



SAPPHIRE

ULTRA HEAT

ULTRA COOL



Superior Performance in Extreme Temperature

Submittal Data: SAP09HP230V1A 9,000 BTU/H Wall Mounted Heat- Pump System

Job Name	Location	Date
Purchaser	Engineer	
Submitted To	For	<input type="checkbox"/> Reference <input type="checkbox"/> Approval <input type="checkbox"/> Construction
Unit Designation	Schedule No.	

- GENERAL FEATURES**
- Variable Speed (Inverter) Two-Stage Compressor
 - Low Ambient Heating (down to -22° F)
 - High Ambient Cooling (up to -129° F)
 - WIFI Included
 - Wireless Remote with LCD Display (included)
 - Wired Controller (Sold Separately) XE71
 - 7 Indoor Fan Speeds /4 Way Airflow Operation
 - Copper Tube/Aluminum Fins w/Acrylic Resin Anti-Corrosion both inside and out
 - I-FEEL Function
 - 5 year Limited Parts Warranty (Residential Only)



System Ratings

Cooling	
Rated Capacity	9,000 BTU/H
Capacity Range	1,535-12,966 BTU/H
Power Input	540 W
Power Input (Min/Max)	50/1400 W
SEER	38.0
EER	16.5

Heating	
Rated Capacity at 47° F	9,000 BTU/H
Capacity Range	2,388-13,648 BTU/H
Power Input	590 W
Power Input (Min/Max)	200/1500 W
HSPF	15.0
COP	4.5

Heating at 17° F	
Rated Capacity	5,600 BTU/H

Operating Range	
Cooling (Max)	129°F (54°C)
(Min)	0°F (-18°C)
Heating (Max)	75°F (24°C)
(Min)	-22°F (-30°C)

Power Supply	
Normal Operational Voltage	208/230 V, 1 Phase, 60 Hz
Voltage Range	187 - 253 V
Main Power Wire Size	14-2 AWG
Interconnecting Cable Wire Size	14-4 AWG
MCA	9 A
MOCP/Breaker Size	15 A

Indoor Unit Data

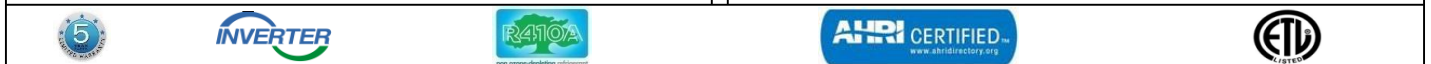
Fan Motor	Type	Cross-flow
	Output Power	W 60
	FLA	A 0.09
Airflow	(Low/High)	CFM 206/424
Air Throw	(Max)	ft 29.5
Sound Level		
	Cooling (Low/High)	dB(A) 19/45
	Heating (Low/High)	dB(A) 19/45
Dehumidification		pt/hr 1.7

Outdoor Unit Data

Compressor	Type	DC Inverter Driven 2-Stage Rotary
	RLA	6.9 A
Fan Motor	Output Power	30 W
	RLA	0.09 A
Sound Level		53 dB(A)

Refrigerant Piping Data

Liquid Pipe Size (OD)	1/4-in
Gas Pipe Size (OD)	1/2-in
Connection Method	Flared
Factory Charge	R410A/50.4 oz
Additional Charge	0.2 oz/ft
Pre-Charge Length	25-ft
MAX Refrigerant Pipe Length	49-ft
MIN Refrigerant Pipe Length	10-ft
MAX Refrigerant Pipe Height Difference	33-ft



