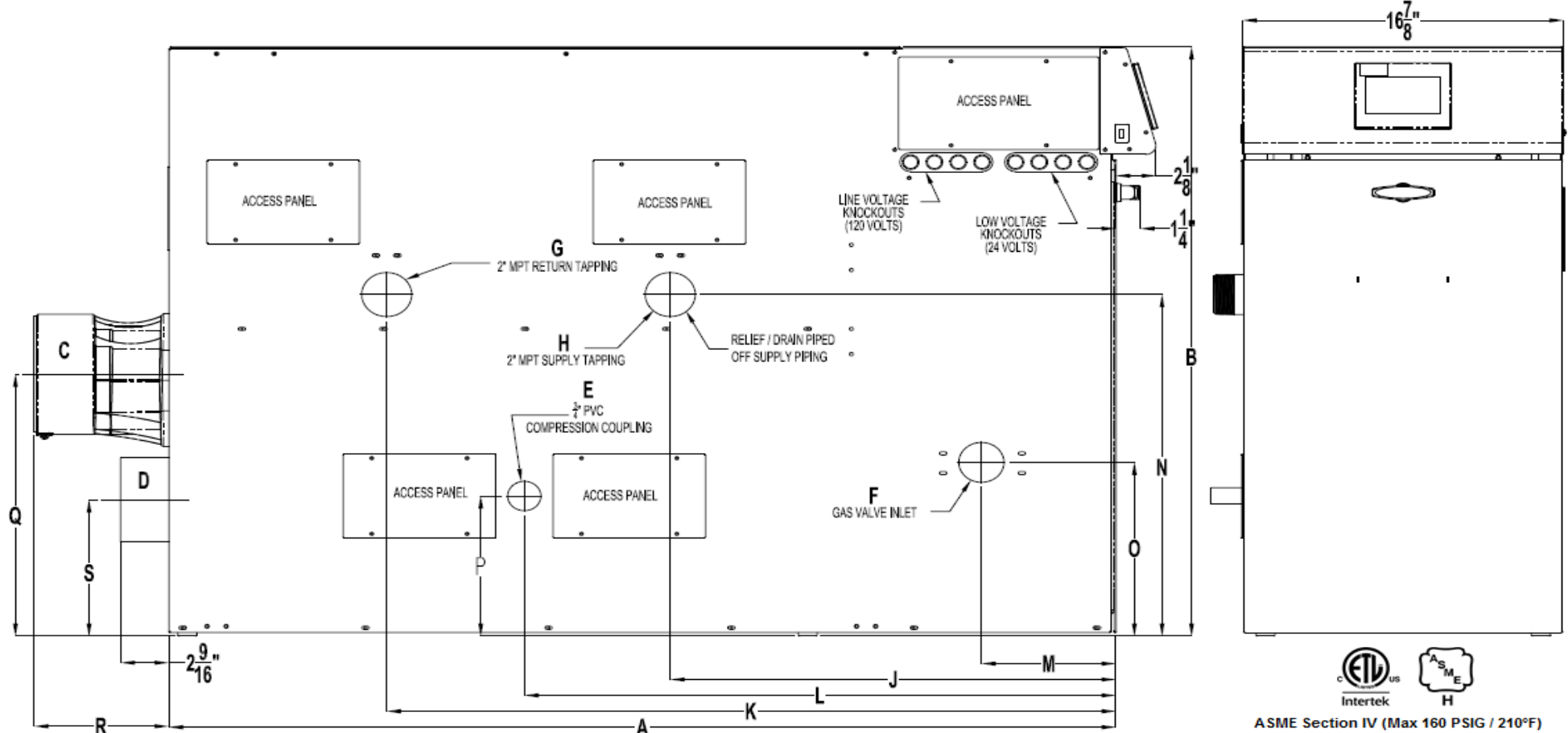


APEX COMMERCIAL CONDENSING BOILERS - SUBMITTAL DATA SHEET



ASME Section IV (Max 160 PSIG / 210°F)

