

Installation Instructions

Suprima System Boilers with Mid Position Valve Kit Option

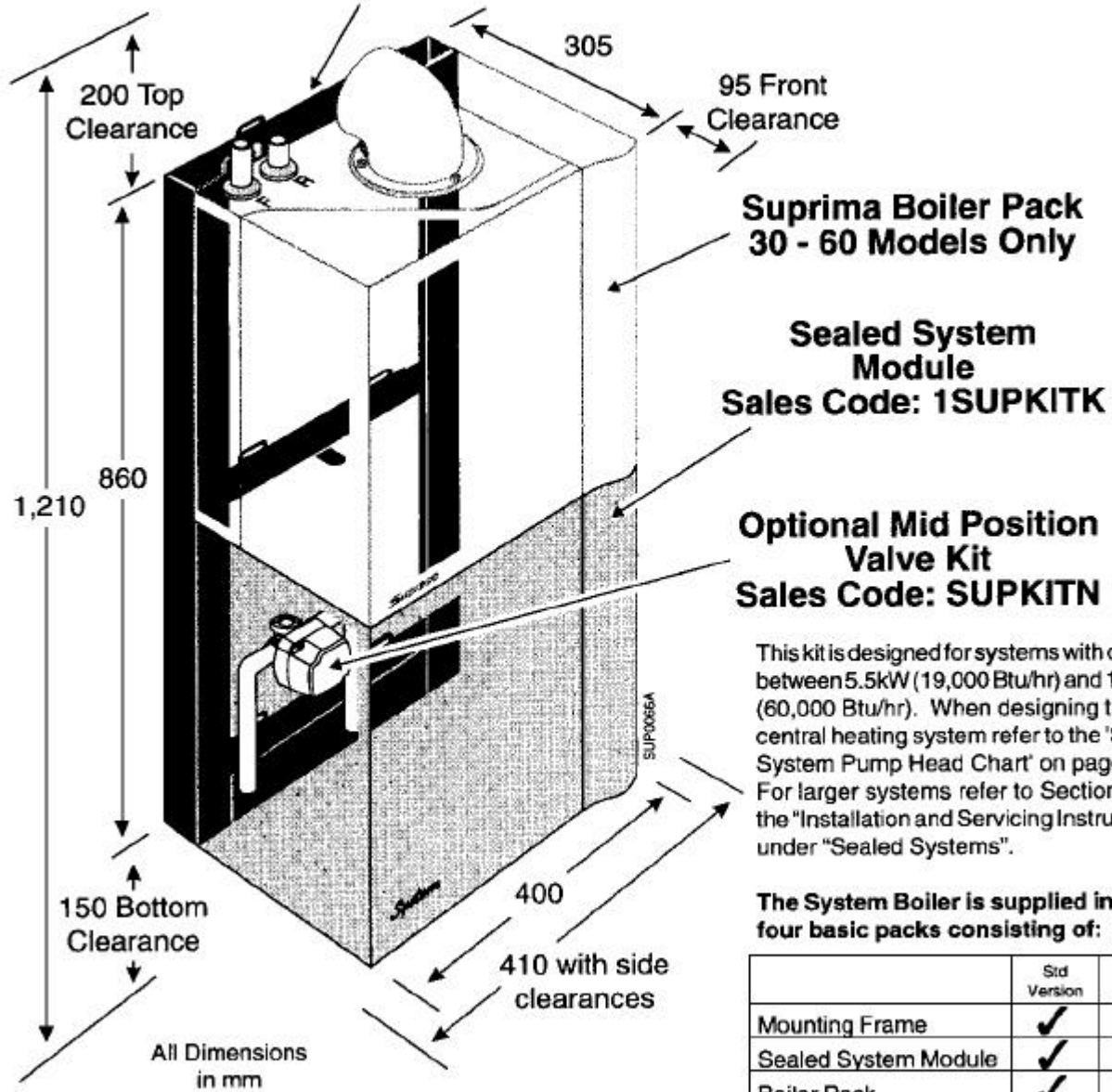
Wall Mounted Fan Flued Gas Boilers

Boiler Mounting Frames

Sales Code: 1SUPKITL..Standard for use without Mid Position Valve

OR

Sales Code: 2SUBKITLFor use with Mid Position Valve



This kit is designed for systems with outputs between 5.5kW (19,000 Btu/hr) and 17.6kW (60,000 Btu/hr). When designing the central heating system refer to the 'Sealed System Pump Head Chart' on page 5. For larger systems refer to Section 1.9 in the "Installation and Servicing Instructions" under "Sealed Systems".

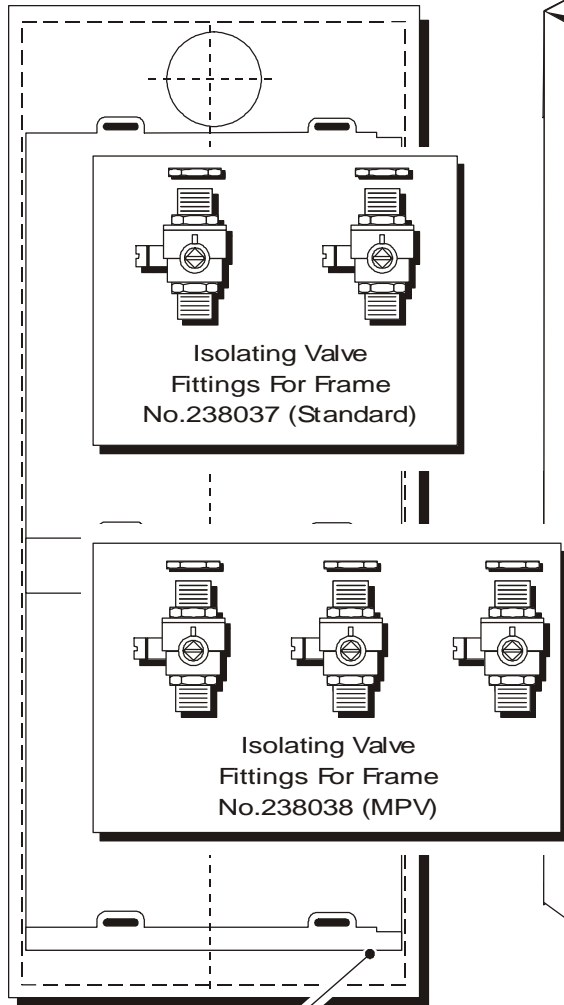
The System Boiler is supplied in three/ four basic packs consisting of:

	Std Version	M.P.V. Version
Mounting Frame	✓	✓
Sealed System Module	✓	✓
Boiler Pack	✓	✓
Mid Position Valve	X	✓

Boiler Mounting Frames

Sales Code: 1SUPKITL...Standard for use without Mid Position Valve

Sales Code: 2SUPKITL...Standard for use with Mid Position Valve



Template (with fitting the frame included)

Optional Mid Position Valve Kit Sales Code: SUPKITN

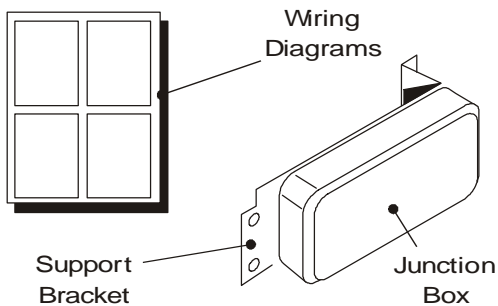
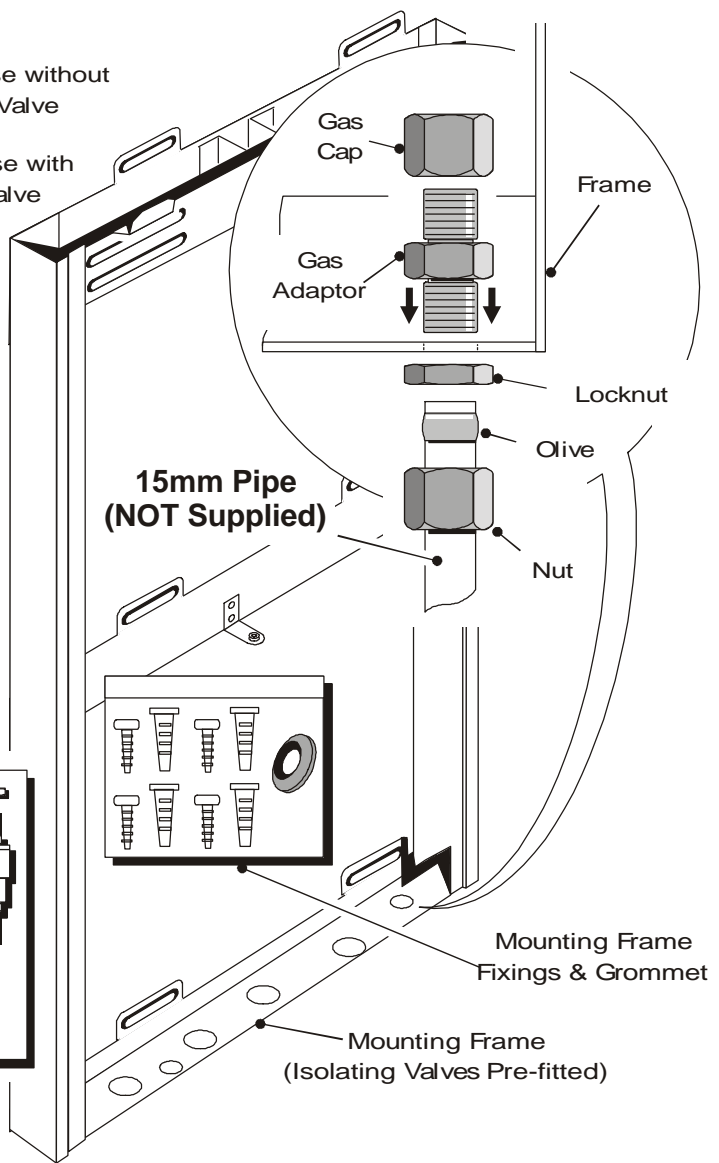
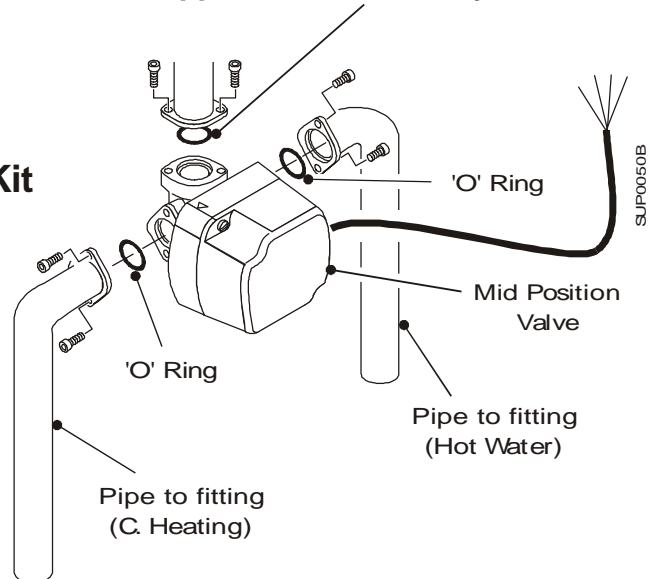


