PLUMBING CONNECTION ACCESSORIES FOR FLOOR CONDENSING BOILERS (45 - 65 - 85 - 100 - 120 - 150 kW)

The modular system is composed of four kits:

- Manifolds kit
- Boiler / manifolds plumbing connection kit
- Last boiler / single boiler manifolds kit
- Second pump plumbing connection kit

This combination of kits will allow a condensing boiler of floor standing design (45 - 65 - 85 – 100 – 120 – 150 kW), in both cascade and single versions, to be connected swiftly to a low loss header.

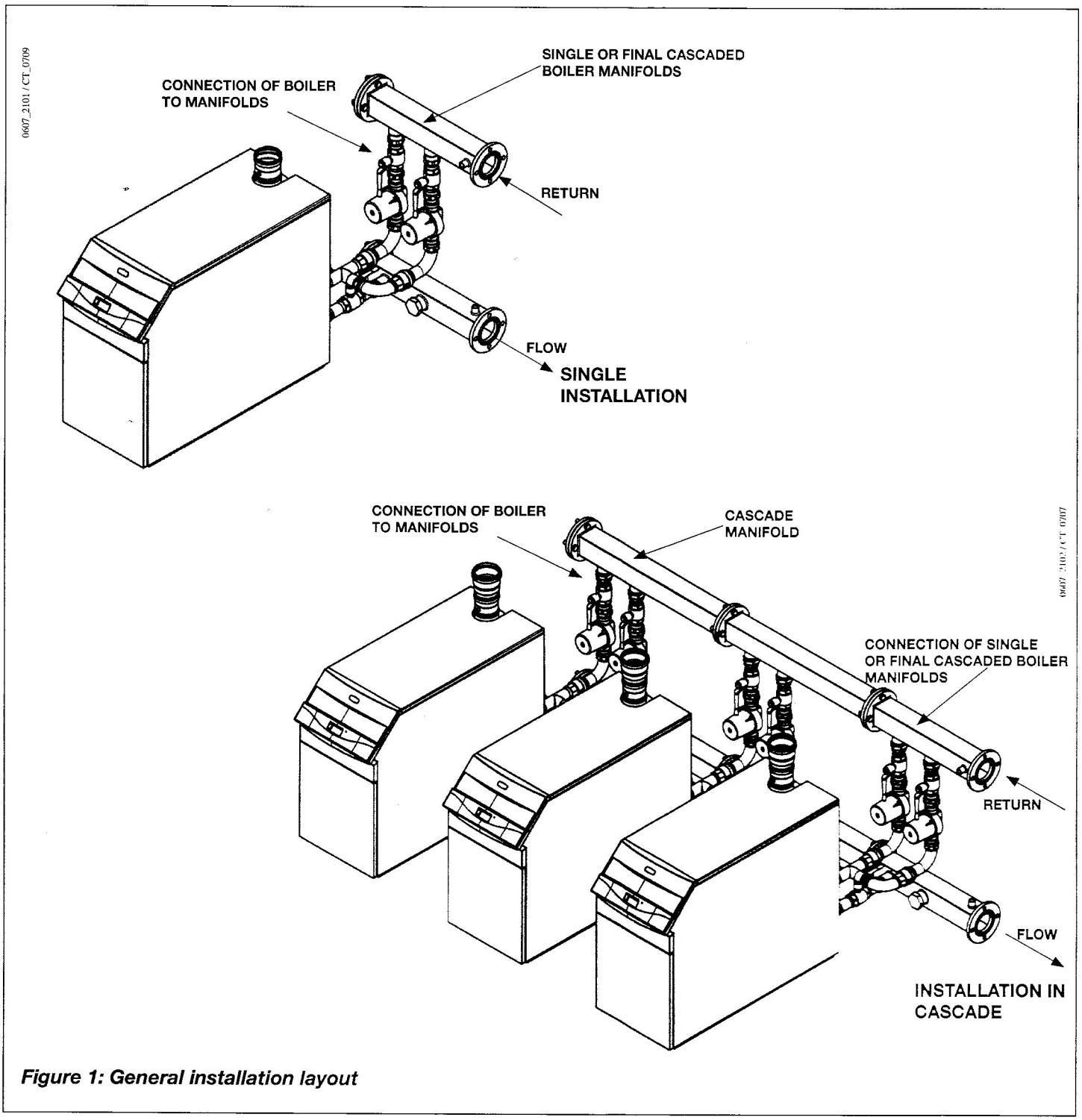


Figure 1: General installation layout

BOILER/MANIFOLDS PLUMBING CONNECTION KIT FOR FLOOR STANDING CONDENSING BOILERS (45 - 65 - 85 - 100 - 120 - 150 kW)

