

**HIGH EFFICIENCY WATER HEATING
AND HYDRONIC BOILER SYSTEMS**



Innovative Hot Water Solutions



*Designed by Hamilton Engineering,
manufactured in Michigan*



Yesterday's Simplicity,
TOMORROW'S TECHNOLOGY



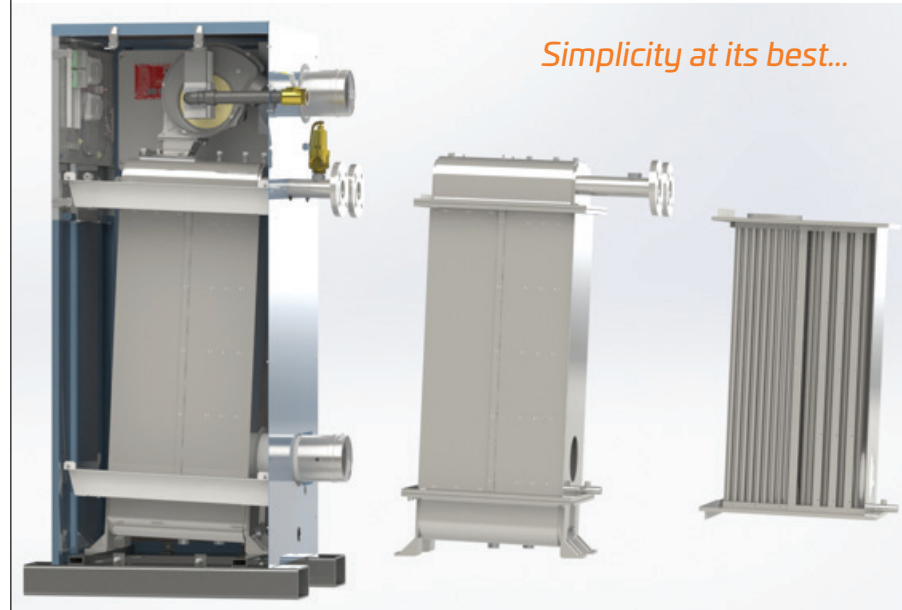
THE NEXT GENERATION

Hamilton Engineering has over 15 years of condensing water heating production experience, leading to the next generation of high efficiency water heaters and boilers. We're setting the bar higher than ever with the 3VO—something the industry has not yet seen. **It's yesterday's simplicity, tomorrow's technology.**



THE HEAT EXCHANGER

- All 316L stainless steel, 125 PSI water-tube, down-fired construction, Hamilton Engineering-designed and manufactured in Michigan
- ASME H construction and certification
- Fully serviceable heat exchanger—removable heads with straight tubes that are individually cleanable (inside and out) and replaceable
- Variable Primary capable—minimum 5:1 water flow turndown ratio possible
- The industry's lowest pressure drop in any water-tube product, and lower than the majority of fire-tube products—less than 7 feet of head at 30°FΔT throughout the line
- 4,000,000 BTU/hr model requires less than 1 BHP for pumping at a 30°FΔT when paired with its own pump



TECHNICAL DATA

Model	Width	Height	Depth	Input BTU/hr	Water Conn.	Gas Conn.	Flue Outlet & Inlet Air	GPH Recovery @ 100°FΔT	Water Flow Rate & Pressure Drop @20°F	Shipping Weight
750	26.5"	73.0"	39.0"	747,684	2.5"	1.25"	5"	884	71.3 @ 4.8'	1431 lbs
850	26.5"	73.0"	39.0"	848,561	2.5"	1.25"	6"	1,003	80.8 @ 5.7'	1451 lbs
1000	26.5"	73.0"	39.0"	1,000,754	2.5"	1.25"	6"	1,183	95.0 @ 7.0'	1463 lbs
1500	32.0"	80.0"	53.0"	1,536,244	3.0"	1.5"	7"	1,817	142.6 @ 6.2'	1639 lbs
2000	32.0"	80.0"	53.0"	1,993,316	3.0"	1.5"	8"	2,357	190.1 @ 8.2'	1688 lbs
2500	32.0"	80.0"	53.0"	2,554,213	3.0"	2.0"	10"	3,020	237.6 @ 9.5'	1731 lbs
3000	35.5"	88.0"	63.0"	3,025,288	4.0"	2.0"	10"	3,577	285.1 @ 8.9'	1860 lbs
3500	35.5"	88.0"	63.0"	3,437,291	4.0"	2.0"	10"	4,065	332.6 @ 11.2'	1925 lbs
4000	35.5"	88.0"	63.0"	4,000,000	4.0"	2.0"	12"	4,643	370.1 @ 13.3'	2500 lbs

