

**HIGH EFFICIENCY COMMERCIAL
POOL PACKAGE SYSTEMS**

AQUASTM

COMMERCIAL POOL PACKAGE

5 MODELS FROM 399,000 TO 850,000 BTU/HR

UP TO 98% THERMAL EFFICIENCY

UP TO 10:1 TURNDOWN RATIO

TITANIUM INDIRECT PLATE AND
FRAME POOL HEAT EXCHANGER
ON SELECT MODELS

 **SMART TOUGH**TM

WITH  **CONXUS**[®]
REMOTE CONNECT



DESIGNED ★ ENGINEERED ★ ASSEMBLED

USA

 **Lochinvar**[®]

INNOVATION IN DESIGN

The AQUAS commercial pool package is a dramatic advancement in the design of pool heating systems. The AQUAS package is a factory assembled system featuring a free-standing boiler piped to a dedicated titanium pool heat exchanger.

- Effective heat transfer from a high efficiency, modulating condensing boiler.
- A complete factory assembled package reduces installation cost and time.
- Separating the pool water from the direct-fired heat source reduces maintenance and promotes longer equipment life.
- Reliability and performance with a positive user experience.

POOL HEAT EXCHANGER

A durable industrial grade titanium heat exchanger provides effective heat transfer. The pool water flows through a series of plates. Titanium is a strong but light-weight alloy used in aerospace, automotive and military applications. Used in pool systems, titanium is highly resistant to corrosion from salt water and chlorine. This simple design keeps the pool water separate from the heat source while allowing for complete and highly efficient heat transfer.



INSIDE THE BOILER

The AQUAS is an innovative pool package that begins with the most advanced boilers in the industry today. The AQUAS heat source is a high efficiency, condensing boiler perfectly suited for the low water temperatures typical of pool heating. The following are some of the exciting features you get with the advanced boiler design.

FULLY MODULATING BURNER

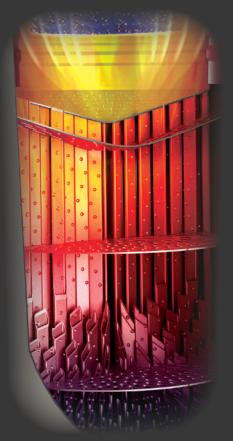
Modulation is an important combustion feature that is long overdue in the pool industry. Why fire the appliance at 100% input in short bursts to heat the pool water? With a modulating burner, the boiler will tune in the input rate to exactly match the Btu/hr losses of the pool water. The burner will then “cruise” along comfortably, heating the pool water in long, low input burn cycles that dramatically increase the overall life of the boiler.

THERMAL EFFICIENCY

The AQUAS pool package is constructed with stainless steel modulating condensing boilers that deliver up to 98% thermal efficiency. Low return water temperature from a pool makes for an ideal application. The heat exchanger is sized to maximize the heat transfer of the boiler water to the pool water flowing through the heat exchanger. Higher thermal efficiency reduces your fuel costs.

