

FFMA
Base Series Fan Coil
Sizes 018 thru 037



Product Data

FEATURES

The FFMA Series Fan Coil unit is primarily designed for apartment applications as an upflow only indoor fan coil for split-system heat pumps for use with Puron® refrigerant. Accessory field-installed electric heat kits are available in 5, 7.5 or 10 kW sizes. The 018, 024, 030, and 036 size units use a piston refrigerant metering device. The 019, 025, 031 and 037 size units come equipped with a TXV. All unit sizes are factory-configured for Puron refrigerant. However, they can be used for R-22 applications with the addition of an accessory R-22 TXV kit.

This fan coil may be installed in a frame mount or wall hung applications. The cabinet sizes allow units to fit between standard stud spacings. No return-air ductwork is required if the application provides for return air in the front of the cabinet through a louvered closet door or optional louvered wall panel. This unit is field convertible to bottom return without the need for an additional accessory kit.

The cabinet exterior is made of galvanized sheet metal and is sealed to limit cabinet air leakage to 2% when tested at 1.0 inches of static pressure and 1.4% when tested at 0.5 inches of static pressure. The cabinet is fully insulated to meet applications in conditioned space. This unit is not approved for installation in unconditioned spaces.

The FFMA 018, 024, 030, and 036 sizes use a 3-speed PSC motor. The FFMA 019, 025, 031, and 037 sizes use a 5-speed multi-tap ECM motor for efficiency. Motors are suspended at three points on rubber grommets for quieter operation. Coils are tin-plated copper tube, aluminum fin.

Refrigerant lines and thermostat low voltage connections are made through the top while the high voltage connections are made from either the right, left or top side of the fan coil. Sweat-type refrigerant connections on both liquid and vapor lines make for swift, low-cost installation. All service access to the unit is conveniently located in the front.

Primary and secondary drain connections exit from the bottom or either side of the cabinet. Fresh air intake holes measuring 3.4" (35 mm) are located on each side of the unit cabinet and come capped from the factory.



A13417

MODEL NUMBER NOMENCLATURE

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

Product
 F = Fan Coil

Type
 F = Thru- the- Wall

Position
 M = Upflow/Apartment

Series
 A

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

Refrigerant
 P = Puron® (R- 410A)

Heating Size
 00 = No Factory- Installed
 Electric Heat

Tube Type
 0 = Copper
 T = Tin Plate

Capacity
 018, 019 = 18,000
 024, 025 = 24,000
 030, 031 = 30,000
 036, 037 = 36,000



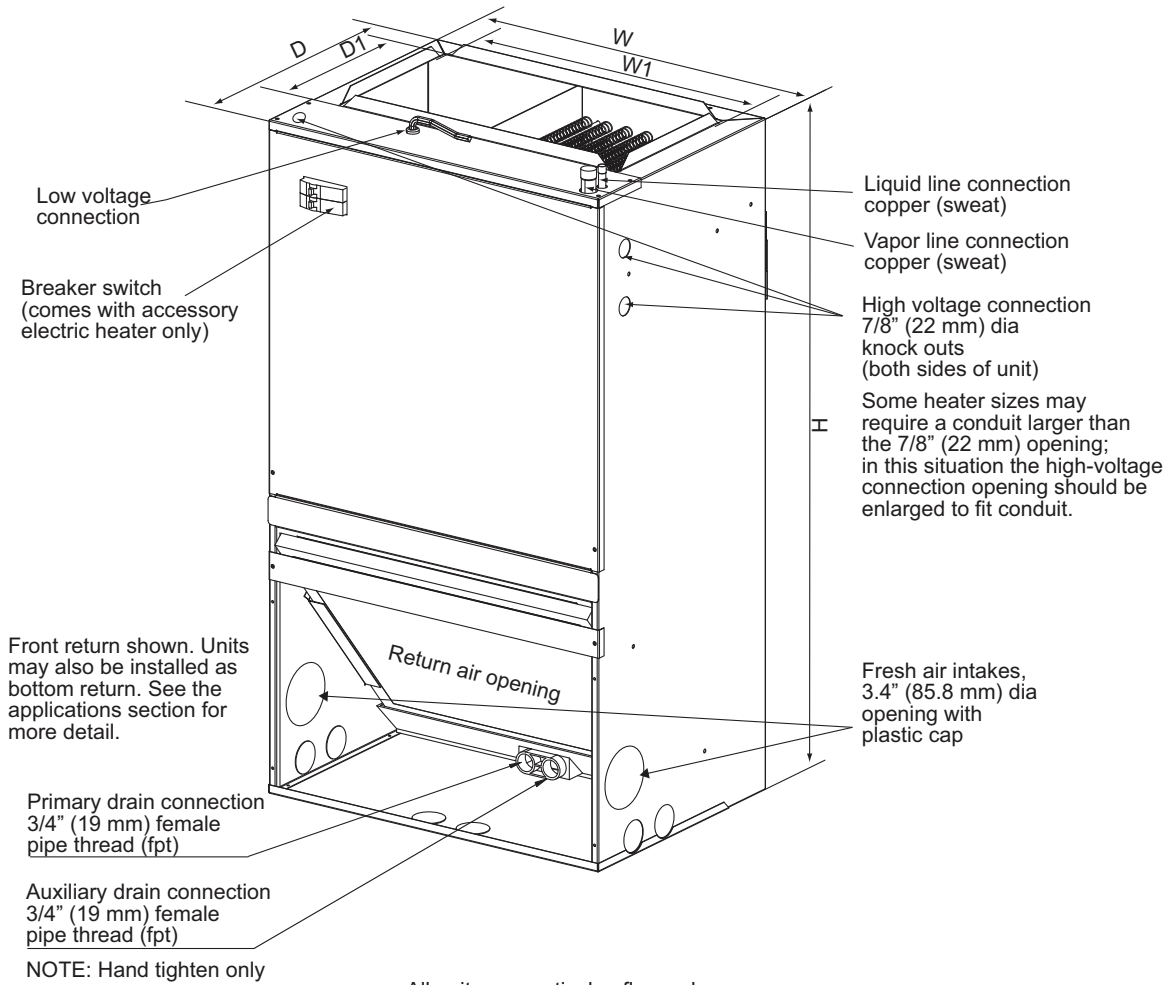
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ISO 9001
 OMI-SAI Global



