

CONSERVATIONIST® COMMERCIAL BOILERS *Energy Saving Product* 82% THERMAL EFFICIENCY*

FEATURES

COMPLIANCE – These models meet or exceed the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition ASHRAE/IESNA 90.1.

ALL NON-FERROUS WATERWAYS – All castings are made of Bronze or Brass. All water tubes are made from copper. Brazed joints or flare union construction make the heater immune to the effects of thermal shock and thermal cycling. A great boiler for domestic hot water supply systems.

EFFICIENT COPPER COIL COMBUSTION CHAMBER – The combustion chamber is a heat exchanger formed from a two passage coil of tightly wound continuous copper tube. Water circulating through this coil surrounds the main burner and captures the radiant heat. A wrap of insulation on the outside of the coil retains the heat captured by the circulating water.

COPPER HEAT EXCHANGER – Directly above the coil and the main burner is a compact, horizontal, copper fin tube heat exchanger. The flue gases must pass through this efficient heat exchanger before leaving the boiler. This unique Burkey coil and heat exchanger design provide maximum heat transfer and proven field durability.

BURKEY BURNER MAXIMIZES EFFICIENCY – The patented Burkey burner uses primary air injection at up to 72 individual orifices plus secondary entrainment of air. Approved for installation on combustible floors as shipped from factory.

GAS VALVES – Slow opening redundant gas valves ensure smooth light-off without flame roll-out or pilot outage.

THERMAL BALANCER – Patented pump delay system that allows boiler and pump to run simultaneously but delays pump shut off at end of heating cycle to remove usable heat from the heat exchanger and reduce the scale forming tendencies of motionless hot water.

AUTOMATIC SAFETY CONTROLS AND ELECTRONIC IGNITION – Proven pilot ignition system provides flame failure response in under one (1) second. Redundant high limit controls and gas valves assure safe shutoff in the event of overheating or flame failure. Requires 120V 60Hz, maximum inlet gas pressure of 14" WC and activation of heater by external temperature control.

OPTIONAL POWERED VENT HOOD – for sidewall venting.

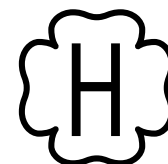
WORKING PRESSURE – ASME approved, hydrostatically tested and certified for 160 psi.

LIMITED WARRANTY OUTLINE – Consult written warranty or A. O. Smith.

*Except model HW-399 is 81%.

HW-300 THRU HW-670

HW - INDOOR
INSTALLATION
ONLY



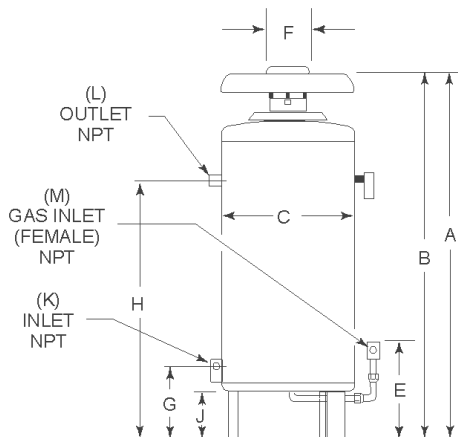
FM

HW MODELS
CERTIFICATION & APPROVAL

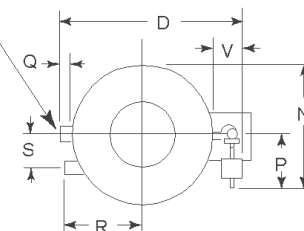


Domestic Hot Water Supply Boilers

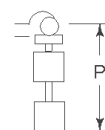
NOTE: TOP MANIFOLD HAS EXTRA OPENINGS FOR THERMOMETER (3/4") AND RELIEF VALVE (1") (HW-520 AND -670 ONLY)