RATINGS AND CAPACITIES

APEX MODEL	INPUT		GROSS OUTPUT (BTU/HR)	BOILER HORSEPOWER (BHP)	THERMAL EFFICIENCY (%)	HEATING SURFACE (SQ.FT.)	WATER CONTENT (GALLONS)	BURNER MODULATION TURNDOWN	FUEL [1]				FLOW AND PRESSURE DROPS								SHIPPING WEIGHT (LBS)
													20°F Δ T (Max)		25°F Δ T		30°F Δ T		35°F Δ T (Min)		
	MIN (BTU/HR)	MAX (BTU/HR)							NATURAL GAS		PROPANE		FLOW (GPM)	Δ P (FT.HD.)	FLOW (GPM)	Δ P (FT.HD.)	FLOW (GPM)	Δ P (FT.HD.)	FLOW (GPM)	Δ P (FT.HD.)	
	MIN	MAX							MIN	MAX	MIN	MAX	MIN	MAX							
APX625C	125,000	625,000	594,000	17.7	95.0%	76	5.4	5:1	4" WC	14" WC	8" WC	14" WC	59.4	12.4	47.5	8.4	39.6	6.1	33.9	4.7	458

[1] Fuel is not field convertible; must be ordered as Natural Gas or Propane from factory.

DIMENSIONS

Length (A)	49-1/2"	Return Connection (G)	2" MPT	Floor to Supply/Return *Connections (N)	20-5/16"
Height (B)	35-1/16"	Supply Connection (H)	2" MPT	Floor to Gas Valve *Connections (O)	10-5/16"
Width	16-7/8"	Front to Relief Valve/Drain *Connection (I)	23-1/4"	Floor to Condensate Drain *Connection (P)	8-5/16"
Vent Connection (C)	6" CPVC/PP/SS	Front to Supply *Connection (J)	23-1/4"	Floor to Vent *Connection (Q)	15-9/16"
Air Intake Connection (D)	4" PVC	Front to Return *Connection (K)	38-1/16"	Floor to Air Intake *Connection (S)	8-1/8"
Condensate Drain Connection (E)	3/4"	Front to Condensate Drain *Connection (L)	30-7/8"	Rear to Vent Connection (R)	7-1/16"
Gas Valve Inlet Connection (F)	1" FPT	Front to Gas Valve Inlet *Connection (M)	6-7/8"	Rear to Air Intake Connection	2-9/16"
Relief Valve/Boiler Drain **Connection	3/4" FPT	* Dimension is to the Centerline of the Connection			** Piped off Supply Piping

APX625C

PROPERTY OF



PO BOX 3244 | LANCASTER, PA 17601

INNOVATIVE EQUIPMENT FOR

HOT WATER SYSTEMS

WWW.THERMALSOLUTIONS.COM

STANDARD EQUIPMENT - MODEL APX625C



APEX CONDENSING BOILER

PRESSURE VESSEL DESIGN

*ASME Stainless Steel Heat Exchanger
ASME Section IV Certified, "H" Stamp
MAWP 160 PSIG & Max Temp 210°F
Ten Year Limited Heat Exchanger Warranty

COMBUSTION DESIGN

Stainless Steel Mesh Pre-Mix Burner
Low NOx Emissions (<20 ppm)
Full Modulation, 5:1 Turndown
Natural or LP Gas
4" wc to 14" wc inlet gas pressure
Direct Spark Ignition System
Zero governor gas valve
Variable Speed Combustion Blower
Air Proving Switch

BOILER EQUIPMENT

*Concert Boiler Control (24 Vac)
High Limit w/Auto Reset Temperature Control
High Limit w/Manual Reset Safety Temperature Control
Water Flow Switch
Supply & Return Water Temperature Sensors
Flue Gas Temperature Sensor
Outdoor Air Temperature Sensor
Air Vent Valve
Boiler Drain Valve
Condensate trap
Stacking boiler brackets
Pressure & Temperature Gauge
ASME Safety Relief Valve, 60 Psig

VENTING

* 3-In-1 Vent Connector
- CPVC, Polypropylene or Stainless Steel
- Combustion Analyzer Test Port
PVC Vent Kit:
- 30" CPVC Pipe, Schedule 40
- 90° elbow, Schedule 80
- (2 qty) vent terminals w/ rodent screens
Vent - Horizontal or Vertical (Cat. IV)
- Up to 200 Equivalent Feet
Air Intake - Sealed or Room Air (Cat. IV)
- Up to 100 Equivalent Feet

ELECTRICAL DESIGN

120VAC/60HZ/1PH - High Voltage PCB
- Amp Draw (< 8)
- Three sets of Pump Contacts (Boiler, DHW, System)
- PCB (Printed Circuit Board) Fused Connections