*NOTE: GPH recovery based on a DHW operating efficiency of 96.7%, 20°ΔT flow based on a 92.5% Hydronic Heating Efficiency



- **DESIGN FLEXIBILITY:** Hamilton's unique design allows for Full Flow, Variable Primary or Primary Secondary for a truly versatile boiler system.
- **TRUE ONBOARD INTELLIGENCE:** The 3VO uses Hamilton's HOT™ Controls to provide real-time operating data from 5 pressure sensors and up to 7 temperature sensors per appliance. This data allows automatic operating adjustments to avoid nuisance faults, and pin-point accuracy on required maintenance, allowing the proper technician and service components to be sent out the first time.
- **EASE OF USE:** The 3VO is the perfect marriage of today's cutting edge technology and the simple boiler design of past eras, resulting in state of the art water heating that is actually easy to use and maintain.
- **MODULATING BURNER:** Up to 7:1 turndown ratio adjusts to meet demand, further increasing efficiency while reducing cycling.
- **MASTERLESS CASCADING CONTROLS:** Up to 8 units can communicate with one another to operate as one large system, maintaining precise temperature control, even appliance wear, and flexible first-on, first-off dedicated unit.
- **CATEGORY IV COMMON VENTING:** Up to 8 units may be common vented together—3VO's non-return valves and proprietary software make this possible.
- **SCALE MONITORING:** Internal software constantly monitors heat exchanger performance in all applications using dual pressure sensors to warn if scale formation is beginning.
- **SERVICEABILITY:** All service can be performed from the front, top, and rear, with zero clearance required on the sides. All components requiring maintenance are removable in less than five minutes by one person.

WHY HAMILTON?

There are many features you've come to expect with Hamilton Engineering's high efficiency water heaters and boilers. The 3VO is no different and includes:

- **Lowest installed and commissioned cost**

Full system single point utility connections, fully control configured and tested saves you days in the install and commissioning process. Hamilton defines the term "Plug and Play" with every system we ship.

- **Category IV common venting**

Up to 8 units may be common vented together—3VO's non-return valves and proprietary software make this possible.

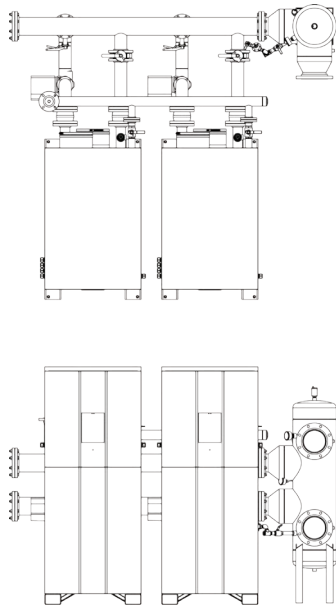
- **Pre-assembled systems**

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

- **Heating control configurations**

Over three years in development, Hamilton's own Heating Optimization Technology (HOT™) control system simplifies system set up and operation and provides real time, accurate operating data—as well as component specific aging information—to make all preventative maintenance both cost effective and timely. Please refer to the *HOT Controls Brochure* for more details on this innovative design.

Two 3VO 4000 MBH units piped to a Hamilton System Separator



REPRESENTED BY



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