Installation instructions

for contractors

Divicon

Heating circuit distributor

DIVICON

5443 825 GB 9/2016

Safety instructions

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

Safety instructions explained

Danger
This symbol warns against the risk of injury.

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

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

Target group

These instructions are exclusively intended for authorised contractors.
- Work on gas installations must only be carried out by a registered gas fitter.
- Work on electrical equipment must 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
- All current safety regulations as defined by DIN, EN, DVGW, TRGI, TRF, VDE and all locally applicable standards
  - (A) ÖNORM, EN, ÖVGW-TR Gas, ÖVGW-TRF and ÖVE
  - (CH) SEV, SUVA, SVGW, SVTI, SWKI, VKF and EKAS guideline 1942: LPG, part 2

Working on the system

- 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.
- Where gas is used as the fuel, close the main gas shut-off valve and safeguard it against unintentional reopening.

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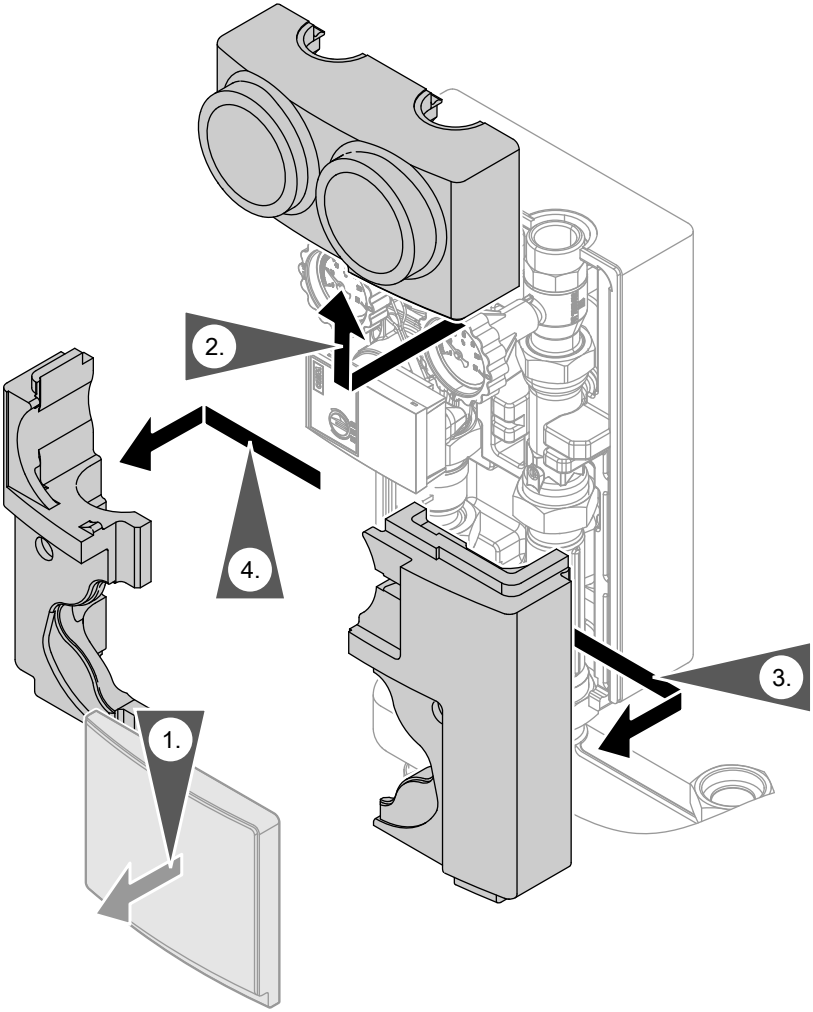
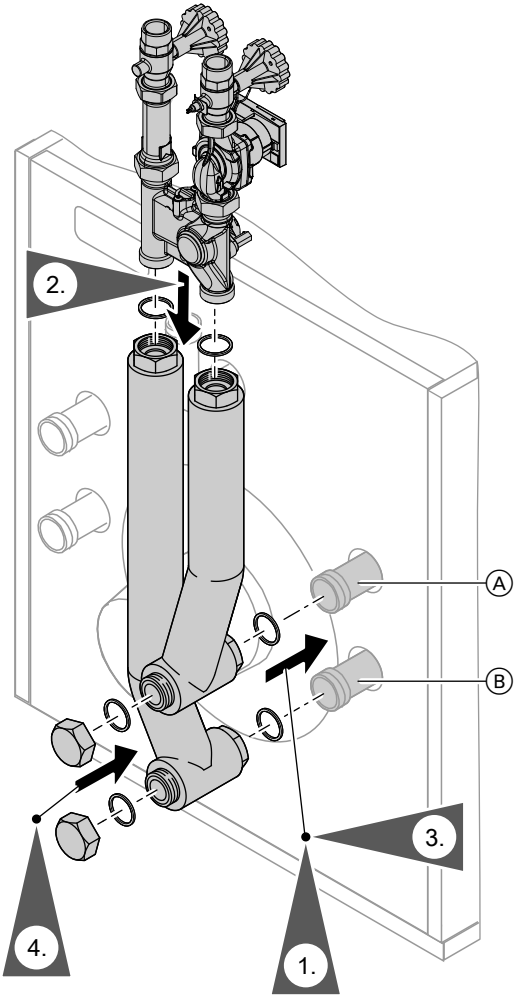
Removing the thermal insulation



Fitting to boiler with pipe assembly (accessories)

