

# MIURA **WX** GAS/LOW NO<sub>x</sub> SERIES

*High or Low Pressure Steam Boiler*

**NEW**



*XJ1  
Micro Computer  
Boiler Control  
System*

*The most  
versatile  
industrial  
steam  
boiler in  
the world*



*The intelligent boiler  
that works with you*

 **MIURA**  
*...Setting New Standards in Boiler Technology*

# MIURA **WX** GAS/OIL SERIES

## High or Low Pressure Steam Boiler

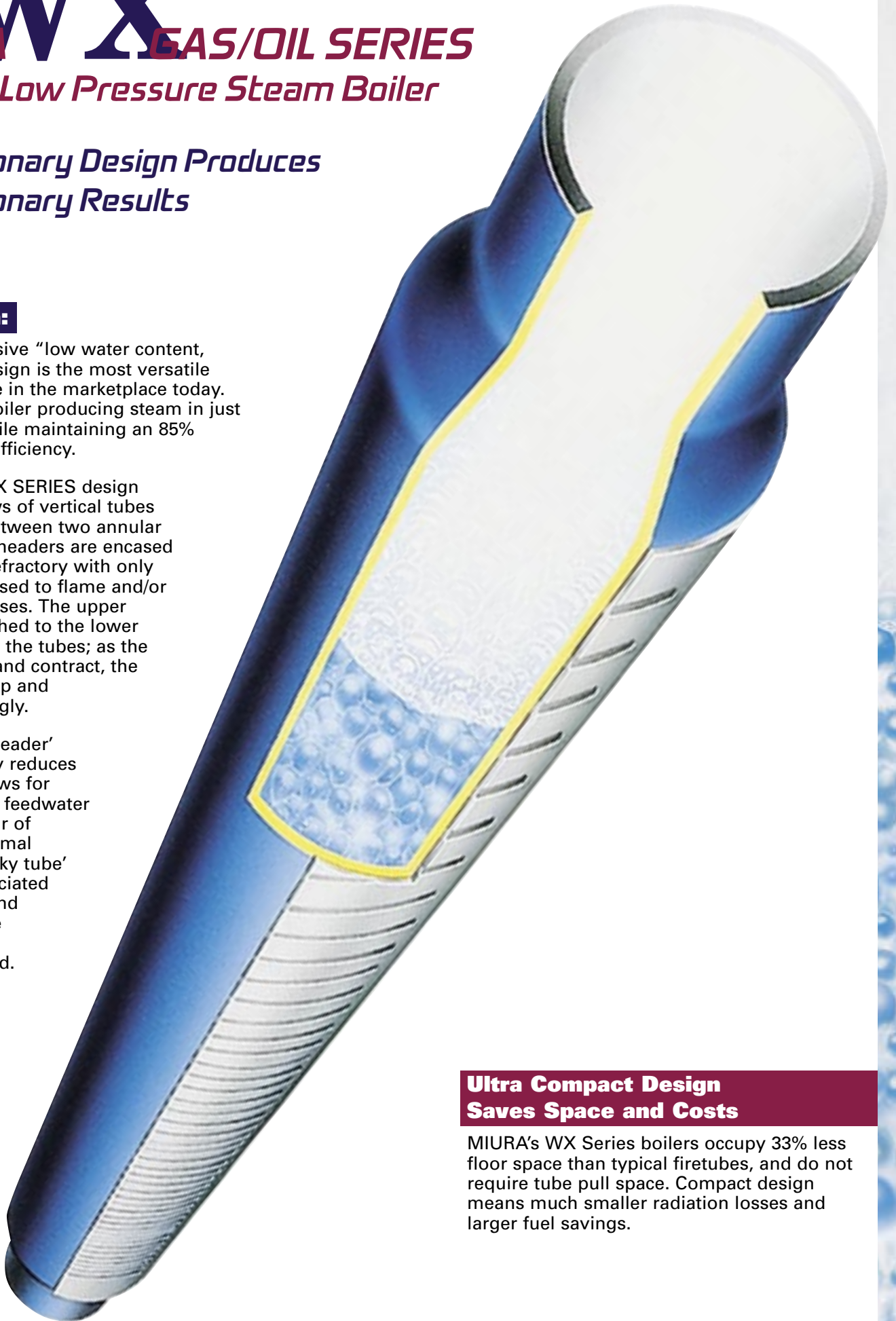
*Revolutionary Design Produces  
Revolutionary Results*

### **The Design:**

MIURA's exclusive "low water content, watertube" design is the most versatile boiler available in the marketplace today. A watertube boiler producing steam in just 10 minutes while maintaining an 85% fuel-to-steam efficiency.

