

Submittal Data Sheet

Submittal data model no. NPFX48A60A/ WSEHV4860RA1-N
60000 BTU/H AIR SOURCE HEAT PUMP with AIR HANDLER UNIT



Approval: Location: Date: Engineer: Construction: Unit #: Drawing #: Submitted to: Submitted by: Reference:			 WSEHV4860RA1-N  NPFX48A60A																																		
Set Model: Indoor Unit Model No: NPFX48A60A Outdoor Unit Model No: WSEHV4860RA1-N AHRI certification No: 211624976 Energy Star: Yes			Refrigerant Piping data: <table><tr><td>Gas Pipe Size (OD)</td><td>3/4 in</td><td>(19.05 mm)</td></tr><tr><td>Liquid Pipe Size (OD)</td><td>3/8 in</td><td>(9.52 mm)</td></tr><tr><td>Connection Method</td><td colspan="2">Flared (Std), Brazing (Opt)</td></tr><tr><td>Factory Charge</td><td colspan="2">220.8 oz</td></tr><tr><td>Additional Charge</td><td colspan="2">0.3 oz/ft</td></tr><tr><td>Pre-Charge Length</td><td>25 ft</td><td>(7.6 m)</td></tr><tr><td>Max Refrigerant Pipe Length</td><td>98 ft</td><td>(29.87 m)</td></tr><tr><td>Min Refrigerant Pipe Length</td><td>10 ft</td><td>(3.05 m)</td></tr><tr><td>Max Refrigerant Pipe Elevation</td><td>49 ft</td><td>(14.93 m)</td></tr></table>			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	220.8 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)					
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System Rating: Cooling: Rated Capacity 54000 BTU/H Capacity range 35000-54000 BTU/H Power Input 5140 W SEER (SEER2) 17 (15.8) EER (EER2) 10.5 (10) Heating: Rated Capacity @ 47°F 54000 BTU/H Capacity range 35000-60000 BTU/H Power Input 4590 W HSPF Region IV 10 (9) (HSPF2 Region IV) COP 3.45 (3.1) Rated Capacity @ 17°F 38000 BTU/H Power Input 4230 W COP 2.63			Indoor Unit NPFX48A60A <table><tr><td>Fan Motor Output Power</td><td>1 HP</td></tr><tr><td>FLA</td><td>3.2 A</td></tr><tr><td>Airflow</td><td>1600 CFM</td></tr><tr><td>Rated External Static Pressure</td><td>0.2 in Wg</td></tr><tr><td>External Static Pressure (Range)</td><td>0-.4 in Wg</td></tr><tr><td>Sound Pressure level</td><td>51 dB(A)</td></tr><tr><td>Dehumidification</td><td>7 pt/hr</td></tr></table> Power Supply (dedicated circuit: Size per local code) <table><tr><td>Normal Operational Voltage</td><td>208/230V, 1 Phase, 60 Hz</td></tr><tr><td>Voltage Range</td><td>187-253 V</td></tr><tr><td>MCA</td><td>4 A</td></tr><tr><td>MOCP/ Breaker Size</td><td>15 A</td></tr></table>			Fan Motor Output Power	1 HP	FLA	3.2 A	Airflow	1600 CFM	Rated External Static Pressure	0.2 in Wg	External Static Pressure (Range)	0-.4 in Wg	Sound Pressure level	51 dB(A)	Dehumidification	7 pt/hr	Normal Operational Voltage	208/230V, 1 Phase, 60 Hz	Voltage Range	187-253 V	MCA	4 A	MOCP/ Breaker Size	15 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
NPF24A/ NPF24A36A	2.0 / 3.0	WHS5KW	5 kW
NPF24A/ NPF24A36A	2.0 / 3.0	WHS8KW	8 kW
NPF24A36A/ NPF48A/ NPF48A60A	3.0 / 4.0 / 5.0	WHS10KW	10 kW
NPF24A36A/ NPF48A/ NPF48A60A	3.0 / 4.0 / 5.0	WHS15KW	15 kW
NPF48A/ NPF48A60A	4.0 / 5.0	WHS20KW	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

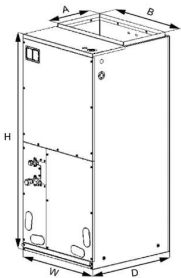


To convert to 2 Ton and 4 Ton, the following changes are made on site



Dimensional Specifications:

