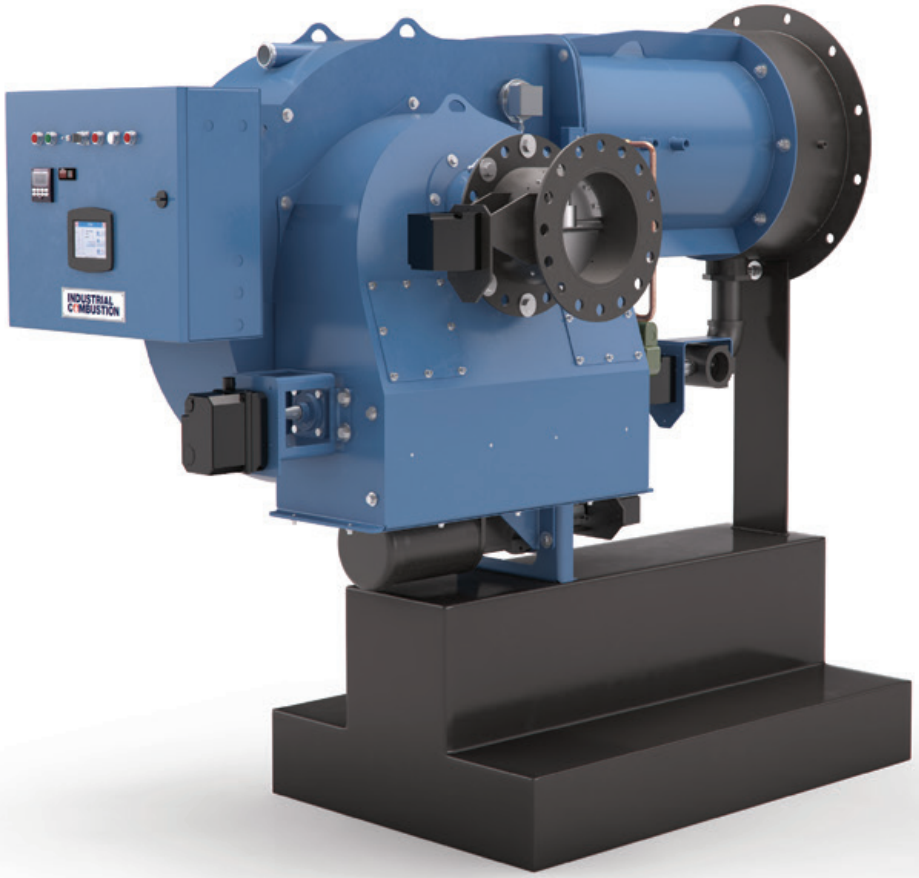
E SERIES

LOW NOX EMISSIONS BURNERS

16.8 - 42.0 MMBTU/HR



HYDROGEN BLEND READY

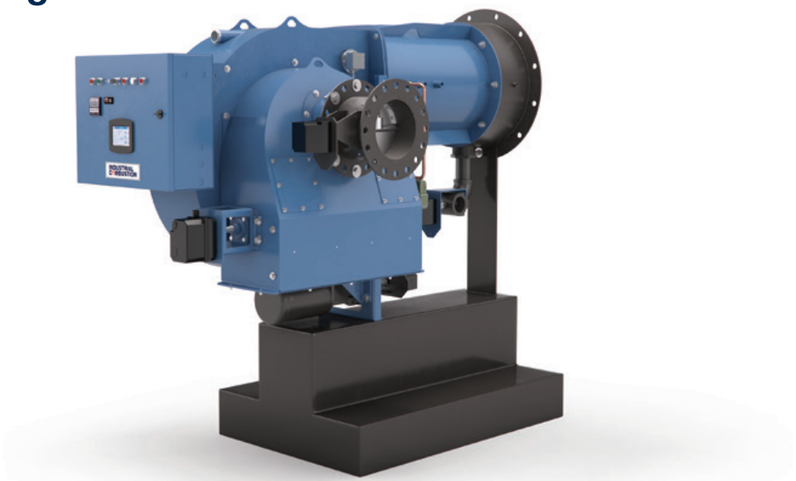
INDUSTRIAL COMBUSTION

Advanced Technology

Endless Possibilities.

Suitable for firetube, firebox, and watertube boilers; the E series features a low pressure drop firing head design and low blower motor horsepower requirement for increase efficiencies. Advanced technology allows the E series to offer low NOx emissions options, up to 10:1 turndown with natural gas, up to 8:1 turndown with light oil and up to 8:1 turndown with low NOx natural gas.

Engineered for maximized EFFICIENCY and fuel cost savings.



Unique Air Damper

Rotary blade configuration offers precise control of combustion air flow throughout the entire firing range. The unique profile of the rotary damper restricts air flow at low firing ranges leading to increased turndown capability.

Efficient Gas Combustion

Gas is introduced through orifices ahead of the diffuser, providing superior mixing of gas and air with excellent flame retention at all firingrates. The gas manifold is standard on all oil burners for future gas firing.

High Turndown

Up to 10:1 turndown on frame size 2 and 3 with natural gas due to dual gas manifold and 8:1 with the low NOx option. High turndown allows for reduced heat loss due to short cycling, faster response times to meet load demands and less mechanical cycling.

Low Blower Motor HP

Design includes an air fan with an air foil blade that increases blower efficiency and lowers the blower motor horsepower, thereby increasing year-round electrical utility savings.

Parallel Positioning Option

The use of parallel positioning systems eliminates the need for linkage and reduces setup time. Better control throughout the firing range is also achieved with the use of a parallel positioning system, thus increasing burner efficiency.

