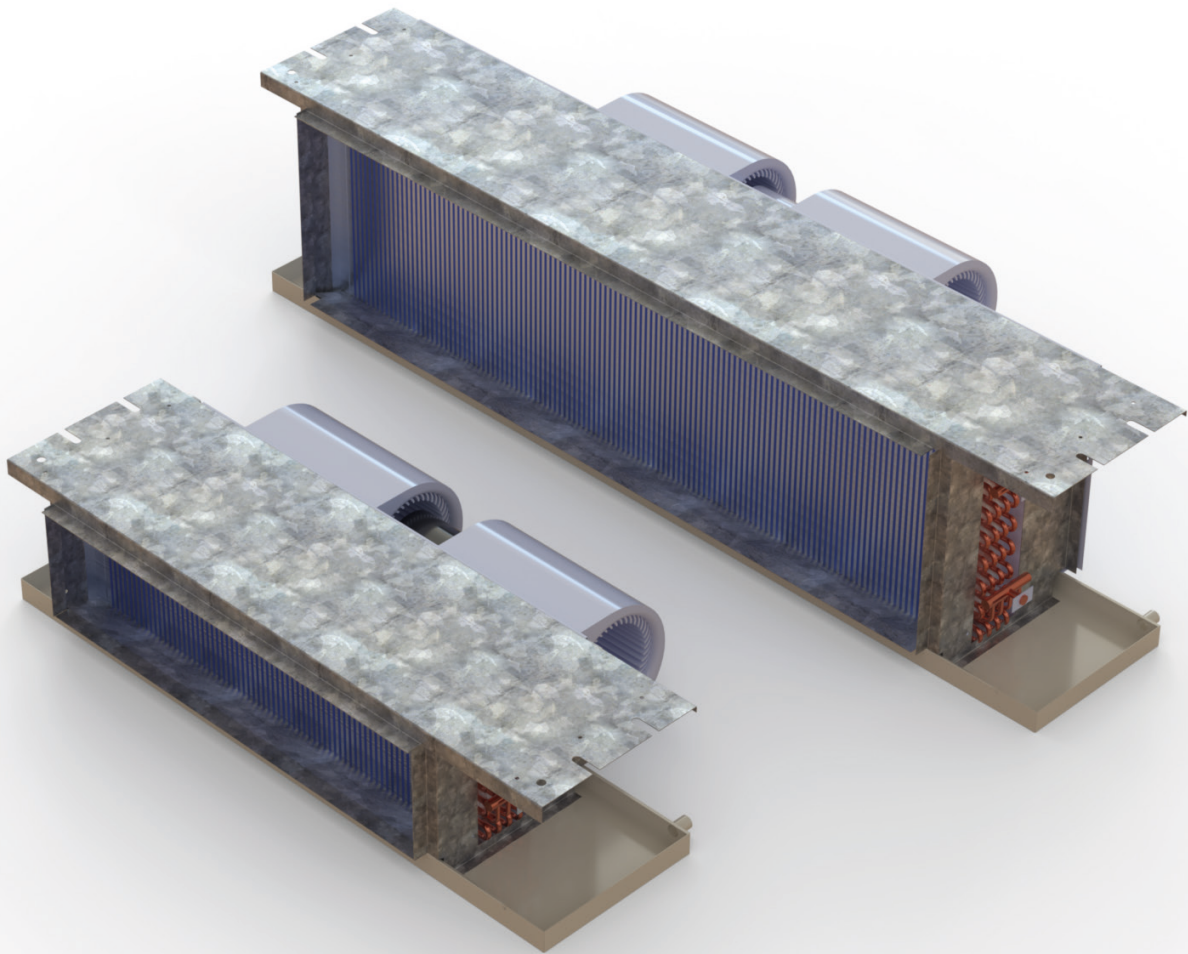




Commercial Manual
JFSG-DW SERIES
Water-Cooled Uncased Fan Coil
1 TON - 5 TON



3	Precautions
4	General Characteristics
5	Nomenclature
6	Technical Specifications
12	Equipment Sizing
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Precautions

In this document, you will find a series of key recommendations to ensure proper start-up, efficient operation, and adequate maintenance of your air system. Preventive care will not only guarantee the optimal functioning of the equipment, but it will also extend its useful life, optimize its performance, and help you save time and money in the long run.

By following these simple maintenance and operation steps, you can keep your HVAC system in the best operating conditions possible, maximizing its energy efficiency and avoiding unnecessary and costly breakdowns. Remember, regular maintenance not only improves comfort in your space, but also contributes to the well-being in general and the safety of everyone who uses it.



DANGER



Incorrect mounting, lifting, or movement may cause damage to the unit, property damage, serious personal injuries, or even death. Consult the weight and center of gravity data indicated in the project documentation to know the weights and center of gravity of the unit.



WARNING



An installation, adjustment, alteration, service, or incorrect maintenance may result in personal injury, death, or property damage. Therefore, all services or maintenance must be performed by a licensed professional contractor or an authorized service agency.



WARNING



Disconnect power source(s) before performing maintenance. Service must be performed by qualified personnel.
Risk of electric shock! May cause injury or death!



