

# Condensing High Efficiency Gas-Fired Boilers and Water Heaters





IE<sub>2</sub> high efficiency gas-fired boilers and water heaters utilize stateof-the-art Radial Variable Circulation (RVC) stainless steel heat exchangers for maximum heat transfer and operating efficiencies of up to 98%.

Using all of today's modern technologies including pre-mix burners, modulating firing rates of up to 20:1 and integrated cascade controls IE<sub>2</sub> provides users with superior performance and application flexibility.

Available from 199 to 1000 MBH the IE<sub>2</sub> provides flexible solutions for all of your heating and domestic hot water needs. Units are PVC, polypropylene (PP) and stainless steel vent capable and can be installed in multiple unit configurations using its on-board control which provides flexible modulation for maximum efficiency.

### **Features and Benefits**

- 199 1000 MBH
- Up to 98% Ultra-High Efficiency
- RVC Stainless Steel Heat Exchanger
- PVC, PP and Stainless Steel Venting
- Intuitive Integrated Control Platform
- Multi-Unit Cascade Communication (8 Units)
- MODBUS Based Control
- Pre-Mix Burner Technology
- Up to 20:1 Full Modulation
- Low NOx and CO emissions (<15 ppm)
- 3" Minimum Gas Pressure
- 160 PSI Working Pressure
- Integrated condensate neutralizer system
- Modern Sleek Jacket Design
- Ease of Installation and Maintenance











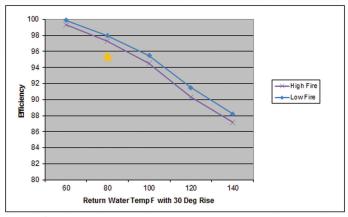


## Innovative Heat Exchanger Design

IE<sub>2</sub> boilers and water heaters utilize a patented Radial Variable Circulation stainless steel heat exchanger. RVC high efficiency heat exchangers are manufactured using a series of 3 stainless steel tubes including a uniquely designed AISI 316 Ti stainless steel. Tubes are hydraulically connected without welding protecting the full integrity of the design while providing maximum durability against corrosion.

All RVC heat exchangers are ASME certified for both water heating and space heating and manufactured to the most stringent tolerances in the industry today.

All IE<sub>2</sub> units come with an integrated condensate neutralizer system.







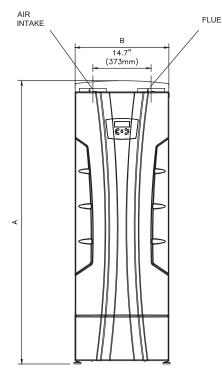
# **Integrated Control Board**

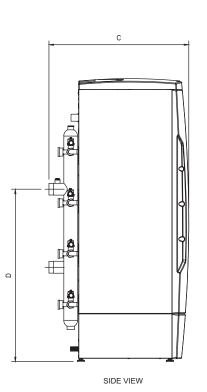
Like a lot of today's applications, the  $IE_2$  can be configured in a master/member cascade configuration providing up to 8000 MBH with unparalleled modulation for maximum system efficiency.

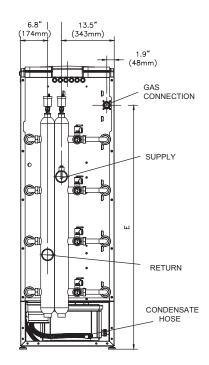
An intuitive control system is the brains behind the IE<sub>2</sub>'s premium performance. The easy set-up control is MODBUS based and provides auto-diagnostics of all major components and functions; including visual notification of system errors and lockouts through continuous monitoring of temperature sensors, fan speed rotation and other application operating sequences. Back-lit visual readouts include water flow sensor, supply temperature, flue temperature and tank temperature for immediate system feedback.

- Outdoor Reset
- Auto Diagnostics
- PC Connections for Diagnostics
- Cascade Capabilities (8 Units)
- Freeze Protection
- System Pump Control, Boiler Pump Control and DHW Pump Control
- DHW Priority
- Back-Lit Readable Display with Auto Shut Off
- Low Water Flow Protection
- Water Pressure Sensor
- Low Water Pressure Protection
- Blocked Flue Pressure Switch









