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## 1 General information

### About these instructions

These installation instructions contain important information about the safe and proper installation of the Logamax plus GB162-80 kW /100 kW pump group.

These instructions are to be used in conjunction with the boiler installation instructions to make sure that the installation is carried out correctly.

These Installation Instructions are intended for professional installers, who have the necessary training and experience for working on heating and gas systems.

### Subject to technical modifications

Slight changes may be made without prior notice to the illustrations, process steps and technical data as a result of our policy of continuous improvement.



### 3 Dimensions and connections

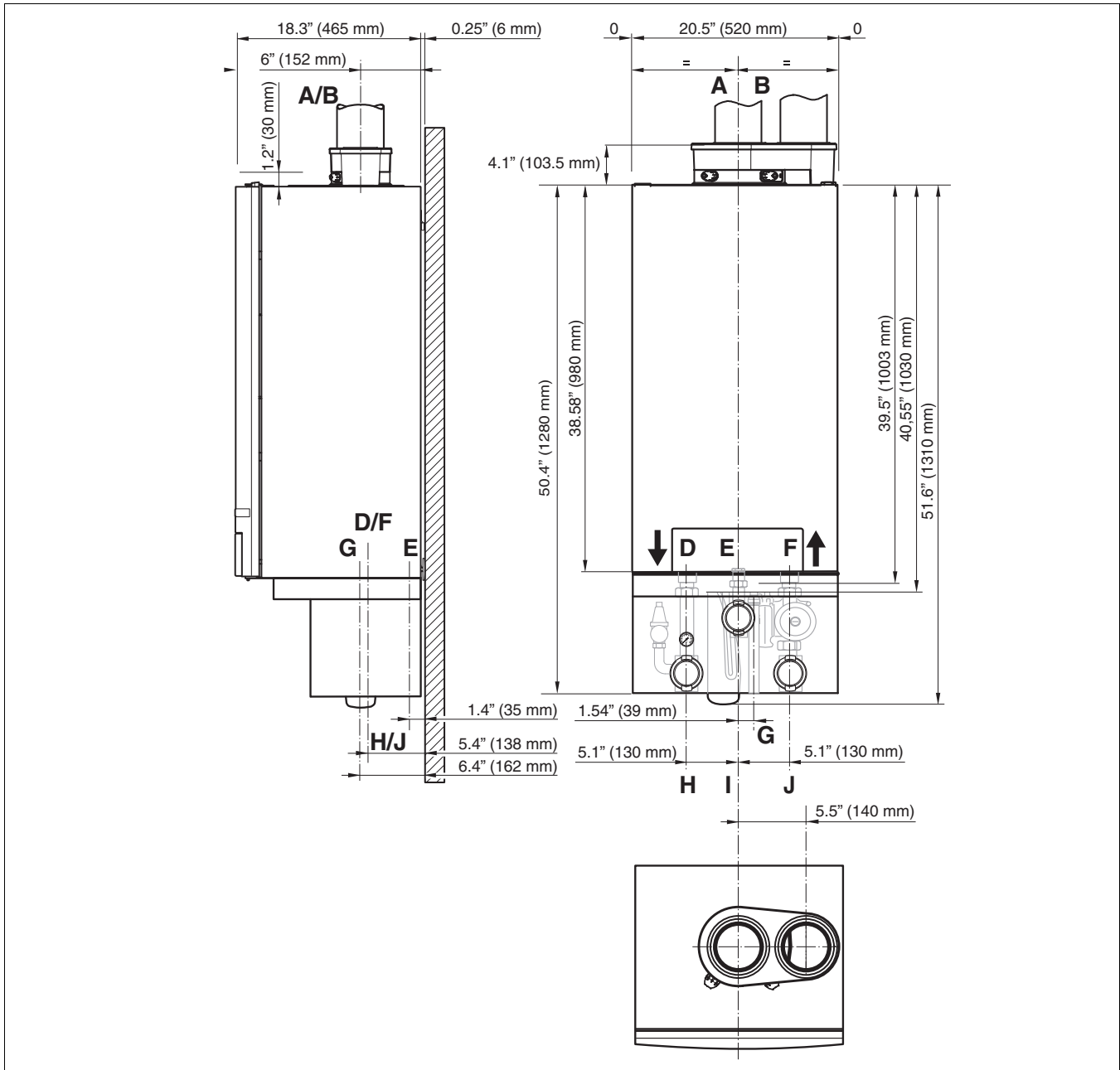


Fig. 1 Dimensions and connections (dimensions in mm)

