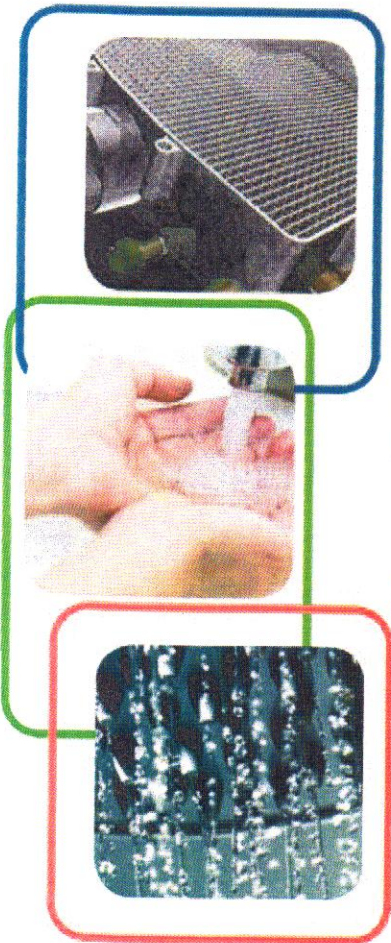


# Challenger COMBI

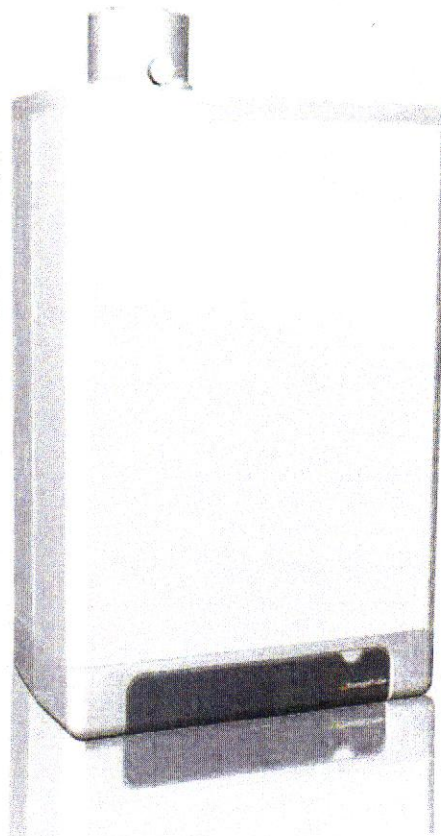
Combination High Efficiency Boiler and Domestic Water Heater

**HEAT** .... and Hot Water

.... **TOGETHER** in one Appliance



**Glycol Compatible**



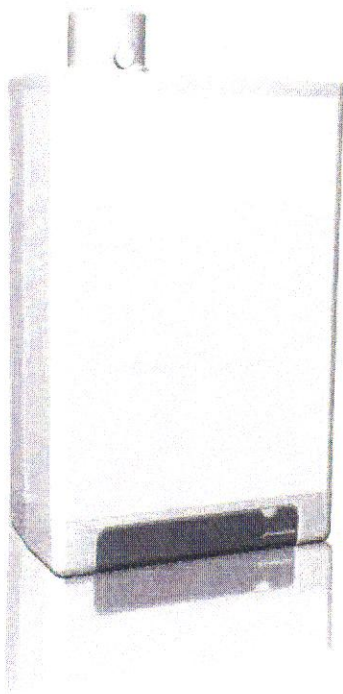
## Features

- » High Efficiency - 95% AFUE
- » Inputs to 124,000 Btu/Hr
- » Whisper Quiet
- » On demand plentiful Hot Water
- » Eliminates need for DHW Tank
- » Reliable - 10 year Heat Exchanger Warranty
- » Low NOx
- » DHW Low Lead Content Certified

