Job:

# XPAK-FT®

# Condensing Boiler

## Hydronic Heating Boilers

## Residential - Commercial

## Models 88AR, 108AR, 198AR, 278AR & 398A

Engineer:

Contractor:

Prepared By:       Date:

Model:



VERSA IC® Integrated Control Platform

**Soft Start, Electronic Modulation, up to 10:1 Turndown**

**LCD Status Display with Full Diagnostics and Fault Memory**

**Zero Clearance to Combustibles**

**3-in-1 Vent adapter (PVC/CPVC - Duravent® Polypro - SS)**

**Meets 2012 NOx Requirements (< 14 ng/J (< 55 PPM NOx))**

**Maximum Outlet Water Temperature: 195ºF**

**Maximum System Temperature: 190ºF**

**Limited 25-Year Thermal Shock Warranty**

**Limited 10-Year Heat Exchanger Warranty**



Proudly Assembled in the USA

**Modbus RTU RS485 Port**

**Heat Exchanger**

* All Stainless Steel Construction
* Gasketless Heat Exchanger Design
* ASME H Stamped  
  80 PSIG Working Pressure
* National Board Approved
* ASME Pressure Relief Valve

30 PSIG – Standard

* Temperature and Pressure Gauge,  
  Shipped Loose

**Control**

* 120V, 60Hz, 1Ø, Power Supply
* Versa IC Operating Control with LCD display.
* Outdoor reset with Indirect Priority
* 0-10 VDC input for BMS
* Cascade up to 4 boilers
* Spark Ignition (DSI)
* Remote Flame Sensor
* High Limit, Manual Reset, Fixed, 200ºF
* Alarm Dry Contact Connection
* On/Off Power Switch
* Blocked Vent Pressure Switch
* Boiler, DHW & System Pump Contacts
* Water Temperature Sensors (4)10kΩ (2 shipped loose)
* Outdoor Air Sensor (1) 10kΩ (shipped loose)

**Burner**

* Ultra-Low NOx: Less than 14 ng/J

**Gas Train**

* Fuel

Natural Gas

Propane

* Dual-Seat Combination Valve
* Electronic Modulating Firing Mode (H7)

**Construction**

* Indoor Construction
* Front Controls Enclosed
* PolyTuf Powder Coat Finish
* Bottom Connections (Electrical, Gas, Water)
* Top Connections (Combustion Air, Vent)
* Design Certified ANSI Z21.13/  
  CSA 4.9
* Condensate Trap

**Venting (PVC/CPVC\*-Duravent Polypropylene – Centrotherm Polypropylene – Stainless Steel)**

* Vent Termination

D-11 - SS Termination

D-94 - Horizontal twin pipe Poly

D-95 - Horizontal Concentric Poly

D-96 - Vertical Concentric Poly

D-92 - Polypro reducer (88AR & 398A only)

**Options – Shipped Loose**

F-1 Flow Switch – (Loose)

F-10 Low Water Cut-Off, Manual Reset (88AR to 278AR)

P-   Pump:      HP, 120V,1∅, 60Hz

Cast Iron

Bronze/SS

S-1/S-2 High/Low Gas Pressure Switch, Manual Reset

Z-12 Condensate Neutralizer Kit

**Additional Options or Accessories**





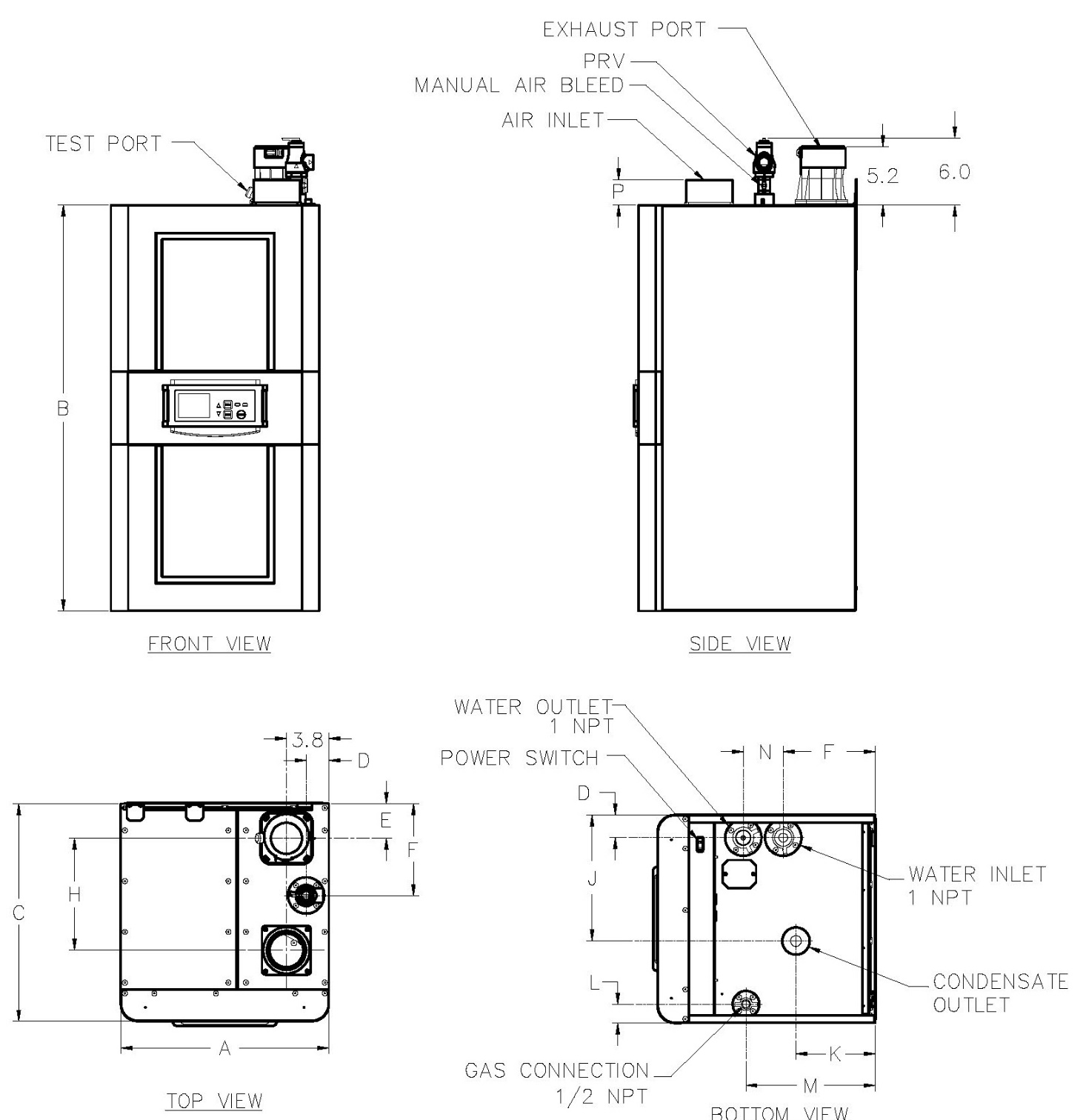
\*Configured for PVC Vent Standard. Maximum System Temperature of 170ºF for PVC Vent.

