Daikin North America LLC

HVAC Guide Specifications

Multiple Evaporator, Direct Expansion (DX), Air-Cooled, Variable Capacity, Split System

**Section 15700 – Mechanical HVAC**

**Size Range:**

**0.6 to 8 Tons Nominal**

**Daikin Model Number:**

 **FXFQ INDOOR UNIT – ROUND FLOW SENSING CEILING CASSETTE UNIT**

 **FXZQ INDOOR UNIT – 4 WAY CEILING CASSETTE UNIT (2’x2’)**

 **FXMQ INDOOR UNIT – CONCEALED CEILING DUCTED UNIT (Med. Static)**

**FXSQ INDOOR UNIT – CONCEALED CEILING DUCTED UNIT (Med. Static)**

**FXDQ INDOOR UNIT – SLIM DUCT CONCEALED CEILING UNIT**

**FXHQ INDOOR UNIT – CEILING SUSPENDED CASSETTE UNIT**

**FXAQ INDOOR UNIT – WALL MOUNTED UNIT**

 **FXLQ INDOOR UNIT – FLOOR CONSOLE UNIT**

 **FXNQ INDOOR UNIT – FLOOR CONSOLE CONCEALED UNIT**

 **FXTQ INDOOR UNIT – MULTI-POSITION AIR HANDLING UNIT**

**FXUQ 4 WAY CEILING SUSPENDED CASSETTE UNIT**

**FXEQ ONE WAY BLOW CASSETTE**

**Part 1 – GENERAL**

VARIABLE REFRIGERANT VOLUME (VRV / VRV-S) AIR CONDITIONING

SPECIFICATION –Heat Recovery/Heat Pump Indoor Units

* 1. QUALITY ASSURANCE
1. The units shall be tested by a Nationally Recognized Testing Laboratory (NRTL), in accordance with ANSI/UL 1995/CAN/CSA-C22.2 No. 236-05 (R2009) – Heating and Cooling Equipment and bear the Listed Mark.
2. All wiring shall be in accordance with the National Electric Code (NEC)/Canadian Electrical Code (CEC).
3. The system will be produced in an ISO 9001 and ISO 14001 facility, which are standards set by the International Standard Organization (ISO). The system shall be factory tested for safety and function.
4. The outdoor unit will be factory charged with R-410A.
	1. DELIVERY, STORAGE AND HANDLING
5. Unit shall be stored and handled according to the manufacturer’s recommendations.

**Part 2 – WARRANTY**

STANDARD LIMITED WARRANTY

Daikin North America LLC warrants original owner of the non-residential building, multifamily residence or residence in which the Daikin products are installed that under normal use and maintenance for comfort cooling and conditioning applications such products (the “Products”) will be free from defects in material and workmanship. This warranty applies to compressor and all parts and is limited in duration to ten (10) years starting from the ‘’installation date’’ which is one of the two dates below:

1. The installation date is the date that the unit is originally commissioned, but no later than 18 months after the manufacture date noted on the unit’s rating plate.
2. If the date the unit is originally commissioned cannot be verified, the installation date is three months after the manufacture date.

Complete warranty details available from your local Daikin representative or at www.daikincomfort.com –

**Part 3 – PERFORMANCE**

3.01 DESIGN BASIS

The HVAC equipment basis of design is Daikin. All bidders shall furnish the minimum system standards as defined by the base bid model numbers, model families or as otherwise specified herein (see Key General Specifications Alternate Supplier Checklist). In any event the contractor shall be responsible for all specified items and intents of this document without further compensation.

**Part 4 – PRODUCTS**

* 1. FXFQ\_T – ROUND FLOW SENSING CEILING CASSETTE UNIT
1. General: Daikin indoor unit model FXFQ\_T shall be a round flow ceiling cassette fan coil unit, operable with R-410A refrigerant, equipped with an electronic expansion valve, direct drive DC (ECM) type fan, for installation into the ceiling cavity equipped with an air panel grill. It shall be available in capacities from 7,500 Btu/h to 48,000 Btu/h. Model numbers are FXFQ07TVJU, FXFQ09TVJU, FXFQ12TVJU, FXFQ15TVJU, FXFQ18TVJU, FXFQ24TVJU, FXFQ30TVJU, FXFQ36TVJU, FXFQ48TVJU to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. It shall be a round flow air distribution type, fresh white, impact resistant decoration panel, or optional self-cleaning filter panel. The supply air is distributed via four individually motorized louvers. To save energy and optimize occupancy comfort, the indoor unit shall be equipped with built in occupancy sensor and surface temperature sensor. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote control BRC1E72, BRC1E73, BRC2A71 and BRC1E52B7. The indoor units sound pressure shall range from 30 dB(A) to 45 dB(A) at High speed measured at 5 feet below the unit.
2. Performance: Each unit’s performance is based on nominal operating conditions:

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| **Model Number** | **Cooling**(Indoor 80°F DB / 67°F WB,Outdoor 95°F DB, 25 ft pipe length) | **Heating**(Indoor 70°F DB Outdoor 47F / 43F, 25 ft pipe length) |
| FXFQ07TVJU | 7,500 | 8,500 |
| FXFQ09TVJU | 9,500 | 10,500 |
| FXFQ12TVJU | 12,000 | 13,500 |
| FXFQ15TVJU | 15,000 | 16,500 |
| FXFQ18TVJU | 18,000 | 20,000 |
| FXFQ24TVJU | 24,000 | 27,000 |
| FXFQ30TVJU | 30,000 | 34,000 |
| FXFQ36TVJU | 36,000 | 40,000 |
| FXFQ48TVJU | 48,000 | 54,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXFQ\_T shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, condensate drain pump, condensate safety shutoff and alarm, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be insulated from the outdoor unit.
5. The round flow supply air flow can be field modified to 23 different airflow patterns to accommodate various installation configurations including corner installations.
6. Return air shall be through the concentric panel, which includes a resin net, mold resistant, antibacterial filter.
7. The indoor units shall be equipped with a condensate pan with antibacterial treatment and condensate pump. The condensate pump provides up to 33-1/2” of lift from bottom of unit to top of drain piping and has a built in safety shutoff and alarm.
8. The indoor units shall be equipped with a return air thermistor.
9. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
10. The voltage range will be 253 volts maximum and 187 volts minimum.
11. To save energy and optimize occupancy comfort, the indoor unit shall be equipped with built in occupancy sensor and surface temperature sensor.
12. Supplied air shall be directed automatically by four individually controlled louvers.
13. Unit Cabinet:
14. The cabinet shall be space saving and shall be located into the ceiling.
15. Four auto-adjusted louvers shall be available to choose, which include standard, draft prevention and ceiling stain prevention.
16. The airflow of the unit shall have the ability to shut down outlets with multiple patterns allowing for simpler installation in irregular spaces.
17. Fresh air intake shall be possible by way of Daikin’s optional fresh air intake kit.
18. A branch duct knockout shall exist for branch ducting of supply air.
19. The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.
20. Optional high efficiency air filters are available for each model unit.
21. Fan:
22. The fan shall be direct-drive DC (ECM) type fan, statically and dynamically balanced impeller with three fan speeds available.
23. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output range from 0.08 to 0.16 HP.
24. The airflow rate shall be available in three manual settings.
25. The DC fan shall be able to automatically adjust the fan speed in 5 speeds based on the space load.
26. The fan motor shall be equipped as standard with adjustable external static pressure (ESP) settings to allow operation with the high efficiency air filter options.
27. The fan motor shall be thermally protected.
28. Filter:
29. The return air shall be filtered by means of a washable long-life filter with mildew proof resin and antibacterial treatment.
30. Optional high efficiency disposable air filters shall be available.
31. Optional Self-Cleaning Filter Panel, which performs automatic filter cleaning up to once a day, with dust collection box that indicates when to be emptied.
32. Coil:
33. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
34. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
35. The coil shall be a 2, or 3-row cross fin copper evaporator coil with up to 21 FPI design completely factory tested.
36. The refrigerant connections shall be flare connections and the condensate will be 1 -1/4 inch outside diameter PVC.
37. A condensate pan with antibacterial treatment shall be located under the coil.
38. A thermistor will be located on the liquid and gas line.
39. Electrical:
40. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
41. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
42. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
43. Control:
44. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
45. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
46. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
47. For the Sensing functions and the optional Self-Cleaning Filter functions, Remote controller BRC1E73/BRC1E52B7 shall be used. Consult with Daikin prior to applying controls.
48. Optional Accessories Available:
49. A high efficiency disposable air filter kit
50. Air intake kit
51. Self-Cleaning Filter Panel, which performs automatic filter cleaning up to once a day, with dust collection box that indicates when to be emptied.
52. Remote “in-room” sensor kit (KRCS01-4B).
	* 1. The Daikin wall mounted, hard wired remote sensor kit is recommended for when a NAV controller is not used or when the NAV controller is not located in the space that is being controlled. The sensor for detecting the temperature can be placed away from the indoor unit (branch wiring is included in the kit).

4.02 FXZQ-TAVJU –VISTATM 2x2 CASSETTE UNIT *(note: obsolete)*

1. General: Daikin indoor unit model FXZQ-TAVJU shall be a ceiling cassette fan coil unit, operable with R-410A refrigerant, equipped with an electronic expansion valve, for installation into the ceiling cavity equipped with a decoration panel grille. It shall be available in capacities from 5,800 Btu/h to 18,000 Btu/h. Model numbers are FXZQ05TAVJU, FXZQ07TAVJU, FXZQ09TAVJU, FXZQ12TAVJU, FXZQ15TAVJU, FXZQ18TAVJU to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ / RWEQ heat pump and REYQ / RELQ / RWEYQ / RWEQ heat recovery model. The decoration panel shall be a four-way air distribution type, with fresh white (Munsell N9.5) or Daikin Silver color, impact resistant with a washable decoration panel. The supply air is distributed via motorized louvers which can be horizontally and vertically adjusted from 0° to 90°. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote controls. The indoor units sound pressure shall range from 25.5 dB(A) to 33 dB(A) at low speed measured at 5 feet below the unit.
2. Performance: Each unit’s performance is based on nominal operating

conditions:

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| **Model Number** | **Cooling** (Indoor 80°F DB / 67°F WB, Outdoor 95°F DB, 25 ft pipe length) | **Heating** (Indoor 70°F DB / 60°F WB,Outdoor 47°F DB, 25 ft pipe length) |
| FXZQ05TAVJU | 5,800 | 6,500 |
| FXZQ07TAVJU | 7,500 | 8,500 |
| FXZQ09TAVJU | 9,500 | 10,500 |
| FXZQ12TAVJU | 12,000 | 13,500 |
| FXZQ15TAVJU | 15,000 | 17,000 |
| FXZQ18TAVJU | 18,000 | 20,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXZQ-TAVJU shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, flare connections, condensate drain pan, condensate drain pump, condensate safety shutoff and alarm, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be fully insulated from the outdoor unit or nearest branch connection into the refrigerant network.
5. The 4-way supply air flow can be field modified to 3-way and 2-way airflow to accommodate various installation configurations including corner installations.
6. Return air shall be through the concentric panel, which includes a resin net mold resistant filter.
7. The indoor units shall be equipped with a condensate pan and condensate pump. The condensate pump provides up to 24-13/16” of lift, measured from the drain outlet, and has a built in safety shutoff and alarm.
8. The indoor units shall be equipped with a return air thermistor.
9. The indoor unit will be powered with 208~230V/1-phase/60Hz.
10. The voltage range will be 253 volts maximum and 187 volts minimum.
11. Unit Cabinet:
12. The cabinet shall be space saving and shall be located into the ceiling.
13. Three auto-swing positions shall be available to choose from via field setting.
14. The airflow of the unit shall have the ability to shut down one or two sides allowing for simpler corner installation.
15. Fresh air intake shall be possible by way of direct duct installation to the side of the indoor unit cabinet.
16. The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.
17. Decoration Panel:

The FXZQ-TAVJU series shall be compatible with three optional decoration panels:

1. VISTA Decoration panel – white (BYFQ60C3W1W).
	1. The decoration panel shall be a four-way air distribution type and constructed of impact resistant polymer.
	2. The decoration panel dimensions shall measure 24-7/16” x 24-7/16” and shall fit into a standard 2x2 ceiling grid with no overlap of adjacent tiles.
	3. The four air discharge outlet louvers shall be independently motorized and controllable. Each louver shall have a visual indicator to easily identify the louver and simplify the airflow configuration.
	4. The louver outlets shall be capable of closure to allow for 3-way and 2-way air distribution.
	5. The decoration panel shall be a low profile design, extending 5/16” below the ceiling.
	6. The decoration panel shall be compatible with the optional space and presence sensor kit, model BRYQ60A2W.
	7. The decoration panel color shall be fresh white (Munsell N9.5).
2. VISTA Decoration panel – silver and white (BYFQ60C3W1S).
	1. The decoration panel shall be a four-way air distribution type and constructed of impact resistant polymer.
	2. The decoration panel dimensions shall measure 24-7/16” x 24-7/16” and shall fit into a standard 2x2 ceiling grid with no overlap of adjacent tiles.
	3. The four air discharge outlet louvers shall be independently motorized and controllable. Each louver shall have a visual indicator to easily identify the louver and simplify the airflow configuration.
	4. The louver outlets shall be capable of closure to allow for 3-way and 2-way air distribution.
	5. The decoration panel shall be a low profile design, extending 5/16” below the ceiling.
	6. The decoration panel shall be compatible with the optional space and presence sensor kit, model BRYQ60A2S.
	7. The decoration panel color shall be fresh white (Munsell N9.5) and a specialty Daikin Silver color.
3. Legacy FXZQ-MVJU9 decoration panel (BYFQ60B3W1).
	1. The FXZQ-TAVJU cassette body shall be compatible with the legacy 2x2 decoration panel BYFQ60B3W1.
4. Optional Space and Presence sensor kit:
5. The space and presence sensor shall be color matched to the decoration panel.
6. The sensor kit shall be capable of sensing occupancy within the space and automatically controlling the indoor unit set point in response to the detection of occupancy.
7. The sensor kit shall be capable of automatically adjusting the direction of individual air discharge outlet louvers in response to the detection of occupants in the vicinity of the unit.
8. The sensor kit shall be capable of automatically adjusting the direction of individual air discharge outlet louvers in response to the sensed floor temperature.
9. Fan:
10. The fan shall be driven by a direct-drive DC motor with statically and dynamically balanced impeller and shall have three user-selectable speeds available: high, medium, and low.
11. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output of 50W.
12. The airflow rate shall be available in high, medium, and low settings.
13. When FXZQ-TAVJU is connected with either the BRC1E73 Navigation Remote Controller or the DCM601A71 I-Touch Manager, the Auto fan mode shall be selectable.
14. Filter:
15. The return air shall be filtered by means of a washable long-life filter with mildew proof resin.
16. Coil:
17. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
18. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
19. The coil shall be a 2-row cross fin copper evaporator coil with 22 FPI design completely factory tested.
20. The refrigerant connections shall be flare connections and the condensate will be 1 -1/32 inch outside diameter PVC.
21. A condensate pan shall be located under the coil.
22. A condensate pump with a 24-13/16” lift, measured from the drain outlet, shall be located below the coil in the condensate pan with a built in safety alarm.
23. A thermistor will be located on the liquid and gas line.
24. Electrical:
25. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
26. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
27. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
28. Control:
29. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
30. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
31. Optional Accessories Available:
32. VISTA Decoration panel – white (BYFQ60C3W1W)
33. VISTA Decoration panel – silver & white (BYFQ60C3W1S)
34. Legacy FXZQ decoration panel (BYFQ60B3W1)
35. Space and Presence sensor kit – white (BRYQ60A2W)
	1. Sensor kit shall be color matched to pair with the VISTA decoration panel BYFQ60C3W1W. Space and presence sensor kit is not compatible with BYFQ60B3W1.
36. Space and Presence sensor kit – silver (BRYQ60A2S)
	1. Sensor kit shall be color matched to pair with the VISTA decoration panel BYFQ60C3W1S. Space and presence sensor kit is not compatible with BYFQ60B3W1.
37. Sealing member of air discharge outlet (BDBHQ44C60)
38. Panel spacer (KDBQ44BA60A)
	1. Panel spacer is compatible only with BYFQ60B3W1.
39. Direct fresh air intake kit (KDDQ44XA60).
40. Infrared remote controller and receiver - white (BRC082A42W)
	1. Receiver shall be color matched
41. Infrared remote controller and receiver – silver (BRC082A42S)
42. Infrared remote controller and receiver (BRC082A41W)
43. Wired remote controller (BRC1E73)
44. Adaptor for wiring (KRP1C75)
45. Wiring adaptor for electrical appendices (KRP4A74)
46. Installation box for adaptor PCB (KRP1BA101)
47. Remote “in-room” sensor kit (KRCS01-4B).
	* 1. The Daikin wall mounted, hard wired remote sensor kit is recommended for ceiling-embedded type fan coils, which often result in a difference between set temperature and actual temperature. The sensor for detecting the temperature can be placed away from the indoor unit (branch wiring is included in the kit).

4.03 FXZQ-TBVJU –VISTATM 2x2 CASSETTE UNIT

1. General: Daikin indoor unit model FXZQ-TBVJU shall be a ceiling cassette fan coil unit, operable with R-410A refrigerant, equipped with an electronic expansion valve, for installation into the ceiling cavity equipped with a decoration panel grille. It shall be available in capacities from 5,800 Btu/h to 18,000 Btu/h. Model numbers are FXZQ05TBVJU, FXZQ07TBVJU, FXZQ09TBVJU, FXZQ12TBVJU, FXZQ15TBVJU, FXZQ18TBVJU to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ / RWEQ heat pump and REYQ / RELQ / RWEYQ / RWEQ heat recovery model. The decoration panel shall be a four-way air distribution type, with fresh white (Munsell N9.5) color, impact resistant with a washable decoration panel. The supply air is distributed via motorized louvers which can be horizontally and vertically adjusted from 0° to 90°. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote controls. The indoor units sound pressure shall range from 25.5 dB(A) to 33 dB(A) at low speed measured at 5 feet below the unit.
2. Performance: Each unit’s performance is based on nominal operating

conditions:

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| --- | --- | --- |
| **Model Number** | **Cooling** (Indoor 80°F DB / 67°F WB, Outdoor 95°F DB, 25 ft pipe length) | **Heating** (Indoor 70°F DB / 60°F WB,Outdoor 47°F DB, 25 ft pipe length) |
| FXZQ05TBVJU | 5,800 | 6,500 |
| FXZQ07TBVJU | 7,500 | 8,500 |
| FXZQ09TBVJU | 9,500 | 10,500 |
| FXZQ12TBVJU | 12,000 | 13,500 |
| FXZQ15TBVJU | 15,000 | 17,000 |
| FXZQ18TBVJU | 18,000 | 20,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXZQ-TBVJU shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, flare connections, condensate drain pan, condensate drain pump, condensate safety shutoff and alarm, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be fully insulated from the outdoor unit or nearest branch connection into the refrigerant network.
5. The 4-way supply air flow can be field modified to 3-way and 2-way airflow to accommodate various installation configurations including corner installations.
6. Return air shall be through the concentric panel, which includes a resin net mold resistant filter.
7. The indoor units shall be equipped with a condensate pan and condensate pump. The condensate pump provides up to 24-13/16” of lift, measured from the drain outlet, and has a built in safety shutoff and alarm.
8. The indoor units shall be equipped with a return air thermistor.
9. The indoor unit will be powered with 208~230V/1-phase/60Hz.
10. The voltage range will be 253 volts maximum and 187 volts minimum.
11. Unit Cabinet:
12. The cabinet shall be space saving and shall be located into the ceiling.
13. Three auto-swing positions shall be available to choose from via field setting.
14. The airflow of the unit shall have the ability to shut down one or two sides allowing for simpler corner installation.
15. Fresh air intake shall be possible by way of direct duct installation to the side of the indoor unit cabinet.
16. The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.
17. Decoration Panel:

The FXZQ-TBVJU series shall be compatible with three optional decoration panels:

1. VISTA Decoration panel – white (BYFQ60C3W2W).
	1. The decoration panel shall be a four-way air distribution type and constructed of impact resistant polymer.
	2. The decoration panel dimensions shall measure 24-7/16” x 24-7/16” and shall fit into a standard 2x2 ceiling grid with no overlap of adjacent tiles.
	3. The four air discharge outlet louvers shall be independently motorized and controllable. Each louver shall have a visual indicator to easily identify the louver and simplify the airflow configuration.
	4. The louver outlets shall be capable of closure to allow for 3-way and 2-way air distribution.
	5. The decoration panel shall be a low profile design, extending 5/16” below the ceiling.
	6. The decoration panel shall be compatible with the optional space and presence sensor kit, model BRYQ60AAW.
	7. The decoration panel color shall be fresh white (Munsell N9.5).
2. Legacy FXZQ-MVJU9 decoration panel (BYFQ60B3W1).
	1. The FXZQ-TBVJU cassette body shall compatible with the legacy 2x2 decoration panel BYFQ60B3W1W via relay harness adapter WHZQ-W1W-TBV.
3. Optional Space and Presence sensor kit:
4. The space and presence sensor shall be color matched to the decoration panel.
5. The sensor kit shall be capable of sensing occupancy within the space and automatically controlling the indoor unit set point in response to the detection of occupancy.
6. The sensor kit shall be capable of automatically adjusting the direction of individual air discharge outlet louvers in response to the detection of occupants in the vicinity of the unit.
7. The sensor kit shall be capable of automatically adjusting the direction of individual air discharge outlet louvers in response to the sensed floor temperature.
8. Fan:
9. The fan shall be driven by a direct-drive DC motor with statically and dynamically balanced impeller and shall have three user-selectable speeds available: high, medium, and low. The power input required at the three field selectable speeds shall be made available as standard.
10. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output of 50W.
11. The airflow rate shall be available in high, medium, and low settings.
12. When FXZQ-TBVJU is connected with either the BRC1E73 Navigation Remote Controller or the DCM601A71 I-Touch Manager, the Auto fan mode shall be selectable.
13. Filter:
14. The return air shall be filtered by means of a washable long-life filter with mildew proof resin.
15. Coil:
16. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
17. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
18. The coil shall be a 2-row cross fin copper evaporator coil with 22 FPI design completely factory tested.
19. The refrigerant connections shall be flare connections and the condensate will be 1 -1/32 inch outside diameter PVC.
20. A condensate pan shall be located under the coil.
21. A condensate pump with a 24-13/16” lift, measured from the drain outlet, shall be located below the coil in the condensate pan with a built in safety alarm.
22. A thermistor will be located on the liquid and gas line.
23. Electrical:
24. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
25. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
26. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
27. Control:
28. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
29. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
30. Optional Accessories Available:
31. VISTA Decoration panel – white (BYFQ60C3W2W)
32. VISTA Decoration panel – white (BYFQ60C3W2W)
33. Legacy FXZQ decoration panel (BYFQ60B3W1)
34. Space and Presence sensor kit – white (BRYQ60AAW)
	1. Sensor kit shall be color matched to pair with the VISTA decoration panel BYFQ60C3W2W. Space and presence sensor kit is not compatible with BYFQ60B3W1.
35. Sealing member of air discharge outlet (BDBHQ44C60)
36. Panel spacer (KDBQ44BA60A)
	1. Panel spacer is compatible only with BYFQ60B3W1.
37. Direct fresh air intake kit (KDDQ44XA60).
38. Infrared remote controller and receiver - white (BRC082A42W)
	1. Receiver shall be color matched
39. Infrared remote controller and receiver (BRC082A41W)
40. Wired remote controller (BRC1E73)
41. Adaptor for wiring (KRP1C75)
42. Wiring adaptor for electrical appendices (KRP4A74)
43. Installation box for adaptor PCB (KRP1BA101)
44. Remote “in-room” sensor kit (KRCS01-6B).
	* 1. The Daikin wall mounted, hard wired remote sensor kit is recommended for ceiling-embedded type fan coils, which often result in a difference between set temperature and actual temperature. The sensor for detecting the temperature can be placed away from the indoor unit (branch wiring is included in the kit).

