

Submittal Data Sheet

Submittal data model no. NPFX24A / WSEHV2436RA1-N
24000 BTU/H AIR SOURCE HEAT PUMP with AIR HANDLER UNIT



Approval: Location: Date: Engineer: Construction: Unit #: Drawing #: Submitted to: Submitted by: Reference:	 WSEHV2436RA1-N  NPFX24A
Set Model: Indoor Unit Model No: NPFX24A Outdoor Unit Model No: WSEHV2436RA1-N AHRI certification No: 211624973 Energy Star: Yes	Refrigerant Piping data: Gas Pipe Size (OD) 3/4 in (19.05 mm) Liquid Pipe Size (OD) 3/8 in (9.52 mm) Connection Method Flared (Std), Brazing (Opt) Factory Charge 148.8 oz Additional Charge 0.3 oz/ft Pre-Charge Length 25 ft (7.6 m) Max Refrigerant Pipe Length 98 ft (29.87 m) Min Refrigerant Pipe Length 10 ft (3.05 m) Max Refrigerant Pipe Elevation 49 ft (14.93 m)
System Rating: Cooling: Rated Capacity 24000 BTU/H Capacity range 12000 BTU/H -24000 BTU/H Power Input 1920 W SEER (SEER2) 20 (17) EER (EER2) 12.5 (12) Heating: Rated Capacity @ 47°F 24000 BTU/H Capacity range 12000 BTU/H -24000 BTU/H Power Input 1670 W HSPF Region IV (HSPF2 Region IV) 10.5 (9) COP 4.2 (3.4) Rated Capacity @ 17°F 16300 BTU/H Power Input 1770 W COP 2.7	Indoor Unit NPFX24A Fan Motor Output Power 1/2 HP FLA 2.1 A Airflow 940 CFM Rated External Static Pressure 0.1 in Wg External Static Pressure (Range) 0-.4 in Wg Sound Pressure level 45 dB(A) Dehumidification 6 pt/hr Power Supply (dedicated circuit: Size per local code) Normal Operational Voltage 208/230V, 1 Phase, 60 Hz Voltage Range 187-253 V MCA 4 A MOCP/ Breaker Size 15 A
Operating Range: Cooling Max 129°F (54°C) Min 5°F (-15°C) Heating Max 75°F (24°C) Min - 22°F (- 30°C)	Outdoor Unit WSEHV2436RA1-N Compressor DC Inverter Rotary Compressor RLA 16 A Refrigerant R410a Fan Motor Output Power 1/2 HP FLA 1.5 A Crankcase Heater 40 W Sound Preassure level 55 dB(A) Power Supply (dedicated circuit: Size per local code) Normal Operational Voltage 208/230V, 1 Phase, 60 Hz Voltage Range 187-253 V MCA 24 A MOCP/ Breaker Size 35 A

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General Features:

Multi-speed Constant Torque (CT) ECM Blower Motor in the AHUs
All aluminum A-coil
Fully- insulated cabinet design
Integrated Filter rack with tool-less door access
Whisper Quiet Operation
24 VAC Thermostat Compatible
Anti-Corrosion Fin Coating
10 yrs limited Compressor & Part warranty (Residential Use)
Auxiliary Heater compatible
Intelligent Defrosting
EEV in Outdoor Unit & TXV in Indoor Unit
Low Voltage Start up
Basepan with Electric Heater
Power Failure recovery
Self Diagnosis

Accessories (Optional)**Electrical Heat Strips**

Air Handler Model	Cooling Capacity (Ton)	Optional Electric Strip Heater	
		Model	Capacity
NPFX24A/ NPFX24A36A	2.0 / 3.0	WH55KW	5 kW
NPFX24A/ NPFX24A36A	2.0 / 3.0	WH58KW	8 kW
NPFX24A36A/ NPFX48A/ NPFX48A60A	3.0 / 4.0 / 5.0	WH510KW	10 kW
NPFX24A36A/ NPFX48A/ NPFX48A60A	3.0 / 4.0 / 5.0	WH515KW	15 kW
NPFX48A/ NPFX48A60A	4.0 / 5.0	WH520KW	20 kW