FOREWORD

The following instructions provide important information that will ensure faultless installation. Remember that the contractor or fitter must be a licensed installer of heating appliances, in accordance with current statutory regulations. Refer also to the instructions supplied with other kits and with the boiler.

DESCRIPTION

Using this kit, a floor standing condensing boiler (45 - 65 - 85 - 100 - 120 - 150 kW) can be connected swiftly to the manifolds supplied with the "Boiler manifolds" kit; the following components are included:

- Flow shut-off valve assembly
- Safety valve, setting 3,5 bar

- Return shut-off valve assembly
- Pump
- Non-return valve assembly

- G 1 1/ 2" – G 1 1/ 4" fittings (used only with model 45 - 65 - 85 kW)
- Caps
- Seals

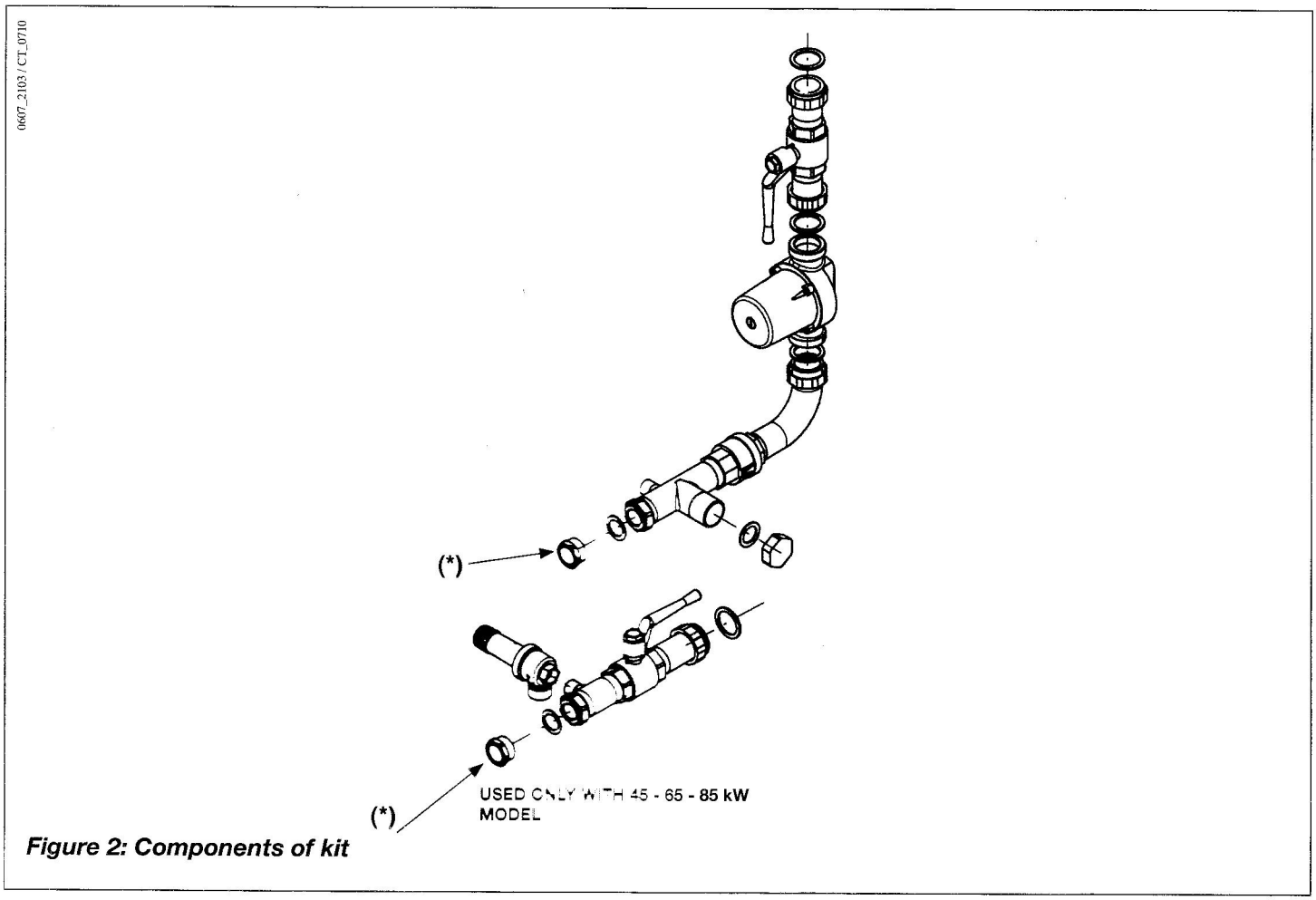


Figure 2: Components of kit

Installations in cascade require a number of kits equivalent to the number of boilers making up the bank (see table).

