AQUAS™
Commercial Pool Package

12 MODELS FROM 750,000 TO 6,000,000 BTU/HR

UP TO 96.2% THERMAL EFFICIENCY

UP TO 25:1 TURNDOWN RATIO

TITANIUM INDIRECT PLATE AND FRAME POOL HEAT EXCHANGER

INDOOR/OUTDOOR INSTALLATION

SMART TOUCH™
OPERATING CONTROL

CON X US®
REMOTE CONNECT CAPABLE
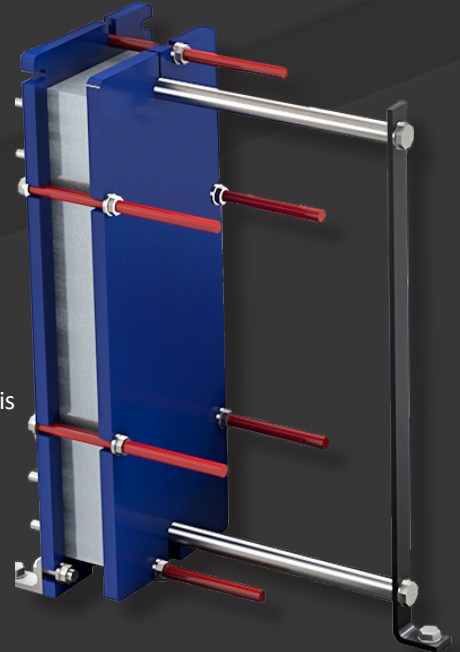
DESIGNED ★ ENGINEERED ★ ASSEMBLED
USA

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.
- Jacket design is suitable for outdoor installations with optional outdoor hood kit.

POOL HEAT EXCHANGER

A durable industrial grade titanium heat exchanger provides effective heat transfer. 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 96.2% 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, 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.
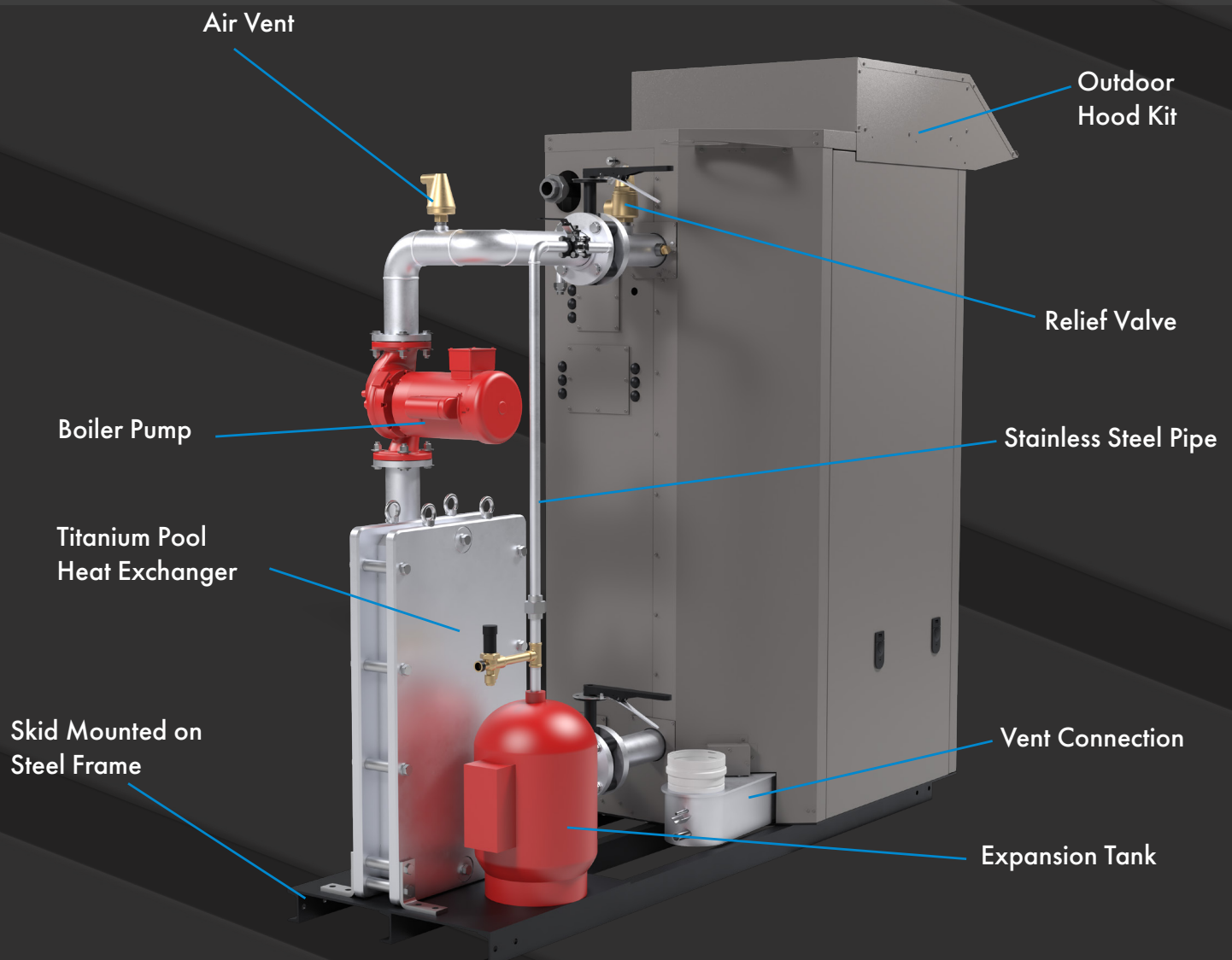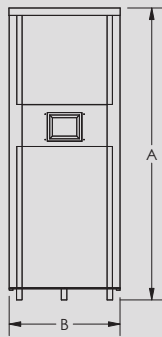
SMART TOUCH
Lochinvar

