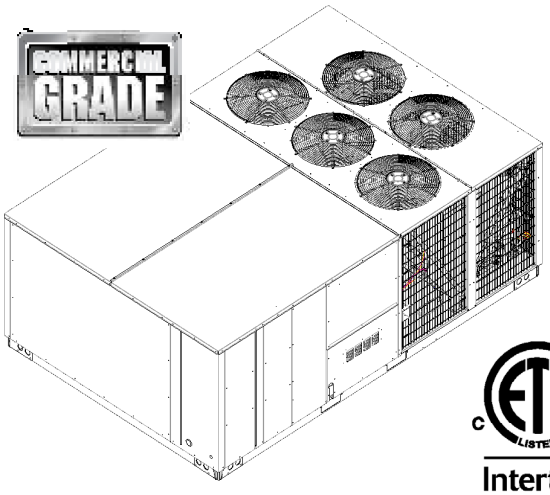
DAIKIN

INSTALLATION INSTRUCTIONS

DSC Series
Packaged Heating and Cooling Unit 15 to 25 Ton



NOTE: *25 ton model shown in picture.*
20 ton model has 4 fans
15 ton model has 3 fans

Intertek

AHRI CERTIFIED® www.ahridirectory.org
Unitary Large AC
AHRI Standard 340/360
Certification applies only when the complete system is listed with AHRI.

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Unitary Large HP
AHRI Standard 340/360
Certification applies only when the complete system is listed with AHRI.

RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION.

These installation instructions cover the outdoor installation of single package heating and cooling units. See the Specification Sheet applicable to your model for information regarding accessories.

***NOTE:** Please contact your distributor or our website for the applicable Specification Sheet referred to in this manual.

NOTE: This equipment is approved to use only with R-32 refrigerant.

NOTE: Specifications and performance data listed herein are subject to change without notice.

NOTE: Never operate the unit without the recommended filter or the outer panel installed.

WARNING

ONLY PERSONNEL THAT HAVE BEEN TRAINED TO INSTALL, ADJUST, SERVICE, MAINTENANCE OR REPAIR (HEREINAFTER, "SERVICE") THE EQUIPMENT SPECIFIED IN THIS MANUAL SHOULD SERVICE THE EQUIPMENT.

THIS EQUIPMENT IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPACITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE, UNLESS THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THE APPLIANCE BY A PERSON RESPONSIBLE FOR THEIR SAFETY.

CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE EQUIPMENT.

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR ANY INJURY OR PROPERTY DAMAGE ARISING FROM IMPROPER SUPERVISION, SERVICE OR SERVICE PROCEDURES. IF YOU SERVICE THIS UNIT, YOU ASSUME RESPONSIBILITY FOR ANY INJURY OR PROPERTY DAMAGE WHICH MAY RESULT. IN ADDITION, IN JURISDICTIONS THAT REQUIRE ONE OR MORE LICENSES TO SERVICE THE EQUIPMENT SPECIFIED IN THIS MANUAL, ONLY LICENSED PERSONNEL SHOULD SERVICE THE EQUIPMENT. IMPROPER SUPERVISION, INSTALLATION, ADJUSTMENT, SERVICING, MAINTENANCE OR REPAIR OF THE EQUIPMENT SPECIFIED IN THIS MANUAL, OR ATTEMPTING TO INSTALL, ADJUST, SERVICE OR REPAIR THE EQUIPMENT SPECIFIED IN THIS MANUAL WITHOUT PROPER SUPERVISION OR TRAINING MAY RESULT IN PRODUCT DAMAGE, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

WARNING

DO NOT BYPASS SAFETY DEVICES.

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IOD-1068A
09/2024

Our continuing commitment to quality products may mean a change in specifications without notice.

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19001 Kermier Rd. Waller, TX 77484
www.daikincomfort.com

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SAFETY INSTRUCTIONS

To The Installer

Before installing this unit, please read this manual to familiarize yourself on the specific items which must be adhered to, including maximum external static pressure to unit, air temperature rise and minimum or maximum CFM.

Keep this literature in a safe place for future reference.

WARNING

To avoid property damage, personal injury or death, do not use this unit if any part has been under water. Immediately call a qualified service technician to inspect the furnace and to replace any part of the control system and any gas control having been under water

CAUTION

Sheet metal parts, screws, clips and similar items inherently have sharp edges, and it is necessary that the installer and servicer personnel exercise caution.

WARNING

Do not connect to or use any device that is not certified by the manufacturer for use with this unit. Serious property damage, personal injury, reduced unit performance and/or hazardous conditions may result from the use of such non-approved devices.

WARNING

This unit must not be used as a "construction heater" during the finishing phases of construction on a new structure. This type of use may result in premature failure of the unit due to extremely low return air temperatures and exposure to corrosive or very dirty atmospheres.

WARNING

Do not operate the compressor(s) without the terminal plug fully engaged or the terminal cover properly installed. Get away if unusual sounds are heard from within the compressor. Disconnect electrical power from the unit.

WARNING

A tripped circuit breaker or blown fuse may indicate that an electrical problem exists.
Do not reset a circuit breaker or replace fuses without first performing thorough electrical troubleshooting and testing procedures.

WARNING

HIGH VOLTAGE!
Prior to servicing the unit or removing the compressor terminal plug or terminal cover, disconnect all electrical power from the unit. Multiple power sources may be present.

WARNING

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater). Do not pierce or burn. Be aware that refrigerants may not contain an odor.

WARNING

Only auxiliary devices approved by the appliance manufacturer or declared suitable with the refrigerant shall be installed in connecting ductwork.

CAUTION

Auxiliary devices which may be a POTENTIAL IGNITION SOURCE shall not be installed in the duct work. Examples of such POTENTIAL IGNITION SOURCES are hot surfaces with a temperature exceeding 700°C and electric switching devices.

WARNING

LEAK DETECTION SYSTEM installed. Unit must be powered except for service.

WARNING

This unit is equipped with electrically powered safety measures. To be effective, the unit must be electrically powered at all times after installation, other than when servicing.

WARNING

HIGH VOLTAGE
Disconnect all power before servicing this unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury or death.

WARNING

To prevent the risk of property damage, personal injury or death, do not store combustible materials or use gasoline or other flammable liquids or vapors in the vicinity of this appliance.

WARNING

Hermetic compressor electrical terminal venting can be dangerous. In certain circumstances, the terminal may be expelled, venting the refrigerant vapor and compressor oil contained within the compressor housing and system. Be alert for sounds of arcing (sizzling, sputtering, or popping) inside the compressor. IMMEDIATELY GET AWAY if you hear these sounds and disconnect electrical power from the unit.

Terminal Venting

Never operate the compressor without the terminal cover secured and properly in place or without the electrical plug fully seated and engaged to the terminal posts.
If a terminal is damaged, electrically overloaded, or short circuited to ground, there is a remote possibility that the terminal can be suddenly expelled from the terminal housing thereby venting the refrigerant and compressor oil mixture to atmosphere.

This discharge can be ignited from electrical arcing, or other open sources of ignition, and can cause potentially severe or fatal injury. This event is known as “Terminal Venting”.

To reduce the possibility of external ignition, all open flames or other heat sources must be extinguished, and all electrical power must be turned off prior to opening the terminal cover or removing the electrical plug and servicing the system. Proper sealed system evacuation is required during equipment servicing to maintain adequate internal system cleanliness while eliminating contaminates.

Be alert for sounds of arcing (sizzling, sputtering, or popping) inside the compressor. IMMEDIATELY GET AWAY from the unit if you hear these sounds and disconnect electrical power.

Detection of Flammable Refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

The following leak detection methods are deemed acceptable for all refrigerant systems.

Electronic leak detectors may be used to detect refrigerant leaks but, in the case of FLAMMABLE REFRIGERANTS, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25% maximum) is confirmed.

Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

If a leak is suspected, all naked flames shall be removed/ extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system.

REPLACEMENT PARTS

Ordering Parts

When reporting shortages or damages, or ordering repair parts, give the complete unit model and serial numbers as stamped on the unit’s nameplate. Refrigerant Sensors for refrigeration detection system shall only be replaced with sensors specified by the manufacturer. Shortages and damage needs to be reported to logistic Feeback @ https://www.goodmanmfg.com/logistics-feedback.

Replacement parts for this appliance are available through your contractor or local distributor. Your nearest distributor can be located online at www.daikincomfort.com or by contacting:

EQUIPMENT SUPPORT
DAIKIN COMFORT TECHNOLOGIES
MANUFACTURING, L.P.
19001 KERMIER ROAD
WALLER, TEXAS 77484
855-770-5678

GENERAL INFORMATION

For complete information and installation instructions for models with DDC controls, see manual DK-DDC-TGD-XXX.

WARNING

To prevent property damage, personal injury or death due to fire, explosions, smoke, soot, condensation, electric shock or carbon monoxide, this unit must be properly installed, repaired, operated and maintained.

This unit is approved for outdoor installation ONLY. For Installation Only in Locations Not Accessible to the General Public. Rated performance is achieved after 20 hours of operation. Rated performance is delivered at the specified airflow. See outdoor unit specification sheet for split system models or product specification sheet for packaged and light commercial model. Specification sheets can be found at www.daikincomfort.com for Daikin brand products. Within the website, please select the residential or commercial products menu and then select the submenu for the type of product to be installed, such as air conditioners or heat pumps, to access a list of product pages that each contain links to that model's specification sheet.

