



## Specification:

LX-50-12

ITEM	UNITS	Standard
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## Boiler Output

Boiler Type	-	Multiple water tube, once through, forced flow, steam boiler
Maximum Allowable Working Pressure	PSIG	170
Recommended Operational Range	PSIG	70 - 150
Boiler Heating Surface Area	ft <sup>2</sup>	192
Boiler Horsepower Rating	BHP	50
Equivalent Output <sup>i</sup>	lb/hr	1,725
Maximum Heat Output	MMBTU/hr	1.674
Turn-Down	-	1.5:1 (65%)

## Trim Selection

Integral Economizer (S)	Yes / No	Yes
Fuel Selection (G)	Gas	Gas
Low NOx Option (N)	Yes / No / NA	NA
Boiler Trim	-	LX-50 SG

## Air and Fuel Requirements

Fuel Supply Pressure	PSIG	3-5 PSIG (Natural Gas or Propane)
Heat Input	MMBTU/hr	1.970
Efficiency <sup>ii</sup>	%	85%
Flue Gas Excess Oxygen	%	5.0%
Flue Gas Temperature <sup>ii</sup>	°F	260
NG/LPG Fuel Consumption <sup>iii</sup>	SCFH / GPH	1,930 / 21.5
Required Air Volume	SCFH	24,370
Flue Gas Volume - Wet	SCFH	26,300
Flue Gas Volume - Dry <sup>iv</sup>	SCFH	22,550
Flue Gas Velocity	ft/s	13.4

## Emissions

NOx Emission NG/LPG <sup>v</sup>	ppm (lbs/MMBTU)	20/25 (0.0243 / 0.0304)
CO Emission NG&LPG <sup>v</sup>	ppm (lbs/MMBTU)	100 (0.0739)
CO <sub>2</sub> Emission NG/LPG <sup>v</sup>	lbs/MMBTU	117.6 / 136.6
VOC Emission NG&LPG <sup>v</sup>	lbs/MMBTU	0.00539
SO <sub>2</sub> Emission NG/LPG <sup>vi</sup>	lbs/MMBTU	0.00588 / 0.00547
PM Emission NG&LPG <sup>v</sup>	lbs/MMBTU	0.00745

## Weights &amp; Capacities

Shipping Weight	lbs	4,200
Operational Weight	lbs	4,600
Operational Water Content	Gal	45
Fully Flooded Water Content	Gal	85

**Inlet & Outlet Connections**

Economizer Drain (If Equipped)	in	2" npt
Main Steam Outlet	in	2" npt
Safety Valve <sup>vii</sup>	in	1-1/2" npt
Drip Pan Elbow Vent	in	3"
Drip Pan Elbow Drain	in	1/2" npt
Feedwater Inlet	in	3/4" npt
Fuel Gas Inlet	in	1-1/2" npt
Automatic "Surface" Blowdown	in	3/8" npt
Bottom Blow-Off	in	1" npt
LVC Blow-Off	in	1" npt
Chimney Diameter	in	12" OD

**Electrical Components & Controls**

Power Supply	-	575, 460, 380, 230 or 208 Volts, 3 Phase, 60 Hz
Max. Electrical Consumption <sup>viii</sup>	kVA	5.5 or 6.4
Blower Motor	HP	3
Water Pump Motor <sup>viii</sup>	HP	2 or 3
Control Power Transformer	kVA	0.5
Combustion Control	-	3 Position Step Burner (High - Low - Off)
Combustion System	-	Forced Draft Burner
Ignition System	-	Electric Spark Ignited, Interrupted Gas Pilot
Flame Safeguard	-	Miura BL Microcontroller with Miura ZUV Flame Sensor
Low Water Protection	-	Primary and Secondary Low Water Cutoff Electrodes
Miura Online Maintenance (M.O.M)	-	Analog Phone Line

**NOTES:**

- i) Equivalent Output is calculated based on conversion of 212°F feedwater to 212°F steam.
- ii) Flue gas temperatures and efficiencies are based on 68°F feedwater and 80°F combustion air and calculated using the higher heating value
- iii) Fuel consumption for NG and LPG is based on a higher heating value of 1,020 Btu/SCF and 91,500 Btu/Gal respectively
- iv) Dry flue gas volume is based on F-Factor of 8710 SCF/MMbtu and corrected for the operating O<sub>2</sub> percentage
- v) NO<sub>x</sub> and CO emissions are based on empirical test data corrected to 3% excess oxygen, all others are calculated using EPA factors.
- vi) SO<sub>2</sub> factor assumes 0.2 grains per scf for NG and 0.5 grains per scf for LPG
- vii) Boiler Safety Valve Outlet size may increase if set pressure is below 170 PSIG
- viii) Water pump output may vary by feedwater piping options