

## **ADDITIONAL INFORMATION:**

### **LEADING THE WAY TO A MORE SUSTAINABLE FUTURE**

Designed and built to meet the demands of the new marketplace, where electrically heated machines are required. Especially for food applications, however growing into all marketplaces.

### **WHY ELECTRIC?**

Electric is the fuel of the future for heating requirements. With volatile oil prices and supplies, less and less natural gas and more renewable electricity production, heating your water with an electric heating system will protect from the volatility of oil prices.

With the government's commitment to reduce the UK's carbon footprint it all points towards electricity as the fuel of the future. The government has set a clear path towards a lower carbon future, with electricity to be generated by nuclear power and sustainable sources e.g. wind power, solar energy, wave power etc.

Electric heating is 100% efficient and carbon neutral at the point of use, and with electricity being generated by nuclear and renewable sources in the future it will become completely carbon neutral.

The government also promotes the use of micro generation technologies e.g. solar panels, photovoltaics' and wind turbines. Electric heating appliances are compatible with all these micro generation technologies. As more low carbon and renewable sources of electricity become available, we will increasingly see electric heating being favoured over oil and gas.

Any company already using solar panels or wind turbines will benefit greatly from using the generated electricity rather than selling back to the grid.

### **GO GREEN WITH MAC**

Sites previously forced to use a cold machine as a result of prohibiting diesel fuel were at a disadvantage and our Static Electric Range now allows them to wash with a hot machine, which provides key benefits as hot water cleaning quickly loosens and dissolves dirt, solidified oils and fats providing a time saving of up to 35%. As well as being cost-effective and economical, surfaces that are cleaned with hot water dry faster enabling them to be used sooner.

Perfect for use in the automotive, industrial, food and shipping sectors. Electrical heating is exhaust gas and emission free at point of use.

Traditional oil and gas fired boiler systems require costly yearly maintenance whereas electric systems are maintenance free. Electric heating is 100% efficient at the point of use, so the energy used is turned into heat unlike boiler systems where energy is wasted through the flue.

Our electrically heated static range can be used wherever diesel fuel is prohibited or undesired meaning no diesel fuel, no storage or spillage.

### **CO<sup>2</sup> EMISSION FREE!**

MAC has developed innovative new technology in its Electrically heated range utilising a series of water heating elements along with sophisticated engineering, allowing us to no longer require a traditional diesel burner system.

### **USER FRIENDLY**

Almost instant hot water, no waiting for the oil burner to heat up the water and get to the point of use.

Cleaning with hot water significantly reduces the presence of germs without the need for disinfectants. This helps to protect the environment, as well as saving money and resources.

Hot water quickly loosens and dissolves dirt, solidified oils and fats providing a time saving of up to 35%. As well as being cost-effective and economical, surfaces that are cleaned with hot water dry faster enabling them to be used sooner.

Regulated constant temperature, If you require 50 degrees C that's what you get not a fluctuation of temperature as in oil fired boilers when they switch on and off.

If one heating element fails you still get hot water, if an individual component in an oil-fired boiler fails you get total heating loss until the engineer fixes it.

No washing or descaling of sooted up heating coils on site and the associated mess and labour cost.

## KEY FEATURES AND BENEFITS

### PLANTMASTER ELECTRIC:

#### Features

- Max 80°C with market leading heat retention
- 375lt stainless steel insulated water tank
- High-quality, stainless-steel cabinet option
- Available up to 48kw heating power
- 14 standard models with additional bespoke options available
- Interpumps rated up to 110°C
- Low revving 1450rpm motor
- Unique stainless steel subframe construction
- Easy access for servicing with hinged lid and removable hinged front door
- Double insulated hot water tank
- Low thermal loss in standby
- Easy to use control panel with digital temperature display

