

# MIURA



## MIURA'S LX SERIES ON DEMAND STEAM BOILERS

**LOW NO<sub>x</sub> & HIGH EFFICIENCY**

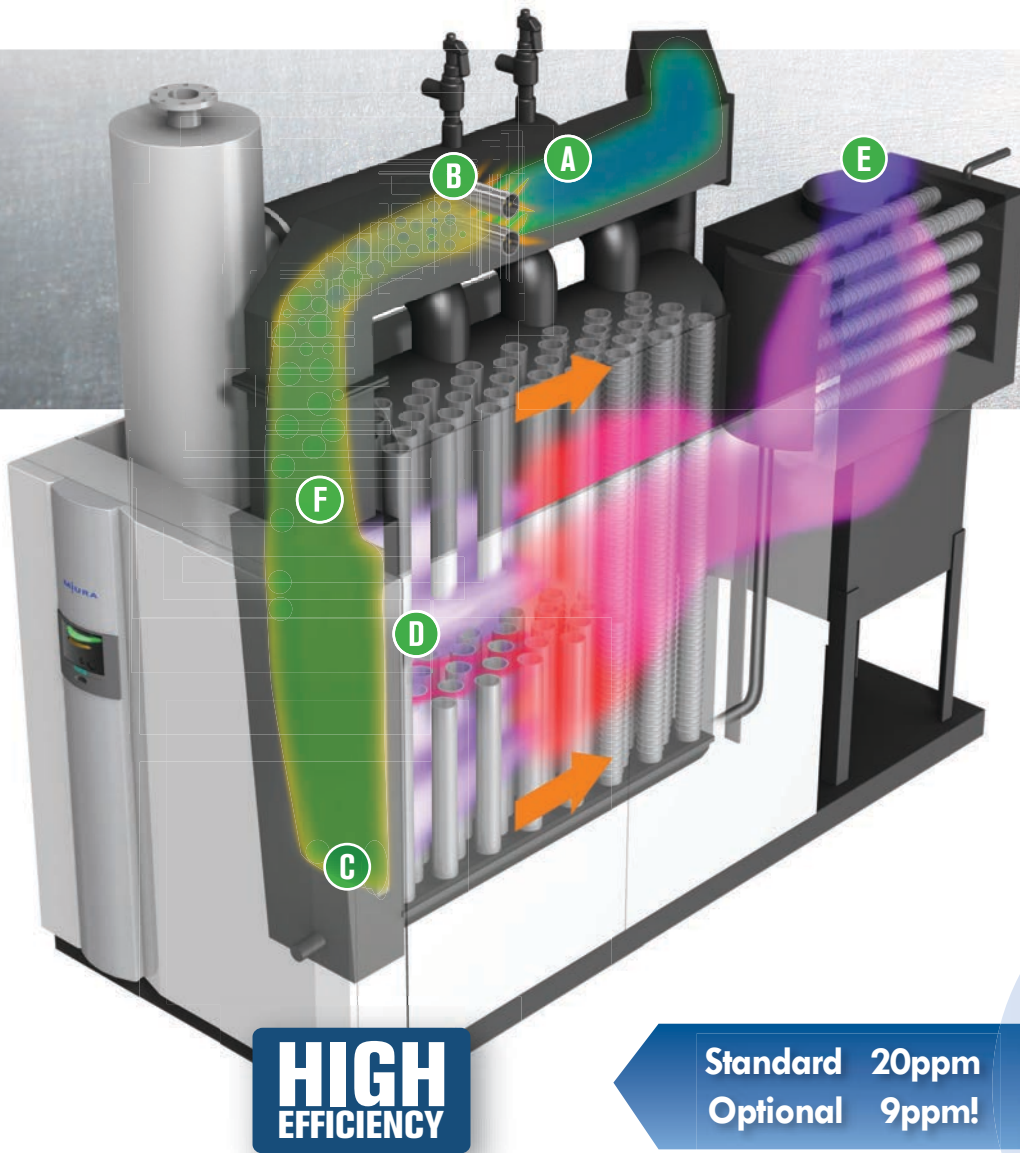


Newly  
Redesigned



# UNIQUE COMBUSTION

Although conventional wisdom states that a pressure vessel with the largest surface area will be the most efficient, this does not hold true for MIURA's unique boiler design. MIURA's proprietary burner is specifically designed for each pressure vessel resulting in optimal performance. Natural gas and propane burn very cleanly and as a result we can forgo conventional wisdom shying away from flame impingement. By spreading the flame **directly onto the water tubes**, this greatly reduces the flame temperature resulting in **higher efficiency** and **lower NOx** (without the need for gas re-circulation). In addition, each pressure vessel includes fin tubes that increase the surface area and turbulent flow to the maximum heat transfer. Most importantly, each tube has been designed to provide optimum protection against thermal shock.

