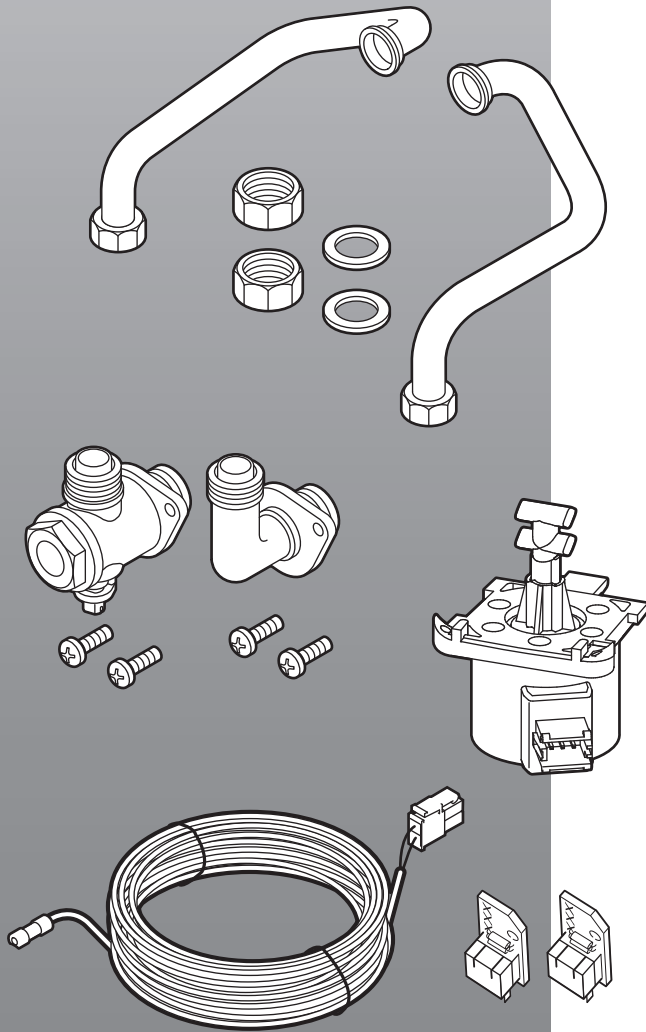


# INSTALLATION, COMMISSIONING AND SERVICING INSTRUCTIONS

## INTEGRAL DIVERTER VALVE

FOR WALL HUNG RSF GAS-FIRED CONDENSING SYSTEM BOILER  
GREENSTAR 30/35 CDI CLASSIC SYSTEM



6 720 612 476-00.10

UK/IE

This accessory is for use with:

30CDi GC number 41-406-37

30CDi GC number 41-406-38

35CDi GC number 41-406-39

35CDi GC number 41-406-40




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## 1 KEY TO SYMBOLS AND SAFETY PRECAUTIONS

### 1.1 KEY TO SYMBOLS

#### WARNINGS




Warnings in this document are identified by a warning triangle printed against a grey background. Keywords at the start of a warning indicate the type and seriousness of the ensuing risk if measures to prevent the risk are not taken.

The following keywords are defined and can be used in this document:

- **NOTICE** indicates a situation that could result in damage to property or equipment.
- **CAUTION** indicates a situation that could result in minor to medium injury.
- **WARNING** indicates a situation that could result in severe injury or death.
- **DANGER** indicates a situation that will result in severe injury or death.

#### IMPORTANT INFORMATION



This symbol indicates important information where there is no risk to people or property.

#### ADDITIONAL SYMBOLS

Symbol	Explanation
▶	Step in an action sequence
→	Cross-reference to another part of the document
•	List entry
–	List entry (second level)

Table 1

## PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION.

These instructions are applicable to the Worcester appliance model(s) stated on the front cover of this manual only and must not be used with any other make or model of appliance.

These instructions apply in the UK and Ireland only and must be followed except for any statutory obligations.

This accessory must be installed by a **GAS SAFE** registered, competent person. Failure to install correctly could lead to prosecution.

If you are in any doubt, contact the Worcester Technical helpline (0330 123 3366).

Please leave these instructions with the completed BENCHMARK CHECKLIST, (or a certificate confirming compliance with IS 813, Eire only) and the user manual with the owner or at the gas meter after installation or servicing.

Distance learning and training courses are available from Worcester.

Table 2

## 1.2 SAFETY PRECAUTIONS

### IF YOU SMELL GAS

A gas leak could potentially cause an explosion. If you smell gas, observe the following rules.

- ▶ Prevent flames or sparks:
  - Do not smoke, use a lighter or strike matches.
  - Do not operate any electrical switches or unplug any equipment.
  - Do not use the telephone or ring doorbells.
- ▶ Turn off the gas at the meter.
- ▶ Open windows and doors.
- ▶ Warn your neighbours and leave the building.
- ▶ Prevent anyone from entering the building.
- ▶ Well away from the building: call the National Gas Emergency Service on 0800 111 999.