- |                |   |               |   |
|----------------|---|---------------|---|
| <b>A (LA)</b>  | = Flue gas connection;<br>inside diameter 4"        | <b>I</b>      | = Gas connection to pump group;<br>1" NPT female thread |
| <b>B (AA)</b>  | = Air intake connection;<br>inside diameter 4"      | <b>J (PR)</b> | = Pump group return;<br>G1½" male thread, flat seal     |
| <b>C (WB)</b>  | = Wall Bracket (not shown in picture)               |               |   |
| <b>D (VK)</b>  | = Supply;<br>G1½" union nut with female thread      |               |   |
| <b>E (GAS)</b> | = Gas connection to boiler;<br>Rp1" female thread   |               |   |
| <b>F (RK)</b>  | = Return;<br>G1½" union nut with female thread      |               |   |
| <b>G (AKO)</b> | = Condensate water outlet;<br>Ø 32 mm O/D           |               |   |
| <b>H (PF)</b>  | = Pump group supply;<br>G1½" male thread, flat seal |               |   |





### 5.3 Installing the heating supply and return

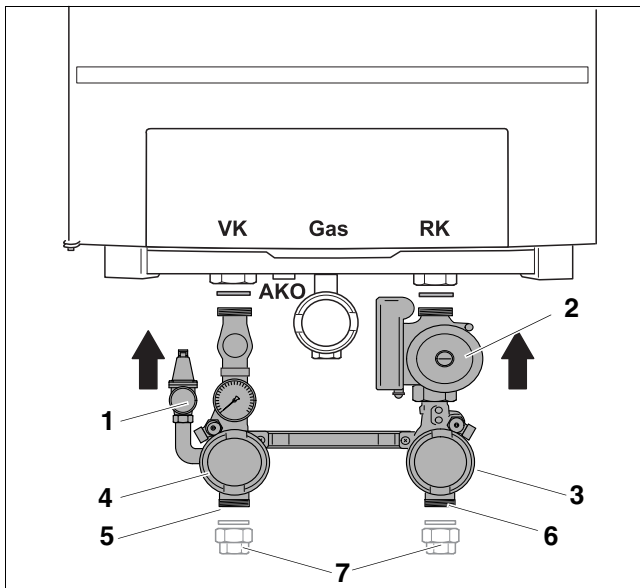


fig. 5 Installing the isolating valves

- 1: Pressure relief valve (included)
- 2: Pump
- 3: Isolating valve, blue (Return)
- 4: Isolating valve, red (Supply)
- 5: Supply connection
- 6: Return connection
- 7: Screw fitting 1" female thread (accessory)



#### NOTICE

- To prevent debris in the heating system we advise you to integrate a dirt filter (y-strainer) in the return circuit.
- When connecting the heating boiler to an existing heating system, a dirt filter (y-strainer) is mandatory.
- If a dirt filter (y-strainer) is installed, install a shut-off valve for filter cleaning immediately upstream and downstream of this dirt filter.
- Install the blue and red isolating valve (fig. 5, [3] and [4]) with the flat rubber seals in place on the Boiler Return and Supply connections.
- Connect the supply pipe to the red isolating valve (fig. 5, [5]) free of stress. If necessary, use the screw fitting (accessory, fig. 5, [7]).
- Connect the return pipe to the blue isolating valve (fig. 5, [6]) free of stress. If necessary, use the screw fitting (accessory, fig. 5, [7]).
- Calculate the supply and return pipe diameters taking into consideration the residual head downstream of the pump group with the minimum required volume flow (see Tab. 1). The minimum diameters of the supply and return connections are 1½" (Ø 35 mm).

