

**Commercial  
Hot Water Supply/  
Hydronic Boilers**



**Genesis®**



**Up to 2.5 Million BTUs, with 84% Efficient,  
Non-Condensing Design**



## 84% Efficient, Space-Saving Hot Water Supply or Hydronic Boilers.

The Genesis® boiler line offers one of the best all-around values in the industry, for a wide variety of water heating or hydronic heating applications. Through continuous innovation, A. O. Smith has refined Genesis® technology and expanded the range of available inputs. Genesis® boilers are now available from 300,000 BTUs through 2.5 million BTUs, with features and benefits that include...

- 84% thermal efficiency...the highest possible efficiency for a non-condensing boiler, eliminates the need for separate condensate pump and drain
- 100% copper and bronze waterways for superior performance and reliability
- Venting flexibility for installation versatility
- Compact "stackable" design packs maximum water heating power into minimum space
- Advanced electronic control system for superbly accurate temperature control and easy diagnostics
- Models available for indoor or outdoor installation



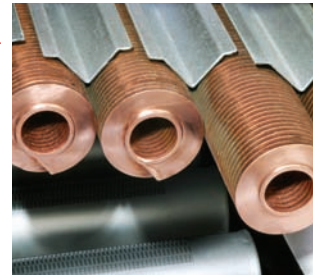
# A. O. Smith Engineering Delivers Everything You Want in a Non-Condensing Low NOx Boiler

**EMC-5000 Control System**  
On 300,000 through 750,000  
BTU models.

**Top or Rear Exhaust**

**Combustion Air  
Blower with Air Shutter**  
Adjusts to the application  
for maximum efficiency.

**Copper Finned Tube Heat Exchanger**



- Copper-finned design delivers superior heat transfer and energy efficiency
- Copper is lightweight, immune to rust and thermal shock
- Double-row configuration on 1,000,000 BTU input and higher fits maximum heat transfer into minimum space

**Removable  
Bronze or  
Cast-Iron  
Headers**  
For easy  
inspection  
and service  
of waterways.

**Ceramic Fiber  
Combustion Chamber**  
Rated for temperatures  
up to 2300F°.

**Hot Surface Ignition**  
More efficient and reliable  
than standing pilot.

**Multi-Stage Firing with Separate  
Remote Flame Sensors**  
For safety and extended igniter life.  
Individual sensors for each stage

**Pressurized Combustion System**  
With pre-jet orifice for near-perfect air/gas  
mixture, clean combustion, low NOx.

## Stackable Design for "Mini-Footprint" Installation

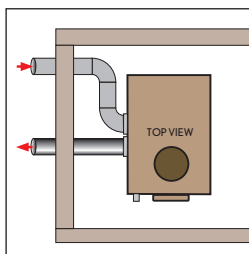
Genesis® boilers feature a footprint as much as 1/3 smaller than standard atmospheric boilers, for space savings on single-unit installations. And, with the optional Stack Rack, two Genesis® boilers can be installed in the same floor space as one!



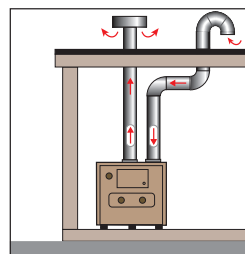
## Standard Vent or Direct Vent Versatility!

Genesis® boilers provide multiple options for exhaust venting and standard indoor atmospheric or direct-from-outdoors (direct vent) intake of combustion air. Sidewall vent and intake runs can save substantially on installation costs where vertical runs are not practical. Direct vent operation utilizes a 2-pipe system that allows clean, uncontaminated outside air to be pulled directly into the unit, and is an ideal choice when negative indoor air pressure is a concern. Intake and vent runs can be up from 35 to 70 feet, depending on the model.

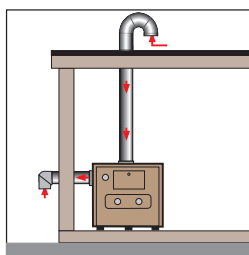
**Direct Vent, with sidewall intake and exhaust, using side openings**



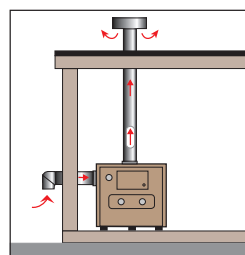
**Direct Vent, with vertical intake and exhaust, using top openings**



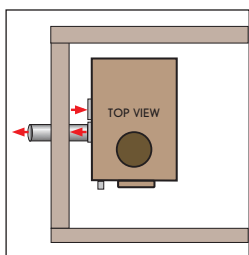
**Direct Vent, with vertical intake and sidewall exhaust, using both rear and top openings**



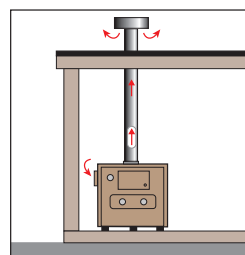
**Direct Vent, with vertical exhaust and sidewall intake, using both rear and top openings**



**Standard sidewall venting, using rear opening**



**Standard vertical venting, using top opening**



Exhaust vent and air intake connections can be made through openings in the top of the boiler (shown) or through alternate rear openings in the side of the unit. Rear openings also permit spacesaving two-unit "stacked" installation.