**CONDENSES IN BOTH SPACE HEATING AND DOMESTIC HOT WATER MODES**

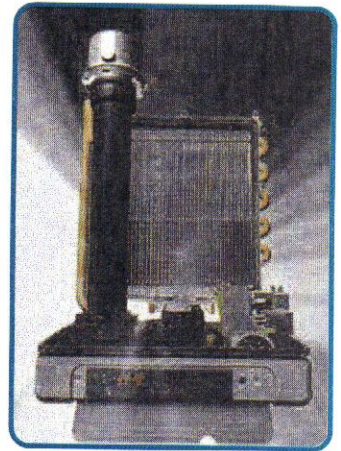
The Challenger combines efficiency and simplicity

# Challenger



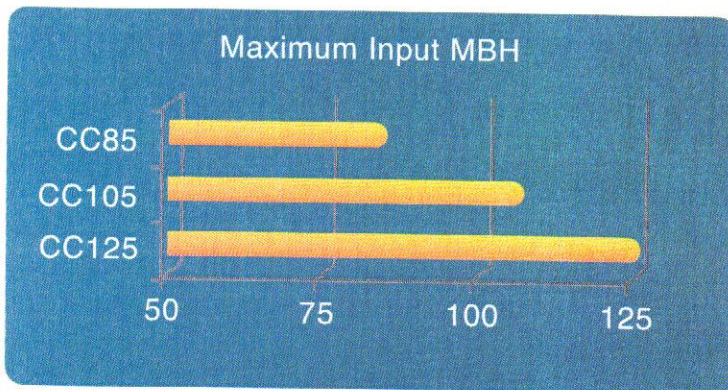
## Big enough to meet your needs...

Properly matching your boiler to your needs is fundamental to achieving optimum performance. With three sizes from 84 to 124 MBH, there is a Challenger to fit your needs. Your installer can properly measure your heating and hot water requirements to ensure the perfect fit.



## ...but small enough to fit your closet

The Challenger was designed to fit into the smallest of spaces. Its on-demand domestic hot water function eliminates the space and costs associated with hot water storage tanks. Taking up less than 3ft<sup>3</sup>, the Challenger can fit in a small storage area or utility closet. But with an attractive enclosure and whisper quiet operation, why hide it at all?



## The intelligent boiler...

The Challenger uses advanced logic control for adjustable modulation, which automatically regulates the capacity of the boiler to your requirements. The outdoor reset function monitors outside conditions and adjusts the boiler system water temperature for maximum comfort and efficiency. The Challenger works with both regular 'on/off' and advanced programmable thermostats.

## ... with straight "A"s in efficiency

The condensing heat exchanger in the Challenger converts the latent heat in flue gas into usable energy. This results in an AFUE of 95%. The fuel is burned clean enough to meet California's SCAQMD requirements for low NOx emissions.

## in a compact, reliable package



### Integrated hot water...

In this combination boiler, hot water is supplied directly from within the unit, at high efficiencies with near zero standby losses. The Challenger can maintain a set block temperature for rapid hot water delivery. The unique 'self learning' ECO-mode provides rapid hot water response when needed and zero standby losses during periods of no demand.



### ... because simpler is better

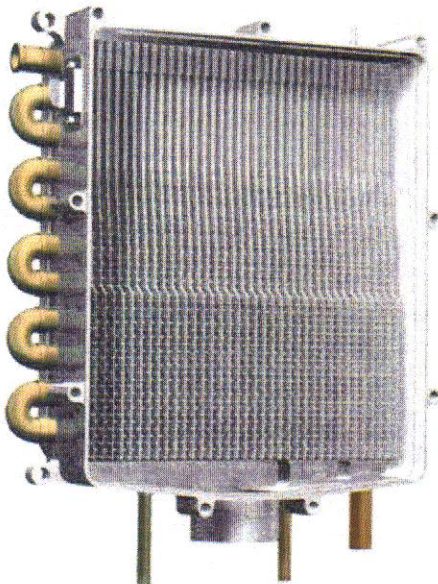
By focusing on the important functions, heat and hot water, we have minimized complexity and maximized functionality. The result is a boiler that is easier to maintain and more reliable. So reliable that we back each Challenger with an 10 year non-prorated heat exchanger warranty.