Outdoor unit accessories				
No.	Name	Appearance	Qty	Usage
1	Throw-over pipe		1	Connect the unit with the liquid pipe
2	Throw-over pipe		1	Connect the unit with the gas pipe

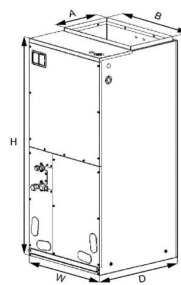
To convert Flare nut connection to Brazing connection

Dip Switch Settings:**CAPACITY CAN BE SWITCHED BY DIP SWITCHES OF OUTDOOR UNIT**

As a standard, outdoor units comes this setting for 3 Ton & 5 Ton capacities



To convert to 2 Ton and 4 Ton, the following changes are made on site

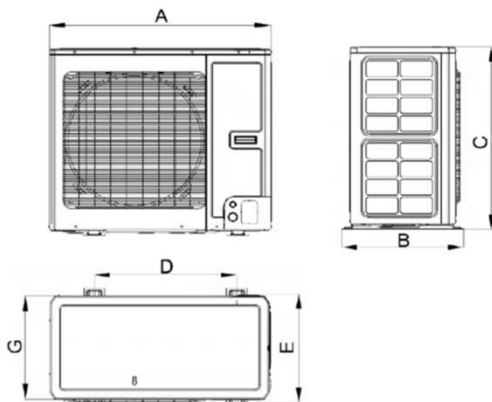
**Dimensional Specifications:****Indoor**

W	21-1/4
D	21-1/4
H	48-1/4
A	11-5/8
B	20

Units: inch

Net Weight (lbs)	156.5
Shipping Weight (lbs)	170

Drain Connector	3/4 in OD
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Dimensional Specifications:**Outdoor**

A	37
B	20-7/8
C	32-1/4
D	24
E	19-1/8
G	18-1/8

Units: inch

Net Weight (lbs)	217.2
Shipping Weight (lbs)	240

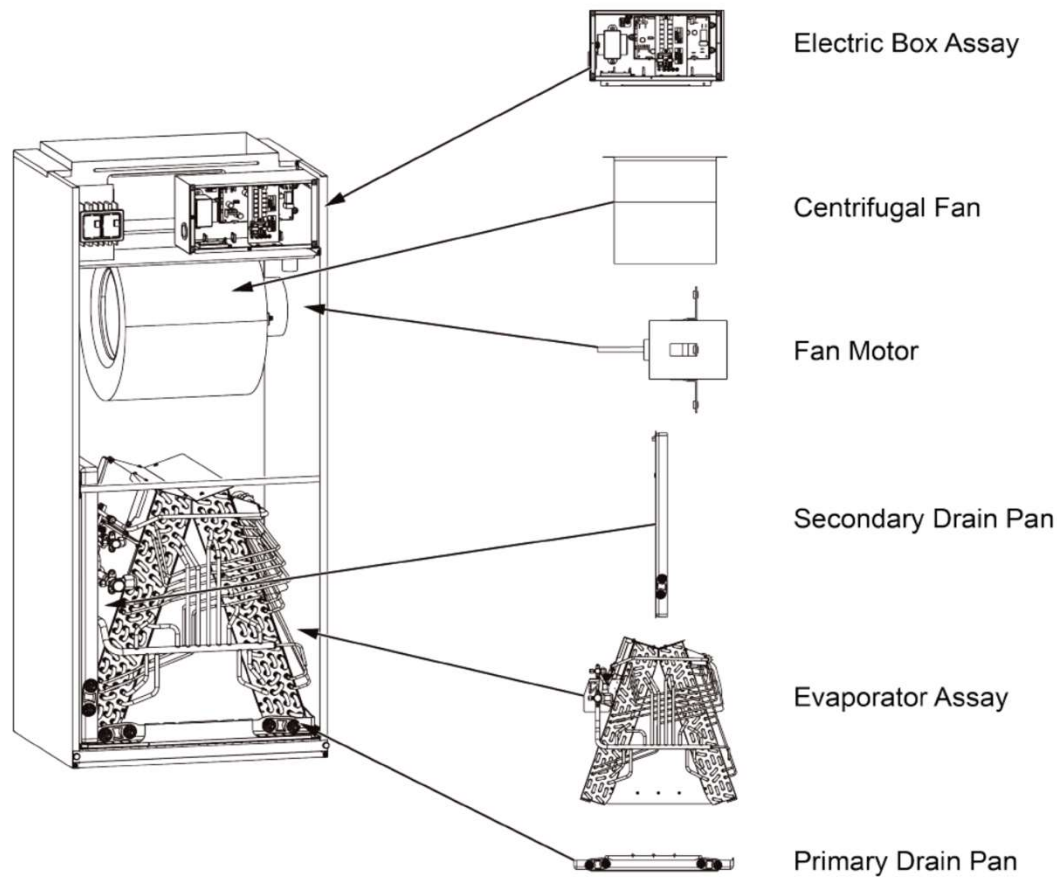
Notes:

- Power wiring size must comply with applicable National/ Regional/ Provincial/ State Codes for both Indoor & Outdoor unit Dedicated Circuit
- Test Conditions are based on AHRI 210/240

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Main Parts

INDOOR

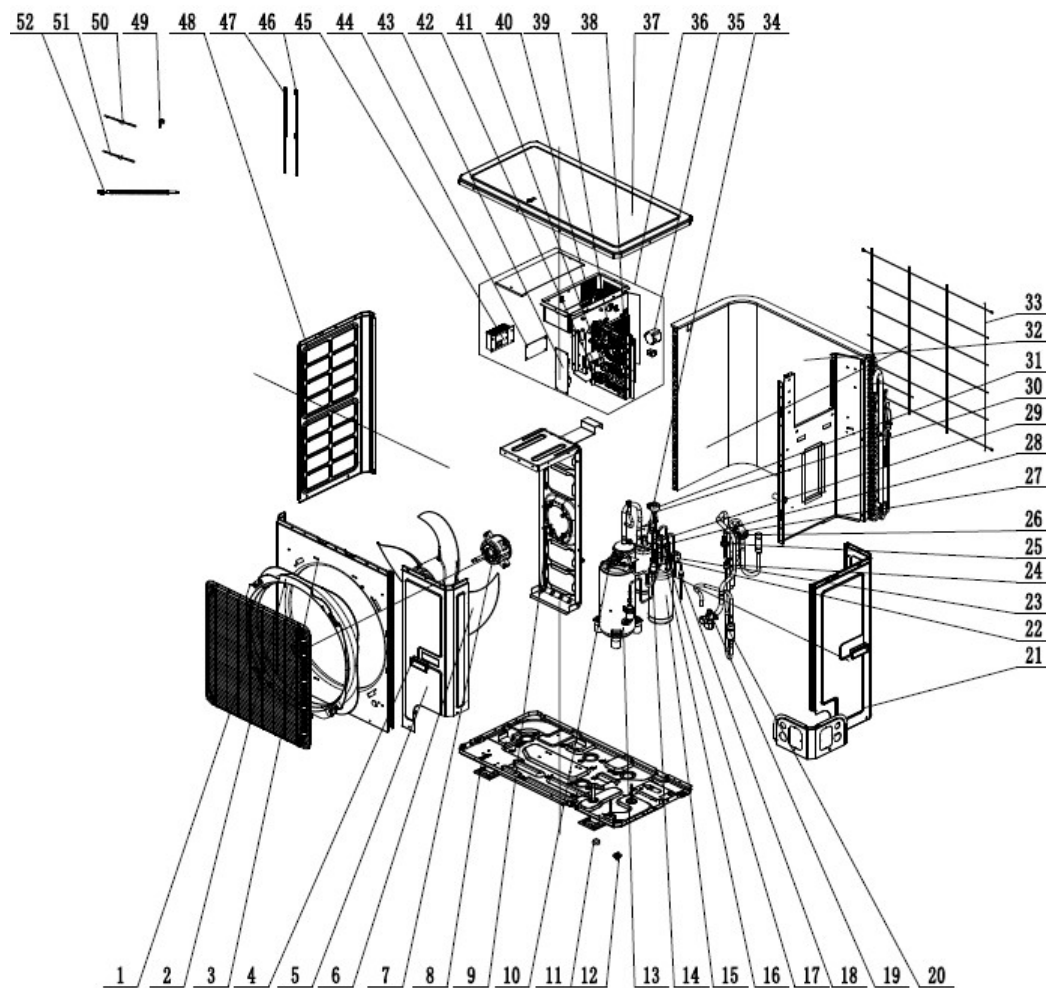


Model	Filter size
NPFX24A36A	490×516×15
NPFX48A60A	525×516×15

Unit: mm

Main Parts

OUTDOOR

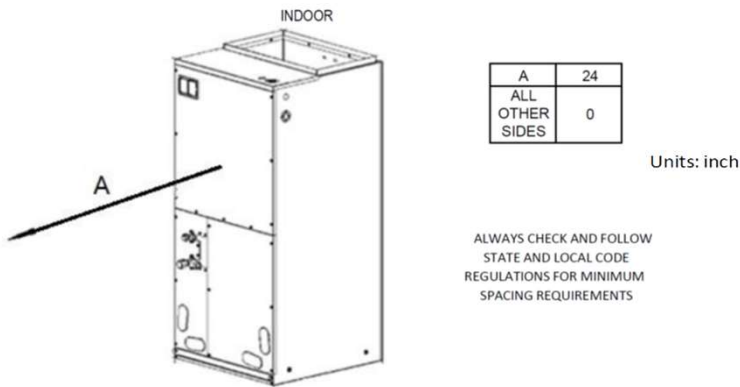


52	Corrugated Pipe
51	Temperature Sensor
50	Temperature Sensor
49	Magnet Coil
48	Left Side Plate
47	Electrical Heater(Compressor)
46	Electrical Heater
45	Radiator
44	Power Switch
43	Filter Board
42	Terminal Board
41	Terminal Board
40	PFC Inductance
39	Main Board
38	Main Board
37	Coping
36	Electric Box Assy
35	Inductance
34	Gas-liquid Separator
