Commercial Semi-Instantaneous Water Heaters

HWI Models

FEATURES

A. O. Smith's HWI models are available for operation with steam or boiler water as the energy source. They are factory assembled with components sized, piped and checked at the factory before shipment. HWI models are all space saving vertical models.

INSULATION AND JACKETING - The HWI systems will be insulated with fiberglass to an R value of 12.5 and enclosed in a baked enamel jacket.

CODE LISTING - The system will employ an ASME"U" code shell. fitted with an ASME "U" code 3/4" diameter copper tube heat exchanger.

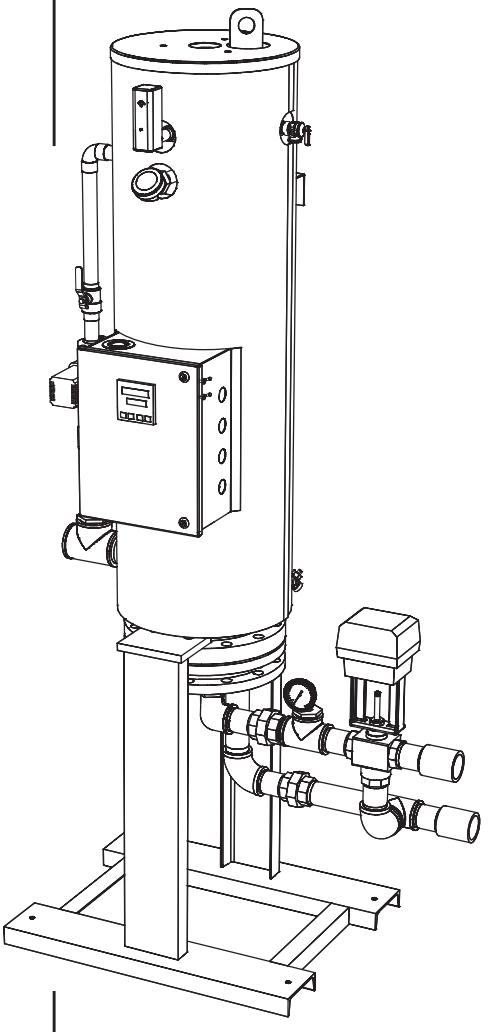
INTEGRAL PUMP - The HWI system will employ an integral bronze circulator pump.

STEAM UNITS - Steam trim consists of temperature control valve, inlet and auxiliary steam traps, inlet and auxiliary strainers, steam pressure gauge with siphon, vacuum breaker and air vent.

BOILER UNITS - Boiler water trim includes temperature control valve and boiler water temperature gauge.

CONTROL FEATURES

- SINGLE POINT WIRING
  Single 120V connection, controls including integral circulation
- ON/OFF SWITCH
  Allows local on/off for service
- TEMPERATURE READOUT
  LED readout of water temperature
- PID TEMPERATURE CONTROL
  Modulates electrical control valve
- HIGH TEMPERATURE LIMIT
  Closes main valve under over temperature condition
- REMOTE TEMPERATURE SIGNAL
- 2-WIRE RS485 COMMUNICATION (MODBUS or ASCII)



LIMITED WARRANTY OUTLINES

If the shell should leak any time during the first five years, under the terms of the warranty A. O. Smith will repair or replace the shell. Installation, labor, handling and local delivery extra.

THE COIL HAS A ONE YEAR LIMITED WARRANTY.

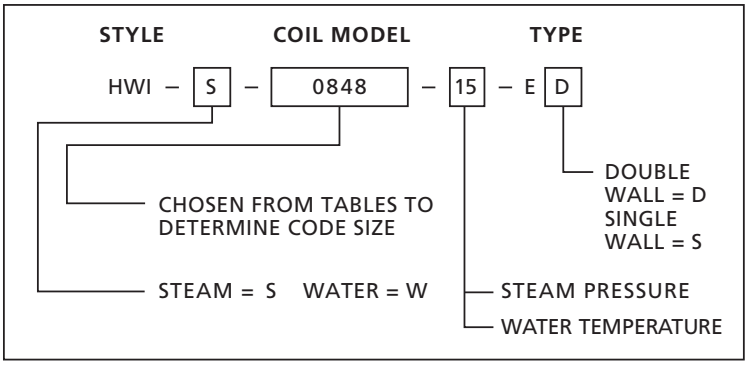
NOTE: THIS OUTLINE IS NOT A WARRANTY. For complete information, consult the written warranty or A. O. Smith.

