**Important information**

**The instructions consist of three parts, User, Installation and Servicing Instructions, which includes the Guarantee Registration Card. The instructions are an integral part of the appliance and must, to comply with the current issue of the Gas Safety (Installation and Use) Regulations, be handed to the user on completion of the installation.**

**Gas Safety (Installation and Use) Regulations**

In your own interests and that of safety, it is the Law that all gas appliances are installed by a competent person in accordance with the current issue of the above regulations.

**Gas Testing and Certification**

The boiler is tested and certified for safety and performance. It is, therefore, important that no alteration is made to the boiler unless approved, in writing, by Saunier Duval. Any alteration not approved by Saunier Duval, could invalidate the certification, boiler warranty and may also infringe the current issue of the statutory requirements.

**CE Mark**

This boiler meets the requirements of Statutory Instrument, No. 3083 The Boiler (Efficiency) Regulations, and therefore is deemed to meet the requirements of Directive 92/42/EEC on the efficiency requirements for new hot water boilers fired with liquid or gaseous fuels. Type test for purposes of Regulation 5 certified by: Notified body 0086. Product/production certified by: Notified body 0086.
**Important Information**

The CE mark on this appliance shows compliance with:

**Control of Substances Hazardous to Health**
Under Section 6 of The Health and Safety at Work Act 1974, we are required to provide information on substances hazardous to health. The adhesives and sealants used in this appliance are cured and give no known hazard in this state.

**Insulation Pads**
These can cause irritation to skin, eyes and the respiratory tract. If you have a history of skin complaint you may be susceptible to irritation. High dust levels are usual only if the material is broken. Normal handling should not cause discomfort, but follow normal good hygiene and wash your hands before eating, drinking or going to the lavatory. If you do suffer irritation to the eyes or severe irritation to the skin seek medical attention.

**Spare Parts**
REMEMBER, When replacing a part on this appliance, use only spare parts that you can be assured conform to the safety and performance specification that we require. Do not use reconditioned or copy parts that have not been clearly authorised by Saunier Duval.

**Manual Handling Guidance**
During the appliance installation and the replacement of the heat exchanger it will be necessary to employ caution and assistance whilst lifting as the appliance or component exceeds the recommended weight for a one man lift. In certain situations it may be required to use a mechanical handling aid. Take care to avoid trip hazards, slippery or wet surfaces.

**Gas Leak or Fault**
If a gas leak or fault exists or is suspected, turn the boiler mains electrical supply off and turn off the gas supply at the meter. Consult your local gas company or your local Installers/Service company.

**Electrical Supply Failure**
The boiler must be earthed. The boiler will not work without an electrical supply. Normal operation of the boiler should resume when the electrical supply is restored. Reset any external controls, to resume normal operation of the central heating. If the boiler does not resume normal operation turn the mains reset switch off and on. If the boiler does not resume normal operation after this the overheat stat may have operated. The overheat stat would only operate under abnormal conditions; it would be advisable to consult your installation/servicing company.

**Boilers Installed in a Compartment or Cupboard**
If the boiler is fitted into a compartment or cupboard, it does not require any ventilation openings. Do not use the compartment or cupboard for storage.

**Plumbing from flue terminal**
Like all condensing boilers this appliance will produce a plume of condensation from the flue terminal in cool weather. This is due to the high efficiency and hence low flue gas temperature of the boiler. It is normal and not a fault indication.

**Replacement Parts**
If replacement parts are required contact Saunier Duval service using the telephone number on the back cover of this booklet.

**Protection Against Freezing**
The room thermostat automatically ensures a minimum installation temperature of 6°C. This protection is ensured by the room thermostat as long as it is active. This means that the button of the boiler must not be lit and that the batteries of the room thermostat must be in good condition.

**Draining and Filling**
This boiler works in a pressurised system, which must only be drained, refilled and pressurised by a competent person.

**Pressure Relief Safety Valve**
A pressure relief safety valve and discharge pipe is fitted to the boiler. This valve must not be touched. Should there be any discharge from the pipe, isolate the boiler electrical supply and call your Installer or Saunier Duval service using the telephone number on the back cover of this booklet.
Welcome users

Many thanks for choosing Saunier Duval market leaders in boiler manufacture.

Your appliance is guaranteed for a period of 24 months from the date of installation or 30 months from the date of manufacture whichever is the shorter and covers manufacturing defects only.

We, Saunier Duval, undertake to repair or replace parts free of charge which are recognised by us to be of faulty manufacture - if necessary after return to our factory for examination - on condition that:

a) The appliance was installed by a qualified gas installer in accordance with installation instructions, and all the relevant codes of practice, standards and legislation in force.

b) The appliance has been used for normal domestic purposes and in accordance with the manufacturer’s operating and maintenance instructions.

c) The appliance has not been serviced, maintained, repaired dismantled or tampered with during the guarantee period, by anyone other than an engineer approved by Saunier Duval.

d) The appliance is still in the possession of the original user, and proof of purchase in the form of a receipt or invoice is shown to the service engineer on request.

The repair or replacement of parts during the guarantee period does not have the effect of extending the period.

This guarantee does not cover:

a) Any defects or damage resulting from incorrect or poor installation, inadequate servicing, or maladjustment of the gas or water used.

b) Any defects in the system to which the appliance is connected.

c) Any deterioration or maladjustment following changes in the nature or pressure of the gas or the water used, or a change in the characteristics of the electrical supply voltage.

Notification of any fault should be made to the appliance installer. No repairs should be undertaken upon the appliance, intending it to be covered by the product guarantee without prior authorisation from Saunier Duval.

IMPORTANT: The appliance serial number must be quoted on all correspondence/contact made with Saunier Duval.

This guarantee is in addition to your statutory and other legal rights, which will not be excluded or diminished by the return of the guarantee registration card.

servicing, all you need to know

To ensure the continued efficient and safe operation of the appliance it is recommended that it is checked and serviced as necessary at regular intervals. The frequency of servicing will depend upon the particular installation conditions and usage, but in general once a year should be enough. Refer to Section «Routine Cleaning and Inspection».

If this appliance is installed in a rented property there is a duty of care imposed on the owner of the property by the current issue of the Gas Safety (Installation and Use) Regulations, section 35. Servicing/maintenance should be carried out by a competent person in accordance with the rules in force in the countries of destination.

To obtain service, please call your installer or Saunier Duval service using the telephone number on the back cover of this booklet.

Please be advised that the ‘Benchmark’ logbook should be completed by the installation engineer on completion of commissioning and servicing. All CORGI Registered Installers carry a CORGI ID card, and have a registration number. Both should be recorded in your boiler Logbook. You can check your installer is CORGI registered by calling CORGI direct on: 01256 372300.

Cleaning

The boiler casing can be cleaned with a damp cloth followed by a dry cloth to polish. Do not use abrasive or solvent cleaners.

Boiler casing

CAUTION. Do not remove or adjust the casing in any way, as incorrect fitting may result in faulty operation. If in doubt, consult your installation/service company.
Your Isofast boiler is factory set to operate within a customary installation. Nevertheless, as many installations may incorporate specific features, feel free to contact your installer who will be able – by adapting the parameters of the boiler (maximum temperature and/or maximum power of the heating system) – to warrant you the best operating performance of your installation.

These settings being made, you still have the possibility of selecting the ambient temperature to suit your own requirements not only when you are at home, but also during nighttime or when you are out.

All these settings are achieved from the room thermostat supplied together with your boiler: if you accurately determine the temperatures that best suit your needs, you will make significant savings in terms of gas consumption.

**Control as a source of savings**

**Essential adjustments to**

**to the wireless room thermostat:**

- **A - Setting the time**
- **B - Setting the date**

**The thermostat’s weekly programme functions enable you:**

- **C - To activate or deactivate the heating function.**
- **D - To have a standard weekly programme by activating the programme pre-set at the factory.**
- **E - To bypass the current programme, temporarily, to increase or lower the temperature at any time during the day.**
- **F - To set up a custom programme for each day of the week, with 2 temperature levels, for example:**
  - **COMFORT for the periods you are present and.**
  - **ECO at night or when you are away.**
- **G - To have the same temperature 24 hours a day by deactivating the programme.**
- **H - To leave on holiday, determining the desired temperature according to the date you leave and when you return.**
- **I - To select the temperature of your domestic hot water from 38°C to 60°C. However, keeping the temperature below 50°C, reduces gas consumption and provides good protection against scalds.**
- **J - To prevent undesired alterations to your settings by locking the thermostat’s buttons.**
- **K - To be informed of any operating faults in the boiler and be instructed in the procedure to follow.**

**Indicators of the current temperature levels for “COMFORT” or ECO” (Day/Night).**

- **Time period for the COMFORT temperature**
- **Time display**
- **Ambient temperature display**
- **Low battery indicator**
- **Hot water mode indicator**
- **Heating mode indicator**
- **Heating demand indicator**

**SYSTEM PRESSURE TOO LOW FILL IN AT 1.5 BAR**
Control
as a source of savings

[A] and [B] Settings for the time and the date

Progress of the operations: Please note that pressing button [C] at any time takes you back to the previous step.

1. Accessing the user menu
   - Press [MENU] to call up the next menu:
     - SET ROOM T
     - SET COMFORT T
     - SET ECO T
     - SET EMERGENCY T
     - SET PROGRAMME
     - SET HOT WATER T
     - ON/OFF HEATING
     - HOLIDAYS
     - SET TIME
     - SET DATE

2. Setting the time
   - Use the [SET TIME] buttons to select the “Set time” menu:
     - SET TIME ➔ OK ➔ 12:23 ➔ + OK

3. Setting the date
   - Use the [SET DATE] buttons to select the “Set date” menu:
     - SET DATE ➔ OK ➔ TUE 14/JUL/03 ➔ + OK

[C] Activating/deactivating the heating function

1. Activate the heating
   - ON/OFF HEATING ➔ OK ➔ OFF ➔ + ➔ ON ➔ OK

2. Deactivate the heating
   - ON/OFF HEATING ➔ OK ➔ ON ➔ + ➔ OFF ➔ OK

[D] Activating the initial programme

Progress of the operations: Please note that pressing button [C] at any time takes you back to the previous step.