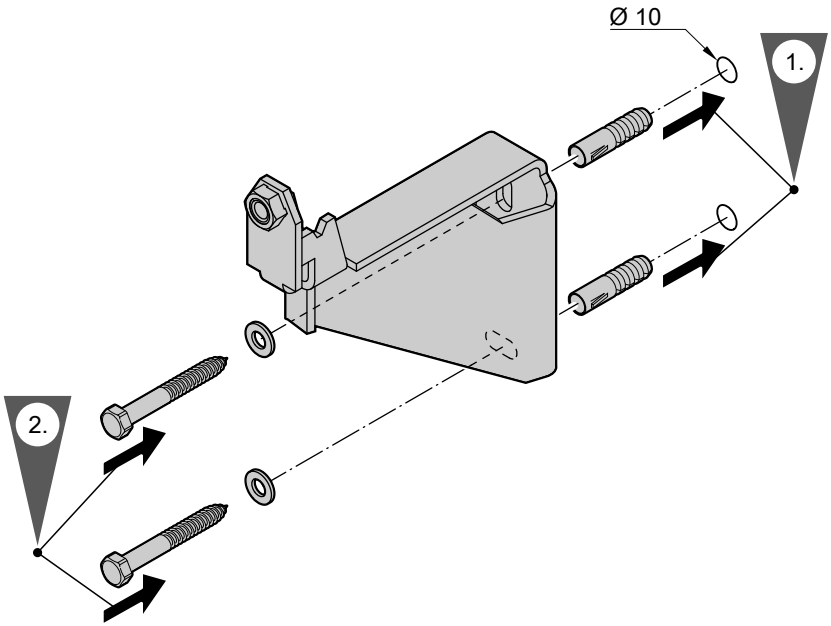


Ⓐ Heating flow

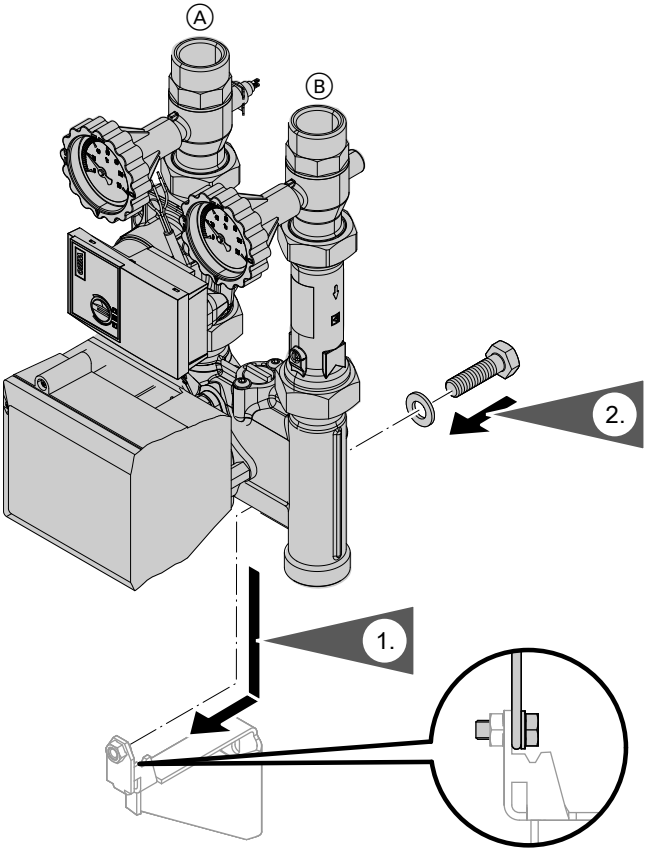
Ⓑ Heating return

Wall mounting

Fitting a single module (without manifold)



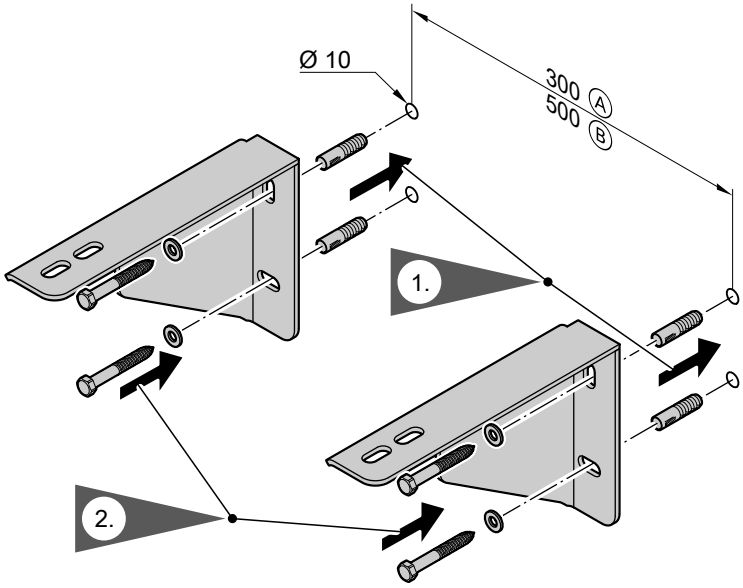
Wall mounting (cont.)



Ⓐ Heating flow

Ⓑ Heating return

Fitting several modules with manifold (accessories)

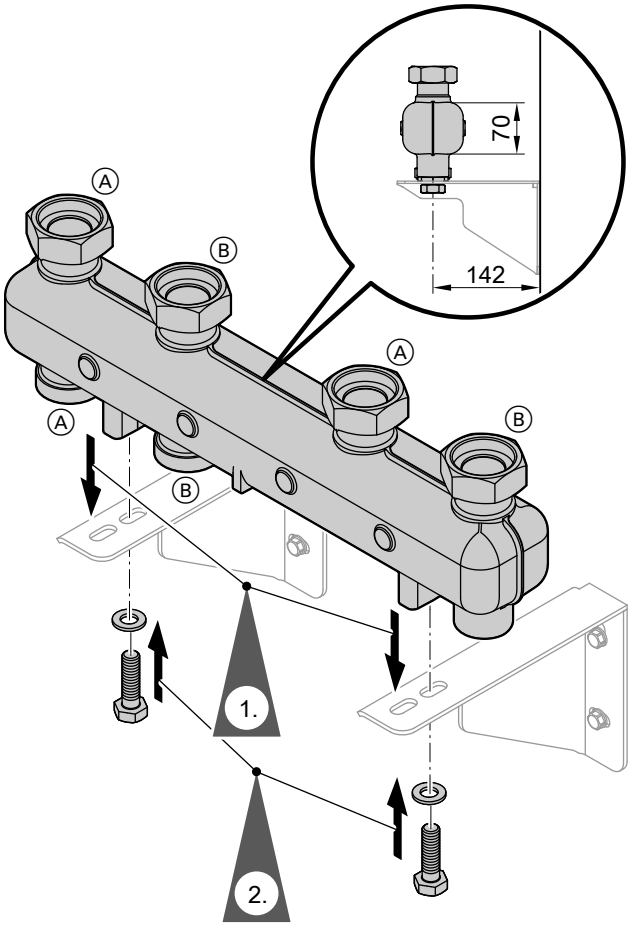


Ⓐ Manifold for 2 Divicons

Ⓑ Manifold for 3 Divicons

Wall mounting (cont.)

