

# BOILERMAKER SERIES "HFR"

*"Designed by and Manufactured to Meet the Needs of Boilermakers"*

*"ScotchBox" Design ■ Rolled & Flared 12 Gauge Steel  
FireTubes ■ 1/2" Thick Tube Sheets*



▶ High-Efficiency, 3-Pass 4-Sided Wetback

▶ Temp-A-Trim Fuel/Air Ratio Control & Air Density Trim

▶ 17-120 BHP, PPH 598-4,163

▶ 15# Steam or 30#, 40# and 80# Hot Water



**BOILERMAKER  
APPROVED**

**L.E.S. Incorporated - Lower Energy Systems**

341 East Williams St. Wyoming, IL 61419 Tel: (309)695-2200 Fax: (309) 695-3302

**BOILERMAKER APPROVED**

# BOILERMAKER SERIES "HFR"

*"Designed by and Manufactured to Meet the Needs of Boilermakers"*

Backed by 5 Year Non-Pro-Rated Vessel Warranty

Four-Sided Full Water Back Design & Construction for Maximum Efficiency

Optional: Temp-A-Trim Fuel-Air Ratio Control Burner manufactured by Webster Engineering for:

- ▶ Reduced Seasonal Tune-Ups
- ▶ Minimal Noise Levels due to reduced motor speed
- ▶ Electrical Savings of up to 30%
- ▶ Fuel Savings of up to 3%
- ▶ Combustion Efficiency gain of 1%+

Up to 83%+ Non-Condensing Full Load Efficiency, Up to 87% Part Load Efficiency

Rear Manway Allows Access to Tubes and Furnace without Burner Removal

Extra Cleanout Openings at Bottom belly of Boiler, Front, and Rear

Solid Construction w/ 1/2" Thick Tube Sheets

Rolled & Flared 12 Gauge Tubes for Ease of Planned Maintenance

Jacketed Backed Fiberglass Insulation

Flanged Supply

Bolted Flue Boxes

Steam Baffles

1" Trap / Overflow

1" Surface Blowdowns

Standard Manual Stack Damper

Efficiency Maximizing Turbulators

Reversing Chamber (Water cooled front top, bottom and sides)

Rear Access Door to OSHA Lifting Standards

Sight Tube

Return / Feed

Water Surrounded Cylindrical Furnace for Highest Heat Transfer

Structural Steel Skid w/ Skids for Ease of Forklift Handling

Rugged Steel Fire Tube Proven "Scotch Box" Design

Designed and Manufactured to Boilermaker Standards and Specifications

Fully Assembled, Piped & Wired for Quick Installation

Manufactured by Skilled Craftsmen in Illinois U.S.A. Qualified for LEED Projects

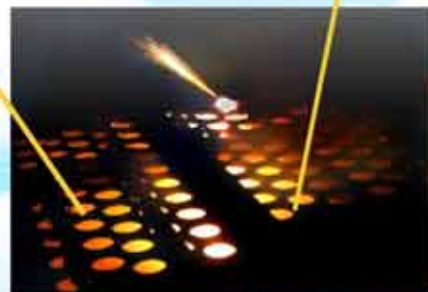
Fully Insulated Fuel Saving Front & Rear Heads

All Models Fit Thru Standard 36" x 80" Doors w/ No Expensive Disassembly or Demolition

Tube Removal from Front or Rear

Compact Footprint

Ideal for Multiple / Modular Installations



# BOILERMAKER SERIES "HFR"

**"Designed by and Manufactured to Meet the Needs of Boilermakers"**

Purdue University was the product of the Morrill Land Grant Act signed by President Abraham Lincoln, which turned public lands over to any state that agreed to use the land sale proceeds to maintain a college teaching agriculture and the mechanic arts.



The name "The Boilermakers" goes back to 1891 when the Purdue football team defeated nearby rival Wabash College 44 -0. An account of the game was headlined, "Slaughter of Innocents: Wabash Snowed Completely Under by the Burly BoilerMakers from Purdue."



Engineering education at Purdue meant hands-on work in the forge room, where students heated and molded metal, just like the blacksmiths and boilermakers the football team was called after defeating opponents.

