A.O. Smith®

COMMERCIAL
PRODUCT CATALOG

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A. O. SMITH COMMERCIAL PRODUCT CATALOG

It should come as no surprise that a company that has built its reputation on the concept of innovation continues to lead the industry with the broadest—and, yes, the most innovative—selection of water heaters in its long and storied history.

What might come as a surprise to some is the fact that we view this accomplishment as a mere beginning—an indication of even greater things still to come. For everyone here at A. O. Smith, it's never been just about outdoing what we have achieved in the past—it's always been about exceeding everyone's expectations for the future. Which is why you, our customers, can count on us to provide you with the perfect water heater solution for any application—day after day, year after year.

THE ELIMINATOR™

SELF-CLEANING TECHNOLOGY

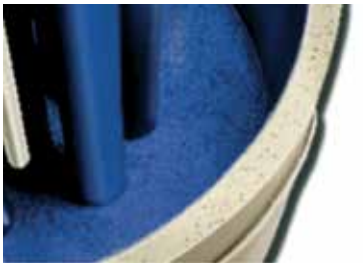
A. O. SMITH INNOVATION & QUALITY... ENGINEERED INTO EVERY PRODUCT STARTING WITH PREMIUM COMPONENTS

As deposits of lime and other sediments accumulate inside the tank, they form a barrier between the burner and the water, concentrating heat around the critical weld areas. The result is reduced energy efficiency, higher operating costs, and greater risk of premature tank leaks.

The Eliminator directs incoming cold water under pressure to sweep the bottom of the tank to keep sediment moving so it doesn't accumulate. With The Eliminator™, every Master-Fit® water heater can be expected to maintain its rated efficiency longer and deliver reliable service year after year.

PERMAGLAS® ULTRA COAT™ GLASS COATING

PermaGlas Ultra Coat is A. O. Smith's exclusive "slush coat" process that heat-bonds glass to each tank's inner surface after all connections and seams have been welded. Because of this, there is no chance of "weld burn" that can burn away normal glass lining and expose bare steel to water.



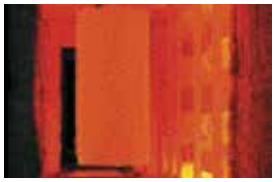
PermaGlas Ultra Coat provides protection for the tank's top, bottom, and outer shell and all weld seams.

All welds completed prior to PermaGlas Ultra Coat.

Once tanks are filled with PermaGlas, they are rotated (computer controlled) for precise, even coating.

Technician removes hand-hole clean-out to prepare it for the next step.

Tanks are then rotated further, allowing the excess PermaGlas to drain from the tank.



After pre-drying in 200°F ovens, the tanks are then fired to 1,600°F, fusing the PermaGlas to the steel tank.

iCOMM CONNECTIVITY

Now Standard on all BTH Models

The iCOMM connectivity service allows users to view and manage their water heater operation remotely. Detailed information on current status, usage history, set points and other key parameters is available within the iCOMM function on the A. O. Smith app. Fault and alert information is communicated via text message and/or e-mail providing valuable information needed to restore the unit to proper operation.

iCOMM now can be maintained and managed from the convenience of the A. O. Smith app available for iPhone and Android. Get real time information delivered to your phone directly from your water heater. There are no subscription or app fees related to the iCOMM connectivety service.

iCOMM SYSTEM REQUIREMENTS

- Standard equipment on Cyclone® BTH 120-500 models with touch display (Series 300 to present)
- Internet connection via Wi-Fi or Ethernet
- The latest revision of the A. O. Smith app (available iOS and Android)

iCOMM BENEFITS

- iCOMM connectivity helps ensure businesses have the hot water needed
- Contractors can stay connected to their customers by monitoring operation and receiving fault notifications remotely
- Operators with multiple locations can manage their fleet of water heaters remotely

iCOMM FEATURES

- Remote monitoring via Wi-Fi or Ethernet cable. Once the unit is registered to iCOMM on the app, registered users can view current water heater status and all pertinent information available from the convenience of their phone.
- Automated service notifications in the event of any of thirty-six alarm or fault conditions. Registered users are notified by text message and or e-mail
- Appliance run time shows the total on time, cycle count and burner on time
- Custom notification settings allow for alerts when tank temperatures are above or below user parameters
- Users can view one or multiple water heaters assigned to their log-in

BUILDING MANAGEMENT SYSTEM BACNET & MODBUS INTERFACE

MODELS:

ETH-1000
Ethernet Connection

XLTR-1000
Mirius Serial Gateway

INTRODUCING THE BMS

GATEWAY FOR CONTROL OF A. O. SMITH WATER HEATERS

ICC ENERGY MANAGEMENT INTERFACES	
PART NUMBER	**CONNECTION TYPE**
100316044	Serial
100316045	Ethernet(IP)

Connect your A. O. Smith water heater to your building management system using the new Millennium control from ICC* (Industrial Control Communications, Inc.)

Works with Cyclone, BTH, BTHL, BTX-100, DVE/DHE/DSE.

A. O. Smith
COMMERCIAL GAS
WATER HEATERS

COMMERCIAL GAS

CYCLONE® MXI

Up to 98% Efficient

Intelligent Control System with LCD Display

- Exclusive A. O. Smith designed control system
- Provides detailed water heater status information
- Precise temperature control adjustable from 90 to 180 degrees
- Built-in diagnostics
- Run history information
- iCOMM remote monitoring on-board with Wi-Fi connectibility

Submerged Combustion Chamber, with Helical Heat Exchanger Coil

- Positioned in center of tank, surrounded by water to virtually eliminate radiant heat loss from chamber
- Direct spark ignition
- Spiral heat exchanger keeps hot burner gases swirling, uses centrifugal force to maximize efficiency of heat transfer to water in tank
- Spiral heat exchanger reduces lime scale from forming on water-side surfaces, which maintains energy efficiency over time

Ultra-Low Nox Operation

Power Anodes Standard on All Models

- Provides long-lasting tank protection in varying water conditions
- Powered anodes are non-sacrificial
- Automatically adjusts output needed to properly protect the tank

3-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete warranty information, consult written warranty or go to hotwater.com

Model Number	Gallon Capacity	BTU/H Input	Recovery GPH Temperature Rise			Dimensions in Inches		Approx. Shipping Weight (lbs)	
			40°F	100°F	140°F	Height	Diameter	Standard	ASME
BTH-120(A)	60	120,000	345	138	99	55.5	27.75	460	490
BTH-150(A)	100	150,000	445	178	127	76	27.75	523	553
BTH-199(A)	100	199,900	588	235	168	76	27.75	523	553
BTH-250(A)	100	250,000	727	291	208	76	27.75	523	553
BTH-300(A)	119	300,000	873	349	249	75.75	33.12	855	855
BTH-400(A)	119	399,900	1151	460	329	75.75	33.12	855	855
BTH-500(A)	119	499,900	1439	576	411	75.75	33.12	855	855

Optional Concentric Vent Kits
Electrical characteristics- 120V-60 Hz A.C., 5.0A.
"A" in the model number represents ASME construction.
Models are certified from sea level to 10,100 ft. elevation.

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

CLASSIFIED UL WATER QUALITY

ENERGY STAR

ASME HLW (optional)

GAS-FIRED UL LISTED

iCOMM

COMMERCIAL GAS

CYCLONE® XL

Extends Cyclone Condensing Products to 1,000,000 Btu/h

- High efficiency, condensing water heaters with modulating burner to 1,000,000 Btu/h
- Primary and secondary heat exchangers keep hot combustion gases in the tank longer to extract more heat into the water
- Models from 750,000 to 1,000,000 Btu/h deliver thermal efficiencies of 97%, saving money on operating costs
- PermaGlas® glass-lining provides superior protection against corrosion for the ASME-certified tank and primary heat exchanger

Electronic Control & Display

- iCOMM™ connectivity platform provides diagnostic and operational information
- Integrated color touch display/control system.is standard on all models
- Precise temperature control, adjustable from 90° F. to 180° F.
- Remote monitoring, diagnostic fault notifications, and control of the set point and differential via the free A.O. Smith mobile app

Primary and Seconday Heat Exchangers

- Glass-lined 304L stainless steel primary HX positioned in center of tank, surrounded by water, to virtually eliminate radiant heat loss from chamber
- Secondary HX (where condensing process occurs) constructed of type 316L stainless steel for additional corrosion resistence
- 2-step heat transfer process between primary and secondary HX maximizes heat transfer, creating thermal efficiency of 97%

Power Anodes Standard on All Models

- Provides long-lasting tank protection in varying water conditions
- Non-sacrificial powered anodes prevent lime scale from forming on water-side surfaces, which maintains energy efficiency over time
- Automatically adjusts output needed to properly protect the tank

5-Year Limited Tank and 1-year Limited Parts Warranty

- For complete warranty information, consult written warranty or go to hotwater.com

Model Number	Gallon Capacity	BTU/H Input	Recovery GPH Temperature Rise			Dimensions in Inches		Approx. Shipping Weight (lbs)
			40° F	100° F	140 F°	Height	Diameter	
BTHS-750A	120	750,000	2205	882	630	80-3/4	44-1/2	1,300
BTHS-1000A	120	1,000,000	2940	1176	839	80-3/4	44-1/2	1,300

Electrical characteristics - 120V-60 Hz A.C., 5.0A.
"A" in model number represents ASME construction.
Propane gas models available.
Recovery capacities are based on AHRI rated thermal efficiencies.
Models are certified from sea level to 10,100 ft. elevation.

AHRI CERTIFIED® www.ahridirectory.org
Low Lead Content
CLASSIFIED UL WATER QUALITY
ENERGY STAR
ASME HLW
GAS-FIRED UL LISTED
iCOMM

COMMERCIAL GAS

CYCLONE® LV (LARGE VOLUME)

Large Volume Tank + Condensing Design

- Large volume, integrated storage capacity to 250-gallons eliminates need for multiple water heaters or separate storage tank, saving space and install cost
- Helical internal heat exchanger keeps hot combustion gases in the tank longer to extract more heat into the water
- Models from 150,000 to 500,000 Btu/h deliver thermal efficiencies to 96%, saving money on operating costs
- PermaGlas® glass-lining process provides superior protection against corrosion for the large volume, ASME-certified storage tank

Electronic Control & Display

- iCOMM™ connectivity platform provides diagnostic and operational information
- Integrated color touch display/control system.is standard on all models
- Precise temperature control, adjustable from 90° F. to 180° F.
- Remote monitoring, diagnostic fault notifications, and control of the set point and differential via the free A. O. Smith mobile app

Submerged Combustion Chamber with Helical Heat Exchanger Coil

- Positioned in center of tank, surrounded by water to virtually eliminate radiant heat loss from chamber
- Direct spark ignition
- Spiral heat exchanger keeps hot burner gases swirling, uses centrifugal force to maximize efficiency of heat transfer to water in tank
- Spiral heat exchanger reduces lime scale from forming on water-side surfaces, which maintains energy efficiency over time

Power Anodes Standard on All Models

- Provides long-lasting tank protection in varying water conditions
- Powered anodes are non-sacrificial
- Automatically adjusts output needed to properly protect the tank

5-Year Limited Tank and 1-year Limited Parts Warranty

- For complete warranty information, consult written warranty or go to hotwater.com

Model Number	Gallon Capacity	BTU/H Input	Recovery GPH Temperature Rise			Dimensions in Inches		Approx. Shipping Weight (lbs) ASME
			40° F	100° F	140 F°	Height	Diameter	
BTHL-150A	250	150,000	436	175	125	91-1/2	42-1/8	1125
BTHL-199A	250	199,900	575	230	164	91-1/2	42-1/8	1125
BTHL-250A	250	250,000	712	285	203	91-1/2	42-1/8	1125
BTHL-300A	220	300,000	855	342	244	91-1/2	42-1/8	1420
BTHL-400A	220	399,900	1127	451	322	91-1/2	42-1/8	1420
BTHL-500A	220	499,900	1394	557	398	91-1/2	42-1/8	1420

Optional Concentric Vent Kits available.
Optional Condensate Neutralization Kits available.
Electrical characteristics - 120V-60 Hz A.C., 5.0A
"A" in model number represents ASME construction.
Models are certified from sea level to 10,100 ft. elevation.