Manifold (H = 70 mm) for two Divicons

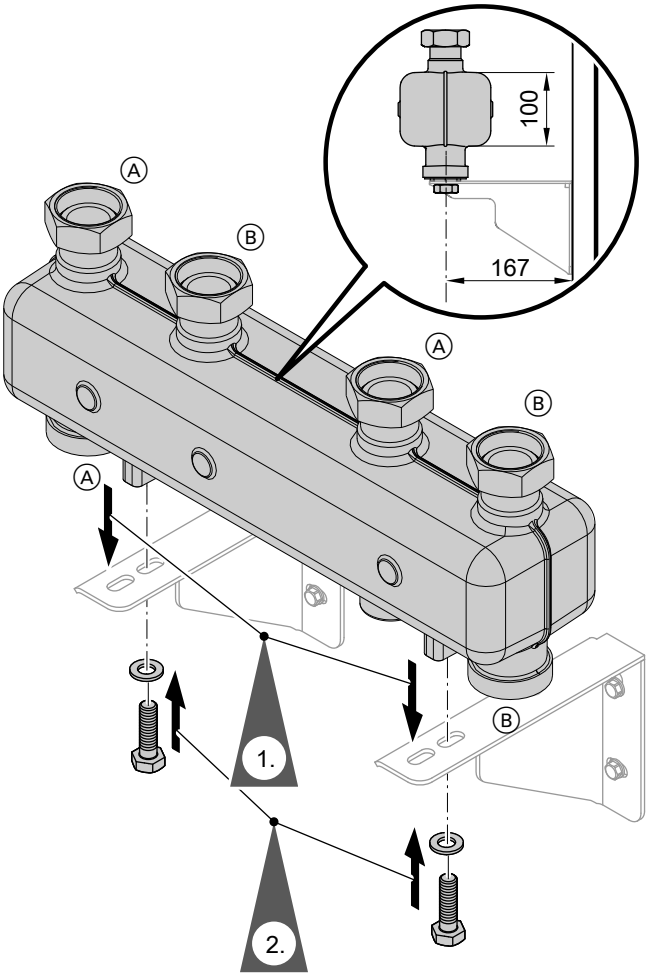


Ⓐ Heating flow

Ⓑ Heating return

Wall mounting (cont.)

Manifold (H = 100 mm) for two Divicons



Ⓐ Heating flow

Ⓑ Heating return

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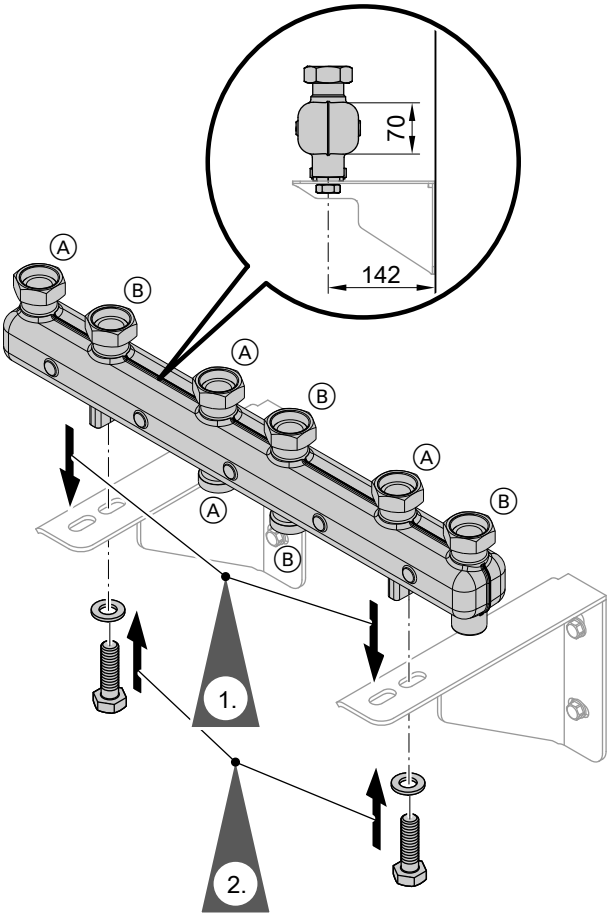
Wall mounting (cont.)

Manifold (H = 70 mm) for three Divicons

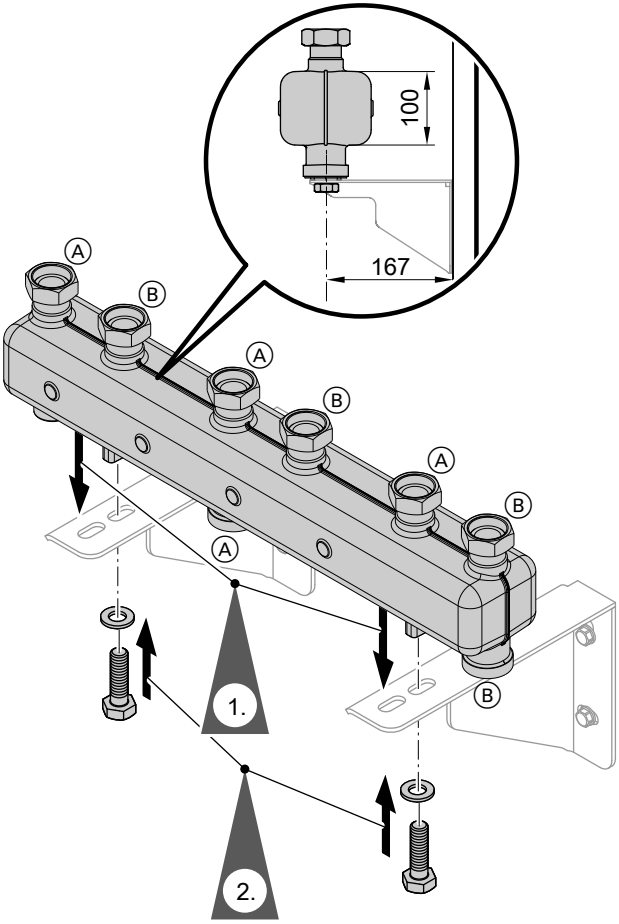


Ⓐ Heating flow

Ⓑ Heating return

Wall mounting (cont.)