24VAC/5VDC - Low Voltage PCB
- 24VAC Contacts for Enable/Disable Sensor, DHW Demand, Low Water Cutoff, Proving Switch or Auto or Manual Reset External Limit, Lockout Alarm, EnviraCom Thermostat & Flow Switch
- 5VDC Contacts for Remote Header Sensor, DHW Tank Sensor, Outdoor Air Sensor, Peer-To-Peer Communication, EMS Interface & Remote 4-20mA
- RJ45 Jacks (Qty 2) Peer-To-Peer or ModBus Optional Connections
- PCB (Printed Circuit Board) Fused Connections

* Unique to Thermal Solutions



CONCERT BOILER CONTROL

Dashboard - Color Touchscreen Display, 4.3"

- Intuitive Icon Navigation
- "Quick" Setup Menus
- *Real Time BTU/H Display

Two (2) Temperature Demand Inputs

- Outdoor Air Reset Curve for Each Input
- Time of Day Setback Capability
(EnviraCom Thermostat must be installed)

Three (3) Pump Control

- Boiler Pump With On/Off or Variable Speed Control
- Domestic Hot Water (DHW) Pump
- System Pump
- Alternative Control to Isolation Valve, Combustion Air Damper or Standby Loss Damper
- Pump Overrun for Heat Dissipation
- Pump Exercise
- Pump Rotor Seizing Protection

Peer-to-Peer Boiler Communications

- Multiple Size Boiler Sequencing Up to 8 Units
- *Two (2) Boiler Start/Stop Trigger
- Lead Boiler Automatic Rotation

Energy Management System (EMS) Interface

- *Firing Rate and Water Temperature Based Algorithms for Multiple Boilers; loss of EMS signal defaults to local boiler settings
- 4-20mA Input/Output (0-10Vdc Optional Converter)
- ModBus Input/Output (BACnet or LonWorks Optional Gateway)
- Simultaneous Interface with Peer-to-Peer
***USB Data Port Transfer**
- Upload Settings Between Boilers
- Download Parameters for Troubleshooting
- Import Data into .CRV Formatted Files for Performance Analysis

Energy Efficiency Enhancer

- Anti-Cycling Technology
- Multiplier boiler base load common rate
- Outdoor Air Temperature Reset Curve
- Warm Weather Shutdown
- Boost Temperature & Time
- Ramp Delay
- Over-Temperature Safeguarding

Self-Guiding Diagnostics

- Identifies Fault
- Describes Possible Problems
- Provides Corrective Actions
- *Time/Date Stamp on Alarms and Lockouts

Unmatched Archives

- Historical Trends - Collects Up to 4 months Data
- Event History - Up to 3000 Alarms, Lockouts and Cycle & Run Times
- Alarm - Limit String Faults, Holds, Lockouts and Others
- Cycle & Run Time - Boilers & Pumps
- Resettable (Lockouts/Alarms/Cycles & Run Time)

Domestic Hot Water Priority

- DHW Tank Piped With Priority in the Boiler Loop
- DHW Tank Piped as a Zone in the System With the Pumps Controlled by the Concert Control
- DHW Modulation Limiting
Status Screens
Sensor Monitoring and Control

Other Features

- *Factory Default Settings
- Three Level Password Security
- Frost Protection
- Contractor Contacts (Up to 3)
- Low Water Flow Safety Control & Indication
- Proportion Integral Derivative (PID) Parameters for Central Heat, DHW, Sequencer and Fan
- Built-in Brown-Out Protection

OPTIONAL EQUIPMENT

Hydronic Kit (Boiler Circulation Pump - Constant Speed or Eco Propel™, Pump Flange Kit, ASME CSD-1 Compliant Kit, Low Water Cutoff with Manual Reset and Condensate Neutralizer)

ASME CSD-1 Kit (includes High & Low Gas Pressure Switches, Manual Reset)

Low Water Cut-Off, Manual Reset

Condensate Neutralizer

80 psig Relief Valve

100 psig Relief Valve

Header Sensor, Direct Immersion

Header Sensor, Well Immersion (with Well)

Wireless Outdoor Air Temperature Kit

Universal Communications Gateway (BACnet, Metasys, Modbus or Lonworks)

0-10Vdc Input Converter

IPEX Low Profile Sidewall Termination Kit