



# **EMPIRE II SERIES 3**

- Models**
- 3EW.65**
- 3EW.75**
- 3EW1.00**
- 4EW.90**
- 4EW1.25**
- 4EW1.50**
- 5EW1.20**
- 5EW1.75**

**OIL-FIRED CAST IRON  
HOT WATER BOILER**

## **Parts and Optional Accessories**

### Ordering Instructions

Order Parts through your nearest supplier.

When ordering parts, obtain Model Number and Serial Number from data plate on your boiler.

Include following information when ordering.

Part Number \_\_\_\_\_

Part Description \_\_\_\_\_

Boiler Model Number \_\_\_\_\_

Boiler Serial Number \_\_\_\_\_



**ECR** international  
EST. 1928  
A Family of Heating & Cooling Brands.

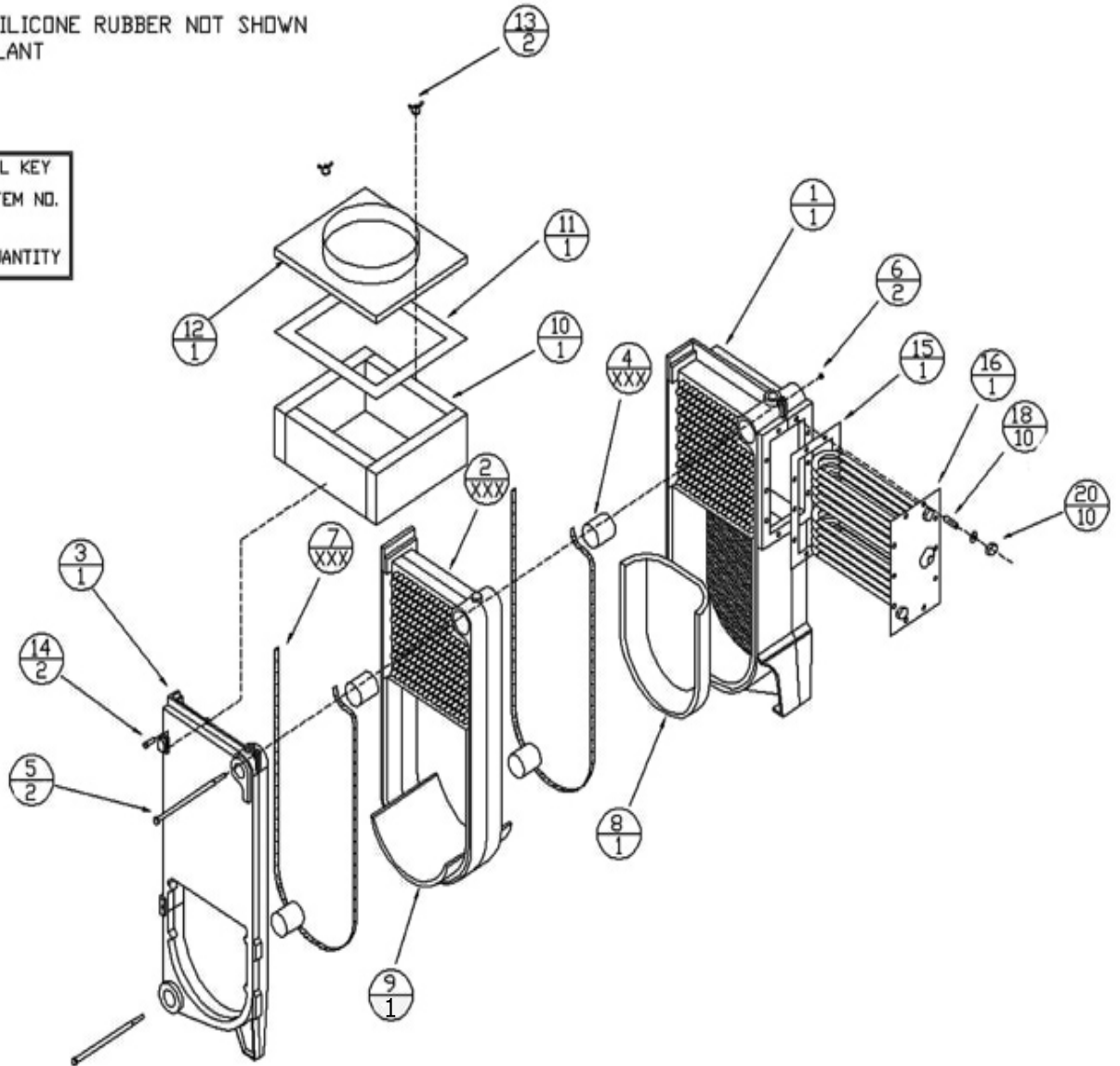
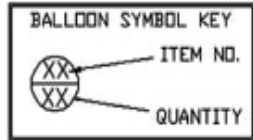
**Manufactured by:**  
**ECR International, Inc.**  
2201 Dwyer Avenue, Utica NY 13501  
web site: [www.ecrinternational.com](http://www.ecrinternational.com)

