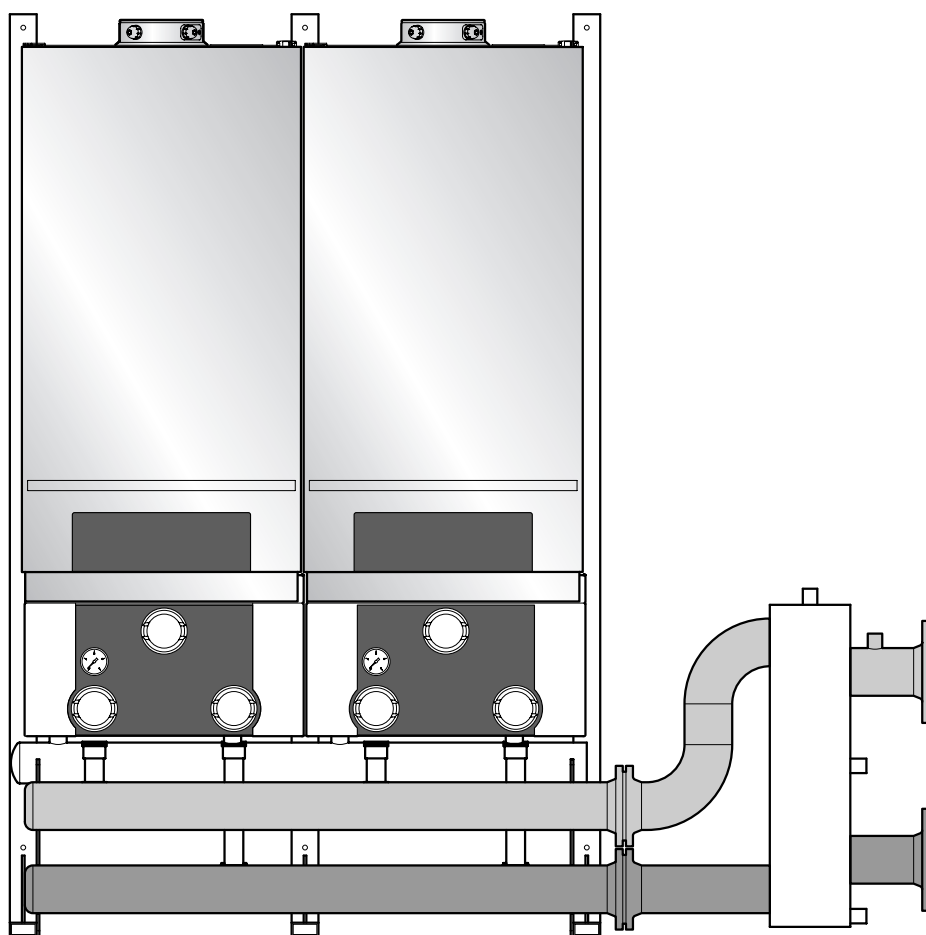


Installation instructions

Logamax plus GB162-80/100 cascade unit



berner

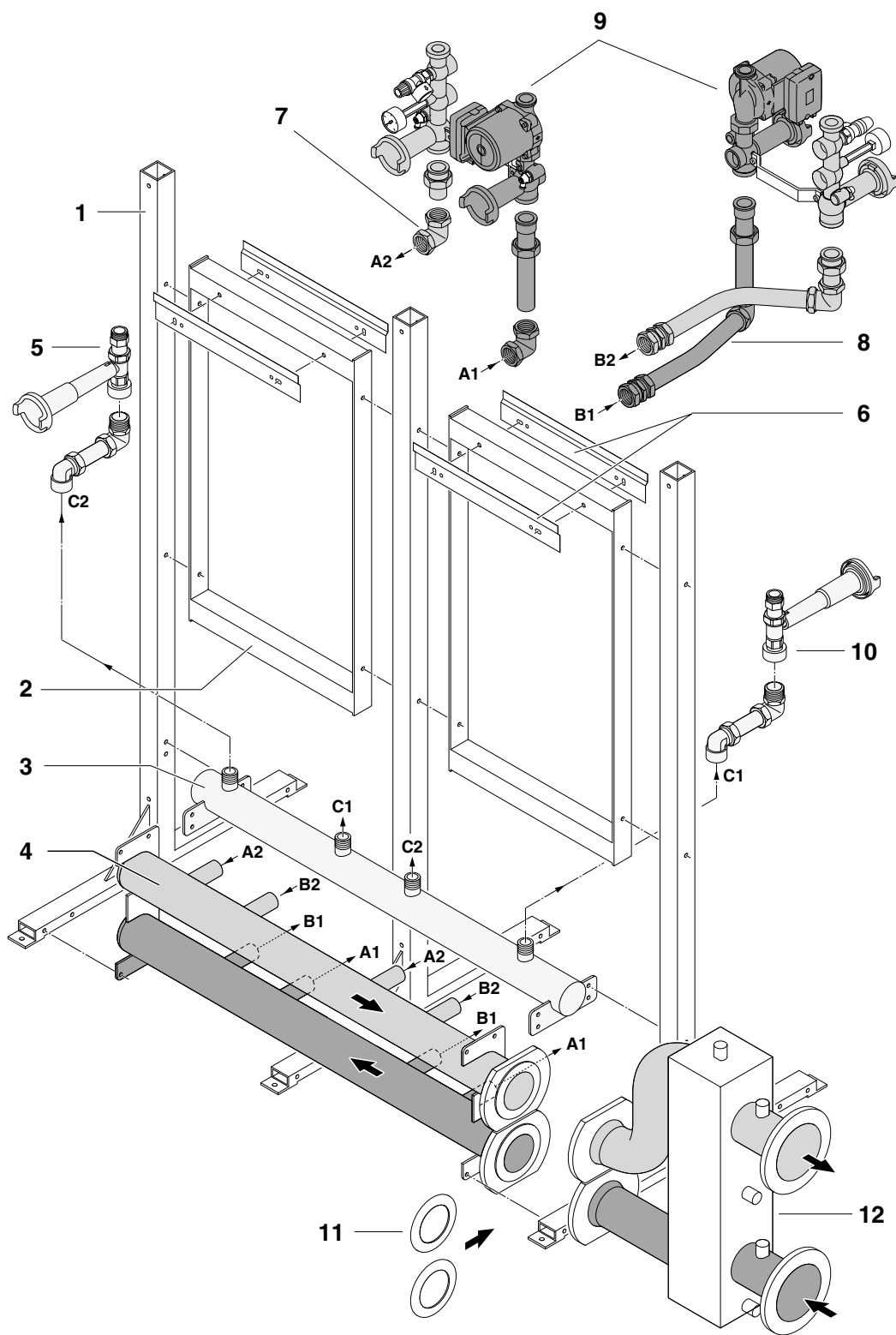


Fig. 1 Overview of Logamax plus GB162 cascade frame

Item 1: Supports

Item 2: Connecting frame

Item 3: Main gas pipe

Item 4: Flow and return header

Item 5: Gas connection kit TL-inline

Item 6: Mounting bracket

Item 7: Boiler connection set TL-inline

Item 8: Boiler connection set TR-back-to-back

Item 9: Boiler assembly connection kit

Item 10: Gas connection kit TR-back-to-back

Item 11: Flange seals

Item 12: Low loss header

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1 General points

The installation instructions for cascade systems with Logamax plus GB 162 appliances are provided to enable correct and easy installation.

The modular cascade frame consists of a number of supports with connecting frames which are screwed together during installation.

The compact dimensions of the individual cascade frame parts enable simple and quick installation.

2 Items supplied with unit

Cascade frame (fig. 1):

- Supports
- Connecting frame
- Main gas pipe
- Flow and return header
- Boiler connection kit
- Flange seals
- Low loss header
- Blank flanges
- Rubber pump seals
- Fixings
- Installation instructions

Boiler (fig. 2):

(to be ordered from your supplier)

- Mounting bracket
- Boiler
- Siphon
- Installation instructions.