Manifold (H = 100 mm) for three Divicons



Ⓐ Heating flow

Ⓑ Heating return

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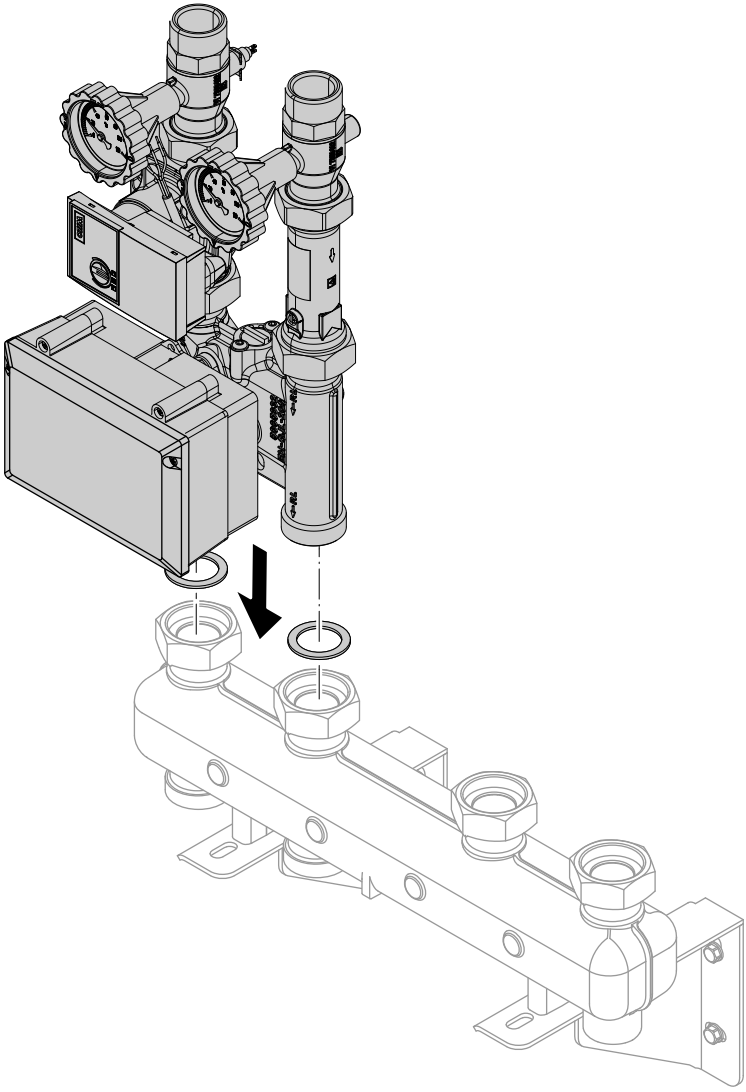
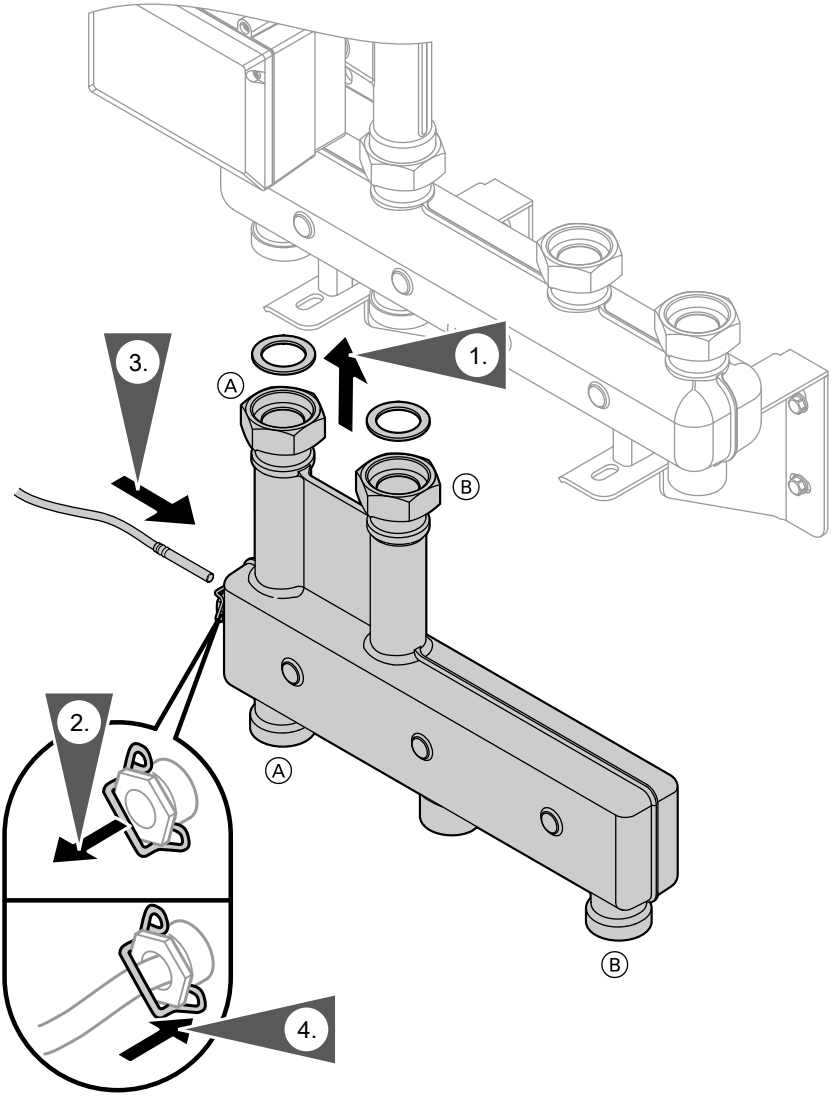
Wall mounting (cont.)



Wall mounting (cont.)

Low loss header (if supplied)



Ⓐ Heating flow

Ⓑ Heating return

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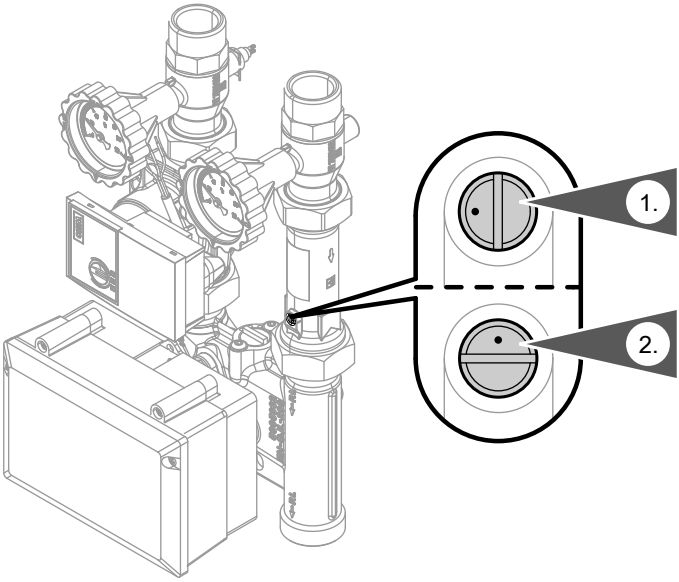
Filling the system



