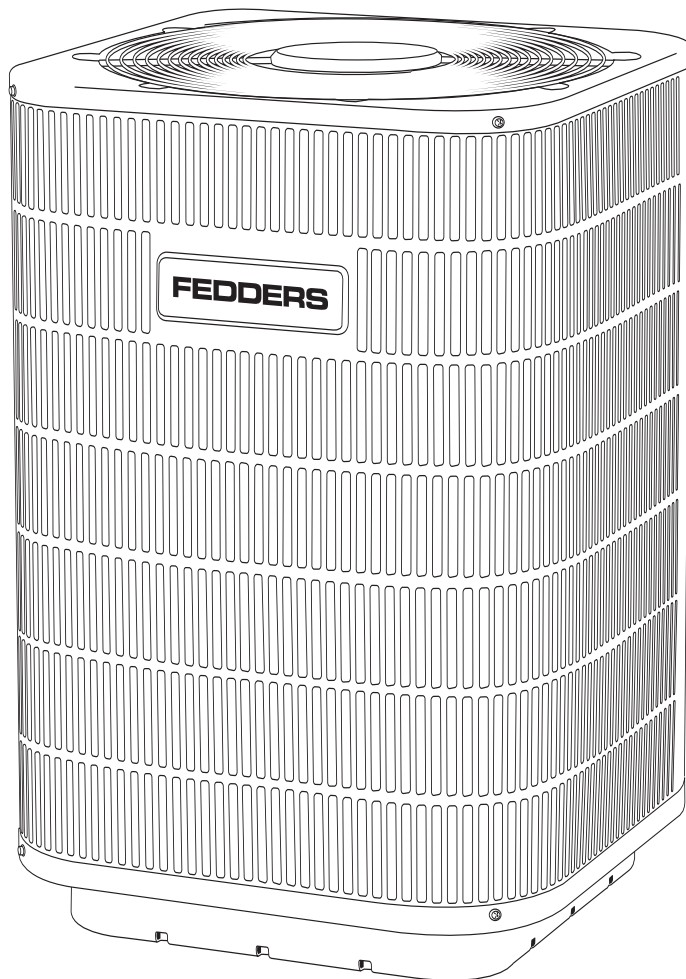


# Split System Heat Pump

1½ thru 5 Tons

208/230 Volt, 1-Phase, 60 Hz



Rated in Accordance with ARI Standard 210/240. Certification Applies Only When Used with Proper Components as Listed with ARI. Additional rating information can be found at [www.aridirectory.org](http://www.aridirectory.org)

**Performance:**

Efficiency rating of 13 SEER

Cooling capacities from 1½ to 5 tons

**Refrigerant Circuit:**

Factory installed biflow liquid line filter drier

Long life copper tubes, aluminum fins

State-of-the-art compressors

Large, wrap-around coil surface

**Quality Built:**

Galvanized steel exterior cabinet with 1,000-hour salt spray, powder-coated finish

Powder-coated fan guard

Full louvered panel to protect coil

Formed base with 2½" ground clearance

Limited 5-year warranty on parts

Low pressure port

Integrated solid state control with adjustable time-temp demand defrost

**Easy To Install:**

Factory-charged

Only three screws to access electrical controls

Easy access to service valves

Model Number	Size (tons)	Refrigerant	Nominal BTUH	Min. Circuit Ampacity	Max. Fuse or Breaker	Operating Dimensions H x W x D (inches)	Min. Mounting Pad Size (inches)	Ship / Operating Weight (lbs)
CH18ABD1VF	1 ½	R-22	18,000	13.5	20	32 ½ X 21 ½ X 21 ½	24 x 24	132 / 127
CH24ACD1VF	2	R-22	24,000	16.0	25	32 ½ X 29 ½ X 29 ½	32 x 32	195 / 186
CH30ACD1VF	2 ½	R-22	30,000	18.8	30	32 ½ X 29 ½ X 29 ½	32 x 32	203 / 196
CH36ACD1VF	3	R-22	36,000	20.5	35	32 ½ X 29 ½ X 29 ½	32 x 32	197 / 188
CH42ACD1VF	3 ½	R-22	42,000	24.8	40	32 ½ X 29 ½ X 29 ½	32 x 32	208 / 201
CH48ACD1VF	4	R-22	48,000	27.3	45	32 ½ X 29 ½ X 29 ½	32 x 32	212 / 203
CH60ACZ1VF	5	R-410A	60,000	38.4	60	39 X 29 ½ X 29 ½	32 x 32	258 / 249

