

Commander Series® Atmospheric Vent Commercial Gas Water Heater



Photo is of
UCG-100H-199-3N

FEATURING:

THE BRADFORD WHITE
ICON^{HD}
COMMERCIAL CONTROL SYSTEM

The Commander Series® Models feature:

- **ICON HD®**—Intelligent proven design combines temperature control, diagnostic codes, and system ignition functions into a single control board with a digital LCD display.
 - **Operation Mode**—Two different digitally displayed operation modes have the capability of adjusting the temperature setting up to 180°F (82°C), and adjusting the degree setting (°F to °C, or °C to °F).
- **BMS Integration**—Via Modbus standard, BACnet® compatible via gateway kit.
- **Optional Air Intake Ducting**—Optional ducting of PVC, CPVC, or ABS air intake. Can either be installed as a traditional atmospheric product requiring inside air for combustion or applications where outside air is preferred.
- **Premix Power Burner**—A self compensating negative pressure system automatically regulates fuel flow when a change in combustion air is detected. This provides for optimum combustion and efficiency. Automatically adjusts for altitudes up to 10,000 ft (3048m).
- **Direct Spark Ignition**—For improved operational dependability and durability.
- **Two Pass Fire-Tube Heat Exchanger System**—Keeps hot combustion gases moving at a high velocity. The combination of high turbulence and velocity causes an enormous rate of heat transfer into the water.
- **Sanitizing Capability**—Complies with sanitation capabilities up to 180°F (82°C).
- **Factory-Installed Hydrojet® Total Performance System**—Sediment reducing device that also increases first hour delivery of hot water while minimizing temperature build-up in tank.
- **Vitraglas® Lining**—An exclusively engineered enamel formula that provides superior tank protection from the highly corrosive effects of hot water. This formula (Vitraglas®) is fused to the steel surface by firing at a temperature of over 1600°F (871°C).
- **Insulation System**—Non-CFC foam covers the sides and top of the tank, reducing heat loss. This results in less energy consumption, improved efficiencies, and jacket rigidity.
- **Water Connections**—Factory-installed true dielectric fittings extend water heater life and simplify water line connections.
- **1" (25mm) NPT Side Connections for Space Heating.**
- **Up to 82% Thermal Efficiency.**
- **Zero Inch Clearance to Combustibles.**
- **Hand Hole Cleanout.**
- **NSF Construction Available.**
- **T&P Relief Valve**—Installed.
- **Low Restrictive Brass Drain Valve**—Durable tamper proof design.
- **Ultra Low NOx Construction (14 ng/J NOx emissions or natural gas and 77 ppm NOx limit for liquid propane).**
- **CSA Certified Low Lead Content.**
- **ASME Code Available on All Models.**



3 or 5-Year Limited Tank Warranties / 1-Year Limited Warranty on Component Parts.

For more information on warranty, please visit www.bradfordwhite.com

For products installed in USA, Canada, and Puerto Rico. Some states do not allow limitations on warranties. See complete copy of the warranty included with the heater.

MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,682,666; 7,634,976; 5,660,165; 5,954,492; 6,056,542; 6,935,280; 5,372,185; 5,485,879; 5,574,822; 7,971,560; 7,992,526; 6,684,821; 7,334,419; 7,866,168; 7,270,087; 7,007,748; 5,596,952; 6,142,216; 7,699,026; 5,341,770; 7,337,517; 7,665,211; 7,665,210; 7,063,132; 7,063,133; 7,559,293; 7,900,589; 5,943,984; 8,082,888; 5,988,117; 7,621,238; 7,650,859; 5,761,379; 7,409,925; 5,277,171; 8,146,772; 7,458,341; 2,262,174. OTHER U.S. AND FOREIGN PATENT APPLICATIONS PENDING. CURRENT CANADIAN PATENTS: 2,314,845; 2,504,824; 2,108,186; 2,143,031; 2,409,271; 2,548,958; 2,112,515; 2,476,685; 2,239,007; 2,092,105; 2,107,012. Vitraglas® and Hydrojet® are registered trademarks of Bradford White® Corporation.

