

Contractor

HE 50/90 SYSTEM



TRIANCO

ADDITIONAL INSTRUCTIONS **FOR SYSTEM BOILER**

**Please read these instructions carefully before installing,
commissioning and using this appliance.**

To be retained by the householder

HEALTH AND SAFETY

INFORMATION FOR THE INSTALLER AND SERVICE ENGINEERS

Under the Consumer Protection Act 1987 and the Health and Safety at Work Act 1974, it is a requirement to provide information on substances hazardous to health (COSHH Regulations 1988).

The Company takes every reasonable care to ensure that these products are designed and constructed to meet these general safety requirements, when properly used and installed.

To fulfil this requirement products are comprehensively tested and examined before despatch.

This appliance may contain some of the items below.

When working on the appliance it is the Users/Engineers responsibility to ensure that any necessary personal protective clothing or equipment is worn appropriate to parts that could be considered as being hazardous to health and safety.

INSULATION AND SEALS

Glass Rope, Mineral Wool, Insulation Pads, Ceramic Fibre, Glass Insulation.

May be harmful if inhaled. May be irritating to the skin, eyes, nose or throat. When handling avoid inhalation and contact with eyes. Use (disposable) gloves, face masks and eye protection.

After handling wash hands and other exposed parts. When disposing, reduce dust with water spray, ensure parts are securely wrapped.

GLUES, SEALANTS & PAINT

Glues, Sealants and Paints are used in the product and present no known hazards when used in the manner for which they are intended.

KEROSENE & GAS OIL FUELS (MINERAL OILS)

1. The effect of mineral oils on the skin vary according to the duration of exposure.
2. The lighter fractions also remove the protective grease normally present on the surface of the skin rendering the skin dry, liable to crack and more prone to damage caused by cuts and abrasions.
3. Skin rashes (oil acne). Seek immediate medical attention for any rash, wart or sore developing on any part of the body, particularly the scrotum.
4. Avoid as far as possible any skin contact with mineral oil or with clothing contaminated with mineral oil.
5. Never breathe any mineral oil vapours. Do not fire the Burner in the open i.e. out of the Boiler as a misfire will cause unburnt oil vapours.
6. Barrier cream containing lanolin such as Rosalex Antisolv, is highly recommended together with a strict routine of personal cleaning.
7. Under no circumstances should mineral oils be taken internally.

CONTENTS

| | |
|------------------------------------|----------|
| INSTALLATION | 4 |
| PRESSURE GAUGE | 4 |
| SAFETY VALVE | 4 |
| PIPEWORK CONNECTIONS | 4 |
| EXPANSION VESSEL SIZING | 4 |
| CIRCULATING PUMP | 5 |
| AUTOMATIC AIR VENT | 5 |
| DOMESTIC HOT WATER CYLINDER | 5 |
| FILLING THE SYSTEM | 5 |
| DRAIN POINT | 5 |
| PIPEWORK DIMENSIONS | 5 |
| FILL METHODS | 6 |
| | |
| ADDITIONAL FLUE INFORMATION | 7 |
| | |
| WIRING DIAGRAM | 8 |
| | |
| SPARES | 9 |

INSTALLATION

The installation must comply with the appropriate requirements of BS 4814, BS 5449, BS 6798 and BS 7074 parts 1 & 2.

In addition to the controls described in the main operating manual, the system should be set up as follows:

PRESSURE GAUGE (supplied)

The pressure gauge is located at the top-left of the boiler, behind the front door (see **fig 1**), and provides visual indication of the system water pressure. Upon installation, the red reference pointer should be set to the intended 'cold fill' pressure, to allow any potential future water loss to be seen easily and made-up as necessary.

The pressure sensing fitting at the end of the pressure gauge phial **must** be screwed into the appropriate fitting on the safety valve (supplied).

SAFETY VALVE (supplied)

A safety valve set at 3 bar is supplied with the boiler and **must** be fixed into the boiler pipework within the casings, using the fittings provided. The drain must route to the outside of the building, not discharging above any entrances or windows, near electrical components or any other item which may produce a hazard. The discharge must be in a visible place.

PIPEWORK CONNECTIONS

Under no circumstances should the 4 x 1" BSP sockets on the left and right of the boiler be used.