Revised November 2012

TO SPECIFY HWI SERIES PACKAGE WATER HEATER:

1. Determine what type of heating medium will be used; steam or boiler water.
   - If STEAM - Determine pressure in coil.
   - If BOILER WATER - Determine available boiler water temperature.
2. From the recovery table, obtain the required GPH capacity and temperature rise. Selecting heating coil size.
3. Decide whether single or double wall coil is required.

SELECT YOUR MODEL



CAPACITY CHARTS:

Boiler Water 180°F - 160°F					
Temp Range	**Heater Model**	**DOM water flow GPM**	**Boiler Water flow GPM**	**BTU/HR**	**Passes**
40°F To 120°F	HWI-W 0848	11	45	438,000	2
	HWI-W 1048	19	77	756,000	2
	HWI-W 1248	26	106	1,035,000	2
	HWI-W 1448	35	143	1,393,000	2
	HWI-W 1648	47	192	1,870,000	2
	HWI-W 1848	59	241	2,347,000	2
40°F To 140°F	HWI-W 0848	7	35	347,000	4
	HWI-W 1048	12	61	596,000	4
	HWI-W 1248	17	86	844,000	4
	HWI-W 1448	22	112	1,092,000	4
	HWI-W 1648	30	152	1,489,000	4
	HWI-W 1848	39	198	1,936,000	4

Boiler Water 190°F - 170°F					
Temp Range	**Heater Model**	**DOM water flow GPM**	**Boiler Water flow GPM**	**BTU/HR**	**Passes**
40°F To 120°F	HWI-W 0848	13	53	517,000	2
	HWI-W 1048	22	90	875,000	2
	HWI-W 1248	31	127	1,234,000	2
	HWI-W 1448	41	167	1,631,000	2
	HWI-W 1648	55	225	2,189,000	2
	HWI-W 1848	68	278	2,706,000	2
40°F To 140°F	HWI-W 0848	8	41	397,000	2
	HWI-W 1048	14	71	695,000	2
	HWI-W 1248	19	97	943,000	2
	HWI-W 1448	26	133	1,291,000	2
	HWI-W 1648	35	178	1,738,000	2
	HWI-W 1848	44	224	2,185,000	2

CAPACITY CHARTS (Continued):

Temp Range	Heater Model	Steam 5/2* DOM water flow GPM	Ibs /HR
40°F To 120°F	HWI-S 0648 05	11	617
	HWI-S 0848 05	20	778
	HWI-S 1048 05	33	1285
	HWI-S 1248 05	47	1848
	HWI-S 1448 05	61	2369
	HWI-S 1648 05	82	3185
40°F To 140°F	HWI-S 0648 05	7	363
	HWI-S 0848 05	14	686
	HWI-S 1048 05	23	1130
	HWI-S 1248 05	34	1648
	HWI-S 1448 05	43	2096
	HWI-S 1648 05	58	2821

*Steam pressure in lines/steam pressure in tubes.

Temp Range	Heater Model	Steam 10/5* DOM water flow GPM	Ibs /HR
40°F To 120°F	HWI-S 0648 10	11	459
	HWI-S 0848 10	21	846
	HWI-S 1048 10	35	1373
	HWI-S 1248 10	51	2030
	HWI-S 1448 10	66	2649
	HWI-S 1648 10	87	3472
40°F To 140°F	HWI-S 0648 10	8	410
	HWI-S 0848 10	15	755
	HWI-S 1048 10	25	1250
	HWI-S 1248 10	36	1807
	HWI-S 1448 10	48	2380
	HWI-S 1648 10	63	3119

*Steam pressure in lines/steam pressure in tubes.