WARNING



The installation of the system and all components, parts, and associated accessories that form part of the installation must be carried out in accordance with the regulations of ALL pertinent authorities and MUST comply with all applicable codes. It is the responsibility of the contractor/installer to determine and comply with ALL applicable regulations and codes.



WARNING



This device is not designed to be used by persons (including children) with physical, sensory, or mental limitations, or with lack of experience and knowledge, unless they have received supervision or instruction regarding the use of the device by a person responsible for their safety.



WARNING



The lifting angle must not exceed 30 degrees from the vertical, as the unit may become unstable, which could result in unit damage, property damage, serious personal injuries, or death.



WARNING



Drain pans must be cleaned periodically. Accumulated material such as dirt may cause illnesses or death. Cleaning must be performed by qualified personnel.



WARNING



Keep in mind that the center of gravity is not necessarily located in the geometric center of the unit. Additional lifting elements must not be attached or secured to the unit, as this may affect the center of gravity and cause personal injuries or death, as well as damage to property or the unit. Qualified personnel must determine and verify, according to weight data, the lifting center of the unit, the location of the center of gravity, and lifting details according to the unit configuration.



WARNING



Children must NOT play with the equipment without supervision.



CAUTION



Lifting mechanisms must not come into contact with the unit beyond the lifting points. Care must always be taken when lifting the unit to avoid damaging control panels, unit housings, tubing, and unit structure.



CAUTION



Do not store or install the units in corrosive environments or in places exposed to extreme temperatures or humidity. Corrosive conditions, high temperatures, or humidity can significantly affect performance, reliability, and service life. Always move and store units in a vertical position. Tilting units may cause damage to the equipment.



CAUTION



RISK OF CUT – Failure to follow this precaution may cause personal injury. Metal parts may have sharp edges or burrs. Be careful and use proper protective clothing, safety glasses, and gloves when handling parts and performing unit maintenance to avoid injuries.



CAUTION



To extend equipment life, do NOT use these units as a heat source during the drying process of construction. Mechanical components and filters may become clogged quickly with dust and construction debris, which may damage the system and void the product warranty.



NOTICE



Maintenance must be carried out in accordance with the manufacturer's recommendations.



NOTICE



Only install in places not accessible to the general public.

Improper handling due to lack of knowledge of instructions or recommendations contained in this document may cause damage to equipment, reduced performance, and shortened service life. We are not responsible for damage caused by incorrect handling, unauthorized modifications, or consequences arising from using unauthorized modifications that alter the correct operation of the equipment. To guarantee safe and efficient operation, it is essential to follow all recommendations in this manual and use only original spare parts. The manufacturer reserves the right to make technical changes or add updates to improve HVAC system operation.

The following information refers to the JFSG-DW series. The supplied equipment may have different features according to customer requirements. For more detailed information about the acquired equipment, please review the technical specifications and the nameplate data of the unit.

Construction

The chilled water fan coil units without cabinet are designed for heavy-duty service. Their construction ensures a fully stable structure, capable of supporting and evenly distributing the static and dynamic loads of the internal components.

- Manufactured from heavy-gauge galvanized steel sheet, corrosion-resistant.
- Single-wall galvanized steel panels with expanded polyethylene insulation.
- Fan-evaporator compartment with easy-access panels.
- Structural base in galvanized steel, providing ease and safety during transport and installation.
- Electrostatic powder coating system: professional, long-lasting finish, ideal for aggressive environments.
- Condensate drain pan made of heavy-gauge steel with electrostatic paint.
- Motor-fan mounting with anti-vibration supports.

Fans and motors

The chilled water fan coil units without cabinet include a wide variety of options for fans and motors in different ranges and capacities, always ensuring ideal operation according to user requirements.

Motors

- Capacities according to design criteria requirements.
- Electric motor 110V / 220V.
- Protection grade IP54/IP55.
- Optional: classified area operation, Explosion Proof, or aggressive environments.
- High-efficiency motors (IE3 / IE4) available for energy savings.

Components

- Terminal block for 24V control.
- Evaporator Fan:
 - Centrifugal type
 - Direct drive
 - Forward- or backward-inclined blades

Air Cooling

The chilled water fan coil units without cabinet are equipped with a copper tube/aluminum fin heat exchanger. Available in different sizes and refrigerant circuit configurations, they provide high heat transfer efficiency.

- Up to 8-row coils for direct expansion and/or chilled water.
- Fully removable coil.
- Available in Copper / Aluminum and Copper / Copper.
- Support structure in galvanized steel.
- Stainless steel condensate drain pan available.
- Optional: anticorrosive coating for marine or industrial environments.

Control and Operation

- Digital thermostat with scheduling functions.
- Optional control system with touch HMI panel for local monitoring and configuration.
- Automatic protections against overcurrent, overvoltage, and incorrect phase sequence.

Maintenance and Safety

- Easy lateral access to all components for inspection and maintenance tasks.
- Fans, motors, and coils accessible without special tools.
- Warning labels and clear identification of electrical connections and critical components.
- Installation and maintenance manual included.

