Submittal Data Sheet

Air To Water Heat Pump

Model No.： FBMBHFT3B1

Provides space heating and cooling & domestic hot water in extreme cold climates. With high COP for maximum performance, its modular design allows Flexibilty by combining multiple units to various applications. Such as Restaurants, Hotels, Multi-family buildings, Laundry facilities, Healthcare facilities, Schools, Sports arenas, Gyms and much more.

R32 INVERTER Hydronic

FEATURES

- Eco-Friendly R32 Refrigerant -A2L refrigerant in low GWP675.
- EVI Inverter Twin-Rotary Compressor – Ensuring stable operation down to -13°F.
- Monoblock Design with Built-in Water Pump- For faster, easier installation and enhanced system reliability.
- Quiet operation (50 dBA, sound pressure)- Enhance comfort.
- 24V controls in flexibility with integration capabilities to HVAC system.
- Smart Anti-Freeze Protection – Automatically activates in standby mode to prevent freezing.
- Intelligent Defrost System – Rapid, demand-based defrosting for minimal temperature fluctuation and 30% higher efficiency.
- Scalable Cascade Function – Connect up to 8 units for enhanced reliability and extended lifespan.
- Standard Limited Warranty – 10-years coverage on compressor and parts.
- Unit UL-60335-2-40 (safety)

Performance

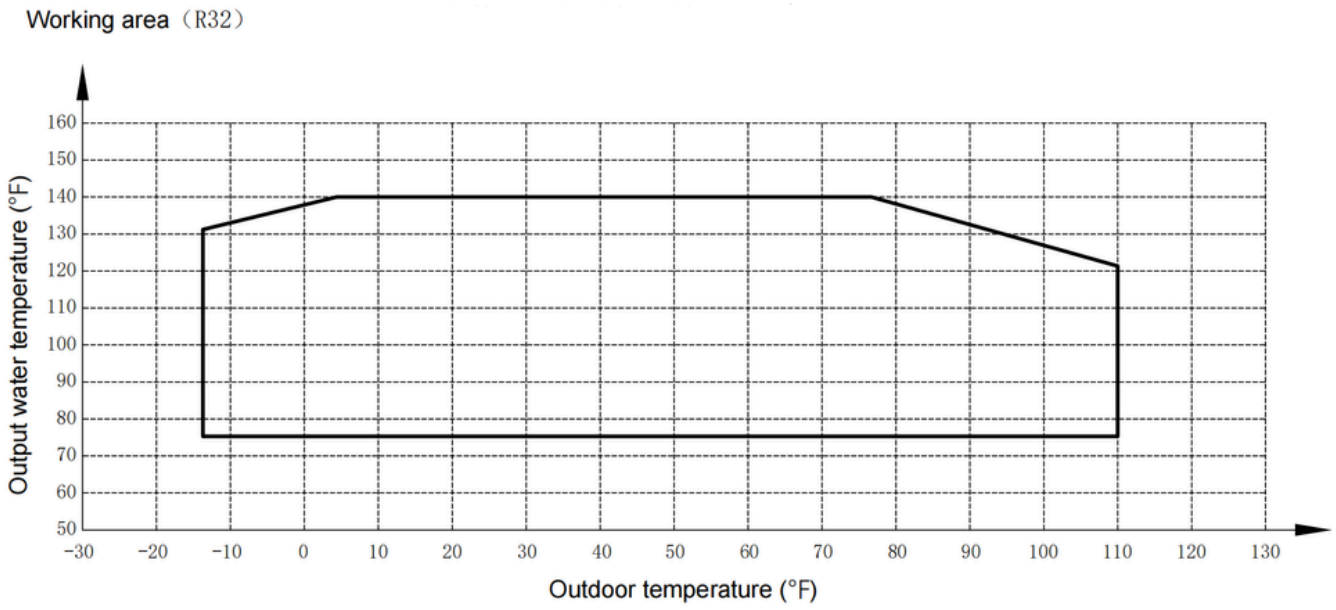
Nominal heating capacity	48,000 Btu/hr	Nominal cooling capacity	2.8 Tons
Refrigerant Type	R32	GWP (Global Warming Potential)	675
Refrigerant Charge (lbs.)	3.97	Operating ambient temperature range（°F）	-13~110
Rated Heating capacity (Btu/hr)	56,118	Rated Cooling capacity (Btu/hr)	34,660
Heating input power (W)	4478	Cooling input power (W)	3729
COP(W/W)	3.67	EER(Btu/W)	9.29
Rated Heating Conditions（°F）	Leaving Water Temp.： 95 Ambient（DB/WB）: 47/43	Rated Cooling Conditions（°F）	Leaving Water Temp. : 45 Ambient（DB/WB）: 95/75.2
Performance values indicated above are in accordance with EN14511			