	Residual head psi (mbar)	with minimum required volume flow Gal/h (L/h)	with $\Delta T$ [K]
GB162-80 kW with pump group UP 26-99	0 <sup>1)</sup>	950 (3,600)	20
GB162-100 kW with pump group UP 26-99	0 <sup>1)</sup>	1,136 (4,300)	20

Table 1 Residual head downstream of pump group with a single-boiler system

1) Low loss header required



#### NOTICE

When using plastic pipework in the heating system, e.g. for underfloor heating, it has to be oxygen diffusion tight. If this pipework does not comply with the relevant standards, a heat exchanger must be integrated to separate the systems.

#### Installing the differential pressure controller

If a low loss header is present and a situation can occur where all secondary zones can shut down, then it is necessary to install a differential pressure controller to the secondary side of the open manifold. This serves to protect the secondary pump against overheating as a result of insufficient flow.

#### Installing the drain cock

Since the isolating valve for the return circuit already has an integrated filling and drain valve, fitting a drain valve is not necessary.

#### Installing the check valve

Since the isolating valve for the return circuit (blue) already has an integrated check valve, fitting a check valve in the return circuit is not necessary.

#### Installing a safety valve

A pressure relief valve must be installed on the pump group (see fig. 5, [1], page 7) to prevent the pressure in the heating system from becoming excessively high.

- Install a pressure relief valve of 30 psi (2 bar). If necessary a pressure relief valve with a maximum of 50 psi (3.5 bar) can be used.

## 5.4 Installing the condensate trap

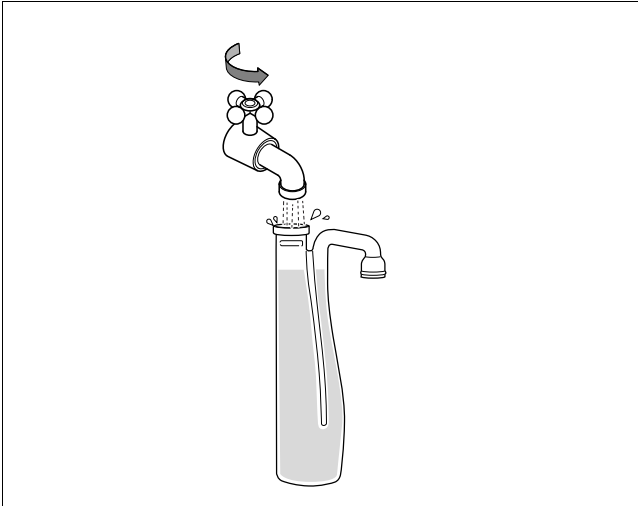


fig. 6 Filling the condensate trap with clean water



### WARNING

Danger of fatal accident due to poisoning.

- If the condensate trap is not filled with clean water, flue gas can escape and put people's lives at risk.
- Fill the condensate trap (supplied with the boiler) with clean water (fig. 6).

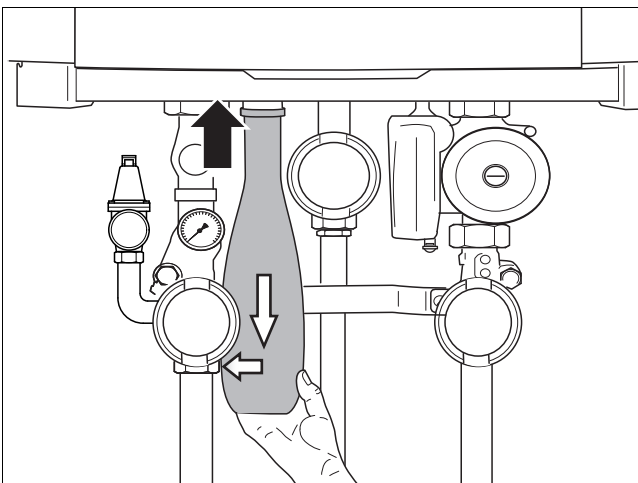


Fig. 7 Installing the condensate trap

- Connect the condensate trap (fig. 7) to the condensate water outlet. The condensate trap has a bayonet connector, insert and turn  $\frac{1}{4}$  rotation clockwise to click into position.