1. Activating the weekly programme
   - Press [PROG] or the room thermostat shows this display:
     - Pressing [PROG] reverses ON and OFF mode every time

2. Accessing the initial programme
   - Press [MENU] ➔ [SET TIME] ➔ [SET DATE] to select the “Programme” menu:
     - Press [PROGRAMME] ➔ OK ➔ INITIAL PROGRAMME ➔ OK
     - Exit from the menu by pressing [C], which initiates the standard weekly programme pre-set at the factory:

   [Monday to Friday]
<table>
<thead>
<tr>
<th>ECO</th>
<th>COMFORT</th>
<th>ECO</th>
<th>COMFORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 PM ➔ 6 AM ➔ 8 AM ➔ 4 PM ➔ 11 PM</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   ECO temperature 16°C
   COMFORT temperature 19°C

   [Weekends]
<table>
<thead>
<tr>
<th>ECO</th>
<th>COMFORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 PM ➔ 7 AM ➔ 11 PM</td>
<td></td>
</tr>
</tbody>
</table>

   ECO temperature 16°C
   COMFORT temperature 19°C

[E] Temporarily bypassing the weekly programme

- Pressing one of the scroll buttons [SET ROOM T] calls up the menu for setting the ambient temperature:
  - SET ROOM T ➔ OFF ➔ [OK]

  Confirm by pressing [OK]

This setting is automatically cancelled when the programme changes to Eco or Comfort temperature level.
Control as a source of savings

Setting the custom weekly programme

Progress of the operations: Please note that pressing button at any time takes you back to the previous step.

1 - Activating the weekly programme
• Press PROG, the room thermostat shows this display:

or

• Pressing PROG reverses ON and OFF mode every time.
• When the ON mode appears, wait 5 seconds for the display to return to normal position and automatically validate the selection.

2 - Access to the user menu
• Press MENU to call up the next menu:

3 - Setting the Comfort temperature

4 - Setting the Eco temperature

5 - Programme

The squares indicate the time periods when the boiler will provide the COMFORT temperature level (e.g.: 19.5°C between 4 PM and 11 PM and 6 AM and 8 AM)

The blanks indicate the time periods when the boiler will provide the ECO temperature level (e.g.: 16.5°C between 8 AM and 4 PM and 11 PM and 6 AM)

This symbol indicates the mode authorising deletion of black squares to set up operating periods at the stated ECO temperature using the buttons / .

E.g.: In the case of the illustration opposite, each press of the button adds a blank from 6 AM onwards, corresponding to an extra 30 minutes heating at 16.5°C.

This symbol indicates the mode authorising additional operating periods at the stated COMFORT temperature (black squares) using the buttons / .

E.g.: In the case of the illustration opposite, each press of the button adds a square from 11 PM onwards, corresponding to an extra 30 minutes heating at 19.5°C.

• Press OK to confirm the parameters you have set for the day.

• Follow the same procedure for every day of the week or use the duplication function, as explained below.

Duplicating a programme
• To save time, you can copy the parameters you have set onto another day via the menu:

The squares indicate the time periods when the boiler will provide the COMFORT temperature level (e.g.: 19.5°C between 4 PM and 11 PM and 6 AM and 8 AM)

The blanks indicate the time periods when the boiler will provide the ECO temperature level (e.g.: 16.5°C between 8 AM and 4 PM and 11 PM and 6 AM)

This symbol indicates the mode authorising deletion of black squares to set up operating periods at the stated ECO temperature using the buttons / .

E.g.: In the case of the illustration opposite, each press of the button adds a blank from 6 AM onwards, corresponding to an extra 30 minutes heating at 16.5°C.

• Press PROG to switch from COMFORT to ECO temperature

Pressing PROG reverses ON and OFF mode every time.
USERS

Control
as a source of savings

**G Setting the heating temperatures outside Programme mode**

Progress of the operations: Please note that pressing button **C** at any time takes you back to the previous step.

1 - Deactivating the weekly programme

• Press **PROG** to call up the next menu:

- **PROG** → PROGRAMME ON → **PROG** → PROGRAMME OFF

• Retain the **PROGRAMME OFF** position. After 5 seconds, the display returns to its normal position and automatically validates this selection.

2 - Access to the user menu

• Press **MENU** to call up the next menu:

- **SET ROOM T₁**

3 - Setting the ambient temperature

- **SET ROOM T₁** → **OK** → **19.0°C** → **19.5°C** → **18.5°C** → **OK**

(to set the constant temperature desired)

**H Holiday programme**

1 - Access to the user menu

• Press **MENU** to call up the next menu:

- **SET HOT WATER T₁ ON/OFF HEATING HOLIDAYS**

2 - Activating the Holiday programme

• Determine the temperatures you wish according to your departure and return dates.

- **HOLIDAYS** → **OK** → **START DATE** → **END DATE** → **SET ROOM T₁** → **CANCEL**

**I Setting the hot water temperature**

Progress of the operations: Please note that pressing button **C** at any time takes you back to the previous step.

1 - Access to the user menu

• Press **MENU** to call up the next menu:

- **SET ECO T₁** PROGRAMME → **SET HOT WATER T₁**

2 - Setting the hot water temperature

- **SET HOT WATER T₁** → **OK** → **50°C** → **51°C** → **49°C** → **OK**

(to set the hot water to the desired temperature)

**J Locking/unlocking the thermostat’s buttons**

• Holding down the **C** and **OK** buttons simultaneously for 3 seconds locks the room thermostat’s buttons.

Press for 3 seconds

• Follow the same procedure to unlock the buttons.
Control as a source of savings

Fault indicators

- If a fault occurs, the red lights on the boiler and on the room thermostat flash and a pictogram is displayed on the thermostat: 🔴 🔴 🔴 🔴
- Press the OK button on the thermostat:

Fault level 1
- The thermostat shows the procedure to follow:

Fault level 2
- The thermostat asks you to call your After-Sales service engineer, informing him of the fault code flashing on the boiler to assist in his diagnosis.
- At the same time, the boiler’s screen shows the code for the fault:

Glossary for the user menu

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set room T°</td>
<td>Setting the ambient temperature when the programme has not been activated (Programme inactive).</td>
</tr>
<tr>
<td>Set comfort T°</td>
<td>Setting the Comfort temperature for the periods set in “Programme” menu.</td>
</tr>
<tr>
<td>Set eco T°</td>
<td>Setting the reduced temperature for the periods set in the “Programme” menu.</td>
</tr>
<tr>
<td>Programme</td>
<td>Allocating operating periods for Comfort and Eco temperature for each day of the week. In the morning, for example, you are recommended to start heating approximately 1 hour before you get up.</td>
</tr>
<tr>
<td>Outdoor T°</td>
<td>Displaying the external temperature when an external sensor is installed.</td>
</tr>
<tr>
<td>Set hot water T°</td>
<td>Setting the hot water temperature.</td>
</tr>
<tr>
<td>ON/OFF heating</td>
<td>Starting / stopping heating  On = Heating + hot water  Off = Hot water only  Outdoor T° = displayed when an external sensor is connected. When “Driven by ext. T°” is selected, the boiler automatically cuts off the heating when the temperature is higher than 18°C (factory setting).</td>
</tr>
<tr>
<td>Set radiator T° or Floor heating T°</td>
<td>Displayed if your installer has selected “consigne manual” in the “heating control” menu under the “installer” menu</td>
</tr>
<tr>
<td>Holidays</td>
<td>Setting the ambient temperature for while you are away.</td>
</tr>
<tr>
<td>Set time</td>
<td>Setting the time.</td>
</tr>
<tr>
<td>Set date</td>
<td>Setting the date.</td>
</tr>
</tbody>
</table>
General Information

**IMPORTANT NOTICE**
The boiler and pipes are supplied in one pack, the flue is supplied separately.
This boiler is factory set for use only on G20 natural gas.

Where no British Standards exists, materials and equipment should be fit for their purpose and of suitable quality and workmanship. Refer to Manual Handling Operations, 1992 regulations.

The installation of this boiler must be carried out by a competent person in accordance the rules in force in the countries of destination.

Manufacturer’s instructions must not be taken as overriding statutory requirements.

**Sheet Metal Parts**
**WARNING:** When installing the appliance, care should be taken to avoid any possibility of personal injury when handling sheet metal parts.

**Statutory Requirements**
The installation of the boiler MUST be carried out by a competent person in accordance with the relevant requirements of the current issue of: Manufacturer’s instructions, supplied.

The Gas Safety (Installation and Use) Regulations, The Building Regulations, The Building Standards (Scotland) Regulations (applicable in Scotland), local Water Company Bylaws, The Health and Safety at Work Act, Control of Substances Hazardous to Health, The Electricity at Work Regulations and any applicable local regulations. Detailed recommendations are contained in the current issue of the following British Standards and Codes of Practice, BS4814, BS5440 Part 1 and 2, BS5449, BS5546, BS6700, BS6798, BS6891 and BS7074 Part 1 and 2, BS7478, BS7593, BS7671.

We also suggest that you have to hand a copy of the British Gas publication, “Guidance Notes for the Installation of Domestic Condensing Boilers”.

Manufacturer’s notes must not be taken as overriding statutory obligations.

**Certification**
This boiler certificated to the current issue of EN 483 for performance and safety. It is important that no alteration is made to the boiler, without permission, in writing, from Saunier Duval.

Any alteration that is not approved by Saunier Duval, could invalidate the warranty and could also infringe the current issue of the Statutory Requirements.

**Electrical Supply**
All system components shall be of an approved type and all wiring to current I.E.E. wiring regulations. External wiring must be correctly earthed, polarised and in accordance with the relevant standards.

In GB this is BS 6891. In IE this is the current edition of I.S.813 "Domestic Gas Installations". The boiler must be connected to a permanent 230V ac, 50Hz supply. Connection of the whole electrical system of the boiler, including any heating controls, to the electrical supply must be through one common isolator and must be fused 3 Amp maximum.

Wiring to the boiler must be PVC 85°C insulated cable, not less than 0.75mm² (24/0.20mm).

**Dimensions**
The boiler is delivered in one package: the boiler itself, the wireless thermostat, the fixing bracket, the template and pipe connections.