4.04 FXZQ – 4 WAY CEILING CASSETTE UNIT (2’x2’) *(note: obsolete)*

1. General: Daikin indoor unit model FXZQ shall be a ceiling cassette fan coil unit, operable with R-410A refrigerant, equipped with an electronic expansion valve, for installation into the ceiling cavity equipped with an air panel grill. It shall be available in capacities from 7,500 Btu/h to 18,000 Btu/h. Model numbers are FXZQ07MVJU9, FXZQ09MVJU9, FXZQ12MVJU9, FXZQ15MVJU9, FXZQ18MVJU9 to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. It shall be a four-way air distribution type, white (RAL9010), impact resistant with a washable decoration panel. The supply air is distributed via motorized louvers which can be horizontally and vertically adjusted from 0° to 90°. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote control BRC1E72, BRC1E73 and BRC2A71. The indoor units sound pressure shall range from 29 dB(A) to 34 dB(A) at low speed measured at 5 feet below the unit.
2. Performance: Each unit’s performance is based on nominal operating

conditions:

|  |  |  |
| --- | --- | --- |
| **Model Number** | **Cooling** (Indoor 80°F DB / 67°F WB, Outdoor 95°F DB, 25 ft pipe length) | **Heating** (Indoor 70°F DB Outdoor 47F / 43F, 25 ft pipe length) |
| FXZQ07MVJU9 | 7,500 | 8,700 |
| FXZQ09MVJU9 | 9,500 | 11,100 |
| FXZQ12MVJU9 | 12,000 | 14,000 |
| FXZQ15MVJU9 | 15000 | 17,500 |
| FXZQ18MVJU9 | 18,000 | 21,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXZQ shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, condensate drain pump, condensate safety shutoff and alarm, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be insulated from the outdoor unit.
5. The 4-way supply air flow can be field modified to 3-way and 2-way airflow to accommodate various installation configurations including corner installations.
6. Return air shall be through the concentric panel, which includes a resin net mold resistant filter.
7. The indoor units shall be equipped with a condensate pan and condensate pump. The condensate pump provides up to 21” of lift and has a built in safety shutoff and alarm.
8. The indoor units shall be equipped with a return air thermistor.
9. All electrical components are reached through the decoration panel, which reduces the required side service access.
10. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
11. The voltage range will be 253 volts maximum and 187 volts minimum.
12. Unit Cabinet:
13. The cabinet shall be space saving and shall be located into the ceiling.
14. Three auto-swing positions shall be available to choose, which include standard, draft prevention and ceiling stain prevention.
15. The airflow of the unit shall have the ability to shut down one or two sides allowing for simpler corner installation.
16. Fresh air intake shall be possible by way of direct duct installation to the side of the indoor unit cabinet.
17. The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.
18. Fan:
19. The fan shall be direct-drive turbo fan type with statically and dynamically balanced impeller with high and low fan speeds available.
20. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output range from 0.06 to 0.12 HP.
21. The airflow rate shall be available in high and low settings.
22. The fan motor shall be thermally protected.
23. Filter:
24. The return air shall be filtered by means of a washable long-life filter with mildew proof resin.
25. Coil:
26. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
27. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
28. The coil shall be a 2-row cross fin copper evaporator coil with 17 FPI design completely factory tested.
29. The refrigerant connections shall be flare connections and the condensate will be 1 -1/32 inch outside diameter PVC.
30. A condensate pan shall be located under the coil.
31. A condensate pump with a 21 inch lift shall be located below the coil in the condensate pan with a built in safety alarm.
32. A thermistor will be located on the liquid and gas line.
33. Electrical:
34. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
35. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
36. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
37. Control:
38. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
39. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
40. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
41. Optional Accessories Available:
42. Direct fresh air intake kit (KDDQ44X60).
43. Supply air duct connections.
44. Remote “in-room” sensor kit (KRCS01-1B).
	* 1. The Daikin wall mounted, hard wired remote sensor kit is recommended for ceiling-embedded type fan coils, which often result in a difference between set temperature and actual temperature. The sensor for detecting the temperature can be placed away from the indoor unit (branch wiring is included in the kit).

4.05 FXMQ\_M – CONCEALED CEILING DUCTED UNIT (Med. Static)

1. General: Daikin indoor unit FXMQ\_M shall be a built-in ceiling concealed fan coil unit, operable with refrigerant R-410A, equipped with an electronic expansion valve, for installation into the ceiling cavity. It is constructed of a galvanized steel casing. It shall be available in capacities from 72,000 Btu/h to 96,000 Btu/h. Model numbers are FXMQ72MVJU and FXMQ96MVJU to be connected to outdoor unit model RXYQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. It shall be a horizontal discharge air with horizontal return air configuration. All models feature a low height cabinet making them applicable to ceiling pockets that tend to be shallow. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote control BRC1E72, BRC1E73 and BRC2A71. The indoor units sound pressure shall be 48 dB(A) at low speed measured 5 feet below the ducted unit.
2. Performance: Each unit’s performance is based on nominal operating conditions:

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| --- | --- | --- |
| **Model Number** | **Cooling** (Indoor 80°F DB / 67°F WB, Outdoor 95°F DB, 25 ft pipe length) | **Heating** (Indoor 70°F DB Outdoor 47F / 43F, 25 ft pipe length) |
| FXMQ72MVJU | 72,000 | 96,000 |
| FXMQ96MVJU | 96,000 | 108,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXMQ\_M shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch. The unit shall have an adjustable external static pressure switch.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be insulated from the outdoor unit.
5. The indoor units shall be equipped with a return air thermistor.
6. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
7. The voltage range will be 253 volts maximum and 187 volts minimum.
8. Unit Cabinet:
9. The cabinet shall be located into the ceiling and ducted to the supply and return openings.
10. The cabinet shall be constructed with sound absorbing foamed fiber-less closed cell polystyrene and polyethylene insulation.
11. Fan:
12. The fan shall be direct-drive Sirocco type fan, statically and dynamically balanced impeller with high and low fan speeds available.
13. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz, with a motor output of 0.51 HP.
14. The airflow rate shall be available in high and low settings.
15. The fan motor shall be thermally protected.
16. The fan motor shall be equipped as standard with adjustable external static pressure (ESP) settings.
17. Fan motor external static pressure for nominal airflow:

|  |  |
| --- | --- |
| **Model Number** | **Fan ESP (in. WG)** |
| FXMQ72MVJU | 0.95 – 0.72 |
| FXMQ96MVJU | 0.95 – 0.8 |

1. Coil:
2. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
3. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
4. The coil shall be a 3 row cross fin copper evaporator coil with 13 fpi design completely factory tested.
5. The refrigerant connections shall be flare connections and the condensate will be 1-5/16 inch outside diameter PVC.
6. A thermistor will be located on the liquid and gas line.
7. Electrical:
8. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
9. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
10. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
11. Control:
12. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
13. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
14. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
15. Optional Accessories Available:
16. Remote “in-room” sensor kit KRCS01-1B (recommended).
	* 1. The Daikin wall mounted, hard wired remote sensor kit is recommended for ceiling-embedded type fan coils, which often result in a difference between set temperature and actual temperature. The sensor for detecting the temperature can be placed away from the indoor unit (branch wiring is included in the kit).

4.06 FXMQ\_PA - CONCEALED CEILING DUCTED UNIT (Med. Static)

1. General: Daikin indoor unit FXMQ\_PA shall be a built-in ceiling concealed fan coil unit, operable with refrigerant R-410A, equipped with an electronic expansion valve, direct-drive DC (ECM) type fan with auto CFM adjustment at commissioning, for installation into the ceiling cavity. It is constructed of a galvanized steel casing. It shall be available in capacities from 7,500 Btu/h to 48,000 Btu/h. Model numbers are FXMQ07PAVJU, FXMQ09PAVJU, FXMQ12PAVJU, FXMQ15PAVJU, FXMQ18PAVJU, FXMQ24PAVJU, FXMQ30PAVJU, FXMQ36PAVJU, FXMQ48PAVJU, and FXMQ54PAVJU to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. It shall be a horizontal discharge air with horizontal return air configuration. All models feature a low height cabinet making them applicable to ceiling pockets that tend to be shallow. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote control BRC1E72, BRC1E73 and BRC2A71. Included as standard equipment, a condensate drain pan and drain pump kit that pumps to 18-3/8” from the drain pipe opening. The indoor units sound pressure shall range from 29 dB(A) to 43 dB(A) at low speed measured 5 feet below the ducted unit.
2. Performance: Each unit’s performance is based on nominal operating conditions:

|  |  |  |
| --- | --- | --- |
| **Model Number** | **Cooling** (Indoor 80°F DB / 67°F WB, Outdoor 95°F DB, 25 ft pipe length) | **Heating** (Indoor 70°F DB Outdoor 47F / 43F, 25 ft pipe length) |
| FXMQ07PAVJU | 7,500 | 8,500 |
| FXMQ09PAVJU | 9,500 | 10.500 |
| FXMQ12PAVJU | 12,000 | 13,500 |
| FXMQ15PAVJU | 15,000 | 16,500 |
| FXMQ18PAVJU | 18,000 | 20,000 |
| FXMQ24PAVJU | 24,000 | 27,000 |
| FXMQ30PAVJU | 30,000 | 34,000 |
| FXMQ36PAVJU | 36,000 | 40,000 |
| FXMQ48PAVJU | 48,000 | 54,000 |
| FXMQ54PAVJU | 54,000 | 60,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXMQ\_PA shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, condensate drain pump, condensate safety shutoff and alarm, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch. The unit shall be equipment with automatically adjusting external static pressure logic that is selectable during commissioning. This adjusts the airflow based on the installed external static pressure.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be insulated from the outdoor unit.
5. The indoor units shall be equipped with a condensate pan and condensate pump. The condensate pump provides up to 18-3/8” of lift from the center of the drain outlet and has a built in safety shutoff and alarm.
6. The indoor units shall be equipped with a return air thermistor.
7. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
8. The voltage range will be 253 volts maximum and 187 volts minimum.
9. Unit Cabinet:
10. The cabinet shall be located into the ceiling and ducted to the supply and return openings.
11. The cabinet shall be constructed with sound absorbing foamed fiber-less closed cell polystyrene and polyethylene insulation.
12. Fan:
13. The fan shall be direct-drive DC (ECM) type fan, statically and dynamically balanced impeller with three fan speeds available.
14. The unit shall be equipment with automatically adjusting external static pressure logic selectable during commissioning.
15. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output range of 0.12 to 0.47 HP respectively.
16. The airflow rate shall be available in three settings.
17. The fan motor shall be thermally protected.
18. The fan motor shall be equipped as standard with adjustable external static pressure (ESP) settings.
19. Fan motor external static pressure range for nominal airflow:

|  |  |
| --- | --- |
| **Model Number** | **Fan ESP (in. WG)** |
| FXMQ07PAVJU | 0.40 – 0.12 |
| FXMQ09PAVJU | 0.40 – 0.12 |
| FXMQ12PAVJU | 0.40 – 0.12 |
| FXMQ15PAVJU | 0.80 – 0.20 |
| FXMQ18PAVJU | 0.80 – 0.20 |
| FXMQ24PAVJU | 0.80 – 0.20 |
| FXMQ30PAVJU | 0.80 – 0.20 |
| FXMQ36PAVJU | 0.80 – 0.20 |
| FXMQ48PAVJU | 0.80 – 0.20 |
| FXMQ54PAVJU | 0.56 – 0.20 |

1. Coil:
2. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
3. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
4. The coil shall be a 3 row cross fin copper evaporator coil with 15 fpi design completely factory tested.
5. The refrigerant connections shall be flare connections and the condensate will be 1-1/4” outside diameter PVC.
6. A condensate pan shall be located under the coil.
7. A condensate pump with an 18-3/8” lift shall be located below the coil in the condensate pan with a built in safety alarm.
8. A thermistor will be located on the liquid and gas line.
9. Electrical:
10. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
11. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
12. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
13. Control:
14. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
15. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
16. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
17. Optional Accessories Available:
18. Remote “in-room” sensor kit KRCS01-4B (recommended).
	* 1. The Daikin wall mounted, hard wired remote sensor kit is recommended for when a NAV controller is not used or when the NAV controller is not located in the space that is being controlled. The sensor for detecting the temperature can be placed away from the indoor unit (branch wiring is included in the kit).
19. MERV 13 Filter kit. Can be configured for right or left access. Filters replaceable without tools.
20. Air side Economizer designed for connection to the rear of FXMQ30-54PAVJU.