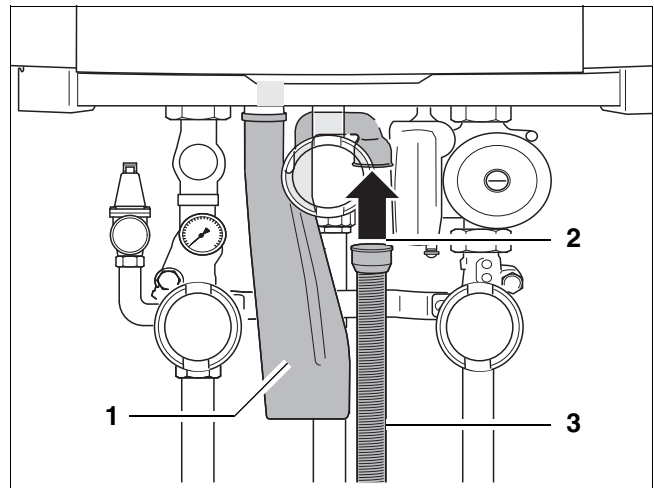


fig. 8 Installing the condensate trap hose

- Connect the condensate trap hose (fig. 8, [3]) and the rubber sleeve (fig. 8, [2]) to the condensate trap (fig. 8, [1]).

## 5.5 Connecting the condensate drain pipe

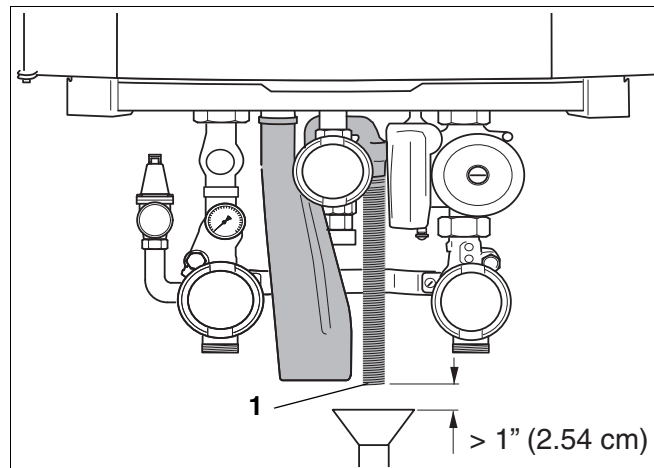


fig. 9 Condensate drain pipe



### NOTICE

The condensate must be drained from the boiler in accordance with the applicable rules and regulations.



### NOTICE

Use materials approved by the authority having jurisdiction. In the absence of such authority, PVC and CPVC pipe must comply with ASTM D1785, F441 or D2665. Cement and primer must comply with ASTM D2564 or F493. For Canada, use CSA or ULC certified PVC or CPVC pipe, fittings and cement.

- Connect the condensate drain pipe to the condensate trap (fig. 8, [1] and fig. 9, [1]), taking the following into account:



- An air gap of at least 1" (2.54 cm) must be maintained between the boiler condensate trap and the condensate pipework.
- If the condensate outlet of the boiler is lower than the drain, a condensate pump must be used.
- The condensate produced by the boiler has a pH value between 3 and 4. Install a neutralization unit if required by the local code.

## 5.6 Connecting the expansion vessel (accessory)



### CAUTION

Damage to the unit due to faulty pressure relief.

- The expansion vessel must be of sufficient capacity.

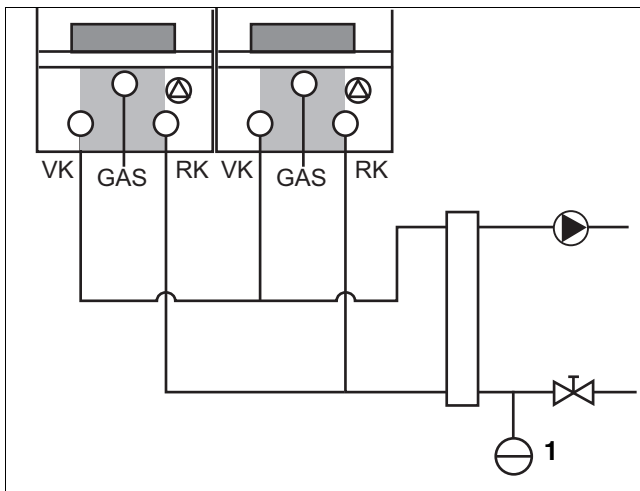


fig. 10 Connecting the expansion vessel in a multi-boiler configuration (cascade configuration)

1: Expansion vessel

### Connecting the expansion vessel in a multi-boiler configuration (cascade configuration)

In cascade systems only one expansion vessel is required for the heating system.