Fig. 2



Supplied with Sealed System Module



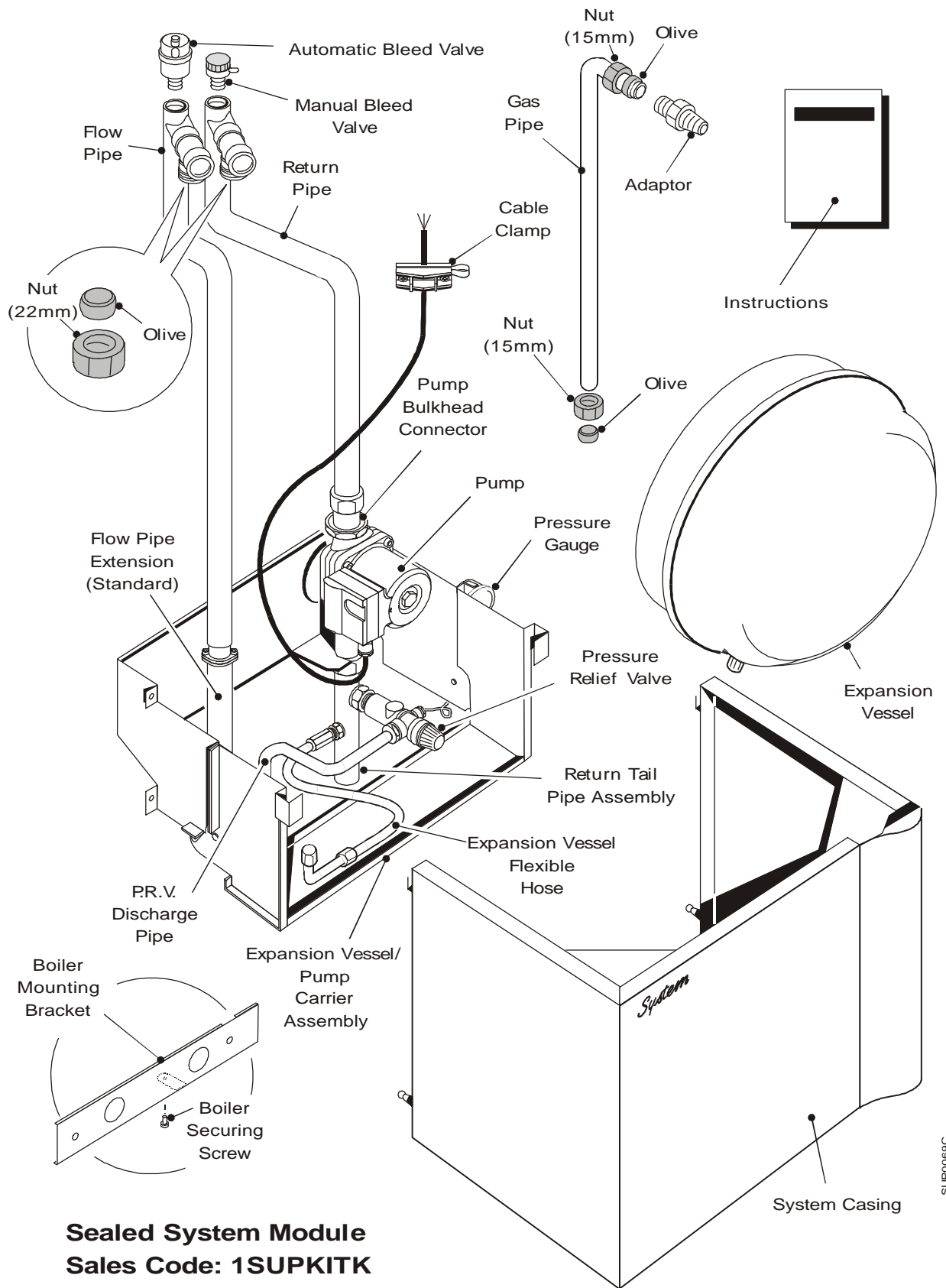


Fig. 3

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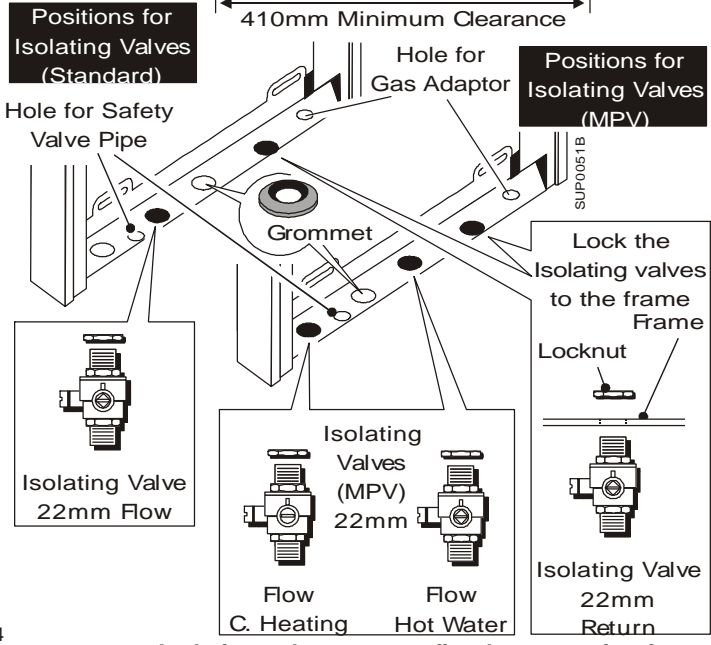
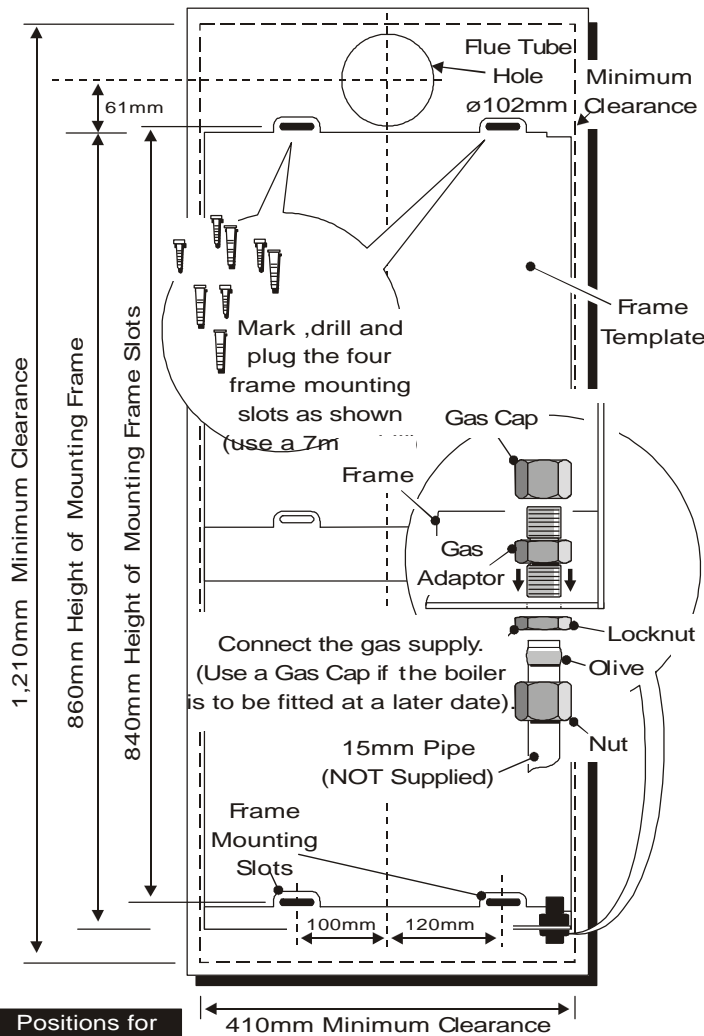


Fig. 4

Isolating valves are pre-fitted to mounting frame

Install the Boiler Mounting Frame:

1. After unpacking the mounting frame decide position of flue and mount the frame on the wall. Use the template provided in the pack which automatically allows for clearances etc.
2. Cut the flue hole through the wall. If the boiler is not being installed immediately, the hole should be temporarily blocked.
3. Using the hole as a datum, align the template and mark off the wall frame fixing position. Drill and plug the 4 holes.
4. Mount the frame onto the wall. Before finally tightening the screws, ensure that the frame is centrally positioned relative to the centre line of the flue.