Commander Series® Atmospheric Vent Commercial Gas Water Heater

Commander Series® Models

NATURAL AND LIQUID PROPANE GAS

Up to 82% Thermal Efficiency

Model Number	Rated Nominal Volume		Input BTU/Hr.	GPH Recovery at Degree Rise*			A Floor to Vent Conn. in.	B Jacket Dia. in.	C Vent Size in.	D Floor to T&P Conn. in.	E Floor to Gas Conn. in.	F Floor to Top of Heater in.	G Floor to Cold Water Conn./Hot Water Conn. in.	H Depth in.	K Floor to Cold Water Conn. in.	L Floor to Hot Water Conn. in.	M Water Conn. NPT in.	S Gas Conn. Size in.	Relief Valve Open in.	Approx. Shipping Weight lbs.
	U.S. Gal.	Imp. Gal.		40°F	100°F	140°F														
UCG-80H-125-3N(A)	80	67	125,000	308	123	88	57	28	5	44 1/4	54 1/2	61 3/8	55 3/4	30	9 3/4	46 15/16	1 1/2	3/4	3/4	535
UCG-80H-199-3N(A)	81	67	199,999	493	197	141	57	28	6	44 1/4	54 1/2	61 3/8	55 3/4	30	9 3/4	46 15/16	1 1/2	3/4	3/4	535
UCG-80H-270-3N(A)	82	67	270,000	665	266	190	57	28	6	44 1/4	54 1/2	61 3/8	55 3/4	30	9 3/4	46 15/16	1 1/2	3/4	1	545
UCG-80H-399-3N(A)	83	67	399,999	960	384	274	57	28	8	44 1/4	54 1/2	61 3/8	55 3/4	30	9 3/4	46 15/16	1 1/2	3/4	1	545
UCG-100H-199-3N(A)	100	83	199,999	493	197	141	64 7/8	28	6	52 3/4	62 3/4	70	63 1/4	30	9 3/4	55 3/8	1 1/2	3/4	3/4	632
UCG-100H-270-3N(A)	100	83	270,000	665	266	190	64 7/8	28	6	52 3/4	62 3/4	70	63 1/4	30	9 3/4	55 3/8	1 1/2	3/4	1	632
UCG-100H-399-3N(A)	98	82	399,999	994	398	284	64 7/8	28	8	52 3/4	62 3/4	70	63 1/4	30	9 3/4	55 3/8	1 1/2	3/4	1	657

Model Number	Rated Nominal Volume		Input kW	LPH Recovery at Degree Rise*			A Floor to Flue Conn. mm.	B Jacket Dia. mm.	C Vent Size mm.	D Floor to T&P Conn. mm.	E Floor to Gas Conn. mm.	F Floor to Top of Heater mm.	G Floor to Cold Water Conn./Hot Water Conn. mm.	H Depth mm.	K Floor to Cold Water Conn. mm.	L Floor to Hot Water Conn. mm.	M Water Conn. NPT mm.	S Gas Conn. Size mm.	Relief Valve Open mm.	Approx. Shipping Weight kgs.
	Liters			22°C	56°C	78°C														
UCG-80H-125-3N(A)	303		36.6	1164	466	333	1448	711	127	1124	1384	1569	1416	752	247	1192	38	19	19	243
UCG-80H-199-3N(A)	303		58.6	1864	746	533	1448	711	152	1124	1384	1569	1416	752	247	1192	38	19	19	243
UCG-80H-270-3N(A)	303		79.1	2517	1007	719	1448	711	152	1124	1384	1569	1416	752	247	1192	38	19	25	247
UCG-80H-399-3N(A)	303		117.2	3634	1454	1038	1448	711	203	1124	1384	1569	1416	752	247	1192	38	19	25	247
UCG-100H-199-3N(A)	379		58.6	1866	745	533	1648	711	152	1340	1594	1778	1606	752	247	1406	38	19	19	286
UCG-100H-270-3N(A)	379		79.1	2517	1006	719	1648	711	152	1340	1594	1778	1606	752	247	1406	38	19	25	286
UCG-100H-399-3N(A)	371		117.2	3757	1476	1060	1648	711	203	1340	1594	1778	1606	752	247	1406	38	19	25	298

For Propane Gas models change suffix "N" to "X". Example: UCG-100H-199-3X (UCG-100H-399 available in Natural Gas only). All models comply with the latest Ultra Low NOx requirements (14 ng/J or less for natural gas and 77 ppm NOx limit for liquid propane).