The different packages relating to the flue system will be ordered depending on the actual configuration of the installation.

**ATTENTION: DO NOT FORGET TO RECOVER THE ROOM THERMOSTAT placed in a polystyrene case in the bottom of the package.**

**Isofast F 35 E**

| Net weight (kg) | 52 |
| Gross weight (kg) | 60 |
### Technical Data

#### Isofast

<table>
<thead>
<tr>
<th>Component</th>
<th>F 35 E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heating</strong></td>
<td></td>
</tr>
<tr>
<td>Heating output at 80°C/60°C (P)</td>
<td>adjustable (kW) from 7,6 to 28 (\text{BTU/H)} \text{ from 25,930 to 95,536}</td>
</tr>
<tr>
<td>Heating input min. (Q)</td>
<td>kW/\text{BTU/H} 8 / 27,296</td>
</tr>
<tr>
<td>Heating input max. (Q)</td>
<td>kW/\text{BTU/H} 28,6 / 97,583</td>
</tr>
<tr>
<td>SEDBUK efficiency (%)</td>
<td>22</td>
</tr>
<tr>
<td>Heating output at 50°C/30°C</td>
<td>adjustable (kW) from 8,6 to 30,6</td>
</tr>
<tr>
<td>Minimum heating temperature</td>
<td>(°C) 80</td>
</tr>
<tr>
<td>Expansion vessel charge pressure</td>
<td>(bar) 0,5</td>
</tr>
<tr>
<td>Maximum system capacity at 75°C</td>
<td>(bar) 215</td>
</tr>
<tr>
<td>Safety valve, maximum service pressure (PMS)</td>
<td>(bar) 3,0</td>
</tr>
<tr>
<td><strong>Gas category</strong></td>
<td>F 35 E</td>
</tr>
<tr>
<td></td>
<td>II2H3P</td>
</tr>
<tr>
<td><strong>Electricity</strong></td>
<td>F 35 E</td>
</tr>
<tr>
<td>Electrical supply (V)</td>
<td>230</td>
</tr>
<tr>
<td>Electrical rating (A)</td>
<td>0,9</td>
</tr>
<tr>
<td>Maximum absorbed power (W)</td>
<td>206</td>
</tr>
<tr>
<td>IP classification</td>
<td>IPX4D</td>
</tr>
<tr>
<td>Class</td>
<td>1</td>
</tr>
<tr>
<td><strong>Natural Gas (G 20)</strong></td>
<td>F 35 E</td>
</tr>
<tr>
<td>Ø burner injector</td>
<td>(mm) 5,65</td>
</tr>
<tr>
<td>Inlet pressure</td>
<td>(mbar) 20</td>
</tr>
<tr>
<td>Sanitary flow rate at maximum input</td>
<td>(m³/h) 3,62</td>
</tr>
<tr>
<td>Heating flow rate at maximum input</td>
<td>(m³/h) 3,02</td>
</tr>
<tr>
<td>Flow rate at minimum input</td>
<td>(m³/h) 0,85</td>
</tr>
<tr>
<td><strong>Combustion</strong></td>
<td>F 35 E</td>
</tr>
<tr>
<td>Product outlet diameter</td>
<td>(mm) 60</td>
</tr>
<tr>
<td>Fresh air inlet diameter</td>
<td>(mm) 100</td>
</tr>
<tr>
<td>Fresh air flow rate (1013 mbar - 0°C)</td>
<td>(m³/h) 43</td>
</tr>
<tr>
<td>Product outlet flow rate</td>
<td>(g/s) 15,3</td>
</tr>
<tr>
<td>Product outlet temperature (°C)</td>
<td>68</td>
</tr>
<tr>
<td>Values of product outlet</td>
<td>CO (ppm o mg/kWh) 100 or 176</td>
</tr>
<tr>
<td></td>
<td>CO₂ (%) 9,2</td>
</tr>
<tr>
<td></td>
<td>NOx (ppm o mg/kWh) 21,1 or 37,3</td>
</tr>
<tr>
<td><strong>Gas Supply</strong></td>
<td></td>
</tr>
<tr>
<td>On completion, test the gas installation for soundness using the pressure drop method and suitable leak detection fluid, purge in accordance with the above standard.</td>
<td></td>
</tr>
<tr>
<td>The Seasonal Efficiency Domestic Boilers UK (SEDBUK) is Band ‘A’.</td>
<td></td>
</tr>
<tr>
<td>The value is used in the UK Government’s Standard Assessment Procedure (SAP) for energy rating of dwellings. The test data from which it has been calculated has been certified by B.S.I.</td>
<td></td>
</tr>
<tr>
<td><strong>Technical Data</strong></td>
<td></td>
</tr>
<tr>
<td>The supply from the governed meter must be of adequate size to provide a steady inlet working pressure of 20mbar (8in wg) at the boiler.</td>
<td></td>
</tr>
<tr>
<td>All dimensions are given in millimetres (except as noted).</td>
<td></td>
</tr>
<tr>
<td>The data label is positioned on the inner door.</td>
<td></td>
</tr>
</tbody>
</table>
**Technical Data**

**Curve output/pressure**

<table>
<thead>
<tr>
<th>Speed</th>
<th>By-pass fully shut</th>
<th>Open 1/4 turn</th>
<th>Open 1/2 turn</th>
<th>Open 2 turns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed III</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Speed II</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Speed I</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

**NB**: Factory setting: Speed II

**Bypass**

The Isofast boiler has a built-in bypass. This must be adjusted according to the requirements of the system, refer to the flow rate pressure curve.

The boiler is supplied with the built-in bypass open a half turn. It is adjusted by turning the bypass screw (a).

Turn the screw clockwise to close the bypass.

When using thermostatic radiator valves (TRVs) on all of the radiators, it is essential that a separate, adjustable bypass of 15 mm minimum diameter is fitted between the flow and return of the heating circuit. Any bypass must be fitted before system controls.
Boiler components

<table>
<thead>
<tr>
<th>Isofast F 35 E</th>
</tr>
</thead>
<tbody>
<tr>
<td>a - Flue outlet</td>
</tr>
<tr>
<td>b - Overheat safety thermostat</td>
</tr>
<tr>
<td>c - Combustion chamber</td>
</tr>
<tr>
<td>d - Expansion vessel</td>
</tr>
<tr>
<td>e - Air/Gas mixture inlet</td>
</tr>
<tr>
<td>f - Ignition and control electrode</td>
</tr>
<tr>
<td>g - Fan</td>
</tr>
<tr>
<td>h - Gas control valve</td>
</tr>
<tr>
<td>i - Ignition module</td>
</tr>
<tr>
<td>j - Condensate drain</td>
</tr>
<tr>
<td>k - Heating flow thermistor</td>
</tr>
<tr>
<td>l - Heating return thermistor</td>
</tr>
<tr>
<td>m - Water flow sensor</td>
</tr>
<tr>
<td>n - Water pressure sensor</td>
</tr>
<tr>
<td>o - Pump</td>
</tr>
<tr>
<td>p - Filter on cold water inlet</td>
</tr>
<tr>
<td>q - Domestic plate to plate heat exchanger</td>
</tr>
<tr>
<td>r - Discharge safety valve 10 bar</td>
</tr>
<tr>
<td>s - Discharge safety valve 3 bar</td>
</tr>
<tr>
<td>t - Filling system</td>
</tr>
<tr>
<td>u - Drain cock</td>
</tr>
<tr>
<td>v - Room thermostat plug</td>
</tr>
<tr>
<td>w - Control panel</td>
</tr>
</tbody>
</table>

Schematic layout of boiler

<table>
<thead>
<tr>
<th>Isofast F 35 E</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Flue outlet</td>
</tr>
<tr>
<td>2 - Main heat exchanger</td>
</tr>
<tr>
<td>3 - Burner</td>
</tr>
<tr>
<td>4 - Ignition and control electrode</td>
</tr>
<tr>
<td>5 - Fan</td>
</tr>
<tr>
<td>6 - Gas control valve</td>
</tr>
<tr>
<td>7 - DHW storage vessel</td>
</tr>
<tr>
<td>8 - Condensate drain</td>
</tr>
<tr>
<td>9 - Overheat safety thermostat</td>
</tr>
<tr>
<td>10 - Temperature sensor for DHW storage vessel</td>
</tr>
<tr>
<td>11 - Expansion vessel</td>
</tr>
<tr>
<td>12 - Heating return thermistor</td>
</tr>
<tr>
<td>13 - Heating outlet thermistor</td>
</tr>
<tr>
<td>14 - Ignition module</td>
</tr>
<tr>
<td>15 - Pump</td>
</tr>
<tr>
<td>16 - Water pressure sensor</td>
</tr>
<tr>
<td>17 - Domestic plate to plate heat exchanger</td>
</tr>
<tr>
<td>18 - Three way valve</td>
</tr>
<tr>
<td>19 - Heating element</td>
</tr>
<tr>
<td>20 - Drain cock</td>
</tr>
<tr>
<td>21 - Water flow sensor</td>
</tr>
<tr>
<td>22 - Discharge safety valve 3 bars</td>
</tr>
<tr>
<td>23 - DHW temperature sensor</td>
</tr>
<tr>
<td>24 - Discharge safety valve 10 bar</td>
</tr>
<tr>
<td>25 - Isolating valve</td>
</tr>
<tr>
<td>26 - Filter on cold water inlet</td>
</tr>
<tr>
<td>27 - Filling system</td>
</tr>
<tr>
<td>28 - Filter on heating circuit</td>
</tr>
<tr>
<td>29 - Isolating valve</td>
</tr>
<tr>
<td>30 - Isolating valve</td>
</tr>
<tr>
<td>31 - Isolating valve</td>
</tr>
<tr>
<td>32 - Isolating valve</td>
</tr>
</tbody>
</table>

A - Heating return |
B - Cold water inlet |
C - Heating flow |
D - Domestic hot water outlet |
E - Gas
Boiler location

- This boiler is not suitable for outdoor installation.
- This boiler may be installed in any room, although particular attention is drawn to the installation of a boiler in a room containing a bath or shower where reference must be made to the relevant requirements. In GB this is the current I.E.E. WIRING REGULATIONS and BUILDING REGULATIONS. In IE reference should be made to the current edition of I.S.813 “Domestic Gas Installations” and the current ETCI rules.
- The boiler should be positioned so that at least the minimum operational and servicing clearances are provided, see diagram opposite. Additional clearances may be beneficial around the boiler for installation and servicing.
- If the boiler is not immediately installed, protect the different couplings so that no plaster or paint could jeopardize the tightness of subsequent connections.

