Air-to-Water Electric Heat Pump AWH Series

Air-to-Water heat pump water heaters remove unwanted heat and humidity from the surrounding air and use it to heat water. The refrigeration-based system produces cool, dehumidified air for spot cooling or to reduce the load on air conditioning system.

Air-to-Water Heat Pump Water Heater Options:

- *High Efficiency water heating*
- *"Environmentally-Friendly" Green Technology uses non-ozone depleting R-134a refrigerant*
- *Simplified Installation*
- *Efficient Scroll Compressor*
- *Coefficient of Performance (COP) between 3.9 and 4.2 for water heating*
- *Standard 208/230 VAC, 3 phase power (optional 460 VAC, 3 phase)*
- *Sanitary hot water for commercial or industrial uses*
- *Maximum 140°F final tank temperature at common indoor temps*

Accessories Include:

- *Digital Temp Controller with Tank Probe*
- *Metal Mesh Cleanable Filter*
- *Corrosive Duty Package; 316 stainless steel cabinet polyurethane coated evaporator coil and blower housing. Recommended for coastal areas.*

All dimensions in inches

MODEL NUMBER	PERFORMANCE					DIMENSIONS				APPROXIMATE SHIPPING WEIGHT (LBS.)
	WATER HEATING BTUH*	COOLING CAPACITY BTUH*	AIR VOLUME CFM**	C.O.P.	G.P.M.	INLET/OUTLET (FPT)	WIDTH	DEPTH	HEIGHT	
AWH-35	35,500	27,500	1040	3.9	7	1.0"	40"	26"	24-3/4"	315
AWH-55	58,000	45,500	1650	4.1	11	1.0"	47"	32"	28-1/2"	405
AWH-75	76,000	59,000	2150	3.9	15	1.5"	57"	32"	28-1/2"	485
AWH-100	98,000	78,000	3200	4.2	20	1.5"	63"	38"	42-1/2"	660
AWH-115	113,000	89,000	3200	4.2	23	1.5"	63"	38"	42-1/2"	665
AWH-140	142,000	110,000	3800	3.9	28	2.0"	63"	38"	42-1/2"	725
AWH-170	171,000	133,000	4900	3.9	34	2.0"	75"	46"	42-1/2"	880

*Performance rating at 75° F, 55% Relative Humidity and 100° incoming water temperature
**Blower design at 0.3" external static pressure
C.O.P. coefficient of performance
All models standard 208/230V, 3-phase, 60 Hz
Optional 460v 3ph 60Hz
Optional 240v 1ph 60Hz (available on AWH-35 and AWH-55 only)

DEN/DEL Electric
Dura-Power™ Models

The Dura-Power™ DEN (standard upright) and DEL (lowboy) series is available with tank capacities from 6 through 119-gallons. They can be installed for non-simultaneous and single element operation (maximum input up to 6 KW), or for simultaneous dual-element operation (maximum input up to 12 KW).

Zinc-Plated Copper Sheath Heating Elements Standard

- *Medium-watt density design disperses element temperature over larger surface contact area to minimize scale build-up, maximize efficiency and prolong element life*
- *Element options from 1.5 kW to 6 kW (non-simultaneous or simultaneous operation), recoveries from 6 GPH to 49 GPH at 100°F rise*

Standard Voltages For Easy Installation

- *120V, 277V single-phase, and 208V, 240V and 480V unbalanced 3-phase delta*
- *Easily converted to single-phase at terminal block (except for 208V with 6000W elements)*
- *Single-element heater, single-phase only (see chart for dual-element options)*

Factory-Installed Terminal Block

- *Provide electrical service to heater and connect to block (not supplied on 120V and 277V models)*

Factory-Wired Controls

- *Temperature control (adjustable from 110°F to 170°F on single element; 120°F to 180°F on dual-element models)*
- *Manual reset high temperature cutoff per element (dual-element models)*
- *Factory-wired for non-simultaneous operation; easily converted to simultaneous operation (3-phase models only)*

