



John Wood®

Hot Water for Life™

PRODUCT GUIDE



ELECTRIC • GAS • OIL • TANKLESS

Visit



John Wood®

online!

We are leaders in residential and commercial water heaters.

 Regional Tech Specialists We're here to help you get exactly what you need. Our regional technical specialists have the expertise, know-how and experience to ensure you get optimal performance from your product - in any climate or installation condition.	 Contractor Rewards With Contractor Rewards you win points from John Wood water heating products you install. Points you can use towards a new set of golf clubs, big screen TV, tools and more. It doesn't cost anything to join & just pays off. Visit contractorreward.com	 Online Support You have access to valuable resources, 24 hours a day, 7 days a week - including over 500 webinars and claims, product resources, FAQs and a media center.	 Reliable Products Our high-quality, advanced manufacturing processes, including robotics, sourcing of critical components and reliability testing for cold climates and harsh water conditions, ensure proper form, fit and function in all our water heaters.
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Visit **www.johnwoodwaterheaters.com** to access valuable information concerning John Wood® products and services such as:

- Parts Catalogue
- Warranty Validation
- ENERGY STAR® qualified products and rebate programs
- Information on products, including specifications and installation manuals
- Literature Request Form
- Frequently Asked Questions
- Resource center for contractors which includes product images and advertising templates

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John Wood® maintains a policy of ongoing product improvement. This may result in modification of features and/or specifications without notice.

John Wood® Water Heaters



When you buy a John Wood water heater, you buy a quality, dependable product. John Wood support is based on First Call, Final Resolution service. Our Care Technicians are driven to provide expert guidance, to identify the issue quickly and assist you until you're satisfied. Support is available 24/7 with online resources, such as the Online Parts Catalogue, Warranty Validation, Product Information and Contractor Resource Centre to help promote your business.



John Wood[®]

DON'T WASTE YOUR ENERGY

WITH ANY OTHER POWER VENT

John Wood
has the most
complete line-up
of Power Vent
water heaters
in their class
and exceed
ENERGY STAR[®]
qualifications
with an amazing
0.70 EF.

Learn more on
Pages 10 and 11
in this catalogue.



Storage-Type

The bottom of the page features several overlapping, wavy, curved lines in various shades of gray, creating a decorative, layered effect.

John Wood® Safety Systems

Flammable Vapour Ignition Resistant (FVIR) technology you can trust.

John Wood residential water heaters use one of three unique Flammable Vapour Ignition Resistant (FVIR) Safety Systems that reduce the risk of accidental fires caused by the ignition of flammable vapours from products such as gasoline, paint thinner and solvents: the Flame Guard® and Flame Safe™ Safety Systems and the Power Vent Safety System.

Flame Guard® Safety System Used on John Wood Atmospheric Vent Water Heaters



The Flame Guard® Safety System is a recognized and proven technology used on John Wood Atmospheric Vent water heaters. The award winning Flame Guard® Safety System protects the consumer by trapping burning vapours within the water heater combustion chamber through the patented "Flame-Trap." As long as the vapours are present and within the flammability range, they will continue to burn safely until they "burn themselves out."

Flame Safe™ Safety System Used on John Wood Direct Vent Water Heaters



Flame Safe™ technology - designed to protect the consumer against the ignition of flammable vapours.

Power Vent Safety System

The Safety System used on John Wood Power Vent water heaters features a flammable vapour sensor and air intake snorkel. This system not only shuts down the unit when flammable vapours are detected in the area of the water heater but elevates the air intake so that flammable vapours do not enter the combustion chamber and ignite before the sensor shuts down the water heater.

Atmospheric Vent

ENERGY STAR® qualified



Features

- Flue damper for increased energy efficiency and performance
- 24 volt gas valve offers: Diagnostic capabilities, monitors damper to ensure proper operation and safety, spark ignition eliminates the need for a standing pilot
- Robust 1/4" pilot tubing
- Durable brass drain valve
- Turbulator dip tube reduces sediment build-up at bottom of the tank
- Glass-lined tank to prolong tank life and prevent corrosion
- Plugs into a standard 110/120v outlet (10 ft. power cord included)
- Combustion chamber is easy to access
- Conveniently located T&P and drain valve for ease of installation and serviceability
- Top mounted heavy duty anode rod for added tank protection



PERFORMANCE

Model	Series	Capacity	Input*	Maximum Certified Altitude	Recovery Rate at 90°F Temperature Rise	First Hour Rating	Energy Factor	BC Compliant
		USG (L)	BTU/h	FT (M)	GPH (LPH)	GPH (LPH)		
NATURAL GAS								
JW840S40N-AV-ES2	100/101	40 (151)	40,000	10,100 (3,078)	41 (155)	67 (254)	0.67	√
JW840T40N-AV-ES2	100/101	40 (151)	40,000	10,100 (3,078)	41 (155)	67 (254)	0.67	√
JW850S40N-AV-ES2	100**	50 (189)	40,000	10,100 (3,078)	41 (155)	81 (307)	0.67	√
JW850T40N-AV-ES2	100/101	50 (189)	40,000	10,100 (3,078)	41 (155)	81 (307)	0.67	√

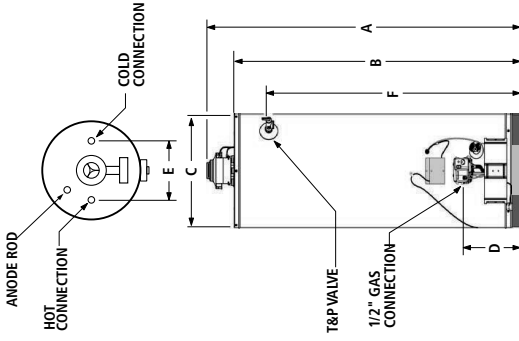
Propane models sub N with P. Natural gas models are series 100. Propane models are series 101.

*Propane Gas – 36,000 for the 40 gallon models and 37,000 for the 50 gallon tall models.

**50 USG Short model is not available for Propane.

DIMENSIONS & SHIPPING WEIGHT

Model	Installation Height	Height to Top of Tank	Tank Diameter	Height to Gas Inlet	Hot Connection to Cold Connection	Height to T&P	Drafthood Connector Diameter	Shipping Weight
	A IN (CM)	B IN (CM)	C IN (CM)	D IN (CM)	E IN (CM)	F IN (CM)	IN	LB (KG)
JW840S40N-AV-E52	54 (137)	47 ¾ (121)	22 (56)	13 (33)	8 (20)	41 (104)	3 or 4	149 (68)
JW840T40N-AV-E52	64 ¼ (163)	58 ¼ (148)	20 (51)	13 (33)	8 (20)	51 ¾ (131)	3 or 4	152 (51)
JW850S40N-AV-E52	55 ¾ (142)	49 ½ (126)	24 (61)	13 (33)	8 (20)	42 ½ (108)	3 or 4	183 (83)
JW850T40N-AV-E52	63 ½ (161)	57 ¼ (145)	22 (56)	13 (33)	8 (20)	50 ¼ (128)	3 or 4	167 (76)



Maximum Hydrostatic Working Pressure: 150 PSI.

Atmospheric Vent

Proven technology and exceptional reliability



Features

- Turbulator dip tube reduces sediment build-up at the bottom of the tank
- Thermopile design provides robust pilot to withstand down drafts and environmental conditions
- Gas valve offers easy temperature adjustments and has LED indicator light for operation, diagnostic and troubleshooting assistance
- Robust 1/4" pilot tubing
- The Flame Guard® Safety System protects the homeowner by trapping burning vapours within the water heater's easy to access combustion chamber
- Conveniently located T&P and drain valve for ease of installation and serviceability
- Piezoelectric ignitor allows for lighting of the pilot without matches
- Top mounted heavy duty anode rod for added tank protection

PERFORMANCE

Model	Series	Capacity	Input†	Maximum Certified Altitude	Recovery Rate at 90°F Temperature Rise	First Hour Rating	Energy Factor	BC Compliant
		USG (L)	BTU/h	FT (M)	GPH (LPH)	GPH (LPH)		
NATURAL GAS								
JW830S35N-AV1	350/351	30 (114)	35,500	10,100 (3,078)	36 (136)	60 (227)	0.63	-
JW840S40N-AV1	350/351	40 (151)	40,000	10,100 (3,078)	41 (155)	66 (250)	0.59	-
JW840S40N-AV	400/401	40 (151)	40,000	10,100 (3,078)	41 (155)	67 (254)	0.62	✓
JW840T40N-AV	400/401	40 (151)	40,000	10,100 (3,078)	42 (159)	70 (265)	0.62	✓
JW850S40N-AV1	350/351	50 (189)	40,000	10,100 (3,078)	41 (155)	93 (352)	0.58	-
JW850S40N-AV	400/401	50 (189)	40,000	10,100 (3,078)	43 (163)	93 (352)	0.61	✓
JW850T40N-AV	400/401	50 (189)	40,000	10,100 (3,078)	42 (159)	88 (333)	0.62	✓
JW860T52N-AV1	400/401	60 (227)	52,200	10,100 (3,078)	54 (204)	104 (344)	0.56	-
JW860T52N-AV	400/401	60 (227)	52,200	10,100 (3,078)	54 (204)	104 (344)	0.58	✓
JW875T75N-AV*	300/301	75 (284)	75,100	7,700 (2,347)	80 (303)	N/A	N/A	✓

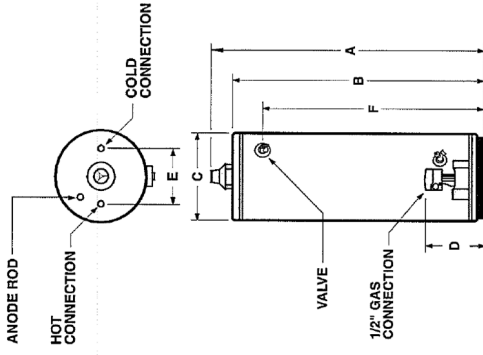
Propane models sub N with P. Natural gas models are series 300/350/400. Propane models are series 301/351/401.