Product Details

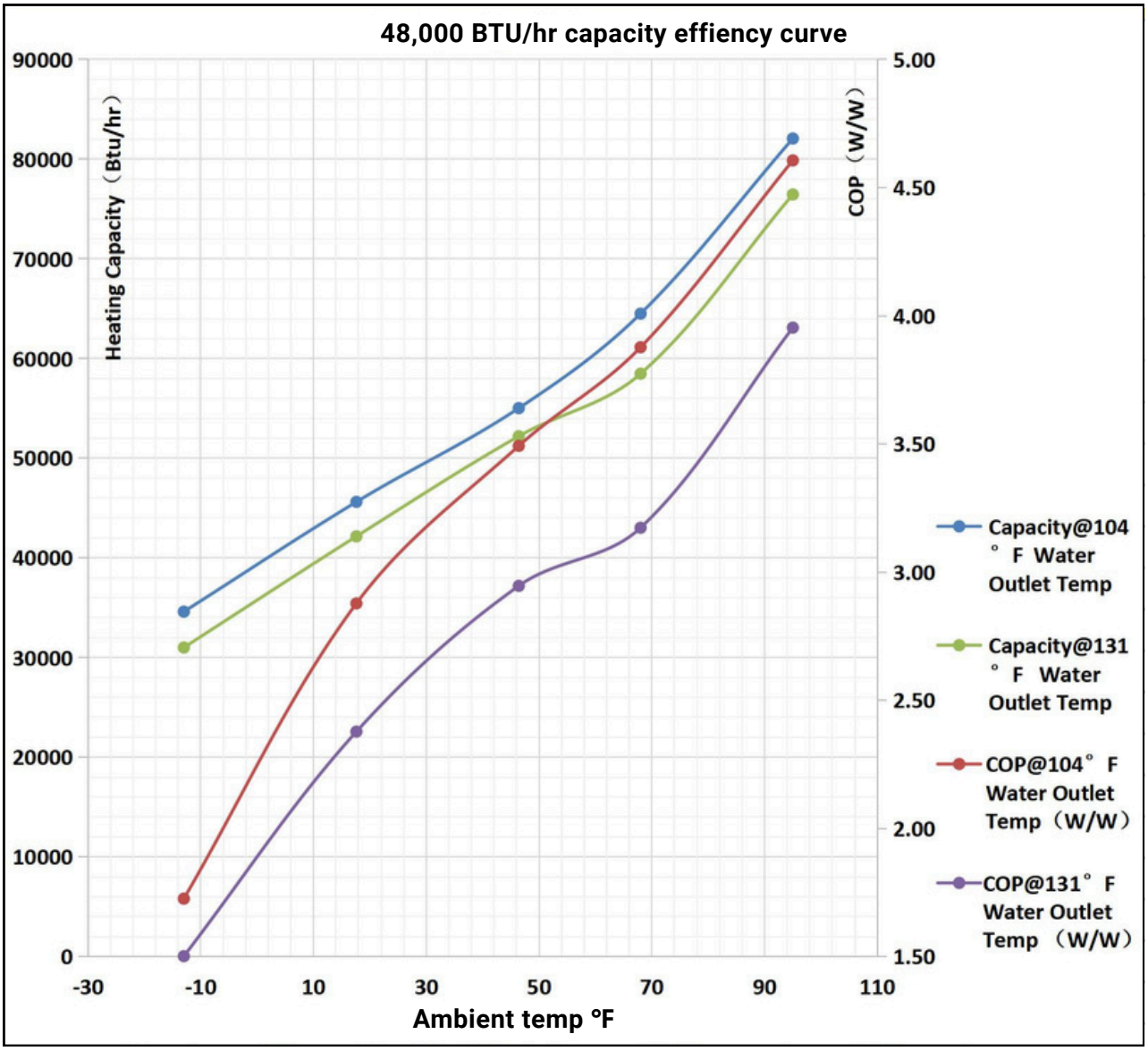
Power Supply (V/Ph/Hz)	208-230V / 1Ph /60Hz	Compressor Type	Inverter
Power Supply Connections	L1, L2, Ground	Sound Pressure dB(A) (Daytime Max/Rated/Low Noise)	57/53/50
Min. Circuit Amps MCA (A):	28	Max Overcurrent Protection (MOP) (A)	32
Cooling Mode Leaving Water Temp (°F)	44.6 ~ 80.6	Heating Mode Leaving Water Temp (°F)	77 ~ 140
Piping Connections Inlet/ Outlet (in.)	NPT 1	Relief Valve Pressure (PSI)	43.5
Water flow(GPM)	11	Water Pump Type	BLDC
Net Dimensions (LxWxH) (in.)	47-1/4 × 21-21/32 × 33-21/32	Shipping Dimensions (LxWxH) (in.)	49-1/4 × 22-5/8 × 38-3/4
Net（lbs.)	260	Shipping Weight (lbs.)	282