# Product Specifications

PHYSICAL DATA							
<b>MODEL SIZE</b>	<b>18</b>	<b>24</b>	<b>30</b>	<b>36</b>	<b>42</b>	<b>48</b>	<b>60</b>
<b>PERFORMANCE DATA</b>							
NOMINAL CAPACITY (BTUH)	18,000	24,000	30,000	36,000	42,000	48,000	60,000
<b>FAN DATA</b>							
FAN MOTOR TYPE	PSC	PSC	PSC	PSC	PSC	PSC	PSC
HP	1/6	1/3	1/3	1/3	1/3	1/3	1/3
DIAMETER	18"	22"	22"	22"	22"	22"	24"
BLADE	3	3	3	3	3	3	3
RPM	1,050	1,050	1,050	1,050	1,050	1,050	950
CFM	1,800	3,400	3,400	3,400	3,400	3,400	4,000
<b>OUTDOOR COIL</b>							
TYPE	Enhanced Aluminum Plate Fin / Rifled Copper Tube						
COIL FACE AREA (ft <sup>2</sup> )	12.2	18.2	18.2	18.2	18.2	18.2	22.2
O.D.	7mm	7mm	7mm	7mm	7mm	7mm	7mm
FPI / ROWS	18-1	18-2	18-2	18-2	18-3	18-3	18-3
<b>ELECTRICAL DATA (208/230 – 1-60, VOLTAGE RANGE 197V - 253V)</b>							
MINIMUM CIRCUIT AMPACITY - MCA (amps) <sup>2</sup>	13.5	16.0	18.8	20.5	24.8	27.3	38.5
MAXIMUM OVERCURRENT PROTECTIVE DEVICE - MOCP (amps) <sup>3</sup>	20	25	30	35	40	45	50
COMPRESSOR RLA (Rated Load Amps)	10.0	11.4	13.6	15	18.4	20.9	31
COMPRESSOR LRA (Locked Rotor Amps)	41	56	67	73	95	109	134
FAN MOTOR FLA (Full Load Amps)	1.2	1.8	1.8	1.8	1.8	1.8	2.5
<b>REFRIGERANT CONNECTIONS</b>							
LIQUID LINE CONNECTION SIZE (In. OD)	3/8	3/8	3/8	3/8	3/8	3/8	3/8
SUCTION LINE CONNECTION SIZE (In. OD)	3/4	3/4	7/8	7/8	7/8	7/8	1 1/8
RECOMMENDED LINE SET LIQUID TUBE DIAMETER (In. OD)	3/8	3/8	3/8	3/8	3/8	3/8	3/8
RECOMMENDED LINE SET SUCTION DIAMETER (In. OD)	3/4	3/4	7/8	7/8	7/8	1 1/8	1 1/8
FACTORY CHARGE - OZ.	103	154	154	164	207	233	253*

**NOTE:** Control circuit is 24V on all units and requires external power source. Copper wire must be used from service disconnect to unit. ALL motors/compressors contain internal overload protection.

1. Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.
2. Time delay fuses may be used in place of HACR circuit breaker.

\* Unit uses R-410A refrigerant.

