

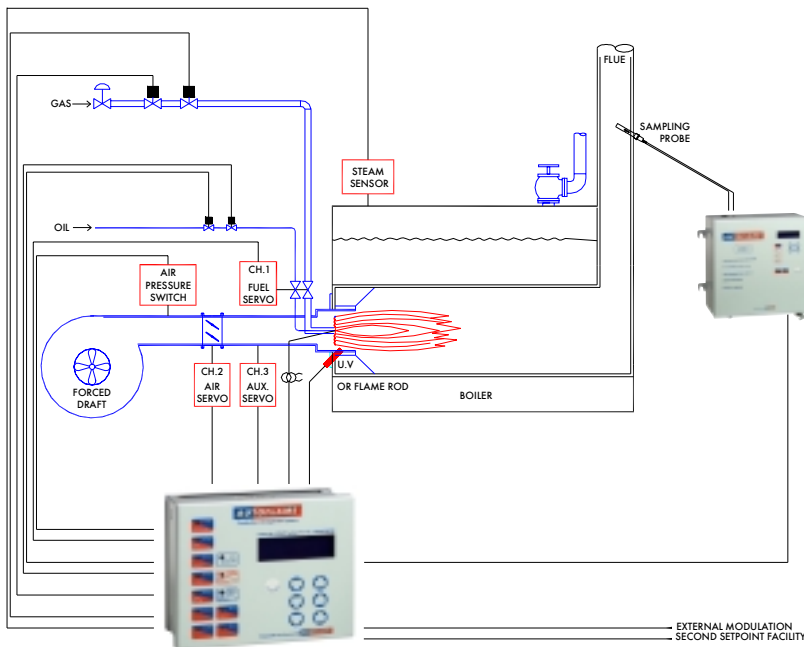
Combustion Management Systems



OVERALL DIMENSIONS

Width - 169mm (6 5/8") Height - 140mm (5 1/2") Depth - 67mm (2 5/8")

MINI MK5 EVOLUTION BURNER MANAGEMENT SYSTEM



Main Features

- Micro Modulation - Fuel/Air Ratio Control for commercial & small burner applications
- Internal Flame Safeguard Control
- Lead Lag Control for both Steam and Hot Water (Intelligent Boiler Sequencing- IBS)
- Precise Target Setpoint Control (PID)
- 3 Parameter Trim, O₂, CO₂ & CO

To ensure maximum efficiency in the operation of any boiler, two requirements are of paramount importance.

The first being that the air to fuel ratio is kept to the minimum to ensure complete combustion within the limitations of the combustion head design and that these settings, once arrived at, are infinitely repeatable to an incredibly high degree of accuracy.

The second requirement should be that the target temperature or pressure of the boiler is monitored by the combustion system, and that at all times exactly the right amount of fuel and air is fired to achieve the target value.

The inherent hysteresis of all mechanical systems that have traditionally involved cams and linkages to characterise the fuel/air ratio have made this sort of accuracy impossible. The accuracy of response of fuel input to the monitored target temperature/pressure of the boiler has meant that the target set by the operator has at most times been exceeded or fallen short of. Autoflame Engineering were the first in the World to develop a system that overcomes all these problems by utilising the latest micro processor technology.

The Micro Modulation system provides an easily programmable and flexible means of optimising combustion quality throughout the load requirement range of the boiler/burner unit whilst ensuring the temperature is accurate to within 1 °C (2 °F) and pressure to within 1.5 p.s.i. The positioning accuracy of the direct drive motors controlling the air damper and fuel valve is 0.1 angular degrees at any position in the load range. At the heart of the system is the control module which contains the micro computer and power supply. The front panel of the control module features touch sensitive key pad entry data and LCD display.



Mini Mk5 Evo M.M. Features & Benefits

Micro Modulation Fuel/Air Ratio Control

- Independently controlled fuel and air positioning motors with an accuracy of 0.1 of an angular degree
- 2 separate fuel curves
- 3 servo drives
- 20 x 4 line LCD Display
- Error diagnostic codes displayed.
- Single point change facility for commissioned fuel/air ratio
- User definable optimum ignition position

Exhaust Gas Analyser (separate module)

- O₂, CO₂, CO trim, NO, SO₂ or NO₂ continuous monitoring and display
- User definable combustion limits on O₂, CO₂, CO, NO and exhaust gas temperature
- Exhaust, ambient temperature and ΔT displayed
- Combustion efficiency calculation – net or gross displayed
- Local display for automatic calibration

Burner Control Box Functions

- Full flame supervision with UV or Ionisation flame detection
- Burner Control Functions with user configurable timings
- Lockout history of last 16 incidents with date, time, function & reset

Setpoint Control Features

- Internal 3 term PID control to required setpoint for both pressure and temperature
- Software adjustable thermostat/pressure stat. facility.
- Second setpoint user adjustable
- Fuel Flow Metering – instantaneous and totalised
- Hand/Auto/Low flame hold facilities on facia

User Features

- Password protection, user configurable options and parameters
- IR COM's port for upload/download of commissioned data and operating history
- All systems data exports via gateway (Modbus/Metasys)
- Internal calendar clock display and logging functions

Specifications

- 120/230V, 50/60 Hz switchable standard operation
- IP65/NEMA 4 enclosure with panel facia mounting

Peripherals:



Positioning Servomotors

Load Detectors

Infrared Upload/Download

Autoflame Engineering Ltd.

Telephone +44 (0)20 8695 2000 Fax +44 (0)20 8695 2010
Email sales@autoflame.com Website <http://www.autoflame.com/>