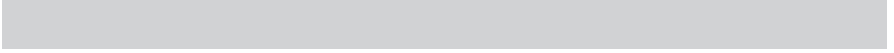
Allendorf, 31/03/2017

Viessmann Werke GmbH & Co. KG



Authorised signatory Manfred Sommer







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5443825 Subject to technical modifications.