Temp Range	Heater Model	Steam 15/10* DOM water flow GPM	Ibs /HR
40°F To 120°F	HWI-S 0648 15	12	512
	HWI-S 0848 15	23	946
	HWI-S 1048 15	38	1546
	HWI-S 1248 15	56	2268
	HWI-S 1448 15	73	2968
	HWI-S 1648 15	96	3889
40°F To 140°F	HWI-S 0648 15	9	467
	HWI-S 0848 15	17	861
	HWI-S 1048 15	28	1420
	HWI-S 1248 15	40	2045
	HWI-S 1448 15	53	2691
	HWI-S 1648 15	69	3510

*Steam pressure in lines/steam pressure in tubes.

CAPACITY CHARTS (Continued):

Temp Range	Heater Model	Steam 20/15* DOM water flow GPM	lbs /HR
40°F To 120°F	HWI-S 0648 20	13	558
	HWI-S 0848 20	25	1031
	HWI-S 1048 20	41	1699
	HWI-S 1248 20	60	2455
	HWI-S 1448 20	76	3130
	HWI-S 1648 20	103	4210
40°F To 140°F	HWI-S 0648 20	10	515
	HWI-S 0848 20	18	934
	HWI-S 1048 20	30	1546
	HWI-S 1248 20	44	2246
	HWI-S 1448 20	57	2844
	HWI-S 1648 20	75	3840

*Steam pressure in lines/steam pressure in tubes.

Temp Range	Heater Model	Steam 30/20* DOM water flow GPM	lbs /HR
40°F To 120°F	HWI-S 0648 30	14	600
	HWI-S 0848 30	26	1097
	HWI-S 1048 30	44	1824
	HWI-S 1248 30	63	2619
	HWI-S 1448 30	83	3434
	HWI-S 1648 30	109	4498
40°F To 140°F	HWI-S 0648 30	10	544
	HWI-S 0848 30	19	1000
	HWI-S 1048 30	32	1664
	HWI-S 1248 30	46	2399
	HWI-S 1448 30	61	3157
	HWI-S 1648 30	80	4132

*Steam pressure in lines/steam pressure in tubes.

Temp Range	Heater Model	Steam 50/30* DOM water flow GPM	lbs /HR
40°F To 120°F	HWI-S 0648 50	16	676
	HWI-S 0848 50	29	1227
	HWI-S 1048 50	48	2024
	HWI-S 1248 50	69	2913
	HWI-S 1448 50	91	3818
	HWI-S 1648 50	119	5000
40°F To 140°F	HWI-S 0648 50	11	609
	HWI-S 0848 50	21	1124
	HWI-S 1048 50	35	1863
	HWI-S 1248 50	51	2696
	HWI-S 1448 50	67	3531
	HWI-S 1648 50	88	4625

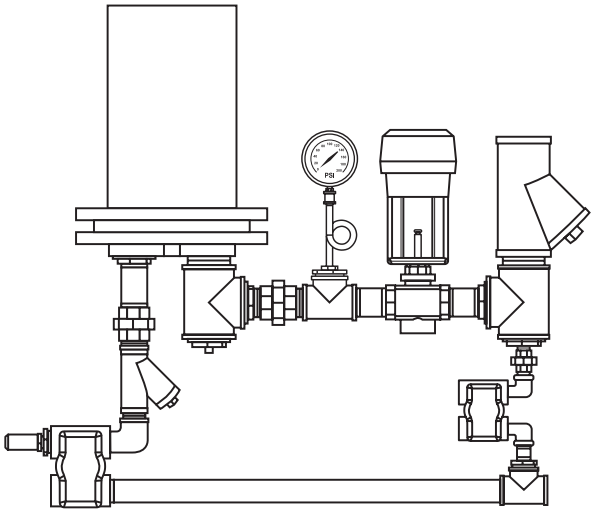
*Steam pressure in lines/steam pressure in tubes.