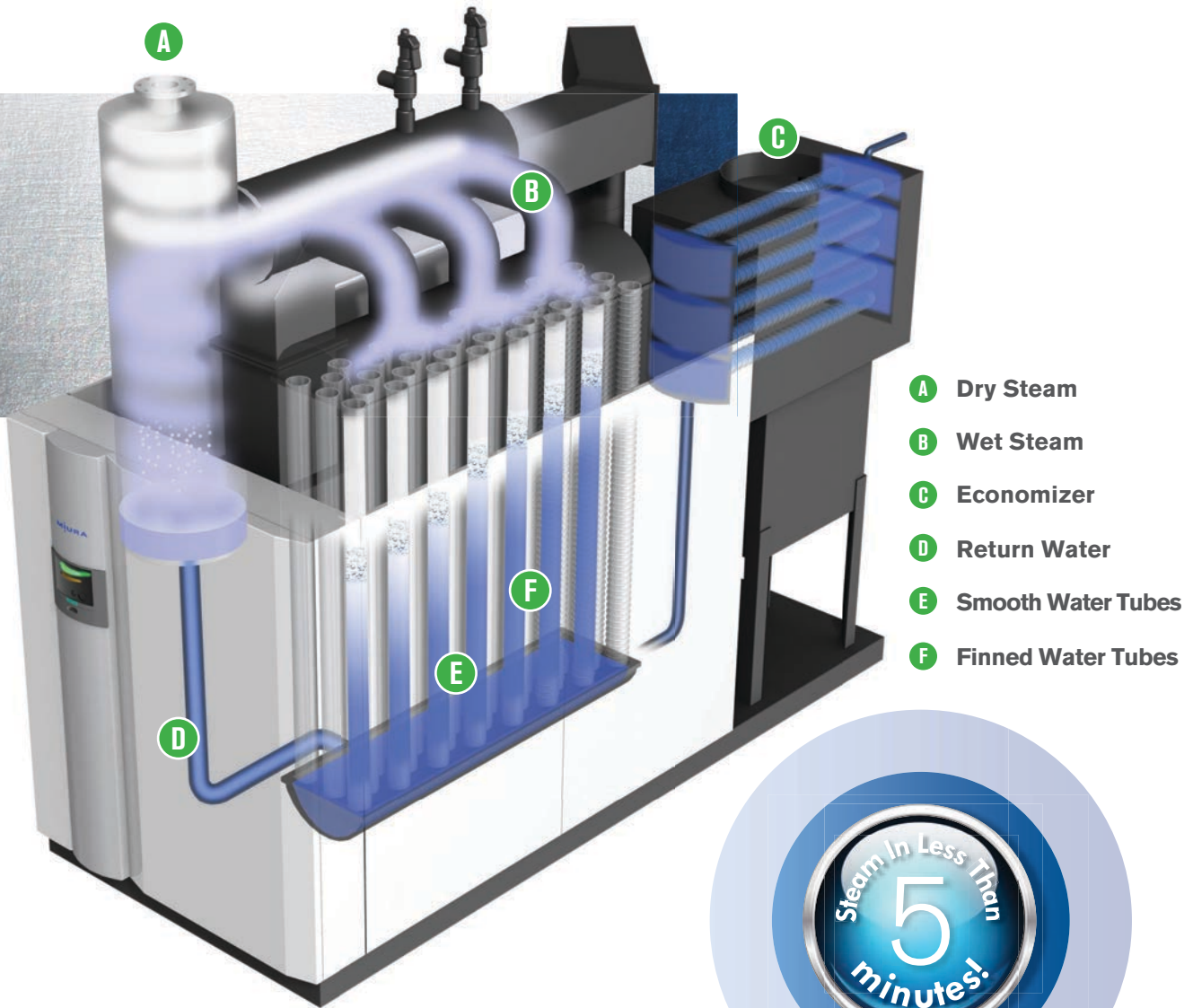


- A Combustion Air
- B Natural Gas
- C Metal Burner
- D Burner Flame
- E Exhaust Gas
- F PRE-MIX GAS and AIR



# INHERENT SAFETY

The **low water content** in the LX boiler design also contributes to a much safer boiler design. Because the interior is multiple tubes sandwiched together instead of one large vessel, failure is substantially less catastrophic. With well over 140,000 boilers in service, there has never been a fatality associated with a MIURA boiler failure.



# PREMIER DESIGN

Because of their low water content and exclusive “floating header” design, MIURA LX Boilers produce steam in less than 5 minutes. This quick cycle not only helps you get to work faster, but also use substantially less gas. The small footprint occupies 50% less floor space than typical firetubes, with no need for tube space. Double your capacity in the same space, or reduce space requirements by half for new construction. And best of all, MIURA’s premier design results in fuel-to-steam efficiencies of up to 87%.

# M.I. CONTROL STEAM OPS

The secret behind our industry-leading energy management system is the Multiple Installation controller (M.I.). This controller constantly monitors all the boilers in the system for performance and changes in demand.

## Combustion Rotation Function



## STEAM OPS



The controller automatically brings boilers on line, regulates outputs of other units, or switches off boilers as needed.