Pump group (fig. 3):

(to be ordered from your supplier)

- Connection kit
- Installation instructions

The connection kit consists of:

- Maintenance valves
- Drain cock
- Gas isolation valve
- Pressure relief valve
- Non-return valve
- Pump
- Pressure gauge.

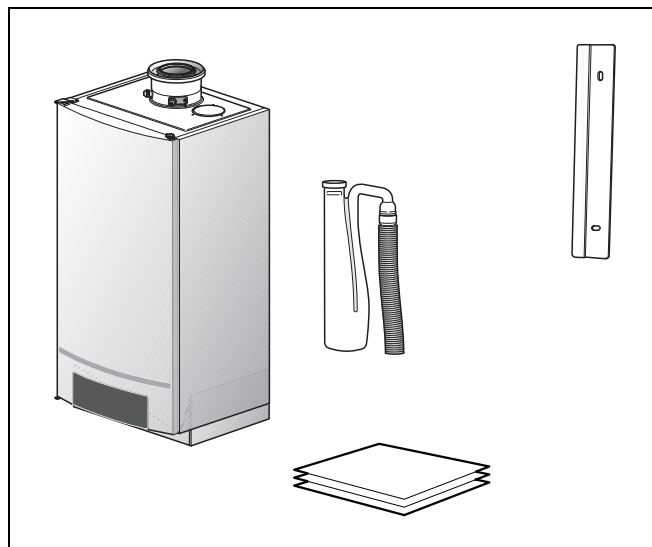


Fig. 2 Items supplied with the boiler assembly

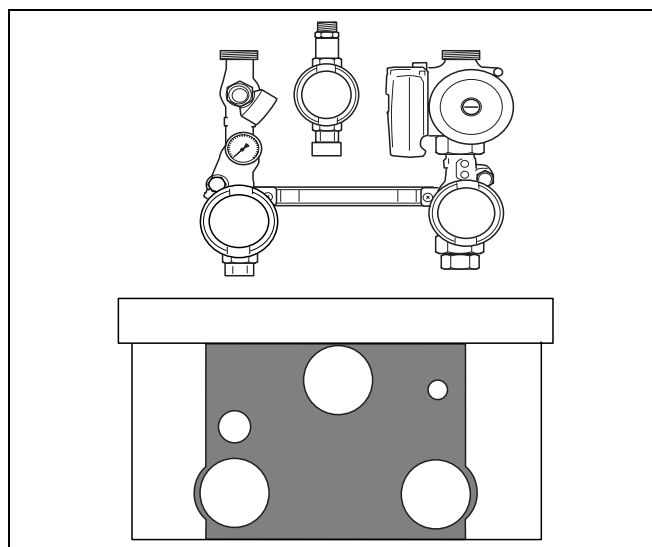


Fig. 3 Items supplied with pump group

Buderus supplies cascade systems in **TL** and **TR** configurations:

TL: Inline installation

All boiler assemblies are in a line enabling an easy-to-monitor installation in a narrow room.

TR: Back-to-back installation

The boiler assemblies are located on both sides of the frame and are installed back-to-back to create a compact installation which ideally suits rectangular rooms and which ensures the best possible access to all boilers.

The relevant configuration can be selected on the basis of the performance required (see table 1).

Boiler assembly connection kit

The connection kit can be used both for the Logamax plus GB162-80 and for the 100-kW version. The connection kit includes a pressure relief valve, a non-return valve, a pump and isolating valves.

Low loss header	TL- configuration (inline)	TR- configuration (back-to-back)
2½"	TL2, TL3	TR2
3"	TL4	TR3, TR4
4"	TL5, TL6, TL7, TL8	TR5, TR6, TR7, TR8

Table 2 Low loss header configuration

Bend sets with low loss header

The Logamax plus GB162 cascade system can be installed in various configurations (fig. 4). By using the bend set the low loss header can be installed at an angle to the boilers. The gas pipe is reversible so that the gas connection can be at the other side of the boilers to the flow and return connections to the header.

