



**PF4MNB
DIRECT EXPANSION FAN COIL
FOR R-410A REFRIGERANT
SIZES 019 THRU 061**

Product Data



A10097

FEATURES/BENEFITS

AVAILABLE SIZES:

18,000 to 60,000 BTU unit, 1.5 to 5.0 ton unit

ELECTRICAL RANGE:

40-va, 208/230-v transformer, 60 Hz, 1 Phase.

FAN MOTOR:

All unit designs incorporate integrated operational controls within the high efficiency multi-tap electronic commutating motor (ECM).

CABINET:

The attractive, prepainted, galvanized steel casing offers rust protection for many years. All units have high-density insulation. These units are designed with a factory-supplied power plug. For easy cleaning, all units contain a factory-supplied, cleanable, framed filter.

The design of these fan coils meet cabinet air leakage of less than 2% at 0.5 inches W.C., and cabinet air leakage less than 1.4% at 0.5 inches W.C. when tested in accordance with ASHRAE 193 standard.

COIL DESIGN:

The 019 through 031 sizes are slope coil units. The 037 through 061 sizes are "A" coil units. All models feature the components you need and expect, such as grooved tubing and lanced sine-wave fin. All units include fully-wettable coils, sweat-type refrigerant connections, and factory-washed coils for improved condensate control.

DRAIN PAN:

These units are designed with a high-impact thermoplastic condensate pan. All drain connections (primary and secondary) have been designed to ensure proper condensate drainage, limiting the amount of standing water.

CONTROLS:

Every unit comes fully equipped with cooling controls including 40-va transformer and integrated fan control with time-delay relay (TDR). These units accommodate field-installed heater packages from 3- to 30-kW (fused, circuit breaker, or non-fused). All units include a factory-supplied power plug.

INSTALLATION:

Units are factory shipped for upflow or horizontal left discharge. Units can be field converted to horizontal right discharge. These units are field convertible to downflow with an accessory kit.

SERVICEABILITY:

All units are designed with a factory-installed bi-flow, hard-shutoff TXV.

MODEL NUMBER NOMENCLATURE

PAYNE FAN COILS

1	2	3	4	5	6	7	8	9	10	11	12
P	F	4	M	N	B	0	1	9	0	0	0

Product Type

Fan Coil, Multipoise with R-410A

Electrical

N - 208/230v, 1 ph, 60 Hz

Series

B

Coil Type

000 = Copper

T00 = Tin- plate

L00 = Aluminum

Capacity

019 = 18,000

025 = 24,000

031 = 30,000

037 = 36,000

043 = 42,000

049 = 48,000

061 = 60,000



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.



ISO 9001
QMI-SAI Global



DIMENSIONS

UNIT	SERIES	A	B	C	D	E	F	G	H	J	COIL CONFIGURATION		SHIPPING WT (LBS)	SHIPPING WT (LBS)
											SLOPE	"A"		
PF4MNB019	A	49 5/8"	17 5/8"	15 3/4"	15 5/8"	15 3/8"	23 1/8"	23 5/8"	—	19"	X	—	NON TIN-COATED	122
PF4MNB025	A	49 5/8"	17 5/8"	15 3/4"	15 5/8"	15 3/8"	23 1/8"	23 5/8"	—	19"	X	—	TIN-COATED	122
PF4MNB031	A	53 7/16"	21 1/8"	19 1/4"	19 1/8"	19 3/16"	26 15/16"	27 1/2"	—	—	X	—		146
PF4MNB037	A	49 5/8"	21 1/8"	19 1/4"	19 1/8"	15 11/16"	23 7/16"	23 1/8"	—	—	—	X		157
PF4MNB043	A	49 5/8"	21 1/8"	19 1/4"	19 1/8"	15 11/16"	23 7/16"	23 1/8"	—	—	—	X		157
PF4MNB049	A	53 7/16"	24 11/16"	22 3/4"	22 11/16"	19 1/2"	27 1/4"	26 15/16"	—	—	—	X		185
PF4MNB061	A	59 3/16"	24 11/16"	22 3/4"	22 11/16"	25 1/4"	32 15/16"	32 5/8"	34 1/16"	—	—	X		201

NOTE:

- SERIES DESIGNATION IS THE 14TH POSITION OF UNIT PRODUCT NUMBER
- ALL DIMENSIONS ARE IN "INCHES" UNLESS NOTED.

NOTE: ALLOW 21" FROM FRONT FOR SERVICE

UNIT CONNECTION SIZES

SUCTION: 018 THRU 025 - 5/8" I.D. SWEAT
 030 THRU 037 - 3/4" I.D. SWEAT
 042 THRU 061 - 7/8" I.D. SWEAT
 LIQUID: 3/8" I.D. SWEAT
 CONDENSATE: 3/4" FPT

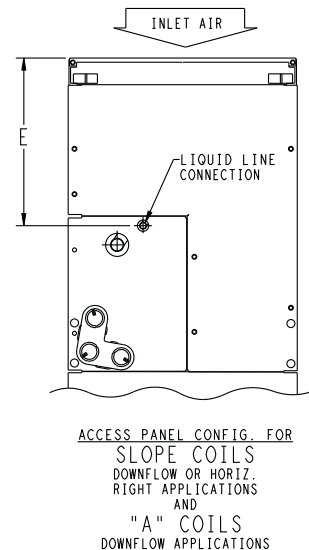
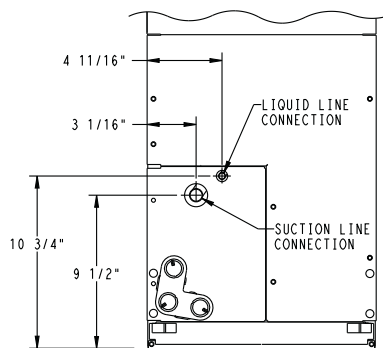
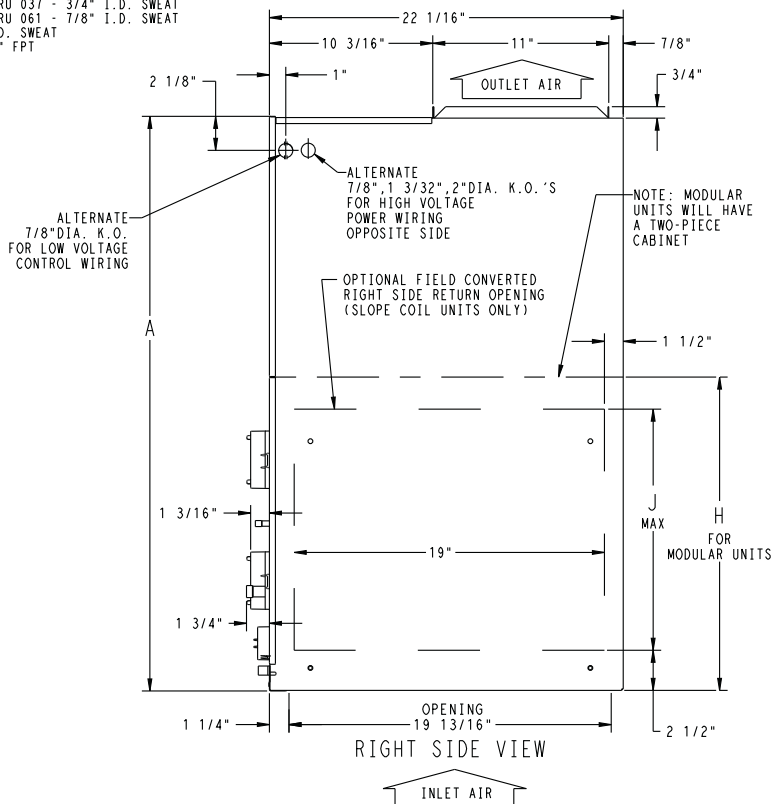
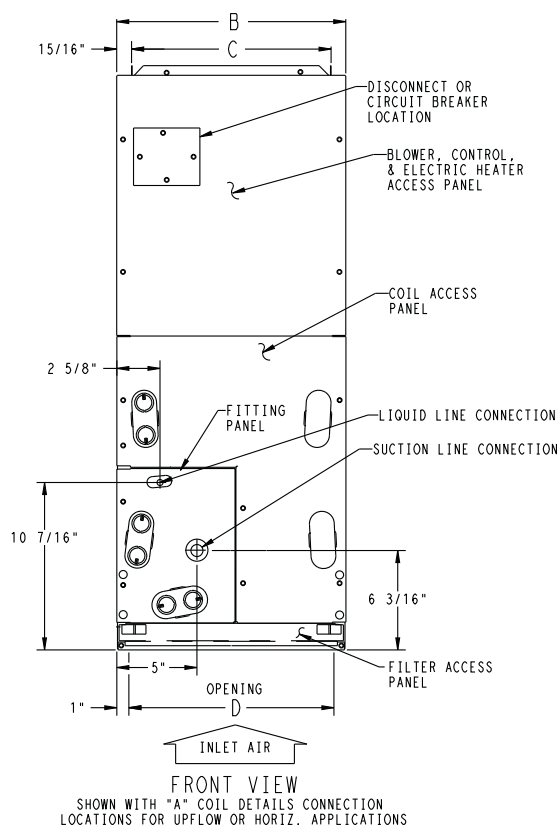
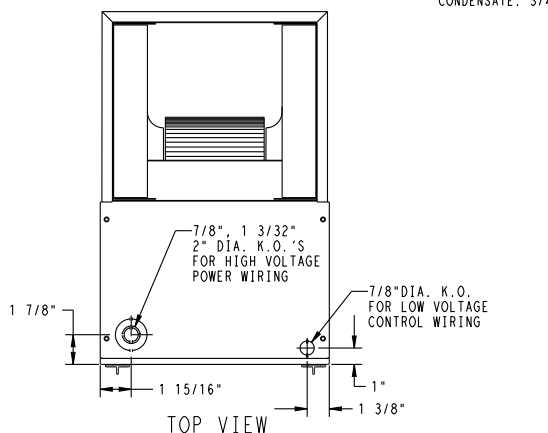