Amp Draw range = 1.0 to 1.8 amps.

(A) ASME - All models are available with ASME construction.

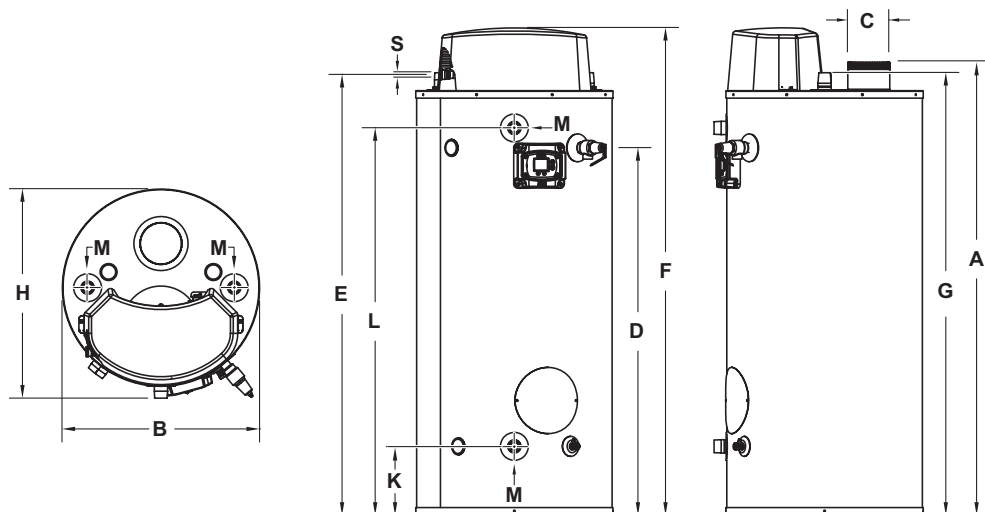
To order ASME construction add the (A) to the end of the model number.

* Based on manufacturer's rated recovery efficiency.

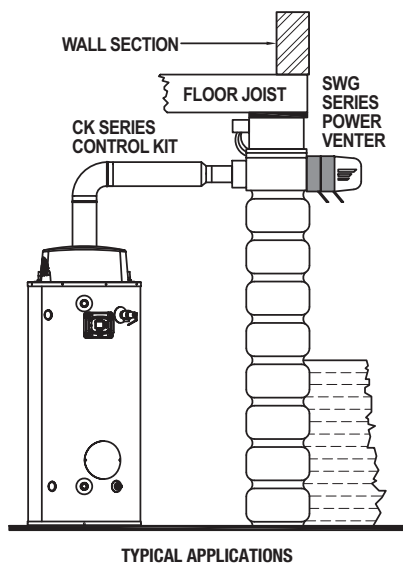
For 5 year warranty models, change suffix "3" to "5"

Example: UCG-100H-199-5N

BACnet® Gateway Kit Number – 415-53943-00.



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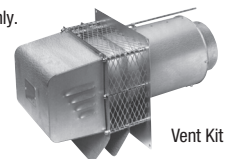


Optional Air Intake Ducting Maximum Lengths

Model	2" PVC, ABS, or CPVC	3" PVC, ABS, or CPVC	4" PVC, ABS, or CPVC
UCG-80H-125-3(N,X)(A)	20 ft.	50 ft.	75 ft.
UCG-80H-199-3(N,X)(A)	20 ft.	50 ft.	75 ft.
UCG-100H-199-3(N,X)(A)	20 ft.	50 ft.	75 ft.
UCG-80H-270-3(N,X)(A)	20 ft.	50 ft.	75 ft.
UCG-100H-270-3(N,X)(A)	20 ft.	50 ft.	75 ft.
UCG-80H-399-3(N,X)(A)	N/A	25 ft.	50 ft.
UCG-100H-399-3N(A)	N/A	25 ft.	50 ft.