Appliance performance [kW]	Cascade system options TL = inline TR = back-to-back	Number of boilers Logamax plus GB162	
		80	100
80	Single installation	1	–
100	Single installation	–	1
160	TL2 or TR2	2	–
180	TL2 or TR2	1	1
200	TL2 or TR2	–	2
240	TL3 or TR3	3	–
260	TL3 or TR3	2	1
280	TL3 or TR3	1	2
300	TL3 or TR3	–	3
340	TL4 or TR4	3	1
360	TL4 or TR4	2	2
380	TL4 or TR4	1	3
400	TL4 or TR4	–	4
440	TL5 or TR5	3	2
460	TL5 or TR5	2	3
480	TL5 or TR5	1	4
500	TL5 or TR5	–	5
520	TL6 or TR6	4	2
540	TL6 or TR6	3	3
560	TL6 or TR6	2	4
580	TL6 or TR6	1	5
600	TL6 or TR6	–	6
620	TL7 or TR7	4	3
640	TL7 or TR7	3	4
660	TL7 or TR7	2	5
680	TL7 or TR7	1	6
700	TL7 or TR7	–	7
720	TL8 or TR8	4	4
740	TL8 or TR8	3	5
760	TL8 or TR8	2	6
780	TL8 or TR8	1	7
800	TL8 or TR8	–	8