# REPAIR PARTS

17/1 COVER PLATE FOR BOILERS WITHOUT TANKLESS COIL NOT SHOWN

21/2 1 1/4" SQUARE HEAD PLUGS NOT SHOWN

22/XXX 400°F BLACK SILICONE RUBBER NOT SHOWN  
ADHESIVE SEALANT



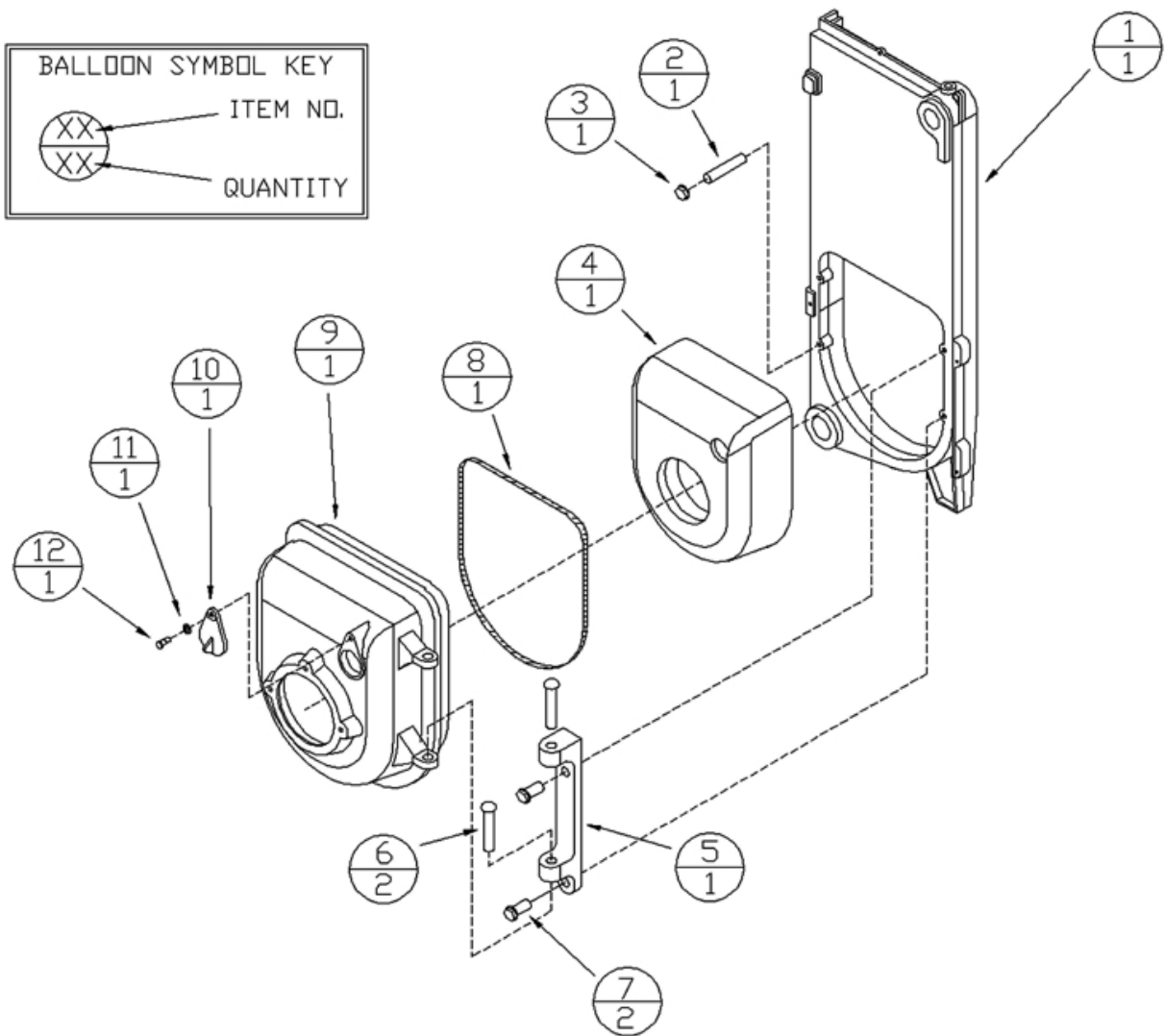
**REPAIR PARTS**

ITEM	DESCRIPTION	3EW	4EW	5EW
1	Water Boiler Back Section (EW3)	40300008	40300008	40300008
2	Water Boiler Middle Section (EW2)	40300007	40300007	40300007
3	Empire Water Front Section (EW1)	40300006	40300006	40300006
4*	Cast Iron Machined Nipples 2"	43300976	43300976	43300976
5*	1/4" Tie Rods	14605002	14605051	14605053
6	Tie Rods 1/4"20 Hex Head Nut	HW-003.02	HW-003.02	HW-003.02
7*	5/16" x 701/2" Braided Rope	43300955	43300955	43300955
8	Target Wall	14619003	14619003	14619003
9	1/2" thick Durablanket	420001139	420001140	42000141
10	Collector Complete (plus item 11, 12, 13)	42500279	42500280	42500281
11	Insulation Tape (plus items 10, 12, 13)	42500279	42500280	42500281
12	Collector Top (plus items 10,11,13)	42500279	42500280	42500281
13	8/32" Brass Wing Nut	13704007	13704007	13704007
14	5/16 X 1¼ Type A Hex Washer Head Screw	14695039	14695039	14695039
15**	Coil Gasket	240007071	240007071	240007071
16**	3.7 GPM Tankless Coil	14627020	14627020	14627020
17	Coil Housing Cover Plate (not shown)	43300256	43300256	43300256
18**	Stainless Steel 3/8"16 x 11/2" Stud	14695113	14695113	14695113
20**	Stainless Steel 3/8" Top Lock Nut	1330008	1330008	1330008
21	1¼" Solid Plug (not shown)	1395002	1395002	1395002
22	Black Silicone Sealant (not shown)	240006837	240006837	240006837
‡	Battery	40300303	40300403	40300503
‡	**Replacement Coil Kit (contains items 15, 16, 18, 20)	43360408	43360408	43360408

\* Note: Item quantities marked XXX vary depending upon the number of sections. Four cast iron nipples for first middle replacement section and two for each additional section. Black silicone sealant is sold in 10.1 oz. Cartridges.