The system return pipe should be piped to the 22mm compression fitting within the top section of the boiler. The system flow should be connected to the 22mm pipe within the top section of the boiler casings. See **fig. 2** for details.

Please be aware of the intended flue arrangements before permanent pipework connections are made (see **fig 4**).

EXPANSION VESSEL (supplied)

The 14-litre expansion vessel is supplied with the appliance, suitable for a total system water content of 125 litres at a cold fill of 1 bar. An additional expansion vessel will be required if the water content exceeds this.

Use the chart below to calculate the additional expansion vessel requirement:

| Vessel Charge/ System Pressure | 0.5 bar | 1 bar | 1.5 bar |
|--|---------|-------|---------|
| Multiplication Factor to Give Total Expansion Required | 0.08 | 0.11 | 0.16 |

Example:

A system to be filled to 1 bar (cold fill) with 25 litres of stored water in the boiler and 125 litres in the heating system requires a total expansion level of:

$$25 + 125 = 150 \text{ litres}$$

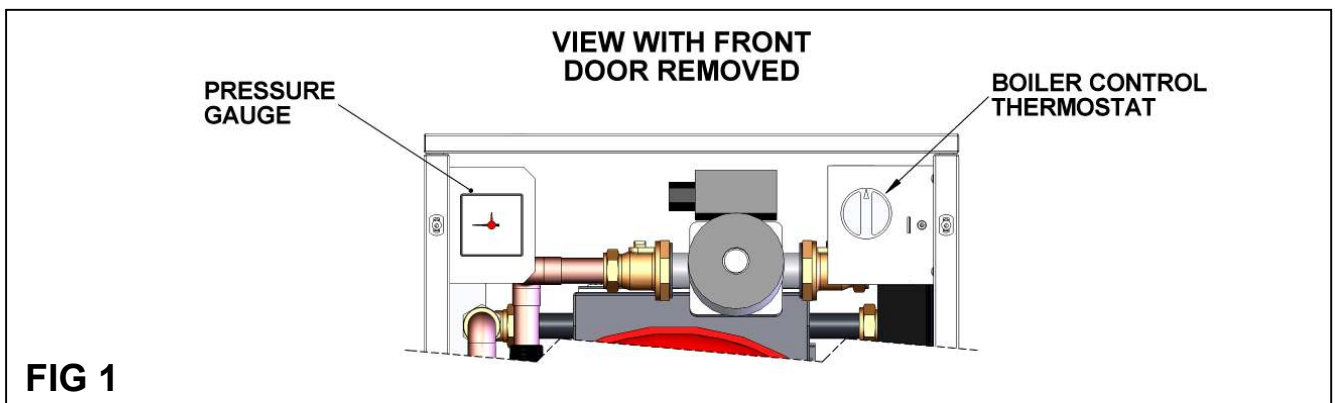
Multiply by 0.11 (from chart) = 16.5 litres

This is the total expansion required. The supplied vessel has a capacity of 14 litres, therefore:

16.5 litres – 14 litres = 2.5 litres. This is the size required for the additional expansion vessel.

Should the system pressure be set to a point which results in pressures in excess of 2.5 bar when the boiler is operated at its highest temperature (with all radiators in circulation), then an additional expansion vessel must be fitted in the system.

Failure to ensure the correct size of expansion vessel may result in the premature failure of the system components.



CIRCULATING PUMP (supplied)

As the pressure loss through the boiler is negligible, virtually all the pressure head developed by the pump can be used for the system. The pump has three settings.

AUTOMATIC AIR VENT (supplied)

The automatic air vent automatically expels any air released from the water in the system.

DOMESTIC HOT WATER CYLINDER

The domestic hot water cylinder must be of the indirect coil type, suitable for working pressures of at least 0.35bar above the upper tolerance of the safety valve setting, e.g. 3.65 bar.

FILLING THE SYSTEM

Ensure all unused boiler tappings are plugged off before proceeding.

Filling of the system should be carried out via the connection of a temporary flexible hose between the incoming mains supply and the heating system. A choice of methods is shown on **fig. 3**.

There must be no permanent connection to the mains water supply, even through a non-return valve. Provision for replacing water lost from the system can be made by the flexible hose.

Thoroughly flush out the system to remove any residue in the pipework and check the function of the safety valve by raising the water pressure until the valve operates (between 2.7 and 3.3 bar).

Reduce the water pressure to achieve the initial 'cold fill' system design pressure. Set the red reference pointer on the pressure gauge to this point.

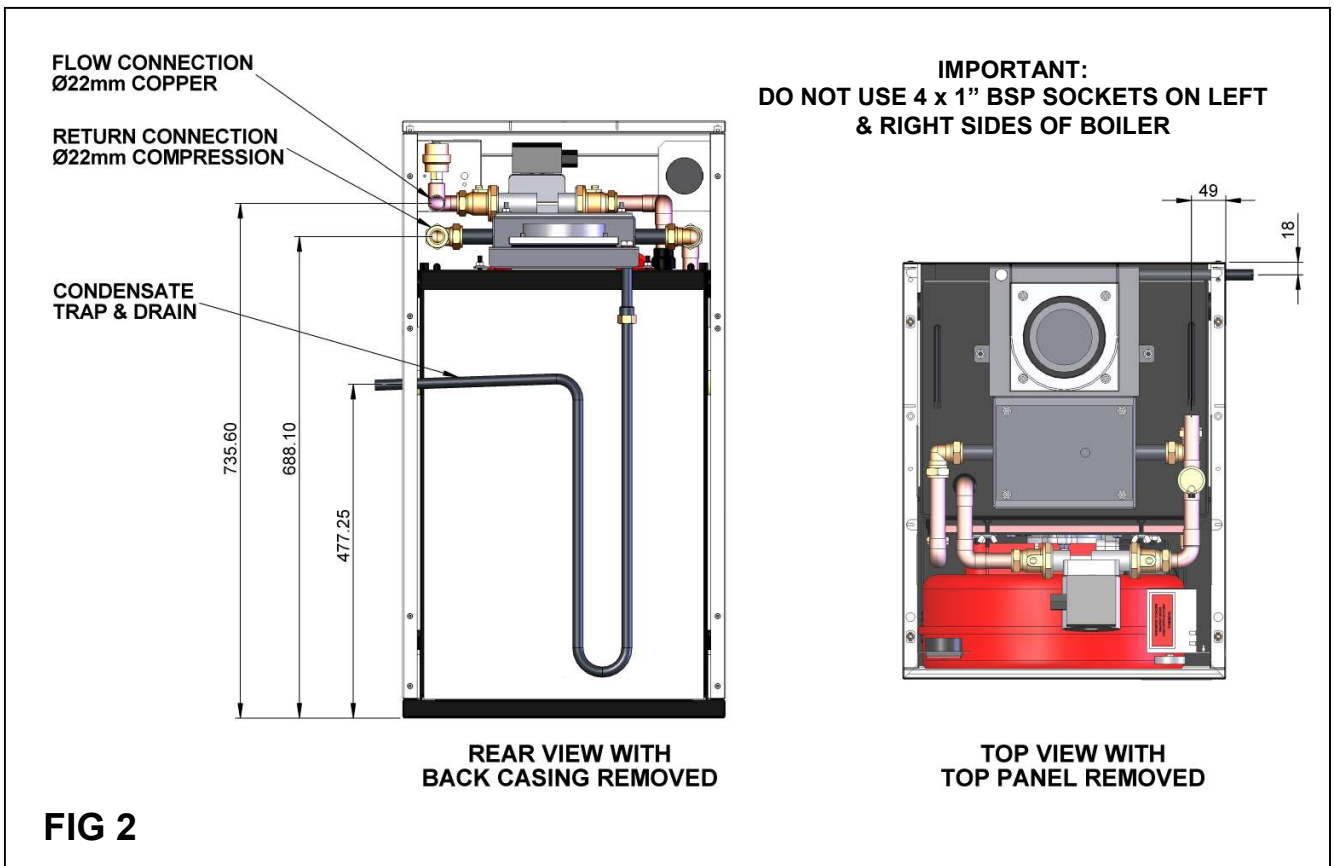
Thoroughly vent all parts of the system of air and examine for leaks.

The use of a corrosion inhibitor is recommended for the water system.

