



The HCG Series High Efficiency Commercial Gas Water Heaters embody all that's great about the American brand. They're designed for outstanding reliability, maximum installation flexibility and, above all, excellent thermal efficiency. In comparison to standard water heaters with only 80% efficiency, they deliver up to 400,000 BTU input and up to 96% efficiency. With their small footprint and topmounted controls, HCG Series units are a natural cost-saving choice for restaurants and other similar applications. ENERGY STAR® Qualified.

FULLY SUBMERGED, SPIRAL-SHAPED CONDENSING HEAT EXCHANGER

- Spiral shape coil design maximizes heat transfer, resulting in increased efficiency.
- Spiral heat exchanger reduces lime scale from forming on water-side surfaces; maintains energy efficiency over time.

ALL CONTROLS, INCLUDING GAS VALVE AND COMBUSTION AIR BLOWER, LOCATED ON TOP

- Provides easy access during installation and service.
- Protects against high water damage.
- Protected from dirt and incidental damage.

ADVANCED ELECTRONIC CONTROL SYSTEM

- Microprocessor controls all water heater functions including ignition and temperature regulation.
- Precise temperature control adjustable from 90° F to 180° F.
- Large LCD display provides detailed operational and diagnostic information in plain English for ease of operation and service.

DOWN-FIRED LOW-NOX POWER BURNER DESIGN

Top-mounted radial burner ensures optimum combustion efficiency.

SPACE-SAVING DESIGN, WITH ZERO CLEARANCE TO COMBUSTIBLES ON SIDES AND REAR

 Approved for installation on combustible flooring.

POWERED ANODES (STANDARD ON ALL MODELS)

- Provide superior long-lasting tank protection.
- Protects tank in varying water conditions.

STANDARD POWER VENT OR POWER DIRECT VENT FLEXIBILITY

- · Vertical or sidewall power-venting.
- Vertical or sidewall powered-direct vent draws all combustion air from outside the building.
- Vents using inexpensive PVC, ABS or CPVC pipe.
- Air intake and vent runs can be up to 120 equivalent feet.

CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE

MAXIMUM HYDROSTATIC WORKING PRESSURE: 160 PSI

ASME CONSTRUCTION

Optional on all models.

For more information on HCG Series High Efficiency Gas Water Heaters, contact:

American Water Heaters 500 Tennessee Waltz Parkway Ashland City, TN 37015 1-800-937-1037 www.americanwaterheater.com

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OTHER HCG SERIES FEATURES:

COMMERCIAL GRADE GLASSLINED TANK AND HEAT EXCHANGER

 Heat exchanger glassed internally and externally to provide long term protectection against corrosive flue gases and condensate

CODE COMPLIANCE

- Complies with SCAQMD Rule 1146.2 and other Air Quality Management Districts with similar requirements.
- The 120 250K BTU models are design-certified by CSA International, according to ANSI Z21.10.3 - CSA 4.3 standards governing storage-type water heaters
- The 300 & 400K BTU models are design-certified by Underwriter's Laboratories (UL), Inc., according to ANSI Z21.10.3 - CSA 4.3 standards governing storage-type water heaters
- Design-certified by Underwriter's Laboratories (UL), Inc. to NSF Standard 5
- Meets the thermal efficiency and standby loss requirements of the U. S. Department of Energy and current edition of ASHRAE/IESNA 90.1

HANDHOLE CLEANOUT

· For easy inspection and cleaning

THREE-YEAR LIMITED TANK WARRANTY

• For complete warranty information, consult written warranty shipped with water heater or contact American Water Heaters

