

Airdach Inverter Split System Heat Pump

Up to 20 SEER2

Cooling capacity: 3 & 5 Tons



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Standard Features:

- R454B chlorine-free refrigerant.
- Energy-efficient compressor.
- Internally protection against high temperature motor overload conditions.
- High quality condenser with inner-groove copper tube and aluminum fin.
- The inverter DC indoor and outdoor units can communicate with each other
- AHRI certified and ETL listed.
- Wide range operation, 15°F~125°F cooling, -4°F~86°F heating

Cabinet Features:

- Compact design, easy installation and transportation.
- Powder-painted galvanized steel cabinet.
- Wire fan discharge grille.
- Steel louver coil guard

1 Product lineup

Model	A4TH36200MV1DG A4TH60200MV1DG
Power supply	208/230V-1ph-60Hz
Appearance	

3 Specifications

	A4TH36200MV1DG	A4TH60200MV1DG
NOMINAL CAPACITY		
Cooling (BTU/h)	34,200	52,000
Heating (BTU/h)	34,200	55,000
ELECTRICAL DATA		
Voltage / Phase (60 Hz)	208~230V/1Ph	208~230V/1Ph
Min. / Max. Voltage	187/253	187/253
MCA	23.4	38.5
MOP	40	60
COMPRESSOR		
Type	Rotary	Rotary
Stage	Inverter Compressor	Inverter Compressor
RLA	17	29
Crankcase Heater	Yes	Yes
CONDENSER COIL		
Type	Tube & Fin	Tube & Fin
Tube Size (O.D.) (mm)	7	7
Tube Size (O.D.) (in.)	9/32	9/32
FAN MOTOR		
Motor Type	DC	DC
Capacitor(μF)	/	/
Horsepower (HP)	1/3	1/3
Full Load Amps (FLA)	2.1	2.2
REFRIGERATION SYSTEM		
Liquid Valve Size (O.D.) (in.)	3/8	3/8
Suction Valve Size (O.D.) (in.)	3/4	7/8
Liquid Line Size ("O.D.) (in.)	3/8	3/8
Suction Line Size ("O.D.) (in.)	3/4	7/8
Refrigerant Charge (kg)	3.04	4.62
Refrigerant Charge (lbs. - oz.)	6 lbs. 11 OZ.	10 lbs. 3 OZ.
OPERATION RANGE		
Cooling(°C)	-10 to 52	-10 to 52
Cooling(°F)	15 to 125	15 to 125
Heating(°C)	-20 to 30	-20 to 30
Heating(°F)	-4 to 86	-4 to 86

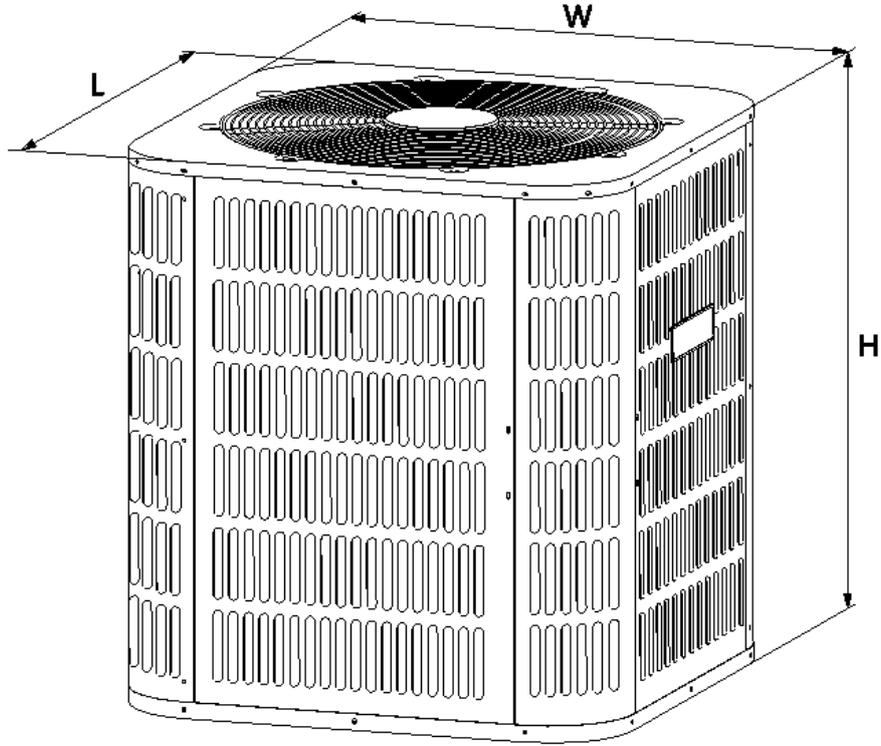
Table 1

¹ Tested and rated in accordance with AHRI Standard 210/240.

