

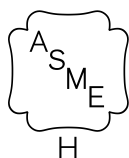
GWH COMMERCIAL GAS CIRCULATING WATER HEATERS

GWH 400/500/650/750/1000/1250/1450/1800/2100

Burkay Genesis®: 85% efficient, ultra low NOx hot water supply boiler.



- Controls every electrical water heater function, including pump operation and main burner ignition, delivers precise temperature management, with $\pm 1^\circ$ accuracy.
- Display panel shows current operating status and fault readings
- Display also shows temperature setpoints, outlet temperature, current inlet/outlet differential (DT) and tank temperature.
- Included remote temperature sensor when mounted in the storage tank allows the tank temperature to be set and monitored at the water heater.
- Stage gas firing system prevents short cycling and ensures smooth operation, saves fuel and extends product life.
- Delivers maximum output when demand is high, reduced firing rates during off peak times.
- Ultra low NOx operation. Meets SCAQMD Rule 1146.2 air quality standards.
- Gasketless glasslined headers and copperfinned tubes with extruded integral fins deliver exceptional heat transfer.
- Copper is lightweight for easier handling and immune to thermal shock.
- Optional stack rack allows one unit to be stacked on top of another, doubling output within the footprint of a single unit.
- If floor space is limited, the Genesis water heater can be installed outdoors with an optional outdoor Vent Cap.
- Meets ASHRAE/IES 90.1-2004
- Multiple venting options. All Genesis models can vent vertically in Category I with double wall "B" vent or horizontally in Category IV with AL29-4C stainless steel vent material.
- Factory start-up included. Required for activating warranty and assuring maximum operating performance. Contact your local sales representative or factory to arrange a FREE Certified Start-Up.



Low Lead Content

Other Genesis® features

- Stage Firing – 2 Stages
- Sealed Combustion Chamber
- Stainless Steel Burners
- Low NOx Operation
- All Bronze Circulating Pump (Shipped Loose)
- On/Off Switch
- Adjustable High Limit w/ Manual Reset
- Pump Delay
- ASME Copper Finned Tube Heat Exchanger Certified "H" Stamped 160 PSI Working Pressure
- ASME Temperature & Pressure Relief Valve 125#
- Temperature and Pressure Gauge
- Factory mounted Flow Switch
- Contacts for Air Louvers
- Contacts on any Failure

Genesis® options

- Cupro-Nickel Heat Exchanger
- Low Water Cut-Off w/ Manual Reset & Test
- High & Low Gas Pressure Switches w/ Manual Reset
- Stack Rack
- Combustible Floor Shield (400 – 750)

Sequencing panel – Can manage 1 to 4 two stage water heaters

- Includes remote Tank sensor and sensor well
- Controls each stage of multiple stage fired water heater(s) to meet system demand
- Provides Cascade/Lead-Lag operation when multiple units are connected.

SAMPLE SPECIFICATION

The HOT WATER SUPPLY BOILER shall be a A.O. Smith Genesis Model GWH_____ having an input rating of _____ Btu/hr, a recovery capacity of _____ gallons per hour at a 100° F rise and shall be operated on (Natural Gas) (L.P. Gas). The water containing section shall be of a "Fin Tube" design, with straight copper tubes having extruded integral fins spaced seven (7) fins per inch. The tubes shall terminate into a one piece, glass lined, cast iron header. There shall be no bolts, gaskets or "O" rings in the head configuration. There shall be access to the front header of the heat exchanger for the purposes of inspection, cleaning or repair. The heat exchanger shall be mounted in a stress free jacket assembly in order to provide a "free floating design" able to withstand the effects of thermal shock. The HOT WATER SUPPLY BOILER shall bear the ASME "H" stamp for 160 PSI working pressure and shall be National Board listed. The complete heat exchanger assembly shall carry a five (5) year limited warranty. The HOT WATER SUPPLY BOILER shall be equipped with a factory supplied circulating pump of sufficient capacity to ensure scale free heater performance. The pump shall be all bronze and provided for operation on 120 volt, 60 cycle, 1 phase power supply. The combustion chamber shall be sealed and completely enclosed with ceramic fiberboard insulation. A burner/ flame observation port shall be provided at both ends of the water heater. The burners shall be a premix design and be constructed of high temperature stainless steel and fire on a horizontal plane. The HOT WATER SUPPLY BOILER shall be constructed with a heavy gauge galvanized steel jacket assembly, primed and pre-painted on both sides with a minimum dry film thickness of 0.70 mils. The HOT WATER SUPPLY BOILER shall be certified and listed by C.S.A. International under the latest edition of the harmonized ANSI Z21.13 test standard for the US and Canada. The HOT WATER SUPPLY BOILER shall comply with the energy efficiency requirements of the latest edition of the ASHRAE 90.1 Standard. The HOT WATER SUPPLY BOILER shall operate at a minimum of 85% thermal efficiency. The HOT WATER SUPPLY BOILER shall provide pump delay. Supply voltage shall be 230 V/ 60 Hz or 230 V/ 50 Hz. The standard control system shall include redundant Proven Pilot Hot Surface Ignition with full flame monitoring capability. Multiple main gas valves with redundant valve seats and built in low gas pressure regulators shall be supplied as standard. Additional standard controls shall include a flow switch, low air/ blocked flue pressure switch for each fan, low voltage transformer for the control circuit, 7 amp circuit breaker and an ASME temperature and pressure relief valve. The manufacturer shall verify proper operation of the burners, all controls and the heat exchanger by connection to water and venting for a factory fire test prior to shipping. A factory authorized certified start up shall be performed before placing the HOT WATER SUPPLY BOILER into operation. The HOT WATER SUPPLY BOILER shall be approved for indoor or outdoor installation. Multiple venting options shall be available. Vertical venting systems shall be classified Category I, negative draft, non-condensing, to use type "B" double wall venting materials. Horizontal or direct vent installations require the use of AL29-4C vent materials.