Indoor



W	24-3/4
D	21-1/4
H	57-1/4
A	11-5/8
B	20

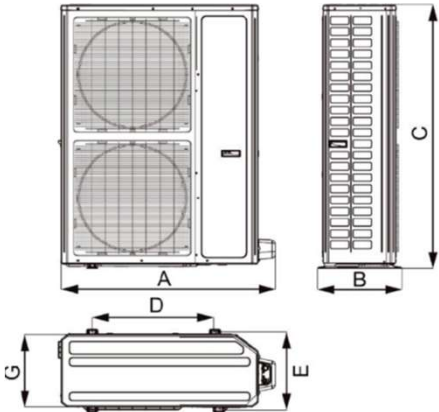
Units: inch

Net Weight (lbs)	202.8
Shipping Weight (lbs)	218

Drain Connector	3/4 in OD
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Dimensional Specifications:

Outdoor



A	42-3/4
B	16-7/8
C	53-3/4
D	24-1/2
E	15-1/2
G	14-1/2

Unit : inch

Net Weight (lbs)	308.6
Shipping Weight (lbs)	337

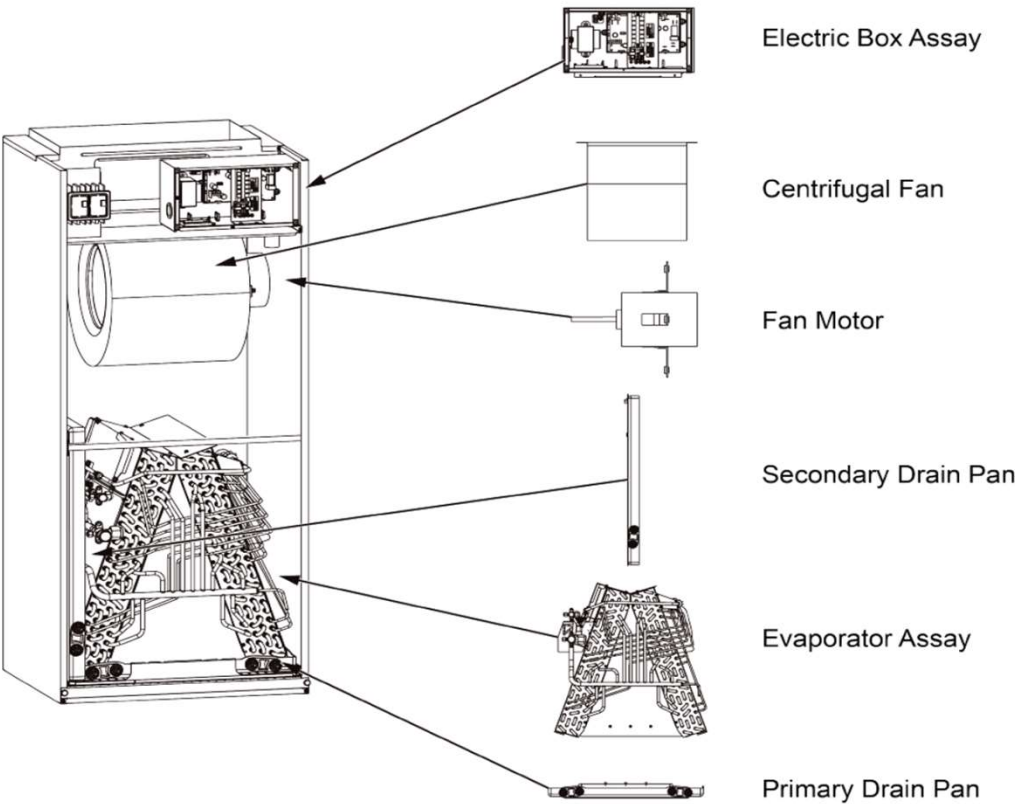
Notes:

- 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



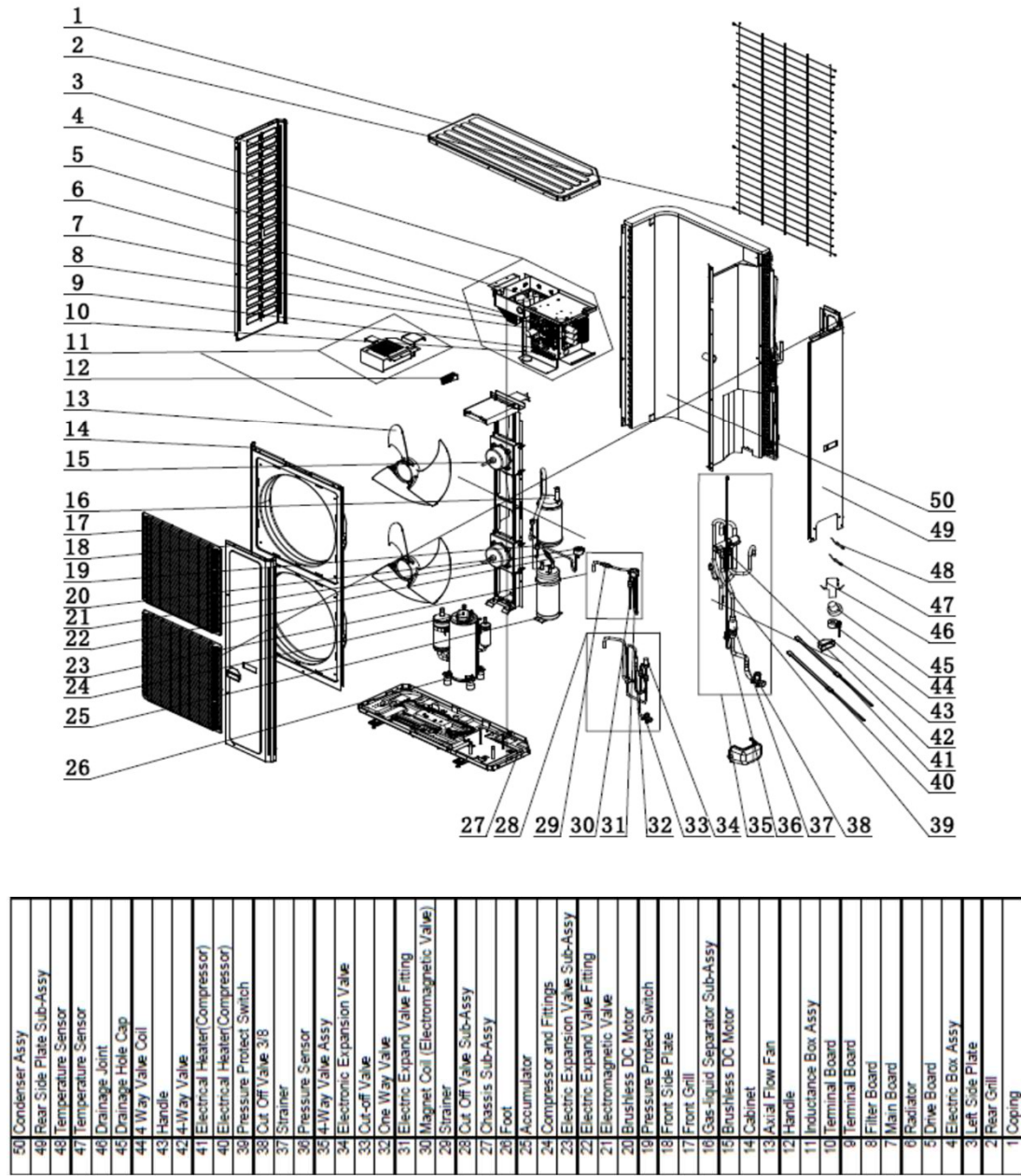
Model	Filter size
NPFX24A36A	490×516×15
NPFX48A60A	525×516×15

Unit: mm

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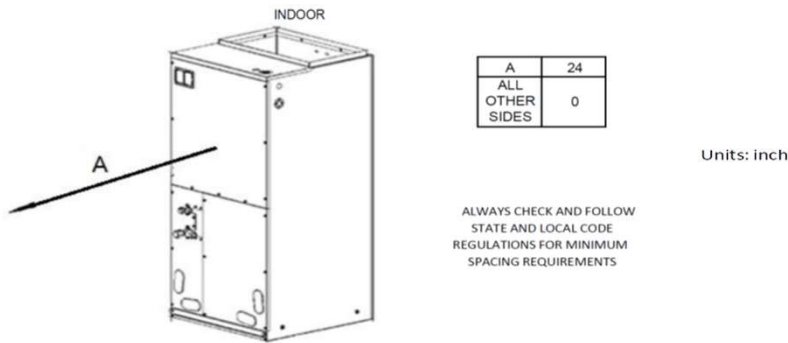
OUTDOOR



