

# EMPIRE II WATER

## OIL-FIRED BOILERS



**Dunkirk®**  
*America's Hottest Boiler Value!*

An ISO 9001-2000 Certified Company

# EMPIRE II WATER

OIL-FIRED BOILER

## ● Efficiency As High As 86.5%

The Empire II, oil-fired boiler by Dunkirk provides the optimum combination of efficiency, reliability and heating comfort... making it one of America's Hottest Boiler Values.

### Heating Efficiency

Whenever oil is the required fuel... the high efficiency rating of the Empire II renders outstanding performance and low operating costs.

### Swing Burner Door

Allows for much easier access for burner set-up, service and maintenance, while making the boiler easy to clean.

### Solenoid Oil Valve

Provides cleaner burning and quieter operation, included on all Beckett, Carlin and Riello burners.

### Insulated Jacket

Allows the raised tankless coil port to be inspected and serviced without jacket removal. Easy access to flue is provided with brass wing nuts.

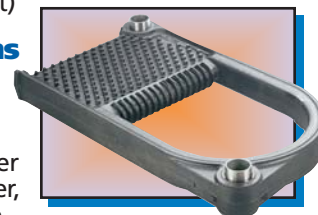
### Tankless Water Heater (optional)

A special 5 gallon per minute heating coil produces hot water for domestic needs. (Boiler input determines tankless heater output)

### Cast Iron Sections & Push Nipples

Dunkirk utilizes cast iron to construct the boiler's heat exchanger to provide heat transfer, reliability and strength.

Since like materials expand and contract in the same proportion during heating and cooling, cast iron push nipples and sections produce stronger, more water-tight seals than steel push nipples or rubber gaskets.



### Quality Burner Options

The Empire II offers a choice of three manufacturer approved quality oil burners...

Beckett (standard), Carlin or Riello.



### Easy Maintenance

Dunkirk's exclusive "isolating valves" on circulators eliminate the need to drain the system, making replacement quick and easy. Controls are easily accessible without having to remove the jacket, and our standard controls are readily available, making Dunkirk Boilers easy to service.

### Easy Installation

Surprisingly compact, the Empire II Water Boiler fits in tight spaces and is supplied assembled, with controls that are accessible and completely wired. Circulator is shipped pre-wired for easy installation for supply side pumping.



### 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. Models available with CSA (Canadian) Approval.

**DUNKIRK**  
**99.91%**  
**RELIABILITY**

### Strongest Warranty in the Industry

Dunkirk backs all of its residential cast iron water boilers with a full twenty 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.



\* Data on file - Dunkirk Radiator

## Taco Circulating Pump

(Grundfos optional) Included with the boiler and circulates hot water throughout the system to provide heat quickly and evenly. Circulators are unmounted to simplify supply-side pumping.



## Isolation Valves

Exclusive components that are part of the circulating pump eliminates the need to drain the system when replacing the pump, therefore reducing service time.

## Baked Enamel Steel Jacket

Factory installed insulation keeps off-cycle heat losses to a minimum in an attractive compact package.

## Combustion Chamber

A rear target wall, front refractory and chamber blanket enhance burner operation and provide an insulated atmosphere to quiet burner operation.

## Cast Iron Quality

Provides efficient heat transfer, reliability and strength.

## View Port

A 2" teardrop view port allows the service technician to easily inspect the burner flame.

## Swing Burner Door

Provides uninhibited access for set-up, service and maintaining the burner. Routine cleaning is also much easier.



## Temperature / Pressure Gauge

Mounted in the supply line for most accurate monitoring of the boiler's operation.

## Aquastat Control

The brain of the boiler... controls the operation of the burner, circulator, and domestic coil. It also monitors water temperature to ensure safe, reliable operation.

## Quality Burner Options

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

## Solenoid Oil Valve

Included on all Beckett and Carlin burners to enhance clean burning and quiet operation. (Riello built-in)

## Multiple Firing Rates

The Empire II is equipped with 2 nozzles that can provide a complete range of firing rates for each model size.



