

# Gas Fired Instantaneous Water Heaters



**W 135    K.B..  
W 275 - 1 K.B..  
W 350 - 1 K.B..  
W 400 - 1 K.B..**

## For your safety

If you smell gas:

- Turn off gas isolating valve;
- Open windows to increase air circulation;
- Do not operate any electrical switches;
- Do not use the telephone on the premises;
- Call an authorised technician or the local gas authority immediately.

**Installation and servicing should only be performed by authorised personnel.**

Regular maintenance is recommended to ensure correct and safe performance.

Do not store or use inflammable liquids or materials near the appliance.

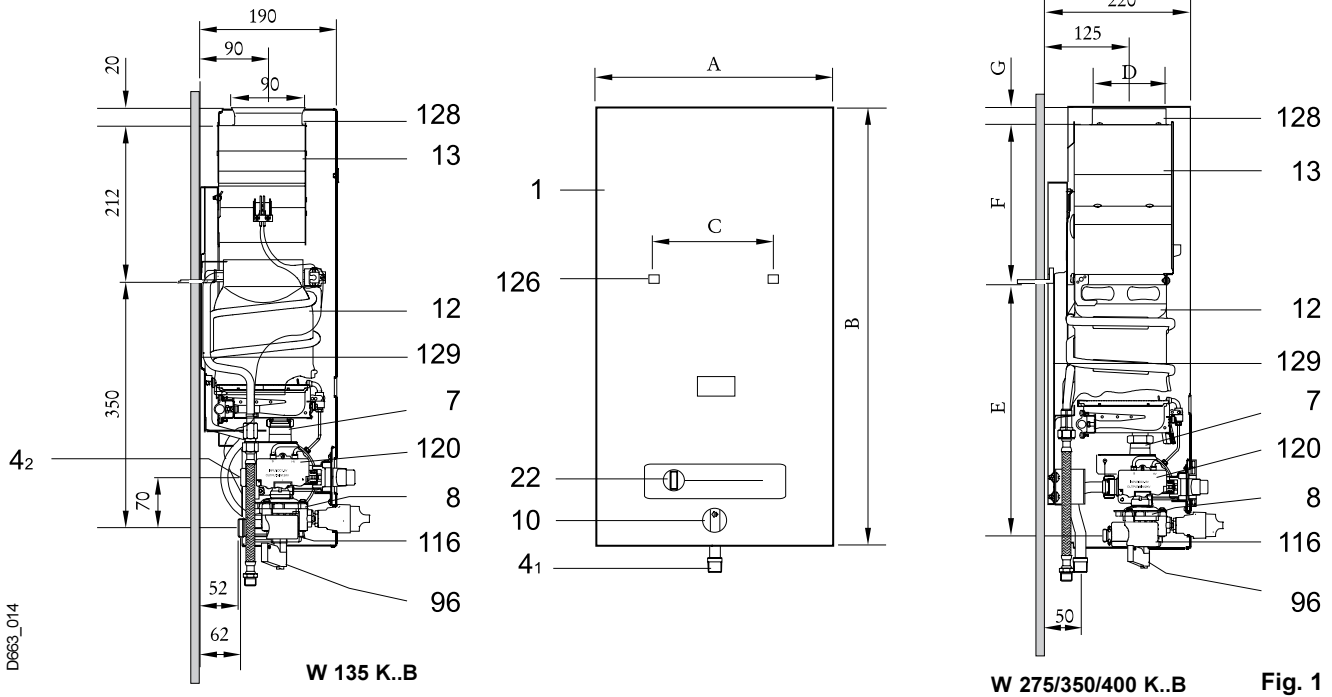
**With electronic ignition and ionisation probe safety system**

If the appliance is installed in a position likely to be affected by frost, isolate gas and water supplies, remove batteries and drain. If problems occur call an authorised technician immediately.

The installer should explain to the customer how the appliance functions and how to operate it. A copy of these instructions must be made available to him.

# 1. Main Features and Technical Data

## 1.1 Dimensions



- 1 - Front cover
- 4<sub>1</sub> - Gas inlet
- 4<sub>2</sub> - Gas inlet (W135... Ø 3/4")
- 7 - Gas valve assembly
- 8 - Water valve assembly
- 10 - Temperature selector
- 12 - Heat exchanger
- 13 - Chimney with draught diverter
- 22 - Output slide control
- 120 - Ignition unit
- 116 - Battery box
- 96 - Micro-switch
- 126 - Position of back panel mounting slots
- 128 - Flue pipe connection
- 129 - Back panel

Dimensions (mm)	A	B	C	D	E	F	G	Gas connection Ø
<b>W 135 K..B..</b>	270	610	138	----	----	----	----	ø3/4"
<b>W 275-1K..B..</b>	360	680	228	110	423	227	25	ø3/4"
<b>W 350-1K..B..</b>	400	755	228	132	460	233	30	ø3/4"
<b>W 400-1K..B..</b>	460	755	334	132	512	182	30	ø3/4"

