



HIGH EFFICIENCY COMMERCIAL GAS HCG SERIES



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 top-mounted controls, HCG Series units are a natural cost-saving choice for restaurants and other similar applications.

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 POWERED-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 120, 150, 199 and 250 models.
- Standard on 300 and 400 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 GLASS-LINED TANK AND HEAT EXCHANGER

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

CODE COMPLIANCE

- Complies with SCAQMD Rule 1146.2 and other Air Quality Management Districts with similar requirements for low-NOx emissions.
- 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 or Exceeds 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

HCG3 120 through 250 MODELS



AHCG3 300 & 400 MODELS



RECOVERY CAPACITY

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

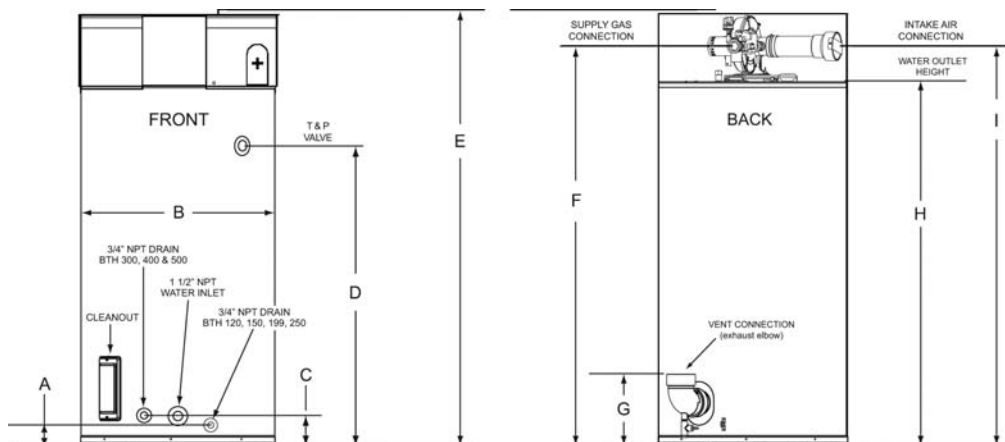
Add "A" in front of model number when ordering ASME. For example, AHCG-100T199-3N. Change N to P when ordering propane (LP).

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

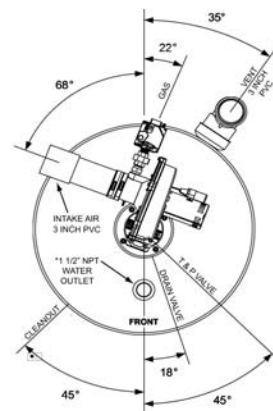
Manifold pressure: 4" w.c. natural gas 10" w.c. propane. Electrical requirements: 120 VAC/60 HZ, Blower 2.2 Amps FL, Igniter 4.0 Amps.

AHCG3-300 and 400 are available in ASME only

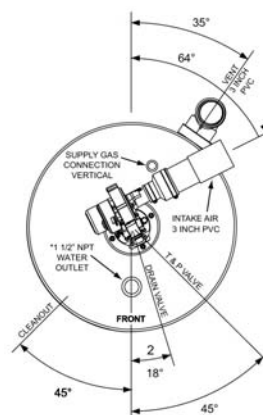
HIGH EFFICIENCY COMMERCIAL GAS HCG SERIES



HCG3 120 & 150



HCG3 199 & 250

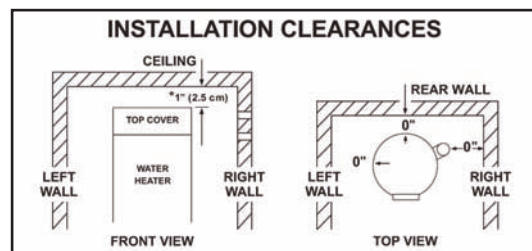
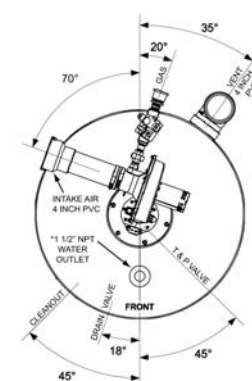


DIMENSIONS AND SHIPPING WEIGHTS

MODEL NUMBER	DIMENSIONS (INCHES)									APPROX. SHIPPING WEIGHT	
	A	B	C	D	E	F	G	H	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
*AHCG3-130T300-3N	N/A	33.12	4.86	50.77	75.5	69	12	63	69	N/A	855
*AHCG3-130T400-3N	N/A	33.12	4.86	50.77	75.5	69	12	63	69	N/A	855

Water Connections: 1-1/2"

AHCG3 300 & 400



*Minimum clearance to remove top cover

MODEL	MINIMUM SUPPLY GAS LINE SIZE	
	NATURAL GAS	PROPANE GAS
HCG3-60T120-3N	1/2" N.P.T.	1/2" N.P.T.
HCG3-100T150-3N	3/4" N.P.T.	3/4" N.P.T.
HCG3-100T199-3N	3/4" N.P.T.	3/4" N.P.T.
HCG3-100T250-3N	3/4" N.P.T.	3/4" N.P.T.
*AHCG3-130T300-3N	1-1/4" N.P.T.	1-1/4" N.P.T.
*AHCG3-130T400-3N	1-1/4" N.P.T.	1-1/4" N.P.T.

MAXIMUM EQUIVALENT VENT LENGTHS HCG3 120-250

*NUMBER OF 90° ELBOWS INSTALLED	3 INCH PIPE	4 INCH PIPE
	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 AHCG3 300 & 400

*NUMBER OF 90° ELBOWS INSTALLED	4 INCH PIPE	6 INCH PIPE
	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.

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

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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
AHCG3-130T400 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 glass-lined steel tank construction, with glass lining applied to all water-side surfaces after the tank has been assembled and welded; 2. Meet or exceed 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) Meet or exceed 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.

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 intake air piping.

Operation of the water heater(s) in a closed system where thermal expansion has not been compensated for (with a properly sized thermal expansion tank) will void the warranty.

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:

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Ashland City, TN 37015
1-800-937-1037
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