Job:

# MVB® - Type P

## Pool Heaters Models 504A-2004A

Engineer:

Contractor:

Prepared By:       Date:

Model:       Indoor/Outdoor:

83-83.3% Thermal Efficiency at Full Rate

100% Factory Fire-Tested

VERSA IC® Integrated Controller with 7” Color Touchscreen Display

Raymote™ remote connectivity provided standard

On/Off Operation

Full Safety Diagnostics with History

Status Display Lights

Cascade up to 4 Heaters – No External Sequencer Required

CSA Low Lead Certified ≤ .25% Lead

Maximum Outlet Water Temperature: 180°F

Maximum Pool Setpoint 106°F (104°F Default)

Minimum Inlet Water Temperature: 105°F

Proudly Assembled in the USA



Limited Five-Year Primary Heat Exchanger Warranty

Ultra Low NOx, Less Than 20 PPM

#### Heat Exchanger

* Bronze Headers
* ASME HLW Stamped; 160 PSIG MAWP
* National Board Listed
* Cupronickel Fin Tubing
* ASME Powder-Coated Tube Sheet
* Silicone High-Temp O-Rings
* ASME Pressure Relief Valve

125 PSIG – Standard

* Manual Air Bleed
* Temperature and Pressure Gauge,  
  Shipped Loose
* Four pass primary heat exchanger
* Stainless Steel Evaporator Plate
* Heater Pump: Bronze, 120V, 1∅, 60Hz

#### Control

* 120V, 60Hz, 1Ø, Power Supply
* 120/24V 60Hz Transformer
* VERSA IC® built-in controller
* 7” color HD touchscreen display
* Raymote™ Wi-Fi remote connectivity
* Ignition Module

3-Try – Standard

C-6 Single-Try – Optional

* Remote Flame Sensor
* High Limit Fixed Manual 180ºF
* On/Off Power Switch
* Flow Switch
* Blocked Vent Pressure Switch
* Combustion Air Proving Switch
* Freeze Protection
* Pump Switch
* Alarm Dry Contact
* Pump Time Delay
* Blocked Condensate Switch
* Water Temperature Sensors (4)
* Cold Water Protection

Cold Water Run

H-Bypass

* Modbus RTU BMS Port

B-85 BMS Gateway – BACnet MS/TP, BACnet IP, N2 Metasys or Modbus TCP

B-86 BMS Gateway – LonWorks

#### Burner

* Hot Surface Ignition (HSI)
* Radially-Fired Knitted Burner

#### Gas Train

* Fuel

Natural Gas

Propane (minimum grade HD-5)

* Zero Governor Regulator
* Dual-Seat Combination Valve
* Electronic Firing Mode (P)

#### Construction

* Indoor/Outdoor Construction
* Front Controls Enclosed
* PolyTuf Powder Coat Finish
* Rear Connections (Water, Gas, Vent, Electrical, Comb. Air, Cond. Drain)
* Combustion Air Filter – Shipped Loose
* Design Certified ANSI Z21.56/CSA 4.3
* Front Connection Low Voltage Wiring
* CSA Low Lead Certified ≤ .25% Lead

