HIGH EFFICIENCY COMMERCIAL BOILERS

SYNC
CONDENSING BOILER

TOUCHSCREEN OPERATING CONTROL
FEATURING A BUILT-IN CASCADING SEQUENCER

1.0, 1.3 AND 1.5 MILLION BTU/HR

FIRING RATE MODULATION TO 10:1

LESS THAN 20 ppm NOx

DIRECT-VENT FLEXIBILITY TO 100 FEET

LOCHINVAR
HIGH EFFICIENCY BOILERS & WATER HEATERS

Lochinvar.com
Lochinvar’s commitment to research and development brings innovation to the industry! The SYNC Commercial Boiler combines stainless steel heat exchanger technology with Modulating Condensing combustion to deliver efficiencies as high as 98% in low-temperature applications.

With models at 1.0, 1.3 and 1.5 million BTU/hr inputs, SYNC will serve a large range of commercial applications and add the “green” touch that building owners and facility managers desire.

SYNC also reaches high levels of innovation with SMART TOUCH™... touchscreen technology that puts total operational control at your fingertips! With SMART TOUCH, it’s easier than ever to set up a perfectly synchronized “green” system, and access a complete onboard database of real-time operational data and performance history.

Other features in SYNC with your needs include space-saving footprints, direct-vent design with intake and exhaust runs up to 100 feet, and a built-in cascading sequencer for up to 8 boilers, delivering up to 12 million BTU/hr heating capacity.

*Link up with SYNC...the mod/con boiler that’s touched by innovation in every way.*

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**THE SYNC COMBUSTION SYSTEM**

**ADVANCED NEGATIVE REGULATION TECHNOLOGY**

SYNC safely and reliably operates with supply gas pressure as low as 4 inches water column, because Negative Regulation (Neg/Reg) technology automatically adjusts fan speed to ensure the correct volume of fuel and air entering the burner.

**“FAIL-SAFE” DIRECT-SPARK IGNITION**

With each call for heat, two electrodes ignite the fuel/gas mixture. A third electrode then senses for flame. SMART TOUCH will lock out and display the fault if ignition does not occur.

**TWO-IN-ONE STAINLESS STEEL HEAT EXCHANGER**

A primary heat exchanger combined with a secondary heat exchanger captures flue gas heat and eliminates low temperature requirements. The stainless steel, pH-tolerant design features a weld-sealed assembly with no O-rings or gaskets, and does not require special glycol. ASME Section IV approved and stamped.

**FULLY MODULATING BURNER**

SMART TOUCH allows fully modulating combustion with 10:1 turndown. The combustion system can fire as low as 10% of maximum input, and modulates the firing rate up to 100% as demand increases. The burner design incorporates a woven steel mesh sleeve over a stainless steel burner tube and fires in a 360° pattern along the entire length of the primary heat exchanger. These together allow SYNC’s compact size to excel compared to units with larger multiple burners.
UNEQUALIZED CONTROL AND MONITORING FUNCTIONS THAT ARE EASY TO USE

TOTAL CONTROL, AT YOUR FINGERTIPS

The full-color SMART TOUCH Main Menu screen is your gateway to complete control of all SYNC functions, and total access to system performance data and history. Do it all and see it all right here, with or without connecting to a separate PC using our SMART TOUCH software.

- Modbus Communication
- Password Security
- Product Service Indicator
- Freeze Protection
- Low Water Flow Indicator
- Night Temperature Setback
- Building Management System Control
- Hot Water Generator Compatibility
- System and Boiler Pump Controls
- Outdoor Reset
- PC Connection

BUILT-IN CASCADING SEQUENCER

Sequences up to an 8-boiler system using simple 2-wire daisy-chain connection, eliminating cost and uncertainty of separate “third party” sequencers. On demand, one boiler functions as the leader, and modulates to capacity. Increasing load then “cascades” to additional “lag” boilers in sequence as needed. Lead-lag rotation shifts “first on” boiler role every 24 hours, distributing equal lead-lag runtimes to each unit.

DIRECT-VENTING UP TO 100 FEET - SYNC 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 100 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.

FACTORY SUPPLIED AND SHIPPED STANDARD WITH EVERY MODEL

SIDEWALL VENT TERMINATION

BUILDING ON A TRADITION OF INNOVATION
Sync Heating Boiler Dimensions and Specifications

### SMART TOUCH™ Features
- **SMART TOUCH™ Touchscreen Operating Control**
- Full-Color Touchscreen LCD Display
- Built-in Cascading Sequencer for up to 8 Boilers
- Building Management System Integration with 0-10 VDC Input
- Outdoor Reset Control with Outdoor Air Sensor
- Dual Level Password Security
- Domestic Hot Water Prioritization
- Low Water Flow Safety Control & Indication
- Inlet & Outlet Temperature Readout
- Freeze Protection
- Service Reminder
- Time Clock
- Data Logging
- Hours Running, Space Heating
- Hours Running, Domestic Hot Water
- Ignition Attempts
- Last 10 Lockouts
- Programmable System Efficiency Optimizers
- Night Setback
- Ramp Delay
- Anti-Cycling
- Outdoor Air Reset Curve
- Boost Temperature & Time
- Three Pump Control
  - System Pump
  - Boiler Pump(s)
  - Domestic Hot Water Pump(s)
- High Voltage Terminal Strip
  - 120 VAC / 60 Hertz / 1-Phase Power Supply
  - Three Sets of Pump Contacts
- Low Voltage Terminal Strip
  - 24 VAC Auxiliary Device Relay
  - Auxiliary Proving Switch Contacts
  - Flow Switch Contacts
  - Alarm on Any Failure Contacts
  - Runtime Contacts
  - DHW Thermostat Contacts
  - Unit Enable/Disable Contacts
  - System Sensor Contacts
  - DHW Tank Sensor Contacts
  - Outdoor Air Sensor Contacts
  - Cascade Contacts

### Optional Equipment
- Alarm Bell
- BMS Gateway to BACnet and LonWorks
- Condensate Neutralization Kit
- SMART SYSTEM PC Software
- Modbus Communications
- Stainless Steel Vent Kits

### Codes & Registrations
- ANSI Z21.13 compliant
- ASME Certified, “H” stamp
- California Code compliant
- CSD1 / Factory Mutual / GE Gap compliant
- Massachusetts Code compliant
- South Coast Air Quality Management District Registered

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**Standard Features**
- Up to 96.2% Thermal Efficiency
- Modulating Burner with 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
- ASME Stainless Steel Heat Exchanger
- ASME Certified, “H” Stamped
- Gasketless Design
- 160 psi Working Pressure
- On/Off Switch
- Adjustable High Limit with Manual Reset
- Low Water Cutoff with Manual Reset & Test
- Low Air Pressure Switch
- High & Low Gas Pressure Switches with Manual Reset
- Inlet & Outlet Temperature Sensors
- Two Easy Access Terminal Strips
- Downstream Test cocks
- 50 psi ASME Relief Valve
- Temperature & Pressure Gauge
- Zero Clearance to Combustible Material
- Approved for Combustible Floor Installation
- 1 Year Warranty on Parts
- 10 Year Limited Warranty (see warranties for details)