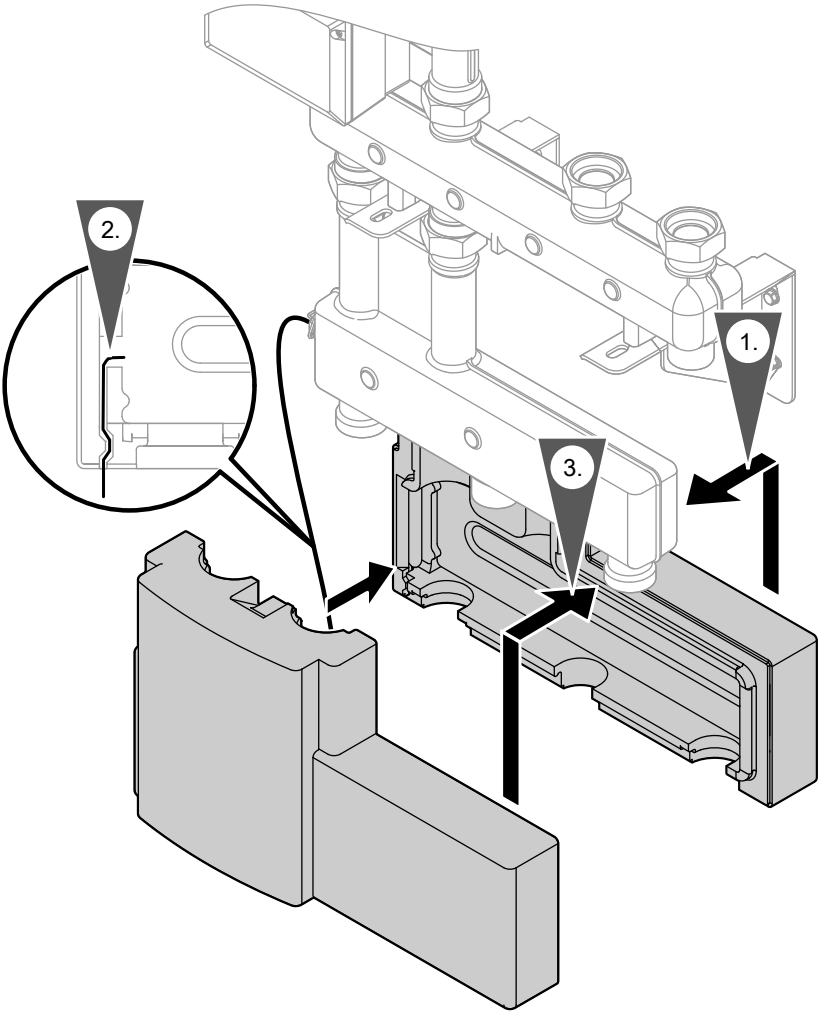
1. For filling (with heating water), open the check valve in the heating return by positioning the slot of the screw in the vertical position.

Note
Observe the marking on the adjusting screw.

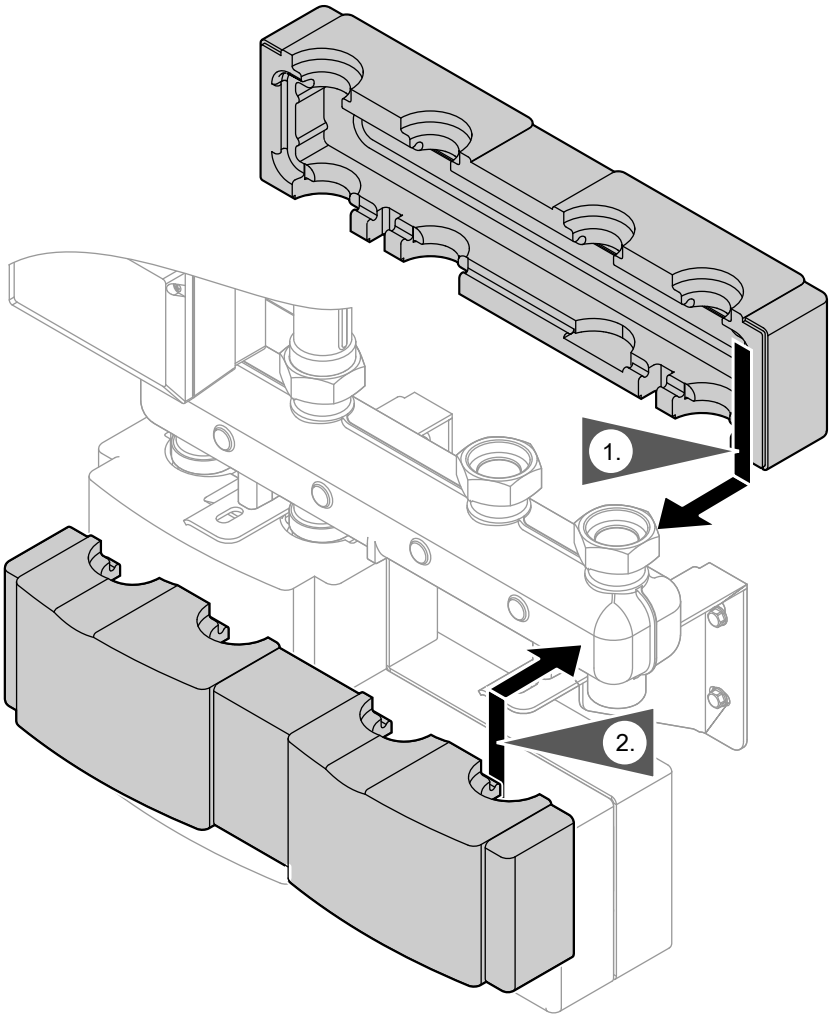
2. For operation, position the slot of the screw in the horizontal position.

Fitting the thermal insulation

Low loss header (if supplied)

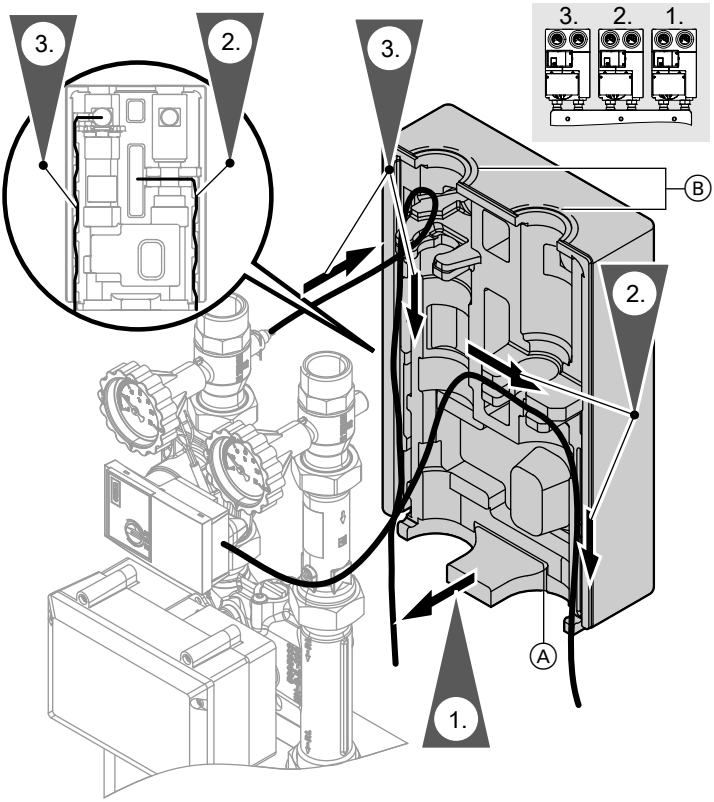


Manifold



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.



