Submittal Data Sheet

Air To Water Heat Pump

Model No.： FBMBHST3B1

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℉.
- Monoblock Design with Built-in Water Pump- For faster, easier installation and enhanced system reliability.
- Quiet operation (53 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

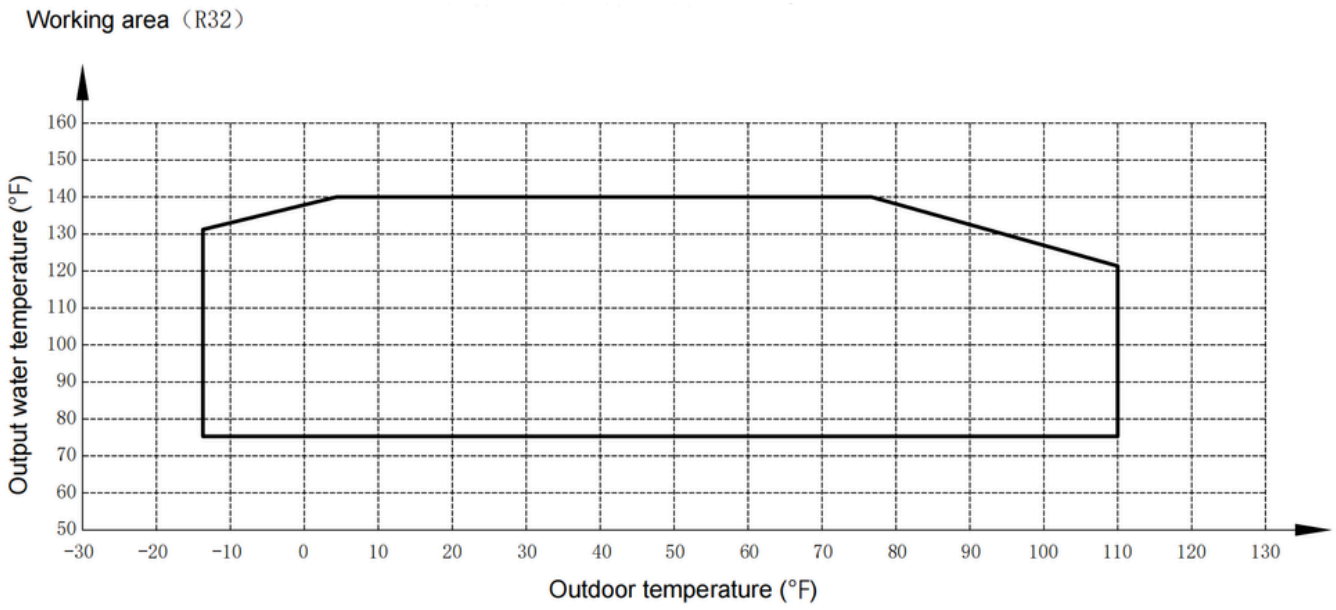
Nominal heating capacity	72,000 Btu/hr	Nominal cooling capacity	4.2 Tons
Refrigerant Type	R32	GWP (Global Warming Potential)	675
Refrigerant Charge (lbs.)	5.06	Operating ambient temperature range（°F）	-13~110
Rated Heating capacity (Btu/hr)	76,401	Rated Cooling capacity (Btu/hr)	55,615
Heating input power (W)	6158	Cooling input power (W)	6022
COP(W/W)	3.64	EER(Btu/W)	9.23
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