SYSTEM FEATURES	
Inverter Type	G10
Ultra Low Frequency Torque Control	Yes
Power Factor Correction	Yes
Compressor Type	High Eff. Two Stage Rotary
Refrigerant Type	R410A
Basepan With Electric Heater	YES
Compressor With Electric Heater	YES
Indoor & Outdoor Fin Coating (Blue)	Acrylic Resin/Anti-Corrosion
Intelligent Defrosting	YES
Intelligent Preheating	YES
Low Voltage Startup	YES
Memory/Power Failure Recovery	YES
Self Diagnosis	YES
Wired Controller Interface	NO
WIFI Included	YES
Indoor Fan Type	Crossflow
Multi Fan Speeds	7 Speeds
Indoor Unit Display	YES
Auxiliary Electrical Heater	NO
Ventilation (Outdoor Air)	NO
REMOTE CONTROLLER FUNCTIONS	
Auto Mode	YES
Auto Fan	YES
Auto Swing (Horizontal Auto Swing)	YES
Auto Swing - 180°(Vertical Auto Swing)	YES
Clock on Remote Controller	YES
Dry Mode	YES
Dry Anti-Mildew (X-Fan) Mode	YES
Energy Saving Mode	NO
Dirty Filter Alert	NO
Fan Speed Control (7 speeds)	YES
I Feel Function	YES
Privacy Lock on Remote Controller	YES
Quiet Mode	YES
Room Temperature Display	NO
Sleep Mode	YES
4 Sleep Modes Options	YES
Timer Mode	YES
Turbo Mode	YES
Display On/Off Control	YES
Freeze Guard Mode	NO
Display On/Off Control	YES
Freeze Guard Mode	YES
Power Failure Mode	YES

ULTRA COOL

COOLING PERFORMANCE

Outdoor Ambient Temperature (DB)	Return Air Temperature				
	80°F (DB)				
	TC (Btu/h)	SHR	EER	Power Input (W)	
MAX OUTPUT	0°F	8450	72.50%	8.88	952
	5°F	8775	72.75%	9.01	974
	10°F	9100	73.00%	9.15	994
	15°F	9204	73.50%	9.07	1015
	20°F	9680	72.71%	9.19	1053
	25°F	9815	74.50%	8.99	1092
	30°F	9880	74.50%	8.93	1106
	35°F	10010	74.50%	8.94	1120
	40°F	10660	75.00%	9.17	1162
	45°F	10790	75.50%	9.12	1183
	50°F	11050	75.50%	9.18	1204
	55°F	11310	75.50%	9.23	1225
	60°F	12350	76.50%	9.59	1288
	65°F	12220	76.50%	9.59	1274
	70°F	12350	76.50%	9.59	1288
	75°F	13390	77.00%	10.07	1330
	80°F	13650	77.50%	10.10	1351
	85°F	13780	77.50%	10.04	1372
	90°F	13600	77.56%	9.82	1385
	95°F	13000	78.00%	9.29	1400
	100°F	12610	78.00%	8.83	1428
105°F	12350	78.50%	8.40	1470	
110°F	12090	79.00%	7.85	1540	
115°F	11830	79.00%	7.68	1541	
120°F	11490	78.80%	7.20	1596	
125°F	11050	79.50%	6.86	1610	
129°F	10790	79.50%	6.70	1610	