Connections:

Read both Bottom and Top connections before making a decision on the pipework layout.

Bottom Connection

The boiler mounting frame allows the system pipework to be connected and the system filled with water, with gas piped to the frame.

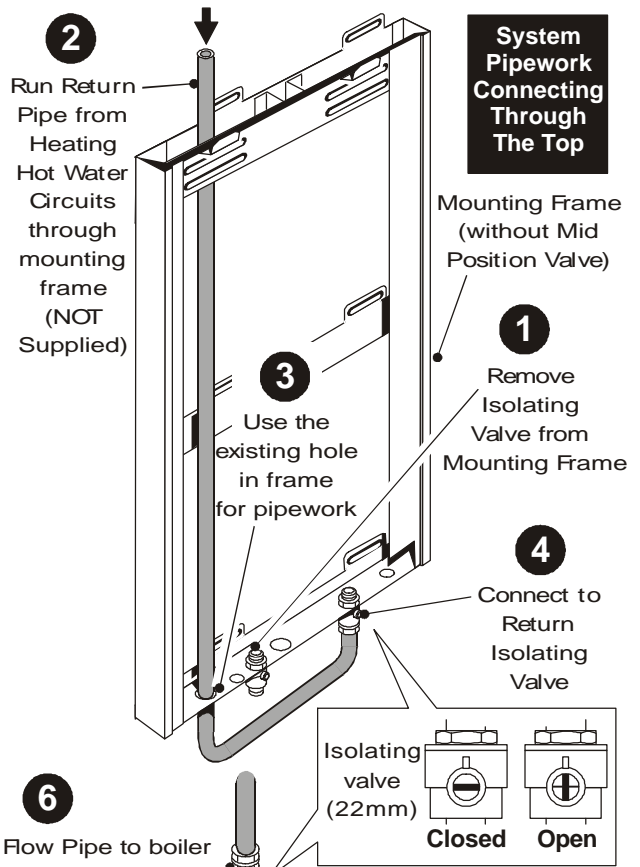
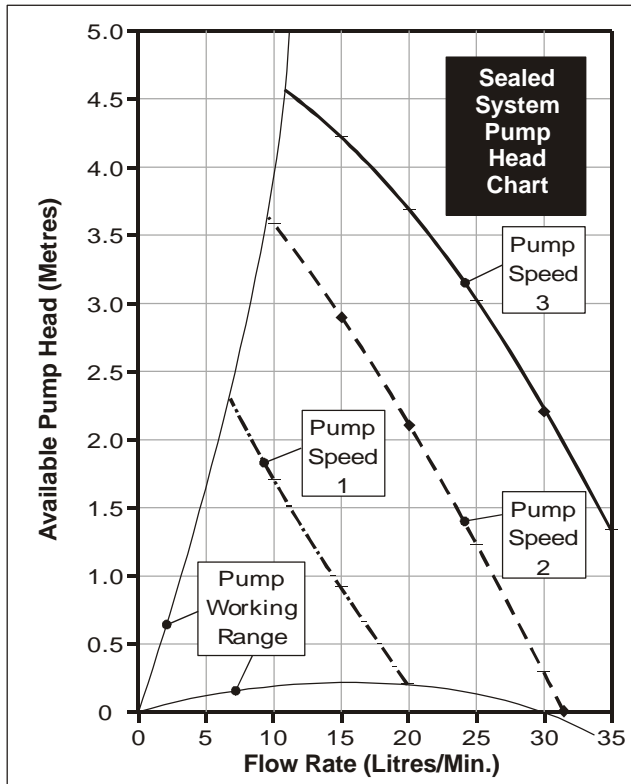
1. Connect the flow and return pipes to the isolating valves at the base of the wall frame (22mm compression, In Eire use *special* 3/4" copper olives).
2. Isolate the gas supply at the meter. Fit the gas supply pipe to the bulk head connector on the base of the mounting frame using the nut and olive supplied - See Fig. 4.
3. Ensuring that the isolating cocks are closed, the system can be filled with water. If a proprietary filling loop is used, a temporary pressure gauge should be used. Do not exceed 1 Bar fill pressure. Check the system for leaks.

Note: The system should be filled at a point convenient to a mains supply using one of the methods described in the boiler instructions under 'Sealed Systems'.

Top Connection

This system can be used with top connections provided the following points are observed.

- a. The wall mounting frame, sales code 1SUPKITL (standard, without mid position valve) is **ONLY** to be used.
- b. That the boiler is installed at the same time as the sealed system (**NO pre-plumbing facility**).
- c. The flow & flow pipe extension supplied with the sealed system module is **NOT** to be used together with one air vent.
- d. The additional pipework is to be in 22mm dia. copper tube (not supplied), see fig.5 for pipework layout.