To assure that your unit operates safely and efficiently, it must be installed, operated, and maintained in accordance with these installation and operating instructions, all local building codes and ordinances.

Qualification of Workers

Personnel must be certified to service, work, and/or repair units with FLAMMABLE REFRIGERANTS. A certificate should document the competence and qualification achieved through training that included the substance of the following:

- Information about the explosion potential of FLAMMABLE REFRIGERANTS to show that flammables may be dangerous when handled without care.
- Information about POTENTIAL IGNITION SOURCES, especially those that are not obvious, such as lighters, light switches, vacuum cleaners, electric heaters.
- Information about the different safety concepts, including ventilated and unventilated areas.
- Information about refrigerant detectors, including function, operation, and service measures.
- Information about the concept of sealed components and sealed enclosures according to IEC 60079-15:2010.
- Information about the correct working procedures, including commissioning, maintenance, repair, decommissioning, and disposal procedures.

EPA Regulations

Important: The United States Environmental Protection Agency (EPA) has issued various regulations regarding the introduction and disposal of refrigerants in this unit. Failure to follow these regulations may harm the environment and can lead to the imposition of substantial fines. Because regulations may vary due to passage of new laws, we suggest a certified technician perform any work done on this unit. Should you have any questions please contact the local office of the EPA.

National Codes

This product is designed and manufactured to permit installation in accordance with National Codes. It is the installer's responsibility to install the product in accordance with National Codes and/or prevailing local codes and regulations. The heating and cooling capacities of the unit should be greater than or equal to the design heating and cooling loads of the area to be conditioned. The loads should be calculated by an approved method or in accordance with ASHRAE Guide or Manual J - Load Calculations published by the Air Conditioning Contractors of America.

Obtain from:
American National Standards Institute
25 West 43rd Street, 4th Floor
New York, NY 10036

System design and installation should also, where applicable, follow information presented in accepted industry guides such as the ASHRAE Handbooks. The manufacturer assumes no responsibility for equipment installed in violation of any code or regulation. The mechanical installation of the packaged roof top units consists of making final connections between the unit and building services; supply and return duct connections; and drain connections (if required). The internal systems of the unit are completely factory-installed and tested prior to shipment.

Units are generally installed on a steel roof mounting curb assembly which has been shipped to the job site for installation on the roof structure prior to the arrival of the unit. The model number shown on the unit's identification plate identifies the various components of the unit such as refrigeration tonnage, heating input and voltage. Verify that the Voltage listed on the unit id plate matches the voltage supplied from the site.

Carefully inspect the unit for damage including damage to the cabinetry. Any bolts or screws which may have loosened in transit must be re-tightened. In the event of damage, the receiver should:

1. Make notation on delivery receipt of any visible damage to shipment or container.
2. Notify the carrier promptly and request an inspection.
3. In case of concealed damage, the carrier should be notified as soon as possible-preferably within 5 days.
4. File the claim with the following supporting documents:
   a. Original Bill of Lading, certified copy, or indemnity bond.
   b. Original paid freight bill or indemnity in lieu thereof.
   c. Original invoice or certified copy thereof, showing trade and other discounts or reductions.

d. Copy of the inspection report issued by the carrier representative at the time damage is reported to the carrier. The carrier is responsible for making prompt inspection of damage and for a thorough investigation of each claim. The distributor or manufacturer will not accept claims from dealers for transportation damage.

NOTE: When inspecting the unit for transportation damage, remove all packaging materials. Recycle or dispose of the packaging material according to local codes.

Pre-Installation Checks

NOTE: Verify that voltage listed on serial plate matches voltage being supplied by site.

Carefully read all instructions for the installation prior to installing unit. Ensure each step or procedure is understood and any special considerations are taken into account before starting installation. Assemble all tools, hardware and supplies needed to complete the installation. Some items may need to be purchased locally.

Cabling / Wiring

Check that cabling / wiring will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

THE FOLLOWING INSTRUCTIONS ARE MANDATORY FOR A2L SYSTEMS AND SUPERSEDE OTHER INSTRUCTIONS

WARNING

ONLY BRAZING TECHNIQUES OR APPROVED MECHANICAL JOINTS SHOULD BE USED TO CONNECT REFRIGERANT TUBING CONNECTIONS. NON-APPROVED MECHANICAL CONNECTORS AND OTHER METHODS ARE NOT PERMITTED IN THIS SYSTEM CONTAINING A2L REFRIGERANT. APPROVED MECHANICAL JOINTS WILL BE DETAILED IN THE PRODUCT'S SPECIFICATION SHEETS.

STANDING PRESSURE TEST/LEAK DETECTION METHOD

Using dry nitrogen or dry helium, pressurize the system to 450 PSIG. allow the pressure to stabilize and hold for 15 minutes (minimum). The system is considered leak-free if the pressure does not drop below 450 PSIG. If, after 15 minutes, the pressure drops below 450 PSIG, it implies a leak in the system. Proceed with identifying and sealing the leak and repeating the Standing Pressure Test. Leak test the system using dry nitrogen or dry helium and soapy water to identify leaks. No refrigerant shall be used for pressure testing to detect leaks. Proceed to system evacuation using the Deep Vacuum Method.

DEEP VACUUM METHOD

The Deep Vacuum Method requires a vacuum pump rated for 500 microns or less. This method effectively and efficiently ensures the system is free of non-condensable air and moisture. The Triple Evacuation Method is detailed in the Service Manual for this product model as an alternative. To expedite the evacuation procedure, it is recommended that the Schrader Cores be removed from the service valves using a core-removal tool.

1. Connect the vacuum pump, micron gauge, and vacuum-rated hoses to both service valves. Evacuation must use both service valves to eliminate system mechanical seals.
2. Evacuate the system to less than 500 microns.
3. Isolate the pump from the system and hold the vacuum for 10 minutes (minimum). Typically, pressure will rise slowly during this period. If the pressure rises to less than 1000 microns and remains steady, the system is considered leak-free; proceed to system charging and startup.
4. If pressure rises above 1000 microns but holds steady below 2000 microns, non-condensable air or moisture may remain, or a small leak may be present. Return to step 2: If the same result is achieved, check for leaks and repair. Repeat the evacuation procedure.
5. If pressure rises above 2000 microns, a leak is present. Check for leaks and repair them. Then, repeat the evacuation procedure.

ACCESSORY INSTALLATION

WARNING

ALL ACCESSORIES THAT MAY BECOME A POTENTIAL IGNITION SOURCE IF INSTALLED, SUCH AS ELECTRONIC AIR CLEANERS, MUST ONLY BE POWERED THROUGH OUR ACCESSORY CONTROL BOARD KIT. IF AN ELECTRONIC AIR CLEANER IS ALREADY INSTALLED IN THE DUCT WORK AND NOT CONNECTED TO THE ACCESSORY CONTROL BOARD. IT WILL HAVE TO BE DISABLED OR REMOVED. ENSURE THAT ANY ADDITIONAL WIRING FROM THE INDOOR UNIT TO THE ACCESSORY CONTROL BOARD IS ROUTED AND PROTECTED FROM DAMAGE WEAR, AVOIDING THE FLUE PIPE AND ANY JOINTS THAT MAY NEED BRAZED OR DISCONNECTED FOR SERVICE. REFER TO THE PRODUCT SPECIFICATION SHEET FOR THE ACCESSORY CONTROL BOARD KIT PART NUMBER.

ALTITUDE ADJUSTMENT FACTOR TO CALCULATE MINIMUM ROOM AREA

The Indoor equipment mitigation requirements are calculated at sea level. For higher altitudes adjust the minimum room area specified near the Serial Plate by the corresponding altitude adjustment factor shown below. This table is provided as a reference.

Adjusted room area ($A_{min\ adj}$) is the product of the minimum room area specified in the serial plate and the adjustment factor AF, as shown in below formula
$A_{min\ adj} = A_{min}$ (serial plate) * AF

Height in meters	Height in feet	Altitude Adjustment Factor (AF)
At sea level	At sea level	1.00
1~200	1~660	1.02
200~400	660~1320	1.03
400~600	1320~1970	1.05
600~800	1970~2630	1.07
800~1000	2630~3290	1.09
1000~1200	3290~3940	1.11
1200~1400	3940~4600	1.13
1400~1600	4600~5250	1.15
1600~1800	5250~5910	1.17
1800~2000	5910~6570	1.19
2000~2200	6570~7220	1.21
2200~2400	7220~7880	1.24
2400~2600	7880~8540	1.26
2600~2800	8540~9190	1.29
2800~3000	9190~9850	1.31
3000~3200	9850~10500	1.34

UNIT LOCATION

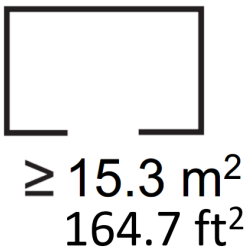
NOTE: These units are designed for roof top installations only at a max altitude of 2000 meters or 6562 feet above sea level.

WARNING

To prevent possible equipment damage, property damage, personal injury or death, the following must be observed when storing, installing and operating the unit.

WARNING

The appliance shall be installed, operated and stored in a room with a floor area not less than the minimum room area indicated.



