

# INDIRECT HOT WATER HEATERS H<sub>2</sub>O SERIES

## FULL LINE OF STAINLESS STEEL TANKS

- Stainless Steel Single Coil Indirect Hot Water Heaters
- Stainless Steel Storage Tanks
- Stainless Steel Hydronic Buffer Tanks
- Stainless Steel Single and Dual Coil Solar Water Heaters



Made in the USA



Utica Boilers offers a complete line of Stainless Steel Single/Dual Coil Indirect Water Heaters, Storage Tanks, Buffer Tanks and Solar Tanks.

# THE H<sub>2</sub>O SERIES

## A complete line of Stainless Steel, Single and Dual Coil Indirect Water Heaters, Storage Tanks, and Hydronic Buffer Tanks.

### *Need An Easy Domestic Hot Water Solution With A Low Operating Cost and the Longevity Of Stainless Steel?*

Utica H<sub>2</sub>O Stainless Steel Single Coil Indirect Water Heaters

### *Need A Hot Water Solution To Balance Input and Storage While Reducing Short Cycling?*

Utica H<sub>2</sub>O Stainless Steel Storage Tanks













### *Need A Hot Water Solution For Use With Chillers, Heat Pumps, and Low Mass Boilers?*

Utica H<sub>2</sub>O Stainless Steel Hydronic Buffer Tanks

### *Need A Hot Water Solution For Solar Applications Or Small Zones?*

Utica H<sub>2</sub>O Stainless Steel Single & Dual Coil Solar Water Heaters

(Optional Electric Back-Up can heat the tank if solar heat is unavailable)

Standard Features	Single Coil Indirect Water Heaters
Capacities (Gallons)	30, 40, 40L, 50, 60, 60L, 80, 85* & 115
316L Stainless Steel Construction	
Top Connections (For Easy, Neat, Clean Installation)	
Welded Stainless Steel Dip Tube (Factory installed)	
Thermoplastic Jacket (Won't dent, scratch or corrode)	
Low Pressure Drop (Ideal For Low Mass Boilers)	
T & P Valve (Factory installed except on 85 & 115XHOC)	
Thermal Well & Drain Valve Provided	
2.25" EPS Insulation (Provides Less Than .5°F Per Hour Standby Loss)	
Large Diameter, Smooth Coil Heat Exchangers - Prevent Buildup (Stainless Steel Coils Are 25' to 30' Long and 1-1/8" in Diameter)	
Thermal Control (Shipped Loose, field installed)	
Made in the USA	
Warranty	
Limited Lifetime Warranty (Residential), 5 Yr. (Commercial)	
Limited Lifetime Warranty	N/A
Options	
Low Profile	40L & 60L Capacities
High Output	80 & 115 Capacities
Extra High Output	85 & 115 Capacities
Electric Back-Up	60, 80 & 115 Capacities
Commercial Connections (For increased DHW flow)	80 & 115 Capacities (1-1/2" Dom., 1-1/4" Blr.)
Coil	Standard

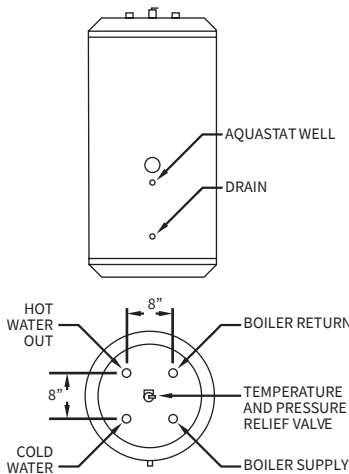
\*Only offered in Extra High Output models.



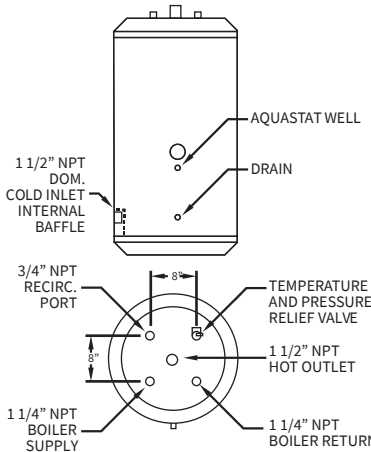
Storage Tanks	Buffer Tanks	Dual Coil Solar Water Heaters	
30, 40, 60, 60L, 80 & 115	22, 40, 60, 80 & 115	60, 80 & 115	
🔥	🔥	🔥	
🔥	🔥	🔥	
🔥	N/A	🔥	
🔥	🔥	🔥	
🔥	🔥	🔥	
🔥	🔥	🔥	
🔥	🔥	🔥	
N/A	N/A*	🔥	
🔥	N/A	🔥	
🔥	🔥	🔥	
🔥	N/A	N/A	
N/A	🔥	🔥	
60L Capacities	N/A	N/A	
N/A	N/A	N/A	
N/A	N/A	N/A	
N/A	N/A	60, 80 & 115 Capacities	
80 & 115 Capacities (1-1/2")	40, 60, 80 & 115 Capacities (2") 22 Capacity (1-1/4" only)	N/A	
N/A	22, 40, 60, 80 & 115 Capacities	Standard	