Leaving existing air vents. A template is supplied with the fixing bracket. Position setting of the assembly shall be performed in compliance with the indications shown on the template. Use two or three screws for the fixing bracket.

The mechanical characteristics of the screws shall – at least – meet the requirements specified on the sketches below. Also, they shall be suited to the characteristics of the carrier wall.

If the boiler is not immediately installed, protect the different couplings so that no plaster or paint could jeopardize the tightness of subsequent connections.
Flue location and Ventilation

Flue Position and Length
The standard horizontal flue is fitted onto the top of the boiler using the flue elbow. See diagrams to determine whether a standard flue can be used.

An elevated flue system can be installed with the addition of a vertical flue adapter, extension kits and elbow, see section flue options.

When extension pipes are used the flue system must be designed to have a continuous fall to the boiler of at least 3% to allow condensate to run back into the boiler and out via the drain.

Internal Flue Installation
The flue can be installed from inside the building, when access to the outside wall face is not practicable.

Additional accessories are available. See Saunier Duval “Flue Options Guide” for configurations available.

Minimum siting dimensions for fanned flues terminals portions
Horizontal flues
A - directly below an opening, air brick, opening windows .......................... 300  
B - above an opening, air brick, opening windows .......................... 300  
C - horizontally to an opening, air brick, opening windows .......................... 300  
D - below gutter, drain/soil pipe .......................... 25  
E - below eaves .......................... 25  
F - below a balcony or car port .......................... 25  
G - from vertical drain pipes and soil pipes .......................... 25  
H* - to a boundary alongside the terminal .......................... 300  
I - above adjacent ground or balcony level .......................... 300  
J - from surface or a boundary facing the terminal .......................... 600  
K - facing terminals .......................... 1200  
L - from opening (door/window) in car port into dwelling .......................... 1200  
M - vertical from a terminal .......................... 1500  
N - horizontally from a terminal .......................... 300  
Vertical flues
P - from another terminal .......................... 600  
Q - above roof level .......................... 300  
R - from adjacent opening window .......................... 1000  
S - from adjacent wall to flue .......................... 300

H* and J*: These dimensions comply with the building regulations, but they may need to be increased to avoid wall staining and nuisance from plumbing depending on site conditions.
Flue location and Ventilation

**Terminal Position**

The minimum acceptable sitting dimensions for the terminal from obstructions, other terminals and ventilation openings are shown in page 29. For Ireland the minimum distances for flue terminal positioning must be those detailed in I.S.813 “Domestic Gas Installations”.

The terminal must be exposed to the external air, allowing free passage of air across it at all times.

Being a condensing boiler some pluming may occur from the flue outlet. This should be taken into consideration when selecting the position for the terminal.

It may be necessary to increase dimensions H & J if there is a risk that the boiler products could stain any adjoining surface.

Carports or similar extensions of a roof only, or a roof and one wall, require special consideration with respect to any openings, doors, vents or windows under the roof. Care is required to protect the roof if made of plastic sheeting. If the carport comprises of a roof and two or more walls, seek advice from the local gas supply company before installing the boiler.

**Terminal Guard**

A terminal guard is required if persons could come into contact with the terminal or the terminal could be subject to damage.

If a terminal guard is required, it must be positioned to provide minimum of 50mm clearance from any part of the terminal and be central over the terminal.

---

**Horizontal flues (installation type C13)**

The maximum head loss is reached with an elbow and flue system length (L) of 10 m.

Attention: The flue system terminal supplied by Saunier Duval already integrates this slope. Therefore, it shall be applied to any flue system extensions.

The flue system pipes must feature a slope of 3% towards the boiler in order to recover any condensates.
Heating system

**General**
The boiler is for use only with sealed central heating systems. The safety valve is an integral part of the boiler and it cannot be adjusted. The digital readout on the controls fascia indicates the system pressure when there is no central heating demand. The circulation pump is integral with the boiler.

**Expansion vessel**
The boiler has an integral expansion vessel with a capacity of 10 litres, with a charge pressure of 0.5 bar. **Note:** The expansion vessel volume depends on the total water system volume and the initial system design pressure. Guidance on vessel sizing is also given in the current issue of BS5449 and BS7074 Part 1, for IE refer to the current edition of I.S.813 “Domestic Gas Installations”.

**Flow rate**
If it is necessary to alter the flow rate, the system can be fitted with a lockable balancing valve in the main flow or return pipes shown as valve “A” in diagram. The flow rate through the boiler must not be allowed to fall below 14 l/min.

**Bypass**
The boiler is fitted with an adjustable automatic bypass. Ensure that under no circumstances does the flow rate drop below 14 l/min.

The installation of the boiler must comply with the requirements of the current issue of BS6798, in Ireland, refer also to the current edition of I.S.813 “Domestic Gas Installations”.

In GB it is necessary to comply with the Water Supply (Water Fittings) Regulations 1999 (for Scotland, the Water Byelaws 2000, Scotland).

To comply with the Water regulations your attention is drawn to: The Water Regulations guide published by the Water Regulations Advisory Service (WRAS) gives full details of the requirements.

In IE the requirements given in the current edition of I.S.813 “Domestic Gas Installations” and the current Building Regulations must be followed.

**Water treatment**
In the case of an existing installation, it is ESSENTIAL that prior to installing the new boiler the system is thoroughly flushed. For optimum performance after installation of a new system, the boiler and its associated central heating system should also be flushed. Flushing should be carried out in accordance with BS7593: 1992 using a cleaner such as Sentinel X300 or X400, Fernox Superfloc or Salamander corrosion guard cleaner.

For long-term corrosion protection, after flushing, an inhibitor suitable for stainless steel heat exchangers should be used, refer to the current issue of BS 5449 and BS 7593 on the use of inhibitors in central heating systems. Examples are Sentinel X100 Fernox or Salamander corrosion guard inhibitor.

**Domestic Hot Water System**

For GB: Guidance G17 to G24 and recommendation R17 to R24 of the Water Regulations Guide.

For IE: The current edition of I.S.813 “Domestic Gas Installations”.

**Water Pressure**
The maximum working pressure of the domestic hot water circuit is 10 bar. If the cold water supply pressure exceeds this, then a pressure-reducing valve must be fitted in the supply to the boiler.

**‘Hard’ Water Areas**
The temperatures within the heat exchanger are limited by the boiler control system to minimise scale formation within the hot water pipework. However, in areas where the water is ‘hard’ (i.e. more than 200mg/litre), it is recommended that the hot water setting is reduced and that a scale reducer is fitted. Refer to the manufacturer’s instructions or consult the local water company for additional advice.

**Draining Tap**
A draining tap must be provided at the lowest points of the system, which will allow the entire system to be drained. A drain tap for the appliance is provided as an integral part of the hydroblock, see diagram page 24.

General - All domestic hot water circuits, connections, fittings must be in accordance with the relevant standards and water supply regulations.
INSTALLERS

Boiler installation

Prior to performing any operation, it is essential that the piping systems be flushed with a suitable product in order to eliminate any impurities such as fillings, weld spatters, oils and greases.

Such foreign materials could be driven into the boiler, and could impair its operation. NB: Solvents may cause damages to the piping system. Remove the wooden beam placed behind the boiler.

 Appliance Connection

IMPORTANT: With regards to the Manual Handling Operations, 1992 Regulations, the following lift operation exceeds the recommended weight for a one man lift, refer to Manual Handling section, on page 4. The appliance will contain a small amount of water; place a water container beneath the boiler connections before removing the protective caps.

1 - Lifting the boiler into position, lean the top of the boiler slightly to the wall and position just above the hanging bracket.

2 - Lower the boiler slowly and engage onto the hanging bracket.

Connect isolating valves using washers and domestic flow restrictor supplied with the boiler.

3 - Do not forget to connect the blue extension on the filling tap, as shown on the picture below.

Piping installation

Make connections to boiler, gas, water and heating cocks with the tube assemblies supplied in piping pack as shown in the diagram below:

A - Heating return with isolating tap (t) and (u).
B - Cold water inlet with isolating tap (v) and water restrictor to 16 l/min.
C - Heating flow with isolating tap (w).
D - Domestic hot water outlet.
E - Gas inlet with isolating tap (x).

Gas Connection

Before connection check supply of local gas. Refer also to page 18. Do not subject the gas service cock to heat. Fit the sealing washer into the union nut and make good the connection to the gas service cock on the wall.

Make sure the on / off lever is accessible. The whole of the gas installation, including the meter, should be inspected, tested for soundness and purged in accordance with the current issue of BS6891 and in IE the current edition of I.S.813 “Domestic Gas Installations”.

A - C : Central heating Ø 22 mm
B - D : Domestic hot water Ø 15 mm
E : Gas supply Ø 15 mm
Piping installation

Water Connections
Flush out the domestic hot water and the heating systems before connecting to the boiler. Make the connections to the domestic hot water and heating systems by fitting the sealing washers into the securing nuts and make good the connection to the isolating valves. Do not subject the isolation valves to heat. Make sure the drain point is accessible.

- The heating return coupling is equipped with a filter, accessible after removing the end nut.
- The proof-test pressure can be read on a pressure gauge screwed instead of the heating return coupling end nut (A).

Safety Discharge Valve
The pipes from the safety discharge valves S1 and S2 must not discharge above an entrance, window or any type of public access area. Take the short safety discharge tube, union nut and seal, supplied loose in the boiler fittings pack and fit as shown in diagram below. This must be extended, using not less than 15mm o.d. pipe, to discharge, in a visible position, outside the building, facing downwards, preferably over a drain. The pipe must have a continuous fall and be routed to a position so that any discharge of water, possibly boiling, or steam cannot create any danger to persons, damage to property or external electrical components and wiring.