DIMENSIONS



All units are vertical upflow only.
Equipment shown with field-installed electric heat.

A150161

Fig. 1 - Dimensional Drawing with Circuit Breaker

DIMENSIONAL DATA

| Model Size | Dimensions- In. (mm) | | | | | Unit Weight / Shipping Weight Lbs. (kg) |
|---------------|----------------------|--------------|---------------|--------------|---------------|---|
| | Unit Height H | Unit Width W | Unit Width W1 | Unit Depth D | Unit Depth D1 | |
| 18, 19 | 36-1/2 (928) | 20-1/2 (521) | 17-2/5 (452) | 15 (381) | 9-1/2 (242) | 88 / 99 (40 / 45) |
| 24, 25 | 36-1/2 (928) | 20-1/2 (521) | 17-2/5 (452) | 15 (381) | 9-1/2 (242) | 88 / 99 (40 / 45) |
| 30, 31 | 39-1/2 (1004) | 22 (559) | 18-4/5 (478) | 19 (483) | 9-1/2 (242) | 110/ 121 (50 / 55) |
| 36, 37 | 39-1/2 (1004) | 22 (559) | 18-4/5 (478) | 19 (483) | 9-1/2 (242) | 110/ 121 (50 / 55) |

SPECIFICATIONS

| FFMANPO | Unit Size | | | |
|---|-------------------------|-------------------------|-------------------------|-------------------------|
| | 18 | 24 | 30 | 36 |
| Nominal Cooling Capacity (BTUH) | 18,000 | 24,000 | 30,000 | 36,000 |
| COIL | | | | |
| Puron- Refrigerant metering Device * (Piston) | 50 | 57 | 65 | 72 |
| Fins Per In. | 17 | 17 | 17 | 17 |
| Face Area Ft ² | 2.1 | 2.1 | 3.0 | 3.0 |
| Coil Configuration | Slope | | | |
| BLOWER & MOTOR | | | | |
| Air Discharge | Upflow | | | |
| Blower Type | Direct Drive | | | |
| CFM (Nominal) | 600 | 800 | 1000 | 1200 |
| Motor Type | PSC | PSC | PSC | PSC |
| Motor HP | 1/6 | 1/4 | 1/3 | 1/2 |
| Rated RPM | 1075 | 1075 | 1075 | 1075 |
| Motor Speeds | 3 | 3 | 3 | 3 |
| FILTER | | | | |
| Field Installed | 16x20x1 (406x508x25) | 16x20x1 (406x508x25) | 20x20x1 (508x508x25) | 20x20x1 (508x508x25) |
| CONNECTIONS (Sweat) | | | | |
| Suction - in. (mm) | 3/4 In. (19 mm) | | | |
| Liquid - in. (mm) | 3/8 In. (9.5 mm) | | | |
| Condensate (FPT) In. (mm) | 3/4 In. (19 mm) | | | |
| ELECTRICAL DATA | | | | |
| Voltage | 208/230 | 208/230 | 208/230 | 208/230 |
| Hertz | 60 | 60 | 60 | 60 |
| Circuit Amps | 0.8 | 1.0 | 1.28 | 1.8 |
| Minimum Circuit Ampacity | 1 | 1.3 | 1.6 | 2.3 |
| Maximum Circuit Protector | 15 (A) | 15 (A) | 15 (A) | 15 (A) |

