

# EffiMax™

## Efficiency Management System for Hot Air Generators

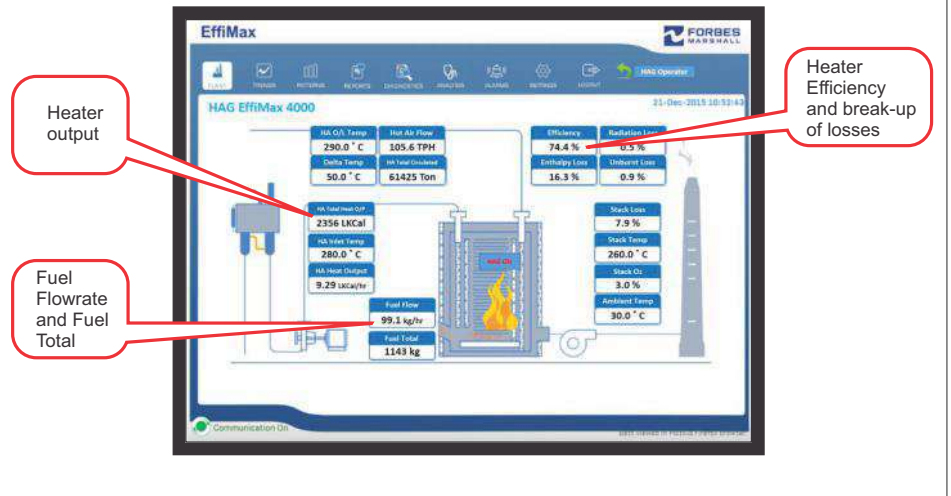


# EffiMax™

The EffiMax™ provides real-time readings of fuel flow, direct hot air generator efficiency, heat generated, hot air flow and total fuel consumed, which adds to its functionality and effectiveness. The central processing unit compiles the data and calculates the efficiency of the heater in accordance with BS845 standard. This provides a break-up of the losses and enables the operator to take corrective action, thus improving the efficiency of the heater.

Operators agree that installing the EffiMax™ greatly improves the way hot air generators are operated. It avoids the need for more expensive distributed control systems, guessing, or sampling and manual calculation and helps achieve the goal of lowering fuel bills, increasing profits, and improving plant efficiency.

## EffiMax



The Forbes Marshall online efficiency monitoring package, EffiMax™ for Hot Air Generators is designed to provide operators with precise and up-to-date feedback of their systems on a real-time basis.

By monitoring key parameters such as flue gas oxygen levels, stack gas temperature, hot air inlet and outlet temperature, radiation losses and density compensated hot air flow rate, the user can effectively decide on the course of action required to optimise heater operation.

The EffiMax displays all measured parameters, such as calculated losses, scope for savings and detailed efficiency on a touch-screen, alongwith trends and alarm screens. The alarm values can be set by the operator. In addition, all parameters can also be linked to the PC provided with the accompanying user friendly data acquisition and diagnostic software package. The software provides analytical information in the form of shift / daily / hourly / monthly and yearly logs, which is extremely useful for system operators.

### Display Features

The general mimic screen displays a representative schematic of Hot Air Generator with instantaneous value of all measured parameters

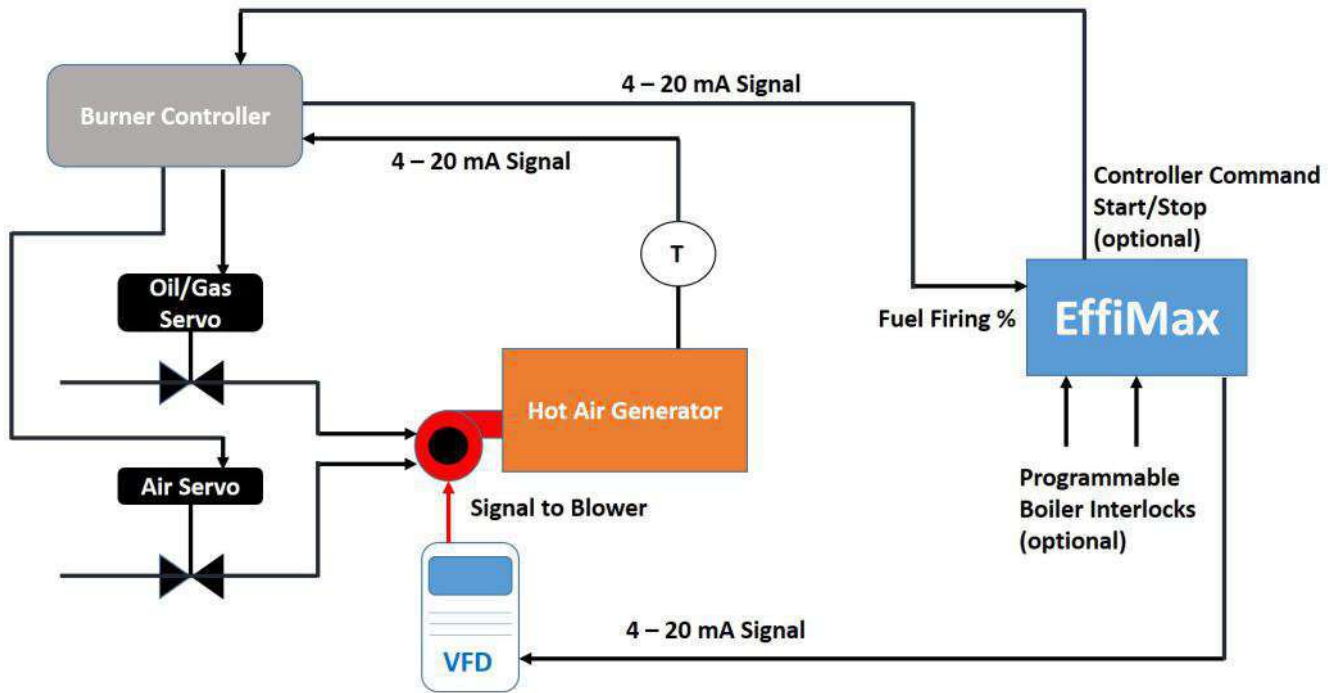
The parameter screen displays graphical trends for measured parameters, losses and efficiency parameters