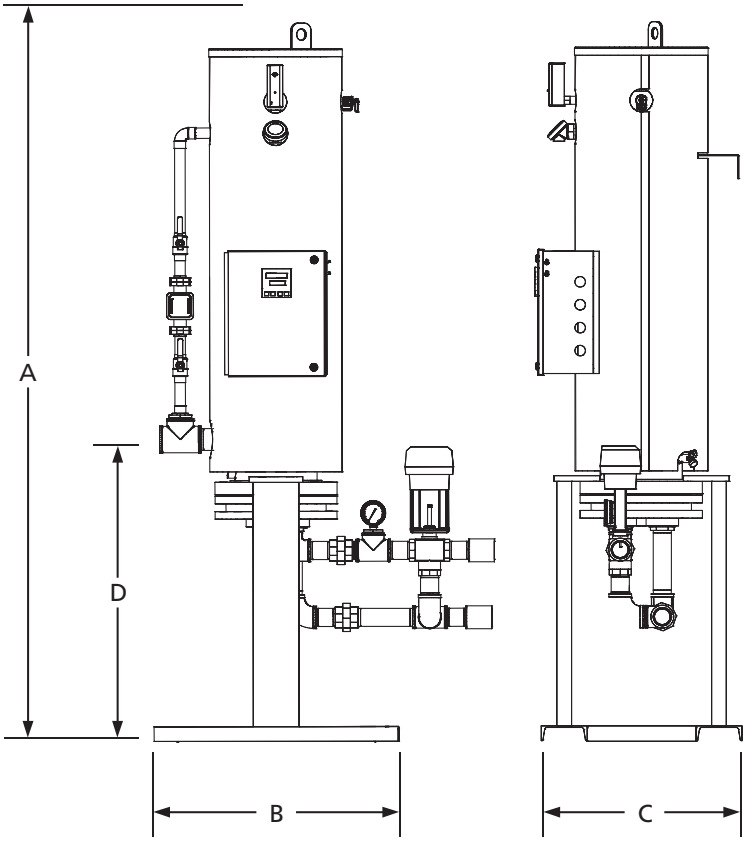
CAPACITY CHARTS (Continued):

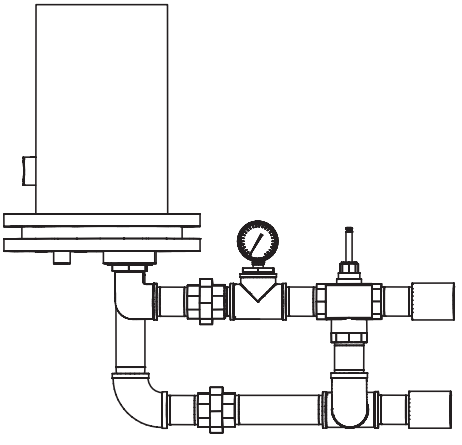
Temp Range	Heater Model	Steam 20/15* DOM water flow GPM	lbs /HR
40°F To 120°F	HWI-S 0648 75	18	783
	HWI-S 0848 75	33	1425
	HWI-S 1048 75	54	2343
	HWI-S 1248 75	78	3372
	HWI-S 1448 75	100	4318
	HWI-S 1648 75	135	5793
40°F To 140°F	HWI-S 0648 75	13	723
	HWI-S 0848 75	24	1319
	HWI-S 1048 75	40	2182
	HWI-S 1248 75	59	3162
	HWI-S 1448 75	74	4121
	HWI-S 1648 75	100	5401

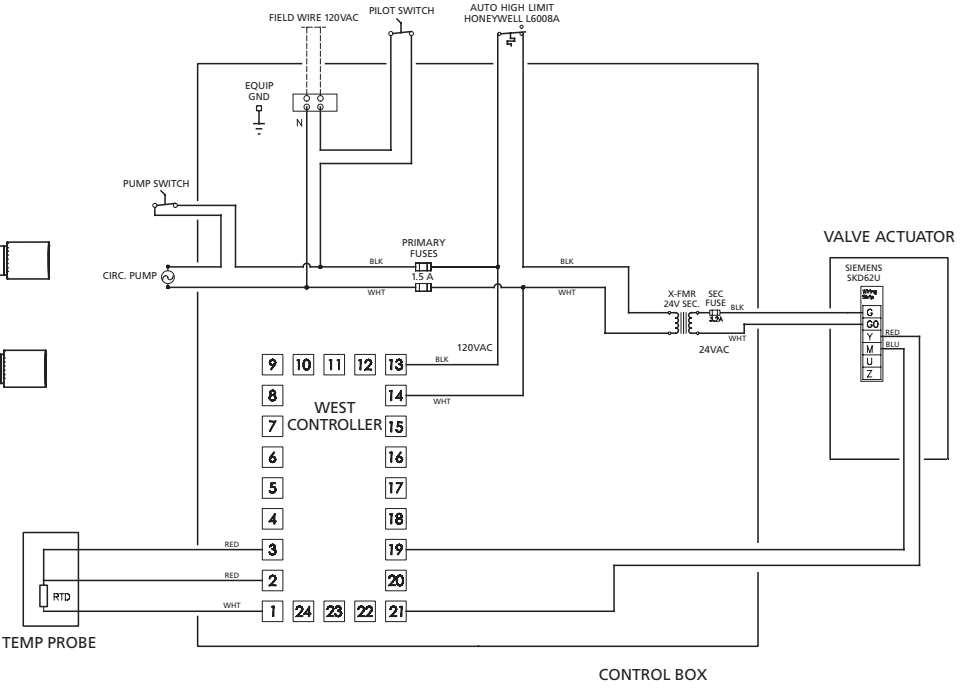
*Steam pressure in lines/steam pressure in tubes.