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

CLASSIFIED UL WATER QUALITY

ENERGY STAR (All models except BTHL-500A)

ASME HLW

GAS-FIRED UL LISTED

iCOMM

COMMERCIAL GAS

CYCLONE® XL

High Efficiency Condensing Design

- Operates at 96% thermal efficiency which saves money on operating costs compared to a standard 80% efficient gas water heater

Helical Internal Heat Exchanger

- Spiral heat exchanger keeps hot combustion gases in the tank longer to lengthen the heat transfer cycle
- Positioned in the center of the tank for more even heat distribution

Ultra-Low Nox Operation

- Enhanced Ultra-low NOx burner complies with SCAQMD Rule 1146.2 and other Air Quality Management Districts with similar requirements for NOx emissions of less than 14 ng/J or 20 ppm

Power Direct Vent Design

- Combined vertical and horizontal runs terminating through an outside wall. Vents using PVC, CPVC, or polypropylene piping. Canadian installations require ULC S636 approved pipe for venting.
- 2" pipe, vents up to 45 equivalent feet
- 3" pipe, vents up to 128 equivalent feet

Side-Mounted Hot and Cold Recirculating Taps

- Allows Cyclone® Xi to be installed as part of combination space heating/water heating applications

3-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete warranty information, consult written warranty or go to hotwater.com

Model Number	Gallon Capacity	BTU/H Input	Recovery GPH Temperature Rise			Dimensions in Inches		Approx. Shipping Weight (lbs)
			40°F	100°F	140°F	Height	Diameter	
BTX-100	50	100,000	291	115	83	66-3/4	22	255
BTXL-100	75	100,000	291	115	83	65-1/4	27-3/4	382

Standard model certified from sea level to 10,100 ft. elevation.
Optional Concentric Vent Kits and Condensate Neutralization Kits.

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Low Lead Content

CLASSIFIED UL WATER QUALITY

ENERGY STAR

DESIGN CERTIFIED

CYCLONE® HE

Helical Coil Heat Exchanger

- Submerged heat exchanger provides much greater heat transfer surface than standard straight flue tube
- Produces 94% thermal efficiency, which saves money on operating costs, and increases hot water output compared to standard-efficiency water heaters

Versatile Power Vent Design

- System allows combined vertical and horizontal vent runs, terminating through an outside wall using Schedule 40 PVC, CPVC, or polypropylene pipe
- 2" pipe vents up to 25 equivalent feet
- 3" pipe vents up to 65 equivalent feet
- 4" pipe vents up to 128 equivalent feet

High Output With Small Footprint

- 22″ diameter, combined with 94% efficiency, 76,000 BTU input means Cyclone HE can be installed in less space than a larger 75-gallon unit with equal or better performance

PermaGlas® Ultra Coat™ Glass Lining

- A. O. Smith exclusive process provides superior protection against corrosion
- Protects all interior tank surfaces including inside and outside of helical heat exchanger

Intelli-Vent™ Gas Control

- Equipped with long-lasting silicon nitride hot surface ignitor—no standing pilot
- Advanced electronics for more precise control of water temperature and simplified system diagnostics
- 180°F maximum temperature setting

Side-Mounted Hot And Cold Recirculating Taps

- Allows Cyclone HE to be installed as part of combination space heating/water heating applications, or any system requiring a recirculating hot water loop
- Plugs for the recirculating taps are factory installed

Two Heavy-Duty Anode Rods

- Provide advanced protection against corrosion

3-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete warranty information, consult written warranty or go to hotwater.com

**Intelli-Vent™ is a registered trademark of Emerson Electric Company

Model Number	Gallon Capacity	BTU/H Input	Recovery GPH Temperature Rise			Dimensions in Inches		Approx. Shipping Weight (lbs)
			40°F	100°F	140°F	Height	Diameter	
BTX-80	50	76,000	215	86	61	71-1/8	22	225

Specify when ordering propane (LP) gas.
Can be installed up to 5,300 feet without alteration.
Use SMR S54 for installation up to 10,100 Ft.

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

c UL us LISTED

Green Choice™ The Eco-Friendly Gas-Fired Burner

UNRIVALED VENTING FLEXIBILITY

The Cyclone features power-vent and power direct vent design, allowing combustion air to be drawn from the equipment room conventionally or directly from the outdoor atmosphere through a sealed intake air pipe. Vent systems can be terminated vertically through the ceiling or horizontally through a sidewall. Front located exhaust and condensate connections allow for easy installation and serviceability.

SEALED DIRECT VENT VERTICAL	SEALED DIRECT VENT SIDEWALL	INDOOR CONVENTIONAL VERTICAL	INDOOR CONVENTIONAL SIDEWALL

See instruction manual for complete venting instructions and allowable vents lengths.

Common Venting Kit Available

Up to three Cyclone MXi or LV units can be common vented allowing for fewer wall penetrations, reduced installation costs, and greater flexibility in venting materials.

COMMERCIAL GAS

POLARIS® HIGH EFFICIENCY

Condensing Design

- Operates at up to 96% thermal efficiency which saves money on operating costs compared to a standard 80% efficient gas water heater
- Helical internal heat exchanger keeps hot combustion gases in the tank longer to extract more heat into the water
- Modulating burner maintains high efficiency operation at lower input rates.

Stainless Steel Construction

- Tank and helical heat exchanger are constructed from 444 stainless steel for excellent corrosion resistance without the need for an anode

Ultra-Low NOx Operation

- Complies with SCAQMD Rule 1146.2 and other air quality management districts with similar requirements for Ultra-Low NOx emissions requirements of 14 ng/J or 20 PPM

Whisper Quiet Operation

- Ultra quiet blower and burner minimize noise

Power Direct Vent Design

- Direct vent using PVC, CPVC or either thru-the-wall or thru-the-roof
- Optional concentric vent kit

Advanced Electronic Control

- Large LCD display provides precise temperature control and advanced diagnostics

Code Compliance

- Meets UBC, CEC, and ICC National Codes
- Meets the thermal efficiency and standby loss requirements of the U. S. Department of Energy and current edition of ASHRAE/IES 90.1

3-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model Number	Gallon Capacity	BTU/h Input Gallon Per Hour	Thermal Efficiency	Recovery @ 100° Rise Gallon Per Hour	Dimensions in Inches		Vent Connection	1" Water Connections		T&P	Gas Supply*	Approx. Shipping Weight (lbs)
					Height	Diameter						
BSS 130	34	130,000	96%	149	48-1/2	22	2 or 3	15-3/4	40-1/2	41	6-3/8	150
BSS 150	34	150,000	94%	171	48-1/2	22	2 or 3	15-3/4	40-1/2	41	6-3/8	150
BTS 130	50	130,000	95%	149	62-3/8	22	2 or 3	15-3/4	54-1/2	55	6-3/8	176
BTS 150	50	150,000	95%	171	63-3/4	22	2 or 3	15-3/4	55-3/4	56-1/4	6-3/8	180
BTS 175	50	175,000	96%	200	63-3/4	22	3	15-3/4	55-3/4	56-1/4	6-3/8	180
BTS 199	50	199,000	96%	227	63-3/4	22	3	15-3/4	55-3/4	56-1/4	6-3/8	180

Available in Propane (LP) gas. Specify when ordering Propane (LP) gas.
Models certified for sea level to 7,700 ft. elevation.

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

CLASSIFIED UL WATER QUALITY

DESIGN CERTIFIED

COMMERCIAL GAS

TX1 INTEGRATED TANKLESS ON TANK

Delivers 96% Thermal Efficiency

Ultra-Low NOx Operation

- Complies with SCAQMD Rule 1146.2 and other Air Quality Management Districts with similar requirements for ultra low-NOx emissions

Uses CT-199 Commercial Tankless

- Modulating burner
- Primary heat exchanger constructed of commercial grade copper
- Secondary heat exchanger constructed of 316 grade stainless steel
- Advanced electronic control with integrated diagnostics
- 185°F maximum temperature

119 Gallon Storage Tank

- 4.1 GPM pump
- Glass lined tank
- Multiple anodes to protect the tank
- Front water inlet and top water outlet

6 Year Limited Heat Exchanger and Tank, 5 Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model	Description	Gallon Capacity	Input BTU/ HR	Thermal Efficiency	Dimensions			Recovery GPH Temperature Rise			Shipping Weight (lbs.)
					Height	Width	Depth	40°F	100°F	140°F	
ATX-199-N	Indoor Nat	119	199,000	96%	72	29.4	41	579	232	165	520
ATX-199-P	Indoor LP	119	199,000	96%	72	29.4	41	2,192	878	625	520

Electrical characteristics-120V-60Hz A.C., 5.0 A.
Models certified from sea level to 10,100 ft. elevation.

AHRI CERTIFIED® www.ahridirectory.org

ENERGY STAR

LEAD FREE IAPMO R&T

NSF ANSI/NSF 5

DESIGN CERTIFIED

CERTIFIED

COMMERCIAL GAS

MASTER-FIT® BTR

Designed with Flexibility in Mind

- Ideal in new construction and replacement applications
- Multiple water connections
- Low installation clearances

The ELIMINATOR™ Self-Cleaning System

- Directs incoming water to sweep the bottom of the tank to keep sediment from accumulating
- Reduced sediment build-up helps maintain thermal efficiency and reduce water-heating costs
- Helps prolong tank life

Factory-Installed Draft Diverter and Flue Damper

- Low-profile draft diverter helps for installation in tight spaces
- Automatic motorized flue damper helps minimize standby heat loss
- BTR-500 Uses Draft Inducer design

Three Water Connection Options

- Hot and cold water connections can be made through front, top or rear of unit
- The Eliminator™ system operates when cold water is connected through front

PERMAGLAS® ULTRA COAT™ Glasslining

- Exclusive process provides superior protection against corrosion

CoreGard™ anode rods with stainless steel core provide additional corrosion protection

Intermittent Electronic Ignition

- Eliminates standing pilot, saves energy
- Includes power ON/OFF switch
- Provides flame failure response in less than one second

Meets the Thermal Efficiency and Standby Loss Requirements of the U.S. Department of Energy and Current Edition of ASHRAE/IES90.1

CSA Certified and ASME rated T&P Relief Valve, Factory-Installed

Maximum Hydrostatic Working Pressure: 160 psi

Fully Automatic Control System

- Manual-reset gas shutoff device prevents excessive water temperature
- Electric temperature control for precise temperature regulation adjustable 120°F–180°F
- Gas pressure regulator and pilot filter

Handhole Clean Out

- Allows easy access to tank interior for cleaning

3-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Continued on the following page

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

CLASSIFIED UL WATER QUALITY

ASME HLW (Select Models)

GAS-FIRED C UL LISTED

MASTER-FIT® BTR (CONTINUED)

Model Number	Gallon Capacity	BTU/H Input	Recovery GPH Temperature Rise			Dimensions in Inches		Approx. Shipping Weight (lbs)	
			40°F	100°F	140°F	Height	Diameter	Standard	ASME
BTR-120*	71	120,00	291	116	83	69.75	27.5	400	N/A
BTR-154	81	154,000	373	149	107	67.5	27.5	470	N/A
BTR-180	81	180,000	434	174	124	67.5	27.5	470	N/A
BTR-197	100	199,000	482	193	132	75	27.5	603	N/A
BTR-199	81	199,000	461	184	132	67.5	27.5	470	N/A
BTR-200(A)	100	199,000	482	193	132	72	30.25	630	725
BTR-250(A)*	100	250,000	606	242	173	72	30.25	630	725
BTR-251(A)*	65	251,000	608	243	174	75	27.75	750	862
BTR-275(A)*	100	275,000	667	267	190	72	30.25	630	725
BTR-305(A)	65	305,000	739	296	211	75	27.75	750	862
BTR-365(A)	85	365,000	885	354	253	79.5	27.75	725	833
BTR-400(A)	100	390,000	970	388	277	75.5	30.25	760	874
BTR-500(A)	85	500,000	1212	485	346	81.5	27.75	812	857