* The piston included with the fan coil is unique to this product and **CANNOT** be replaced with the piston shipped with outdoor unit. Refer to the AHRI ratings to check if your combination can use the piston shipped with the unit or requires an accessory TXV.

| FFMANPO | Unit Size | | | |
|------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | 19 | 25 | 31 | 37 |
| Nominal Cooling Capacity (BTUH) | 18,000 | 24,000 | 30,000 | 36,000 |
| COIL | | | | |
| Puron- Refrigerant metering Device | TXV | | | |
| Fins Per In. | 17 | 17 | 17 | 17 |
| Face Area Ft ² | 2.1 | 2.1 | 3.0 | 3.0 |
| Coil Configuration | Slope | | | |
| BLOWER & MOTOR | | | | |
| Air Discharge | Upflow | | | |
| Blower Type | Direct Drive | | | |
| CFM (Nominal) | 600 | 800 | 1000 | 1200 |
| Motor Type | ECM | ECM | ECM | ECM |
| Motor HP | 1/3 | 1/3 | 1/2 | 1/2 |
| Rated RPM | 1050 | 1050 | 1050 | 1050 |
| Motor Speeds | 5 | 5 | 5 | 5 |
| FILTER | | | | |
| Field Installed | 16x20x1 (406x508x25) | 16x20x1 (406x508x25) | 20x20x1 (508x508x25) | 20x20x1 (508x508x25) |
| CONNECTIONS (Sweat) | | | | |
| Suction - in. (mm) | 3/4 In. (19 mm) | | | |
| Liquid - in. (mm) | 3/8 In. (9.5 mm) | | | |
| Condensate (FPT) In. (mm) | 3/4 In. (19 mm) | | | |
| ELECTRICAL DATA | | | | |
| Voltage | 208/230 | 208/230 | 208/230 | 208/230 |
| Hertz | 60 | 60 | 60 | 60 |
| Circuit Amps | 1.9 | 1.9 | 2.7 | 2.7 |
| Minimum Circuit Ampacity | 2.4 | 2.4 | 3.4 | 3.4 |
| Maximum Circuit Protector | 15 (A) | 15 (A) | 15 (A) | 15 (A) |

PERFORMANCE DATA

PSC - Airflow Performance (Standard CFM)

| Model FFMA | Motor Speed | CFM Wet Coil without Filter or Electric Heat | | | | | | | | |
|---------------|-------------|--|---------------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|
| | | External Static Pressure- Inches W.C.[kPa] | | | | | | | | |
| | | 0 [0] | 0.1 [.025] | 0.2 [.050] | 0.3 [.075] | 0.4 [0.100] | 0.5 [0.125] | 0.6 [0.150] | 0.7 [0.175] | 0.8 [0.200] |
| 18 | High | 813 | 775 | 731 | 692 | 653 | 609 | 560 | 501 | 424 |
| | Medium | 695 | 656 | 620 | 581 | 540 | 498 | 440 | 380 | - |
| | Low | 603 | 562 | 525 | 485 | 443 | 393 | - | - | - |
| 24 | High | 947 | 895 | 847 | 799 | 753 | 704 | 655 | 592 | 530 |
| | Medium | 845 | 801 | 759 | 716 | 675 | 626 | 573 | 510 | - |
| | Low | 676 | 640 | 602 | 563 | 523 | 499 | - | - | - |
| 30 | High | 1367 | 1312 | 1252 | 1192 | 1131 | 1063 | 990 | 908 | 821 |
| | Medium | 1211 | 1165 | 1114 | 1065 | 1016 | 960 | 899 | 833 | 748 |
| | Low | 992 | 952 | 912 | 873 | 828 | 782 | 728 | 656 | 627 |
| 36 | High | 1397 | 1345 | 1290 | 1263 | 1196 | 1116 | 1051 | 980 | 907 |
| | Medium | 1298 | 1252 | 1198 | 1147 | 1094 | 1037 | 976 | 910 | 842 |
| | Low | 1149 | 1105 | 1056 | 1008 | 960 | 909 | 856 | 791 | 726 |

■ - Shaded boxes represent airflow outside the required 300-450 CFM/ton.

NOTES:

1. Airflow data reflects wet coil, without electric heat, and no filter installed.
2. Airflow is equivalent for front or bottom return configurations.