Now an 18 foot bronze statue, "The Boilemaker," stands at the top of the stairs on North University Drive between the Intercollegiate Athletic Facility and the Mollenkopf Athletic Center at Purdue University. The statue represents a timeless boilemaker, researched from old photographs, records and newspaper articles to find out what real boilemakers wore when they worked in boiler rooms and combined the 19th century notion of a locomotive boilemaker with that of more modern imagery. It stands as a tribute to all past, present and future boilemakers.

Another product of this long boilemaker history for hard work and exactly standards and longevity, are Cara L. Lane and his son Randall, graduates of the university. These are the men who created and continue to operate L.E.S Inc. which began operations March 1, 1978. L.E.S. stands for "Lower Energy Systems" with the goal of providing energy conserving heating plant equipment and control packages to commercial and industrial customers.

Initially, much of the business involved upgrading existing plants by furnishing new burners and/or energy management packages for more than 300 installations for Illinois Bell Telephone and Sears Midwest Division. In 1979, the first L.E.S. Modular Heating Plants were designed, assembled, and installed to replace outdated and inefficient equipment for these customers. Energy cost records kept by Bell and Sears indicated short payback periods and a decision to market modular heating plants to a wider market was made. In 1985, L.E.S. negotiated an agreement with Aldrich Company where by Aldrich would manufacture a full line of heating boiler shells per L.E.S. specifications and, to reduce shipping costs and speed assembly, L.E.S. moved its production operations to a leased area within the Aldrich plant. L.E.S. assembles, tests, and ships packaged boilers, custom-built energy management packages, and boiler feed systems in Wyoming, IL and is responsible for the design, sales, and performance of these products.

**L.E.S. Incorporated - Lower Energy Systems**

341 East Williams St. Wyoming, IL 61419 Tel: (309) 695 2200 Fax: (309) 695 3302

Represented by:



**MEILNER**  
MECHANICAL SALES INC.

19 West College Drive, Arlington Heights, IL 60004  
www.boilersource.com info@boilersource.com  
tele: 847- 253 -1040 fax: 847 - 253 - 1332



**BOILERMAKER  
APPROVED**

# L.E.S. Series HFR "Scotch Box" Boilers

Represented by Meilner Mechanical Sales 19 W. College Drive Arlington Heights, IL 60004-1954 TEL: 847-253-1040 FAX: 847-253-1332

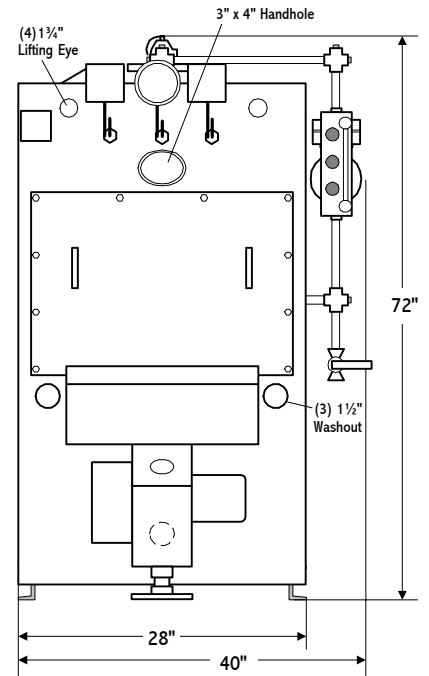
## 3-Pass Wetback Boilers • 15# Steam or 30# Water • 83% Efficiency • 5 Year Refractory Warranty

- Expanded and rolled 12 ga. firetube attachment to 1/2" boilerplate heads.
- Rear manway provides easy access to furnace and tubes without burner removal.
- 28" minimum rigging width with lifting eyes at top corners and tube removal from front or rear.
- Complete boiler/burner packages meet UL, FM, and ASME CSD-1B requirements for natural gas firing.