HW-INDOOR MODELS



HW-300 ONLY



HW-670 ONLY

ALL DIMENSIONS IN INCHES

| Models | A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | V | Approx. Ship. Wt. Lbs. |
|--------|---------|--------|--------|--------|--------|----|----|--------|---|-------|-------|-------|--------|--------|-------|--------|-------|---|------------------------|
| HW-300 | 65 | 43 1/4 | 25 1/4 | 29 5/8 | 16 1/2 | 8 | 12 | 36 | 9 | 1 1/4 | 1 1/4 | 3/4 | 26 5/8 | 14 | 1 | 10 1/8 | 5 3/8 | 5 | 240 |
| HW-399 | 57 1/8 | 45 1/8 | 27 | 31 1/2 | 16 3/4 | 10 | 12 | 38 3/4 | 9 | 1 1/2 | 1 1/2 | 1 | 27 1/2 | 14 | 1 | 11 1/4 | 5 1/2 | 5 | 291 |
| HW-420 | 57 1/8 | 45 1/8 | 27 | 31 1/2 | 16 3/4 | 10 | 12 | 38 3/4 | 9 | 1 1/2 | 1 1/2 | 1 | 27 1/2 | 14 | 1 | 11 1/4 | 5 1/2 | 5 | 291 |
| HW-520 | 68 5/16 | 56 1/4 | 27 | 36 1/2 | 18 | 10 | 12 | 46 1/2 | 9 | 2 | 2 | 1 1/4 | 24 1/2 | 11 | 3 1/2 | 12 | 5 3/4 | 7 | 361 |
| HW-670 | 67 | 56 1/4 | 27 | 38 1/4 | 17 3/4 | 12 | 12 | 46 1/2 | 9 | 2 | 2 | 1 1/4 | 26 3/4 | 13 1/4 | 3 1/2 | 12 | 5 3/4 | 7 | 361 |

| Model | Input Rating AGA BTUH Natural and Propane Gas | | Temperature Rise - Degrees F | | | | | | | | | | | | | |
|-------------|---|-----|------------------------------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | |
| HW-300 | 300,000 | GPH | 1,484 | 989 | 742 | 594 | 495 | 424 | 371 | 330 | 297 | 270 | 247 | 228 | 212 | |
| HW-399 | 399,000 | GPH | 1,938 | 1,292 | 969 | 775 | 646 | 554 | 484 | 431 | 388 | 352 | 323 | 298 | 277 | |
| HW-420 | 420,000 | GPH | 2,067 | 1,378 | 1,034 | 827 | 689 | 591 | 517 | 459 | 413 | 376 | 345 | 318 | 295 | |
| HW-520 | 520,000 | GPH | 2,575 | 1,717 | 1,288 | 1,030 | 858 | 736 | 644 | 572 | 515 | 468 | 429 | 396 | 368 | |
| HW-670 Nat. | 660,000 | GPH | 3,264 | 2,176 | 1,632 | 1,306 | 1,088 | 933 | 816 | 725 | 653 | 593 | 544 | 502 | 466 | |
| HW-670 LP | 670,000 | GPH | 3,217 | 2,145 | 1,609 | 1,287 | 1,072 | 919 | 804 | 715 | 643 | 585 | 536 | 495 | 460 | |

SUGGESTED SPECIFICATION

Boiler(s) for hot water supply purposes shall be Model(s) No. _____ as manufactured by A. O. Smith or an approved equal. Boiler(s) shall be gas-fired, and design certified by an ANSI approved/accredited independent rating laboratory, capable of supplying _____ gph at 100°F temperature rise equipped to burn _____ gas, with input rating of _____ BTU/hr. and bearing the ASME code symbol. Boiler(s) shall be up flow type having all non-ferrous waterways, and employing a copper finned heat exchanger and a tightly wound copper coil combustion chamber with 160 psi working pressure rating. Boiler(s) shall be equipped with an electric gas valve of the step-opening type, an adjustable limit control which will break the electric circuit on temperature rise, intermittent ignition with one (1) second shutdown in the event of pilot flame failure, a gas pressure regulator properly set for the gas to be supplied, and a coil limit switch for shut off in event of excessive water temperature, a certified draft diverter and a fully illustrated instruction manual. Certified for combustible flooring. Outer jacket shall be of baked enamel finish. The coil, heat exchanger and burner shall have a five year limited warranty as outlined in the written warranty.

For Technical Information and Automated Fax Service, call 800-527-1953. A. O. Smith Corporation reserves the right to make product changes or improvements without prior notice.