Specify when ordering propane (LP) gas.
*Model BTR 120 is shipped with 6" x 5" flue outlet adapter. Models BTR 250, 251 and 275 are shipped with a 8" x 6" flue outlet adapter.
Standard models certified from sea level to 2,000 ft. elevation. Order SMR S54 for elevations up to 8,000 ft.
BTR-500 model features induced draft design and no damper.
"A" in the model number indicates optional ASME construction. e.g. BTR-500A

COMMERCIAL GAS

MASTER-FIT® BTL ULTRA-LOW NOX

Complies with California SCAQMD Rule 1146.2 and other Air Quality Management Districts with Similar Requirements of 20 PPM and 14 NG/J Low NOx Requirements

Rated Category 1 Appliance

Top, Front, and Back Plumbing Connections

Uses Standard Double Wall Type B Vent

All Models AHRI Certified

No Draft Hood or Barometric Damper

CSA Certified and ASME rated T&P Relief Valve, Factory-Installed

Meets the Thermal Efficiency and Standby Loss Requirements of the U.S. Department of Energy and Current Edition of ASHRAE/IES90.1

Handhole Cleanout

The ELIMINATOR™ Self-Cleaning Feature

3-Year Limited Warranty

3-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model Number	Gallon Capacity	BTU/H Input	Recovery GPH Temperature Rise			Dimensions in Inches		Approx. Shipping Weight (lbs)	
			40°F	100°F	140°F	Height	Diameter	Standard	ASME
BTL-120	81	120,000	288	115	82	63-3/4	27-3/4	650	N/A
BTL-154	81	154,000	370	148	106	63-3/4	27-3/4	650	N/A
BTL-180	81	180,000	432	173	123	63-3/4	27-3/4	650	N/A
BTL-198	81	199,000	478	191	137	63-3/4	27-3/4	650	N/A
BTL-199	100	199,000	478	191	137	71-3/4	27-3/4	750	800
BTL-250(A)	100	250,000	600	240	171	71-3/4	27-3/4	750	800
BTL-275(A)	100	275,000	660	264	189	71-3/4	27-3/4	750	800
BTL-310(A)	86	310,000	744	298	213	71-3/4	27-3/4	810	860
BTL-366(A)	86	366,000	879	352	251	71-3/4	27-3/4	810	860
BTL-400(A)	86	390,000	936	375	268	71-3/4	27-3/4	810	860

Electrical characteristics—120V-60 Hz A. C., 5.0A.
(A) after model number designates optional ASME construction.
LEG KITS FOR UL SANITATION TO MEET NSF-5 (increases overall height by 4").
BTL models not available in LP gas (Except for the BTL 199 which is available with LP).

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

CLASSIFIED UL WATER QUALITY

ASME HLW (Optional on Select Models)

GAS-FIRED UL LISTED

COMMERCIAL GAS

CONSERVATIONIST® BT

BT models provide reliable, efficient service for applications such as office buildings and duplex apartment homes.

COREGARD™ Anode Rod

- Stainless steel core won't corrode or break away

PERMAGLAS® Glasslining

- Glass lining and anode rod protect steel tank from corrosion

Fully Automatic Controls

- Includes automatic safety shutoff gas if pilot is extinguished, and high temperature energy cutoff (ECO)

Compact Design

- Smaller diameters and shorter heights for greater installation flexibility

Available in Natural Gas and Propane

Piezo Ignitor

- Natural gas models only

Burner Head Mounted Pilot

- Natural gas models only

CSA Certified and ASME Rated T&P Relief Valve, Factory-Installed

Meets the Thermal Efficiency and Standby Loss Requirements of the U.S. Department of Energy and Current Edition of ASHRAE/IES90.1

3-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model Number	Gallon Capacity	BTU/H Input	Recovery GPH Temperature Rise			Dimensions in Inches		Approx. Shipping Weight (lbs)
			40°F	100°F	140°F	Height	Diameter	
BT-80	74	75,100	182	73	52	61-1/8	26-1/2	275
BT-100	98	75,100	182	73	52	68-5/8	27-3/4	350

NSF leg kit 100111360.

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

CLASSIFIED WATER QUALITY

GAS-FIRED LISTED

check NSF leg kit

COMMERCIAL GAS

CONSERVATIONIST® POWER VENT

Versatile Power Vent Design

- All models feature an exclusive 3-position rotatable blower outlet which adds flexibility
- Combined horizontal and vertical vent runs up to 125' equivalent feet with 4" diameter venting (PVC, CPVC and polypropylene)
- All models are equipped with a protected sensor that detects the presence of flammable vapors and automatically disables the burner to prevent ignition
- Air intake snorkel elevates the inlet location of combustion air to prevent flammable vapors from entering the sealed combustion chamber

Hot-surface Ignitor

- More robust and reliable than standing pilot, and reduces energy consumption

User-Friendly

- State-of-the-art electronic gas control provides more precise temperature control
- LED control light displays operation status and diagnostics information

Enhanced-Flow Brass Drain Valve

Available in Natural Gas and Propane

Design-Listed by CSA International

- Certified at 300 psi test pressure and 150 psi working pressure
- Listed according to ANSI Z21.10.3-CSA 4.3 standards governing storage tank-type water heaters

3-Year Limited Tank/1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model Number	Approx. Gallon Capacity	BTU/H Input	Recovery GPH Temperature Rise			Dimensions in Inches		Approx. Shipping Weight (lbs)
			40°F	100°F	140°F	Height	Diameter	
BTF-80	75	76,000	185	74	52	70-5/8	26	277

Certified for operation upto 10,100 Ft. without alteration.

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

COMMERCIAL GAS

CONSERVATIONIST® POWER DIRECT VENT

Power Direct Vent Design

- Combined horizontal and vertical vent runs up to 125' equivalent feet with 4" diameter venting (PVC, CPVC and polypropylene)
- Two-pipe sealed combustion system uses outside air, eliminating problems caused by insufficient indoor ventilation

Ultra-Low NOx Emissions

- Complies with Texas and other low NOx areas requiring 40 ng/J or 30 ppm

Hot-surface Ignitor

- More robust and reliable than standing pilot, and reduces energy consumption

Dynaclean™ Diffuser Dip Tube

User-Friendly

- State-of-the-art electronic gas control provides more precise temperature control
- LED control light displays operation status and diagnostics information
- Built-in heat traps on the water inlet and outlet reduce the amount of heat lost through piping

Enhanced-Flow Brass Drain Valve

CSA Certified and ASME Rated T&P Relief Valve

Design-Listed by CSA International

- Certified at 300 psi test pressure and 150 psi working pressure
- Listed according to ANSI Z21.10.1-CSA 4.1 standards or ANSI Z21.10.3 CSA 4.3 standards governing storage tank-type water heaters

Available in Natural Gas and Propane

3-Year Limited Tank/1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model Number	Approx. Gallon Capacity	BTU/H Input	Recovery GPH Temperature Rise			Dimensions in Inches		Approx. Shipping Weight (lbs)
			40°F	100°F	140°F	Height	Diameter	
BPD-80	75	76,000	185	74	52	70-5/8	26	277

Certified for operation upto 10,100 Ft. without alteration.

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

COMMERCIAL GAS

CONSERVATIONIST® ULTRA-LOW NOX

Code Compliance

- The Ultra-Low NOx atmospheric vent commercial gas water heater which meets the thermal efficiency and standby loss requirements of the U.S. Department of Energy and Current Edition ASHRAE/IES 90.1

Fully Automatic Controls with Safety Shutoff

- Accurate, dependable control system requires no electric connections
- Fixed automatic gas shutoff device for added safety
- Not recommended for 180˚ F sanitizing

Heavy Gauge Steel Jacket

- Finished with baked enamel over bonderized undercoat

Foam Insulation

- Saves fuel, helps reduce standby heat loss

Ultra-Low NOx Emissions

- Complies with SCAQMD Rule 1146.2 and other Air Quality Management Districts with similar requirements of 14 ng/J or 20 ppm

Easy-to-Install

- Completely factory-assembled
- Only gas, water and vent connections need to be made
- All connections are located in front and top of heaters for ease-of-installation and service

3-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete warranty information, consult written warranty or go to hotwater.com

Model Number	Gallon Capacity	BTU/H Input	Recovery GPH Temperature Rise			Dimensions in Inches		Approx. Shipping Weight (lbs)
			40°F	100°F	140°F	Height	Diameter	
BL-80**	74	75,100	182	73	52	62-1/16	25-1/4	285
BL-100*	98	75,100	184	74	53	70-1/2	27-3/4	350

Natural gas only.
** Recovery based on 80% thermal efficiency.
* Recovery based on 81% thermal efficiency.

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

GAS-FIRED UL LISTED

COMMERCIAL GAS

LOW NOX POWER BURNER

Small Volume BTP Quality Features:

- UL listed power burner
- ASME construction on all models
- CSA Certified and ASME rated T&P relief valve
- Handhole cleanout(s) for easy maintenance
- Fully automatic controls ensure safe, efficient operation
- Barometric draft damper ensures correct airflow in the vent
- Factory Start-up Included, required for activating warranty and assuring quality performance
- Multiple anodes for extra protection against tank corrosion
- Flame inspection port opening for visual inspection of flame characteristics during operation
- Spark pilot ignition
- Factory-installed burner for easy installation
- BTP(V) 540 and 650 comply with SCAQMD 1146.2 of 14 ng/J or 20 ppm. The 740 complies with Texas and other areas of 40 ng/J or 30 ppm
- Meets the Thermal efficiency and standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IES 90.1
- Exclusive PermaGlas® Ultra Coat™ Glasslined Tank protects tank surfaces and all welds from the corrosive effects of hot water
- Proylite 3100 Chamber Wall retains heat, ensuring cool operation and maximum heat transfer to water, not the room
- Premix Combustion System provides super clean low-NOx flame. Helps eliminate hot spots and uneven heat transfer
- Sealed Combustion Chamber reduces heat loss

Options (Not Available On All Models)

- 3 vent options: atmospheric, sidewall and direct vent

3-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model Number	Gallon Capacity	BTU/H Input	Recovery GPH Temperature Rise		Dimensions in Inches		Approx. Shipping Weight (lbs)
			100°F	140°F	Height	Diameter	
BTP(V)-540A	85	540,000	523	374	80-3/4	29-1/2	950
BTP(V)-650A	85	650,000	630	450	80-3/4	29-1/2	950
BTP(V)-740A	85	740,000	718	512	80-3/4	29-1/2	950

Not available in propane (LP).
Vent Kit included in unit price when ordered with the heater.
Authorizes start-up service included- required to activate warranty. Consult local factory representative (Continental U.S. only)

