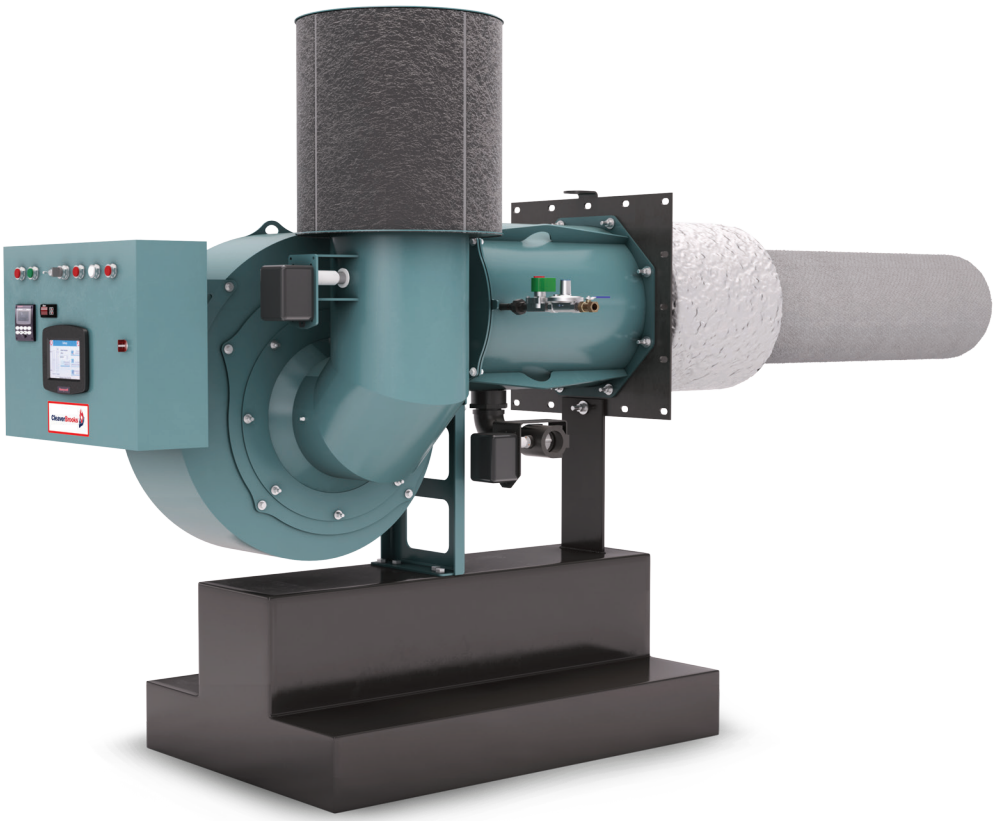
CleaverBrooks®



# PROFIRE®-MTH SERIES BURNER

## 2.5 TO 63.0 MMBTU/HR

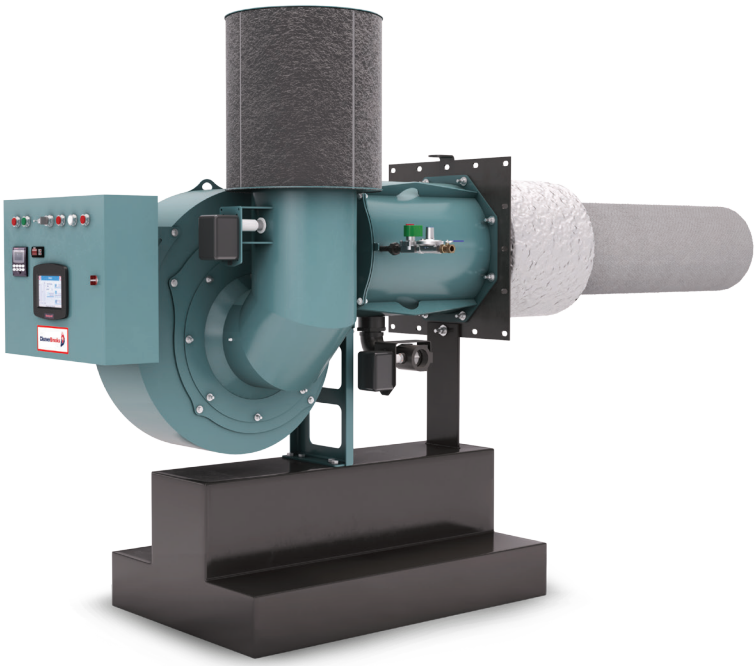
Ultra-low NOx burner technology capable of <9 ppm

