



**Product Submittal for MVB® - Type P
Pool Heaters
Models 504A-2004A**

Date: _____ Job: _____ Location: _____
Equipment Tags: _____ Engineer: _____ Contractor: _____
Model: _____ Notes: _____
Prepared by: _____ Indoor Outdoor Gas Type: Natural Gas Propane

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 8 heaters – no external sequencer required

Maximum outlet water temperature: 180°F (82°C)

Maximum pool setpoint 106°F (41°C) (104°F [40°C] default))

Minimum inlet water temperature: 105°F (40°C)

Limited 20-year thermal shock warranty

Limited 5-year primary heat exchanger warranty

CSA Low-Lead certified ≤ .25% lead

SCAQMD Rule 1146.2 certified, Low NOx < 20 ppm

Proudly Assembled in the USA



Features and Options

Heat exchanger

- Bronze headers
- ASME HLW stamped; 160 PSIG MAWP
- National board registered
- Cupronickel finned tubing
- ASME powder-coated tube sheet
- Silicone high-temp O-Rings
- ASME pressure relief valve
- with H-Bypass
 - 75 PSI (H-bypass)
 - 125 PSI (CWR)
- Manual air bleed
- T&P gauge (shipped loose)
- Four-pass primary heat exchanger
- Stainless steel evaporator plate
- Heater pump: bronze, 120V, 1Ø, 60Hz

Power

- 120V, 60Hz, 1Ø, power supply
- 120/24V, 60Hz, transformer

Control

- VERSA IC® built-in controller
- 7" (178 mm) color HD touchscreen display
- Raymote™ Wi-Fi remote connectivity
- Cascade up to 8 heaters
- Cascade interstage delay settings
- Ignition module
 - 3-Try (standard)
 - C-6 single-try (optional)
- Remote flame sensor
- High limit, manual reset, fixed, 180°F (82°C)
- On/Off power switch
- Flow switch
- Blocked vent pressure switch
- Combustion air proving switch
- Freeze protection
- Alarm dry contact
- Pump time delay
- Blocked condensate switch

- Water temperature sensors 10kΩ (2 mtd, 2 loose, 2 well)
- Cold water protection
 - H-Bypass
 - Cold water run (CWR)
 - P-42 (loose) CWR controls, no bypass
 - P-43 (mtd) CWR controls, no bypass
 - P-45 Injector pump single boiler (bronze)
 - P-47 Pump flange kits
- 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 firing valve
- Electronic firing mode (P)

Construction

- Indoor/outdoor construction
- Front controls enclosed
- PolyTuf powder coat finish
- Rear connections (water, gas, vent, electrical, combustion air, condensate drain)
- Combustion air filter (shipped loose)
- Design Certified ANSI Z21.56/CSA 4.3
- Front connection low-voltage wiring

Venting (cat I vertical, cat III horizontal)

- Vent termination cap
 - D-11 Outdoor vent kit
 - D-15 Sidewall vent termination cap
 - D-20 Vent termination vertical
- Other
 - D-12 Barometric damper w/o thermostitch (single acting)
 - D-17 Inline air intake filter

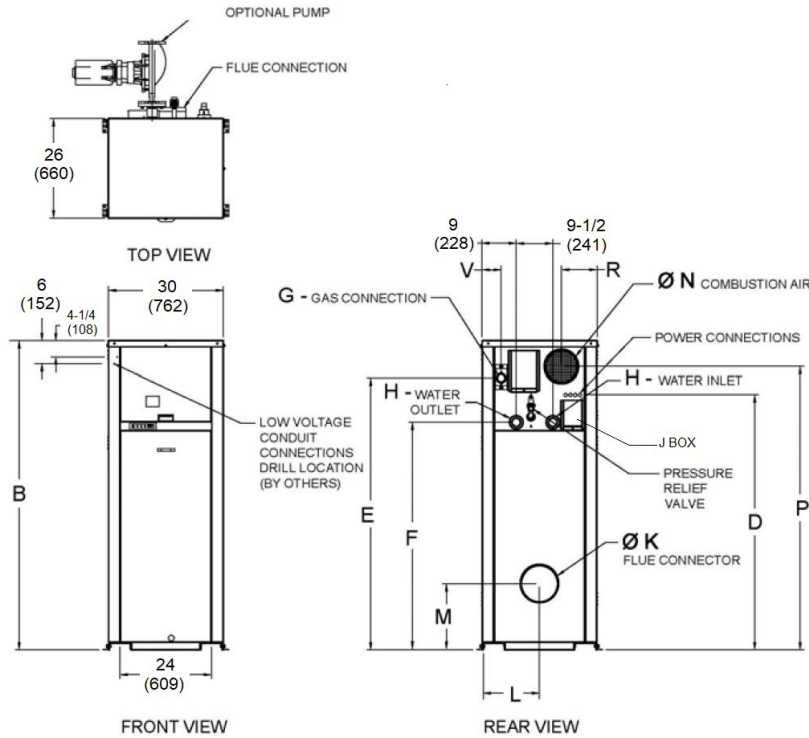
- D-18 Boiler vent adapter
- D-19 Vent termination cap adapter
- D-23 Outdoor vent supports
- D-37 Motorized combustion air damper

