

# **REALITY**

## **High-Tech**

### **coal effect gas fire**

#### **INSTALLATION AND SERVICE INSTRUCTIONS**

All instructions must be handed to the user for safe keeping.

Revision A AUGUST 1993

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## IMPORTANT NOTES

For the REALITY HIGH TECH

Manufactured under a BS 5750 Quality System accepted by BSI.

### THIS APPLIANCE IS FOR USE ON NATURAL GAS.

It is the requirements of the law that ALL Appliances & Fittings using Natural Gas are installed by a Competent person (such as one having CORGI registration) and in accordance with the Gas Safety (Installation & Use) Regulations of 1984 (as amended), the relevant British Standard installation specifications, Codes of Practice, and in accordance with the Manufacturer's Instructions. The installation shall also be carried out in accordance with the various recommendations contained in the following Regulations:

- 1) The Building Regulations issued by the Department of The Environment and the Building Standards (Scotland) (Consolidation) Regulations issued by the Scottish Development Department.
- 2) BS5871 part 3
- 3) BS5440 part 1 & 2
- 4) BS8303
- 5) BS1251
- 6) BS6891
- 7) BS6461 parts 1&2

Failure to comply with all of these Regulations could lead to Prosecution and deem the warranty invalid.

THIS APPLIANCE IS FREE OF ANY ASBESTOS MATERIALS.

## Appliance Data (Data Badge located behind control knob)

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Gas Group - N. (Natural)

Electric - Piezo spark ignition

Inlet Pressure - 20mbar

MAX Input - 8.2kW (28,000 btu/hr)

Min. Input - 3.5 kW (11,950 btu/hr)

SETTING PRESSURE in mbar's

High

18.5

COLD

mbar +/- 0.75 mbar

HOT

~~mbar +/- 0.75 mbar~~

~~Low~~

~~mbar +/- 0.25 mbar~~

~~mbar +/- 0.25 mbar~~

~~Pilot rate - 0.29 kW~~

~~Pilot injector - 0.42mm~~

Burner injector ~~Bray CAT 82 - 480~~ STEREO size 85

*Above rates achieved with the appliance fitted into a conventional 16" builders opening.*

## GENERAL INSTALLATION REQUIREMENTS

This appliance must not be installed in a room containing a bath or shower or where steam may be present. The REALITY HIGH-TECH has been designed to fit into a Builders opening conforming to BS1251. The flue must have a minimum internal diameter of 7" (175mm) and have an effective minimum height of 10ft (3 metres) from base of hearth to top of flue.

Any flue damper plates or restrictors shall be removed and no restrictor plate shall be fitted.

A Natural Draught Flue system is required and unless new, the flue or chimney should be swept prior to installation. The flue must be checked prior to installation by using a smoke pellet (or similar) to ensure proper draw and that leakage is not evident at any joints. Repair and re-test as necessary before appliance is installed.

A suitable cowl should be fitted to the termination of the flue to prevent rain and birds from getting into the flueway.

The flue must only supply the one appliance (e.g. not shared with a back boiler). There should be no other openings in the fireplace or flue except the one in which the appliance is installed and the one to allow dispersal of the flue gases to the outside air. The flue should be checked annually to ensure continued clearance of combustion products and that there is no excessive build up of soot.

## VENTILATION

Permanent ventilation (air vent) having a minimum area of 100 cm<sup>2</sup> shall be provided in the room or space containing the appliance. The air vent shall be either direct to outside air or to an adjacent room or space which itself has a vent direct to outside air of at least the same free area. The vent should be checked periodically to ensure that it is free from obstruction.

## COPONENT CHECK LIST

ONE 16" FIRE TRAY WITH CONTROLS FITTED

ONE MOULDED COMBUSTION MATRIX

TWO MOULDED, TRIPLE COAL SECTION FOR FRONT OF FIRE TRAY

ONE CERAMIC BURNER PAD

ONE BAGS OF COALS (TOTTALLING 22 COALS)

TWO INSTRUCTION BOOKS (ONE INSTALLATION, ONE USER)

ONE APPLIANCE FIXING ELBOW (8mm TO 8mm)



## SITE REQUIREMENTS

This appliance requires a **Natural Draught Flue system** which may be one of the following:

- 1) 225mm (9in) x 225mm (9in) brick or stone.
- 2) 175mm (7in) minimum diameter lined brick or stone.
- 3) 175mm (7in) minimum diameter proprietary twin wall flue complying to BS715.

