

## Cape Boiler & Heater Co. Cape Town, South Africa

*Autoflame, in partnership with Combustion Technology, successfully completed the first installation and commissioning in South Africa of an Autoflame Mini Mk9 controller on a newly manufactured THERMAX Thermal Oil Heater designed and built by Cape Boiler & Heater Co. The project was carried out at Cape Boiler's Cape Town facility and represents a milestone in the adoption of advanced digital combustion management technology in the region.*



### THE PROBLEM

The existing systems offered limited control accuracy, leading to:

- **Inconsistent combustion** performance
- **Higher fuel consumption** and energy waste
- **Increased maintenance frequency** due to inefficient system tuning, resulting in **greater downtime**

### THE GOALS

- **Improve fuel efficiency** compared to the customers current systems
- **Lower emissions** and promote cleaner combustion
- **Enhance safety** through real-time oxygen trim and continuous monitoring
- Ensure **stable operation and precise temperature control** throughout the load range
- Implement **preventative maintenance capabilities** to reduce unplanned downtime and improve reliability

### THE STRATEGY

- **Supplied and commissioned a new THERMAX Thermal Oil Heater** equipped with an **Autoflame Mini Mk9** advanced controller
- **Integrated patented instant UV O<sub>2</sub> Trim scanners** for precise oxygen measurement and real time combustion optimisation
- **Configured burner operation** to leverage maximum turndown ratios (up to 4:1 on liquid fuels and 10:1 on gas) for efficient load management
- Utilised the heaters **downward fired, four pass, vertical design** with an **air cooled outer shell**, ensuring enhanced reliability, faster commissioning, and safer operation
- Ensure **proactive maintenance and fault diagnostics** through the Autoflame Mini Mk9's advanced monitoring system

**Cape Boiler & Heater Co.**  
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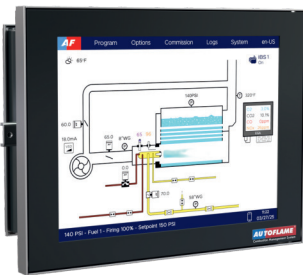
## THE RESULTS

- Achieved **up to 15% energy savings** through optimised combustion control
- Delivered **significant emissions reductions**, meeting modern efficiency and environmental standards
- Improved **safety and reliability** via continuous O<sub>2</sub> trim and real time performance monitoring
- **Reduced unplanned downtime** and maintenance costs through built in diagnostic and preventative maintenance features



## THE EQUIPMENT

**Mini 9 MM Controller**



**Mk9 UV Trim Scanner**



**Autoflame Servomotors**



## TESTIMONIAL

“Every boiler and burner should be fitted with Autoflame controls” - **Sebastian Kellerman (Managing Director, Cape Boiler & Heater) & Grant Renecke (Managing Director, Combustion Technology)**

