

# EMPIRE STEAM II



**Dunkirk<sup>®</sup>**  
*America's Hottest Boiler Value!*  
An ISO 9001-2000 Certified Company

# EMPIRE STEAM II

## OIL-FIRED STEAM BOILERS

### Efficiency as High as 84%

The Empire Steam II oil-fired steam boiler delivers high efficiency, reliability and ease of maintenance for homes requiring oil-fired heat. A smart design combined with quality components result in lower operating costs, making the Empire Steam II an ideal replacement choice.

#### Heating Efficiency Ratings

With efficiencies up to 84% AFUE, the Empire Steam II provides increased energy savings resulting in lower fuel bills. The boiler's wet-based design helps overall efficiency by enclosing the combustion chamber with water on all five sides therefore maximizing heat transfer. With the potential savings this represents, the Empire Steam II can pay for itself in a few short years.

#### Cast-Iron Sections & Push Nipples

The Empire Steam II utilizes cast-iron construction because of its durability and efficient heat transfer capabilities. Cast iron sections and push nipples are utilized to construct the heat exchanger. Using only the highest quality cast-iron and heat transfer designs, the Empire Steam II is capable of providing many years of efficient and trouble-free operation.

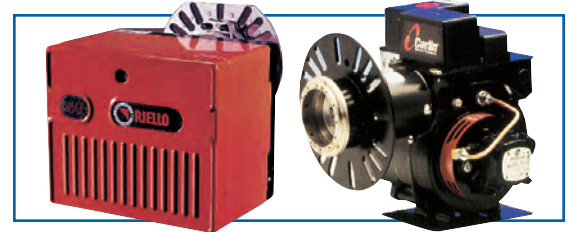
#### Easy Access & Maintenance

A sturdy cast-iron swing door allows for quick and easy inspection of the oil burner and combustion area while extra large flue ways allow for easy cleaning and set-ups. These flue way openings are easily accessed through an integrated two-part draft hood. All components are easy to reach, significantly reducing the time spent on regular maintenance and service calls.



#### High-Performance Burner Versatility

The Empire Steam II is designed to accommodate various oil burners. Choose manufacturer approved burners from Beckett, Carlin or Riello.



#### Integral Skim Tapping

An integral skim tapping is added to allow for quick and efficient skimming of the boiler water. The pre-threaded outlet makes this maintenance procedure easy for the installer.



#### Tankless Water Heater Option

An optional tankless hot water coil is offered with the Empire Steam II. It features off-set tapplings to speed installation and service. Used with a flow control and tempering valve, this tankless heater is an ideal method of providing domestic hot water for most installations.

#### Factory Pre-Wired & Tested

Each Empire Steam II boiler is shipped with controls pre-wired, and is subjected to a series of rigorous quality assurance tests to provide quick and easy setup in the field. The Empire Steam II is also available as a Knock Down Boiler for even easier handling in installations with tight access.

#### Dunkirk Quality

Since 1928, American-made Dunkirk Boilers have been leading the industry in value and reliability with innovative designs and premium quality components. Assured performance has placed Dunkirk quality at the top in trusted reliability (99.91%\*). Heat exchangers are certified by ASME and efficiency ratings by the Hydronics Institute.