JFSG - 060 DW - 1

Category

JFSG Junior Fan-Coil Without Cabinet
JFCG Junior Fan-Coil With Cabinet

Nominal Capacity

012	1 Ton	036	3 Ton
018	1.5 Ton	042	3.5 Ton
024	2 Ton	048	4 Ton
030	2.5 Ton	060	5 Ton

Expansion

DX Direct
DW Chilled Water

Furniture Configuration / Orientation

V (Blank) Horizontal
 Vertical

Power Supply

1	220V / 1Ph / 60Hz
2	110V / 1Ph / 60Hz
3	220V / 3Ph / 60Hz
4	440V / 3Ph / 60Hz
5	380V / 3Ph / 50Hz
7	380V / 3Ph / 60Hz
8	220V / 3Ph / 50Hz
9	440V / 3Ph / 50Hz

Review / Additional Options

X (Blank) No Additional Revisions - Standard Equipment
 (Letter A - Z) Design Version - Specified in the Plan / Order / Technical Sheet

	JFSG-012DW-1	JFSG-012DW-2
GENERAL DATA		
Cooling Capacity (BTU/h)	12,000	12,000
Tons of Refrigeration	1	1
Sound Level (dB)	57	57
EVAPORATOR FAN		
Transmission	Direct	Direct
Type	Centrifugal	Centrifugal
Number of Fans	2	2
Nominal Air Flow ^[1] (CFM)	400	400
Fan (DxW)	6.5 x 8	6.5 x 8
Number of Engines	1	1
Current (A)	1.5	3.0
Power (HP)	1/6	1/6
RPM	1075	1075
EVAPORATOR COIL		
Type (Tube / Fin)	Copper / Aluminum	Copper / Aluminum
Configuration	Vertical	Vertical
Area (ft ²)	1.6	1.6
Rows	3	3
Fins per Inch	14	14
Required Flow Rate (GPM)	2.4	2.4
Required Water Temperature (°F)	45	45
Water Inlet (in.)	3/4	3/4
Water Outlet (in.)	3/4	3/4
Drain Pipe (in.)	3/4	3/4
ELECTRICAL DATA		
V / Ph / Hz	(208-230 / 1 / 60)	(110 / 1 / 60)
Operating Current ^[1] (A)	1.5	3.0
Total Unit Amperage ^[1] (A)	1.5	3.0
Minimum Circuit Ampacity (A)	2.0	4.0
Max. Overload Protection (A)	3.0	7.0
NET WEIGHT (kg)	22	22
GROSS WEIGHT (kg)	24	24

Notes: ¹ Data corresponding to a specific operating condition based on AHRI Standard 210/240 or 360. ² The information provided in the table is subject to change without notice. ³ Test according to ASTM B 117

	JFSG-018DW-1	JFSG-018DW-2
GENERAL DATA		
Cooling Capacity (BTU/h)	18,000	18,000
Tons of Refrigeration	1.5	1.5
Sound Level (dB)	57	57
EVAPORATOR FAN		
Transmission	Direct	Direct
Type	Centrifugal	Centrifugal
Number of Fans	2	2
Nominal Air Flow ^[1] (CFM)	600	600
Fan (DxW)	6.5 x 8	6.5 x 8
Number of Engines	1	1
Current (A)	1.5	3.0
Power (HP)	1/6	1/6
RPM	1075	1075
EVAPORATOR COIL		
Type (Tube / Fin)	Copper / Aluminum	Copper / Aluminum
Configuration	Vertical	Vertical
Area (ft ²)	1.6	1.6
Rows	4	4
Fins per Inch	14	14
Required Flow Rate (GPM)	3.6	3.6
Required Water Temperature (°F)	45	45
Water Inlet (in.)	3/4	3/4
Water Outlet (in.)	3/4	3/4
Drain Pipe (in.)	3/4	3/4
ELECTRICAL DATA		
V / Ph / Hz	(208-230 / 1 / 60)	(110 / 1 / 60)
Operating Current ^[1] (A)	1.5	3.0
Total Unit Amperage ^[1] (A)	1.5	3.0
Minimum Circuit Ampacity (A)	2.0	4.0
Max. Overload Protection (A)	3.0	7.0
NET WEIGHT (kg)	32	32
GROSS WEIGHT (kg)	34	34

Notes: ¹ Data corresponding to a specific operating condition based on AHRI Standard 210/240 or 360. ² The information provided in the table is subject to change without notice. ³ Test according to ASTM B 117

	JFSG-024DW-1	JFSG-024DW-2
GENERAL DATA		
Cooling Capacity (BTU/h)	24,000	24,000
Tons of Refrigeration	2	2
Sound Level (dB)	57	57
EVAPORATOR FAN		
Transmission	Direct	Direct
Type	Centrifugal	Centrifugal
Number of Fans	2	2
Nominal Air Flow ^[1] (CFM)	800	800
Fan (DxW)	6.5 x 8	6.5 x 8
Number of Engines	1	1
Current (A)	1.5	3.0
Power (HP)	1/6	1/6
RPM	1075	1075
EVAPORATOR COIL		
Type (Tube / Fin)	Copper / Aluminum	Copper / Aluminum
Configuration	Vertical	Vertical
Area (ft ²)	1.8	1.8
Rows	4	4
Fins per Inch	14	14
Required Flow Rate (GPM)	4.8	4.8
Required Water Temperature (°F)	45	45
Water Inlet (in.)	3/4	3/4
Water Outlet (in.)	3/4	3/4
Drain Pipe (in.)	3/4	3/4
ELECTRICAL DATA		
V / Ph / Hz	(208-230 / 1 / 60)	(110 / 1 / 60)
Operating Current ^[1] (A)	1.5	3.0
Total Unit Amperage ^[1] (A)	1.5	3.0
Minimum Circuit Ampacity (A)	2.0	4.0
Max. Overload Protection (A)	3.0	7.0
NET WEIGHT (kg)	34	34
GROSS WEIGHT (kg)	36	36