Table 1 Cascade selection

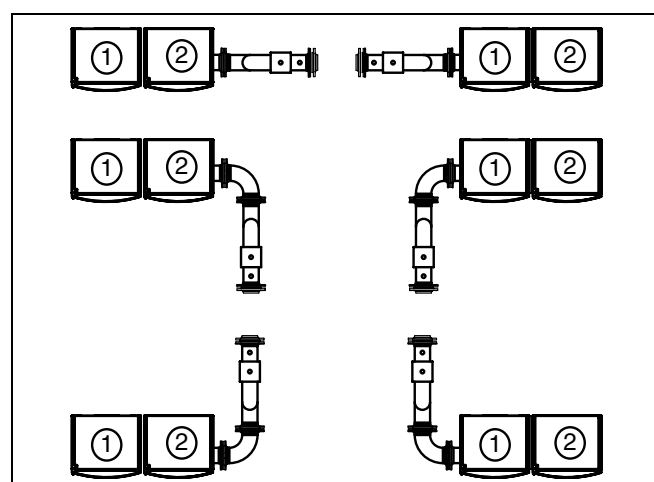


Fig. 4 Cascade system configuration varieties

3 Dimensions

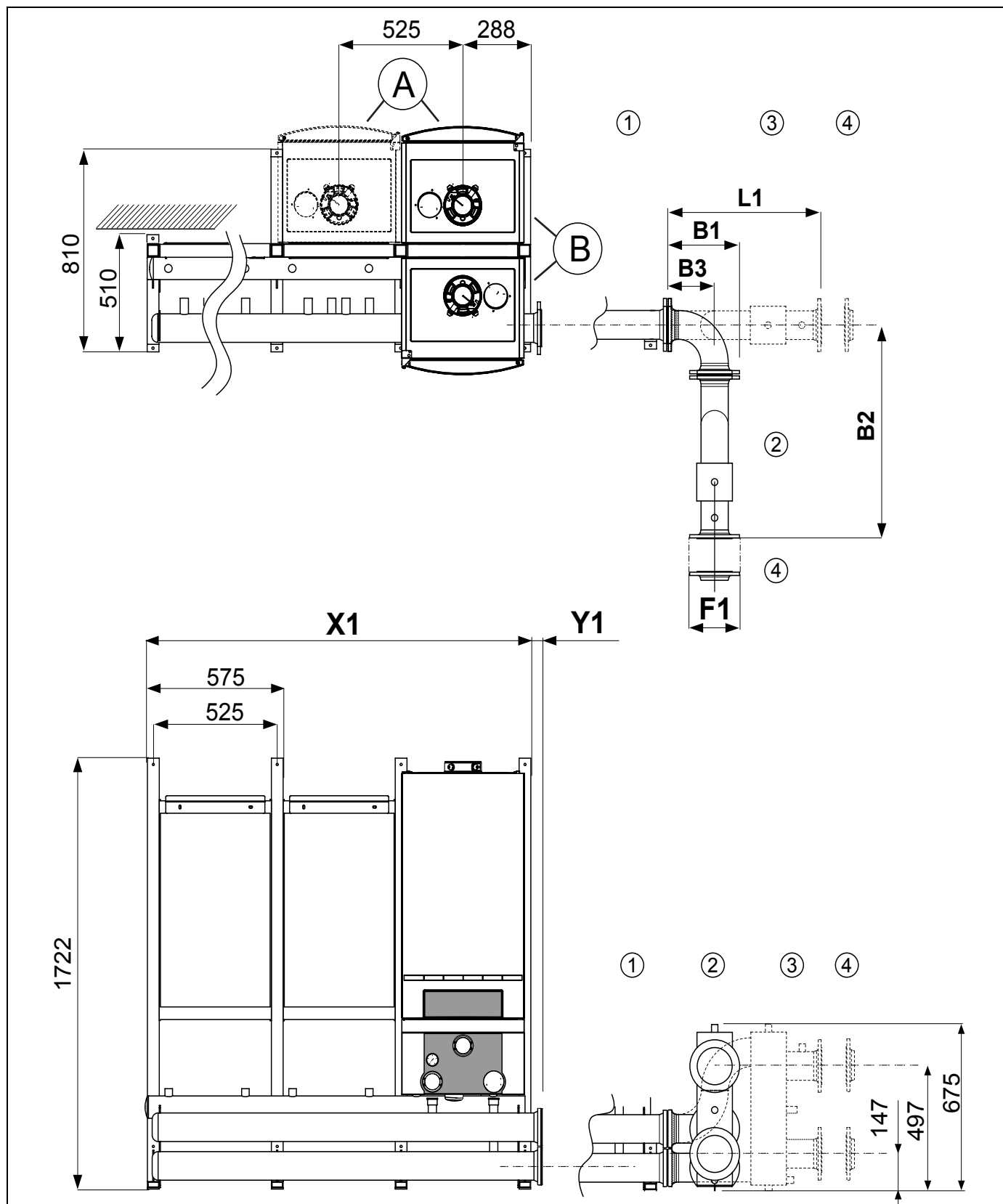


Fig. 5 Dimensions of cascade systems 1

Item A: TL-inline configuration

Item B: TR-back-to-back installation

Item 1: Flow and return header

Item 2: Low loss header with bend set

Item 3: Low loss header, straight

Item 4: Enclosed welding flanges

Cascade system	Length (mm) X1 + Y1	Width (mm)
TL2	1100 + 38 = 1138	575
TL3	1625 + 38 = 1663	575
TL4	2150 + 42 = 2192	575
TL5	2675 + 45 = 2720	575
TL6	3200 + 45 = 3245	575
TL7	3725 + 45 = 3770	575
TL8	4250 + 45 = 4295	575

Table 4 TL-inline configurations

Cascade system	Length (mm) X1 + Y1	Width (mm)
TR2	575 + 38 = 613	992
TR3, TR4	1100 + 42 = 1142	992
TR5, TR6	1625 + 45 = 1670	992
TR7, TR8	2150 + 45 = 2195	992