The alarm screen displays all deviations from desired results with diagnostic tips to resolve these

The PC can be located up to 1 km from the computation unit in a central control room or utility manager's cabin as per user convenience

The data log screen indicates all important parameters logged at the end of every hour and trends suitable for hard copy

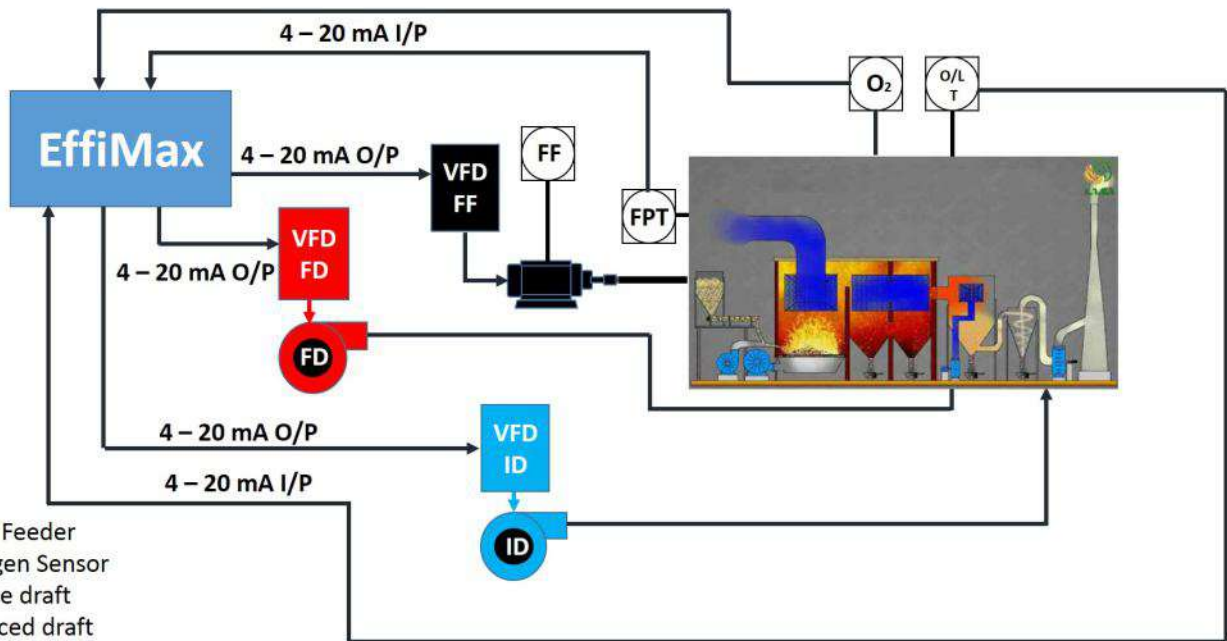
## The EffiMax 4000 System for Oil / Gas



T = Hot air generator Outlet Temperature

VFD = Variable Frequency Drive

## The EffiMax 4000 System for Solids



- FF – Fuel Feeder
- O<sub>2</sub> – Oxygen Sensor
- FD – Force draft
- ID – Induced draft
- FPT – Furnace Pressure Transmitter
- O/L T – Outlet Temperature
- VFD – Variable Frequency Drive

### The EffiMax Package Includes

Oxygen analyser probe for oxygen measurement in flue gases  
Air inlet (return) temperature measurement  
Hot air outlet temperature measurement  
Stack temperature measurement  
Combustion air temperature measurement  
Computation and display unit  
Hot air flow meter  
Data acquisition and diagnostic software package  
Oil / gas flow meter (in EffiMax 3000)  
Oxygen trim (in EffiMax 4000 on Oil / Gas / Solids)  
ID-FD feeder automation (in EffiMax 4000 Solids)  
Hot air heat output

### The EffiMax Advantage

Streamlined complete package  
Simple installation and maintenance  
Continuous monitoring and reporting  
Quick payback  
Adaptable to any hot air generator system  
Web connectivity with mobile app

### The EffiMax System Provides Online Recording and Trend Analysis of the Following

Hot air generator system efficiency %	Hot air outlet temperature
Stack loss %	Density compensated hot air mass flow rate
Enthalpy loss %	Oxygen %
Radiation loss %	Stack temperature
Air inlet temperature	Combustion air temperature

### Additional Features

Oil / gas / solids fuel flow  
Hot air generator direct efficiency  
Total fuel consumed  
Hot air generator heat output rate and total heat output



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CIN No.: U28996PN1985PTC037806

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