Notes:
• Must follow installation instructions in the applicable installation manual.
1. Power wiring size must comply with the applicable local and national code.
2. Acceptable operating voltage range: 198V - 264V.
3. Sound power level is measured in accordance with ISO 9614.
• Daytime Max: This mode is measured based on max. fan RPM and max. compressor Hz. that can be reached under outdoor air temperature of 35.6°F.
• Rated: This mode is measured on the rated condition in the semi-anechoic rooms. Therefore, these values may vary depending on operation conditions.
• Low Noise: This mode lowers noise by limiting the compressor Hz. and fan RPM, and thus the performance may be limited.
4. Sound pressure level is converted value at 1m distance .
5.All installation sites must be equipped with ground fault protection in accordance with the local codes, such as a Ground Fault Protection device or Ground Fault Circuit Breaker.

Operating Envelope



Heating Curve

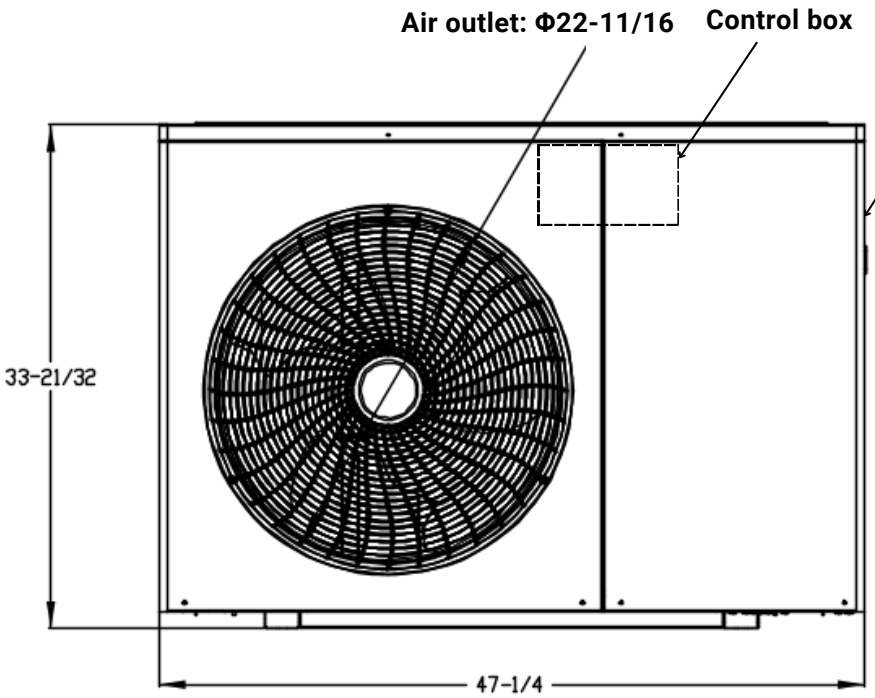


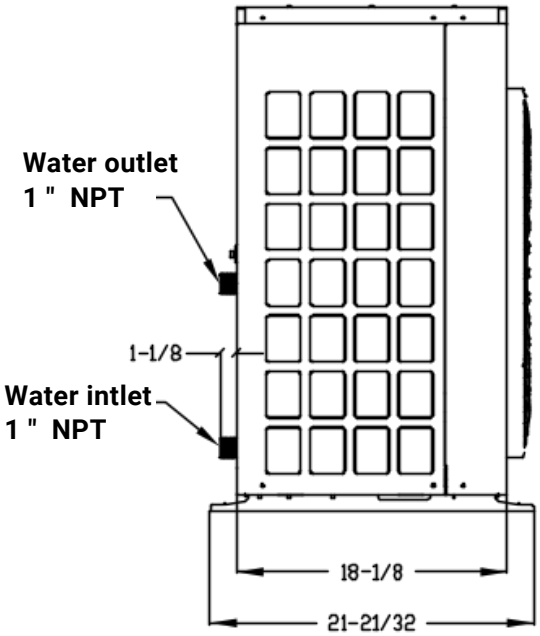
Heating Capacity Table

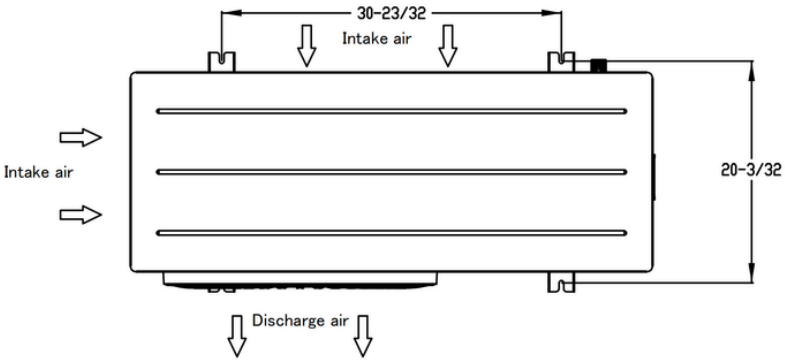
Amient temp.	Water Outlet Temp (°F)	Heating Capacity (Btu/hr)	Input Power (with water pump) (W)	COP (with water pump) (W/W)
DB95°F	140	72630	5837	3.65