# H<sub>2</sub>O Stainless Steel Single Coil Indirect Water Heaters

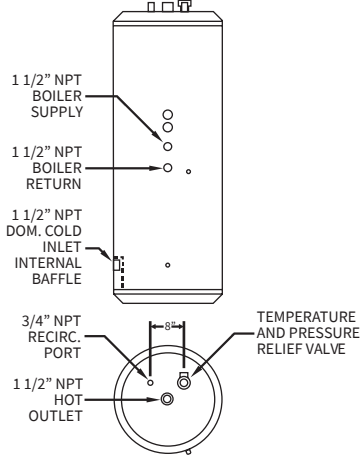
## STANDARD & HO UNITS



## HOC UNITS



## XHOC UNITS



Model	Storage	Coil	Dimensions			Piping NPT	
	Capacity (Gallons)	Heating Surface (Square Feet)	Height (Inches)	Diameter (Inches)	Weight (lb)	DHW In/Out (Inches)	Boiler Water In/Out (Inches)
H2O130UB	30	7.3	34.0	23.5	85	3/4	1
H2O140UB	40	7.7	44.0	23.5	100	3/4	1
H2O140LUB	42	7.4	36.0	28.0	100	3/4	1
H2O150UB	50	8.2	54.0	23.5	110	3/4	1
H2O160UB	60	8.6	62.0	23.5	125	3/4	1
H2O160LUB	60	7.7	46.0	28.0	120	3/4	1
H2O180UB	80	8.2	56.0	28.0	140	1	1
H2O115UB	115	9.1	74.0	28.0	175	1	1

## HIGH OUTPUT UNITS

H2O160HOUB	60	15.1	62.0	23.5	145	1	1
H2O180HOUB	80	14.8	56.0	28.0	155	1	1
H2O180HOCUB	80	14.8	56.0	28.0	155	1-1/2	1-1/4
H2O115HOUB	115	15.6	74.0	28.0	190	1	1
H2O115HOCUB	115	15.6	74.0	28.0	190	1-1/2	1-1/4

## EXTRA HIGH OUTPUT UNITS 85-XHO AND 115-XHO

H2O185XHOCUB	87	28.7	64.0	28.0	215	1-1/2	1-1/2
H2O115XHOCUB	115	28.7	74.0	28.0	240	1-1/2	1-1/2

NOTE: Max. Tank Working Pressure 150 psi all models. Max. Coil Working Pressure 90 psi all models.

Options	(L) Low profile models for applications with low clearances.
	(HO) High Output models available to meet greater demand.
	(HOC) High Output Commercial models with larger tapings for higher flow rates.
	(XHO) Extra High Output models.

Model	Max First Hour Rating GPH @		Continuous Rating GPH @		Output Needed	Water Flow Through Coil	Pressure Drop Through Coil
	140°F	115°F	140°F	115°F	Btu/h	GPM	FT Water
H2O130UB	202	269	175	242	131,000	14	5.6
H2O140UB	221	292	185	256	139,000	14	5.9
H2O140LUB	212	251	176	215	132,000	14	5.6
H2O150UB	223	291	178	246	133,000	14	6.2
H2O160UB	262	342	208	288	156,000	14	6.4
H2O160LUB	239	310	185	256	139,000	14	5.9
H2O180UB	271	348	199	276	149,000	14	6.2
H2O115UB	324	409	221	306	166,000	14	6.7

## HIGH OUTPUT UNITS

H2O160HOUB	406	541	352	478	264,000	14	10.5
H2O180HOUB	418	551	346	479	259,000	14	10.3
H2O180HOCUB	442	584	370	512	277,000	21	15.8
H2O115HOUB	467	607	364	504	273,000	14	10.8
H2O115HOCUB	479	623	376	520	282,000	21	16.7

## EXTRA HIGH OUTPUT UNITS 85-XHO AND 115-XHO

H2O185XHOCUB	738	992	660	914	495,000	28	13
H2O115XHOCUB	763	1017	660	914	495,000	28	13

NOTE: All ratings are based on 200°F boiler water supply and 50°F cold water inlet.