The flue should be swept prior to installation and tested with a smoke pellet to ensure there are no blockages or restrictions, defective mortar joints or cracks to allow products of combustion to escape from any other source other than the flue terminal. Repair as necessary and re-test before appliance is installed.

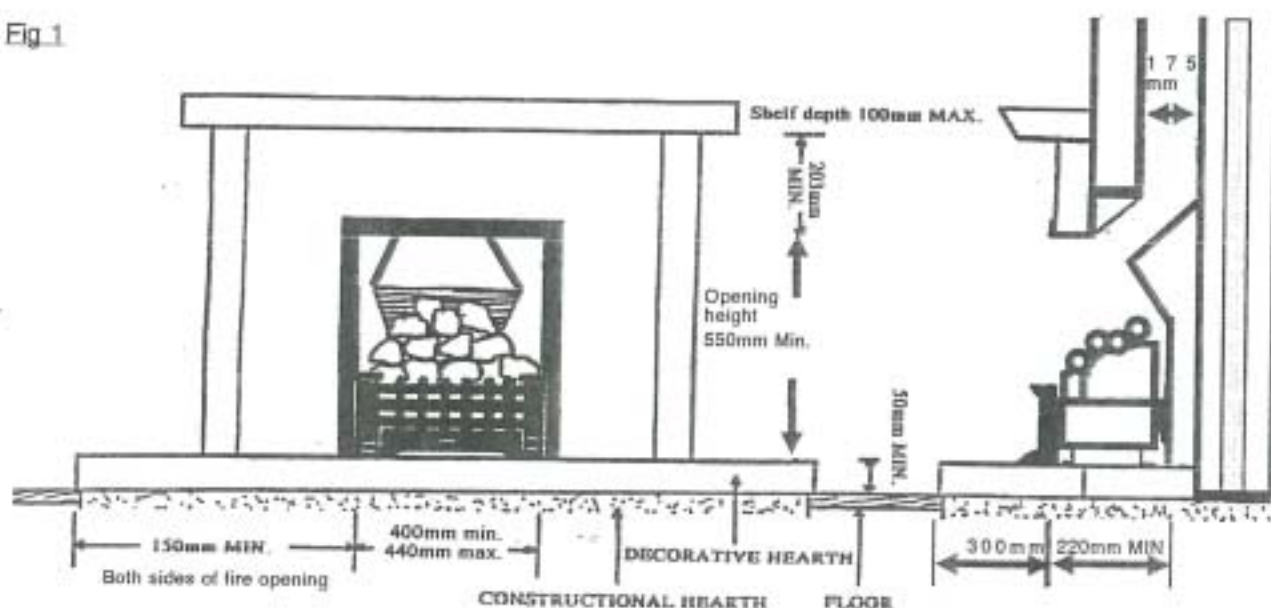
The flue shall have an effective height of no less than 3 metres, measured from the base of the hearth to the top of the flue terminal. There should be no other openings in the fireplace or flue other than the catchment opening and the flue terminal to allow the dispersion of flue gasses.

This appliance must only be installed into a fire opening on a non-combustible wall.

This appliance requires a hearth constructed of non-combustible material and be of the minimum dimensions given in fig 1:

Any existing under grate draft device must be sealed off from the fire opening.

Fig 1



The hearth must also be at least 12mm thick and the top surface should be not less than 50mm above the surrounding floor level or have a fixed fender 50mm high, surrounding the hearth.

The surface upon which the appliance is to stand must be flat and level with the surface of any decorative hearth fitted in front of opening. This appliance is suitable for use with a non-combustible fireplace inset (such as marble set) so long as it is correctly sealed to the wall. A wooden shelf may be fitted above the fire opening so as it complies with the dimensions of those given below:

Max depth of shelf	Minimum distance from top of fire opening to underside of shelf
100mm (4in)	203mm (8in)
150mm (6in)	305mm (12in)
203mm (8in)	356mm (14in)

A non-combustible shelf may be fitted to within 10mm of the top edge of the fire opening. Combustible material (such as wood) may be fitted to within 100mm (4in) of either side of the fire opening so long as it projects no further forward than 100mm (4in).