#### Venting

* Vent Termination Cap

Outdoor or Indoor, Vertical –   
Option D-11

Indoor, Horizontal – Option D-15

* Combustion Air

In-Line Filter Kit – Option D-17

Air Intake Elbow – Option D-16

* Extractor – Optional, Cat II

By others

Not required

#### Options

F-10 Low Water Cut-Off, Remote Probe

I-3 High Limit, Auto Reset,   
Adj., 40-180°F

I-6 High Limit, Manual Reset, Adj., 100-200°F

S-1 Low Gas Pressure Switch,   
Manual Reset

S-2 High Gas Pressure Switch, Manual Reset

Z-12 Condensate Treatment Kit

#### Additional Options or Accessories

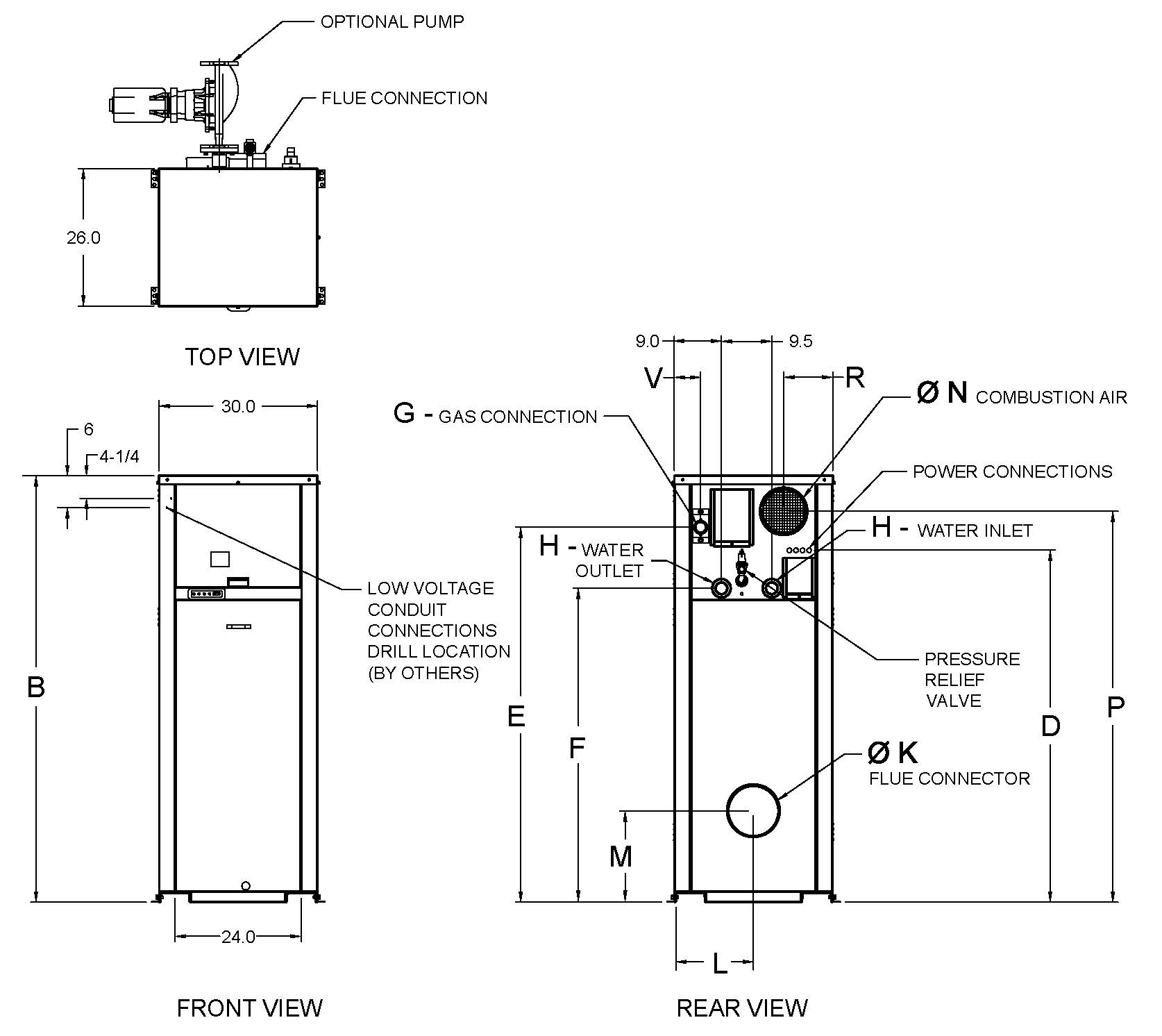


MVB® – Type P

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Models 504A-2004A Model

|  |  |  |  |
| --- | --- | --- | --- |
| **With H-Bypass** | | | |
| Model | Pump | | |
| Model | HP | Amps |
| P-504A | 1611 | 1/4 | 6 |
| P-754A | 1611 | 1/4 | 6 |
| P-1104A | 1630 | 1/2 | 7 |
| P-1504A | 1634 | 1 | 14 |
| P-2004A | 1636 | 1-1/2 | 22 |