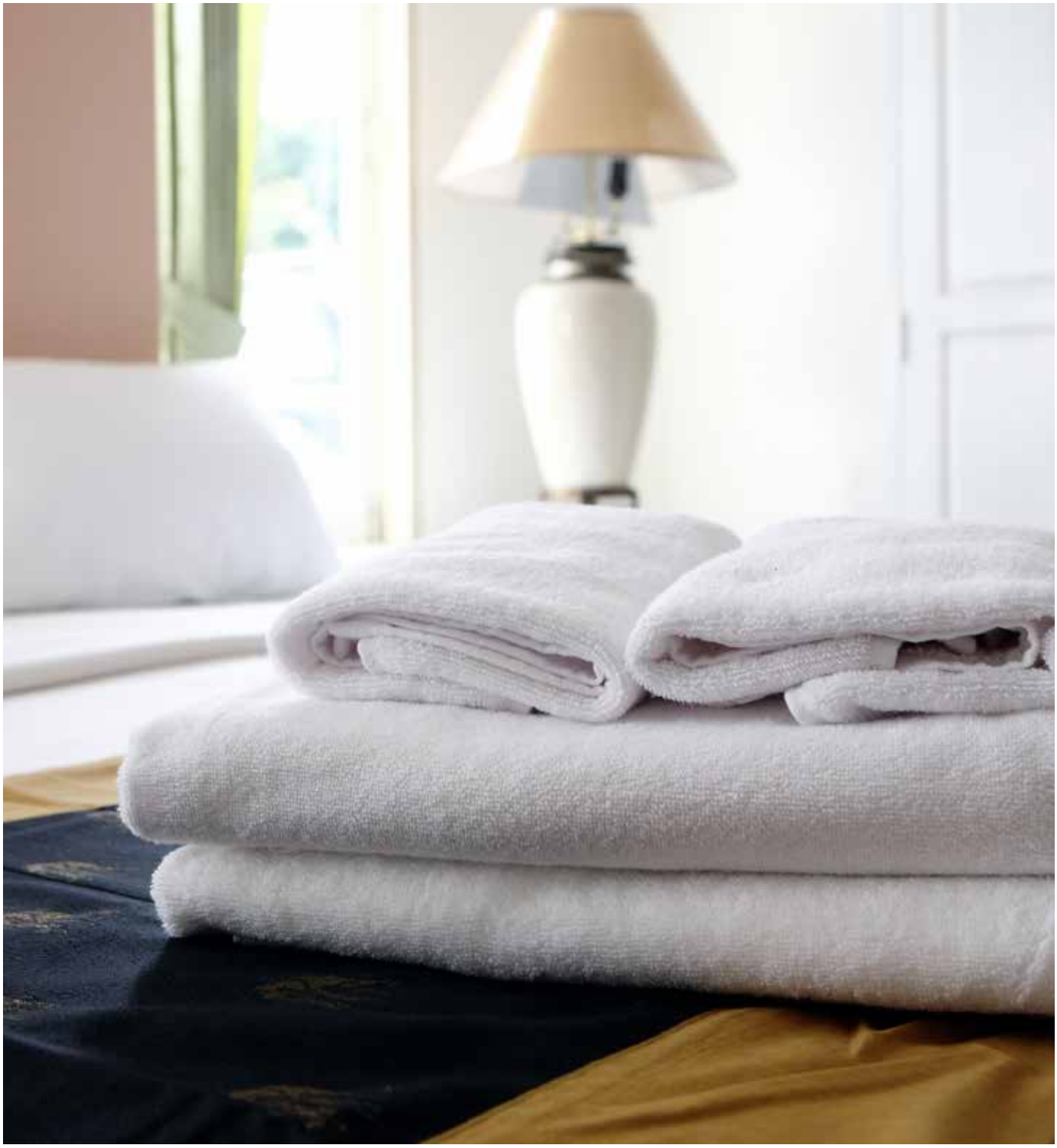
AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

HLW

GAS-FIRED UL LISTED

A. O. Smith
COMMERCIAL OIL-FIRED
WATER HEATERS



COMMERCIAL OIL-FIRED

CONSERVATIONIST® OIL-FIRED TANK-TYPE

Efficient Combustion Chamber

- Precast, high temperature combustion chamber made of alumina silica ceramic fiber
- Engineered for maximum insulation and heat reflection
- Unique design assures more complete combustion by stabilizing flame pattern

Interrupted Ignition

- Reduces electrical consumption

Two Hand-hole Cleanouts

- Allows easy cleaning on standard models COF-385 and larger and ASME models

Easy-to-Install Burner

- Three-bolt mounting of burner assures easy installations

3-Year Limited Tank and 1-Year Limited Parts Warranty

- Factory Start-Up included: required for activating warranty and assuring maximum operating performance (Continental U.S. only)
- For complete information, consult written warranty or go to hotwater.com

Model Number	Gallon Capacity	Btuh Input	Recovery GPH Temperature Rise			Dimensions in Inches		Approx. Shipping Weight (lbs)	
			40°F	100°F	140°F	Height	Diameter	Standard	ASME
COF-199	86	199,000	477	191	136	74-1/2	27-3/4	553	N/A
COF-245	86	245,000	587	235	168	74-1/2	27-3/4	554	N/A
COF-315(A)	84	315,000	754	302	216	74-1/2	27-3/4	554	657
COF-385(A)	75	385,000	922	369	263	73-3/4	27-3/4	624	742
COF-455(A)	75	455,000	1090	436	311	73-3/4	27-3/4	700	747
COF-700(A)	69	700,000	1677	671	479	73-3/4	27-3/4	739	822

*Based on No. 2 fuel oil.
All models have 1/8 HP motor.
Add (A) to the model number for ASME construction, e.g. COF-700A (not available on 199-245).

Low Lead Content

HLW
(Optional on Select Models)

A. O. Smith
COMMERCIAL TANKLESS
WATER HEATERS

COMMERCIAL TANKLESS

COMMERCIAL RACK SYSTEM

The A. O. Smith Commercial Tankless Rack System is designed to give you all of the benefits of tankless water heaters in an easy-to-install package. The racks are available in a variety of configurations with up to 1,194,000 BTU on a single rack system. They feature our 199,000 BTU high efficiency condensing tankless heater for significant energy cost savings. The systems are pre-assembled, and only require three simple connections - cold water, hot water, and gas.

Multiple Design and Installation Configurations

- Wall mount, free standing in-line, and free standing back-to-back designs
- Indoor and outdoor rack designs

Expandable

- Up to 1,194,000 BTU on a single rack system
- Able to link up to 20 heaters together with Multi-Link system

Redundancy

- Multiple combustion systems provide piece of mind
- Easily isolate a unit for maintenance which extends the life of the heaters

Lightweight

- Anodized aluminum frame
- Utilizes the industry's lightest 199,000 BTU high efficiency condensing tankless heater

Easy Field Installation

- Reduce installation costs with three simple connections (cold water, hot water, and gas)
- 1-1/2" Schedule 40 gas manifold pipe
- 2" Copper hot/cold water manifold pipes

Ultra-Low NOx Emissions

- Complies with SCAQMD Rule 1146.2 NOx emission requirements of 14 ng/J or 20 PPM

Warranty

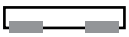
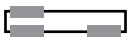
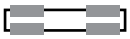
- 1-year limited warranty on rack parts
- Refer to tankless product pages for water heater warranties

WALL MOUNT

FREE STANDING INLINE

FREE STANDING BACK-TO-BACK

COMMERCIAL RACK SYSTEM

Model*	Description	Configuration	Gas Consumption Input		Max GPM @ 100 F**	Dimensions			Shipping Weight (lbs.)
			Minimum BTU/HR	Maximum BTU/HR		Length	Width	Height	
ACI-CRS-22WM-N	2 Unit Indoor Wall Mount Natural Gas		15,000	398,000	7.6	46	13.02	57	240
ACI-CRS-23WM-N	2 Unit Indoor Wall Mount Natural Gas		15,000	398,000	7.6	66	13.02	57	250
ACI-CRS-33WM-N	3 Unit Indoor Wall Mount Natural Gas		15,000	597,000	11.4	66	13.02	57	350
ACI-CRS-44WM-N	4 Unit Indoor Wall Mount Natural Gas		15,000	796,000	15.2	87.5	13.02	57	650
ACI-CRS-24IL-N	2 Unit Indoor Inline Natural Gas		15,000	398,000	7.6	46	30.5	53.09	265
ACI-CRS-26IL-N	2 Unit Indoor Inline Natural Gas		15,000	398,000	7.6	66	30.5	53.09	285
ACI-CRS-24B2B-N	2 Unit Indoor Back-To-Back Natural Gas		15,000	398,000	7.6	46	30.5	53.09	265
ACI-CRS-36IL-N	3 Unit Indoor Inline Natural Gas		15,000	597,000	11.4	66	30.5	53.09	387
ACI-CRS-34B2B-N	3 Unit Indoor Back-To-Back Natural Gas		15,000	597,000	11.4	46	30.5	53.09	480
ACI-CRS-36B2B-N	3 Unit Indoor Back-To-Back Natural Gas		15,000	597,000	11.4	66	30.5	53.09	510
ACI-CRS-44B2B-N	4 Unit Indoor Back-To-Back Natural Gas		15,000	796,000	15.2	46	30.5	53.09	580
ACI-CRS-46B2B-N	4 Unit Indoor Back-To-Back Natural Gas		15,000	796,000	15.2	66	30.5	53.09	620
ACI-CRS-56B2B-N	5 Unit Indoor Back-To-Back Natural Gas		15,000	995,000	19	66	30.5	53.09	741
ACI-CRS-66B2B-N	6 Unit Indoor Back-To-Back Natural Gas		15,000	1,194,000	22.8	66	30.5	53.09	800

Racks utilize CT-199 tankless models.
Model Number Format:
- First number (2/3/4/5/6) = number of tankless units mounted
- Second number (2/3/4/6) = rack size (maximum number of units)
- Letters represent the rack configuration: WM = wall mount; IL = inline floor standing; B2B = back-to-back floor standing

Note: Inline models can be flush mounted against a wall by field removing back shipping leg.
For outdoor applications change ACI to ACO in the model number when ordering. Example: ACO-CRS-22WM-N
*For Propane, change N to P in the model number when ordering. (Example: ACI-CRS-23WM-P).**Outdoor installations require vent cap.
** Current numbers based on factory testing; 0.5 GPM required for activation; 0.4 GPM required for continuous fire after initial ignition.

TANKLESS HIGH EFFICIENCY CONDENSING

ENERGY STAR® Qualified

Condensing Technology Provides 96% Thermal Efficiency and up to 0.95 Uniform Energy Factor

Ultra-Low NOx Emissions

- Complies with SCAQMD Rule 1146.2 NOx Emission Requirements Of 14 ng/J or 20 PPM

Link Multiple Units into a Combined System

- Common Vent up to 8 indoor units
- Easy-Link up to 4 units
- Multi-Link up to 20 units

Heat Exhanger

- Primary heat exchanger is constructed of a commercial-grade copper that is more resilient to erosion
- Copper is 25x better at heat transfer than stainless steel thus stabilizing outgoing water temperature quicker and reducing pressure drop across the heat exchanger
- Secondary heat exchanger is made of marine-grade 316L stainless steel to protect against corrosion

Maximum Flow Rates up to 10.0 GPM

Indoor Models

- Include integrated temperature controls and advanced diagnostics to simplify troubleshooting
- Factory-Installed Power Cord Included for Indoor Models

Outdoor Models

- Include a wall mount temperature remote controller and advanced diagnostics to simplify troubleshooting

Safety Features

- Air-Fuel Ration (AFR) Sensor
- Exhaust & Water Temperature Safety Control
- Overheat Cut-off Fuse

Internal Freeze Protection System

Power Vent or Power Direct Vent Design

Warranty

- 6-year limited warranty on heat exchanger in commercial applications
- 5-year limited warranty on all parts

OUTDOOR MODEL

INDOOR MODEL

Model Number*	Type	Gas Consumption Input		Inlet Gas Pressure***		Thermal Efficiency	UEF	Maximum GPM‡	Connections		Dimensions in Inches			Approx Shipping Weight (lbs)
		Minimum** (BTU/H)	Maximum (BTU/H)	Minimum (in. W.C.)	Maximum (in. W.C.)				Water	Gas	Height	Width	Depth	
ACT-199I-N	Indoor	15,000	199,000	4.0	10.5	96%	0.93	10	3/4" NPT	3/4" NPT	23-5/8	17-3/4	11-1/4	71
ACT-199O-N	Outdoor	15,000	199,000	4.0	10.5	96%	0.95	10	3/4" NPT	3/4" NPT	23-5/8	17-3/4	11-1/4	69

*For Propane, change the N to P in the model number when ordering. (Example: ACT-199I-P)
**For Propane, minimum input is 13,000 BTU/H
***For Propane, inlet gas pressure is 8.0-14 in. W.C.
‡Current numbers based on factory testing; 0.5 GPM required for activation; 0.4 GPM required for continuous fire after initial ignition.
15-150 PSI water pressure. 40 PSI or above is recommended for maximum flow.
Indoor models are certified from sea level to 10,100 ft. elevation. Outdoor models are certified from sea level to 6,000 ft. elevation.