33	Rear Grill
32	Condenser Assy
31	Electric Expand Valve Fitting
30	Electronic Expansion Valve
29	One Way Valve
28	Strainer
27	Filter
26	4-way Valve
25	Pressure Sensor
24	Pressure Protect Switch
23	Electric Expand Valve Fitting
22	Electronic Expansion Valve
21	Rear Side Plate
20	Silencer
19	Cut off Valve
18	Strainer
17	Magnet Coil (Electromagnetic Valve)
16	Electromagnetic Valve
15	Accumulator
14	Strainer
13	Compressor and Fittings
12	Drainage Joint
11	Drainage Hole Cap
10	Cut off Valve
9	Motor Support Sub-Assy
8	Chassis Sub-Assy
7	Brushless DC Motor
6	Axial Flow Fan
5	Front Side Plate
4	Handle
3	Cabinet
2	Division Circle
1	Front Grill

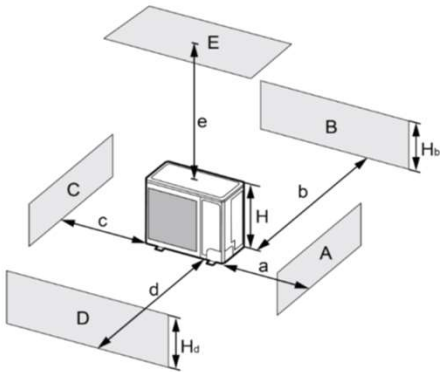
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Minimum Space Requirement