### BOILER OPERATION:

**The boiler must only be operated by a responsible adult who has been instructed in, understands and is aware of the boiler's operating conditions and effects.**



Benchmark places responsibilities on both manufacturers and installers. The purpose is to ensure that customers are provided with the correct

equipment for their needs, that it is installed, commissioned and serviced in accordance with the manufacturer's instructions by competent persons and that it meets the requirements of the appropriate Building Regulations. The Benchmark Checklist can be used to demonstrate compliance with Building Regulations and should be provided to the customer for future reference.

Installers are required to carry out installation, commissioning and servicing work in accordance with the Benchmark Code of Practice which is available from the Heating and Hotwater Industry Council who manage and promote the scheme.

Visit [centralheating.co.uk](http://centralheating.co.uk) for more information.

### HEALTH AND SAFETY

The appliance contains no asbestos and no substances have been used in the construction process that contravene the COSHH Regulations (Control of Substances Hazardous to Health Regulations 1988).

### COMBUSTIBLE AND CORROSIVE MATERIALS:

Do not store or use any combustible materials (paper, thinners, paints etc.) inside or within the vicinity of the boiler.

Chemically aggressive substances can corrode the appliance and invalidate any warranty.

**FITTING & MODIFICATIONS**

Fitting the appliance and any controls to the appliance may only be carried out by a competent engineer in accordance with the current Gas Safety (Installation and Use) Regulations.

Flue systems must not be modified in any way other than as described in the fitting instructions. Any misuse or unauthorised modifications to the appliance, flue or associated components and systems could invalidate the warranty. The manufacturer accepts no liability arising from any such actions, excluding statutory rights.

**SERVICING**

Advise the user to have the system serviced annually by a competent, qualified Gas Safe registered engineer. Approved spares must be used to help maintain the economy, safety and reliability of the appliance.

**IMPORTANT**

The service engineer must complete the Service Record on the Benchmark Checklist after each service.

**INSTALLATION REGULATIONS**

Current Gas Safety (Installation & Use) Regulations:

All gas appliances must be installed by a competent person in accordance with the above regulations. Failure to install appliances correctly could lead to prosecution.

The appliance must be installed in accordance with, and comply to, the current: Gas Safety Regulations, IEE Regulations, Building Regulations, Building Standards (Scotland) (Consolidation), Building Regulations (Northern Ireland), local water by-laws, Health & Safety Document 635 (The Electricity at Work Regulations 1989) and any other local requirements.

**British Standards:**

Where no specific instruction is given, reference should be made to the relevant British Standard codes of Practice.

BS7074:1 - Code of practice for domestic and hot water supply

BS6891 - Installation of low pressure gas pipe work up to 28mm (R1)

BS5546 - Installation of gas hot water supplies for domestic purposes

EN12828 - Central heating for domestic premises

BS5440:1 - Flues and ventilation for gas appliances of rated heating not exceeding 70kW (net): Flues

BS5440:2 - Flues and ventilation for gas appliances of rated heating not exceeding 70kW (net): Air Supply

BS7593 - Treatment of water in domestic hot water central heating systems

BS6798 - Installation of gas fired boilers of rated input up to 70kW (net)

**Irish Standards**

The relevant Irish standards should be followed, including:

- ECTI National rules for electrical installations
- IS 813:2002 for Domestic Gas Installations.

**LPG Installations**

An appliance using L.P.G. must not be installed in a room or internal space below ground level unless one side of the building is open to the ground.

**Timber framed building:**

Where the boiler is to be fitted to a timber framed building the guidelines laid down in BS5440: Part 1 and IGE "Gas Installations in Timber Frame Buildings" should be adhered to.

**Potable water:**

All seals, joints and compounds (including flux and solder) and components used as part of the secondary domestic water system must be approved by WRAS.

**Central Heating Water:**

Artificially softened water must not be used to fill the central heating system.