AHRI CERTIFIED® www.ahridirectory.org

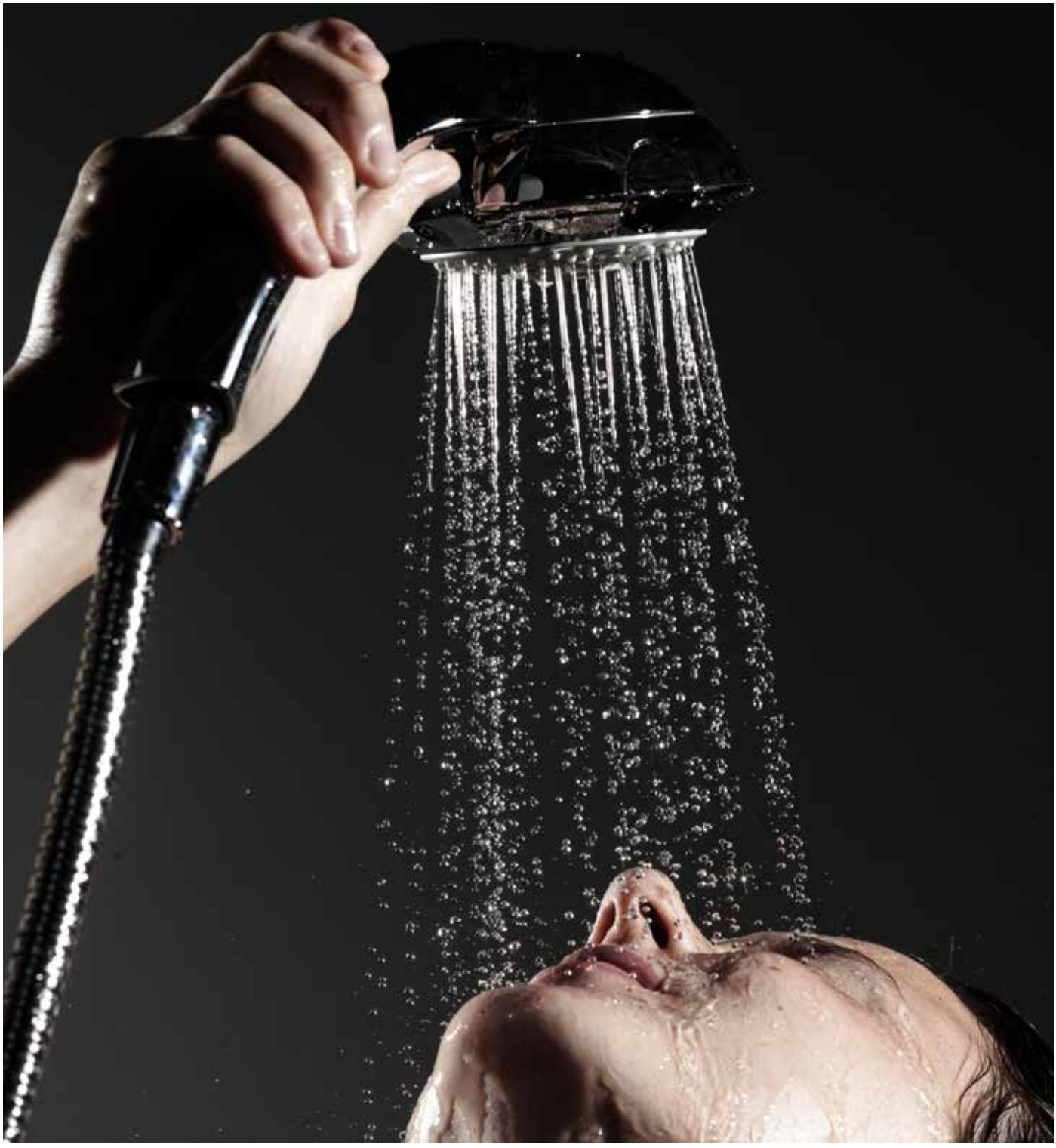
Meets: SCAQMD Rule 1146.2 California and Texas

ENERGY STAR

DESIGN SB CERTIFIED®

ANSI Z21.10.3 • CSA 4.3

A. O. Smith
COMMERCIAL ELECTRIC
WATER HEATERS



COMMERCIAL ELECTRIC

LIGHT-SERVICE SERIES

- Designed for light duty commercial applications with intermittent hot water loads

Glasslined Tank

- Tank interior is coated with glass specially designed by A. O. Smith for water heater use

Heating Elements

- Two 6.1 KW zinc plated copper sheathed elements are standard

Standard Voltages

- The standard voltage is 277V single phase

Top Mounted Junction Box Controls

- Thermostat is adjustable through a range of 120° to 181°F with a manual reset high temperature cutoff

Coregard™ Anode Rod

- Our anode rods have a stainless steel core that extends the life of the anode rod allowing superior tank protection for longer than standard anode rods

Enhanced-Flow Brass Drain Valve

- Solid brass, tamper resistant, enhanced-flow, ball type, drain valve

Maximum Working Pressure 150 psi Factory Installed CSA Certified and ASME Rated Temperature and Pressure Relief Valve

Certified to UL 1453 for Commercial

- Electric Water Heaters

Compliance

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

6-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model Number	Gallon Capacity	Standard Wattage 277 V	Dimensions in Inches		Approx. Shipping Weight (lbs)
			Height	Diameter	
LTE 66D	66	12,200	60.25	22	146
LTE 80D	80	12,200	60.5	24	175
LTE 120D	119	12,200	61.25	28	268

Not available with top mounted T&P valve option.
Inlet and outlet connections: 3/4”

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

DEN/DEL ELECTRIC DURA-POWER™

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
- 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 181°F on dual-element models)
- Manual reset high temperature cutoff per element
- Wired for 3-Phase, easily convert-able to single phase

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/IES90.1

Maximum Hydrostatic Working Pressure: 150 PSI

3-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

continued on the following page

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

MEETS ASHRAE/IESNA 90.1 CURRENT EDITION

DEN/DEL ELECTRIC DURA-POWER™ (CONTINUED)

Element Wattage (Upper/ Lower)	U.S. Gallons/Hr at Temperature Rise Indicated	
	F°	100
Non-Simultaneous		
/1500	GPH	6
/2000	GPH	8
/2500	GPH	10
3000/3000	GPH	12
4000/4000	GPH	16
4500/4500	GPH	18
5000/5000	GPH	20
6000/6000	GPH	24
Simultaneous Operation		
3000/3000	GPH	24
4000/4000	GPH	32
4500/4500	GPH	36
5000/5000	GPH	41
6000/6000	GPH	49

Model Number	Nominal Capacity	Dimensions in Inches		Approx. Shipping Weight (lbs)
		Height	Diameter	
Compact Models				
DEL-6S	6	15-1/2	14-1/4	35
DEL-10S	10	18-1/4	18	54
DEL-15S	15	26	18	58
DEL-20S	20	22-1/4	21-3/4	73
Lowboy Models				
DEL-30D	36	32	24	118
DEL-40D	38	32	23	118
DEL-50D	51	36	26-1/2	172
Tall Models				
DEN-30D	40	34-1/2	20-1/2	98
DEN-40D	50	45-1/8	20-1/2	113
DEN-52D	55	54-7/8	20-1/2	131
DEN-66D	66	30-3/4	21-3/4	176
DEN-80D	80	59-3/8	24	211
DEN-120D	119	62-7/16	29-3/8	326

6 gallon model not available above 3.0 kW
6/10/15/20 gallon model all C2 circuit (2 wire) only
S= Single Element D= Dual Elements

GOLD & GOLD XI SERIES

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
- Prewired leads provide strong positive electrical connections to the heating elements
- Input options from 12.3 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 (DVE Only)
- 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

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

Compliance

- Meets the standby loss requirements of the U.S. Department of Energy and current edition of ASHRAE/IES90.1

DRE Gold Model Controls

- DRE Gold models have surface mount temperature controls adjustable 120° to 181°F
- Manual reset high-temperature cutoff

DVE Gold XI Model Features

- Advanced Electronic Controls
- Displays operational, diagnostic and fault information in English.
- Heavy-Duty Magnetic Contactors
- UL-rated 100,000 cycles

Economy Operation Mode

- 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

3-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

continued on the following page

GOLD SERIES

GOLD Xi SERIES

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

CLASSIFIED UL WATER QUALITY

ASME HLW

c UL us Listed

ASME/CRN (optional)

GOLD & GOLD XI SERIES (CONTINUED)

Precise Temperature Regulation

- Operating Set Point adjustable 90° to 190°F
- DVE XI models are approved for 180 degree sanitizing
- 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

Model Number	Gallon Capacity	Dimensions in Inches		Approx. Shipping Weight (lbs)
		Height	Diameter	
DVE-52*	50	55-3/4	21-3/4	265
DVE-80	80	60-1/4	25-1/2	280
DVE-120	119	62-1/4	29-1/2	390

Model Number	Tank Capacity	Dimensions			Inlet/Outlet (NPT)	Approx. Shipping Weight
		Height	Width	Diameter		
DRE-52*	50	55-3/4	21-3/4	27	1-1/4	265
DRE-80	80	60-1/4	25-1/2	31	1-1/4	280
DRE-120	119	62-1/4	29-1/2	35	1-1/4	390

* DRE-52 is maximum 36kW
See specification sheets or contact your local rep for optional kW's available

COMMERCIAL ELECTRIC

HEAVY-DUTY CUSTOM XI

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, maximum recovery efficiency and longer life
- 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
- 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

- 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 Operation Mode

- 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
- Approved for 180 degree sanitizing
- 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

continued on the following page

AHRI CERTIFIED® www.ahridirectory.org

Low Lead Content

HLW

HEAVY-DUTY CUSTOM XI (CONTINUED)

Heavy-Duty Magnetic Contactors

Power Curcuit Fusing for System Protection (120 AMP CURRENT DRAW AND ABOVE)

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/IES 90.1

Brass Drain Valve

3-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model Number	Gallon Capacity	Maximum kW Input	Dimensions in Inches		Approx. Shipping Weight (lbs)
			Height	Diameter	
DSE-5	5	3	22	16	82
DSE-10	10	6	28-1/4	18	106
DSE-20	20	18	31-3/4	22	130
DSE-30	30	24	43 1/4	22	150
DSE-40	40	36	54 3/4	22	190
DSE-50	50	90	66-1/2	22	221
DSE-65	65	90	57-1/4	26-1/2	267
DSE-80	80	90	58-1/4	28	285
DSE-100	100	90	70-1/4	28	354
DSE-120	120	90	70-1/4	31-1/8	420

COMMERCIAL ELECTRIC

HEAVY-DUTY PREMIUM ELECTRIC DVE/DHE DURA-POWER™

Dura-Power™ are the largest commercial electric units 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 are customizable to meet any special application with the large selection of available options.

Advanced Electronic Control

Propriety electronic water heater control provides precise + or - 1ºF temperature control, 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 – 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 – 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.