Fig. 1 - PF4MNB - English

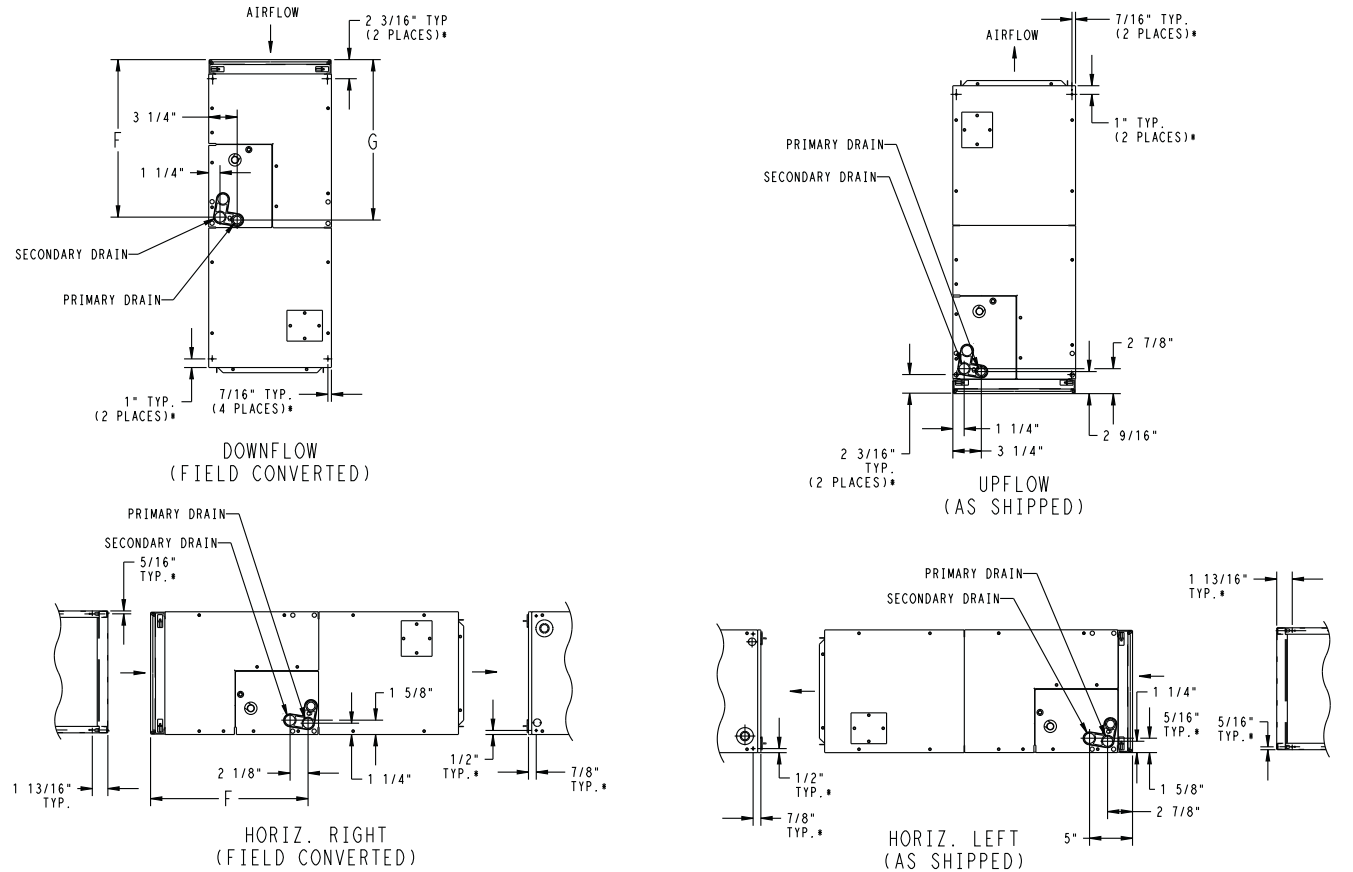
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DIMENSIONS (cont.)

SLOPE COIL

NOTES:

1. CONDENSATE PAN DRAIN CAPS NOT SHOWN FOR CLARITY.
2. ALL DIMENSIONS ARE IN "INCHES" UNLESS NOTED.



- HORIZONTAL MOUNT LOCATIONS - DIMPLES PROVIDED IN TOP PANEL, AND BACK OF CABINET. IN CABINET BOTTOM, HOLES PROVIDED .136" DIA. HORIZONTAL HANGING HARDWARE TO BE FIELD SUPPLIED.

A-COIL

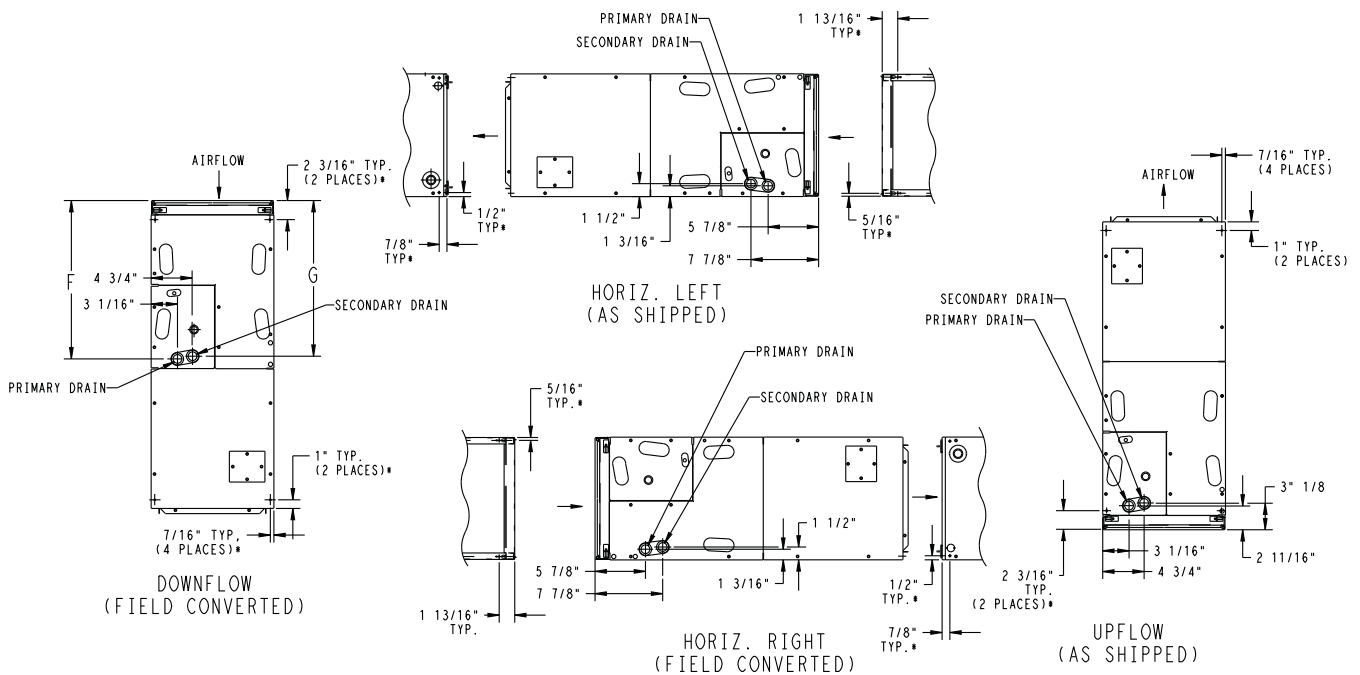


Fig. 2 - PF4MNB - English

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DIMENSIONS (cont.)

UNIT	SERIES	A	B	C	D	E	F	G	H	J	COIL CONFIGURATION	SHIPPING WT (Kgs)	SHIPPING WT (Kgs)
											SLOPE "A"		
PF4MNB019	A	1260.5	447.7	400.0	396.9	390.5	587.4	600.1	—	482.6	X —	55.3	55.3
PF4MNB025	A	1260.5	447.7	400.0	396.9	390.5	587.4	600.1	—	482.6	X —	55.3	55.3
PF4MNB031	A	1357.3	536.6	489.0	485.8	487.4	684.2	698.5	—	—	X —	66.2	66.2
PF4MNB037	A	1260.5	536.6	489.0	485.8	398.5	595.3	587.4	—	—	— X	71.2	71.2
PF4MNB043	A	1260.5	536.6	489.0	485.8	398.5	595.3	587.4	—	—	— X	71.2	71.2
PF4MNB049	A	1357.3	627.1	577.8	576.3	495.3	692.2	684.2	—	—	— X	84.1	84.1
PF4MNB061	A	1503.4	627.1	577.8	576.3	641.4	836.6	828.7	865.2	—	— X	91.2	91.2

NOTE:

- SERIES DESIGNATION IS THE 14TH POSITION OF UNIT PRODUCT NUMBER
- ALL DIMENSIONS ARE IN "MM" UNLESS NOTED.

NOTE: ALLOW 533.4 FROM FRONT FOR SERVICE

UNIT CONNECTION SIZES

SUCTION: 018 THRU 025 - 15.88 I.D. SWEAT
 030 THRU 037 - 19.05 I.D. SWEAT
 042 THRU 061 - 22.23 I.D. SWEAT
 LIQUID: 9.53 I.D. SWEAT
 CONDENSATE: 19.0 FPT

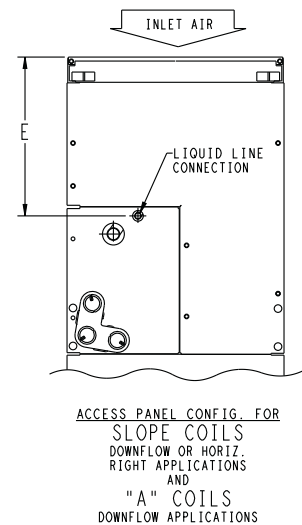
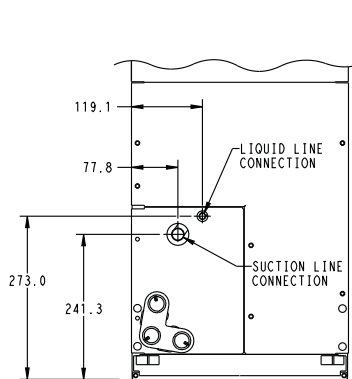
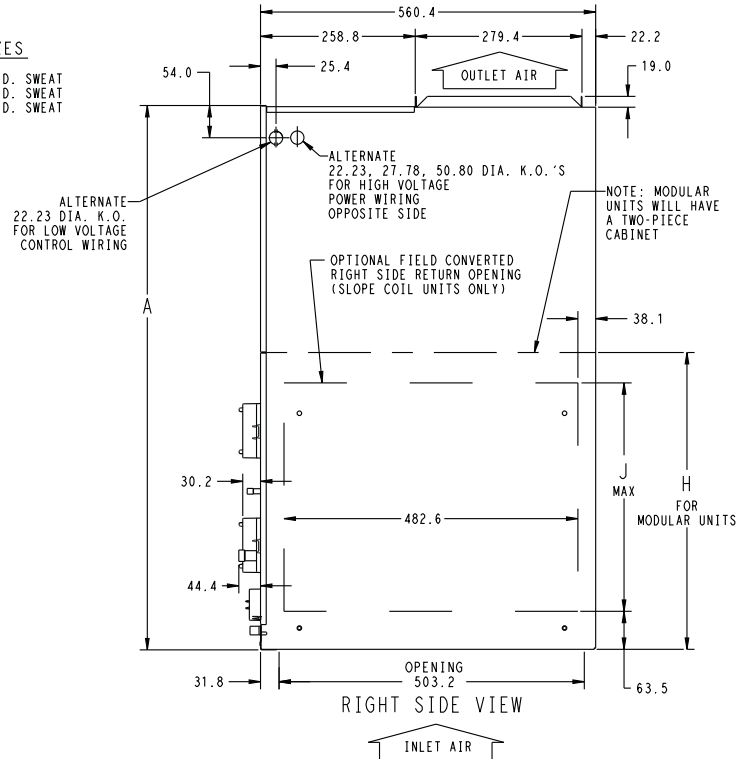
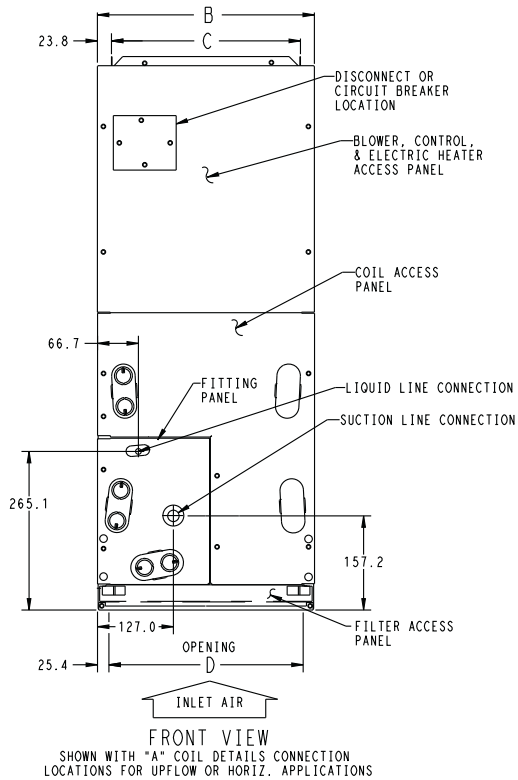
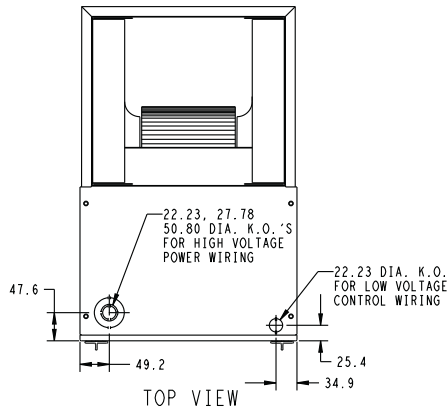


