

INSTALLATION CONSIDERATIONS

- 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.
- 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 snow line.
- Vent Termination – Exhaust gases of this water heater are less than 140°F (60°C). In cold climates water vapour in flue gases will condense into a cloud of vapour where the vent exits the building. This vapour can gradually discolor exterior building surfaces. Vent termination should be located where this vapour cloud and potential discoloration are not a concern. Extending the vent termination up to 6" from the wall helps vapour 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 snow line, and do not locate vent termination above a walkway.
- 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.
- Condensate Drain – This is a fully condensing water heater and should be located near a drain to permit proper disposal of condensate.

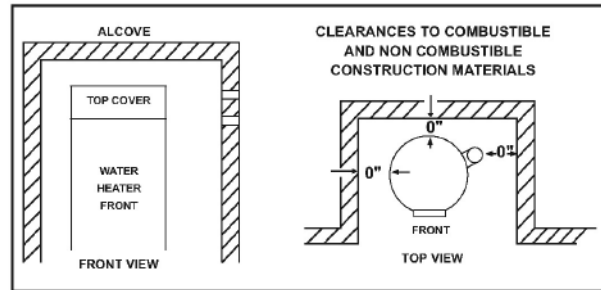
Condensate Neutralizer Kits Available

CNS-2 Condensate Neutralizer Kit for 150 - 199k BTU Models	Part Number 9007959005
CNS-2 Refill Kit for 150 - 199k BTU Models	Part Number 9007964005
CNS-6 Condensate Neutralizer Kit for 250 - 400k BTU Models	Part Number 9007960005
CNS-6 Refill Kit for 250 - 400k BTU Models	Part Number 9007965005

- Optional Concentric Vent Kit - Helps to minimize unsightly wall/roof penetrations.

Concentric Vent Kits Available

Concentric Vent Kit for 150 - 250k BTU Models	Part Number 9006328005
Concentric Vent Kit for 300 - 400k BTU Models	Part Number 9006327005



*Minimum clearance to remove top cover

MINIMUM SUPPLY GAS LINE SIZE		
Model	Natural Gas	Propane
(A)JWSH100-150	½" N.P.T.	½" N.P.T.
(A)JWSH100-199	¾" N.P.T.	¾" N.P.T.
(A)JWSH100-250	¾" N.P.T.	¾" N.P.T.
AJWSH130-300	1 ¼" N.P.T.	1 ¼" N.P.T.
AJWSH130-400	1 ¼" N.P.T.	1 ¼" N.P.T.

MAXIMUM EQUIVALENT VENT LENGTHS (150 - 250K BTU)

*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 (300 - 400K BTU)

*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.

ENERGY STAR® qualified John Wood Commercial High Efficiency condensing gas water heaters are designed for outstanding reliability, maximum installation flexibility and, above all, excellent thermal efficiency. With their small footprint, John Wood High Efficiency units are the natural cost-saving choice for restaurants and other similar applications.

Features

Energy Savings

- ENERGY STAR® qualified
- Up to 96% Thermal Efficiency to lower operating costs
- Meets ASHRAE/IES 90.1 requirements

Designed for Performance

- Fully submerged, spiral-shaped condensing heat exchanger to maximize heat transfer, provide high efficiency, and avoid sediment buildup on the heat exchanger surface
- Advanced microprocessor controls ignition and thermostat with adjustment of water temperature from 100°F (38°C) to 180°F (82°C)
- Powered anodes: two titanium powered anodes provide superior tank protection in varying water conditions
- Factory-installed temperature & pressure relief valve
- Design-certified by Underwriters Laboratories Sanitation to NSF Standard 5 for 180°F (82°C) water

Safety Features

- Zero clearance to combustibles enabling approval for installation on combustible flooring

Serviceability

- Top mounted controls (gas valve, combustion, air blower) for easy access during installation and service
- User-friendly LCD display shows all operating settings and failure modes for ease of use

Venting Flexibility

- Standard power vent or power direct vent flexibility, in vertical or sidewall configurations, using ULC S636 PVC, CPVC or polypropylene pipe in runs of up to 120 feet depending upon vent pipe size
- Optional concentric vent termination kits are available - see back page for more information



(A)JWSH100-150—
(A)JWSH100-250



AJWSH130-300—
AJWSH130-400



WARRANTY

3 Year Limited Tank Warranty
1 Year Limited Parts Warranty
Consult installation manual for terms and conditions or visit www.johnwoodwaterheaters.com for more information.