INDOOR



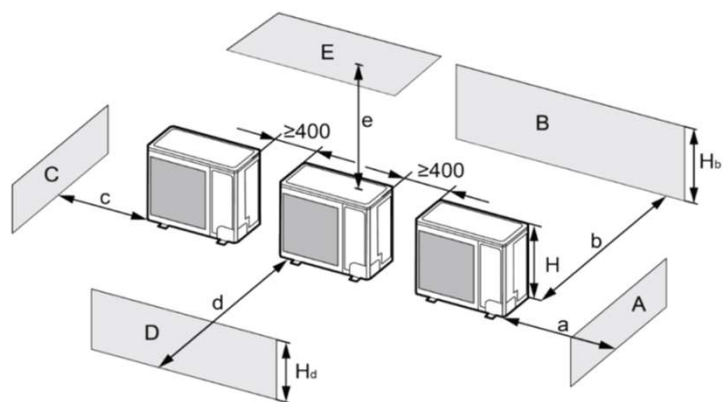
OUTDOOR



A~E	H _b H _d H		(mm)				
			a	b	c	d	e
B	—		-	≥100	-	-	-
A,B,C,	—		≥300	≥100	≥100	-	-
B,E	—		-	≥100	-	-	≥1000
A,B,C,E	—		≥300	≥150	≥150	-	≥1000
D	—		-	-	-	≥1000	-
D,E	—		-	-	-	≥1000	≥1000
B,D	H _b < H _d	H _d > H	-	≥100	-	≥1000	-
	H _b > H _d	H _d < H	-	≥100	-	≥1000	-
B,D,E	H _b < H _d	H _b ≤1/2H	-	≥250	-	≥2000	≥1000
		1/2H < H _b ≤H	-	≥250	-	≥2000	≥1000
		H _b > H	Prohibited				
	H _b > H _d	H _d ≤1/2H	-	≥100	-	≥2000	≥1000
		1/2H < H _d ≤H	-	≥200	-	≥2000	≥1000
		H _d > H	Prohibited				

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MULTIPLE OUTDOOR UNIT ARRANGEMENT

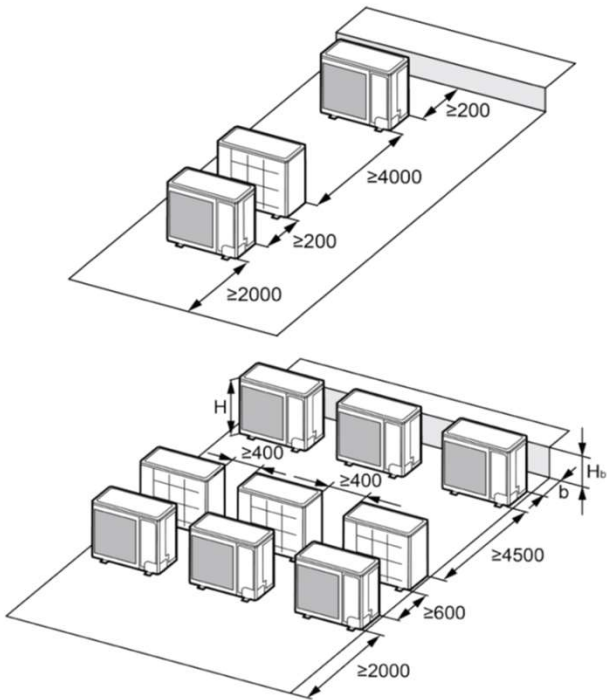


A~E	H _b H _d H		(mm)				
			a	b	c	d	e
A,B,C	—		≥300	≥300	≥1000	-	-
A,B,C,E	—		≥300	≥300	≥1000	-	≥1000
D	—		-	-	-	≥2000	-
D,E	—		-	-	-	≥2000	≥1000
B,D	H _b < H _d	H _d > H	-	≥300	-	≥2000	-
	H _b > H _d	H _d ≤ 1/2H	-	≥250	-	≥2000	-
		1/2H < H _d ≤ H	-	≥300	-	≥2500	-
B,D,E	H _b < H _d	H _b ≤ 1/2H	-	≥300	-	≥2000	≥1000
		1/2H < H _b ≤ H	-	≥300	-	≥2500	≥1000
		H _b > H	Prohibited				
	H _b > H _d	H _d ≤ 1/2H	-	≥250	-	≥2500	≥1000
		1/2H < H _d ≤ H	-	≥300	-	≥2500	≥1000
		H _d > H	Prohibited				