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 fiberglass 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; 12" x 16" manhole is furnished on 800-gallon and larger sizes

Incoloy Immersion Heaters

- Heavy-duty elements (three immersion heater) have Incoloy sheathing: provide excellent protection against oxidation and scaling
- The input ranges from 15kW to 3,000kW

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

continued on the following page

Low Lead Content

HLW

MEETS ASHRAE/IESNA 90.1 CURRENT EDITION

ASME

HEAVY-DUTY PREMIUM ELECTRIC DVE/DHE DURA-POWER™ (CONTINUED)

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
- Factory-installed terminal block(s)
- Temperature and pressure relief valve

Optional Dual-Energy Source Capability

- Provides emergency backup energy source for 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

BMS COMPATIBLE

- Modbus/BACnet compatible with optional Gateway interface
- Call 888 WATER02 for more information

ASME CODE CONSTRUCTION

- All models are constructed to the requirements of ASME and are available in 125, 150 and 160 psi working pressures (125 psi working pressure - standard)
- Consult factory for ASME code tanks with greater or lesser working pressures and special configurations or materials

COMPLIANCE

- Meets the standby loss requirements of the U.S. Department of Energy, NRCan and current edition of ASHRAE/IES 90.1

3-Year Limited Tank and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Vertical Electric Storage Heater				
Model Number	Gallon Capacity	Dimensions in Inches		
		Height	Width	Depth
Vertical Round Electric Storage Heater				
DVE-150A	150	65-1/2″	32″	38-3/4″
DVE-200A	200	78″	32″	38-3/4″
DVE-250A	250	92″	34″	40-3/4″
DVE-300A	300	80″	40″	46-3/4″
DVE-400A	400	80″	46″	52-3/4″
DVE-500A	500	92″	46″	52-3/4″
DVE-600A	600	92″	52″	60-3/4″
DVE-800A	750	104″	52″	60-3/4″
DVE-1000A	950	128″	52″	60-3/4″
Vertical Square Electric Storage Heater				
DVE-1250A	1,250	132-1/2″	64-1/2″	64-1/2″
DVE-1500A	1,500	128-1/2″	70-1/2″	70-1/2″
DVE-2000A	2,000	124-1/2″	78-1/2″	78-1/2″
DVE-2500A	2,500	146-1/2″	82-1/2″	82-1/2″

Horizontal Electric Storage Heater				
Model Number	Gallon Capacity	Dimensions in Inches		
		Height	Width	Depth
Horizontal Square Electric Storage Heater				
DHE-150A	150	37″	68-1/2″	34-1/4″
DHE-200A	200	37″	78″	34-1/4″
DHE-250A	250	39″	90-1/4″	36-1/4″
DHE-300A	300	45″	78-1/4″	42-1/4″
DHE-400A	400	52″	78-1/4″	48-1/4″
DHE-500A	500	52″	90-3/4″	48-1/4″
DHE-600A	600	58″	90-3/4″	54-1/4″
DHE-800A	750	58″	102-1/4″	54-1/4″
DHE-1000A	950	58″	126-1/4″	54-1/4″
DHE-1250A	1,250	64″	130-1/4″	60-1/4″
DHE-1500A	1,500	70″	126-1/4″	66-1/4″
DHE-2000A	2,000	82″	123-1/4″	78-1/4″
DHE-2500A	2,500	82″	144-1/4″	78-1/4″

Minimum installation clearances- refer to Installation Manual.

HEAVY-DUTY PREMIUM ELECTRIC DVE/DHE DURA-POWER™ (CONTINUED)

Standard kW Ratings	Number of Immersion Heaters	BTU Input and Output	Recovery @ 100°F Gallon Per Hour
Solid State Step Control			
180	12-15 kW	614,340	738
210	14-15 kW	716,730	861
240	16-15 kW	819,120	987
270	18-15 kW	912,510	1,107
300	20-15 kW	1,023,900	1,230
330	22-15 kW	1,126,290	1,353
360	24-15 kW	1,228,680	1,476
390	26-15 kW	1,331,070	1,599
420	28-15 kW	1,433,460	1,722
450	30-15 kW	1,535,850	1,845
480	32-15 kW	1,638,240	1,968
510	34-15 kW	1,740,360	2,091
540	36-15 kW	1,843,020	2,214
570	38-15 kW	1,945,410	2,337
600	40-15 kW	2,047,800	2,460
630	42-15 kW	2,150,190	2,583
660	44-15 kW	2,252,580	2,706
690	46-15 kW	2,345,970	2,829
720	48-15 kW	2,457,360	2,952
810	54-15 kW	2,764,530	3,321
900	60-15 kW	3,071,700	3,690
990	66-15 kW	3,378,870	4,059
1080	72-15 kW	3,686,040	4,428
1170	78-15 kW	3,993,210	4,797
1260	84-15 kW	4,300,380	5,166
1350	90-15 kW	4,607,550	5,535
1440	96-15 kW	4,914,720	5,904
1530	102-15 kW	5,221,890	6,273
1620	108-15 kW	5,529,060	6,642
1800	120-15 kW	6,141,600	7,380
1980	132-15 kW	6,757,740	8,118
2040	136-15 kW	6,962,520	8,364
2220	148-15 kW	7,576,860	9,102
2250	150-15 kW	7,679,250	9,225
2400	160-15 kW	8,188,800	9,840
2540	176-15 kW	9,010,320	10,824
2820	188-15 kW	6,324,660	11,562
3000	200-15 kW	10,236,000	12,300

*Complete model number includes the desired kW at the end, e.g. DVE-300-150.
Minimum installation clearances required.

A. O. Smith
COMMERCIAL
HEAT PUMP

COMMERCIAL HEAT PUMP

CHP-120 FULLY INTEGRATED HEAT PUMP

Energy Saving & Environmentally Friendly

- Heat pump transfers heat from surrounding area into the tank
- Industry leading 4.2 COP
- Multiple operating modes maximize efficiency while meeting specific hot water needs
- Integrated, large capacity tank enables heat pump to operate more frequently than electric elements, saving money
- Meets standby loss requirements of U.S. Department of Energy and current edition of ASHRAE 118.1

Commercial Performance

- First hour delivery of 150 GPH
- Electric heating element capacity of 12 kW (240Vac)
- Max. water temperature of 150° F. in Efficiency/Hybrid modes and 180° F. in Electric mode
- Ambient room temperature operating range of 20° to 110° F.
- Dual evaporator fans maximize performance and provide room cooling
- Low operating sound measured at 59 dB (A)

Ease of Operation

- Integrated design and pre-charged refrigeration system facilitates fast, easy installation
- Large touch screen LCD display allows for mode selection, provides run information and includes troubleshooting alerts and detail
- Three operating modes: Efficiency, Hybrid or Electric

Dependable & Long Lasting Design

- A. O. Smith-developed glass coated tank
- Tank rated at 160 PSI working pressure
- Commercial grade anode protects the tank and extends service life
- Electric elements have incoloy sheathing and provide excellent protection from oxidation and scaling

3-Year Limited Tank and 1-year Limited Parts/Compressor Warranty

- For complete warranty information, consult written warranty or go to hotwater.com

Model Number	Nominal Capacity	COP	Number of Elements	Total Element Wattage (both elements @ 240V)	Recovery in GPH at 100° Temperature Rise in Hybrid Mode
CAHP-120	119	4.3*	2	12,000	99

Model Number	Dimensions			Recovery in GPH for each operation mode	Approx. Shipping Weight (lbs)
	Height	Width	Depth		
CAHP-120	69-11/16	30-29/32	39-11/64	Efficency = 41 Hybrid = 90 Electric = 50	620

*DOE test standard, 80°F ambient with 63% humidity, inlet water temperature at 70°F, outlet water temperature at 120°F

COMMERCIAL HEAT PUMP

EMERGE X HEAT PUMP

STANDARD FEATURES

- High efficiency COP
- Zero on-site emissions
- Modular design
- Low GWP R513A refrigerant
- Maximum set point of 160°F
- Single pass or multi-pass
- Scroll compressor (Copeland) with CoreSense™ protection module
- ECM variable speed pump
- Electronic expansion valve
- Reversing valve
- 480V 3-phase
- Indoor or outdoor installation
- Manifold piping assembly (increases unit depth to 63")
- System control panel (remote mountable)

CONTROL PANEL FEATURES

- Touch screen control
- Cascade sequencer for up to 64 heat pumps
- Building automation integration (0-10V DC)
- Variable speed pump control
- Fault logging
- Modbus TCP
- Low voltage terminal strip
- Alarm contact
- Backup enable
- Remote mountable

APPLICATIONS

- Restaurants
- Hotels
- Multi-family buildings

Model Number	COP	*BTU/h Output	Dimensions			Shipping Weight
			Height	Width	**Depth	
AHPA-60	4.61	66,688	71-3/4"	30-5/8"	38-1/2"	913
AHPA-140	4.27	136,381	71-3/4"	41-5/8"	38-1/2"	1,119
AHPA-200	4.44	203,069	71-3/4"	72-1/4"	38-1/2"	2,032
AHPA-280	4.27	272,762	71-3/4"	83-1/4"	38-1/2"	2,238
AHPA-350	4.38	339,450	71-3/4"	113-7/8"	38-1/2"	3,151

*DOE test standard, 80°F ambient with 63% humidity, inlet water temperature at 70°F, outlet water temperature at 120° F
**Field installed manifold piping assembly increases unit depth to 63"
Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.

A. O. Smith

COMMERCIAL CIRCULATING WATER HEATERS, BOILERS, & GENERATORS

CIRCULATING WATER HEATER

XP HIGH EFFICIENCY WATER HEATERS

Up to 96% Thermal Efficiency

Fully Modulating with 5:1 Turndown

Advanced Electronics with Large Touchscreen Display and Built-In Lead/Lag Sequencing

Direct Vent Flexibility Up to 100 Feet

Vents with PVC, CPVC, Stainless Steel and Polypropylene

ASME Rated Relief Valve

160 lb. ASME Working Pressure

Factory-Supplied Bronze Circulating Pump

Adjustable Pump Delay

316L Stainless steel Heat Exchanger

Meets the Requirements of South Coast Air Quality Management District in Southern California and the Requirements of Texas Commission on Environmental Qualities.

5-Year Limited Heat Exchanger and 1-Year Limited Parts Warranty

- For complete warranty information, consult written warranty or go to hotwater.com

Recovery Capacities							
Model Number	BTU/HR Natural Gas Input	Height:	Width:	Depth:	Temperature Rise		
					70	100	140
XWH-200	200,000	32-3/4	15-1/2	22-1/4	336	235	168
XWH-201	201,000	42	15-1/2	20	474	332	237

MEETS ASHRAE/IESNA 90.1 CURRENT EDITION

ASME

CIRCULATING WATER HEATER

XP PLUS DOMESTIC WATER HEATERS

The A. O. Smith high efficiency condensing XP Plus 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 Plus 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.

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

Available in Natural Gas and Propane (LP)

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 btu/h and up, 10:1 turndown ratio on models 1.7 million btu/h and down

All-Bronze Factory-Mounted Heat 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
- Direct Vent Flexibility

Continued on the following page

DESIGN CERTIFIED ASME HLW MEETS ASHRAE/IESNA 90.1 CURRENT EDITION ASME CRN XP PLUS

XP PLUS DOMESTIC WATER HEATERS (CONTINUED)

Direct Vent up to 100 Equivalent Feet of Pipe

- Sidewall or vertical
- Lower installation cost with approved CPVC / PVC venting material – uses CPVC for first 10 feet and PVC thereafter
- Approved for use with UL approved AL29-4C® stainless steel venting materials

Factory Start-up Included for models 1000 and above

- Required for activating warranty and assuring maximum operating performance
- Contact your local sales representative or Authorized Start-Up Agent to arrange a FREE certified start-up

Meets the Thermal Efficiency and Standby Loss Requirements of the U.S. Department of Energy and Current Edition of ASHRAE/IES90.1

Up to 96% Thermal Efficiency (AHRI Certified)

5-Year Limited Heat Exchanger and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model Number	BTU/HR Input	Temp Rise	Dimensions in Inches		Approx. Shipping Weight (lbs)
			Height	Width	
PWH-400	399,000	479	45	24	326
PWH-500	500,000	600	45	24	333
PWH-650	650,000	772	45	24	424
PWH-800	800,000	950	45	24	433
PWH-1000	999,000	1,187	45	24	494
PWH-1250	1,250,000	1,485	51-1/2	34	1,568
PWH-1500	1,500,000	1,782	51-1/2	34	1,649
PWH-2000	1,999,000	2,375	51-1/2	34	1,911
PWH-3000	3,000,000	3,564	67-1/4	48-1/4	3,147
PWH-4000	4,000,000	4,752	67-1/4	48-1/4	3,694

CIRCULATING WATER HEATER

XP PLUS DOMESTIC WATER HEATERS

85% Thermal Efficiency

Electronic Control with Precise Temperature Management

- Controls every electrical water heater function, including pump operation and main burner ignition, delivers precise temperature management, with ±1° accuracy
- Display panel shows current operating status and fault readings
- Display also shows temperature set points, outlet temperature, current inlet/outlet differential and tank temperature
- Included remote temperature sensor when mounted in the storage tank allows the tank temperature to be set and monitored at the water heater

Stage Gas Firing System

- Prevents short cycling and ensures smooth operation, saves fuel and extends product life
- Delivers maximum output when demand is high, reduced firing rates during off peak times

Low NOx Operation

- Precise amounts of gas and air are premixed through special orifices and forced through stainless steel burners that provide a complete and clean combustion. GW/GWO 1000 through 1850 comply with SCAQMD Rule 1146.2 and other Air Quality Management with similar requirements. GW/GWO 2100 and 2500 comply with SCAQMD Rule 1146.1 when field certified by SCAQMD.