To ease future servicing it is advisable to use a compression type fitting supplied with the boiler to extend the safety discharge valve tube.
Piping installation

Connect the A elbow Ø 22 mm to a discharge system leading to the sewer, in compliance with the instructions below:

- Use a rigid PVC tube or a flexible silicon pipe resistant to condensate.
- The pipe must have a continuous fall.
- Do not use copper pipes

**Important notice:**
The float of the condensate recovery system also ensures fume tightness. Therefore, it is useless to add water in the condensate box.

Electrical connection

**WARNING:** This appliance must be earthed.

This appliance must be wired in accordance with these instructions. Any fault arising from incorrect wiring cannot be put right under the terms of the Saunier Duval guarantee. All system components must be of an approved type.

**Mains Cable**
Important: If a replacement supply cable is required it must be purchased from Saunier Duval.

- The 630 mA fuse of the PCB must be connected to the neutral.

**Important notice:**
The float of the condensate recovery system also ensures fume tightness. Therefore, it is useless to add water in the condensate box.

**Condensate box with access plugs for cleaning purposes.**

**NO**

**YES**

Electrical components have been tested to meet the equivalent requirements of the BEAB. Do not interrupt the mains supply with a time switch or programmer. Connection of the whole electrical system and any heating system controls to the electrical supply must be through a common isolator.

Isolation should preferably be by a double pole switched fused spur box having a minimum contact separation of 3mm on each pole. The fused spur box should be readily accessible and preferably adjacent to the boiler. It should be identified as to its use.

Electrical connection

**Mains Cable**
Important: If a replacement supply cable is required it must be purchased from Saunier Duval.

- The 630 mA fuse of the PCB must be connected to the neutral.
Commissioning on boiler

Please ensure the “Benchmark” logbook is completed and left with the user.

The commissioning and first firing of the boiler must only be done by a qualified registered person.

Make sure that the boiler is connected to the electrical supply and the gas service cock is open.

**Filling the system 1 to 8**

1. **Switch ON (I).**

2. **Open the isolating taps (t), (u), (v) and (w) on boiler:** slot in line with the length of the valve.

3. **Undo cap on automatic air vent on top of pump and leave undone.**

4. **Fill the system:** until the pressure indicated on the display is between 1 and 2 bar. Close filling device.

5. **Bleed each radiator to remove the air, re-tighten bleed screws.**

6. **Leave the cap on the pump auto air vent open.**

7. **Open various hot water taps to bleed system.**

8. **Make sure the display indicates a system pressure of between 1 and 2 bar. Re-fill system as necessary.**
Commissioning on boiler

Press the key to operate the boiler without room thermostat.

• Adjust heating temperature to maximum.

• Allow the temperature to rise to the maximum value, with all radiator valves open. The temperature rise will cause release of the gases contained in the water of the central heating system.

• Gases driven towards the boiler will be automatically released through the automatic air vent.

• The gases trapped at the highest point of the system must be released by bleeding the radiators. Check the burner gas rate required, ten minutes from lighting. Refer to Data Label on electrical controls box. Should there be any doubt about the gas rate it should be checked at

Instruct the User

• Instruct and demonstrate the lighting procedure and advise the user on the safe and efficient operation of the boiler.

• Instruct on and demonstrate the operation of heating system control.

• Advise the user on the use and maintenance of any scale reducer and pass on any relevant instructional documents.

• Advise that to ensure the continued efficient and safe operation of the boiler it is recommended that it is checked and serviced at regular intervals. The frequency of servicing will depend upon the installation conditions and usage, but in general, once a year should be enough.

• Draw attention, if applicable, to the current issue of the Gas Safety (Installation and Use) Regulations, Section 35, which imposes a duty of care on all persons who let out any property containing a gas appliance in the UK.

• Advise the user that the permanent mains electrical supply SHOULD NOT be switched off, as the built in frost protection and pump/valve saver program would not be operable.

• Remember, leave these instructions and the ‘Benchmark’ logbook with the user.

Instruct the User

• Instruct and demonstrate the lighting procedure and advise the user on the safe and efficient operation of the boiler.

• Instruct on and demonstrate the operation of heating system control.

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• Advise the user that the permanent mains electrical supply SHOULD NOT be switched off, as the built in frost protection and pump/valve saver program would not be operable.

• Remember, leave these instructions and the ‘Benchmark’ logbook with the user.

For IE, it is necessary to complete a "Declaration of Conformity" to indicate compliance to I.S.813. An example of this is given in the current edition of I.S.813.
Commissioning on room thermostat

The wireless room thermostat (R.O.) has been specially developed for the Isofast.  
• It is powered by 3 LR6 1.5V alkaline batteries.

• The boiler's various functions are parametered from the room thermostat.

Installing the room thermostat
• Fasten the bracket for the room thermostat on an internal wall approximately 1.50 m from the floor, in an area sheltered from direct sunlight and any source of interference, such as television, lamps, draughts, etc.
• Insert the batteries in the thermostat.

When commissioning for the first time, at initial commissioning stage, the boiler automatically shifts to manual mode (the control panel keys are lit, and the key is blinking), thus meaning that the wireless room thermostat has not yet been acknowledged by the boiler. To do this:
• Open the control panel
• Locate connector (A) on the left-hand side and insert it in the thermostat for a few seconds as shown in the photo opposite.

When the red indicator light stops flashing, this shows that the boiler has recognised the thermostat.

Access to the menu's 

Weekly programme
Scroll Up/Down
Access to the menu
Wall bracket
Mains power point or power cable A

LCD display
Fault indicator (red)
Confirm OK
Return

Settings

The description below specifies the operations to be performed to make adjustments to an installation fitted with radiators or for a direct floor system. For other types of installation (for example with a floor-heating system), follow the instructions in the appropriate accessories manual.

Access to the boiler's technical data (reserved for use by the installers and After-Sales service personnel). This enables adjustments to be made and any malfunctions to be analysed:

Your installation consists of a single radiator zone or direct floor system 1/3

Progress of the operations: Please note that pressing button at any time takes you back to the previous step.

1 - Accessing the installer menu
• Connect connector (A) to the room thermostat as detailed on the previous page.
• Press for 5 seconds to call up the following menu:

INSTALLED MENU
ACCESS CODE

Select installer menu:

INSTALLER MENU ➔ OK ➔ ACCESS CODE

2 - Select the language

3 - Installation configuration

INSTALLATION TYPE ➔ OK ➔ RADIATOR ZONE ➔ OK
## INSTALLERS

### Settings

**Your installation consists of a single radiator zone or direct floor system**

2/3

#### 4 - Radio accessories

Warning: This menu must only be used when installing one or more of these accessories, please refer to the section on “Activating the accessories”.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RADIO SATELLITE</td>
<td>OK</td>
</tr>
<tr>
<td>IN OUTDOOR SENSOR</td>
<td>OFF</td>
</tr>
<tr>
<td>THERMOSTAT 2</td>
<td>OFF</td>
</tr>
<tr>
<td>MODEM</td>
<td>OFF</td>
</tr>
</tbody>
</table>

#### 5 - Heating control

Selecting **AUTO** is recommended so that you can benefit from automatic circuit temperature control.

However, if you wish to adjust the radiator temperature yourself, select **MANUAL**. Then return to the user menu to set the radiator temperature.

- Press **MENU** for 5 seconds

#### 6 - Boiler configuration

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOILER CONFIG.</td>
<td>OK</td>
</tr>
<tr>
<td>MAX OUTPUT</td>
<td></td>
</tr>
<tr>
<td>MAX RADIATOR T1</td>
<td></td>
</tr>
<tr>
<td>MIN RADIATOR T1</td>
<td></td>
</tr>
<tr>
<td>PUMP MODE</td>
<td></td>
</tr>
</tbody>
</table>

6.1 Limiting the maximum heating power

<table>
<thead>
<tr>
<th>Value</th>
<th>OK</th>
<th>15kW</th>
<th>16kW</th>
<th>14kW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

6.2 Adapting the length of the vent

- CHIMNEY SET

6.3 Selecting the maximum radiator temperature

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX RADIATOR T1</td>
<td>OK</td>
</tr>
<tr>
<td>MAX T1</td>
<td>OK</td>
</tr>
<tr>
<td>MAX T2</td>
<td>OK</td>
</tr>
</tbody>
</table>

Warning: for direct floor systems, do not exceed a temperature of 50°C.

6.4 Selecting the minimum radiator temperature

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIN RADIATOR T1</td>
<td>OK</td>
</tr>
<tr>
<td>MIN T1</td>
<td>OK</td>
</tr>
<tr>
<td>MIN T2</td>
<td>OK</td>
</tr>
</tbody>
</table>

6.5 Selecting the pump’s operation

- PUMP MODE

- WITH BURNER
- WITH THERMOSTAT
- PERMANENT

6.6 Choice of preheat

- PREHEAT

In ON mode, the boiler holds the exchanger at the required temperature between 5 O’clock a.m. and 11 O’clock p.m. in order to warrant optimal reactivity for the supply of sanitary hot water.

In AUTO mode, the boiler memorizes the day to day requirements of the family, and triggers the pre-heating a few minutes before the first use of sanitary hot water of the day.

In OFF mode, the function is inhibited.

### Your installation consists of a single radiator zone or direct floor system

3/3

6.2 Adapting the length of the vent

- CHIMNEY SET

6.3 Selecting the maximum radiator temperature

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAX RADIATOR T1</td>
<td>OK</td>
</tr>
<tr>
<td>MAX T1</td>
<td>OK</td>
</tr>
<tr>
<td>MAX T2</td>
<td>OK</td>
</tr>
</tbody>
</table>

Warning: for direct floor systems, do not exceed a temperature of 50°C.

6.4 Selecting the minimum radiator temperature

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIN RADIATOR T1</td>
<td>OK</td>
</tr>
<tr>
<td>MIN T1</td>
<td>OK</td>
</tr>
<tr>
<td>MIN T2</td>
<td>OK</td>
</tr>
</tbody>
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6.5 Selecting the pump’s operation

- PUMP MODE

- WITH BURNER
- WITH THERMOSTAT
- PERMANENT

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In AUTO mode, the boiler memorizes the day to day requirements of the family, and triggers the pre-heating a few minutes before the first use of sanitary hot water of the day.

In OFF mode, the function is inhibited.