Standard Equipment: Smooth stainless steel coil, factory installed stainless steel thermal well, T & P and drain valve, welded stainless steel cold water dip tube factory installed and pressure tested, thermal control shipped loose for field installation.

**H2O I 40 L UB**

I=Indirect

Capacity:  
30=30 Gals.  
40=40 Gals.  
50=50 Gals.  
60=60 Gals.  
80=80 Gals.  
85=87 Gals.  
115=115 Gals.

L=Lowboy  
C=Commercial  
HO=High Output  
HOC=High Output Commercial  
XHO=Extra High Output

UB=Utica Boiler



Conforms to UL STD 174

Certified to CAN/CSA STD C22.2 No. 110-94

# H<sub>2</sub>O Stainless Steel Storage Tanks

Dimensions/Weights	Model	Storage Capacity (Gals.)	Piping Connections NPT																																					
			Cold/Hot Supply/Return (Inches)	Heat Source Pressure (Inches)																																				
<p><b>STANDARD UNITS</b></p> <p>TOP CONNECTIONS ALL 1" NPT</p>	H2OST30UB	30	1	1																																				
	H2OST40UB	40	1	1																																				
	H2OST60UB	60	1	1																																				
	H2OST60LUB	60	1	1																																				
	H2OST80UB	80	1	1																																				
	H2OST115UB	115	1	1																																				
	H2OST80CUB	80	1-1/2	1																																				
	H2OST115CUB	115	1-1/2	1																																				
	<p>Note: Max. Working pressure 150 psi for all capacities.</p> <p>General Information (See Installation, Operation and Maintenance Manual for complete instructions)</p> <p>Specifications subject to change without notice.</p>																																							
Standard Equipment	Factory installed brass drain and relief valves, welded stainless steel cold water dip tube factory installed and pressure tested, thermal control for field installation.																																							
Options	(L) Low profile models for applications with low clearances. (C) Commercial models available for applications with larger connections.																																							
