



## Convenience

### Massively reduced fitting and servicing costs

Flueless gas fires are very popular with Builders and Local Authorities due to their low fitting costs.

A flueless gas fire can literally be fitted in minutes rather than several hours. It is an extremely simple and problem free operation provided the CORGI registered fitter follows the installation instructions. If it is to go in an open chimney, then the flue must be blocked and one of Burley's cavity boxes fitted. Apart from that the fire just needs connecting and testing, and the air vent fitting.

When fitting a flueless fire, it does not need to be sealed to the fireplace opening.

**Installation costs** If you need to build a chimney on a house it will cost at least £1,000. Restoring a damaged chimney will probably cost a lot more. On top of this of course you still have to buy your fire and fireplace. The complete fire and fireplace package shown above right has a retail price of £800.00 with very few additional costs.

**Lower servicing costs** An annual servicing call for a flueless fire simply consists of cleaning the fire, checking the combustion, and checking for damaged components.

During servicing a flueless fire does not need disconnecting to allow for cleaning behind the fire, nor does the chimney need cleaning or the draw checking.

### No problems with chimneys

Chimneys and flues are fraught with potential problems, all of which will stop a flued fire from operating safely.

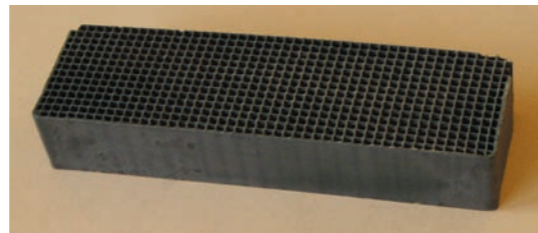
1. The fabric of the chimney could collapse.
2. A nest or debris could block the flue.
3. Atmospheric conditions or open doors can create a down draught.
4. Extractor fans can create a draught to reverse the pull of a chimney causing it to spill the products of combustion into the room (this makes flueless gas fires particularly popular and safe for use in pubs and restaurants).

## Other common questions

### When does the catalytic converter need replacing?

To constantly test the performance of the catalytic converter, our laboratory has been running appliances eight hours per day, five days per week, for up to seven years. We purposely go out of our way to abuse and damage the catalytic converter by reproducing occurrences which could feasibly happen in the home (although we do not suggest you try this). We spray it with a range of common household chemicals and sprays, burn contaminating materials in the fire, run the fire on a much higher gas pressure and also on the wrong types of gas. Periodically we send catalytic converters back to the manufacturer for testing. After the equivalent of 30 years of use, the catalytic converter is as efficient as it was when brand new.

Burley manages to achieve this by designing the fire to ensure that the catalytic converter is in exactly the right position for long life and maximum efficiency. (For other makes of fire please consult the relevant manufacturer).



### Do flueless gas fires smell when they are used?

Because there is no chimney up which odours can be lost, it is very important that the right materials are used in the design of a flueless fire. Burley's experience in this has resulted in us knowing exactly which are the best components to use for each part of the fire. The culmination of all this experience has resulted in totally odour-free appliances.

### Will I have problems with condensation?

Another popular falsehood is that your house will be affected by condensation. This is not the case. Most fires, including flueless gas fires, should be used as a secondary source of heat, supplementing your central heating. The background temperature prevents most of the moisture from condensing and allows it to be dispersed via normal air movement. You may have some condensation on colder surfaces such as single glazed windows. On high the Environ flueless gas fire emits approximately 0.25 litres of water vapour per hour.

### Statement

The information you have read is the culmination of thousands of hours of work. I believe this information is more accurate than any currently available and will give you a more balanced view of flueless gas fires. I cannot think of a single benefit to be gained by fitting a flued gas fire in preference to a flueless gas fire. If you would like more information on these fantastic appliances please phone our advice line on **01572 756956**.

**Steve Barson** Managing Director

This document is to provide guidance for retailers and fitters

# Fixed flueless gas fires

## separating the fact from the fiction

### Introduction

Burley Appliances introduced fixed flueless gas fires to Britain in 1999 and through product innovation, design, production and extensive testing, have gained a wealth of experience and documented facts.

Fixed flueless gas fires give a combination of convenience, efficiency and safety which flued appliances can never come close to matching. We have entered an era of spiralling gas prices, gas shortages and potentially cataclysmic global warming. It is short sighted to continue wasting energy at such a rate when there is an alternative product which is superior to flued fires in many ways.

