

# SMARTFAN<sup>®</sup>

DEVELOPED by IQDESIGN

## *Features:*

- » No external power source required;
- » No running costs;
- » Effectively propels warm air into the living area;
- » Maximum temperature: 330°C;
- » Robust and maintenance free;
- » Promotes efficient fuel consumption;
- » Safe and silent;
- » 1 year guarantee;
- » 2 year extended warranty.



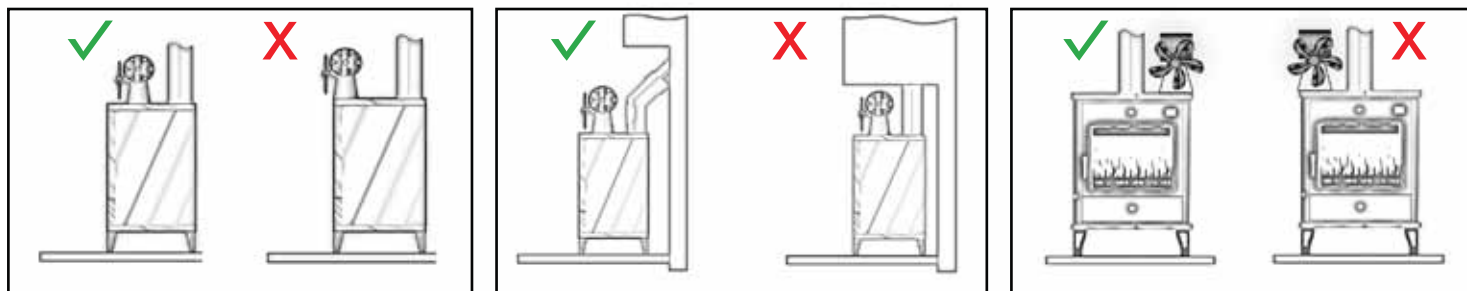
The SmartFan is a self-powered, clean, silent and efficient device that greatly improves heat circulation from your solid fuel burning stove. The device is powered by a thermoelectric generation module (TEM) which uses the hot surface of the stove to generate an electric current to propel two fan blades. Heat, instead of rising immediately to the ceiling, is propelled directly into the living space and provides an increased level of comfort and greater fuel efficiency.

The device works on a simple principle; the hotter the bottom and the colder the top, the more electricity is generated. In order to maximise its output, the unique design incorporates an axial fan on the top section which keeps this part cooler and projects hot air into the living space. By utilising this fan on the top section and by incorporating an aerodynamically designed front fan blade, the SmartFan can move air up to a rate of 360 Cubic Meter per hour (200 Cubic Feet per minute).



## HOW IT WORKS

When an electrical conductor has two different temperatures applied to it, the conductor allows for the transfer of heat to the hotter side. In this process of heat transfer, the thermal energy also moves charge carriers within the conductors. This is the process (also known as the Seebeck effect) that generates the electrical current in the SmartFan. However, in this process, the charge in each individual pellet is very small. To increase the output voltage, it is necessary to use complementary conductor pellets (P and N). Applying two dissimilar conductors, one positively doped (P) and one negatively doped (N) allows for the electrical current to flow block to block. These blocks can be considered to be in series, meaning that each block adds a certain amount of electrical current. It can then be considered that the output voltage is equal to the charge per block multiplied by the number of blocks.



## MAKING THE MOST OF A SOLID FUEL OR WOOD BURNING STOVE

Heated currents of air naturally ascend. Due to this, a solid fuel stove generally creates a small envelope of heat in its immediate surrounding area. This effectively means that to heat the living area of a room, it is necessary to use a quantity of solid fuel that is relative to its length, width and height. The SmartFan effectively provides direction for this heated air and allows for a greater fuel economies than a solid fuel stove acting alone. The SmartFan, when placed on top of a lighted stove or hot plate automatically starts and creates two gentle convection currents. As a direct result, warm air is, without creating a draught, propelled into the living area and the room heats up much more quickly. The greater the heat output of the appliance, the greater the speed of the fan blades and consequently the greater the circulation of warm air. Conversely, as the surface temperature cools down, so too does the speed of the blades and the warm air circulation. Just as it starts automatically, it also stops automatically and in both cases, gradually. The motor themselves are very low torque, which allows the fan blades to be easily stopped and do not present a safety hazard.

### SMARTTEMP

#### Infrared Thermometer

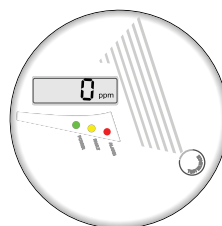
The ideal tool for using with wood and solid fuel burning appliance. Accurately measures from distance the surface temperature of the stove and/or flue pipes.



### SMARTSENSE

#### CO Alarm

A simple and effective device which may be wall or ceiling mounted and which will provide an effective warning of the presence of Carbon Monoxide.



### SMARTBURN

#### Moisture Meter

A simple and effective device which enables the moisture content of firewood to be determined.



Other related  
Smart Products  
in the range include: