



# Domestic Hot Water Heaters and Boilers





# LOW NO<sub>x</sub>, HIGH EFFICIENCY, HOT WATER SUPPLY AND HYDRONIC HEATING BOILERS

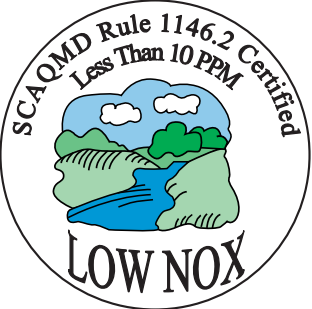
Futera II Series hot water supply boilers provide dependable performance with 85% efficiency, non-condensing with industry-leading NO<sub>x</sub> levels of less than 10 ppm.

Quality components include a rugged heat exchanger that prevents rust and corrosion for the life of the heater. Finned tubes are industrial grade copper with fins and tubewalls formed as one, providing optimum heat transfer. Each tube is rolled into either all-bronze headers – standard on all Futera II water heaters or cast iron headers – standard on all Futera II boilers. The tubes are individually field replaceable. The heat exchanger is superior in design, durability and serviceability – each is hydrostatically tested, approved and stamped for 160 psi ASME operation.



Futera II Series boilers and water heaters are also available with corrosion-resistant, brushed stainless steel jacket. Ideal for outdoor or indoor installation in harsh environments such as coastal areas and processing applications requiring wash down.

Compact, low maintenance design and venting flexibility permit easy installation and service, making the Futera II the perfect choice for virtually any hot water supply application.





## Advanced Diagnostic System

The Futera II features an easy-to-read LCD display that provides clear indication of inlet water temperature or setpoint in Fahrenheit or Celsius. The display also provides information for setting temperature control parameters. Advanced troubleshooting and self-diagnostic control provides a step-by-step cycle of operation. Each step is automatically tested and indicated, allowing for simplified and less costly troubleshooting.

## RBI Temperature Controller

### SP Setpoint or Target Temperature:

The Setpoint is the inlet water temperature that the operating control will try to match by staging the boiler between 'Off', 'Stage 1' and 'Stage 2.'

### D1 Boiler Differential:

The Boiler Differential is centered around the setpoint so that when the sensor reads  $\frac{1}{2}$  of D1 below the setpoint, Stage 1 will be energized. When the sensor reads a temperature  $\frac{1}{2}$  of D1 above the setpoint, stage will turn off.

### D2 Interstage Differential:

The Interstage Differential is the difference in temperature between Stage 1 being called on, and Stage 2 being called on.

## Smart Service Design

A Honeywell RM Series Flame Safeguard, limit controls and terminal strips are neatly arranged and easily accessible in the front-facing panel.



## Proven Pilot Ignition System

The Futera II Series uses a proven pilot with interrupted spark ignition and UV flame detection. The UV detector and igniter assembly provide highly reliable ignition and easy service. This important design feature provides long-life reliability. An observation port allows easy inspection of the flame at the top of the boiler.

### HOURLY RECOVERY CAPACITY $\Delta T$ (GPH & LPH)

| Model | Temperature |        |       |        |       |       |        |       |        |       |        |       |
|-------|-------------|--------|-------|--------|-------|-------|--------|-------|--------|-------|--------|-------|
|       | 40° F       | 22° C  | 60° F | 33° C  | 80° F | 44° C | 100° F | 56° C | 120° F | 67° C | 140° F | 78° C |
| 500   | 1,276       | 4,828  | 850   | 3,219  | 638   | 2,414 | 510    | 1,931 | 425    | 1,609 | 364    | 1,380 |
| 750   | 1,913       | 7,243  | 1,276 | 4,828  | 957   | 3,621 | 765    | 2,897 | 638    | 2,414 | 547    | 2,069 |
| 1000  | 2,551       | 9,657  | 1,701 | 6,438  | 1,276 | 4,828 | 1,020  | 3,863 | 850    | 3,219 | 729    | 2,759 |
| 1250  | 3,189       | 12,071 | 2,126 | 8,047  | 1,594 | 6,035 | 1,276  | 4,828 | 1,063  | 4,024 | 911    | 3,449 |
| 1500  | 3,827       | 14,485 | 2,551 | 9,657  | 1,913 | 7,243 | 1,531  | 5,794 | 1,276  | 4,828 | 1,093  | 4,139 |
| 1750  | 4,464       | 16,899 | 2,976 | 11,266 | 2,232 | 8,450 | 1,786  | 6,760 | 1,488  | 5,633 | 1,276  | 4,828 |
| 1950  | 4,974       | 18,831 | 3,316 | 12,554 | 2,487 | 9,415 | 1,990  | 7,532 | 1,658  | 6,277 | 1,421  | 5,380 |