² Wire size should be determined in accordance with National Electrical Codes; extensive wire runs will require larger wire sizes.

³ Must use time-delay fuses or HACR-type circuit breakers of the same size as noted.

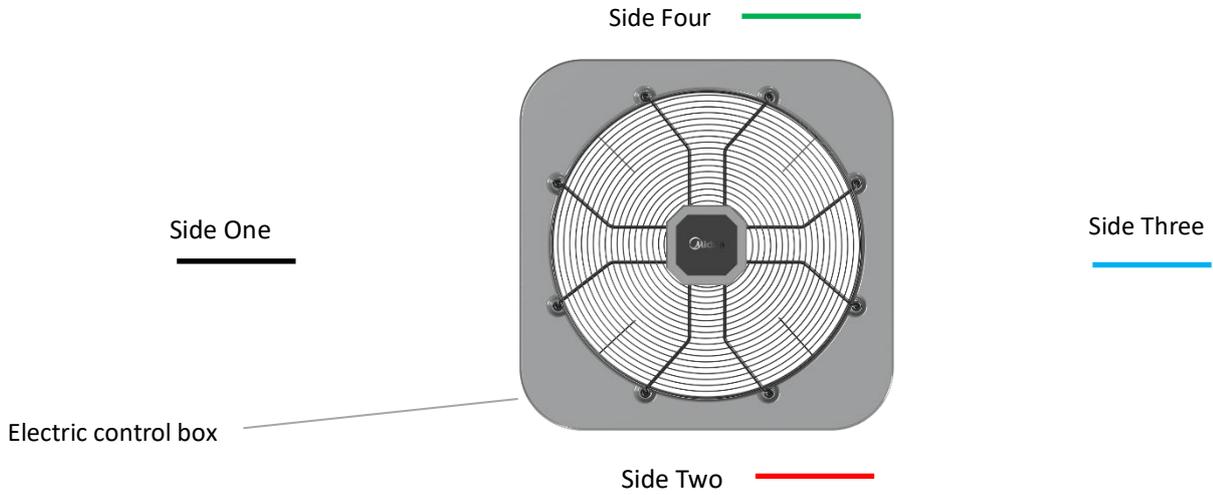
4 Dimensional Drawing



Model Size	Unit Width "W" in. [mm]	Unit Height "H" in. [mm]	Unit Length "L" in. [mm]	Unit Weight (lbs.[kg])
36	29-1/8 [740]	24-15/16 [633]	29-1/8 [740]	146[66]
60	29-1/8 [740]	33-3/16 [843]	29-1/8 [740]	211[96]