**WHEN YOU HAVE COMPLETED PARAMETERS, press **MENU** for approx. 5 seconds to return to the initial display.**
Accessories settings 1/3

Progress of the operations:

1. Access to the Radio accessories menu
   - Connect connector (A) on the room thermostat as described on page 44.
   - Press the "MENU" button for 5 seconds to bring up the following menu.
   - Select the installer menu:
     - INSTALLER MENU
     - ACCESS CODE
     - RADIO ACCESSORIES
   - Select the Radio accessories menu:
     - RADIO ACCESSORIES
     - EXT. SENSOR
     - REPEATER
     - THERMOSTAT 2
     - MODEM

2. External sensor
   - External sensor recognition
     - EXT. SENSOR OFF
     - CONNECT
   - Hold the satellite button, situated on the backside of the external sensor box, depressed for 10 seconds.
   - To establish connection, the sensor transmits signals - this may require several minutes - until it is acknowledged by the room thermostat which then validates the connection through the following display:
     - EXT. SENSOR
     - REPEATER
     - THERMOSTAT 2
     - MODEM
   - The external sensor is now operating

Accessories settings 2/3

2.2 Heating setpoint
   - Reach into the Heating Set Point menu to select the desired regulating mode.
     - EXT. SENSOR ON
     - HEATING REGULATION
     - BOILER CONFIG.
     - OK

   a/ Heating setpoint
     - AUTO
     - MANUAL
   - The AUTO setting is recommended to obtain automatic regulation of circuit temperatures. In such case, no slope adjustment is required. The boiler will itself select, after a few days, the slope which is the most suited to the heating installation.

   b/ T° heating off
     - OK
     - OK
     - OK
     - OK

   Note: we recommend selecting 17 or 18°C.

You may retain the advantages conferred by the external sensor, while setting yourself the slopes of the sensor. Select the MANUAL setting and adapt the following parameters:

   - SLOPE ZONE 1
   - SLOPE ZONE 2
   - CORRECT T° ZONE1
   - CORRECT T° ZONE2

   Select the code following curves given on diagram below.
   NB: Zone 2 settings are only displayed when two heating zones have been selected in the "config. Installation" menu.
Selecting the language on the thermostat's display.

Selecting the type of heating installation.

The ON position of this menu assigns the TA1 clock function to the radiator zone. In such case, the ambient temperature at floor level is selected from the TA1 user's menu.

Activating the various radio accessories on the installation.

Selecting Automatic or Manual control mode.

In Automatic mode, the radiator temperature adapts automatically to the heating requirements of the room in which the thermostat is located, operating between the maximum and minimum temperature values set.

Selecting the boiler's main operating parameters (power and heating circuit temperatures, pump mode and airflow configuration).

Glossary for the installer menu

- **Select the language**
  - Selecting the language on the thermostat's display.

- **Installation config.**
  - Selecting the type of heating installation.

- **Clock zone 2**
  - The ON position of this menu assigns the TA1 clock function to the radiator zone. In such case, the ambient temperature at floor level is selected from the TA1 user's menu.

- **Radio accessories**
  - Activating the various radio accessories on the installation.

- **Heating regulation**
  - Selecting Automatic or Manual control mode. In Automatic mode, the radiator temperature adapts automatically to the heating requirements of the room in which the thermostat is located, operating between the maximum and minimum temperature values set.

- **Boiler config.**
  - Selecting the boiler's main operating parameters (power and heating circuit temperatures, pump mode and airflow configuration).
Gas conversion

Your Isofast boiler is factory-set to operate with G20 gas. For operation with G31 gas, some adjustments must be made on the gas valve after removal of the sealed front cover in order to obtain the CO2 values given in the adjacent table.

1/ Maximum hot water input setting, through the CO2.
   a - Connect a CO2 analyser to sample point B of the adapter or flue elbow.
   b - Fully open a hot water tap.
   c - Wait for 2 minutes or so, until the CO2 reading has stabilized.
   d - Adjust the screw C to obtain the G31 CO2 value stated in the table, taking the following principle into account:
      To increase the CO2 value, turn the screw anti-clockwise
      To decrease the CO2 value, turn the screw clockwise

Note: After re-installation of the sealed front face, the CO2 value changes, and must correspond to that given in the table.

2/ Minimum HEATING input setting, through the CO2:
   a - Connect a CO2 analyser to sample point B of the adapter or flue elbow.
   b - Adjust the boiler at its minimum heating power using the room thermostat menus described in the below.
   c - Perform a heating demand and record the CO2 value after stabilization (2 minutes or so).

Note: After re-installation of the sealed front face, the CO2 value changes, and must correspond to that given in the table.

3/ After setting and reassembly, restore the maximum heating power to its initial value (20 kW) and stick the gas data tag close to the nameplate.

<table>
<thead>
<tr>
<th>Isofast F 35 E</th>
<th>G20</th>
<th>G31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating output max. hot water kW</td>
<td>34.2</td>
<td>34.2</td>
</tr>
<tr>
<td>Heating output max. heating kW</td>
<td>6.4</td>
<td>6.4</td>
</tr>
<tr>
<td>CO2 case off</td>
<td>9.5±0.2</td>
<td>10.3±0.2</td>
</tr>
<tr>
<td>CO2 case on</td>
<td>9.2±0.3</td>
<td>10.5±0.3</td>
</tr>
</tbody>
</table>

1 - Access to the installer menu
- Connect A connector on the room thermostat as indicated page 44.
- Press **MENU** for 5 seconds to call up the following menu:
- **INSTALLER MENU**
- **AFTERSALES MENU**
- **FAULT HISTORY**
- **BOILER DATA**

2 - Access to boiler configuration
- **BOILER CONFIG.**
- **MAX OUTPUT**
- **CHIMNEY SET**
- **MAX. RADIATOR T1**
- Set **MAX OUTPUT** on the minimal value:

When you have completed parametering, press **MENU** for approx. 5 seconds to return to the initial display.
**INSTALLERS**

**Servicing**

**Important Notes**
To ensure the continued efficient and safe operation of the boiler it is recommended that it is checked and serviced at regular intervals. The frequency of servicing will depend upon the particular installation and usage, but in general once a year should be enough.

It is the Law that any servicing is carried out by a competent person.

When replacing a part on this appliance, use only spare parts that you can be assured conform to the safety and performance specification that we require. Do not use reconditioned or copy parts that have not been clearly authorised by Saunier Duval.

**General**
Measurement of the products of combustion can be achieved by connection of a probe to the combustion analyser test point, see diagram 1.

**IMPORTANT NOTE:**
Products of combustion will be discharged when the cap is removed. It is important to replace the cap immediately. Before commencing with a service or replacement of parts, the boiler should be isolated from the electrical supply and the gas supply should be turned off at the gas isolation valve, see page 35.

All routine servicing requirements can be achieved by the removal of the front panel and inner panel only. To remove simply undo the two screws on the underside of the front panel and lift off. Undo the two screws on the front of inner panel and lift off, see diag. 2. Unless stated otherwise any part removed during servicing should be replaced in the reverse order to removal.

Servicing should always include the removal of any debris from the condensate pipe and siphon.

After completing any servicing of gas carrying components, ALWAYS test for gas soundness and carry out a functional test of the controls.

**Spark Electrode**
Disconnect the electrode lead and two securing screws. Withdraw the spark electrode carefully from the combustion chamber, see diagram 3.

Inspect the tips for damage. Clean away any debris and check the spark gap is 3.5 to 4.5 mm.

**Check the electrode gasket for signs of damage and replace if necessary**.

Push the gas pipe upwards further into gas valve connection and then rotate anti-clockwise (looking down) until the gas pipe end is over the large hole in boiler chassis. Withdraw the gas pipe from gas valve connection and remove.

Note: When replacing ensure that the sealing grommet, situated below the gas valve is correctly re-seated.

Disconnect the gas valve electrical plug at the gas valve.

Disconnect the electrical leads from the fan.

Remove the five combustion chamber front retaining nuts, see diag. 5.

Gently remove the fan, gas valve and burner assembly from the combustion chamber, see diag. 5.

Clean the burner with a soft brush taking great care not to damage the front insulation. DO NOT use wire or sharp instruments to clean the holes of the burner.

Inspect the burner for any signs of damage. Inspect the sealing rings and replace if necessary.

Removal of the burner is not necessary during a normal service.

**NOTE**: IF THE BURNER HAS TO BE REMOVED IT WILL REQUIRE A NEW GASKET WHEN REFITTED.
Servicing

Combustion Chamber and Heat Exchanger
Remove loose debris from combustion chamber using a soft brush and vacuum cleaner. Carefully flush by spraying water removing any remaining debris through the condensate trap (Ensure the water is kept away from electrical components).

Condensate Drain
The condensate drain does not normally need removing during servicing. To flush the condensate drain carefully pour water into the heat exchanger and check that water flows freely to drain.

Combustion Check.
If a gas carrying component has been replaced, the combustion of the appliance should be checked. Once the appliance has been re-assembled (apart from the front and inner casing panels) connect a CO2 combustion analyser to the test point on the flue adapter, and follow indications given on page 52-53.

Domestic Cold Water Inlet Filter
If the water flow rate through the appliance has reduced it may be necessary to clean or replace the water inlet filter. Turn off the electrical supply to the boiler. Drain the domestic hot water circuit. Slide out the securing clip, and remove the filter to clean or renew if necessary. See diag. 6.

“Mouss” Filter
Turn off the electrical supply to the boiler. Drain the heating circuit of the boiler. Remove the filter retaining clip under the pump see diag. 7, and filter clean or renew if necessary. Refit the filter. Open the heating flow and return isolating valves and refill, vent and pressurise the heating circuit. Check for leaks.

Central Heating Return Filter
Turn off the electrical supply to the boiler. Drain the heating circuit of the boiler. Unscrew the filter placed on heating return, see diag. 8, and clean filter or renew if necessary. Refit the filter. Open the heating flow and return isolating valves and refill, vent and pressurise the heating circuit. Check for leaks.