**2 KIT CONTENTS**

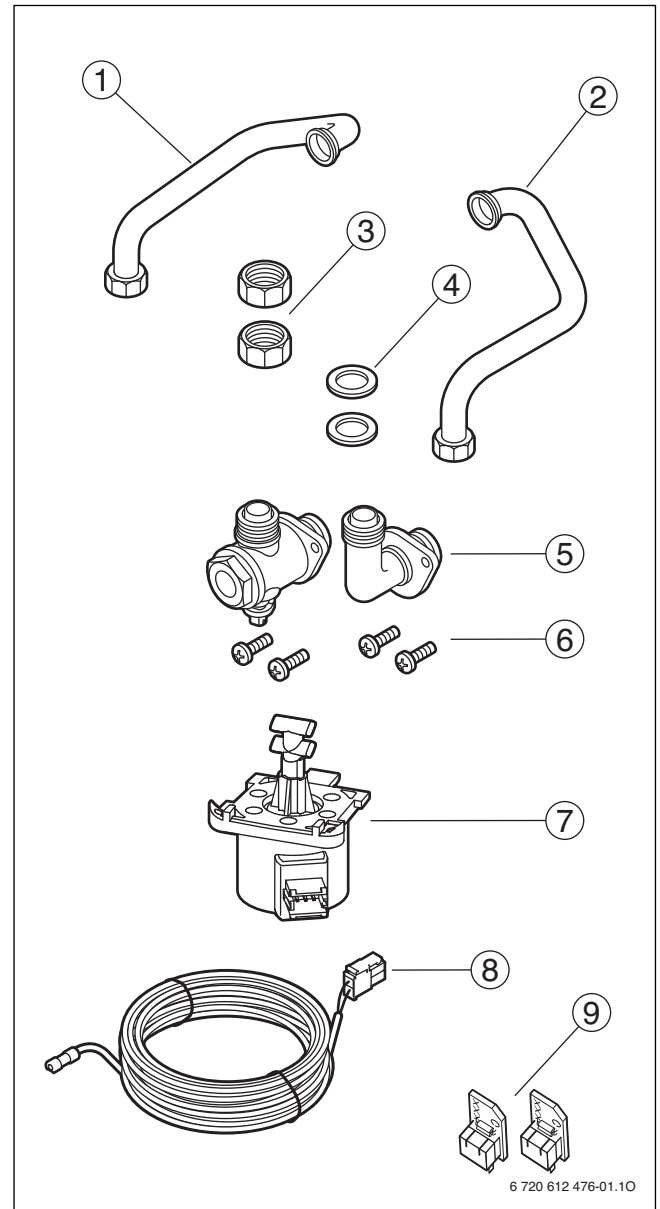


Fig. 1

- [1] 1 × copper flow pipe
- [2] 1 × copper return pipe
- [3] 2 × 15 mm compression nut
- [4] 2 × 15 mm olive
- [5] 2 × brass service valve
- [6] 4 × screw
- [7] 1 × diverter valve motor
- [8] 1 × cylinder temperature sensor with cable and connector
- [9] 2 × code plugs (Natural Gas and LPG)

### 3 BOILER CONNECTIONS



The following must be completed before the boiler is mounted on the wall.

Assembly of the internal hot water flow and return pipes to the boiler

► Using the boiler packaging as protection turn the boiler on its left hand side to facilitate assembly of the hot water return pipe.

1. Squeeze the white clip and pull down to release the control panel.
2. Pull the control panel forward until it comes to rest in service position.

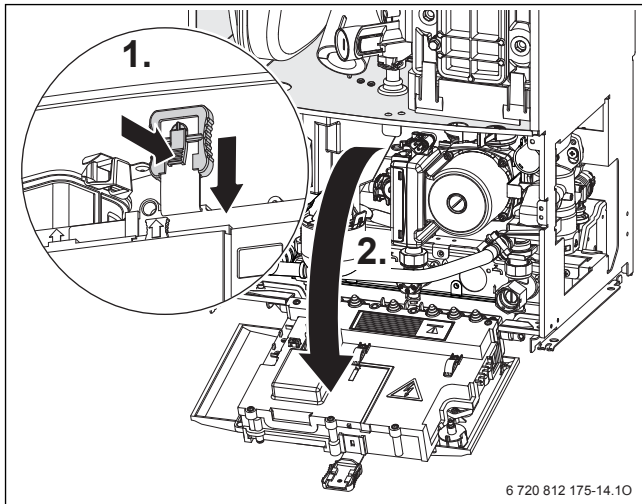


Fig. 2

► Loosen the two retaining screws (B) to free the back clamping plate on the hydraulic block (C) shown in Fig. 4.

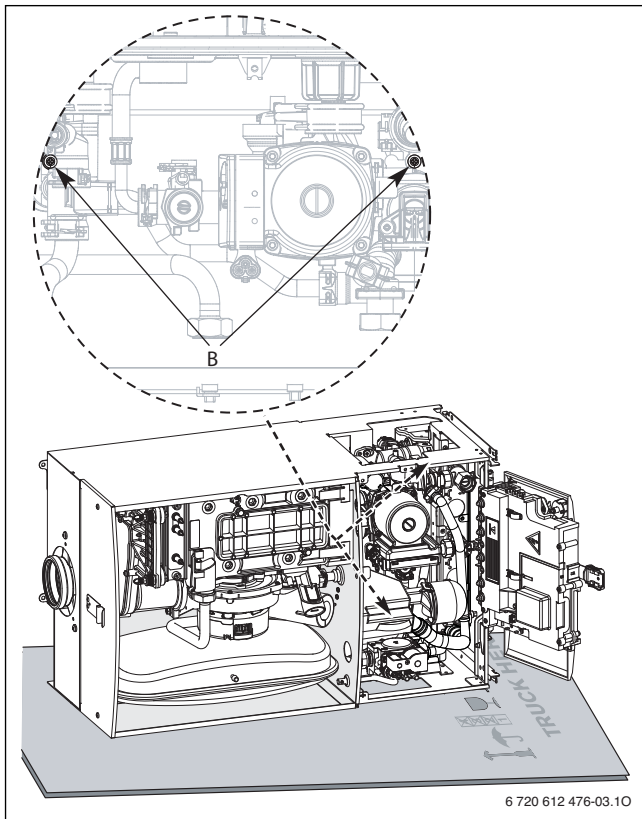


Fig. 3

► Remove the brass bung assemblies (D and E) from the hydraulic block by removing the clips and sliding them free from the flange on the clamping plate (C).

