

CONDENSING COMMERCIAL GAS WATER HEATERS



10 MODELS FROM 400,000 TO 4,000,000 BTU/HR

UP TO 99% THERMAL EFFICIENCY

UP TO 10:1 TURNDOWN RATIO

DIRECT VENT FLEXIBILITY UP TO 150 FEET

 **SMART TOUCH**[™]
W/ CASCADE SEQUENCER

 **CONXUS**[®]
REMOTE CONNECT



DESIGNED ★ ENGINEERED ★ ASSEMBLED

USA

 **Lochinvar**[®]

ARMOR[®]

CONDENSING WATER HEATER

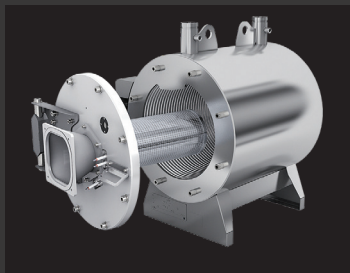
AN INNOVATION IN COMMERCIAL WATER HEATING

The ARMOR commercial condensing water heater features stainless steel heat exchanger technology to deliver up to 99% Thermal Efficiency on AWH 400/500.

ARMOR innovation continues with the SMART TOUCH[™] control system featuring touchscreen technology, Building Automation System interface, optional Modbus or BACnet communication and a Lochinvar exclusive, the CON-X-US[™] mobile communication platform.

Couple the ARMOR with a Lock-Temp[®] Storage Tank for long system life and high performance. To optimize system foot print, deliver the best system appearance and reduce installation costs, consider allowing Lochinvar to create a custom water heater package for your application. Each package is custom built, factory assembled and tested to meet the requirements of the job. All packages include a welded channel iron skid for the water heater(s) and storage tank(s) which provide easy and fast installation.

Now more than ever, the ARMOR delivers a wide range of commercial sizes and features while offering “green” technology that building owners and facility managers desire.



STAINLESS STEEL CONDENSING HEAT EXCHANGER

The heart of the ARMOR is the advanced 316L Stainless Steel, condensing heat exchanger. Built to ASME Section IV requirements, the large input models employ a next generation heat exchanger. Constructed with superior grade 316L Stainless Steel, the heat exchanger's condensing design will heat water at a high up to 99% Thermal Efficiency. The design features a slide out door for improved accessibility and maintenance flexibility.

TURNDOWN

The ARMOR employs an advanced NEG/REG combustion system achieving up to 10:1 turndown. The gas/air mixture is precisely controlled across the entire turndown range to produce ideal combustion and accurate heat transfer. The turndown ratio matches the heat demand to prevent short cycling or temperature overshoot.

DIRECT-VENTING UP TO 150 FEET

ARMOR offers 6 venting options and tremendous flexibility for placement of units within the building, because it permits direct-vent air intake and exhaust runs up to 150 equivalent feet using either PVC, CPVC, Polypropylene or AL29-4C stainless steel vent pipe. Intake and exhaust runs can terminate horizontally through a sidewall or vertically through the roof.



WATER HEATER CONTROL, FROM ANYWHERE.

ARMOR features the next generation of Lochinvar's all-in-one SMART TOUCH operating control with the integration of the CON-X-US advanced technology. SMART TOUCH provides outstanding functionality and can be integrated directly into a Building Automation System via Modbus or BACnet.

The CON-X-US mobile communication platform provides the ability to monitor and manage multiple ARMOR water heaters without ever stepping into the mechanical room. CON-X-US will send alerts via text or email notifying of changes in system status, and a user can check system status and re-program control functions anytime, anywhere. Once downloaded, the free CON-X-US mobile app connects using any internet capable device.

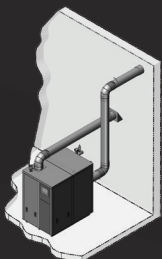


OUTDOOR MODELS FOR WARM WEATHER CLIMATES

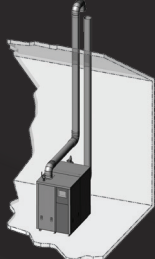
ARMOR Condensing Water Heaters are certified for outdoor installation in warm weather climates like California and Florida. The outdoor design features louvers on the side of the water heater, rear or side utility connections and a UV protection cover for the touch screen display. Models can be factory assembled for outdoor installations or indoor models may be field converted quickly for outdoor use with a conversion kit.

7 FLEXIBLE VENTING OPTIONS - Up to 150 feet of air intake and 150 feet of exhaust vent with PVC, CPVC, Polypropylene or Stainless Steel.