ECM - Airflow Performance (Standard CFM) - Wet Coil

| Model FFMA | Motor Speed | CFM Wet Coil without Filter or Electric Heat | | | | | | | | |
|---------------|-------------|--|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | | External Static Pressure- Inches W.C.[kPa] | | | | | | | | |
| | | 0 [0] | 0.1 [.025] | 0.2 [.050] | 0.3 [0.075] | 0.4 [0.100] | 0.5 [0.125] | 0.6 [0.150] | 0.7 [0.175] | 0.8 [0.200] |
| 18 | 5 | 913 | 881 | 848 | 818 | 792 | 763 | 731 | 691 | 650 |
| | 4 | 825 | 787 | 753 | 717 | 682 | 650 | 617 | 580 | 540 |
| | 3 | 737 | 700 | 663 | 630 | 589 | 550 | 511 | 474 | 436 |
| | 2 - Factory | 675 | 632 | 596 | 555 | 521 | 480 | 440 | 399 | 366 |
| | 1 | 590 | 548 | 499 | 455 | 430 | 368 | 338 | 309 | 263 |
| 24 | 5 | 913 | 881 | 848 | 818 | 792 | 763 | 731 | 691 | 650 |
| | 4 - Factory | 825 | 787 | 753 | 717 | 682 | 650 | 617 | 580 | 540 |
| | 3 | 737 | 700 | 663 | 630 | 589 | 550 | 511 | 474 | 436 |
| | 2 | 675 | 632 | 596 | 555 | 521 | 480 | 440 | 399 | 366 |
| | 1 | 590 | 548 | 499 | 455 | 430 | 368 | 338 | 309 | 263 |
| 30 | 5 | 1362 | 1325 | 1266 | 1238 | 1197 | 1159 | 1119 | 1080 | 1040 |
| | 4 | 1282 | 1242 | 1176 | 1151 | 1111 | 1071 | 1028 | 975 | 936 |
| | 3 | 1267 | 1225 | 1143 | 1120 | 1078 | 1036 | 993 | 942 | 897 |
| | 2 - Factory | 1157 | 1111 | 1052 | 1016 | 971 | 929 | 884 | 842 | 802 |
| | 1 | 1077 | 1028 | 965 | 932 | 886 | 850 | 804 | 768 | 732 |
| 36 | 5 | 1362 | 1325 | 1266 | 1238 | 1197 | 1159 | 1119 | 1080 | 1040 |
| | 4 - Factory | 1282 | 1242 | 1176 | 1151 | 1111 | 1071 | 1028 | 975 | 936 |
| | 3 | 1267 | 1225 | 1143 | 1120 | 1078 | 1036 | 993 | 942 | 897 |
| | 2 | 1157 | 1111 | 1052 | 1016 | 971 | 929 | 884 | 842 | 802 |
| | 1 | 1077 | 1028 | 965 | 932 | 886 | 850 | 804 | 768 | 732 |

■ - Shaded boxes represent airflow outside the required 300-450 CFM/ton.

NOTES:

1. Airflow data reflects wet coil, without electric heat, and no filter installed. FFMA 208V airflow is approximately the same as 230V due to constant torque of ECM motor.
2. Airflow is equivalent for front or bottom return configurations.

PERFORMANCE DATA (CONT.)