	131	76452	5667	3.95
	122	78013	5502	4.16
	113	79605	5378	4.34
	104	82067	5222	4.61
	95	83742	5119	4.79
DB86°F	140	67186	5515	3.57
	131	70722	5407	3.83
	122	72909	5249	4.07
	113	74397	5146	4.24
	104	76698	5046	4.46
	95	78263	4922	4.66
DB77°F	140	62870	5594	3.29
	131	64815	5431	3.5
	122	66819	5222	3.75
	113	68886	5070	3.98
	104	71017	4922	4.23
	95	72466	4826	4.4
DB68°F	140	56716	5509	3.02
	131	58470	5401	3.17
	122	59639	5293	3.3
	113	61429	5187	3.47
	104	64500	4876	3.88
	95	67725	4778	4.15

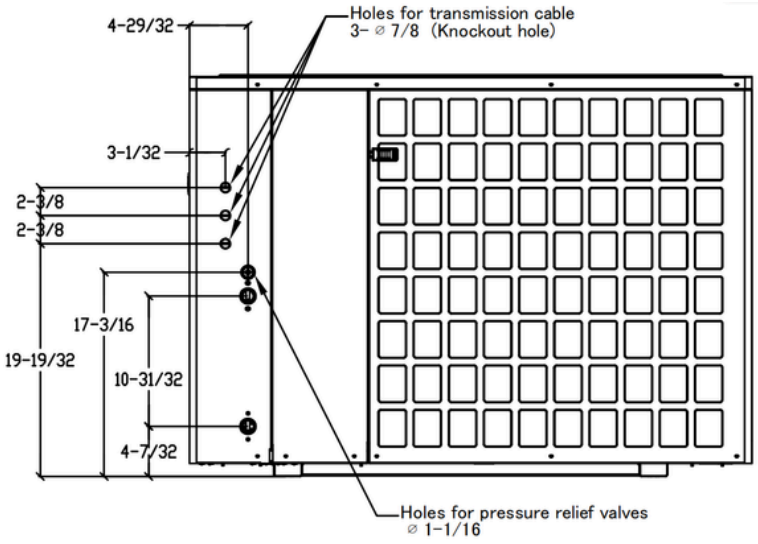
DB46.4°F	**140**	51161	5453	2.75
	131	52205	5193	2.95
	122	53000	4993	3.11
	113	54082	4756	3.33
	104	55017	4617	3.49
	95	56118	4478	3.67
DB35.6°F	**140**	45431	5297	2.51
	131	46836	5045	2.72
	122	48284	4898	2.89
	113	50296	4756	3.1
	104	51302	4518	3.33
	95	52328	4292	3.57
DB17.6°F	**140**	40045	5456	2.15
	131	42152	5196	2.38
	122	43417	4989	2.55
	113	44285	4839	2.68
	104	45614	4645	2.88
	95	47438	4552	3.05
DB10°F	**131**	37094	5326	2.04
	122	39509	5128	2.26
	113	41185	4960	2.43
	104	41965	4762	2.58
	95	43169	4653	2.72
DB-13°F	**131**	31001	6051	1.5
	122	31960	5875	1.59
	113	32948	5704	1.69
	104	34596	5875	1.73
	95	36325	5993	1.78

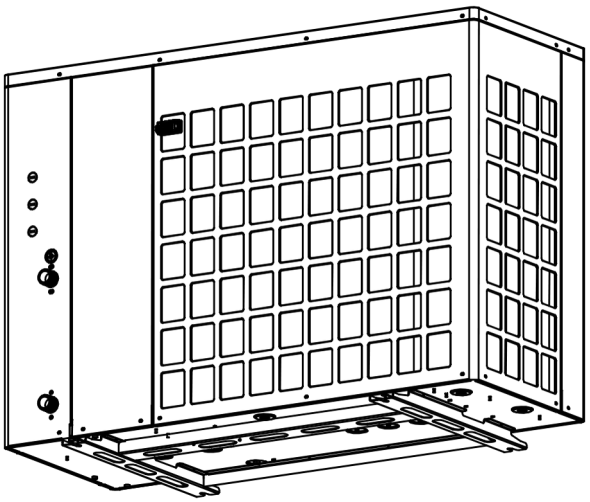
Dimensional Drawing











Unit: inch