### Size "A" RATINGS // DATA // DIMENSIONS

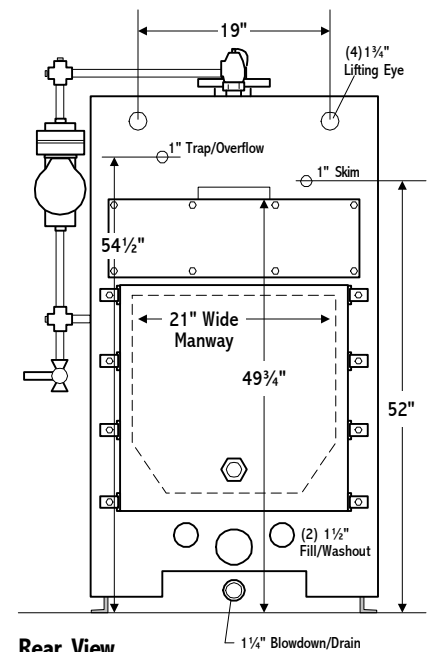
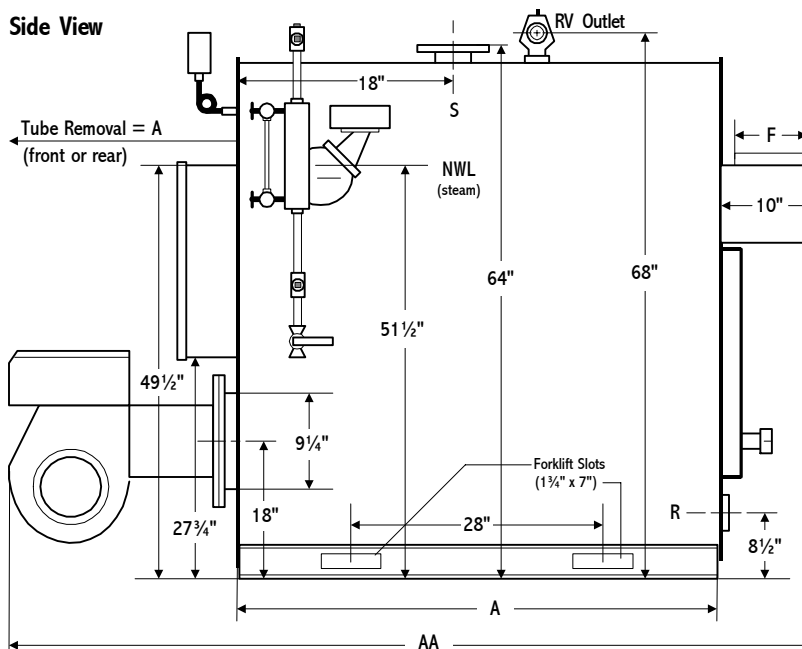
Model: HFR-	580	800	1000	1250	1500
<b>Input</b>					
Gas (MB/CF) CFH	695	960	1200	1505	1805
Oil (140MB/Gal) GPH	5.0	6.9	8.6	10.8	12.9
<b>Output</b>					
MBH	580	800	1000	1250	1500
Boiler Horsepower	17	24	30	37	45
Steam lbs/hr (212°F Feedwater)	598	824	1031	1288	1546
<b>Burner Data</b>					
Gas Burner Motor HP	.25	.33	.33	.33	.5
Standard Gas Connection Size	1	1	1 1/4	1 1/4	1 1/2
Minimum Inlet Gas for Std Train	5.0"	6.5"	5.7"	5.0"	5.8"
Oil Burner Motor HP	.33	.33	.5	.75	1
<b>Boiler Data</b>					
Furnace Vol. (CU.FT.)	4.5	6.1	6.1	7.7	9.3
Water Cap. (Gal; NWL)	89	116	109	135	161
Water Cap. (Gal; Full)	112	146	139	173	206
Dry Weight (LBS)	1500	1810	1900	2250	2575
Flooded Weight (LBS)	2430	3025	3060	3690	4295
<b>Dimensions in Inches</b>					
<b>A</b> Skid Length	29.25	39	39	48.75	58.5
<b>AA</b> Overall Length	70	80	80	90	100
<b>F</b> Flue Connection Size	6	8	8	8	8
RV Tapping/Outlet Steam	1 1/4/1 1/4	1 1/4/1 1/4	1 1/4/1 1/4	1 1/2/1 1/2	1 1/2/1 1/2
RV Tapping/Outlet Water	1 1/4/1	1 1/4/1	1 1/4/1 1/4	1 1/2/1 1/4	1 1/2/1 1/4
<b>R</b> Return Size (NPT)	2	2	3	3	3
<b>S</b> Supply Size (*=Flange)	3	3	4*	4*	4*

Front View



Steam trim shown. Water trim available.