5 Follow the instructions in this booklet to fit the rest of the system module (minus flow pipe & flow pipe extension)

6 Connect Flow Pipe to boiler. Fit the Isolating Valve removed from the Mounting Frame.

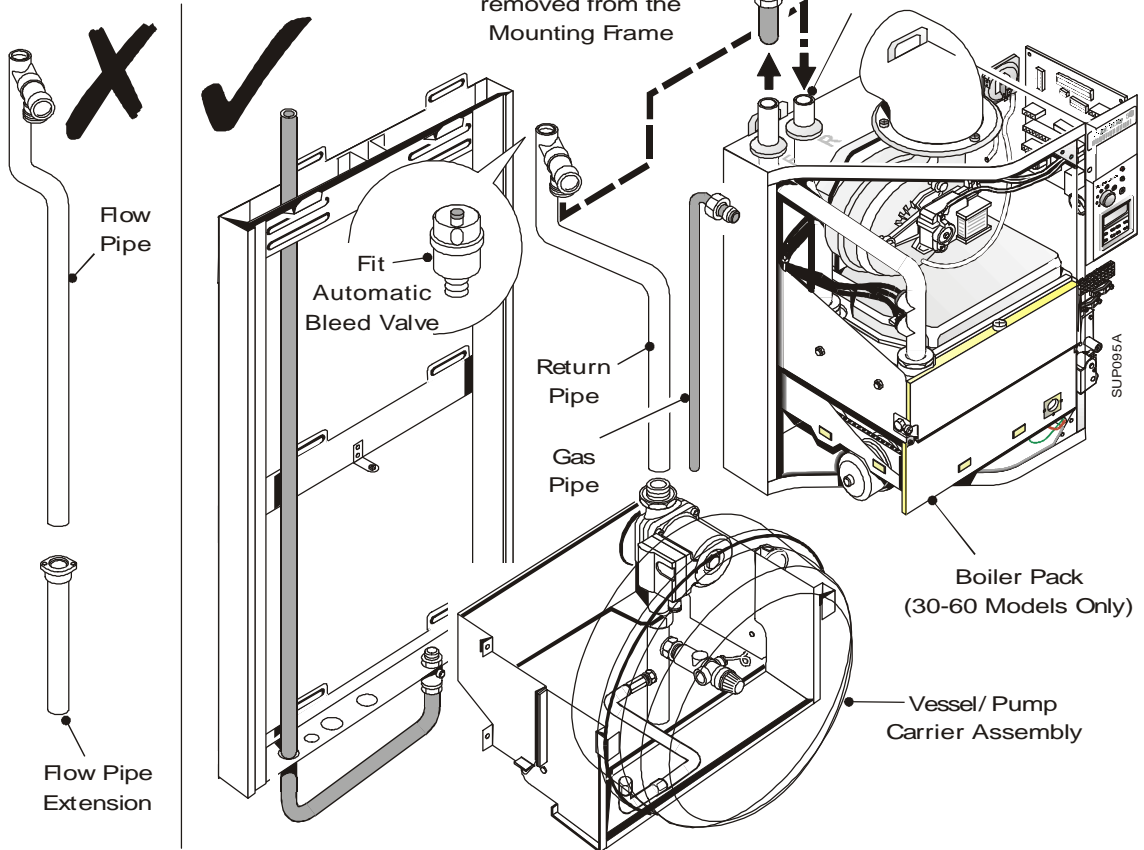


Fig. 5

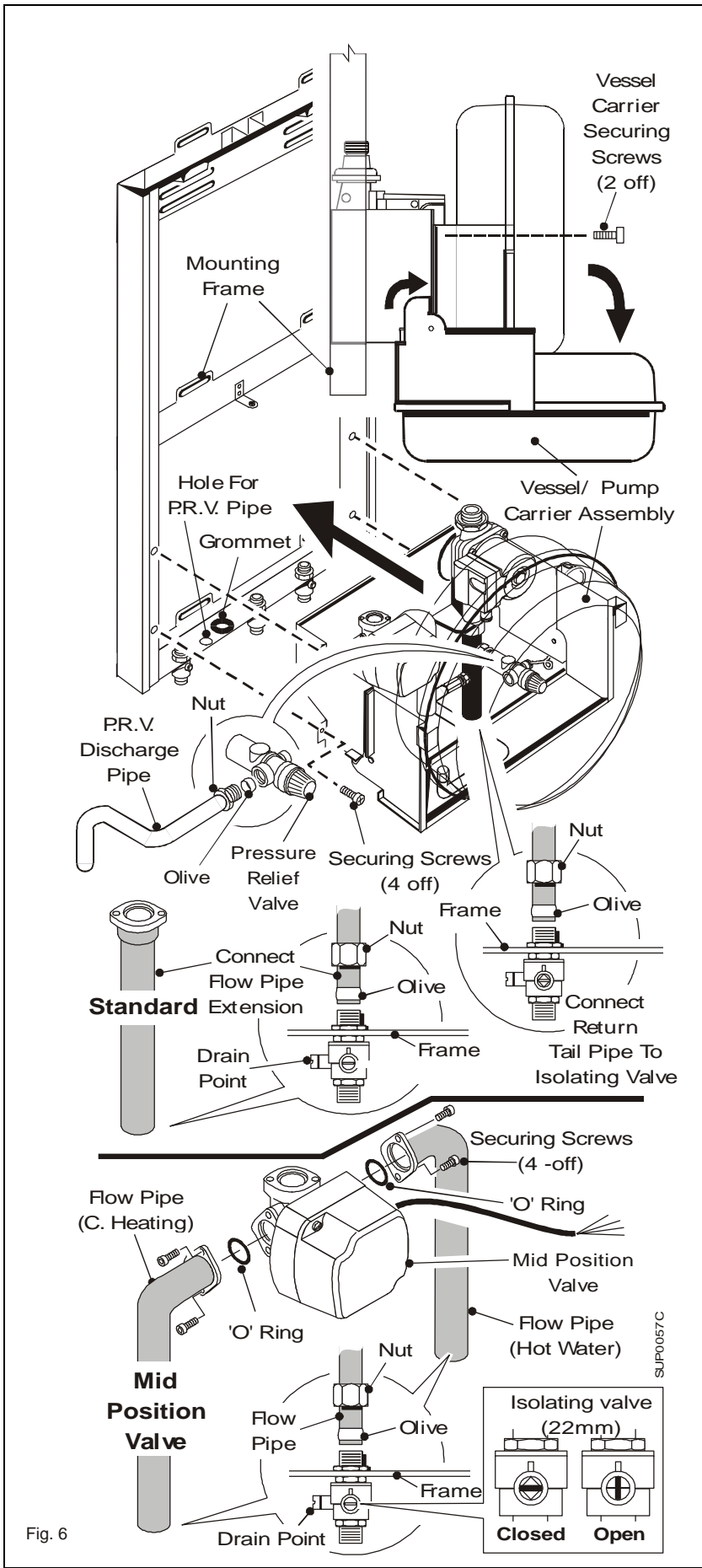


Fig. 6

This sub-assembly provides a support frame for the expansion vessel, pressure relief valve, pressure gauge, pump and inter-connecting pipes and fittings. These components are pre-assembled and includes the cable for the pump feed, the flow, return and gas pipes with fittings are included in this pack.

Fit the Module Assembly

1. Unpack the system module.
Offer the Vessel/pump Carrier Assembly up to the Mounting Frame - See Fig. 6.
2. Fit the nut and olive to return pipe tail and connect into the isolating valve.
3. Secure the Vessel/pump Carrier Assembly to the Mounting Frame using the four screws provided in the pack.
4. Unscrew the 2 Expansion Vessel Carrier securing screws and swing down the Vessel Carrier so that the interior pipework is more accessible.
5. Tighten the tube nut on the top of the return isolator valve.
6. Fit the Pressure Relief Valve Discharge Pipe as shown opposite in Fig. 6.

Install the Flow Pipe Extension - Standard

If the Mid Position Valve Kit Option is not being used:-

1. Place the nut and olive over the tail end of the Flow Pipe Extension.
2. Connect the extension to the Isolating Valve and leave the connection loose.

Install the Mid Position Valve (M.P.V.) Kit Option

1. Secure the M.P.V. outlet pipes to valve (Flange connections), ensure that the 'O' rings are in position before inserting into the valve.
2. Tighten the two screws in each flange ensuring that the connection is sealed.
3. Fit the two nuts and olives, slide both outlet tails into their respective isolating valve - See Fig. 4. Tighten both nuts.

Flow and Return Pipes

The flow and return pipes can now be placed into the Mounting Frame in the position indicated in Fig. 7. The flow pipe must be on the left-hand side. Do not attempt to fit these pipes at this stage, hang both pipes on top frame making sure they cannot be damaged when the boiler is mounted to the frame.

Connect the Gas Pipe to the Frame

1. Isolate the gas supply at the meter.
2. Remove the cap from the bulkhead connector - if fitted.
3. Loosely connect the gas pipe to the bulkhead fitting using the nut and olive supplied. Ensure that the pipe faces forward and is through the notch in the frame. See Fig. 7.

Prepare the Boiler Before Mounting to the Frame

Unpack the boiler and remove the side cover and outer casing (See Installation Instructions - Page 6). Then prepare the boiler as follows:

1. Remove the boiler alignment screws (two) from the bottom rear of the boiler case.
2. Fit the Boiler Mounting Bracket, which is in the system module, to the rear of the boiler. Use the boiler alignment screw holes and the two screws provided.

The Boiler Mounting Bracket must be positioned so that the lug for the fixing hole is at the bottom pointing outwards from the back of the boiler, See Fig. 7.

3. Fit the adaptor (taper end) to the gas valve fitting. See Fig. 6. Use a sealing compound on the threads.
4. Slide the nut and olive onto the outlet and return pipes.

Fit the Boiler to the Frame

1. The boiler can now be put into place by lifting onto the two hooks provided at the top of the Mounting Frame.
2. Secure the boiler to the Frame by using one screw through the hole in the lug of the Boiler Mounting Bracket into the screwed bush in the Frame.
3. Fit the two locking clips supplied with the boiler.
4. Fit the flue; follow the instructions in the Installation Instructions under Section 2.2 Install the Flue.