Glasslined Tank

- *Provides long-lasting protection against corrosion*
- *Equipped with anode rod for additional protection against corrosion*

Compliance

- *Meets the standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA90.1*

Maximum Hydrostatic Working Pressure: 150 PSI

3-Year Limited Tank Warranty

- *5-year limited tank warranty optional*

All dimensions in inches

MODEL NO	GAL . CAP.	KILOWATTS MAXIMUM	HEIGHT	DIA.	APPROX SHIP WEIGHT
DEL MODELS					
DEL-6S	6	2.5	15-1/2	14-1/4	35
DEL-10S	10	6	18-1/4	18	52
DEL-15S	15	6	26	18	66
DEL-20S	20	6	22-1/4	21-3/4	86
DEL-30D	30	12	30-7/8	21-3/4	104
DEL-40D	40	12	32-1/4	24	170
DEL-50D	50	12	32-1/4	26-1/2	166
DEN MODELS					
DEN-30D	30	10	34-1/2	20-1/2	95
DEN-40D	40	12	45-1/8	20-1/2	110
DEN-52D	50	12	54-7/8	20-1/2	128
DEN-66D	66	12	60-3/4	21-3/4	167
DEN-80D	80	12	59-3/8	24	206
DEN-120D	119	12	62-7/16	29-3/8	331

*S denotes Single Element D denotes Dual Element

DRE/DVE Electric Gold and Gold Xi

Gold and Gold Xi DRE/DVE series available with 50, 80, and 119 gallon storage tanks, with input choices ranging from 6 kW to 54 kW. They can be used as recovery heaters for hot water supply service or as boosters for supplying sanitizing rinse water for dish washing.

Goldenrod® 24k gold-plated Elements Standard

- *Superior scaling resistance, resulting in long term efficiency and damage protection*
- *Element sizes from 2 kW to 6 kW using 3, 6 or 9 elements provide input options from 6 kW to 54 kW, recoveries from 25 GPH to 221 GPH at 100°F rise*

Power Circuit Fusing For System Protection

- *Safeguards elements and contactors from short circuits, overloading and line surges*
- *Meets National Electrical Code requirements that non-ASME tanks must have internal fusing when current draw exceeds 48 amps*

208, 240 and 480V Options For Easy Installation

- *Single-phase and 3-phase delta*
- *Field-convertible voltages 3-phase to single-phase (and vice versa) except for 208V/54 kW*
- *277V single-phase also available*

Factory-Installed Terminal Block

- *Provide electrical service to heater and connect to block*

Heavy-Duty Magnetic Contactors (DVE Models Only)

- *UL-rated 100,000 cycles*

Other Standard DRE/DVE Features

- *Two anode rods for maximum corrosion protection*
- *Simplified circuitry, color coded for ease of service*
- *Bonderized undercoated baked enamel finished cabinets*
- *Brass Drain Valve*
- *CSA/ASME temperature and pressure relief valve*

DRE Gold Model Controls

- *DRE Gold models have surface mount temperature controls adjustable 120° to 180°F.*
- *Manual reset high-temperature cutoff*

DVE Gold Xi Model Features

Advanced Electronic Controls

- *iCOMM™ Compatible and can be monitored from remote locations. Call 1.888.WATER02 for more information.*
- *Plain English text and animated icons.*
- *Displays detailed operational and diagnostic information*
- *Fault or alert messages appear if an operational issue occurs*
- *Last 9 fault and alert messages saved with time stamp.*

Economy Mode Operation

- *Control system automatically lowers the operating set point by a programmed value during user-defined time periods*
- *Helps reduce operating costs during unoccupied or low demand periods*