Some people are unaware that flueless fires are available, some cannot understand how a fire without a chimney can perform so much better than a fire with a chimney and a few have been misled by myths. The purpose of this leaflet is to provide the trade with the facts and dispel the myths to allow people to make an educated decision.

## Efficiency

### Conserving energy and reducing greenhouse gas emissions

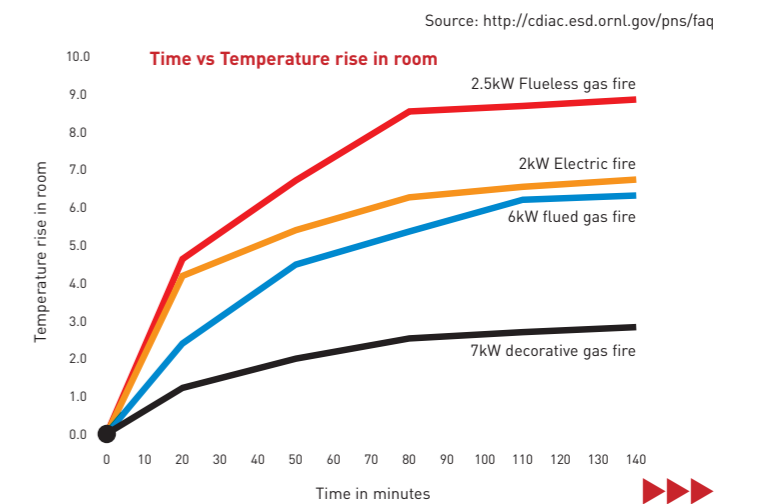
With an open flued gas fire or solid fuel fire, much of the heat goes straight up the chimney. By comparison, 100% of the heat generated by a flueless gas fire goes to heating the room.

Burley commissioned research to discover the comparative efficiency of flueless fires against flued gas fires and exactly how much heat is lost up the chimney.

A flueless gas fire (Burley Environ), an inset flued gas fire (quoted efficiency 59%), a decorative flued gas fire and an electric fire were run in the living room of a detached house.

The tests showed that the flueless gas fire produced over 3½ times more heat per kilowatt than the flued gas fire and over 12 times more heat than the decorative gas fire, in other words the flued gas fire lost over 70% of the heat up the chimney and the decorative fire lost over 90%.

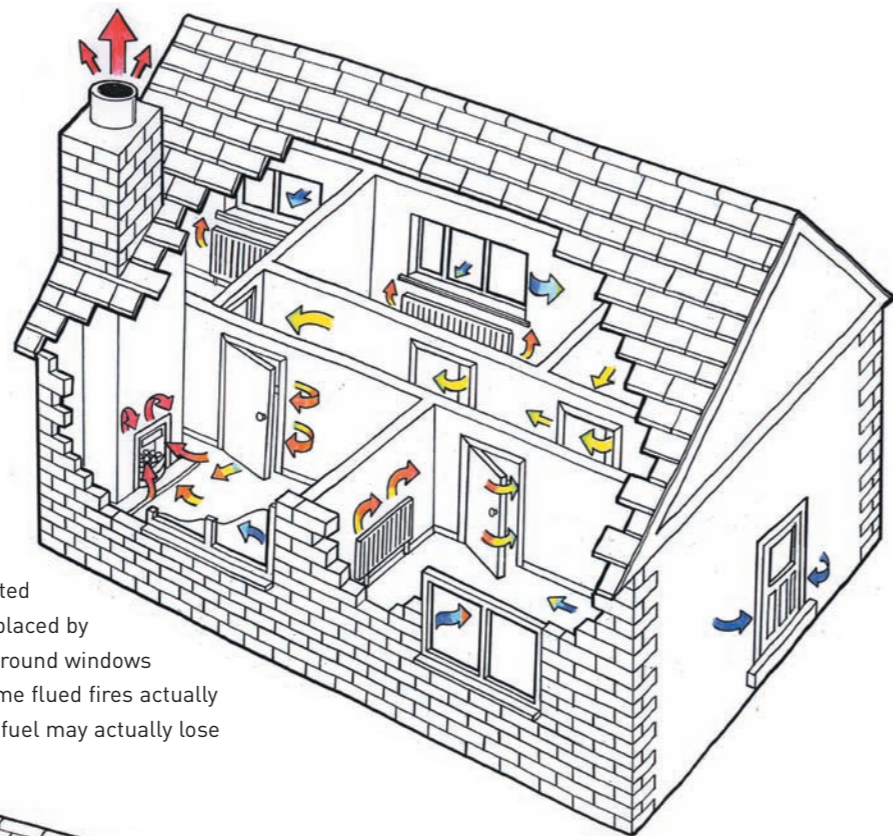
Assuming gas fires are used on average for 4 hours per day 4 months of the year, if the 15 million flued gas fires in Britain were replaced by flueless fires, the country would save 23,500,000 kilowatts of gas every year which in turn would reduce carbon dioxide emissions by over 4,200,000 tonnes every year. By choosing a flueless gas fire your customers can start to help reduce global warming and lower their gas bills at the same time.