Table 3 TR-back-to-back configurations

**Caution!**The dimensional tolerance is $\pm 5\%$.

Cascade system	Header (inch)		Length (mm)	B1 (mm)	B2 (mm)	B3 (mm)	L1 (mm)	F1 (flange dimension in mm)
TL2, TL3, TR2	2½ "	straight	488	—	—	—	488	Blank flange C2631 37.2 NW 65/76.1 PN6
		right-angled	213	213	621	133	—	
TL4, TR3, TR4	3 "	straight	571	—	—	—	571	Blank flange C2631 37.2 NW 80/88.9 PN6
		right-angled	252	252	728	157	—	
TL5, TL6, TL7, TL8 TR5, TR6, TR7, TR8	4 "	straight	651	—	—	—	651	Blank flange C2631 37,2 NW 100/114.3 PN6
		right-angled	313	313	849	198	—	

Table 5 Header dimensions

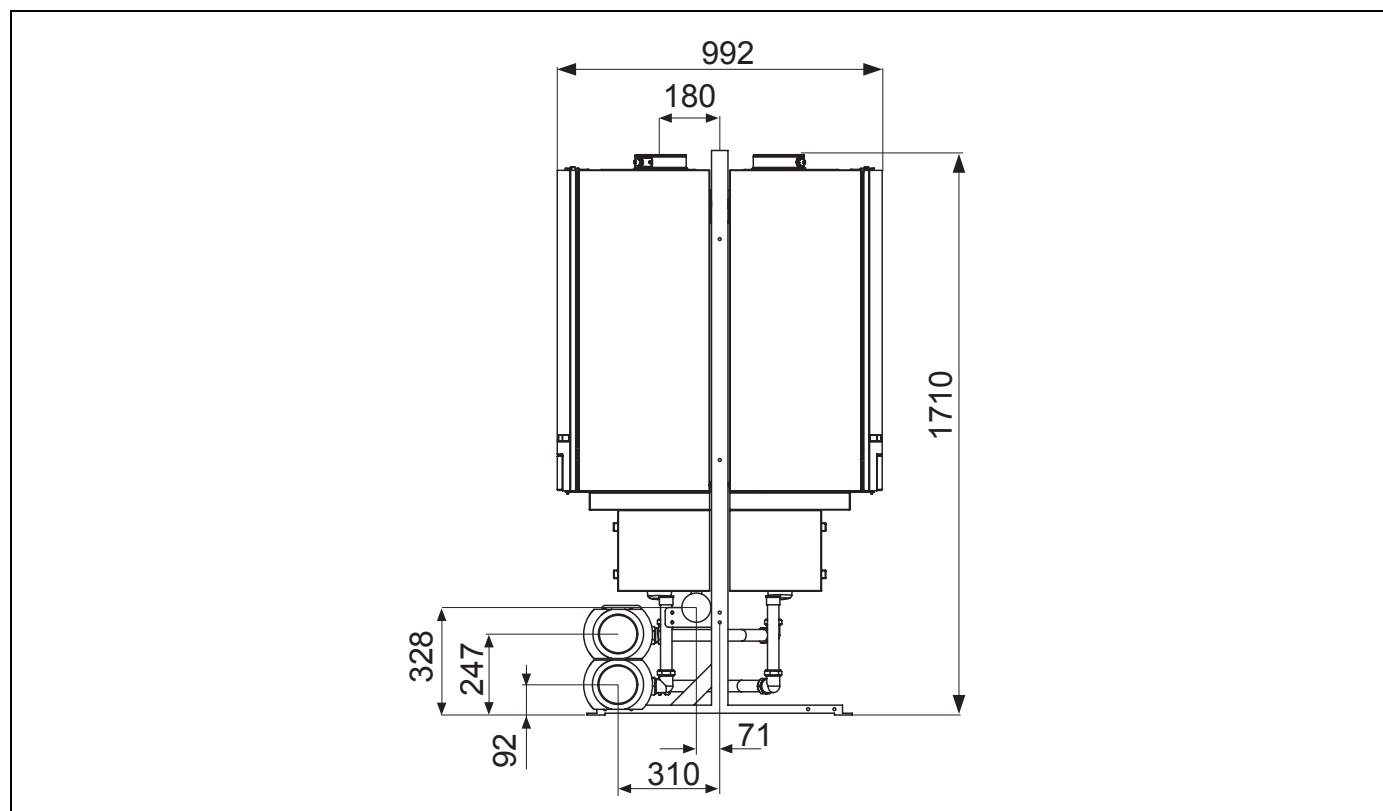


Fig. 6 Dimensions of cascade systems 2

4 Cascade frame installation



Caution!

