**FW4A Chilled Water**
**FD4A District Cooling**
**Fan Coil with remote control**
**50/60 Hz**
**1200 Thru 2000 CFM**

# Product Data

Carrier's FW4A Chilled Water and FD4A District Cooling multiplies fan coils are designed to cover a wide range of air handling requirements. They are compact and ready to fit where needed - in the basement, crawlspace, attic, utility room, or closet.

## Features/Benefits

- 5 sizes from 3 up to 6 ton cooling capacity.
- High static up to 0.7 inch water (175 Pa) for all sizes.
- External drain pan for connection valves.
- A-coil design for sizes 16 : 20, and sloped-coil for sizes 12&14.
- Efficient lanced sine-wave aluminum fins.
- High-impact thermal plastic condensate pan.
- Primary and secondary drain connection with brass inserts.
- Multipoise design for maximum versatility.
- Field installation heater packages.
- Solid state interlock control board with built-in fuse.
- Sweat type connection.
- Multiple electric entries.
- Inspection plate to facilitate cleaning the coil.
- 3-speed motors for all sizes, in field selection.
- Polyester powder painted steel cabinet to withstand harsh Middle Eastern climatic conditions.
- Permanent filter with aluminum frame 1 inch, flame retardant polyester fibers.
- 208/230 V 1phase 60 Hz and 220 V 1 phase 50 Hz models are available.

FW4A Chilled Water and FD4A District Cooling fan coil is are designed for medium and high static pressure, up to 0.7 inches water (175 Pa) with cooling capacity from 10.8 k watt (36.9 kbtuh) to 21.5 k watt (73.4 kbtuh).

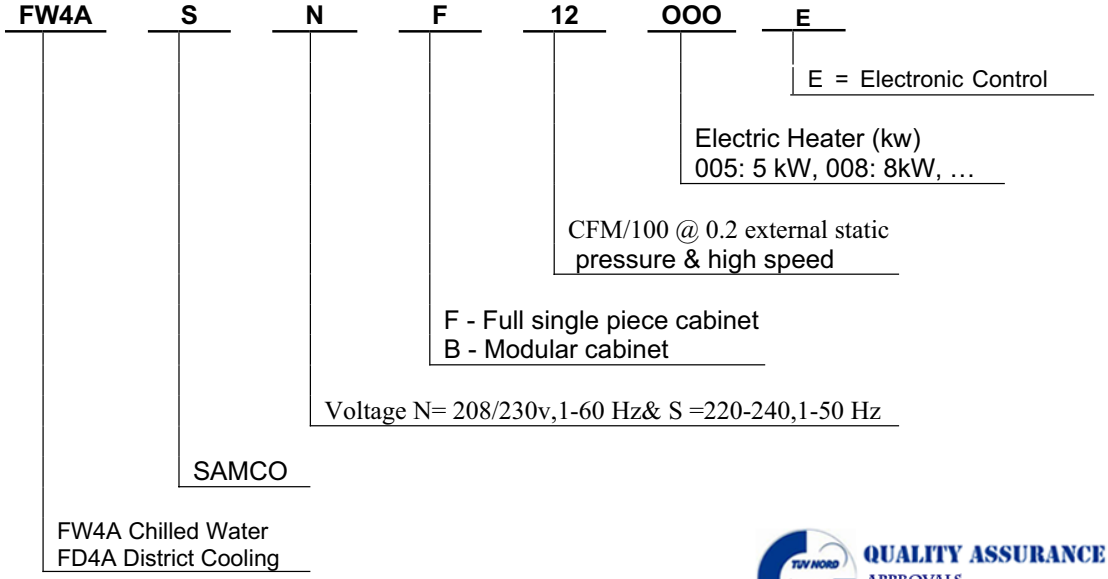
UV-C READY

FW4A and FD4A are available in five sizes with an airflow from 570 l/s (1200 CFM) to 920 l/s (2000 CFM). FW4A and FD4A can be installed vertical or horizontal. Coils are made of efficient lanced sine-wave aluminum fins mechanically bonded to copper tubes for superior heat transfer. 10-mm thick cabinet insulation with density 32 kg/m^3 minimize energy losses and increase unit efficiency FW4A and FD4A comes with polyester powder painted zinc coated galvanized steel casing. Super quite multi 3 speed motor for field selection & electric heaters are available option at field installation.

# Table of Contents



# Model Number Nomenclature




QUALITY ASSURANCE
APPROVALS
ISO 9001:2008
EN ISO 9001:2008
ANSI/ASQC Q9001:2008

# Physical Data

| Model FW4A | Size | | | | |
|---|---|---|---|---|---|
| | FW4A12 | FW4A14 | FWA16 | FW4A18 | FW4A20 |
| CFM* | 1210 | 1394 | 1622 | 1788 | 1967 |
| Cooling Capacity (kw)* | 10.8 | 12.5 | 14.2 | 16.7 | 21.5 |
| Cooling Capacity (kbtuh) | 36.9 | 42.7 | 48.5 | 57 | 73.4 |
| SHR | 0.75 | 0.75 | 0.76 | 0.74 | 0.71 |
| Elec.Heater (Option) kw** | 5 (Recommended) | | | 8 (Recommended) | |
| Power Supply | 220-240 1-50Hz or 220-240 1-60Hz | | | | |
| Motor HP( Nominal) | 1/3 | 1/3 | 1/2 | 3/4 | 3/4 |
| Input Watts @ Med Speed & 25 Pa ESP | 400 | 540 | 620 | 900 | 1000 |
| Number of Motors | | | | | |
| Coil Material | Copper Tube / Aluminum Fins With Lanced Sine Wave | | | | |
| Coil Face Area, m^2 | 0.28 | 0.32 | 0.41 | 0.51 | 0.69 |
| Coil Connection Type | Sweat Type | | | | |
| Coil Connection Size | 5/8 | | 7/8 | | |
| Number of Rows | 3 | | | | |
| Fin Density/ Inch | 15 | | | | |
| Drain Connections Size (inch) | 3/4 | | | | |
| Blower type | Double inlet forward curve | | | | |
| Blower Diameter / Width, mm | 10.63/7.12 | 10.62/9.5 | | 11.87/9.62 | |
| Filter Type | Permanent type, Al frame 1 inch, Flame retardant polyester fibers | | | | |

* At 26.7/19 c approach, 6.7 c water inlet/ 12.7c water outlet, High Speed @ 50 Pa ESP.
** In field installation option.

| Model FD4A | Size | | | | |
|---|---|---|---|---|---|
| | FD4A12 | FD4A14 | FDA16 | FD4A18 | FD4A20 |
| CFM* | 1210 | 1394 | 1622 | 1788 | 1967 |
| Cooling Capacity (kw)* | 12.20 | 13.50 | 16.60 | 16.7 | 21.5 |
| Cooling Capacity (kbtuh) | 41626 | 46062 | 56639 | 56,980 | 73,358 |
| SHR | 0.75 | 0.75 | 0.76 | 0.74 | 0.71 |
| Elec.Heater (Option) kw** | 5 (Recommended) | | | 8 (Recommended) | |
| Power Supply | 220-240 1-50Hz or 220-240 1-60Hz | | | | |
| Motor HP( Nominal) | 1/3 | 1/3 | 1/2 | 3/4 | 3/4 |
| Input Watts @ Med Speed & 25 Pa ESP | 400 | 540 | 620 | 900 | 1000 |
| Number of Motors | | | | | |
| Coil Material | Copper Tube / Aluminum Fins With Lanced Sine Wave | | | | |
| Coil Face Area, m^2 | 0.28 | 0.32 | 0.41 | 0.51 | 0.69 |
| Coil Connection Type | Sweat Type | | | | |
| Coil Connection Size | 5/8 | | 7/8 | | |
| Number of Rows | 3 | | | | |
| Fin Density/ Inch | 15 | | | | |
| Drain Connections Size (inch) | 3/4 | | | | |
| Blower type | Double inlet forward curve | | | | |
| Blower Diameter / Width, mm | 10.63/7.12 | 10.62/9.5 | | 11.87/9.62 | |
| Filter Type | Permanent type, Al frame 1 inch, Flame retardant polyester fibers | | | | |