* Side connections available. Add "L" to model number e.g. JW875T75N-AVL

† Propane Gas – 36,000 for the 50 gallon short, 37,000 for the 50 gallon tall, & 36,000 for 40 gallon models and 32,000 input for 30 gallon models.

DIMENSIONS & SHIPPING WEIGHT

Model	Installation Height		Height to Top of Tank		Tank Diameter		Height to Gas Inlet		Hot Connection to Cold Connection		Height to T&P		Draft Hood Connector Diameter		Shipping Weight	
	A	IN (CM)	B	IN (CM)	C	IN (CM)	D	IN (CM)	E	IN (CM)	F	IN (CM)	IN	IN	LB (KG)	LB (KG)
JW830S35N-AV1	50	(127)	46 3/8	(118)	18	(46)	13 1/2	(34)	8	(20)	40	(102)	3 or 4	3 or 4	112	(51)
JW840S40N-AV1	51 1/2	(131)	47 3/4	(121)	20	(51)	13	(33)	8	(20)	41	(104)	3 or 4	3 or 4	126	(57)
JW840S40N-AV	51 1/2	(131)	47 3/4	(121)	22	(56)	13	(33)	8	(20)	41	(104)	3 or 4	3 or 4	135	(61)
JW840T40N-AV	61 3/4	(157)	58 1/4	(148)	20	(51)	13	(33)	8	(20)	51 3/4	(131)	3 or 4	3 or 4	150	(68)
JW850S40N-AV1	53 1/4	(135)	49 1/2	(126)	22	(56)	13	(33)	8	(20)	42 1/2	(108)	3 or 4	3 or 4	163	(74)
JW850S40N-AV	53 1/4	(135)	49 1/2	(126)	24	(61)	13	(33)	8	(20)	42 1/2	(108)	3 or 4	3 or 4	175	(79)
JW850T40N-AV	61	(155)	57 1/4	(145)	22	(56)	13	(33)	8	(20)	50 1/4	(128)	4	4	165	(75)
JW860T52N-AV1	62 3/4	(159)	59	(150)	22	(56)	13	(33)	8	(20)	51 1/2	(131)	4	4	192	(87)
JW860T52N-AV	62 3/4	(159)	59	(150)	24	(61)	13	(33)	8	(20)	51 1/2	(131)	4	4	205	(93)
JW875T75N-AV*	61	(155)	57	(145)	26 1/2	(67)	14 3/4	(37)	8	(20)	50 1/4	(128)	4	4	273	(124)



Power Vent

ENERGY STAR® qualified



Features

- Industry-leading energy efficient power vent, with a 0.70 EF
- ENERGY STAR® qualified (except 60 and 75 gallon models)
- State-of-the-art electronic gas control features advanced self-diagnostic capability that makes troubleshooting easy
- Ideal as a replacement water heater in a variety of installation applications due to 3-position rotatable blower
- Can be vented with 2", 3" or 4" ULC S636 PVC, CPVC or polypropylene pipe
- Vertical or horizontal venting configurations
- Convenient 3/4" side taps for combination applications on 50 USG high-input and 75 USG models



PERFORMANCE

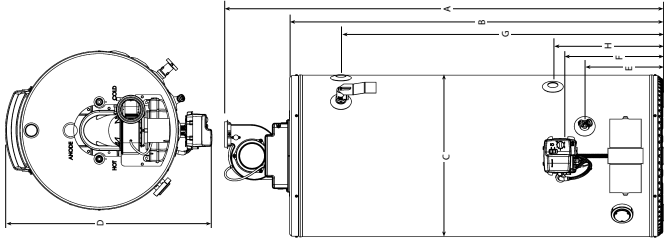
Model	Series	Capacity	Input	Maximum Certified Altitude	Recovery Rate at 90°F Temperature Rise	First Hour Rating	Energy Factor
		USG (L)	BTU/h	FT (M)	GPH (LPH)	GPH (LPH)	
NATURAL GAS							
JW840S40N-PV-ES2	200/201	40 (151)	40,000	10,100 (3,078)	44 (167)	73 (276)	0.70
JW840T50N-PV-ES2	200/201	40 (151)	50,000	10,100 (3,078)	50 (189)	90 (341)	0.70
JW850S40N-PV-ES2	200/201	50 (189)	40,000	10,100 (3,078)	55 (208)	90 (341)	0.70
JW850T50N-PV-ES2	200/201	50 (189)	50,000	10,100 (3,078)	50 (189)	96 (363)	0.70
JW850S62N-PV-ES2	200/201	50 (189)	62,000	10,100 (3,078)	69 (261)	110 (416)	0.70
JW860S42N-PV-ES2	200/201	60 (227)	42,000	10,100 (3,078)	46 (174)	106 (401)	0.70
JW875T76N-PV-ES2	210/211	75 (284)	76,000	10,100 (3,078)	83 (314)	155 (587)	N/A

For propane models sub N with P. Natural gas models are series 200/210. Propane models are series 201/211. All models are BC compliant

DIMENSIONS & SHIPPING WEIGHT

Model	Installation Height	Height to Top of Tank	Tank Diameter	Overall Depth	Height to Drain Valve	Height to Gas Inlet	Height to T&P	Height to Upper Side Connection	Height to Lower Side Connection	Shipping Weight
	A IN (CM)	B IN (CM)	C IN (CM)	D IN (CM)	E IN (CM)	F IN (CM)	G IN (CM)	G IN (CM)	H IN (CM)	LB (KG)
NATURAL GAS										
JW840S40N-PV-ES2	59 (150)	49 5/8 (126)	22 (56)	29 1/8 (74)	11 (28)	13 1/4 (34)	42 1/2 (108)	N/A	N/A	174 (79)
JW840T50N-PV-ES2	68 1/2 (174)	59 1/4 (150)	20 (51)	27 1/8 (69)	11 (28)	13 1/4 (34)	53 1/8 (135)	N/A	N/A	176 (80)
JW850S40N-PV-ES2	60 1/8 (153)	50 3/4 (129)	24 (61)	31 1/8 (79)	11 (28)	13 1/4 (34)	43 3/4 (111)	N/A	N/A	198 (90)
JW850T50N-PV-ES2	68 1/8 (173)	58 3/4 (149)	22 (56)	29 1/8 (74)	11 (28)	13 1/4 (34)	51 3/4 (131)	N/A	N/A	192 (87)
JW850S62N-PV-ES2*	61 1/8 (155)	52 (132)	24 (61)	31 1/8 (79)	11 (28)	13 1/4 (34)	44 1/2 (113)	44 1/2 (113)	15 1/4 (39)	212 (96)
JW860S42N-PV-ES2	67 1/4 (171)	57 7/8 (147)	24 (61)	31 1/8 (79)	11 (28)	13 1/4 (34)	50 3/8 (128)	N/A	N/A	216 (98)
JW875T76N-PV-ES2*	70 3/8 (179)	61 1/4 (156)	26 (66)	33 1/8 (84)	11 (28)	13 1/4 (34)	53 (135)	53 (135)	15 1/4 (39)	277 (126)

* Model has side connections



Power Direct Vent

ENERGY STAR® qualified



Features

- ENERGY STAR® qualified (except 75 gallon model)
- Sealed combustion chamber design, eliminating the need for a FV sensor
- Ultra-quiet blower
- Convenient 3/4" side water connections for combination applications on high input 62,000 and 76,000 BTU units
- Can be vented with 2", 3" or 4" ULC S636 PVC, CPVC or polypropylene pipe up to 180 equivalent feet (see installation manual for full details)
- Zero clearance to combustibles
- Factory-installed heat trap nipples



PERFORMANCE

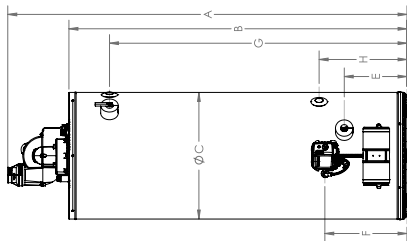
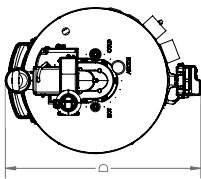
Model	Series	Capacity	Input	Maximum Certified Altitude	Recovery Rate at 90°F Temperature Rise	First Hour Rating	Energy Factor
		USG (L)	BTU/h	FT (M)	GPH (LPH)	GPH (LPH)	
NATURAL GAS							
JW840S40N-PDV-ES2	200/201	40 (151)	40,000	10,100 (3,078)	44 (167)	71 (269)	0.71
JW850T45N-PDV-ES2	200/201	50 (189)	45,000	10,100 (3,078)	50 (189)	93 (352)	0.70
JW850T62N-PDV-ES2	200/201	50 (189)	62,000*	10,100 (3,078)	69 (261)	115 (435)	0.71
JW875T76N-PDV-ES2	210/211	75 (284)	76,000	10,100 (3,078)	83 (314)	N/A	N/A

For propane models sub N for P. Natural gas models are series 200/210. Propane models are series 201/211.

