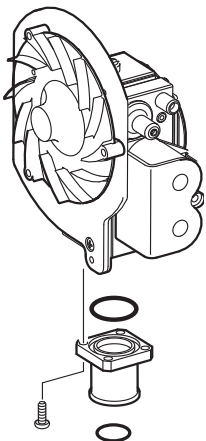


GAS VALVE(DUNGS)

IMPORTANT NOTES

THESE INSTRUCTIONS SUPERCEDE THE GAS VALVE SETTING PROCEDURE CONTAINED WITHIN THE ORIGINAL APPLIANCE LITERATURE.

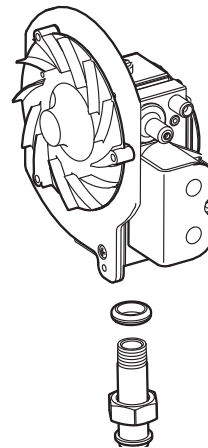
**If the burner door is removed during the gas valve replacement a new door seal must be fitted.
Burner Door Seal kit - Part No. 801635**



MODEL

24 & 30 ultracom cx
24 & 30 ultracom cxi
18 & 30 ultracom sxi
18 & 30 sxi
24 & 30cxi

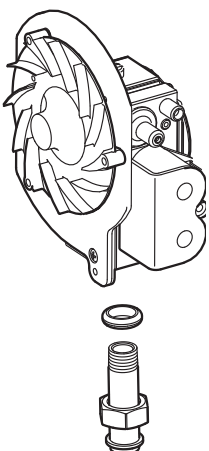
KIT Pt. No. 2000802664
6mm white scroll incl.
Brass Flange adaptor, 4
off screws, 2 "O" rings



MODEL

12 – 30 hxi
12 – 30 ultracom hxi

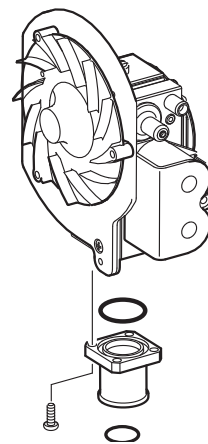
KIT Pt. No 2000802442
6mm white scroll
incl. Brass liner
and grommet



MODEL

38 hxi
38 ultracom hxi
BG330

KIT Pt. No 2000802452
12mm grey scroll
incl. Brass liner
and grommet



MODEL

38 cxi
38 ultracom cxi
Xtramax HE

KIT Pt. No. 0020018823
12mm grey scroll incl.
Brass Flange adaptor,
4 off screws, 2 "O" rings

Technical Helpline: 01773 828300

Glow-worm, Nottingham Road, Belper, Derbyshire. DE56 1JT
www.glow-worm.co.uk

Requirements

It is the Law that any replacement of parts is carried out by a competent person approved at the time by the Health and Safety Executive.

Before commencing with the replacement of a part the boiler should be isolated from the electrical supply and the gas supply should be turned off at the gas isolation valve.

When replacing a part, 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 Glow-worm.

After electrical connections have been made, checks to the earth continuity, polarity, short circuit and resistance to earth must be repeated using a suitable multimeter.

Unless stated otherwise, parts are replaced in the reverse order to their removal.

After replacing these parts you MUST always test for gas soundness and carry out functional test of the controls and check the following:

General Inspection

After the replacement of a part, the following must be checked.

- The integrity of the flue system and flue seals.
 - The integrity of the appliance combustion circuit and relevant seals.
 - Electrical, gas and water connections.
 - System pressure.
 - the combustion performance, operational gas inlet pressure and gas rates.
- refer to the following procedure.

ALL MODELS

Refer to the installation and servicing instructions supplied with your boiler to fit the replacement gas valve.

IMPORTANT. If the Burner Door was Removed

Fit the new combustion door seal kit fitted in accordance with the instructions provided.