ECM - Airflow Performance (Standard CFM) - Dry Coil

| Model FFMA | Motor Speed | CFM Dry Coil without Filter or Electric Heat | | | | | | | | |
|---------------|-------------------|--|---------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | | External Static Pressure- Inches W.C.[kPa] | | | | | | | | |
| | | 0 [0] | 0.1 [.025] | 0.2 [.050] | 0.3 [0.075] | 0.4 [0.100] | 0.5 [0.125] | 0.6 [0.150] | 0.7 [0.175] | 0.8 [0.200] |
| 18 | Tap (5) | 884 | 854 | 833 | 803 | 771 | 737 | 700 | 668 | 632 |
| | Tap (4) | 796 | 767 | 737 | 709 | 675 | 645 | 612 | 579 | 538 |
| | Tap (3) | 714 | 681 | 654 | 616 | 588 | 555 | 527 | 494 | 459 |
| | Tap (2) - Factory | 653 | 619 | 584 | 558 | 525 | 494 | 463 | 434 | 396 |
| | Tap (1) | 581 | 545 | 511 | 472 | 440 | 407 | 374 | 344 | 329 |
| 24 | Tap (5) | 884 | 854 | 833 | 803 | 771 | 737 | 700 | 668 | 632 |
| | Tap (4) - Factory | 796 | 767 | 737 | 709 | 675 | 645 | 612 | 579 | 538 |
| | Tap (3) | 714 | 681 | 654 | 616 | 588 | 555 | 527 | 494 | 459 |
| | Tap (2) | 653 | 619 | 584 | 558 | 525 | 494 | 463 | 434 | 396 |
| | Tap (1) | 581 | 545 | 511 | 472 | 440 | 407 | 374 | 344 | 329 |
| 30 | Tap (5) | 1309 | 1272 | 1236 | 1200 | 1164 | 1125 | 1088 | 1051 | 1010 |
| | Tap (4) | 1122 | 1088 | 1056 | 1022 | 986 | 950 | 915 | 877 | 836 |
| | Tap (3) | 1109 | 1073 | 1038 | 1003 | 973 | 937 | 901 | 867 | 828 |
| | Tap (2) - Factory | 1010 | 975 | 941 | 904 | 869 | 835 | 793 | 751 | 704 |
| | Tap (1) | 936 | 899 | 862 | 833 | 793 | 755 | 710 | 664 | 619 |
| 36 | Tap (5) | 1309 | 1272 | 1236 | 1200 | 1164 | 1125 | 1088 | 1051 | 1010 |
| | Tap (4) - Factory | 1122 | 1088 | 1056 | 1022 | 986 | 950 | 915 | 877 | 836 |
| | Tap (3) | 1109 | 1073 | 1038 | 1003 | 973 | 937 | 901 | 867 | 828 |
| | Tap (2) | 1010 | 975 | 941 | 904 | 869 | 835 | 793 | 751 | 704 |
| | Tap (1) | 936 | 899 | 862 | 833 | 793 | 755 | 710 | 664 | 619 |

■ - Shaded boxes represent airflow outside the required 300-450 CFM/ton.

NOTES:

1. Airflow based upon dry coil at 230V with no electric heat and factory- approved filter. For FFMA, airflow at 208V is approximately the same as 230V because the multi- tap ECM motor is a constant torque motor. The torque doesn't drop off at the speeds in which the motor operates.
2. Airflow is equivalent for front or bottom return configurations.

Required CFM Range

| Size | CFM | |
|------|-----|------|
| | Min | Max |
| 18 | 450 | 675 |
| 24 | 600 | 900 |
| 30 | 750 | 1125 |
| 36 | 900 | 1350 |

PERFORMANCE DATA (CONT.)

GROSS COOLING CAPACITIES (mbh)