Notes: ¹ Data corresponding to a specific operating condition based on AHRI Standard 210/240 or 360. ² The information provided in the table is subject to change without notice. ³ Test according to ASTM B 117

	JFSG-036DW-1	JFSG-036DW-2
GENERAL DATA		
Cooling Capacity (BTU/h)	36,000	36,000
Tons of Refrigeration	3	3
Sound Level (dB)	57	57
EVAPORATOR FAN		
Transmission	Direct	Direct
Type	Centrifugal	Centrifugal
Number of Fans	2	2
Nominal Air Flow ^[1] (CFM)	1200	1200
Fan (DxW)	7 x 8	7 x 8
Number of Engines	1	1
Current (A)	2.5	5.0
Power (HP)	1/3	1/3
RPM	1075	1075
EVAPORATOR COIL		
Type (Tube / Fin)	Copper / Aluminum	Copper / Aluminum
Configuration	Vertical	Vertical
Area (ft ²)	2.6	2.6
Rows	4	4
Fins per Inch	13	13
Required Flow Rate (GPM)	7.2	7.2
Required Water Temperature (°F)	45	45
Water Inlet (in.)	3/4	3/4
Water Outlet (in.)	3/4	3/4
Drain Pipe (in.)	3/4	3/4
ELECTRICAL DATA		
V / Ph / Hz	(208-230 / 1 / 60)	(110 / 1 / 60)
Operating Current ^[1] (A)	2.5	5.0
Total Unit Amperage ^[1] (A)	2.5	5.0
Minimum Circuit Ampacity (A)	3.0	6.0
Max. Overload Protection (A)	6.0	11.0
NET WEIGHT (kg)	39	39
GROSS WEIGHT (kg)	41	41

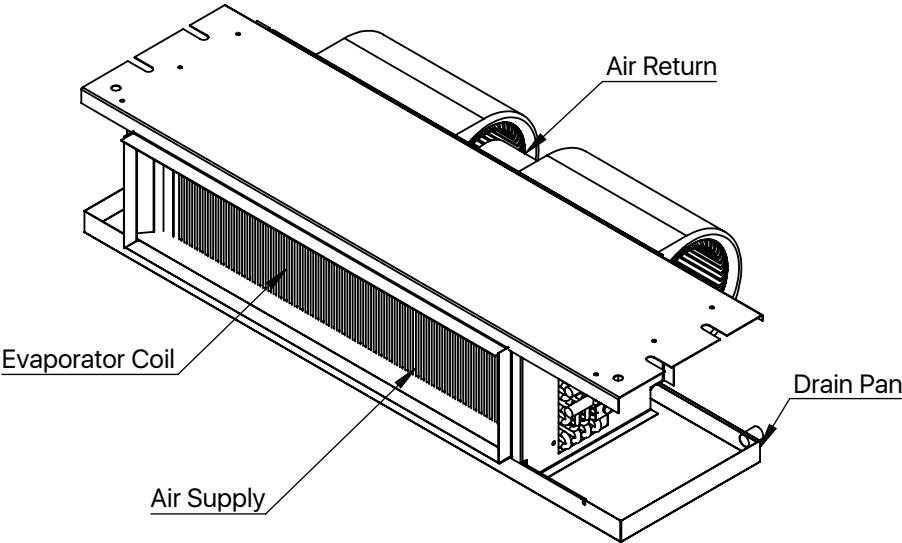
Notes: ¹ Data corresponding to a specific operating condition based on AHRI Standard 210/240 or 360. ² The information provided in the table is subject to change without notice. ³ Test according to ASTM B 117

	JFSG-048DW-1	JFSG-048DW-2
GENERAL DATA		
Cooling Capacity (BTU/h)	48,000	48,000
Tons of Refrigeration	4	4
Sound Level (dB)	57	57
EVAPORATOR FAN		
Transmission	Direct	Direct
Type	Centrifugal	Centrifugal
Number of Fans	2	2
Nominal Air Flow ^[1] (CFM)	1600	1600
Fan (DxW)	7 x 8	7 x 8
Number of Engines	1	1
Current (A)	4.3	8.6
Power (HP)	1/2	1/2
RPM	1625	1625
EVAPORATOR COIL		
Type (Tube / Fin)	Copper / Aluminum	Copper / Aluminum
Configuration	Vertical	Vertical
Area (ft ²)	3.6	3.6
Rows	4	4
Fins per Inch	14	14
Required Flow Rate (GPM)	9.6	9.6
Required Water Temperature (°F)	45	45
Water Inlet (in.)	3/4	3/4
Water Outlet (in.)	3/4	3/4
Drain Pipe (in.)	3/4	3/4
ELECTRICAL DATA		
V / Ph / Hz	(208-230 / 1 / 60)	(110 / 1 / 60)
Operating Current ^[1] (A)	4.3	8.6
Total Unit Amperage ^[1] (A)	4.3	8.6
Minimum Circuit Ampacity (A)	5.0	11.0
Max. Overload Protection (A)	10.0	19.0
NET WEIGHT (kg)	45	45
GROSS WEIGHT (kg)	47	47