# Commercial Boilers



## Introducing the exclusive EMC-5000 Control System

Developed by the A. O. Smith Corporate Technology Center specifically for water heating and hydronic systems, the EMC-5000 Energy Management Control (patent pending) is standard on Genesis® boilers.

- Controls every electrical boiler function, including pump and main burner, with  $\pm 1^{\circ}\text{F}$  accuracy
- Comprehensive diagnostic display panel:
  - Temperature setpoints
  - Tank and outlet temperature
  - Current inlet/outlet differential ( $\Delta T$ )
  - Current operating status and fault status shown in English instead of numeric codes
  - Help screens assist in boiler setup and explain control options
- 120V terminals for installation of secondary pump to maximize efficiency by virtually eliminating standby heat loss

## Multi-Stage Firing for Precision and High Performance

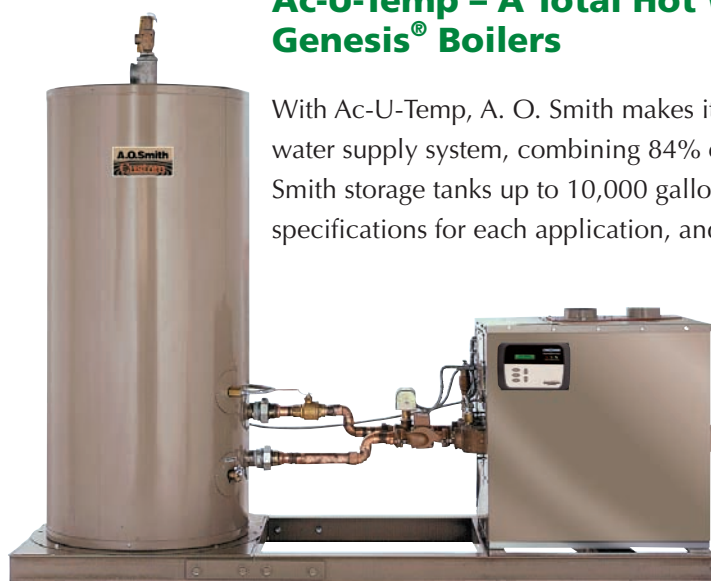
All Genesis® boilers now feature two, three or four-stage firing to automatically and accurately control firing rate and output. The Multi gas valve firing system ensures smooth operation, saves fuel and extends boiler life. Short cycling is prevented in low-demand periods, while maximum output is assured when demand is greatest.

# Commercial Boilers

## Burkay® Genesis® Boilers up to 2.5 Million BTU

MODEL #	BTU INPUT PER HOUR (NATURAL/ PROPANE)	BTU OUTPUT PER HOUR (NATURAL/ PROPANE)	RECOVERY, GPH AT DEGREE RISE			DIMENSIONS IN INCHES			
			40° RISE	100° RISE	140° RISE	HEIGHT	WIDTH	WIDTH WITH PUMP	DEPTH
GW-300	300,000	251,000	761	304	217	30	29-1/2	31-1/2	24
GB-300									
GW-400	400,000	334,716	1014	406	290	30	35-3/4	50-1/2	24
GB-400									
GW-500	500,000	418,500	1268	507	362	30	42	56-3/4	24
GB-500									
GW-650	650,000	554,050	1649	659	471	30	51-3/8	66-1/8	24
GB-650									
GW-750	750,000	627,750	1902	761	544	30	57-3/8	75-1/8	24
GB-750									
GW-1000	990,000	831,600	2520	1008	720	58-11/16	47	64	31-3/4
GB-1000									
GW-1300	1,300,000	1,092,000	3309	1324	945	58-11/16	57-1/2	74-1/2	31-3/4
GB-1300									
GW-1500	1,500,000	1,260,000	3818	1527	1091	58-11/16	64-1/2	81-1/2	31-3/4
GB-1500									
GW-1850	1,850,000	1,554,000	4709	1884	1345	61-3/8	78-3/4	95-1/2	31-3/4
GB-1850									
GW-2100	2,100,000	1,764,000	5345	2138	1527	61-3/8	85-1/2	102-1/2	31-3/4
GB-2100									
GW-2500	2,490,000	2,091,000	6338	2535	1811	61-3/8	99-1/2	116-1/2	31-3/4
GB-2500									

### Ac-U-Temp – A Total Hot Water Supply System Using Genesis® Boilers



With Ac-U-Temp, A. O. Smith makes it easy as possible to install a complete packaged hot water supply system, combining 84% efficient, non-condensing Genesis® boilers with A. O. Smith storage tanks up to 10,000 gallons. Each Ac-U-Temp system is custom-made to your specifications for each application, and shipped fully assembled, pre-piped and pre-wired. All the installer has to do is make the flue, gas, electrical and water connections, so field errors are eliminated.

Consult your A. O. Smith representative for more information on the wide range of available boiler/storage tank combinations using the Ac-U-Temp system.



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www.hotwater.com

*Preferred brand of the professional*