IMPORTANT NOTE: Remove wood shipping rails prior to installation of the unit. *See important note under Roof Curb Installation Only.*

All Installations:
IMPORTANT NOTE: *Unit should be energized 24 hours prior to compressor start up to ensure crankcase heater has sufficiently warmed the compressors. Compressor damage may occur if this step is not followed.*

NOTE: Units are vertical supply and return only.
Proper installation of the unit ensures trouble-free operation. Improper installation can result in problems ranging from noisy operation to property or equipment damages, dangerous conditions that could result in injury or personal property damage. Damage or repairs due to improper installation are not covered under the warranty. Give this booklet to the user and explain it's provisions. The user should retain these instructions for future reference.

- For proper operation and condensate drainage, the unit must be mounted level.
- Do not locate the unit in an area where the outdoor air (i.e. combustion air for the unit) will be frequently contaminated by compounds containing chlorine or fluorine. Common sources of such compounds include swimming pool chemicals and chlorine bleaches, paint stripper, adhesives, paints, varnishes, sealers, waxes (which are not yet dried) and solvents used during construction and remodeling. Various commercial and industrial processes may also be sources of chlorine/fluorine compounds.
- To avoid possible illness or death of the building occupants, do NOT locate outside air intake device (economizer, manual fresh air intake, motorized fresh air intake) too close to an exhaust outlet, gas vent termination, or plumbing vent outlet. For specific distances required, consult local codes or in their absence, with the latest edition of the National Fuel Gas Code latest edition of the National Fuel Gas Code NFPA54/ANSI Z223.1 and National Standard of Canada CAN/CSA B149 Installation Codes.
- Allow minimum clearances from the enclosure for fire protection, proper operation, and service access (see unit clearances). These clearances must be permanently maintained.
- If used, do not allow the economizer/manual fresh air damper/ motorized fresh air damper to become blocked by snow or debris. In some climates or locations, it may be necessary to elevate the unit to avoid these problems. For proper operation and condensate drainage, the unit must be mounted level
- When the unit is heating, the temperature of the return air entering the unit must be between 50° F and 100° F.

Ground Level Installations Only:
- When the unit is installed on the ground adjacent to the building, a level concrete (or equal) base is recommended. Prepare a base that is 3" larger than the package unit footprint and a minimum of 3" thick.
- The base should also be located where no runoff of water from higher ground can collect in the unit.

Roof Top Installations Only:

- To avoid possible property damage or personal injury, the roof must have sufficient structural strength to carry the weight of the unit(s) and snow or water loads as required by local codes. Consult a structural engineer to determine the weight capabilities of the roof.
- The unit may be installed directly on wood floors or on Class A, Class B, or Class C roof covering material.
- To avoid possible personal injury, a safe, flat surface for service personnel should be provided.
- Adequate clearances from the unit to any adjacent public walkways, adjacent buildings, building openings or openable windows must be maintained in accordance with national codes. National Fuel Gas Code NFPA54/ANSI Z223.1 and National Standard of Canada CAN/CSA B149 Installation Codes.

Unit Precautions

- Do not stand or walk on the unit.
- Do not drill holes anywhere in panels or in the base frame of the unit (except where indicated). Unit access panels provide structural support.
- Do not remove any access panels until unit has been installed on roof curb or field supplied structure.
- Do not roll unit across finished roof without prior approval of owner or architect.
- Do not skid or slide on any surface as this may damage unit base. The unit must be stored on a flat, level surface. Protect the condenser coil because it is easily damaged.

Roof Curb Installations Only:

Before installing this unit...

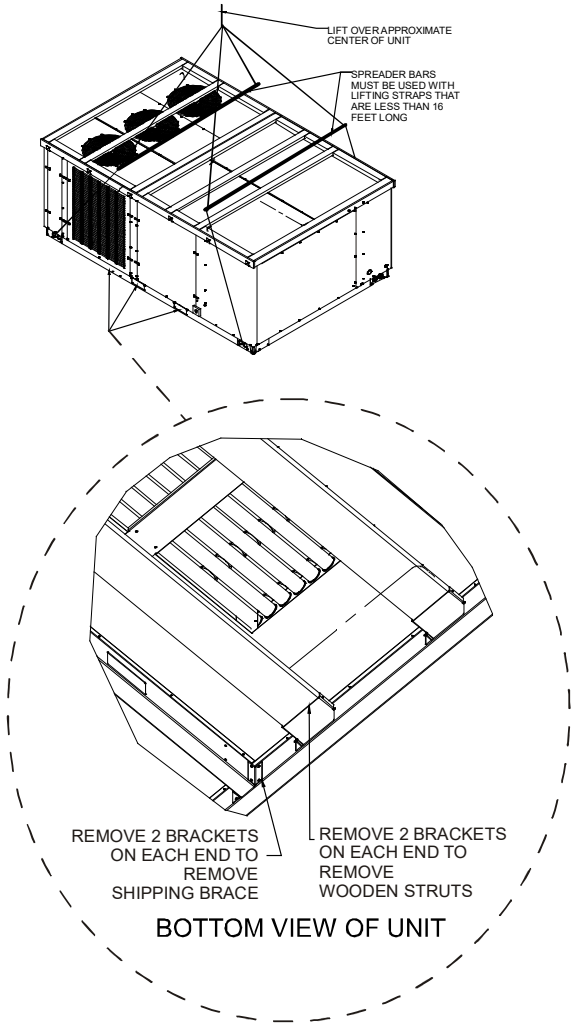
IMPORTANT NOTE: This unit has been equipped with a shipping brace under the compressor section that **MUST BE REMOVED** before installing the unit on a roof curb.

Please follow the instructions below to remove brace.

CAUTION

When unit is suspended, boards and shipping brace will drop when screws are removed. To prevent personal injury, STAND CLEAR. Remove fork hole brackets, boards and shipping brace from bottom of unit before placing units onto curb.

1. Remove wooden struts and shipping brace per installation instructions. *The struts are located in the fork holes and are used to protect the unit from damage while lifting with forks. The shipping brace is located under the unit (under compressor).* Also remove the fork hole brackets as shown in the following figure.
2. Locate and remove the end brackets as shown in the following figure.



3. Lift unit per the “Rigging Details” section of this manual, observing all warnings and cautions. When unit is lifted, boards and shipping brace will drop if screws have been removed. To avoid injury, STAND CLEAR.
4. Dispose of the boards and brace appropriately.

Curb installations must comply with local codes and should be done in accordance with the established guidelines of the National Roofing Contractors Association.

Proper unit installation requires that the roof curb be firmly and permanently attached to the roof structure. Check for adequate fastening method prior to setting the unit on the curb.

Full perimeter roof curbs are available from the factory and are shipped unassembled. Field assembly, squaring, leveling and mounting on the roof structure are the responsibility of the installing contractor. All required hardware necessary for the assembly of the sheet metal curb is included in the curb accessory.

WARNING

To prevent possible equipment damage, property damage, personal injury or death, the following bullet points must be observed when installing the unit.

- Sufficient structural support must be determined prior to locating and mounting the curb and package unit.
- Ductwork must be constructed using industry guidelines. The duct work must be placed into the roof curb before mounting the package unit. Our full perimeter curbs include duct connection frames to be assembled with the curb. Cantilevered type curbs are not available from the factory.
- Curb insulation, cant strips, flashing and general roofing material are furnished by the contractor.

The curbs must be supported on parallel sides by roof members. The roof members must not penetrate supply and return duct opening areas as damage to the unit might occur.

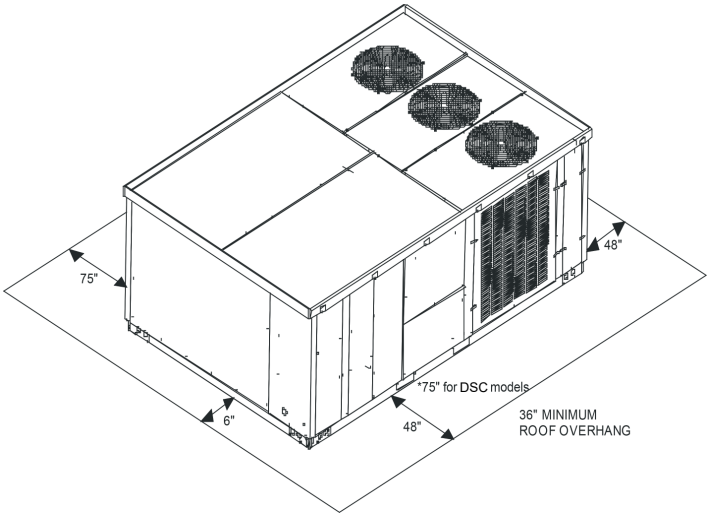
NOTE: The unit and curb accessories are designed to allow vertical duct installation <u>before</u> unit placement. Duct installation <u>after</u> unit placement is not recommended.

CAUTION

All curbs look similar. To avoid incorrect curb positioning, check job plans carefully and verify markings on curb assembly. Instructions may vary in curb styles and supersede information shown.

See the manual shipped with the roof curb for assembly and installation instructions.