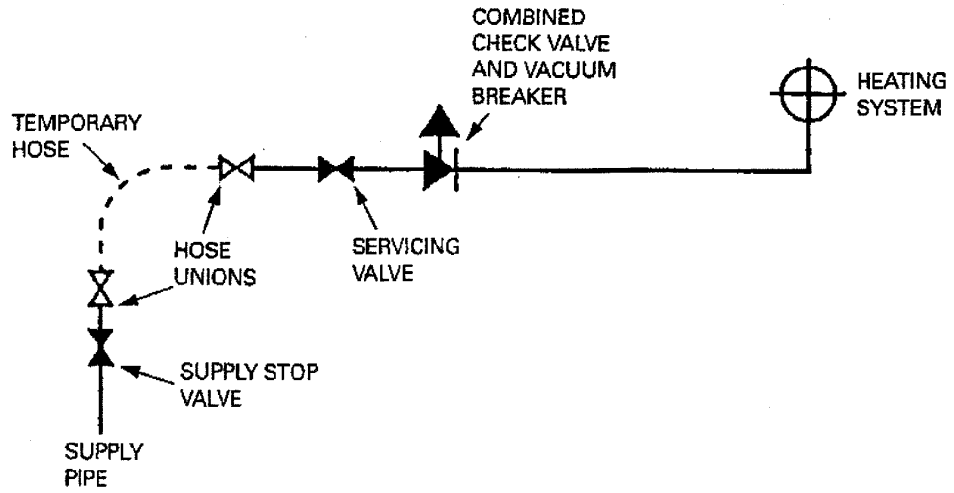
After filling the system, ensure the filling loop is closed and the temporary hose removed from the mains supply shut-off valve.

DRAIN POINT

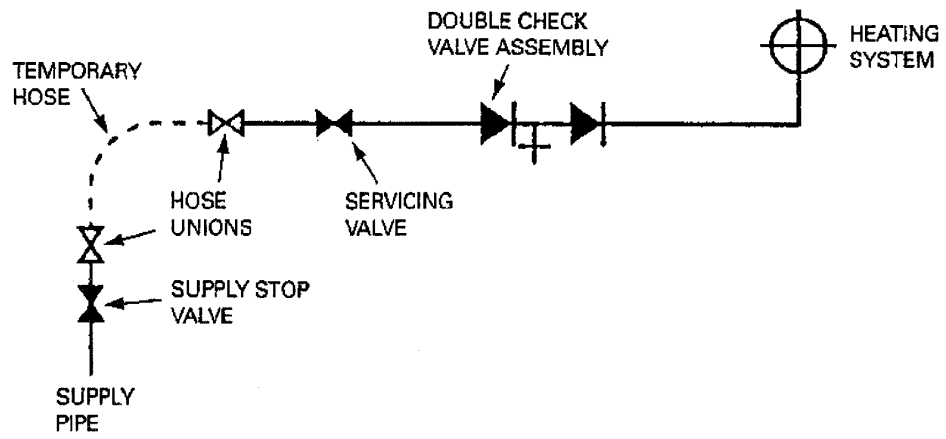
A drain tapping must be provided at the lowest point on the system to enable the entire system to be drained of water should the need arise.



METHOD 1



METHOD 2



METHOD 3

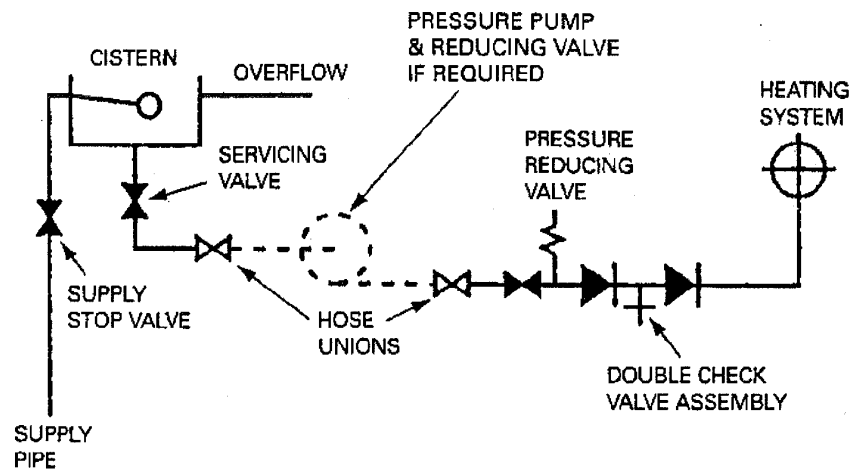


FIG 3

ADDITIONAL FLUE INFORMATION

When using the appliance in conjunction with a Trianco horizontal balanced flue kit, it is important to first consider the routing of the flow and return pipework.

