

Dear Installer,

Gas rating of Appliances

We have produced the following guide to assist in gas rating our appliances.

Burley Gas Appliances are all gas input rated in the factory and undergo further line tests for combustion, sooting and visual performance.

For Installers who wish to gas input rate appliances we need to establish tolerances for pass and fail.

Manufacturers Tolerances

The Heat Input on appliances can be expressed as either a Nett or a Gross figure. When the installer is gas rating from the meter they will be using gross heat input which is 10% higher than Nett. This conversion has to be taken into account if the manufacturer has quoted a nett figure.

The manufacturer also has to account for production tolerances on pipes, injectors, valves etc and is allowed a further +/-5% tolerance on the maximum rate.

Burn Down

Cold appliances generally allow a greater rate of gas to pass through them and once the appliance warms the gas density alters and causes the rate to reduce to the figure stated. This is known as Burn Down.

Manufacturers carrying out their technical tests allow appliances to be fully warm and burn down before taking readings and this is typically after 1 hour.

Some appliance manufacturers quote a 'cold' figure for the gas rate so that installers can measure this immediately.

Installer Tolerances

It is important to take a gas rate test over a reasonable period of time so that the capacity of the meter is used. On low Input appliances such as our Flueless this is even more critical because uncertainties can creep in. It is worth measuring over a 5 minute period to make sure.

It is also important to get the inlet pressure to 20mbar.

In a gas appliance factory compensation is also made for variations in:

- % Saturation of Gas
- Variation in Calorific Value

- Variation in Gas Density
- Gas Temperature
- Gas Pressure
- Atmospheric Pressure
- Meter Calibration
- Stopwatch Calibration.

In the home it is not possible to correct for these therefore an uncertainty factor needs to be built into all measurements.

Currently industry Standards do not quote a figure on this uncertainty but it is generally accepted that a variance of between +/- 5% of the manufacturers declared gas rate (Gross) is a reasonable tolerance that can be applied.

Conclusion

In adding all the variables together,

- an appliance quoting Gross Heat Input could be anything from +/-10% of the quoted heat input
- an appliance quoting Nett Heat Input could be anything from 0% to +20% of the quoted figure when measured as a Gross figure.
- If the appliance is cold anything up to a further 10% error could be expected and we don't quote these figures because they change rapidly. The figures shown below are hot figures i.e. After 1 hour of operation.

Model	Heat Input Quoted	Minimum (Gross)	Maximum (Gross)
Environ, Esteem, Image ranges	2.5kW Nett	2.5kW Gross	3.0kW Gross
Ambience 4121	3.5kW Nett	3.5kW Gross	4.2kW Gross
Acumen / Elan 4111	4.5kW Nett	4.5kW Gross	5.4kW Gross
Beaufort Flued 5731, 5732, 5734, 5737	6kW Nett	6kW Gross	7.2kW Gross

If you require any further information please contact Burley Technical Department on 01572 756956.