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MULTPLE UNIT HORIZONTAL ARRANGEMENT

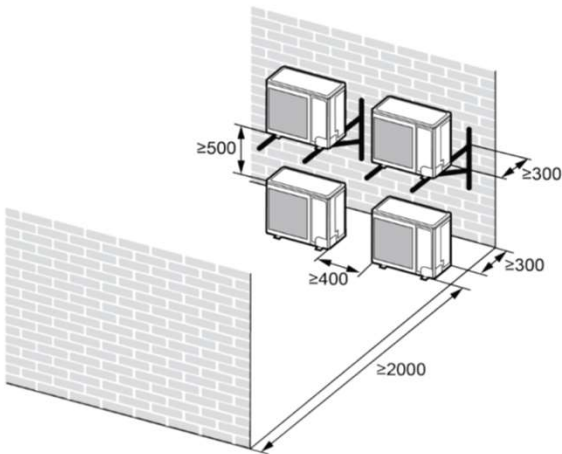
Unit: mm



H_b H	(mm)
$H_b \leq 1/2H$	$b \geq 250$
$1/2H < H_b \leq H$	$b \geq 300$
$H_b > H$	Prohibited

MULTPLE UNIT VERTICAL ARRANGEMENT

Unit: mm



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PERFORMANCE

COOLING PERFORMANCE

Outdoor Ambient Temperature (DB)		Return Air Temperature											
		60°F(15°C)				70°F(21°C)				80°F(27°C)			
		Capacity	Power Input	EER	SHC	Capacity	Power Input	EER	SHC	Capacity	Power Input	EER	SHC
MAX OUTPUT	50°F	15600	1170	13.35	11970	20400	1390	14.7	15600	24000	1460	16.38	18420
	65°F	15600	1400	11.07	12220	20400	1670	12.2	15980	24000	1760	13.65	18800
	75°F	15600	1440	10.83	12190	20400	1710	11.92	15900	24000	1800	13.31	18760
	85°F	15600	1480	10.54	10810	20400	1760	11.6	14140	24000	1850	12.97	16600
	95°F	15600	1540	10.15	10780	20400	1820	11.18	14100	24000	1920	12.52	16500
	105°F	15600	2000	7.76	10960	20400	2380	8.55	14340	24000	2510	9.55	16870
	115°F	15600	2250	6.93	11990	20400	2670	7.64	15680	24000	2810	8.53	18450

HEATING PERFORMANCE

Outdoor Ambient Temperature (DB)		Return Air Temperature											
		60°F(15°C)				70°F(21°C)				80°F(27°C)			
		TC (BtuH)	Input Power (watts)	COP		TC (BtuH)	Input Power (watts)	COP		TC (BtuH)	Input Power (watts)	COP	
MAX OUTPUT	-22°F	18900	3840	1.44		18720	3920	1.40		18340	3960	1.36	
	-15°F	22220	3920	1.66		22000	4000	1.61		21560	4040	1.56	
	-5°F	24240	4110	1.73		24000	4200	1.67		23520	4240	1.62	
	5°F	24240	3280	2.16		24000	3350	2.10		23520	3380	2.04	
	17°F	At AHRI Rated Conditions				16300	1770	2.70		@ 940 SCFM			
	17°F	24240	2840	2.50		24000	2900	2.43		23520	2930	2.35	
	32°F	24240	2650	2.68		24000	2700	2.60		23520	2730	2.52	
	47°F	26260	1940	3.97		26000	1980	3.85		25480	2000	3.73	
	60°F	30300	2360	3.76		30000	2410	3.65		29400	2430	3.54	