* 58,000 BTU/h for propane model

Side connections standard on 62,000 and 76,000 BTU high input models

All models are BC compliant



DIMENSIONS & SHIPPING WEIGHT

Model	Installation Height	Height to Top of Tank	Tank Diameter	Overall Depth	Height to Drain Valve	Height to Gas Inlet	Height to T&P	Height to Upper Side Connection	Height to Lower Side Connection	Vent Diameter	Shipping Weight
	A IN (CM)	B IN (CM)	C IN (CM)	D IN (CM)	E IN (CM)	F IN (CM)	G IN (CM)	G IN (CM)	H IN (CM)	IN	LB (KG)
NATURAL GAS											
JW840S40N-PDV-ES2	58 1/4 (148)	49 1/2 (126)	22 (56)	29 7/8 (76)	11 (28)	13 3/4 (34)	42 3/8 (108)	N/A	N/A	2, 3 or 4	174 (79)
JW850T45N-PDV-ES2	67 1/2 (171)	58 7/8 (150)	22 (56)	29 7/8 (76)	11 (28)	13 3/4 (34)	51 3/4 (131)	N/A	N/A	2, 3 or 4	192 (87)
JW850T62N-PDV-ES2	68 7/8 (175)	60 1/4 (153)	22 (56)	29 7/8 (76)	11 (28)	13 3/4 (34)	52 3/4 (134)	52 3/4 (134)	15 1/4 (39)	3 or 4	200 (91)
JW875T76N-PDV-ES2	70 3/8 (179)	60 1/2 (154)	26 (66)	33 3/8 (86)	11 (28)	13 3/4 (34)	53 (134)	53 (134)	15 1/4 (39)	3 or 4	277 (126)

Direct Vent



A unique balanced flue design



Features

- Thermopile design provides robust pilot to withstand down drafts and environmental conditions
- LED indicator light lets you know when pilot is in operation and provides diagnostic capabilities
- Easy temperature adjustment
- Use outside air for combustion
- Meet latest NRCAN energy efficiency standards
- No external power supply required
- 90" coaxial vent supplied with water heater
- Factory-installed plastic-lined nipples with heat traps
- Sealed combustion chamber design, eliminating the need for a flammable vapour sensor
- Flame Safe™ FVIR technology



PERFORMANCE

Model	Series	Capacity	Input	Maximum Certified Altitude	Recovery Rate at 90° F Temperature Rise	First Hour Rating	Energy Factor
		USG (L)	BTU/h	FT (M)	GPH (LPH)	GPH (LPH)	
JW840S38N-DV	300/301	40 (151)	38,000	7,700 (2,347)	42 (159)	72 (273)	0.63
JW850T40N-DV	300/301	50 (189)	40,000	7,700 (2,347)	43 (163)	91 (344)	0.62
JW850T47N-DV*	300/301	50 (189)	47,000	7,700 (2,347)	51 (193)	92 (348)	0.61

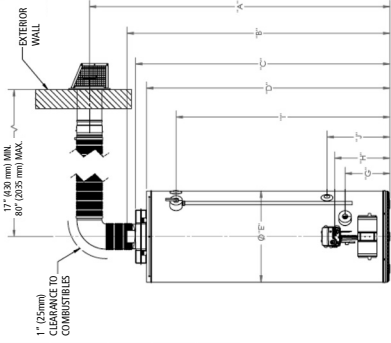
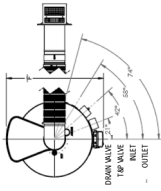
For propane models sub N with P. Natural gas models are series 300. Propane models are series 301.

*Model has side connections.

All models are BC compliant

DIMENSIONS & SHIPPING WEIGHT

Model	Height to Center of Vent	Height to Top of Flue Outlet	Height to Top of Air Box	Height to Top of Heater	Diameter	Overall Depth	Height to Drain	Height to Gas Inlet	Height to T&P	Height to Side Tap (Hot Out)	Height to Side Tap (Cold In)	Shipping Weight
	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)	I IN (CM)	J IN (CM)	LB (KG)
JW840S38N-DV	64 (163)	54 ³ / ₈ (138)	52 ¹ / ₂ (134)	49 ⁵ / ₈ (126)	22 (56)	29 (74)	10 ³ / ₄ (27)	13 ³ / ₄ (34)	42 ³ / ₈ (108)	N/A	N/A	178 (81)
JW850T40N-DV	73 (185)	63 ⁵ / ₈ (162)	61 ³ / ₄ (157)	58 ⁷ / ₈ (150)	22 (56)	29 (74)	10 ³ / ₄ (27)	13 ³ / ₄ (34)	51 ⁵ / ₈ (132)	N/A	N/A	200 (91)
JW850T47N-DV*	74 (188)	64 ³ / ₈ (164)	62 ⁷ / ₈ (160)	60 (152)	22 (56)	29 (74)	10 ³ / ₄ (27)	13 ³ / ₄ (34)	52 ³ / ₄ (134)	52 ³ / ₄ (134)	15 ¹ / ₄ (39)	215 (98)



Envirosense® Power Direct Vent

96% Thermal Efficiency



50 Gallon Model Shown

Features

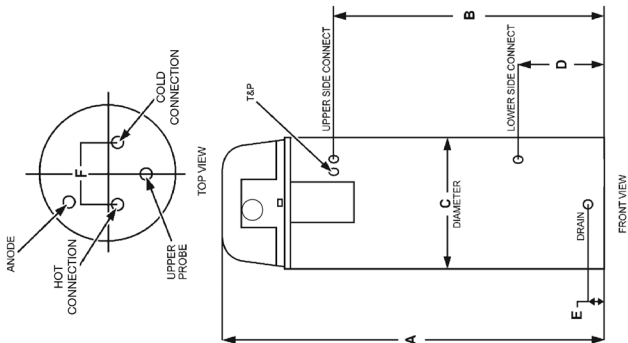
- Power Direct Vent design for installation versatility vents up to 128 equivalent feet using ULC S636 PVC, CPVC or polypropylene pipe (See manual for complete details)
- ENERGY STAR® qualified
- Side water connections for recirculating systems
- Advanced electronic control with large LCD display
- Glass-lined tank with two magnesium anode rods
- Fully submerged, spiral-shaped condensing heat exchanger
- Concentric vent kits and condensate neutralizer kits available
- Approved for one-pipe (PV) or two-pipe (PDV) venting



PERFORMANCE

Model	Series	Capacity		Maximum Certified Altitude	Input	Recovery Rate at 90°F Temperature Rise	Thermal Efficiency
		USG	L	FT (M)	BTU/h	GPH (LPH)	
NATURAL GAS							
6G50100NPDVH02	140/141	50	189	10,100 (3,078)	100,000	128 (485)	96%
6G75100NPDVH02	140/141	75	284	10,100 (3,078)	100,000	128 (485)	96%

For propane models sub N with P. Natural gas models are series 140. Propane models are series 141. All models are BC compliant



DIMENSIONS & SHIPPING WEIGHT											
Model	Height to Top of Tank	Height to T&P	Height to Upper Side Connection	Tank Diameter	Height to Lower Side Connection	Height to Drain Valve	Outlet to Inlet	Top Water Connections	Side Water Connections	Gas Connection	Shipping Weight
	IN (CM)	IN (CM)	IN (CM)	IN (CM)	IN (CM)	IN (CM)	IN (CM)	IN NPT	IN NPT	IN NPT	LB (KG)
NATURAL GAS											
6G50100NPDVH02*	66 3/4 (170)	49 1/4 (125)	49 1/4 (125)	22 (56)	15 3/4 (40)	3 (8)	8 (20)	3/4	3/4	1/2	255 (116)
6G75100NPDVH02*	65 1/4 (166)	45 5/8 (116)	45 5/8 (116)	27 3/4 (71)	16 (41)	3 3/4 (10)	8 (20)	1	3/4	1/2	382 (173)

*Model has side connections.