Ultra-Low NOx Operation

- Complies with SCAQMD Rule 1146.2 and other Air Quality Management Districts with similar NOx emission requires of 14 ng/J or 20 ppm (GW/GWO 1000-1850 models)

Copper Finned-Tube Heat Exchanger

- Gasket-free glasslined headers and copper-finned tubes with extruded integral fins deliver exceptional heat transfer
- Copper is lightweight for easier handling and immune to thermal shock

Space-Saving Design

- Optional stack rack allows one unit to be stacked on top of another, doubling output within the footprint of a single unit
- If floor space is limited, the Genesis water heater can be installed outdoors with an optional outdoor Vent Cap. Meets ASHRAE/IES 90.1-2004

Multiple Venting Options

- •All Genesis models can vent vertically in Category I with double wall "B" vent or horizontally in Category IV with AL29-4C stainless steel vent material

Factory Start-Up Included

- Required for activating warranty and assuring maximum operating performance. Contact your local sales representative or Authorized Start-Up Agent to arrange a FREE Certified Start-Up.

5-Year Limited Heat Exchanger and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model Number	Input MBH	Recovery Capacity @ 100°F Gallon Per Hour	Dimensions in Inches		Approx. Shipping Weight (lbs)
			Height	Width	
GWH-400N	399	412	31-1/2	37-5/8	454
GWH-500N	500	515	31-1/2	45-3/8	467
GWH-650N	650	670	31-1/2	56-3/4	551
GWH-750N	750	773	31-1/2	64	611
GWH-1000N	990	1,020	36	48-1/2	843
GWH-1250N	1,260	1,298	36	58-3/4	939
GWH-1450N	1,440	1,484	36	68-7/8	1,035
GWH-1800N	1,800	1,855	36	82-3/8	1,168
GWH-2100N	2,070	2,133	36	92-5/8	1,285

Low Lead Content

COMMERCIAL CIRCULATING WATER HEATER

VARIABLE FIRE™ HIGH-EFFICIENCY WATER HEATERS

The VF™ Circulating Water Heater delivers an exceptionally high thermal efficiency by combining an advanced modulating venturi-mixing gas/air ratio system with a vertical multi-pass copper heat exchanger for outstanding efficiency of up to 87% and low NOx emissions that meet the most stringent standards.

Up to 87% Thermal Efficiency

Advanced Modulating Control with Venturi-Mixing Gas/Air Ratio System

Small Footprints, Zero Clearance to Combustibles on Sides of Unit

Category II and IV listed - Requires the use of AL29-4C a vent material that resists the effects of corrosive condensates

Complies with SCAQMD Rule 1146.2 and Other Air Quality Management Districts with Similar Requirements for Low NOx emissions

Capable of Firing from 100% to 25% (or a 4:1 Turndown Ratio) of the Rated Input, Based on the Current System Demand

Meets Thermal Efficiency and Standby Loss Requirements of the U.S. Department of Energy and Current Edition of ASHRAE/IES 90.1

Professional Start-Up Included - Required for Activating Warranty and Assuring Maximum Operating Performance

5-Year Limited Heat Exchanger and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model Number	BTU/Hr Input	Recovery Capacity @ 100°F Gallon Per Hour	Dimesions in Inches		Approx. Shipping Weight (lbs)
			Height	Width	
VWH0500N	500,000	527	44-1/2	30-3/8	573
VWH0750N	750,000	791	52-1/8	30-3/8	622
VWH1000N	999,999	1054	59-1/4	30-3/8	662
VWH1500N	1,500,000	1582	65-3/8	31-5/8	1,118
VWH2000N	1,999,999	2109	76-5/8	31-5/8	1,187

Change "N" to "P" when ordering propane (LP) gas (Example: VWH-750-P).

Low Lead Content

HLW

COMMERCIAL WATER HEATER

BURKAY® ENERGY SAVER COPPER HEAT EXCHANGER

All Non-Ferrous Waterways

- Rustproof because water comes in contact with nothing but copper, brass or bronze
- Copper transfers heat eight times faster than ferrous metals yet offer remarkable structural strength without excessive weight
- Free from the effects of thermal shock

Efficiency Copper Coil Combustion Chamber

- Continuous coils of tightly wound copper tubing form a unique combustion chamber
- Water circulating thru the coils, around the flame, captures radiant heat which may otherwise be lost

High Efficiency Stainless Steel Burner

- Developed especially for A. O. Smith water heaters using the very latest burner principles

Forced Water Circulation Improves System Efficiency

- Water moving at 2 to 4 feet per second helps to prevent lime buildup and also scrubs extra heat from the copper coil combustion chamber

5-Year Limited Heat Exchanger and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model Number	Input Rating BTU/Hr. Natural and Propane Gas	Dimensions in Inches		
		Height	Width	Depth
HW-200M	201,000	53-1/4	20-3/4	20-3/4
HW-225M	225,00 Nat. Gas Only	60	20-3/4	20-3/4

ASME H

BURKAY® HW GAS DOMESTIC WATER HEATERS

100% All Non-Ferrous Waterways

- All waterways 100% copper, brass or bronze
- Resists thermal shock and corrosion buildup

Low Profile Diverter

- Special design allows maximum installation flexibility

Copper Wall Combustion Chamber

- Coils of tightly wound copper tubing form a unique and highly efficient combustion chamber
- Optimum energy transfer achieved with integral extruded fin copper-finned tubes

Meets the Thermal Efficiency and Standby Loss Requirements of the U.S. Department of Energy and the current edition of the ASHRAE/IES 90.1

5-Year Limited Heat Exchanger and 1-Year Limited Parts Warranty

- For complete information, consult written warranty or go to hotwater.com

Model Number	Input Rating BTU/Hr Natural & Propane (LP) Gas	Recovery Capacity @ 100°F Gallon Per Hour	Dimensions in Inches			Approx. Shipping Weight (lbs)
			Overall Height	Diameter	Overall Depth	
HW-300	300,000	298	65	25-1/4	29-5/8	255
HW-399	399,000	392	57-1/8	27	31-1/2	301
HW-420	420,000	417	57-1/8	27	31-1/2	301
HW-520	520,000	516	68-5/16	27	36-1/2	381
HW-670 Nat.	660,000	656	68-5/16	27	36-1/2	381
HW-670 Prop.	670,000	656	68-5/16	27	36-1/2	381

MEETS ASHRAE/IESNA 90.1 CURRENT EDITION

STEAM OR BOILER HOT WATER HWG GENERATOR SYSTEMS

Insulation

- Models are insulated with fiberglass to meet the most current ASHRAE standards

Integral Pump

- System includes an circulator pump

Steam Units

- Standard steam trim consists of temperature control valve, one steam trap, inlet and auxiliary strainers, steam pressure gauge with siphon, vacuum breaker and air vent

Boiler Units

- Standard boiler water trim includes temperature control valve

Cathodic Protection

- Standard systems employing glass or epoxy lined tanks are fitted with anodes to help prevent corrosion

Gallon Sizes

- HWG models are available from 140 gallons to 2,500 gallons in both vertical and horizontal configurations

Additional Features:

- ASME Code (Section IV)
- All copper recirculation with two bronze ball valves
- Flush-mounted temperature gauges and pressure gauges
- National Board Stamped
- CSA Certified and ASME rated T&P relief valve
- Heating coil Section VIII of ASME code

5-Year Limited Tank Warranty AND 1-Year Limited Coil Warranty Options:

- Storage Tanks: 150# through 160# psi working pressure, ASME Section VIII construction, 4″ X 6″ handhole, 12″ X 16″ manhole, cement, epoxy or galvanized linings
- Water To Water: Pilot (spring, air, temperature) operated temperature regulator, bypass loop in boiler water line for regulator isolation
- Steam To Water: Pilot (spring, air, temperature) operated temperature regulator, bypass loop in steam line for temperature regulator, vacuum breaker
- For complete information, consult written warranty or go to hotwater.com

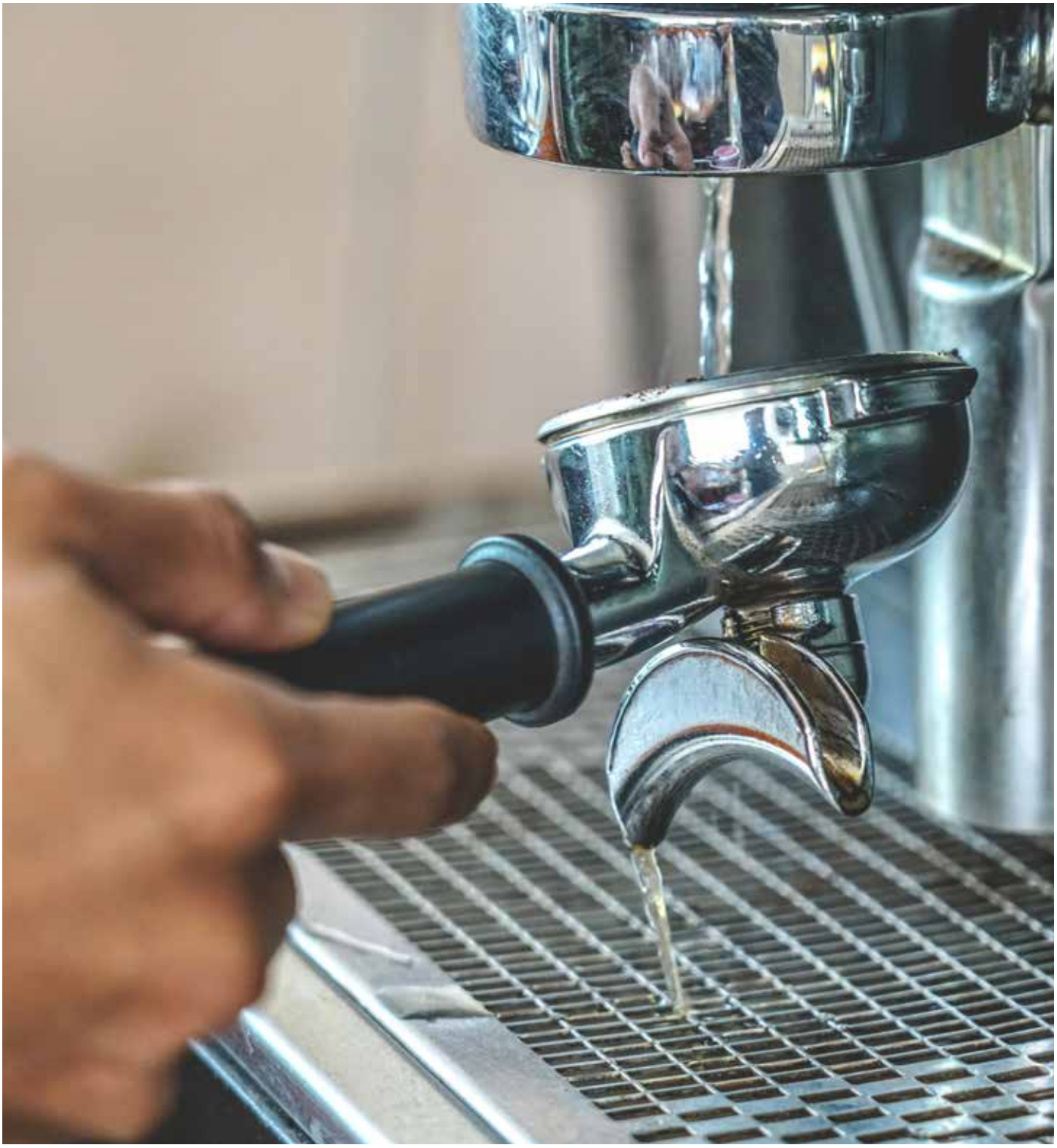
Model Number	Dimensions in Inches			Gallon Capacity
	Height	Length	Width	
HWGV-120A	63	28	10	120
HWGV-200A	77.25	32	11.25	200
HWGV-250A	91	34	18	257
HWGV-318A	80	40	19.5	318
HWGV-400A	80	46	21	432
HWGV-500A	92	46	21	504
HWGV-650A	92	52	23.5	650
HWGV-750A	104	52	23.5	752
HWGV-1000A	128	52	23.5	940

