

CONDENSING

# EVOLUTION<sup>®</sup>

Higher Efficiency Heating Equipment

## Making the Best Even Better

- UNMATCHED OPERATING CONTROLS
- UP TO 97% EFFICIENT
- ULTRA LOW NOX
- CERTIFIED TO BTS-2000 TEST STANDARD



**AHRP** CERTIFIED<sup>®</sup>  
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**THERMAL<sup>®</sup>**  
**SOLUTIONS**  
Innovative Equipment for Hot Water Systems

# MAKING THE BEST EVEN BETTER

## The NEW Condensing Evolution® (EVCA)

Thermal Solutions has designed the high-efficiency copper-finned condensing Evolution® to meet the needs of today's commercial heating requirements. The Evolution EVCA design takes the very best of existing technology to the next level by incorporating a secondary heat exchanger. The result is higher efficiency and greater reliability in your application.



Heat Exchanger



Ceramic Radiant Burner



Honeywell® RM 7800



TSBC Module

The Evolution is now being featured as a fully condensing boiler. Ranges are 750,000 through 3,000,000 BTU/hr. We offer the following features:

### Infinite Modulation — Load Matching

The EVCA uses fuel/air ratio controls to modulate the firing rate, providing optimum performance and temperature control. There are no linkages or mechanical devices that can loosen during operation. It's the safest means of combustion control on the market.

### Variable Water Flow Rates

Because of its condensing design, the EVCA has the flexibility to accommodate the variable flow rates and temperature requirements of today's diverse hydronic system designs.

### Innovative Heat Exchanger Design

Central to the Evolution boiler's highly efficient operation is the design of its copper-tube heat exchanger. Not only does it efficiently maintain heat transfer, but the innovative gasketless header provides for easy inspection, cleaning and individual tube replacement. The specially designed condensing section is 100% stainless steel for maximum corrosion resistance and performance.

### Clean and Efficient Advanced Combustion

Third-party certified to BTS-2000 at efficiencies up to 97% thermal and NOx ratings less than 9.9 ppm, the Evolution's noiseless ceramic radiant burner runs at minimal excess air levels, creating highly efficient, trouble-free operation. The rugged industrial cast-aluminum blower and fan wheel are equipped with a replaceable combustion air filter (99% efficient to one micron) to create excellent combustion characteristics and even air distribution. There's no need for tricky pressurized compartments...the Evolution boiler can even be operated with its jacket panels removed for easy inspection or maintenance.

### Unique Timesaving Controls

Instead of using a series of relays, the Evolution design uses state-of-the-art microprocessor flame safeguard controls to provide extensive diagnostic information including first-out fault annunciation using an LED diagnostic display. The proven spark-to-pilot ignition system ensures that the pilot is lit before allowing the main gas valve to open. The optional display unit, shown at the left, can be easily incorporated to provide additional operational information and history.