# Product Specifications

ARI CERTIFIED COMBINATION RATINGS											
UNIT SIZE	OUTDOOR MODEL	INDOOR MODEL	FACTORY SUPPLIED ENHANCEMENT	COOLING			HEATING				HSPF
				TOTAL CAPACITY	SEER	EER	HIGH TEMP		LOW TEMP		
							CAPACITY	COP	CAPACITY	COP	
18	CH18ABD1VF	AFPB24A1	TXV, TDR	18,000	13.0	11.0	17,300	3.42	11,100	2.36	8.2
	CH18ABD1VF	AFPB24B1	TXV, TDR	18,000	13.0	11.0	17,300	3.42	11,100	2.36	8.2
24	CH24ACD1VF	AFPB24B1	TXV, TDR	24,000	13.0	11.4	24,000	3.42	15,000	2.20	8.2
30	CH30ACD1VF	AFPB36A1	TXV, TDR	28,000	13.0	11.5	28,000	3.50	18,200	2.30	8.2
36	CH36ACD1VF	AFPB36A1	TXV, TDR	34,000	13.0	11.5	34,000	3.50	22,000	2.50	8.2
42	CH42ACD1VF	AFPC48A1	TXV, TDR	40,000	13.0	11.5	40,000	3.42	23,000	2.30	8.2
	CH42ACD1VF	AFPC48B1	TXV, TDR	40,000	13.0	11.5	40,000	3.42	23,000	2.30	8.2
48	CH48ACD1VF	AFPC48B1	TXV, TDR	46,000	13.0	11.5	44,000	3.42	28,500	2.50	7.8
60	CH60ACZ1VF	AZFC60B1	TXV, TDR	56,000	13.0	11.2	56,000	3.42	38,000	2.30	8.2

SEER – Seasonal Energy Efficiency Ratio  
 COP – Coefficient of Performance  
 TDR – Time – Delay Relay  
 HSPF – Heating Seasonal Performance Factor  
 EER – Energy Efficiency Ratio

**NOTES:**

1. Tested combination per ARI 210/240 standard. Fedders air handlers contain the TDR as standard equipment.
2. Supplemental electric heat is not included.
3. Ratings are based on:  
**Cooling Standard:** 80°F (27°C) db 67°F (19°C) wb indoor entering air temperature and 95°F (35°C) db air entering outdoor unit.  
**High – Temp Heating Standard:** 70°F (21°C) db indoor entering air temperature and 47°F (8°C)db 43°F (6°C) wb air entering outdoor unit.  
**Low – Temp Heating Standard:** 70°F (21°C) db indoor entering air temperature and 17°F (±9°C)db 15°F (±10°C) wb air entering outdoor unit.

# Split System Heat Pump

## LINE SET LENGTH AND SIZE

BTUH	SUCTION LINE SIZES				LIQUID LINE SIZES			
	15 ft.	25 ft.	50 ft.	75 ft.	15 ft.	25 ft.	50 ft.	75 ft.
18	3/4	3/4	3/4	3/4	3/8	3/8	3/8	3/8
24	3/4	3/4	3/4	3/4	3/8	3/8	3/8	3/8
30	3/4	7/8	7/8	7/8	3/8	3/8	3/8	3/8
36	3/4	7/8	7/8	7/8	3/8	3/8	3/8	3/8
42	7/8	7/8	7/8	7/8	3/8	3/8	3/8	1/2
48	1 1/8	1 1/8	1 1/8	1 1/8	3/8	3/8	3/8	1/2
60	1 1/8	1 1/8	1 1/8	1 1/8	3/8	3/8	3/8	1/2

Recommended liquid & suction tube line size is for standard installations. The unit charge is correct for the outdoor unit, matched indoor coil and 15 feet of refrigerant tubing. For tubing length other than 15 feet, add or subtract the amount of refrigerant, using the difference in length multiplied by the per foot value. These recommendations do not apply to Long Line Length Installations that exceed 75 feet or where there is more than 40 feet vertical separation between indoor and outdoor units. (Lengths in excess of 75 feet or more than 40 feet vertical separation are not recommended.)  
 Note: See unit installation instructions for proper installation.