- Make sure that the surface the cascade system is to be installed on is flat.
- Use a spirit level when installing the cascade system.
- Check that the load-bearing capacity of the floor is sufficient for the weight of the installation (approx. 100 kg for each boiler with accessories).

- Fix the frame onto the first leg of the cascade unit.
Use the M8 x 70 screws for this.



Caution!

Make sure that the slots for the boiler mounting bracket are at the top of the frame.

- Now fix the next leg and continue fitting until the cascade unit is complete.
- Position the frame into its final position.
- Adjust the frame so that it is in the right position and so that it is level both horizontally and vertically. Fit additional washers under the leg until level.
- Secure the frame to the floor. Ensure bolts are aligned to the legs. Do not bend or place the leg under stress to make it fit.
- Install the main gas pipe. Use the M8 x 70 screws for this. Do not fully tighten the screws yet.
- Install the header pipe. Use the M8 x 70 screws for this. Do not fully tighten the screws yet.
- Fit the boiler mounting brackets on the top of the frame. Install the nuts at the rear of the frame. The underside of the bracket should be level with the underside of the frame. Use the M8 x 65 screws for this.



Caution!

For TR-back-to-back configurations, both boiler mounting brackets are fitted simultaneously, using the same screws. Only use M8 x 65 screws to secure the mounting brackets.

4.1 Boiler assembly and pump group installation

- Hang the first boiler on the cascade frame as shown in fig. 7 or fig. 8.



Note!

You must observe the installation sequence indicated in fig. 7 and fig. 8 when installing the boilers.

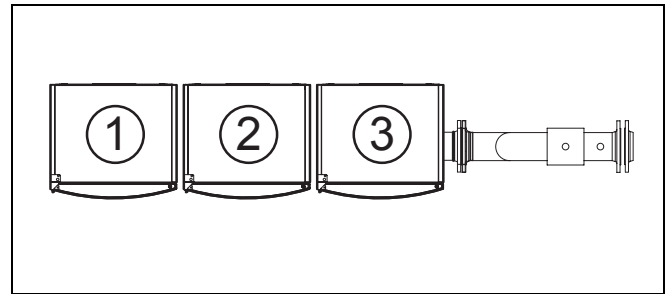


Fig. 7 Installation sequence for a TL-inline configuration

- Put the boiler in the correct position and level it horizontally and vertically. Use the set screws on the lower rear of the boiler to adjust it.
- Connect the pump group (see Logamax plus GB162 Installation and service instructions).
- Remove the protective yellow caps from the main gas pipe.
- Apply PTFE tape to the screw thread connections.
- Connect up the gas connection pipe between the gas valve and the main gas pipe. Use PTFE tape to create a perfect seal.
- Remove the protective caps from the header.
- Remove all red paint and unevenness from the flow and return connections of the header.
- Install the flow pipe(s) between the header and the pump group.
- Install the return pipe(s) between the header and the pump group.
- Repeat the above steps to install all boilers.
- If required, seal off any unused connections of the main gas pipe and the header.
- Install the condensate drain pipe. Use the pre-assembled mounting brackets on the supports for this.
- When installing a cascade with an angled low loss header, install the set of bends between the header and the low loss header. Fit the enclosed flange seals in between. Use the corresponding screws.
 - 2½" low loss header M12 x 50
 - 3" low loss header M16 x 55
- Install the low loss header with the corresponding flange seals. Use the corresponding screws.
 - 2½" low loss header M12 x 50
 - 3" low loss header M16 x 55