OTHER 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

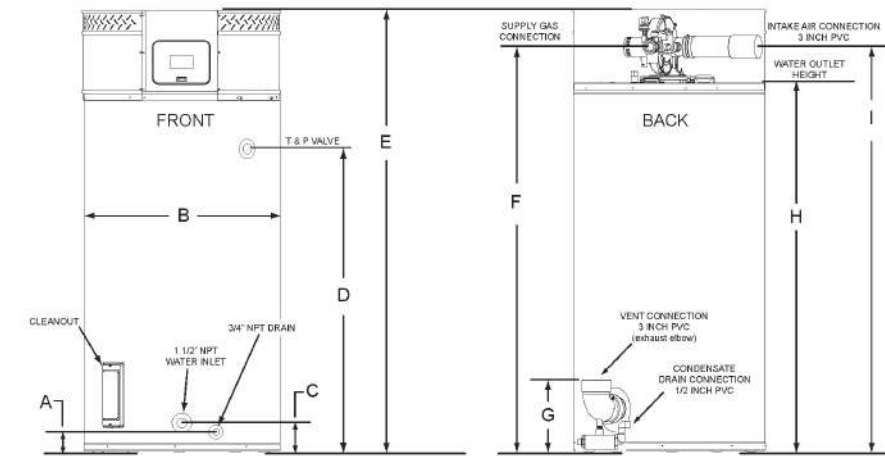
- Complies with SCAQMD Rule 1146.2 and other Air Quality Management Districts with similar requirements for low-NOx emissions
- The 150 - 250K BTU models are design-certified by CSA International, according to ANSI Z21.10.3 - CSA 4.3 standards governing storage-type water heaters
- The 300 & 400K BTU 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 from current edition of ASHRAE/ IESNA 90.1

HANDHOLE CLEANOUT

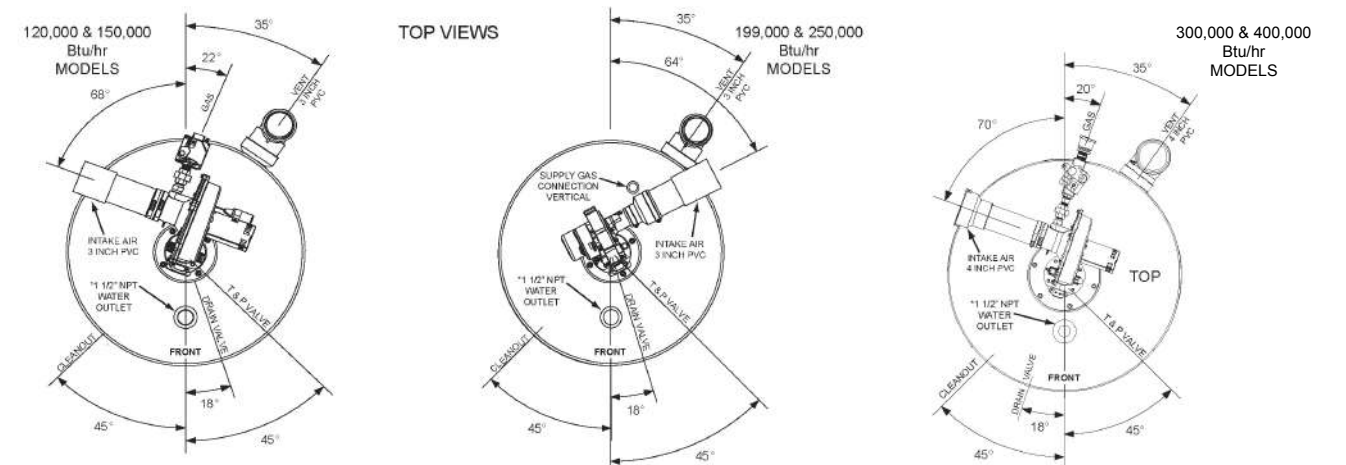
- For easy inspection and cleaning

THREE-YEAR LIMITED TANK WARRANTY

- For complete warranty information consult written warranty shipped with water heater or contact John Wood Water Heating



These designs comply with the current edition of the American National Standard for Gas Water Heaters, Volume III, ANSI Z21.10.3 / CSA 4.3 as an automatic circulating tank water heater, and automatic storage water heaters.