Side View



Rear View

# L.E.S. Series HFR "Scotch Box" Boilers

Represented by Meilner Mechanical Sales 19 W. College Drive Arlington Heights, IL 60004-1954 TEL: 847-253-1040 FAX: 847-253-1332

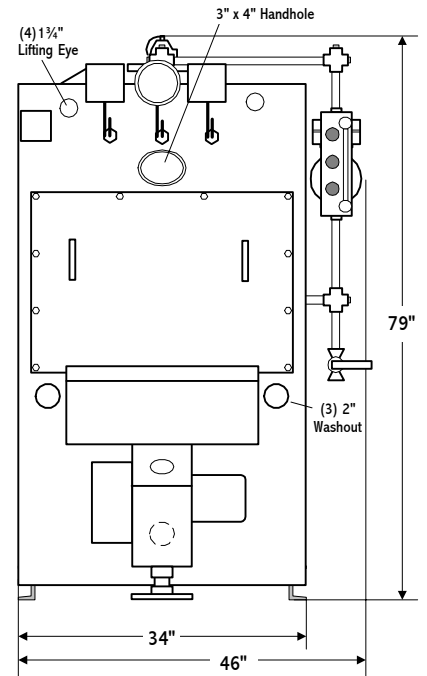
## 3-Pass Wetback Boilers • 15# Steam or 30# Water • 83% Efficiency • 5 Year Refractory Warranty

- Expanded and rolled 12 ga. firetube attachment to 1/2" boilerplate heads.
- Rear manway provides easy access to furnace and tubes without burner removal.
- 34" minimum rigging width with lifting eyes at top corners and tube removal from front or rear.
- Complete boiler/burner packages meet UL, FM, and ASME CSD-1B requirements for natural gas firing.

### Size "B" RATINGS // DATA // DIMENSIONS

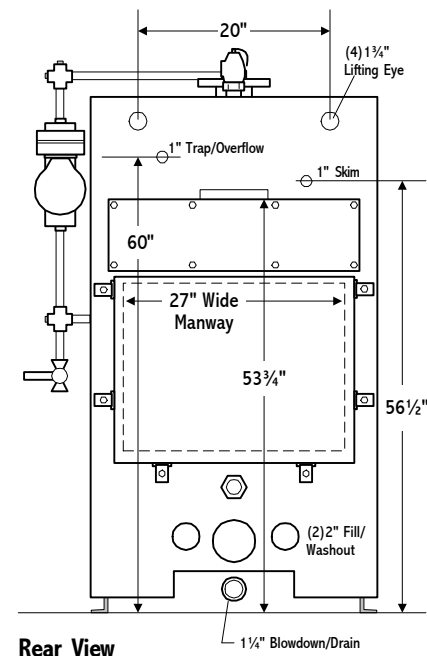
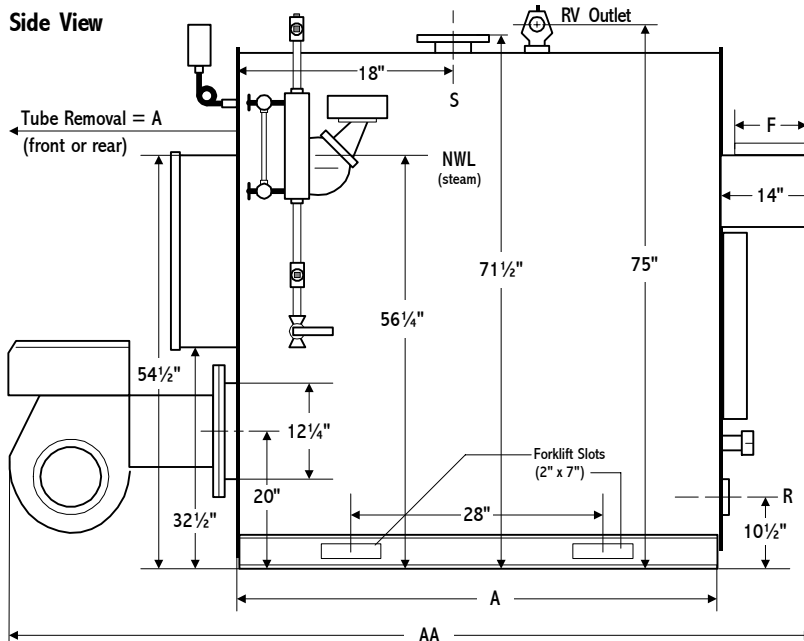
Model: HFR-	1800	2070	2250
<b>Input</b>			
Gas (MB/CF) CFH	2165	2490	2710
Oil (140MB/Gal) GPH	15.5	17.8	19.4
<b>Output</b>			
MBH	1800	2070	2250
Boiler Horsepower	54	62	67
Steam lbs/hr (212°F Feedwater)	1855	2133	2319
<b>Burner Data</b>			
Gas Burner Motor HP	.5	1	1
Standard Gas Connection Size	1 1/2	1 1/2	2
Minimum Inlet Gas for Std Train	6.2"	5.5"	6.2"
Oil Burner Motor HP	1	1.5	1.5
<b>Boiler Data</b>			
Furnace Vol. (CU.FT.)	13.5	15.7	15.7
Water Cap. (Gal; NWL)	208	238	238
Water Cap. (Gal; Full)	277	319	319
Dry Weight (LBS)	3200	3650	3650
Flooded Weight (LBS)	5505	6310	6310
<b>Dimensions in Inches</b>			
<b>A</b> Skid Length	58.5	68.25	68.25
<b>AA</b> Overall Length	102	112	112
<b>F</b> Flue Connection Size	10	10	10
RV Tapping/Outlet Steam	1 1/2/1 1/2	2/2	2/2
RV Tapping/Outlet Water	1 1/2/1 1/2	2/1 1/2	2/1 1/2
<b>R</b> Return Size (NPT)	4	4	4
<b>S</b> Supply Size (*=Flange)	6*	6*	6*