Envirosense® Power Vent

90% Thermal Efficiency



50 Gallon Model Shown

Features

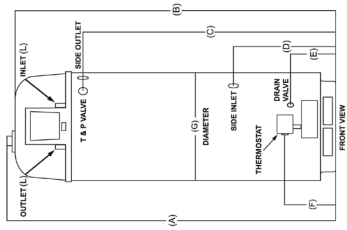
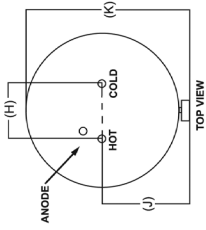
- Power Vent design for installation versatility that vents up to 125 equivalent feet using ULC S636 PVC, CPVC or polypropylene pipe (See manual for complete details)
- Side-mounted taps for recirculating systems
- Intelli-Vent™ gas control with silicon nitride hot surface igniter
- Commercial-grade glass lining with two magnesium anode rods
- Available in Natural Gas only
- Diffuser dip tube helps reduce lime and sediment build-up to, maximize hot water output



PERFORMANCE

Model	Series	Capacity		Maximum Certified Altitude	Input	Recovery Rate at 90°F Temperature Rise	Thermal Efficiency
		USG	L	FT (M)	BTU/h	GPH (LPH)	
NATURAL GAS							
6G5076NVC02	110	50	189	5,300 (1,615)	76,000	91 (344)	90%

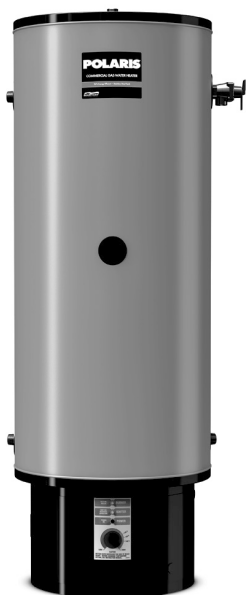
Model is BC compliant



DIMENSIONS & SHIPPING WEIGHT													
Model	Installation Height	Height to Top of Tank	Height to Upper Side Connection	Height to Lower Side Connection	Height to Drain Valve	Height to Thermostat	Tank Diameter	Hot Connection to Cold Connection	Water Connection Depth From Front of Tank	Overall Depth	Top Water Connections	Side Water Connections	Shipping Weight
	A	B	C	D	E	F	G	H	J	K	IN NPT	IN NPT	LB (KG)
NATURAL GAS													
665076NVC02*	71 (180)	68 ⁵ / ₈ (174)	52 (132)	21 (53)	9 ¹ / ₈ (23)	12 (30)	22 (56)	8 (20)	15 ³ / ₄ (40)	27 (69)	¾	¾	210 (95)

Natural gas only.

*Model has side connections.



Features

- High grade stainless steel tank with brass connections for years of dependable service – no anode required
- A submerged combustion chamber with spiral flue provides up to 96% thermal efficiency and ultra-low standby heat loss of approximately 1%
- Whisper quiet operation
- Self-diagnostic control system
- Fully serviceable from the front
- Direct vents up to 120' using ULC S636 PVC or CPVC pipe either through the wall or through the roof
- The perfect choice for combination systems

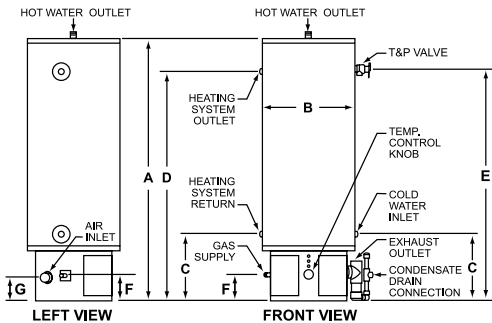


PR100-34-2NV
model only

PERFORMANCE

Model	Capacity		Maximum Certified Altitude	Input	Recovery Rate at 90°F Temperature Rise	Thermal Efficiency
	USG	L				
NATURAL GAS						
PR100-34-2NV	34	129	11,000 (3,353)	100,000	129 (488)	96%
PR130-34-2NV	34	129	11,000 (3,353)	130,000	168 (636)	96%
PR150-34-2NV	34	129	11,000 (3,353)	150,000	192 (727)	95%
PR130-50-2NV	50	189	11,000 (3,353)	130,000	166 (628)	95%

All models are BC compliant



DIMENSIONS & SHIPPING WEIGHT

Model	Height to Top of Tank	Tank Diameter	Height to Heating System Return	Height to Cold Water Inlet	Height to Heating System Outlet	Height to T&P	Height to Gas Supply	Height to Air Inlet	Water Connections	Gas Connections	Vent Diameter	Shipping Weight
	A IN (CM)	B IN (CM)	C IN (CM)	C IN (CM)	D IN (CM)	E IN (CM)	F IN (CM)	G IN (CM)	IN NPT	IN NPT	IN	LB (KG)
NATURAL GAS												
PR100-34-2NW*	48 1/2 (123)	22 (56)	15 3/4 (40)	15 3/4 (40)	40 1/2 (103)	41 (104)	6 1/8 (16)	6 7/8 (16)	1	1/2	2 or 3	150 (68)
PR130-34-2NW*	48 1/2 (123)	22 (56)	15 3/4 (40)	15 3/4 (40)	40 1/2 (103)	41 (104)	6 1/8 (16)	6 7/8 (16)	1	1/2	2 or 3	150 (68)
PR150-34-2NW*	48 1/2 (123)	22 (56)	15 3/4 (40)	15 3/4 (40)	40 1/2 (103)	41 (104)	6 1/8 (16)	6 7/8 (16)	1	1/2	2 or 3	150 (68)
PR130-50-2NW*	62 1/2 (159)	22 (56)	15 3/4 (40)	15 3/4 (40)	54 1/2 (138)	55 (140)	6 1/8 (16)	6 7/8 (16)	1	1/2	2 or 3	176 (80)

For propane models sub N for P. Input, output and recovery may vary depending upon air inlet and exhaust outlet installations, consult manual for details.

*Model has side connections.

Electric

Unique features and a broad range of models and sizes



Features

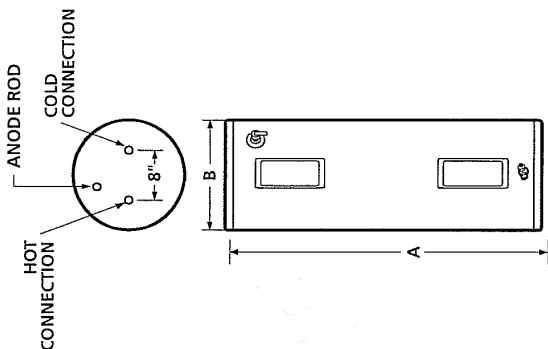
- Meets and exceeds NRCan energy efficiency standards
- Wide variety of models available to meet energy efficiency compliance standards nationwide
- Patented Styropour® base for added energy efficiency
- Exclusive TankSaver® design to prolong tank life
- Glass-lined tank for longer life
- Factory-installed plastic-lined nipples
- Thermostatically controlled, long life elements
- Brass drain valve
- Quick recovery models available, suitable for the builder market
- CFC-free foam insulation
- Conveniently located T&P and drain valve for ease of installation and serviceability
- Removable anode



SPECIFICATIONS

Model	Series	Capacity			Elements (Upper and Lower)		Standby Loss WATTS	First Hour Rating GPH (LPH)
		IG	USG	L	WATTS	VOLTS		
TOP ENTRY								
JW850SDE-30X	250	40	50	182	3000	208	57	60 (227)
JW850SDE-30	250	40	50	182	3000	240	57	60 (227)
JW850SDE1-30X	260	40	50	182	3000	208	66	60 (227)
JW850SDE1-30	260	40	50	182	3000	240	66	60 (227)
JW850SDE-45X	250	40	50	182	4500	208	57	60 (227)
JW850SDE-45	250	40	50	182	4500	240	57	60 (227)
JW850SDE1-45X	260	40	50	182	4500	208	66	60 (227)
JW850SDE1-45	260	40	50	182	4500	240	66	60 (227)
JW850SDE-55X	250	40	50	182	5500	208	57	60 (227)
JW850SDE-60	250	40	50	182	6000	240	57	60 (227)
JW850SDE1-55X	260	40	50	182	5500	208	66	60 (227)
JW850SDE1-60	260	40	50	182	6000	240	66	60 (227)
JW880TDE-30X	250	60	80	284	3000	208	78	81 (307)
JW880TDE-30	250	60	80	284	3000	240	78	81 (307)
JW880TDE-45X	250	60	80	284	4500	208	78	81 (307)
JW880TDE-45	250	60	80	284	4500	240	78	81 (307)
JW880TDE-55X	250	60	80	284	5500	208	78	81 (307)
JW880TDE-60	250	60	80	284	6000	240	78	81 (307)
TOP ENTRY, INCOLOY ELEMENT								
JW850SDE1-38	260	40	50	182	3800	240	66	60 (227)
JW850SDE-38	250	40	50	182	3800	240	57	60 (227)
JW880TDE-38	250	60	80	284	3800	240	78	81 (307)
BOTTOM ENTRY								
JW850SDEB-30X	250	40	50	182	3000	208	66	60 (227)
JW850SDEB-30	250	40	50	182	3000	240	66	60 (227)
JW850SDEB-45X	250	40	50	182	4500	208	66	60 (227)
JW850SDEB-45	250	40	50	182	4500	240	66	60 (227)
JW880TDEB-30X	250	60	80	284	3000	208	82	81 (307)
JW880TDEB-30	250	60	80	284	3000	240	82	81 (307)
JW880TDEB-45X	250	60	80	284	4500	208	82	81 (307)
JW880TDEB-45	250	60	80	284	4500	240	82	81 (307)