### TEMPERATURE RISE/PRESSURE DROP

| Model | Temperature Rise Across Heat Exchanger |                   |                  |                   |                  |                   |                  |                   |                  |                   |                  |                   |                  |                   |                  |                   |
|-------|--|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|
|       | 20° F                                  |                   | 11.1° C          |                   | 25° F            |                   | 13.9° C          |                   | 30° F            |                   | 16.7° C          |                   | 35° F            |                   | 19.4° C          |                   |
|       | Flow Rate<br>GPM                       | Pres. Drop<br>Ft. | Flow Rate<br>l/s | Pres. Drop<br>kPa | Flow Rate<br>GPM | Pres. Drop<br>Ft. | Flow Rate<br>l/s | Pres. Drop<br>kPa | Flow Rate<br>GPM | Pres. Drop<br>Ft. | Flow Rate<br>l/s | Pres. Drop<br>kPa | Flow Rate<br>GPM | Pres. Drop<br>Ft. | Flow Rate<br>l/s | Pres. Drop<br>kPa |
| 500   | 42.5                                   | .53               | 2.7              | 1.5               | 34.0             | 0.35              | 2.1              | 1.0               | —                | —                 | —                | —                 | —                | —                 | —                | —                 |
| 750   | 63.8                                   | 1.57              | 4.0              | 4.6               | 51.0             | 1.04              | 3.2              | 3.1               | 42.5             | 0.70              | 2.7              | 2.2               | 36.4             | 0.60              | 2.3              | 1.6               |
| 1000  | 85.0                                   | 3.44              | 5.4              | 10.1              | 68.0             | 2.27              | 4.3              | 6.7               | 56.7             | 1.60              | 3.6              | 4.8               | 48.6             | 1.20              | 3.1              | 3.6               |
| 1250  | 106.3                                  | 2.11              | 6.7              | 6.2               | 85.0             | 1.40              | 5.4              | 4.1               | 70.8             | 1.00              | 4.5              | 2.9               | 60.7             | 0.70              | 3.8              | 2.2               |
| 1500  | 127.5                                  | 3.57              | 8.0              | 10.5              | 102.0            | 2.36              | 6.4              | 7.0               | 85.0             | 1.70              | 5.4              | 5.0               | 72.9             | 1.30              | 4.6              | 3.7               |
| 1750  | —                                      | —                 | —                | —                 | 119.0            | 3.67              | 7.5              | 10.8              | 99.2             | 2.60              | 6.3              | 7.7               | 85.0             | 2.00              | 5.4              | 5.8               |
| 1950  | —                                      | —                 | —                | —                 | 132.6            | 5.14              | 8.4              | 15.1              | 110.5            | 3.70              | 7.0              | 10.8              | 94.7             | 2.80              | 6.0              | 8.1               |

### FUTERA II RATINGS

| Model | Input |     | Output |     | Net I=B=R |     | NOx<br>PPM | AMP<br>DRAW | Shipping Weight |      |
|-------|-------|-----|--------|-----|-----------|-----|------------|-------------|-----------------|------|
|       | MBH   | KW  | MBH    | KW  | MBH       | KW  |            |             | Lbs.            | Kgs. |
| 500   | 500   | 147 | 425    | 125 | 366       | 107 | 9.3        | 5.9         | 545             | 247  |
| 750   | 750   | 220 | 638    | 187 | 550       | 161 | 8.8        | 5.9         | 590             | 268  |
| 1000  | 1000  | 293 | 850    | 249 | 733       | 215 | 8.0        | 5.9         | 670             | 304  |
| 1250  | 1250  | 366 | 1063   | 311 | 915       | 268 | 8.9        | 8.7         | 815             | 370  |
| 1500  | 1500  | 440 | 1275   | 374 | 1099      | 322 | 9.3        | 8.7         | 855             | 388  |
| 1750  | 1750  | 513 | 1488   | 436 | 1283      | 376 | 9.1        | 10.7        | 880             | 399  |
| 1950  | 1950  | 571 | 1658   | 486 | 1429      | 419 | 9.1        | 10.7        | 930             | 422  |

NOTE: Certified South Coast Air  
Quality Management District  
(SCAQMD) Protocol Rule  
1146.2; Ventura County  
APCD Rule 74.11.1

