

Job: _____
 Engineer: _____
 Contractor: _____
 Prepared By: _____ Date: _____
 Model: _____ Indoor/Outdoor: _____

MVB[®] - Type H

Heating Boilers
 Models 503A-2003A

- 86.2% Thermal Efficiency at Full Rate**
- 100% Factory Fire-Tested**
- VERSA IC[®] Integrated Controller with 7" Color Touchscreen Display**
- Raymote™ remote connectivity provided standard**
- Electronic Modulation, Constant Ratio 7:1 Turndown**
- Full Safety Diagnostics with History**
- Status Display Lights**
- Modbus RTU BMS Port**
- Maximum Outlet Water Temperature: 235°F**
- Minimum Acceptable Inlet Water Temperature: 120°F**
- Limited Twenty-Five-Year Thermal Shock Warranty**
- Limited Ten-Year Heat Exchanger Warranty**
- Ultra Low NOx – Less than 20PPM**



Proudly Assembled in the USA

Heat Exchanger

- Headers
 - Cast Iron – Standard
 - A-1 Bronze
- ASME H Stamped
160 PSIG MAWP
- National Board Approved
- Fin Tubing
 - Copper – Standard
 - A-3 Cupronickel
- ASME Powder-Coated Tube Sheet
- Silicone High-Temp O-Rings
- ASME Pressure Relief Valve
 - 60 PSIG – Standard
 - ___ PSIG – Optional
- Temperature and Pressure Gauge, Shipped Loose
- Stainless Steel Evaporator Plate
- Four-pass heat exchanger

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
- Cascade up to 4 Boilers
- Ignition Module
 - 3-Try – Standard
 - C-6 Single-Try
- Remote Flame Sensor
- Freeze Protection
- High Limit, Manual Reset, Fixed, 240°F
- On/Off Power Switch
- Flow Switch
- Blocked Vent Pressure Switch
- Pump Outputs
 - Boiler pump
 - DHW Indirect – Pilot Duty
 - System – Pilot Duty
- Programmable Pump Time Delays
- Water Temperature Sensors (7)

- Cold Water Protection Function
 - Optional Variable Speed Pump
 - Optional Proportional Valve
- Modbus RTU BMS Port
 - B-85 Gateway – BACnet MS/TP, BACnet IP, N2 Metasys or Modbus TCP
 - B-86 Gateway - LonWorks

Burner

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

Gas Train

- Fuel
 - Natural Gas
 - Propane (Minimum Grade HD-5)
- Dual-Seat Combination Firing Valve
- Manual Shut-Off Valve

Construction

- Design Certified ANSI Z21.13/CSA 4.9
- CSA Low Lead Certified ≤25% Lead
- Indoor/Outdoor Construction
- Front Controls Enclosed
- PolyTuf Powder Coat Finish
- Rear Connections (Water, Electrical, Gas, Vent, Combustion Air)
- Combustion Air Filter – Inline

Venting

- Vent Termination
 - D-11 Outdoor
 - D-15 Indoor, Horizontal
 - Indoor, Vertical (by others)
- Combustion Air
 - D-16 Air Intake Elbow
- Extractor – Optional
 - By others
 - Not required

Options

- A-30 Air Vent, Auto, 150 PSI (loose)
- B-31 Dry-Well Assembly
- B-32 Outdoor Air Sensor
- F-10 Low Water Cut-Off, Remote Probe
- I-1 High Limit, Auto Reset, Adj., 100-240°F
- I-2 High Limit, Manual Reset, Adj., 100-240°F (additional)
- P-___ Pump: ___HP, 120V, 1Ø, 60Hz
 - Cast Iron Bronze
 - Loose Mounted
- P-___ Cold Water Start
- P-___ Cold Water Run
- 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

Multi-Boiler Temperature Controllers

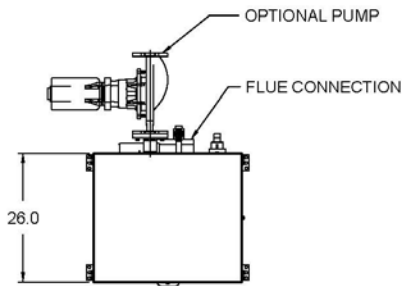
- TempTracker Mod+ Hybrid
 - B-36 2-4 Heaters
 - B-37 5-10 Heaters
 - B-38 11-16 Heaters
 - B-39 EMS 4-20mA Remote Setpoint Interface Module
 - B-62 BACnet MS/TP Interface