Electrical Data

| Model Series 60Hz | FW4A12 / FD4A12 | FW4A14 / FD4A14 | FW4A16 / FD4A16 | FW4A18 / FD4A18 | FW4A20 / FD4A20 |
|---|---|---|---|---|---|
| Number of Motors | 1 | 1 | 1 | 1 | 1 |
| Motor FLA | 2.7 | 2.9 | 4.3 | 5.4 | 5.4 |
| MCA | 3.4 | 3.6 | 5.4 | 6.8 | 6.8 |
| MOCP | 15 | 15 | 15 | 15 | 15 |

| Model Series 50Hz | FW4A12 / FD4A12 | FW4A14 / FD4A14 | FW4A16 / FD4A16 | FW4A18 / FD4A18 | FW4A20 / FD4A20 |
|---|---|---|---|---|---|
| Number of Motors | 1 | 1 | 1 | 1 | 1 |
| Motor FLA | 1.9 | 1.9 | 2.7 | 3.6 | 3.6 |
| MCA | 2.4 | 2.4 | 3.4 | 4.5 | 4.5 |
| MOCP | 15 | 15 | 15 | 15 | 15 |

# Performance Data – FW4A (50/60 HZ)

| Rating: 50 Pa External Static Pressure | | FW4A12 | | | FW4A14 | | | FW4A16 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Fan Speed | High | Medium | Low | High | Medium | Low | High | Medium | Low |
| | Capacity (KW) | 10.8 | 9.8 | 8.8 | 12.5 | 11.4 | 10.4 | 14.2 | 13.7 | 12.9 |
| | Capacity (Btu/Hr) | 36,850 | 33,438 | 30,026 | 42,650 | 38,897 | 35,485 | 48,450 | 46,744 | 44,015 |
| | CFM | 1210 | 1058 | 925 | 1394 | 1232 | 1046 | 1622 | 1535 | 1422 |
| | L/sec Air | 568 | 497 | 434 | 654 | 578 | 491 | 761 | 721 | 668 |
| | SHR | 0.769 | 0.760 | 0.754 | 0.767 | 0.760 | 0.742 | 0.774 | 0.766 | 0.765 |
| | Air DB Ent | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 |
| | Air WB Ent | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 |
| | Air DB Lvng. C | 14.6 | 14.1 | 13.6 | 14.6 | 14.1 | 13.6 | 14.7 | 14.6 | 14.3 |
| | Air WB Lvng. C | 14.0 | 13.7 | 13.3 | 14.0 | 13.7 | 13.2 | 14.1 | 14.0 | 13.3 |
| | N Circuits | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 |
| | Face Tubes | 24 | 24 | 24 | 28 | 28 | 28 | 36 | 36 | 36 |
| | Water In C | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 |
| | Water Lvng. C | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 |
| | Gal/Min. | 6.82 | 6.18 | 5.55 | 7.88 | 7.18 | 6.56 | 8.96 | 8.64 | 8.13 |
| | L/sec Water | 0.430 | 0.390 | 0.350 | 0.497 | 0.453 | 0.414 | 0.565 | 0.545 | 0.513 |
| | DP PSI | 3.94 | 3.32 | 2.75 | 3.61 | 3.07 | 2.62 | 5.07 | 4.77 | 4.29 |
| | DP K Pa | 27.2 | 22.9 | 19.0 | 24.9 | 21.2 | 18.1 | 35.0 | 32.9 | 29.6 |

| 100 Pa. External Static Pressure | Fan Speed | High | Medium | Low | High | Medium | Low | High | Medium | Low |
|---|---|---|---|---|---|---|---|---|---|---|
| | Capacity (KW) | 9.7 | 8.8 | 8 | 11.4 | 10.2 | 9.6 | 12.9 | 12.5 | 11.7 |
| | Capacity (Btu/Hr) | 33,096 | 30,026 | 27,296 | 38,897 | 34,802 | 32,755 | 44,015 | 42,650 | 39,920 |
| | CFM | 1030 | 916 | 808 | 1210 | 1050 | 930 | 1400 | 1330 | 1226 |
| | L/sec Air | 484 | 430 | 379 | 568 | 493 | 437 | 657 | 624 | 576 |
| | SHR | 0.756 | 0.750 | 0.746 | 0.753 | 0.750 | 0.732 | 0.760 | 0.753 | 0.751 |
| | Air DB Ent | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 |
| | Air WB Ent | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 |
| | Air DB Lvng. C | 14.0 | 13.6 | 13.2 | 14.1 | 13.6 | 13.2 | 14.2 | 14.1 | 13.8 |
| | Air WB Lvng. C | 13.6 | 13.3 | 12.9 | 13.6 | 13.2 | 12.9 | 13.7 | 13.6 | 13.4 |
| | Water In C | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 |
| | Water Lvng. C | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 |
| | Gal/Min. | 6.09 | 5.58 | 5.02 | 7.16 | 6.44 | 6.05 | 8.13 | 7.85 | 7.35 |
| | L/sec Water | 0.384 | 0.352 | 0.317 | 0.452 | 0.406 | 0.382 | 0.513 | 0.495 | 0.464 |
| | DP PSI | 3.25 | 2.78 | 2.32 | 3.06 | 2.54 | 2.28 | 4.28 | 4.03 | 3.59 |
| | DP K Pa | 22.4 | 19.2 | 16.0 | 21.1 | 17.5 | 15.7 | 29.5 | 27.8 | 24.8 |

| 150 Pa. External Static Pressure | Fan Speed | High | Medium | Low | High | Medium | Low | High | Medium | Low |
|---|---|---|---|---|---|---|---|---|---|---|
| | Capacity (KW) | 8.1 | 6.8 | – | 8.9 | 7.5 | – | 11.3 | 9.7 | – |
| | Capacity (Btu/Hr) | 27,637 | 23,202 | – | 30,367 | 25,590 | – | 38,556 | 33,096 | – |
| | CFM | 800 | 640 | – | 850 | 680 | – | 1150 | 920 | – |
| | L/sec Air | 376 | 300 | – | 399 | 319 | – | 540 | 432 | – |
| | SHR | 0.740 | 0.727 | – | 0.730 | 0.717 | – | 0.744 | 0.728 | – |
| | Air DB Ent | 26.7 | 26.7 | – | 26.7 | 26.7 | – | 26.7 | 26.7 | – |
| | Air WB Ent | 19.4 | 19.4 | – | 19.4 | 19.4 | – | 19.4 | 19.4 | – |
| | Air DB Lvng. C | 13.2 | 12.4 | – | 12.9 | 12.2 | – | 13.6 | 12.8 | – |
| | Air WB Lvng. C | 12.9 | 12.3 | – | 12.6 | 12.1 | – | 13.2 | 12.6 | – |
| | Water In C | 6.7 | 6.7 | – | 6.7 | 6.7 | – | 6.7 | 6.7 | – |
| | Water Lvng. C | 12.7 | 12.7 | – | 12.7 | 12.7 | – | 12.7 | 12.7 | – |
| | Gal/Min. | 5.07 | 4.28 | – | 5.60 | 4.71 | – | 7.12 | 6.07 | – |
| | L/sec Water | 0.320 | 0.270 | – | 0.353 | 0.297 | – | 0.449 | 0.383 | – |
| | DP PSI | 2.36 | 1.75 | – | 1.99 | 1.48 | – | 3.39 | 2.58 | – |
| | DP K Pa | 16.3 | 12.1 | – | 13.7 | 10.2 | – | 23.4 | 17.8 | – |