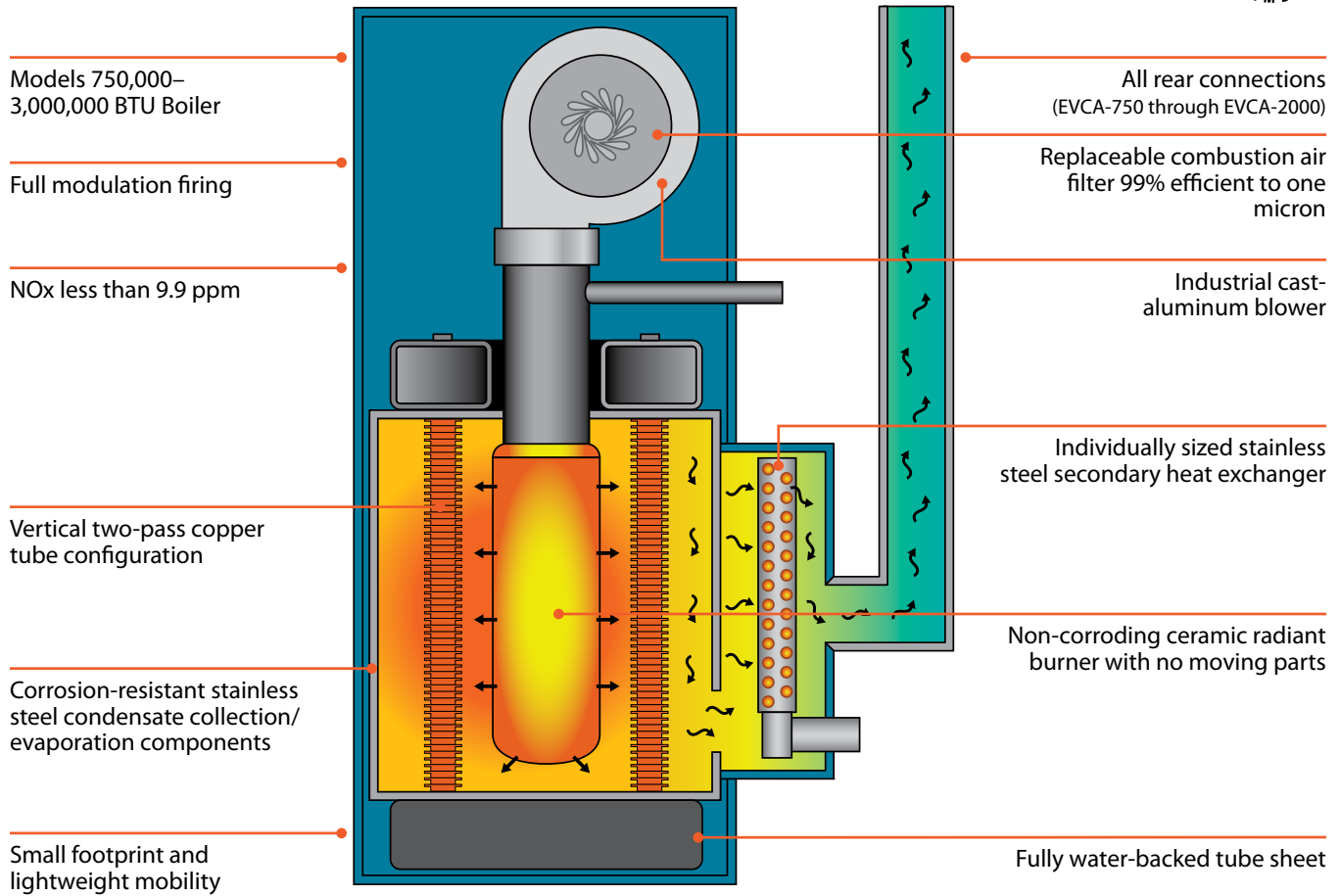
### Unmatched Operating Controls

The Thermal Solutions Boiler Control™ Module (TSBC™) is truly the heart of the Evolution condensing boilers. Operation is through simple menu selections and doesn't require special training or certification. The TSBC offers boiler pump control, outdoor reset, lead/lag operation, inlet and outlet temperature sensors, boiler operating history and many other functions to stand alone or facilitate integration with your existing heating controls or building management system. The TSBC provides warm weather shutdown and domestic hot water priority.