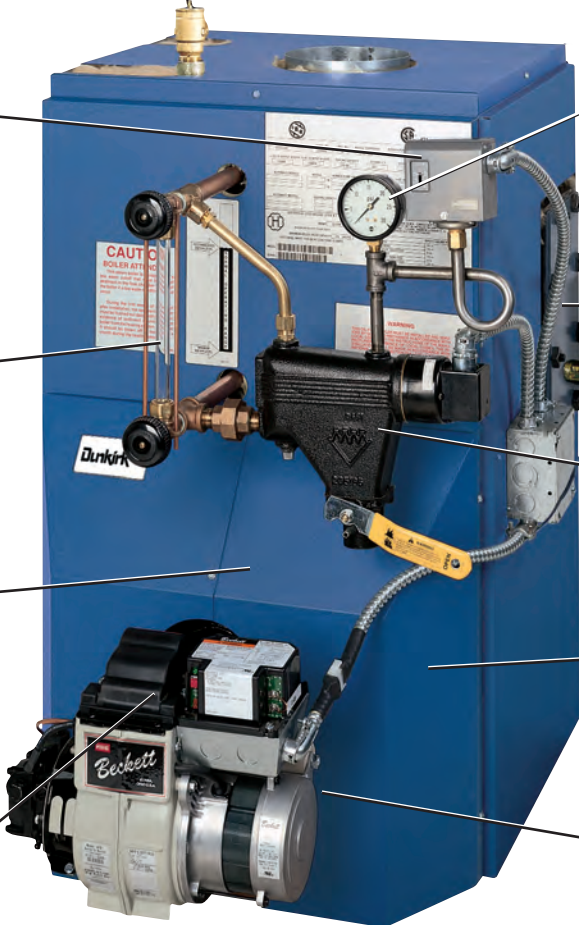
#### Strongest Warranty in the Industry

Dunkirk backs all of its residential cast iron steam boilers with a twelve year warranty covering the entire heat exchanger. Most competitor's warranties cover heat exchanger sections only and most are pro-rated, making the homeowner financially responsible for replacement materials.



\* Data on file - Dunkirk Boilers

## FEATURES & BENEFITS



**Pressuretrol**  
Operating control prevents the boiler from building pressure levels beyond recommended limits. Also helps deliver quick steam heat by maintaining a minimum boiler pressure.

**Water Sight Glass**  
Allows for easy viewing of the boiler's water level.

**Recessed Target Wall**  
Eliminates the chance of damage during annual maintenance.

**Quality Burner Options**  
Choice of any of our applied and manufacturer approved oil burners from Beckett, Carlin or Riello.

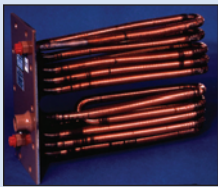
**Pressure Gauge**  
Mounted pressure gauge allows for accurate monitoring of the boiler's operation.

**Optional Tankless Water Heater**  
Provides domestic hot water and is easily accessible for inspection.

**Low Water Cut-Off**  
Provides for safe, reliable operation.

**Cast-Iron Heat Exchanger**  
Wet base design provides efficient heat transfer, reliability and strength.

**Cast-Iron Swing Door**  
Provides easy access to the combustion chamber for maintenance and burner inspection.



**Optional Tankless Water Heater**  
Produces hot water for domestic use. See table on back page for "Tankless Water Heater Capacities." Inspection and service are made easier with the coil's raised port which is accessible without removing the jacket.



### Beckett Burner Features

- Interrupted Duty Ignition
- PSC Motor
- Clean Cut Solenoid Valve

### KEY ESII FEATURES

- Efficiencies up to 84% AFUE.
- Cast-Iron Heat Exchanger and Swing Door
- Recessed Target Wall
- Large Flueway Opening
- Special Burner Mounting Plate Increases Combustion Chamber
- Cast-Iron Sections and Push Nipples
- Tankless Heater Option
- Wide Range of Sizes to Fit Residential and Light Commercial Applications

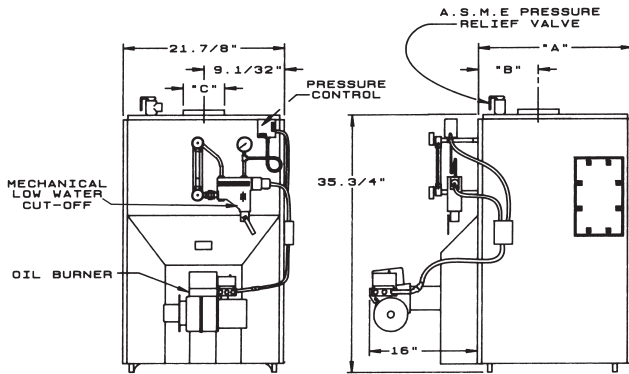
### ESII STANDARD EQUIPMENT

- Crated Cast-Iron Boiler
- Flush Jacket
- Swing-Out Burner Door
- Clean Cut AFG Beckett Burner
- Target Wall/Liner
- ASME Relief Valve
- Water Level Gauge
- Steam Pressure Gauge
- Steam Pressure Control
- Mechanical Low Water Cut-Off
- Drain Valve
- Wiring Harness
- Burner Electric Disconnect
- Plastic Cover
- Supply Tappings (Qty. 2 - 2")
- Return Tapping - 1-1/2"
- Skim Port
- Primary Control
- For Tankless Heater Units: Add Tankless Hot Water Coil and Limit Control