*** Should not Exceed 175 Pa External Static Pressure**

# Performance Data - FW4A (50/60 HZ) – Cont.

| FW4A18 | | | FW4A20 | | | | | Other Ent. Air Aprox. Adjust DB/WB | |
|---|---|---|---|---|---|---|---|---|---|
| High | Medium | Low | High | Medium | Low | Fan Speed | Rating: 50 Pa External Static Pressure | 24/18 | 22/17 |
| 16.7 | 15.8 | 14.1 | 21.5 | 19.2 | 17.5 | Capacity (KW) | | -14% | -28% |
| 56,980 | 53,910 | 48,109 | 73,358 | 65,510 | 59,710 | Capacity (Btu/Hr) | | -14% | -28% |
| 1788 | 1625 | 1372 | 1967 | 1672 | 1421 | CFM | | same | same |
| 839 | 763 | 644 | 923 | 785 | 667 | L/sec Air | | same | same |
| 0.754 | 0.764 | 0.730 | 0.716 | 0.703 | 0.685 | SHR | | same | same |
| 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | Air DB Ent | | 24 | 22 |
| 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | Air WB Ent | | 18.0 | 17.0 |
| 14.1 | 13.8 | 13.2 | 12.7 | 12.2 | 11.8 | Air DB Lvng. C | | -0.7 | -1.2 |
| 13.6 | 13.4 | 12.9 | 12.5 | 12.1 | 11.7 | Air WB Lvng. C | | -0.7 | -1.2 |
| 8 | 8 | 8 | 10 | 10 | 10 | N Circuits | | same | same |
| 48 | 48 | 48 | 60 | 60 | 60 | Face Tubes | | same | same |
| 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | Water In C | | same | same |
| 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | Water Lvng. C | | -0.8 | -1.3 |
| 10.52 | 9.95 | 8.89 | 13.55 | 12.11 | 11.03 | Gal/Min. | | same | same |
| 0.664 | 0.628 | 0.561 | 0.855 | 0.764 | 0.696 | L/sec Water | | same | same |
| 4.06 | 3.70 | 3.03 | 4.93 | 4.04 | 3.43 | DP PSI | | same | same |
| 28.0 | 25.5 | 20.9 | 34.0 | 27.9 | 23.7 | DP K Pa | | same | same |

| High | Medium | Low | High | Medium | Low | Fan Speed | 100 Pa. External Static Pressure | 24/18 | 22/17 |
|---|---|---|---|---|---|---|---|---|---|
| 15.5 | 14.7 | 13.2 | 19.8 | 17.7 | 16.1 | Capacity (KW) | | -14% | -28% |
| 52,886 | 50,156 | 45,038 | 67,558 | 60,392 | 54,933 | Capacity (Btu/Hr) | | -14% | -28% |
| 1600 | 1462 | 1243 | 1760 | 1496 | 1272 | CFM | | same | same |
| 751 | 686 | 583 | 826 | 702 | 597 | L/sec Air | | same | same |
| 0.748 | 0.734 | 0.723 | 0.707 | 0.694 | 0.683 | SHR | | same | same |
| 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | Air DB Ent | | 24 | 22 |
| 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | Air WB Ent | | 18.0 | 17.0 |
| 13.8 | 13.4 | 12.8 | 12.4 | 11.8 | 11.4 | Air DB Lvng. C | | -0.7 | -1.2 |
| 13.4 | 13.1 | 12.6 | 12.2 | 11.7 | 11.3 | Air WB Lvng. C | | -0.7 | -1.2 |
| 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | Water In C | | same | same |
| 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | 12.7 | Water Lvng. C | | -0.8 | -1.3 |
| 9.78 | 9.26 | 8.29 | 12.46 | 11.16 | 10.11 | Gal/Min. | | same | same |
| 0.617 | 0.584 | 0.523 | 0.786 | 0.704 | 0.638 | L/sec Water | | same | same |
| 3.57 | 3.25 | 2.68 | 4.26 | 3.51 | 2.96 | DP PSI | | same | same |
| 24.6 | 22.4 | 18.5 | 29.4 | 24.2 | 20.4 | DP K Pa | | same | same |

| High | Medium | Low | High | Medium | Low | Fan Speed | 150 Pa. External Static Pressure | 24/18 | 22/17 |
|---|---|---|---|---|---|---|---|---|---|
| 14.5 | 12.2 | – | 17.9 | 15.2 | – | Capacity (KW) | | -14% | -28% |
| 14 | 41,626 | – | 61,075 | 51,862 | – | Capacity (Btu/Hr) | | -14% | -28% |
| 1400 | 1120 | – | 1540 | 1232 | – | CFM | | same | same |
| 657 | 526 | – | 723 | 578 | – | L/sec Air | | same | same |
| 0.730 | 0.718 | – | 0.703 | 0.690 | – | SHR | | same | same |
| 26.7 | 26.7 | – | 26.7 | 26.7 | – | Air DB Ent | | 24 | 22 |
| 19.4 | 19.4 | – | 19.4 | 19.4 | – | Air WB Ent | | 18.0 | 17.0 |
| 13.3 | 12.5 | – | 12.0 | 11.4 | – | Air DB Lvng. C | | -0.7 | -1.2 |
| 13.0 | 12.4 | – | 11.8 | 11.3 | – | Air WB Lvng. C | | -0.7 | -1.2 |
| 6.7 | 6.7 | – | 6.7 | 6.7 | – | Water In C | | same | same |
| 12.7 | 12.7 | – | 12.7 | 12.7 | – | Water Lvng. C | | -0.8 | -1.3 |
| 8.89 | 7.66 | – | 11.29 | 9.62 | – | Gal/Min. | | same | same |
| 0.561 | 0.483 | – | 0.712 | 0.607 | – | L/sec Water | | same | same |
| 3.03 | 2.33 | – | 3.58 | 2.71 | – | DP PSI | | same | same |
| 20.9 | 16.1 | – | 24.7 | 18.7 | – | DP K Pa | | same | same |