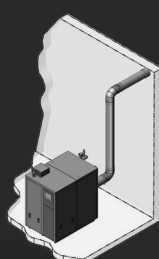
Direct Vent



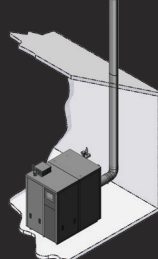
Direct Vent Vertical



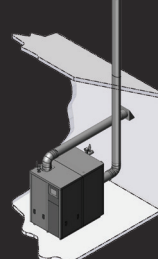
Room Air Sidewall



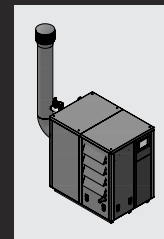
Room Air Vertical



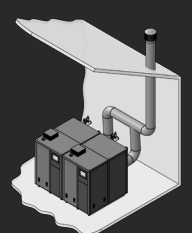
Vertical w/Sidewall Air



Outdoor

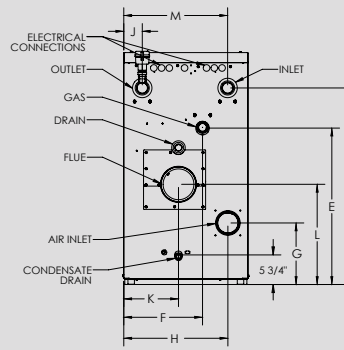
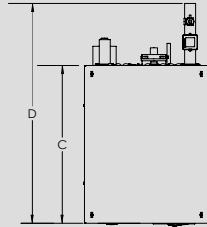
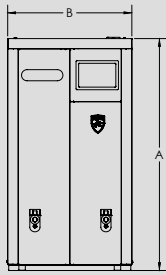


Common Vent

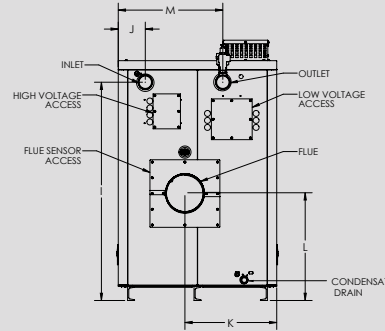
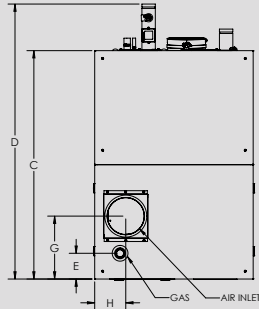
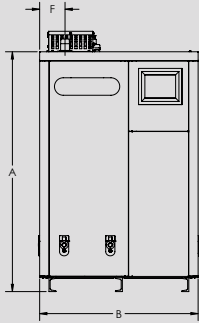


ARMOR WATER HEATER DIMENSIONS AND SPECIFICATIONS

MODELS 400-1000



MODELS 1250-4000



Model Number Guide

AWH	1500	N	PM
Armor Water Heater	Btu/hr Input	Natural Gas	Pump Supplied

Armor Water Heater,
1,500,000 Btu/hr input,
 Natural Gas
 PM Pump Supplied

ARMOR WATER HEATER



DIMENSIONS AND SPECIFICATIONS

Model Number	Btu/Hr Input	Thermal Efficiency	GPH 100°F Rise	A	B	C	D	E	F	G	H	I	J	K	L	M	Gas Conn.	Water Conn	Air Inlet	Vent Size	Shipping Weight
AWH0400NPM	399,000	99%	479	45"	24"	30-1/2"	42-1/2"	29-3/4"	20-1/4"	12"	20"	38"	3-1/2"	10-1/2"	19-1/4"	20"	1"	2"	4"	4"	326
AWH0500NPM	500,000	99%	600	45"	24"	30-1/2"	42-1/2"	29-3/4"	20-1/4"	12"	20"	38"	3-1/2"	10-1/2"	19-1/4"	20"	1"	2"	4"	4"	333
AWH0650NPM	650,000	98%	772	45"	24"	41"	53"	30-1/2"	15-1/4"	12"	20"	38"	3-1/2"	10-1/2"	19-1/4"	20"	1-1/4"	2"	4"	6"	424
AWH0800NPM	800,000	98%	950	45"	24"	41"	53"	30-1/2"	15-1/4"	12"	20"	38"	3-1/2"	10-1/2"	19-1/4"	20"	1-1/4"	2"	4"	6"	433
AWH1000NPM	999,000	98%	1,187	45"	24"	48"	62"	30-1/2"	15-3/4"	12"	20"	38"	3-1/2"	10-1/2"	19-1/4"	20"	1-1/4"	2-1/2"	6"	6"	494
AWH1250NPM	1,250,000	98%	1,485	51-1/2"	34"	49"	60"	5-1/2"	5-1/2"	13-1/2"	6-3/4"	46-3/4"	5-3/4"	19-3/4"	23"	22-1/2"	1-1/2"	2-1/2"	8"	8"	1,568
AWH1500NPM	1,500,000	98%	1,782	51-1/2"	34"	52-3/4"	63-3/4"	4-1/2"	4-1/2"	13-1/2"	6-3/4"	46-3/4"	5-3/4"	19-3/4"	23"	22-1/2"	1-1/2"	2-1/2"	8"	8"	1,649
AWH2000NPM	1,999,000	98%	2,375	51-1/2"	34"	65-1/2"	76-1/2"	7"	5-3/4"	14-3/4"	7-1/4"	46-3/4"	6-3/4"	18-3/4"	23"	22-1/2"	1-1/2"	2-1/2"	8"	8"	1,911
AWH3000NPM	3,000,000	98%	3,564	67-1/4"	48-1/4"	79-3/4"	93-3/4"	4-3/4"	6-3/4"	17-3/4"	8-3/4"	60-1/4"	8-1/2"	25-1/2"	29-1/2"	40"	2"	4"	10"	10"	3,147
AWH4000NPM	4,000,000	98%	4,752	67-1/4"	48-1/4"	96"	110"	5"	7-1/2"	17-3/4"	8-3/4"	60-1/4"	8-1/2"	25-1/2"	29-1/2"	40"	2-1/2"	4"	12"	12"	3,694