- Connect the expansion vessel to the secondary side of the header in the return circuit (fig. 10), so that every boiler is connected to the expansion vessel (fig. 10).

Refer to the cascade system installation instructions for the installation details.

## 5.7 Making the electrical connections to the pump

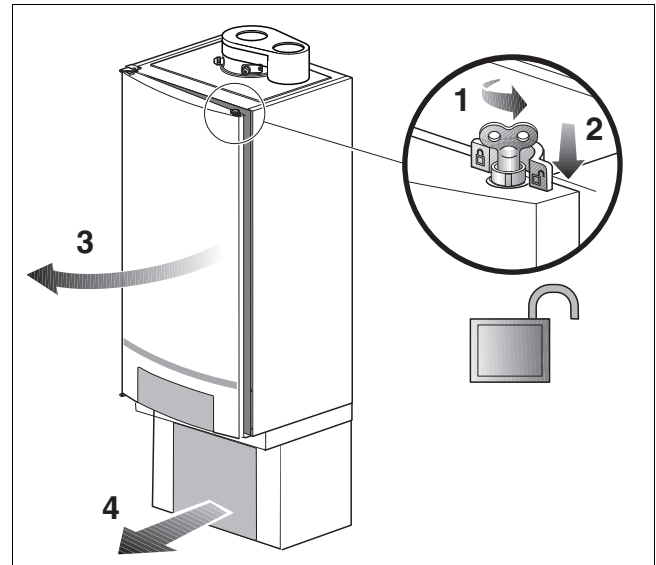


fig. 11 Opening the boiler door

- Turn the vent key through a quarter rotation to undo the boiler door lock (fig. 11, [1]).
- Push the fastener down (fig. 11, [2]) and open the boiler door (fig. 11, [3]).
- Remove the insulation cover of the pump group (fig. 11, [4]).

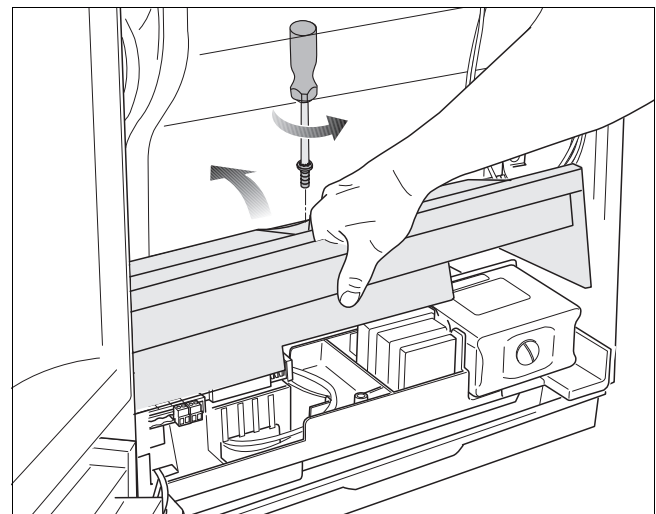


fig. 12 Pulling the cover over the electrical connections up

- Remove 1 screw to release the cover over the electrical connections and pull the cover up (fig. 12).