# Performance Data – FD4A (50/60 HZ)

| Rating: 50 Pa External Static Pressure | | FD4A12 | | | FD4A14 | | | FD4A16 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Fan Speed** | **High** | **Med.** | **Low** | **High** | **Med.** | **Low** | **High** | **Med.** | **Low** |
| | **Capacity (KW)** | 12.20 | 11.20 | 10.20 | 13.50 | 12.40 | 11.10 | 16.60 | 16.00 | 15.10 |
| | **Capacity (Btu/Hr)** | 41626 | 38214 | 34802 | 46062 | 42309 | 37873 | 56639 | 54592 | 51521 |
| | **CFM** | 1204 | 1053 | 920 | 1386 | 1225 | 1040 | 1612 | 1528 | 1415 |
| | **L/sec Air** | 568 | 497 | 434 | 654 | 578 | 491 | 761 | 721 | 668 |
| | **SHR(Sensible/Total)** | 73% | 72% | 71% | 74% | 73% | 72% | 74% | 74% | 74% |
| | **Air DB Ent** | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 |
| | **Air WB Ent** | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 |
| | **Air DB Lvng.** | 13.4 | 13.0 | 12.6 | 13.7 | 13.4 | 12.9 | 13.3 | 13.1 | 12.9 |
| | **Air WB Lvng.** | 13.0 | 12.7 | 12.3 | 13.3 | 13.0 | 12.6 | 12.9 | 12.8 | 12.6 |
| | **N Circuits** | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| | **Face Tubes** | 24 | 24 | 24 | 28 | 28 | 28 | 36 | 36 | 36 |
| | **Water In C** | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| | **Water Lvng C** | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| | **Gal/Min** | 5.15 | 4.71 | 4.28 | 5.66 | 5.21 | 4.66 | 6.97 | 6.72 | 6.37 |
| | **L/sec Water** | 0.33 | 0.30 | 0.27 | 0.36 | 0.33 | 0.29 | 0.44 | 0.42 | 0.40 |
| | **DP PSI** | 8.7 | 7.4 | 6.2 | 5.4 | 4.6 | 3.9 | 9.0 | 8.4 | 7.7 |
| | **DP K Pa** | 60.0 | 51.0 | 43.0 | 37.0 | 32.0 | 27.0 | 62.0 | 58.0 | 53.0 |

| 100 Pa. External Static Pressure | **Fan Speed** | **High** | **Med.** | **Low** | **High** | **Med.** | **Low** | **High** | **Med.** | **Low** |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Capacity (KW)** | 11.00 | 10.10 | 9.26 | 12.20 | 11.12 | 10.20 | 14.80 | 14.30 | 13.50 |
| | **Capacity (Btu/Hr)** | 37532 | 34461 | 31595 | 41626 | 37941 | 34802 | 50498 | 48792 | 46062 |
| | **CFM** | 1026 | 911 | 803 | 1204 | 1045 | 926 | 1392 | 1322 | 1009 |
| | **L/sec Air** | 484 | 430 | 379 | 568 | 493 | 437 | 657 | 624 | 476 |
| | **SHR** | 72% | 71% | 70% | 74% | 72% | 70% | 74% | 73% | 73% |
| | **Air DB Ent** | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 |
| | **Air WB Ent** | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 |
| | **Air DB Lvng.** | 12.9 | 12.6 | 12.2 | 13.3 | 12.9 | 12.6 | 12.8 | 12.7 | 12.5 |
| | **Air WB Lvng.** | 12.6 | 12.3 | 12.0 | 13.0 | 12.7 | 12.4 | 12.6 | 12.5 | 12.3 |
| | **Water In C** | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| | **Water Lvng C** | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| | **Gal/Min** | 4.61 | 4.25 | 3.90 | 5.15 | 4.68 | 4.30 | 6.28 | 6.05 | 5.74 |
| | **L/sec Water** | 0.29 | 0.27 | 0.25 | 0.33 | 0.30 | 0.27 | 0.40 | 0.38 | 0.36 |
| | **DP PSI** | 7.3 | 6.2 | 5.4 | 4.6 | 3.9 | 3.3 | 7.3 | 6.8 | 6.2 |
| | **DP K Pa** | 50.0 | 43.0 | 37.0 | 32.0 | 27.0 | 23.0 | 50.0 | 47.0 | 43.0 |

| 150 Pa. External Static Pressure | **Fan Speed** | **High** | **Med.** | **Low** | **High** | **Med.** | **Low** | **High** | **Med.** | **Low** |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Capacity (KW)** | 9.19 | 7.80 | - | 9.53 | 8.06 | - | 12.70 | 10.60 | - |
| | **Capacity (Btu/Hr)** | 31356 | 26614 | - | 32516 | 27501 | - | 43332 | 36167 | - |
| | **CFM** | 797 | 636 | - | 845 | 676 | - | 1144 | 915 | - |
| | **L/sec Air** | 376 | 300 | - | 399 | 319 | - | 540 | 432 | - |
| | **SHR** | 70% | 69% | - | 71% | 70% | - | 73% | 72% | - |
| | **Air DB Ent** | 26.7 | 26.7 | - | 26.7 | 26.7 | - | 26.7 | 26.7 | - |
| | **Air WB Ent** | 19.4 | 19.4 | - | 19.4 | 19.4 | - | 19.4 | 19.4 | - |
| | **Air DB Lvng.** | 12.2 | 11.5 | - | 12.3 | 11.8 | - | 12.3 | 11.7 | - |
| | **Air WB Lvng.** | 12.0 | 11.4 | - | 12.2 | 11.7 | - | 12.1 | 11.6 | - |
| | **Water In C** | 5.5 | 5.5 | - | 5.5 | 5.5 | - | 5.5 | 5.5 | - |
| | **Water Lvng C** | 14.5 | 14.5 | - | 14.5 | 14.5 | - | 14.5 | 14.5 | - |
| | **Gal/Min** | 3.87 | 3.28 | - | 4.03 | 3.41 | - | 5.45 | 4.63 | - |
| | **L/sec Water** | 0.24 | 0.21 | - | 0.25 | 0.22 | - | 0.34 | 0.29 | - |
| | **DP PSI** | 5.2 | 3.9 | - | 2.9 | 2.2 | - | 5.5 | 4.1 | - |
| | **DP K Pa** | 36.0 | 27.0 | - | 20.0 | 15.0 | - | 38.0 | 28.0 | - |

*** Should not Exceed 62.5 Pa External Static Pressure**

# Performance Data - FD4A (50/60 HZ) – Cont.

| FD4A18 | | | FD4A20 | | | | |
|---|---|---|---|---|---|---|---|
| High | Med. | Low | High | Med. | Low | Fan Speed | Rating: 50 Pa External Static Pressure |
| 19.90 | 18.60 | 16.50 | 23.60 | 20.90 | 18.50 | Capacity (KW) | |
| 67899 | 63463 | 56298 | 80523 | 71311 | 63122 | Capacity (Btu/Hr) | |
| 1778 | 1617 | 1365 | 1956 | 1663 | 1413 | CFM | |
| 839 | 763 | 644 | 923 | 785 | 667 | L/sec Air | |
| 73% | 73% | 72% | 71% | 70% | 70% | SHR | |
| 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | Air DB Ent | |
| 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | Air WB Ent | |
| 12.5 | 12.2 | 11.7 | 11.8 | 11.3 | 10.9 | Air DB Lvng. | |
| 12.3 | 12.0 | 11.6 | 11.6 | 11.2 | 10.8 | Air WB Lvng. | |
| 6 | 6 | 6 | 6 | 6 | 6 | N Circuits | |
| 48 | 48 | 48 | 60 | 60 | 60 | Face Tubes | |
| 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | Water In C | |
| 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | Water Lvng C | |
| 8.37 | 7.83 | 6.94 | 9.92 | 8.78 | 7.77 | Gal/Min | |
| 0.53 | 0.49 | 0.44 | 0.63 | 0.55 | 0.49 | L/sec Water | |
| 5.4 | 4.8 | 3.9 | 10.3 | 8.4 | 6.8 | DP PSI | |
| 37.0 | 33.0 | 27.0 | 71.0 | 58.0 | 47.0 | DP K Pa | |