Precise Temperature Regulation

- *Operating Set Point adjustable 90° to 190°F*
- *Banks of heating elements (3 elements per bank) are energized according to adjustable (1° to 20°) differential set points for each bank. Helps reduce short cycling and operating costs by matching kW output to load conditions*
- *Linear sequencing - first bank on is last bank off*
- *Helps reduce current surge/spikes and avoid peak demand charges*
- *Helps reduce operating costs during low load conditions*
- *Manual reset high-temperature cutoff*

Compliance

- *Meets the standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA90.1*

3-Year Limited Tank Warranty

- *5-year limited tank warranty optional*

DVE Model

DRE Model

All dimensions in inches

MODEL NO.	GAL. CAP.	KILOWATTS MAXIMUM	HEIGHT	DIA.	APPROX. SHIP WEIGHT	
					STD.	ASME
DVE/DRE-52	50	54	55-3/4	21-3/4	265	316
DVE/DRE-80	80	54	60-1/4	25-1/2	280	325
DVE/DRE-120	119	54	62-1/4	29-1/2	390	416

See specification sheets or contact your local rep for optional KW's available.

(DVE Models Only)

ASME (Optional)

Heavy-Duty Custom Xi Electric DSE Models

The heavy-duty Custom Xi DSE series is available with storage capacities from 5 to 119 gallons. All tanks feature ASME tank construction. With input choices as high as 90 kW on 50 through 119 gallon models, the DSE Custom Xi series can be used for maximum-demand hot water supply service or as boosters for supplying sanitizing rinse water for dish washing.

ASME

Optional Goldenrod® 24-carat gold-plated elements resist lime scale adhesion and sheath temperatures up to 1500° F.

Incoloy Sheath Heating Elements Standard

- *Industrial-grade Incoloy sheathed heating elements are designed for rugged long-lasting commercial service, and can withstand sheath temperatures up to 1500°F*
- *Each heating element has three separate heating loops, which provides more heating surface, lower watt density and maximum recovery efficiency*
- *Prewired leads provide excellent protection against oxidation and scaling*
- *Input options from 3 kW to 90 kW, recoveries from 12 GPH to 369 GPH at 100°F rise*

Standard Voltages For Easy Installation

- *Single-phase and 3-phase*
- *Single-phase 208V and 240V are field-convertible to 3-phase*
- *All 208V and 240V at 24 kW and below are supplied as phase-convertible units (single- to 3-phase and vice versa)*
- *277V single-phase also available (Contact A. O. Smith for 120V circuit availability)*
- *International voltages also available (check with factory)*

Factory-Installed Terminal Block (units with more than one contactor)

Advanced Electronic Controls

- *iCOMM™ Compatible and can be monitored from remote locations. Call 1.888.WATER02 for more information.*
- *Plain English text and animated icons*
- *Displays detailed operational and diagnostic information*
- *Fault or alert messages appear if an operational issue occurs.*
- *Last 9 fault and alert messages saved with time stamp.*

Progressive Sequencing

- *First heating element on is first heating element off.*
- *First heating element energized is rotated with each successive heating cycle on models with multiple heating elements.*
- *Evens out wear between heating elements.*

Economy Mode Operation

- *Control system automatically lowers the operating set point by a programmed value during user-defined time periods.*
- *Helps reduce operating costs during unoccupied or low demand periods*

Precise Temperature Regulation

- *Operating Set Point adjustable 90° to 190°F.*
- *Sequencing - Units with multiple element contactors are sequenced on with one second delay between stages. Adjustable modulating mode is optional.*
- *Helps reduce current surge/spikes and avoid peak demand charges.*
- *Manual reset high temperature cutoff.*