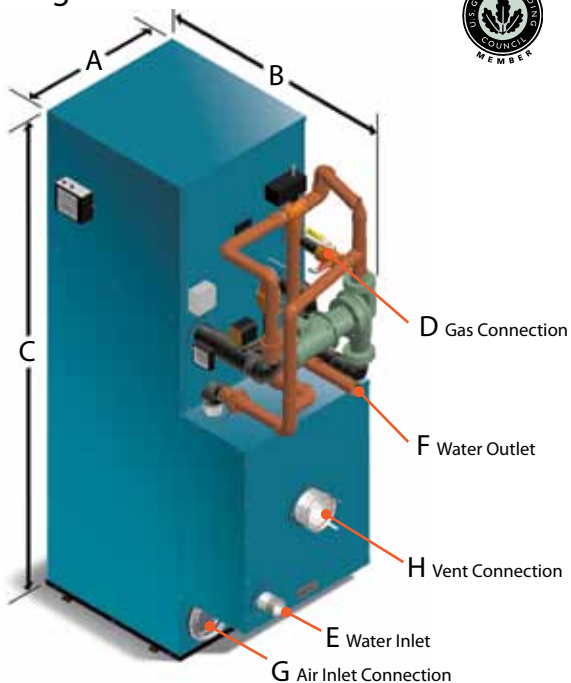


## EVOLUTION® CONDENSING UNIT FEATURES



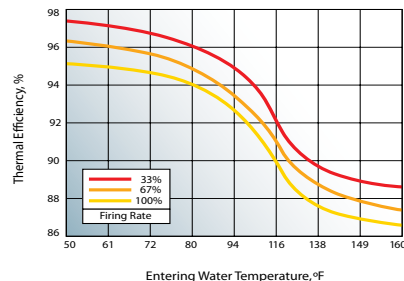
- Proven technology in higher efficiencies
- The most robust design on the market today
- Up to 97% thermal efficiency (BTS-2000 certified)
- Infinitely proportional firing
- VFD air control; no dampers or linkages
- Non-proprietary controls
- Ultra-low 9.9 NOx; is below all current standards
- Non-proprietary parts
- Factory fire-test on every unit
- Standard sealed combustion
- Single-point electrical hook-up for all voltage options
- Standard UL/FM/CSD-1 controls and gas train (optional IRI or IRI with proof of closure)
- Quiet operation (<60 dB)
- Electric spark-to-pilot-ignition system
- Aluminum non-sparking fan assembly
- Filtered combustion air
- Jacket design provides complete access to all components for easy serviceability
- Quick-connect compact package
- Reduced stack sizes — multiple venting options

## Ratings and Dimensional Data

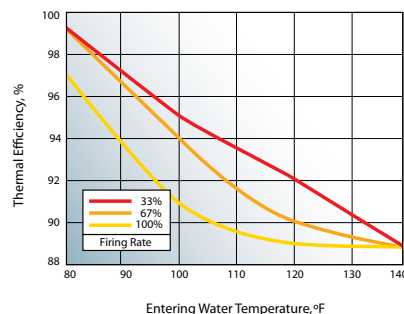


## Thermal Efficiency

EVCA-750 through 2000



EVCA-3000



Evolution Condensing Models	EVCA-750	EVCA-1000	EVCA-1500	EVCA-2000	EVCA-3000
Input, MBH	750	1000	1500	2000	3000
Gross Output, MBH	699	939	1420	1900	2910
Net Ratings, Water MBH*	608	817	1235	1652	2530
Thermal Efficiency	93.2%	93.9%	94.7%	95.0%	97.0%
Boiler Horsepower	21.1	28.1	42.1	56.2	86.9
Sq. Ft. per BHP	13.4	13.4	13.5	13.5	16.4
Width: "A"	28.25" (717.55)	28.25" (717.55)	28.25" (717.55)	28.25" (717.55)	38.13" (968.50)
Depth: "B"	54" (1372)	54" (1372)	54" (1372)	52" (1321)	76" (1930)
Height: "C"	60.938" (1548)	65.188" (1656)	79.438" (2018)	91.813" (2332)	87.50" (2222)
Gas Connection: "D" NPT	1-1/2" NPT	1-1/2" NPT	1-1/2" NPT	1-1/2" NPT	2" NPT
Water Inlet: "E" NPT	2-1/2" NPT	2-1/2" NPT	2-1/2" NPT	2-1/2" NPT	4" NPT
Water Outlet: "F" NPT	2" NPT	2" NPT	2" NPT	2" NPT	4" Victaulic
Air Inlet Connection: "G"	6" (152.4)	6" (152.4)	8" (203.2)	8" (203.2)	8" (203.2)
Vent Connection: "H"	4" (101.6)	6" (152.4)	6" (152.4)	6" (152.4)	8" (203.2)
Shipping Weight: lbs.	1401	1520	1736	1929	3354

\*The NET AHRI Water Ratings shown are based on an allowance of 1.15".

Dimensions are inches (mm)

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