Re-assembly

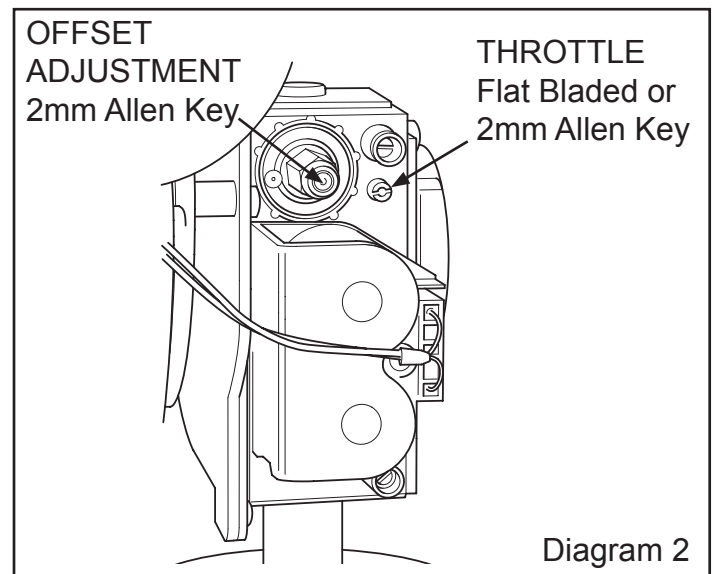
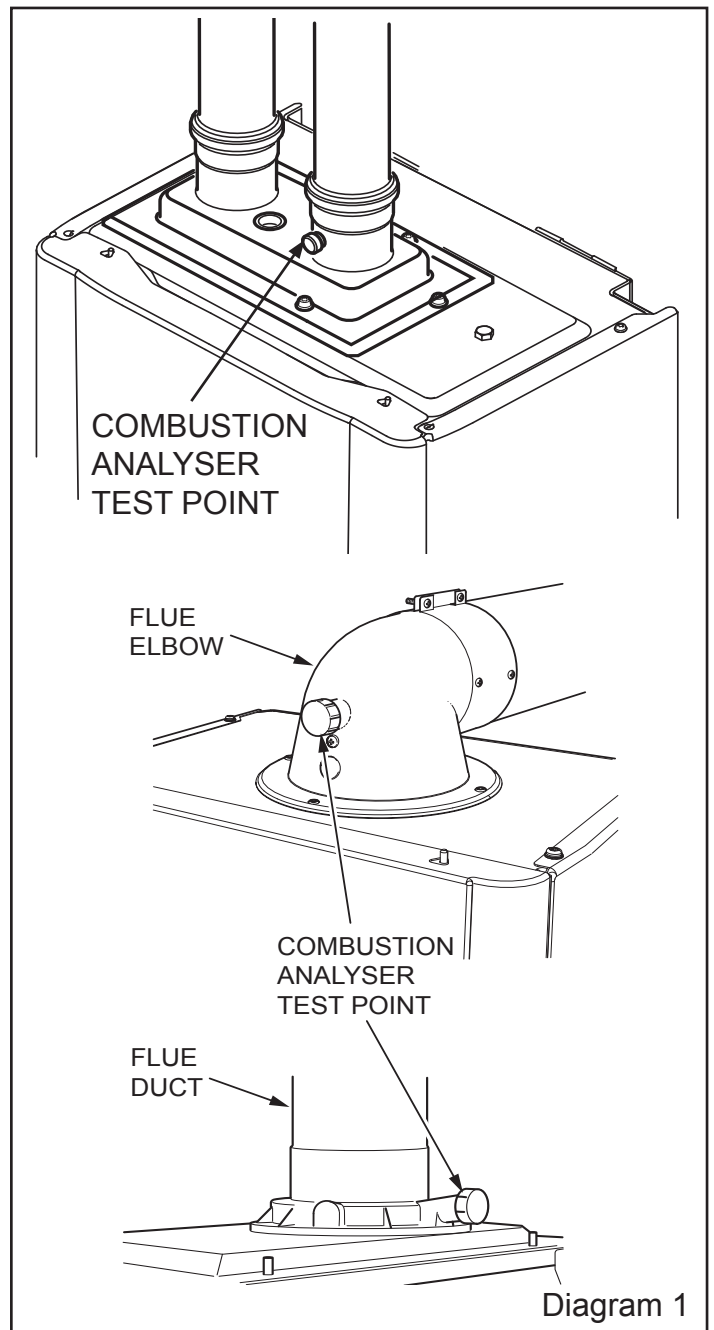
After assembly test for gas soundness and purge in accordance with the current issue of BS6891 or in IE, the current edition of I.S.813 "Domestic Gas Installations". Do not fit the inner or front case until the commissioning has been carried out as described in the following sections.

COMPETENCY TO CARRY OUT THE CHECK OF COMBUSTION PERFORMANCE

NOTE: BS 6798: 2009 Specification for installation and maintenance of gas-fired boilers of rated input not exceeding 70kW net advises that:

- The person carrying out a combustion measurement must be assessed as competent in the use of a flue gas analyser and the interpretation of the results.
- The flue gas analyser used should be one meeting the requirements of BS7927 or BS-EN50379-3 and be calibrated in accordance with the analyser manufacturers' requirements.
- Competence can be demonstrated by satisfactory completion of the CPA1 ACS assessment, which covers the use of electronic portable combustion gas analysers in accordance with BS 7967, parts 1 to 4.
- Ensure that the gas analyser is set to the correct fuel setting.

NOTE: Safe combustion can only be verified by measuring CO/CO₂ ratio. This must not exceed the value shown in the table on the back page.



LPG MODELS - ONLY

Refer to diagram 2 and turn the gas valve throttle fully clockwise, then turn the throttle anti-clockwise by the number of turns shown in the table on the back page. Please refer to the specific instruction relating to your model.