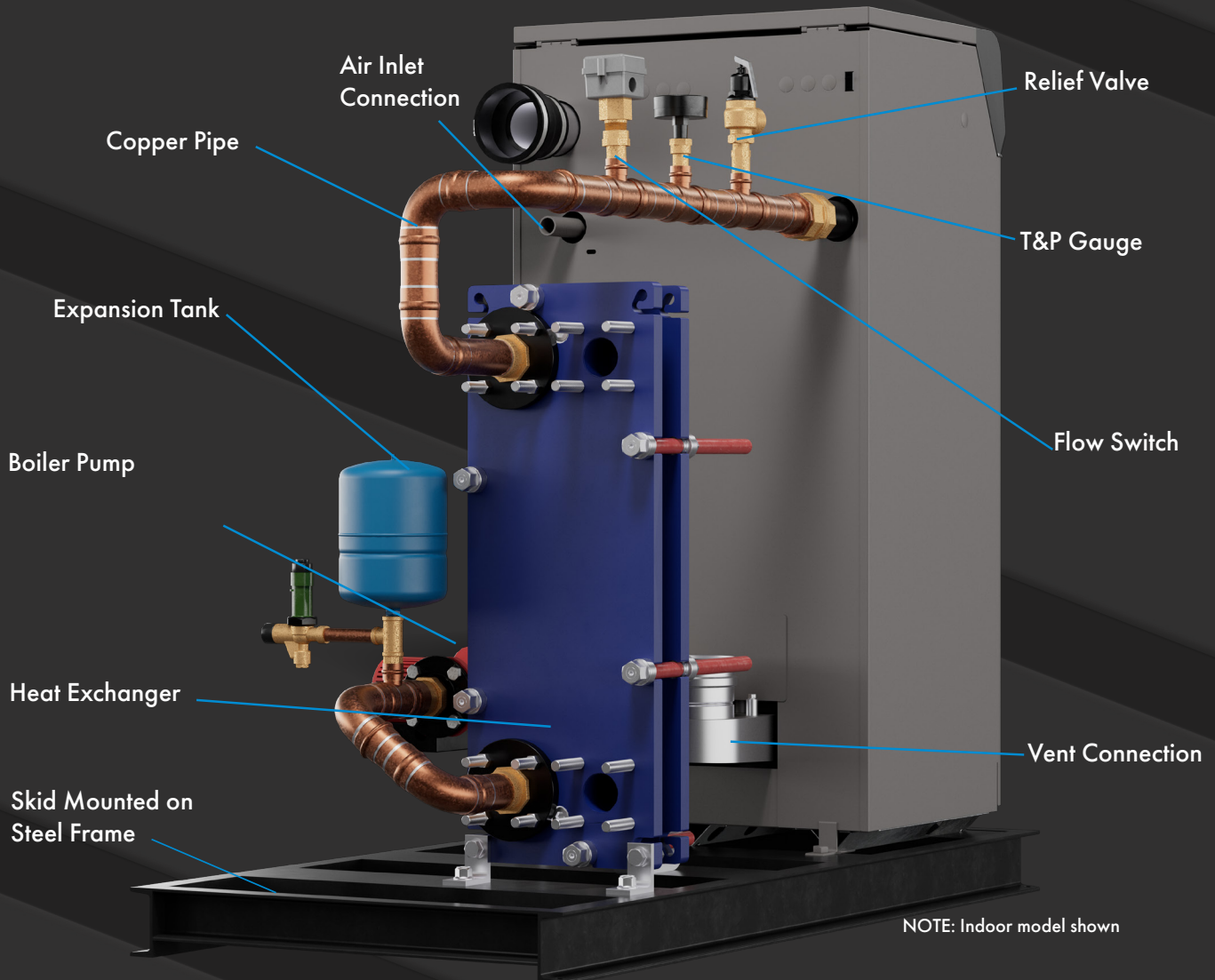
DIRECT VENT WITH PVC

Reduce your installation cost and save time and effort by installing the AQUAS pool package with PVC pipe. The AQUAS pool package offers a variety of vent designs in your choice of PVC, CPVC, Polypropylene or Stainless Steel vent material. What’s more, you can Direct Vent the AQUAS. By drawing the combustion air into the appliance with a dedicated intake pipe, the AQUAS is protected from corrosive pool chemicals that could damage the combustion system.



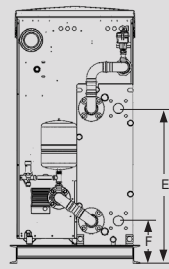
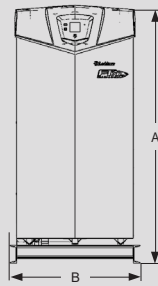
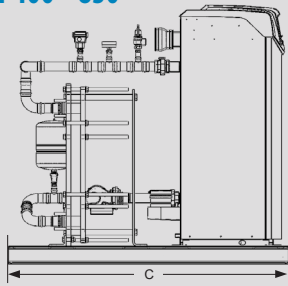


7" TOUCH SCREEN WITH BUILT-IN CONXUS[®] REMOTE CONNECT
Provides a better end-user experience allowing parameters to be adjusted with minimal effort and provide access to the remote connectivity when required for the installation.



NOTE: Indoor model shown

APN 400 - 850



Model Number	Input Btu/hr	Turn Down	A	B	C	D	E	F	Pool Conn.	Gas Conn.	Vent Size	Air Inlet	Pool Flow (GPM)	Ship Wt.
Indoor Models														
APN400	399,000	10:1	57-1/2"	29-1/4"	62-1/2"	-	34-3/4"	9-1/2"	2"	1"	4"	4"	52	1224
APN500	500,000	10:1	57-1/2"	29-1/4"	62-1/2"	-	34-3/4"	9-1/2"	2"	1"	4"	4"	65	1250
APN600	600,000	7:1	57-1/2"	29-1/4"	62-1/2"	-	34-3/4"	9-1/2"	2"	1"	4"	4"	78	1250
APN725	725,000	7:1	57-1/2"	29-1/4"	62-1/2"	-	35-1/4"	10"	2"	1"	6"	4"	94	1338
APN850	850,000	7:1	57-1/2"	29-1/4"	62-1/2"	-	35-1/4"	10"	2"	1"	6"	4"	90	1367

Notes: Change 'N' to 'L' for LP gas models.