Draining of Boiler Heating Circuit
Drain down the Heating Circuit of the boiler only, by closing the heating flow and return isolating taps (t, u and w), on the boiler connections, see diag. 10. Attach a length of hose to the drain point and open the drain valve (r), see diag. 9. After servicing or replacing parts, close the drain valve and remove the hose. Open the heating flow and return isolating valves and refill, vent and pressurise the heating circuit. Check for leaks.

Draining of Boiler Hot Water Circuit
Drain the Domestic Hot Water circuit by closing the cold-water isolation tap (v) on the boiler connection. Open one or more hot water taps to drain the hot water circuit. After servicing or replacing parts, open the cold-water isolation valve and slowly open a hot water tap to remove air. Close the hot water tap and check for any leaks.

Inner Casing Panel Seal Check.
Check the condition of the seal, replace as required. To replace remove the old seal, thoroughly clean the casing surfaces. Fit the new seal, it is supplied to the correct length.

Domestic Cold Water Inlet Filter
If the water flow rate through the appliance has reduced it may be necessary to clean or replace the water inlet filter. Turn off the electrical supply to the boiler. Drain the domestic hot water circuit. Slide out the securing clip, and remove the filter to clean or renew if necessary. See diag. 6.

“Mouss” Filter
Turn off the electrical supply to the boiler. Drain the heating circuit of the boiler. Remove the filter retaining clip under the pump see diag. 7, and filter clean or renew if necessary. Refit the filter. Open the heating flow and return isolating valves and refill, vent and pressurise the heating circuit. Check for leaks.

Central Heating Return Filter
Turn off the electrical supply to the boiler. Drain the heating circuit of the boiler. Unscrew the filter placed on heating return, see diag. 8, and clean filter or renew if necessary. Refit the filter. Open the heating flow and return isolating valves and refill, vent and pressurise the heating circuit. Check for leaks.

Draining of Boiler Heating Circuit
Drain down the Heating Circuit of the boiler only, by closing the heating flow and return isolating taps (t, u and w), on the boiler connections, see diag. 10. Attach a length of hose to the drain point and open the drain valve (r), see diag. 9. After servicing or replacing parts, close the drain valve and remove the hose. Open the heating flow and return isolating valves and refill, vent and pressurise the heating circuit. Check for leaks.

Draining of Boiler Hot Water Circuit
Drain the Domestic Hot Water circuit by closing the cold-water isolation tap (v) on the boiler connection. Open one or more hot water taps to drain the hot water circuit. After servicing or replacing parts, open the cold-water isolation valve and slowly open a hot water tap to remove air. Close the hot water tap and check for any leaks.

Inner Casing Panel Seal Check.
Check the condition of the seal, replace as required. To replace remove the old seal, thoroughly clean the casing surfaces. Fit the new seal, it is supplied to the correct length.
The after-sales menus, accessible from the room thermostat, allow investigating possible malfunctions and modifying certain factory set values.

Access to the data menu

• Connect boiler connector (A) on the room thermostat as described page 44.

• Press \textit{MENU} for 5 seconds to call up the following menu:

\texttt{INSTALLER MENU} \\
\texttt{AFTERSALES MENU} \\
\texttt{FAULT HISTORY} \\
\texttt{BOILER DATA}

1 - “Fault history” menu

• Use the \texttt{\uparrow, \downarrow} buttons to select the “Fault history” menu:

\texttt{FAULT HISTORY} \\
\texttt{BOILER HISTORY} \\
\texttt{INSTALLER MENU}

The display shows the fault N° and its date of occurrence.

2 - “Boiler data” menu

• Use the \texttt{\uparrow, \downarrow} buttons to select the “Boiler data” menu:

\texttt{BOILER DATA} \\
\texttt{INSTALLER MENU} \\
\texttt{AFTERSALES MENU} \\
\texttt{FAULT HISTORY}

\texttt{WATER PRESSURE} \\
\texttt{RADIATOR SETPOINT} \\
\texttt{FLOW T°} \\
\texttt{RETURN T°} \\
\texttt{DHW T°} \\
\texttt{TANK T°} \\
\texttt{FAN SPEED} \\
\texttt{DHW FLOW} \\
\texttt{BURNER PHASE} \\
\texttt{POWER}

Every validation through the \texttt{OK} key will cause display of the corresponding value during boiler operation.

WHEN YOU HAVE COMPLETED PARAMETERS, press \texttt{MENU} for approx. 5 seconds to return to the initial display.

Communication test

• DO NOT connect the boiler connector to the room thermostat.

• Press \texttt{MENU} for 5 seconds to call up the following menu:

\texttt{TEST RADIO SIGNAL}

The room thermostat then transmits signals every 10 s. Successive display of the number means that the signals are properly routed.
NOTE
Before trying to operate the boiler make sure that:
• All gas supply cocks are open and that the gas supply has been purged of air.
• There is a permanent mains supply to the boiler.
• There is a heating demand from the external control.

WARNING.
Always isolate the boiler from the electrical supply before carrying out any electrical replacement work.

Electrical Testing
Should there be any doubt about the voltage supply to any of the components, it is possible to carry out a simple electrical test.

Important.
On completion of the Service/Fault Finding tasks which have required the breaking and remaking of the electrical connections the earth continuity, polarity, short circuit and resistance to earth checks must be repeated using a suitable multimeter.

To carry out the electrical test, gain access, as follows:
Hinge down the control box and remove Torx screws and unhook the rear panel, refer diagram 2 page 54. Refer to the Wiring diagram and fault finding charts diagrams.
INSTALLERS

Fault finding

START
Is the system pressure displayed?
YES
NO
Check there is no demand

Is it flashing indicating zero?
YES
NO
Adjust system pressure

Replace pressure sensor if there is no change

Set a demand for CH, on

Is there temperature indicated on LCD?
YES
NO
Is "F" displayed?

NO
Check wires between main pcb and interface.

YES
 REFER TO F CODE POSSIBLE CAUSES FOLLOWING PAGE

Does appliance fire?
YES
NO

Does boiler module be before desired set point is reached?

NO

YES

Differential is too high
Current flow rate too low

Temperature rise too high
Current flow rate too low

Check operation of 3 way valve

Check wires between main pcb and interface.

COMPONENT
CH Thermostat 10k Ω @ 25°C
Fan 24V DC across blue and red at fan
Gas Valve 24V DC / 55 Ω
Flow sensor Remove and check rotation of paddle wheel
3 Way valve Remove motor, switch tap on and off and check spindle moves in and out

CODE DESCRIPTION POSSIBLE CAUSE
F1 Ignition fault (flicker) Boiler failed to light
No gas
Insufficient gas
Incorrect gas valve adjustment
Electrode ignition lead defective
Electronic igniter defective
Check air in inlet duct
Check connections to igniter unit

F4 Ignition fault (flicker) Went out when lit
As F1 possible cause

F5 Overheat fault
Overheat stat operated
Maximum temperature exceeded
Check thermostat connections
Air in system with thermostat at maximum setting
Faulty overheat stat connection

F6 Central heating flow thermostat fault
Thermostat cable defective/broken, thermostat faulty
Check that thermostat attached correctly to pipe

F7 Domestic Hot Water thermostat fault
Thermostat cable defective/broken, thermostat faulty
Check that thermostat attached correctly to pipe

F9 Water pressure sensor fault
Faulty sensor connection
Check wiring

F10 Central heating return thermostat fault
Thermostat cable defective/broken, thermostat faulty
Check that thermostat attached correctly to pipe

F11 Main board connection fault
Check wiring between main board and user interface

F12 User Interface connection fault
Check wiring between main board and user interface

F13 Main PCB connection fault
Check connections and wires

F14 Central heating flow temperature is greater than 95°C
System fault
Possible pump failure
Check Thermostat on flow

F16 Flame detection fault (flame present for more than 5 seconds after burner stopped)
Gas valve defective
Check electrical supply / polarity

F17 Power supply is less than 110V
Check electrical supply / polarity

F18 User interface fault
Faulty User Interface

F19 Central heating thermostat unplugged
Check Thermostat connection

F20 Software incompatibility
Incorrect user interface or Main PCB

F24 Central heating return temperature is greater than 90°C
System fault
Possible pump failure
Check Thermostat on return

F35 Maximum temperature rise slope
Possible pump failure
Air in system

F36 Maximum delta temperature
Check Thermostat on return
System - too restrictive
Replacement of parts

General
Replacement of parts must be carried out by a competent person.
Before replacing any parts the boiler should be isolated from the mains electric supply and the gas should be turned off at the service cock on the boiler.
Unless stated otherwise parts are replaced in the reverse order to removal.
After replacing any parts always test for gas soundness and if necessary carry out functional test of the controls.
For replacement of parts the front casing and the inner casing panel of the boiler will need to be removed. To remove undo the two screws on the underside of the front casing and lift off. Undo the two screws on the front of the inner front panel and lift off.
The side panels can be hinged sideways to aid replacement of parts.
To hinge a side panel undo and remove the three screws securing each side panel to the boiler, two at the front and one at the top.

Spark Electrode
For access, refer to section “General”. Remove the spark plug lead, earth lead and two securing screws. Withdraw the spark electrode carefully from the combustion chamber, see diagram 3 page 55.

Igniter Unit
For access, refer to section “General”. Remove ignition lead and electrical connections then remove igniter unit by removing two securing screws, see diagram 1.

Ignition Lead
For access, refer to section “General”. Pull the spark plug style connector off the spark electrode and the spade connector connected to the igniter unit, see diagram 1.

Gas Valve
For access, refer to section “General”. Remove the electrical plug from the gas valve, see diagram 2.
Refer to pages 54 and 55 for removal of the fan, gas valve and burner assembly.
Before removing the gas valve note its position on the fan.
Remove the three securing screws, which fix the gas valve and plastic swirl plate to the venturi on the fan, see diagram 3.
Remove the gas valve.

When re-fitting the gas valve take care as it can be fitted more than one way.
After re-fitting check the combustion CO2 and adjust if necessary, see page 52-53.
After assembly test for gas soundness and purge in accordance with the current issue of BS6891 or in IE, the current edition of I.S.813 “Domestic Gas Installations”.

Fan
For access, refer to section “General”. Refer to pages 54 and 55 for removal of the fan, gas valve and burner assembly.
Remove the gas valve. Remove the venturi plate secured with three screws, see diagram 3.
Remove the two screws securing the fan to the gas manifold, see diagram 4, check the gasket and replace if necessary.