Change 'N' to 'L' for LP gas models. No deration on LP models. Performance data is based on manufacturer's test results. Add "O" at end of AWH1250-4000 model number for outdoor models.

STANDARD FEATURES

- Up to 99% Thermal Efficiency
- Modulating Burner with Turndown
 - 10:1 Turndown AWH0400NPM-AWH1000NPM
 - 5:1 Turndown AWH1250NPM-AWH4000NPM
- ENERGY STAR
- CON-X-US Remote Connect
- Indoor/Outdoor Convertible
- Direct-Spark Ignition
- Low NOx Operation
- Sealed Combustion
- Low Gas Pressure Operation
- Vertical & Horizontal Vent Termination
- Category IV Venting up to 150 Feet
- PVC, CPVC, Polypropylene or AL29-4C Vent Material
- ASME Stainless Steel Heat Exchanger
 - Gasketless Design
 - 160 psi Working Pressure
- Stainless Steel or All Bronze
- Circulating Pump
- On/Off Switch
- Adjustable High Limit with Manual Reset
- High and Low Gas Pressure Switches w/Manual Reset (AWH1250 - 4000)
- Flow Switch
- Air Inlet Filter
- Inlet & Outlet Temperature Sensors
- ASME Temperature & Pressure Relief Valve
- Zero Clearance to Combustible Material
- Approved for Combustible Floor Installation
- 1 Year Warranty on Parts
- 5 Year Limited Warranty (see warranties for details)

SMART TOUCH FEATURES

- SMART TOUCH™ Operating Control
- Full-Color Touchscreen LCD Display
- Built-in Cascading Sequencer for up to 8 Water Heaters
- Building Automation Integration with 0-10 VDC Input
- Password Security
- Low Water Flow Safety Control & Indication
- Inlet & Outlet Temperature Readout
- Freeze Protection
- Service Reminder
- Time Clock
- Data Logging
- Hours Running
- Ignition Attempts
- Last 10 Lockouts
- Programmable System Efficiency Optimizers
- Night Setback
- Water Heater Pump Control
- Building Recirculation Pump Control
- High Voltage Terminal Strip
 - 120V/1PH/60 Hz (AWH0400-1500)
 - 208V/3PH/60 Hz (AWH2000-3000)
 - 480V/3PH/60 Hz (AWH4000)
- Low Voltage Terminal Strip
 - 24 VAC Auxiliary Device Relay
 - Auxiliary Proving Switch Contacts
 - Alarm on Any Failure Contacts
 - Pump Contacts
 - Runtime Contacts
 - Tank Thermostat Contacts
 - Tank Sensor Contacts
 - Cascade Contacts

STANDARD PUMPS

- 1/2HP/120V/1PH/60Hz (AWH0400-650)
- 3/4HP/120V/1PH/60Hz (AWH0800-1000)
- 1HP/120V/1PH/60Hz (AWH1250-1500)
- 2HP/208V/3PH/60Hz (AWH2000)
- 5HP/208V/3PH/60Hz (AWH3000)
- 5HP/480V/3PH/60Hz (AWH4000)

OPTIONAL EQUIPMENT

- Audible Alarm
- High & Low Gas Pressure Switches w/Manual Reset (AWH0400-1000)
- Condensate Neutralization Kit
- SMART TOUCH PC Software
- Modbus or BACnet MSTP Communications
- BMS Gateway to LonWorks or BACnet IP
- Indoor to Outdoor Kits
- Outdoor to Indoor Kits (AWH1250-4000)

CODES & REGISTRATIONS

ASME Certified, "HLW" Stamp ANSI Z21.10.3 Certified

For technical information call 800-722-2101. Lochinvar, LLC reserves the right to make product changes or improvements without prior notice.



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LOW LEAD CONTENT

HLW