4.07 FXMQ\_PB - CONCEALED CEILING DUCTED UNIT (Med. Static)

1. General: Daikin indoor unit FXMQ\_PB shall be a built-in ceiling concealed fan coil unit, operable with refrigerant R-410A, equipped with an electronic expansion valve, direct-drive DC (ECM) type fan with auto CFM adjustment at commissioning, for installation into the ceiling cavity. It is constructed of a galvanized steel casing. It shall be available in capacities from 7,500 Btu/h to 48,000 Btu/h. Model numbers are FXMQ07PBVJU, FXMQ09PBVJU, FXMQ12PBVJU, FXMQ15PBVJU, FXMQ18PBVJU, FXMQ24PBVJU, FXMQ30PBVJU, FXMQ36PBVJU, FXMQ48PBVJU, and FXMQ54PBVJU to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. It shall be a horizontal discharge air with horizontal return air configuration. All models feature a low height cabinet making them applicable to ceiling pockets that tend to be shallow. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote control BRC1E72, BRC1E73 and BRC2A71. Included as standard equipment, a condensate drain pan and drain pump kit that pumps to 18-3/8” from the drain pipe opening. The indoor units sound pressure shall range from 29 dB(A) to 43 dB(A) at low speed measured 5 feet below the ducted unit.
2. Performance: Each unit’s performance is based on nominal operating conditions:

|  |  |  |
| --- | --- | --- |
| **Model Number** | **Cooling** (Indoor 80°F DB / 67°F WB, Outdoor 95°F DB, 25 ft pipe length) | **Heating** (Indoor 70°F DB Outdoor 47F / 43F, 25 ft pipe length) |
| FXMQ07PBVJU | 7,500 | 8,500 |
| FXMQ09PBVJU | 9,500 | 10.500 |
| FXMQ12PBVJU | 12,000 | 13,500 |
| FXMQ15PBVJU | 15,000 | 16,500 |
| FXMQ18PBVJU | 18,000 | 20,000 |
| FXMQ24PBVJU | 24,000 | 27,000 |
| FXMQ30PBVJU | 30,000 | 34,000 |
| FXMQ36PBVJU | 36,000 | 40,000 |
| FXMQ48PBVJU | 48,000 | 54,000 |
| FXMQ54PBVJU | 54,000 | 60,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXMQ\_PB shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, condensate drain pump, condensate safety shutoff and alarm, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch. The unit shall be equipment with automatically adjusting external static pressure logic that is selectable during commissioning. This adjusts the airflow based on the installed external static pressure.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be insulated from the outdoor unit.
5. The indoor units shall be equipped with a condensate pan and condensate pump. The condensate pump provides up to 18-3/8” of lift from the center of the drain outlet and has a built in safety shutoff and alarm.
6. The indoor units shall be equipped with a return air thermistor.
7. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
8. The voltage range will be 253 volts maximum and 187 volts minimum.
9. Unit Cabinet:
10. The cabinet shall be located into the ceiling and ducted to the supply and return openings.
11. The cabinet shall be constructed with sound absorbing foamed fiber-less closed cell polystyrene and polyethylene insulation.
12. Fan:
13. The fan shall be direct-drive DC (ECM) type fan, statically and dynamically balanced impeller with three fan speeds available.
14. The unit shall be equipment with automatically adjusting external static pressure logic selectable during commissioning.
15. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output range of 0.12 to 0.47 HP respectively.
16. The airflow rate shall be available in three settings.
17. The fan motor shall be thermally protected.
18. The fan motor shall be equipped as standard with adjustable external static pressure (ESP) settings.
19. Fan motor external static pressure range for nominal airflow:

|  |  |
| --- | --- |
| **Model Number** | **Fan ESP (in. WG)** |
| FXMQ07PBVJU | 0.40 – 0.12 |
| FXMQ09PBVJU | 0.40 – 0.12 |
| FXMQ12PBVJU | 0.40 – 0.12 |
| FXMQ15PBVJU | 0.80 – 0.20 |
| FXMQ18PBVJU | 0.80 – 0.20 |
| FXMQ24PBVJU | 0.80 – 0.20 |
| FXMQ30PBVJU | 0.80 – 0.20 |
| FXMQ36PBVJU | 0.80 – 0.20 |
| FXMQ48PBVJU | 0.80 – 0.20 |
| FXMQ54PBVJU | 0.56 – 0.20 |

1. Coil:
2. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
3. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
4. The coil shall be a 3 row cross fin copper evaporator coil with 15 fpi design completely factory tested.
5. The refrigerant connections shall be flare connections and the condensate will be 1-1/4” outside diameter PVC.
6. A condensate pan shall be located under the coil.
7. A condensate pump with an 18-3/8” lift shall be located below the coil in the condensate pan with a built in safety alarm.
8. A thermistor will be located on the liquid and gas line.
9. Electrical:
10. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
11. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
12. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
13. Control:
14. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
15. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
16. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
17. Optional Accessories Available:
18. Remote “in-room” sensor kit KRCS01-4B (recommended).
	* 1. The Daikin wall mounted, hard wired remote sensor kit is recommended for when a NAV controller is not used or when the NAV controller is not located in the space that is being controlled. The sensor for detecting the temperature can be placed away from the indoor unit (branch wiring is included in the kit).
19. MERV 13 Filter kit. Can be configured for right or left access. Filters replaceable without tools.
20. Air side Economizer designed for connection to the rear of FXMQ30-54PBVJU.

4.08 FXMQ\_TB - CONCEALED CEILING DUCTED UNIT (High Static)

1. General Requirements:
	1. All indoor/evaporator units shall be factory assembled and tested DX-fan coil units, operable with refrigerant R-410a.
	2. All units shall be completely factory assembled and tested, and shall be charged with dehydrated air prior to shipment from the factory.
	3. All units shall be equipped with an electronic expansion valve controlled using a PID loop to automatically adjust the refrigerant flow rate through the unit.
	4. All units shall be equipped with a programmed drying operation that dehumidifies while limiting changes in room temperature when used with Daikin remote controllers BRC1E73 and BRC2A71.
	5. All units shall feature self-diagnostics, auto-restart functionality, 3-minute fused time delay, and a test run switch.
	6. All refrigerant piping, both liquid and suction, shall be fully insulated from the outdoor unit.
2. Performance: Each unit’s performance is based on nominal operating conditions:

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| --- | --- | --- |
| **Model Number** | **Cooling (Btu/h)**(Indoor 80°FDB / 67°FWB, Outdoor 95°FDB, 25 ft pipe length) | **Heating (Btu/h)**(Indoor 70°FDB, Outdoor 47°FDB / 43°FWB, 25 ft pipe length) |
| FXMQ15TBVJU | 15,000 | 17,000 |
| FXMQ18TBVJU | 18,000 | 20,000 |
| FXMQ24TBVJU | 24,000 | 27,000 |
| FXMQ30TBVJU | 30,000 | 34,000 |
| FXMQ36TBVJU | 36,000 | 40,000 |
| FXMQ48TBVJU | 48,000 | 54,000 |
| FXMQ54TBVJU | 57,000 | 63,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXMQ\_TB shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, condensate drain pump, condensate safety shutoff and alarm, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch. The unit shall be equipment with automatically adjusting external static pressure logic that is selectable during commissioning. This adjusts the airflow based on the installed external static pressure.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be insulated from the outdoor unit.
5. The indoor units shall be equipped with a return air thermistor.
6. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
7. The voltage range will be 253 volts maximum and 187 volts minimum.
8. Unit Cabinet:
	1. The unit cabinet shall be constructed of heavy gauge galvanized steel.
	2. The unit shall be internally insulated and shall be capable of installation in indoor environments up to 80% relative humidity without requiring additional field installed insulation.
	3. The unit shall ship from the factory in a rear-return configuration and shall be field-convertible to a bottom-return configuration.
	4. The unit shall be equipped with a return air thermistor.
	5. The cabinet shall be constructed with sound absorbing foamed fiber-less closed cell polystyrene and polyethylene insulation.
9. Fan:
	1. The fan shall be a direct-drive, brushless DC fan motor with (3) user-selectable fan speeds (H, M, L).
	2. The unit shall be equipment with automatically adjusting external static pressure logic selectable during commissioning.
	3. The unit shall be equipped with internal controls to allow the fan to automatically select the operating fan curve to deliver nominal airflow CFM (within +/- 10%) when the connect ductwork has been designed with a total external static within the range of the FXMQ\_TB. This setting shall be accessible as a setting to be used during startup and commissioning of the system
	4. The fan motor shall be capable of Auto fan speed control when the unit is connected to the BRC1E73 Navigation Remote Control, BRC1H73W Madoka Controller or the DCM601A71 Intelligent Touch Manager centralized control. The Auto fan speed control shall automatically adjust the unit’s fan speed in response to the difference between the indoor unit’s current set point and the current room temperature measurement. The Auto fan speed control shall utilize (5) fan speeds.
	5. The fan motor shall be internally isolated using rubber grommets to reduce transmission of vibrations to the unit.
10. The airflow rate shall be available in three settings.
11. The fan motor shall be thermally protected.
12. Fan motor external static pressure range for nominal airflow:

|  |  |
| --- | --- |
| **Model Number** | **Fan ESP (in. w.g.)** |
| FXMQ15TBVJU | 0.20 – 0.80 |
| FXMQ18TBVJU | 0.20 – 0.80 |
| FXMQ24TBVJU | 0.20 – 0.80 |
| FXMQ30TBVJU | 0.20 – 0.80 |
| FXMQ36TBVJU | 0.20 – 0.80 |
| FXMQ48TBVJU | 0.20 – 0.80 |
| FXMQ54TBVJU | 0.20 – 0.56 |