## Optional Tankless Water Heater

*Produces hot water for domestic use with a special 5 gallon per minute heating coil. Inspection and service are made easier with the coil's raised port which is accessible without removing the jacket.*

## EMPIRE II WATER FACTORY SUPPLIED EQUIPMENT

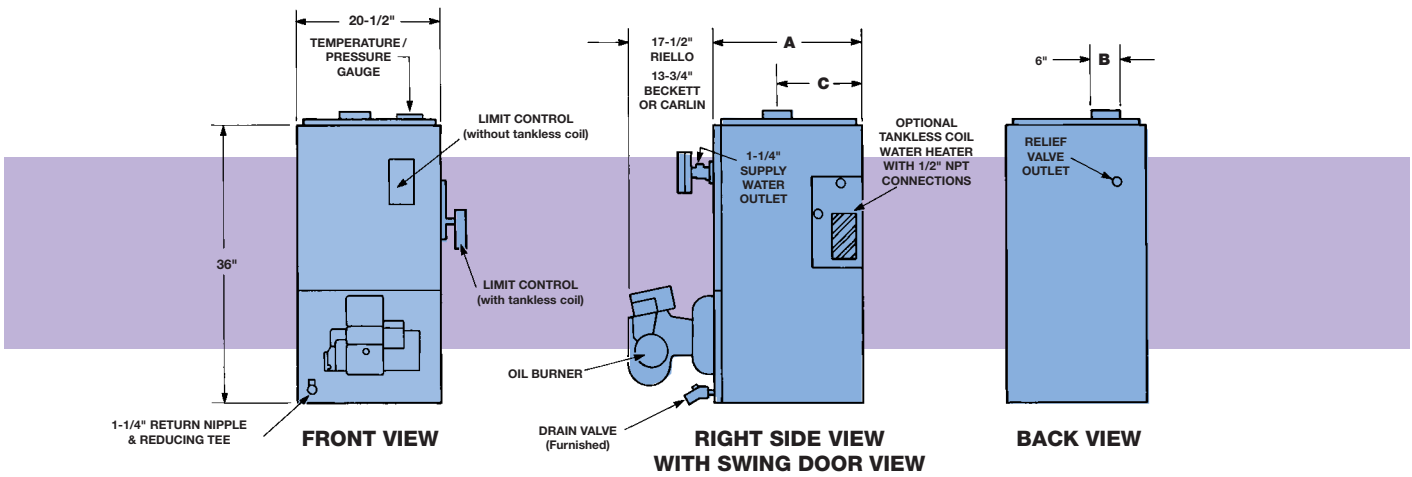
### STANDARD EQUIPMENT

- Assembled boiler with insulated jacket
- Combination high limit control and circulator relay, on boilers without optional tankless heater coil
- Combination high limit control, low limit control, and circulator relay, on boilers equipped with optional tankless heater coil
- Combustion Chamber Insulation System:
  - Target Wall (vacuum formed refractory ceramic fiber)
  - Ceramic Fiber Blanket
  - Swing Fire Door Insulation (vacuum formed ceramic fiber)

- Combination temperature/pressure gauge
- Barometric draft control 6"
- 1-1/4" Taco (or Grundfos) circulator pump with isolation (ball) valves
- 3/4" boiler drain valve
- 30-PSI ASME relief valve
- Completely installed and wired Beckett AFG series oil burner equipped with nozzle, protector relay, primary control, Cad Cell, and solenoid oil shutoff valve
- Swing Fire Door

### OPTIONAL EQUIPMENT

- Grundfos UP15-42F circulator with isolation ball valves
- Fill-Trol #110 for Water Boilers 150MBH or less
- Fill-Trol #111 for Water Boilers over 150 MBH
- Carlin EZ1 or EZ2 Burner
- Riello R40 F5 or F10 Burner