REFINED DESIGN PUTS MORE CONTROL AND INFORMATION AT YOUR FINGERTIPS

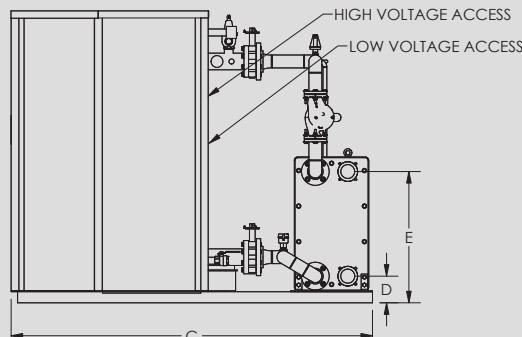### JUST A FEW OF THE ADVANCED FEATURES:

- Multi-Color Graphic LCD Touch Display
- Cascade of up to 8 AQUAS Packages
- USB Port for PC Connection
- Maintenance Reminder with Installer Name & Number
- BACnet MSTP Communication (Modbus Optional)
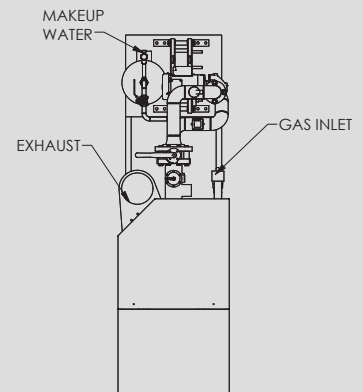- Password Security
- Operational and Alarm Readouts

Air Vent

Outdoor Hood Kit

Relief Valve

Boiler Pump

Stainless Steel Pipe

Titanium Pool Heat Exchanger

Vent Connection

Skid Mounted on Steel Frame

Expansion Tank

AQUAS DIMENSIONS AND SPECIFICATIONS

FRONT

SIDE

- HIGH VOLTAGE ACCESS
- LOW VOLTAGE ACCESS

TOP

MAKEUP WATER

EXHAUST

GAS INLET

Add 9" to height when outdoor hood required.

AQUAS POOL PACKAGE		DIMENSIONS & SPECIFICATIONS										
Model Number	Input Btu/hr	A	B	C	D	E	Pool Flow (GPM)	Pool Conn.	Vent Size	Air Inlet	Gas Conn.	Ship Wt.(lbs)
APO0750N	750,000	79"	30"	87-3/4"	7-1/4"	35-1/2"	96	3"	6"	6"	1-1/4"	2,623
APO1000N	999,000	79"	30"	87-3/4"	7-1/4"	35-1/2"	128	3"	6"	6"	1-1/4"	2,659
APO1250N	1,250,000	79"	30"	87-3/4"	7-1/4"	35-1/2"	167	3"	8"	6"	1-1/2"	2,809
APO1500N	1,500,000	79"	30"	97-3/4"	7-1/4"	35-1/2"	192	3"	8"	8"	1-1/2"	3,097
APO1750N	1,750,000	79"	30"	97-3/4"	7-1/4"	35-1/2"	215	3"	8"	8"	1-1/2"	3,247
APO2000N	1,999,000	79"	30"	97-3/4"	7-1/4"	35-1/2"	225	3"	8"	8"	1-1/2"	3,397

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 sizes larger than 2,000,000 Btu/Hr contact factory.