Model number	Inlet gas pressure			
	Natural		LP	
	Max. W.C.	Min. W.C.	Max. W.C.	Min. W.C.
400-1200	14.0	4.5	14.0	8.0

Do not exceed the maximum Inlet pressure. minimum inlet pressure is for the purpose of input adjustment.

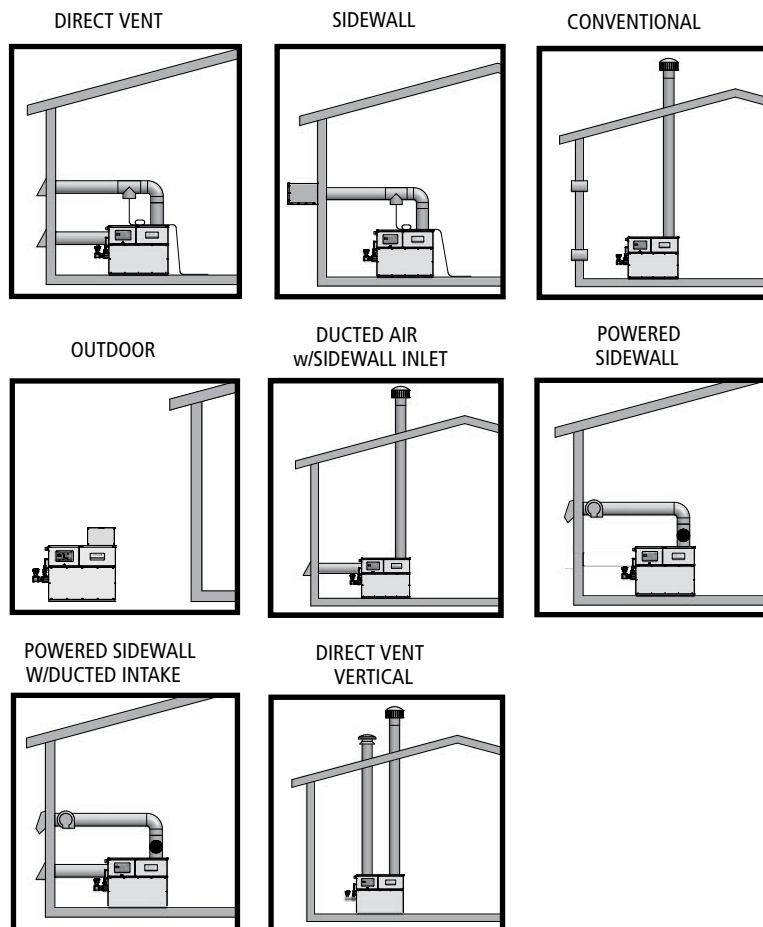
Model number	Amp draw data		
	Controls	Blower	Pump FLA*
GWH-400N	3.6	2.7	5.8
GWH-500N	3.6	2.7	5.8
GWH-650N	5.4	3.4	5.8
GWH-750N	5.4	3.4	5.8
GWH-1000N	7.3	3.2	7.4
GWH-1250N	7.3	3.2	7.4
GWH-1450N	7.3	6.7	7.4
GWH-1800N	7.3	6.7	7.4
GWH-2100N	7.3	6.7	7.4

* Standard pump delivered with HWSBs

Multiple venting options

The Genesis models offer eight venting options to meet the most challenging installation requirements. The Genesis can vent vertically in Category I with double wall "B" vent or horizontally in Category IV with AL29-4C stainless steel vent material.

Note: For the most current Genesis venting distances/information, consult the Genesis Product Manual, available online at www.aosmithme.com.