\*Current draw is for pump only

(Supply breaker must have delayed trip)

**Shown without H-Bypass or Cold Water Run options**

**CLEARANCES**

|  |  |  |
| --- | --- | --- |
|  | **Certified Minimum** | **Recomm. Service** |
| Front | 24” | 24” |
| Rear | 12” | 24” |
| Right | 1” | – |
| Left | 1” | – |
| Top | 0” | 10” |
| Floor | 0” | – |
| Vent | 1” | – |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Model** | **MBTUH** | |  | **Dimensions (in.)** | | | | | | | | | | | | | **Ship Weight**  **(Lbs.)** | | **Foot- print**  **(Ft2)** | | **Amps\*\*** | |
| **B** | **D** | **E** | **F** | **G\*** | **H** | **K** | **L** | **M** | **N** | **P** | **R** | **V** |  | |  | |  | |
| **Input** | **Output** | **Height** |  |  |  | **NPT** | **NPT** | **Flue Ø** |  |  | **C/A Ø** |  |  |  |
| P-504A | 500 | 415 | 43 | 30 | 35 | 23-3/4 | 1 | 2 | 8 | 13-3/4 | 14-1/8 | 6 | 36 | 8 | 2 | 600 | | 5.4 | | 12 | |
| P-754A | 750 | 623 | 49 | 36 | 41 | 29-3/4 | 1 | 2 | 10 | 13-1/2 | 16 | 6 | 42 | 8 | 2 | 660 | | 5.4 | | 12 | |
| P-1104A | 1100 | 916 | 55 | 43 | 47 | 35-3/4 | 1-1/4 | 2-1/2 | 10 | 13-1/2 | 16 | 6 | 49 | 8 | 2 | 720 | | 5.4 | | 12 | |
| P-1504A | 1500 | 1250 | 61 | 50 | 53 | 41-3/4 | 1-1/4 | 2-1/2 | 12 | 13-3/4 | 18-1/8 | 8 | 53 | 8 | 2 | 780 | | 5.4 | | 12 | |
| P-2004A | 1900 | 1583 | 75 | 61 | 65 | 53-3/4 | 2 | 2-1/2 | 14 | 13-1/2 | 20-1/8 | 8 | 69 | 9 | 5 | 940 | | 5.4 | | 18 | |

|  |  |
| --- | --- |
| * Ratings shown are for elevations up to 4,500 feet. For installations at elevations  above 4,500 feet, please consult the factory for additional instructions. No hardware changes requires below 10,000 feet.   \* For Natural Gas. For Propane, all sizes are 1” NPT.  \*\*Current draw is for heater only. (Supply breaker must have delayed trip.)  - For direct vent applications, contact the factory about relocating the pump. |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Model** | **RATES OF FLOW** | | | | | | | |
| **20°F ΔT** | | **Minimum Flow** | | | **Maximum Flow** | | |
| **GPM** | **ΔP (ft.)** | **GPM** | **ΔP (ft.)** | **ΔT (°F)** | **GPM** | **ΔP (ft.)** | **ΔT (°F)** |
| P-504A | N/A | N/A | 65 | 5.5 | 13 | 100 | 11.3 | 9 |
| P-754A | 65 | 6.4 | 65 | 6.4 | 20 | 100 | 13.8 | 13 |
| P-1104A | 94 | 13.6 | 85 | 11.5 | 22 | 113 | 18.6 | 17 |
| P-1504A | N/A | N/A | 102 | 18.7 | 25 | 113 | 22.2 | 23 |
| P-2004A | N/A | N/A | 102 | 22.7 | 32 | 113 | 27.2 | 29 |