### REVOLUTION ELECTRIC:

#### Features

- Designed to run on a standard 32amp power supply
- Max 80°C with market leading heat retention
- 170lt stainless steel insulated water tank
- High-quality, stainless-steel cabinet option
- Available up to 24kw heating power
- 4 standard models with additional bespoke options available
- Interpumps rated up to 110°C
- Low revving 1450rpm motor
- Easy access for servicing with hinged lid and removable hinged front door
- Double insulated hot water tank
- Easy to use control panel

## **BENEFITS OF THE MAC ELECTRIC STATIC RANGE**

- CO<sup>2</sup> emission free
- High quality and very effective double boiler insulation mean the power consumption of the machine is drastically reduced in standby mode and overall heat retention is improved.
- All heating tanks are in stainless steel with high quality heating elements.
- Total control over water temperature is possible.
- The Plantmaster Electrics large 375 litre water tank and unique filling system gives us best in industry heat performance.
- Thanks to the pre-heating tank, hot water is almost instant and constant.
- Low noise levels due to slow running specialist pumps and no exhaust emission noise.
- Higher residual values of the machine and lower total cost of ownership as machine longevity is greatly increased especially with our Stainless-Steel cabinets.
- High quality components for reliability and longevity.
- Largest range in the industry plus a bespoke special applications service and an extensive range of options.
- Stainless steel or Powder coated steel outer cabinet options available on all models.
- Heating capacity from 18-48kW and various water flow and pressure combinations offer best choice in industry and cover all cleaning applications.
- PLC controlled with Staggered start of heating elements on 36kW and above systems.
- 24 kW machines capable of running on a 32 Amp supply

## ELECTRIC RUNNING COSTS VS DIESEL

There are many differences that should be considered rather than a direct comparison of a constant use of diesel against electric. I have tried below to outline the positives of electric against the negatives of oil-fired boilers.

DIESEL	ELECTRIC
Once the pressure washer is operated and burner switched on there is a considerable delay (30 secs plus) before you get useable hot water at the outlet.	Outlet water temperature is at what you want almost instantly
Pre-set temperatures require the burner to switch on and off, to try and give you the temperate required e.g. 60°C. The hysteresis between thermostat setting and temperature output is very large on most pressure washers, possibly 20°C plus.	Set temperature is instant and continuous.
Any hot water left after use is wasted, due to no insulation of heating system.	Heating tank is double insulated to retain generated heat.
Operation of the trigger on and off, switches the boiler on and off every time. This causes more pollution from unburnt fuel and more wear and tear of boiler components e.g. fan motor, fuel solenoid, flow and pressure switches.	Heating elements switch much less often with fewer moving parts used.

## ELECTRIC MACHINE HEAT LOSS

I am sure we will be asked about the heat loss while the electric machine is left switched on and not used. The costs are the same if the machine is left on all the time, or the loss is recovered when the machine is switched back on before use. I have done a few calculations below:

From experience and testing the heat lost over a 12 to 14hour period is approx. 6/7°C This could vary slightly due to ambient temperatures. To be on the cautious side I have done a 7°C loss and a 10°C loss.

Machine	Tank size	Temp loss overnight	Cost to reheat	Cost to heat a full tank from 10°C to 80°C
Revolution Electric	175 Litre	7 degrees C	£0.21p	£2.05p
	175 Litre	10 degrees C	£0.30p	£2.05p
Plantmaster Electric	375 Litre	7 degrees C	£0.44p	£4.45p
	375 Litre	10 degrees C	£0.59p	£4.45p

## KEY INDUSTRIES

- Food processing
- Food storage
- Automotive
- Shipping
- Industrial
- Production plants
- Hygiene areas
- Hospitals
- Kitchens

## ADWORDS & KEYWORDS

- Electrically heated pressure washer
- Electric heated pressure washer
- All electric pressure washer
- Electrically operated hot pressure washers
- Electrically heated static pressure washers
- Electrically heated mobile pressure washers
- Electric only pressure washers
- All electric hot water pressure washer