ULTRA HEAT

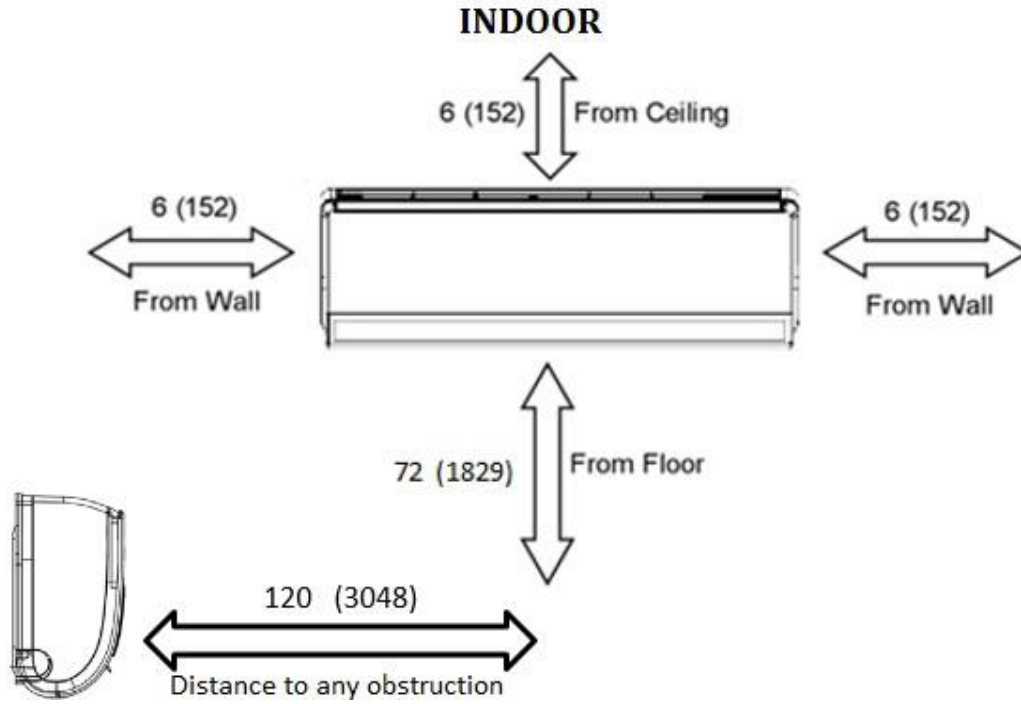
HEATING PERFORMANCE

Outdoor Ambient Temperature (DB)	Return Air Temperature			
	70°F (DB)			
	TC (Btu/h)	COP	Power Input (W)	
MAX OUTPUT	-22°F	7506	1.87	1177
	-20°F	7655	1.89	1187
	-15°F	8055	1.97	1198
	-10°F	8470	2.05	1211
	-5°F	8871	2.12	1226
	0°F	9281	2.17	1251
	5°F	9690	2.23	1276
	10°F	10236	2.30	1302
	15°F	10836	2.40	1326
	17°F	10998	2.41	1331
	20°F	11191	2.42	1356
	25°F	11601	2.46	1384
	30°F	12010	2.49	1412
	35°F	12465	2.56	1429
	40°F	12966	2.64	1441
	45°F	13325	2.66	1468
	47°F	13525	2.67	1482
	50°F	13648	2.67	1500
	55°F	13921	2.69	1515
	60°F	14057	2.69	1530
	65°F	13512	2.69	1470
70°F	12693	2.56	1455	
75°F	12010	2.50	1410	

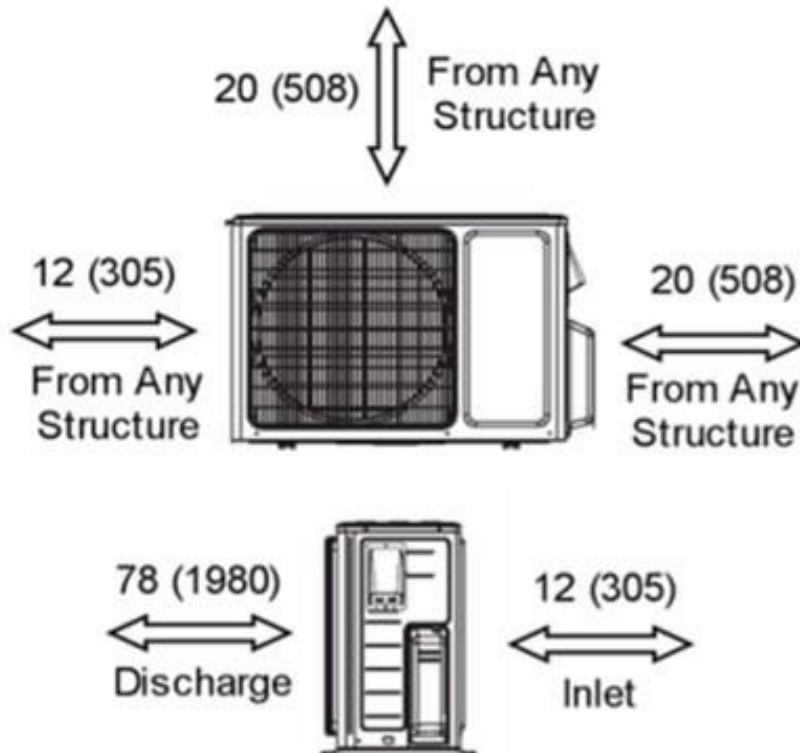
LEGEND: W - Watts
 DB - Dry Bulb
 TC - Total Capacity
 SHR - Sensible Heat Ratio
 COP - Coefficient of Performance

MINIMUM SPACING REQUIREMENTS

Units: inch (mm)