Ⓐ Cut if fitting a single module to the wall

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

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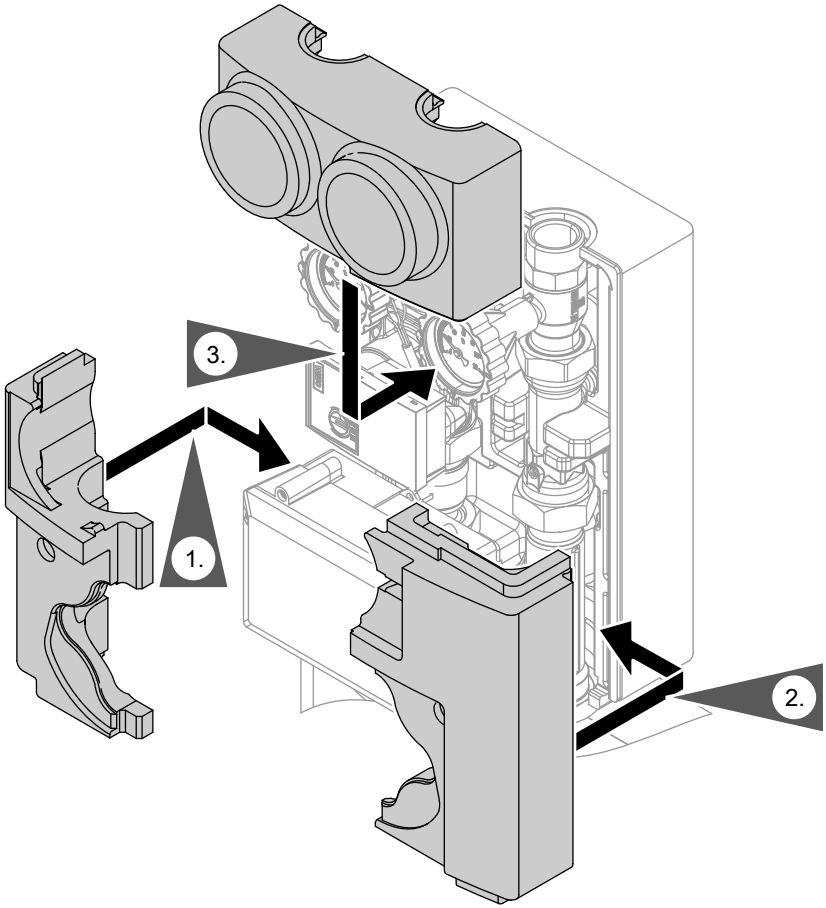
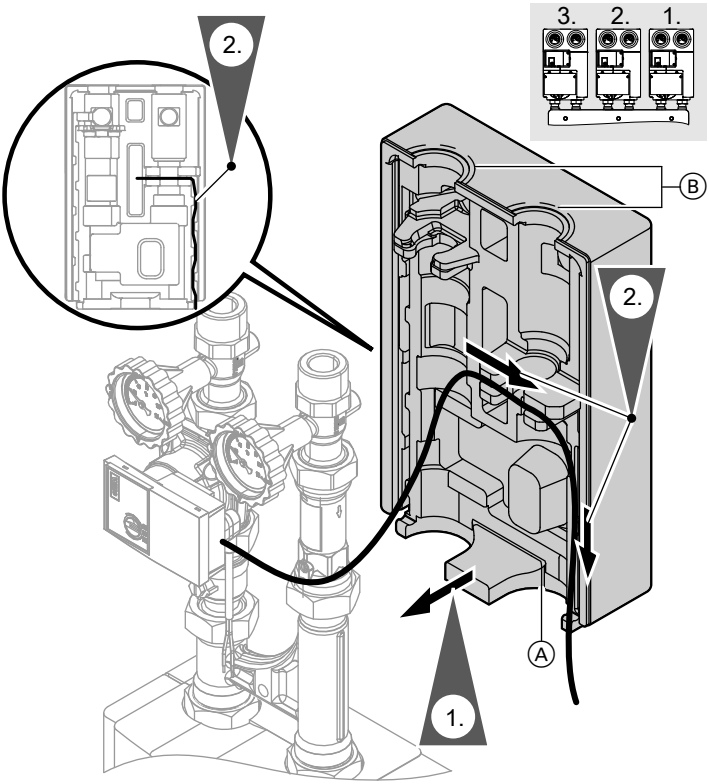
Fitting the thermal insulation (cont.)



Divicon without mixer

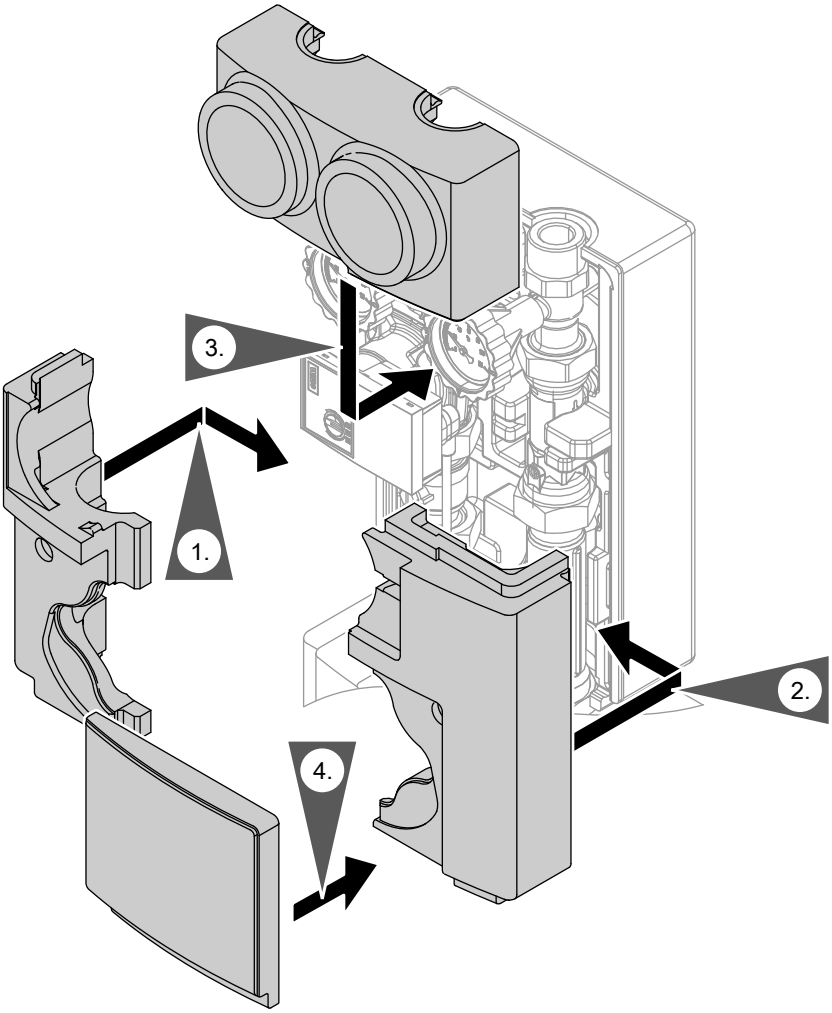
Note
With several Divicons, first fit the thermal insulation on the right Divicon. For the remaining Divicons, fit the insulation from right to left.