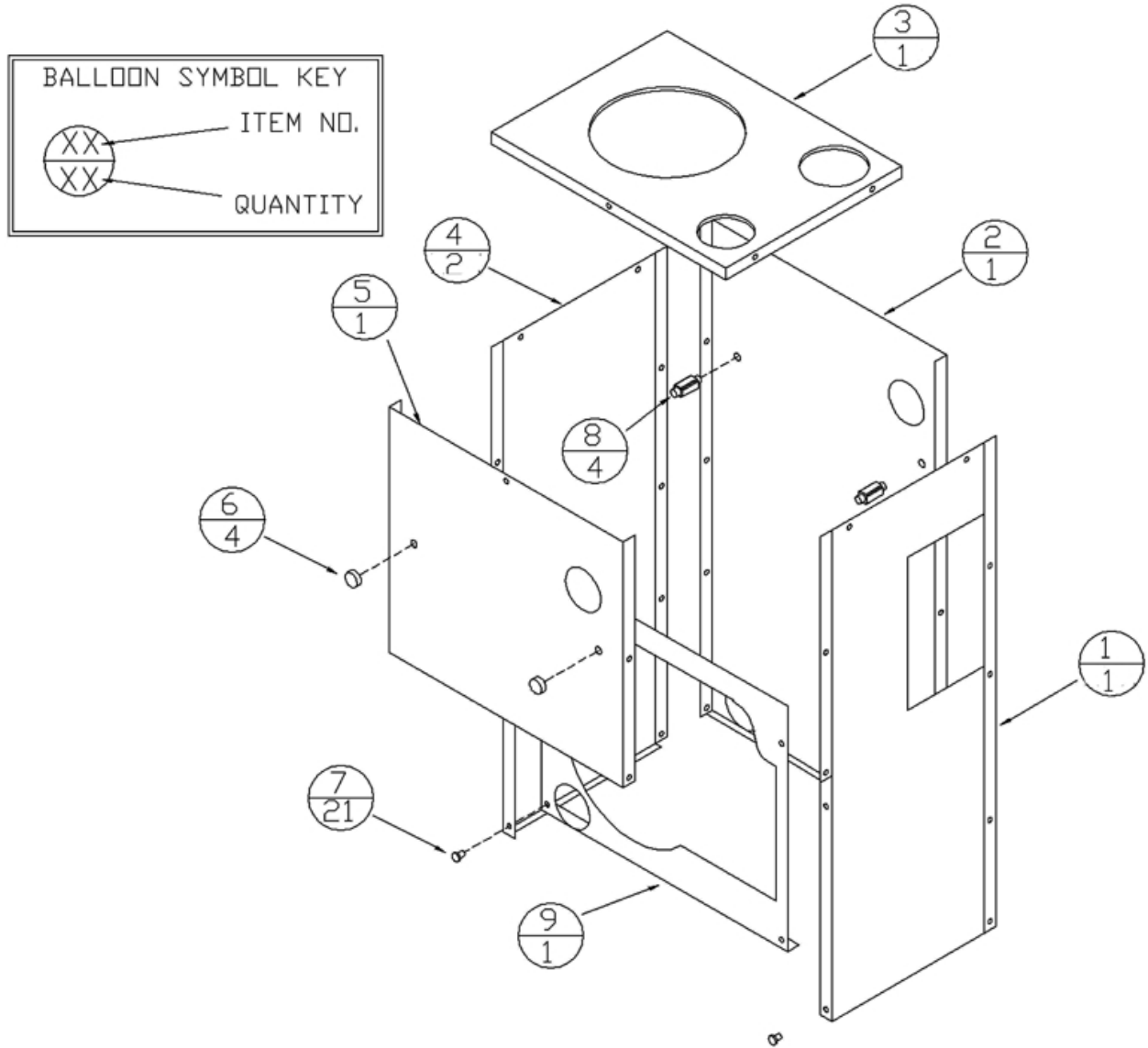
‡ Not illustrated.

## REPAIR PARTS



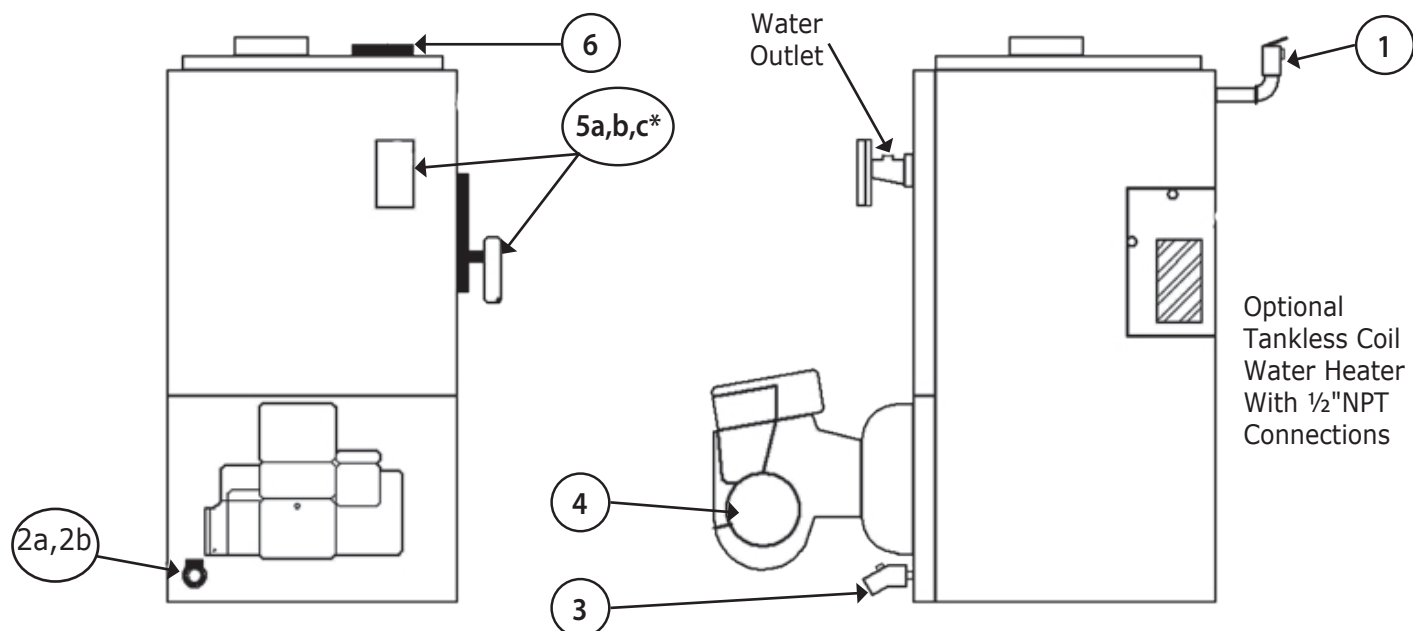
ITEM	DESCRIPTION	PART#
1	Empire Water Front Section (EW1)	40300006
2	3/8" - 16 X 2-1/4" stud	14695125
3	3/8" Whizlock Nut	14695126
4	Swing Door Insulation	14614014
5	Swing Door Hinge	40300010
6	1/4" x 2" Round Head Rivet	14695121
7	3/8" x 1" Hex Head Serrated Flange Bolt	14695124
8	3/8" x 48" Round Braid	43300905
9	Swing Door	40300009
10	Observation Door	40300014
11	5/16" Lock Washer	14695123
12	3/8" x 3/8" Shoulder Bolt 5/16"-18 Thread	14695122