No deration on LP models.

Performance data is based on manufacturer test results.

Agency certification applies to the boiler.

For outdoor models contact factory

STANDARD FEATURES

› CON-X-US Remote Connect

› Up to 98% Thermal Efficiency

- Modulating Burner with up to 10:1 turndown
- Direct-Spark Ignition
- Low NOx Operation
- Sealed Combustion
- Low Gas Pressure Operation

› Vertical & Horizontal Venting

- Category IV Venting up to 100 Feet PVC, CPVC
- Polypropylene or AL29-4C Vent Material
- Sidewall Vent Terminations Provided (Except APN285)

› ASME Stainless Steel Boiler Heat Exchanger

- ASME Certified, "H" Stamped
- Gasketless Design
- 160 PSI Working Pressure

› On/Off Switch

› Expansion Tank w/ Fill Valve

› Adjustable High Limit w/ Auto Reset

› Adjustable High Limit w/ Manual Reset

› Flow Switch

› Low Air Pressure Switches

› Inlet & Outlet Temperature Sensors

› Two Easy Access Terminal Strips

› Temperature & Pressure Gauge

› Zero Clearances to Combustible Material

› ASME Pressure Relief Valve

› Titanium Plate & Frame Heat Exchanger (APN400-850)

- Salt Water Ready

› 10 Yr Boiler Warranty (See Warranty for Details)

› 5 Yr Titanium Pool Heat Exchanger Warranty

- (See Warranty for Details)

› 1 Yr Parts Warranty (See Warranty for Details)

SMART SYSTEM FEATURES

› CON-X-US Remote Connect

› Smart Touch Touchscreen Operating Control

› Full Color 7" Touchscreen LCD Display

› Cascading Sequencer with Built-in Redundancy

- Selectable Cascade Type:
- Lead Lag/Efficiency Optimization

- Multiple Size Boilers

Front-End Loading

› 3 Reset Temperatures Inputs w/Independent Outdoor Reset Curves for Each

Outdoor Sensor

› Four-Pump Control

System Pump with Parameter for Continuous Operation

Boiler Pump with Variable-Speed Control

Domestic Hot Water Boiler Pump

Domestic Hot Water Recirculation Pump Control with Sensor

› Building Management System Integration

0-10 VDC Input to Control Modulation or Set-point

0-10 VDC Input from Variable-Speed System Pump

0-10 VDC Modulation Rate Output Signal

0-10 VDC Enable/Disable Signal

› Programmable System Efficiency Optimizers

Space Heating Night Setback

DHW Night Setback

Anti-Cycling

Ramp Delay

Boost Time and Temperature

› High-Voltage Terminal Strip

120 VAC/60 Hertz/1 Phase

Pump Contacts for 3 Pumps

› Low-Voltage Terminal Strip

Building Recirculation Pump Start/Stop

Building Recirculation Return Temp Sensor

Contacts

Proving Switch Contacts

Flow Switch Contacts

Alarm Contacts

Runtime Contacts

3 Space Heat Thermostat Contacts

Tank Thermostat Contacts

System Sensor Contacts

Tank Sensor Contacts

Cascade Contacts

0-10 VDC BMS Contacts

0-10 VDC Boiler Rate Output Contacts

0-10 VDC Boiler Pump Speed Contacts

0-10 VDC System Pump Speed Contacts

ModBus Contacts

› Time Clock

› Data Logging

Ignition Attempts

Last 10 Lockouts

Space Heat Run Hours

Domestic Hot Water Run Hours

Custom Maintenance Reminder with Contact Info

Password Security

Customizable Freeze Protection Parameters

OPTIONAL EQUIPMENT

› Alarm on Any Failure

› Condensate Neutralization Kit

› High & Low Gas Pressure Switches w/ Manual Reset

› Room Air Kit

› Secondary Heat Exchangers

› BMS Gateways for LON or BACnet

FIRING CODES

› M9 Standard Construction

› M7 California Code (APN 285 & Outdoor)

› M13 CSD1 / Factory Mutual / GE Gap (500-850)

For Ease In Ordering By Model Number

AP	N	500	M9
AQUAS	NATURAL	Btu/hr-INPUT	FIRING CONTROLS

This heater is 500,000 Btu/hr natural gas Pool Heater. It has M9 firing controls.

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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