Certification/Decoding	<p><b>H2O ST 60 L UB</b></p> <p>ST=Storage Tank      Capacity: 30=30 Gals. 40=40 Gals. 60=60 Gals. 80=80 Gals. 115=115 Gals.      L=Lowboy      UB=Ulrica Boiler C=Commercial</p> <p>Conforms to UL STD 174 Certified to CAN/CSA STD C22.2 No. 110-94</p> <p><b>Intertek</b></p>																																							
<p><b>Dimensions &amp; Weights</b></p> <table border="1"> <thead> <tr> <th>Models</th> <th>Height (Inches)</th> <th>Dia. (Inches)</th> <th>Shp. Wgt. (Lbs.)</th> </tr> </thead> <tbody> <tr> <td>H2OST30UB</td> <td>34.0</td> <td>23.5</td> <td>75</td> </tr> <tr> <td>H2OST40UB</td> <td>44.0</td> <td>23.5</td> <td>90</td> </tr> <tr> <td>H2OST60UB</td> <td>62.0</td> <td>23.5</td> <td>115</td> </tr> <tr> <td>H2OST60LUB</td> <td>46.0</td> <td>23.5</td> <td>110</td> </tr> <tr> <td>H2OST80UB</td> <td>56.0</td> <td>28.0</td> <td>140</td> </tr> <tr> <td>H2OST115UB</td> <td>74.0</td> <td>28.0</td> <td>175</td> </tr> <tr> <td>H2OST80CUB</td> <td>56.0</td> <td>28.0</td> <td>140</td> </tr> <tr> <td>H2OST115CUB</td> <td>74.0</td> <td>28.0</td> <td>175</td> </tr> </tbody> </table>			Models	Height (Inches)	Dia. (Inches)	Shp. Wgt. (Lbs.)	H2OST30UB	34.0	23.5	75	H2OST40UB	44.0	23.5	90	H2OST60UB	62.0	23.5	115	H2OST60LUB	46.0	23.5	110	H2OST80UB	56.0	28.0	140	H2OST115UB	74.0	28.0	175	H2OST80CUB	56.0	28.0	140	H2OST115CUB	74.0	28.0	175	<p>Schematic Diagram (Typical Installation)</p> <p>HOT WATER BOOSTER / STORAGE TANK DOMESTIC WATER HEATING SYSTEM / TYPICAL SCHEMATIC Note: Installation must conform to all local codes.</p>	
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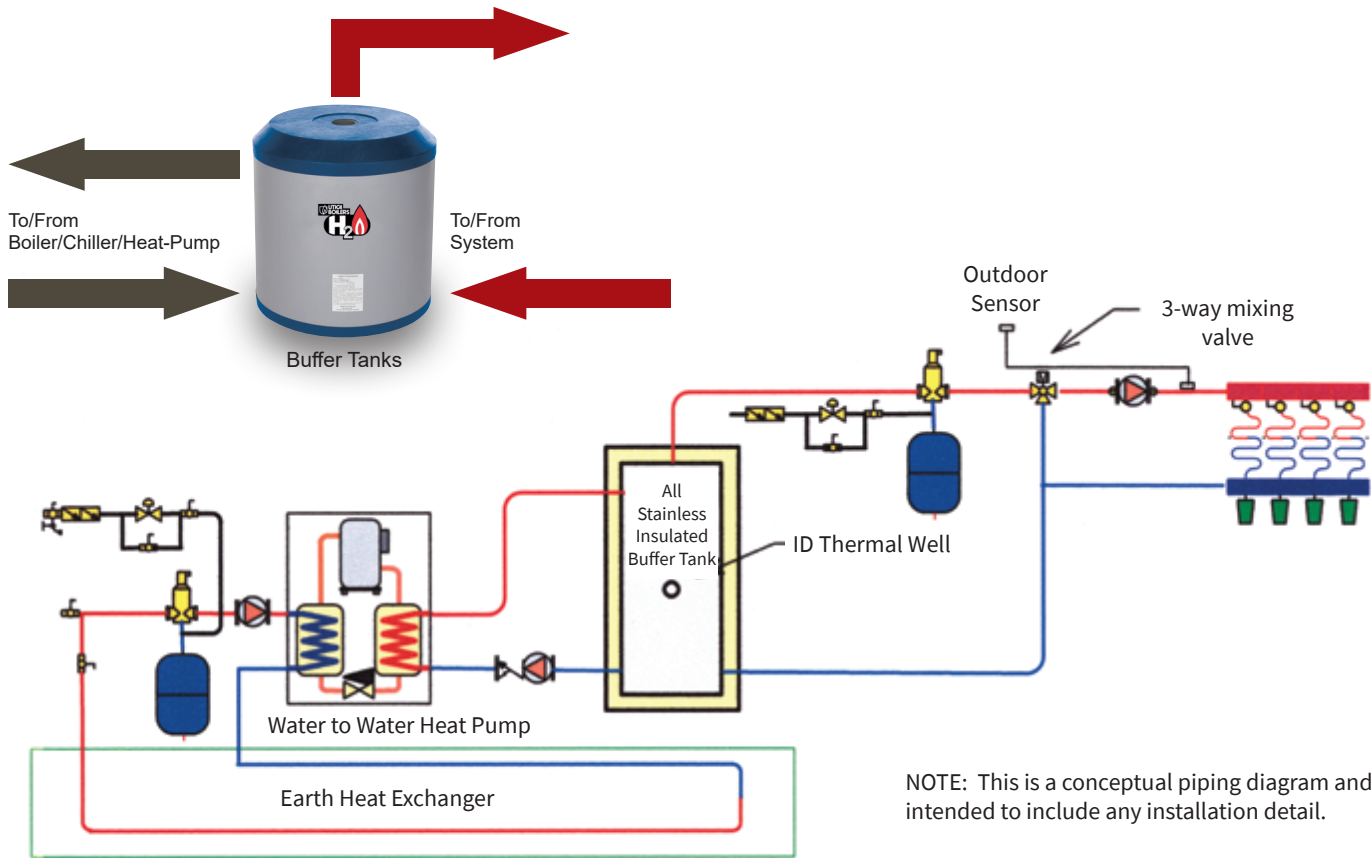
# H<sub>2</sub>O Stainless Steel Buffer Tanks

- Reduces chiller or boiler short cycling  
(Short cycling results in reduced operating efficiency and shorter equipment life)
- Used in systems having several low BTU cooling or heating loads calling at different times
- Full size tappings on buffer tank for peak performance
- Used in systems operating below the design load condition, which is most of the time