Ⓐ Cut if fitting a single module to the wall

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

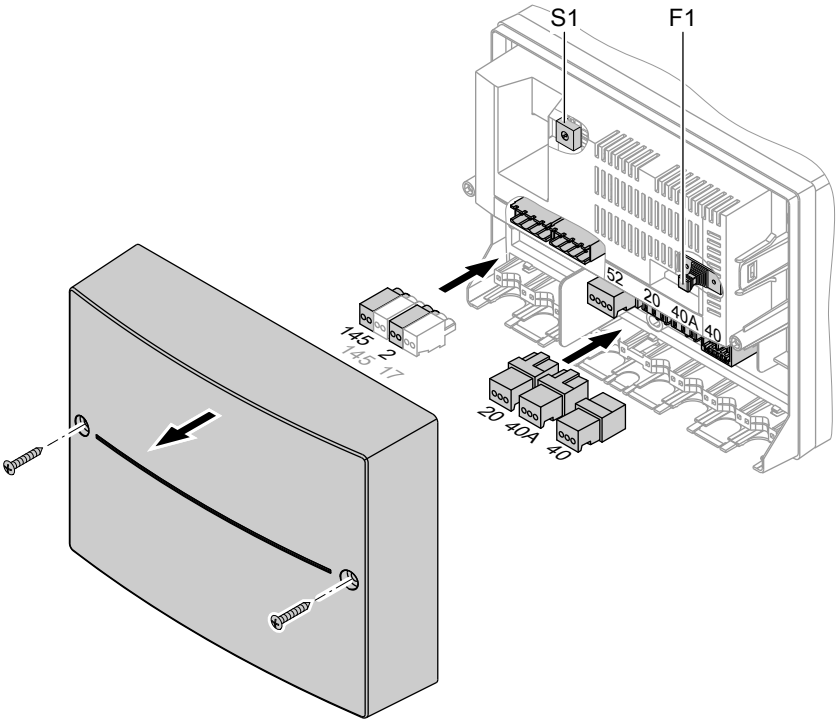
Fitting the thermal insulation (cont.)



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.)

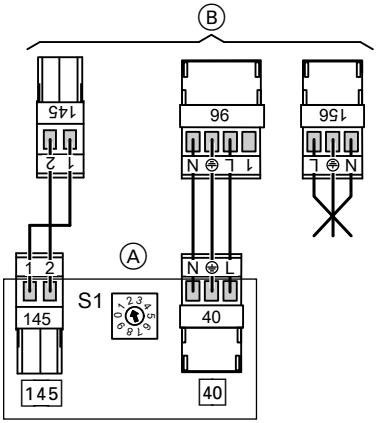
Please note
Electronic modules can be damaged by electrostatic charges. Before beginning work, touch earthed objects, such as heating or water pipes, to discharge static loads.

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

Connecting the Vitotronic 300, type KW3

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



Ⓐ Extension kit
Ⓑ To the control unit
S1 For rotary selector position, see the following table

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.)

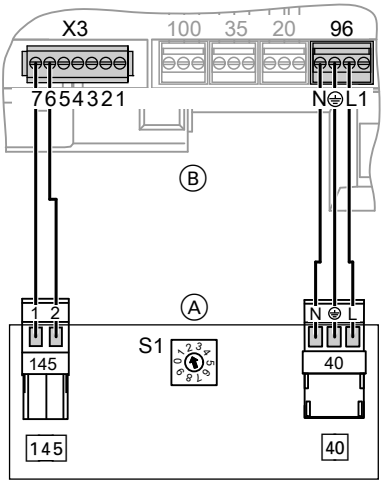
Set rotary selector:

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"

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".

Extension kit with mixer PCB (cont.)



Ⓐ Extension kit
- 40 Power supply
- 145 KM-BUS
- S1 For rotary selector position, see the following table

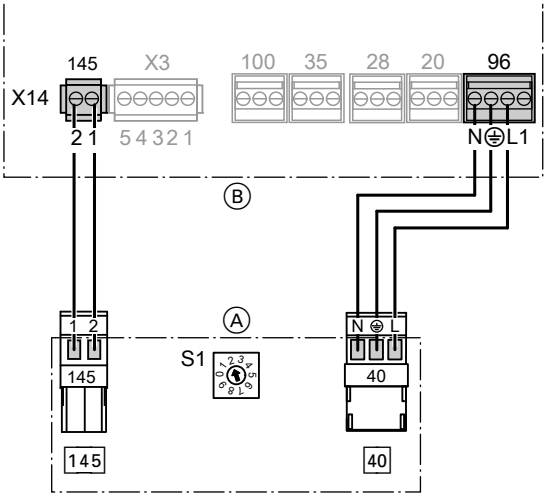
Ⓑ Control unit
- "X3" KM-BUS at terminals "7" and "6" (disconnect plug 145) or with plug 145 to the KM-BUS distributor (accessories)
- 96 Power supply

Note
If the mains 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"

Extension kit with mixer PCB (cont.)



Ⓐ Extension kit
- [40] Power supply
- [145] KM-BUS
- S1 For rotary selector position, see the following table

Ⓑ Control unit
- "X14" KM-BUS at terminals "1" and "2" (disconnect plug [145])
  or
  with plug [145] to the KM-BUS distributor (accessories)
- [96] Power supply

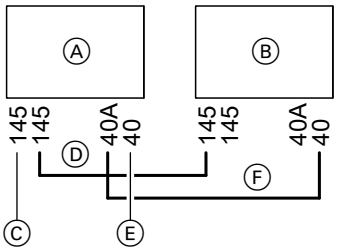
Note
If the mains power supply has already been allocated, see chapter "Power supply".

Extension kit with mixer PCB (cont.)

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



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

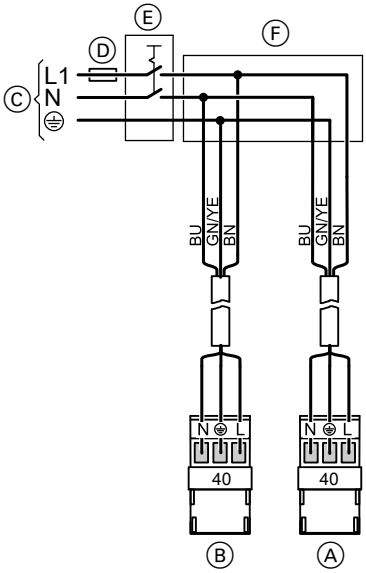
Extension kit with mixer PCB (cont.)