# EMPIRE STEAM II OIL-FIRED STEAM BOILERS

## Ratings and Data

BOILER MODEL NUMBER <sup>1</sup>	I = B = R OIL BURNER INPUT <sup>2</sup>		D.O.E. HEATING CAPACITY MBH <sup>4</sup>	I = B = R NET RATINGS <sup>3,4</sup>		PUMP PRESS. PSI	NOZZLE FURNISHED 140 PSIG <sup>5</sup>	A.F.U.E. RATING
	G.P.H.	MBH <sup>4</sup>		STEAM MBH	SQ. FT. STEAM			
ESB0365	0.65	91	78	59	246	140	.60 80°B	84.00
ESB3100	1.00	140	116	87	363	140	.85 80°B	81.50
ESB4125	1.25	175	145	109	454	140	1.10 80°B	82.50
ESB4150	1.50	210	170	128	533	140	1.25 80°B	81.00
ESB5175	1.75	245	202	152	633	140	1.50 80°B H	83.00
ESB5200	2.00	280	227	170	708	140	1.75 70°B H	82.00
ESB6225	2.25	315	251	188	783	140	2.00 45°B	—
ESB7275	2.75	385	307	230	958	140	2.25 45°B	—



## Dimensions

BOILER MODEL NO.	A LENGTH OF FLUSH JACKET	B FRONT OF JACKET TO C/L OF FLUE OUTLET	C DIAMETER OF FLUE OUTLET
ESB-3S	16 <sup>3</sup> / <sub>8</sub>	6 <sup>1</sup> / <sub>2</sub>	6
ESB-4S	20 <sup>1</sup> / <sub>4</sub>	8 <sup>1</sup> / <sub>2</sub>	6
ESB-5S	23 <sup>3</sup> / <sub>8</sub>	10 <sup>1</sup> / <sub>4</sub>	7
ESB-6S	27 <sup>1</sup> / <sub>2</sub>	8 <sup>5</sup> / <sub>16</sub>	8
ESB-7S	31 <sup>1</sup> / <sub>8</sub>	8 <sup>5</sup> / <sub>16</sub>	8

## Notes

- Add suffix "T" to denote boiler with tankless heater.
- I=B=R burner capacity is based on an oil heating value of 140,000 Btu/gal. and with 13% CO<sub>2</sub>.
- Net ratings based on 170°F temperature in radiators and include 33% allowance for normal piping and pick-up load. Consult manufacturer for unusual piping and pick-up requirements.
- For altitudes above 2,000 ft., ratings may be reduced at the rate of 4% for every 1,000 ft. above sea level.
- Nozzle sizes with an H designation are Hago brand, all others are Delevan.
- The electrical service is 120 Volts, 15 Amps, 60 Hz.
- The MEA number for the Empire Steam II is 182-86E.
- The MEA number for the Empire Steam II using the AFG Beckett Burner is 213-83-E.

(Specifications and dimensions are subject to change without notice.)

## Tankless Water Heater Capacities

BOILER MODEL NUMBER	TANKLESS HEATER NUMBER	TANKLESS HEATER CAPACITY INTERMITTENT DRAW G.P.M.	BOILER WATER CONTENT GALS.
ESB0365	L-24	Available on Request	11
ESB3100	L-24	4.5	11
ESB4125	L-24	4.5	13
ESB4150	L-24	4.5	13
ESB5175	L-24	5.0	15
ESB5200	L-24	5.0	15
ESB6225	L-24	5.0	17
ESB7275	L-24	5.0	19



Tested for  
15 lbs. ASME  
Working  
Pressure

85 MIDDLE RD DUNKIRK, NY 14048

716/366-5500 FAX 716/366-1209

USA Homeowner Assistance: 866/847-6656

e-mail: heating@dunkirk.com

Web Site: www.dunkirk.com

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