# Advanced Technology.

## Endless Possibilities.

Designed for process heating applications such as thermal fluid systems and hot oil heating, the ProFire®-MTH series features a low pressure drop firing head design and low blower motor horsepower requirement for increased efficiencies. Advanced technology allows the MTH series to offer ultra-low NOx, low CO emissions and up to 5:1 turndown on natural gas.

## Engineered for maximized EFFICIENCY and fuel cost savings.



### Swing-Away Air Housing

Provides easy access to the nozzle, scanner and the pilot for inspection or removal. No disconnection of fuel or power lines required.

### Removable Mantle

The mantle is easily removable without disassembling the burner from the boiler. It can be serviced, inspected and replaced without disconnection of fuel or power lines.

### Parallel Positioning

System includes a completely integrated burner control with fully modulating flame safeguard from a single source. High accuracy and resolution with repeatable actuator positions for efficient operation. Digital positioning feedback from actuators ensures precise control, repeatability, reliability and independent ignition position for greater flexibility.

### High Turndown

Up to 5:1 turndown capabilities on natural gas allow for reduced heat loss due to short cycling, faster response times to meet load demands and less mechanical cycling of load components.

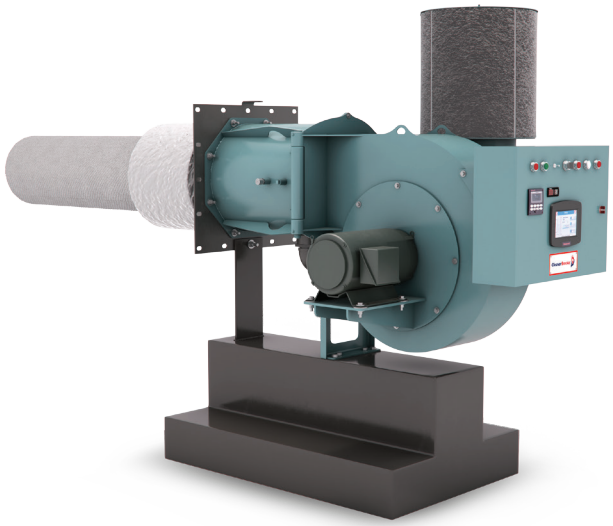
### Low Blower Motor HP

Advanced engineering provides increased combustion air fan efficiency, requiring lower blower motor horsepower, thus increasing electrical savings.

# The MTH Burner Explained:

The standard MTH series includes full modulation with parallel positioning and offers natural gas and propane gas from 2.5 to 63.0 MMBTU per hour. Capable of ultra-low NOx/CO emissions without FGR, the MTH series features a rugged alloy fiber material combustion element over a stainless steel frame, providing flexibility, longevity and trouble-free operation for the life of the burner. The design is ideal for use with applications where low emissions are required and FGR is impractical or inaccessible. The MTH burner with surface-stabilized combustion guarantees reliable, quiet operation and is capable of less than 9 ppm, meeting today's most stringent NOx emission levels.

## MTH Burner



**Parallel Positioning** standard for optimal control throughout the firing range

**Premix Fuel** allows uniform flame distribution, low CO emission and high turndown

**Hinged Air Housing** for easy access to internal components

**Combustion Air Fan** Efficient airfoil blade design smoothly lifts airflow over the entire blade, resulting in less motor horsepower requirements and significant noise reduction when compared to standard force draft fans

**Ultra-Low NOx Emissions** up to 9 ppm achieved without FGR

**Rugged Surface-Stabilized Premix Combustion Element** ensures quiet combustion and ultra-low NOx/CO emissions throughout entire firing range