| UNIT SIZE | INDOOR COIL AIR | | SATURATED TEMPERATURE LEAVING EVAPORATOR °F (°C) | | | | | | | | | | | | | | |
|-----------|-----------------|---------|--|-----|------|--------|-----|------|--------|-----|------|---------|-----|------|---------|-----|------|
| | | | 35 (2) | | | 40 (4) | | | 45 (7) | | | 50 (10) | | | 55 (13) | | |
| | CFM | EWB | TC | SHC | BF | TC | SHC | BF | TC | SHC | BF | TC | SHC | BF | TC | SHC | BF |
| 18 / 19 | 525 | 72 (22) | 38 | 18 | 0.00 | 35 | 17 | 0.00 | 31 | 15 | 0.00 | 27 | 14 | 0.00 | 22 | 12 | 0.00 |
| | | 67 (19) | 32 | 19 | 0.00 | 28 | 18 | 0.00 | 25 | 16 | 0.00 | 20 | 14 | 0.00 | 15 | 12 | 0.00 |
| | | 62 (17) | 26 | 20 | 0.00 | 22 | 18 | 0.00 | 19 | 17 | 0.01 | 15 | 15 | 0.07 | 13 | 13 | 0.21 |
| | 600 | 72 (22) | 42 | 20 | 0.00 | 38 | 18 | 0.00 | 34 | 17 | 0.00 | 30 | 15 | 0.00 | 24 | 13 | 0.00 |
| | | 67 (19) | 34 | 21 | 0.00 | 31 | 19 | 0.00 | 26 | 17 | 0.00 | 22 | 16 | 0.00 | 17 | 14 | 0.01 |
| | | 62 (17) | 28 | 22 | 0.01 | 24 | 20 | 0.01 | 20 | 19 | 0.01 | 17 | 17 | 0.08 | 14 | 14 | 0.22 |
| | 675 | 72 (22) | 45 | 21 | 0.00 | 41 | 20 | 0.00 | 37 | 18 | 0.00 | 32 | 16 | 0.00 | 26 | 14 | 0.00 |
| | | 67 (19) | 37 | 23 | 0.01 | 33 | 21 | 0.01 | 29 | 19 | 0.01 | 24 | 17 | 0.01 | 18 | 15 | 0.01 |
| | | 62 (17) | 30 | 24 | 0.01 | 26 | 22 | 0.01 | 22 | 20 | 0.01 | 19 | 19 | 0.10 | 16 | 16 | 0.24 |
| 24 / 25 | 700 | 72 (22) | 46 | 22 | 0.00 | 43 | 20 | 0.00 | 38 | 19 | 0.00 | 33 | 17 | 0.00 | 27 | 15 | 0.00 |
| | | 67 (19) | 38 | 24 | 0.01 | 35 | 22 | 0.01 | 30 | 20 | 0.01 | 25 | 18 | 0.01 | 19 | 16 | 0.01 |
| | | 62 (17) | 31 | 25 | 0.01 | 27 | 24 | 0.01 | 23 | 22 | 0.02 | 20 | 20 | 0.11 | 17 | 17 | 0.24 |
| | 800 | 72 (22) | 50 | 24 | 0.00 | 46 | 22 | 0.00 | 41 | 20 | 0.01 | 36 | 18 | 0.01 | 30 | 16 | 0.01 |
| | | 67 (19) | 41 | 26 | 0.01 | 37 | 24 | 0.01 | 32 | 22 | 0.01 | 27 | 20 | 0.01 | 21 | 18 | 0.02 |
| | | 62 (17) | 34 | 28 | 0.01 | 30 | 26 | 0.01 | 25 | 25 | 0.03 | 22 | 22 | 0.14 | 19 | 19 | 0.26 |
| | 900 | 72 (22) | 53 | 25 | 0.01 | 48 | 24 | 0.01 | 44 | 22 | 0.01 | 38 | 20 | 0.01 | 32 | 17 | 0.01 |
| | | 67 (19) | 44 | 28 | 0.01 | 39 | 26 | 0.01 | 34 | 24 | 0.01 | 29 | 22 | 0.02 | 22 | 19 | 0.02 |
| | | 62 (17) | 36 | 30 | 0.02 | 32 | 28 | 0.02 | 27 | 27 | 0.05 | 24 | 24 | 0.16 | 21 | 21 | 0.28 |
| 30 / 31 | 875 | 72 (22) | 67 | 33 | 0.00 | 61 | 30 | 0.00 | 54 | 27 | 0.00 | 46 | 23 | 0.00 | 37 | 20 | 0.00 |
| | | 67 (19) | 55 | 34 | 0.01 | 49 | 31 | 0.01 | 41 | 28 | 0.01 | 33 | 24 | 0.01 | 23 | 20 | 0.01 |
| | | 62 (17) | 44 | 35 | 0.01 | 38 | 32 | 0.01 | 30 | 28 | 0.01 | 24 | 24 | 0.07 | 20 | 20 | 0.23 |
| | 1000 | 72 (22) | 74 | 37 | 0.00 | 67 | 33 | 0.00 | 59 | 30 | 0.00 | 50 | 26 | 0.00 | 40 | 22 | 0.01 |
| | | 67 (19) | 61 | 38 | 0.01 | 54 | 34 | 0.01 | 46 | 31 | 0.01 | 37 | 27 | 0.01 | 25 | 22 | 0.01 |
| | | 62 (17) | 49 | 39 | 0.01 | 42 | 35 | 0.01 | 34 | 31 | 0.02 | 27 | 27 | 0.08 | 22 | 22 | 0.24 |
| | 1100 | 72 (22) | 79 | 39 | 0.00 | 72 | 36 | 0.00 | 63 | 32 | 0.01 | 54 | 28 | 0.01 | 43 | 24 | 0.01 |
| | | 67 (19) | 65 | 41 | 0.01 | 57 | 37 | 0.01 | 49 | 33 | 0.01 | 39 | 29 | 0.01 | 28 | 24 | 0.02 |
| | | 62 (17) | 52 | 42 | 0.02 | 45 | 38 | 0.02 | 36 | 34 | 0.02 | 29 | 29 | 0.09 | 24 | 24 | 0.25 |
| 36 / 37 | 1050 | 72 (22) | 73 | 36 | 0.00 | 67 | 33 | 0.00 | 59 | 29 | 0.01 | 51 | 26 | 0.01 | 41 | 22 | 0.01 |
| | | 67 (19) | 60 | 38 | 0.01 | 54 | 34 | 0.01 | 46 | 31 | 0.01 | 37 | 27 | 0.01 | 27 | 23 | 0.02 |
| | | 62 (17) | 49 | 39 | 0.01 | 42 | 36 | 0.01 | 34 | 32 | 0.02 | 28 | 28 | 0.09 | 23 | 23 | 0.24 |
| | 1200 | 72 (22) | 80 | 39 | 0.00 | 73 | 36 | 0.00 | 65 | 32 | 0.01 | 55 | 28 | 0.01 | 45 | 24 | 0.01 |
| | | 67 (19) | 66 | 41 | 0.02 | 58 | 38 | 0.02 | 50 | 34 | 0.02 | 41 | 30 | 0.02 | 30 | 26 | 0.02 |
| | | 62 (17) | 53 | 43 | 0.02 | 46 | 40 | 0.02 | 38 | 36 | 0.02 | 32 | 32 | 0.11 | 26 | 26 | 0.25 |
| | 1350 | 72 (22) | 85 | 42 | 0.00 | 78 | 39 | 0.01 | 69 | 35 | 0.01 | 59 | 31 | 0.02 | 48 | 27 | 0.02 |
| | | 67 (19) | 71 | 45 | 0.02 | 63 | 41 | 0.02 | 54 | 37 | 0.02 | 44 | 33 | 0.02 | 32 | 28 | 0.03 |
| | | 62 (17) | 57 | 47 | 0.02 | 49 | 44 | 0.02 | 41 | 39 | 0.03 | 35 | 35 | 0.12 | 29 | 29 | 0.26 |