Fig. 3 - PF4MNB - Metric

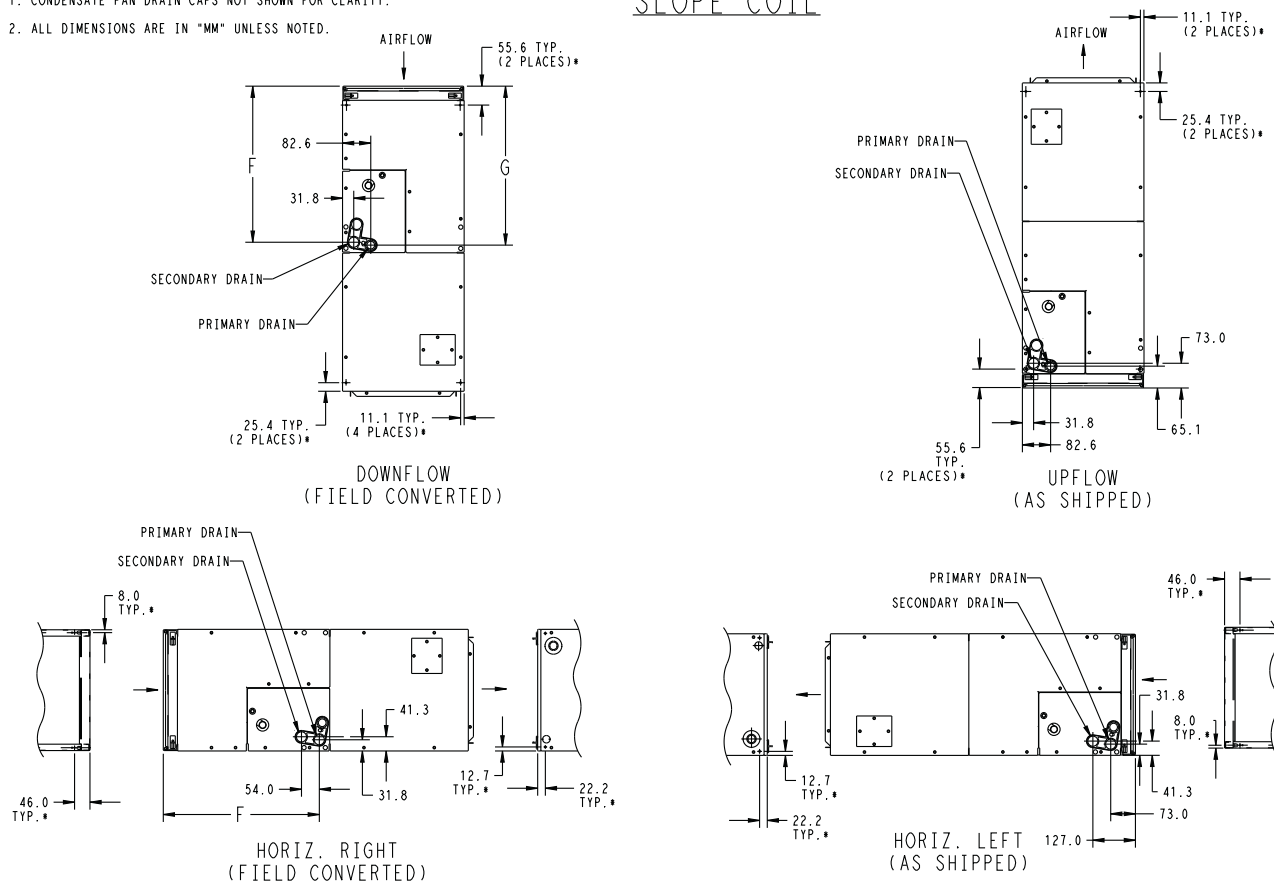
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DIMENSIONS (cont.)

NOTES:

1. CONDENSATE PAN DRAIN CAPS NOT SHOWN FOR CLARITY.
2. ALL DIMENSIONS ARE IN "MM" UNLESS NOTED.

SLOPE COIL



A-COIL

- * HORIZONTAL MOUNT LOCATIONS - DIMPLES PROVIDED IN TOP PANEL, AND BACK OF CABINET. IN CABINET BOTTOM, HOLES PROVIDED 3.45 DIA. HORIZONTAL HANGING HARDWARE TO BE FIELD SUPPLIED.

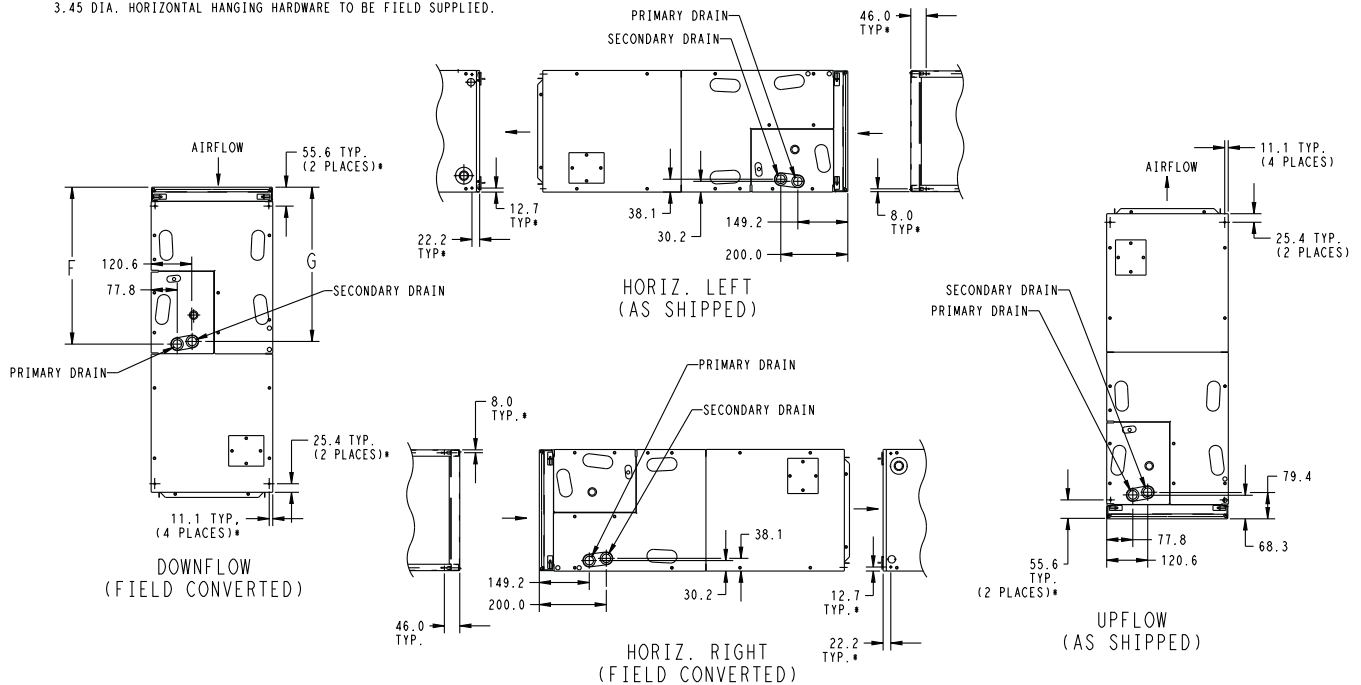


Fig. 4 - PF4MNB - Metric

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PHYSICAL DATA

MODEL NO.	FIELD INSTALLED HEAT(kW)	NOMINAL COOLING CAPACITY(BTUH)	DIMENSIONS			SHIPPING WEIGHT
			Height	Width	Depth	
PF4MNB019	3, 5, 8, 10	18,000	49 5/8- in 1261mm	17 5/8- in 447mm	22- 1/16" 560 mm	122 lb 55 kg
PF4MNB025	3, 5, 8, 10, 15	24,000	49 5/8- in 1261mm	17- 5/8" 448 mm	22- 1/16" 560 mm	122 lb 55 kg
PF4MNB031	5, 8, 10, 15, 20	30,000	53 7/16- in 1357mm	21 1/8- in 536mm	22- 1/16" 560 mm	146 lb 66 kg
PF4MNB037	5, 8, 9, 10, 15, 20	36,000	49 5/8- in 1260mm	21- 1/8" 537 mm	22- 1/16" 560 mm	157 lb 71 kg
PF4MNB043	5 8, 9, 10, 15, 18, 20	42,000	49- 5/8 1260 mm	21- 1/8" 537 mm	22- 1/16" 560 mm	157 lb 71 kg
PF4MNB049	5, 8, 9, 10, 15, 18, 20, 24, 30	48,000	53- 7/16 1357 mm	24 11/16- in 627mm	22- 1/16" 560 mm	185 lb 84 kg
PF4MNB061	5, 8, 9, 10, 15, 18, 20, 24, 30	60,000	59- 3/16" 1503 mm	24- 11/16" 627 mm	22- 1/16" 560 mm	201 lb 91 kg