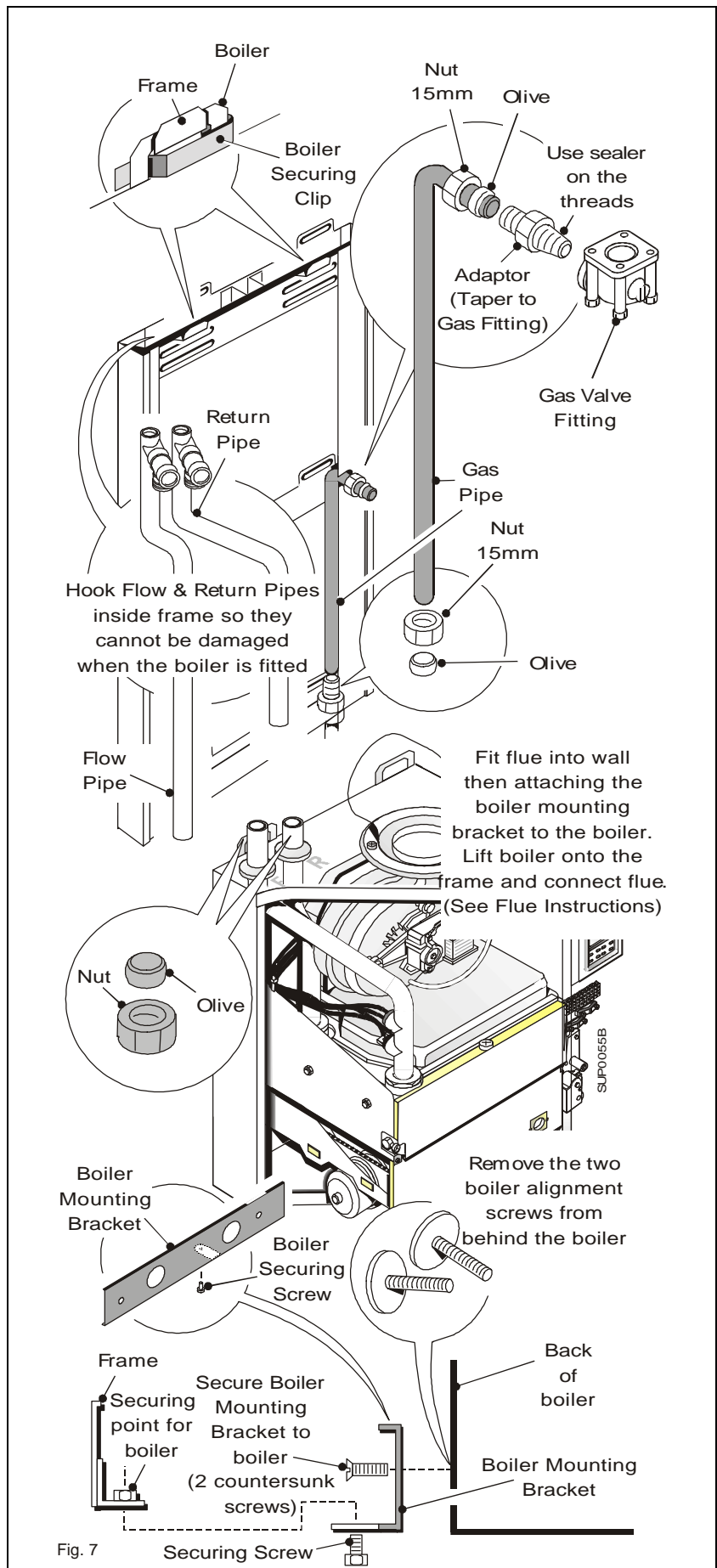


Fig. 7

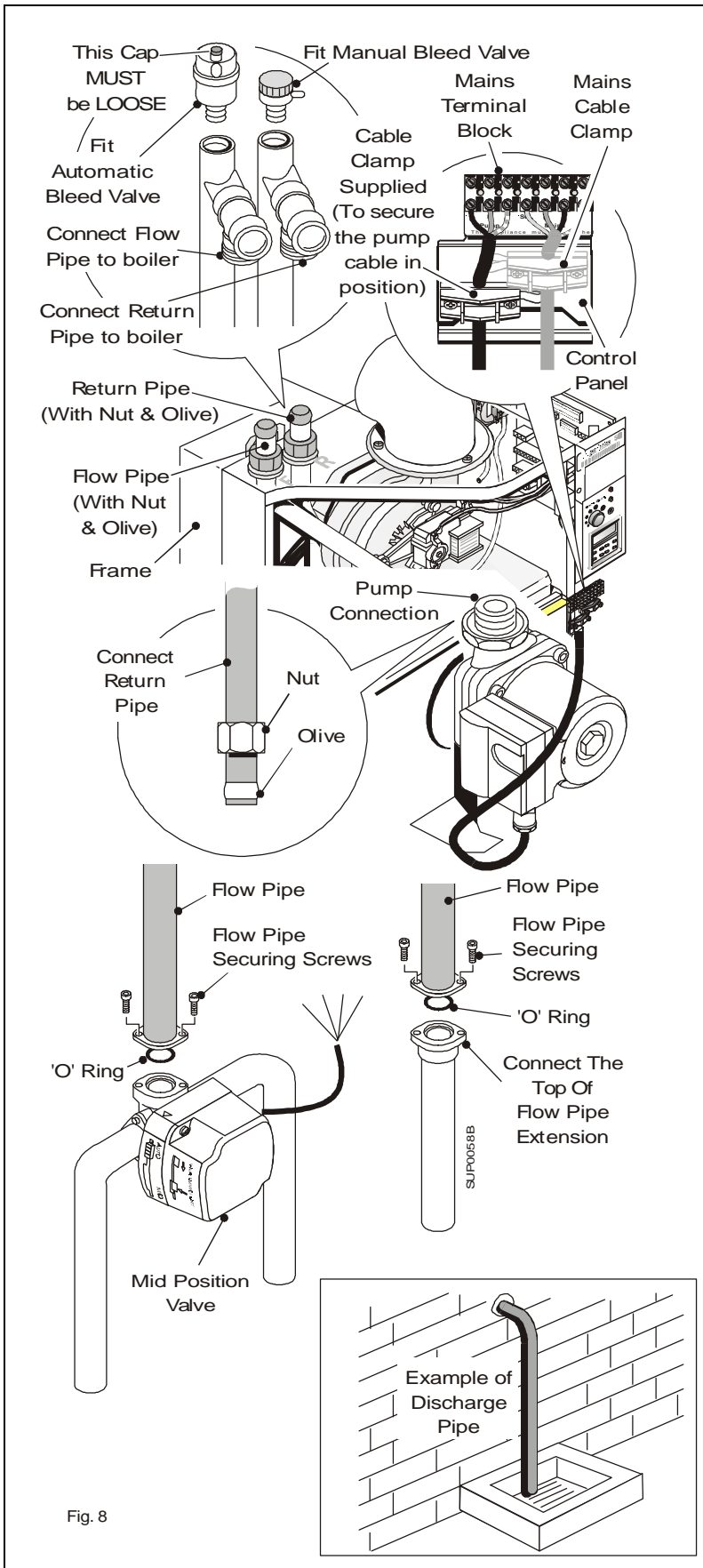


Fig. 8

Connect the Gas Pipe to the Boiler

1. Connect the gas pipe to the gas valve adaptor using the nut and olive supplied. Tighten the nuts on the gas valve and bulkhead adaptors, turn ON the gas at the meter and test for gas soundness.

Connect the Flow and Return Pipes

1. Slide the flow pipe onto the boiler outlet connection and engage the bottom end of the tube onto the flow pipe extension (flanged fitting) ensuring that the 'O' ring seal is in place or to the flanged inlet on the M.P.V.
2. Tighten both connections and fit the Automatic Bleed Valve (from the system module) to the screwed connection. See Fig.8.
3. Slide the return pipe onto the boiler inlet connection and engage the bottom end of the tube into the fitting on the pump outlet. (Compression fitting).
4. Tighten both connections and fit the Manual Bleed Valve (from system module) to the screwed connection. See Fig.8.

Pressure Relief Valves

The pressure relief valve on this module is pre-set at 3 bar.

Install a pressure relief valve discharge pipe to the valve, not less than 15 mm diameter and connect to the tail pipe using a 15mm compression fitting. The pipe run should be as short as possible, run continuously downwards and discharge to the outside of the building, where possible over a drain.

The pipe end should be directed towards the wall. The discharge point must be such that it will not be hazardous to occupants or cause damage to external electrical components or wiring.

IT MUST NOT DISCHARGE ABOVE AN ENTRANCE, OR WINDOW, OR ANY TYPE OF PUBLIC ACCESS. THE INSTALLER MUST CONSIDER THAT THE OVERFLOW COULD DISCHARGE BOILING WATER.

Venting the Boiler

The system can now be filled by connecting the filling loop or opening the isolating valves. Pressurise and top up to 1 Bar. Check for leaks. The pump must be properly vented, it should **NOT be run dry** (this may cause damage to the bearings).

Disconnect the filling loop.

Commissioning

Turn on the gas at the meter and test the installation for soundness.

Follow the Boiler Installation Instructions Section 3 "Commissioning" (page 21) to complete the installation of the system.

Re-fit the boiler casing, side casing and system casing.

Wiring

For cable sizes see Section 1.4 'Electricity Supply' in the instructions supplied with the boiler. Power Consumption: Boiler - 150W M.P.V. - 5W Pump - 112W.

Wiring the Boiler

1. The pump can now be wired directly to the main boiler terminal block, wire to be routed through the cable clip and cable clamp provided.

Wiring Installation Without M.P.V.

1. The mains cable should enter the mounting frame through the grommated hole and run up the right hand side of the Frame to the main boiler terminal block. The instructions given in the Installation Instructions under Section 2.3 (Page18) 'Connect the Power Supply Cable' should be followed.

Fit the Junction Box (M.P.V. Only)

1. Fit the Junction Box and Support Bracket behind the left hand Frame Member. See Fig. 9.

Note: For Terminal Connections refer to the Wiring Diagrams, see Figs. 10, 11 & 12. All wires must be clamped.

2. Run Mains Cable into the junction box.
3. The lead from the M.P.V. is also wired into the same junction box.
4. Wire from the boiler mains input terminal back to the boiler terminal in the junction box. The instructions given in the Installation Instructions under Section 2.3 (Page 18). 'Connect the Power Supply Cable' should be followed.
5. The external controls can be fed into the junction box and connect to room and cylinder stat terminal in accordance with the instructions provided with the respective control.
6. Carry out a preliminary electrical system check, i.e., earth continuity, short circuit, polarity and resistance to earth.
7. Refit cover over junction box.