Heavy-Duty Magnetic Contactors

Power Circuit Fusing For System Protection

Glasslined Tank, with ASME Construction

CSA Certified and ASME Rated T&P Relief Valve

Compliance

- *Meets the standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA90.1*

Brass Drain Valve

3-Year Limited Tank Warranty

- *5-year limited tank warranty optional*

All dimensions in inches

MODEL NO.	GAL. CAP.	MAXIMUM		HEIGHT	DIA.	APPROX. SHIP WEIGHT
		KILOWATTS	IMMERSION HEATERS			
DSE-5	5	3	1	20-1/2	16-1/4	100
DSE-10	10	6	1	26-1/2	18-3/4	116
DSE-20	20	18	2	27-1/4	20-1/2	145
DSE-30	30	24	2	35-3/4	20-1/2	168
DSE-40	40	36	2	45-3/4	20-1/2	206
DSE-50	50	90	5	54-3/4	20-1/2	235
DSE-65	65	90	5	50-1/2	26-1/2	280
DSE-80	80	90	5	49-1/4	28	300
DSE-100	100	90	5	58-1/4	28	354
DSE-120	119	90	5	63-1/4	30	430

Heavy-Duty CMC/SU Booster Electric Dura-Power™ Models

The Dura-Power™ commercial electric water heaters are designed to boost the water temperatures for applications such as commercial dishwashers, which require very high temperature sanitizing rinse...typically 180°F. Both 5-gallon countermount CMC models and 20-gallon SU models are available with inputs up to 54 kW. All models are also available with an optional stainless steel tank, for use with deionized water.

Incoloy-Sheath Heating Elements Standard

- *Industrial-grade Incoloy sheathed heating elements are designed for rugged long-lasting commercial service and can withstand sheath temperatures up to 1500°F*
- *Each heating element has three separate heating loops, which provides more heating surface, lower watt density and maximum recovery efficiency*
- *Pre-wired leads provide excellent protection against oxidation and scaling*
- *Input options from 6 kW to 54 kW recoveries from 62 GPH to 554 GPH at 40°F rise*
- *Deionized models equipped with stainless steel standard elements*

A. O. Smith Goldenrod® Elements Optional

- *Patent-pending 24K gold-plated sheath plus medium-watt density ensures even longer element life*
- *600% higher resistance to scale build-up, compared to Incoloy elements*
- *Three-year warranty against failure due to lime scale build-up*
- *Not available on deionized models*

Standard Voltages For Easy Installation

- *Single-phase and 3-phase*
- *Single-phase 208V and 240V are field-convertible to 3-phase*
- *CMC models only, 208V and 240V at 24kW and below are supplied as phase-convertible units (single- to 3-phase and vice versa)*
- *277V single-phase also available (Contact A. O. Smith for 120V circuit availability)*

Immersion Thermostat For Efficient Control

- *Close differential, immersion-type thermostat for superbly accurate temperature control*
- *Adjustable from 140°F to 185°F*
- *Manual reset, high-temperature cut-off*

Power Circuit Fusing For System Protection

- *Safeguards elements and contactors from short circuits, overloading and line surges*
- *Required by National Electric Code and UL when current draw exceeds 120A*

Heavy-Duty Magnetic Contactors

- *UL-rated 100,000 cycles*

Factory-Wired 120V Circuit Controls

- *120V control circuit powered by fused transformer*
- *Eliminates need for 120V service connection*

Compliance

- *Meets the standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA90.1*

ASME

Optional Goldenrod® 24-carat gold-plated elements resist lime scale adhesion and sheath temperatures up to 1500°F.

All dimensions in inches

MODEL NO.	GAL. CAP.	NO. OF IMMERSION HEATERS	INLET/ OUTLET	HT.	WIDTH	DEPTH	APPROX. SHIP WEIGHT
CMC-6 thru 18	5	1	3/4	13-3/4	13	21-3/4	80
CMC-20 thru 54	5	2*	3/4	12	18	22-1/2	96
SU-6 thru 18	20	1	3/4	25	22-1/4	23	200
SU-20 thru 54	20	2*	3/4	25	22-1/4	23	200

*CMC-54 and SU-54 have three immersion heaters.

Heavy-Duty Premium Electric DVE/DHE Dura-Power™ Models

Dura-Power™ commercial electric water heaters are built to the same high-quality standards as our gas models. These are the largest commercial electric's we manufacture. Ideal for use as recovery heaters for all types of large commercial and industrial applications or for large process potable hot water requirements. They can be customized to meet any special application with the large selection of available options.