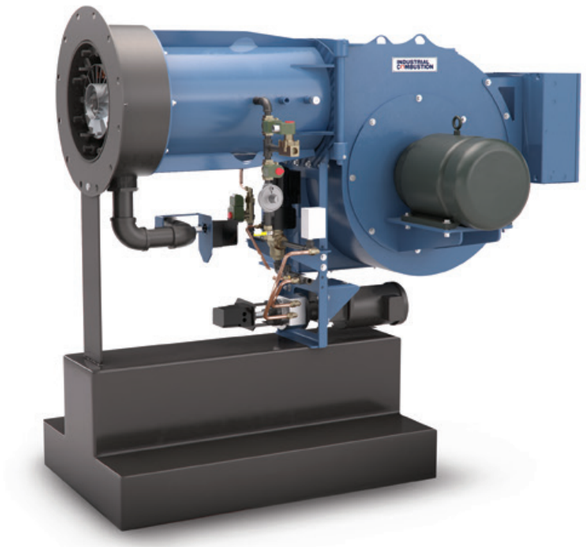
Combustion Air Impeller

Highly efficient backward-curved aluminum impeller with the ability to maintain its original balance by avoiding dust collection often seen with forward curved blowers.

The E Burner Explained:

The E series burner offers: natural gas, propane gas, air atomized #2 oil and combination gas and oil fuel options from 16.8 to 42.0 MM BTU per hour. The LNE burner, capable of <30 PPM NOx emissions offers: natural gas, propane gas, air atomized #2 oil and combination gas and oil fuel options from 16.8 to 42.0 MM BTU per hour. Full modulation operation and cam trim are standard for greater efficiency and cost savings.

E/ LNE Burner



Low-pressure air atomizing system on oil with rotary vane compressor

Piston-type positive displacement oil metering system

Parallel Positioning available for optimal control throughout the firing range

Rotary Air Damper precise fuel-to-air ratios

Hinged Air Housing for easy access to internal components

Gas Manifold on oil burners standard for easy upgrade to combination units

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

Induced FGR FGR modulating valve and shutoff valve (LNE)

No. 2 Oil capability for back-up fuel (LNE)

UL & ULc listed with specific controls and gas trains

Electrical Cabinets UL508 engineered and assembled

H2 HYDROGEN BLEND READY

*Can be used with a hydrogen blend up to a maximum of 20% H2. Wobbe index to be within 10% of NG. Supply pressure and gas valve sizing to be selected accordingly. For more information on hydrogen combustion please connect with Industrial Combustion or your local IC representative.

Emissions	Frame	Model Range	Boiler HP	Capacities		Mode of Operation	Fuel	Parallel Positioning
				MBH	GPH			
Uncontrolled	Size 2 - 3	168 - 420	400 - 1,000	16,800-42,000	120 - 300	Full Modulation	Gas, Oil, Comb.	Optional
<30 PPM	Size 2 - 3	168 - 420	400 - 1,000	16,800-42,000	120 - 300	Full Modulation	Gas & Comb.	Optional

Uncontrolled Emissions Configuration (EL, EG, ELG)

Burner Model & Frame Size	168-2	210-2	252-2	294-3	336-3	378-3	420-3
Gas Input (MBtu/hr)	16,800	21,000	25,200	29,400	33,600	37,800	42,000
Oil Input (MBTU/hr)	120	150	180	210	240	270	300
Boiler HP @ 80% Eff.	400	500	600	700	800	900	1,000
Blower Motor HP	15	15	15	20	25	30	40
Separate Compressor Motor HP 3 Phase	5	5	7 1/2	7 1/2	7 1/2	15	15
Oil Metering System Motor HP 3 Phase	1/2	3/4	3/4	3/4	3/4	1	1
Furnace Pressure (“w.c.)	6	6	7.5	7	9	8	8
Standard Gas Train Pipe Size (in.)	3	3	3	3	3	4	4
Gas Pressure Required (PSI)	3.0	3.9	4.3	2.6	3.1	3.6	3.7
Shipping Weight	2,200	2,200	2,200	5,000	5,000	5,000	5,000

<30 PPM Low NOx Configuration (LNEG, LNELG)

Burner Model & Frame Size	168-2	210-2	252-2	294-3	336-3	378-3	420-3
Gas Input (MBtu/hr)	16,800	21,000	25,200	29,400	33,600	37,800	42,000
Oil Input (MBTU/hr)	120	150	180	210	240	270	300
Boiler HP @ 80% Eff.	400	500	600	700	800	900	1,000
Blower Motor HP	15	20	25	30	40	40	50
Separate Compressor Motor HP 3 Phase	5	5	7 1/2	7 1/2	7 1/2	15	15
Oil Metering System Motor HP 3 Phase	1/2	3/4	3/4	3/4	3/4	1	1
Furnace Pressure (“w.c.)	6	6	6.5	8	9	8	8
Standard Gas Train Pipe Size (in.)	3	3	3	3	3	4	4
Gas Pressure Required (PSI)	3.0	3.9	4.3	2.6	3.1	3.6	3.7
FGR Line Piping Size	8	8	8	10	10	12	12
Shipping Weight	3,000	3,000	3,000	5,500	5,500	5,500	5,500

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., 0.60 gravity, 0 “w.c. furnace pressure. Oil input based on BTU/gal.

INDUSTRIAL COMBUSTION

351 21st Street, Monroe, WI 53566 USA
608.325.3141 · info@ind-comb.com
ind-comb.com

IC-SA-1545
12/22