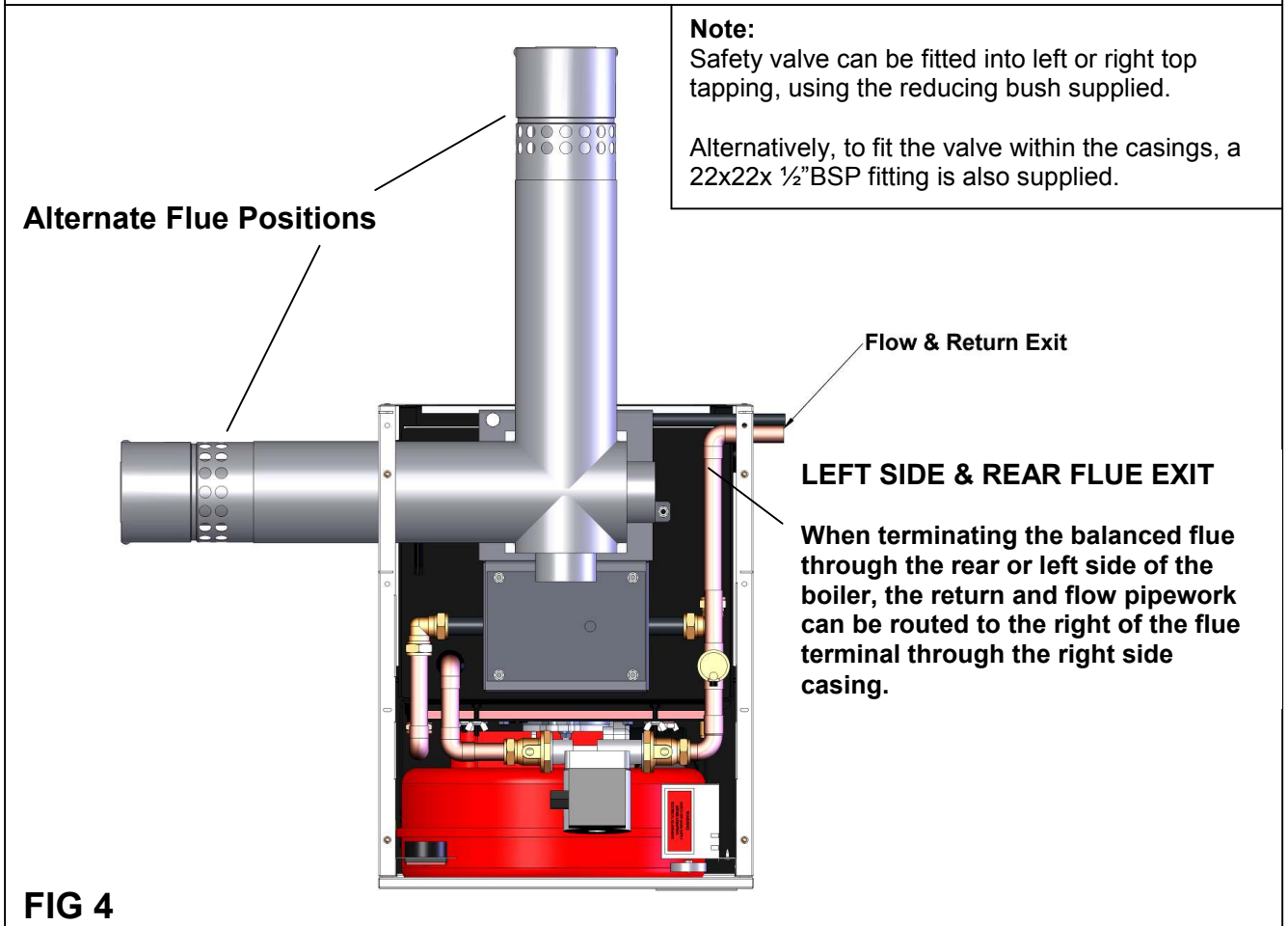