Series 250 models are BC/ON compliant



SPECIFICATIONS

Model	Height to Top of Tank A	Diameter B	Shipping Weight
	IN (CM)	IN (CM)	LB (KG)
TOP ENTRY			
JW850SDE-30X	48 ¾ (124)	22 (56)	125 (57)
JW850SDE-30	48 ¾ (124)	22 (56)	125 (57)
JW850SDE1-30X	48 (122)	21 ½ (55)	121 (55)
JW850SDE1-30	48 (122)	21 ½ (55)	121 (55)
JW850SDE-45X	48 ¾ (124)	22 (56)	125 (57)
JW850SDE-45	48 ¾ (124)	22 (56)	125 (57)
JW850SDE1-45X	48 (122)	21 ½ (55)	121 (55)
JW850SDE1-45	48 (122)	21 ½ (55)	121 (55)
JW850SDE-55X	48 ¾ (124)	22 (56)	125 (57)
JW850SDE-60	48 ¾ (124)	22 (56)	125 (57)
JW850SDE1-55X	48 (122)	21 ½ (55)	121 (55)
JW850SDE1-60	48 (122)	21 ½ (55)	121 (55)
JW880TDE-30X	60 ½ (154)	24 (61)	170 (77)
JW880TDE-30	60 ½ (154)	24 (61)	170 (77)
JW880TDE-45X	60 ½ (154)	24 (61)	170 (77)
JW880TDE-45	60 ½ (154)	24 (61)	170 (77)
JW880TDE-55X	60 ½ (154)	24 (61)	170 (77)
JW880TDE-60	60 ½ (154)	24 (61)	170 (77)
TOP ENTRY, INCOLOY ELEMENT			
JW850SDE1-38	48 (122)	21 ½ (55)	121 (55)
JW850SDE-38	48 ¾ (124)	22 (56)	125 (57)
JW880TDE-38	60 ½ (154)	24 (61)	170 (77)
BOTTOM ENTRY			
JW850SDEB-30X	48 (122)	22 (56)	122 (55)
JW850SDEB-30	48 (122)	22 (56)	122 (55)
JW850SDEB-45X	48 (122)	22 (56)	122 (55)
JW850SDEB-45	48 (122)	22 (56)	122 (55)
JW880TDEB-30X	60 ½ (154)	24 (61)	170 (77)
JW880TDEB-30	60 ½ (154)	24 (61)	170 (77)
JW880TDEB-45X	60 ½ (154)	24 (61)	170 (77)
JW880TDEB-45	60 ½ (154)	24 (61)	170 (77)

Space Saver® Electric

Put hot water right where you need it



Features

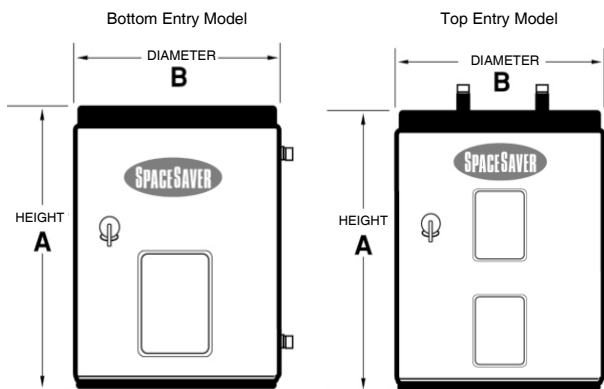
- Designed for installation in cottages, offices, mobile homes and other applications where space is limited
- Meets NRCAN energy efficiency standards
- Personnel protector covers elements and controls for added safety



SPECIFICATIONS

Model	Series	Capacity			Input		Recovery Rate at 90°F Temperature Rise	Standby Loss
		IG	USG	L	WATTS	VOLTS	GPH (LPH)	WATTS
PLUG IN SINGLE ELEMENT MODEL								
SS025SE15	N/A	2	2.5	10	1500	120	7 (26)	N/A
BOTTOM ENTRY SINGLE ELEMENT MODELS								
SS06SEB15	N/A	5	6	23	1500	120	7 (26)	N/A
SS06SEB30	N/A	5	6	23	3000	240	14 (53)	N/A
SS12SEB15	N/A	9	12	43	1500	120	7 (26)	N/A
SS12SEB30	N/A	9	12	43	3000	240	14 (53)	N/A
SS620SSEB-15K	100	14	19	65	1500	120	7 (26)	51
SS620SSEB-30	100	14	19	65	3000	240	14 (53)	51
SS630SSEBN-15K	100	22	30	108	1500	120	7 (26)	48
SS630SSEBN-30	100	22	30	108	3000	240	14 (53)	48
TOP ENTRY DOUBLE ELEMENT MODELS								
SS640SDE3-15K	100	30	40	143	1500	120	7 (26)	54
SS640SDE3-30X	100	30	40	143	3000	208	14 (53)	54
SS640SDE3-30	100	30	40	143	3000	240	14 (53)	54
SS650SDE1-30	260	40	50	182	3000	240	14 (53)	66
SS650SDE-30	250	40	50	182	3000	240	14 (53)	57
SS680TDE-45	250	60	80	284	4500	240	20 (76)	78
LOWBOY TOP ENTRY DOUBLE ELEMENT MODELS								
SS630LDE-45	250	22	30	108	4500	240	20 (76)	53
SS640LDE-45	250	30	40	143	4500	240	20 (76)	62
SS650LDE-45	250	40	50	182	4500	240	20 (76)	64

All models except LOWBOY TOP ENTRY DOUBLE ELEMENT MODELS are BC/ON compliant. SS630LDE-45 and SS640LDE-45 are ON compliant.



SPECIFICATIONS

Model	Height	Diameter*	Width	Shipping Weight
	A IN (CM)	B IN (CM)	C IN (CM)	LB (KG)
PLUG IN SINGLE ELEMENT MODEL				
SS025SE15	14 (36)	11 (28)	14 (36)	20 (9)
BOTTOM ENTRY SINGLE ELEMENT MODELS				
SS065EB15	15 ¼ (39)	14 ¼ (36)	N/A	35 (16)
SS065EB30	15 ¼ (39)	14 ¼ (36)	N/A	35 (16)
SS125EB15	22 ¾ (58)	16 (41)	N/A	55 (25)
SS125EB30	22 ¾ (58)	16 (41)	N/A	55 (25)
SS620SSEB-15K	25 ½ (65)	20 (51)	N/A	65 (30)
SS620SSEB-30	25 ½ (65)	20 (51)	N/A	65 (30)
SS630SSEBN-15K	30 (76)	22 (56)	N/A	101 (46)
SS630SSEBN-30	30 (76)	22 (56)	N/A	101 (46)
TOP ENTRY DOUBLE ELEMENT MODELS				
SS640SDE3-15K	50 (127)	22 (56)	N/A	103 (47)
SS640SDE3-30X	50 (127)	22 (56)	N/A	103 (47)
SS640SDE3-30	50 (127)	22 (56)	N/A	103 (47)
SS650SDE1-30	48 (122)	21 ½ (55)	N/A	121 (55)
SS650SDE-30	48 ¾ (124)	22 (56)	N/A	125 (57)
SS680TDE-45	60 ½ (154)	24 (61)	N/A	170 (77)
LOWBOY TOP ENTRY DOUBLE ELEMENT MODELS				
SS630LDE-45	31 (79)	22 (56)	N/A	96 (44)
SS640LDE-45	33 ½ (85)	24 (61)	N/A	113 (51)
SS650LDE-45	34 (86)	26 ½ (67)	N/A	164 (74)

*Depth on model SS025SE15

Oil-Fired

Models for virtually every application



Features

- Glass-lined inner tank and sacrificial magnesium anodes extend tank life
- Universal mounting design fits most burners
- Ceramic fibre combustion chamber maximizes heat retention
- Supplied with a blocked flue safety switch
- Suitable for combination applications, potable water and space heating



Oil burners designed by Beckett™

- Easy to install
- AFG Burner comes with Beckett Clean Cut Fuel Unit, Beckett R7184 Series 5 Primary Control, self-centering Nozzle Line Electrode Assembly and one piece Flame Retention Head