NOTE: THESE ARE "MAX OUTPUT" VALUES ARE BASED ON COMPUTER SIMULATIONS

LEGEND

DB --- Dry Bulb

WB --- Wet Bulb

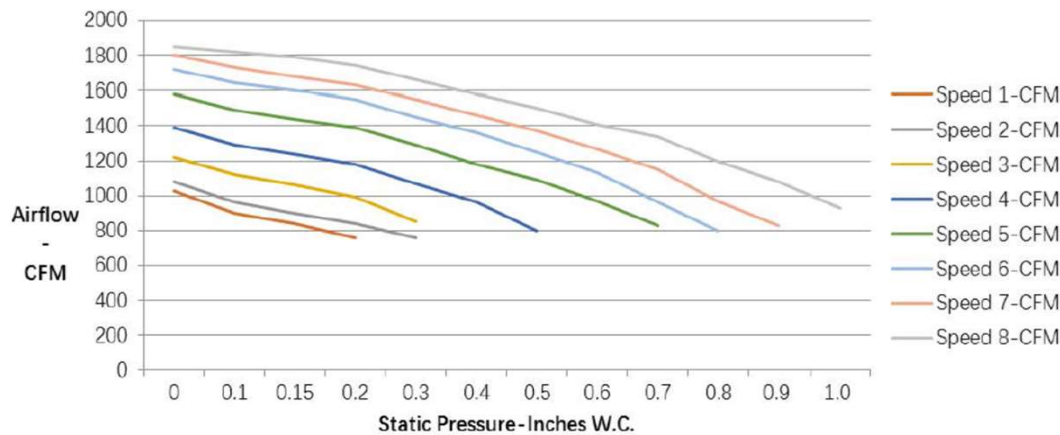
TC --- Total Capacity (BtuH)

SC --- Sensible Capacity (BtuH)

Input Power---(Watts)

COP---Coefficient Of Performance

FAN CURVE



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Additional Listing with Gas Furnace and A Coils

AHRI Number	Heat Pump Model Number	Coil Model Number	Furnace Model Number	Capacity	EER2	SEER2	HSPF2 (Region IV)	ENERGY STAR Cold Climate Certified
212404693	WSEHV2436RA1-N	HE33936A155A0004AP	WPV050T3AA	2	10	17	8.5	Yes
212404693	WSEHV2436RA1-N	DE33936C175B1805AP	WPV050T3AA	2	10	17	8.5	Yes
212404693	WSEHV2436RA1-N	DE33936C175B2022AP	WPV050T3AA	2	10	17	8.5	Yes
212404694	WSEHV2436RA1-N	HE33936A155A0004AP	WPV060T3AA	2	10	17	8.5	Yes
212404694	WSEHV2436RA1-N	DE33936C175B1805AP	WPV060T3AA	2	10	17	8.5	Yes
212404694	WSEHV2436RA1-N	DE33936C175B2022AP	WPV060T3AA	2	10	17	8.5	Yes
212404695	WSEHV2436RA1-N	HE33936A155A0004AP	WUV050T3AA	2	10	17	8.5	Yes
212404695	WSEHV2436RA1-N	DE33936C175B1805AP	WUV050T3AA	2	10	17	8.5	Yes
212404695	WSEHV2436RA1-N	DE33936C175B2022AP	WUV050T3AA	2	10	17	8.5	Yes
212404696	WSEHV2436RA1-N	HE33936A155A0004AP	WUV060T3AA	2	10	17	8.5	Yes
212404696	WSEHV2436RA1-N	DE33936C175B1805AP	WUV060T3AA	2	10	17	8.5	Yes
212404696	WSEHV2436RA1-N	DE33936C175B2022AP	WUV060T3AA	2	10	17	8.5	Yes
212427853	WSEHV2436RA1-N	HE33936A155A0004AP	WPV070T3AA	2	10	17	8.5	Yes
212427853	WSEHV2436RA1-N	DE33936C175B1805AP	WPV070T3AA	2	10	17	8.5	Yes
212427853	WSEHV2436RA1-N	DE33936C175B2022AP	WPV070T3AA	2	10	17	8.5	Yes
212427854	WSEHV2436RA1-N	HE33936A155A0004AP	WUV050T3AA	2	10	17	8.5	Yes
212427854	WSEHV2436RA1-N	DE33936C175B1805AP	WUV050T3AA	2	10	17	8.5	Yes
212427854	WSEHV2436RA1-N	DE33936C175B2022AP	WUV050T3AA	2	10	17	8.5	Yes

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