**Myth. 'As flueless gas fires must have an air vent you will have a gale blowing through your room.'**

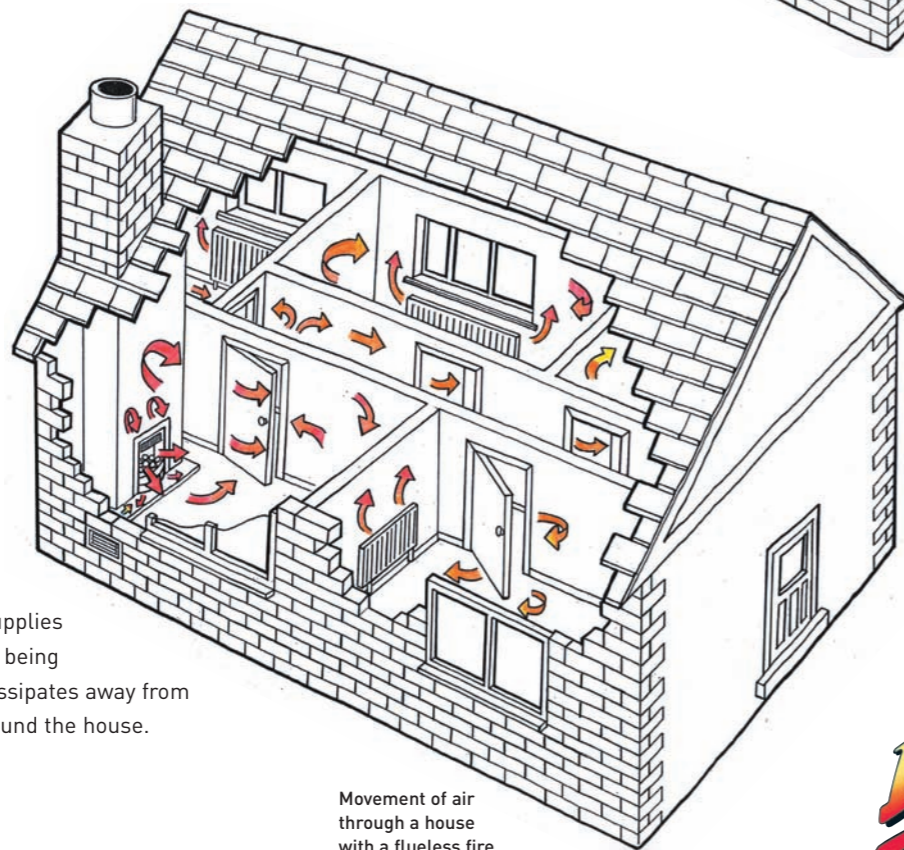
Flueless gas fires have a small air vent fitted in the room but this does not create a cold draught. The tiny amount of air that the vent does draw is a fraction of the cold air that a chimney or flue drags into a house and will be compensated for many times over by the extra heat you get. The vent is primarily to maintain the correct level of oxygen in the room.



Movement of air through a house with a chimney

**Fact. Most open flued fires lose most of their heat up the chimney.**

A chimney or flue drags a huge amount of air out of the house, warm air which has already been heated by your central heating. This warm air has to be replaced by cold air from outside, leaking in through the gaps around windows and doors. The loss of heat can be so great that some flued fires actually have a negative efficiency i.e. a fire burning 7kW of fuel may actually lose 8kW of heat up the chimney.



Movement of air through a house with a flueless fire

**Fact. Flueless fires dissipate heat gently throughout the entire house.**

The flueless fire works in the opposite way. The vent in the room gently supplies air into the room which is being heated. This heated air dissipates away from the fire and circulates around the house.