Front View



Steam trim shown. Water trim available.

Side View



Rear View

# L.E.S. Series HFR "Scotch Box" Boilers

Represented by Meilner Mechanical Sales 19 W. College Drive Arlington Heights, IL 60004-1954 TEL: 847-253-1040 FAX: 847-253-1332

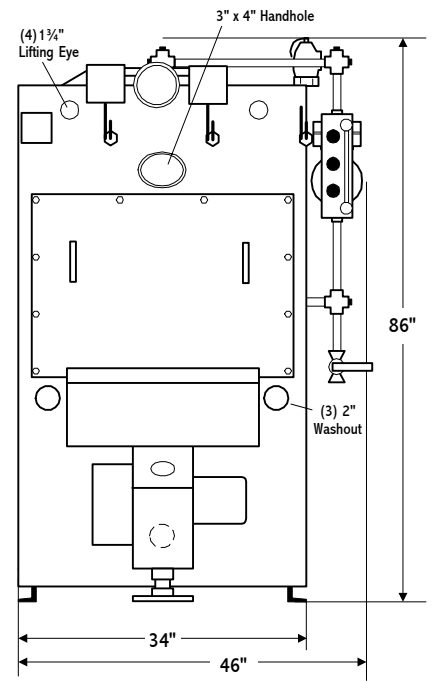
**Heavy Duty Construction • 15# Steam or 30# Water • 83% Efficiency • 5 Year Refractory Warranty**

- Expanded and rolled 12 ga. firetube attachment to 1/2" boilerplate heads.
- Rear manway provides easy access to furnace and tubes without burner removal.
- 34" minimum rigging width with lifting eyes at top corners and tube removal from front or rear.
- Complete boiler/burner packages meet UL, FM, and ASME CSD-1B requirements for natural gas firing.