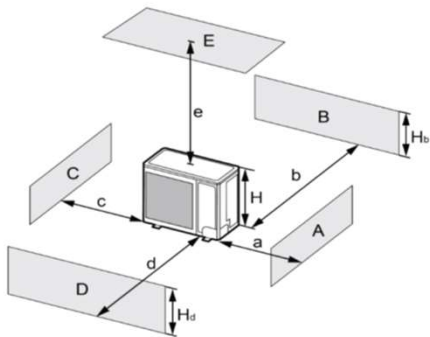
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Minimum Space Requirement

INDOOR



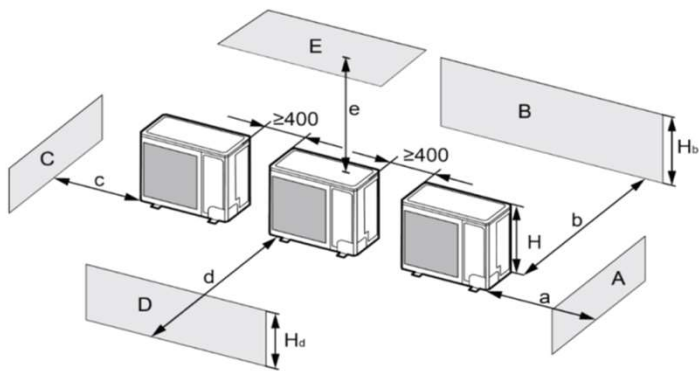
OUTDOOR



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

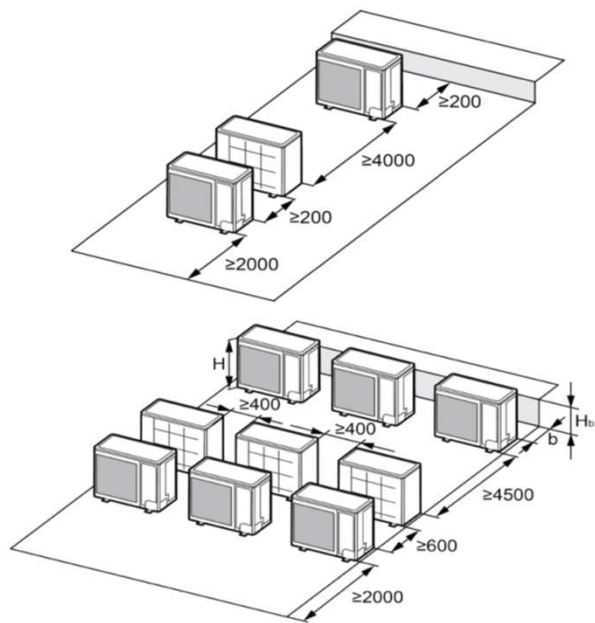


A~E	H _b H _d H		(mm)				
			a	b	c	d	e
A,B,C	—		≥300	≥300	≥1000	-	-
A,B,C,E	—		≥300	≥300	≥1000	-	≥1000
D	—		-	-	-	≥2000	-
D,E	—		-	-	-	≥2000	≥1000
B,D	H _b < H _d	H _d > H	-	≥300	-	≥2000	-
	H _b > H _d	H _d ≤ 1/2H	-	≥250	-	≥2000	-
		1/2H < H _d ≤ H	-	≥300	-	≥2500	-
B,D,E	H _b < H _d	H _b ≤ 1/2H	-	≥300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