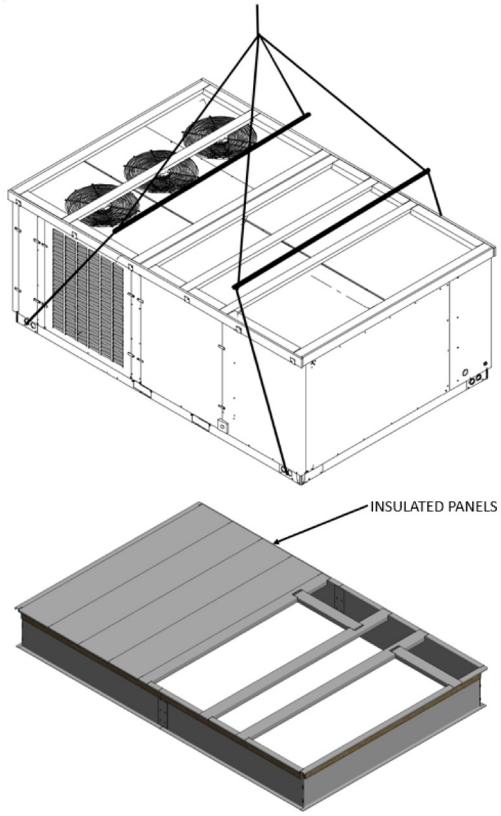
CLEARANCES



In situations that have multiple units, a 48" minimum clearance is required between the condenser coils.

UNIT CLEARANCES

Adequate clearance around the unit should be kept for safety, service, maintenance, and proper unit operation. A 75" clearance on the non-service side of the unit is required to facilitate possible blower assembly and coil removal. This unit must not be installed beneath any obstruction. This unit should be installed remote from all building exhausts to inhibit ingestion of exhaust air into the unit's fresh air intake.



Roof Curb Installation

ROOF CURB POST-INSTALLATION CHECKS

After installation, check the top of the curb, duct connection frame and duct flanges to make sure gasket has been applied properly. Gasket should be firmly applied to the top of the curb perimeter, duct flanges and any exposed duct connection frame. If gasket is loose, re-apply using strong weather resistant adhesive.

Protrusion

Inspect curb to ensure that none of the utility services (electric) routed through the curb protrude above the curb.

CAUTION

If protrusions exist, do not attempt to set unit on curb.

ROOF TOP DUCT CONNECTIONS

Install duct connections on the roof curb before placing the unit on the rooftop.

NOTE: If duct is to be fasten to the roof curb the fasteners need to be installed horizontally to allow the unit to be set flat on the curb.

RIGGING DETAILS

WARNING

To prevent property damage, the unit should remain in an upright position during all rigging and moving operations. To facilitate lifting and moving when a crane is used, place the unit in an adequate cable sling.

CAUTION

Do not lift units two at a time. Provisions for forks have been included in the unit base frame. Minimum fork length is 72" to prevent damage to the unit.

Provisions for forks have been included in the unit base frame. No other fork locations are approved.

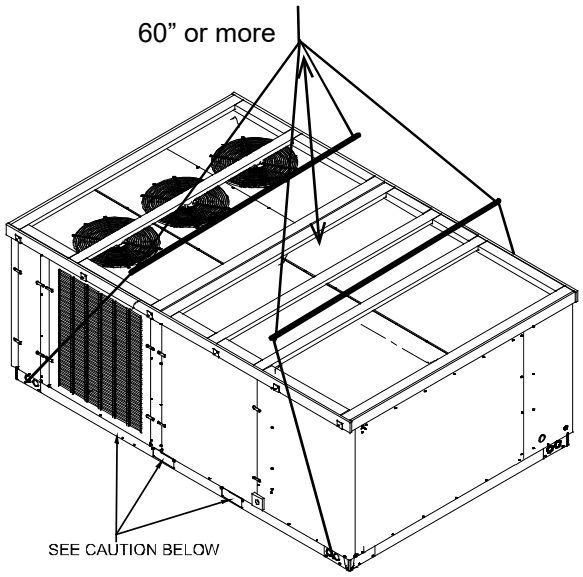
WARNING

To prevent possible equipment damage, property damage, personal injury or death, the following bullet points must be observed when installing the unit.

- Unit must be lifted by the four lifting holes located at the base frame corners.
- Lifting cables should be attached to the unit with shackles.
- The distance between the crane hook and the top of the unit must not be less than 60".
- Two spreader bars must span over the unit to prevent damage to the cabinet by the lift cables. Spreader bars must be of sufficient length so that cables do not come in contact with the unit during transport. Remove wood struts mounted beneath unit base frame before setting unit on roof curb. These struts are intended to protect unit base frame from fork lift damage. Removal is accomplished by extracting the sheet metal retainers and pulling the struts through the base of the unit. Refer to rigging label on the unit.

IMPORTANT NOTE: If using bottom discharge with roof curb, ductwork should be attached to the curb prior to installing the unit. Ductwork dimensions are shown in Roof Curb Installation Instructions.

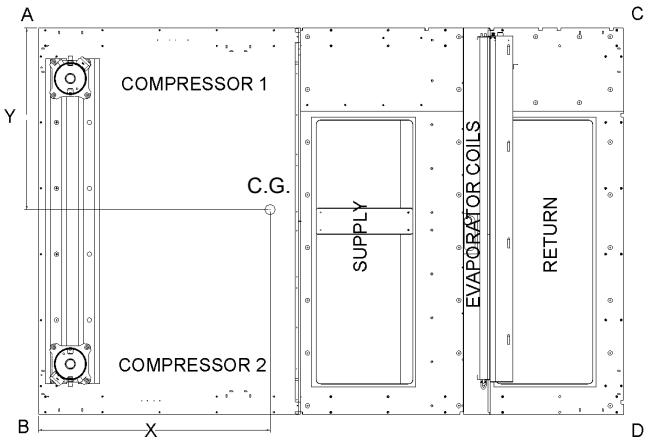
Refer to the Roof Curb Installation Instructions for proper curb installation. Curbing must be installed in compliance with the National Roofing Contractors Association Manual. Lower unit carefully onto roof mounting curb. While rigging unit, center of gravity will cause condenser end to be lower than supply air end.



CAUTION

When unit is suspended, boards and shipping brace will drop when screws are removed. To prevent personal injury, STAND CLEAR. Remove fork hole brackets, boards and shipping brace from bottom of unit before placing units onto curb.

To assist in determining rigging requirements, unit weights are shown as follows:



Corner & Center of Gravity Locations

DATA	DSC Weights (lbs)		
	15T	20T	25T
Corner Weight - A	479	580	446
Corner Weight - B	487	380	499
Corner Weight - C	511	437	621
Corner Weight - D	445	596	517
Unit Shipping Weight	1839	2108	2198
Unit Operating Weight	1922	1993	2083

X (Inches)	66.4	64.23	60.50
Y (Inches)	45.3	43.15	42.98

NOTE: These weights are without accessories installed.

CAUTION

To prevent severe damage to the bottom of the unit, do not fork lift unit after wood struts have been removed.

Bring condenser end of unit into alignment with the curb. With condenser end of the unit resting on curb member and using curb as a fulcrum, lower opposite end of the unit until entire unit is seated on the curb. When a rectangular cantilever curb is used, care should be taken to center the unit. Check for proper alignment and orientation of supply and return openings with duct.

Rigging Removal

CAUTION

To prevent damage to the unit, do not allow crane hooks and spreader bars to rest on the roof of the unit.

Remove spreader bars, lifting cables and other rigging equipment.

ELECTRICAL WIRING

WARNING

HIGH VOLTAGE

Disconnect all power before servicing this unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury or death.

WARNING

HIGH VOLTAGE

To avoid property damage, personal injury or death due to electrical shock, do not tamper with factory wiring. The internal power and control wiring of these units are factory-installed have been thoroughly tested prior to shipment. Contact your local representative if assistance is required.

CAUTION

To prevent damage to the wiring, protect wiring from sharp edges. Follow national electrical code and all local codes and ordinances. Do not route wires through removable access panels.

CAUTION

Conduit and fittings must be weather-tight to prevent water entry into the building or unit.

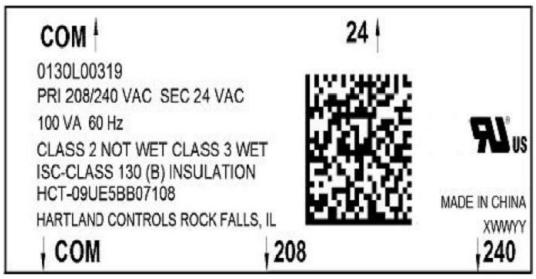
For unit protection, use a fuse or HACR circuit breaker that is in excess of the circuit ampacity, but less than or equal to the maximum overcurrent protection device. DO NOT EXCEED THE MAXIMUM OVERCURRENT DEVICE SIZE SHOWN ON UNIT DATA PLATE.

All line voltage connections must be made through weatherproof fittings. All exterior power supply and ground wiring must be in approved weatherproof conduit.

The main power supply wiring to the unit and low voltage wiring to accessory controls must be done in accordance with these instructions, the latest edition of the National Electrical Code (ANSI/NFPA 70), and all local codes and ordinances.

The main power supply shall be three-phase, three wire with a ground. The unit is factory wired for the voltage shown on the unit's data plate.

NOTE: If supply voltage is 208V, all leads on primary of transformer(s) must be moved from the 240V to the 208V tap.



Main power wiring should be sized for the minimum circuit ampacity shown on the unit's data plate. Size wires in accordance with the ampacity tables in Article 310 of the National Electrical Code. If long wires are required, it may be necessary to increase the wire size to prevent excessive voltage drop. Wires should be sized for a maximum of 3% voltage drop.