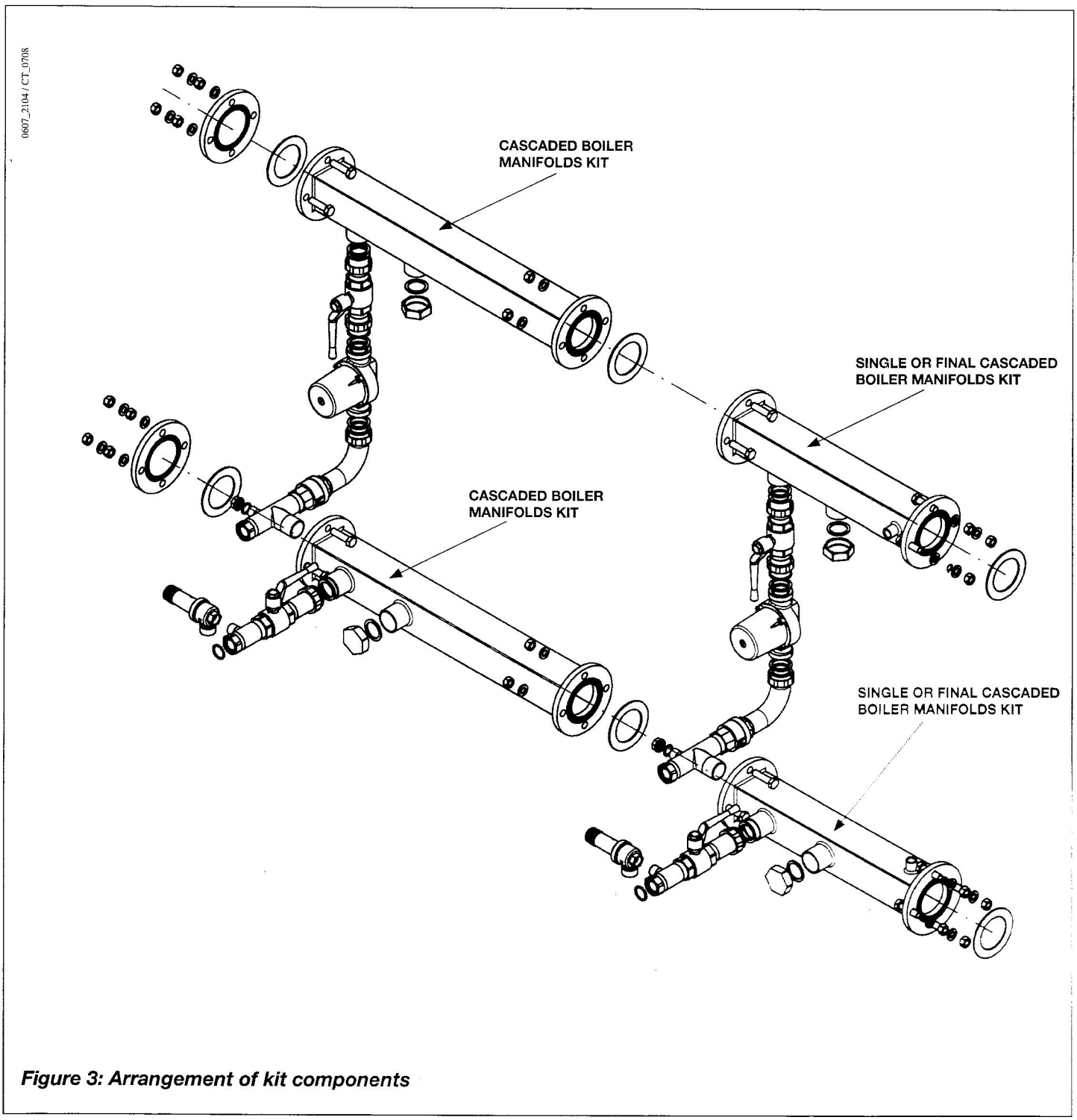


Figure 3: Arrangement of kit components

Position the boiler according to the directions given in the relative manual.
Be certain to observe the following points:

- **Minimum distance between rear of boiler and far side of manifold > 524 mm**
