

QUANTUM LEAP

NATURAL GAS-FIRED BOILERS



Dunkirk[®] 

America's Hottest Boiler Value!

An ISO 9001-2000 Certified Company

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The Quantum Leap Hot Water Ultra Condensing Boiler by Dunkirk offers today's homeowners a new level of heating efficiency with revolutionary technology. As one of R&D Magazine's 1998 top 100 innovative design winners, the Quantum Leap still outperforms any other residential boiler on the market today.

Remarkable 95% AFUE Efficiency

Annual fuel utilization efficiency ratings are obtained by testing the boiler to U.S. Department of Energy conditions. The Quantum Leap achieves **95%** AFUE efficiency, the highest rating of any gas-fired boiler ever tested. The QL dramatically reduces fuel consumption and *pays for itself* with substantial savings in energy cost and consumption.

Revolutionary Cast Aluminum Heat Exchanger

Transfers heat *three times faster* with greater thermal conductivity than conventional cast iron. It also produces enormous gains in heat-up speed and operating efficiency. For homeowners, this translates into significant fuel savings.

Safe, Economical PVC Vent Pipe

Cooled flue gas can be safely vented through inexpensive PVC pipe that is readily available and easy to install. The air intake also utilizes PVC pipe.

Sealed Combustion, Direct-Vent System

Unlike conventional residential atmospheric and induced draft boilers, the Quantum Leap draws fresh air from outdoors for combustion, instead of air from inside the home. Therefore it does not compete with building occupants for its air supply.

Unique Secondary Heat Recovery Unit

The Quantum Leap contains a heat exchange system that maximizes recovery of heat from flue gases, often wasted by conventional and traditional condensing boilers. It utilizes the hot flue gases to heat condensate which circulates inside its finned coil. By the time flue gas is exhausted, it is less than 140°F vs. 350°F for typical boilers.

Evaporative Re-Cooling Tower

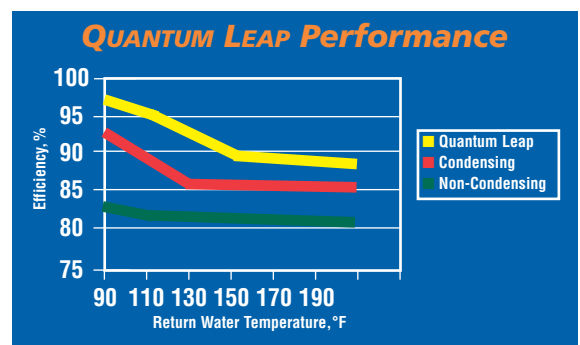
Heated condensate (from the Recovery Unit) is sprayed down inside the Quantum Leap's Evaporative Re-Cooling Tower where it saturates and heats combustion air. This raises the boiler's dew point so that 90-plus percent efficiency can be obtained at return water temperatures up to 160° F. The QL is the only residential boiler in the world capable of this feat.

The Ideal Replacement Boiler

Unlike any other residential condensing boiler, the Quantum Leap continues to condense even in systems with high return water temperatures (up to 160°F), accelerating heat transfer and elevating efficiency beyond conventional technology.

Ideal for Use with Radiant Systems

When used in combination with radiant systems, it provides superior condensing efficiency with low return water temperatures and approaches 98%. Unlike cast iron boilers, the Quantum Leap does not require a return bypass or injection pumping system to preheat return water prior to entering the heat exchanger. This saves material and labor costs, since the cast aluminum heat exchanger works best at low water temperatures.





FEATURES & BENEFITS

Easy Maintenance

A compact and lightweight baked enamel steel jacket with removable hinged door, allows easy access to controls.