## REPAIR PARTS



ITEM	DESCRIPTION	3EW	4EW	5EW
1	Right Side Jacket Panel	42500244AC	42500245AC	42500246AC
2	Back jacket Panel	42500269AC	42500269AC	42500269AC
3	Top jacket Panel	42500254AC	42500255AC	42500256AC
4	Left Side Jacket Panel	42500264AC	42500265AC	42500266AC
5	Upper Side Jacket Panel	42500267AC	42500267AC	42500267AC
6	5/16" Acorn Nut	14695042	14695042	14695042
7	#10 x 1/2" Jacket Screw	14695074	14695074	14695074
8	Stand Off	14695103	14695103	14695103
9	Lower Front Jacket Panel (boiler w/swing door)	42500268AC	42500268AC	42500268AC
XX	Complete Jacket for Boiler with Swing Door	42600289AC	42600290AC	42600291AC

## REPAIR PARTS



\* Item 5a Hydrolevel limit control is located on front supply tapping for less-coil boilers and on tankless coil cover plate for with-coil boilers. Note different control well used in each location.

ITEM	DESCRIPTION	3EW	4EW	5EW
1	¾" Safety Relief Valve, Combraco 10-408-05		14622011	
2a	1¼" x 2½" Pipe Nipple		14607044	
2b	1¼" x ¾" x 1¼" Reducing Tee		1510001	
3	¾" Drain Valve		240009323	
4	Oil Burner, Beckett AFG**	240011420	240011421	240011422
	Oil Burner, Riello**	1050006	1050006	14619011 <sup>(1)</sup>
	Oil Burner, Carlin**	14619005	14619005	14619006 <sup>(2)</sup>
5a	Limit Control Hydrolevel 3250 with Sensor		240010867	
5b	Replacement Sensor Only		240009989	
5c	Long Control Well for Front Supply Tapping		240007709	
	Short Control Well for Tankless Coil Plate		240009283	
6	Temperature Pressure Gauge 2" Stem		1260006	
*	Taco 007 Circulator		CI-001.03	
*	Circulator, Grundfos UP15-42F		CI-006.01	
*	Circulator, B&G NRF 22		CI-001.01	

\* Not Shown

\*\* Replacement oil burner requires additional purchase of correct rerate kit for specified firing rate. See following page for rerate kits.