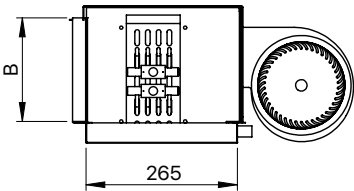
Notes: ¹ Data corresponding to a specific operating condition based on AHRI Standard 210/240 or 360. ² The information provided in the table is subject to change without notice. ³ Test according to ASTM B 117

	JFSG-060DW-1	JFSG-060DW-2
GENERAL DATA		
Cooling Capacity (BTU/h)	60,000	60,000
Tons of Refrigeration	5	5
Sound Level (dB)	57	57
EVAPORATOR FAN		
Transmission	Direct	Direct
Type	Centrifugal	Centrifugal
Number of Fans	2	2
Nominal Air Flow ^[1] (CFM)	2000	2000
Fan (DxW)	7 x 8	7 x 8
Number of Engines	1	1
Current (A)	4.3	8.6
Power (HP)	1/2	1/2
RPM	1625	1625
EVAPORATOR COIL		
Type (Tube / Fin)	Copper / Aluminum	Copper / Aluminum
Configuration	Vertical	Vertical
Area (ft ²)	4.7	4.7
Rows	4	4
Fins per Inch	13	13
Required Flow Rate (GPM)	12	12
Required Water Temperature (°F)	45	45
Water Inlet (in.)	1	1
Water Outlet (in.)	1	1
Drain Pipe (in.)	3/4	3/4
ELECTRICAL DATA		
V / Ph / Hz	(208-230 / 1 / 60)	(110 / 1 / 60)
Operating Current ^[1] (A)	4.3	8.6
Total Unit Amperage ^[1] (A)	4.3	8.6
Minimum Circuit Ampacity (A)	5.0	11.0
Max. Overload Protection (A)	10.0	19.0
NET WEIGHT (kg)	52	52
GROSS WEIGHT (kg)	54	54

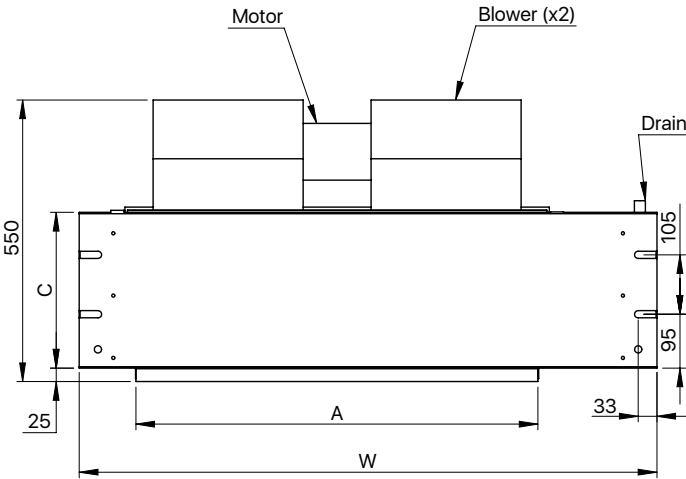
Notes: ¹ Data corresponding to a specific operating condition based on AHRI Standard 210/240 or 360. ² The information provided in the table is subject to change without notice. ³ Test according to ASTM B 117



