



High Efficiency Water Heating
and Hydronic Boiler Systems

Hamilton Engineering

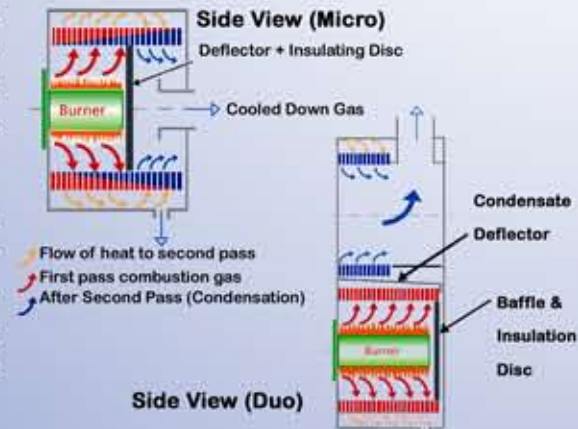


Innovative Condensing

How Condensing Technology Works

In the combustion process, a minimum of 11% of the heat generated is latent heat (wet heat - think steam). In non-condensing combustion, only a portion of the sensible heat (dry heat) is transferred to the water; the rest of the dry heat and all of the wet heat is released into the atmosphere through the venting system as wasted energy.

In the EVO condensing system, the products of combustion (some of the wet heat and all of the dry heat) are forced to pass over the portion of the heat exchanger where the coolest water enters the system. At this point, the flue gasses condense, releasing trapped heat that is then absorbed into the water through the heat exchanger. Condensate (water) and low temperature flue gasses are left behind - flue gasses so cool, in fact, they can be vented through PVC if desired.



EVO™ Condensing Water Heaters and Boilers

°Efficiency

Up to 99.8% depending on incoming water temperature

°Construction

All 316L stainless steel is used for the heat exchanger

°Capacities

Systems from 79,000 - 8,000,000 BTU/hr

°Unique Features

Common Venting - Up to 8 units may be common vented together - EVO's non-return valves and proprietary software make this possible

Cascading Controls - Up to 8 units can communicate with each other to operate as one large system, maintaining precise temperature control

Modulating Burner - Up to 5:1 turndown ratio adjusts to meet demand, further increasing efficiency while reducing cycling

Pre-assembled Systems - All Rack Packs™ are factory tested and shipped ready to set in place with minimal assembly, reducing labor costs, downtime and installation issues

Scale Monitoring - Internal software constantly monitors heat exchanger performance to warn if scale formation is beginning

Freeze Protection - Controller starts the pump (and the burner if necessary) to protect against heat exchanger freeze-ups in cold climates

Heating Control Configurations - Outdoor reset, 0 - 10 VDC, open therm/E-Bus/BMS, remote thermostat, remote sensor, boiler pump, system pump, indirect pump or three way valve - domestic hot water as priority or not. The EVO product line has a multitude of standard control configurations, all of which are possible without adding expensive boards or external control panels



ing Technology™

Rack Mounted and Pre-Plumbed To Your Specifications

Rack Pack™ Six Pack Features Include:

Steel Constructed Rack Mounting - Modular welded

steel rack supports the entire system - includes leveling bolts

Factory engineered Common Venting - Only one

inlet air and one exhaust opening required for up to 8 units,

AL29-4C stainless steel or PVC (where local jurisdictions allow)

Common Water Piping - All units are manifolded together

with copper and brass plumbing, including individual isolation and

drain valves

Electrical Power Supply (208/240v - 50/60hz - 1ph)

All units and their pumps are pre-wired with breaker panel service

disconnects - one field connection

Common Condensate Neutralizer - All condensate

runs from individual units to a common drain system filled with

limestone. Design allows for easy refilling when PH begins to drop

from neutral (~7.0) at outlet

Gas Manifold - Welded black pipe gas manifold providing

single point connection - includes individual shutoffs

Cascade Controls - A two wire communication

cable between units facilitates the use of this feature, while

maintaining independent primary safety controls. In the event

of lost communication, control reverts back to the individual units



Hamilton's Rack Pack™ Six Pack
1,890,000 BTU Input as shown

Model Sizes



80,000 / 136,000 / 180,000 / 199,999 BTU's

300,000 / 399,999 / 630,000 BTU's

1,500,000 / 1,999,999 BTU's



SOME OF THE INNOVATIVE PRODUCTS BY HAMILTON...



Companion CWIS™

This ultra high efficiency, space-saving design incorporates EVO technology and includes a storage tank up to 160 gallons, containing Hamilton's patented Cold Water Injection System™ (CWIS™). The combination of the EVO technology and CWIS™ provides a system with efficiency unmatched by tank type or circulating tank systems.



Hamilton Odd Water™ System

In poor water conditions (combined hardness & TDS of over 25 grains per gallon, or aggressive or acidic water) the Odd Water™ system eliminates scaling and other factors that contribute to premature failure of a conventional water heating system.

Innovative Condensing Combustion Technology

Hamilton's EVO line is engineered using technology developed and patented in Europe in 1992. To date, this technology has been installed in more than 7 million facilities worldwide. Hamilton has combined the best of this technology with its years of experience in condensing equipment to design and develop a product line that broadens its applications and capacities, and eliminates many of the common mistakes made during installation.



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