Model Number	Dimensions in Inches			Gallon Capacity
	Height	Length	Width	
HWGH-250A	41	87	34	250
HWGH-350A	47	76	40	300
HWGH-350A	53	76	46	400
HWGH-400A	53	88	46	500
HWGH-500A	59	88	52	600
HWGH-750A	59	100	52	700
HWGH-1000A	59	124	52	1000

ASME U Optional

ASME HLW

A. O. Smith
COMMERCIAL
STORAGE TANKS



COMMERCIAL STORAGE TANKS

STANDARD FACTORY JACKETED & INSULATED STORAGE TANKS

Glasslined per ASME, HLW Procedures

Horizontal or Vertical Mounting Options Available

ASME Construction

Anodic Protection

5-Year Limited Tank Warranty

- For complete information, consult written warranty or go to hotwater.com

Vertical Round Jacketed ASME			
Model Number	**Height**	**Diameter**	**Gallons**
TJVT-500A	91	46	500
TJV-600A	92	52	600
TJV-700A	101	52	700
TJV-750A	104	52	750
TJV-1000A	128	52	1000
Vertical Square Jacketed ASME			
TJV-1250A	133	60	1,250
TJV-1500A	129	66	1,500
TJV-1750A	153	66	1,750
TJV-2000A	126	78	2,000
TJV-2500A	146.5	78	2,500

Low Lead Content

HLW

U

Optional

STANDARD FACTORY JACKETED & INSULATED STORAGE TANKS (CONTINUED)

Horizontal Round Jacketed ASME Tanks				
Model Number	**Height**	**Length**	**Diameter**	**Gallons**
TJH-250A	41	87	34	250
TJH-300A	47	76	40	300
TJH-400A	53	76	46	400
TJHT-500A	53	87	46	500
TJH-600A	59	88	52	600
TJH-700A	59	97	52	700
TJH-750A	59	100	52	750
TJH-1000A	59	124	52	1000

Horizontal Square Jacketed ASME Tanks				
Model Number	**Height**	**Length**	**Depth**	**Gallons**
TJH-1250A	68.5	134	60.25	1,250
TJH-1500A	74.5	127	66.25	1,500
TJH-2000A	86.5	127	78.25	2,000
TJH-2500A	86.5	144	78.25	2,500

STANDARD JACKETED STORAGE TANKS

Glasslined per ASME, HLW Procedures

High-Density, Fiberglass Insulated Jackets or Bare Steel Tanks

Fits through a 33" door

ASME Construction on select models

Anodic Protection

All Tanks Have 2" Threaded Openings

5-Year Limited Tank Warranty

- For complete warranty information, consult written warranty or go to hotwater.com

Model Number	Gallon Capacity	Dimensions in Inches		Approx. Shipping Weight (lbs)
		Overall Length	Diameter	
TJ80S Jacketed-Vertical Only	80	63	25-1/4	236
TJV120M Jacketed-Vertical Only	119	62	29-3/8	320
TJ80A Jacketed-Vertical Only	80	54-7/8	26-1/2	369
TJV-120A	119	61-3/4	28	411
TJV-200M (ASME)	175	77	32	560

Low Lead Content

HLW

UNINSULATED STANDARD STOCK BARE STORAGE TANKS

Glasslined per ASME, HLW Procedures

Horizontal or Vertical Mounting Options Available

ASME Construction available

Anodic Protection

5-Year Limited Tank Warranty

- For complete warranty information, consult written warranty or go to hotwater.com

Model Number	Gallons	Diameter	Height	Weight (LBS) - Glass 125 psi
TVN-500A	500	42	87	763
TV-600A	600	48	88	1193
TV-700A	700	48	97	1301
TV-750A	750	48	100	1337
TV-1000A	1000	48	124	1623
TV-1250A	1250	54	128	2100
TV-1500A	1500	60	124	2709
TV-1750A	1750	60	148	3156
TV-2000A	2000	72	121	3397

Model Number	Gallons	Diameter	Length	Weight (LBS) - Glass 125 psi
THN-500A	500	42	83	763
TH-600A	600	48	84	1193
TH-700A	700	48	93	1301
TH-750A	750	48	96	1337
TH-1000A	1000	48	120	1623

Low Lead Content

HLW

U
Optional

HEAVY-DUTY LARGE VOLUME STORAGE TANKS MODEL HD CUSTOM BUILT

Glasslined per ASME, HLW Procedures

Horizontal or Vertical Options Available

Insulated Jackets or Bare Steel Tanks

Cement or Epoxy Linings Available

ASME Construction

Anodic Protection

5-Year Limited Tank Warranty

- For complete warranty information, consult written warranty or go to hotwater.com

Continued on the following page

Model Number	Gallons	Dimensions			Shipping Weight (lbs.)		
		Diameter	Vertical Height	Horizontal Length	125 psi	150 psi	Cement Lined
HD*24-120A	118	24″	64″	60″	368	368	-
HD*24-140A	141	24″	76″	72″	428	428	-
HD*24-200A	188	24″	100″	96″	556	556	-
HD*24-250A	235	24″	124″	120″	684	684	-
HD*28-175A	175	28″	65″	-	353	353	-
HD*28-200A	200	28″	76″	-	488	488	-
HD*30-150A	147	30″	52″	48″	400	400	695
HD*30-185A	184	30″	64″	60″	468	468	812
HD*30-220A	220	30″	76″	72″	548	548	958
HD*30-250A	257	30″	87″	83″	628	628	1,103
HD*30-300A	294	30″	100″	96″	701	701	1,242
HD*30-375A	367	30″	124″	120″	868	868	1,540
HD*36-275A	265	36″	64″	60″	577	577	995

All tanks built in Lebanon, TN
H horizontal V vertical
* for H or V

Low Lead Content

HLW

U
Optional

HEAVY-DUTY LARGE VOLUME STORAGE TANKS MODEL HD CUSTOM BUILT (CONTINUED)

Model Number	Gallons	Dimensions			Shipping Weight (lbs.)		
		Diameter	Vertical Height	Horizontal Length	125 psi	150 psi	Cement Lined
HD*36-325A	318	36"	76"	72"	673	673	1,173
HD*36-400A	370	36"	87"	83"	770	770	1,343
HD*36-425A	423	36"	100"	96"	866	866	1,513
HD*36-500A	528	36"	124"	120"	1,058	1,058	1,861
HD*42-450A	432	42"	76"	72"	795	909	1,385
HD*42-500A	504	42"	88"	84"	908	1050	1,587
HD*42-600A	576	42"	100"	96"	1,020	1,190	1,790
HD*42-750A	720	42"	124"	120"	1,245	1,470	2,195
HD*42-900A	864	42"	148"	144"	1,470	1,751	2,601
HD*42-1000A	1,008	42"	172"	168"	1,695	2,031	3,006
HD*48-500A	500	48″	73″	69″	1,062	1,062	1,856
HD*48-700A	658	48"	88"	84"	1,346	1,346	2,124
HD*48-750A	752	48"	100"	96"	1,507	1,507	2,392
HD*48-950A	940	48"	124"	120"	1,828	1,828	2,918
HD*48-1150A	1,128	48"	148"	144"	2,150	2,150	3,444
HD*48-1300A	1,315	48"	172"	168"	2,471	2,471	3,970
HD*48-1500A	1,503	48"	196"	192"	2,793	2,793	4,505
HD*54-1000A	951	54"	100"	96"	1,721	1,972	2,729
HD*54-1200A	1,189	54"	124"	120"	2,083	2,423	3,320
HD*54-1450A	1,427	54"	148"	144"	2,451	2,882	3,919
HD*54-1700A	1,665	54"	172"	168"	2,807	3,326	4,511
HD*54-1900A	1,903	54"	196"	192"	3,168	3,777	5,102
HD*54-2150A	2,141	54"	220"	216"	3,530	4,228	5,701
HD*60-1500A	1,469	60"	124"	120"	2,784	3,221	4,177
HD*60-1750A	1,763	60"	148"	144"	3,267	3,823	4,913
HD*60-2000A	2,056	60"	172"	168"	3,749	4,425	5,658
HD*60-2400A	2,350	60"	196"	192"	4,231	5,026	6,394
HD*60-2650A	2,644	60"	220"	216"	4,713	5,628	7,130
HD*72-2100A	2,115	72"	124"	120"	3,416	3,904	5,104
HD*72-2500A	2,538	72"	148"	144"	3,995	4,627	5,995
HD*72-3000A	2,961	72"	172"	168"	4,575	5,350	6,885
HD*72-3400A	3,384	72"	196"	192"	5,154	6,073	7,767
HD*72-4000A	3,807	72"	220"	216"	5,733	6,795	8,658

H horizontal V vertical
* for H or V

COMMERCIAL STORAGE TANKS

AC-U-TEMP COMPLETE HOT WATER SYSTEMS

Tank Capacities

- Standard tank sizes from 80 to 1,000 gallons
- Custom tanks up to 3,800 gallons

Eliminates Costly Field Errors

- Factory-engineered and assembled to assure proper pipe, pump and wired sizing
- Systems are pre-piped and wired to guarantee maximum system efficiency

Simplifies Installation

- Installer simply connects the flue, gas, electric supply, cold water make-up and hot water supply

AC-U-Temp Storage Tanks

- Each tank is specially designed with tank opening locations that provide maximum tank draw efficiency and eliminate any unnecessary piping and connections
- Standard Ac-U-Tanks are factory jacketed and insulated (Bare tanks are also available)

Custom AC-U-Temp Systems

- All systems are built to order to meet your specifications
- Many heater and tank combinations available

Multi-Tank Systems

- For applications with low ceiling heights or unique installation challenges

Electric Back-Up

- Heavy-duty electric elements and controls can be specified for up to 3,000 kW for 100% electric back-up
- Provides hot water even during natural gas curtailments

Superior Channel Iron Skid

- For easy shipping
- Larger systems may be shipped on a split skid that is easily assembled during installation

Factory Hydrostatic and Fire-Tested Before Shipping

5-Year Heat Exchanger Module and AND 5-Year Limited Tank Warranty

Other Features

- CSA Certified and ASME rated T&P relief valve
- Tank temperature sensor
- Tank thermometer
- Isolation valves (Reliable ball valves)
- 125 PSI tank construction

Options

- Sequencing control panel for multi-heater systems
- 150 psi tank construction
- 12″ X 16″ manhole for easy maintenance
- Cement and epoxy tank linings available to meet special specifications
- Optional dual energy source capability

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