Optional Power Vent Kits – for side wall termination only.

Model Numbers	Kit Number
UCG-80H-125/199/270, UCG-100H-199/270:	239-81764-00
UCG-80H-399, UCG-100H-399:	239-81766-00



Recovery Data

Model Number	GPH Recovery at Degree Rise*												LPH Recovery at Degree Rise*											
	30°F	40°F	50°F	60°F	70°F	80°F	90°F	100°F	110°F	120°F	130°F	140°F	17°C	22°C	28°C	33°C	39°C	44°C	50°C	56°C	61°C	67°C	72°C	78°C
UCG-80H-125-3N(A)	414	311	248	207	177	155	138	124	113	104	96	89	1567	1177	939	784	670	587	522	469	428	394	363	337
UCG-80H-199-3N(A)	663	497	398	331	284	248	221	199	181	166	153	142	2510	1881	1507	1253	1075	939	837	753	685	628	579	538
UCG-80H-270-3N(A)	895	671	537	447	383	335	298	268	244	224	206	192	3388	2540	2033	1692	1450	1268	1128	1014	924	848	780	727
UCG-80H-399-3N(A)	1293	970	776	646	554	485	431	388	353	323	298	277	4895	3672	2937	2445	2097	1836	1632	1469	1336	1223	1128	1049
UCG-100H-199-3N(A)	663	497	398	331	284	248	221	199	181	166	153	142	2510	1881	1507	1253	1075	939	837	753	685	628	579	538
UCG-100H-270-3N(A)	895	671	537	447	383	335	298	268	244	224	206	192	3388	2540	2033	1692	1450	1268	1128	1014	924	848	780	727
UCG-100H-399-3N(A)	1325	994	795	663	568	497	442	398	361	331	306	284	5016	3763	3009	2510	2150	1881	1673	1507	1367	1253	1158	1075

* Based on manufacturer's rated recovery efficiency.

Commander Series® Atmospheric Vent Commercial Gas Water Heater

Sample Specification

The water heater shall be a Bradford White model UCG-_____ with a rated storage capacity of not less than _____ gallons/ liters, a minimum gas input of _____ BTU/Hr., a minimum recovery of _____ GPH/LPH at 100°F (56°C) temperature rise, a Thermal Efficiency Rating of _____. It shall be design certified by CSA International (formerly AGA and CGA) for 180°F (82°C) application, either with or without a separate storage tank. The tank shall be lined with Vitraglas® vitreous enamel and shall have a bolted hand hole cleanout. This water heater shall be equipped with stainless steel cold water inlet, Hydrojet® Sediment Reduction System. The heater shall be insulated with Non-CFC foam. This water heater shall be equipped with an ICON HD® ignition system, an ASME rated T&P relief valve and a premix combustion system. The water heater shall be factory assembled and tested. A digital LCD display shall be integrated into the front and be an adjustable electronic thermostat to any temperature up to 180°F. A recycling Energy Cut Off (E.C.O.) shuts off all gas in the event of an overheat condition. The entire installation shall be made in compliance with state and local codes and ordinances.

General

All gas water heaters are certified at 300 PSI test pressure (2068 kPa) and 150 PSI working pressure (1034 kPa). All models are design certified by CSA International (formerly AGA/CGA), to ANSI standard Z-21.10.3, for up to 180°F (82°C) application as an Automatic Storage Heater. As an Automatic Storage Heater, all models are complete, self-contained water heating systems. It needs no separate storage tank, pump, wiring or elaborate piping network. When equipped with a mixing valve, it can supply 180°F (82°C) sanitizing and lower temperature general purpose hot water simultaneously. These models can be used either as a single unit or in multiples connected in series or parallel (recommended).

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

Customer Service / Sales: 1-866-690-0961 / 905-203-0600
24/7 Technical Support: 800-334-3393 ■ Email techserv@bradfordwhite.com

Built to be the Best®