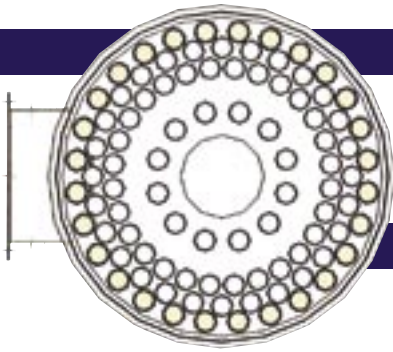
The MIURA WX SERIES design consists of rows of vertical tubes sandwiched between two annular headers. Both headers are encased in a castable refractory with only the tubes exposed to flame and/or combustion gases. The upper header is attached to the lower header only by the tubes; as the tubes expand and contract, the headers float up and down accordingly.

This 'floating header' concept greatly reduces stress and allows for the use of cold feedwater without the fear of significant thermal shock. The 'leaky tube' problems associated with firetube and bent watertube designs have been eliminated.



### **Ultra Compact Design Saves Space and Costs**

MIURA's WX Series boilers occupy 33% less floor space than typical firetubes, and do not require tube pull space. Compact design means much smaller radiation losses and larger fuel savings.



## Full Steam Output Within Five Minutes

Floating headers mean fast start-up. MIURA boilers produce fast steam in 10 minutes or less from a cold start-up. Standard firetube require from 1 to 1.5 hour start-up times. MIURA's unique design yields significant time and fuel savings.

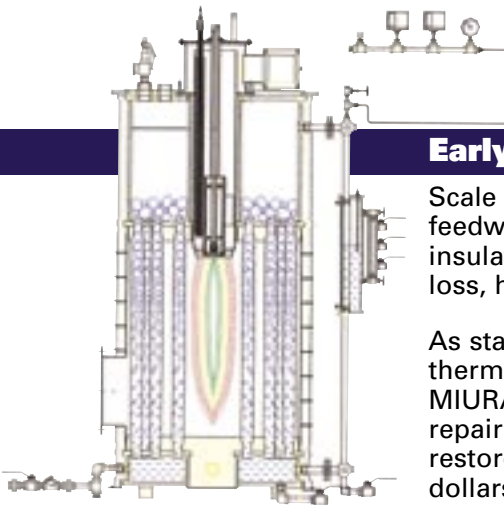
## Low NOx

Naturally low NOx of 40 ppm at 3% corrected O<sub>2</sub> for natural gas, without the need for complicated flue gas recirculation.

## Unbeatable In-Service Efficiencies

MIURA's computer-aided design results in optimal heating surface transfer with minimal water content for fuel-to-steam efficiencies of 85%. Typical firetube designs can deliver up to 83% fuel-to-steam efficiencies. However, in actual use, MIURA averages 10 to 40% fuel savings over standard firetube designs.

How does a 2% difference in fuel-to-steam efficiencies translate into a 10 to 40% ACTUAL FUEL SAVINGS? Contact your local MIURA representative for details.



## Early Warning Scale Monitor

Scale is a problem all boilers have to deal with. Scale forms when boiler feedwater is not properly treated. Advanced scale formation acts as an insulator; only an eggshell thickness of scale results in a 10% efficiency loss, higher fuel bills and possible damage to the boiler system.

As standard equipment, all MIURA WX models are equipped with a thermocouple attached directly to a tube. Should scale begin to form, the MIURA boiler will alert the operator - allowing the operator to trace and repair the source of the water hardness. The scale can be removed to restore the boiler to its original efficiencies - saving tens of thousands of dollars in wasted fuel and repair bills.

**"We are completely satisfied..."**

# RICOH<sup>®</sup>

**Dylan A. Uboldi**

Mechanical Engineering Dept.  
RICOH ELECTRONICS, INC.  
Santa Ana, California, USA

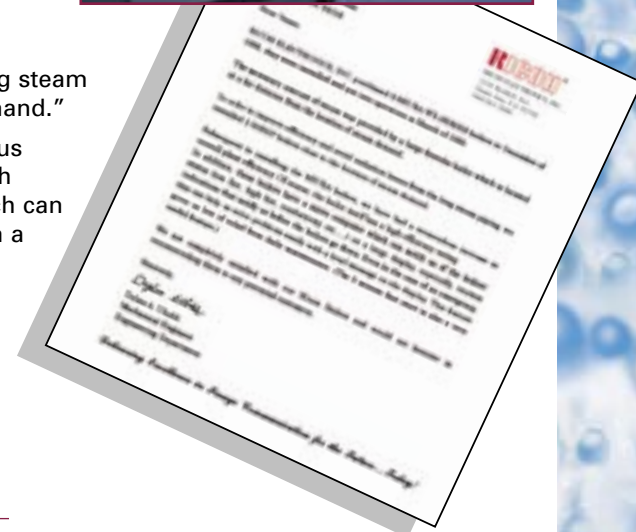
***"Subsequent to installing the MIURA boilers, we have had a tremendous increase in overall plant efficiency..."***