As with all heating appliances, decorations, soft furnishings and wall coverings (including flock vinyl, blown vinyl and embossed paper) positioned too near the appliance may discolour or scorch.

## INSTALLATION of FIRE

After completing the site checks you may proceed to installing the appliance.

1. Smoke test the flue to ensure there are no blockages, obstructions or conditions that may affect the safe operation of the appliance.
2. Ensure there is a suitable gas point adjacent to the fire opening (ideally within one metre).
3. Locate the fire tray into the shaped fire brick, ensure the front of the fire tray does not protrude forward of the opening formed by the builders opening or the fixed fireplace. Mark the location of the holes in the front feet.
4. Remove tray and drill two holes at the marks with a 6mm masonry bit to a depth to suit your plugs and screws. Place the plugs into the holes.
5. Fit the elbow supplied, to the gas inlet pipe of the appliance after first removing any sealing cap placed over the end of the appliance pipe.
6. Place tray in position and secure the front feet with suitable screws into the plugs you previously fitted.
7. Connect 8mm copper pipe from your adjacent gas supply point to the appliance elbow. The appliance may be fitted with rigid or semi rigid pipe having 8mm external diameter. A gas cock or other means of isolation must be fitted on the inlet supply pipe to the fire, NOT under burner tray. Please ensure you use as short a run of 8mm pipe as possible, as an excessive 8mm pipe run could result in pressure drop, ideally there should be no more than 1.2m of 8mm pipe used in the gas supply to the appliance. A continuous length of pipe should be used to connect between the isolation cock and appliance inlet.
8. The matrix burner can now be assembled.

Take the ceramic fibre burner pad (with the four holes in) and place on the front part of the tray, **SEE FIG. 3**. To confirm correct location, check that the four holes in the pad line up with the meshed ones in the tray.

Now place the two tripple coal, ceramic sections so that their feet locate into the channel at the tray front, **SEE FIG. 4**. These should be a reasonably tight fit but if too tight they can be gently relieved by using a file or glass paper.

The moulded ceramic matrix can now be placed into position on top of the burner, **SEE FIG 5**.

Open the bags<sup>22</sup> of coals and place them on to the placement pads on the combustion matrix, **SEE FIG 6**.