MVB[®] – Type H

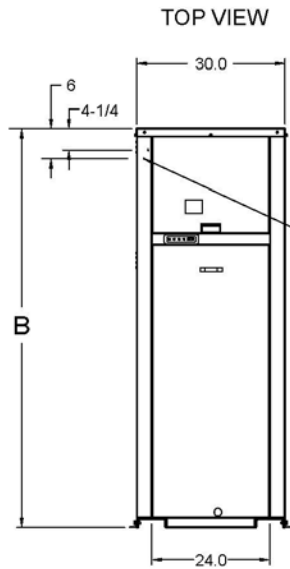
Models 503A-2003A

Model _____

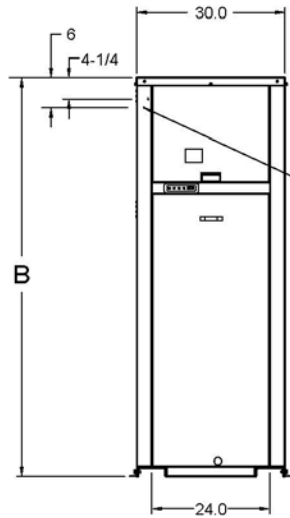


CLEARANCES

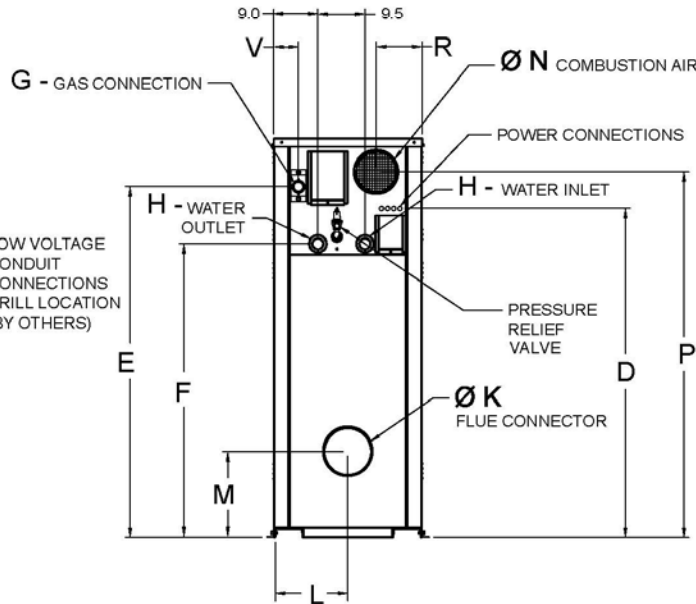
	Certified Minimum	Recomm. Service
Front	24"	24"
Rear	12"	24"
Right	1"	1"
Left	1"	1"
Top	0"	10"
Floor	0"	0"
Vent	1"	1"



TOP VIEW



FRONT VIEW



REAR VIEW

Model (H7-)	MBTUH		Dimensions (in.)												
	Input	Output	B Height	D	E	F	G* NPT	H NPT	K Flue Ø	L	M	N C/A Ø	P	R	V
503A □	500	431	43	30-3/4	35	23-3/4	1	2	6	13-3/4	14-1/4	6	36-3/4	8-1/4	1-3/4
753A □	750	647	49	36-3/4	40-3/4	29-1/2	1	2	6	13-1/2	14-1/4	6	42-1/2	8-1/4	1-3/4
1003A □	999	861	55	42-3/4	46-3/4	35-1/2	1-1/4	2-1/2	6	13-1/2	14-1/4	6	48-1/2	8-1/4	1-3/4
1253A □	1250	1078	61	48-3/4	53	41-3/4	1-1/4	2-1/2	8	13-3/4	17-1/4	8	54-3/4	8-1/4	1-3/4
1503A □	1500	1293	67	54-3/4	58-3/4	47-1/2	1-1/4	2-1/2	8	13-3/4	17-1/4	8	60-1/2	8-1/4	1-3/4
1753A □	1750	1508	75	61	65-1/4	53-3/4	2	2-1/2	8	13-1/2	17-1/4	8	68-1/2	9-1/2	5
2003A □	1999	1723	81	66-3/4	71-1/4	59-1/2	2	2-1/2	8	13-3/4	17-1/4	8	74	9-1/2	5

* For natural gas. For propane, 1" NPT for all sizes.

- 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.
- For direct vent applications, please contact the factory about relocating the pump.

Model (H7-)	PUMP HP (Amps*)		
	Water Hardness		
	□ Soft	□ Medium	□ Hard
503A □	1/4 - 6	1/4 - 6	3/4 - 11
753A □	1/4 - 6	1/2 - 7	3/4 - 11
1003A □	1/4 - 6	1/2 - 7	1 - 14
1253A □	1/2 - 7	1 - 14	1 - 14
1503A □	3/4 - 11	1 - 14	1 - 14
1753A □	1 - 14	1-1/2 - 16	1-1/2 - 16
2003A □	1 - 14	1-1/2 - 16	1-1/2 - 16

*Current Draw is for Pump Only

MVB[®] – Type H

Models 503A-2003A

Model _____

Model (H7-)	Shipping Weight (Lbs.)	Footprint (Ft ²)	Amps*
503A <input type="checkbox"/>	600	5.4	12
753A <input type="checkbox"/>	670	5.4	12
1003A <input type="checkbox"/>	720	5.4	12
1253A <input type="checkbox"/>	780	5.4	12
1503A <input type="checkbox"/>	840	5.4	12
1753A <input type="checkbox"/>	940	5.4	18
2003A <input type="checkbox"/>	1000	5.4	18

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

RATES OF FLOW AND PRESSURE DROPS

Model (H7-)	20°F ΔT		30°F ΔT		39°F ΔT*		Maximum Flow			Minimum Flow*		
	GPM	ΔP (ft.)	GPM	ΔP (ft.)	GPM	ΔP (ft.)	GPM	ΔP (ft.)	ΔT (°F)	GPM	ΔP (ft.)	ΔT (°F)
503A <input type="checkbox"/>	43	2.8	29	1.4	N/A	N/A	100	11.3	8.6	25	1.1	35
753A <input type="checkbox"/>	65	6.4	43	3.1	33	1.9	100	13.8	13	33	1.9	39
1003A <input type="checkbox"/>	86	12.0	57	6.0	44	3.7	113	18.6	15	44	3.7	39
1253A <input type="checkbox"/>	108	20.9	72	10.2	55	6.2	113	22.2	19	55	6.2	39
1503A <input type="checkbox"/>	N/A	N/A	86	16.0	66	9.5	113	25.5	23	66	9.5	39
1753A <input type="checkbox"/>	N/A	N/A	101	22.5	77	13.4	113	27.2	27	77	13.4	39
2003A <input type="checkbox"/>	N/A	N/A	115	31.9	88	18.9	115	30.2	31	88	18.9	39

* Closed systems only