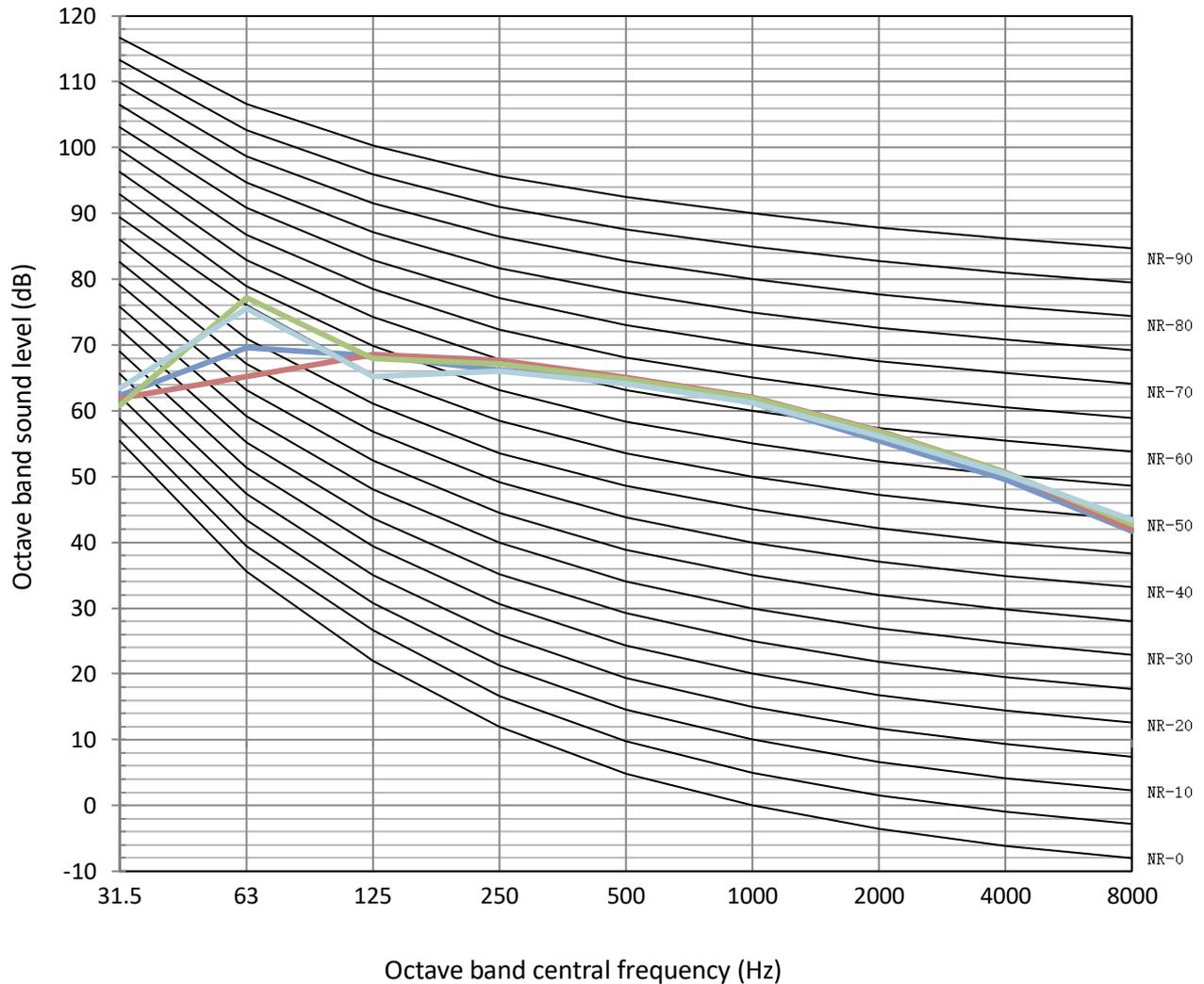
5 Octave Band Levels

NR Curve
For 5 ton

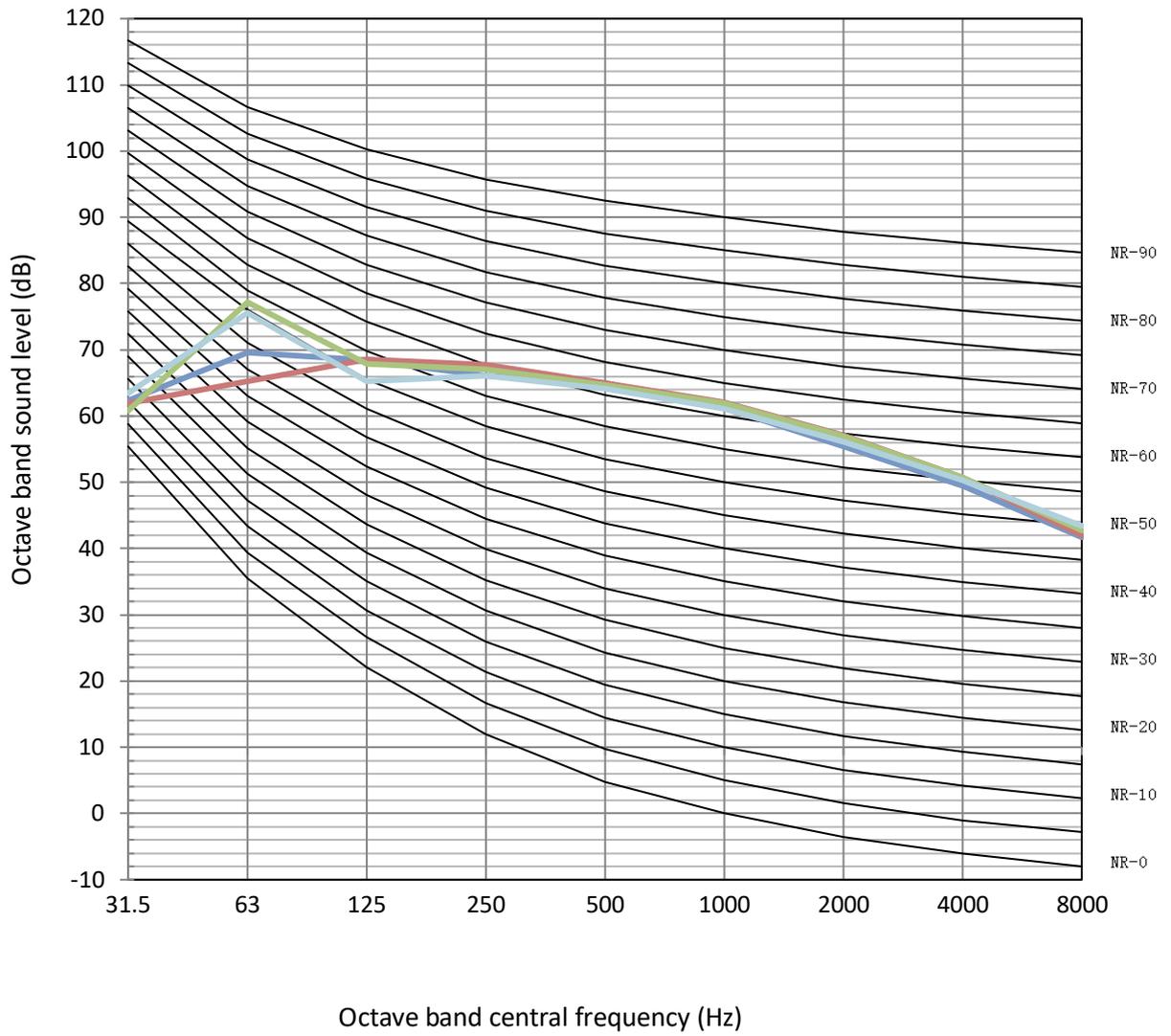


Test condition: Outdoor ambient temperature 95°F DB. EWT 53.6°F, LWT 44.6°F

Cooling:

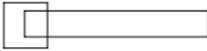


Heating:



6 Accessories

Installation Fittings include the following three materials:

Name	Appearance	Quantity
Outdoor unit operation and installation manual		1
Zip tie		4
PQ communication wires (only for customization)		1

Check if any accessory in the above figure is missing. All the accessories must be kept properly. All the fittings should be factory fittings.

7 Wiring Diagram

WARNING
ELECTRIC HAZARD 380 VOLTS DC
WAIT 5 MINUTES AFTER DISCONNECTING POWER, THEN VERIFY DC VOLTAGE LESS THAN 42 VDC AT INVERTER TEST POINTS P-N. COMPONENTS MAY STORE A DANGEROUS ELECTRICAL POTENTIAL OF 380 VOLTS DC.
FAILURE TO FOLLOW THIS WARNING COULD RESULT IN PERSONAL INJURY OR DEATH

LED1 GREEN	Solid ON	Main board powered on
	OFF	Power off
LED2 RED	Solid ON	Compressor running
	2s ON 2s OFF	Standby
	0.2s ON 0.2s OFF	Communication fault with main control chip
	Blink	Driver fault
	OFF	Power off
LED3 RED	Solid ON	Fan running
	2s ON 2s OFF	Standby
	0.2s ON 0.2s OFF	Communication fault with main control chip
	Blink	Driver fault
	OFF	Power off

Power in
Terminal block USE COPPER CONDUCTORS ONLY

Note:
1. C, B, Y and W are connected to indoor unit in non-C communication mode.
2. B terminal is connected in heat pump heating operation, energized for heating.
3. B and W signals are for heat pump system.
4. Dash-dotted line means optional.
5. Dotted line means field installed.
6. P and Q are connected to indoor unit in communication mode.

