

INTRODUCING

# EMPIRE STEAM II-ESC



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





# EMPIRE STEAM II-ESC

OIL-FIRED STEAM BOILERS

## Increased Efficiency & Reliability for Homes Heated with Oil

The Empire Steam II-ESC oil-fired steam boiler now offers improved efficiency and reliability with a re-designed heat exchanger and protective heat shield, as well as an electronic low water cut-off.

### New Patent Pending Design

With efficiencies up to 85% AFUE, the ENERGY STAR rated Empire Steam II-ESC optimizes your fuel dollars through a newly re-designed heat exchanger and patent pending protective heat shield baffle.

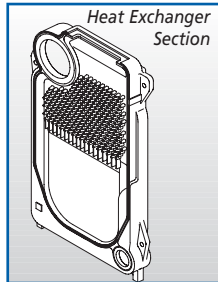
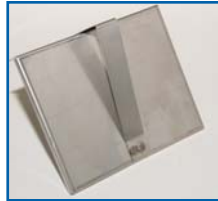
The modified pin deck and baffle design enhance the heat transfer process and protect the casting from poor water conditions for added longevity.

### Electronic Low Water Cut-Off

An electronic low water cut-off replaces the former mechanical design. The electronic low water cut-off does not require flushing which reduces the make-up water. The electronic low water cut-off also maintains tighter control of water level variation.

### Cast-Iron Sections & Push Nipples

The Empire Steam II-ESC utilizes durable and efficient cast-iron sections and push nipples. The highest quality cast-iron and latest heat transfer design allows the Empire Steam II-ESC to provide many years of efficient, 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-up. The flue way openings are easily accessed through an integrated two-part draft hood. All components are easy to reach, greatly reducing the time spent on regular maintenance and service calls.



### High-Performance Burner Versatility

The Empire Steam II-ESC accommodates various oil burners with choices of manufacturer approved burners from Beckett, Carlin or Riello.

### Integral Skim Tapping

An integral skim tapping simplifies the mechanics of this basic service function. Periodic skimming contributes to trouble-free operation, and the Empire Steam II-ESC provides a pre-threaded outlet to make this procedure even easier.

### Tankless Water Heater Option

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

### Factory Pre-Wired & Tested

Each Empire Steam II-ESC 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.

### 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

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

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

**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.

**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.

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

**Service Switch**

**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-ESC FEATURES
- Increased efficiencies up to 85% AFUE
  - Re-designed Heat Exchanger with:
    - Patent Pending Protective Heat Shield Baffle
    - Swing Door
    - Cast Iron Sections and Push Nipples
  - Recessed Target Wall
  - Special Burner Mounting Plate – increases Combustion Chamber
  - Large Flue Way Opening
  - Tankless Heater Option
  - Electronic Low Water Cut-Off
  - Wide range of sizes to fit residential and light commercial applications

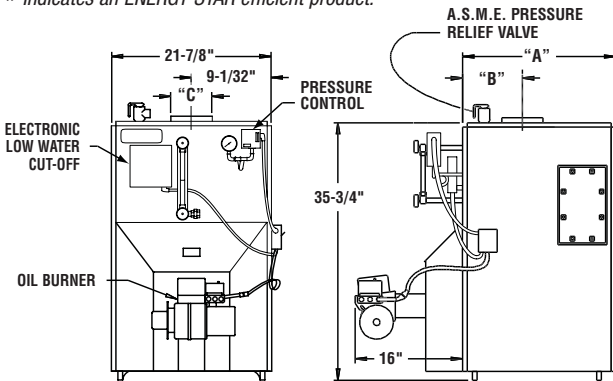
- ### ESII-ESC STANDARD EQUIPMENT
- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>■ Crated Cast-Iron Boiler</li> <li>■ Flush Jacket</li> <li>■ Swing-Out Burner Door</li> <li>■ Clean Cut AFG Beckett Burner</li> <li>■ Target Wall/Liner</li> <li>■ ASME Relief Valve</li> <li>■ Water Level Gauge</li> <li>■ Steam Pressure Gauge</li> <li>■ Steam Pressure Control</li> <li>■ Electronic Low Water Cut-Off</li> </ul> | <ul style="list-style-type: none"> <li>■ Drain Valve</li> <li>■ Wiring Harness</li> <li>■ Burner Electric Disconnect</li> <li>■ Plastic Cover</li> <li>■ Supply Tappings (Qty. 2 - 2")</li> <li>■ Return Tapping - 1-1/2"</li> <li>■ Skim Port</li> <li>■ Primary Control</li> <li>■ For Tankless Heater Units: Add Tankless Hot Water Coil and Limit Control</li> </ul> |
|---|--|

# EMPIRE STEAM II-ESC 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			
*ESC0365	0.65	91	79	59	246	140	.60 80°B	85.00
ESC3100	1.00	140	116	87	363	140	.85 80°B	81.50
*ESC4100	1.00	140	120	91	377	140	.85 80°B	85.00
ESC4125	1.25	175	145	109	454	140	1.10 80°B	82.50
ESC4150	1.50	210	170	128	533	140	1.25 80°B	81.00
ESC5175	1.75	245	202	152	633	140	1.50 80°B H	83.00
ESC5200	2.00	280	227	170	708	140	1.75 70°B H	82.00
ESC6225	2.25	315	251	188	783	140	2.00 45°B	—
ESC7275	2.75	385	307	230	958	140	2.25 45°B	—

\* Indicates an ENERGY STAR efficient product.



## Dimensions

BOILER MODEL NO.	A LENGTH OF FLUSH JACKET	B FRONT OF JACKET TO C/L OF FLUE OUTLET	C DIAMETER OF FLUE OUTLET
ESC-3S	16%	6½	6
ESC-4S	20%	8½	6
ESC-5S	23%	10¼	7
ESC-6S	27½	8⅝	8
ESC-7S	31%	8⅝	8

## Notes

1. Add suffix "T" to denote boiler with tankless heater.
2. I=B=R burner capacity is based on an oil heating value of 140,000 Btu/gal. and with 13% CO<sub>2</sub>.
3. 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.
4. For altitudes above 2,000 ft., ratings may be reduced at the rate of 4% for every 1,000 ft. above sea level.
5. Nozzle sizes with an H designation are Hago brand, all others are Delevan.
6. The electrical service is 120 Volts, 15 Amps, 60 Hz.
7. The MEA number for the Empire Steam II is 182-86E.
8. 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.
ESC0365	L-24	Available on Request	11
ESC3100	L-24	4.5	11
ESC4100	L-24	4.5	13
ESC4125	L-24	4.5	13
ESC4150	L-24	4.5	13
ESC5175	L-24	5.0	15
ESC5200	L-24	5.0	15
ESC6225	L-24	5.0	17
ESC7275	L-24	5.0	19



Since 1928. America's Hottest Boiler Value.



Tested for 15 lbs. ASME Working Pressure



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85 MIDDLE RD DUNKIRK, NY 14048  
716/366-5500 FAX 716/366-1209  
e-mail: heating@dunkirk.com  
web site: www.dunkirk.com

USA Contractor Assistance:  
800-325-5479