Cast Aluminum Heat Exchanger

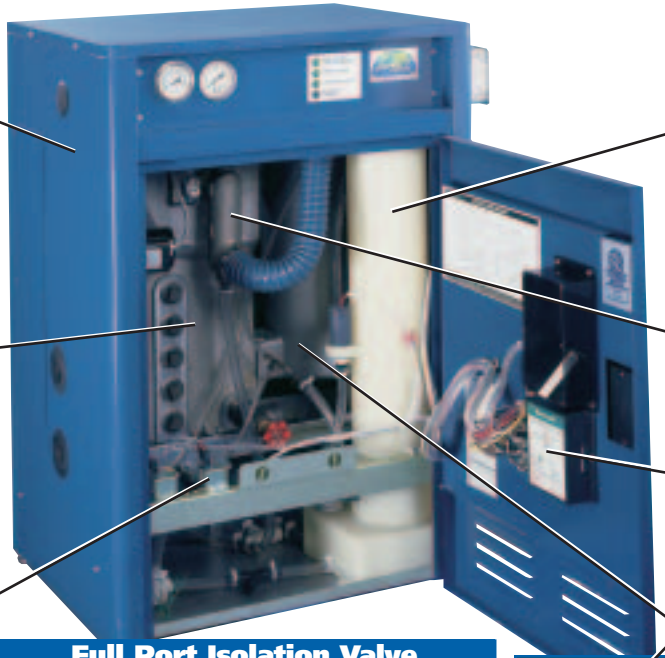
Revolutionary heat exchanger transfers heat **Three Times Faster** than cast iron. Also receives low return water without the need for bypass or injection pumping.

Pressure Switches

Dual pressure switches ensure combustion air intake and exhaust vents are clear.

PVC Vent Pipe

Cooled flue gas is expelled through PVC vent pipe.



Evaporative Re-Cooling Tower

Saturates and heats combustion air which allows the QL to achieve condensing efficiency even in 160°+F return systems.

Air/Fuel Mixer

Optimizes combustion for greater efficiency.

Integrated Boiler Control

The operating sequence is checked by a self diagnostic control system to ensure safe operation of the boiler.

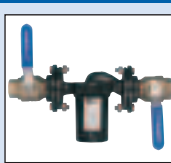
Secondary Heat Recovery Unit

Maximizes recovery of heat from flue gases.

Induced Draft Fan

Draws fresh air from outside, in addition to expelling flue gas.

Full Port Isolation Valve



Full Port Isolation Ball Valves offer a full 1-1/4" passage to maximize boiler water flows. An exterior handle clearly indicates the valve position. The ball valves allow the boiler piping to be switched from threaded pipe to copper piping, without the need for additional fittings, saving the installer valuable time!

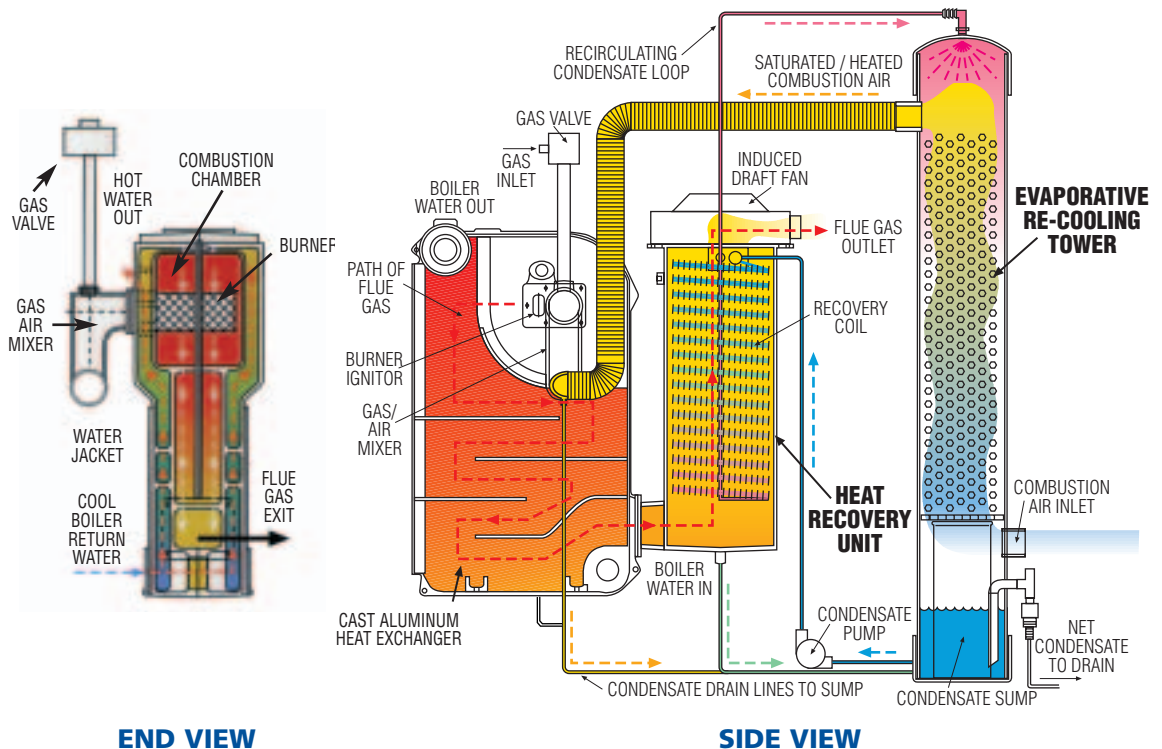


Environmentally Friendly

The Quantum Leap's direct-vent system, premix gas burner and low flame temperature substantially reduce CO and NOx (acid rain and smog components) emissions to less than 30 ppm and 10 ppm respectively.