| High | Med. | Low | High | Med. | Low | Fan Speed | 100 Pa. External Static Pressure |
|---|---|---|---|---|---|---|---|
| 18.30 | 17.20 | 15.20 | 21.50 | 18.90 | 16.90 | Capacity (KW) | |
| 62440 | 58686 | 51862 | 73358 | 64487 | 57663 | Capacity (Btu/Hr) | |
| 1591 | 1454 | 1235 | 1750 | 1487 | 1265 | CFM | |
| 751 | 686 | 583 | 826 | 702 | 597 | L/sec Air | |
| 72% | 72% | 71% | 70% | 70% | 69% | SHR | |
| 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | Air DB Ent | |
| 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | 19.4 | Air WB Ent | |
| 12.2 | 11.9 | 11.5 | 11.5 | 11.0 | 10.7 | Air DB Lvng. | |
| 12.0 | 11.8 | 11.4 | 11.3 | 11.0 | 10.6 | Air WB Lvng. | |
| 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | Water In C | |
| 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | Water Lvng C | |
| 7.73 | 7.26 | 6.44 | 9.13 | 8.08 | 7.13 | Gal/Min | |
| 0.49 | 0.46 | 0.41 | 0.58 | 0.51 | 0.45 | L/sec Water | |
| 4.6 | 4.2 | 3.3 | 8.8 | 7.1 | 5.8 | DP PSI | |
| 32.0 | 29.0 | 23.0 | 61.0 | 49.0 | 40.0 | DP K Pa | |

| High | Med. | Low | High | Med. | Low | Fan Speed | 150 Pa. External Static Pressure |
|---|---|---|---|---|---|---|---|
| 16.50 | 13.90 | - | 19.40 | 16.10 | - | Capacity (KW) | |
| 56298 | 47427 | - | 66193 | 54933 | - | Capacity (Btu/Hr) | |
| 1392 | 1115 | - | 1532 | 1225 | - | CFM | |
| 657 | 526 | - | 723 | 578 | - | L/sec Air | |
| 72% | 70% | - | 70% | 69% | - | SHR | |
| 26.7 | 26.7 | - | 26.7 | 26.7 | - | Air DB Ent | |
| 19.4 | 19.4 | - | 19.4 | 19.4 | - | Air WB Ent | |
| 11.8 | 11.2 | - | 11.1 | 10.6 | - | Air DB Lvng. | |
| 11.6 | 11.1 | - | 11.0 | 10.5 | - | Air WB Lvng. | |
| 5.5 | 5.5 | - | 5.5 | 5.5 | - | Water In C | |
| 14.5 | 14.5 | - | 14.5 | 14.5 | - | Water Lvng C | |
| 7.04 | 5.96 | - | 8.27 | 6.97 | - | Gal/Min | |
| 0.44 | 0.38 | - | 0.52 | 0.44 | - | L/sec Water | |
| 3.9 | 2.9 | - | 7.4 | 5.4 | - | DP PSI | |
| 27.0 | 20.0 | - | 51.0 | 37.0 | - | DP K Pa | |

# Controller For Ducted Fan Coil Units

**Features:** The controller is used to control (DX/CW) cooled ducted split unit, supports the following functions:
- Modes: Cool, Dry, Fan, Heat
- Indoor fan speed: Auto, High, Medium, Low
- Sleep mode
- Compressor protections:
  Comp 3 minutes restart protection
  Indoor coil anti-freeze
  Room sensor and indoor coil sensor failure monitoring
- Non volatile memory – keep system settings
- Programmable On/Off timer
- Random restart to minimize voltage dip during compressor first cut in cycle upon power up.

**Hardware Setting:** A 2 way DIP switch is used to configure:

| DIP Switch | On | Off |
|---|---|---|
| SW1 | Cool | Cool-Heat |
| SW2 | Water System | DX System |

**Error Code:** If multiple faults happen at the same time, the corresponding error code will be shown one after another

| Fault | Error code |
|---|---|
| Room sensor fault | E1 |
| Indoor coil sensor fault | E2 |
| Comp fault | E4 |

## Split System Description

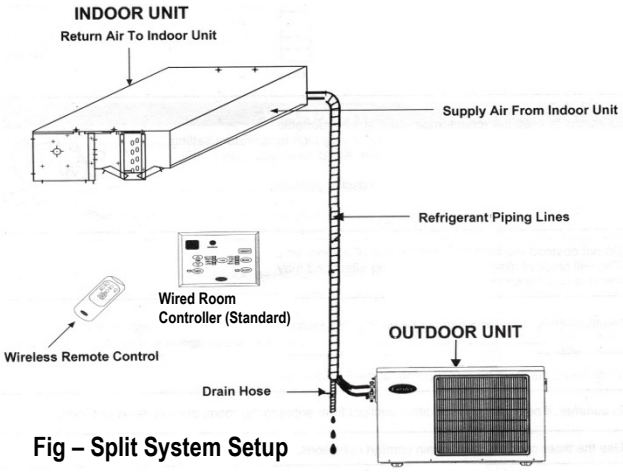



**Fig – Split System Setup**

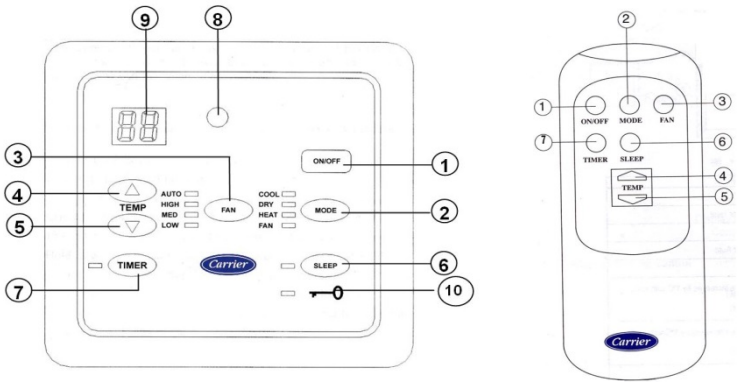



**Fig - System Room Controllers**

**Notes:** The wired room controller is mounted on the wall and can control all system functions without wireless remote control.

**1) On/Off Key:** If you press this key, the system will begin operation, Press the key again, and operation stops. (You can hear a receiving beep). If you press this key immediately after turning off the system, the compressor will not operate for 3 minutes to prevent overloading.

**2) Operation Mode Selection Key:** Toggles the operation mode: Cool, Dry, Heat, or Fan only

| | | | |
|---|---|---|---|
| "COOL" Led | Lights on when selecting COOL mode. | "HEAT" Led | Lights on when selecting Heat mode. |
| "DRY" Led | Lights on when selecting DRY mode. | "FAN" Led | Lights on when selecting FAN mode. |

**3) Fan Speed Selection Key:** Toggles the fan speed: Auto, High, Medium, or Low, Note: Fan key is invalid in Dry mode.

| | | | |
|---|---|---|---|
| "AUTO" Led | Lights on when selecting Auto fan speed. | "MED" Led | Lights on when selecting Med fan speed. |
| "HIGH" Led | Lights on when selecting High fan speed. | "LOW" Led | Lights on when selecting Low fan speed. |

**4) Temperature Up Key:** By pressing Temp Up ▲ the setting temperature increases by 1ºC with each press.

**5) Temperature Down Key:** By pressing Temp Down ▼ the setting temperature decreases by 1ºC with each press. If you set the desired room temperature, then system will maintain the room temperature as set. Upon setting the desired room temperature the system will maintain the room temperature

**Cool Mode:** If the room temperature is higher than the setting, the compressor will automatically turn on provide a cooling effect. On the hand, if the room temperature is lower than the setting, the compressor will automatically turn off to stop cooling operation. If indoor fan is programed to be turned off with compressor signal, it will turn off once compressor is cut off.