1. Fan Blade
	1. The fan blade shall be constructed of lightweight polymer.
	2. The fan blade shall be statically and dynamically balanced to minimize vibration.
2. Coil:
	1. Coils shall be of the direct expansion type, constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
	2. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
	3. The coil shall be 2 or 3 row cross fin copper evaporator coil with 18 fpi design, completely factory tested.
	4. The refrigerant connections shall be flare connections.
	5. Factory mounted thermistors shall be installed on the liquid and gas lines.
3. Condensate Drainage
	1. The unit shall be equipped with a condensate drain pan under the coil.
	2. The condensate drain outlet shall be of PVC construction and VP25 (1” ID, 1-1/4” OD).
	3. The unit shall be equipped with a factory-integral condensate pump capable of 25-5/16” lift from the condensate drain outlet. The condensate pump shall be equipped with a float switch to automatically stop unit operation and provide a system error code in the event drain pan water level rises too high.
4. Electrical:
	1. Provide a separate power supply connection of 208/230V, 1 phase, 60 hertz. The allowable voltage range shall be 187 to 253 volts.
	2. Refer to the engineering data book for all other electrical data including MCA, MOCP, and FLA values.
	3. The transmission (control) wiring distance between the indoor unit and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
	4. The transmission (control) wiring between the indoor unit and the remote controller shall be a maximum distance of 1,640 feet.
5. Control:
	1. The unit shall be controlled with a Daikin remote controller to perform input functions necessary to operate the system.
	2. The unit shall be compatible with interfacing with a building management system (BMS) via optional BACnet or LonWorks gateways.
	3. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
6. Optional Accessories Available:
	1. BRC1E73 Navigation Remote Controller (wired)
	2. BRC2A71 Simplified Wired Remote Controller (wired)
	3. BRC1H71W Madoka Remote Controller (wired)
	4. DTST-ONE-ADA-A Daikin One Controller (wired)
	5. BRC4C82 Infrared Remote Controller (wireless)
	6. KRP1C74 Wiring Adaptor PCB
	7. KRP4A71 Wiring Adaptor For Electrical Appendices
	8. KRP4A98 Installation Box For Adaptor PCB Board
	9. KRCS01-4B Remote Sensor
	10. DCM601A71 Intelligent Touch Manager

4.09 FXMQ\_MF – OUTSIDE AIR PROCESSING UNIT

1. General: Daikin indoor unit FXMQ\_MF shall be a built-in ceiling concealed fan coil unit, operable with refrigerant R-410A, equipped with an electronic expansion valve, for installation into the ceiling cavity. The unit shall be capable of introducing up to 100% outside air controlled to a fixed discharge air temperature. It is constructed of a galvanized steel casing. It shall be available in capacities from 48,000 Btu/h to 96,000 Btu/h. Model numbers are FXMQ48MFVJU, FXMQ72MFVJU and FXMQ96MVJU to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. It shall be a horizontal discharge air with horizontal return air configuration. All models feature a low height cabinet making them applicable to ceiling pockets that tend to be shallow. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The indoor units sound pressure shall range from 42 dB(A) to 47 dB(A).
2. Performance: Each unit’s performance is based on nominal operating conditions:

|  |  |  |
| --- | --- | --- |
| **Model Number** | **Cooling** (Outdoor 91°F DB / 82°F WB, Discharge 64°F DB, 25 ft pipe length) | **Heating** (Outdoor 32°F DB / 27°F WB,Discharge 77°F DB, 25 ft pipe length) |
| FXMQ48MFVJU | 48,000 | 30,000 |
| FXMQ72MFVJU | 72,000 | 47,000 |
| FXMQ96MFVJU | 96,000 | 59,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXMQ\_MF shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, self-diagnostics, auto-restart function, 3-minute fused time delay and test run switch.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be insulated from the outdoor unit.
5. The indoor units shall be equipped with a discharge air thermistor.
6. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
7. The voltage range will be 253 volts maximum and 187 volts minimum.
8. Unit Cabinet:
9. The cabinet shall be located into the ceiling and ducted to the supply and return openings.
10. The cabinet shall be constructed with sound absorbing foamed fiber-less closed cell polystyrene and polyethylene insulation.
11. Fan:
12. The fan shall be direct-drive Sirocco type fan, statically and dynamically balanced impeller.
13. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz, with a motor output of 0.51 HP.
14. The fan motor shall be thermally protected.
15. Fan motor external static pressure for nominal airflow:

|  |  |
| --- | --- |
| **Model Number** | **Fan ESP (in. WG)** |
| FXMQ48MFVJU | 0.88 |
| FXMQ72MFVJU | 0.96 |
| FXMQ96MFVJU | 1.03 |

1. Coil:
2. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
3. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
4. The coil shall be a 3 row cross fin copper evaporator coil with 13 fpi design completely factory tested.
5. The refrigerant connections shall be flare connections and the condensate will be 1-5/16 inch outside diameter PVC.
6. A thermistor will be located on the liquid and gas line.
7. Electrical:
8. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
9. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
10. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
11. Control:
12. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
13. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
14. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.

4.10 FX SQ\_T - CONCEALED CEILING DUCTED UNIT (Med. Static)

1. General Requirements:
	1. All indoor/evaporator units shall be factory assembled and tested DX-fan coil units, operable with refrigerant R-410a.
	2. All units shall be completely factory assembled and tested, and shall be charged with dehydrated air prior to shipment from the factory.
	3. All units shall be equipped with an electronic expansion valve controlled using a PID loop to automatically adjust the refrigerant flow rate through the unit.
	4. All units shall be equipped with a programmed drying operation that dehumidifies while limiting changes in room temperature when used with Daikin remote controllers BRC1E73 and BRC2A71.
	5. All units shall feature self-diagnostics, auto-restart functionality, 3-minute fused time delay, and a test run switch.
	6. All refrigerant piping, both liquid and suction, shall be fully insulated from the outdoor unit.
2. Performance: Each unit’s performance is based on nominal operating conditions:

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| --- | --- | --- |
| **Model Number** | **Cooling (Btu/h)**(Indoor 80°FDB / 67°FWB, Outdoor 95°FDB, 25 ft pipe length) | **Heating (Btu/h)**(Indoor 70°FDB, Outdoor 47°FDB / 43°FWB, 25 ft pipe length) |
| FXSQ05T-VJU | 5,800 | 6,500 |
| FXSQ07T-VJU | 7,500 | 8,500 |
| FXSQ09T-VJU | 9,500 | 10,500 |
| FXSQ12T-VJU | 12,000 | 13,500 |
| FXSQ15T-VJU | 15,000 | 16,500 |
| FXSQ18T-VJU | 18,000 | 20,000 |
| FXSQ24T-VJU | 24,000 | 27,000 |
| FXSQ30T-VJU | 30,000 | 34,000 |
| FXSQ36T-VJU | 36,000 | 40,000 |
| FXSQ48T-VJU | 48,000 | 54,000 |
| FXSQ54T-VJU | 54,000 | 60,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXSQ\_T shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, condensate drain pump, condensate safety shutoff and alarm, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch. The unit shall be equipment with automatically adjusting external static pressure logic that is selectable during commissioning. This adjusts the airflow based on the installed external static pressure.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be insulated from the outdoor unit.
5. The indoor units shall be equipped with a return air thermistor.
6. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
7. The voltage range will be 253 volts maximum and 187 volts minimum.
8. Unit Cabinet:
	1. The unit cabinet shall be constructed of heavy gauge galvanized steel.
	2. The unit shall be internally insulated and shall be capable of installation in indoor environments up to 80% relative humidity without requiring additional field installed insulation.
	3. The unit shall ship from the factory in a rear-return configuration, and shall be field-convertible to a bottom-return configuration.
	4. The unit shall be equipped with a return air thermistor.
	5. The cabinet shall be constructed with sound absorbing foamed fiber-less closed cell polystyrene and polyethylene insulation.
9. Fan:
	1. The fan shall be a direct-drive, brushless DC fan motor with (3) user-selectable fan speeds (H, M, L).
	2. The unit shall be equipment with automatically adjusting external static pressure logic selectable during commissioning.
	3. The unit shall be equipped with internal controls to allow the fan to automatically select the operating fan curve to deliver nominal airflow CFM (within +/- 10%) when the connect ductwork has been designed with a total external static within the range of the FXSQ\_T. This setting shall be accessible as a setting to be used during startup and commissioning of the system
	4. The fan motor shall be capable of Auto fan speed control when the unit is connected to the BRC1E73 Navigation Remote Control, BRC1H71W Madoka Control or the DCM601A71 Intelligent Touch Manager centralized control. The Auto fan speed control shall automatically adjust the unit’s fan speed in response to the difference between the indoor unit’s current set point and the current room temperature measurement. The Auto fan speed control shall utilize (5) fan speeds.
	5. The fan motor shall be internally isolated using rubber grommets to reduce transmission of vibrations to the unit.
10. The airflow rate shall be available in three settings.
11. The fan motor shall be thermally protected.
12. Fan motor external static pressure range for nominal airflow:

|  |  |
| --- | --- |
| **Model Number** | **Fan ESP (in. w.g.)** |
| FXSQ05T-VJU | 0.12 – 0.60 |
| FXSQ07T-VJU | 0.12 – 0.60 |
| FXSQ09T-VJU | 0.12 – 0.60 |
| FXSQ12T-VJU | 0.12 – 0.60 |
| FXSQ15T-VJU | 0.12 – 0.60 |
| FXSQ18T-VJU | 0.20 – 0.60 |
| FXSQ24T-VJU | 0.20 – 0.60 |
| FXSQ30T-VJU | 0.20 – 0.60 |
| FXSQ36T-VJU | 0.20 – 0.60 |
| FXSQ48T-VJU | 0.20 – 0.60 |
| FXSQ54T-VJU | 0.20 – 0.54 |

1. Fan Blade
	1. The fan blade shall be constructed of lightweight polymer.
	2. The fan blade shall be statically and dynamically balanced to minimize vibration.
2. Coil:
	1. Coils shall be of the direct expansion type, constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
	2. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
	3. The coil shall be 2 or 3 row cross fin copper evaporator coil with 18 fpi design, completely factory tested.
	4. The refrigerant connections shall be flare connections.
	5. Factory mounted thermistors shall be installed on the liquid and gas lines.
3. Condensate Drainage
	1. The unit shall be equipped with a condensate drain pan under the coil.
	2. The condensate drain outlet shall be of PVC construction and VP25 (1” ID, 1-1/4” OD).
	3. The unit shall be equipped with a factory-integral condensate pump capable of 25-5/16” lift from the condensate drain outlet. The condensate pump shall be equipped with a float switch to automatically stop unit operation and provide a system error code in the event drain pan water level rises too high.
4. Electrical:
	1. Provide a separate power supply connection of 208/230V, 1 phase, 60 hertz. The allowable voltage range shall be 187 to 253 volts.
	2. Refer to the engineering data book for all other electrical data including MCA, MOCP, and FLA values.
	3. The transmission (control) wiring distance between the indoor unit and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
	4. The transmission (control) wiring between the indoor unit and the remote controller shall be a maximum distance of 1,640 feet.
5. Control:
	1. The unit shall be controlled with a Daikin remote controller to perform input functions necessary to operate the system.
	2. The unit shall be compatible with interfacing with a building management system (BMS) via optional BACnet or LonWorks gateways.
	3. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
6. Optional Accessories Available:
	1. BRC1E73 Navigation Remote Controller (wired)
	2. BRC2A71 Simplified Wired Remote Controller (wired)
	3. BRC1H71W Madoka Remote Controller (wired)
	4. DTST-ADA-A Daikin One Controller (wired)
	5. BRC4C82 Infrared Remote Controller (wireless)
	6. KRP1C74 Wiring Adaptor PCB
	7. KRP4A71 Wiring Adaptor For Electrical Appendices
	8. KRP4A98 Installation Box For Adaptor PCB Board
	9. KRCS01-4B Remote Sensor
	10. DCM601A71 Intelligent Touch Manager

4.11 FXDQ – SLIM DUCT CONCEALED CEILING UNIT

1. General: Daikin indoor unit model FXDQ shall be a Slim, built-in ceiling concealed fan coil unit, operable with R-410A refrigerant, equipped with an electronic expansion valve, for installation into the ceiling cavity. The unit shall be constructed of a galvanized steel casing. It shall be available in capacities from 7,000 Btu/h to 24,000 Btu/h. Model numbers are FXDQ07MVJU, FXDQ09MVJU, FXDQ12MVJU, FXDQ18MVJU, and FXDQ24MVJU to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. It shall be a horizontal discharge air with horizontal return air or bottom return air configuration. All models feature a very low height (7-7/8") making them applicable to ceiling pockets that tend to be shallow. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote control BRC1E72, BRC1E73 and BRC2A71. Included as standard equipment, a long-life filter that is mold resistant and a condensate drain pan and drain pump kit that pumps to 23-5/8" from the drain pipe opening. The indoor units sound pressure level shall range from 29 dB(A) to 32 dB(A) at low speed and 33 dB(A) to 36 dB(A) at high speed 5 feet below the suction grille.
2. Performance: Each unit’s performance is based on nominal operating conditions:

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| --- | --- | --- |
| **Model Number** | **Cooling** (Indoor 80°F DB / 67°F WB, Outdoor 95°F DB, 25 ft pipe length) | **Heating** (Indoor 70°F DB Outdoor 47F / 43F, 25 ft pipe length) |
| FXDQ07MVJU | 7,500 | 8,500 |
| FXDQ09MVJU | 9,500 | 10,500 |
| FXDQ12MVJU | 12,000 | 13,500 |
| FXDQ18MVJU | 18,000 | 20,000 |
| FXDQ24MVJU | 24,000 | 27,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXDQ shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, condensate drain pump, condensate safety shutoff and alarm, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch. The unit shall have adjustable external static pressure capabilities.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be insulated from the outdoor unit.
5. Return air shall be through a resin net mold resistant filter.
6. The indoor units shall be equipped with a condensate pan and condensate pump. The condensate pump provides up to 23-5/8” of lift from the center of the drain outlet and has a built in safety shutoff and alarm.
7. The indoor units shall be equipped with a return air thermistor.
8. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
9. The voltage range will be 253 volts maximum and 187 volts minimum.
10. Switch box shall be reached from the side or bottom for ease of service and maintenance.
11. Unit Cabinet:
12. The cabinet shall be located into the ceiling and ducted to the supply and return openings.
13. The cabinet shall be constructed with sound absorbing foamed fiber-less closed cell polystyrene and polyethylene insulation.
14. Fan:
15. The fan shall be direct-drive Sirocco type fan, statically and dynamically balanced impeller with high and low fan speeds available.
16. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output range from 62W to 130W.
17. The airflow rate shall be available in high and low settings.
18. The fan motor shall be thermally protected.
19. The fan motor shall be equipped as standard with adjustable external static pressure (ESP) settings.
20. Fan motor external static pressure range for nominal airflow:

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| --- | --- |
| **Model Number** | **Fan ESP (in. WG)** |
| FXDQ07MVJU | 0.12 - 0.04 |
| FXDQ09MVJU | 0.12 – 0.04 |
| FXDQ12MVJU | 0.12 – 0.04 |
| FXDQ18MVJU | 0.17 – 0.06 |
| FXDQ24MVJU | 0.17 – 0.06 |

1. Filter:
2. The return air shall be filtered by means of a washable long-life filter with mildew proof resin.
3. Coil:
4. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
5. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
6. The coil shall be a 2 or 3-row cross fin copper evaporator coil with 14 FPI design completely factory tested.
7. The refrigerant connections shall be flare connections and the condensate will be 1-1/32” outside diameter PVC.
8. A condensate pan shall be located under the coil.
9. A condensate pump with a 23-5/8” lift shall be located below the coil in the condensate pan with a built in safety alarm.
10. A thermistor will be located on the liquid and gas line.
11. Electrical:
12. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
13. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
14. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
15. Control:
16. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
17. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
18. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
19. Optional Accessories Available:
20. Remote “in-room” sensor kit KRCS01-1B (recommended).
21. The Daikin wall mounted, hard wired remote sensor kit is recommended for ceiling-embedded type fan coils, which often result in a difference between set temperature and actual temperature. The sensor for detecting the temperature can be placed away from the indoor unit (branch wiring is included in the kit).

4.12 FXHQ – CEILING SUSPENDED CASSETTE UNIT

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| --- | --- | --- |
| **Model Number** | **Cooling** (Indoor 80°F DB / 67°F WB, Outdoor 95°F DB, 25 ft pipe length) | **Heating** (Indoor 70°F DB Outdoor 47F / 43F, 25 ft pipe length) |
| FXHQ12MVJU | 12,000 | 13,500 |
| FXHQ24MVJU | 24,000 | 27,000 |
| FXHQ36MVJU | 36,000 | 40,000 |

1. General: Daikin indoor unit FXHQ shall be a ceiling suspended fan coil unit, operable with refrigerant R-410A, equipped with an electronic expansion valve, for installation onto a wall or ceiling within a conditioned space. This compact design with finished white casing shall be available in capacities from 12,000 Btu/h to 36,000 Btu/h. Model numbers are FXHQ12MVJU, FXHQ24MVJU and FXHQ36MVJU to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote control BRC1E72, BRC1E73 and BRC2A71. A mildew-proof, polystyrene condensate drain pan and resin net mold resistant filter shall be included as standard equipment. The indoor units sound pressure shall range from 32 dB(A) to 38 dB(A) at low speed measured at 3.3 feet below and from the unit.
2. Performance: Each unit’s performance is based on nominal operating conditions:
3. Indoor Unit:
4. The Daikin indoor unit FXHQ shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch. The unit shall have an auto-swing louver which ensures efficient air distribution, which closes automatically when the unit stops. The remote controller shall be able to set five (5) steps of discharge angle. The front grille shall be easily removed for washing. The discharge angle shall automatically set at the same angle as the previous operation upon restart. The drain pipe can be fitted to from the rear, top or left and right sides of the unit.
5. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
6. Both refrigerant lines shall be insulated from the outdoor unit.
7. Return air shall be through a resin net mold resistant filter.
8. The indoor units shall be equipped with a condensate pan.
9. The indoor units shall be equipped with a return air thermistor.
10. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
11. The voltage range will be 253 volts maximum and 187 volts minimum.
12. Unit Cabinet:
13. The cabinet shall be affixed to a factory supplied wall/ceiling hanging brackets and located in the conditioned space.
14. The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.
15. Fan:
16. The fan shall be a direct-drive cross-flow fan, statically and dynamically balanced impeller with high and low fan speeds available.
17. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output range 62W to 130W.
18. The airflow rate shall be available in high and low settings.
19. The fan motor shall be thermally protected.
20. Coil:
21. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
22. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
23. The coil shall be a 2-row cross fin copper evaporator coil with 15 fpi design completely factory tested.
24. The refrigerant connections shall be flare connections and the condensate will be 1 inch outside diameter PVC.
25. A thermistor will be located on the liquid and gas line.
26. A condensate pan shall be located in the unit.
27. Electrical:
28. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
29. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
30. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
31. Control:
32. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
33. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
34. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
35. Optional Accessories Available:
36. Remote “in-room” sensor kit KRCS01-1B.
37. A condensate pump (DACA-CP3-1).

4.13 FXAQ – WALL MOUNTED UNIT

1. General: Daikin indoor unit FXAQ shall be a wall mounted fan coil unit, operable with refrigerant R-410A, equipped with an electronic expansion valve, for installation onto a wall within a conditioned space. This compact design with finished white casing shall be available in capacities from 7,500 Btu/h to 24,000 Btu/h. Model numbers are FXAQ07PVJU, FXAQ09PVJU, FXAQ12PVJU, FXAQ18PVJU and FXAQ24PVJU to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote control BRC1E72, BRC1E73 and BRC2A71. A mildew-proof, polystyrene condensate drain pan and resin net mold resistant filter shall be included as standard equipment. The indoor units sound pressure shall range from 31 dB(A) to 41 dB(A) at low speed measured at 3.3 feet below and from the unit.
2. Performance: Each unit’s performance is based on nominal operating conditions:

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| --- | --- | --- |
| **Model Number** | **Cooling** (Indoor 80°F DB / 67°F WB, Outdoor 95°F DB, 25 ft pipe length) | **Heating** (Indoor 70°F DB Outdoor 47F / 43F, 25 ft pipe length) |
| FXAQ07PVJU | 7,500 | 8,500 |
| FXAQ09PVJU | 9,500 | 10,500 |
| FXAQ12PVJU | 12,000 | 13,500 |
| FXAQ18PVJU | 18,000 | 20,000 |
| FXAQ24PVJU | 24,000 | 26,500 |

1. Indoor Unit:
2. The Daikin indoor unit FXAQ shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch. The unit shall have an auto-swing louver which ensures efficient air distribution, which closes automatically when the unit stops. The remote controller shall be able to set five (5) steps of discharge angle. The front grille shall be easily removed for washing. The discharge angle shall automatically set at the same angle as the previous operation upon restart. The drain pipe can be fitted to from either left or right sides.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be insulated from the outdoor unit.
5. Return air shall be through a resin net mold resistant filter.
6. The indoor units shall be equipped with a condensate pan.
7. The indoor units shall be equipped with a return air thermistor.
8. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
9. The voltage range will be 253 volts maximum and 187 volts minimum.
10. Unit Cabinet:
11. The cabinet shall be affixed to a factory supplied wall mounting template and located in the conditioned space.
12. The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.
13. Fan:
14. The fan shall be a direct-drive cross-flow fan, statically and dynamically balanced impeller with high and low fan speeds available.
15. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output range 0.054 to 0.058 HP.
16. The airflow rate shall be available in high and low settings.
17. The fan motor shall be thermally protected.
18. Coil:
19. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
20. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
21. The coil shall be a 2-row cross fin copper evaporator coil with 14 fpi design completely factory tested.
22. The refrigerant connections shall be flare connections and the condensate will be 11/16 inch outside diameter PVC.
23. A thermistor will be located on the liquid and gas line.
24. A condensate pan shall be located in the unit.
25. Electrical:
26. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
27. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
28. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
29. Control:
30. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
31. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
32. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
33. Optional Accessories Available:
34. Remote “in-room” sensor kit KRCS01-1B.
35. A condensate pump (DACA-CP3-1)

4.14 FXLQ – FLOOR CONSOLE UNIT

1. General: Daikin indoor unit FXLQ shall be a floor or low wall mounted console fan coil unit, operable with refrigerant R-410A, equipped with an electronic expansion valve, for installation within a conditioned space. It shall have a top discharge air grill and resin net mold resistant filtered bottom return air. This compact design with finished ivory white casing shall be available in capacities from 7,500 Btu/h to 24,000 Btu/h. Model numbers are FXLQ07MVJU9, FXLQ09MVJU9, FXLQ12MVJU9, FXLQ18MVJU9 and FXLQ24MVJU9 to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. The cabinets can be mounted on the floor with refrigerant and condensate lines directed downward or affixed to the wall with horizontal refrigerant and condensate knockouts. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote control BRC1E72, BRC1E73 and BRC2A71. A mold-resistant, resin net air filter shall be included as standard equipment. The indoor units sound pressure shall range from 35 dB(A) to 40 dB(A) at high speed measured at 5 feet away and 5 feet high.
2. Performance: Each unit’s performance is based on nominal operating conditions:

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| **Model Number** | **Cooling** (Indoor 80°F DB / 67°F WB, Outdoor 95°F DB, 25 ft pipe length) | **Heating** (Indoor 70°F DB Outdoor 47F / 43F, 25 ft pipe length) |
| FXLQ07MVJU9 | 7,500 | 8,500 |
| FXLQ09MVJU9 | 9,500 | 10,500 |
| FXLQ12MVJU9 | 12,000 | 13,500 |
| FXLQ18MVJU9 | 18,000 | 20,000 |
| FXLQ24MVJU9 | 24,000 | 27,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXLQ shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch. The unit shall have an auto-swing louver which ensures efficient air distribution, which closes automatically when the unit stops.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be insulated from the outdoor unit.
5. Return air shall be through a resin net mold resistant filter.
6. Condensate draining shall be made via gravity or external condensate pump.
7. The indoor units shall be equipped with a return air thermistor.
8. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
9. The voltage range will be 253 volts maximum and 187 volts minimum.
10. Unit Cabinet:
11. The cabinet shall be affixed to a factory supplied wall mounting template and located in the conditioned space.
12. The cabinet shall be constructed with sound absorbing fiberglass urethane foam insulation.
13. Maintenance access shall be a minimum of ¾ inch in the rear, 4 inches on the right and left sides.
14. Fan:
15. The fan shall be a direct-drive Sirocco type fan, statically and dynamically balanced impeller with high and low fan speeds available.
16. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output range 0.034 to 0.047 HP.
17. The airflow rate shall be available in high and low settings.
18. The fan motor shall be thermally protected.
19. Filter:
20. The return air shall be filtered by means of a washable long-life filter with mildew proof resin.
21. Coil:
22. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
23. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
24. The coil shall be a 3-row cross fin copper evaporator coil with 17 fpi design completely factory tested.
25. The refrigerant connections shall be flare connections and the condensate will be 27/32 inch outside diameter PVC.
26. A thermistor will be located on the liquid and gas line.
27. Electrical:
28. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
29. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
30. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
31. Control:
32. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
33. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
34. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
35. Optional Accessories Available:
36. Remote “in-room” sensor kit KRCS01-1B
37. Condensate pump (DACA-CP1-3)

4.15 FXNQ – FLOOR CONSOLE CONCEALED UNIT

1. General: Daikin indoor unit FXNQ shall be a floor or wall mounted console fan coil unit, operable with refrigerant R-410A, equipped with an electronic expansion valve, for installation within a conditioned space. It shall have a top discharge air grill and filtered bottom return air. This compact design unfinished casing shall be available in capacities from 7,500 Btu/h to 24,000 Btu/h. Model numbers are FXNQ07MVJU9, FXNQ09MVJU9, FXNQ12MVJU9, FXNQ18MVJU9 and FXNQ24MVJU9 to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. The cabinets can be mounted on the floor with refrigerant and condensate lines directed downward or affixed to the wall with horizontal refrigerant and condensate knockouts. Computerized PID control shall be used to control superheat to deliver a comfortable room

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| **Model Number** | **Cooling** (Indoor 80°F DB / 67°F WB, Outdoor 95°F DB, 25 ft pipe length) | **Heating** (Indoor 70°F DB Outdoor 47F / 43F, 25 ft pipe length) |
| FXNQ07MVJU9 | 7,500 | 8,500 |
| FXNQ09MVJU9 | 9,500 | 10,500 |
| FXNQ12MVJU9 | 12,000 | 13,500 |
| FXNQ18MVJU9 | 18,000 | 20,000 |
| FXNQ24MVJU9 | 24,000 | 27,000 |

1. temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote control BRC1E72, BRC1E73 and BRC2A71. A mold-resistant, resin net air filter shall be included as standard equipment. The indoor units sound pressure shall range from 35 dB(A) to 40 dB(A) at high speed measured at 5 feet away and 5 feet high.
2. Performance: Each unit’s performance is based on nominal operating conditions:
3. Indoor Unit:
4. The Daikin indoor unit FXNQ shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch. The unit shall have an auto-swing louver which ensures efficient air distribution, which closes automatically when the unit stops.
5. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
6. Both refrigerant lines shall be insulated from the outdoor unit.
7. Return air shall be through a resin net mold resistant filter.
8. Condensate draining shall be made via gravity or external condensate pump.
9. The indoor units shall be equipped with a return air thermistor.
10. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
11. The voltage range will be 253 volts maximum and 187 volts minimum.
12. Unit Cabinet:
13. The cabinet shall be affixed to a factory supplied wall mounting template and located in the conditioned space.
14. The cabinet shall be constructed with sound absorbing fiberglass urethane foam insulation.
15. Maintenance access shall be a minimum of ¾ inch in the rear, 4 inches on the right and left sides.
16. Fan:
17. The fan shall be a direct-drive Sirocco type fan, statically and dynamically balanced impeller with high and low fan speeds available.
18. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output range 0.034 to 0.047 HP.
19. The airflow rate shall be available in high and low settings.
20. The fan motor shall be thermally protected.
21. Filter:
22. The return air shall be filtered by means of a washable long-life filter with mildew proof resin.
23. Coil:
24. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
25. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
26. The coil shall be a 3-row cross fin copper evaporator coil with 17 fpi design completely factory tested.
27. The refrigerant connections shall be flare connections and the condensate will be 27/32 inch outside diameter PVC.
28. A thermistor will be located on the liquid and gas line.
29. Electrical:
30. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
31. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
32. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
33. Control:
34. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
35. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
36. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
37. Optional Accessories Available:
38. Remote “in-room” sensor kit KRCS01-1B
39. Condensate pump (DACA-CP1-3)

4.16 FXTQ\_TB – MULTI-POSITION AIR HANDLING UNIT

1. General: Daikin indoor unit FXTQ\_TB shall be a floor mounted vertical, horizontal left, horizontal right, or downflow air handling unit, operable with refrigerant R-410A, equipped with an electronic expansion valve and direct-drive ECM type fan with constant CFM programming, for installation within a conditioned space. When installed in a vertical configuration it shall have top discharge air and bottom return air. When installed in a horizontal right or horizontal left configuration, it shall have a horizontal discharge air and horizontal return air. When installed in a downflow configuration it shall have bottom discharge and top return air. This compact design with pre-painted heavy-gauge steel casing shall be available in capacities from 9,500 Btu/h to 60,000 Btu/h. Model numbers are FXTQ09TBVJUA, FXTQ12TBVJUA, FXTQ18TBVJUA, FXTQ24TBVJUA, FXTQ30TBVJUA, FXTQ36TBVJUA, FXTQ42TBVJUA, FXTQ48TBVJUA , FXTQ54TBVJUA, and FXTQ60TBVJUA to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. The FXTQ\_TB series may also be specified to utilize a factory integral disconnect switch. Model numbers including the factory disconnect are FXTQ09TBVJUD, FXTQ12TBVJUD, FXTQ18TBVJUD, FXTQ24TBVJUD, FXTQ30TBVJUD, FXTQ36TBVJUD, FXTQ42TBVJUD, FXTQ48TBVJUD , FXTQ54TBVJUD, and FXTQ60TBVJUD. A KRCS01-2UA remote temperature sensor kit shall be required for all FXTQ indoor units not utilizing the thermistor in the Daikin remote controller BRC1E73. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote control BRC1E73 and BRC2A71.
2. Performance: Each unit’s performance is based on nominal operating conditions:

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| **Model Number** | **Cooling**(Indoor 80°F DB / 67°F WB,Outdoor 95°F DB, 25 ft pipe length) | **Heating**(Indoor 70°F DB Outdoor 47F / 43F, 25 ft pipe length) |
| FXTQ09TBVJUA(D) | 9,500 | 10,500 |
| FXTQ12TBVJUA(D) | 12,000 | 13,500 |
| FXTQ18TBVJUA(D) | 18,000 | 20,000 |
| FXTQ24TBVJUA(D) | 24,000 | 27,000 |
| FXTQ30TBVJUA(D) | 30,000 | 34,000 |
| FXTQ36TBVJUA(D) | 36,000 | 40,000 |
| FXTQ42TBVJUA(D) | 42,000 | 47,500 |
| FXTQ48TBVJUA(D) | 48,000 | 54,000 |
| FXTQ54TBVJUA(D) | 54,000 | 61,000 |
| FXTQ60TBVJUA(D) | 60,000 | 68,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXTQ\_TB components shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, brazed connections, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be insulated from the outdoor unit.
5. Return air shall be through an optional or field supplied filter.
6. Condensate draining shall be made via gravity or external condensate pump.
7. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
8. The voltage range will be 253 volts maximum and 187 volts minimum.
9. Unit Cabinet:
10. The cabinet shall be constructed with sound absorbing, foil-faced insulation to control air leakage.
11. Select an installation location with adequate structural support, space for service access and clearance for air return and supply duct connections.
12. A field supplied secondary drain pan shall be installed where required by national, state, or local code.
13. Fan:
14. The fan shall be a direct-drive Sirocco type fan, statically and dynamically balanced impeller with high and low fan speeds available.
15. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output range 0.2 to 1.0. HP.
16. The airflow rate shall be available in high setting.
17. The fan motor shall be thermally protected.
18. Fan motor external static pressure for nominal airflow:

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| --- | --- |
| **Model Number** | **Fan ESP (in. WG)** |
| FXTQ09TBVJUA(D) | Up to 0.9 |
| FXTQ12TBVJUA(D) | Up to 0.9 |
| FXTQ18TBVJUA(D) | Up to 0.9 |
| FXTQ24TBVJUA(D) | Up to 0.9 |
| FXTQ30TBVJUA(D) | Up to 0.9 |
| FXTQ36TBVJUA(D) | Up to 0.9 |
| FXTQ42TBVJUA(D) | Up to 0.9 |
| FXTQ48TBVJUA(D) | Up to 0.9 |
| FXTQ54TBVJUA(D) | Up to 0.9 |
| FXTQ60TBVJUA(D) | Up to 0.9 |

1. Filter:
2. The return air shall be filtered by means of an optional or field supplied filter.
3. Coil:
4. Coils shall be of the direct expansion type constructed from aluminum tubes expanded into aluminum fins to form a mechanical bond.
5. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
6. The coils shall be a 2- to 4-row cross fin copper evaporator coil with 14 to 16 fpi design completely factory tested.
7. The refrigerant connections shall be brazed connections and the condensate will be 3/4 inch outside diameter PVC.
8. A thermistor will be located on the liquid and gas line.
9. Electrical:
10. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
11. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
12. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
13. Control:
14. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
15. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
16. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
17. Optional Accessories Available:
	1. Field installed 3-25kW electric heaters (HKS-03, HKS-05, HKS-06, HKS-08, HKS-10, HKS-15, HKS-19, HKS-20, HKS-25).
	2. Air filter (ALFH1620, ALFH1912201E, ALFH20231E).
	3. Downflow kit: DFK-B, DFK-C, DFK-D.
	4. BRC4C84 wireless controller.