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

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 |
| BYPASS FACTOR | 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.

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

ESTIMATED SOUND POWER LEVEL (dBA)

| UNIT SIZE | CONDITIONS | | OCTAVE BAND CENTER FREQUENCY | | | | | 2000 | 4000 |
|-----------|------------|---------------------|------------------------------|------|------|------|------|------|------|
| | CFM | Ext Static Pressure | 63 | 125 | 250 | 500 | 1000 | | |
| 18, 19 | 600 | 0.25 | 46 | 52.1 | 48.9 | 51.8 | 52.5 | 51.7 | 49.7 |
| 24, 25 | 800 | 0.25 | 54.1 | 57.1 | 58.6 | 59 | 61.5 | 59.8 | 57 |
| 30, 31 | 1000 | 0.25 | 51.6 | 52.6 | 52.6 | 53.3 | 56.1 | 52.8 | 59.7 |
| 36, 37 | 1200 | 0.25 | 52.6 | 52.3 | 54.6 | 54.3 | 57.2 | 53.8 | 50.4 |

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

ELECTRICAL DATA FOR FFMANP(018,024,030,036) PSC MOTOR UNITS WITH ELECTRIC HEAT

| Heat Kit Model | Used on Size | Nominal Heat Capacity @ 240V | Ship-ping Weight | Heater Capacity (MBH) | | Minimum Circuit Ampacity (MCA) | | MAX. Fuse or Breaker Heat- Kit Ampacity (HACR) | | Min Wire Size (AWG) †† | | Min Ground Wire Size | | Max Wire Length (Ft) ‡‡ | |
|----------------|--------------|------------------------------|------------------|-----------------------|-----------|--------------------------------|------|--|-----|------------------------|-----|----------------------|-----|-------------------------|-----|
| | | | | KW | lbs. (kg) | 208 | 240 | 208 | 240 | 208 | 240 | 208 | 240 | 208 | 240 |
| EHK2-05B | 018 | 5 | 5.1 (2.3) | 12.3 | 16.4 | 23.6 | 27.1 | 30 | 30 | 10 | 10 | 10 | 10 | 73 | 74 |
| EHK2-08B | | 7.5 | | 22.2 | 25.6 | 34.9 | 40.1 | 50 | 50 | 8 | 8 | 10 | 10 | 76 | 77 |
| EHK2-10B | | 10 | | 24.6 | 32.8 | 46.2 | 53.1 | 60 | 60 | 6 | 6 | 10 | 10 | 92 | 92 |
| EHK2-05B | 024 | 5 | 5.1 (2.3) | 12.3 | 16.4 | 23.9 | 27.3 | 30 | 30 | 10 | 10 | 10 | 10 | 73 | 73 |
| EHK2-08B | | 7.5 | | 22.2 | 25.6 | 35.2 | 40.4 | 50 | 50 | 8 | 8 | 10 | 10 | 76 | 76 |
| EHK2-10B | | 10 | | 24.6 | 32.8 | 46.4 | 53.4 | 60 | 60 | 6 | 6 | 10 | 10 | 91 | 92 |
| EHK2-05B | 030 | 5 | 5.1 (2.3) | 12.3 | 16.4 | 24.2 | 27.7 | 30 | 30 | 10 | 10 | 10 | 10 | 72 | 72 |
| EHK2-08B | | 7.5 | | 22.2 | 25.6 | 35.5 | 40.7 | 50 | 50 | 8 | 8 | 10 | 10 | 75 | 76 |
| EHK2-10B | | 10 | | 24.6 | 32.8 | 46.8 | 53.7 | 60 | 60 | 6 | 6 | 10 | 10 | 91 | 91 |
| EHK2-05B | 036 | 5 | 5.1 (2.3) | 12.3 | 16.4 | 24.9 | 28.3 | 30 | 30 | 10 | 10 | 10 | 10 | 70 | 71 |
| EHK2-08B | | 7.5 | | 22.2 | 25.6 | 36.2 | 41.4 | 50 | 50 | 8 | 8 | 10 | 10 | 74 | 74 |
| EHK2-10B | | 10 | | 24.6 | 32.8 | 47.4 | 54.4 | 60 | 60 | 6 | 6 | 10 | 10 | 90 | 90 |

* †† 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/NGPA 70).