SPECIFICATIONS

MODEL PF4MNB	019	025	031	037	043	049	061
COIL							
R- 410A Refrigerant Metering Device	TXV - factory installed hard- shutoff, bi- flow type for heat pump application						
TXV	2 ton		3 ton			4 ton	
Rows/Fins Per In.	3 / 14.5						
Face Area (Sq. Ft.)	2.97		3.46	4.45		5.93	7.42
Configuration	Slope			A			
FAN							
CFM (Nominal)	600	800	1000	1200	1400	1600	2000
Motor Type (ECM)	Multi- tap ECM						
Motor Hp	1/3	1/3	1/2	1/2	1/2	3/4	3/4
FILTER							
21- 1/2- in / 546 mm X	16- 3/8- in / 417 mm		19- 7/8- in / 505 mm			23- 5/16- in / 585 mm	
CABINET CONFIGURATION OPTIONS							
	Single Piece						Modular

PERFORMANCE DATA

AIRFLOW PERFORMANCE (CFM)

MODEL & SIZE	BLOWER SPEED	0.10	0.20	0.30	0.40	0.50	0.60
PF4MNB019	Tap 5	776	745	696	660	609	572
	Tap 4	683	644	589	548	494	461
	Tap 3	683	644	589	548	494	461
	Tap 2	631	563	500	443	409	361
	Tap 1	625	524	457	417	367	319
PF4MNB025	Tap 5	956	920	891	851	816	780
	Tap 4	825	795	757	722	674	634
	Tap 3	825	795	757	722	674	634
	Tap 2	726	695	635	598	543	509
	Tap 1	631	563	500	443	409	361
PF4MNB031	Tap 5	1189	1151	1104	1050	1003	959
	Tap 4	1041	998	944	886	837	772
	Tap 3	1041	998	944	886	837	772
	Tap 2	924	876	817	752	704	660
	Tap 1	779	693	628	571	526	476
PF4MNB037	Tap 5	1363	1332	1294	1253	1207	1157
	Tap 4	1237	1206	1160	1121	1070	1013
	Tap 3	1237	1206	1160	1121	1070	1013
	Tap 2	1095	1058	1007	951	888	824
	Tap 1	1014	885	773	673	609	549
PF4MNB043	Tap 5	1519	1490	1454	1419	1379	1332
	Tap 4	1437	1403	1366	1333	1294	1245
	Tap 3	1437	1403	1366	1333	1294	1245
	Tap 2	1257	1226	1191	1141	1090	1033
	Tap 1	1237	1206	1160	1121	1070	1013
PF4MNB049	Tap 5	1757	1725	1693	1653	1614	1576
	Tap 4	1664	1626	1593	1552	1517	1477
	Tap 3	1664	1626	1593	1552	1517	1477
	Tap 2	1459	1420	1379	1336	1298	1259
	Tap 1	1301	1241	1195	1150	1102	1039
PF4MNB061	Tap 5	2030	1995	1961	1927	1888	1842
	Tap 4	1811	1775	1740	1703	1664	1613
	Tap 3	1811	1775	1740	1703	1664	1613
	Tap 2	1665	1632	1593	1556	1507	1453
	Tap 1	1462	1418	1371	1327	1278	1228

■ - Airflow above 450 cfm/ton.

NOTES:

- Airflow based upon dry coil at 230v with factory-approved filter and electric heater (2 element heater sizes 018 through 037, 3 element heater sizes 043 through 061).
- Airflow at 208 volts is approximately the same as 230 volts because the multi-tap ECM motor is a constant torque motor. The torque doesn't drop off at the speeds the motor operates.
- To avoid potential for condensate blowing out of drain pan prior to making drain trap:
Return static pressure must be less than 0.40 in wc.
Horizontal applications of 043 - 061 sizes must have supply static greater than 0.20 in wc.
- Airflow above 400 cfm/ton on 049-061 size could result in condensate blowing off coil or splashing out of drain pan.

PERFORMANCE DATA (cont.)

GROSS COOLING CAPACITIES (mbh)