ALL HCG MODELS













RECOVERY CAPACITY

				U.S. Gallons/Hr and Litres/Hr at TEMPERATURE RISE INDICATED														
MODEL	TYPE	INPUT	•	Thermal	Approx.	F⁰	30 F⁰	40 Fº	50 Fº	60 Fº	70 Fº	80 Fº	90 Fº	100 Fº	110 F⁰	120 F⁰	130 F°	140 Fº
INIODEL	GAS	BTUH	_I KW	Efficiency	Capacity	C°	17 C°	22 Cº	28 C°	33 Cº	39 C°	44 Cº	50 C⁰	56 C⁰	61 Cº	67 C°	72 C°	78 C°
(A)HCG3-	NAT./	. 1 120.000	35	95%	60 U.S. Gals.	GPH	461	345	276	230	197	173	154	138	126	115	106	99
60T120-3N	PROP.				227 Litres	LPH	1744	1308	1046	872	747	654	581	523	476	436	402	374
(A)HCG3-	NAT./	150,000	44	95%	100 U.S. Gals.	GPH	576	432	345	288	247	216	192	173	157	144	133	123
100T150-3N	PROP.				379 Litres	LPH	2179	1635	1308	1090	934	817	726	654	594	545	503	467
(A)HCG3-	NAT./	1 199 9nn 1	58	95%	100 U.S. Gals.	GPH	767	575	460	384	329	288	256	230	209	192	177	164
100T199-3N	PROP.				379 Litres	LPH	2904	2178	1743	1452	1245	1089	968	871	792	726	670	622
(A)HCG3-	NAT./ PROP.	250,000	73	95%	100 U.S. Gals.	GPH	960	720	576	480	411	360	320	288	262	240	221	206
100T250-3N					379 Litres	LPH	3632	2724	2179	1816	1557	1362	1211	1090	991	908	838	778
HCG3-	NAT./	300,000	88	96%	119 U.S. Gals.	GPH	1164	873	699	582	499	436	388	349	318	291	269	250
130T300-3N	PROP.				450 Litres	LPH	4406	3304	2644	2203	1888	1652	1469	1322	1201	1102	1017	945
AHCG3-	NAT./	I 300 000 I	88	96%	130 U.S. Gals.	GPH	1164	873	699	582	499	436	388	349	318	291	269	250
130T300-3N	PROP.				492 Litres	LPH	4406	3304	2644	2203	1888	1652	1469	1322	1201	1102	1017	945
HCG3-	NAT./	399.900	117	96%	119 U.S. Gals.	GPH	1552	1164	931	776	665	582	517	466	423	388	359	332
130T400-3N	PROP.	აშშ, <u>9</u> 00			450 Litres	LPH	5875	4406	3525	2938	2518	2203	1958	1763	1602	1469	1356	1259
AHCG3-	NAT./ PROP.	399,900	117	96%	130 U.S. Gals.	GPH	1552	1164	931	776	665	582	517	466	423	388	359	332
130T400-3N			117		492 Litres	LPH	5875	4406	3525	2938	2518	2203	1958	1763	1602	1469	1356	1259

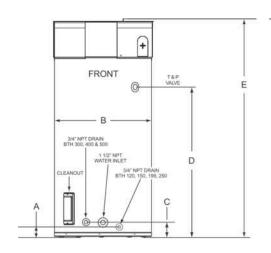
Recovery capacities are based on heater performance at 95% and 96% thermal efficiency.

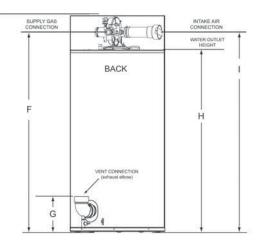
Add "A" in front of model number when ordering ASME. For example, AHCG-100T199-3N. Change N to P when ordering propane (LP)

Maximum gas supply pressure for 120 - 250: 10.5" w.c. natural gas 14" w.c propane.

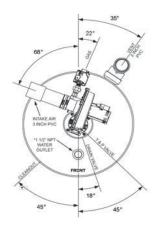
Manifold pressure: 4" w.c. natural gas 10" w.c. propane. Electrical requirements: 120 VAC/60 HZ, Blower 2.2 Amps FL, Igniter 4.0 Amps. AHCG3-300 and 400 are available in ASME only (In the U.S. Only)

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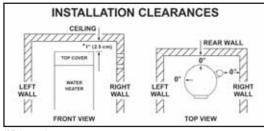
HCG3 120 & 150