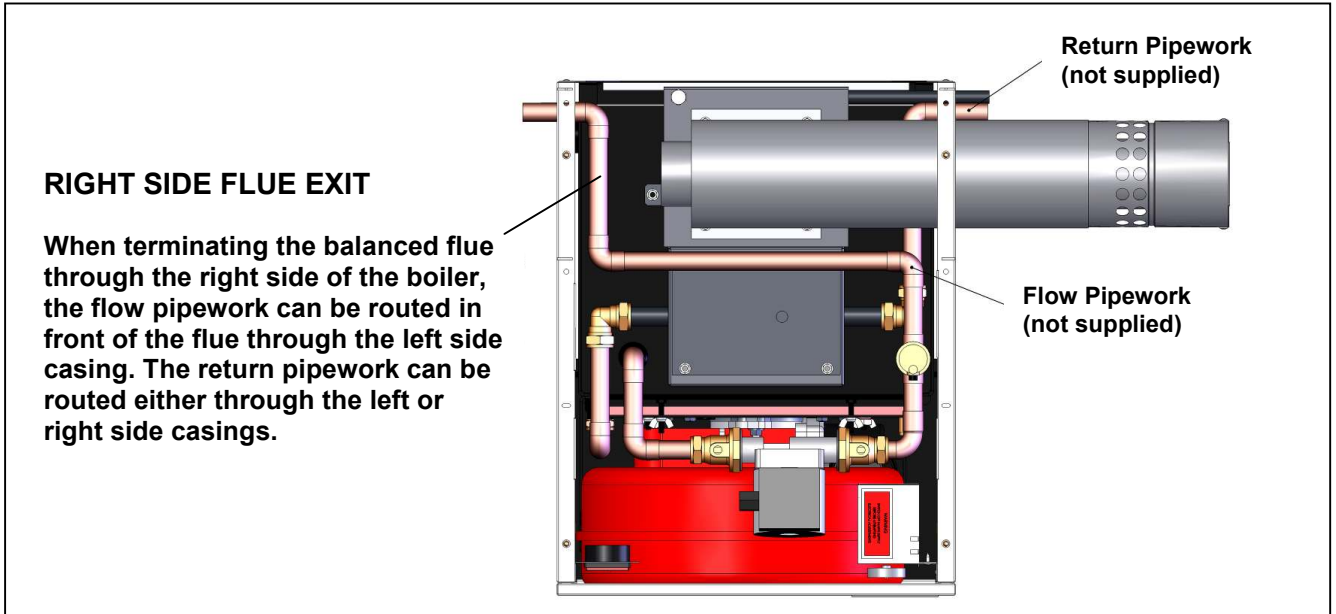