## Size "C" RATINGS // DATA // DIMENSIONS

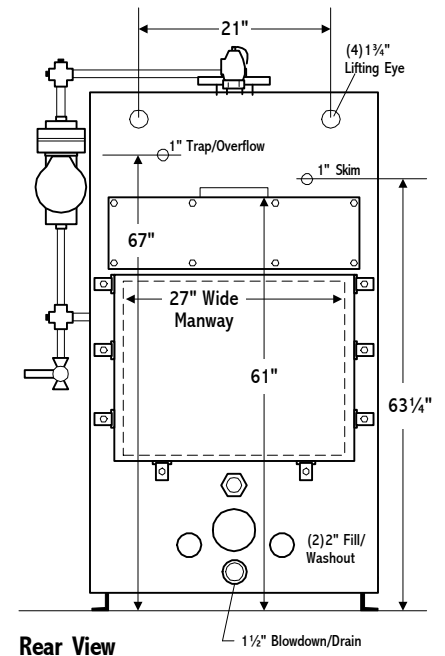
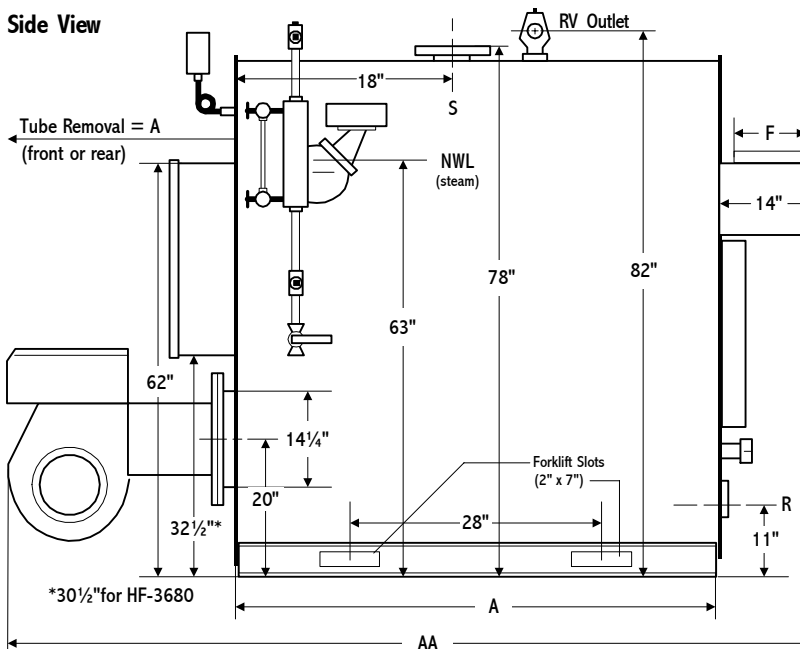
Model: HFR-	2650	3000	3350	3680	4040
<b>Input</b>					
Gas (MB/CF) CFH	3190	3610	4035	4430	4850
Oil (140MB/Gal) GPH	22.8	25.8	28.8	31.6	34.6
<b>Output</b>					
MBH	2650	3000	3350	3680	4040
Boiler Horsepower	79	90	100	110	120
Steam lbs/hr (212°F Feedwater)	2731	3092	3452	3792	4163
<b>Burner Data</b>					
Gas Burner Motor HP	2	3	3	3	5
Standard Gas Connection Size	2	2	2	2	2 1/2
Minimum Inlet Gas for Std Train	6.0"	7.0"	7.5"	8.5"	11"
Oil Burner Motor HP	2	3	3	5	5
<b>Boiler Data</b>					
Furnace Vol. (CU.FT.)	20.3	20.3	23.2	23.2	26.0
Water Cap. (Gal; NWL)	282	270	306	303	344
Water Cap. (Gal; Full)	363	350	398	395	447
Dry Weight (LBS)	4150	4300	4775	4825	5375
Flooded Weight (LBS)	7170	7220	8090	8120	9105
<b>Dimensions in Inches</b>					
<b>A</b> Skid Length	68.25	68.25	78	78	87.75
<b>AA</b> Overall Length	114	114	124	128	138
<b>F</b> Flue Connection Size	12	12	12	12	12
RV Tapping/Outlet Steam	2 1/2/2 1/2	2 1/2/2 1/2	2 1/2/2 1/2	2 1/2/2 1/2	2 1/2/2 1/2
RV Tapping/Outlet Water	2 1/2/1 1/2	2 1/2/2	2 1/2/2	2 1/2/2	2 1/2/2 1/2
<b>R</b> Return Size (NPT)	4	4	4	4	4
<b>S</b> Supply Size (*=Flange)	6*	6*	6*	8*	8*

**Front View**



Steam trim shown. Water trim available.

**Side View**



**Rear View**