CAUTION

To avoid property damage or personal injury due to fire, use only copper conductors.

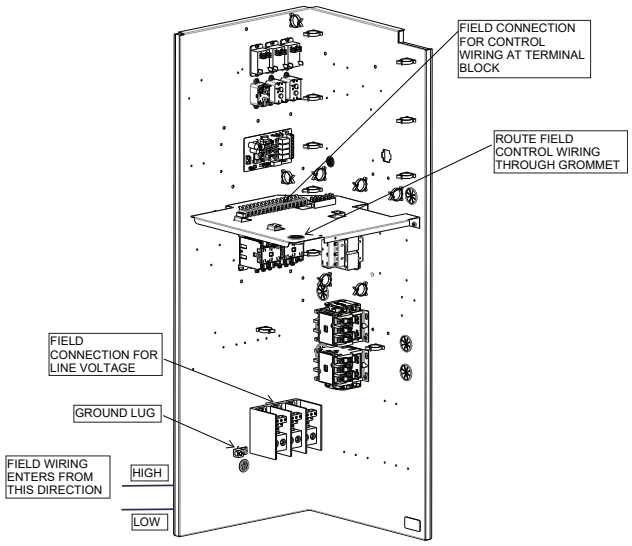
CAUTION

To prevent improper and dangerous operation due to wiring errors, label all wires prior to disconnection when servicing controls. Verify proper operation after servicing.

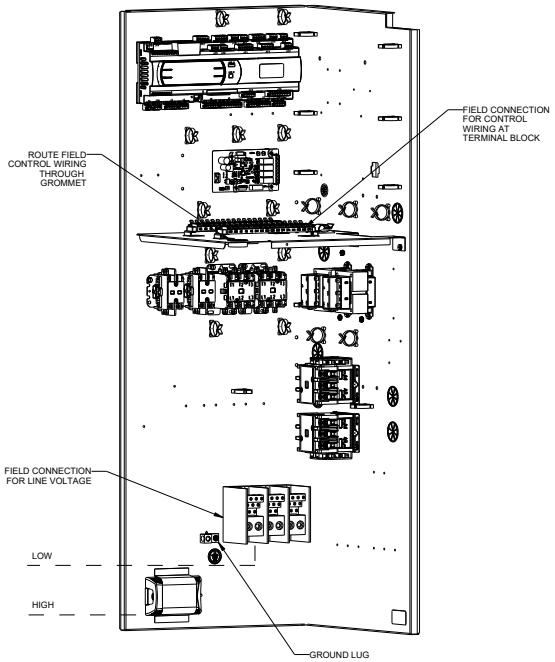
NOTE: A weather-tight disconnect switch, properly sized for the unit total load must be field or factory installed. An external field supplied disconnect may be mounted on the exterior panel. Switch shall be provided to ensure all-pole disconnection from the supply mains.

Ensure the data plate is not covered by the field-supplied disconnect switch.

- Some disconnect switches are not fused. Protect the power leads at the point of distribution in accordance with the unit data plate.
- The unit must be electrically grounded in accordance with local codes or, in the absence of local codes, with the latest edition of the National Electrical Code (ANSI-NFPA 70). A ground lug is provided for this purpose. Size grounding conductor in accordance with Table 250-95 of the National Electrical Code. Do not use the ground lug for connecting a neutral conductor.
- Connect power wiring to the middle contactor within the main control box or power block, if equipped.



15-25 Ton Tstat Power and low Voltage Terminal Locations



15-25 Ton DDC Power and Low Voltage Terminal Locations

NOTE: Depending on the options installed, the location of the components may vary in some models.

WARNING

Failure of unit due to operation on improper line voltage or with excessive phase unbalance constitutes product abuse and is not covered by the warranty. It may cause severe damage to the unit electrical components.

Areas Without Convenience Outlet

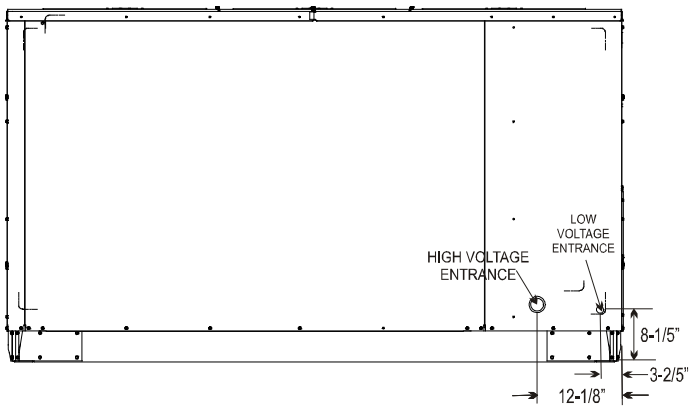
It is recommended that an independent 115V power source be brought to the vicinity of the roof top unit for portable lights and tools used by the service mechanic. Do not Field Install outlets powered off of the unit electrical connections.

NOTE: Refer to local codes for requirements. These outlets can also be factory installed.

Units installed on Roof Tops

Main power and low voltage wiring may enter the unit through the side or through the roof curb. Install conduit connectors at the designated entrance locations. External connectors must be weatherproof. All holes in the unit base must be sealed (including those around conduit nuts) to prevent water leakage into building. All required conduit and fittings are to be field supplied. For wiring and/or gas connections entering through roof curb, the through the base kit would be required (TTBCK03).

Supply voltage to roof top unit must not vary by more than 10% of the value indicated on the unit data plate. Phase voltage unbalance must not exceed 2%. Contact your local power company for correction of improper voltage or phase unbalance.



Electrical Entrance Locations

Unit is equipped with a Low Voltage Terminal Block and has Single Point wiring to the contactor.

Low Voltage Control Wiring

NOTE: For models equipped with the DDC controls option, refer to the supplemental DDC literature supplied with the unit for additional information.

1. A 24V thermostat must be installed for unit operation. It may be purchased with the unit or field-supplied. Thermostats may be programmable or electromechanical as required.
2. Locate thermostat or remote sensor in the conditioned space where it will sense average temperature. Do not locate the device where it may be directly exposed to supply air, sunlight or other sources of heat. Follow installation instructions packaged with the thermostat.
3. Use #18 AWG wire for 24V control wiring runs not exceeding 75 feet. Use #16 AWG wire for 24V control wiring runs not exceeding 125 feet. Use #14 AWG wire for 24V control wiring runs not exceeding 200 feet. Low voltage wiring may be National Electrical Code (NEC) Class 2 where permitted by local codes.
4. Route thermostat wires from sub-base terminals to the unit. Control wiring should enter through the duct panel (dimple marks entrance location) or through the specified through the base connection points through the base pan. Connect thermostat and any accessory wiring to low voltage terminal block TB1 in the main control box.

NOTE: Field-supplied conduit may need to be installed depending on unit/curb configuration. Use #18 AWG solid conductor wire whenever connecting thermostat wires to terminals on sub-base. DO NOT use larger than #18 AWG wire. A transition to #18 AWG wire may be required before entering thermostat sub-base.

NOTE: Refer to unit wiring diagrams for thermostat hookups.

CIRCULATING AIR AND FILTERS

Ductwork

The supply duct from the unit through a wall may be installed without clearance. However, minimum unit clearances must be maintained (see “Clearances” section). The supply duct should be provided with an access panel large enough to inspect the air chamber downstream of the heat exchanger. A cover should be tightly attached to prevent air leaks. False ceilings or drop ceilings may be used as a return air plenum.

NOTE: Adequate return grills have to be supplied for each room for proper return for that space.

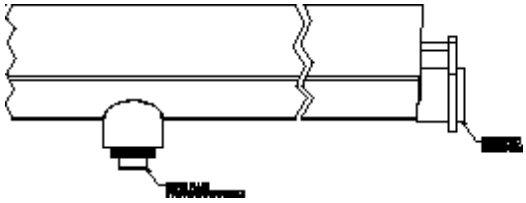
Ductwork dimensions are shown in the roof curb installation manual.

If desired, supply and return duct connections to the unit may be made with flexible connections to reduce possible unit operating sound transmission.

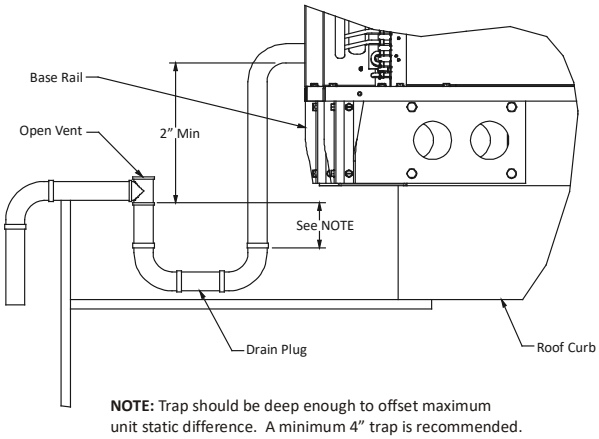
CONDENSATE DRAIN CONNECTION

Condensate Drain Connection

A 1” female NPT drain connection is supplied on the end of the condensate pan, with an alternative connection on the bottom of the pan. An external trap must be installed for proper condensate drainage.