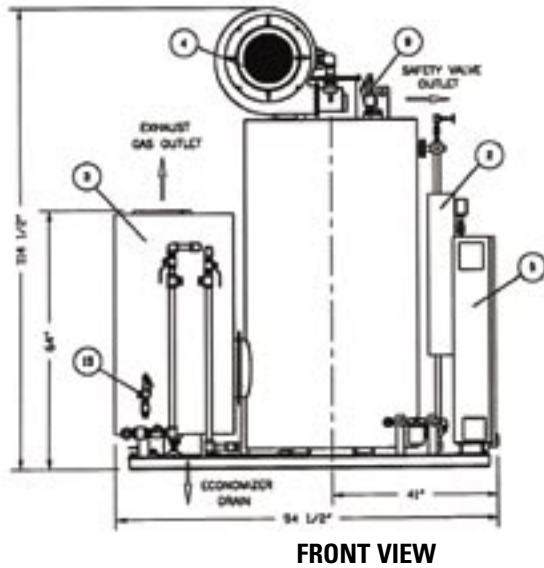
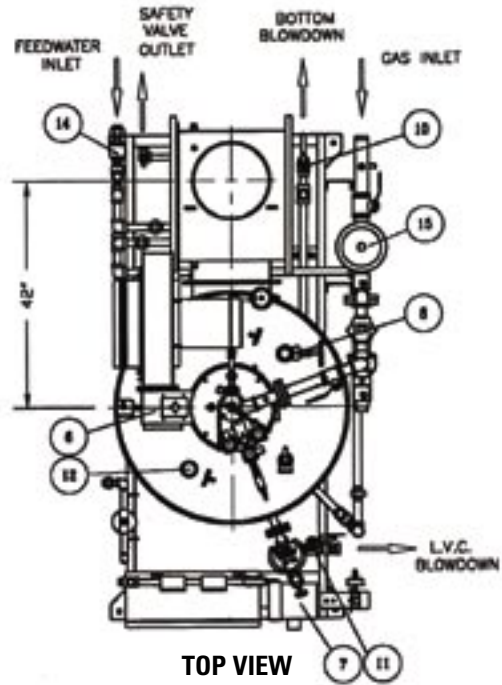
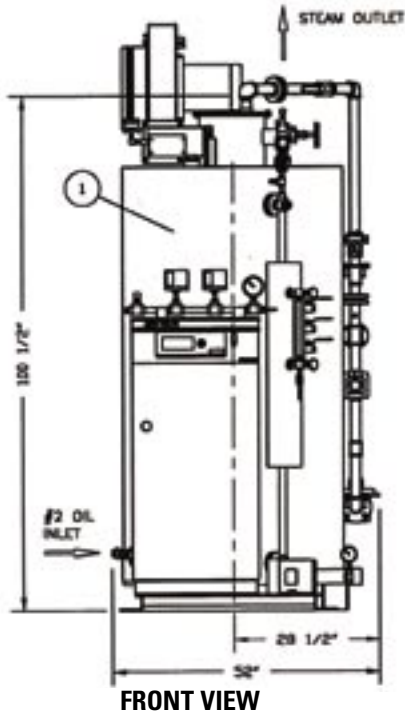
"In order to improve efficiency and avoid radiation losses from the long steam piping, we installed 2-50BHP boilers close to the location of steam demand."

"Subsequent to installing the MIURA boilers, we have had a tremendous increase in overall plant efficiency. Of course, the boiler itself has a high efficiency rating. In addition, these boilers have a micro computer which can notify us of the boilers' status (low fire, high fire, conductivity, etc...) on a large display, especially, caution indications that notify us before the boilers go down. Even in the case of an emergency, this can help us solve problems easily with a brief message on the display. This feature gives us lots of relief from daily maintenance. (The 5 minute fast start is also a very useful feature.)"

"We are completely satisfied with our Miura Boilers and would not hesitate in recommending them to any potential customers."