- **Distance between boiler centres: 900 mm (clearance between boilers 450 mm). Figure 4a**
  470 mm (clearance between boilers 20 mm). Figure 4b

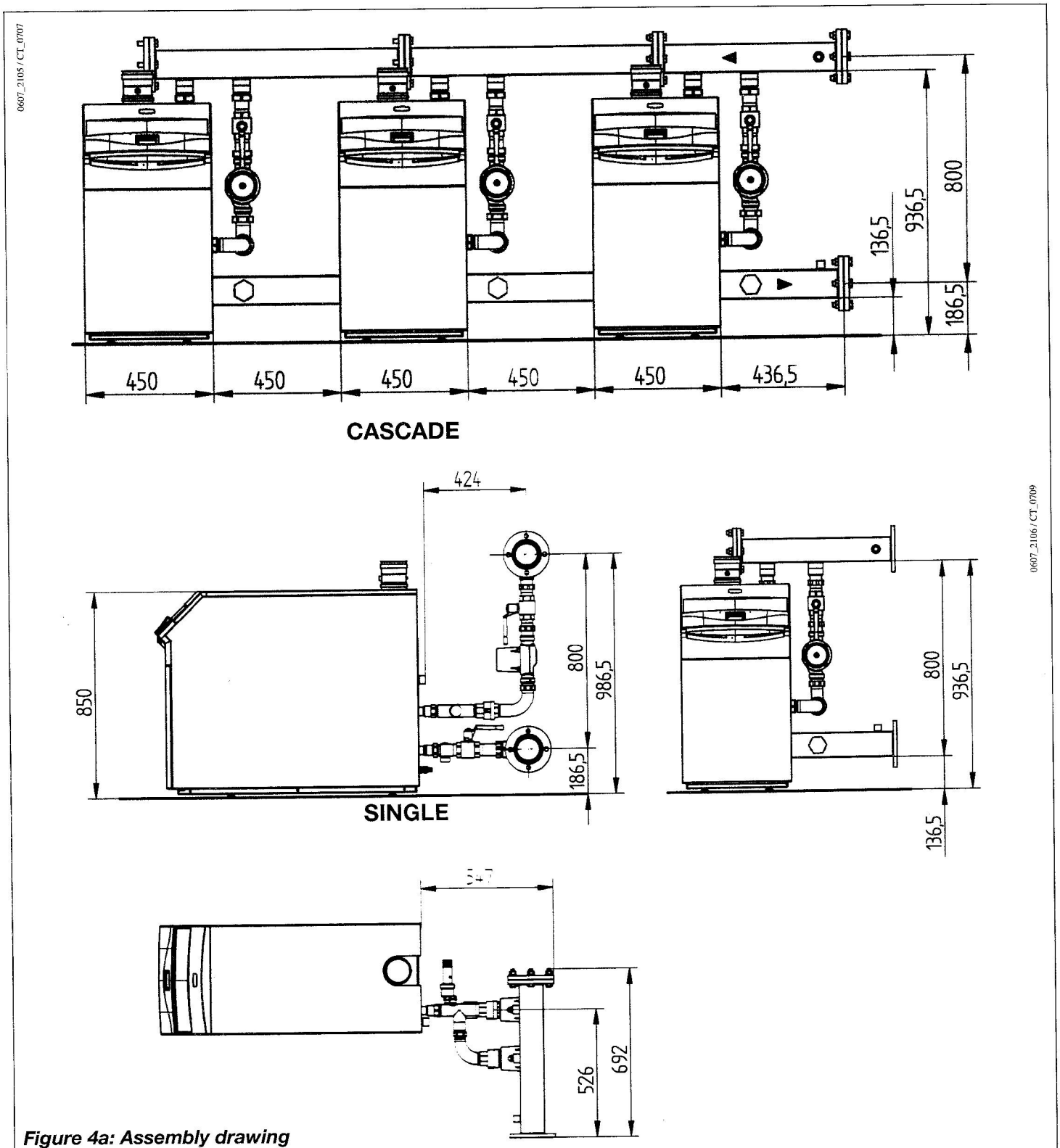
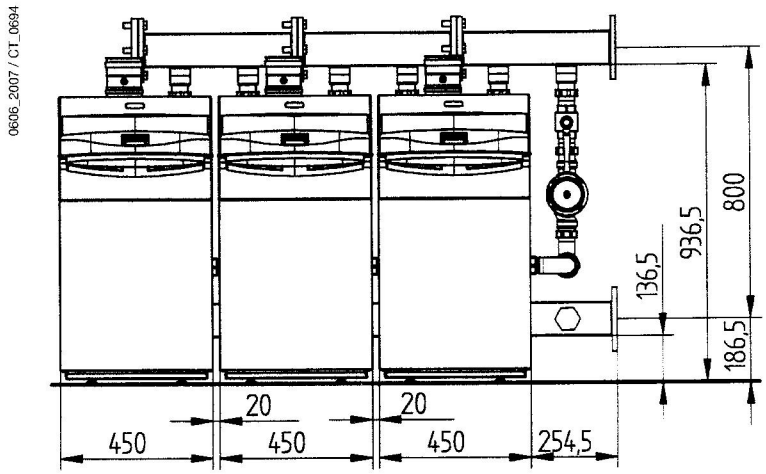