Advanced Electronic Control (All Models 150 kW and Down)

A. O. Smith's new propriety electronic water heater control, provides precise + or - 1°F temperature control, that is ideal for industrial and food service applications where exact temperatures of hot water are needed.

- ***Plain Text*** *– Animated icons display detailed operational and diagnostic information. Fault or Alert messages appear if an operational issue occurs.*
- ***Low Water Cut Off*** *– Factory standard on board low water cut-off uses a remote electronic immersion type probe to prevent energizing of the elements in the event of low water condition and eliminates accidental dry firing.*
- ***Progressive Modulating (only available on units 150 kW or less)*** *– Sizes the input of available elements to match current load conditions. Rotates and lead lags element loads to provide long life and equal wear.*
- ***Economy Mode Operation (only available on units 150 kW or less)*** *– Control system automatically lowers the operating set point by a programmed value during user defined time periods. Seven-day clock may be programmed for night set back and or weekend shutdown to reduce operating cost and save money.*
- ***iCOMM™ Compatible*** *– Units can be monitored from remote locations. Call 1.888.WATER02 for more information. Note: Up to 150 kW only. Units above 150 kW use analog controls.*

Solid State Modulating Step Control (All Models 180 kW and up)

- *Solid state electronic control device that modulates input to match load through progressive sequencing of steps (up to 20 steps with maximum of one per contactor).*

Incoloy Immersion Heaters

- *Heavy-duty medium watt density elements (three immersion heater) have incoloy sheathing: provide excellent protection against oxidation and scaling. The input ranges from 15kW to 3000kW.*

Fusing

- *Control and power circuit fusing to meet N.E.C.*

Compliance

- *Meets the standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA 90.1.*

Magnetic Contactor(s)

- *Heavy duty UL rated for 100,000 cycles.*

Other Standard Features

- *Color-coded circuitry for easier servicing*
- *Anode rods for maximum corrosion protection*
- *Standard voltages include 208, 240, 480, 600 volt single or three-phase.*
- *For other voltages consult factory.*
- *Factory-installed terminal block(s)*
- *Cabinet has baked enamel finish*
- *Prewired element terminal leads*
- *Temperature and pressure relief valve*
- *2" dial temperature gauge*

Optional Dual-Energy Source Capability

- *Provides emergency back up energy source or winter/summer boiler operation. Can be specified with optional water to water or steam to water heat exchangers. Both single and double wall heat exchangers are available. Complete control packages can be factory-installed for hook up and run capability.*

Optional Goldenrod® 24-carat gold-plated elements resist lime scale adhesion and sheath temperatures up to 1500° F.

Glasslined Tank

- *Tank interior is coated with glass specially developed for use in water heaters. Tanks rated at 125 psi working pressure; 150 psi or 160 psi working pressure is optional. Vermin proof fiber glass insulation reduces costly heat loss. Constructed to Section IV of ASME code, and UL standards. Tanks have channel skid base. A 4" x 6" handhole is furnished on 500, 600 and 700-gallon models; 11" x 15" manhole is furnished on 800-gallon and larger sizes.*

Limited Warranty Outline

- *3-Year Limited Tank Warranty*
- *Optional 5-Year Limited Tank Warranty*
- *If the tank should leak any time during the first three years, under the terms of the warranty, A. O. Smith will repair or replace the heater; installation, labor, handling repair or replace the heater; installation, labor, handling and local delivery extra. THIS OUTLINE IS NOT A WARRANTY. For complete information, consult the written warranty or A. O. Smith Water Products Company. Warranty does not apply to product installed outside of the United States of America or its territorial possessions and Canada.*

Options

- *Tank Linings*
  CEMENT – A special formulation of cement providing excellent corrosion protection. Available on 200-gallon and larger tanks.