## Safety

**Fact. Fixed flueless gas fires have an outstanding safety record.**

Although flueless gas fires are relatively new in this country they have a long established history in Japan (where there are 40 million), the United States and Australia. In the United States there are approximately 15 million flueless gas fires in use, (by coincidence this is approximately the same as the number of flued gas fires in use in the United Kingdom). The safety record of flued heating in the UK and flueless gas fires in the US over the past 20 years is as follows:

Deaths caused by flueless gas fires in America 0  
Deaths caused by flued heaters in the United Kingdom 1,000

**Sources**

- <http://www.co-gassafety.co.uk/statistics.htm>
- [www.britishgasnews.co.uk/index.asp?PageID=19&Year=2003&NewsID=605](http://www.britishgasnews.co.uk/index.asp?PageID=19&Year=2003&NewsID=605)
- [www.ventfree.org/presentation/Alliance%20Power%20Point\\_files/frame.htm](http://www.ventfree.org/presentation/Alliance%20Power%20Point_files/frame.htm)
- [www.dti.gov.uk/homesafetynetwork/cm\\_intro.htm](http://www.dti.gov.uk/homesafetynetwork/cm_intro.htm)

**Fact. Flueless gas fires have to be extremely clean burning.**

Flueless gas fires can give this exceptional level of safety because they have to be designed to burn incredibly cleanly even in the worst possible scenarios and do not have a chimney to rely on to remove the combusted gasses. Chimneys and flues are fallible and can get blocked by a bird's nest, a collapse of masonry or poor installation. With a flueless fire this can never happen.

**Burley test every flueless fire they make.**

Every flueless gas fire we have ever made has been bench run for at least 30 minutes, during which time we monitor all levels of:

- Carbon dioxide
- Carbon monoxide
- Carbon dioxide to carbon monoxide ratio
- Burley's internal test criteria for the above is four times more stringent than what is demanded by European standards.
- Gas flow
- Soot

**Fact. Catalytic converters are used to make combustion even cleaner.**

All of Burley's flueless gas fires incorporate a catalytic converter. This is a filter which is coated with platinum and palladium. Oxygen 'sticks' to the coating until a carbon monoxide molecule meets it, converting the oxygen and carbon monoxide to carbon dioxide (which is harmless at these levels and is present in fresh air).

**'What if the catalytic converter fails?'**

Burley have NEVER had to replace a failed catalytic converter. All of Burley's appliances are approved by international test houses for sale across the whole of Europe. One of the tests that the fires must pass is to have the catalytic converter removed. In this condition it must STILL pass all the strict combustion tests. The catalytic converter is NOT used as a safety device.

**What does a gas fire produce when it burns?**

Apart from carbon dioxide and water vapour, when gas is burnt it can also create unwanted by-products, the most notable of these are carbon monoxide (mentioned above) and nitrogen dioxide. The design and construction of the appliance can keep these by-products to a minimum, Burley spend a great deal of time and expertise in developing and testing to ensure exceptionally clean burning fires and the best possible performance from the catalytic converter.

The most viable method of measuring the real performance of a flueless gas fire is to test it in real home situations, not in an air-tight laboratory. British Gas (Advantica) have carried out extensive tests in various homes and the results have been closely monitored. The **highest** average recorded emissions from Burley products were:

Carbon monoxide			Nitrogen dioxide		
Measured	WHO limit	HSE Limit	Measured	WHO limit	HSE Limit
2.55 ppm	25 ppm	30 ppm	83 ppb	105 ppb	1000 ppb

**Notes** All measurements shown are for a 1 hour average.  
**WHO limit** = The level at which the World Health Organisation recognises that there will be absolutely no effect on the health of any person (including those with existing serious health problems).  
**PPM** = Parts Per Million    **PPB** = Parts Per Billion  
**HSE Limit** = Maximum 8 hour at work exposure level recommended by Health and Safety Executive.  
 Source: [www.HSE.gov.uk/pubns/chan29.htm](http://www.HSE.gov.uk/pubns/chan29.htm)

**Myth. 'Flueless gas fires are being banned in some US states'.**

Completely the opposite is true. The outstanding safety record of flueless fires has resulted in state by state approval; now 49 states endorse their use with California the last to follow. Source: <http://www.ventfree.org/pr/010605.htm>

