



SAPPHIRE

ULTRA HEAT

ULTRA COOL



Superior Performance in Extreme Temperatures

Submittal Data: SAP12HP230V1A 12,000 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
 - Limited Warranty: 5 Years, 7 Years Compressor - Residential & Commercial



System Ratings

Cooling		
Rated Capacity		12,000 BTU/H
Capacity Range		2,900 -15,354 BTU/H
Power Input		784 W
Power Input (Min/Max)		75/1500 W
SEER		30.5
EER		15.3

Heating at 47° F		
Rated Capacity		12,200 BTU/H
Capacity Range		3,071 -18,766 BTU/H
Power Input		940 W
Power Input (Min/Max)		250/1600 W
HSPF		14.0
COP		3.8

Heating at 17° F		
Rated Capacity		8,100 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		12-2 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	60 W
	FLA	0.09 A
Airflow	(Low/High)	235/500 CFM
Air Throw	(Max)	29.5 ft
Sound Level		
	Cooling (Low/High)	22/49 dB(A)
	Heating (Low/High)	22/49 dB(A)
Dehumidification		3.0 pt/hr

Outdoor Unit Data

Compressor	Type	DC Inverter Driven 2-Stage Rotary
	RLA	6.9 A
Fan Motor	Output Power	30 W
	RLA	0.24 A
Sound Level		53 dB(A)

Refrigerant Piping Data

Gas Pipe Size (OD)	1/2-in
Liquid Pipe Size (OD)	1/4-in
Connection Method	Flared
Factory Charge	R410A/49.4 oz
Additional Charge	0.20 oz/ft
Pre-Charge Length	25-ft
MAX Refrigerant Pipe Length	98-ft
MIN Refrigerant Pipe Length	10-ft
MAX Refrigerant Pipe Elevation	49-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	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

ULTRA HEAT

COOLING PERFORMANCE

HEATING PERFORMANCE

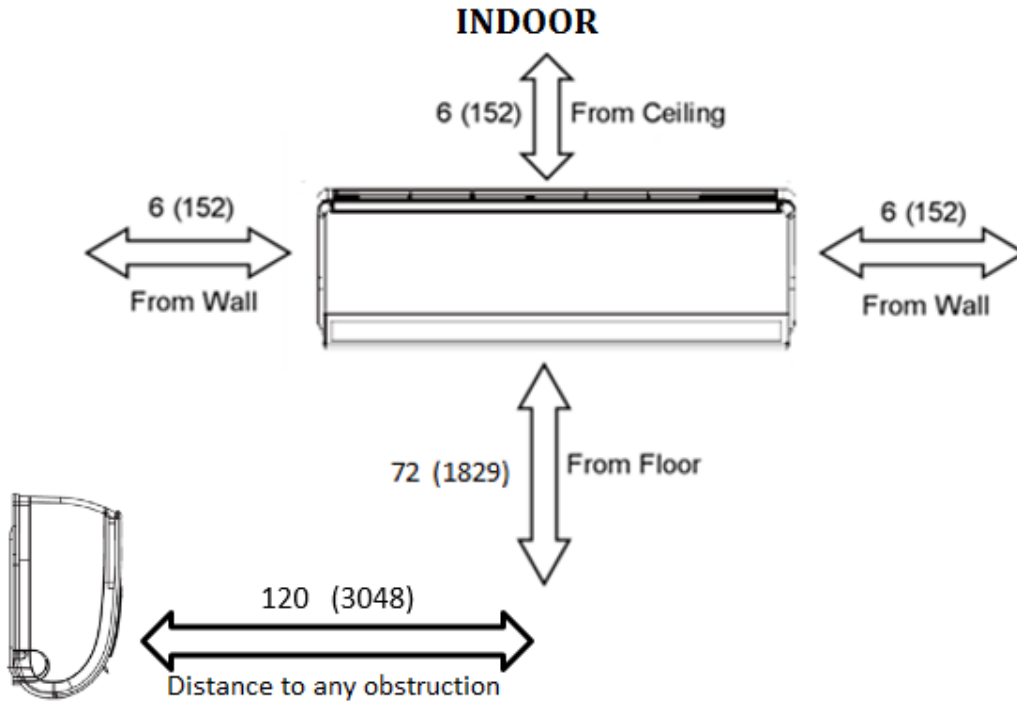
Outdoor Ambient Temperature (DB)		Return Air Temperature				
		80°F (DB)				
		TC (Btu/h)	SHR	EER	Power Input (W)	SHR %
MAX OUTPUT	0°F	7000	5075	3.22	637	73%
	5°F	7280	5314	3.28	650	73%
	10°F	7490	5487	3.28	670	73%
	15°F	7700	5660	3.28	689	74%
	20°F	8050	5938	3.30	715	74%
	25°F	8400	6216	3.32	741	74%
	30°F	8680	6446	3.35	761	74%
	35°F	8960	6675	3.37	780	75%
	40°F	9800	7350	3.40	845	75%
	45°F	10220	7692	3.28	917	75%
	50°F	10640	8033	3.16	988	76%
	55°F	11340	8618	3.20	1040	76%
	60°F	12110	9236	3.22	1105	76%
	65°F	12880	9853	3.23	1170	77%
	70°F	13510	10371	3.30	1203	77%
	75°F	14140	10888	3.36	1235	77%
	80°F	14700	11357	3.44	1255	77%
	85°F	15260	11827	3.51	1274	78%
	90°F	14630	11373	3.34	1287	78%
	95°F	14000	10920	3.16	1300	78%
	100°F	13300	10406	2.90	1352	78%
	105°F	12600	9891	2.63	1404	79%
	110°F	12180	9591	2.47	1450	79%
	115°F	11760	9290	2.31	1495	79%
120°F	10360	8236	2.01	1508	80%	
125°F	9380	7478	1.82	1515	80%	
129°F	8400	6720	1.62	1521	80%	