Raypak® XPak-FT® Residential

Residential - Commercial

Condensing Boiler Model

**Models 88AR, 108AR, 198AR, 278AR & 398A**



|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Model No. | **A** | **B** | **C** | **D** | **E** | **F** | **H** | **J** | **K** | **L** | **M** | **N** | **P** |
| 88AR | 16-7/16 | 35-7/8 | 16-1/2 | 2-1/8 | 2-3/4 | 6-3/8 | 7-7/8 | 9-1/2 | 5-1/2 | 1-1/2 | 4-5/8 | 2-7/8 | 2-3/8 |
| 108AR |
| 198AR | 18-5/8 | 36-1/4 | 19-7/16 | 2 | 3-1/8 | 8-1/4 | 10 | 11-3/8 | 7-1/8 | 1-3/4 | 12-3/8 | 3-5/8 | 2-3/8 |
| 278AR |
| 398A | 21-7/16 | 38-5/8 | 22-1/8 | 2-3/4 | 4 | 10-1/8 | 12 | 13 | 8-15/16 | 2-5/8 | 15-3/8 | 4 | 2-1/8 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Model  No. | AFUE Rating | | | Minimum  Operating  Input  (MBH) | Water  Conn.  (NPT) | Gas Conn. (NPT) | | Vent Size (In.) | |
| Input (MBH) | | % | Nat. | Pro. | Flue | Intake |
| Min | Max |
| H7-88AR | 17.0 | 85.0 | 95 | 12.0 | 1” | 1/2” | 1/2” | 2” / 3” \*\* | 2” / 3” \*\* |
| H7-108AR | 22.0 | 110.0 | 95 | 13.0 | 1” | 1/2" | 1/2" | 3” | 3” |
| H7-198AR | 39.8 | 199.0 | 95 | 28.4 | 1-1/4” | 3/4" | 3/4" | 3” | 3” |
| H7-278AR | 55.0 | 275.0 | 94.8 | 36.6 | 1-1/4” | 3/4” | 3/4” | 3” | 3” |
| H7-398A | 39.9 | 399.0 | 96\* | 39.9 | 1-1/2” | 3/4” | 3/4” | 3” / 4” \*\*\* | 3” / 4” \*\*\* |

\*Model 398A value is Thermal Efficiency.

\*\*Model 88AR vent is 3” standard and can be reduced to 2” with shorter run.

\*\*\*Model 398A vent is 4” standard and can be reduced to 3” with shorter run.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Model No. | Maximum Flow | | | Minimum Flow | | | 30ºF ΔT | | 40ºF ΔT | | 50ºF ΔT | |
| GPM | ΔP (ft) | ΔT | GPM | ΔP (ft) | ΔT | GPM | ΔP (ft) | GPM | ΔP (ft) | GPM | ΔP (ft) |
| H7-88AR | 8.1 | 5.4 | 20 | 2.7 | 1.4 | 60 | 5.4 | 3.3 | 4.0 | 2.3 | 3.2 | 1.8 |
| H7-108AR | 10.5 | 7.4 | 20 | 3.5 | 2.0 | 60 | 7.0 | 4.5 | 5.2 | 3.2 | 4.2 | 2.4 |
| H7-198AR | 18.9 | 11.6 | 20 | 6.3 | 3.0 | 60 | 12.6 | 6.2 | 9.5 | 4.3 | 7.6 | 3.5 |
| H7-278AR | 26.1 | 20.3 | 20 | 8.7 | 4.0 | 60 | 17.4 | 10.1 | 13.1 | 6.5 | 10.5 | 4.9 |
| H7-398A | 38.3 | 14.1 | 20 | 12.8 | 3.4 | 60 | 25.5 | 7.4 | 19.2 | 5.0 | 15.3 | 4.0 |

|  |  |  |
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| Model No. | Standard Boiler Pump \* | |
| Pump | HP |
| H7-88AR | Taco 007 | 1/25 |
| H7-108AR | Taco 007 | 1/25 |
| H7-198AR | Taco 0010 | 1/8 |
| H7-278AR | Taco 0012 | 1/8 |
| H7-398A | Taco 0012 | 1/8 |

\*Pump selection based on 30ºF ΔT with up to 50 eq. ft. of tubing

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