**Heat Mode:** If the room temperature is lower than the setting, the electric heater will automatically turn on to provide a heating effect. If the room temperature is higher than the setting, the heater will automatically turn off to stop heating operation. If indoor fan is programed to be turned off with heater signal, it will turn off once heater is cut off but subject to 30 sec dispersing remaining heat timing.

**Dry Mode:** The fan speed runs automatically at low speed and compressor stopping and running is controlled by the difference between room and setting temperatures and by continuous running time. If indoor fan is programed to be turned off with comp signal, it will turn off once comp is cut off, In Dry mode, the humidity is reduced in the space to be air-conditioned.

**Fan Mode:** There will be no cooling or heating effects; only the fans of indoor unit will run for ventilation at the selected speed (High, Med, and Low).

- In COOL or HEAT mode and if AUTO fan speed is selected; Fan speed is automatically selected by controller according to the difference between setting temperature and room temperature, fan will be continuously running at low speed after setting temperature is achieved.

**Notes:**

a) Temperature setting range is 16ºC to 30ºC (60ºF to 85ºF). For ESMA regulated units the temperature setting range is from 20°C to 30°C (68°F to 85°F). **For optimum operation set the temperature between 21°C to 24°C (70 to 75°F)**

b) Hold TEMP Down ▼ at the same time for about 5 seconds, TEMP ▼ down and fan FAN keys will toggle the temperature setting from degree C to degree F and vice versa.

c) Press any temperature key will flash the current setting temperature for 4 seconds, with no further key press, it will revert to room temperature display. Temperature display range is 0°C to 50°C (32°F to 99°F).

d) Temperature keys are invalid in Fan mode.

**6) Sleep Key:** Press SLEEP SLEEP key to set the timer turning the sleep led will light on, to cancel the timer press again.

- Sleep function for healthy sleep to control automatically the room temperature and stop automatically the operation of the air conditioner after certain set off time.
- Sleep mode is valid in cool or heat mode and invalid in Fan mode.

**7) Timer Key:** Upon count down of the set hours, the system will switch from OFF to ON or vice-versa.

- OFF Timer Function to stop automatically, the air conditioner after certain set OFF time.
- ON Timer Function to start automatically, the air conditioner after certain set ON time.

* Timer setting is 1 Hour to 24 Hour. The timer led will light on when operating the Timer Function First key press will flash the digital display and Timer Led for 3 seconds.

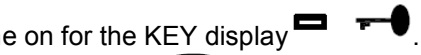
**Notes:**

a) The digital displays show the number of hours previously set, only the Timer Led flashes.
b) Subsequent 3 seconds will show the number of hours previously set; only the timer led flashes.
c) Should there be no further key press, it will revert to normal mode.
d) Should Timer key is not released timer setting will increase automatically every 0.5-second.

**8) Sensor:** Receives the remote controller's signal

**9) Display Screen:** Displays the set temperature and displays also the TIMER settings when adjusting it.

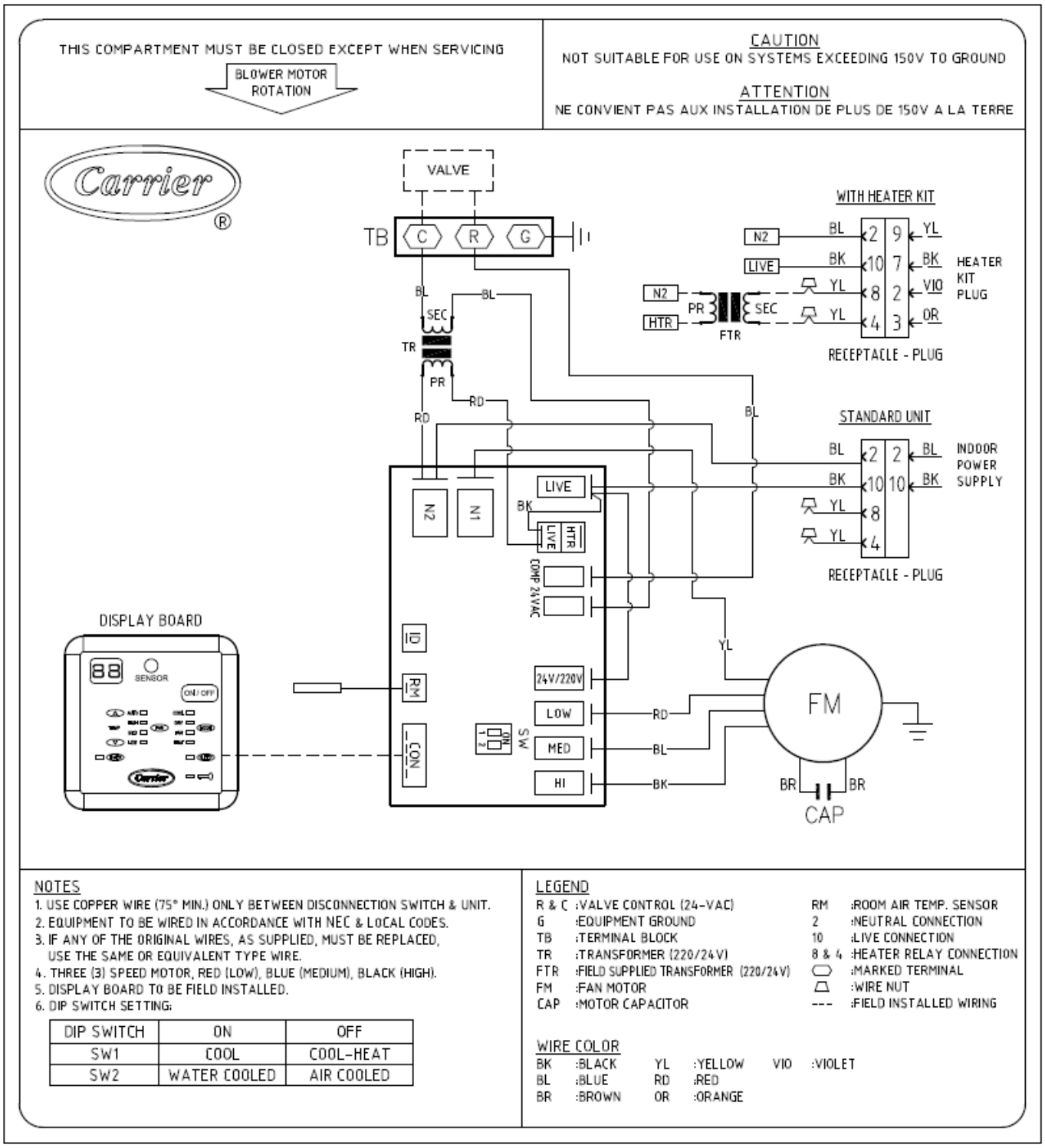
**10) Key Lock Mode:** In key lock mode, all keys are not valid except ON/OFF Key (1) to turn ON/OFF the system**.**

1. Hold down TEMP Down ▼ and MODE MODE keys together for 3 seconds to activate key lock mode – in that mode the light will come on for the KEY display  .
2. Hold down TEMP Down ▼ and Fan FAN buttons together for 1 second to activate the system control parameter setting – AUTO (FAN) light will be flashing.
3. Press TEMP key Up ▲ or Down ▼ to change the setting to 1 or 2

| Parameter | Set range | Default value | Remarks |
|---|---|---|---|
| AUTO Fan led flashes | 1 or 2 | 1 | 1 : Disable room temp display<br>2 : Enable room temp display |

4. Finally de-activate the lock mode by hold down TEMP Down ▼ and MODE MODE keys buttons for 3seconds to de-activate key lock mode – in that mode the light will come off for the KEY display  .