# SIDE-BY-SIDE CAPABILITY

With our innovative M.I. system, you can build an on-demand steam plant customized to meet your specific demand needs. The M.I. system provides the flexibility to build to current steam loads within very tight tolerances while allowing easier future expansion of system capacity. The multiple modular units also enhance a facility's energy management capability by providing higher efficiency during part-load/standby conditions via the M.I. system's ability to stage multiple units on or off in response to demand fluctuations.



# ADDITIONAL FEATURES

## Central Monitoring:

Boilers, MW Water Softeners, Colormetry, Steam Header Pressure, Feed Water System, and Chemical Pump monitoring

## Five Programmable Control Patterns:

**Applications:** Summer load vs winter load, night setback, batch load vs heating load, high/low pressure applications.

**Pattern Selection Method:** Touch screen, remote input, or weekly schedule

**Response Optimization:** Efficiency vs quick response.

**Remote Inputs:** External contact input signals for pattern switching, system-wide halt, manual control, and system-wide standby.

## SPACE SAVINGS SOLUTIONS

MIURA'S unique, compact, modular design utilizes a low water content pressure vessel. The resulting smaller boiler footprint provides design flexibility, reduced construction costs, and more options with existing spaces. In fact, LX models up to 200 horsepower can fit through a standard door-way.

## ON-DEMAND STEAM SOLUTIONS

Would you buy a car that needs to idle all night long or warm up for 90 minutes before you can drive it? Of course not. So why put up with that for your boiler? Because of its low water content design, MIURA boilers produce full steam in less than 5 minutes from a cold startup. This allows it to create steam when you need it and only when you need it, with the highest in-service efficiencies available for industrial boilers.