DIMENSIONS AND SHIPPING WEIGHTS

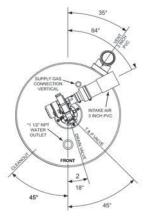
MODEL NUMBER	DIMENSIONS (INCHES)									APPROX. SHIPPING WEIGHT	
	Α	В	С	D	Е	F	G	Н	I	STD.	ASME
HCG3-60T120-3N	3	27.75	6.3	35	55.5	48	11	42	47.5	460	490
HCG3-100T150-3N	3	27.75	6.3	55.5	75.5	68.5	11	63	69	555	595
HCG3-100T199-3N	3	27.75	6.3	55.5	75.5	68.5	11	63	69	555	595
HCG3-100T250-3N	3	27.75	6.3	55.5	75.5	75.5	11	63	69	555	595
*HCG3-130T300-3N	N/A	33.12	4.86	50.77	75.5	69	12	63	69	855	855
*HCG3-130T400-3N	N/A	33.12	4.86	50.77	75.5	69	12	63	69	855	855

Water Connections: 1-1/2"

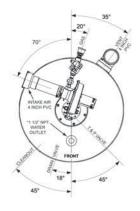


^{*}Minimum clearance to remove top cover

HCG3 199 & 250



HCG3 300 & 400



*Center line of water outlet on top of water heaters is approximately 7 inches from the front edge of the water heater

MAXIMUM EQUIVALENT VENT LENGTHS HCG3 120-250

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*NUMBER OF 90°	3 INCH PIPE	4 INCH PIPE						
ELBOWS INSTALLED	MAXIMUM FEET (METERS)	MAXIMUM FEET (METERS)						
One (1)	45 feet (13.7 meters)	115 feet (35.0 meters)						
Two (2)	40 feet (12.2 meters)	110 feet (33.5 meters)						
Three (3)	35 feet (10.7 meters)	105 feet (32.0 meters)						
Four (4)	30 feet (9.1 meters)	100 feet (30.5 meters)						
Five (5)		95 feet (29.0 meters)						
Six (6)		90 feet (27.4 meters)						

^{*} Maximum number of 90° elbows allowed for the vent (exhaust) pipe is four (4) when installing 3 inch pipe and six (6) when installing 4 inch pipe. Maximum number of 90° elbows allowed for intake air pipe is four (4) when installing 3 inch pipe and six (6) when installing 4 inch pipe. Two (2) 45° elbows equal one (1) 90° elbow.

MAXIMUM EQUIVALENT VENT LENGTHS HCG3 300 & 400

MINIMUM SUPPLY GAS LINE SIZE

MODEL

HCG3-60T120-3N

HCG3-100T150-3N

HCG3-100T199-3N

HCG3-100T250-3N

*HCG3-130T300-3N

*HCG3-130T400-3N

NATURAL GAS

1/2" N.P.T.

3/4" N.P.T.

3/4" N.P.T.

3/4" N.P.T.

1-1/4" N.P.T.

1-1/4" N.P.T.

PROPANE GAS

1/2" N.P.T.

3/4" N.P.T.

3/4" N.P.T.

3/4" N.P.T.

1-1/4" N.P.T.

1-1/4" N.P.T.

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*NUMBER OF 90°	4 INCH PIPE	6 INCH PIPE				
ELBOWS INSTALLED	MAXIMUM FEET (METERS)	MAXIMUM FEET (METERS)				
One (1)	65 feet (19.8 meters)	115 feet (35.0 meters)				
Two (2)	60 feet (18.2 meters)	110 feet (33.5 meters)				
Three (3)	55 feet (16.8 meters)	105 feet (32.0 meters)				
Four (4)	50 feet (15.2 meters)	100 feet (30.5 meters)				
Five (5)	45 feet (13.7 meters)	95 feet (29.0 meters)				
Six (6)	40 feet (12.2 meters)	90 feet (27.4 meters)				

^{*} Maximum number of 90° elbows allowed for the vent (exhaust) pipe is six (6). Maximum number of 90° elbows allowed on the intake air pipe is six (6). Two (2) 45° elbows equal one (1) 90° elbow.