## 1.2 Technical Data

Appliance Ratings	Symbols	Units	W 135..B	W 275-1..B	W 350-1..B	W 400-1..B
Nominal useful output	P <sub>n</sub>	kW	9.4	19.2	24.4	27.9
Minimum useful input (based on net c.v.)	P <sub>min</sub>	kW	4.7	9.6	12.2	14
Manual useful output range		kW	4.7-9.4	9.6-19.2	12.2-24.4	14-27.9
Nominal heat input	Q <sub>n</sub>	kW	11.2	21.8	27.9	32.1
Minimum heat input	Q <sub>min</sub>	kW	5.6	10.9	14	16.1
<b>Gas inlet pressure</b>						
LP gas (Butane/Propane)* - 3+	G30/31	mbar	28/37	28/37	28/37	28/37
<b>Gas consumption</b>						
LP gases - (Butane/Propane)*		kg/h	0.85	1.7	2.2	2.5
<b>Water data **</b>						
Maximum inlet water pressure	p <sub>w</sub>	bar	12	12	12	12
<b>Water flow selector right</b>						
Min. water flow		l/min.	2.5	5	5.9	7.3
Temperature rise		°C	55	55	55	55
Min. inlet water pressure	P <sub>wmin</sub>	bar	0.15	0.15	0.2	0.2
<b>Water flow selector left</b>						
Min. water flow		l/min	5.4	11	14	16
Temperature rise		°C	25	25	25	25
Min. inlet water pressure		bar	0.6	0.5	0.8	1.2
CATEGORY			II <sub>2H3+</sub>			
TYPE			B <sub>11BS</sub>			

\* H<sub>2</sub> 15°C - 1013 mbar - dry: Butane = 45.72 MJ/kg (12.7kWh/kg) - Propane = 46.44 MJ/kg (12.9 kWh/kg)  
 \*\* Even with the effects of water dilation, the water pressure in the appliance shall not exceed this value.

## 2. Installation Requirements

### Gas Safety (Installation and Use) Regulations: October 1994

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.

#### 2.1 Location

The appliance should be installed in a frost-free, well-ventilated room and connected to a flue.

#### 2.2 Water Connection

It is advisable to flush all water pipes before installing your gas appliance, purging them of sand and other particles which could later affect the heater's performance.

Make sure the water valve is fitted with a water filter. Regular cleaning of the water filter should be carried out. Identify and mark cold (right) and hot water (left) pipes to avoid wrong connections.

Connect water pipes to appliance using correct fittings.

#### 2.3 Gas Connection

Make sure that your water heater model is compatible with the type of gas supplied.

A gas isolating valve must be provided near the appliance. Verify the gas supply pressure - compare with the values in chapter "Technical Data", pt. 1.2.

#### 2.4 Flue Pipe Connection

The appliance must be connected to a flue pipe, no smaller than the appliance outlet, ensuring a good seal.

The flue pipe can be made of galvanised steel, aluminium or stainless steel.

#### 2.5 Air supply

The room in which an appliance is installed must have a permanent air vent to outside air or to a room which itself has direct access to outside air. The minimum effective area of the air vent(s) must be 23cm<sup>2</sup> (W135), 72cm<sup>2</sup> (W275), 99cm<sup>2</sup> (W350) or 118cm<sup>2</sup> (W400).

Installations in cupboards or compartments require permanent vents for cooling purposes, one at high level and one at low level, either direct to outside air or to a room. Both vents must pass to the same room or be on the same wall to outside air.

There must be sufficient clearance around the appliance to allow proper circulation of ventilation air. The minimum clearances required are 50 mm for the sides and 150 mm above the appliances front cover.

The minimum free areas required are given below.

POSITION OF AIR VENTS	AIR FROM THE ROOM				AIR DIRECT FROM OUTSIDE			
	W135	W275	W350	W400	W135	W275	W350	W400
HIGH LEVEL (cm <sup>2</sup> )	100.8	196.2	251.1	288.9	50.4	98.1	125.6	144.5
LOW LEVEL (cm <sup>2</sup> )	201.6	392.4	502.2	577.8	100.8	196.2	251.1	288.9

Refer to BS 6798 and BS 5440:2 for additional information. A spillage test, as detailed in BS 5440:1, must be carried out and any remedial action taken to ensure that the installation meets the standard. The effect of any type of extract fan in the premises must be considered and an

additional air inlet may be needed from outside to counter the effect of the fan.

### 2.6 Installation

Open gas and water isolating valves and check the soundness of all connections. Take the two 1,5V batteries supplied with the appliance and place them correctly in the battery box (fig. 2).