STANDARD FEATURES

> **Up to 96.2% Thermal Efficiency**
> **Modulating Burner with up to 25:1 Turndown**
  Direct-Spark Ignition
  Low NOx Operation
  Sealed Combustion
  Low Gas Pressure Operation
> **Vertical and Horizontal Direct Venting**
  Category IV up to 100 Feet
  PVC, CPVC, Polypropylene or AL29-4C Vent
> **ASME "H" Stamped Heat Exchanger**
  316L Stainless Steel Fire Tubes
  Gasketless Design
  160 psi Working Pressure
  On/Off Switch
  Air Inlet Filter w/Replacement Reminder
Adjustable High Limit with Manual Reset
Low Water Cutoff with Manual Reset & Test
High & Low Gas Pressure Switches w/Manual Reset
Low Air Pressure Switches
Condensate Trap w/Blocked Drain Switch
Drain Valve
Pool Sensor
Inlet & Outlet Temperature Sensors
High-Voltage Terminal Strip
Low-Voltage Terminal Strip
Downstream Gas Test Cocks
50 psi ASME Relief Valve
Temperature & Pressure Gauge
Zero Clearances to Combustible Materials
10-Year Limited Warranty (See Warranty for Details)
5-Year Warranty on Pool Heat Exchanger (See Warranty for Details)
1-Year Warranty on Parts (See Warranty for Details)
> **Titanium Pool Heat Exchanger (Non-ASME)**
  Salt Water Ready

SMART TOUCH™ FEATURES

> CON·X·US Remote Connect
> **SMART TOUCH™ Touchscreen Operating Control**
> **Full-Color 8" Touchscreen LCD Display**
> **Built-in Cascading Sequencer for up to 8 Pool Heaters**
  Built-in Redundancy
  Cascade Multiple Sized Boilers
  Lead/Lag Cascade
  Efficiency Optimized Cascade
> **Building Management System Integration with 0-10 VDC Input**
> **BACnet MSTP Communications**
> **Modbus Communications**
> **Password Security**
> **Low Water Flow Safety Control & Indication**
> **Inlet & Outlet Temperature Readout**
> **Freeze Protection**
> **Service Reminder**
> **Time Clock**
> **Data Logging**
  Ignition Attempts
  Last 10 Lockouts
> **High-Voltage Terminal Strip**
  120 VAC / 60 Hertz / 1 Phase Power Supply
> **Low-Voltage Terminal Strip**
  Device Relay Contacts
  Proving Switch Contacts
  Alarm on Any Failure Contacts
  Runtime Contacts
  Spa Thermostat Contacts
  Unit Enable/Disable Contacts
  Pool Sensor Contacts
  Spa Sensor Contacts
  Outdoor Air Sensor Contacts
  Cascade Contacts
  0-10 VDC BMS External Control Contacts

OPTIONAL EQUIPMENT

Alarm on Any Failure
BMS Gateway - BACnet IP or LonWorks
Outdoor Hood Kit for Non-sheltered Installations
Condensate Neutralization Kit
SMART TOUCH PC Software
Common Vent Kits
> **Electrical Options (Shipped Loose):**
  208V/3Ø/60Hz
  480V/3Ø/60Hz
  600V/3Ø/60Hz

CODES & REGISTRATIONS

ANSI Z21.13/CSA Certified
ASME Certified, "H" Stamp / National Board
California Code Compliant
CSD1 / Factory Mutual / GE Gap Compliant
Canadian Registration Number (CRN)
South Coast Air Quality Management District Qualified
AHRI Certified Boiler

Model Number Guide

A P O 2 0 0 0 N

AQUAS / INDOOR/OUTDOOR / Btu/ hr INPUT / NATURAL GAS

Lochinvar®