HIGH EFFICIENCY COMMERCIAL POOL PACKAGE SYSTEMS

AQUAS™

COMMERCIAL POOL PACKAGE

5 MODELS FROM 399,000 TO 999,000 BTU/HR

UP TO 97% THERMAL EFFICIENCY

UP TO 10:1 TURNDOWN RATIO

TITANIUM INDIRECT PLATE AND FRAME POOL HEAT EXCHANGER

OPTIONAL OUTDOOR KIT

Lochinvar SMART TOUCH™ WITH CONXUS® REMOTE CONNECT



DESIGNED ★ ENGINEERED ★ ASSEMBLED USA

Lochinvar®

AQUAS™
COMMERCIAL POOL PACKAGE

High Efficiency Commercial Pool Package Systems

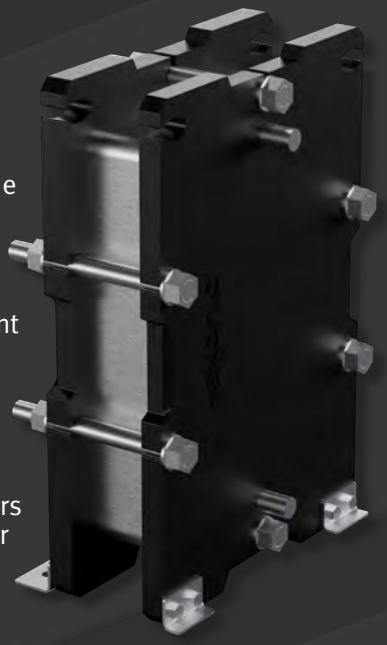
INNOVATION IN DESIGN

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 97% 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.