Model number	Vent outlet size	Combustion air inlet	Maximum equivalent feet of pipe		
			Sidewall	Direct Vent	Ducted Air w/Side-wall Intake
GWH-400N	6"	6"	50'	50'/50'	50'
GWH-500N	6"	6"	50'	50'/50'	50'
GWH-650N	8"	8"	50'	50'/50'	50'
GWH-750N	8"	8"	50'	50'/50'	50'
GWH-1000N	10"	10"	50'	50'/50'	50'
GWH-1250N	12"	12"	50'	50'/50'	50'
GWH-1450N	12"	12"	50'	50'/50'	50'
GWH-1800N	14"	12"	50'	50'/50'	50'
GWH-2100N	14"	12"	50'	50'/50'	50'

Note: 90 degree ells = 5' of pipe, 45 degree ells = 2 1/2' feet of pipe

Model number	Input MBH	GPH @ 40°F rise	GPH @ 100°F rise	GPH @ 140°F rise	Dimensions in inches											Approx. Shipping weight lbs
					A	B	C	D	E	F	G	H	J	K	L	
GWH-400N	399	1,028	412	294	31-1/2	7	37-5/8	8-7/8	12-1/2	7	3-1/4	29-3/4	6-3/8	12-5/8	22-1/4	454
GWH-500N	500	1,288	515	368	31-1/2	7	45-3/8	8-7/8	12-1/2	7	3-1/4	29-3/4	6-3/8	12-5/8	22-1/4	467
GWH-650N	650	1,674	670	478	31-1/2	8-1/2	56-3/4	8-7/8	12-1/2	8-1/2	3-1/4	29-3/4	6-3/8	12-5/8	22-1/4	551
GWH-750N	750	1,932	773	552	31-1/2	8-1/2	64	8-7/8	12-1/2	8-1/2	3-1/4	29-3/4	6-3/8	12-5/8	22-1/4	611
GWH-1000N	990	2,550	1,020	729	36	8-3/4	48-1/2	5-7/8	15-7/8	22-1/2	8-1/2	33-3/4	8-3/4	19-7/8	33	843
GWH-1250N	1,260	3,245	1,298	927	36	9-3/4	58-3/4	5-7/8	15-7/8	22-1/2	9-3/4	33-3/4	8-3/4	19-7/8	33	939
GWH-1450N	1,440	3,709	1,484	1,060	36	10-1/2	68-7/8	5-7/8	15-7/8	22-1/2	10-1/4	33-3/4	8-3/4	19-7/8	33	1,035
GWH-1800N	1,800	4,636	1,855	1,325	36	11	82-3/8	5-7/8	15-7/8	22-1/2	10-7/8	33-3/4	8-3/4	19-7/8	33	1,168
GWH-2100N	2,070	5,332	2,133	1,523	36	11	92-5/8	5-7/8	15-7/8	22-1/2	10-7/8	33-3/4	8-3/4	19-7/8	33	1,285

Pump and flanges are shipped loose for field installation.

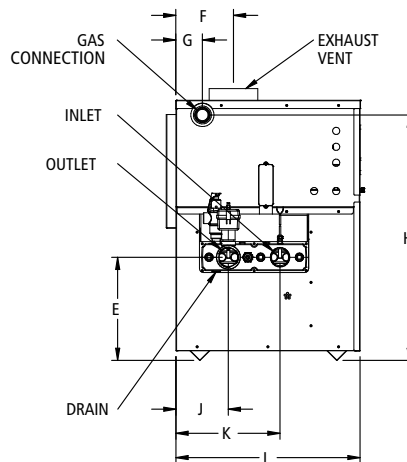
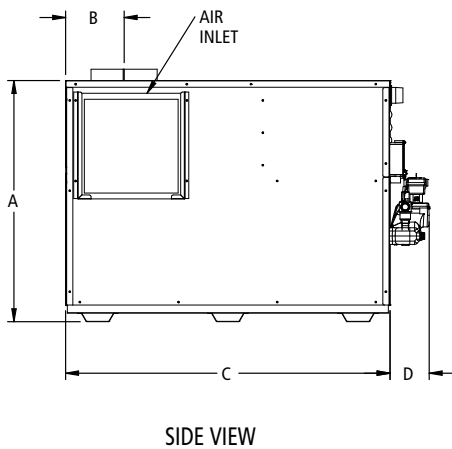
Gas connect pipe size is 1 1/4" for models GWH-400 to GWH-750 and is 2" for models GWH-1000 to GWH-2100.

Water connections for models GWH-400 to GWH-750 are 2" NPT on 6-1/2" centers.

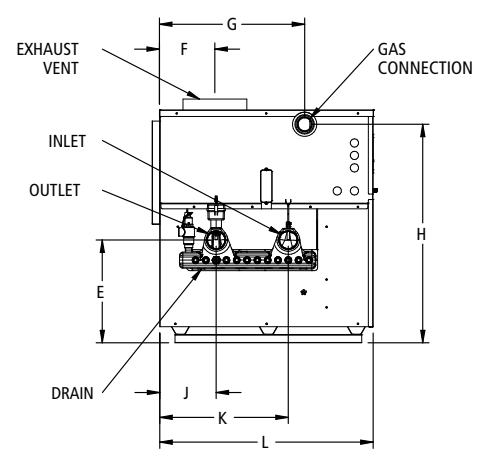
Water connections for models GWH-1000 to GWH-2100 are 2-1/2" NPT on 11-1/4" centers.

Performance data is based on manufacturer test results.

Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.



GWH-400 THRU GWH-750



GWH-1000 THRU GWH-2100