Drain Pan (Side View)



NOTE: Trap should be deep enough to offset maximum unit static difference. A minimum 4” trap is recommended.

Drain Connection

Install condensate drain trap as shown. Use 1” drain line and fittings or larger. Do not operate without trap.

NOTE: All threaded connections should be sealed with a threaded sealer.

Horizontal Drain

Drainage of condensate directly onto the roof may be acceptable; (refer to local code). It is recommended that a small drip pad of either stone, mortar, wood or metal be provided to prevent any possible damage to the roof. When using the horizontal drain connection, check the drain plug in bottom connection to ensure it is tight.

Cleaning

Due to the fact that drain pans in any air conditioning unit will have some moisture in them, algae and fungus will grow due to airborne bacteria and spores. Periodic cleaning is necessary to prevent this build-up from plugging the drain.

STARTUP, ADJUSTMENTS, AND CHECKS

WARNING

HIGH VOLTAGE

To avoid personal injury or death due to electrical shock, bond the frame of this unit to the building electrical ground by use of the grounding terminal provided or other acceptable means. Disconnect all power before servicing or installing this unit.

CAUTION

To prevent property damage or personal injury, Do not start the unit until all necessary pre-checks and tests have been performed.

WARNING

MOVING MACHINERY HAZARD!

To prevent possible personal injury or death, disconnect power to the unit and padlock in the "OFF" position before servicing fans.

Heating Startup

On new installations, or if a major component has been replaced, the operation of the unit must be checked. Check unit operation as outlined in the following instructions. If any sparking, odors, or unusual sounds are encountered, shut off electrical power and recheck for wiring errors, or obstructions in or near the blower motors. The Startup, Adjustments, and Checks procedure provides a step-by-step sequence which, if followed, will assure the proper startup of the equipment in the minimum amount of time. Air balancing of duct system is not considered part of this procedure. However, it is an important phase of any air conditioning system startup and should be performed upon completion of the Startup, Adjustments, and Checks procedure. The Startup, Adjustments, and Checks procedure at outside ambients below 55°F should be limited to a readiness check of the refrigeration system with the required final check and calibration left to be completed when the outside ambient rises above 55°F.

Contractor Responsibility

The installing contractor must be certain that:

- All supply and return air ductwork is in place, properly sealed, and corresponds with installation instructions.
- All thermostats are mounted and wired in accordance with installation instructions.
- All electric power, all gas, and the condensate drain installation have been made to each unit on the job. These main supply lines must be functional and capable of operating all units simultaneously.
- Clean Air filters are in place.

Roof Curb Installation Check

Inspect the roof curb for correct installation. The unit and curb assembly should be level. Inspect the flashing of the roof mounting curb to the roof, especially at the corners, for good workmanship. Also check for leaks around gaskets. Note any deficiencies in a separate report and forward to the contractor.

Obstructions, Fan Clearance and Wiring

Remove any extraneous construction and shipping materials that may be found during this procedure. Rotate all fans manually to check for proper clearances and that they rotate freely. Check for bolts and screws that may have jarred loose during shipment to the job site. Re-tighten if necessary. Re-tighten all electrical connections.

Field Duct Connections

Verify that all duct connections are tight and that there is no air bypass between supply and return.

Filter Section Check

Remove filter section access panels and check that filters are properly installed. Note airflow arrows on filter frames.

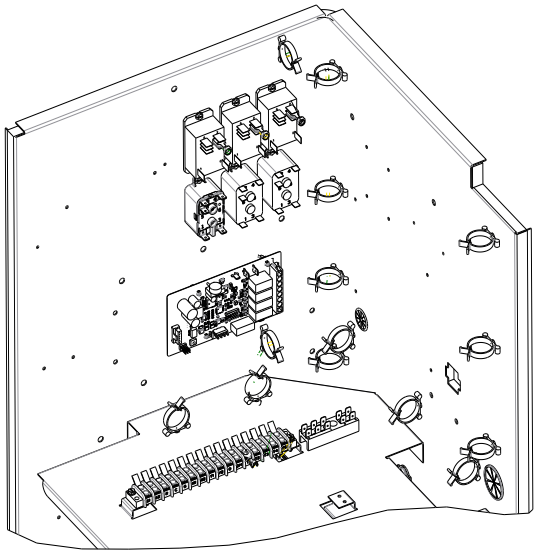
Pre-startup Precautions

It is important to your safety that the unit has been properly grounded during installation. Check ground lug connection in main control box for tightness prior to closing circuit breaker or disconnect switch. Verify that supply voltage on line side of disconnect agrees with voltage on unit identification plate and is within the utilization voltage range as indicated in Appendix C Electrical Data.

System Voltage - That nominal voltage value assigned to a circuit or system for the purpose of designating its voltage class.

Nameplate Voltage - That voltage assigned to a piece of equipment for the purpose of designating its voltage class and for the purpose of defining the minimum and maximum voltage at which the equipment will operate.

Utilization Voltage - The voltage of the line terminals of the equipment at which the equipment must give fully satisfactory performance. Once it is established that supply voltage will be maintained within the utilization range under all system conditions, check and calculate if an unbalanced condition exists between phases. Calculate percent voltage unbalance as follows:



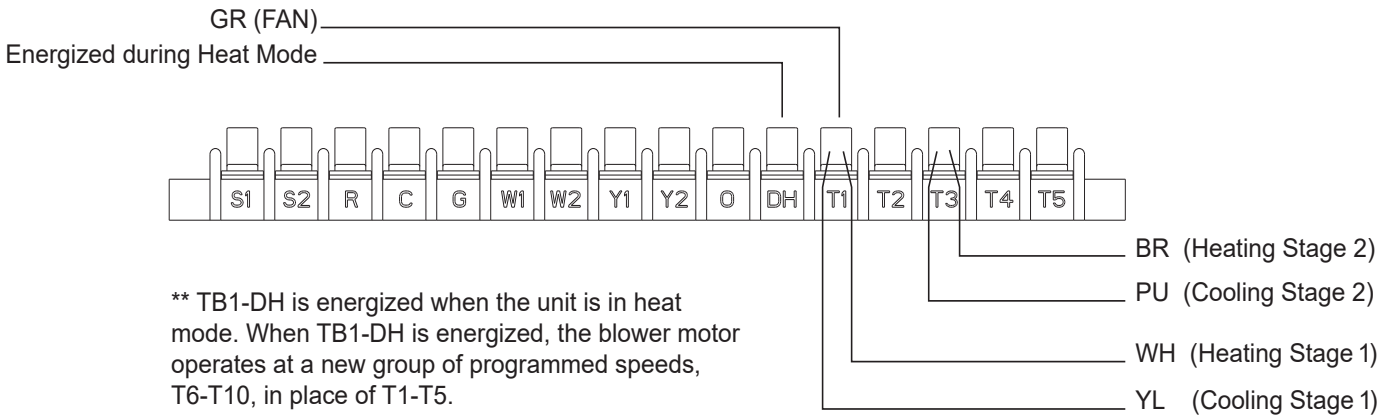
Three Phase Models

$$\text{3) PERCENT VOLTAGE UNBALANCE} = 100 \times \frac{\text{2) MAXIMUM VOLTAGE DEVIATIONS FROM AVERAGE VOLTAGE}}{\text{1) AVERAGE VOLTAGE}}$$

HOW TO USE THE FORMULA:
EXAMPLE: With voltage of 220, 216, and 213
1) Average Voltage = 220+216+213=649 / 3 = 216
2) Maximum Voltage Deviations from Average Voltage = 220 - 216 = 4

3) Percent Voltage Unbalance = $100 \times \frac{4}{216} = \frac{400}{216} = 1.8\%$

Percent voltage unbalance MUST NOT exceed 2%.



** TB1-DH is energized when the unit is in heat mode. When TB1-DH is energized, the blower motor operates at a new group of programmed speeds, T6-T10, in place of T1-T5.

- Move YELLOW (YL) wire from TB1-T1 to T2 to change blower speed during cooling stage 1 operation. (Do not move wires YL and PU to the same taps)
- Move WHITE (WH) wire from TB1-T6 to T7 to change blower speed during heating stage 1 operation. (Do not move wires WH and BR to the same taps)
- Move PURPLE (PU) wire from TB1-T3 to T4 or T5 to change blower speed during cooling stage 2 operation. (Do not move wires YL and PU to the same taps)
- Move BROWN (BR) wire from TB1-T8 to T9 or T10 to change blower speed during heating stage 2 operation. (Do not move wires WH and BR to the same taps)

DSC/DSG OPERATION and WIRE RANGE CHART

DSC/DSG OPERATION							WIRE RANGE									
AC	**G**	**Y1**	**Y2**	**W1**	**W2**	**DH**	**T1**	**T2**	**T3**	**T4**	**T5**	**T6**	**T7**	**T8**	**T9**	**T10**
Fan Only	X						GR									
Cooling Mode LO	X	X					● →									
Cooling Mode HI	X	X	X						● →	→	→					
Heating Mode Lo	X			X								● →	→			
Heating Mode HI	X			X	X									● →	→	→

X= 24V Signal

●——→ = Range of AVAILABLE TAPS

For wire color information and placement, view DSC/DSG Model Wiring

Control Voltage Check

Close the disconnect switch to energize control transformer. check primary and secondary (24V) of control transformer.