  EPOXY – A solventless two component epoxy lining applied to a minimum ten-mil (.010") dry thickness. Available on 200-gallon and larger tanks.

- *GOLDENROD® ELEMENTS – Available with Optional Goldenrod® Elements - All DVE/DHE models are available with the Goldenrod® 24K gold plated elements (patent pending). Goldenrod® Elements provide long-life and five times the scaling resistance of standard incoloy elements. Goldenrod® Elements carry a three-year warranty against failure due to scale buildup.*

- *SPECIAL CONSTRUCTION – Silicon Bronze Vessels are available for special applications or very corrosive water conditions. Consult factory for specific sizes.*

- *STAINLESS STEEL VESSELS – Are available for deionized water. Built with stainless steel under rules of Section IV of the ASME Boiler and Pressure Vessel Code for operation on deionized water having a minimum specific resistivity of 10 megohm/cm.*

- *150 OR 160 PSI WORKING PRESSURE – Must be specified at time of order.*

Other Optional Features

- *TEMPERATURE AND PRESSURE RELIEF VALVES – For working pressures other than standard; consult factory.*
- *HORIZONTAL OR VERTICAL – See specifications, most gallon capacities may be obtained in vertical or horizontal construction.*
- *CIRCULATING PUMP PACKAGE – Circulating pump and piping sized to turn over entire storage capacity of tank once each hour. Recommended to optimize available water at temperature in horizontal tanks particularly where low draw conditions are anticipated.*
- *OPTIONAL INTERNATIONAL VOLTAGES – 380 and 415 volts three-phase.*
- *3-1/2" DIAL-TYPE PRESSURE GAUGE – Factory-installed.*
- *3-1/2" DIAL-TYPE TEMPERATURE GAUGE – Factory-installed.*
- *11" x 15" MANHOLE – Available as option on tanks 700 gallons or smaller.*

Control Options

- *COPPER TUBE TANK HEATER – Double wall copper tube tank heaters are designed for heating potable water with both potable or non-potable liquids or steam, and are specifically engineered for installation in models DVE and DHE for dual-energy applications. Tank heaters have a positive fail-safe means of leak detection in the event of either tube failure to prevent mixture of heating medium and potable water. Singlewall heat exchangers are also available.*
- *TERMINAL BLOCKS – Allows for remote connection to building demand limiter or other functions.*
- *AUTOMATIC RESET HIGH LIMIT – A control that in the event of high temperature, interrupts power, de-energizing elements, automatic reset. (Standard with modulating step control).*
- *INDICATING LIGHTS – Denotes heating stage(s) in operation. Up to one light per contactor is available.*
- *OVERRIDE SWITCHES – A simple means of load control allows all or part of unit input to be controlled manually. Up to one switch per contactor is available*
- *SAFETY DOOR INTERLOCK – Prevents opening of control panel door when heater power supply is on. NOTE: Once door is opened heater may be energized if necessary for service diagnosis.*
- *SHUNT TRIP CIRCUIT BREAKER – A safety device (circuit breaker) which disconnects power to heater in the event of over-current, high temperature or low water level, breaker must be manually reset.*
- *CIRCUIT BREAKER – A safety device which disconnects power to the heater in the event of overcurrent.*

All dimensions in inches

VERTICAL ELECTRIC STORAGE HEATERS

MODEL NO.	GAL. CAP.	MAX KW INPUT	HEIGHT	WIDTH	DEPTH
DVE-140	125	120	83-1/2	30	37
DVE-150	150	150	83-1/2	30	37
DVE-150L	150	150	59-1/2	36	43
DVE-200	200	180	79-1/2	36	43
DVE-250	250	240	93	36	43
DVE-300	300	300	83-1/2	42	49
DVE-350	350	330	95-1/2	42	49
DVE-400	400	390	102-1/2	42	49
DVE-500	500	480	97	48	55
DVE-600	600	600	112	48	55
DVE-700	700	690	124	48	55
DVE-800	800	780	116	54	61
DVE-1000	1000	990	116	60	67
DVE-1250	1250	1200	143	60	67
DVE-1500	1500	1500	155	60	67
DVE-2000	2000	1980	183	66	73
DVE-3000	3000	3000	217	72	79
DVE-5000	5000	3000	309	78	85
DVE-7500	7500	3000	330	90	97
DVE-10,000	10,000	3000	358	102	109

*Complete model number includes the desired kW at the end, minimum installation.
Clearances required: 30˝ from front, 12˝ from top and 24˝ from right side.