Gateway button descriptions

Reset	Resets gateway off and back on
Connect	Activates bluetooth (hold for at least 4 secs)
Factory	Hold for 3-5 secs to run gateway in diagnostic mode

Diagnostic Check: After holding down the factory button (3-5 secs), press connect button to run full diagnostics. If there are any faults on the gateway, the Fault LED will flash accordingly.

Gateway light indications and descriptions

Power LED (green)	Solid ON: Gateway powered on
1 blink/cycle	Abnormal voltage to gateway
2 blink/cycle	Gateway booting up
LED OFF	Gateway not powered
Cellular LED (amber)	Solid ON: Good signal strength
Blinking LED	Weak signal strength
Bluetooth LED (blue)	Solid ON: Connected to bluetooth
1 blink/cycle	Bluetooth in pairing mode
2 blink/cycle	Bluetooth in advertising mode
Gateway Fault LED (red)	LED OFF: Gateway has no fault
1 blink/cycle	No modbus response from IDS
2 blink/cycle	Unacceptable signal strength
3 blink/cycle	Data packet cannot send
4 blink/cycle	Hardware error
5 blink/cycle	Cellular communication error

Number Point check content

0	Outdoor unit capacity: 15-4 heat pump 5 ton
1	Outdoor unit mode: 0-standby, 2-cooling, 3-heating
2	Outdoor unit set compressor speed
3	System last fault code
4	Liquid valve subcooling (°F)
5	Gas valve superheat (°F)
6	T3: outdoor coil temp. (°F)
7	T3L: outdoor coil outlet temp. (°F)
8	T4: outdoor ambient temp. (°F)
9	T5: compressor discharge temp. (°F)
10	T11: compressor suction temp. (°F)
11	Compressor RPM temp. (°F)
12	Pe: evaporating pressure (psig)
13	Pc: condensing pressure (psig)
14	Te: target evaporating temp. (°F) (only for cooling mode)
15	Te: evaporating temp. (°F)
16	Tc: target condensing temp. (°F) (only for heating mode)
17	Tc: condensing temp. (°F)
18	Target value of the compressor discharge superheat (°F) (only for heating mode)
19	Compressor discharge superheat (°F)
20	Compressor suction superheat (°F)
21	Openings of EEVA (P)
22	Fan speed stage
23	Outdoor unit fan current (A)
24	Compressor current (A)
25	Outdoor unit input current (A)
26	Outdoor unit input voltage (V)
27	Outdoor unit DC bus voltage (V)
28	Outdoor unit power (0.1kW)
29	Continuous running time of the compressor (min)
30	Outdoor unit main control software version
31	Indoor unit Heat Kit Staging
32	T2: indoor unit coil temp. (°F) (only for communication mode)
33	Indoor unit software version (only for communication mode)
34	Reserved
35	Remark: -

***The factory default**

SW4	ON	OFF
SW5	ON	OFF
J2	ON	OFF

Set capacity

J2	ON	OFF	For 36/60K model *
J2	ON	OFF	For 24/48K model

SW4-1 ON: Unused
OFF: Reserved *

SW4-2 ON: Accelerated cooling/heating
OFF: Normal *

SW4-3 ON: Adaptive capacity output disable
OFF: Normal *

SW4-4 ON: Accelerated cooling/heating 2
OFF: Normal *

SW5-1 ON: Heating time reduced 10%
OFF: Normal *

SW5-2 ON: Defrosting extended for 120 seconds
OFF: Normal *

SW5-3 ON: Reserved
OFF: Normal *

SW5-4 ON: Communication mode
OFF: Non-communication mode *

Detailed reference manual instructions

FORCE SW1	PRESS 1s	Forced cooling/heating (Charge mode)
	PRESS 6s	Forced defrosting
CHECK SW2	PRESS 1s	Check the system parameters
	PRESS 6s	Test mode (Not used)

Factory code	Date	Revision
1602300014834	Sep. 24th, 2024	E

*Subject to the final physical product