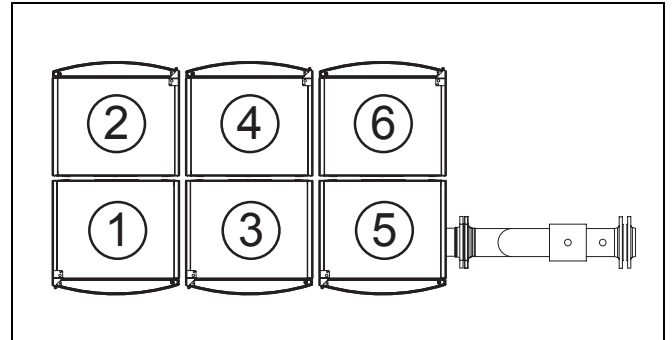


Fig. 8 Installation sequence for TR-back-to-back configuration



Caution!

- Do not install the pump group cover until pressure has been supplied to the boiler system and the gas pipe.
- Check the cascade system for leaks.

4.2 Installing the insulation



Caution!

First start up the cascade system and test the system for leaks. Then install the insulation.

- Install the rear insulation over the header (fig. 9, item 1).
- When an angled low loss header has been installed, fit the insulation around the bends.
- Install the rear insulation part over the low loss header (fig. 9, item 2).
- If required, trim the insulation so that it is straight (fig. 9, item 3).

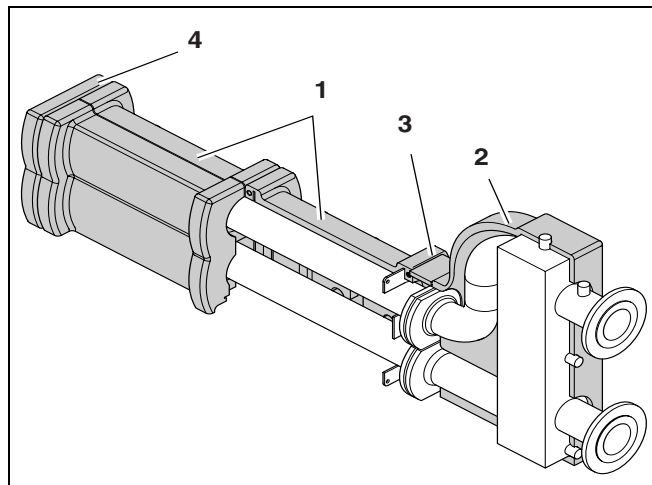


Fig. 9 Header

- For 2½" and 3" low loss header: install the inserts in the outer insulation. For a 2½" low loss header: install the reducing inserts in the outer recesses (fig. 10, item 2).
- For a 3" low loss header: install the reducing inserts in the inner grooves (fig. 10, item 1).
- Click the insulation together.
- Install the front insulation of the low loss header. If required, trim the insulation so that it is straight (fig. 9, item 3).
- Install the end cover over the header (fig. 9, item 4).

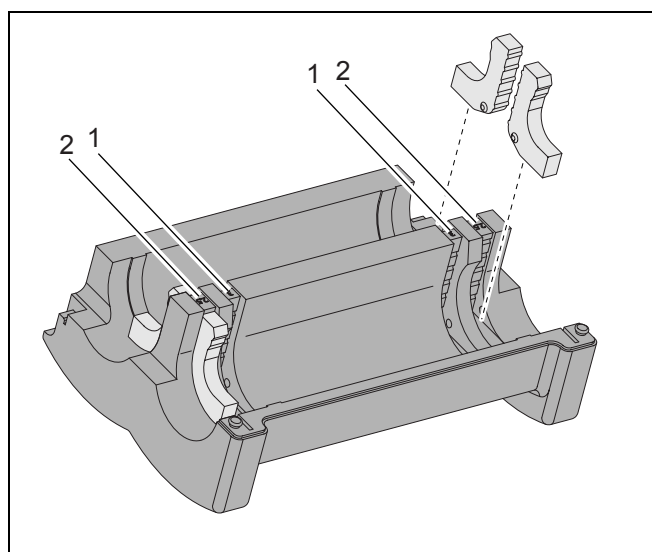


Fig. 10 Inner insulation

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