AIR FLOW ADJUSTMENTS

When the final adjustments are complete, the current draw of the motor should be checked and compared to the full load current rating of the motor. The amperage must not exceed the service factor stamped on the motor nameplate. The total airflow must not be less than that required for operation of the electric heaters or the furnace.

If an economizer is installed, check the unit operating balance with the economizer at full outside air and at minimum outside air.

NOTE: High Stage Airflow setting below 300 CFM/ Ton is not recommended, as evaporator freezing or poor unit performance is possible.

- The unit has one set of taps for cooling (T1-T5) and a second set of taps for heating (T6-T10). When Heat is called TB1-W1 will also call TB1-DH activating the second set of taps T6-T10.
- If cooling and heating is called at the same time heating will take priority and T6-T10 will be chosen by default.
- Taps T1 and T2 are for low cool operation (cooling stage 1) and Taps T3 to T5 are for high cool operation (cooling stage 2).
- Taps T6 and T7 are for low heat operation (heating stage 1) and taps T8 to T10 are for high heat operation (heating stage 2).

Taps are selected by changing the position of the low voltage leads on the terminal block TB1. Refer to Appendix A for blower performance at each speed tap.

Fan speed for G (GR) is fixed at TB1-T1 and cannot be moved.

NOTE: Refer Appendix A on page 22 for Airflow tables.

Low Cool Y1, Yellow (YL) is movable and set to TB1-T1.
Low Heat W1, White (WH) is movable and set to TB1-T6.
High Cool Y2, Purple (PU) is movable and set to TB1-T3.
High Heat W2, Brown (BR) is movable and set to TB1-T8.

These wires can be moved together or separately and placed on any unoccupied terminal.

NOTE: YL can be moved to tap T3 as long as YL does not share the tap with PU. WH can be moved to tap T7 as long as WH does not share the tap with BR.

If high cool operation is set at Tap T4 or T5, low cool operation must be set at T2.

If high heat operation is set at T9 or T10, low heat operation must be set at T7.

NOTE: On units with DDC controls installed, air flow adjustments are made through settings in the DDC controller and speed tap adjustments are not required. Refer to the DDC User Manual for details on making airflow adjustments. Individual settings are available for Fan Only, Low Stage Cooling, High Stage Cooling, Low Stage Heating, and High Stage Heating which can be adjusted as needed to meet airflow requirements.

Electrical Input Check

Make preliminary check of evaporator fan ampere draw and verify that motor nameplate amps are not exceeded. A final check of amp draw should be made upon completion of air balancing of the duct system (see Appendix B).

Refrigeration System

The unit is equipped with a thermal expansion valve as a metering device.

Make sure the TXV bulb is clamped tight to the suction line exiting the evaporator coil. Ensure the hold-down bolts on the compressor are secure and have not vibrated loose during shipment. Check that vibration grommets have been installed. Visually check all piping for damage and leaks; repair if necessary. The entire system has been factory charged and tested, making it unnecessary to field charge. Factory charges are shown on the unit's nameplate. To confirm charge levels or, if a leak occurs and charge needs to be added to the system, it is recommended to evacuate the system and recharge refrigerant to unit nameplate specifications. This unit has been rated in the cooling mode at the AHRI rated conditions of: Indoor (80°db / 67°wb) and outdoor (95°db).

While operating at this condition, the superheat and subcool for each circuit for each unit should fall within the values listed in the table below. The superheat is measured at the suction service port located near the compressor. The subcool is measured at the liquid line service port.

SUPERHEAT AND SUBCOOLING

Checking Subcooling

NOTE: Units with a TXV should be charged to Subcooling only. Make sure the air flow is correct before making any adjustments.

EXAMPLE:

a. Liquid Line Pressure = 417 PSI
b. Corresponding Temp. = 120°F
c. Thermometer on Liquid line = 109°F.

To obtain the amount of subcooling, subtract 109°F from 120°F. The difference is 11° subcooling. See the specification sheet or technical information manual for the design subcooling range for your unit.

SUBCOOLING FORMULA = SATURATED LIQUID LINE TEMPERATURE - LIQUID LINE TEMPERATURE

Checking Superheat

EXAMPLE:

a. Suction Pressure = 143 PSI
b. Corresponding Temp. = 50°F
c. Thermometer on Suction Line = 59°F

To obtain the degrees temperature of superheat, subtract 50.0 from 59.0°F. The difference is 9° Superheat. The 9° Superheat would fall in the ± range of allowable superheat.

SUPERHEAT = SUCTION LINE TEMP - SAT. SUCTION TEMP.

Superheat Adjustment

NOTE: Superheat adjustments should not be made until indoor ambient conditions have stabilized and airflow verified. This could take up to 24 hours depending on indoor temperature and humidity. Before checking superheat, run the unit in cooling for 15-20 minutes or until refrigerant pressures stabilize. Use the following guidelines and methods to check unit operation and ensure that the refrigerant charge is within limits.

For TXV systems, to adjust superheat, unscrew the cover from the expansion valve, locate the adjustment screw, and turn it clockwise (in) to increase superheat or counterclockwise (out) to decrease superheat. It is recommended to make small adjustments at a time, 1/8-1/4 turn increments. Replace adjustment cap. Wait a minimum of 15 minutes between adjustments to allow time for the TXV and pressures to stabilize.

Refrigerant Charge Check

NOTE: For optimal performance, follow charging instructions below.

Units with Expansion valve (TXV)

Single Stage Cooling Application: Refer to the Design Superheat & Subcooling table.

Two-Stage Cooling Application: Run unit on Low Stage cooling and refer to Design Superheat & Subcooling table.

1. Purge gauge lines. Connect service gauge manifold to access fittings. Run system at least 10 minutes to allow pressure to stabilize.
2. Temporarily install thermometer on liquid (small) line near liquid line access fitting with adequate contact and insulate for best possible reading.
3. Check subcooling and superheat. System should have a subcooling and superheat within the range listed on the Design Superheat and Subcooling table.
   a. If subcooling and superheat are low, adjust TXV superheat, then check subcooling.
      NOTE: To adjust superheat, turn the valve stem clockwise to increase and counterclockwise to decrease. If an under charge is suspected, recover the charge, re-evacuate the system and recharge per data plate. No adjustments should be made if suspecting a charge issue.
   b. If subcooling is low and superheat is high, add charge to raise subcooling then check superheat.
   c. If subcooling and superheat are high, adjust TXV valve superheat, then check subcooling.
   d. If subcooling is high and superheat is low, adjust TXV valve superheat and remove charge to lower the subcooling.
      NOTE: Do NOT adjust the charge based on suction pressure unless there is a gross undercharge. If an under charge is suspected recover the charge, re-evacuate the system and recharge per data plate. No adjustments should be made if suspecting a charge issue.
4. Disconnect manifold set, installation is complete.

Design Superheat & Subcooling

Model	Circuit	Superheat ± 2°F	Subcooling ± 1°F	Expansion Device	Outdoor Ambient (°F)
DSC180	1	9	14	TXV	95
DSC180	2	9	13	TXV	95
DSC240	1	11	10	TXV	95
DSC240	2	9	11	TXV	95
DSC300	1	12	13	TXV	95
DSC300	2	11	8	TXV	95

NORMAL SEQUENCE OF OPERATION - COOLING

Refrigeration Sequence Check

With the disconnect switch open, remove the field connected thermostat wire from terminal R on TB1 terminal block. Place a jumper across terminals R and G, and across R and Y on TB1 terminal block. Close the disconnect switch. The following operational sequence should be observed.

1. Current through primary winding of transformer TRANS1 energizes the 24-volt control circuit.
2. To simulate a mechanical call for cooling from the wall thermostat, place a jumper across terminals R and Y1 of terminal block TB1.
3. **UNIT WITH ECONOMIZER OPTION:** The compressor circuit is interlocked through terminals 3 and 4 of the economizer module. If the outdoor air enthalpy (temperature and humidity) is not suitable for cooling, the economizer terminals will be closed permitting compressor to be energized.
4. The blower contactor closes its contacts L1, L2 and L3 to T1, T2 and T3 to provide power to the supply fan motor.

5. Compressor contactor closes its contacts L1, L2 and L3 to T1, T2 and T3 to provide power to the compressor motor COMP 1; COMP 2, if conditions are correct. In addition, contactor C1 closes its contact L3 to T3, energizing the condenser fan motor.

WARNING

BURN HAZARD!
DO NOT TOUCH! DISCHARGE LINE MAY BE HOT!

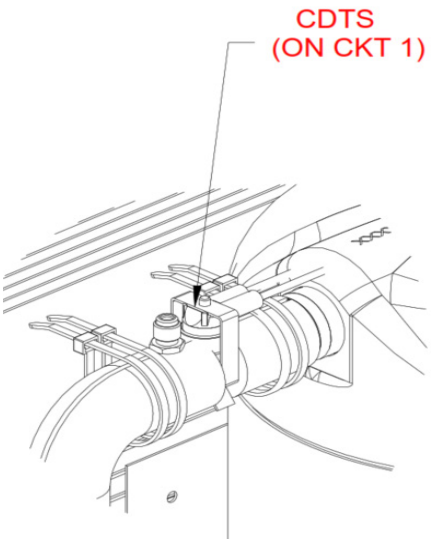
6. Check that each compressor is operating correctly. The scroll compressors in these units MUST operate in the proper rotation. To ensure the compressors are operating in the correct direction, check the compressor discharge line pressure or temperature after each compressor is started.
   The discharge pressure and discharge line temperature should increase. If this does not occur and the compressor is producing an exceptional amount of noise, perform the following checks.
   - Ensure all compressors are operating in the proper direction. If a single motor is operating backwards, check the power wiring for that motor and correct any leads that have been interchanged at the contactor or at the motor.
7. With all safety devices closed, the system will continue cooling operation until the thermostat is satisfied.
8. Disconnecting the jumper wire between R and Y1 and Y2 and between R and G on TB1 terminal block will simulate a satisfied thermostat. The compressors will cycle off and IIC (pin 12) will initiate its time delay cycle. The compressor and the supply fan will cycle off.
9. After a time delay of approximately 3 minutes, the compressor control circuits will be ready to respond to a subsequent call for cooling from the wall thermostat.
10. Open disconnect switch. Reconnect the field thermostat wire at terminal R on terminal block TB1.