# Empire II Water

OIL-FIRED HOT-WATER BOILERS										RATINGS & CAPACITIES			
Model No. with Tankless Coil	Model No. without Tankless	No. of Sec.	Input ** MBH	*** Heating Capacity ** MBH	Net I=B=R Rating ** MBH	Firing Rate † GPH	Tankless Heater Capacity †† GPM	Chimney Size	DIMENSIONS (INCHES)			A.F.U.E. †††	Approx. Shipping Weight
									A	B	C		
*3EW.65T	*3EW.65Z	3	91	80	70	.65	2.90	8"x8"x15'	14 1/2	6	8	86.3	470
*3EW.75T	*3EW.75Z	3	105	92	80	.75	3.00	8"x8"x15'	14 1/2	6	8	85.2	470
3EW1.00T	3EW1.00Z	3	140	119	103	1.00	3.25	8"x8"x15'	14 1/2	6	8	83.4	470
*4EW.90T	*4EW.90Z	4	126	111	97	.90	3.15	8"x8"x15'	17 3/4	6	9 5/8	86.0	545
4EW1.25T	4EW1.25Z	4	175	150	130	1.25	3.50	8"x8"x15'	17 3/4	6	9 5/8	83.9	545
4EW1.50T	4EW1.50Z	4	210	178	155	1.50	3.75	8"x8"x15'	17 3/4	6	9 5/8	82.4	545
*5EW1.20T	*5EW1.20Z	5	168	147	128	1.20	3.45	8"x8"x15'	21	6	11 1/2	86.5	630
5EW1.75T	5EW1.75Z	5	245	209	182	1.75	4.00	8"x8"x15'	21	6	11 1/2	83.6	630
5EW2.00T	5EW2.00Z	5	280	236	205	2.00	4.25	8"x8"x20'	21	6	11 1/2	82.0	630

\* AS AN ENERGY STAR PARTNER, DUNKIRK HAS DETERMINED THAT THIS PRODUCT MEETS ENERGY STAR GUIDELINES FOR ENERGY EFFICIENCY.

\*\* MBH = 1,000 BTU PER HOUR BTU = BRITISH THERMAL UNIT

\*\*\* HEATING CAPACITY BASED ON 13% CO2 WITH A -0.02" W.C. DRAFT OVER FIRE, AND A #1 SMOKE OR LESS. TESTING WAS DONE IN ACCORDANCE WITH THE D.O.E. (DEPARTMENT OF ENERGY) TEST PROCEDURE.

† GPH = GALLONS PER HOUR OIL AT 140,000 BTU PER GALLON

†† GALLONS OF WATER PER MINUTE, HEATED FROM 40° TO 140°, WITH 200° BOILER WATER TEMPERATURE, INTERMITTENT DRAW.

††† A.F.U.E. = ANNUAL FUEL UTILIZATION EFFICIENCY BASED UPON D.O.E. TEST PROCEDURE.

NEW YORK CITY MEA NUMBER 191-99-F

■ The ratings marked "Net I=B=R Ratings" indicate the amount of remaining heat input that can be used to heat the radiation or terminal units. The Net I=B=R ratings shown are based on an allowance of 1.15 in accordance with the factors shown in the I=B=R CODE as published by the Hydronics Institute.

■ Selection of boiler size should be based upon "Net I=B=R RATING" being equal to or greater than the calculated heat loss of the building.

■ The manufacturer should be consulted before selecting a boiler for installations having unusual piping and pick-up requirements.

■ These boilers are constructed and hydrostatically tested for a maximum working pressure of 50 psi in accordance with A.S.M.E. (American Society of Mechanical Engineers) Boiler And Pressure Vessel Code Section IV Standards for cast iron heating boilers. They are capacity rated in accordance with the code of the Hydronics Institute.

**DUNKIRK QUALITY HEATING. AMERICA'S HOTTEST BOILER VALUE!** Dunkirk hydronic boilers lead the industry in value, with premium quality design and componentry. In fact, some of the most respected "brand name" boilers are produced by Dunkirk. These major manufacturers selected Dunkirk hydronic boilers for the same basic reasons you should: superb quality and unmatched value. Just compare our quality to cost ratio, and your boiler choice will become perfectly clear.

Specifications and dimensions are subject to change without notice. • Made in America by American Craftsmen.



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An ECR International Brand

An ISO 9001-2000 Certified Company



**USA Contractor Assistance:**  
**800-325-5479**