Outdoor Ambient Temperature (DB)		Return Air Temperature		
		70°F (DB)		
		TC (Btu/h)	COP	Power Input (W)
MAX OUTPUT	-22°F	7137	1.37	1523
	-20°F	7549	1.43	1544
	-15°F	7967	1.49	1566
	-10°F	8502	1.57	1588
	-5°F	9011	1.64	1610
	0°F	10400	1.86	1639
	5°F	12000	2.11	1668
	10°F	12800	2.33	1610
	15°F	13520	2.48	1602
	17°F	14240	2.62	1595
	20°F	14400	2.77	1523
	25°F	14560	2.89	1479
	30°F	14880	2.98	1465
	35°F	15040	3.09	1428
	40°F	15200	3.20	1392
	45°F	15680	3.23	1421
	47°F	16000	3.23	1450
	50°F	16640	3.31	1472
	55°F	17280	3.39	1494
	60°F	18400	3.51	1537
65°F	17600	3.26	1581	
70°F	16960	3.12	1595	
75°F	15840	2.88	1610	

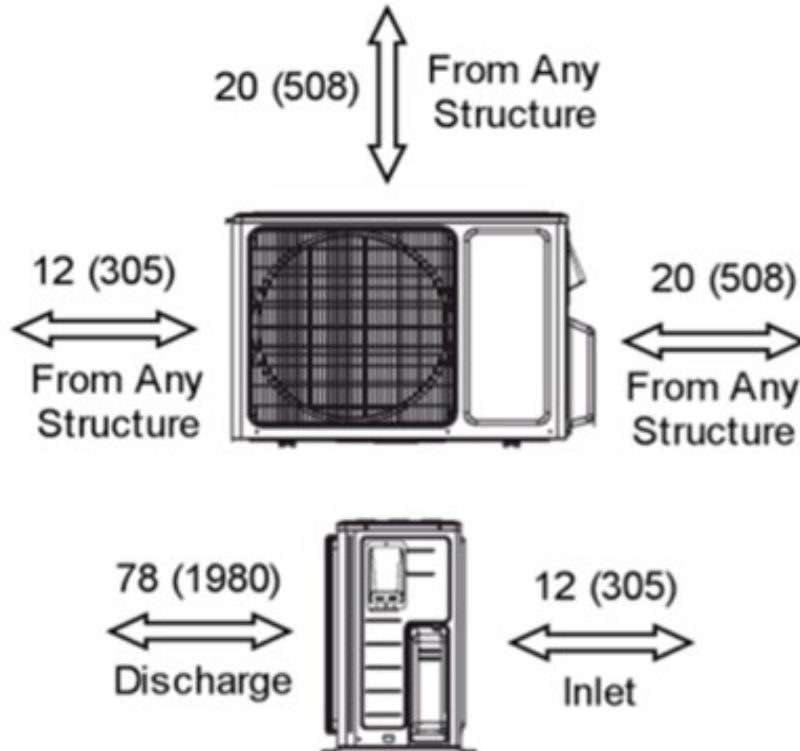
LEGEND: W - Watts
 DB - Dry Bulb
 TC - Total Capacity
 SHR - Sensible Heat Ratio
 COP - Coefficient of Performance