FIG 4

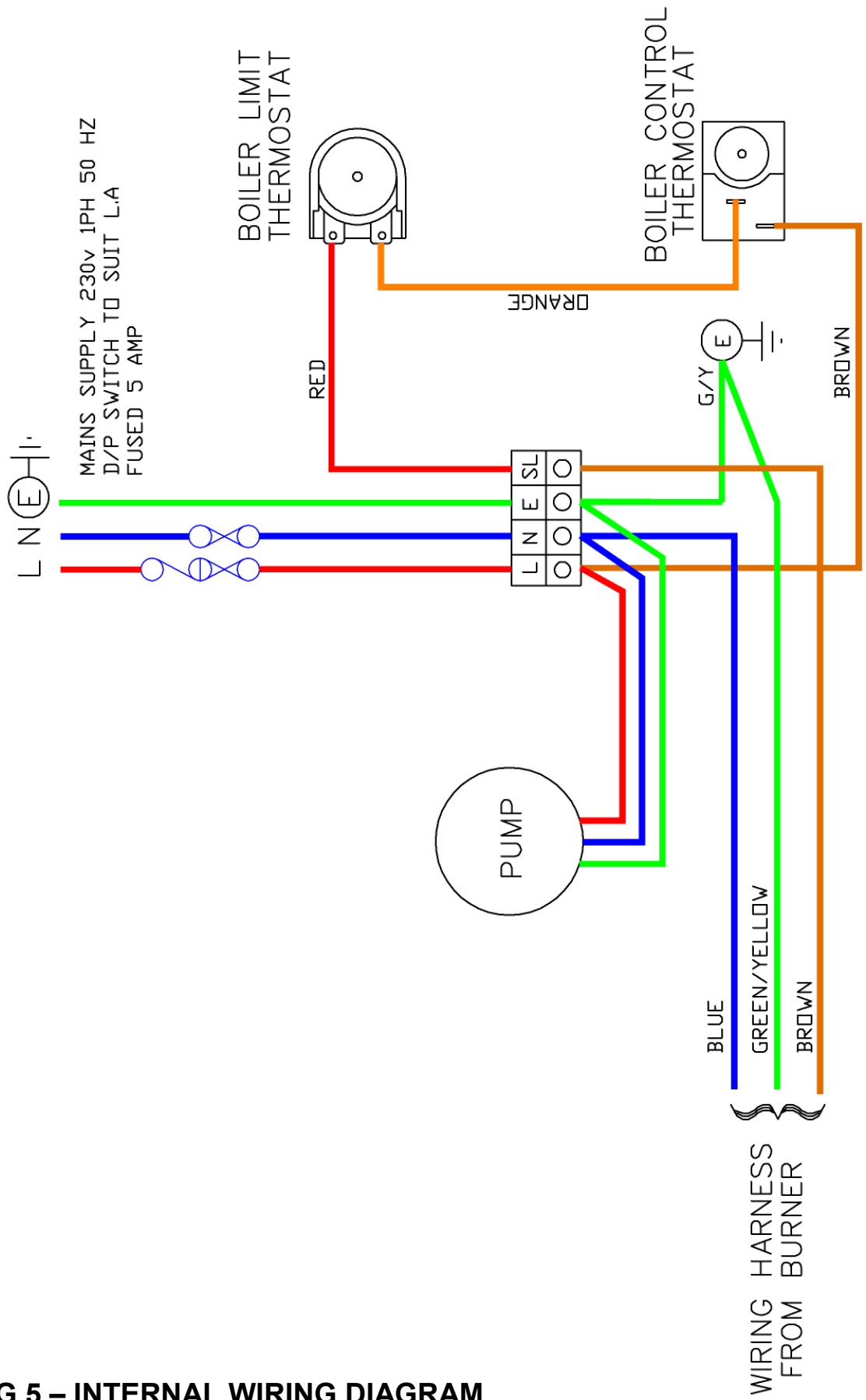


FIG 5 – INTERNAL WIRING DIAGRAM

SPARES

| Item | Description | Part No. | Qty |
|------|--|----------|-----|
| 1 | Pump | 26224 | 1 |
| 2 | Pump Valve | 99461 | 1 |
| 3 | Tee | 99391 | 1 |
| 4 | Air Vent Fitting | 209114 | 1 |
| 5 | Automatic Air Vent | 207269 | 1 |
| 6 | Pressure gauge | 221921 | 1 |
| 7 | Expansion Vessel | 222474 | 1 |
| 8 | Flexible Connector | 207292 | 1 |
| 9 | Expansion Vessel Bracket | 222470 | 1 |
| 10 | M8 Nut | 94396 | 2 |
| 11 | Safety Valve | 221920 | 1 |
| 12 | 1/2" BSP x 1/2" BSP Straight Connector | 99522 | 1 |
| 13 | Boiler/Pump Pipe Assembly | 209152 | 1 |
| 14 | Flow/Pump Pipe Assembly | 209153 | 1 |
| 15 | Tee | 99391 | 1 |