PF4M SIZE	INDOOR COIL AIR		SATURATED TEMPERATURE LEAVING EVAPORATOR (°F / °C)														
	CFM	EWB	35 / 2			40 / 4			45 / 7			50 / 10			55 / 13		
			TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF
019	525	72 / 22	36	19	0.00	33	17	0.00	28	15	0.00	24	13	0.00	19	11	0.01
		67 / 19	29	19	0.01	26	17	0.01	22	15	0.02	17	13	0.02	12	10	0.02
		62 / 17	23	19	0.02	20	17	0.02	16	15	0.02	12	12	0.07	10	10	0.24
	600	72 / 22	40	21	0.00	36	19	0.00	32	17	0.00	27	14	0.01	21	12	0.02
		67 / 19	33	21	0.02	29	19	0.02	24	17	0.02	19	14	0.02	13	12	0.03
		62 / 17	26	21	0.02	22	19	0.02	17	17	0.03	13	13	0.08	11	11	0.25
	675	72 / 22	44	23	0.00	40	21	0.00	35	18	0.00	29	16	0.02	23	13	0.02
		67 / 19	36	23	0.02	32	21	0.03	26	18	0.03	21	16	0.03	15	13	0.03
		62 / 17	29	24	0.03	24	21	0.03	19	19	0.04	15	15	0.10	12	12	0.26
025	700	72 / 22	48	25	0.00	43	22	0.00	37	19	0.00	31	17	0.02	25	14	0.03
		67 / 19	39	25	0.03	34	22	0.03	28	20	0.03	22	17	0.03	16	14	0.04
		62 / 17	31	25	0.03	26	23	0.03	20	20	0.04	16	16	0.10	13	13	0.26
	800	72 / 22	53	27	0.00	47	24	0.00	41	21	0.01	35	18	0.03	27	15	0.04
		67 / 19	43	28	0.04	37	25	0.04	31	22	0.04	25	19	0.04	17	16	0.05
		62 / 17	34	28	0.04	29	25	0.04	23	22	0.05	18	18	0.12	15	15	0.28
	900	72 / 22	57	30	0.00	51	27	0.00	45	23	0.03	38	20	0.04	30	17	0.05
		67 / 19	47	30	0.05	41	27	0.05	34	24	0.05	27	21	0.05	19	17	0.06
		62 / 17	37	31	0.05	31	28	0.05	25	24	0.06	20	20	0.14	16	16	0.29
031	875	72 / 22	59	30	0.00	53	27	0.00	46	24	0.01	38	20	0.02	30	17	0.03
		67 / 19	48	31	0.03	42	28	0.03	35	24	0.04	27	21	0.04	19	17	0.04
		62 / 17	38	31	0.04	32	28	0.04	25	24	0.04	20	20	0.11	16	16	0.27
	1000	72 / 22	65	33	0.00	58	30	0.00	51	26	0.02	42	23	0.04	33	19	0.04
		67 / 19	53	34	0.04	46	31	0.04	38	27	0.05	30	23	0.05	21	19	0.05
		62 / 17	42	35	0.05	35	31	0.05	28	27	0.06	22	22	0.13	18	18	0.29
	1125	72 / 22	71	36	0.00	63	33	0.00	55	29	0.03	46	25	0.05	36	20	0.05
		67 / 19	58	37	0.05	50	33	0.05	42	29	0.06	33	25	0.06	23	21	0.07
		62 / 17	46	38	0.06	38	34	0.06	30	30	0.07	24	24	0.15	20	20	0.30
037	1050	72 / 22	67	36	0.00	60	32	0.00	52	28	0.00	44	24	0.02	35	20	0.03
		67 / 19	54	37	0.03	47	33	0.03	40	29	0.03	31	25	0.03	22	20	0.04
		62 / 17	43	37	0.03	36	33	0.03	29	29	0.04	22	22	0.10	18	18	0.26
	1200	72 / 22	74	40	0.00	66	36	0.00	58	31	0.01	48	27	0.03	38	22	0.04
		67 / 19	60	41	0.04	52	36	0.04	44	32	0.04	35	27	0.04	24	23	0.05
		62 / 17	48	41	0.04	40	37	0.04	32	32	0.05	25	25	0.12	21	21	0.28
	1350	72 / 22	81	43	0.00	72	39	0.00	63	34	0.03	53	30	0.04	41	25	0.05
		67 / 19	66	45	0.05	57	40	0.05	48	35	0.05	38	30	0.05	27	25	0.06
		62 / 17	52	46	0.05	44	41	0.05	35	36	0.06	28	28	0.14	23	23	0.29
043	1225	72 / 22	79	41	0.00	71	37	0.00	62	33	0.02	52	28	0.03	41	23	0.04
		67 / 19	64	42	0.04	56	38	0.04	47	33	0.04	37	29	0.04	26	24	0.05
		62 / 17	51	43	0.04	43	38	0.04	34	34	0.05	27	27	0.12	22	22	0.28
	1400	72 / 22	87	46	0.00	78	41	0.00	68	36	0.03	57	31	0.04	45	26	0.05
		67 / 19	71	47	0.05	62	42	0.05	52	37	0.05	41	32	0.05	29	26	0.06
		62 / 17	56	48	0.06	47	43	0.06	38	38	0.06	30	30	0.14	25	25	0.29
	1575	72 / 22	95	50	0.00	85	45	0.00	74	39	0.04	62	34	0.05	48	28	0.06
		67 / 19	77	51	0.06	67	46	0.06	56	40	0.06	44	35	0.07	31	29	0.07
		62 / 17	61	52	0.07	51	47	0.07	41	41	0.08	33	33	0.17	27	27	0.31
049	1400	72 / 22	90	48	0.00	81	43	0.00	71	38	0.00	59	32	0.02	47	27	0.03
		67 / 19	73	49	0.03	64	44	0.03	54	38	0.03	42	33	0.03	30	27	0.04
		62 / 17	58	49	0.03	49	44	0.03	39	39	0.04	30	30	0.10	25	25	0.26
	1600	72 / 22	100	53	0.00	89	48	0.00	78	42	0.01	65	36	0.03	51	30	0.04
		67 / 19	81	54	0.04	71	48	0.04	59	43	0.04	47	36	0.04	33	30	0.05
		62 / 17	65	55	0.04	54	49	0.04	43	43	0.05	34	34	0.12	28	28	0.28
	1800	72 / 22	109	58	0.00	97	52	0.00	85	46	0.03	71	39	0.04	56	33	0.05
		67 / 19	89	59	0.05	77	53	0.05	65	47	0.05	51	40	0.05	36	33	0.06
		62 / 17	70	60	0.05	59	54	0.05	47	48	0.06	37	37	0.14	31	31	0.29
061	1600	72 / 22	109	57	0.00	98	51	0.00	86	45	0.00	73	39	0.01	58	32	0.02
		67 / 19	89	58	0.02	78	52	0.02	66	46	0.02	52	39	0.03	37	33	0.03
		62 / 17	71	59	0.03	60	52	0.03	48	46	0.03	37	37	0.09	31	31	0.24
	1750	72 / 22	117	61	0.00	105	55	0.00	92	48	0.01	78	41	0.02	62	35	0.02
		67 / 19	95	62	0.03	84	56	0.03	70	49	0.03	56	42	0.03	40	35	0.03
		62 / 17	76	63	0.03	64	56	0.03	51	50	0.04	40	40	0.10	33	33	0.25
	2000	72 / 22	129	67	0.00	116	60	0.00	102	53	0.02	86	46	0.03	68	38	0.03
		67 / 19	105	69	0.04	92	62	0.04	78	54	0.04	62	47	0.04	44	39	0.05
		62 / 17	84	70	0.04	71	63	0.04	57	55	0.05	45	45	0.12	37	37	0.27

See Notes following table.

LEGEND

CFM - Cubic Ft. per Minute

EWB - Entering Wet Bulb (°F / °C)

LWB - Leaving Wet Bulb (°F / °C)

TC - Gross Cooling Capacity 1000 Btuh

SHC - Gross Sensible Capacity 1000 Btuh

BF - Bypass Factor

MBH - 1000 Btuh

See **NOTES** on next page.

PERFORMANCE DATA (cont.)

NOTES:

- Contact manufacturer for cooling capacities at conditions other than shown in table.
- Formulas:
 Leaving db = entering db - $\frac{\text{sensible heat cap.}}{1.09 \times \text{CFM}}$
 Leaving wb = wb corresponding to enthalpy of air leaving coil (h_{lwb})
 $h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{CFM}}$
 where h_{ewb} = enthalpy of air entering coil. Direct interpolation is permissible. Do not extrapolate.
- SHC is based on 80°F (27°C) db temperature of air entering coil. Below 80°F (27°C) db, subtract (Correction Factor x CFM) from SHC. Above 80°F (27°C) db, add (Correction Factor x CFM) to SHC.
- Bypass Factor = 0 indicates no psychometric solution. Use bypass factor of next lower EWB for approximation.

SHC CORRECTION FACTOR

BYPASS FACTOR	ENTERING AIR DRY- BULB TEMPERATURE (°F)					
	79	78	77	76	75	Under 75
	81	82	83	84	85	Over 85
	ENTERING AIR DRY- BULB TEMPERATURE (°C)					
	26	25	25	24	24	Under 75
	27	28	28	29	29	Over 85
Correction Factor						
0.10	.098	1.96	2.94	3.92	4.91	Use formula shown below
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.

$$\text{Correction Factor} = 1.09 \times (1 - \text{BF}) \times (\text{db} - 80)$$

MINIMUM CFM AND MOTOR SPEED SELECTION

FAN COIL SIZES	HEATER kW									
	3	5	8	9	10	15	18	20	24	30
019	525	525	525	—	600*	—	—	—	—	—
025	700	700	700	—	700	775*	—	—	—	—
031	—	875	875	—	875	875	—	1060*	—	—
037	—	1050	970	970	970	920	—	1040	—	—
043	—	—	1225	1225	1225	1225	1225	1225	—	—
049	—	—	1400	1400	1400	1400	1400	1400	1400	1400
061	—	—	1750	1750	1750	1750	1750	1750	1750	1750

*Indicates medium speed (blue). All other motor speeds at low tap.

AIR DELIVERY PERFORMANCE CORRECTION COMPONENT PRESSURE DROP (in wc) AT INDICATED AIRFLOW (DRY- TO- WET COIL)

SIZE	CFM															
	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
019	0.034	0.049	0.063	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
025	0.016	0.027	0.038	0.049	0.059	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
031	- -	- -	- -	0.049	0.059	0.070	0.080	- -	- -	- -	- -	- -	- -	- -	- -	- -
037	- -	- -	- -	- -	- -	0.055	0.064	0.073	0.081	- -	- -	- -	- -	- -	- -	- -
043	- -	- -	- -	- -	- -	- -	- -	0.049	0.056	0.063	0.070	- -	- -	- -	- -	- -
049	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.038	0.043	0.049	0.054	0.059	- -	- -
061	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	0.027	0.031	0.035	0.039	0.043

FACTORY-INSTALLED FILTER STATIC PRESSURE DROP (in wc)

UNIT SIZE PF4MNB	CFM								
	400	600	800	1000	1200	1400	1600	1800	2000
019, 025	0.012	0.022	0.048	0.072	-	-	-	-	-
031, 037, 043	-	-	0.036	0.051	0.07	0.092	0.12	-	-
049, 061	-	-	-	-	-	0.073	0.086	0.105	0.13

ELECTRIC HEATER STATIC PRESSURE DROP (in wc)

019 - 031			037- 061		
HEATER ELEMENTS	kW	EXTERNAL STATIC PRESSURE CORRECTION	HEATER ELEMENTS	kW	EXTERNAL STATIC PRESSURE CORRECTION
0	0	+.02	0	0	+.04
1	3, 5	+.01	2	8, 10	+.02
2	8, 10	0	3	9, 15	0
3	9, 15	-.02	4	20	-.02
4	20	-.04	6	18, 24, 30	-.10

The airflow performance data was developed using fan coils with 10- kW electric heaters (2 elements) in the 018 through 037 size units and 15- kW heaters (3 elements) in the 042 through 060 size units. For fan coils with heaters of a different number of elements, the external available static at a given CFM from the curve may be corrected by adding or subtracting available external static pressure as indicated above.