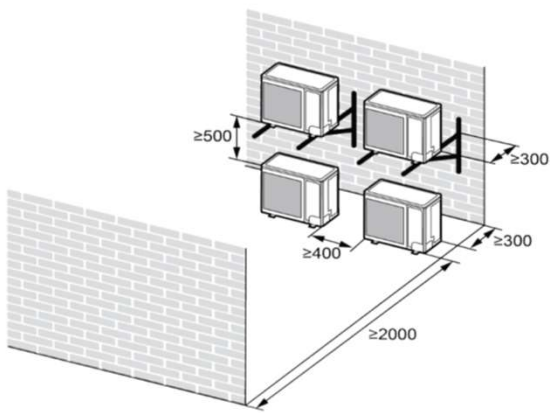
Unit: mm



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	32500	3040	10.69	23080	42500	3610	11.77	30170	50000	3800	13.15	35500
	65°F	35100	3400	10.32	24920	45900	4030	11.36	32590	54000	4250	12.70	38340
	75°F	35100	3520	9.97	24920	45900	4180	10.98	32590	54000	4400	12.27	38340
	85°F	35100	3640	9.64	24920	45900	4320	10.61	32590	54000	4550	11.86	38340
	95°F	35100	4040	8.68	24920	45900	4790	9.56	32590	54000	5140	10.50	38340
	105°F	35100	5340	6.56	24920	45900	6340	7.23	32590	54000	6680	8.08	38340
	115°F	29900	4560	6.55	21230	39100	5410	7.22	27760	46000	5700	8.07	32660

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	28380	6220	1.34		28100	6350	1.30		27540	6410	1.26	
	-15°F	31310	6370	1.44		31000	6500	1.40		30380	6560	1.36	
	-5°F	36360	6610	1.61		36000	6750	1.56		35280	6820	1.51	
	5°F	44440	7010	1.86		44000	7160	1.80		43120	7230	1.75	
	17°F	At AHRI Rated Conditions				37200	4230	2.58		@ 1600 SCFM			
	17°F	49490	6960	2.08		49000	7100	2.02		48020	7170	1.96	
	32°F	54540	6470	2.47		54000	6600	2.40		52920	6660	2.33	
	47°F	56560	5190	3.19		56000	5300	3.09		54880	5350	3.00	
	60°F	60600	5290	3.35		60000	5400	3.25		58800	5450	3.16	

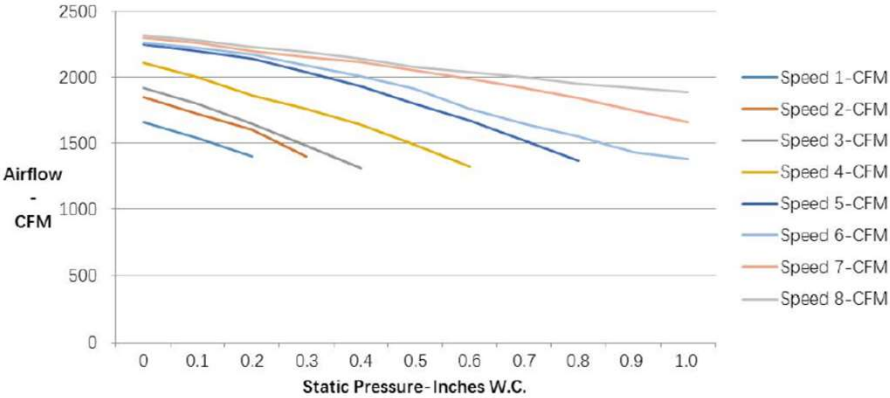
NOTE: THESE ARE "MAX OUTPUT" VALUES ARE BASED ON COMPUTER SIMULATIONS

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
212404677	WSEHV4860RA1-N	HE50960A205A0000AP	WPV090T5BA	5	10	16	8.5	Yes
212404677	WSEHV4860RA1-N	DE50960C225B2722AP	WPV090T5BA	5	10	16	8.5	Yes
212404680	WSEHV4860RA1-N	HE50960A205A0000AP	WPV100T5BA	5	10	16	8.5	Yes
212404680	WSEHV4860RA1-N	DE50960C225B2722AP	WPV100T5BA	5	10	16	8.5	Yes
212404678	WSEHV4860RA1-N	HE50960A205A0000AP	WUV090T5BA	5	10	16	8.5	Yes
212404678	WSEHV4860RA1-N	DE50960C225B2722AP	WUV090T5BA	5	10	16	8.5	Yes
212404679	WSEHV4860RA1-N	HE50960A205A0000AP	WUV100T5BA	5	10	16	8.5	Yes
212404679	WSEHV4860RA1-N	DE50960C225B2722AP	WUV100T5BA	5	10	16	8.5	Yes

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