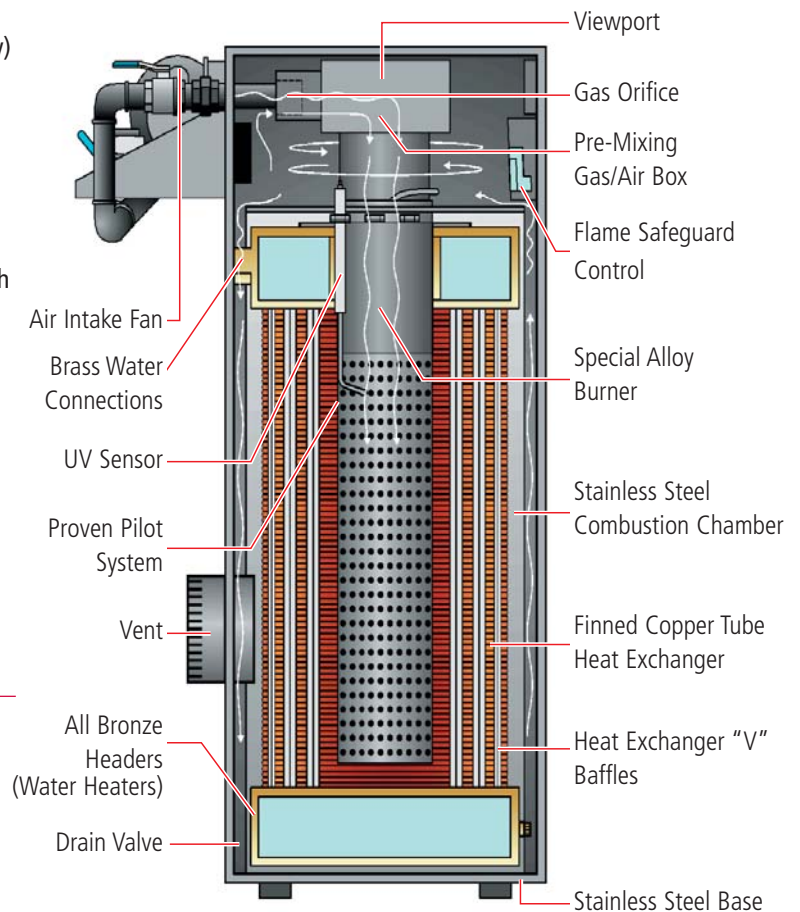
# FUTERA II SERIES

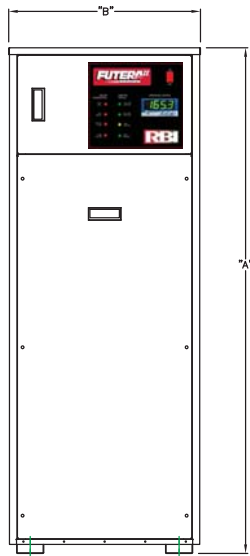
## STANDARD FEATURES

- Flame safeguard control
- 85% efficient
- Bronze Headers – Water Heaters
- Cast Iron Headers – Boilers
- Finned copper tube heat exchanger, ASME  
160 psi max WP, 4-pass design
- Gasketless heat exchanger assembly
- Stainless steel combustion chamber
- 2-stage digital operator
- Special alloy burner
- Less than 10 ppm NOx
- SCAQMD Rule 1146.2
- Compact, low maintenance design
- Venting flexibility
- CSA Design Certified & Listed (formally)  
AGA/CGA
- Proven pilot (UV flame detection)
- Factory installed ASME relief valve
- Outlet thermometer
- High limit control with manual reset
- Factory mounted and wired flow switch
- Low air pressure switch
- Easy access to all components
- 5-year limited heat exchanger  
warranty on water heaters,  
10-year on boilers
- Heat exchanger drain
- National Board Certified
- Pump delay relay
- CSD-1 and FM compliant  
gas train

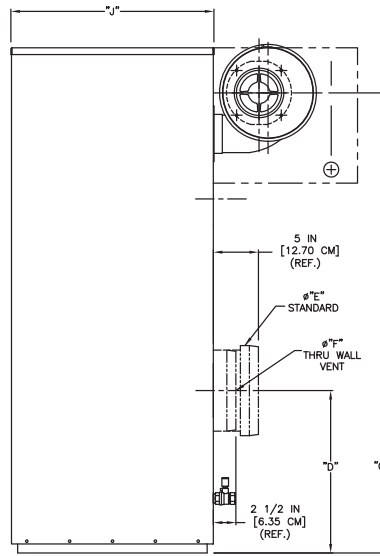
## OPTIONAL EQUIPMENT

- Cupro-nickel finned-tubes
- Outdoor installation
- Thru-wall venting
- Direct venting
- Stainless steel jacket
- Barometric damper
- On-Off firing
- Freeze protection package