**Warranty**  
Non-prorated  
Limited 10 Year  
Heat Exchanger

## The heat exchanger forms the heart of every high efficiency boiler

### Unique Integrated Copper Waterways.

- > Copper waterways surrounded by aluminum heat exchanger
- > Glycol compatible
- > Long life from reliable copper piping
- > Even heat transfer eliminates hot spots and lowers thermal stress

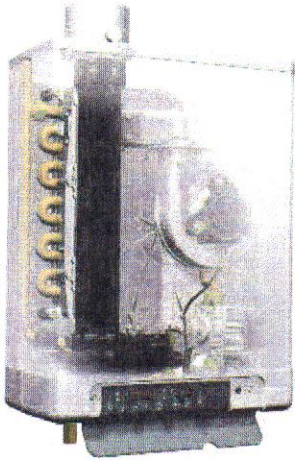


### Dual Boiler and Domestic Hot Water Waterways

The Challenger heats Domestic Hot Water directly in the heat exchanger providing:

- 1) Higher efficiency – The cold domestic water entering the heat exchanger maximizes the condensing heat transfer for maximum efficiency.
- 2) Compact Design – All of the heating is done in one heat exchanger – not two.
- 3) Higher Reliability – Integrating the DHW into the heat exchanger reduces components and maintenance. The unique design eliminates the need for a separate DHW heat exchanger, pump, and three-way valve.

# Technical Specifications



Model	CC 85	CC 105	CC 125
Input Modulation (MBH)	23 to 84	29 to 106	33 to 124
AFUE	95%	95%	95%
DOE heating Capacity (MBH)	75	94	110
Net Boiler IBR Rating (MBH)	65	82	96
Fuel	NG and LP	NG and LP	NG and LP
DHW flow rate at 70°F delta T (GPM)	2.0	2.5	3.0
DHW minimum flow rate (GPM)	0.5	0.5	0.5
DHW maximum temperature (F [C])	149 (65)	149 (65)	149 (65)
Maximum CH output temperature (F [C])	194 (90)	194 (90)	194 (90)
Cabinet Height (Inch)	23 1/4	25 1/2	28
Cabinet Width (Inch)	17 3/4	17 3/4	17 3/4
Cabinet Depth (Inch)	9 1/2	9 1/2	9 1/2
Weight (Lbs)	66	73	80



- The Challenger is certified both as a boiler and a water heater.
- Boiler Certified to ANSI Z21.13 / CSA 4.9
- Water Heater Certified to ANSI Z21.10.3 / CSA 4.3
- Water Heater Certified Low Lead Content Per NSF/ANSI 372.
- 5 and 10 year parts and labor plans available
- Convenient spare parts kit available

## Standard Features

### Heat Exchanger

- Separate boiler and DHW copper waterways cast directly in the heat exchanger
- Copper boiler and DHW waterways
- Cast aluminum heat exchanger with vertical flueways
- 10 year (non-prorated) limited warranty

### Burner

- Stainless steel burner with woven steel fiber mesh
- Direct spark ignition
- Variable speed blower assembly
- Negative pressure regulated gas valve
- Propane conversion orifice

### Sensors

- Boiler supply temperature
- Boiler return temperature
- DHW outlet water temperature
- DHW inlet flow switch
- Boiler outlet pressure
- Flue temperature

### Intake and Venting

- 3" parallel venting (standard)
- 80/125 concentric venting (optional)
- PVC, CPVC, PP, SS material options

### Control

- Digital control displays in US customary or Metric units
- Advanced modulating temperature control
- Outdoor reset
- Boiler low water protection
- Freeze protection
- High limit protection
- 3 DHW modes (Self learning ECO, standby, and on-demand)
- DHW priority
- Thermostatic DHW mixing valve

### Electrical Connections

- 120V/60hz Power supply
- Primary pump
- Thermostat
- Outdoor sensor

### Piping Connections

- EZ Install piping mounting bracket
- 3/4" NPT DHW inlet and outlet
- 1" NPT boiler inlet and outlet
- 3/4" condensate drain
- Simple primary/secondary connections with optional Timesaver manifold



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