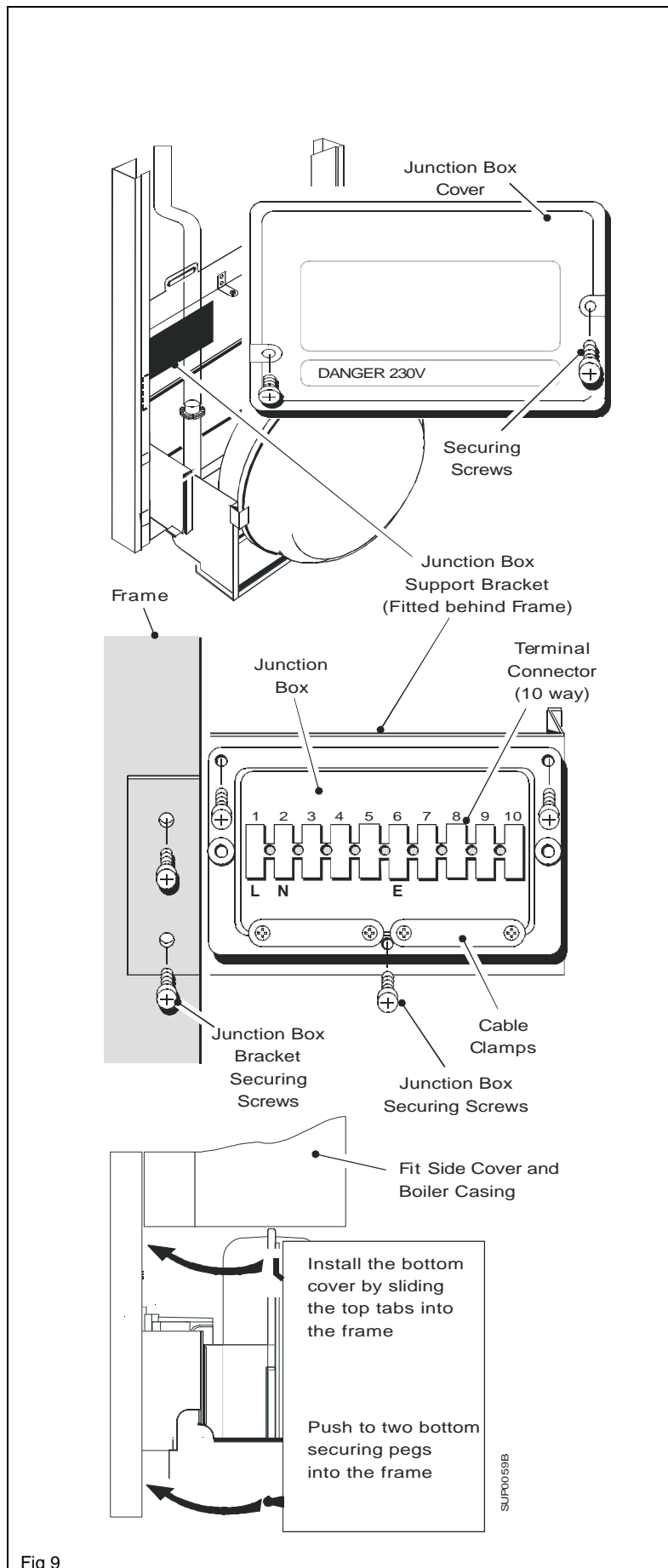
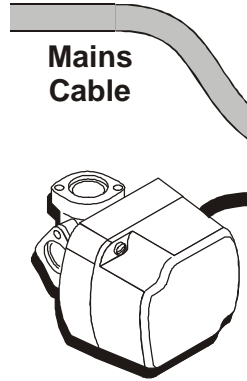
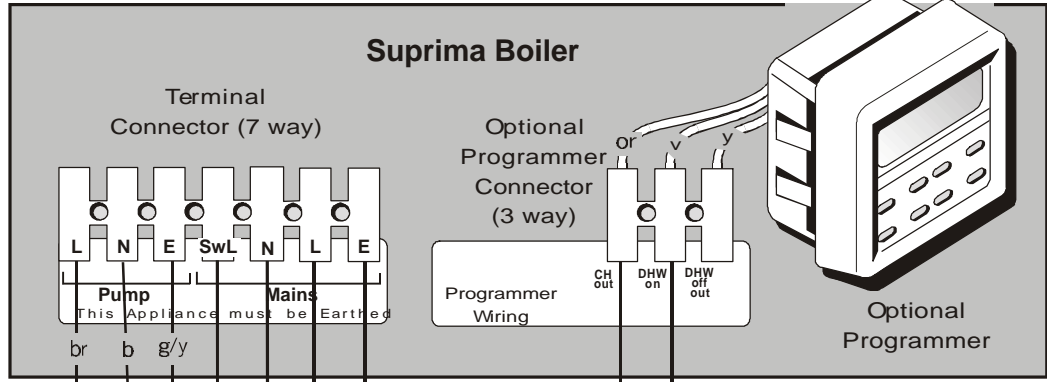
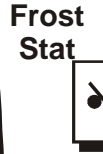
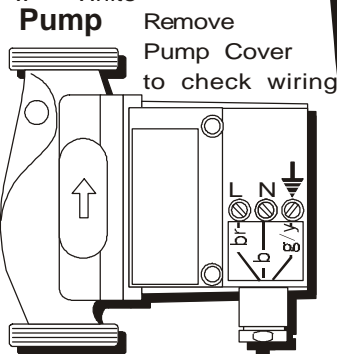


Fig 9

Key Colours:

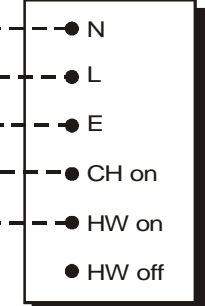
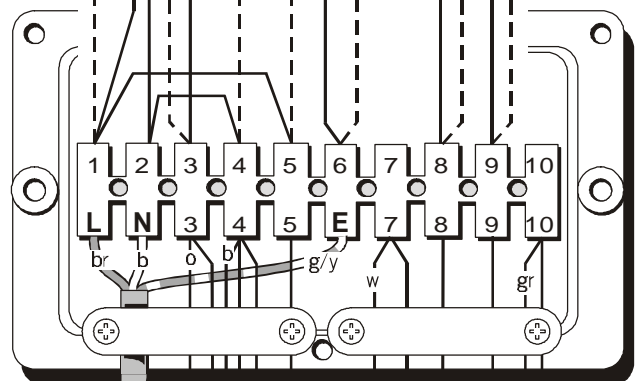
- br = Brown
- o = Orange
- b = Blue
- gr = Grey
- g/y = Green / Yellow
- w = White



Mid Position Valve MSV 322 or 328

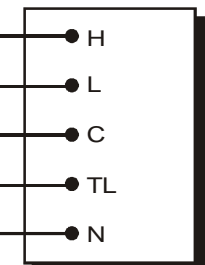
Power Consumption:
 150W - Boiler (approx)
 5W - M.P.V. (approx)
 112W - Pump (maximum)