# Typical Wiring Schematic (Continued)




NOTES

1. USE COPPER WIRE (75° MIN.) ONLY BETWEEN DISCONNECTION SWITCH & UNIT.
2. EQUIPMENT TO BE WIRED IN ACCORDANCE WITH NEC & LOCAL CODES.
3. IF ANY OF THE ORIGINAL WIRES, AS SUPPLIED, MUST BE REPLACED, USE THE SAME OR EQUIVALENT TYPE WIRE.
4. THREE (3) SPEED MOTOR, RED (LOW), BLUE (MEDIUM), BLACK (HIGH).
5. DISPLAY BOARD TO BE FIELD INSTALLED.
6. DIP SWITCH SETTING:

| DIP SWITCH | ON | OFF |
|---|---|---|
| SW1 | COOL | COOL-HEAT |
| SW2 | WATER COOLED | AIR COOLED |

LEGEND

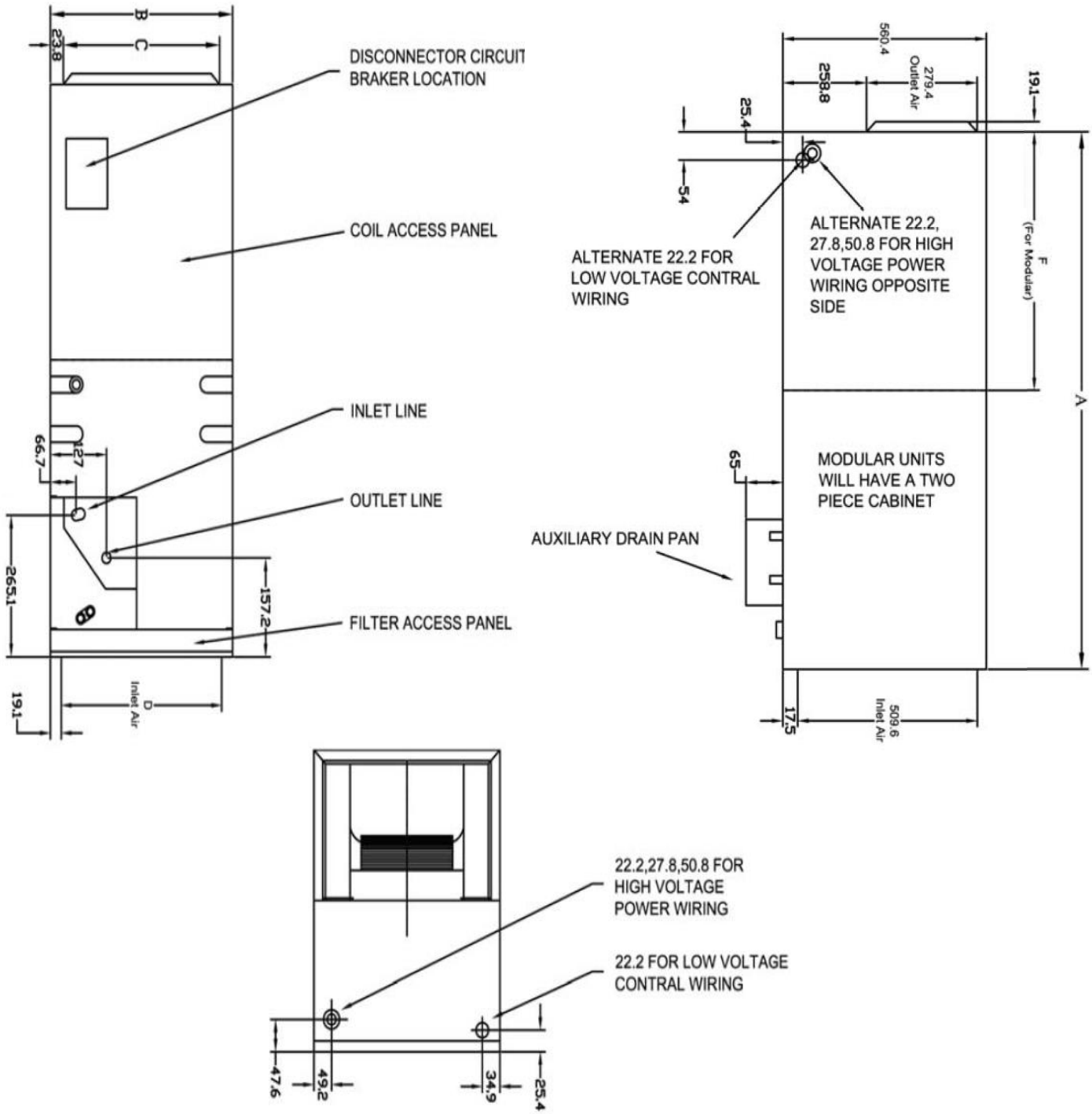
| | | | |
|---|---|---|---|
| R & C | :VALVE CONTROL (24-VAC) | RM | :ROOM AIR TEMP. SENSOR |
| G | :EQUIPMENT GROUND | 2 | :NEUTRAL CONNECTION |
| TB | :TERMINAL BLOCK | 10 | :LIVE CONNECTION |
| TR | :TRANSFORMER (220/24V) | 8 & 4 | :HEATER RELAY CONNECTION |
| FTR | :FIELD SUPPLIED TRANSFORMER (220/24V) | ⬭ | :MARKED TERMINAL |
| FM | :FAN MOTOR | ⏢ | :WIRE NUT |
| CAP | :MOTOR CAPACITOR | --- | :FIELD INSTALLED WIRING |

WIRE COLOR

| | | | | | |
|---|---|---|---|---|---|
| BK | :BLACK | YL | :YELLOW | VIO | :VIOLET |
| BL | :BLUE | RD | :RED | | |
| BR | :BROWN | OR | :ORANGE | | |

**FW4A-FD4A Cool And Electric Heater**

# Unit Dimensional Drawing – FW4A/FD4A Series




| Unit Size | Weight | A | B | C | D | F |
|---|---|---|---|---|---|---|
| | kg | mm. | mm. | mm. | mm. | mm. |
| FW4A/FD4A – 12 | 54.4 | 1260.5 | 447.5 | 400.1 | 398.5 | 406.5 |
| FW4A/FD4A – 14 | 57.6 | 1357.3 | 536.5 | 489.0 | 487.0 | 495.3 |
| FW4A/FD4A – 16 | 71.6 | 1357.3 | 536.5 | 489.0 | 495.3 | 495.3 |
| FW4A/FD4A – 18 | 79.4 | 1357.3 | 536.5 | 489.0 | 495.3 | 495.3 |
| FW4A/FD4A – 20 | 89.0 | 1497.0 | 627.0 | 582.0 | 585.0 | 635.0 |