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

ELECTRICAL DATA FOR FFMANP(019,025,031,037) ECM MOTOR UNITS WITH ELECTRIC HEAT

| Heat Kit Model | Used on Size | Nominal Heat Capacity @ 240V | Ship-ping Weight | Heater Capacity (MBH) | | Minimum Circuit Ampacity (MCA) | | MAX. Fuse or Breaker Heat- Kit Ampacity (HACR) | | Min Wire Size (AWG) †† | | Min Ground Wire Size | | Max Wire Length (Ft) ‡‡ | |
|----------------|--------------|------------------------------|------------------|-----------------------|-----------|--------------------------------|------|--|-----|------------------------|-----|----------------------|-----|-------------------------|-----|
| | | | | KW | lbs. (kg) | 208 | 240 | 208 | 240 | 208 | 240 | 208 | 240 | 208 | 240 |
| EHK2-05B | 019 | 5 | 5.1 (2.3) | 12.3 | 16.4 | 25 | 28.5 | 30 | 30 | 10 | 10 | 10 | 10 | 69 | 70 |
| EHK2-08B | | 7.5 | | 22.2 | 25.6 | 36.3 | 41.5 | 50 | 50 | 8 | 8 | 10 | 10 | 73 | 74 |
| EHK2-10B | | 10 | | 24.6 | 32.8 | 47.6 | 54.5 | 60 | 60 | 6 | 6 | 10 | 10 | 89 | 90 |
| EHK2-05B | 025 | 5 | 5.1 (2.3) | 12.3 | 16.4 | 25 | 28.5 | 30 | 30 | 10 | 10 | 10 | 10 | 69 | 70 |
| EHK2-08B | | 7.5 | | 22.2 | 25.6 | 36.3 | 41.5 | 50 | 50 | 8 | 8 | 10 | 10 | 73 | 74 |
| EHK2-10B | | 10 | | 24.6 | 32.8 | 47.6 | 54.5 | 60 | 60 | 6 | 6 | 10 | 10 | 89 | 90 |
| EHK2-05B | 031 | 5 | 5.1 (2.3) | 12.3 | 16.4 | 26 | 29.5 | 30 | 30 | 10 | 10 | 10 | 10 | 67 | 68 |
| EHK2-08B | | 7.5 | | 22.2 | 25.6 | 37.3 | 42.5 | 50 | 50 | 8 | 8 | 10 | 10 | 71 | 72 |
| EHK2-10B | | 10 | | 24.6 | 32.8 | 48.6 | 55.5 | 60 | 60 | 6 | 6 | 10 | 10 | 87 | 88 |
| EHK2-05B | 037 | 5 | 5.1 (2.3) | 12.3 | 16.4 | 26 | 29.5 | 30 | 30 | 10 | 10 | 10 | 10 | 67 | 68 |
| EHK2-08B | | 7.5 | | 22.2 | 25.6 | 37.3 | 42.5 | 50 | 50 | 8 | 8 | 10 | 10 | 71 | 72 |
| EHK2-10B | | 10 | | 24.6 | 32.8 | 48.6 | 55.5 | 60 | 60 | 6 | 6 | 10 | 10 | 87 | 88 |

* †† 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/NGPA 70).

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

OTHER ACCESSORIES

| Kit Number | Description | Used on sizes |
|--------------|---|------------------------|
| KFBLG0106LGL | Louvered Wall Panel with Frame (6 pack) | 18, 19, 24, 25 |
| KFBLG0206LGL | Louvered Wall Panel with Frame (6 pack) | 30, 31, 36, 37 |
| KSATX0601HSO | TXV Kit R-22 | All |
| KSATX201PUR | TXV Kit Puron (R-410A) | 18, 19, 24, 25, 30, 31 |
| KSATX301PUR | TXV Kit Puron (R-401A) | 36, 37 |
| KFAET0150ETK | PVC Condensate Trap Kit (50 pack) | All |
| KFARA0110LGL | Return Air Opening Grille (10 pack) | 18, 19, 24, 25 |
| KFARA0210LGL | Return Air Opening Grille (10 pack) | 30, 31, 36, 37 |