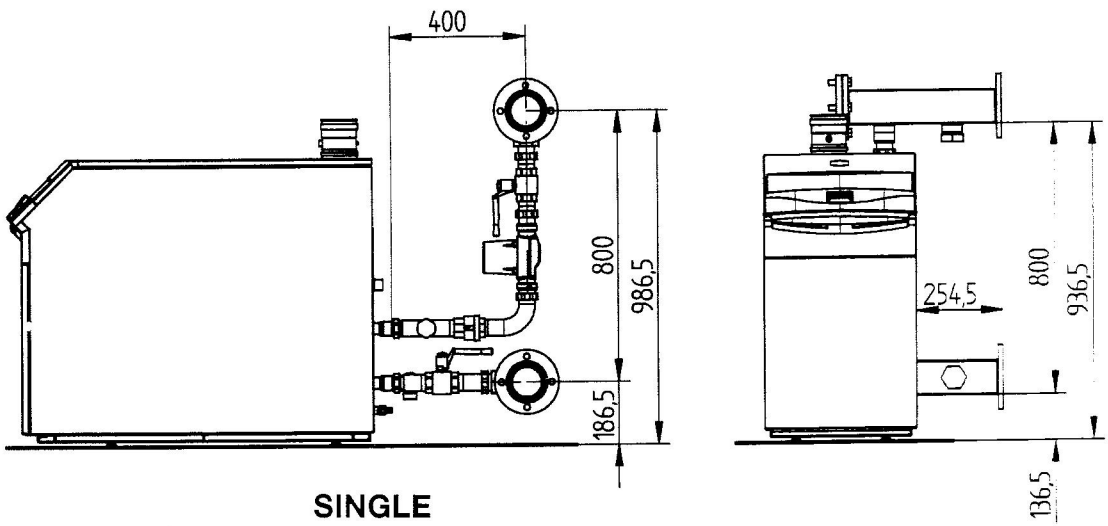
Figure 4a: Assembly drawing

Proceed to assemble the pipelines of the kit as illustrated in figure 4a.
Secure the manifolds to a load-bearing wall or to the floor with suitable brackets capable of taking the weight (the pipeline assembly for each boiler weights 36 kg).

CAUTION: the boiler fittings do not support the weight of external pipelines.