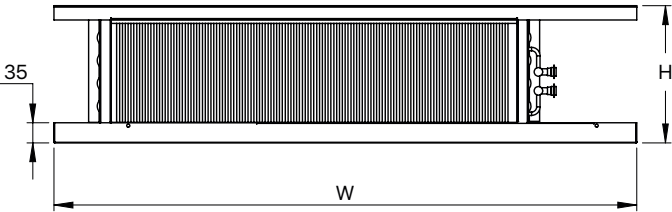
Side View



Top View



Front View

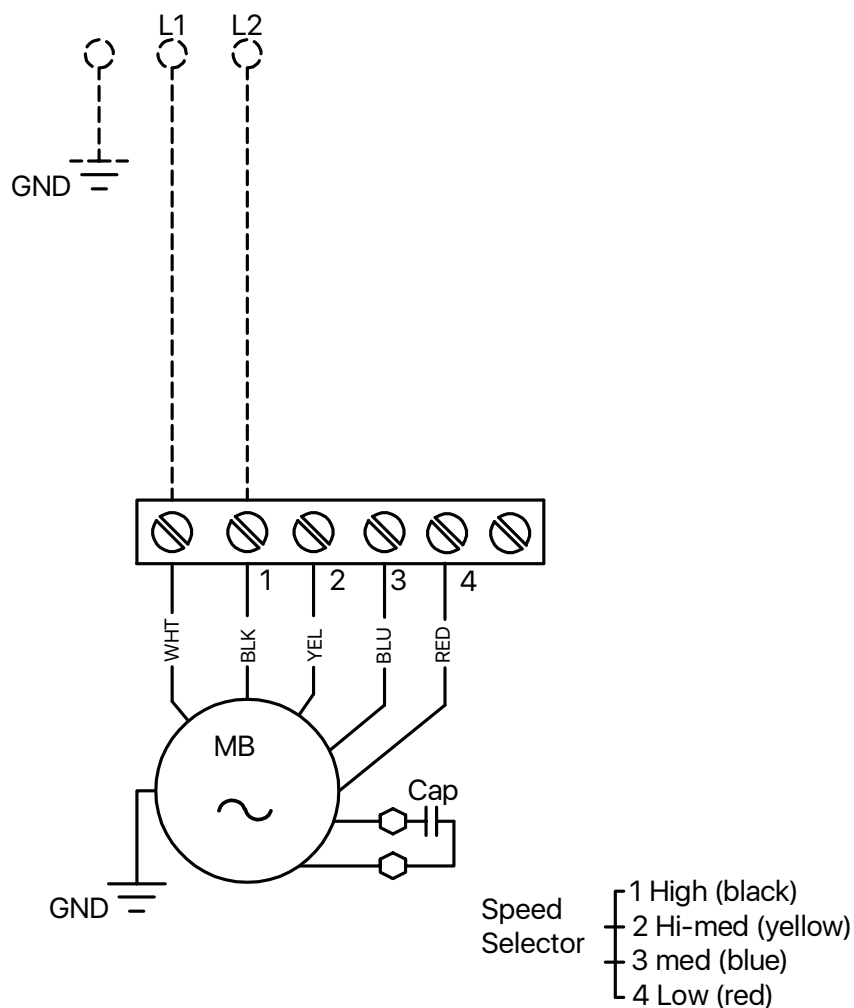


	1 TON	1.5 TON	2 TON	3 TON	4 TON	5 TON
A	710	710	815	965	940	1210
B	180	180	180	230	330	330
C	265	265	265	275	275	275
H	240	240	240	290	390	390
W	1020	1020	1115	1275	1250	1510

Note: All measurements are in millimeters (mm).

While performing the electrical installation, the authorized technician must verify that the electrical circuit of the equipment shown below is in compliance:

220V / 1Ph / 60Hz



⚠ WARNING ⚠

High Voltage: Disconnect the power source(s) before performing maintenance. Service must be performed by qualified personnel. Risk of electric shock! May cause injury or death!

Elements:

MB: Fan Motor
L: AC Power Supply Line
Cap: Capacitor

Factory Wiring:

— High Voltage
— Low Voltage

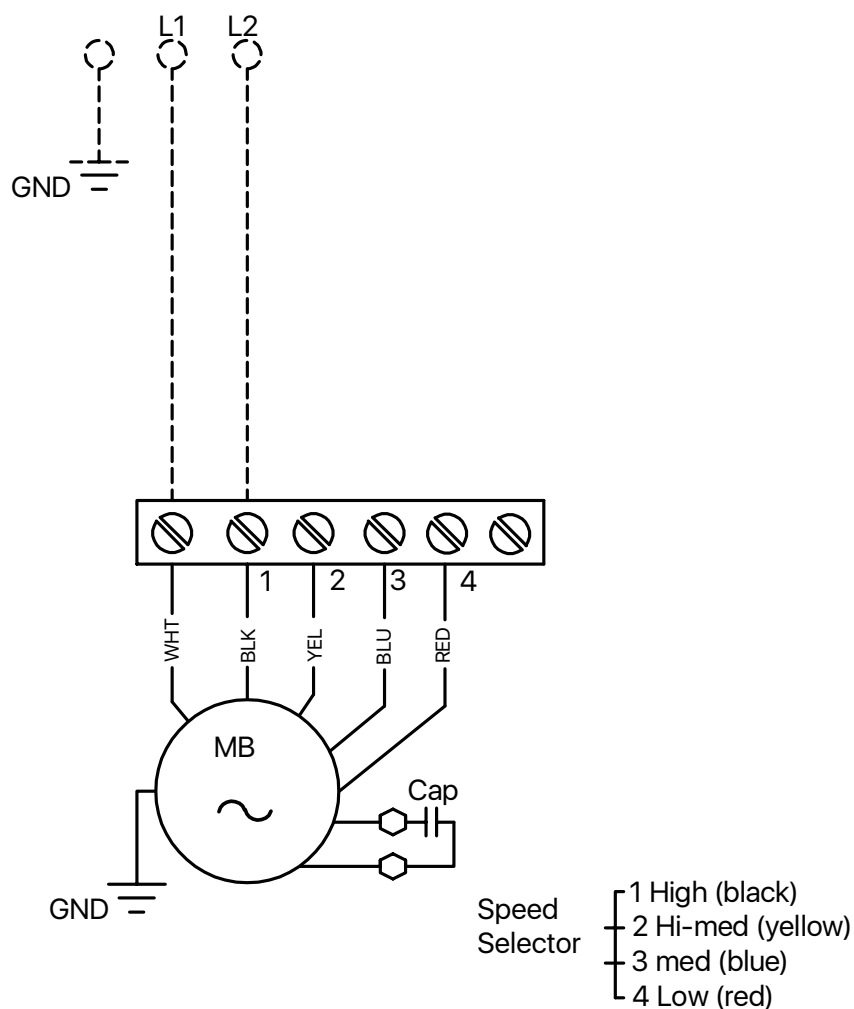
Field Wiring:

- - - High Voltage
- - - - Low Voltage

- When replacing any cable, make sure that the gauge and insulation type are the same as the originals.
- Use only copper conductors to ensure safe and efficient performance.