PERFORMANCE

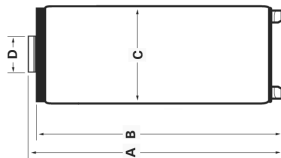
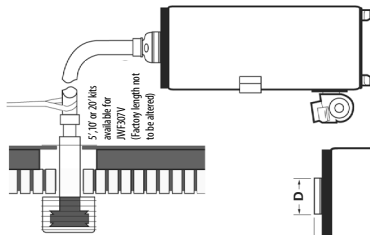
Model	Series	Capacity	Input	Standard Firing Rate	Recovery Rate at 90°F Temperature Rise	First Hour Rating	Energy Factor
		USG (L)	BTU/h	USG/h	GPH (LPH)	GPH (LPH)	
CENTER-FLUE							
JW6 F307	400	32 (121)	84,000 - 105,000	0.60 - 0.75	120 (454)	113 (428)	0.62
JW6 F507	400	50 (189)	105,000	0.75	126 (477)	145 (549)	0.62
DIRECT VENT**							
JW6 F307V	400	32 (121)	91,000	0.65	103 (390)	113 (428)	0.62

**Direct vent models must use vent kit and burner supplied by John Wood®. Burner must be model-specified with pre-purge and post-purge features. Burners are sold separately and warranted by the burner manufacturer.

All models are ON compliant

DIMENSIONS & SHIPPING WEIGHT

Model	Installation Height		Height to Top of Tank	Tank Diameter	Vent Diameter	Tube Insertion Length	Water Connection	Shipping Weight
	A IN (CM)	B IN (CM)	C IN (CM)	D IN (CM)	IN (CM)	IN (CM)	IN (NPT)	LB (KG)
CENTER-FLUE								
JW6 F307	52 ¾ (134)	50 ¾ (129)	20 (51)	6 (15)	4 ¾ (12)	¾		172 (78)
JW6 F507	60 ½ (154)	58 ½ (149)	22 (56)	6 (15)	5 ¾ (15)	¾		214 (97)
DIRECT VENT								
JW6 F307V	52 ¾ (134)	50 ¾ (129)	20 (51)	6 (15)	4 ¾ (12)	¾		172 (78)



OIL BURNERS, VENT KITS & GASKETS

Part Number	Description
CENTER-FLUE	
GSW1801	Beckett oil burner, for model JW6 F307, single aquastat
GSW1802	Beckett oil burner, for model JW6 F307, dual aquastat
GSW1901	Beckett oil burner for JW6 507, single aquastat
GSW1902	Beckett oil burner for JW6 507, dual aquastat

OIL BURNERS, VENT KITS & GASKETS

Part Number	Description
DIRECT VENT	
GSW2001	Beckett oil burner for JW6 F307V, single aquastat
GSW2002	Beckett oil burner for JW6 F307V, dual aquastat
63321	10' vent kit, includes termination, cage and adapter
63322	20' vent kit, includes termination, cage and adapter
63400	3" clamp and teflon gasket
63401	6" clamp and teflon gasket

Storage Booster Tanks

Exclusive, patented innovation

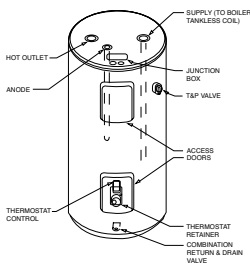
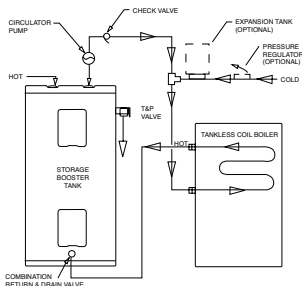


Features

- Available in 40, 50, and 80 gallon capacities to meet the hot water requirements of modern households
- Glass-lined inner tanks for long life
- Automatic temperature control through adjustable thermostat

DIMENSIONS & SHIPPING WEIGHT

Model	Capacity	Water Connections	Height to Top of Tank	Tank Diameter	Height to T&P	Approximate Shipping Weight
	USG (L)	IN (NPT)	IN (CM)	IN (CM)	IN (CM)	LB (KG)
JWSB-40	40 (151)	¾	40 (102)	20 ½ (52)	37 ¾ (96)	103 (47)
JWSB-50	50 (189)	¾	48 (122)	21 ½ (55)	40 ½ (103)	123 (56)
JWSB-80	80 (303)	¾	60 ½ (154)	22 ½ (57)	52 (132)	175 (79)



Flow THRU®

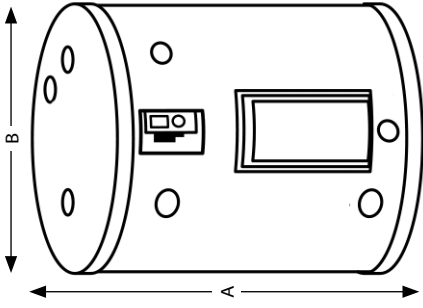
Storage tanks specifically designed to complement our series of tankless water heaters



Features

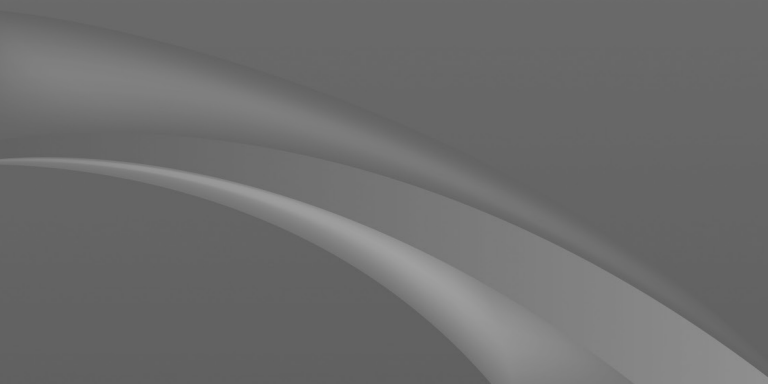
- Exclusive TankSaver® design works to prolong tank life
- Factory-installed dielectric nipples for ease of installation
- T&P valve conveniently located on the side
- Top access junction box for convenient electrical hook-up
- Equipped with an adjustable thermostat, pre-wired and ready for connection to a circulator pump





SPECIFICATIONS							
Model	Series	Capacity		Height A IN (CM)	Diameter B IN (CM)	Water Connections	Shipping Weight LB (KG)
		USG	L				
GST 20	200	19	67	25 1/2 (65)	19 (48)	3/4	65 (29)
GST 30	200	30	108	31 1/2 (80)	22 (56)	3/4	94 (43)

Tankless





Powered by  **TAKAGI**

The John Wood powered by Takagi condensing tankless water heaters provide endless hot water *. The durable primary heat exchanger is made of commercial-grade copper while the secondary heat exchanger is made of Type 316L stainless steel, preventing corrosion and prolonging the life of the heater. These direct vent models combine durability and versatility in an easy-to-install space-saving design.



Features of Condensing Tankless Models:

- Integrated temperature and error display
- Advanced safety features
- ENERGY STAR® qualified with a 0.95 EF
- ULC S636 PVC, CPVC, polypropylene pipe or Cat. III/IV stainless steel venting
- Internal freeze protection system

*When sized appropriately

John Wood® powered by Takagi Tankless

High-efficiency condensing models



Features

- ENERGY STAR® qualified
- 0.95 Energy Factor
- Advanced safety features help prevent scalding dangers
- High-efficiency units cut water heating costs and conserve energy
- Durable primary heat exchanger is made of commercial-grade copper while the secondary heat exchanger is made of Type 316L stainless steel, preventing corrosion and prolonging the life of the heater
- Available inputs: up to 199,000 BTU
- Can be vented using ULC S636 PVC, CPVC, polypropylene pipe or Cat. III/IV stainless steel
- Factory-installed power cord and integrated controls
- Concentric vent kit available
- Fully modulating
- Easy-link up to 4 units with no additional accessories (JWT-540H model only)
- Multi-link up to 20 units with a multi-unit controller (JWT-540H model only)

Flow Rate Guide

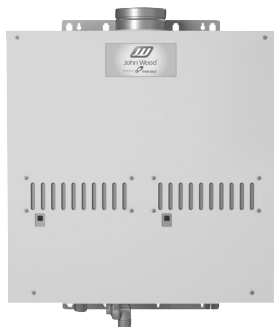
Temperature Rise vs. Gallons per minute

Temperature Rise (°F)	JWT-240H	JWT-340H	JWT-540H
30	6.6	8.0	10.0
35	6.6	8.0	10.0
40	6.6	8.0	9.5
45	6.6	7.6	8.4
50	6.1	6.8	7.6
55	5.5	6.2	6.9
60	5.1	5.7	6.3
65	4.7	5.3	5.8
70	4.3	4.9	5.4
75	4.1	4.6	5.0
80	3.8	4.3	4.7
85	3.6	4.0	4.4
90	3.4	3.8	4.2
95	3.2	3.6	4.0
100	3.0	3.4	3.8

Flow rate is determined by temperature rise. To determine your temperature rise, subtract the incoming water temperature from the set output temperature. All units are factory set to 120°F or 122°F but can be changed. Flow rates are based on default set temperatures.