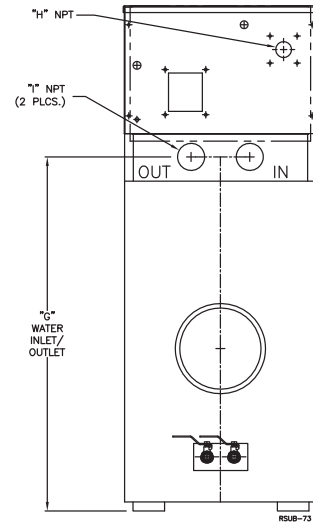




FRONT VIEW



RIGHT SIDE VIEW



REAR VIEW

**FUTERA II DIMENSIONS**

| Model | A                               |      | B                              |     | C                              |      | D                              |     | E   |     | F   |     | G                              |      | H                             |                               | I                              |     | J  |  |
|-------|---------------------------------|------|--------------------------------|-----|--------------------------------|------|--------------------------------|-----|-----|-----|-----|-----|--------------------------------|------|-------------------------------|-------------------------------|--------------------------------|-----|----|--|
|       | in.                             | mm   | in.                            | mm  | in.                            | mm   | in.                            | mm  | in. | mm  | in. | mm  | in.                            | mm   | in.                           | in.                           | in.                            | in. | mm |  |
| 500   | 43                              | 1092 | 21 <sup>1</sup> / <sub>4</sub> | 540 | 37 <sup>1</sup> / <sub>2</sub> | 953  | 11 <sup>3</sup> / <sub>4</sub> | 298 | 8   | 203 | 6   | 152 | 26 <sup>1</sup> / <sub>4</sub> | 667  | 1                             | 2                             | 22 <sup>1</sup> / <sub>2</sub> | 572 |    |  |
| 750   | 49 <sup>9</sup> / <sub>16</sub> | 1259 | 21 <sup>1</sup> / <sub>4</sub> | 540 | 43 <sup>3</sup> / <sub>4</sub> | 1111 | 14 <sup>3</sup> / <sub>4</sub> | 375 | 10  | 254 | 8   | 203 | 33                             | 838  | 1                             | 2                             | 22 <sup>1</sup> / <sub>2</sub> | 572 |    |  |
| 1000  | 56 <sup>1</sup> / <sub>16</sub> | 1424 | 21 <sup>1</sup> / <sub>4</sub> | 540 | 51                             | 1295 | 18                             | 457 | 10  | 254 | 9   | 229 | 39 <sup>1</sup> / <sub>4</sub> | 997  | 1 <sup>1</sup> / <sub>4</sub> | 2                             | 22 <sup>1</sup> / <sub>2</sub> | 572 |    |  |
| 1250  | 51                              | 1295 | 25 <sup>1</sup> / <sub>2</sub> | 648 | 44                             | 1118 | 17                             | 432 | 12  | 305 | 10  | 254 | 32                             | 813  | 1 <sup>1</sup> / <sub>4</sub> | 2 <sup>1</sup> / <sub>2</sub> | 27 <sup>1</sup> / <sub>2</sub> | 699 |    |  |
| 1500  | 55 <sup>1</sup> / <sub>2</sub>  | 1410 | 25 <sup>1</sup> / <sub>2</sub> | 648 | 49                             | 1245 | 19                             | 483 | 12  | 305 | 10  | 254 | 36 <sup>1</sup> / <sub>2</sub> | 927  | 1 <sup>1</sup> / <sub>4</sub> | 2 <sup>1</sup> / <sub>2</sub> | 27 <sup>1</sup> / <sub>2</sub> | 699 |    |  |
| 1750  | 60                              | 1524 | 25 <sup>1</sup> / <sub>2</sub> | 648 | 53 <sup>1</sup> / <sub>4</sub> | 1353 | 21                             | 533 | 14  | 356 | 12  | 305 | 41                             | 1041 | 1 <sup>1</sup> / <sub>2</sub> | 2 <sup>1</sup> / <sub>2</sub> | 27 <sup>1</sup> / <sub>2</sub> | 699 |    |  |
| 1950  | 64 <sup>1</sup> / <sub>2</sub>  | 1638 | 25 <sup>1</sup> / <sub>2</sub> | 648 | 57 <sup>3</sup> / <sub>4</sub> | 1467 | 23 <sup>3</sup> / <sub>4</sub> | 603 | 14  | 356 | 12  | 305 | 45 <sup>1</sup> / <sub>2</sub> | 1156 | 1 <sup>1</sup> / <sub>2</sub> | 2 <sup>1</sup> / <sub>2</sub> | 27 <sup>1</sup> / <sub>2</sub> | 699 |    |  |



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In the interest of product improvement, RBI reserves the right to make changes without notice.