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INSTALLATION CONSIDERATIONS

- 1. Noise Vent terminal should be located away from bedroom windows or other areas where blower noise will be objectionable. Avoid venting into corners or confined areas, which will amplify sound. Anchoring intake or vent pipe to walls or ceilings can cause noise to be transmitted to living areas, and isolation mounts should be used where anchoring is required.
- 2. Air Intake In cold climates, air intake should be located at least four feet from the vent termination of the water heater and any other appliance vents that discharge moisture-laden air (such as clothes dryers). This will help prevent freeze-over of the intake screen required to prevent foreign objects from entering the intake pipe. Air intake should be located above the maximum snowline.
- 3. Vent Termination Exhaust gases of this water heater are less than 140°F. In cold climates water vapor in flue gases will condense into a cloud of vapor where the vent exits the building. This vapor can gradually discolor exterior building surfaces. Vent termination should be located where this vapor cloud and potential discoloration are not a concern. Extending the vent termination up to 6 "from the wall helps vapor from being trapped along a building's face. To avoid this problem, the vent can be terminated on the roof. Always locate vent termination above the maximum snowline, and do not locate vent termination above a walkway.
- 4. Blockage Sensors The water heater is equipped with sensors to shut it down if blockage of vent or air intake occurs. The water heater control system will display detailed diagnostic information on the LCD screen to help service technicians quickly locate and correct the problem.
- 5. Condensate Drain This is a fully condensing water heater and should be located near a drain to permit proper disposal of condensate.
- 6. Optional Concentric Vent Kit Helps to minimize unsightly wall/roof penetrations. HCG3-60T120 THRU 130T300 vent kit p/n 9006328005 HCG3-130T400 vent kit p/n 9006144005

SUGGESTED SPECIFICATION
(Natural or Propane) gas water heater(s) shall be American (A)HCG3 model # or equal, with up to 96% thermal efficiency, a storage capacity of gallons, an input rating of BTUs per hour, a recovery rating of gallons per hour (gph) at 100°F rise and a maximum hydrostatic working pressure of 160 PSI. Water heater(s) shall: 1. Have seamless glasslined steel tank construction, wth glass lining applied to all water-side surfaces after the tank has been assembled and welded; 2. Meets the thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA 90.1. 3. Have foam insulation and a CSA Certified and ASME rated T&P relief valve; 4. Have a down-fired power burner designed for precise mixing of air and gas for optimum efficiency, requiring no special calibration on start-up; 5. Be approved for 0" clearance to combustibles (sides and rear).
Heater shall be supplied with maintenance-free powered anode.
The control shall be an integrated solid-state temperature and ignition control device with integral diagnostics, graphic user interface, fault history display, and shall have digital temperature readout.
1) The 120 - 250K BTU models are design-certified by CSA International, according to ANSI Z21.10.3 - CSA 4.3 standards governing storage-type water heaters. The 300 & 400K BTU models are design-certified to Underwriter's Laboratories (UL), Inc., according to ANSI Z21.10.3 - CSA 4.3 standards governing storage-type water heaters. 2) Meets the thermal efficiency and standby loss requirements of the U. S. Department of Energy and current edition ASHRAE/IESNA 90.1. Complies with SCAQMD Rule 1146.2 and other air quality management districts with similar requirements for low NOx emissions.
120K-250K BTU Input: For Standard Power Venting: Water heater(s) shall be suitable for standard power venting using a (3" or 4") diameter PVC pipe for a total distance of (50 ft. or 120 ft.) equivalent feet of vent piping. For Power Direct Venting: Water heater(s) shall be suitable for power direct venting using a (3" or 4") diameter PVC pipe for a total distance of (50 ft. or 120 ft.) equivalent feet of vent piping and (50 ft. or 120 ft.) equivalent feet of intake air piping. 300K - 400K BTU Input: For Standard Power Venting: Water heater(s) shall be suitable for standard power venting using a (4" or 6") diameter PVC pipe for a total distance of (70 ft. or 120 ft.) equivalent feet of vent piping. For Power Direct Venting: Water heater(s) shall be suitable for power direct venting using a (4" or 6") diameter PVC pipe for a total distance of (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70 ft. or 120 ft.) equivalent feet of vent piping and (70

For complete information on limited warranties, consult written warranty or contact the American Warranty and Service Support team at 1-800-456-9805.

American Water Heaters reserves the right to make product changes or improvements without prior notice.



For more information on HCG Series High Efficiency Gas Water Heaters, contact:

American Water Heaters 500 Tennessee Waltz Parkway Ashland City, TN 37015 1-800-937-1037 www.americanwaterheater.com

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