**THE FIRE IS NOW READY FOR COMMISIONING.**

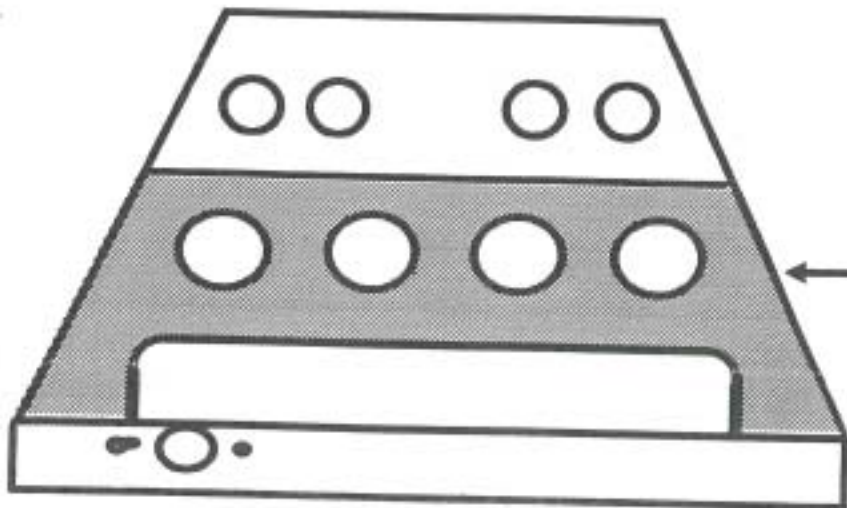


Fig.3

Locate ceramic pad at front of tray

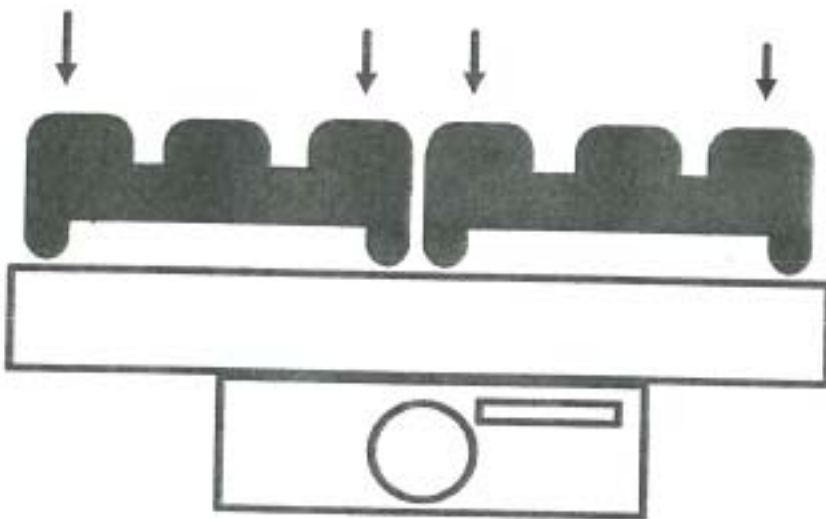


Fig. 4

Drop the two tripple coal sections into the slot along front of fire tray

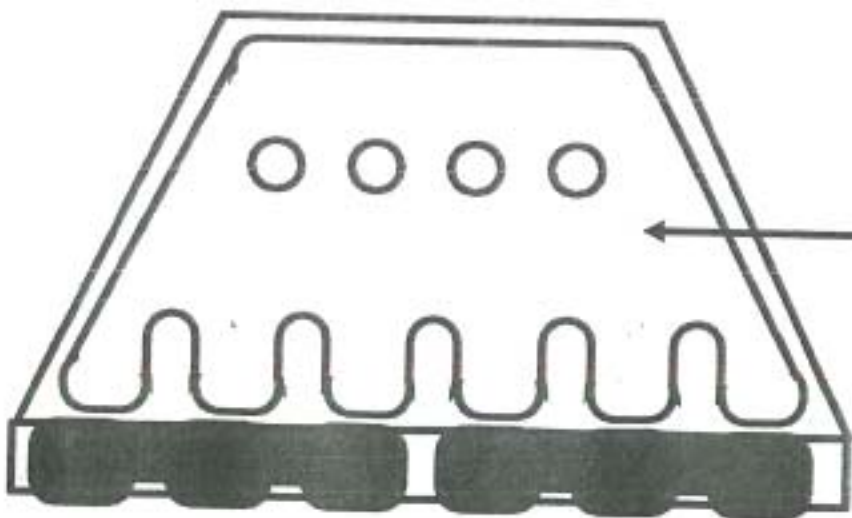


Fig. 5

Place ceramix matrix in position.  
Coals should then be placed only on the 22 location pads.



FIG 6

Place coals on 22 location pads as shown.



## TESTING & COMMISSIONING

Turn on and test the gas supply for any leaks, test the fire tray and its supply for leaks with a leak detection fluid.

### Lighting the pilot

Push in and turn the control knob to the spark position and hold there for a couple of seconds to allow the gas to come through. Now continue turning anti clockwise through the spark click to the pilot position and ensuring the pilot has lit, keep the control knob pressed in for approximately 10 seconds. Now release the knob and the pilot should stay alight, if the pilot is extinguished wait 3 minutes before repeating procedure. To achieve the main burner position push in the control knob slightly and continue turning anti clockwise to the high position (7 o'clock) and the main burner should ignite in approx. 3 seconds, to achieve the low position (9 o'clock) turn in a clockwise direction to the low position. To return to the pilot position from the high or low setting press the control knob in and turn the knob clockwise to the pilot position (10 o'clock) and release, to turn the fire to the off position keep the knob pressed in and continue turning to the off position (12 o'clock) and release.

### Setting pressure

The pressure test point is located behind the data badge and it will be necessary to remove the badge to conduct the test. Remove the screw from the pressure test point and connect your pressure gauge. Light the fire and compare the pressure to that stated on page 2 of these instructions. If the pressure measured is within the tolerance stated, then the gas installation is satisfactory. The fire is manufactured and preset to achieve these setting pressures and there is no means of adjustment on the fire. Remove your pressure gauge and replace the screw in the pressure test point. Light the fire and check the pressure test point for gas soundness.