Burner
For access, refer to section “General”. Refer to pages 54 and 55 for removal of the fan, gas valve and burner assembly.
Remove the four screws that secure the burner, see diagram 5.
NOTE: THE BURNER WILL REQUIRE A NEW GASKET WHEN REFITTED.

Front Insulation
For access, refer to section “General”. Refer to pages 56 and 57 for removal of the fan, gas valve and burner assembly.
Remove burner as previous section. Remove spark electrode.

NOTE: THE BURNER WILL REQUIRE A NEW GASKET WHEN REFITTED.

Rear Insulation
For access, refer to section “General”. Refer to pages 54 and 55 for removal of the fan, gas valve and burner assembly.
Remove securing screw and washer in the centre of the insulation and withdraw insulation, see diagram 6.

Viewing Window
For access, refer to section “General”. Refer to diagram 7.
Expansion Vessel
For access, refer to section “General”. Refer to page 57 and drain the boiler heating circuit. Undo the coupling at the base of the vessel, see diagram 8. While holding the vessel remove the securing bolt on the top panel of the boiler. Remove upper support bracket. Lift the vessel up, draw bottom out to the left, lower and remove. Fit the replacement unit. Fit a new gasket between the expansion vessel and coupling. Refill, vent and pressurise the boiler. Check for leaks.

Heat Exchanger
For access, refer to section “General”. Refer to pages 54 and 55 for removal of the fan, gas valve and burner assembly. Drain the boiler heating circuit, and the hot water circuit see page 57. Remove the clip securing the clear condense pipe to heat exchanger. Pull to remove the clear condense pipe out of the bottom of the heat exchanger. Undo the two nuts of the flow and return pipes from the heat exchanger. Move the pipes away from the heat exchanger. Loosen the three heat exchanger securing screws and clamps (two at the top and one at the bottom) to remove the heat exchanger, see diagram 9. CAUTION: There will be water in the heat exchanger. Remove condense pipe connector from bottom of heat exchanger. Carefully ease heat exchanger out.

Flue Hood
For access, refer to section “General”. Remove heat exchanger as per previous section. Remove the two securing screws and pull the flue hood down and away from the flue hood bracket and flue elbow, see diagram 10.

Diverter Valve Motor
For access, refer to section “General”. Refer to diagram 11. Remove the electrical plug. Unscrew the retaining nut. Remove the diverter valve motor.

Pump (head only)
For access, refer to section “General”. Drain the boiler heating circuit.

Safety Discharge Valve
For access, refer to section “General”. Drain the boiler heating circuit. Refer to diagram 13. Undo the safety discharge valve union and remove from the pipework. Remove the securing clip and withdraw the safety discharge valve. Fit new ‘O’ ring. Refill, vent and pressurise the boiler. Check for leaks.

Domestic Hot Water Thermistor
For access, refer to section “General”. Drain the boiler domestic hot water circuit. Refer to diagram 14. Disconnect the domestic hot water thermistor electrical connections. Remove retaining clip. Withdraw domestic hot water thermistor from its housing. Note: When reconnecting electrical connections, polarity is not important. Fit new ‘O’ ring. Carry out a functional test of the controls.

Heating Flow Thermistor
For access, refer to section “General”. Refer to diagram 15. Remove the electrical connections from the thermistor. Remove the retaining clip from the flow pipe. Note: When reconnecting the polarity of the wiring to thermistors is unimportant.
Replacement of parts

Heating Return Thermistor
For access, refer to section "General".
Refer to diagram 15.
Remove the electrical connections from the
thermistor.
Remove the retaining clip from the flow pipe.
Note: When reconnecting the polarity of the wiring to
thermistors is unimportant.

Overheat Thermostat
For access, refer to section "General".
Refer to diagram 15.
Remove the electrical connections from the
overheat thermostat.
Remove the retaining clip from the flow pipe.
Remove the overheat thermostat from the
retaining clip.
NOTE: When fitting new thermostat, please ensure
that it is located correctly onto the flat area of the pipe
and the retaining clip is secure.

Automatic Air Vent
For access, refer to section "General".
Drain the boiler heating circuit.
Refer to diagram 16.
Remove the retaining clip and remove the automatic
air vent.
Fit the new automatic air

Low Water Pressure
Sensor
For access, refer to section "General".
Drain the boiler heating circuit.
Refer to diagram 18.
Disconnect the electrical lead by pulling up retaining
tab to withdraw the lead plug.
Remove the retaining clip to
remove the low water
pressure sensor.
Fit new 'O' ring.
Fit the new low water
pressure sensor. Refill vent
and pressurise the boiler.
Check for leaks.

Bypass Valve
For access, refer to section "General".
Drain the boiler heating circuit.
Refer to diagram 19.
Remove the retaining clip to
remove the bypass valve.
Fit new 'O' rings.
Replace the bypass valve, refill, vent and pressurise the
boiler.
Adjust the bypass as described pages 22-23.
Check for leaks.

Filling Loop Valve
For access, refer to section "General".
Drain the boiler hot water circuit.
Refer to diagram 20.
Remove the clip securing the filling loop valve to the
domestic water filter housing. Disengage by
pulling forward.
Remove the clip securing the filling loop to the filling
loop valve.
Remove the filling loop valve from the filling loop.
Fit new 'O' rings.
After replacing the filling

Flow Sensor
For access, refer to section "General".
Drain down the hot water

Diagram 15

Diagram 16

Diagram 17

Diagram 18

Diagram 19

Diagram 20

boat from the cold water inlet.

• Pull out slotted metal clip
securing filling system tap
holding, swing the tap
forwards.
• Pull out the two slotted
metal clips retaining the
domestic water inlet filter
housing.
• Remove domestic water
inlet filter housing.
• Remove electrical
connections from water flow
sensor.
• Pull off slotted metal clip
and remove water flow
sensor.

Diagram 15

Diagram 16

Diagram 17

Diagram 18

Diagram 19

Diagram 20

boat from the cold water inlet.

• Undo the union nut on the
cold water inlet isolating
valve.
• Pull out slotted metal clip
securing filling system tap
holding, swing the tap
forwards.
• Pull out the two slotted
metal clips retaining the
domestic water inlet filter
housing.
• Remove domestic water
inlet filter housing.
• Remove electrical
connections from water flow
sensor.
• Pull off slotted metal clip
and remove water flow
sensor.

Diagram 15

Diagram 16

Diagram 17

Diagram 18

Diagram 19

Diagram 20

boat from the cold water inlet.

• Undo the union nut on the
cold water inlet isolating
valve.
• Pull out slotted metal clip
securing filling system tap
holding, swing the tap
forwards.
• Pull out the two slotted
metal clips retaining the
domestic water inlet filter
housing.
• Remove domestic water
inlet filter housing.
• Remove electrical
connections from water flow
sensor.
• Pull off slotted metal clip
and remove water flow
sensor.
Replacement of parts

**Reduced Pressure Zone Valve**
For access, refer to section “General”.
Refer to diagram 20.
Drain the boiler hot water circuit.
Remove the filling loop
Remove the retaining clip to remove the reduced pressure zone valve.
Fit new ‘O’ rings.
Replace the reduced pressure zone valve, refill, vent and pressurise the boiler.
Check for leaks.

**Domestic Cold Water Inlet Filter**
For access, refer to section “General”.
Refer to page 56.
Fit new ‘O’ rings.

**Central Heating Filter**
Refer to section page 56.
Fit new ‘O’ rings.

**Heating Circuit Drain Point**
Refer to page 57 to drain the boiler heating circuit.
Refer to diagram 21.
Remove the retaining clip to remove the drain point.
Fit new ‘O’ rings.
Replace the drain point, refill, vent and pressurise the boiler.
Check for leaks.

**Inner Casing Panel Seal**
For access, refer to section “General”.
Remove the inner casing panel.
To replace remove the old seal, thoroughly clean the casing surfaces. Fit the new seal, it is supplied to the correct length.
Reft the inner casing panel.
NOTE: Ensure the seal is fitted correctly giving an airtight joint.

**Condense Drain**
For access, refer to section “General”.
Refer to diagram 22.
Remove the clips securing the flexible tubes to the siphon adapter by twisting the clips slightly to disengage the clip jaws from each other.
Remove black flexible tubes from siphon adapter.
Lift off the siphon adapter.
Remove the drain connection downstream of the condense trap.
Remove the two condense trap securing screws. Lift up and carefully remove the condense trap taking care not to spill any water which may be left in the unit. As the unit is lifted the flexible pipe on the outlet.
Remove the cap at the base of the condense trap.
Remove any solids found.

**Domestic safety valve (10 bar BLUE)**, refer to diagram 24.
For access, refer to section “General”.
Drain down the hot water circuit only.
Undo discharge pipe union nut.
Pull out slotted metal clip from valve body and remove valve.

**Micro accumulator vessel thermistor**, refer to diagram 25.
For access, refer to section “General”.
For this operation the boiler must be removed from the wall.
IMPORTANT: With regards to the manual handling operations, 1992 regulations, the following operation exceeds the recommended weight for one man lift.
When ordering spare parts, quote the part number and description, stating the appliance model number and serial number from the data badge.

**Short parts list**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Part No.</th>
<th>G.C. No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Central heating thermistor</td>
<td>S5739800</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Fan</td>
<td>S152000</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Domestic water flow sensor</td>
<td>S5720200</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Printed circuit board - Main</td>
<td>S1040000</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Pump head</td>
<td>S1024000</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>System water pressure sensor</td>
<td>S5720500</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Gas control valve</td>
<td>S1043900</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Overheat thermostat</td>
<td>S1040100</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Three way valve</td>
<td>S1025500</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Pressure relief valve</td>
<td>S1006700</td>
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</tr>
<tr>
<td>11</td>
<td>Heat exchanger</td>
<td>S1025000</td>
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</tr>
<tr>
<td>12</td>
<td>Burner</td>
<td>S1027300</td>
<td></td>
</tr>
</tbody>
</table>

Because of our constant endeavour for improvement, details may vary slightly from those shown in these instructions.
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- FAST response
- Reliable and efficient repairs
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