ACCESSORY ELECTRIC HEATERS

HEATER PART NO.	kW @ 240V	VOLTS/ PH	STAGES (kW OPERATING)	INTERNAL CIRCUIT PROTECTION	FAN COIL SIZE USED WITH	HEATING CAP.** @ 230V
KFCEH0401N03	3	230/1	3	None	018-024	9,400
KFCEH0501N05	5	230/1	5	None	018-061	15,700
KFCEH0801N08	8	230/1	8	None	018-061	25,100
KFCEH0901N10	10	230/1	10	None	018-061	31,400
KFCEH3201F20	20	230/1	5, 20	Fuse†	030-061	62,800
KFCEH1601315	15	230/3	5, 15	None	036-061	47,100
KFCEH2001318	18	230/3	6, 12, 18	None	042-061	56,500
KFCEH3401F24	24	230/3*	8, 16, 24	Fuse	048- 061	78,300
KFCEH3501F30	30	230/3*	10, 20, 30	Fuse	048- 061	94,100
KFCEH2401C05	5	230/1	5	Circuit Breaker	018-061	15,700
KFCEH2501C08	8	230/1	8	Circuit Breaker	018-061	25,100
KFCEH2601C10	10	230/1	10	Circuit Breaker	018-061	31,400
KFCEH3301C20	20	230/1	5, 20	Circuit Breaker	030-061	62,800
KFCEH2901N09	9	230/1†	3, 9	None	036-061	28,200
KFCEH3001F15	15	230/1	5, 15	Fuse‡	024-061	47,100
KFCEH3101C15	15	230/1	5, 15	Circuit Breaker	024-061	47,100

* Field convertible to 1 phase.

† Field convertible to 3 phase

‡ Single point wiring kit required for these heaters in Canada.

** Blower Motor heat not included.

PERFORMANCE DATA (cont)

ESTIMATED SOUND POWER LEVEL (dBA)

UNIT SIZE	CONDITIONS		OCTAVE BAND CENTER FREQUENCY*						
	CFM	Ext Static Pressure	63	125	250	500	1000	2000	4000
019	600	0.25	64.7	60.7	56.7	53.7	51.7	49.7	45.7
025	800	0.25	66.0	62.0	58.0	55.0	53.0	51.0	47.0
031	1000	0.25	67.0	63.0	59.0	56.0	54.0	52.0	48.0
037	1200	0.25	67.8	63.8	59.8	56.8	54.8	52.8	48.8
043	1400	0.25	68.4	64.4	60.4	57.4	55.4	53.4	49.4
049	1600	0.25	69.0	65.0	61.0	58.0	56.0	54.0	50.0
061	2000	0.25	70.0	66.0	62.0	59.0	57.0	55.0	51.0

* Estimated sound power levels have been derived using the method described in the 1987 ASHRAE HVAC Systems & Applications Handbook, Chapter 52, p.52.7

FAN COIL ELECTRICAL DATA (UNITS WITHOUT ELECTRICAL HEAT)

MODEL NO.	MTR HP	MTR FLA	VOLTS/PH/HZ	SINGLE CIRCUIT		BRANCH CIRCUIT MIN WIRE SIZE* AWG
				MCA	MAXIMUM OVERCURRENT PROTECTION	
PF4MNB019(0,T,L)00	1/3	2.8	208/230/1/60	3.5	15	14
PF4MNB025(0,T,L)00	1/3	2.8	208/230/1/60	3.5	15	14
PF4MNB031(0,T,L)00	1/2	4.1	208/230/1/60	5.1	15	14
PF4MNB037(0,T,L)00	1/2	4.1	208/230/1/60	5.1	15	14
PF4MNB043(0,T,L)00	1/2	4.1	208/230/1/60	5.1	15	14
PF4MNB049(0,T,L)00	3/4	6.0	208/230/1/60	7.5	15	14
PF4MNB061(0,T,L)00	3/4	6.0	208/230/1/60	7.5	15	14

* Use copper wire only. Use 75°C only in this application. When using non-metallic (NM) sheathed cable, wire size required should be based on that of 60°C conductors, instead of wire size shown in table above per NEC Article 336- 26.

FLA - Full Load Amps

NOTE: If branch circuit wire length exceeds 100 ft / 30.5 m, consult NEC 215- 2 to determine maximum wire length. Use 2% voltage drop.

ELECTRIC HEATER INTERNAL PROTECTION

HEATER kW	PHASE	FUSE QTY/SIZE	CKT BKR QTY/SIZE*
3	1	—	—
5	1	—	1/60
8	1	—	1/60
10	1	—	1/60
15	1	2/30 — 2/60	2/60
20	1	4/60	2/60
24	1/3	6/60	—
30	1/3	6/60	—
9	1/3	—	—
15	3	—	—
18	3	—	—

*Circuit breakers are 2 pole.

ACCESSORY ELECTRIC HEATER ELECTRICAL DATA

HEATER PART NO.	KW		P H A S E	INTERNAL CIRCUIT PROTEC- TION	HEATER AMPS 208/230V			Min Ampacity 208/230V**			Min Wire Size (AWG) 208/230V††			Min Gnd Wire Size 208/230V			Max Fuse/Ckt Bkr Amps 208/230V			Max Wire Length 208/230V (F)‡‡		
					Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single Circuit	Dual Circuit		Single	Dual Circuit	
	240V	208V				L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4		L1,L2	L3,L4
KFCEH0401N03	3	2.3	1	None	10.9/12.0	—	—	15.9/17.3	—	—	12/12	—	—	12/12	—	—	20/20	—	—	67/68	—	—
KFCEH0601N05 ¹	5	3.8	1	None	18.1/20.0	—	—	26.0/28.4	—	—	10/10	—	—	10/10	—	—	30/30	—	—	68/68	—	—
KFCEH0601N05 ²	5	3.8	1	None	18.1/20.0	—	—	31.2/33.5	—	—	8/8	—	—	10/10	—	—	35/35	—	—	85/88	—	—
KFCEH2401C05 ¹	5	3.8	1	Ckt Bkr	18.1/20.0	—	—	26.0/28.4	—	—	10/10	—	—	10/10	—	—	30/30	—	—	66/66	—	—
KFCEH2401C05 ²	5	3.8	1	Ckt Bkr	18.1/20.0	—	—	31.2/33.5	—	—	8/8	—	—	10/10	—	—	35/35	—	—	85/88	—	—
KFCEH0801N08	8	6.0	1	None	28.9/32.0	—	—	44.7/48.5	—	—	8/8	—	—	10/10	—	—	45/50	—	—	59/60	—	—
KFCEH2601C08	8	6.0	1	Ckt Bkr	28.9/32.0	—	—	44.7/48.5	—	—	8/8	—	—	10/10	—	—	45/50	—	—	59/60	—	—
KFCEH2901N09	9	6.8	1	None	32.8/36.0	—	—	49.5/53.5	—	—	8/8	—	—	10/10	—	—	50/60	—	—	54/67	—	—
KFCEH2901N09‡	9	6.8	3	None	18.8/20.8	—	—	32.0/34.5	—	—	8/8	—	—	10/10	—	—	35/35	—	—	83/85	—	—
KFCEH0901N10	10	7.5	1	None	36.2/40.0	—	—	53.8/58.5	—	—	6/6	—	—	10/10	—	—	60/60	—	—	78/80	—	—
KFCEH2601C10	10	7.5	1	Ckt Bkr	36.2/40.0	—	—	53.8/58.5	—	—	6/6	—	—	10/10	—	—	60/60	—	—	78/80	—	—
KFCEH3001F15	15	11.3	1	Fuse	54.2/59.9	36.2/40.0	18.1/20.0	76.3/83.4	53.8/58.5	22.7/25.0	4/4	6/6	10/10	8/8	10/10	10/10	80/90	60/60	25/25	88/89	76/80	75/76
KFCEH3101C15	15	11.3	1	Ckt Bkr	—	36.2/40.0	18.1/20.0	—	53.8/58.5	22.7/25.0	—	6/6	10/10	—	10/10	10/10	—	60/60	25/25	—	78/80	75/76
KFCEH1601I315	15	11.3	3	None	31.3/34.6	—	—	47.7/51.8	—	—	8/6	—	—	10/10	—	—	50/60	—	—	56/60	—	—
KFCEH2001I318	18	13.5	3	None	37.6/41.5	—	—	55.5/60.4	—	—	6/6	—	—	10/8	—	—	60/70	—	—	76/77	—	—
KFCEH3201F20	20	15.0	1	Fuse	72.3/79.9	36.2/40.0	36.2/40.0	98.9/108.4	53.8/58.5	45.3/50.0	3/2	6/6	8/8	8/6	10/10	10/10	100/110	60/60	50/50	85/109	76/80	59/59
KFCEH3301C20	20	15.0	1	Ckt Bkr	—	36.2/40.0	36.2/40.0	—	53.8/58.5	45.3/50.0	—	6/6	8/8	—	10/10	10/10	—	60/60	50/50	—	76/80	59/59
KFCEH3401F24†	24	18.0	3	Fuse	50.1/55.4	—	—	71.2/77.8	—	—	4/4	—	—	8/8	—	—	80/80	—	—	94/95	—	—
	24	18.0	1	Fuse	86.7/95.5	—	—	116.9/127.9	—	—	1/1	—	—	6/6	—	—	125/150	—	—	115/116	—	—
KFCEH3501F30†	30	22.5	3	Fuse	62.6/69.2	—	—	86.8/95.0	—	—	3/3	—	—	8/8	—	—	90/100	—	—	97/98	—	—
	30	22.5	1	Fuse	100.0/120.0	—	—	144.8/158.5	—	—	0/00	—	—	6/6	—	—	150/175	—	—	117/150	—	—