PERFORMANCE & DIMENSIONS

Model	Application	Input	Flow Rate GPM at 70°F Rise	Energy Factor	Height	Width	Depth	Shipping Weight
		BTU/h						
NATURAL GAS								
JWT-240H-DV-N	Residential	15,000 - 160,000	4.3	0.95	22 ½ (57)	17 ¾ (45)	10 ¾ (27)	58 (26)
JWT-340H-DV-N	Residential	15,000 - 180,000	4.9	0.95	22 ½ (57)	17 ¾ (45)	10 ¾ (27)	58 (26)
JWT-540H-DV-N	Residential/ Commercial	15,000 - 199,000	5.4	0.95	22 ½ (57)	17 ¾ (45)	10 ¾ (27)	59 (27)
PROPANE								
JWT-240H-DV-P	Residential	13,000 - 160,000	4.3	0.95	22 ½ (57)	17 ¾ (45)	10 ¾ (27)	58 (26)
JWT-340H-DV-P	Residential	13,000 - 180,000	4.9	0.95	22 ½ (57)	17 ¾ (45)	10 ¾ (27)	58 (26)
JWT-540H-DV-P	Residential/ Commercial	13,000 - 199,000	5.4	0.95	22 ½ (57)	17 ¾ (45)	10 ¾ (27)	59 (27)



Features

- Durable primary heat exchanger is made of commercial-grade copper which has 8 times the tensile strength of standard copper and prevents corrosion, prolonging the life of the heater
- Built-in freeze protection
- Advanced safety features help prevent scalding dangers
- Factory-installed power cord
- Easy-link up to 4 units with no additional accessories (JWT-910 model only)
- Multi-link up to 10 units with a multi-unit controller (JWT-910 model only)

Flow Rate Guide

Temperature Rise vs. Gallons per minute

Temperature Rise (°F)	JWT-110	JWT-310	JWT-510	JWT-910
30	6.6	8.0	10.0	14.5
35	6.6	8.0	9.3	14.5
40	5.7	7.8	8.1	14.5
45	5.1	6.9	7.2	13.5
50	4.6	6.2	6.5	12.2
55	4.2	5.7	5.9	11.1
60	3.8	5.2	5.4	10.1
65	3.5	4.8	5.0	9.4
70	3.3	4.4	4.7	8.7
75	3.1	4.1	4.3	8.1
80	2.9	3.9	4.1	7.6
85	2.7	3.7	3.8	7.2
90	2.5	3.5	3.6	6.8
95	2.4	3.3	3.4	6.4
100	2.3	3.1	3.3	6.1

Flow rate is determined by temperature rise. To determine your temperature rise, subtract the incoming water temperature from the set output temperature. All units are factory set to 120°F or 122°F but can be changed. Flow rates are based on default set temperatures.

PERFORMANCE & DIMENSIONS

Model	Application	Input Range	Flow Rate GPM at 70°F Rise	Energy Factor	Height	Width	Depth	Shipping Weight
		BTU/h			IN (CM)	IN (CM)	IN (CM)	LB (KG)
NATURAL GAS								
JWT-110-N	Residential	19,500 - 140,000	3.3	0.82	20 ¼ (52)	13 ¾ (35)	7 ¾ (20)	33 (15)
JWT-310-N	Residential	11,000 - 190,000	4.4	0.82	20 ¼ (52)	13 ¾ (35)	9 ½ (24)	38 (17)
JWT-510-N	Residential	11,000 - 199,000	4.7	0.83	20 ¼ (52)	13 ¾ (35)	9 ½ (24)	39 (18)
JWT-910-N	Commercial	15,000 - 380,000	8.7	N/A*	25 ¼ (64)	24 7/8 (63)	12 ¼ (31)	112 (51)
JWT-910-AN**	Commercial	15,000 - 380,000	8.7	N/A*	25 ¼ (64)	24 7/8 (63)	12 ¼ (31)	112 (51)
PROPANE								
JWT-110-P	Residential	19,500 - 140,000	3.3	0.83	20 ¼ (52)	13 ¾ (35)	7 ¾ (20)	33 (15)
JWT-310-P	Residential	11,000 - 190,000	4.4	0.82	20 ¼ (52)	13 ¾ (35)	9 ½ (24)	38 (17)
JWT-510-P	Residential	11,000 - 199,000	4.7	0.82	20 ¼ (52)	13 ¾ (35)	9 ½ (24)	39 (18)
JWT-910-P	Commercial	15,000 - 380,000	8.7	N/A*	25 ¼ (64)	24 7/8 (63)	12 ¼ (31)	112 (51)
JWT-910-AP**	Commercial	15,000 - 380,000	8.7	N/A*	25 ¼ (64)	24 7/8 (63)	12 ¼ (31)	112 (51)

* JWT-910N and JWT-910P have a thermal efficiency of 80%. JWT-910AN and JWT-910AP have a thermal efficiency of 82%.

**ASME models



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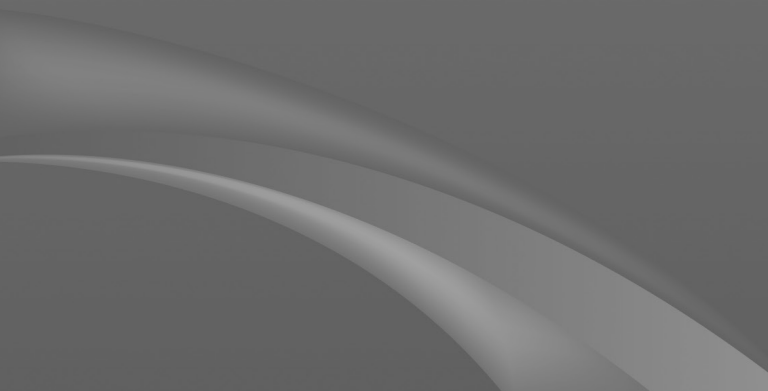
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Appendices



Appendices

Reference Calculations and Conversions for Electricity

Ohm's Law

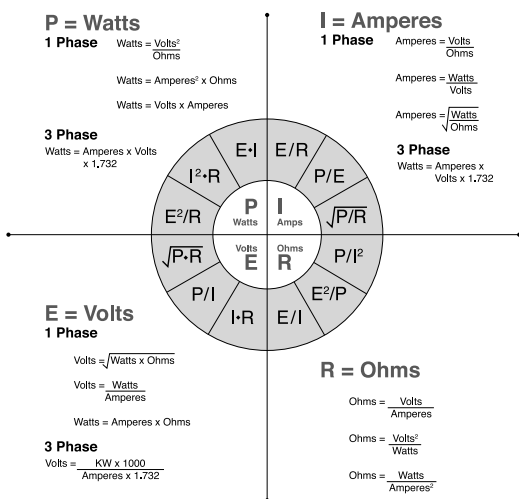
Ohm's Law defines the relationships between (P) power, (E) voltage, (I) current, and (R) resistance. One ohm is the resistance value through which one volt will maintain a current of one ampere.

(I) Current is what flows on a wire or conductor like water flowing down a river. Current flows from points of high voltage to points of low voltage on the surface of a conductor. Current is measured in (A) amperes or amps.

(E) Voltage is the difference in electrical potential between two points in a circuit. It's the push or pressure behind current flow through a circuit, and is measured in (V) volts.

(R) Resistance determines how much current will flow through a component. Resistors are used to control voltage and current levels. A very high resistance allows a small amount of current to flow. A very low resistance allows a large amount of current to flow. Resistance is measured in ohms.

(P) Power is the amount of current times the voltage level at a given point measured in wattage or watts.



Appendices

Reference Guide for Water Heating

One US gallon of fresh water weighs 8.333 lb.

Water expands 4.34% heated from 40° to 212° F.

1 BTU = Amount of heat required to raise the temperature of 1 lb. of water 1° F.

$$\text{Recovery GPH} = \frac{\text{KW} \times 3412}{8.33 \times \Delta T}$$

(Electric)

$$\text{Recovery GPH} = \frac{\text{Input} \times \text{Efficiency}}{8.33 \times \Delta T}$$

(Gas)

$$\text{Req. BTU Input} = \frac{\text{Water Heater Capacity} \times 8.33 \times \Delta T}{\% \text{ Efficiency}}$$

First Hour Draw (FHD)

$$\text{FHD} = (\text{Storage} \times \% \text{ Efficiency}) + \text{Recovery}$$

% of hot and cold water needed to be mixed to obtain a desired temperature

$$\text{Hot water percentage} = \frac{M-C}{H-C}$$

$$\text{Cold water percentage} = \frac{H-M}{H-C}$$

Water C = Cold Water Temperature

H = Hot Water Temperature

M = Mixed Water Temperature

$$\% \text{ Efficiency} = \frac{\text{GPH} \times 8.33 \times \text{Temp. Rise}}{\text{BTU/Hr. Input}}$$

Appendices

Reference Guide for Water Heating

$$\text{BTU/Output} = \text{GPH} \times 8.33 \text{ lbs./Gal.} \times \text{Temp. Rise}$$

$$\text{BTU/Input} = \frac{\text{GPH} \times 8.33 \times \text{Temp. Rise}}{\% \text{ Efficiency}}$$

$$\text{KW} = \frac{\text{GPH} \times 8.33 \times \text{Temp. Rise}}{3413}$$

Temperatures

To convert from degrees Centigrade (C) to degrees Fahrenheit (F) multiply the number of degrees C by 9/5 (or 1.8) and add 32.

