

IMPORTANT NOTICE regarding your SAFETY

This heater has been designed to operate efficiently and safely employing the appropriate fuel and at the correct pressure as indicated on the identification plate affixed to the equipment (and page 2 of this manual). Under certain conditions, Gas Safety Regulations require that no employer shall allow any of their employees to carry out work in relation to gas fitting, and no self-employed person shall carry out such work unless the employer or self-employed person is an approved gas installer. These conditions may apply if the fuel is LPG or Natural Gas.

Providing that this appliance is properly assembled, installed, and regularly serviced/maintained by a competent person in accordance with this owner's manual, it should provide many years of satisfactory operation. You must be **WARNED**

that **HIGHLY DANGEROUS** conditions will occur in circumstances where through lack of regular servicing/maintenance, or a reduction in building ventilation, inadequate fresh air is made available to support **COMPLETE COMBUSTION**.

Beware; Propane gas is heavier than air and can accumulate at ground level (often in pockets), gradually building up. Natural Gas (Methane) is lighter than air so can be found trapped in roof-spaces, etc. With either gas in an enclosed area, the smallest flame or spark can almost certainly lead to a fire/explosion.

For each volume of PROPANE GAS supplied to the heater, a minimum of 24 volumes of fresh air (oxygenated) are required and for Natural Gas, 10 volumes of air are required, PLUS of course the air needed by any livestock, etc. If at any time you restrict the flow of fresh air into the Heater-Burner-Venturi, or should the building ventilation be reduced to an inadequate level by vent-blockage, fan failure, or other restriction, CARBON MONOXIDE (CO) will be produced. This gas, unlike the normal products of combustion, is highly toxic and will, even in low concentrations over an extended period cause headaches and nausea. CARBON MONOXIDE HAS NO ODOUR. See below for how much ventilation is required per heater.

DANGER

A person subjected to high concentrations of CARBON MONOXIDE is likely to lose consciousness, which could lead to fatal collapse. It is therefore essential that a constant and adequate flow of ventilating air (oxygenated fresh air from outside) be provided at all times. Carbon Monoxide exposure limits; Maximum eight hours weighted average exposure for fifty parts per million (50 p.p.m.). Maximum ten minutes weighted average exposure for three hundred parts per million (300 p.p.m.). Under normal operating conditions, products of combustion such as CARBON DIOXIDE (CO₂) will also be present. This should not exceed 2,800 p.p.m. due to the effect of oxygen depletion within the building. Reliable and readily available instruments should be employed to monitor such likely concentrations.

For additional information regarding the minimum air flow rate of 37.5m³/hr for each kilowatt of input (388 ft³ air per 1000 Btu each hour) together with recommended Air Vent Free Areas Opening, consult your installer.

CAUTION:

- 1) All installation and service/maintenance work in relation to Gas Fired Heating Equipment **MUST** conform to; The Gas Safety (Installation and Use) Regulations 1998.
- 2) This heater is for agricultural applications only and must not be used for domestic heating.
- 3) This heater must not be used for heating where flammable liquids or vapours are stored or used.
- 4) Adequate ventilation air (for combustion and removal of products of combustion) must be provided and must **NEVER** be blocked or restricted.
- 5) This heater should be installed by a competent and qualified gas installation engineer, and checked for leaks before being left to operate unattended.
- 6) For Gas Type/Pressures, refer to Model Specification label affixed to heater.
- 7) For safety this heater is equipped with a gas shut-off, flame detection device.
- 8) This heater must be installed and maintained totally in accordance with this Owners Manual and all current health and safety regulations. Regular servicing (minimum every 12 months) and maintenance should be carried out and a record kept.
- 9) An appropriate and suitable gas supply is required to maintain safe operation of this heater, and is the sole responsibility of the installer/operator.
- 10) This heater must be positioned/mounted safely and in accordance with minimum clearances.
- 11) All Gas Carrying Components using rubber/plastic seals (hoses, gas valves, regulators, etc.) are subject to natural degradation over time. They should be regularly checked and must be replaced every seven years, sooner in many cases. Any hose assembly must be trailed 'up & away' from the heater. It must be protected from any traffic, sharp/chaffing edges, building materials, heat, vermin, etc, and must be regularly checked for damage. . .
- 12) Always ensure both Gas and Electric (some models) supply is isolated (switched-off) before carrying out any work on this heater.

VENTILATION & GAS-input REQUIREMENT

Heater Model;	Max. Input (nominal);	Required Ventilation;
M2000	5.5 Kw/h (19,000 Btu/h)	209 m ³ /h (123 C.F.M.)
M20 (Discont'd 2009)	5.5 Kw/h (19,000 Btu/h)	209 m ³ /h (123 C.F.M.)
M13	3.8 Kw/h (13,000 Btu/h)	143 m ³ /h (84 C.F.M.)
M9	2.6 Kw/h (9,000 Btu/h)	99 m ³ /h (58 C.F.M.)
M6	1.7 Kw/h (6,000 Btu/h)	66 m ³ /h (39 C.F.M.)