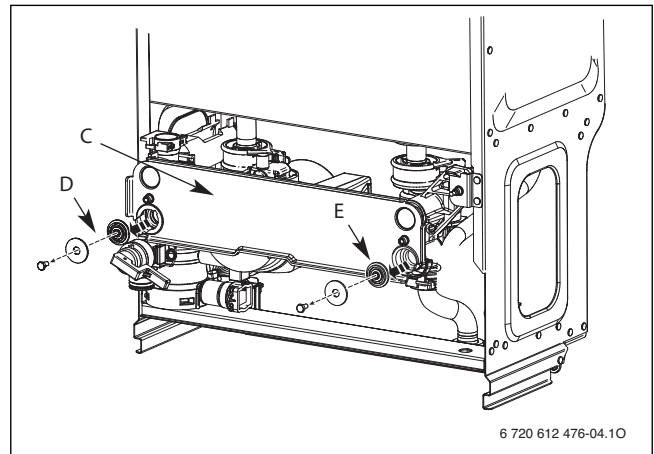


Fig. 4

► Take the copper pipe (F) from the Integral Diverter Valve Kit and feed the flat end of the pipe through the rear of the boiler as shown. Before fitting the pipe, check that the seal is in position on the plastic moulding. Slide the flat end of the pipe (G) under the flange (H) on the hydraulic block clamping plate (C) making sure that it is located correctly.

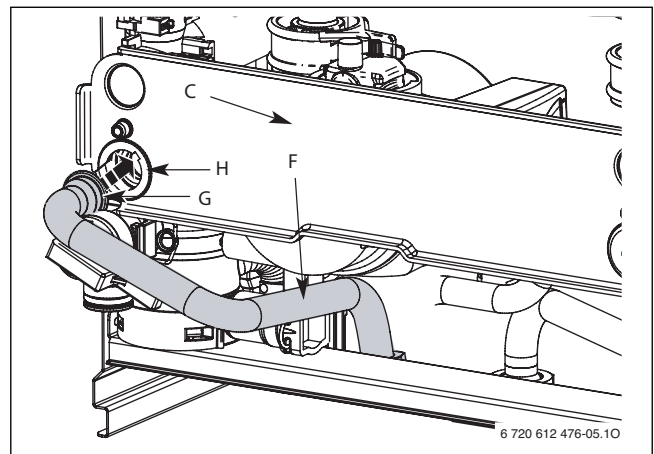


Fig. 5

► Take the copper pipe (I) from the Integral Diverter Valve Kit and feed the flat end of the pipe through the rear of the boiler as shown. Before fitting the pipe, check that the seal is in position on the plastic moulding. Slide the flat end of the pipe (G) under the flange (H) on the hydraulic block clamping plate (C) making sure that it is located correctly.

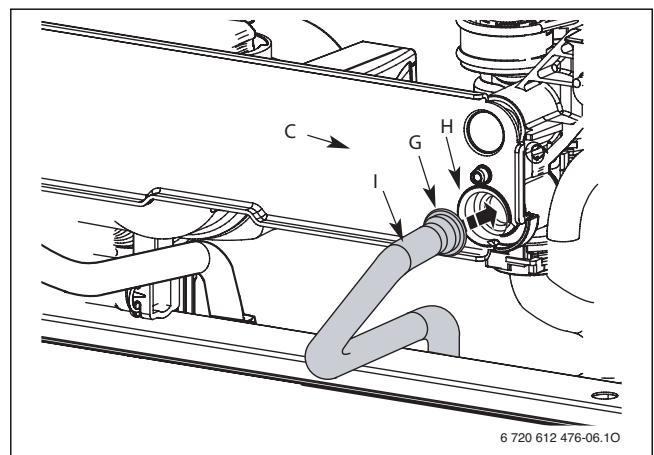


Fig. 6

- ▶ Re-tighten the clamping plate by re-tightening the two screws (B) as shown in Fig. 3.
- On completion the pipe assembly should look as shown in Fig. 7.