MINIMUM SPACING REQUIREMENTS

Units: inch (mm)



MINIMUM OUTDOOR CLEARANCES



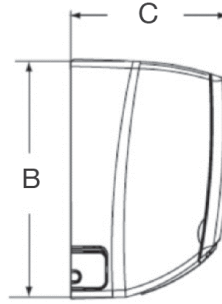
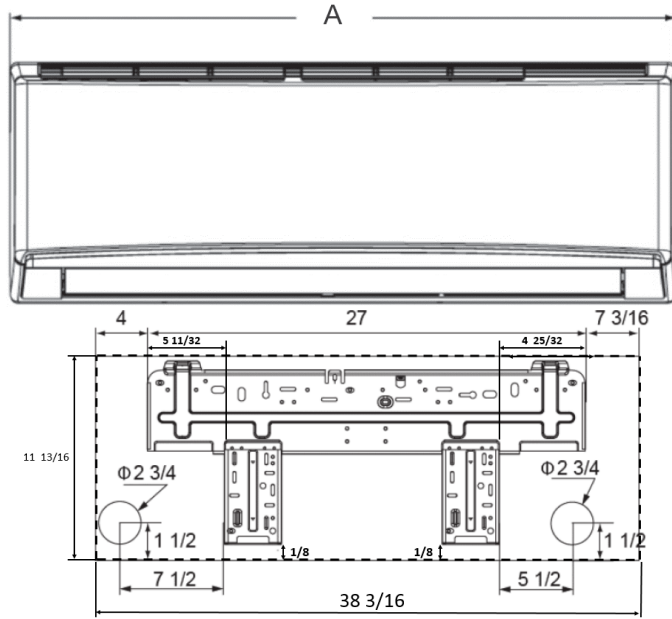
DIMENSIONAL SPECIFICATIONS

SAP12HP230V1A

INDOOR UNIT DIMENSIONS

Units: inch

Model No: SAP12HP230V1AH



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

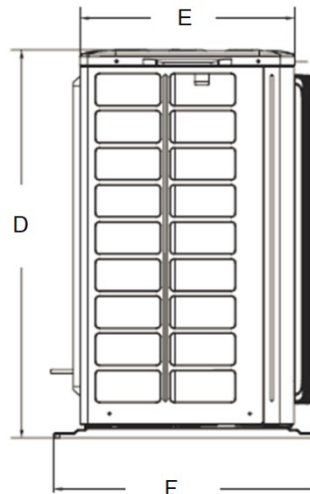
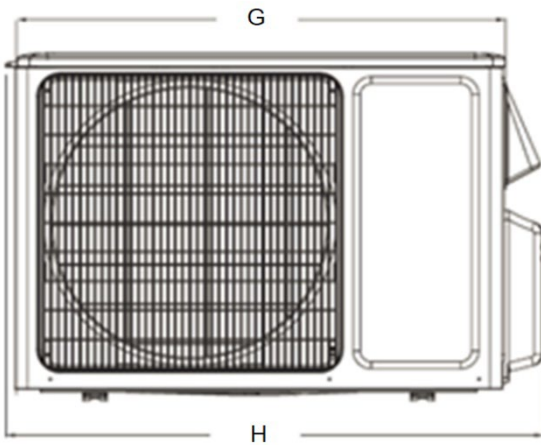
Weight (Net/Shipping) 29 / 36 LBS

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

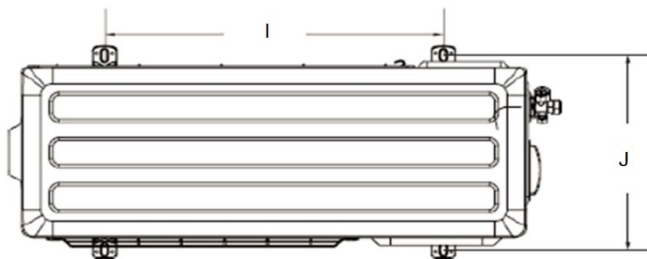
OUTDOOR UNIT DIMENSIONS

Units: inch

Model No: SAP12HP230V1AO



Dimensions	
D	23 1/2
E	12
F	14 7/8
G	33 1/4
H	34 5/8
I	19 3/8
J	13 1/2



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

Weight (Net/Shipping) 98 / 104 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.

Specifications are subject to change without notice. Manufacturer reserves the right to discontinue or modify specifications or designs without notice or without incurring obligations. All rights reserved.