1. Turn on the electrical supply.
2. Ensure external controls are calling for heat.
3. Turn on the gas supply.
4. Turn on the appliance.
5. The boiler should fire automatically.

NOTE: LPG MODELS

If the appliance does not light & goes to lockout (F1), turn the throttle anti-clockwise 1 full turn. Reset the appliance. The appliance will (after a short delay) again attempt to fire. If necessary, repeat this procedure up to a total of 2 extra turns on the throttle screw, until the appliance lights. Several ignition attempts may be needed, to purge gas through the appliance, before a successful ignition is achieved.

ALL MODELS

With the appliance cold.
Connect a CO₂ combustion analyser to the appropriate test point, see diagrams 1.

Maximum Rate Check and Adjustment

Refer to the instructions supplied with your appliance and set the maximum rate.

Check and adjust CO₂ as necessary.

NOTE: Adjustment is made by turning the throttle an 1/8 of a turn, waiting 1 minute to allow the appliance to stabilise before checking or making further adjustments.

- Rotate the "throttle" (anti-clockwise to increase), to the required CO₂, refer to diagram 2 and the "SETTING" column in the table.
- Now proceed to check the minimum rate adjustment. Set appliance to minimum rate.

Minimum Rate Check and Adjustment

Refer to the instructions supplied with your appliance and set the minimum rate.

Check and adjust CO₂ as necessary.

Adjustment is made by turning the offset adjustment, see diagram 2.

If adjustment is necessary, proceed as follows:

NOTE: Adjustment of the CO₂ at minimum rate is very coarse and should not be adjusted more than an 1/8 of a turn at a time. Wait 1 minute to allow the appliance to stabilise before checking or making further adjustments.

- Gradually rotate the "offset adjustment" (anti-clockwise to decrease) to the required CO₂, refer to diagram 2 and the "SETTING" column in the table.

Re-Check CO₂ and check the CO/CO₂ combustion ratio.

- Re-check the maximum and minimum CO₂ values to ensure that they are within the "setting" limits in the table then check the CO/CO₂ combustion ratio does not exceed the value in the CO/CO₂ column of the table. If the CO/CO₂ setting exceeds the value in the table, a complete servicing of the appliance will be necessary, refer to the servicing instructions

Check the Gas Inlet Pressure and Gas Rate

On completion, test the gas installation for tightness using the pressure drop method and suitable leak detection fluid, purge in accordance with the above standard.

NOTE: Due to the modulating operation of the boiler and the need to check the gas inlet pressure and measure the gas rate at maximum rate, it will be necessary to force it to maximum.

Operational Gas Inlet Pressure

With ALL other gas appliances operating, check the operational supply pressure at the gas service isolation valve test point, refer to your Installation literature supplied with your appliance.

The nominal supply pressure for Natural Gas (G20) is 20mbar.

The nominal supply pressure for LPG (G31) is 37mbar.

Turn the taps and appliances off, then disconnect the pressure gauge.

Additionally the safe nominal maximum heat input of the appliance can be achieved at an inlet pressure down to 15mbar.

NOTE: The BURNER PRESSURE cannot be measured and is not used to measure the gas rate.

Gas Rate

Make sure that ALL other gas burning appliances and pilot lights are off.

Check the gas rate using the gas meter test dial and stop watch, at least 10 minutes after the burner has lit, see table below for approximate rates.

In communal or LPG installations where the gas rate cannot be measured it is acceptable to measure the combustion rate as described in the servicing section.

On completion, reset the boiler to normal operation by referring to the Installation and Servicing Instructions.

Completion

If it is not possible to achieve the required results for either the combustion or gas rates, it will be necessary to complete a full service of the appliance and then repeat the combustion check procedure. If after servicing and adjustment of the appliance the combustion values are still unacceptable and after further remedial work has been carried out, the appliance must be disconnected until the CO/CO₂ ratio is acceptable. Advice can be sought from the Glow-worm Technical Helpline.