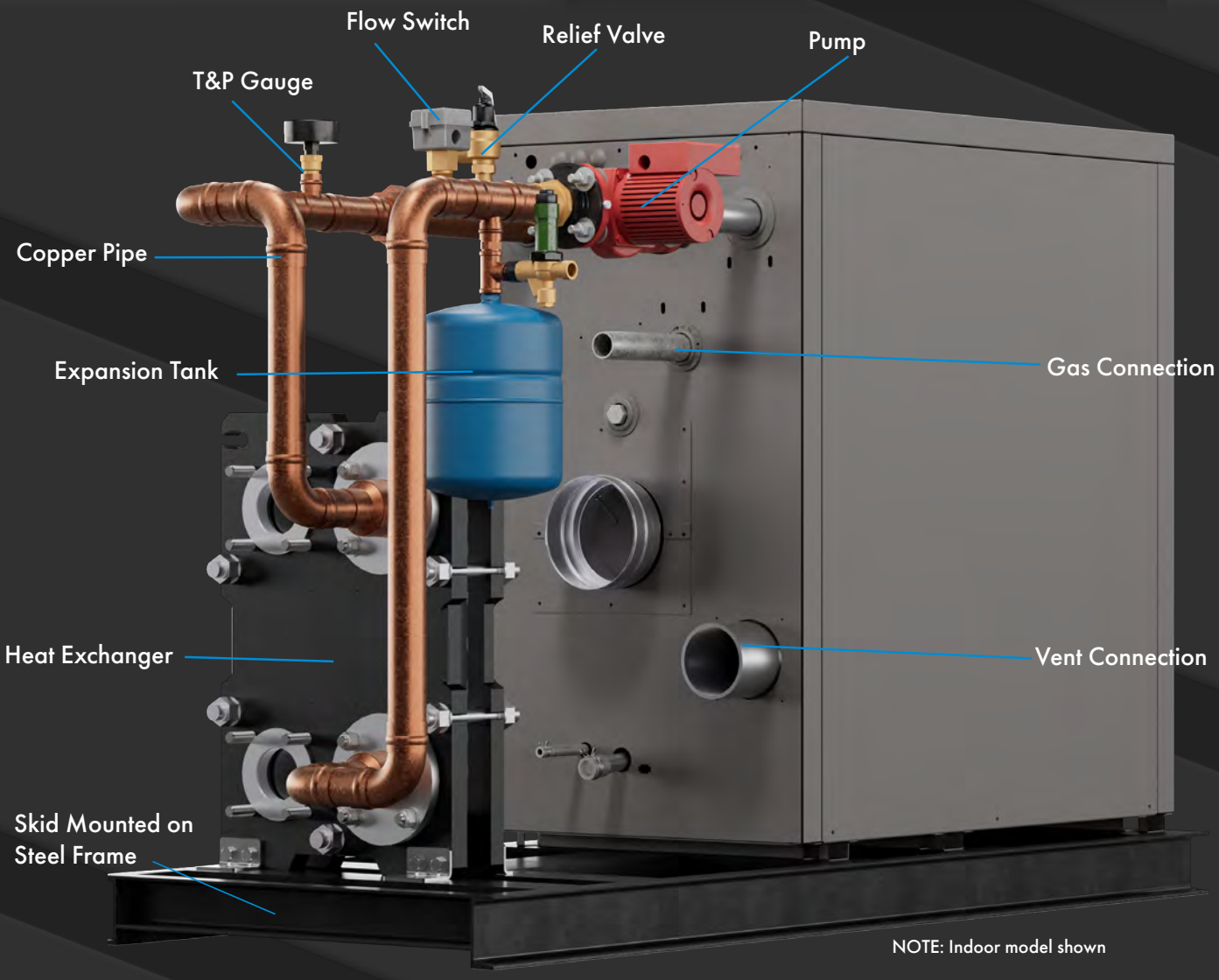
Lochinvar SMART TOUCH™

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.

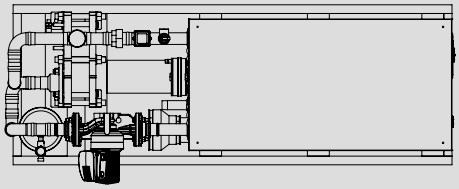
AQUAS™
COMMERCIAL POOL PACKAGE



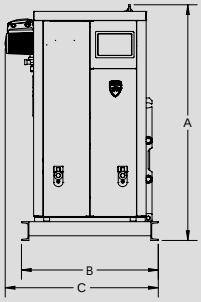


NOTE: Indoor model shown

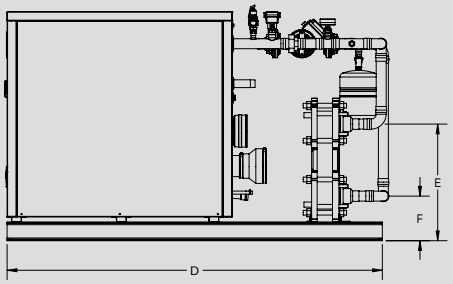
APX 400 - 1000



TOP



FRONT



SIDE

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														
APX400N	399,000	10:01	48 7/8"	29 1/4"	-	63 1/8"	24 7/8"	9 5/8"	3"	1"	4"	4"	52	1189
APX500N	500,000	10:01	48 7/8"	29 1/4"	-	61 1/8"	24 7/8"	9 5/8"	3"	1"	4"	4"	65	1205
APX650N	650,000	10:01	48 7/8"	29 1/4"	-	73 5/8"	24 7/8"	9 5/8"	3"	1 1/4"	6"	4"	84	1398
APX800N	800,000	10:01	48 7/8"	29 1/4"	32 3/4"	73 5/8"	24 7/8"	9 5/8"	3"	1 1/4"	6"	4"	10	1417
APX1000N	999,000	10:01	48 7/8"	29 1/4"	32 3/4"	81 3/8"	24 7/8"	9 5/8"	3"	1 1/4"	6"	6"	129	1521

Notes: *Performance data is based on manufacturer test results. Agency certification applies to the boiler.*

STANDARD FEATURES

- **› 97% Thermal Efficiency**
- **› Modulating Burner with 10:1 Turndown**
  - Direct Spark Ignition
  - Low NOx Operation
  - Sealed Combustion
  - Low Gas Pressure Operation
- **› Stainless Steel Water Tube Heat Exchanger**
  - ASME-Certified, "H" Stamped
  - 160 psi Working Pressure
  - 50 psi Relief Valve
  - Combustion Analyzer Test Port
  - Fully Welded Design
- **› Vertical and Horizontal Direct Vent**
  - Direct Vent up to 150 feet
  - PVC, CPVC, Polypropylene or AL29-4C
  - Factory Supplied Sidewall Vent Termination
- **› Smart System Control**
- **› Other Features**
  - On/Off Switch
  - Adjustable High Limit with Manual Reset
  - Automatic Reset High Limit
  - Flow Switch
  - Flue Temperature Sensor
  - Low Air Pressure Switch
  - Temperature and Pressure Gauge
  - Condensate Trap

10-Year Limited Warranty (See Warranty)

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

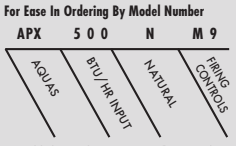
OPTIONAL EQUIPMENT

- › 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
- › Outdoor Conversion Kit

FIRING CODES

- › M9 Standard Construction
- › M7 California Code
- › M13 CSD1 / Factory Mutual / GE Gap (500-850)

For Ease In Ordering By Model Number



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

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