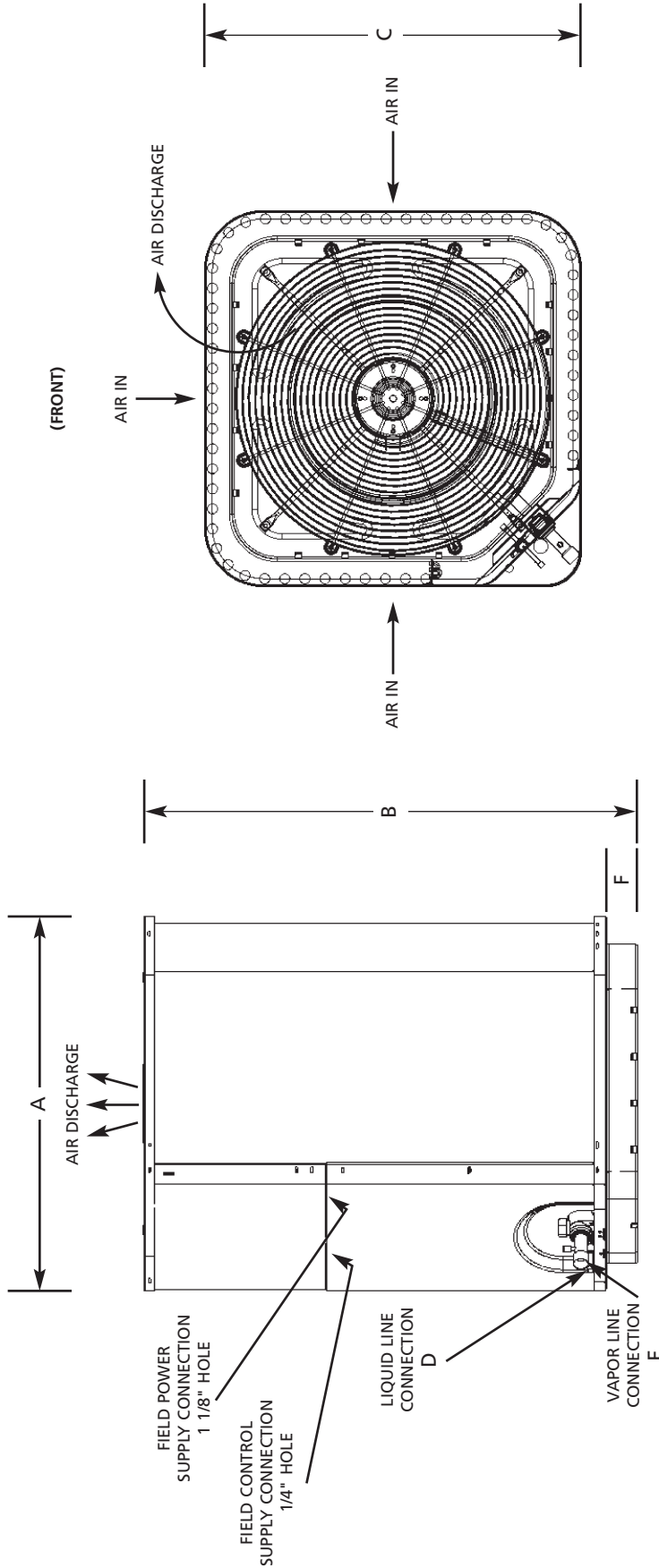
## COOLING PERFORMANCE DATA

OUTDOOR UNIT MODEL	AIR HANDLER	RATINGS AT STANDARD CONDITIONS			COOLING DATA AT EXTENDED OUTDOOR AMBIENTS F.M.B.T.U.H.								
		BTUH	SEER*	CFM		80	85	90	95	100	105	110	115
CH18ABD1VF	AFPB24A1	18,000	13	650	TOTAL	19,450	18,900	18,450	18,000	17,650	17,200	16,750	16,400
					SENSIBLE	15,250	14,950	14,600	14,200	14,050	13,800	13,500	13,250
CH24ACD1VF	AFPB24B1	24,000	13	840	TOTAL	25,800	25,150	24,600	24,000	23,450	22,900	22,350	21,950
					SENSIBLE	19,900	19,500	19,050	18,700	18,450	18,000	17,650	17,300
CH30ACD1VF	AFPB36A1	28,000	13	1,000	TOTAL	30,050	29,450	28,750	28,000	27,200	26,550	25,800	25,250
					SENSIBLE	23,100	22,600	22,050	21,700	21,450	21,050	20,800	20,550
CH36ACD1VF	AFPB36A1	34,000	13	1,200	TOTAL	36,350	35,500	34,800	34,000	33,250	32,550	31,700	30,950
					SENSIBLE	28,300	27,850	27,650	27,250	26,950	26,750	26,350	26,050
CH42ACD1VF	AFPC48A1	40,000	13	1,350	TOTAL	42,700	42,550	40,950	40,000	39,000	38,000	37,400	36,800
					SENSIBLE	33,250	32,900	32,100	31,500	30,550	29,600	28,450	27,600
CH48ACD1VF	AFPC48B1	46,000	13	1,550	TOTAL	49,300	48,150	46,950	46,000	44,850	43,650	42,500	41,400
					SENSIBLE	40,950	39,750	38,100	36,000	34,800	33,550	32,350	31,150
CH60ACZ1VF	AZFPC60B1	56,000	13	1,750	TOTAL	60,550	59,000	57,450	56,000	54,300	52,450	51,100	49,850
					SENSIBLE	44,550	43,950	43,100	42,350	41,700	40,950	40,500	39,600

\*TDR required to obtain SEER rating.