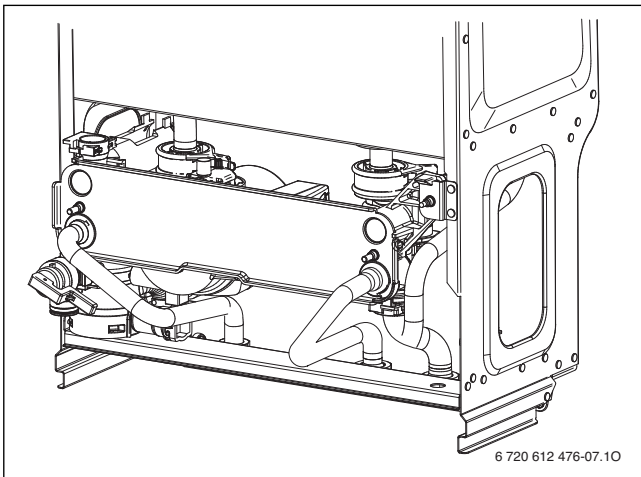


Fig. 7

- ▶ Assemble the service valves (J) and (K) included in the Optional Diverter Valve Kit and secure to the wall mounting frame as shown with two screws (L) supplied each.

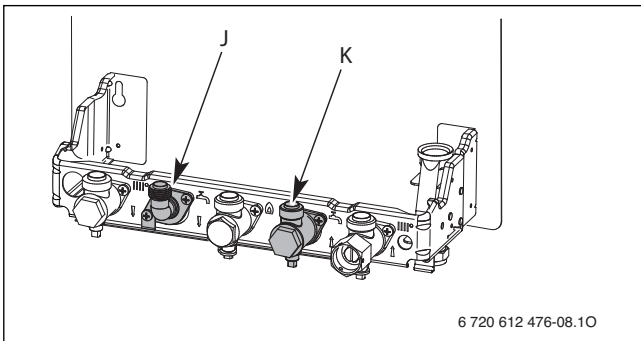


Fig. 8

#### 4 FITTING THE DIVERTER VALVE



**DANGER: Explosion!**

- ▶ Isolate the mains gas supply before starting any work and observe all relevant safety precautions.

- ▶ Remove the diverter blanking plate (A) by pulling it forwards to free it from its location.

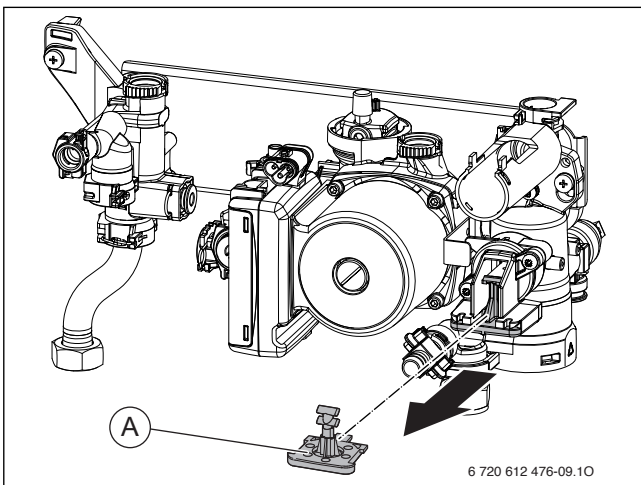


Fig. 9

- ▶ Replace with the diverter valve motor (B) by pushing it in until it clicks securely into place.

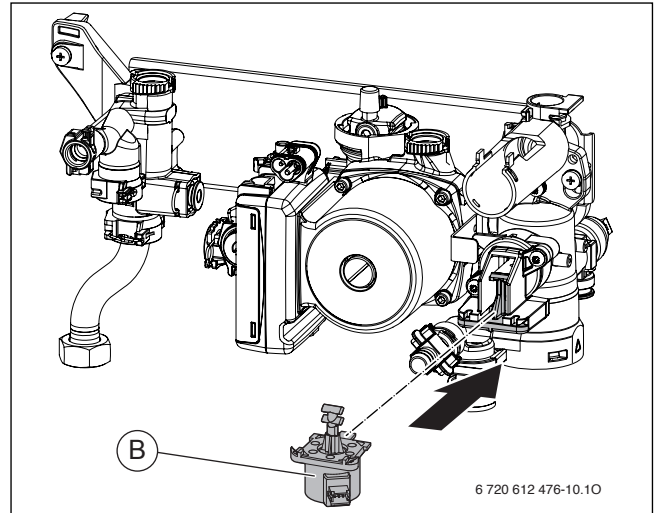


Fig. 10

- ▶ Connect the electrical harness situated on the control panel to the diverter valve motor.