Dimensions/Weights	Model	Storage Capacity (Gals.)	Piping Connections NPT (Inches)
	H2OBT22114UB	22	1-1/4
	H2OBT402UB	40	2
	H2OBT602UB	60	2
	H2OBT802UB	80	2
	H2OBT1152UB	115	2
	H2OBT402WCUB	40	2
	H2OBT602WCUB	60	2
	H2OBT802WCUB	80	2
	H2OBT1152WCUB	115	2
	Note: Max. Working pressure 60 psi for all capacities.		
General Information (See Installation, Operation and Maintenance Manual for complete instructions)			
Specifications subject to change without notice.			
Standard Equipment	Factory installed brass drain and relief valves, welded stainless steel cold water dip tube factory installed and pressure tested, thermal control for field installation.		
Options	(WC) With Coil		
Certification/Decoding	 US Conforms to UL STD 174 Certified to CAN/CSA STD C22.2 No. 110-94 <b>Intertek</b> <b>H2O BT 40 114 WC UB</b> <small>BT=Buffer Tank    Capacity: 22=22 Gals., 40=40 Gals., 60=60 Gals., 80=80 Gals., 115=115 Gals.    114=1-1/4\"/&gt; </small>		

Dimensions & Weights					
Model	Height A (Inches)	B (Inches)	C (Inches)	Diameter D (Inches)	Shp. Wgt. (Lbs.)
H2O22BT114UB	24.5	15.0	8.0	22.5	35 (45 WC)
H2O40BT2UB	42.0	29.0	9.0	22.5	87 (97 WC)
H2O60BT2UB	42.0	29.5	9.5	26.5	115 (125 WC)
H2O80BT2UB	52.0	39.5	9.5	26.5	125 (135WC)
H2O115BT2UB	72.0	59.5	9.5	26.5	160 (170 WC)

# H<sub>2</sub>O HYDRAULICALLY DECOUPLED



Hydronic Buffer Tank applied to Water source heat pump application

## Buffer Tank Sizing - Calculating Capacity

The recommended capacity or volume of a buffer tank is based on four variables.

- 1) The duration of the heating or cooling source “on time” (minutes). The desired length of “on time” for each run cycle depends on the type of equipment used. Heat pump and chiller manufacturers typically recommend a minimum of 5 to 10 minutes on time, and boiler manufacturers may recommend a minimum of 10 minutes “on time”. Check with your equipment manufacturer. Generally, the longer the “on time”, the higher the overall operating efficiency.
- 2) The minimum rate of heat input (BTU/HR). This is based on the heat pump or chiller output, or the boiler output at the minimum firing rate if the boiler has a variable input system that ramps input down as the demand decreases.
- 3) The minimum system load (BTU/HR). This is the demand placed on the system with the smallest zone calling for heat.
- 4) The allowable tank temperature rise (deg. F). This varies depending on the type of heating or cooling system used, and on the design of the distribution system. Chillers may require a tight, (6 deg. F), differential to assure good dehumidification and prevent freezing, heat pumps may require a (10 deg. F) differential to maintain a high COP, and boilers with hydronic heating distribution systems may require a differential anywhere between 10 to 40 deg. F depending on the application.

The following formula determines the tank volume:

$$V = \frac{T \times (Q \text{ heat input} - Q \text{ min. heat load})}{\text{Tank temp. rise} \times 500}$$

V = Buffer tank volume (gallons)  
 Q heat source = heat source output (BTU/HR)  
 Tank temp rise (deg. F)

T = desired heat source “on cycle” (min.)  
 Q min. heat load = heat output to minimum load

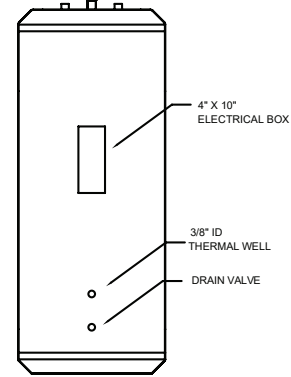
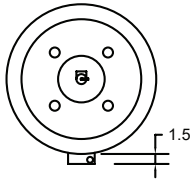
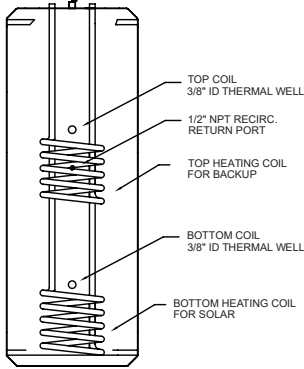
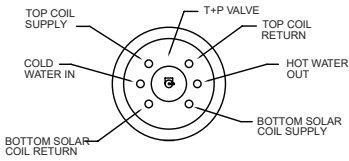
Water to Water Heat Pump Example:

Town and Country Mechanical wants a minimum heat pump on time of 10 minutes. The heat pump output is 46,500 BTU/HR. The smallest zone is a 7,000 BTU/HR bathroom. The allowable temperature differential is 90 to 100 deg. F for the radiant heat zones.

$$V = \frac{10 \times (46,500 - 7,000)}{(100-90) \times 500} = 79.0 \text{ Gallons minimum volume. Choose the H2O80BT buffer tank.}$$

# H<sub>2</sub>O Stainless Steel Dual and Single Coil Solar Water Heaters

## DUAL COIL UNITS



## ELECTRIC BACKUP UNITS

Dimensions			
Models	Height (Inches)	Dia. (Inches)	Shp. Wgt. (Lbs.)
SINGLE COIL			
H2OI60EUB	62.0	23.5	135
H2OI80EUB	56.0	28.0	145
H2OI115EUB	74.0	28.0	180
DUAL COIL			
H2OI60DUB	62.0	23.5	165
H2OI80DUB	56.0	28.0	175
H2OI115DUB	74.0	28.0	205
H2OI60DEUB	62.0	23.5	175
H2OI80DEUB	56.0	28.0	185
H2OI115DEUB	74.0	28.0	215

Model	Storage Capacity (Gals.)	Top Coil Heating Surface Sq. Ft.	Bottom Coil Heating Surface Sq. Ft.	Piping Connections NPT (Inches)
SINGLE COIL				
H2OI60EUB	60	N/A	8.3	1
H2OI80EUB	80	N/A	8.0	1
H2OI115EUB	115	N/A	8.9	1
DUAL COIL				
H2OI60DUB	60	7.4	8.3	1
H2OI80DUB	80	7.4	8.0	1
H2OI115DUB	115	7.4	8.9	1
H2OI60DEUB	60	7.4	8.3	1
H2OI80DEUB	80	7.4	8.0	1
H2OI115DEUB	115	7.4	8.9	1

NOTE: Max Working Pressure 150 psi for all capacities.

General Information (See Installation Operation and Maintenance Manual for complete instructions)

Model	Max. First Hour Rating Gal./Hr. @		Continuous Rating Gal./Hr. @		Max. Rec. Top Coil	Max. Rec. Bottom Coil	Min. Boiler Water Flow Through Coil	Pressure Drop Through Coil
	140° F	115° F	140° F	115° F	(Gal./Hr.)	(Gal./Hr.)	(Gal./Min.)	(Ft. Water)
SINGLE COIL								
H2OI60EUB	45.9	52.0	15.9	22.0	N/A	214	10.0	3.5
H2OI80EUB	55.9	62.0	15.9	22.0	N/A	214	10.0	3.6
H2OI115EUB	73.9	80.0	15.9	22.0	N/A	214	10.0	3.9
DUAL COIL								
H2OI60DUB	45.9	52.0	15.9	22.0	185	214	10.0	3.5
H2OI80DUB	55.9	62.0	15.9	22.0	180	214	10.0	3.6
H2OI115DUB	73.9	80.0	15.9	22.0	190	214	10.0	3.9
H2OI60DEUB	45.9	52.0	15.9	22.0	185	214	10.0	3.5
H2OI80DEUB	55.9	62.0	15.9	22.0	180	214	10.0	3.6
H2OI115DEUB	73.9	80.0	15.9	22.0	190	214	10.0	3.9

Note: All ratings are based on 180° F boiler water supply and 50° F cold water inlet. For Dual Coil units, continuous ratings shown are for the lower coil only. Specifications subject to change without notice.

Standard Equipment: Factory installed brass drain and relief valves, welded stainless steel cold water dip tube factory installed and pressure tested, thermal control for field installation.

Removable thermal well to accept a solar control thermostat or thermistor. Dual coil units equipped with two thermal wells which control each coil independently and built-in recirculation tapping. Units with Electric Back-Up are provided with 4" x 10" electrical box with pre-wired heating element, thermostat, and hi-limit. All electric back-up units provided with 240 volt AC, 3500 watt element.

Options: (E) Electric Back-Up models for supplemental heating.



Conforms to UL STD 174  
Certified to CAN/CSA STD C22.2 No. 110-94