# Split System Heat Pump

## DIMENSIONS



## DIMENSIONS IN INCHES

MODELS	ALL DIMENSIONS						SHIPPING DIMENSIONS H x W x D
	A	B	C	D	E	F	
CH18ABD1VF	21 1/2	32 1/2	21 1/2	3/8	3/4	2 1/2	33 x 23 x 23
CH24ACD1VF	29 1/2	32 1/2	29 1/2	3/8	3/4	2 1/2	33 x 31 x 31
CH30ACD1VF	29 1/2	32 1/2	29 1/2	3/8	7/8	2 1/2	33 x 31 x 31
CH36ACD1VF	29 1/2	32 1/2	29 1/2	3/8	7/8	2 1/2	33 x 31 x 31
CH42ACD1VF	29 1/2	32 1/2	29 1/2	3/8	7/8	2 1/2	33 x 31 x 31
CH48ACD1VF	29 1/2	32 1/2	29 1/2	3/8	7/8	2 1/2	33 x 31 x 31
CH60ACZ1VF	29 1/2	32 1/2	39	3/8	1 1/8	2 1/2	39 1/2 x 31 x 31

# Split System Heat Pump

## Residential & Light Commercial 13 SEER Split System Model Number Identification

**CH 24 A B D 1 V F**

### Product Type

C = Air Conditioner  
CH = Heat Pump

### Nominal Capacity

18 = 18,000 BTUH [5.28 kW]  
24 = 24,000 BTUH [7.03 kW]  
30 = 30,000 BTUH [8.79 kW]  
36 = 36,000 BTUH [10.55 kW]  
42 = 42,000 BTUH [12.31 kW]  
48 = 48,000 BTUH [14.07 kW]  
60 = 60,000 BTUH [17.58 kW]

### Series

### Chassis Size

B = 21½" W x 21½" D x H - Determined by BTU Size  
C = 29½" W x 29½" D x H - Determined by BTU Size

### Brand

### Fitting Type

V = Sweat

### Electrical Designation

1 = 208 / 230 Volts, 1 Phase, 60 Hz  
2 = 230 Volts, 1 Phase, 50 Hz  
3 = 208 / 230 Volts, 3 Phase, 60 Hz  
4 = 460 Volts, 3 Phase, 60 Hz  
5 = 230 Volts, 3 Phase, 50 Hz  
6 = 380 Volts, 3 Phase, 50 Hz

### Refrigerant Variations

D = R-22 Refrigerant  
Z = R-410A Refrigerant

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Form No. F-CH13

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