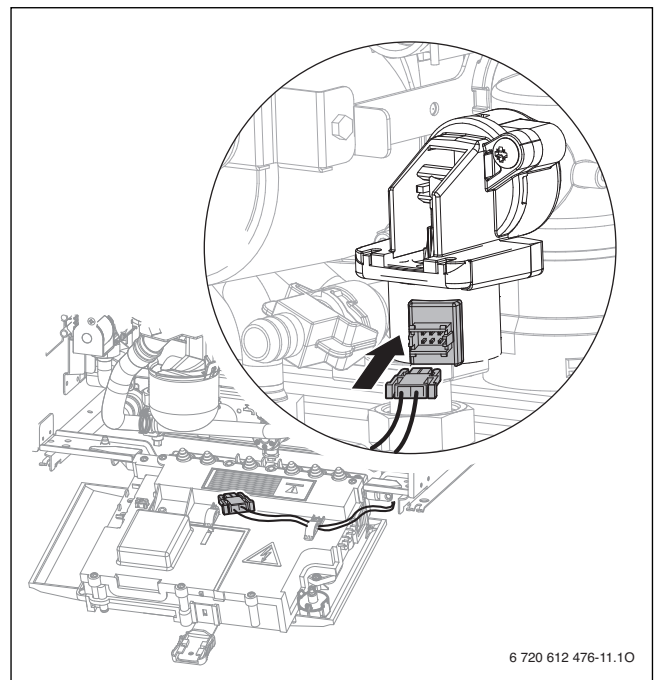


Fig. 11

- ▶ Unscrew the 3 screws on the back of the control panel and pull off the connections cover.

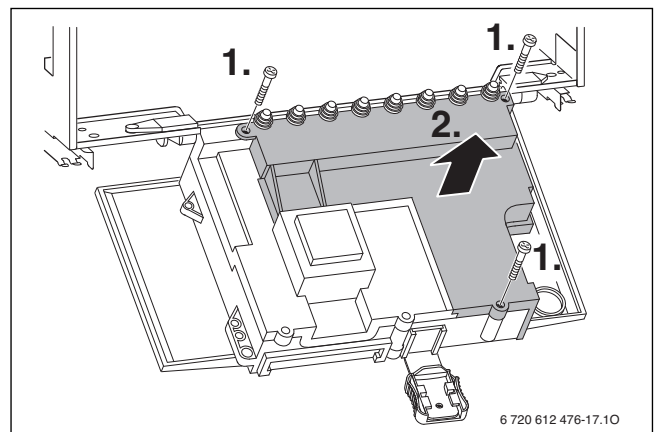


Fig. 12

- ▶ Remove the code plug (see Fig. 13) from the control panel and cut the tie to the boiler chassis so that it can be completely discarded and replace with the correct one according to following table:

Gas type	Code plug No.
Natural Gas (30 kW)	1002
LPG (30 kW)	1003
Natural Gas (35 kW)	1022
LPG (35 kW)	1023

Table 3

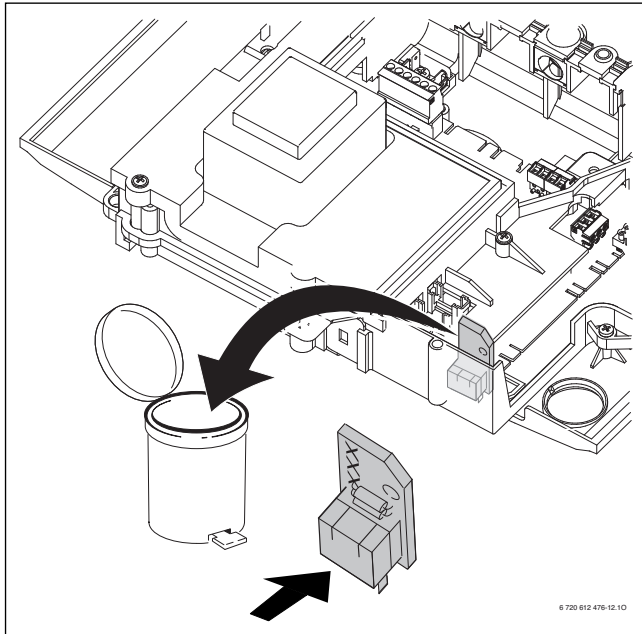


Fig. 13

- ▶ Make sure that the new code plug is secured to the boiler chassis.
- Refit control panel cover:
- ▶ Refit the connections cover on the control panel and secure with the 3 screws.
  - ▶ Bring the control panel to its upper position.

## 5 FITTING THE CYLINDER TEMPERATURE SENSOR

The cylinder temperature sensor is used to give the boiler the actual temperature of the water in the cylinder. Therefore it has to be mounted under the thermal insulation of the cylinder.



If using a Worcester Greenstore cylinder there is a sensor pocket supplied and no insulation has to be altered (→ Fig. 17).

- ▶ Mark a hole of approx. 5 × 10 cm at the desired sensor position (see instructions of cylinder).

- ▶ Cut and pull out the insulation.