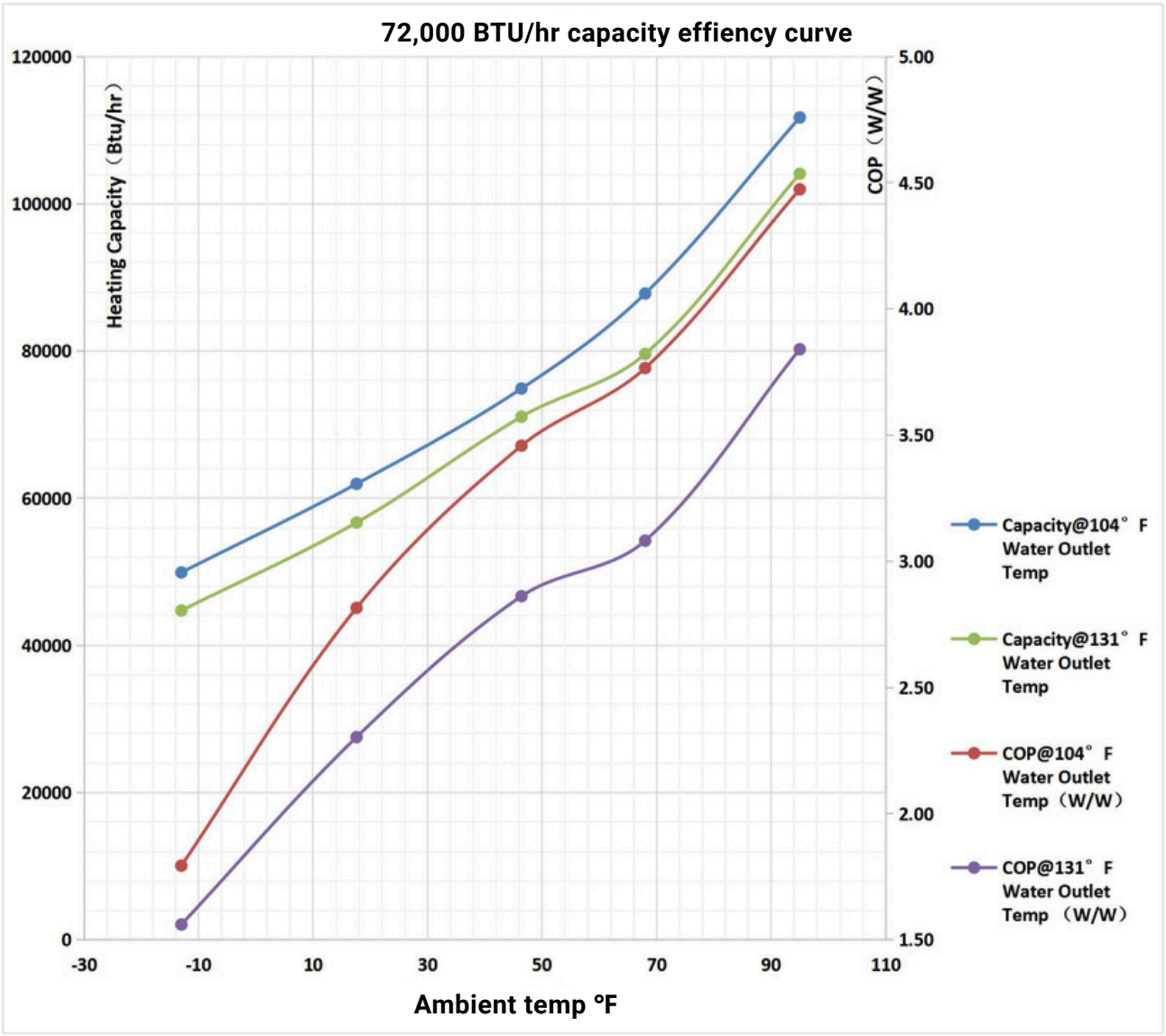
Power Supply (V/Ph/Hz)	208-230V / 1Ph /60Hz	Compressor Type	Inverter
Power Supply Connections	L1, L2, Ground	Sound Pressure dB(A) (Daytime Max/Rated/Low Noise)	61/57/54
Min. Circuit Amps MCA (A):	36	Max Overcurrent Protection (MOP) (A)	40
Cooling Mode Leaving Water Temp (°F)	44.6 ~ 80.6	Heating Mode Leaving Water Temp (°F)	77 ~ 140
Piping Connections Inlet/ Outlet (in.)	NPT 1	Relief Valve Pressure (PSI)	43.5
Water flow(GPM)	19	Water Pump Type	BLDC
Net Dimensions (LxWxH) (in.)	49-5/16*21-5/8*55-15/16	Shipping Dimensions (LxWxH) (in.)	51-1/8 × 22-5/8 × 61
Net （Lbs)	385	Shipping Weight (lbs.)	462

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)	COP (with water pump) (W/W)
DB95°F	140	98882	8181	3.54
	131	104086	7943	3.84
	122	106210	7712	4.04
	113	108378	7538	4.21
	104	111730	7319	4.47
	95	114010	7175	4.66
DB86°F	140	91470	7730	3.47
	131	96284	7578	3.72
	122	99262	7358	3.95
	113	101288	7213	4.12
	104	104420	7072	4.33
	95	106551	6899	4.53
DB77°F	140	85595	7841	3.2
	131	88242	7612	3.4
	122	90971	7320	3.64
	113	93785	7106	3.87
	104	96685	6899	4.11
	95	98659	6764	4.27
DB68°F	140	77216	7721	2.93
	131	79604	7570	3.08
	122	81196	7418	3.21
	113	83632	7270	3.37
	104	87814	6834	3.77
	95	92204	6697	4.03

DB46.4°F	**140**	69654	7643	2.67
	131	71075	7279	2.86
	122	72157	6932	3.05
	113	73630	6602	3.27
	104	74903	6348	3.46
	95	76401	6158	3.64
DB35.6°F	**140**	62496	7354	2.49
	131	64429	7004	2.7
	122	66422	6800	2.86
	113	68476	6602	3.04
	104	69845	6272	3.26
	95	71242	5958	3.5
DB17.6°F	**140**	53863	7575	2.08
	131	56697	7214	2.3
	122	58398	6926	2.47
	113	60150	6718	2.62
	104	61955	6449	2.82
	95	65053	6256	3.05
DB10°F	**131**	48193	7394	1.91
	122	53727	7119	2.21
	113	55940	6886	2.38
	104	56998	6610	2.53
	95	59848	6393	2.74
DB-13°F	**131**	44739	8401	1.56
	122	46122	8156	1.66
	113	47549	7919	1.76
	104	49926	8156	1.79
	95	52423	8319	1.85

Dimensional Drawing