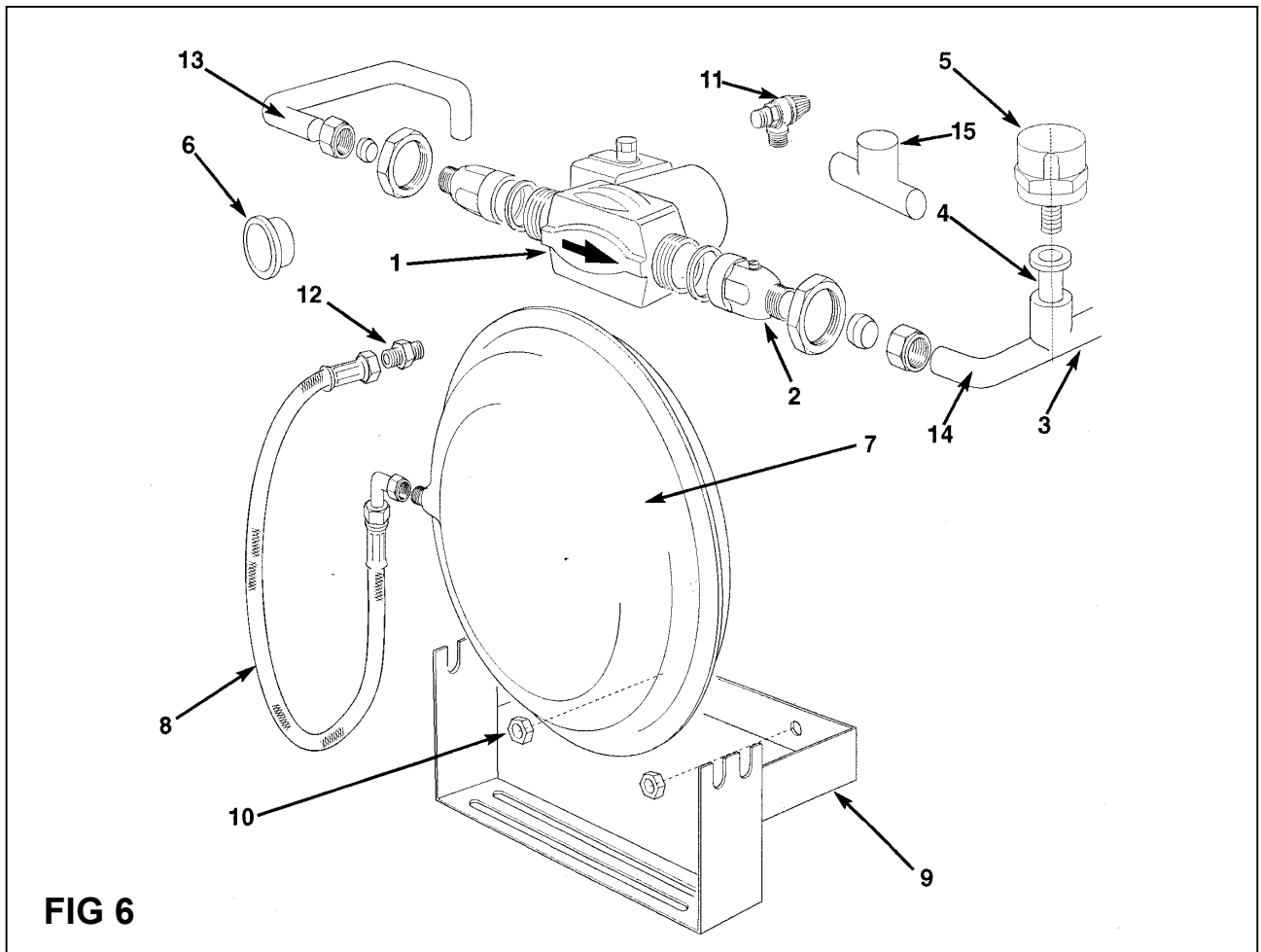


FIG 6



By appointment to H.M. Queen Elizabeth
The Queen Mother
Manufacturers of Domestic Boilers



TRIANCO HEATING PRODUCTS LTD
Thornccliffe, Chapeltown
Sheffield S35 2PH
Tel: (0114) 257 2300
Fax: (0114) 257 1419
www.trianco.co.uk



© Trianco Limited, Copyright in this brochure and the drawings or illustrations contained in it is vested in Trianco Limited and neither the brochure or any part thereof may be reproduced without prior written consent.

Trianco Limited's policy is one of continuous research and development. This may necessitate alterations to this specification.