4.17 FXUQ – 4 WAY CEILING SUSPENDED CASSETTE UNIT

1. General: Daikin indoor unit model FXUQ shall be a ceiling suspended cassette fan coil unit, operable with R-410A refrigerant, equipped with an electronic expansion valve, for installation onto a ceiling within a conditioned space. It shall be available in capacities from 18,000 Btu/h to 36,000 Btu/h. Model numbers are FXUQ18PVJU, FXUQ24PVJU, FXUQ30PVJU, FXUQ36PVJU to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. It shall be a four-way air distribution type, fresh white, impact resistant with a washable panel. The supply air is distributed via motorized louvers which can be horizontally and vertically adjusted from 0° to 60°. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote control BRC1E73. The indoor units sound pressure shall range from 36 dB(A) to 40 dB(A) at low speed measured at 5 feet below the unit.
2. Performance: Each unit’s performance is based on nominal operating conditions:

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| **Model Number** | **Cooling**(Indoor 80°F DB / 67°F WB,Outdoor 95°F DB, 25 ft pipe length) | **Heating**(Indoor 70°F DB Outdoor 47F / 43F, 25 ft pipe length) |
| FXUQ18PVJU | 18,000 | 20,000 |
| FXUQ24PVJU | 24,000 | 27,000 |
| FXUQ30PVJU | 30,000 | 34,000 |
| FXUQ36PVJU | 36,000 | 40,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXUQ shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, condensate safety shutoff and alarm, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch.
3. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
4. Both refrigerant lines shall be insulated from the outdoor unit.
5. The 4-way supply air flow can be field modified to 3-way and 2-way airflow to accommodate various installation configurations including corner installations.
6. Return air shall be through the concentric panel, which includes a resin net mold resistant filter.
7. The indoor units shall be equipped with a condensate pan and condensate pump. The condensate pump provides up to 23-5/8” of lift and has a built in safety shutoff and alarm.
8. The indoor units shall be equipped with a return air thermistor.
9. All electrical components are reached through the decoration panel, which reduces the required side service access.
10. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
11. The voltage range will be 253 volts maximum and 187 volts minimum.
12. Unit Cabinet:
13. The cabinet shall be space saving and shall be located into the ceiling.
14. Three auto-swing positions shall be available to choose, which include standard, draft prevention and ceiling stain prevention.
15. The airflow of the unit shall have the ability to shut down outlets with multiple patterns allowing for simpler installation in irregular spaces.
16. The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.
17. Fan:
18. The fan shall be direct-drive turbo fan type with statically and dynamically balanced impeller with three fan speeds available.
19. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output range from 0.06 to 0.14 HP.
20. The airflow rate shall be available in three settings.
21. The fan motor shall be thermally protected.
22. Filter:
23. The return air shall be filtered by means of a washable long-life filter with mildew proof resin.
24. Coil:
25. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
26. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
27. The coil shall be a 3-row cross fin copper evaporator coil with 21 FPI design completely factory tested.
28. The refrigerant connections shall be flare connections and the condensate will be 1 inch outside diameter PVC.
29. A condensate pan with antibacterial treatment shall be located under the coil.
30. A condensate pump with a 23-5/8 inch lift shall be located below the coil in the condensate pan with a built-in safety alarm.
31. A thermistor will be located on the liquid and gas line.
32. Electrical:
33. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
34. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
35. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
36. Control:
37. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
38. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
39. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
40. Optional Accessories Available:
41. Remote “in-room” sensor kit (KRCS01-4B).
	* 1. The Daikin wall mounted, hard wired remote sensor kit is recommended for ceiling-embedded type fan coils, which often result in a difference between set temperature and actual temperature. The sensor for detecting the temperature can be placed away from the indoor unit (branch wiring is included in the kit).
42. Sensor Kit (BRE49B1F)
	* 1. The infrared presence sensor can detect human presence and adjust the airflow direction automatically to prevent drafts. Optional and configurable energy saving occupancy control can be performed when no presence is detected
		2. The infrared floor sensor can detect the floor temperature and automatically adjust operation of the indoor unit to provide an improved and even temperature distribution
43. Air Outlet Blocking Decoration Panel (KDBTP49B140)
44. Blocking Material Kit for 2-way Discharge (KDBHP49B140)

4.18 FXEQ – ONE WAY BLOW CASSETTE UNIT

1. General: Daikin indoor unit model FXEQ shall be a ceiling suspended cassette fan coil unit, operable with R-410A refrigerant, equipped with an electronic expansion valve, for installation onto a ceiling within a conditioned space. It shall be available in capacities from 7,500 Btu/h to 24,000 Btu/h. Model numbers are FXEQ07PVJU, FXEQ09PVJU, FXEQ12PVJU, FXEQ15PVJU, FXEQ18PVJU, FXEQ24PVJU to be connected to outdoor unit model RXYQ / RXYMQ / RWEYQ heat pump and REYQ / RWEYQ heat recovery model. It shall be a one-way air distribution type, fresh white, impact resistant with a washable panel. The supply air is distributed via motorized vertical and horizontal louvers which can be adjusted from 0° to 45° and 20° to 70° respectively. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. The unit shall be equipped with a programmed drying mechanism that dehumidifies while limiting changes in room temperature when used with Daikin remote control BRC1E73. The indoor units sound pressure shall range from 26 dB(A) to 38 dB(A) at low speed measured at 3.3 feet below the unit.
2. Performance: Each unit’s performance is based on nominal operating conditions:

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| **Model Number** | **Cooling** (Indoor 80°F DB / 67°F WB, Outdoor 95°F DB, 25 ft pipe length) | **Heating** (Indoor 70°F DB Outdoor 47F / 43F, 25 ft pipe length) |
| FXEQ07PVJU | 7,500 | 8,500 |
| FXEQ09PVJU | 9,500 | 10,500 |
| FXEQ12PVJU | 12,000 | 13,500 |
| FXEQ15PVJU | 15,000 | 17,000 |
| FXEQ18PVJU | 18,000 | 20,000 |
| FXEQ24PVJU | 24,000 | 27,000 |

1. Indoor Unit:
2. The Daikin indoor unit FXEQ shall be completely factory assembled and tested. Included in the unit is factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, condensate lift pump, condensate safety shutoff and alarm, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch.
3. The indoor unit shall be able to process up to 15% fresh air
4. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.
5. Both refrigerant lines shall be insulated from the outdoor unit.
6. Return air shall be through the flat back panel, which includes a white resin net mold resistant filter.
7. The indoor units shall be equipped with a condensate pan and condensate pump. The condensate pump provides up to 33-716” of lift and has a built in safety shutoff and alarm.
8. The indoor units shall be equipped with a return air thermistor.
9. Motor and some of the electrical components shall be reachable through the decoration panel.
10. The indoor unit will be separately powered with 208~230V/1-phase/60Hz.
11. The voltage range will be 253 volts maximum and 187 volts minimum.
12. Unit Cabinet:
13. The cabinet shall be space saving and shall be located into the ceiling.
14. The cabinet shall have a built in 4” knock-out to connect fresh air intake
15. The cabinet shall be constructed with sound absorbing foamed polyurethane noise insulation.
16. The cabinet shall be equipped with foamed polystyrene and foamed polyethylene heat insulation.
17. Fan:
18. The fan shall be direct-drive Sirocco fan type with statically and dynamically balanced impeller with five selectable fan speeds available.
19. The fan motor shall operate on 208/230 volts, 1 phase, 60 hertz with a motor output range from 0.11 to 0.15 HP.
20. The airflow rate shall be available in five settings.
21. The fan motor shall be thermally protected.
22. Filter:
23. The return air shall be filtered by means of a mold resistant Resin net filter.
24. The filter shall be accessible from the decoration panel
25. Coil:
26. Coils shall be of the direct expansion type constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
27. The coil shall be of a waffle louver fin and high heat exchange, rifled bore tube design to ensure highly efficient performance.
28. The coils for units up to 1 ton shall be a 2-row cross fin copper evaporator coil with 20.5 FPI design completely factory tested for the
29. The coils for units from 1.25 ton to 2.0 ton shall be 2-row cross fin copper evaporator coil with 20.5 FPI and an additional row with 15.9 FPI.
30. The refrigerant connections shall be flare connections and the condensate will be 1-1/32 inch outside diameter PVC.
31. A condensate pan with antibacterial treatment shall be located under the coil.
32. A condensate pump with a 33-7/16 inch lift shall be located below the coil in the condensate pan with a built-in safety alarm.
33. A thermistor will be located on the liquid and gas line.
34. Electrical:
35. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
36. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
37. Transmission (control) wiring between the indoor unit and remote controller shall be a maximum distance of 1,640 feet.
38. Control:
39. The unit shall have controls provided by Daikin to perform input functions necessary to operate the system.
40. The unit shall be compatible with interfacing with a BMS system via optional LonWorks or BACnet gateways.
41. The unit shall be compatible with a Daikin Intelligent Touch Manager advanced multi-zone controller.
42. Standard Accessories Required:
	1. Decoration panel BYEP40AW1 shall be required for operation of FXEQ07 PVJU thru FXEQ15PVJU
	2. Decoration panel BYEP63AW1 shall be required for operation of FXEQ18PVJU and FXEQ24PVJU.
43. Optional Accessories Available:
	1. Remote controller wire type (BRC1E73)
	2. Simplified remote controller (BRC2A71)
44. Remote “in-room” sensor kit (KRCS01-4B).
	* 1. The Daikin wall mounted, hard wired remote sensor kit is recommended for ceiling-embedded type fan coils, which often result in a difference between set temperature and actual temperature. The sensor for detecting the temperature can be placed away from the indoor unit (branch wiring is included in the kit).
45. Central remote controller (DCS302C71)
46. Electrical box (KJB311AA)
47. Unified ON/OFF controller (DCS301C71)
48. Electrical box (KJB212AA)
49. Scheduled timer (DST301BA61)
50. Intelligent Touch controller (DCS601C71)
51. DIII-NET expander adaptor (DTA109A51)
52. Wiring adaptor printed circuit board (KRP1C75)
53. Group control adaptor printed circuit board (KRP4A74)
54. Adaptor mounting box (KRP1B101)

**Part 5 - HVAC EQUIPMENT ALTERNATE (GENERAL INFORMATION)**

5.01 The alternate equipment supplier shall provide to the bidding mechanical contractor a complete equipment data package. This package shall include, but is not limited to, equipment capacities at the design condition, power requirements, indoor units CFM/static pressures, fan curves, installation requirements, and physical dimensions. Nominal performance data is not acceptable.

The mechanical contractor shall request and receive the equipment data package 15 days prior to bid date and submit this package with the alternate bid.

The mechanical contractor shall list the equipment supplier and submit the required data package with the bid detailing a complete comparison of the proposed alternate equipment to the specified equipment and the associated cost reduction of the alternate equipment. The contractor bids an alternate manufacturer with full knowledge that that manufactures product may not be acceptable or approved.

5.02 The alternate equipment supplier shall furnish a complete drawing package to the mechanical contractor 15 days prior to bid day for bidding and installation. The drawing format shall be .dxf or equivalent, on 30"x42" sheets. The HVAC and electrical series design documents will be made available in electronic format for use by the equipment supplier in preparing their drawings. The alternate equipment supplier shall prepare the following drawings:

XXX HVAC Floor Plan
XXX HVAC Refrigerant Piping Plan

XXX HVAC Refrigerant Piping/Controls Details

XXX HVAC Details

XXX HVAC Schedules

The alternate equipment supplier shall draft all piping circuits, components, overall building control schematic, detailed control wiring diagrams, system details and schedules for their system. The drawings shall convey all requirements to successfully install the alternate equipment suppliers system.

Provide (2) drawing package sets plotted on 20 lb. vellum. Provide (1) drawing package in electronic format (.dxf files) on CD.

The submitted documents shall be complete system designs and show no less information than the HVAC equipment/controls contract bid documents.

5.03 The equipment supplier shall submit as part of the equipment data package outdoor unit data sheets. Data sheets to include the following:

Capacities at project design conditions: Cooling

Cooling (Btu/h)

Cooling Input Power

(kW)

Capacities at project design conditions: Heating

Heating (Btu/h)

Heating Input Power

(kW)

The submitted capacity and efficiency performance must meet or exceed the listed performance on the schedule at the designed outdoor ambient, and indoor space temperature conditions including de-rate factors for defrost and refrigerant piping lengths.

Operating Temperature Range:

Cooling

Heating

Power Supply:

Maximum Circuit Amps (MCA)

Maximum Overcurrent Protection Amps (MOP)

Maximum Starting Current (MSC)

Outdoor Fan Motor

Refrigerant:

Refrigerant Type/Charge

 Control

Unit Data:

Max. Number of Indoor Units

Sound Pressure Level at 3ft. (dBA)

Weight (lbs)

Dimensions

5.04 The equipment supplier shall guarantee the performance of their system and all published data submitted. Performance shall be based on the design criteria below.

 Room Temperature (Cooling): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Room Temperature (Heating): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Ambient Temperature (Summer): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Ambient Temperature (Winter): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Defrost De-rate Factor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Refrigerant Piping Loss in cooling (correction factor): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Refrigerant Piping Loss in heating (correction factor): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5.05 The alternate equipment supplier shall submit with bid, indoor unit data sheets. Data sheets to include the following:

Capacities:

Cooling (Btu/h)

Heating (Btu/h)

Air Flow (CFM)

External Static Pressure (ESP)

Electrical Data (MCA, MOP, MSC)

Weight (lbs)

Dimensions