CASCADE



SINGLE

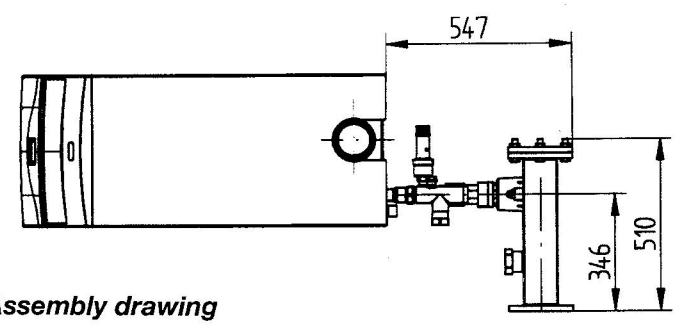


Figure 4b: Assembly drawing

Proceed to assemble the pipelines of the kit as illustrated in figure 4b.
Secure the manifolds to a load-bearing wall or to the floor with suitable brackets capable of taking the weight (the pipe assembly for each boiler weights 26 kg).

CAUTION: the boiler fittings do not support the weight of external manifolds.

CASCADE

Assemble the flow and return manifolds, securing the flanges of the single manifolds with the four M6 bolts.

The left hand ends and the unused ports are blanked off respectively with the cover flanges and the G 2" caps included in the kits.

The G 1 1/2" cap must be fitted to the non-return valve assembly (port provided for connection of second pump).