Options

- E-5 Boiler alarm with 4" bell
- E-15 Boiler alarm with buzzer
- F-10 Low water cut-off, remote probe
- I-14 High limit, auto reset, 180°F (82°C) max
- I-20 High limit, manual reset, 180°F (82°C) max
- M-1 Safety valve, motorized
- M-10 Safety valve, solenoid
- M-15 Safety valve, vent (requires M-1 or M-10)
- S-1 Low gas pressure switch, manual reset
- S-2 High gas pressure switch, manual reset
- Z-4 T & P relief valve
- Z-9 Thermometer

Additional options or accessories

Job: _____



Shown without H-Bypass or Cold Water Run options																		
Model	MBTUH (kW)		Dimensions - inches (mm)													Ship Weight lbs (kg)	Footprint ft² (m²)	Amps ⁽²⁾
	Input	Output	B Height	D	E	F	G ⁽¹⁾ NPT	H NPT	K Flue Ø"	L	M	N C/A Ø"	P	R	V			
<input type="checkbox"/> P-504A	500 (147)	415 (122)	43 (1092)	32 (813)	35 (889)	23-3/4 (603)	1 (25)	2 (51)	8 (203)	13-3/4 (349)	13-3/4 (349)	6 (152)	35 (889)	6 (152)	2 (51)	600 (272.1)	5.4 (0.5)	12
<input type="checkbox"/> P-754A	750 (220)	623 (183)	49 (1245)	38 (965)	41 (1041)	29-3/4 (756)	1 (25)	2 (51)	10 (254)	13-1/2 (343)	13-1/2 (343)	6 (152)	41 (1041)	6 (152)	2 (51)	660 (299.3)	5.4 (0.5)	12
<input type="checkbox"/> P-1104A	1100 (322)	916 (268)	55 (1397)	44 (1118)	47 (1194)	35-3/4 (908)	1-1/4 (32)	2-1/2 (64)	10 (254)	13-1/2 (343)	13-1/2 (343)	6 (152)	47 (1194)	6 (152)	2 (51)	720 (326.5)	5.4 (0.5)	12
<input type="checkbox"/> P-1504A	1500 (440)	1250 (366)	61 (1549)	50 (1270)	53 (1346)	41-3/4 (1060)	1-1/4 (32)	2-1/2 (64)	12 (305)	13-3/4 (349)	13-3/4 (349)	8 (203)	53 (1346)	6 (152)	2 (51)	780 (353.7)	5.4 (0.5)	12
<input type="checkbox"/> P-2004A	1900 (557)	1583 (464)	75 (1905)	62 (1575)	65 (1651)	53-3/4 (1365)	2 (51)	2-1/2 (64)	14 (356)	13-1/2 (343)	13-1/2 (343)	8 (203)	68 (1727)	9 (229)	5 (127)	940 (426.3)	5.4 (0.5)	18

- Ratings shown are for elevations up to 4,500 feet. For installations at elevations. De-rate above 4,500 ft; consult factory. No hardware changes required below 10,000 feet.

(1) For Natural Gas. For Propane, all sizes are 1" (25 mm) NPT.

(2) Current draw is for heater only. (Supply breaker must have delayed trip.)
For direct vent applications, contact the factory about relocating the pump.

CLEARANCES		
Heater Side	Minimum Clearances from Combustible Surfaces in. (mm)	Minimum Service Clearance in. (mm)
Front	24 (610)	24 (610)
Rear	12 (305)	24 (610)
Right Side	1 (25)	24 (610)
Left Side	1 (25)	24 (610)
Top	0	10 (254)
Floor	0	0
Vent	1 (25)	1 (25)

With H-Bypass			
Model	PUMP		
	Model	HP	Amps*
<input type="checkbox"/> P-504A	1611	1/4	6
<input type="checkbox"/> P-754A	1611	1/4	6
<input type="checkbox"/> P-1104A	1630	1/2	7
<input type="checkbox"/> P-1504A	1634	1	14
<input type="checkbox"/> P-2004A	1636	1-1/2	22

* Current draw is for heater only.
(Supply breaker must have delayed trip).



Product Submittal for MVB® - Type P

Job: _____

RATES OF FLOW AND PRESSURE DROPS								
Model	20 °F ΔT		Maximum Flow			Minimum Flow*		
	GPM (L/min)	ΔP ft.wc. (kPa)	GPM (L/min)	ΔP ft.wc. (kPa)	ΔT °F (°C)	GPM (L/min)	ΔP ft.wc. (kPa)	ΔT °F (°C)
<input type="checkbox"/> P-504A	42 (158)	N/A	65 (246)	5.5 (16)	13 (7.2)	100 (379)	11.3 (34)	9 (4.9)
<input type="checkbox"/> P-754A	63 (237)	6.4 (19)	65 (246)	6.4 (19)	20 (11.1)	100 (379)	13.8 (41)	13 (7.2)
<input type="checkbox"/> P-1104A	93 (348)	13.6 (41)	85 (322)	11.5 (34)	22 (12.2)	113 (428)	18.6 (56)	17 (9.4)
<input type="checkbox"/> P-1504A	N/A	N/A	102 (387)	18.7 (56)	25 (13.8)	113 (428)	22.2 (66)	23 (12.7)
<input type="checkbox"/> P-2004A	N/A	N/A	102 (387)	22.7 (68)	32 (17.7)	113 (428)	27.2 (81)	29 (16.1)