Potterton Electronic Controls

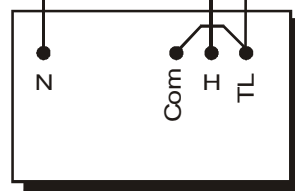


External Programmer

Junction Box



Cylinder Thermostat PTT2



Room Thermostat PRT2

SUP0060C

Fig. 10

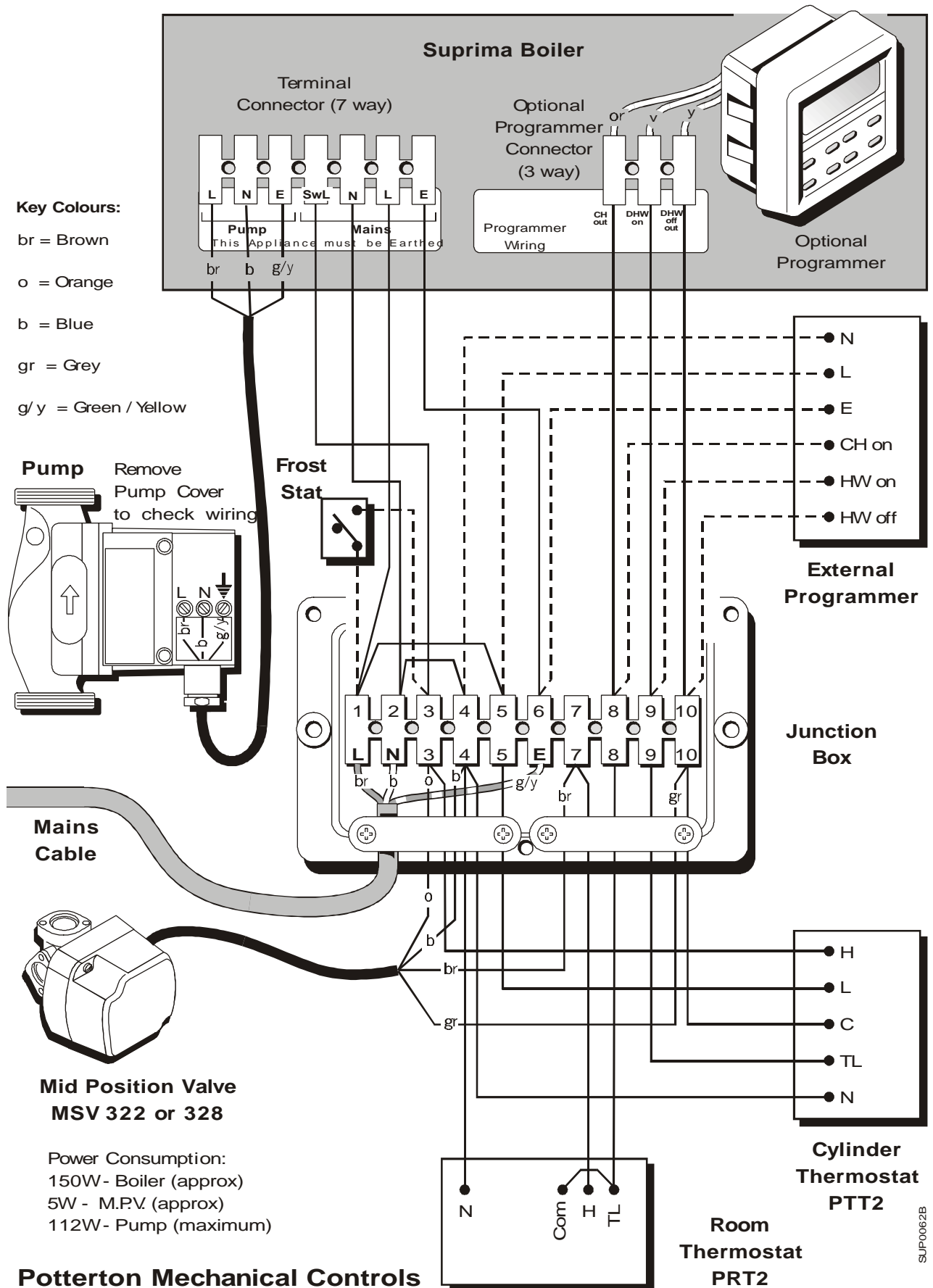
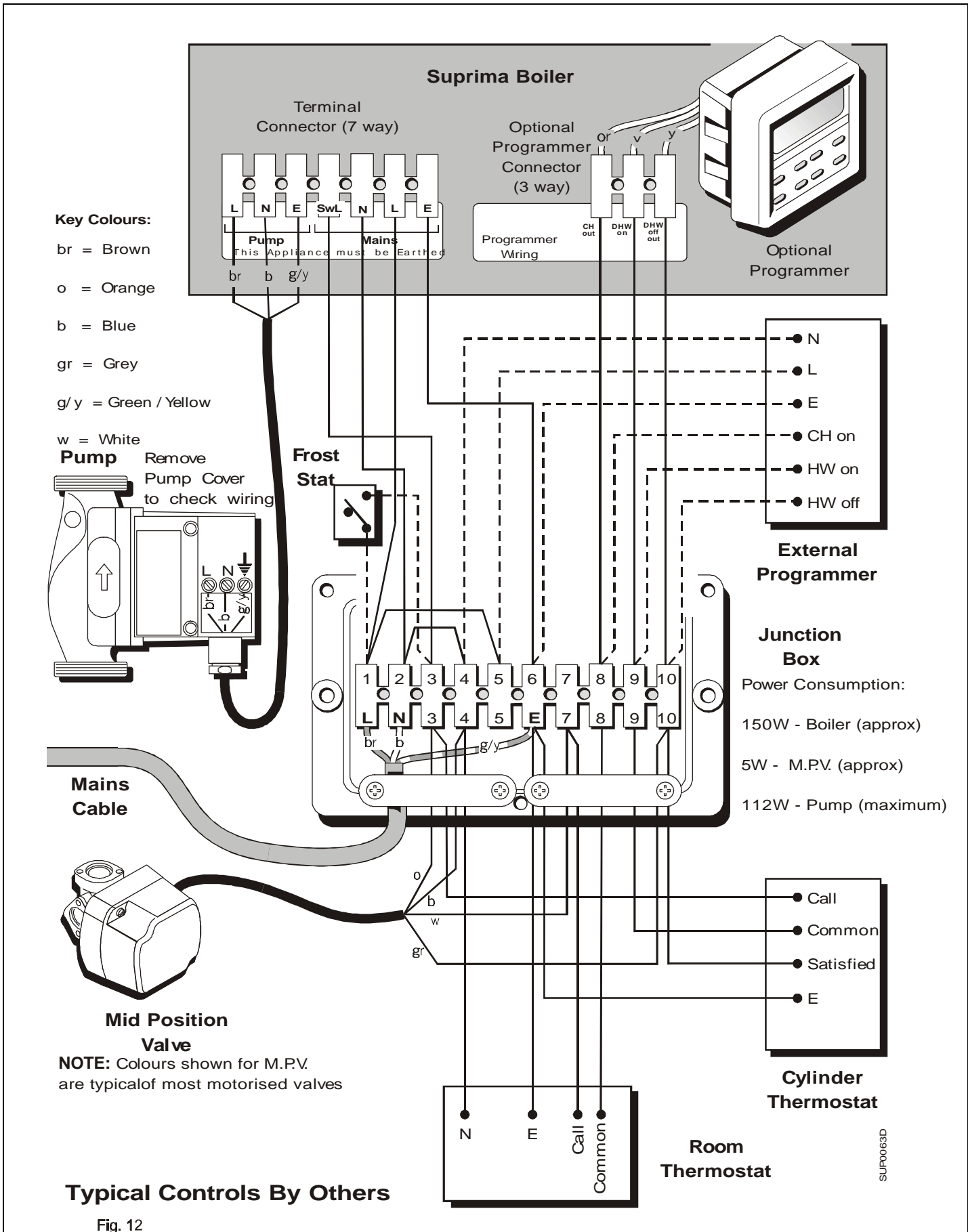


Fig. 11

SUP0062B



Typical Controls By Others

Fig. 12

Replacement of Parts - Page 13

Isolate the Boiler

1. Isolate the boiler from the electricity supply.
2. Close the Isolating Valves so the rest of the system does not drain down.

Important: Release the system pressure by turning the Pressure Relief Valve anti-clockwise.

3. Drain the system through the Drain Points provided, the gas supply need not be isolated.

Vessel/ Pump Carrier Assembly

Note: How to replace the Pump, Pressure Relief Valve, Expansion Vessel Flexible Hose and Pressure Gauge are all shown in Fig.13.

Mid Position Valve

Note: If the Motor is not working this can be replaced without disconnecting the water system by:

1. Unscrew the Motor (Head) from the plate (2 screws) and disconnect.
2. Disconnect the wiring from the Junction Box

To replace the M.P.V. complete, follow stages above and see Pages 6 & 8 for more details.

Isolating Valves

The complete system will have to be drained down, see Pages 4 & 6 for more details.

