An Intelligent Design that Delivers Highly Efficient Hydronic Heating with up to 98% Thermal Efficiency

- Up to 5:1 Turndown Ratio
- Whisper Quiet Operation
- Low NOx Operation
- High Grade Inconel Burner
- Cascade up to 8 Boilers
- ASME Approved

UP TO 850,000 BTUH OF HEATING POWER
**Construction Features**

**Combustion System**
- Up to 98% Thermal Efficiency
- Modulating Burner with up to 5:1 Turndown Ratio
- Whisper Quiet Operation
- Low NOx Operation
- High Grade Inconel Burner
- Reliable Spark Ignition
- Gas Valve (Tested to UL, FM, CSA Standards)

**Heat Exchanger**
- All Stainless Steel Construction
- No Gaskets, Welded Construction. ASME Approved
- 150 PSI Relief Rated
- Easy to Service

**Integrated Control System**
- Built-in sequencer for up to 8 boilers
- Digital display - Total System Control
- Integrated Control allows only the amount of heated energy required.
- Outdoor sensing with Indirect priority, allows for greater energy savings and comfort
- Built in Low water cut off with additional manual reset high limit switch
- Multiple Pump outputs – Boiler Pump – System Pump
  - Indirect Pump 24 volt monitor for system safeties
- Dual flame sensing (Flame probe / Spark Ignition Probe)

**Addition Features**

**Optional Equipment**
- System Sensor (Part # 7250P-324)
- Indirect Sensor (Part # 7250P-325)
- 4” Stainless Steel Outside Termination Vent Kit (V2000)
- 6” Stainless Steel Outside Termination Vent Kit (V3000)
- High and Low Gas Pressure Switch Kit with Manual Reset (Part # 7350P-600)
- U.L. 353 Compliant Low Water Cut-Off Interface Kit with Manual Reset (Part # 7350P-601)
- Alarm System (Part # 7350P-602) (to monitor any failure)
- Stacking Kit (Part # 7350P-603)
- PC Interface Cable (Part # 7250P-320)
- Boiler Caster Kit (Part # 7350P-604)
- Mod Con Condensate Neutralizer (Part # 7350P-611)
- Flow Switch Kit (Part #7350P-605 Mod Con 500/700/850)

**Look Inside**

**Stainless Steel Heat Exchanger**
- Pressure Relief Valve
- Inlet Nipple
- Outlet Nipple
- Low Water Sensor
- Manual Reset
- High Limit
- Eco High Limit
- Condensate Collection System
- Control
- Gas Valve
- Adjustable Leveling Feet

**Additional Features**

- Superior Condensate Collection System
  - Easy to service with overflow protection
- PVC – CPVC – Stainless Steel Venting
- Vents up 200 feet combined
- Double Stack units for double the output in small foot print
- Adjustable Legs
- Direct Vent Sealed Combustion
- Models available for Natural or LP Gas
- Easy access to wiring and field service of combustion heat exchanger
- Zero clearance to combustibles
- Low water cutoff standard equipment
- High limit manual reset
- Removable front cover allows easy access to burner assembly
- Zero clearance to all combustible surfaces.
- Factory installed AGA/ASME rated relief valve.
- PC monitoring for history – system operation (optional)
- Self diagnostic electronic control with digital readout to monitor system parameters.
Notes:

1. This drawing is meant to show system piping concept only.
2. An Anti-Scald mixing valve is recommended if the DHW temperature is set above the factory setting of 119°F.
3. Install a minimum of 12 diameters of straight pipe upstream of all circulators.
4. Piping shown is Primary/Secondary
5. System Flow (Secondary Loop) must be greater than the boiler’s primary loop flow.
**Mod CON 500 VWH**
- Dimensions: 20" x 14.75" x 6.25"
- Input: 14.50" x 14.50" x 5.25"
- Output: 20.5" x 20.5" x 36.25"
- Thermal Efficiency: 98%
- Heating Capacity: 799,000 Btuh
- Weight: 580lbs.

**Mod CON 700 VWH**
- Dimensions: 20" x 20" x 6.25"
- Input: 18.75" x 16.25" x 20"
- Output: 20.5" x 20.5" x 36.25"
- Thermal Efficiency: 98%
- Heating Capacity: 686,000 Btuh
- Weight: 580lbs.

**Mod CON 850 VWH**
- Dimensions: 20" x 20" x 6.25"
- Input: 18.75" x 16.25" x 20"
- Output: 20.5" x 20.5" x 36.25"
- Thermal Efficiency: 98%
- Heating Capacity: 570,000 Btuh
- Weight: 580lbs.

### Table: Specifications

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<tr>
<td>Dimensions</td>
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<td>B 14.75&quot;</td>
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<td>C 14.50&quot;</td>
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<td>G 20.5&quot;</td>
<td>H 20.5&quot;</td>
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<td></td>
<td>K 43.75&quot;</td>
<td>L 46&quot;</td>
<td>M 48&quot;</td>
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<td>O 25.5&quot;</td>
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### Flue System
- Category IV, Sealed Combustion Direct Vent, Power Vent
- Minimum Combined Vent Run: 16 feet
- Maximum Combined Vent Run: 4" (200 feet) / 6" (200 feet)

### Approved Exhaust Vent Materials
- PVC, CPVC, PP, Stainless Steel

### Installation
- Indoor, Floor Standing, Fully Condensing

### Minimum / Maximum Input (Btu/hr)
- MOD CON 500: 100,000 / 500,000
- MOD CON 700: 170,000 / 700,000
- MOD CON 850: 170,000 / 850,000

### Thermal Efficiency
- MOD CON 500: 94%
- MOD CON 700: 98%
- MOD CON 850: 98%

### Heating Capacity (MBH)
- MOD CON 500: 470
- MOD CON 700: 686
- MOD CON 850: 799

### Materials
- Cabinet: Powder Coated Galvalume Steel
- Heat Exchanger: 316L Stainless Steel Water Tube

### Connection Sizes
- Supply / Return: 2" NPT
- Gas Inlet: 1 1/2" NPT, 2" NPT

### Safety Devices
- Flame Rectifier Probe, Water Temperature High Limit Switch (190°F), Freeze Protection, Condensate Trap with Overflow Switch, Included LWCO (Optional UL 353 LWCO), Blocked Vent Pressure Switch, Optional Gas High/Low Pressure Switch

### General Operating Conditions
- Ambient Temperature Range: 33 – 104°F (0.6 – 40°C)
- Product Approvals and Requirements: ANSI Z21.13 / CSA 4.9

### Ignition System
- Direct Electronic Spark Ignition / Flame Rectification

### Burner System
- Premixed Fuel Modulation / Stainless Steel Metal Fiber Burner

### Gas Valve System
- Air Ratio Valve

### Dimensions (in Inches)
- W 20.5
- H 36
- D 46 / 68.5

### Boiler Water Content (Gallons)
- 4.2 / 5.8

### Minimum Flow Rate @ 30°F ∆T (GPM)
- 33 / 54

### Boiler Setpoint Temperature Range
- 50 – 190°F / 32 - 190°F (with Outdoor Reset Curve)

### DHW Indirect Setpoint Temperature Range
- 70 – 185°F

### Water Pressure (PSI)
- Heat Exchanger MAWP: 160
- Pressure Relief Valve: 75

### Control Panel / Main Controller
- LCD Display with LED Indicators / 926 Digital Control

In accordance with our company policy of ongoing product improvement, HTP Inc. reserves the right to make changes without prior notice. • Preliminary product specifications