# Performance Data

## Fan Performance – (50/60 HZ) – ENGLISH

| Static Pressure (In.water) | | 0 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | Noise |
|---|---|---|---|---|---|---|---|---|
| Model | Speed | Air Flow (CFM) | | | | | | dBA |
| FW4A12 FD4A12 | H | 1421 | 1210 | 1120 | 1031 | 916 | 801 | 74 |
| | M | 1227 | 1059 | 987 | 916 | 779 | 641 | 70 |
| | L | 1065 | 924 | 866 | 807 | – | – | 66 |
| FW4A14 FD4A14 | H | 1612 | 1393 | 1301 | 1210 | 1030 | 850 | 73 |
| | M | 1444 | 1231 | 1141 | 1050 | 865 | 679 | 69 |
| | L | 1189 | 1046 | 988 | 931 | – | – | 65 |
| FW4A16 FD4A16 | H | 1885 | 1621 | 1510 | 1399 | 1275 | 1150 | 77 |
| | M | 1779 | 1534 | 1431 | 1329 | 1125 | 920 | 73 |
| | L | 1653 | 1423 | 1325 | 1227 | – | – | 69 |
| FW4A18 FD4A18 | H | 2021 | 1787 | 1693 | 1600 | 1500 | 1399 | 74 |
| | M | 1828 | 1623 | 1542 | 1461 | 1291 | 1120 | 70 |
| | L | 1536 | 1372 | 1307 | 1242 | – | – | 66 |
| FW4A20 FD4A20 | H | 2245 | 1977 | 1868 | 1759 | 1650 | 1540 | 76 |
| | M | 1889 | 1672 | 1584 | 1495 | 1363 | 1231 | 72 |
| | L | 1606 | 1421 | 1346 | 1272 | – | – | 68 |

H – At High Fan Speed.
M – At Medium Fan Speed.
L – At Low Fan Speed.

## Fan Performance – (50/60 HZ) – SI

| Static Pressure (Pa) | | 0 | 50 | 75 | 100 | 125 | 150 | Noise |
|---|---|---|---|---|---|---|---|---|
| Model | Speed | Air Flow (l/s) | | | | | | dBA |
| FW4A12 FD4A12 | H | 667 | 568 | 526 | 484 | 430 | 376 | 74 |
| | M | 576 | 497 | 464 | 430 | 365.5 | 301 | 70 |
| | L | 500 | 434 | 407 | 379 | – | – | 66 |
| FW4A14 FD4A14 | H | 757 | 654 | 611 | 568 | 483.5 | 399 | 73 |
| | M | 678 | 578 | 536 | 493 | 406 | 319 | 69 |
| | L | 558 | 491 | 464 | 437 | – | – | 65 |
| FW4A16 FD4A16 | H | 885 | 761 | 709 | 657 | 598.5 | 540 | 77 |
| | M | 835 | 720 | 672 | 624 | 528 | 432 | 73 |
| | L | 776 | 668 | 622 | 576 | – | – | 69 |
| FW4A18 FD4A18 | H | 949 | 839 | 795 | 751 | 704 | 657 | 74 |
| | M | 858 | 762 | 724 | 686 | 606 | 526 | 70 |
| | L | 721 | 644 | 614 | 583 | – | – | 66 |
| FW4A20 FD4A20 | H | 1054 | 928 | 877 | 826 | 774.5 | 723 | 76 |
| | M | 887 | 785 | 744 | 702 | 640 | 578 | 72 |
| | L | 754 | 667 | 632 | 597 | – | – | 68 |

H – At High Fan Speed.
M – At Medium Fan Speed.
L – At Low Fan Speed.

# Application Data

## Selection Procedure

Table in this publication are meant for quick selection (+/-10%).

**Example Quick Selection**

Customer requires fan coil having the following performance:

1. CFM = 1400 +/-5% @ 0.2 inch water external static pressure.
2. Cooling capacity =30 kbtu.
3. Entering air 22c DB,17c WB.
4. Water in 6.7c.

**Step 1 :**

From fan performance tables at 0.2 inch water external static pressure we find that FW4A 1400 will deliver 1394 CFM @ 0.2 inch water.

**Step 2**

From FW4A performance tables, at 26.7/19C DB/WB, and on right hand side correction for 22/17c DB/WB.

| | Performance @ 26.7/19 | Correction | Performance @ 22/17 |
|---|---|---|---|
| Capacity | 42.65 | -28% | 30.7 |
| CFM | 1394 | ---- | 1394 |
| SHR | 0.76 | ---- | 0.76 |
| Air In | 26.7 | ---- | 22 |
| Air Out | 14.6 | -1.3 | 13.3 |
| Water In | 6.7 | ---- | 6.7 |
| Water out | 12.7 | -1.1 | 11.6 |
| Gal/min | 7.88 | ---- | 7.88 |
| DP PSI | 3.61 | ---- | 3.61 |

Note that tables yield performance within 5:10% of most requirements.

**Selection Software**

For specific conditions user can use selection software available from carrier dealers or refer to carrier sales engineers for technical support.

# Guide Specification

**FW4A HIGH STATIC CHILLED WATER FAN COIL**
**NORMAL COOLING CAPACITY 3 TO 6 TON,**
**10.8:12.5 Kw**
**ELECTRIC HEATER OPTION (FIELD INSTALATION)**
**1200:2000 CFM**
**Carrier MODEL NUMBERS FW4A**

## GENERAL

SYSTEM DESCRIPTION
The fan coil unit is designed for outdoor (or under ceiling) installation, electrically controlled cooling and heating (option). Unit shall be designed for vertical and horizontal installation. Standard unit shall include permanent filter with aluminum frame. Unit shall be designed for medium and high external static pressure up to 0.7 inch water.

### QUALITY ASSURANCE

- Unit shall be rated in accordance with ARI standard # 410/91.
- Installation and adhesive shall meet NFPA90A requirements for flame spread and smoke generation.
- Unit casing shall be capable of withstanding 500 hour salt spray exposure per ASTMB117 (scribed specimen).
- Unit shall be manufactured in facility registered to ISO9001.

### PRODUCTS

A. The unit shall be factory assembled single piece cooling unit, with optional electric heat (field installation). Unit cabinet shall be constructed of galvanized steel bonderized and powder painted enamel finish. The unit shall be insulated with closed cell polyolefin foam (Ethylene) with aluminum face insulation that is 10-mm thickness & 32 kg/m^3 density.

B. Unit cabinet panels shall be single skin. Cabinet panels shall be easily removable for service.

C. Unit shall have a permanent type filter with 1 inch aluminum frame. Filter shall be flame retardant polyester fibers. Filters shall be accessible through an access panel.

D. Units shall have high impact thermal plastic sloped condensate pan. Unit shall have primary and secondary drain connection with brass inserts. Unit shall have additional external drain pan for the coil connection condensate water.

E. The unit fan wheel shall be directly connected to the motor. The fan wheel shall be made from steel with a corrosion resistance finish, it shall be a dynamically balanced and double inlet forward curved blades. Unit fan wheel chamber shall be made from galvanized steel.

F. Unit coil shall have aluminum fins mechanically bonded to seamless smooth copper tubes with all joints brazed. Unit coil shall be accessible through an access panel for cleaning. The coil connection shall be sweat type.

G. The unit fan motor shall have permanently lubricated sleeve bearing. The motor shall have overload protection and B class insulation. Unit shall have multiple electric entries for more flexibility.

I. Unit control board shall be 24 VAC and UL listed.

# NOTES


Carrier