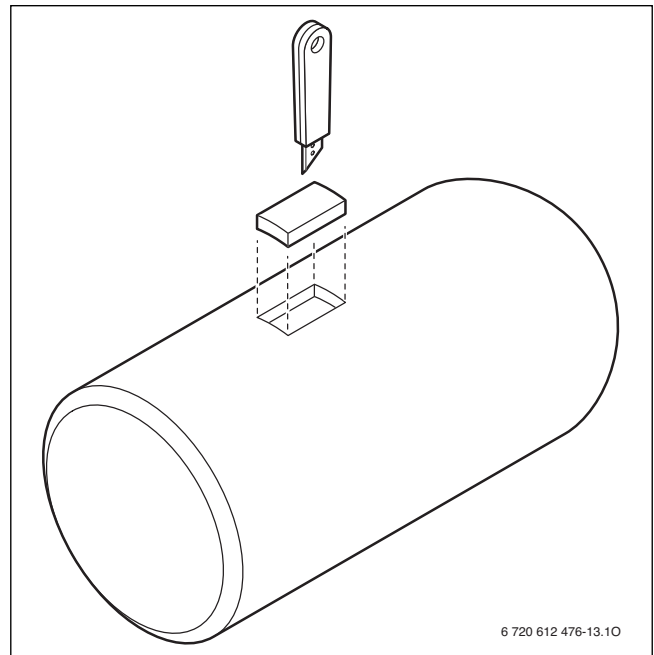


Fig. 14

- ▶ Coat sensor with heat conductive paste and place in the hole.

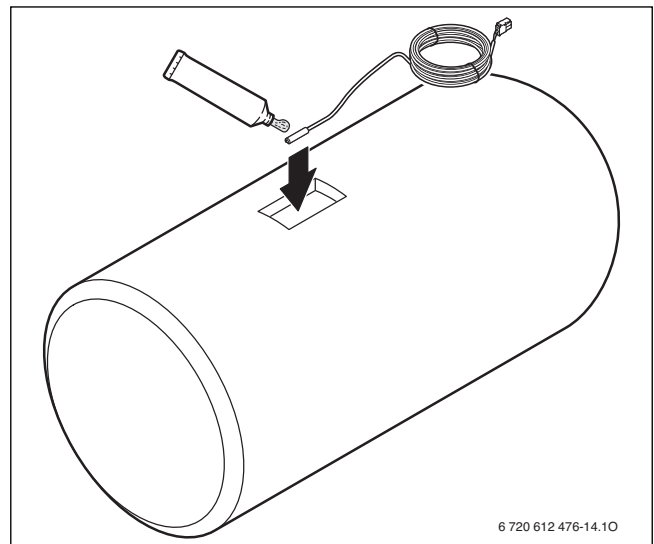


Fig. 15

- ▶ Replace the insulation and fix with a cloth tape.

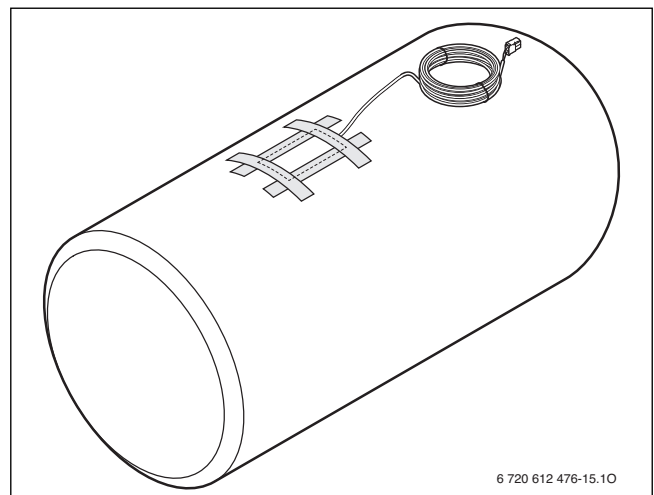


Fig. 16

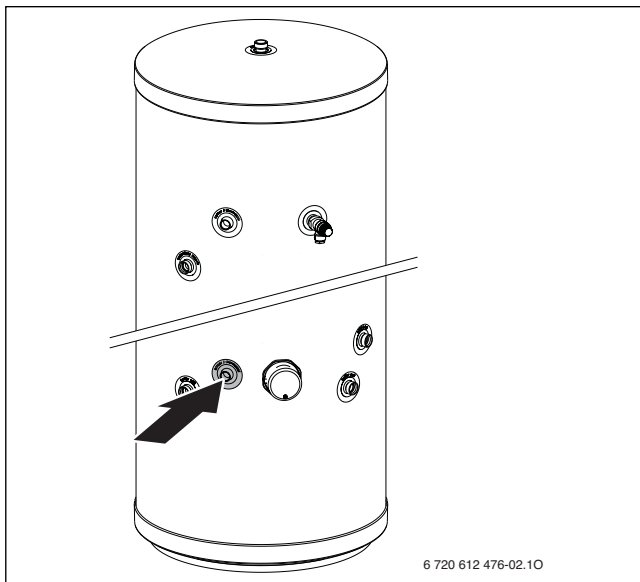


Fig. 17 Position of sensor pocket on a Worcester Greenstore cylinder (see installation manual supplied with Worcester Greenstore cylinder for more details)

## 6 ELECTRICAL CONNECTION OF THE SENSOR

**WARNING:** Electric shock!

- ▶ Isolate the mains electricity supply before starting any work and observe all relevant safety precautions.

**NOTICE:** Short circuit!

- ▶ When connecting the cables ensure that no cable pieces fall into the Heatronic.