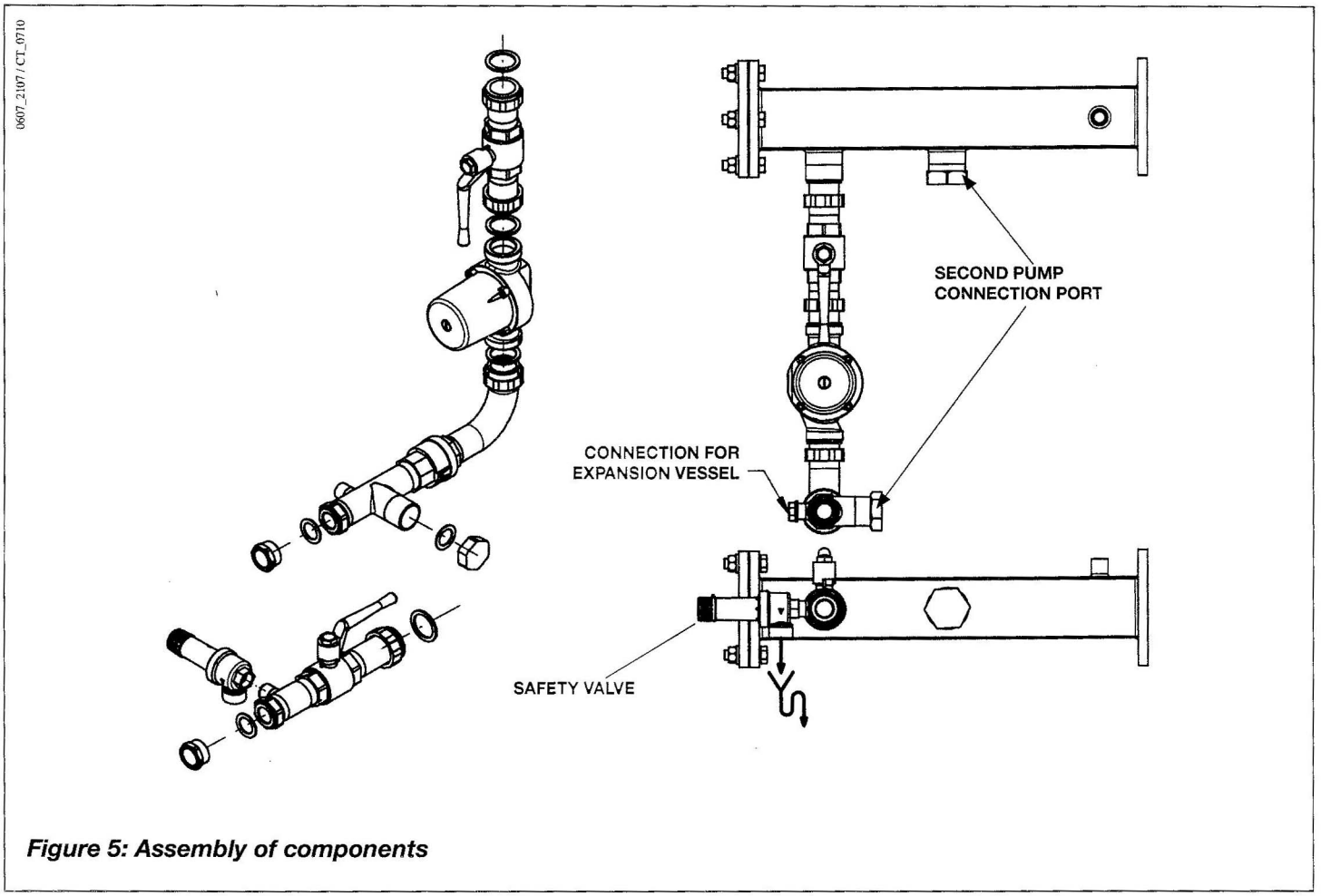


Figure 5: Assembly of components

SAFETY VALVE

Fit the safety valve, supplied with the kit, to the connection port provided (Figure 5) (bind the thread of the valve with hemp or teflon tape). Connect the drain port of the safety valve to a drain line with a siphon trap.

EXPANSION VESSEL (not supplied)

The expansion vessel, not supplied with the kit, must be proportioned to suit the overall capacity of the system, on the basis of the usual calculations, and connected to the non-return valve assembly (Figure 5).

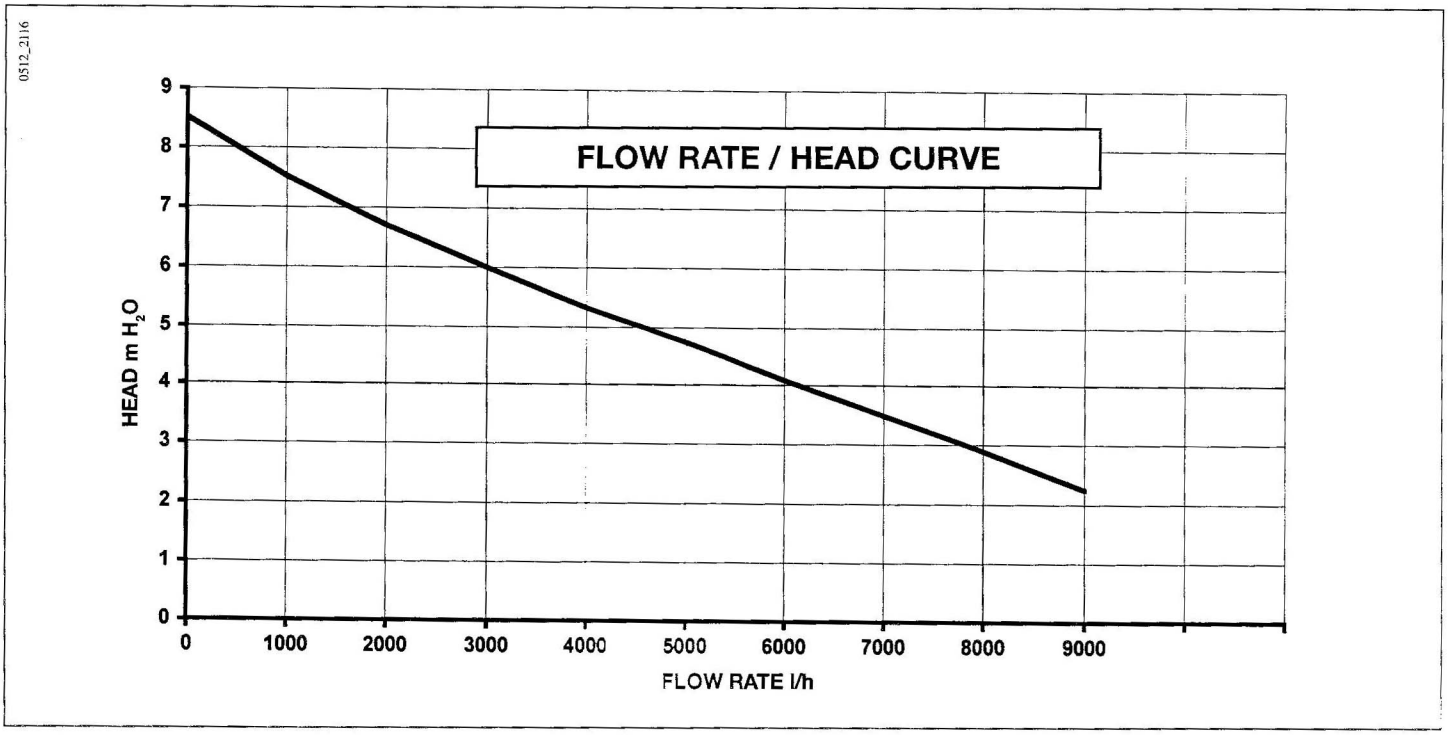
Figure 6: Hydraulic separator

LOW LOSS HEADER (not supplied)