All dimensions in inches

HORIZONTAL ELECTRIC STORAGE HEATERS

MODEL NO.	GAL. CAP.	MAX KW INPUT	HEIGHT	WIDTH	DEPTH
DHE-200	200	180	38-1/2	77	36
DHE-250	250	240	38-1/2	91	36
DHE-300	300	300	44-1/2	81	42
DHE-350	350	330	44-1/2	93	42
DHE-400	400	390	44-1/2	100	42
DHE-500	500	480	51	94	48
DHE-600	600	600	51	109	48
DHE-700	700	690	51	121	48
DHE-800	800	780	57	111	54
DHE-1000	1000	990	61	111	60
DHE-1250	1250	1200	61	138	60
DHE-1500	1500	1500	61	150	60
DHE-2000	2000	1980	70	177	66
DHE-3000	3000	3000	76	211	72
DHE-5000	5000	3000	82	296	78
DHE-7500	7500	3000	94	317	90
DHE-10,000	10,000	3000	106	345	102

*Complete model number includes the desired kW at the end, minimum installation.
Clearances required: 30˝ from front, 12˝ from top and 24˝ from right side.

Automatic Circulating Water Heaters

The A. O. Smith high efficiency condensing XP Water Heater utilizes a state-of-the-art heat exchanger and control technology to provide large volumes of hot water for demanding commercial and industrial potable hot water applications. The all stainless steel water tube heat exchanger construction allows the XP Water Heater to operate in a continuous condensing mode while maximizing longevity and delivering thermal efficiencies as high as 99% when operating in low temperature applications.

A unique multi-burner design is control sequenced and modulated to produce turndown rates of up to 20:1. Precise temperature control and accurate load matching produce smooth system operation and eliminates wasteful short cycling and temperature overshooting.

Advanced Multi-Burner, Low NOx Combustion Technology

- *Venturi-mixing gas / air ratio system - works with variable speed blower to precisely mix gas and air throughout firing range*
- *Fully modulating capability prevents energy-stealing short cycling and provides smooth system operation with higher overall system efficiencies*

Low NOx Operation

- *Complies with SCAQMD Rule 1146.2 for XWH1000 through XWH2000 and Rule 1146.1 for XWH2600 and XWH3400, and other air quality management districts with similar requirements for low NOx emissions*

Advanced Sola Control

- *Large touch screen user interface*
- *Factory standard with MODBUS protocol connections*
- *The latest in energy saving algorithms*
- *Includes remote tank temperature control to adjust tank temperature at the water heater - modulates the water heater to maintain tank set point temperature within +/-1 degree*
- *Water heater output control features 20:1 turndown ratio on models 2 million btuh and up, 10:1 turndown ratio on models 1.7 million btuh and down*

All-Bronze Factory-Mounted Pump(s)

- *Integrally mounted, wired, and controlled by the water heater control*
- *Factory-sized for proper flow between water heater and storage tank*
- *Allows 50 equivalent feet of piping between water heater and tank*

Multi-Pass/Multi-Burner Condensing Stainless Steel Heat Exchanger

- *Utilizes leading-edge multi-pass water tube heat exchanger to maximize heat transfer*
- *Designed for fully condensing operation throughout the heating range*
- *All heating surfaces are 316L stainless steel to provide a long and trouble-free service life*
- *Saves both fuel and operating cost with every heating cycle*
- *Impervious to thermal shock*