

HIGH EFFICIENCY COMMERCIAL BOILERS



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 NO_x

DIRECT-VENT FLEXIBILITY TO 100 FEET



UP TO 96.2%
THERMAL EFFICIENCY



Lochinvar.com



BUILDING ON A TRADITION OF INNOVATION

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.



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

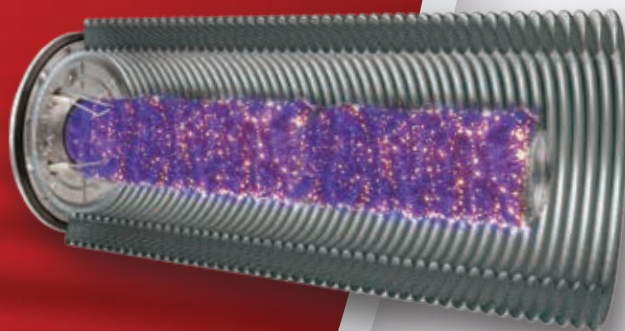
With each call for heat, two electrodes ignite the fuel/gas mixture. A third electrode then senses for flame. SMART TOUCH will lock out and display the fault if ignition does not occur.

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.



LochinvarTM SMART TOUCH

UNEQUALED 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

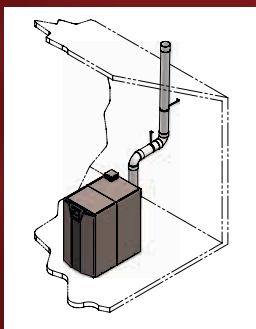
BUILT-IN CASCADING SEQUENCER

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.

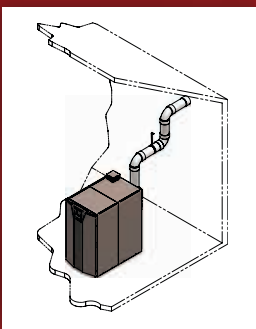


DIRECT-VENTING UP TO 100 FEET - SYNC offers 6 venting options and tremendous flexibility for placement of units within the building, because it permits direct-vent air intake and exhaust runs up to 100 equivalent feet using either PVC, CPVC, Polypropylene or AL29-4C stainless steel vent pipe. Intake and exhaust runs can terminate horizontally through a sidewall or vertically through the roof.

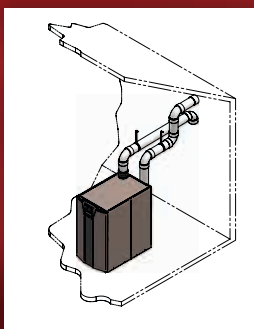
Room Air Vertical



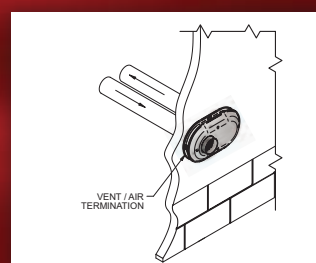
Room Air Sidewall



Direct Vent

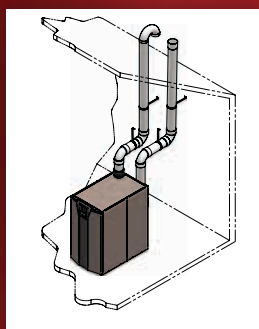


Sidewall Vent Termination

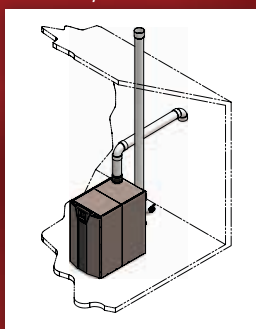


FACTORY SUPPLIED AND SHIPPED STANDARD WITH EVERY MODEL

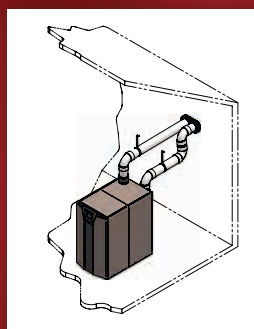
Direct Vent Vertical



Vertical w/Sidewall Air

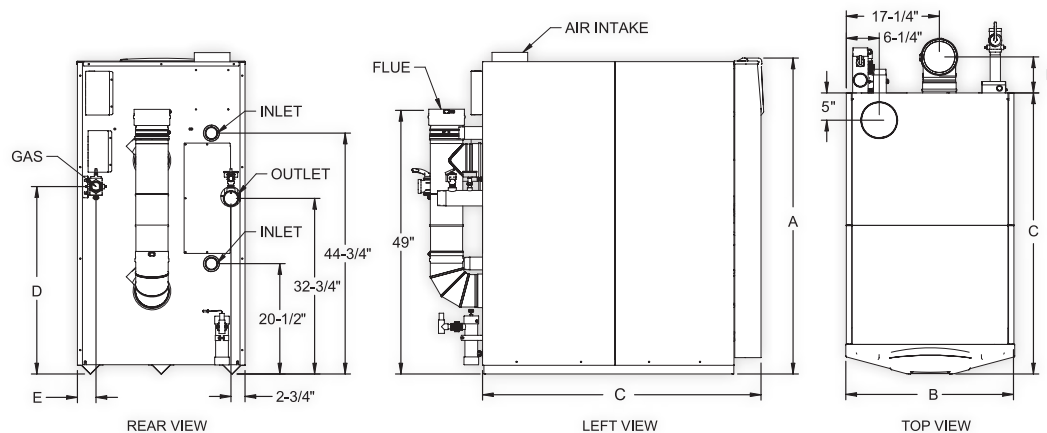


Direct Vent Sidewall



SIDEWALL VENT TERMINATION

SYNC BOILER DIMENSIONS AND SPECIFICATIONS



Model Number Guide			
SB	N	1500	M13
Model	Natural Gas	Blue/HR Input	Firing Controls

SYNC Boiler,
Natural Gas,
1,500,000 Btu/hr input,
M13 firing controls

Sync Heating Boiler						Dimensions and Specifications											
Model Number	Input		Thermal Efficiency	Output	Net AHRI Rating							Gas	Inlet Water	Outlet Water	Air	Vent	Shipping
	Min. MBH	Max. MBH		MBH	MBH	A	B	C	D	E	F	Conn.	Conn.	Conn.	Inlet	Size	Wt. (lbs.)
SBN1000	100	999	94.1%	941	818	58-3/4"	31"	48"	35"	4-1/2"	15"	1-1/2"	2" x 2"	3"	6"	6"	786
SBN1300	130	1,300	95.4%	1,240	1,078	58-3/4"	31"	52-1/4"	34-3/4"	3-1/2"	6-3/4"	1-1/2"	2" x 2"	3"	6"	6"	856
SBN1500	150	1,500	96.2%	1,443	1,255	58-3/4"	31"	56-1/2"	34-3/4"	3-1/2"	6-3/4"	1-1/2"	2" x 2"	3"	6"	6"	926

Notes: Change 'N' to 'L' for L.P. Gas Model. No deration on L.P. models. Performance data based on manufacturer test results. 120 VAC / 15 AMP circuit required. All dimensions shown in inches.

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)

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

Patent # 7,506,617 and #8,371,252



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