### Spark failure

The gap between the spark electrode and the pilot should be 4mm +/- 10% to produce a good spark, there is no adjustment facility for this component. In the event of a defective igniter the pilot can be lit manually by repeating the lighting procedure except when you turn the control knob through the spark to the pilot position light the pilot with a taper.

### Testing for Spillage

Spillage test instructions are shown on the data badge. Close all doors and windows to the room containing the appliance. When the fire has been running on high for at least five minutes, take a smoke match, light it and hold it at the top edge of the fire opening, running it slowly across the entire width of opening. All the smoke from the match should be drawn back into the fire and up the flue, none should spill back into the room. If test fails, try again after fire has been running on full for a further ten minutes. When the test has been completed satisfactorily, repeat again with any extractor fans fitted to the premises switched on to highest extract setting.

**ANY SPILLAGE DETECTED BY THE ABOVE PROCEDURE MAY INDICATE THERE IS A FAULT IN THE FLUE OR INSUFFICIENT VENTILATION IS PRESENT. IF THE PROBLEM CANNOT BE RECTIFIED IMMEDIATELY THEN EXPERT ADVICE SHOULD BE SOUGHT. INFORM THE USER, DISCONNECT THE FIRE FROM THE GAS SUPPLY AND AFFIX LABEL.**

### Briefing the customer

All instructions must be handed to the user for safe keeping. After completion of the commissioning the customer should then be instructed on the safe use of the fire. Advise the customer that the flue should be checked on an annual basis and the fire serviced regularly. Frequency of service will depend on usage of the appliance but once a year should meet this requirement.

## SERVICING THE APPLIANCE

NOTE: when fire has been removed from the fire opening, it would be an opportune time to have the flue swept.

1. Isolate the gas supply to the fire and lay a dust sheet around the hearth. Ensure the fire is cold before proceeding.
2. **CLEANING THE COALS.** Carefully remove the 22 coals. Any soot or deposits can be dusted off with a soft brush, check to see that none are damaged, place to one side. Remove the two front tripple coals, matrix and burner pad, these can be cleaned in a similar way to the coals. NOTE:- These components are fragile and should be treated carefully, on no account should water or chemicals be used to clean or colour any of them. Do not clean with a vacuum.
3. **REMOVE THE FIRE.** Remove the 2 screws that secure the fire to the hearth. Undo the inlet gas supply elbow and lift the fire clear of the fireplace. Shake, brush or vacuum any deposits from the firebed.
4. **PILOT LIGHT.** This is not a user / installer servicable component due to the delicate nature of the oxygen depletion sensor included in its body. However, it is advisable to gently brush off any carbon deposits around the pilot head along with any linting around the aeration hole.
5. **MAIN INJECTOR.** This is located in the brass elbow at the rear of the appliance. Disconnect the gas pipe and the elbow can be unscrewed from its mounting. Care should be taken to leak test any joints that may have been disturbed after cleaning out this jet and reassembling.
6. **AERATION ADJUSTER.** Check aeration holes, next to the pivot point of the lever arm, for linting. clean if required. Ensure pivot lock knut is tightened down in the centre of the lever so that a slight resitance can be felt in the levers movement.
7. **CONTROL TAP.** This component contains no user / installer servicable parts.
8. **PIEZO SPARK SYSTEM.** Check connecting wire for damage to its insulation and ensure connections are fully sleeved.

## REASSEMBLY

Place the fire tray into the fire opening and secure the front feet with screws. Connect up the gas supply to the inlet elbow and leak test the joint.

Reassemble the matrix and coals in accordance with the installation instructions.

Recommision the appliance and carry out a flue spillage test as shown on data badge.

**ONLY USE THE REALITY HIGH-TECH COMPONENTS AND COALS SUPPLIED BY THE MANUFACTURER, DO NOT USE A DIFFERENT QUANTITY OR SIZE OF COALS.**

**FOR REPLACEMENTS CONTACT THE MANUFACTURER ON 0202 499330.**