While performing the electrical installation, the authorized technician must verify that the electrical circuit of the equipment shown below is in compliance:

110V / 1Ph / 60Hz



⚠ WARNING ⚠

High Voltage: Disconnect the power source(s) before performing maintenance. Service must be performed by qualified personnel. Risk of electric shock! May cause injury or death!

Elements:

MB: Fan Motor
L: AC Power Supply Line
Cap: Capacitor

Factory Wiring:

— High Voltage
— Low Voltage

Field Wiring:

- - - High Voltage
- - - - Low Voltage

- When replacing any cable, make sure that the gauge and insulation type are the same as the originals.
- Use only copper conductors to ensure safe and efficient performance.

The general conditions that must be considered before installing the equipment:

**WARNING**

Work on the equipment must be carried out exclusively by professionals. Do not connect the power supply until all work has been completed.

**CAUTION**

RISK OF CUT – Failure to follow this precaution may result in personal injury. Metal parts may have sharp edges or burrs. Be careful and use proper protective clothing, safety glasses, and gloves when handling parts and performing maintenance on the air conditioning units.

IMPORTANT CONSIDERATIONS

1. Electrical installation: All wiring must be carried out by qualified personnel, complying with applicable local and national regulations.
2. Ground connection: Follow NEC standards or local regulations for grounding, ensuring safety and protection against faults.
3. Power supply: Ensure that the power supply meets manufacturer specifications, including voltage stability and current availability.
4. Safe environment: Select a location away from gases, flammable vapors, or combustible materials that could pose risks during operation or maintenance.
5. Structural support: Ensure that the support structure can withstand the total unit weight, especially against long-term vibrations and stress.
6. Seismic restrictions (if applicable): In seismic areas, ensure the unit has anchors or fastening systems that comply with local building codes.
7. Overvoltage protection: Install surge protectors to prevent damage from voltage spikes or electrical fluctuations.
8. Equipment verification: Confirm that model, options, and voltage match the nameplate data to avoid compatibility or warranty issues.
9. External visual inspection: Check the exterior including —panels and hardware— to detect possible transport or handling damage.
10. Internal inspection upon receipt: Visually inspect internal components upon receiving the unit, looking for disconnected cables, loose panels, or misaligned fans.
11. Drainage availability: Choose a location that allows for condensate drainage, either to a drain line or a drain pan.
12. Unit leveling: Install the unit level to ensure proper performance, efficient drainage, and to avoid operating problems or wear due to vibration.
13. Vibration isolation: Install vibration isolators between the unit and the base to minimize noise and vibration transmission.
14. Pipe insulation: Insulate refrigerant and drain lines to avoid condensation, energy loss, and heat transfer.
15. Airflow clearance: Ensure there are no obstructions in air supply and return to guarantee proper circulation and temperature control.
16. Duct connections: Use airtight flexible connectors when installing ducts to prevent noise, vibration, or structural stress.
17. Airflow verification: Ensure airflow and air volumes are correct for optimal performance and to avoid rework.
18. Startup test: Perform a test run to verify electrical operation, airflow, drainage, and noise levels.
19. Leak check: Before startup, verify that there are no leaks in refrigerant or drain connections.
20. Avoid heat sources nearby: Do not install the unit near ovens, heaters, or other heat sources that could affect operation or reduce efficiency.
21. Pest protection: Seal cable entries, pipes, and ducts to prevent rodents or insects from entering.
22. Maintenance space: Keep the minimum recommended clearance for maintenance access, filter replacement, and technical service.
23. Labeling and documentation: Label all cables and lines. Keep diagrams and manuals accessible near the unit.
24. Coordination with other trades: Coordinate installation with civil, electrical, and plumbing contractors to avoid interference or rework.
25. Manufacturer compliance: Follow all manufacturer instructions and technical specifications to preserve the unit warranty.

The following is a brief description of the steps for system startup and commissioning (to be carried out only by an authorized technician):



WARNING



Never perform work on the equipment without the assistance of qualified professionals. Before making any connection, make sure that the power supply lines are completely disconnected and without energy until all work is fully completed.

STEPS FOR SYSTEM STARTUP:

1. Verify ground connection: Confirm that the ground connection is reliable and that the cable is properly connected to the building grounding device. Never connect the ground wire to gas pipes, water pipes, telephone cables, or other non-dedicated systems, as this could compromise equipment safety.
2. Ensure sufficient electrical capacity: Verify that the electrical capacity provided is adequate for equipment operation, respecting wire gauge according to the consumption specified in the specifications.
3. Bring power from the breaker panel: Connect the electrical power to the unit from the breaker panel. Ensure that the breaker's capacity is sufficient to protect the equipment and avoid overloads or damage to internal components.
4. Connect power supply lines: Connect the supply lines to the corresponding terminals. For single-phase equipment, use the terminals marked L1 and L2. For three-phase equipment, ensure that the three phases (L1, L2, and L3) are properly connected at the electrical panel.
5. Tighten all terminals: Over time or during transport, terminals may loosen. Retighten all screws on the terminals to prevent electrical arcing.
6. Check connections and fastenings: Ensure that all electrical connections are properly made and secured according to the electrical diagrams provided with the equipment. This will guarantee safe installation and proper equipment operation.
7. Inspect for damage or foreign objects: Check the unit for possible physical damage, loose panels, or foreign objects inside the cabinet before startup. Remove any obstruction that may affect moving parts or electrical components.
8. Check drain line: Make sure the drain line is clean and free of obstructions to allow proper condensate drainage during unit operation.
9. Inspect ducts before startup: Check the ducts for blockages, leaks, or disconnections that may affect airflow and efficiency.
10. Verify fan alignment and balance: Ensure that the fan is properly aligned and balanced to avoid excessive noise or vibrations.
11. Confirm fan speed settings: Verify that the fan speed is adjustable and configured according to the system design or space requirement.
12. Wire control lines: From the unit, connect the control lines (R, G, Y, and O*) as indicated in the electrical box to the corresponding thermostat terminals. This will allow adequate control of all equipment functions.
13. Activate breakers to energize equipment: Once connected, switch on the breakers to energize the unit. Verify that all connections are correct before startup.
14. Measure voltage and amperage at startup: After energizing the unit, measure supply voltage and operating amperage to confirm they are within the acceptable range indicated on the equipment nameplate. This helps detect problems such as low voltage or overcurrent.
15. Test system operation: Confirm that all connections are secure and that the equipment is energized. Test the system to ensure it operates correctly. Adjust the thermostat to the desired temperature and verify that cool air is delivered to the space without unusual noises or vibrations.
16. Allow unit to run in test mode: After startup, let the system run for at least 15–20 minutes while monitoring pressures, temperatures, and general operation. This will help detect early signs of failure.
17. Adjust the thermostat: The air conditioning system must be controlled via the installed thermostat. Ensure it is adjusted to the desired temperature to maintain a comfortable indoor environment.
18. Program the thermostat (if applicable): If using a programmable thermostat, ensure it is configured correctly with schedules, cooling times, and fan settings.
19. Record operating values: Record voltages, amperages, refrigerant pressures (if applicable), inlet and outlet air temperatures. This will serve as a future reference for maintenance or diagnostics.

With proper maintenance and care, your air conditioning unit will operate efficiently and cost-effectively. Before performing any maintenance task, consider the following essential safety precautions:

**WARNING**

To avoid equipment damage and prevent personal injury or even death, make sure to completely disconnect the power supply before performing any maintenance task. This includes disconnecting power from both indoor and outdoor units.

NOTE: There may be multiple electrical disconnect switches. Verify and deactivate all of them to ensure your safety.

**WARNING**

Although special attention has been given to minimizing sharp edges during equipment manufacturing, we recommend handling parts very carefully and avoiding placing hands inside the unit without proper precautions.

MAINTENANCE RECOMMENDATIONS

1. Power supply inspection: Periodically check the electrical power supply to the unit to ensure proper operation. Control the current of the main components according to the unit's nameplate.
2. Tighten electrical connections: Inspect and tighten all terminals and electrical connections to avoid arcing, voltage drops, or overheating due to loose or corroded connections.
3. Inspection and testing of capacitors and contactors: Check capacitors for bulging or leaks and test contactors to ensure proper operation. Faulty components can cause startup failures.
4. Inspection of safety controls and sensors: Test the operation of safety switches, pressure sensors, and other automatic shutdown devices to ensure proper operation under emergency or overload conditions.
5. System operating pressure check: Periodically check the system's operating pressures (high and low). Ensure they are within established ranges for normal operation.
6. Drain line inspection: Ensure the unit's drain line is not blocked to avoid water overflows, which could cause property damage or unit damage.
7. Fan motor lubrication (if applicable): Lubricate fan motors and bearings (for models with serviceable components) according to the manufacturer's recommendations to prevent overheating or failure.
8. Air filter cleaning: Clean the air filter to avoid airflow restriction, which may reduce unit efficiency and shorten service life.
9. Evaporator coil inspection: Check the evaporator coil condition to ensure it is free of obstructions, allowing proper airflow and efficient heat exchange.
10. Coil cleaning: If necessary, clean the coil with a detergent solution and rinse with water. This process may require fin removal. Be careful not to damage the fins.
11. Refrigerant line insulation inspection: Check the insulation of the refrigerant lines to ensure it is in good condition, as deterioration can cause energy loss or reduced cooling performance.
12. Blower inspection: Regularly check the blower to prevent accumulation of dirt or debris on the blades, which could affect system performance.
13. Airflow verification: Confirm that the airflow (supply and return) is adequate, using anemometers if necessary, to ensure proper energy efficiency.
14. Avoid debris accumulation: Do not allow debris to build up around or on top of the unit. This could reduce cooling capacity.
15. Check for unusual noises: Listen for abnormal noises (knocking, buzzing, humming) that could indicate loose or failing components.
16. Thermostat calibration: Periodically check and calibrate the thermostat to ensure accurate temperature control and system operation.
17. Shutdown and restart test: Verify that the system shuts down and restarts correctly after a power interruption or thermostat command.
18. Return air grille cleaning or replacement: Clean dust and debris from the return air grilles or replace them if damaged.
19. Annual complete maintenance: After one year of operation, perform a complete system maintenance check, including motor, bearings, and general unit condition.







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