The cylinder temperature sensor is used to give the boiler the actual temperature of the water in the cylinder.

**i** In case the cylinder to be used with a volt-free cylinder stat the cylinder temperature sensor must not be mounted.

Access to electrical connections:

- ▶ Remove boiler casing to access control panel.
1. Squeeze the white clip and pull down to release the control panel.
  2. Pull the control panel forward until it comes to rest in service position.

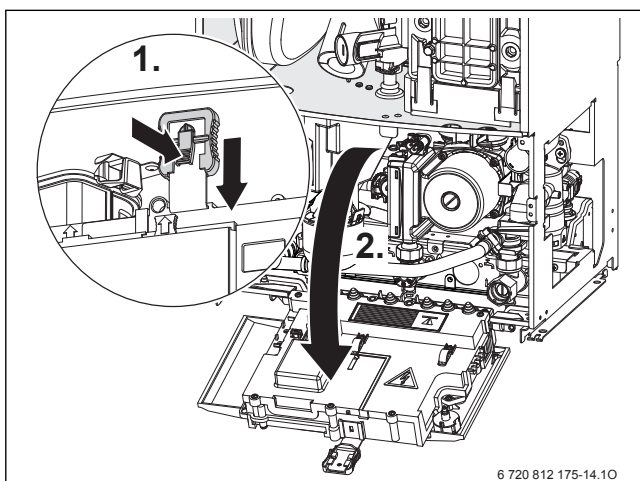


Fig. 18

- ▶ Unscrew the 3 screws on the back of the control panel and pull off the connections cover.

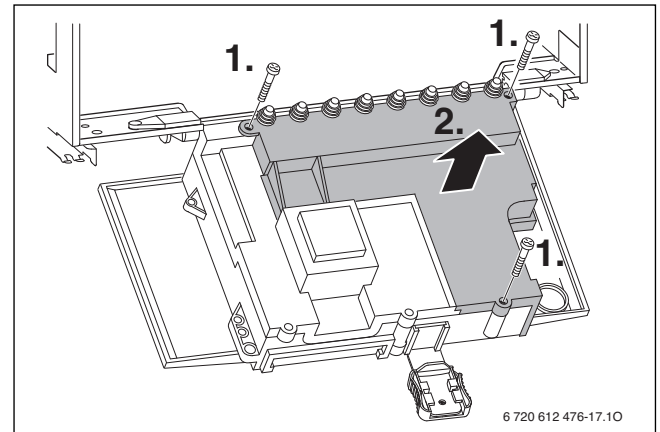


Fig. 19

- ▶ Snap out the plastic tongue and insert the cable.
- ▶ Insert the plug on the PCB ST15.

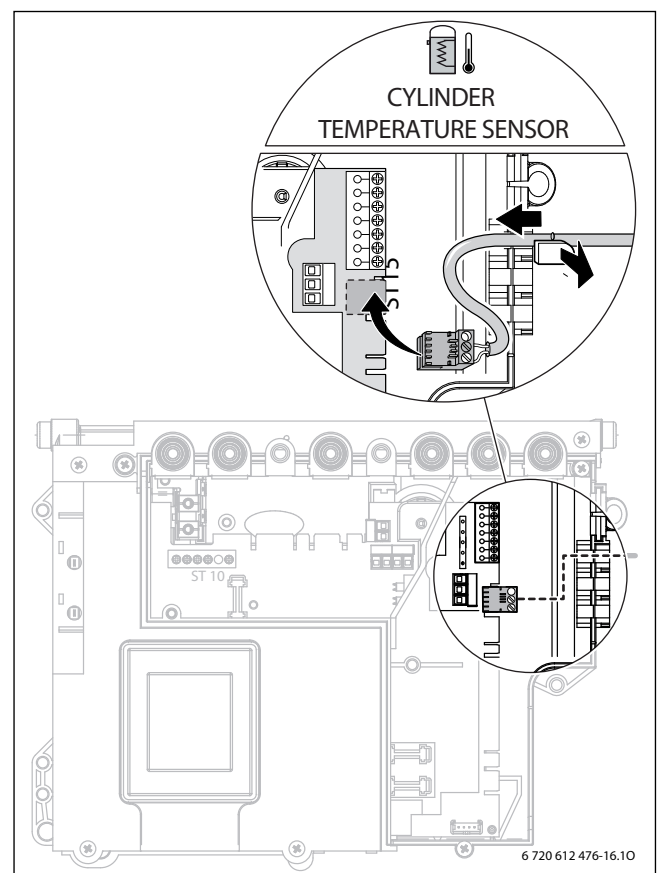


Fig. 20

**i** If it is necessary to extend the cable to the tank sensor then a cable with a conductor size of not less than 1.5 mm<sup>2</sup> must be used. Connections must be protected against short circuiting and water.

Refit control panel cover:

- ▶ Refit the connections cover on the control panel and secure with the 3 screws.
- ▶ Bring the control panel to its upper position.

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