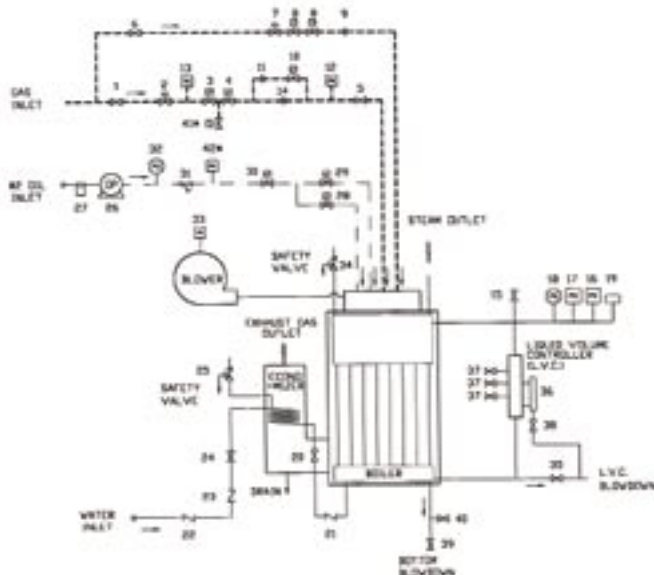


## Dimensions



NO.	NAME OF PART
1	BOILER VESSEL
2	LIQUID VOLUME CONTROLLER
3	ECONOMIZER
4	BLOWER
5	CONTROL BOX
6	WIND BOX
7	OIL PUMP
8	STEAM OUTLET VALVE (OPTION)
9	MAIN SAFETY VALVE
10	MANUAL BLOWDOWN VALVE
11	MANUAL BLOWDOWN VALVE
12	INSPECTION HOLE (TOP)
13	ECONOMIZER SAFETY VALVE
14	FEEDWATER PIPING
15	MAIN GAS TRAIN

## Schematic View (Standard)



NO.	NAME OF PART	NO.	NAME OF PART
1	MAIN GAS VALVE	22	CHECK VALVE
2	MAIN GAS REGULATOR	23	CHECK VALVE
3	GAS CONTROL VALVE	24	VALVE
4	GAS CONTROL VALVE	25	SAFETY VALVE
5	TEST FIRING VALVE	26	OIL PUMP
6	PILOT GAS VALVE	27	OIL FILTER
7	PILOT GAS REGULATOR	28	OIL CONTROL VALVE
8	PILOT GAS CONTROL VALVE	29	OIL CONTROL VALVE
9	PILOT GAS ORIFICE	30	OIL CONTROL VALVE
10	HIGH-LOW CONTROL VALVE	31	OIL STRAINER
11	MAIN GAS ORIFICE (HIGH)	32	OIL PRESSURE GAUGE
12	GAS PRESSURE SWITCH	33	AIR PRESSURE SWITCH
13	GAS PRESSURE SWITCH	34	SAFETY VALVE
14	MAIN GAS ORIFICE (LOW)	35	L.V.C. BLOWDOWN VALVE
15	AIR VENT VALVE	36	WATER GAUGE
16	STEAM PRESSURE SWITCH	37	VALVE
17	STEAM PRESSURE SWITCH	38	DRAIN VALVE
18	PRESSURE GAUGE	39	BOTTOM BLOWDOWN VALVE
19	PRESSURE SENSOR	40	SAMPLE WATER VALVE
20	WATER VALVE	41	GAS VENT VALVE*
21	CHECK VALVE	42	OIL PRESSURE SWITCH*

\* Available if required by local codes.

\*\* Numerous options are available upon request.

# NEW

## XJ1 Micro Computer Boiler Control System



**Instantly and easily  
check boiler operation status**

MIURA's XJ1 Micro Computer Boiler Control System works for you and with you, identifying problems and suggesting solutions in plain, descriptive English on an easy-to-read display.

- Greater control over steam pressure settings for steadier steam pressure.
- Allows for compensated adjustment of high and low fire scale thermocouple settings.
- Allows for compensated adjustment of automatic blowdown based upon Total Dissolved Solids (TDS) and/or blowdown rates.
- Easily interfaces with the MIURA "Colormetry" unit to eliminate scale formation due to water softener failure.