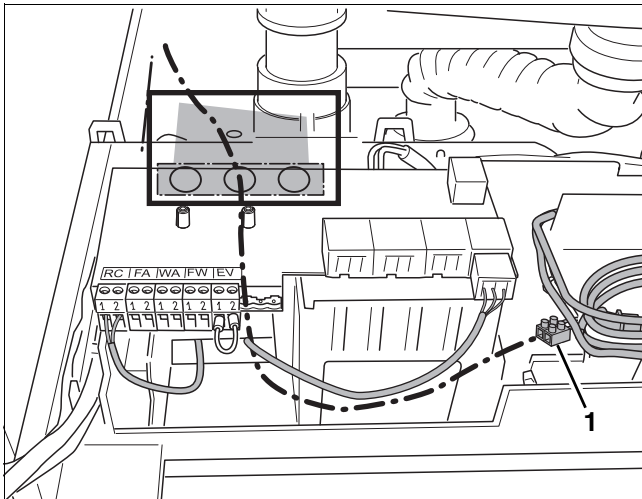


fig. 13 Routing the pump connection cable

1: Pump connection cable

- Route the pump connection cable from the boiler through the opening below the electrical connection box downwards (see fig. 13, [1]).

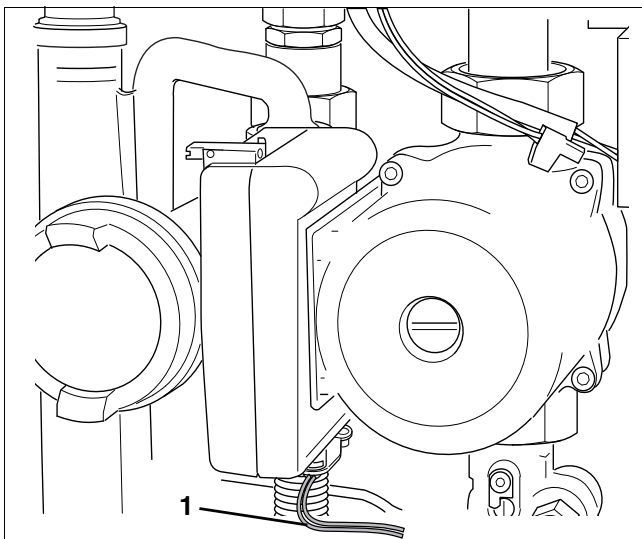


fig. 14 Connecting the pump

1: Main power cable connector

- Connect the main power cable connector (fig. 14, [1]) to the pump using an approved cable (not supplied).

## 5.8 Installing the insulation cover

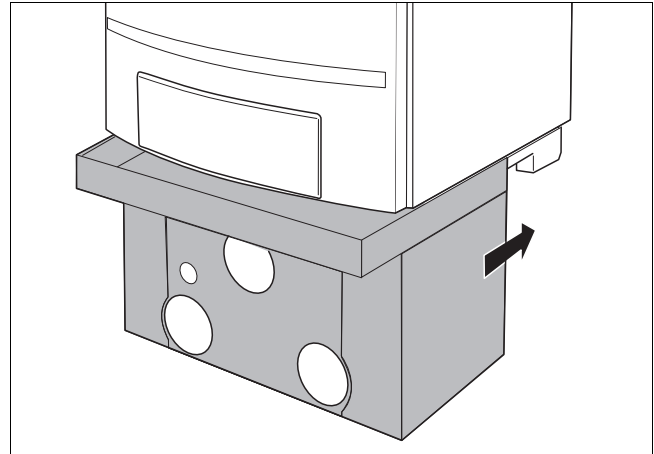


fig. 15 Installing the insulation cover



### NOTICE

The control panel cover must be closed.

- Slide the insulation cover with its upper edge into the groove of the lower support (fig. 15).

## 5.9 Commissioning



### NOTICE

See the Installation and servicing instructions of the boiler assembly for commissioning instructions of the boiler. Observe the safety instructions and take the relevant measures.



**United States and Canada**

Bosch Thermotechnology Corp.  
50 Wentworth Avenue  
Londonderry, NH 03053  
Tel. 603-552-1100  
Fax 603-965-7581  
[www.boschheatingandcooling.com](http://www.boschheatingandcooling.com)  
U.S.A.

Products manufactured by  
Bosch Thermotechnik GmbH  
Sophienstrasse 30-32  
D-35576 Wetzlar  
[www.bosch-thermotechnology.com](http://www.bosch-thermotechnology.com)

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