FIELD MULTIPPOINT WIRING OF 24- AND 30- KW SINGLE PHASE

HEATER PART NO.	KW		PHASE	HEATER AMPS 208/230V			MIN AMPACITY 208/230V**			MIN WIRE SIZE (AWG) 208/230V††			MIN GND WIRE SIZE 208/230V			MAX FUSE/CKT BKR AMPS 208/230V			MAX WIRE LENGTH 208/230V (F)‡‡		
	240V	208V		L1,L2	L3,L4	L5,L6	L1,L2	L3,L4	L5,L6	L1,L2	L3,L4	L5,L6	L1,L2	L3,L4	L5,L6	L1,L2	L3,L4	L5,L6	L1,L2	L3,L4	L5,L6
KFCEH3401F24†	24	18.0	1	28.9/32.0	28.9/32.0	28.9/32.0	28.9/32.0	36.2/40.0	36.2/40.0	8/8	8/8	8/8	10/10	10/10	10/10	45/50	40/40	40/40	59/60	73/73	73/73
KFCEH3501F30†	30	22.5	1	36.2/40.0	36.2/40.0	36.2/40.0	53.8/58.5	45.3/50.0	45.3/50.0	6/6	8/8	8/8	10/10	10/10	10/10	60/60	50/50	50/50	78/80	59/59	59/59

† Field convertible to 1 phase, single or multiple supply circuit.

‡ Field convertible to 3 phase.

** Includes blower motor amps of largest fan coil used with heater.

†† Copper wire must be used. If other than uncoated (non-plated), 75° C ambient, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used, consult applicable tables of the National Electric Code (ANSI/NFPA 70).

‡‡ Length shown is as measured 1 way along wire path between unit and service panel for a voltage drop not to exceed 2%.

NOTES:

1. For fan coil sizes 018- 037.
2. For fan coil sizes 042- 061.
3. Single circuit application of F15 and F20 heaters requires single- point wiring kit accessory.

ACCESSORIES

	ITEM	ACCESSORY PART NO.*	FAN COIL SIZE USED WITH
1.	Disconnect Kit	KFADK0201DSC	Cooling controls and heaters 3- through 10- kW
2.	Downflow Base Kit	KFACB0201CFB	019, 025
		KFACB0301CFB	031, 037, 043
		KFACB0401CFB	049, 061
3.	Downflow Conversion Kit	KFADC0201SLP	Slope Coil Units—019, 025, 031
		KFADC0401ACL	A- Coil Units—037, 043, 049, 061
4.	Single- Point Wiring Kit	KFASP0101SPK	Only with 15- and 20- kW Fused Heaters
5.	Filter Kit (12 Pack)	KFAFK0212MED	019, 025
		KFAFK0312LRG	031, 037, 043
		KFAFK0412XXL	049, 061
6.	Power Plug Kit (25 Pack)	KFAPP0125PLG	All
7.	PVC Condensate Trap Kit (50 pack)	KFAET0150ETK	All
8.	Downflow/Horizontal Conversion Gasket Kit	KFAHD0101SLP	All
9.	Horizontal Water Management Kit (25 pack)	KFAHC0125AAA	All
10.	Standard Filter Rack Kit	KFAFR0101FRM	NA
		KFAFR0201FRM	019, 025
		KFAFR0301FRM	031, 037, 043
		KFAFR0401FRM	049, 061

* Factory- authorized and listed, field- installed.

Accessory Kits Description Suggested and Required Use.

1. Disconnect Kit

The kit is used to disconnect electrical power to the fan coil so service or maintenance may be performed safely.
SUGGESTED USE: Units for 3- through 10-kW electric resistance heaters and cooling controls.

2. Downflow Base Kit

This kit is designed to provide a 1- in. (25 mm) minimum clearance between unit discharge plenum, ductwork, and combustible materials. It also provides a gap-free seal with the floor.
REQUIRED USE: This kit must be used whenever fan coils are used in downflow applications.

3. Downflow Conversion Kit

Fan coils are shipped from the factory for upflow or horizontal- left applications. Downflow conversion kits provide proper condensate water drainage and support for the coil when used in downflow applications. Separate kits are available for slope coils and A- coils.
REQUIRED USE: This kit must be used whenever fan coils are used in downflow applications.

4. Single Point Wiring Kit

The single point wiring kit acts as a jumper between L1 and L3 lugs, and between the L2 and L4 lugs. This allows the installer to run 2 heavy-gauge, high voltage wires into the fan coil rather than 4 light-gauge, high voltage wires.
SUGGESTED USE: Fan coils with 15- and 20- kW fused heaters only.

5. Filter Kit (12 pack)

The kit consists of 12 fan coil framed filters. These filters collect large dust particles from the return air entering the fan coil and prevents them from collecting on the coil. This process helps to keep the coil clean, which increases heat transfer and in turn the efficiency of the system.
SUGGESTED USE: To replace filters in fan coils.
REQUIRED USE: All units unless a filter grille is used.

6. Power Plug Kit

The kit consists of 25 wire harness assemblies. Each plug provides the high-voltage power connection to the fan coil in the absence of electric heat.
REQUIRED USE: Units installed without electric heat.

7. Condensate Drain Trap Kit

This kit consists of 50 PVC condensate traps. Each trap is pre-formed and ready for field installation. This deep trap helps the system make and hold proper condensate flow even during blower initiation.
SUGGESTED USE: All fan coils.

8. Downflow/Horizontal Conversion Gasket Kit

This kit provides the proper gasketing of units when applied in either a downflow or horizontal application.
REQUIRED USE: Fan coils in either downflow or horizontal applications.

9. Horizontal Applications - Water Management Kit

This kit provides proper installation of fan coils under conditions of high static pressure and high relative humidity.
SUGGESTED USE: All fan coils.

10. Standard Filter Rack Kit

This kit mounts in fan coil filter rack area and modifies the existing filter rack to support standard 1- in. filter sizes.
SUGGESTED USE: Fan coils using standard filter sizes.