The heating system must be separated hydraulically from the flow and return manifolds by incorporating a low loss header (PN6 DN 80 flanged fittings) available from plumbing supply companies.
As regards the sizing of the low loss header, refer to the information given by the manufacturer, consulting the values indicated in the table below and considering the geometry of the system.

Boiler model kW	Minimum water flow rate l/h	Boiler water flow rate ΔT = 20°K l/h	Max n° boilers (cascade)
45	1000	1935	10
65	1200	2795	10
85	1900	3700	8
100	2100	4300	6
120	2600	5200	5
150	3300	6500	4

Boiler water circulation flow rate table



PUMP FLOW RATE / HEAD GRAPH

The pump supplied with the kit serves only to circulate the water between the boiler and the manifolds.

(A kit is available for situations needing a higher flow rate "second pump plumbing connection kit")

SHUT-OFF VALVES

The kit includes boiler flow and return shut-off valves. These will allow any major repairs or servicing operations to be carried out without draining down the entire heating system.

BOILER PUMP ELECTRICAL CONNECTION

The pump supplied with the kit is powered from the contacts of a relay of which the coil must be connected to terminals (A) – (B) of the boiler terminal box M1, accessed by opening up the instrument panel (see instructions given in the manual accompanying the boiler).

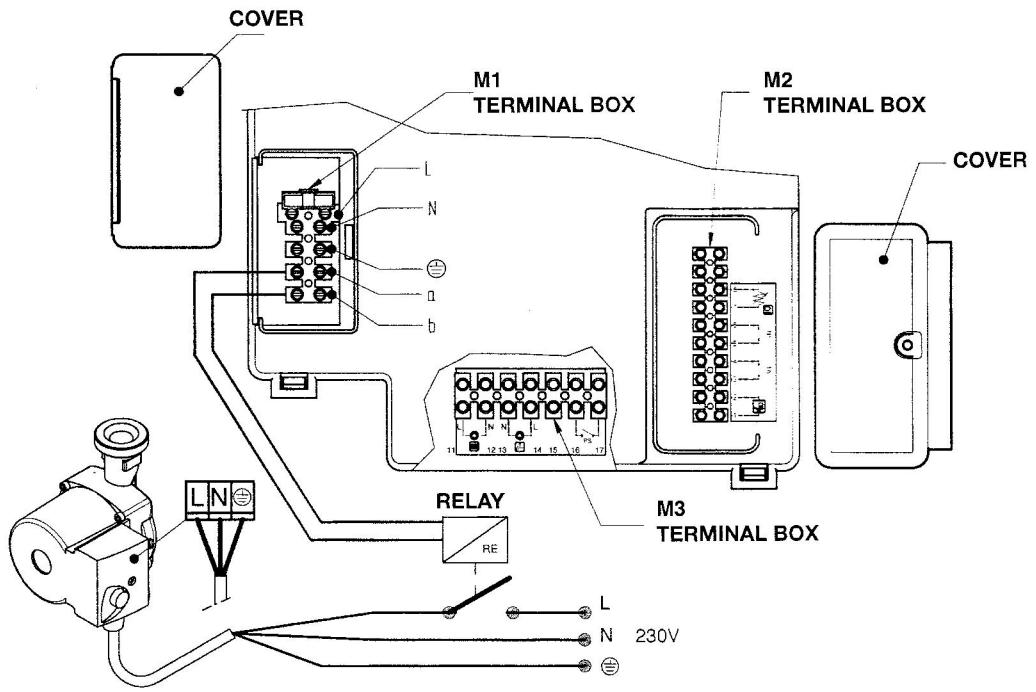


Figure 7: pump electrical connection