### Detailed Boiler Cautions

MIURA's XJ1 Control System provides detailed information on the status of critical boiler functions before problems arise; to prevent and eliminate costly boiler shut downs:

- |                             |                                    |
|-----------------------------|------------------------------------|
| 1. Air Filter Clogged       | 6. High Boiler Water Concentration |
| 2. High Ambient Temperature | 7. Communication Error             |
| 3. Water Softener Fault     | 8. Plugged Surface Blowdown Pipe   |
| 4. Blowdown Timing          |                                    |
| 5. Low Battery              |                                    |

### Detailed Boiler Operation Information

MIURA's XJ1 Control System utilizes ten points to measure the performance of your boiler, displayed in an easy-to-read, user-friendly format:

- |                                      |  |
|--------------------------------------|--|
| 1. Steam Pressure                    | 6. Flame Voltage                             |
| 2. Total time of Low Fire Operation  | 7. Remaining time to Blowdown                |
| 3. Total time of High Fire Operation | 8. Automatic Surface Blowdown Valve (On/Off) |
| 4. Scale Monitor Temperature         | 9. Water Conductivity                        |
| 5. Overheat Thermocouple Temperature | 10. 11 point combustion sequence             |

#### Conductivity



#### Scale Monitor Temperature



#### Boiler Water Volume



#### High Fire High Tube Temperature Limit



#### Steam Pressure Indication



### Simple, intuitive programming and operation!

The XJ1 Micro Computer Control System is as simple to set up and program as it is to operate, and is fully Y2K compliant.

MIURA's training program and the intuitive, easy-to-use interface provide an intelligent boiler that works for you **and with you.**



## WX(L) Series Specifications

ITEM	WX(L)-50 SGO	WX(L)-65 SGO
Utilization Horsepower (*1)	50 HP	65 HP
Maximum Pressure	170 PSIG Design, 150 PSIG Maximum Operating (15 PSIG Design)	
Equivalent Output (*2)	1,725 LB/HR	2,240 LB/HR
Heat Output	1,674,000 BTU/HR	2,176,000 BTU/HR
Efficiency (fuel to steam) (*3)	85% Gas Fired, (87% Oil Fired)	
Heating Surface Area	199 FT <sup>2</sup>	199 FT <sup>2</sup>
Operational Weight	4,750 LBS	
Shipping Weight	4,400 LBS	
<b>Dimensions Given Are Approximate</b>		
Width	52 in.	
Length	94¼ in.	
Height	114¼ in.	
Combustion System	Proprietary Forced Draft, Step Fired Modulation Hi-Low-Off	
Ignition System	Electric spark ignited, Interrupted gas pilot	
Power Supply	230, 460, or 575 V, 3 PHASE, 60 HZ	
Max. Electrical Consumption	7.0 KVA (8.0 for oil)	
Fuel Type (*4)	Natural Gas or Propane (1-5 PSIG), No. 2 oil	
Gas Consumption (*5)	1,960 SCFH	2,550 SCFH
No. 2 oil	13.7 GAL/HR	17.9 GAL/HR
Gas Supply Pressure	1-5 PSIG Natural (Gas or Propane)	
Main Steam Outlet Valve	½ in. (4 in.)	
Safety Valve Outlet	½ in. (4 in.)	
Main Water Inlet	1 in.	
Fuel Gas Inlet	2 in.	
Fuel Oil Inlet	¾ in.	
Automatic Surface Blowdown (option)	One ¾ in.	
Manual Blowdown	Two 1 in.	
Chimney Diameter (ID)	14 in.	
Flame Detector	Ultraviolet Flame Eye Sensor	
Pressure Control	Adjustable Pressure Transducer and Switch	
Liquid Volume Control	Electrolytic Conductive Type	
Overheat Protection	Low Water Cut Off & Thermocouple	

"S" - Economizer

"G" - Natural Gas or Propane Fired

"O" - #2 Oil Fired

"(L)" - Low Pressure

### Note:

- 1 Available 49 rating for L.A. area.
- 2 Equivalent output calculated from and at 212°F (100°C) feedwater at 212°F (100°C) steam.
- 3 Thermal Efficiencies are based on high heating values of fuels at 68°F (20°C) feedwater.
- 4 UL and CGA/CSA approved for Natural Gas or Propane.
- 5 Gas consumption based on natural gas with high heating 1004 BTU/SCF.
- 6 All MIURA steam boilers are fully packaged and test fired at factory.
- 7 Built to meet or exceed UL & ASME standards in U.S.A.; CGA/CSA & B-51 standards in CANADA;

Patented in the U.S.A.



<b>Distributed By:</b>	STOCKING DISTRIBUTOR Esys The Energy Control Company 4520 Stine Road, Suite 7 Bakersfield, CA 93313 Office (661) 833-1902 Fax (661) 833-4008
------------------------	---

Printed in USA

December 02

Version 1

The descriptions and specifications are approximate. Specifications subject to change to incorporate engineering advances. Manufacturer reserves the right to change specifications and dimensions at any time without liability for equipment previously or subsequently sold.