THE QUANTUM LEAP ADVANCED HYDRONIC TECHNOLOGY



QUANTUM LEAP RATINGS

NATURAL GAS FIRED BOILERS.
Ratings & Specifications for Wet Recuperative Condensing Boilers.

MODEL	INPUT (MBH)	HEATING CAPACITY (MBH)	I=B=R NET RATING (MBH)	AFUE (%)	DIMENSIONS - INCHES			SHIPPING WEIGHT (POUNDS)
					H	W	D	
QL - 100	100	95	83	95.0	40	28	22.5	275

SPECIFICATIONS

- GAS-FIRED, DIRECT-VENT WET RECUPERATIVE CONDENSING HOT WATER BOILER
- May be installed on combustible flooring
- 1" clearance on all sides and top to combustible construction
- 8" clearance right side for vent/air intake pipe installation
- 24" clearance front, left side and top for servicing
- 0" clearance for Vent and Air Intake Pipes to combustible construction

CONNECTIONS

- 120 Volts AC, 60 Hertz, 1 Phase, Less than 12 Amps
- VENT PIPE & AIR INTAKE PIPE
 - 2" PVC up to 20' each with four 90° elbows each
 - 3" PVC up to 100' each with four elbows each
- Water In/Out 1-1/4" NPT
- Gas In 1/2" NPT
- Condensate Drain 1/2" PVC

MEA # 132-97-E

15-YEAR LIMITED HEAT EXCHANGER WARRANTY.

All of our boilers are backed by Dunkirk's reputation for quality and service to customers, based on over 70 years of successful hydronic experience.

DUNKIRK QUALITY HEATING. AMERICA'S HOTTEST BOILER VALUE!

Dunkirk hydronic boilers lead the industry in value, with premium quality design and componentry. In fact, some of the most respected "brand name" boilers are produced by Dunkirk. These major manufacturers selected Dunkirk hydronic boilers for the same basic reasons you should: *superb quality* and *unmatched value*. Just compare our quality to cost ratio, and your boiler choice will become perfectly clear.

QUANTUM LEAP STANDARD EQUIPMENT

- Assembled Boiler with baked enamel finish jacket.
- Honeywell L4080 hi limit aquastat.
- Transformer.
- 1 1/4" Taco (or Grundfos) circulator with isolation (ball) valves.
- Temperature and pressure gauges.
- 30 psi ASME relief valve.
- Air vent.
- Service Switch.

Completely installed and wired safety control system with burner consisting of:

- Microprocessor based Integrated Boiler Control.
- Stainless steel premix burner.
- White Rodgers 2 stage automatic gas valve.
- Hot surface igniter.
- Casting and vent temperature safety switches.
- Gas pressure and air flow proving switches.

■ The ratings marked Net I=B=R Ratings indicate the amount of energy that can be applied to heat the radiation or terminal units. The Net I=B=R Ratings shown are based on an allowance of 1.15 in accordance with the factors shown in the I=B=R Code as published by The Hydronics Institute.

- Selection of boiler size should be based upon Net I=B=R Rating being equal to or greater than the calculated heat loss of the building.
- Consult manufacturer before selecting a boiler for installations having unusual piping and pick-up requirements.
- These boilers may be installed on combustible flooring.

■ These gas-fired boilers are design certified by C.S.A. in the U.S. and Canada for use with natural gas. They are constructed and hydrostatically tested for a maximum working pressure of 50 psi in accordance with A.S.M.E. (American Society of Mechanical Engineers) Boiler And Pressure Vessel Code Section IV standards for heating boilers. They are capacity rated in accordance with the code of The Hydronics Institute.

Specifications and dimensions are subject to change without notice.
Made in America by American Craftsmen.



Since 1928.
America's Hottest Boiler Value!



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