MINIMUM OUTDOOR CLEARANCES



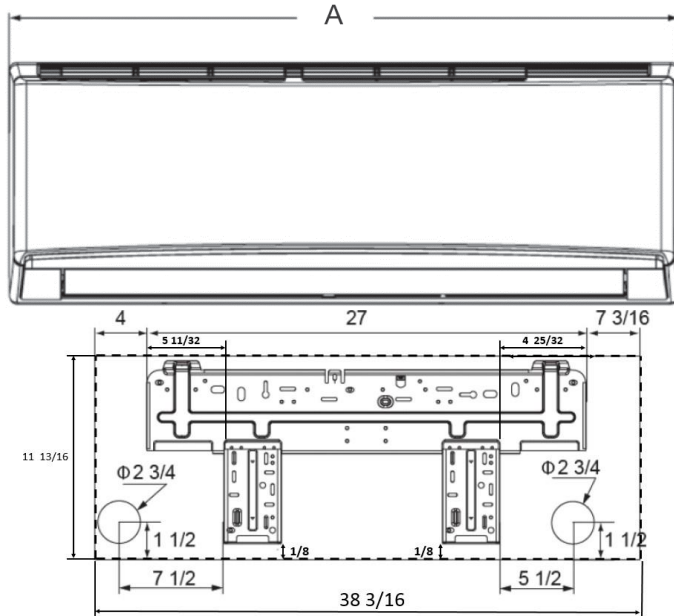
DIMENSIONAL SPECIFICATIONS

SAP09HP230V1A

INDOOR UNIT DIMENSIONS

Units: inch

Model No: SAP09HP230V1AH



Dimensions	
A	39 1/2
B	12
C	8 7/8

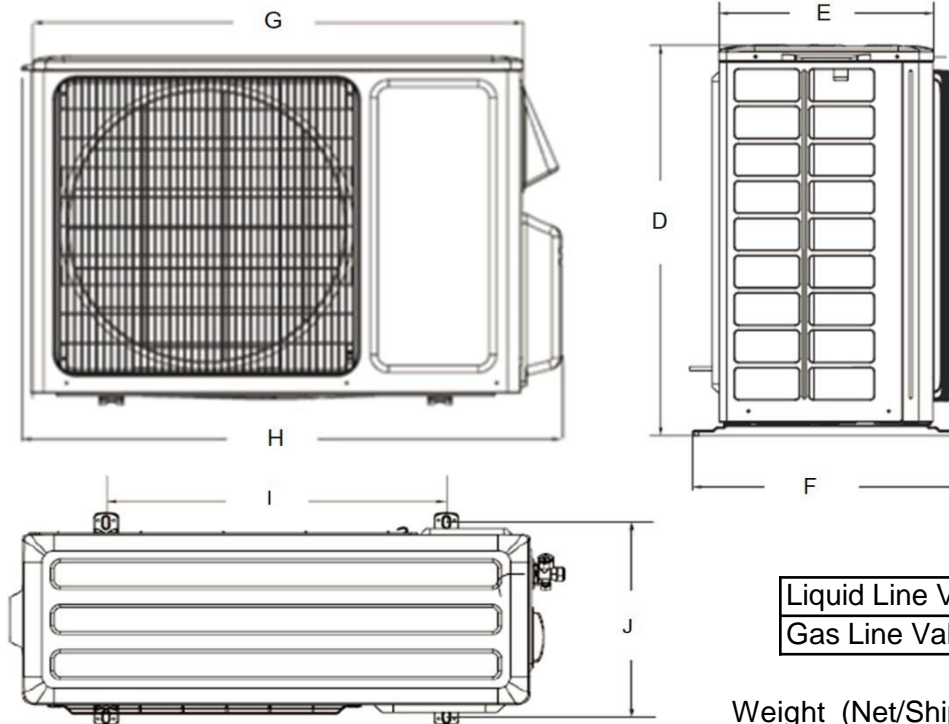
Weight (Net/Shipping) 29 / 35 LBS

Liquid Line Valve	1/4-in OD Flared
Gas Line Valve	1/2-in OD Flared
Drain Connector	5/8-in OD

OUTDOOR UNIT DIMENSIONS

Units: inch

Model No: SAP09HP230V1AO



Dimensions	
D	23 1/2
E	12
F	14 3/4
G	33 1/4
H	35
I	19 1/4
J	13 1/2

Liquid Line Valve	1/4-in OD Flared
Gas Line Valve	1/2-in OD Flared

Weight (Net/Shipping) 100 / 106 LBS

Notes:

1. Recommended Interconnecting Cable Type 14 AWG 4 Stranded Copper Conductors THHN 600V Wire
2. Power wiring cable size must comply with applicable national and local codes.
3. Test conditions are based on AHRI 210/240.

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