## SAFETY SOLUTIONS

MIURA has produced boilers since 1959. With over 140,000 units in operation, there has never been a fatal accident. Ever. MIURA boilers inherently safer by design. With low water content combined with the unique boiler geometry, catastrophic vessel failure is practically impossible. MIURA boilers also have numerous safeguards beyond primary vessel safety to ensure not only safe operations, but also high efficiency and reliable operation.

## EMISSION SOLUTIONS

MIURA is the leader in high efficient, low NOx technology. In addition to the N+1 solution, the LX model does not rely on flue gas recirculation, maintaining efficiencies even down to 9 ppm of NOx at 3% corrected O2.

MIURA's burner technology results in an average flame temperature of less than 2,200 F without fear of any backfire, common with other technologies.

## TURN-KEY STEAM SOLUTIONS

MIURA can provide the total turn-key solution for your operations – from the boiler, to chemicals, water softeners, hotwell/deaerators, steam headers, chimneys – everything you need for a one source system. MIURA is the only steam manufacturer that can partner with you for a comprehensive online maintenance system and total pressure vessel warranties against workmanship and water treatment issues.

## FLEXIBLE INSTALLATION SOLUTIONS

By the nature of the modular approach, a MIURA system is inherently much more flexible than a comparably sized traditional boiler room solution. Because of their compact size and compatibility, it's easy to add or subtract boilers as needs increase or decrease.

## N+1 SOLUTIONS

As compared to the "two boiler system," where one large boiler carries the load and the second large boiler acts as a backup, MIURA uses small units in a modular design to function as one large steam system. Therefore, one smaller unit provides N + 1 backup, allowing the reduction of total system horsepower. As an added bonus, MIURA can reduce construction space by half or double the output in the same space.

# LX SERIES SPECIFICATIONS

	Boiler Horsepower	Equivalent Output (lbs/hr) <sup>ii</sup>	Heat Input (BTU/hr)	Heat Output (BTU/hr)	Fuel-to-Steam Efficiency <sup>iii</sup>	NOx Ratings (ppm) <sup>iv</sup>	
15 PSI	LXL- 50 SG	50	1,725	1,970,000	1,674,000	85%	20
	LXL- 100 SG	100	3,450	3,939,000	3,348,000	85%	9
	LXL- 150 SG	150	5,175	5,908,000	5,022,000	85%	9
	LXL- 200 SG	200	6,900	7,877,000	6,695,000	85%	9
170 PSI	LX- 50 SG	50 <sup>i</sup>	1,725	1,970,000	1,674,000	85%	20
	LX- 100 SG	100	3,450	3,939,000	3,348,000	85%	9
	LX- 150 SG	150	5,175	5,908,000	5,022,000	85%	9
	LX- 200 SG	200	6,900	7,877,000	6,695,000	85%	9
	LX- 250 SG	250	8,625	9,620,000	8,369,000	87%	9
	LX- 300 SG	300	10,350	11,544,000	10,043,000	87%	9
300 PSI	LXH- 200 SG	200	6,900	7,971,000	6,695,000	84%	12
	LXH- 250 SG	250	8,625	9,732,000	8,369,000	86%	12
	LXH- 300 SG	300	10,350	11,678,000	10,043,000	86%	12

- Notes: i) 50 HP model falls below 2,000,000 BTU/HR Requirements for certain jurisdictions.  
 ii) Equivalent Output calculated from 212°F feed water at 212°F steam  
 iii) Fuel-to-Steam Efficiencies based on 68°F feed water  
 iv) 20 ppm standard, lower is optional. Based on natural gas combustion

- Additional Notes: 1) All boiler assemblies are UL and c-UL approved for natural gas or propane  
 2) All boilers are built to meet or exceed UL and ASME standards in the U.S.A.; c-UL & B-51 standards in Canada  
 3) Please see [www.miuraboiler.com](http://www.miuraboiler.com) for complete boiler specifications and size information



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