REAR VIEW

FRONT VIEW

#### <u>Models</u> IB = Boiler IW = Water Heater

| Infinite Energy 2 Series – Dimensions |      |      |      |     |      |     |      |      |      |      |  |
|---------------------------------------|------|------|------|-----|------|-----|------|------|------|------|--|
|                                       | A    |      | В    |     | C    |     | D    |      | E    |      |  |
| Size                                  | In   | mm   | In   | mm  | In   | mm  | In   | mm   | In   | mm   |  |
| 199                                   | 45.7 | 1154 | 23.6 | 600 | 34.8 | 885 | 25   | 634  | 35.7 | 908  |  |
| 399                                   | 45.7 | 1154 | 23.6 | 600 | 34.8 | 885 | 25   | 634  | 35.7 | 908  |  |
| 500                                   | 45.7 | 1154 | 23.6 | 600 | 34.8 | 885 | 25   | 634  | 357  | 908  |  |
| 750                                   | 71.4 | 1815 | 23.6 | 600 | 35.3 | 896 | 43.5 | 1105 | 61.5 | 1563 |  |
| 1000                                  | 71.4 | 1815 | 23.6 | 600 | 35.3 | 896 | 43.5 | 1105 | 61.5 | 1563 |  |

| Infinite Energy 2 Series – Dimensions and Ratings* |       |     |               |     |           |            |             |        |                 |     |
|--|-------|-----|---------------|-----|-----------|------------|-------------|--------|-----------------|-----|
|  | Input |     | Boiler Output |     |           |            | Connections |        | Shipping Weight |     |
| Size   | MBH   | kW  | MBH           | kW  | Flue Vent | Air Intake | Gas         | Water  | Lbs             | Kg  |
| 199  | 200   | 59  | 184           | 54  | 3"        | 3"         | 1"          | 2"     | 258             | 117 |
| 399  | 399   | 117 | 376           | 110 | 4"        | 4"         | 1"          | 2"     | 356             | 162 |
| 500  | 500   | 147 | 472           | 138 | 4"        | 4"         | 1"          | 2"     | 371             | 168 |
| 750  | 750   | 220 | 711           | 208 | 6"        | 6"         | 1 1/4"      | 2 1/2" | 539             | 245 |
| 1000   | 1000  | 293 | 952           | 279 | 6"        | 6"         | 1 1/4"      | 2 1/2" | 612             | 278 |

\* Ratings reflect boiler only. For boiler efficiency information please visit www.ahridirectory.org.

| Infinite Energy 2 Series Water Heaters – Hourly Recovery Capacity ${\it \Delta}$ T (GPH & LPH)** |                  |       |      |      |      |      |       |      |       |      |       |      |
|--|------------------|-------|------|------|------|------|-------|------|-------|------|-------|------|
|  | Temperature Rise |       |      |      |      |      |       |      |       |      |       |      |
| Size   | 40°F             | 22°C  | 60°F | 33°C | 80°F | 44°C | 100°F | 56°C | 120°F | 67°C | 140°F | 78°C |
| 199  | 566              | 2140  | 377  | 1427 | 283  | 1070 | 226   | 856  | 189   | 713  | 162   | 611  |
| 399  | 1154             | 4364  | 770  | 2909 | 577  | 2182 | 462   | 1745 | 385   | 1455 | 330   | 1247 |
| 500  | 1460             | 5519  | 973  | 3679 | 730  | 2760 | 584   | 2208 | 487   | 1840 | 417   | 1577 |
| 750  | 2127             | 8040  | 1418 | 5360 | 1064 | 4020 | 851   | 3216 | 709   | 2680 | 608   | 2297 |
| 1000   | 2806             | 10607 | 1871 | 7071 | 1403 | 5304 | 1122  | 4243 | 935   | 3536 | 802   | 3031 |

\*\* For water heater efficiency information please visit www.ahridirectory.org.



## **Modular Header System**

RBI has engineered a modular header system for use with the high efficiency condensing IE2 boilers providing users with a completely engineered and factory-fabricated system design.

Our header system instantly minimizes head loss and provides air separation while minimizing debris with its built-in drain system\*.

Save time and money by eliminating near boiler pipe nipples and fittings. Let the engineers at RBI select the properly sized pump and pipe size for the application insuring proper boiler flow.

Simply assemble and go.



- Pre-Fabricated Supply and Return Headers
- Hydraulic Separator (Low Loss Header) by Taco
- Models 399 1000 MBH
- Individual Integrated Condensate Neutralizer Systems
- Field Assembly Required

- Quick-Pipe up to 5 Units
- Minimize Head Loss
- Provide Air Separation
- Minimize Debris\*



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