- Connection requirements specified by the local power supply utility
- Protect the power cable with a fuse/MCB of up to 16 A.

Danger
The absence of component earthing for the system 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.)



Make the power supply connection 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 power supply
Ⓑ Control unit power supply
Ⓒ Power supply 230 V/50 Hz
Ⓓ Fuse (max. 16 A)
Ⓔ Mains isolator, 2-pole, on site (if installed)
Ⓕ Terminal box (on site)

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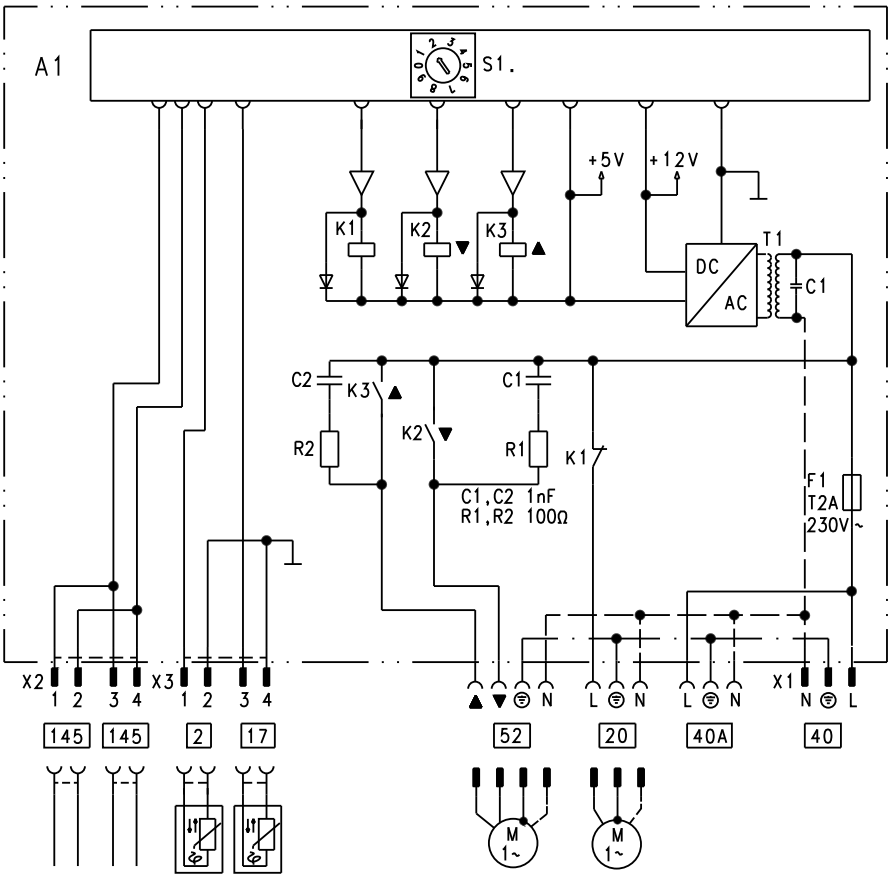
Connection and wiring diagram



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

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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)

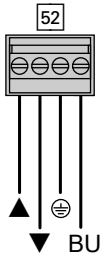
145 KM BUS cable for connection with the control unit and an additional extension kit

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").

2.



Switch cores BK ▲ and BK ▼ on plug 52.

3. Refit the casing cover.

4. Check the rotational direction.

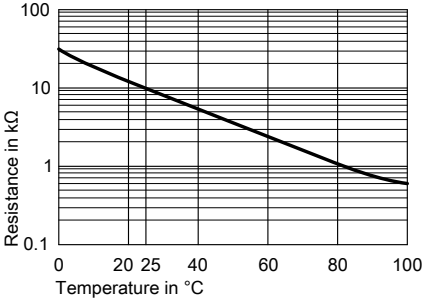
Specification

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~

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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.

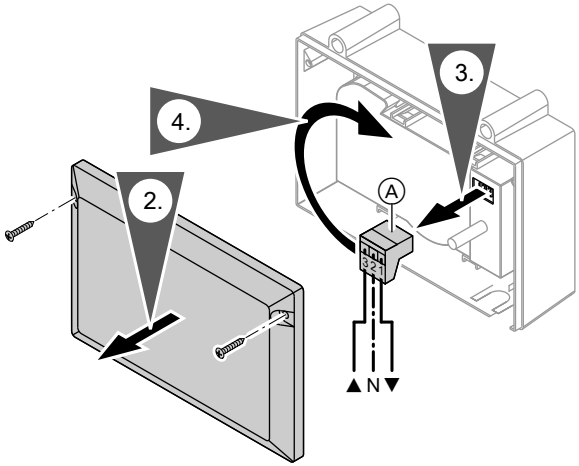
Installation and service instructions of the relevant control unit

Connecting the mixer motor

Push cable plug [52] into the corresponding socket of the control unit.

Installation and service instructions of the relevant control unit

Changing the rotational direction (if required)



1. Switch OFF the power supply to the control unit.

2. Remove the enclosure lid.

3. Pull out 3-pin plug Ⓐ in the mixer motor.

4. Insert 3-pin plug Ⓐ in the mixer motor rotated through 180°.

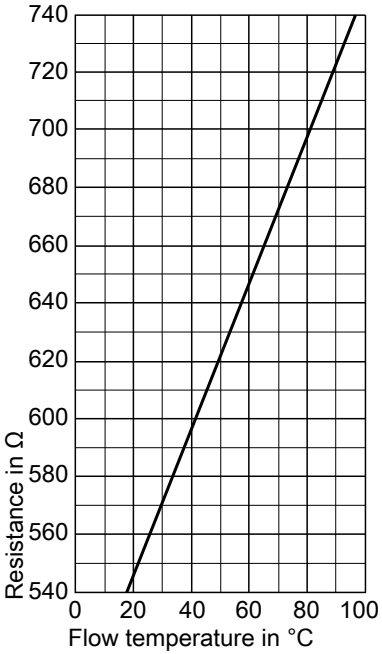
5. Check the rotational direction.

Specification

Flow temperature sensor

Sensor type	Viessmann Ni500
IP rating	IP 32 to EN 60 529; ensure through design/installation
Permissible ambient temperature	
■ during operation	0 to +120 °C
■ during storage and transport	–20 to +70 °C

Curve



Extension kit without mixer PCB (cont.)

Mixer motor

Rated voltage	230 V~
Rated frequency	50 Hz
Rated current	2 A
Power consumption	4 W
Protection class	I
IP rating	IP 42 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 capacity of the relay outputs	
■ Heating circuit pump	4 (2) A 230 V~
■ Mixer motor	0.2 (0.1) A 230 V~

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
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: 2006 + A1:2010

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

Allendorf, 31/08/2016 Viessmann Werke GmbH & Co. KG

Authorised signatory Manfred Sommer

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