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

RECOVERY RATE GPH/LPH

Model	Gas Type	Input Rate BTU/HR (kW)	Thermal Efficiency	Approx. Tank Capacity	Temperature Rise													
					30°F (17°C)	40°F (22°C)	50°F (28°C)	60°F (33°C)	70°F (39°C)	80°F (45°C)	90°F (50°C)	100°F (56°C)	110°F (61°C)	120°F (67°C)	130°F (72°C)	140°F (78°C)		
(A)JWSH100-150	NG/LP	150,000 (44)	95%	100 USG	576	432	345	288	247	216	192	173	157	144	133	123		
				379 Litres	2179	1635	1308	1090	934	817	726	654	594	545	503	467		
(A)JWSH100-199	NG/LP	199,900 (58)	95%	100 USG	767	575	460	384	329	288	256	230	209	192	177	164		
				379 Litres	2904	2178	1743	1452	1245	1089	968	871	792	726	670	622		
(A)JWSH100-250	NG/LP	250,000 (73)	95%	100 USG	960	720	576	480	411	360	320	288	262	240	221	206		
				379 Litres	3632	2724	2179	1816	1557	1362	1211	1090	991	908	838	778		
AJWSH130-300	NG/LP	300,000 (88)	96%	130 USG	1164	873	699	582	499	436	388	349	318	291	269	250		
				492 Litres	4406	3304	2644	2203	1888	1652	1469	1322	1201	1102	1017	945		
AJWSH130-400	NG/LP	399,900 (117)	96%	130 USG	1552	1164	931	776	665	582	517	466	423	388	359	332		
				492 Litres	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, AJWSH100-199N. N to P when ordering propane (LP). Maximum gas supply pressure for 150-250: 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/60Hz, Blower 2.2 Amps FL, Ignitor 4.0 Amps. AJWSH130-300 and 400 are available in ASME only.

DIMENSIONS

Model	Height to Drain Valve (150-250k BTU)	Overall Diameter	Height to Water Inlet / Drain Valve (300-400k BTU)	Height to T&P Valve	Installation Height	Height to Supply Gas Connection	Height to Vent Connection	Height to Water Outlet	Height to Air Intake	Approx. Shipping Weight (lb/kg)	
	A in (cm)	B in (cm)	C in (cm)	D in (cm)	E in (cm)	F in (cm)	G in (cm)	H in (cm)	I in (cm)	STD	ASME
(A)JWSH100-150	3 (7.6)	27 3/4 (70.5)	6 5/16 (16)	55 1/2 (141)	75 1/2 (192)	68 1/2 (174)	11 (28)	63 (160)	69 (175)	555 (252)	595 (269)
(A)JWSH100-199	3 (7.6)	27 3/4 (70.5)	6 5/16 (16)	55 1/2 (141)	75 1/2 (192)	68 1/2 (174)	11 (28)	63 (160)	69 (175)	555 (252)	595 (269)
(A)JWSH100-250	3 (7.6)	27 3/4 (70.5)	6 5/16 (16)	55 1/2 (141)	75 1/2 (192)	75 1/2 (192)	11 (28)	63 (160)	69 (175)	555 (252)	595 (269)
AJWSH130-300	--	33 1/8 (84)	4 7/8 (12)	50 3/4 (129)	75 1/2 (192)	75 1/2 (192)	12 (30.5)	63 (160)	69 (175)	--	885 (408)
AJWSH130-400	--	33 1/8 (84)	4 7/8 (12)	50 3/4 (129)	75 1/2 (192)	75 1/2 (192)	12 (30.5)	63 (160)	69 (175)	--	885 (408)

Water Connections = 1 1/2"