% CO₂ TABLE

Models	SETTING Nat. Gas G20 - Case Off	SETTING Propane G31 - Case Off	Throttle turns	CO/CO ₂
Glow-worm 24cxi	9.1%CO ₂ (+0.2% -0.5%)	N/A	N/A	N/A
Glow-worm 30cxi	9.1%CO ₂ (+0.2% -0.5%)	10.5%CO ₂ (+0.2% -0.2%)	5½	0.004
Glow-worm 38cxi	8.8%CO ₂ (+0.2% -0.5%)	N/A	N/A	N/A
Glow-worm 18sxi	9.1%CO ₂ (+0.2% -0.5%)	N/A	N/A	N/A
Glow-worm 30sxi	9.1%CO ₂ (+0.2% -0.5%)	10.5%CO ₂ (+0.2% -0.2%)	5½	0.004
Glow-worm 12hxi	9.1%CO ₂ (+0.2% -0.5%)	N/A	N/A	N/A
Glow-worm 15hxi	9.1%CO ₂ (+0.2% -0.5%)	N/A	N/A	N/A
Glow-worm 18hxi	9.1%CO ₂ (+0.2% -0.5%)	N/A	N/A	N/A
Glow-worm 24hxi	9.1%CO ₂ (+0.2% -0.5%)	N/A	N/A	N/A
Glow-worm 30hxi	9.1%CO ₂ (+0.2% -0.5%)	10.5%CO ₂ (+0.2% -0.2%)	5½	0.004
Glow-worm 38hxi	8.8%CO ₂ (+0.2% -0.5%)	N/A	N/A	N/A
BG 330	9.1%CO ₂ (+0.3% -0.3%)	N/A	N/A	N/A
Ultracom 24cx	9.1%CO ₂ (+0.2% -0.5%)	10.0%CO ₂ (+0.0% -0.9%)	5¼	0.004
Ultracom 30cx	9.1%CO ₂ (+0.2% -0.5%)	10.5%CO ₂ (+0.3% -0.7%)	5½	0.004
Ultracom 24cxi	9.1%CO ₂ (+0.2% -0.5%)	10.0%CO ₂ (+0.0% -0.9%)	5½	0.004
Ultracom 30cxi	9.1%CO ₂ (+0.2% -0.5%)	10.5%CO ₂ (+0.3% -0.7%)	5½	0.004
Ultracom 38cxi	8.8%CO ₂ (+0.2% -0.5%)	9.8%CO ₂ (+0.2% -0.8%)	8	0.004
Ultracom 18sx	9.1%CO ₂ (+0.2% -0.5%)	10.1%CO ₂ (+0.0% -1.0%)	5	0.004
Ultracom 30sx	9.1%CO ₂ (+0.2% -0.5%)	10.5%CO ₂ (+0.3% -0.8%)	5½	0.004
Ultracom 12hxi	9.1%CO ₂ (+0.2% -0.5%)	10.1%CO ₂ (+0.0% -0.8%)	5	0.004
Ultracom 15hxi	9.1%CO ₂ (+0.2% -0.5%)	10.1%CO ₂ (+0.5% -0.5%)	5¼	0.004
Ultracom 18hxi	9.1%CO ₂ (+0.2% -0.5%)	10.1%CO ₂ (+0.0% -1.0%)	5	0.004
Ultracom 24hxi	9.1%CO ₂ (+0.2% -0.5%)	10.1%CO ₂ (+0.3% -0.8%)	5¼	0.004
Ultracom 30hxi	9.1%CO ₂ (+0.2% -0.5%)	10.5%CO ₂ (+0.3% -0.8%)	5½	0.004
Ultracom 38hxi	8.8%CO ₂ (+0.2% -0.5%)	9.8%CO ₂ (+0.2% -0.8%)	8	0.004
Xtramax HE	9.0%CO ₂ (+0.2% -0.2%)	10.1%CO ₂ (+0.2% -0.2%)	5½	0.004

Models	GAS RATES - Nat. Gas G20		GAS RATES - Propane G31	
	MAX m ³ /h	ft/h	MAX kg/hr	
Glow-worm 24cxi	2.24	79	-	-
Glow-worm 30cxi	2.80	99	-	-
Glow-worm 38cxi	3.6	127	-	-
Glow-worm 18sxi	2.0	71	-	-
Glow-worm 30sxi	3.0	107	-	-
Glow-worm 12hxi	1.30	46	-	-
Glow-worm 15hxi	1.63	57	-	-
Glow-worm 18hxi	2.24	99	-	-
Glow-worm 24hxi	2.46	87	-	-
Glow-worm 30hxi	2.80	99	-	-
Glow-worm 38hxi	3.6	127	-	-
BG 330	1.9	66.4	-	-
Ultracom 24cx	2.24	79	-	1.88
Ultracom 30cx	2.80	99	-	2.34
Ultracom 24cxi	2.24	79	-	1.88
Ultracom 30cxi	2.8	99	-	2.34
Ultracom 38cxi	4.06	143	-	2.98
Ultracom 18sx	2.0	71	-	0.48
Ultracom 30sx	3.0	107	-	0.48
Ultracom 12hxi	1.29	45.6	-	0.48
Ultracom 15hxi	1.61	57	-	0.48
Ultracom 18hxi	2.00	70.6	-	1.47
Ultracom 24hxi	2.58	91.1	-	1.90
Ultracom 30hxi	3.02	107	-	2.22
Ultracom 38hxi	4.06	143	-	2.98
Xtramax HE	3.62	128	-	2.66

Because of our constant endeavour for improvement, details may vary slightly from those shown in these instructions.