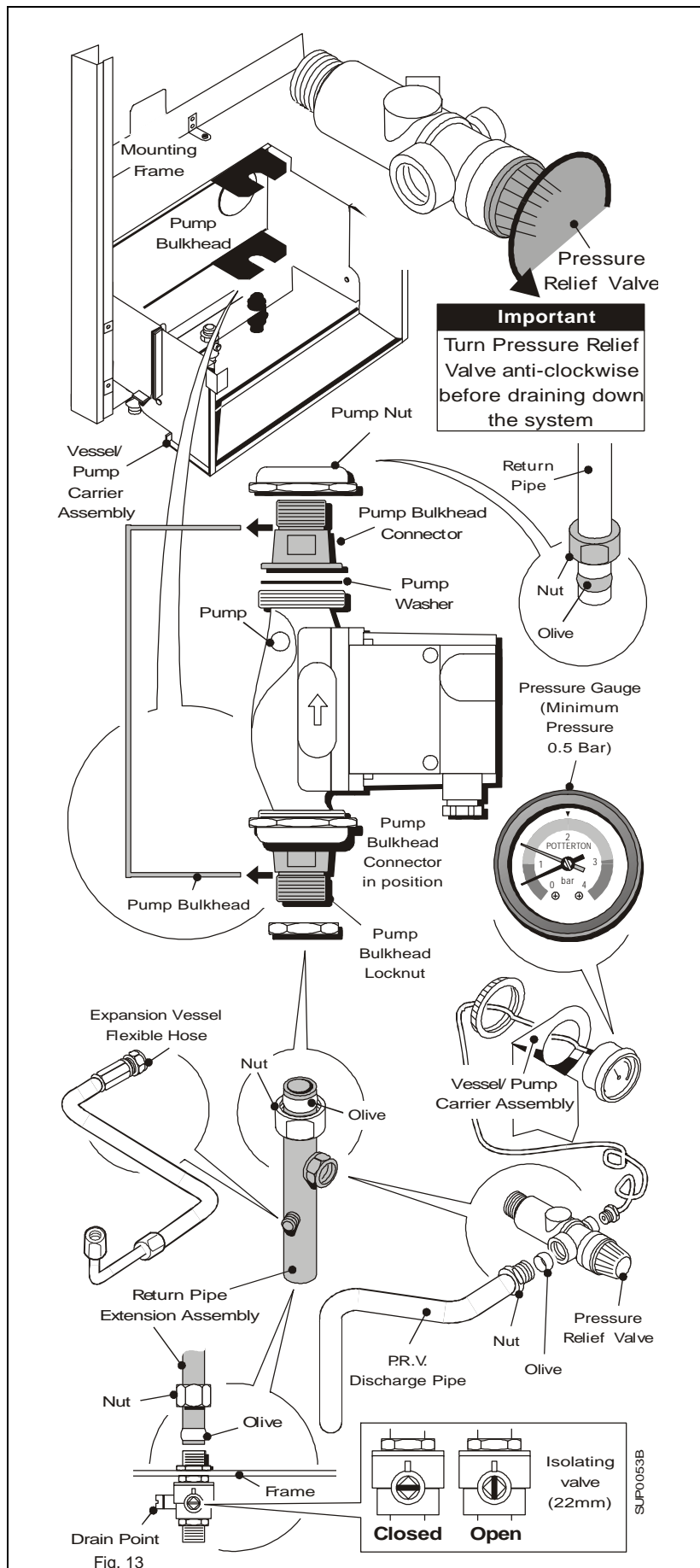
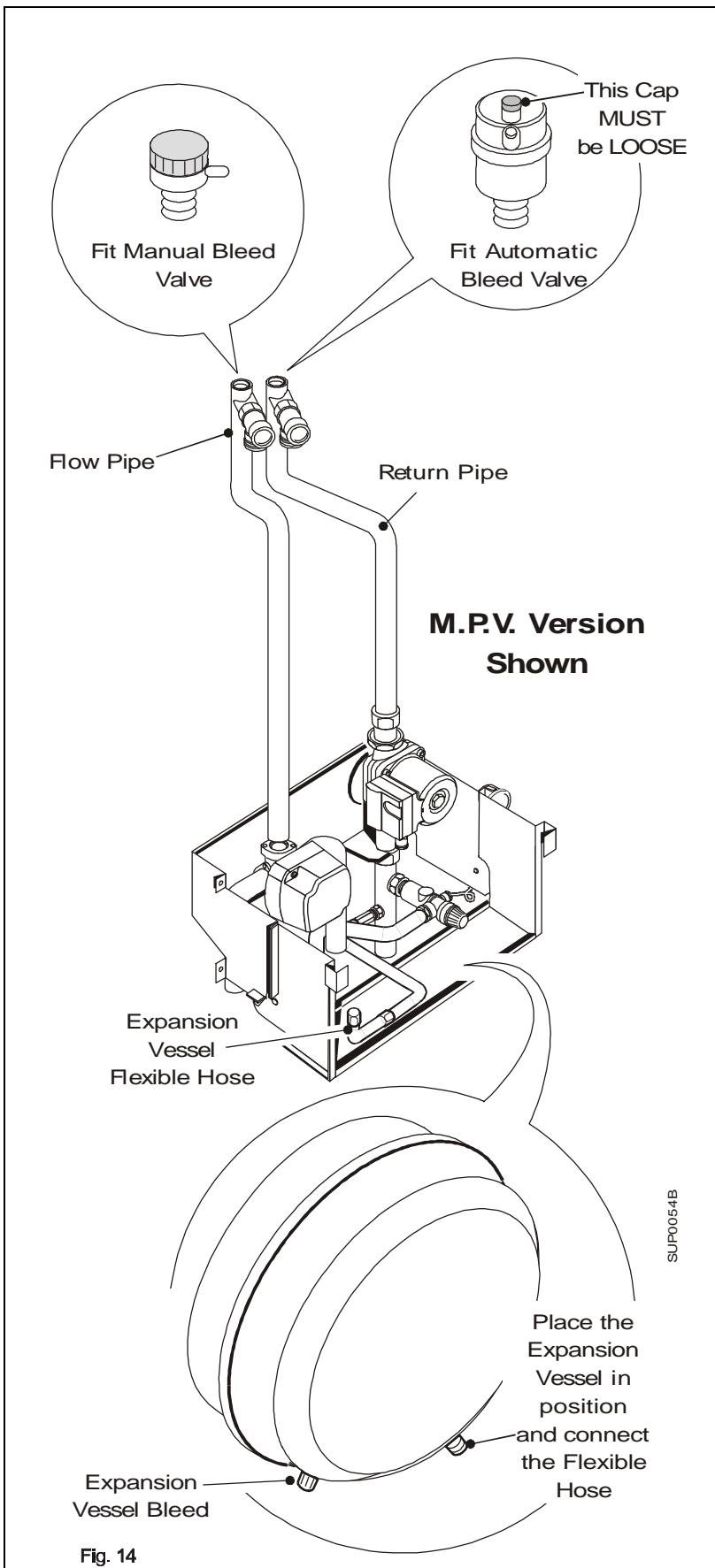


Fig. 13



Expansion Vessel

1. Disconnect the flexible hose from the Vessel.
2. Lift the Expansion Vessel Out of its Carrier and replace with a new one.

System Bleed Valves

1. Unscrew the Automatic Bleed Valve from the top of the flow pipe.

Important: The cap MUST be left loose.

2. Unscrew the Manual Bleed Valve from the top of the return pipe.

Venting the Boiler

The system can now be filled by opening the isolating valves. Top up the system by connecting the filling loop and pressurising to 1 Bar. Check for leaks.

The pump must be properly vented, it should **NOT be run dry** (this may cause damage to the bearings).

Re-fit the boiler casing, side casing and system casing. Check the boiler is working properly, see installation instructions for more details.

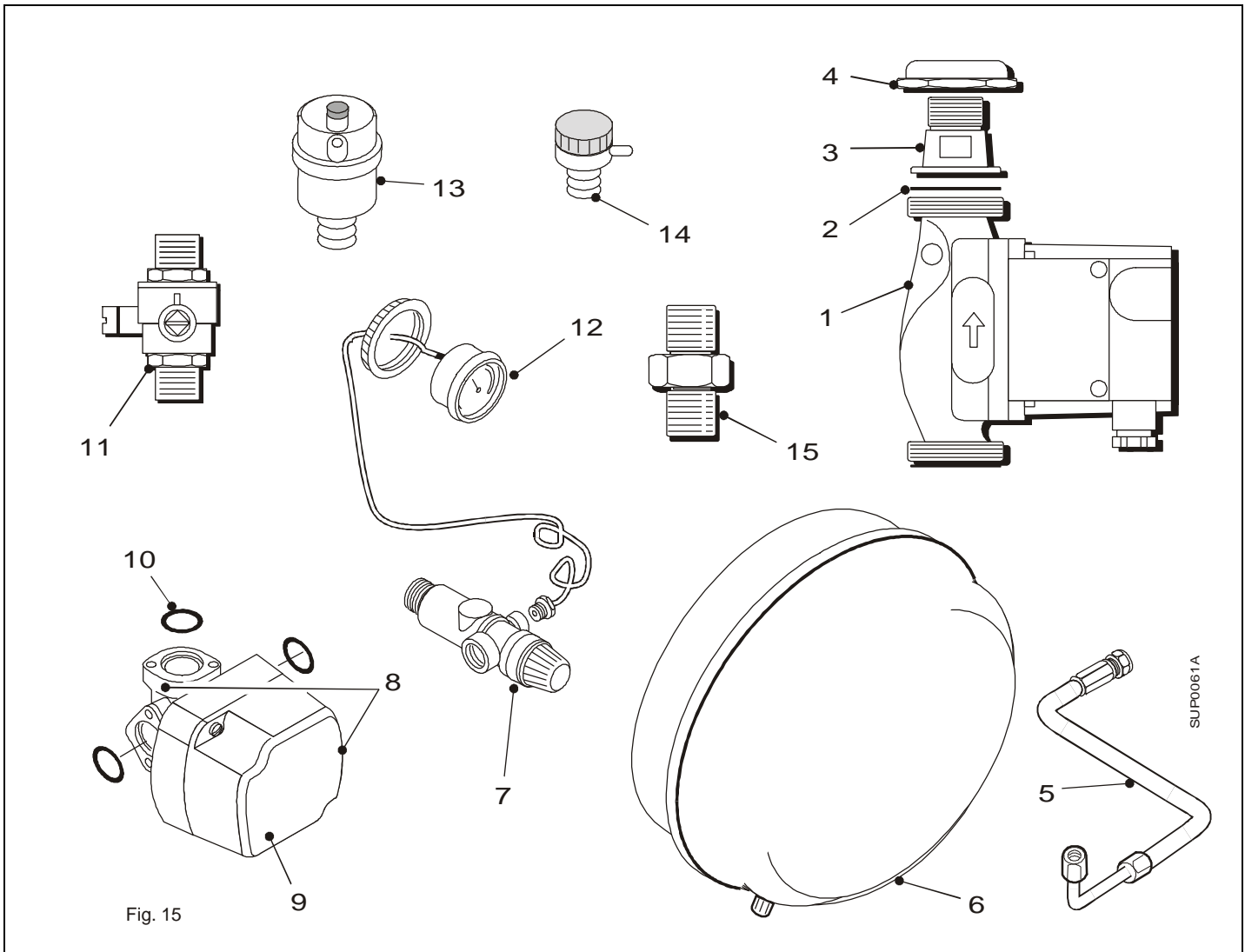


Fig. 15

Drq. Ref	G.C. No.	Description	No. Off.	Makers Part No.
1	114988	Pump	1	411154
2	386562	Washer (Included with pump)	2	404C587
3	114984	Pump Bulkhead Connector	2	238426
4	114985	Pump Nut	2	625993
5	289889	Expansion Vessel Flexible Hose	1	430043
6	173158	Expansion Tank	1	430171
7	379831	Pressure Relief Valve	1	430044
8	114744	Mid Position valve (Complete)	1	430135
9	114987	Replacement Head	1	930115
10	338233	'O' Ring	3	401645
11	114977	Isolator Valve	3	430152
12	173161	Pressure Gauge	1	430101
13	173159	Automatic Bleed Valve	1	430054
14	173160	Manual Bleed Valve	1	430070
15	114986	Gas Connection Adaptor	1	625902