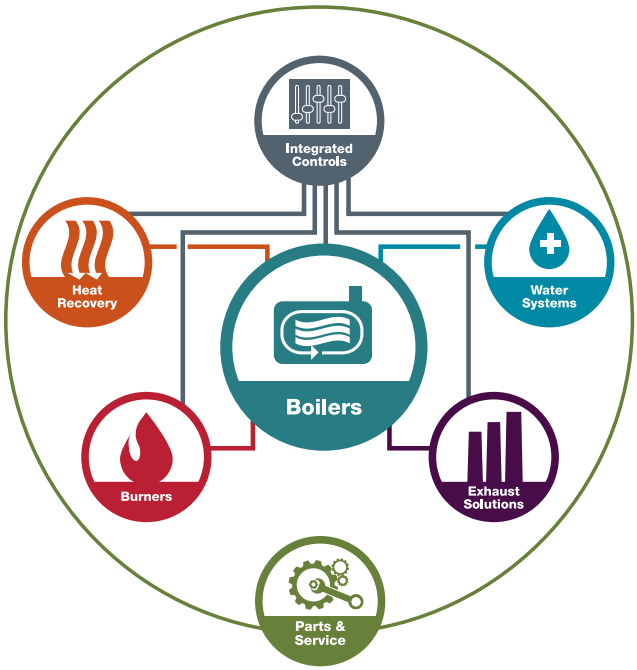
**UL/cUL Listed** from 2.5 to 16.0 MMBTU

### Low NOx Emissions Configuration

| Burner Model & Frame Size | 25-2 | 35-2 | 42-3 | 52-3 | 63-3 | 84-4 | 105-4 | 126-4 | 147-4 | 160-4 |
|---|---|---|---|---|---|---|---|---|---|---|
| Gas Input (MBTU/hr) | 2,500 | 3,500 | 4,200 | 5,250 | 6,300 | 8,400 | 10,500 | 12,600 | 14,700 | 16,800 |
| BHP @ 80% Efficiency | 60 | 83 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
| Blower Motor HP | 2 | 5 | 5 | 7 1/2 | 10 | 10 | 10 | 15 | 20 | 25 |
| Furnace Pressure (in w.c.) | 4 | 4 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Std Gas Train Pipe Size (in.) | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 2.0 | 2.0 | 2.0 | 2.5 | 2.5 |
| Min. Gas Supply Req'd (PSI) | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.5 |
| Est. Shipping Wgt (lbs) | 700 | 700 | 900 | 900 | 900 | 1,250 | 1,250 | 1,250 | 1,250 | 1,250 |

| Burner Model & Frame Size | 210-5 | 252-5 | 294-6 | 336-6 | 378-6 | 420-7 | 504-7 | 540-7 | 630-8 |
|---|---|---|---|---|---|---|---|---|---|
| Gas Input (MBTU/hr) | 21,000 | 25,200 | 29,400 | 33,600 | 37,800 | 42,000 | 50,400 | 54,000 | 63,000 |
| BHP @ 80% Efficiency | 500 | 600 | 700 | 800 | 900 | 1,000 | 1,200 | 1,300 | 1,500 |
| Blower Motor HP | 30 | 40 | 50 | 50 | 60 | 60 | 75 | 75 | 100 |
| Furnace Pressure (in w.c.) | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 10 | 10 |
| Std Gas Train Pipe Size (in.) | 2.5 | 3.0 | 3.0 | 3.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Min. Gas Supply Req'd (PSI) | 3.5 | 3.5 | 3.5 | 4.0 | 4.5 | 5.0 | 5.0 | 5.0 | 7.0 |
| Est. Shipping Wgt (lbs) | 1,400 | 1,400 | 1,500 | 1,500 | 1,500 | 1,800 | 1,800 | 1,800 | 1,900 |

Input is based on fuel BTU content and altitude of 2,000 feet or less. If altitude > 2,000 feet and < 8,000 feet, derate capacity 4% per 1,000 feet over 2,000. Consult factory for higher altitudes. Gas input is based on natural gas with 1,000 BTU/cu.ft. and 0.60 gravity. Consult factory for 50Hz. applications. UL/cUL Listed from 2,500 to 16,000 MBTU/hr.




# Total integration goes far beyond burners.

For more than 80 years, Cleaver-Brooks has built a reputation for innovation in the boiler solutions industry. We remain committed to introducing technology and products that enable a more energy-efficient and environmentally friendly generation of steam and hot water.

When you come to us for a burner solution, you can know that each element is created to the highest standards and all will work together seamlessly to give you a highly efficient and reliable solution. To learn more, please call or visit us online.

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