To convert from degrees Fahrenheit (F) to degrees Centigrade (C) first subtract 32 from the number of degrees F then multiply the remainder by 5/9 (or 0.556).

Gas/Oil

Gas		BTU
1 lb. of Butane	=	21,300
1 Gal. of Butane	=	102,600
1 Cu. Ft. of Butane	=	3,260
1 Cu. Ft. of Manufactured	=	530
1 Cu. Ft. of Mixed	=	850
1 Cu. Ft. of Natural	=	1,075
1 lb. of Propane	=	21,600
1 Gal. of Propane	=	91,700
1 Cu. Ft. of Propane	=	2,570

Appendices

Reference Guide for Water Heating

Oil vs. Electric vs. Propane vs. Natural Gas

Oil	1 litre = 36,515 BTUs* Example Price = 60.0¢/litre
Electric	1 Kilowatt Hour = 3,413 BTUs* Example Price = 10.1¢/KW (kilowatt)
Propane	1 litre = 24,197 BTUs* Example Price = 63.0¢/litre
Natural Gas	1 M ³ 35,310 BTUs* Example Price = 44.0¢/M ³ (cubic metre)**

Formula
$$\frac{\text{BTUs per Unit} \times \text{Efficiency}}{\text{Cost per Unit}}$$

Example:
$$\text{Propane} = \frac{24,197 \times 92\%}{0.63} = 35335 \text{ BTUs per } \$1.00$$

GST is extra on all prices.

* Information supplied by The Ontario Ministry of Energy.

** This price reflects delivery charge and monthly administration charge to service your account.

Formulas and Facts

- 1 gallon of water weighs 8.33 lbs.
- 1 gallon of water has a volume of 231 cubic inches
- 1 cubic foot of water weighs 62.38 lbs. and contains 7.48 gallons of water
- 100 feet of 3/4" copper pipe contains 2.5 gallons of water; 1" pipe contains 4.3 gallons
- 8.33 BTU will raise 1 gallon of water 1°F at 100% efficiency (electricity)

Appendices

Reference Guide for Water Heating

- 11 BTUs are required to raise 1 gallon of water 1°F at 70% efficiency (gas)
- 3,412 BTUs equal 1 kilowatt hour (KW)
- 1 KW will raise 410 gallons of water 1°F at 100% efficiency
- 1 BTU x 0.293 = watts
- 1 KW = 1000 watts
- 2.42 watts are required to raise 1 gallon of water 1°F
 - 1 KW will raise 10.25 gallons of water 40°F at 100% efficiency
 - 1 KW will raise 6.8 gallons of water 60°F at 100% efficiency
 - 1 KW will raise 5.1 gallons of water 80°F at 100% efficiency
 - 1 KW will raise 4.1 gallons of water 100°F at 100% efficiency

Formula for mixing hot water

$$\frac{M-C}{H-C} = \text{Percent of hot water required to produce desired mixed temperature}$$

Where M = mixed water temperature; C = cold water temperature;
H = hot water temperature

For example: How much of a shower is hot water and how much is cold water?

My shower temperature is 105°F, my water heater thermostat is set on 120°F and the cold water inlet temperature is 50°F.

$$\frac{105 - 50 = 55}{120 - 50 = 70} = 79\% \text{ of the shower is } 120^\circ \text{ hot water}$$

This formula for mixing hot water is important when explaining a NOT ENOUGH HOT WATER trouble call and the water heater is functioning properly.

Appendices

Reference Guide for Water Heating

ELECTRIC	GAS
Energy Costs:	Energy Costs:
KW x fuel costs = energy costs	Cubic feet x fuel costs = energy costs
100 x 0.05 = \$5.00	100 x 0.75 = \$7.50
To obtain gallons per hour (GPH) recovery $\frac{\text{WATTS}}{2.42 \times (\text{temp rise } ^\circ\text{F})}$	To obtain gallons per hour (GPH) recovery $\frac{\text{HOURLY INPUT (BTUs)}}{11.0 \times (\text{temp rise } ^\circ\text{F})}$
I have a 30-gallon electric heater, non-simultaneous operation, 4,500 watt elements. What is the recovery GPH if my cold water is 40°F and my thermostat is set to 120°F? $\frac{4,500}{2.42 \times 80} = 23 \text{ gallons per hour}$	I have a 30-gallon gas heater, rated at 40,000 BTUs. What is the recovery GPH if my cold water is 40°F and my thermostat is set to 120°F? $\frac{40,000}{11.0 \times 80} = 45 \text{ gallons per hour}$
Temperature Rise (°F) $\frac{\text{WATTS}}{2.42 \times \text{GPH}}$	Temperature Rise (°F) $\frac{\text{HOURLY INPUT (BTUs)}}{11.0 \times \text{GPH}}$
I have a 30-gallon electric heater, non-simultaneous operation, 4,500 watt elements. What is the maximum temperature rise if the heater can recover 23 gallons per hour? $\frac{4,500}{2.42 \times 23 \text{ rise}} = 80^\circ \text{ temp}$	I have a 30-gallon gas heater, rated at 40,000 BTUs. What is the maximum temperature rise if the heater can recover 45 gallons per hour? $\frac{40,000}{11.0 \times 45 \text{ rise}} = 80^\circ \text{ temp}$

Appendices

Reference Guide for Water Heating

Oil		BTU
1 Gal. #1 Fuel	=	136,000
1 Gal. #2 Fuel	=	138,500
1 Gal. #3 Fuel	=	141,000
1 Gal. #5 Fuel	=	148,500
1 Gal. #6 Fuel	=	152,000

1 lb. of Gas = 28" Water Column

1 lb. of Gas = 16 oz.

100 Cu. Ft. = 1 therm.

Conversions

Multiply	By	To Obtain
BTU/HR	0.293	W
Ft.	0.3048	m
Ft./min., fpm	0.00508	m/s
Ft. ²	0.0929	m ²
Ft. ³	0.0283	m ³
Gallon (U.S. 231 in ³)	3.79	L
Gallon	0.00379	m ³
Horsepower (boiler)	9.81	KW
Inch	25.4	mm
Mile	1.61	km
Pound lb. (mass)	0.454	kg
Psi	6.89	kPa

Appendices

Exclusive Designs, Built-to-Last

John Wood® Water Heaters are designed and built with features to ensure maximum quality, safety and reliability. Our heaters are thoroughly factory tested, field-proven and meet or exceed industry standards.

TankSaver®

The exclusive TankSaver® design prolongs tank life. TankSaver® impedes corrosion by guarding metal tank openings from exposure to water and keeping them watertight. The durable construction virtually eliminates rust.

Certified Hydrostatic Tests

Design test pressure - 300 psi. Maximum working pressure - 150 psi.

NRCan Standard

All John Wood water heaters meet or exceed NRCan energy efficiency standards.

Coast-to-Coast Service & Support

In order to bring you unsurpassed quality and reliability after you've purchased a John Wood product, we've created a number of service and support resources to help take you through installation and beyond. Operating hours are 8:00 a.m. to 6:00 p.m. EST for our Technical Support call centre (1-888-479-8324), which is staffed by technical experts who provide in-depth product support and troubleshooting advice. We offer a wide-range of hands-on training programs from basic refresher courses to product-specific programs. Our spare parts inventory carries a comprehensive supply of parts to help make repairs fast and easy.



Warranty

1. Warranty terms are set out on the warranty certificate enclosed with each unit. 2. Warranty replacements are issued only in the case where a John Wood® heater is used to replace an approved John Wood® warranty claim.

Type	Inner Tank	Parts
Storage-Type Water Heaters - Gas and Electric	8 years	6 years
Space Saver® Models (except SS025SE15 – 5 years)	6 years	1 year
Storage Boosters	5 years	1 year
Oil Fired*	6 years	1 year (excludes burner)
Polaris™	10 years	1 year
John Wood powered by Takagi Tankless (except JWT-910 - 10 years)	15 years**	5 years
Envirosense® Models	6 years	6 years

*Oil burners are guaranteed by burner manufacturer.

**Heat exchanger when used in residential applications. In commercial applications heat exchanger warranty is 10 years.



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