

FH/E/2

On-load cleaning technology for increased heat transfer efficiency of fired heaters

The challenge

Maximising the heat transfer efficiency of fired heaters is a key consideration for designers and operators of oil refineries and petrochemical plants. The heat transfer surfaces must be kept clean with minimum operating costs to help increase crude oil throughput and process availability. Clyde Bergemann sootblowers are designed to meet this challenge.

With over 40 years experience of on-load boiler cleaning in the petrochemical market, our vast knowledge and expertise is key to our success in this market. Our proven technologies for on-load cleaning are installed in over 230 oil refineries and petrochemical plants across the world and, as oil demand rises, the need to maximise throughput and increase capacity is vital.

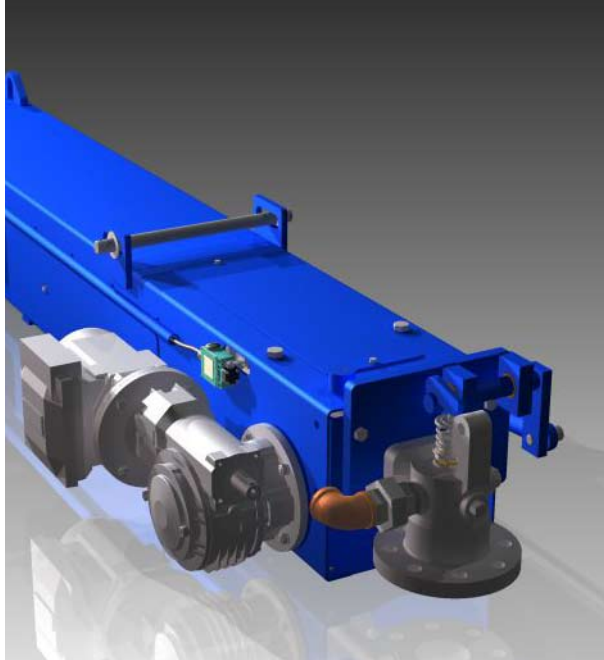
Clyde Bergemann's FH (**F**ired **H** Heater) model is specifically designed for the arduous conditions within a refinery or petrochemical plant, in particular the hazardous area requirements.

Our solution

The Clyde Bergemann FH/E/2 long retractable sootblower is the global standard for refinery and petrochemical fired heater (furnace) applications. This low cost, easily maintainable sootblower is constructed for dependable operation indoors and outdoors in all climates. Its compact design is highly compatible with the space restrictions often found on fired heater installations.

The FH/E/2 offers many design features key to the petrochemical/refining industry, in particular its electrical components which are supplied to relevant standards with ATEX certified equipment available to meet hazardous gas environments. Electrical parts can be supplied to meet specific country requirements (e.g. Russia -GOST, GGTN, Korea - KGS or Canada - CSA, etc).





Increased throughput and process availability

Operation sequence

The single fixed electric motor, through a reduction gearbox, induces lateral and rotary motion in the lance. The lance is mounted to a travelling carriage assembly which is driven by chain, with lateral motion generated directly through sprockets and rotary motion generated through a secondary gearbox. When the lance advances sufficiently for the nozzles to clear the wallbox, the supply valve is opened automatically and sootblowing commences.

At the furthest extent of travel the carriage trips a limit switch which reverses the direction of travel until another limit switch signals the end of the cycle when the lance is fully withdrawn.

FH/E/2 technical details	
Blowing medium	steam 7 to 70 bar max, air 7 bar min
Typical steam consumption	54-76 kg/min
Effective blowing radius	1050-3500 mm
Typical rate of lance travel	2,140 mm/min at 50 Hz
Typical lance rotation	13 rpm at 50 Hz
Blowing time	operating time minus 30 seconds
Approx. weight	(300+80S)kg - S is stroke in metres

⚙️ Main features

- Compact box section for restricted spaces encloses all moving parts for personnel protection
- Specially designed for ease of inspection and maintenance
- Pre-lubricated travelling carriage provides smooth, reliable movement without any high-speed gearing or special drive motor
- Designed for travel lengths of up to 5.5 metres
- Single electric motor drive that combines traverse and rotary movement during the forward and reverse travel
- Smooth reliable movement without any high speed gearing or special drive motor
- Stationary power pack located on the outboard end of the blower away from heat and boiler gases
- Solid roller bearing support positioned on the box section front plate provides ease of lance movement, durability and long life



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