<sup>(1)</sup> Riello F5 (1050006) required for 5EW 1.20

<sup>(2)</sup> Carlin EZ-2 (14619005) required for 5EW 1.20

**RERATE KITS - OIL BURNER, NOZZLE, AND AIR SETTING**

**BECKETT**

BOILER MODEL	DELEVAN OIL NOZZLE	INPUT RATE (gph)	HEAD-ADJ. OR SETTING	LOW FIRE BAFFLE	AIR SHUTTER/BAND	STATIC PLATE	OIL BURNER	RERATE KITS
3EW.65*	0.50-80° B	0.65	F0 - 1 1/8	YES	10/0	3 5/8	AFG F-HEAD	550002677
3EW.75	0.65-70° B	0.75	F3 - 1 1/8	YES	10/0	3 1/2	AFG F-HEAD	550002676
3EW1.00	0.85-70° B	1.00	F3 - 1 1/8	NO	10/2	3 1/2	AFG F-HEAD	550002666
4EW.90	0.75-80° A	0.90	F3 - 1 1/8	NO	8/0	3 1/2	AFG F-HEAD	550002678
4EW1.25	1.00-80° A	1.25	F6 - 1 1/8	NO	10/0	3 3/8	AFG F-HEAD	550002675
4EW1.50	1.25-80° A	1.50	F6 - 1 1/8	NO	10/2	3 3/8	AFG F-HEAD	550002667
5EW1.20	1.00-60° B	1.20	0	NO	10/1.5	2 3/4	AFG 50 MD	550002668
5EW1.75	1.50-45° B	1.75	2	NO	10/4	2 3/4	AFG 50 MD	

\*To fire the 3EW.65 on rate, the oil pressure must be increased to 175 psig. All Beckett oil burners for the EW boiler are factory preset at 140 psig

**CARLIN**

BOILER MODEL	DELEVAN OIL NOZZLE	INPUT RATE (gph)	HEAD SETTING	AIR BAND SET POINT	CARLIN BURNER*	RERATE KITS
3EW.65	0.55-70° B	0.65	0.50	0.52	EZ-1 HP	550002672
3EW.75	0.65-60° B	0.75	0.60/0.65	0.60	EZ-1 HP	
3EW1.00	0.85-60° B	1.00	0.85/1.00	0.80	EZ-1 HP	
4EW.90	0.75-60° B	0.90	0.75	0.75	EZ-1 HP	550002673
4EW1.25	1.00-60° B	1.25	0.85/1.00	0.90	EZ-1 HP	
4EW1.50	1.25-60° B	1.50	1.10/1.5	1.25	EZ-1 HP	
5EW1.20	1.00-60° B	1.20	0.85/1.00	0.90	EZ-1 HP	
5EW1.75	1.50-60° B	1.75	1.50	1.65	EZ-2 HP	550002674

\*All Carlin EZ-1 and EZ-2 HP oil burners are factory preset at 150 psig.

**RIELLO**

BOILER MODEL	DELEVAN OIL NOZZLE	INPUT RATE (gph)	TURBULATOR/AIR SHUTTER SETTING	OIL PRESSURE (PSIG)*	RIELLO 40 BURNER MODEL	RERATE KITS
3EW.65	0.50-70° W	0.65	0.50	155	F5	550002669
3EW.75	0.65-70° W	0.75	2.0/2.2	150	F5	
3EW1.00	0.85-70° W	1.00	2.0/2.3	170	F5	
4EW.90	0.75-70° W	0.90	1.5/2.6	160	F5	550002670
4EW1.25	1.00-70° W	1.25	2.5/3.8	170	F5	
4EW1.50	1.25-70° W	1.50	4.0/7.0	175	F5	
5EW1.20	1.00-70° W	1.20	2.5/3.5	150	F5	
5EW1.75	1.50-70° W	1.75	2.0/3.8	155	F10	550002671

\*All Riello 40 F5 and F10 oil burner are factory preset at 145 psig.

**NOTE: All burners use an insertion depth of 2 1/4" and fired at a overfire draft of -0.02 inches w.c. The burner settings provided are intended for initial start up only. Final adjustment must be made using combustion test instruments.**

## **IMPORTANT**

In accordance with Section 325 (f) (3) of the Energy Policy and Conservation Act, this boiler is equipped with a feature that saves energy by reducing the boiler water temperature as the heating load decreases. This feature is equipped with an override which is provided primarily to permit the use of an external energy management system that serves the same function.

**THIS OVERRIDE MUST NOT BE USED UNLESS AT LEAST ONE OF THE FOLLOWING CONDITIONS IS TRUE:**

- An external energy management system is installed that reduces the boiler water temperature as the heating load decreases.
- This boiler is not used for any space heating
- This boiler is part of a modular or multiple boiler system having a total input of 300,000 BTU/hr or greater.
- This boiler is equipped with a tankless coil.