MODEL	A	B	C	D
HWI10648	110	36	24	38
HWI10848	110	36	26	38
HWI41048	110	36	28	38
HWI1248	110	36	30	38
HWI1448	110	36	32	38
HWI1648	110	36	34	38
HWI1848	110	36	36	38









For Technical Information and Automated Fax Service, call 800-527-1953. A. O. Smith Corporation reserves the right to make product changes or improvements without prior notice.

SPECIFICATIONS - STEAM TO WATER

The instantaneous hot water generator package shall be A.O. Smith model HWI, (EDS) or (ESS) with _____1 heating coil. The jacketed and insulated heater shall have a 316L stainless steel vessel constructed in accordance with ASME section VIII for a working pressure of 150psi. The heater shall be designed to recover _____gpm for a temperature rise of ____ degrees F to _____ degrees F when supplied with ____ psig steam to the control valve. The heating coil shall be constructed in accordance with ASME section VIII code. Single wall heat exchangers shall have 3/4" O.D., 20GA deoxidized drawn copper tubes. Double wall heat exchangers shall have 5/8" I.D. deoxidized drawn copper tube within a tube. The external tube shall have radial fins for enhanced heat transfer. Each coil shall have stainless steel baffles and shell side tube sheet.

The heater shall be factory assembled and piped including y-strainer, electric actuated control valve, main and auxiliary steam traps, condensate strainer, bronze integral circulator piped and wired to circulate water across the coil, vacuum breaker, air vent, ASME temperature and pressure relief valve and incoming steam pressure gauge.

SPECIFICATIONS- WATER TO WATER

The instantaneous hot water generator package shall be A.O. Smith model HWI, (EDW)-(2) or (4), (ESW)-(2) or (4) with _____- _____ pass heating coil. The jacketed and insulated heater shall have a 316L stainless steel vessel constructed in accordance with ASME section VIII for a working pressure of I5Opsi.

The heater shall be designed to recover _____gpm for a temperature rise of ———— degrees F to _____ degrees F when supplied with ____ gpm of ———, degrees F boiler water to the control valve. The heating coil shall be constructed in accordance with ASME section VIII code. Single wall heat exchangers shall have 3/4" O.D., 20GA deoxidized drawn copper tubes. Double wall heat exchangers shall have 5/8" I.D. deoxidized drawn copper tube within a tube. The external tube shall have radial fins for enhanced heat transfer. Each coil shall have stainless steel baffles and shell side tube sheet. The heater shall be factory assembled and piped including electric actuated _____ 3-way or ____ 2-way control valve, bronze integral circulator piped and wired to circulate water across the coil, ASME temperature and pressure relief valve and incoming boiler water temperature gauge.

TEMPERATURE CONTROL

The heater shall be supplied with a (PID) solid state temperature controller with dual LED display. The controller shall have remote temperature selection, a green temperature setting display screen and high limit display screen, The controller shall be supplied with output contact to interface with building automation system for power on and high temperature limit status. The controller shall allow the building automation system to turn the unit on or off through a 24VAC relay. The controller shall have user-selectable communications interface of 2-wire RS485 (MODBUS or ASCII) or off-line PC configuration.