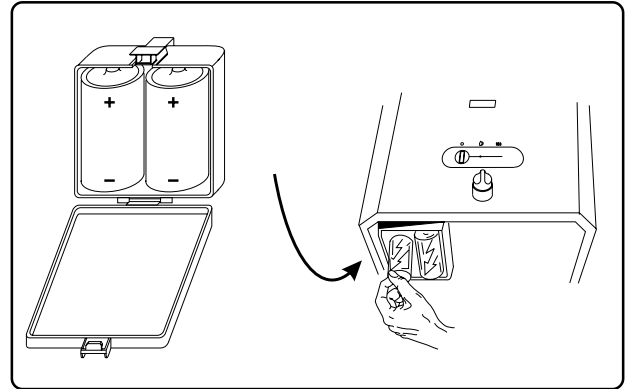


Fig. 2

## 3. Operating and Servicing

### 3.1 Operating the Water Heater

The appliance is equipped with automatic electronic ignition, making it easy to ignite the pilot burner.

Start off by moving the output slide control from the off to the ignition position.

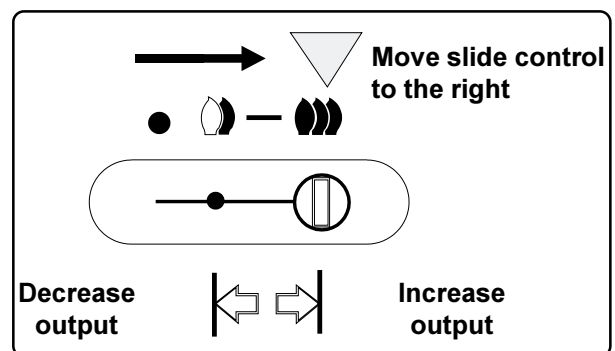


Fig. 3

After this procedure, whenever a hot water outlet is opened, automatic ignition will take place by lighting the pilot burner first, and the main burner about four seconds later. After some seconds the flame of the pilot burner will die out.

This saves a considerable amount of energy, since the pilot burner only remains alight during the time it takes to light the main burner, not as in conventional systems where it burns permanently.

The gas slide control allows for output variation according to one's needs. The further to the right you position the slide the greater the output, but also the greater the consumption of gas.

In order to optimise energy consumption, adjust slide position to supply the minimum output required.

When starting up the appliance, the existence of air inside the gas supply pipework may cause some ignition difficulties. In that case, open and close the hot water tap repeatedly to re-start the ignition process, until complete air purge is obtained.

### 3.2 Flue gas safety device

The appliance is equipped with a flue gas safety device. If the burner extinguishes while in operation, it is likely that the flue gas safety device has activated. Ventilate the room and reignite the appliance 10 minutes later. If it happens again, please contact a professional installer.

The servicing of the flue gas safety device must always be undertaken by a Corgi registered technician. The flue gas safety device can never be put out of operation.

### 3.3 Servicing

Servicing is only to be performed by a Corgi registered technician. It is recommended that the appliance is fully serviced every year.

The heat exchanger, main burner, pilot burner and water valve filter must be thoroughly cleaned.

If necessary, the heat exchanger and connecting pipes should be de-scaled, and subsequently the soundness of the water and gas valves checked. A complete check on all the functions should be carried out.

If some parts have to be replaced, **use only original spare parts supplied by the manufacturer.**

### 3.4 Fault Finding

The following table outlines some common problems and their solutions.

Problem	Possible Cause	Solution
Appliance does not ignite.	Misplaced or worn out batteries.	Check position and replace if necessary.
Slow and difficult ignition of pilot burner.	Worn out batteries.	Replace
Burner extinguishes while in operation.	Flue gas safety device activated.	Ventilate the room and re-ignite the appliance some minutes later. If it happens again, contact a Corgi registered technician.
Insufficient water temperature.	Wrong output selected.	Check position of water temperature selector and adjust according to your output needs.
Insufficient water temperature, short flame.	Insufficient gas pressure.	Check if gas container freezes while in use. If so, place it in a warmer location.  Check if gas inlet governor is of appropriate type, and is in good working condition. Replace if necessary.*
	Dirty/damaged gas filter or burner.	Clean gas filter and burner.*
Pilot burner doesn't spark with water flow.	Unadjusted micro-switch screw.	Turn the water off.*  Remove cover cap from lower part of micro-switch and turn the screw off until the sparking begins, then turn further 1 and 1/2 turns.
Insufficient water flow.	Insufficient water pressure.	Check and adjust.
	Dirty taps or mixers.	Check and clean.
	Blocked water valve.	Clean the filter.*
	Blocked heating body (scale).	Clean and de-scale.*

\* To be handled by authorised personnel only.