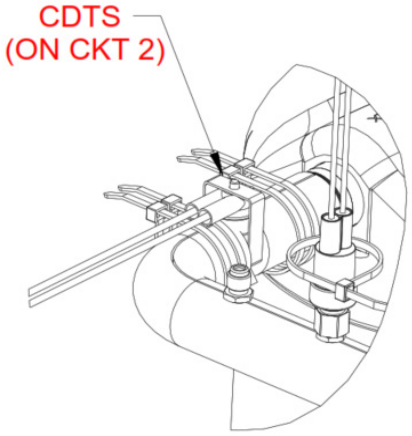
COMPRESSOR DISCHARGE TEMPERATURE SWITCH (CDTS) (USED ON 20 TON & 25 TON UNIT ONLY)

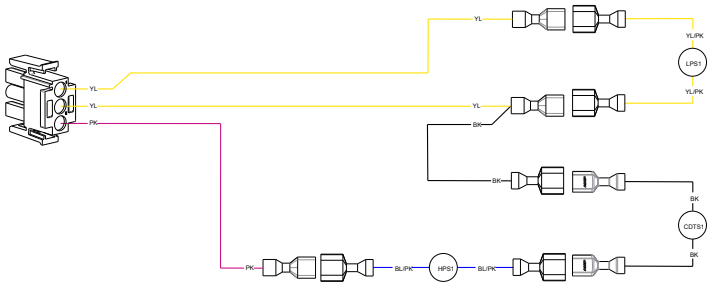
Compressor Discharge Temperature Switch (CDTS) is a thermostatic switch located on the discharge line which turns off the compressor if the temperature of hot gas is 275°F or greater.

The CDTS is located on each compressor's discharge line within 6 inches of the discharge line braze joint. Discharge temperature switch must not be moved from its factory installed location or electrically disconnected.

OPERATING TEMPERATURE:	
OPEN:	126.7 / 137.8 DEG.C 260.0 / 280.0 DEG.F
CLOSE:	76.7 / 98.9 DEG.C 170.0 / 210.0 DEG.F







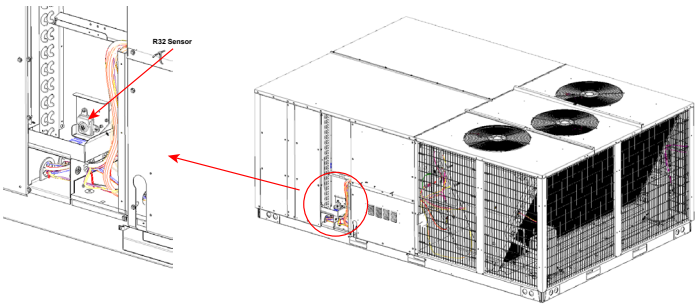
REFRIGERATION DETECTION SYSTEM (RDS)

RDS Function

The mitigation system is a stationary device that detects the presence of R-32 refrigerant above 25% LFL using refrigerant sensors and then initiates mitigation actions. The mitigation system's primary function is to reduce the concentration of leaked R-32 refrigerant to prevent serious safety hazards. The mitigation actions are accomplished by halting HVAC operation and continuing indoor blower operation to provide airflow. Once refrigerant concentration reaches below a safe threshold, the unit will remain in mitigation mode for five minutes to evacuate any remaining R-32 refrigerant within the unit. Upon completion, the unit will resume its normal operation.

RDS Operation

During operation, the mitigation system is controlled by a refrigerant sensor(s), which is secured to a designated location(s) for active monitoring. Throughout this period, the HVAC operation stops, and the indoor blower fan remains on providing airflow at or above Qmin to evacuate excess concentration. If the unit has a zone damper(s), all zones will open automatically, as part of the mitigation mode, to provide ventilation throughout all ducting. If the unit is installed with a communicating thermostat, the thermostat will display relevant alerts/information concerning mitigation mode. Once sensors read concentration levels below a safe threshold, a five-minute timer will initiate. Once the time is over, the unit will resume back to its normal operation. If the sensors detect another concentration excess, the unit will go back into mitigation mode and will repeat the same process.



MAINTENANCE

WARNING

ELECTRICAL SHOCK, FIRE OR EXPLOSION HAZARD

Failure to follow safety warnings exactly could result in dangerous operation, serious injury, death or property damage.

Improper servicing could result in dangerous operation, serious injury, death or property damage.

- Before servicing, disconnect all electrical power to furnace.
- When servicing controls, label all wires prior to disconnecting. Reconnect wires correctly.
- Verify proper operation after servicing.

WARNING

HIGH VOLTAGE

Disconnect all power before servicing this unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury or death.

WARNING

To prevent personal injury or death due to improper installation, adjustment, alteration, service or maintenance, refer to this manual. For additional assistance or information, consult a qualified installer, service agency or the gas supplier.

CAUTION

Sheet metal parts, screws, clips and similar items inherently have sharp edges, and it is necessary that the installer and service personnel exercise caution.

Preventive maintenance is the best way to avoid unnecessary expense and inconvenience. Have this system inspected at regular intervals by qualified service personnel, at least twice a year. Routine maintenance should cover the following items:

1. Tighten set screws, and wire connections.
2. Clean evaporator mechanically or with cold water, if necessary. Usually any fouling is only matted on the entering air face of the coil and can be removed by brushing.
3. Replace filters as needed (see below).
4. Check for blockage of condensate drain.
5. Check power and control voltages.
6. Check running amperage.
7. Check operating temperatures and pressures.
8. Check and adjust temperature and pressure controls.
9. Check and adjust damper linkages.
10. Check operation of all safety controls.
11. Examine gas furnaces (see below and the User's Information Manual).
12. Check condenser fans and tighten set screws.

Filters

CAUTION

To prevent property damage due to fire and loss of equipment efficiency or equipment damage due to dust and lint build up on internal parts, never operate unit without an air filter installed in the return air system.

Every application may require a different frequency of replacement of dirty filters. Filters must be replaced at least every three (3) months during operating seasons.

Dirty filters are the most common cause of inadequate heating or cooling performance. Filter inspection should be made at least every two months; more often if necessary because of local conditions and usage. Dirty throwaway filters should be discarded and replaced with a new, clean filter.

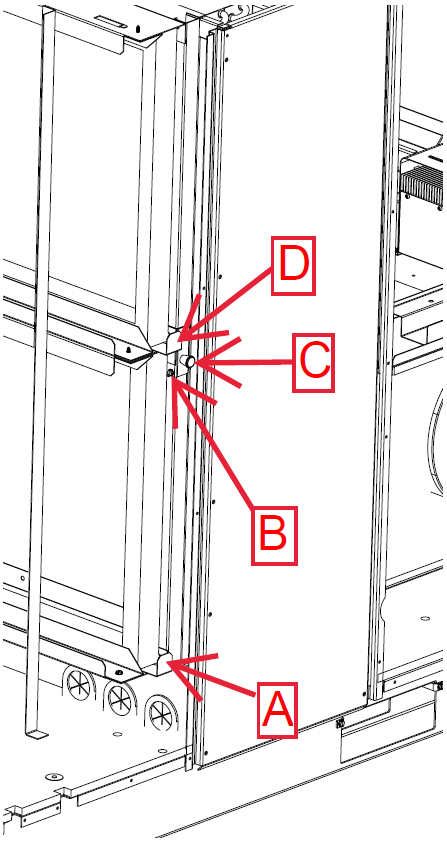
Disposable return air filters are supplied with this unit. See the unit Specification Sheet or Technical Manual for the correct size and part number. To remove the filters, remove the filter access panel on return side of the unit.

Removing old Air Filters:

Always remove the filters on the bottom first and then the top ones. Following are the steps to remove the air filters:
Step 1: Pull the part marked as 'A' horizontally, as it slides out, start removing air filters one by one.
Step 2: Remove the screw marked as 'B'
Step 3: Pull the part marked as 'C'. This will allow the sliding part to slide down by an inch. Once it slides down by an inch, pull the strap and remove all filters one by one.

Replacing with new filters:

Follow the above steps in reverse order. First install the top filters and then the bottom filters.
Step 1: With strap 'D' pulled, add filters one by one (Qty 4) on the top and push the strap marked as 'D'.
Step 2: Pull the part marked as 'C' and at the same time keeping it pulled position, push it upwards until it aligns with the screw hole marked as 'B' and release the pull. Install screw at the location 'B' to lock the movement.
Step 3: Pull strap marked as 'A' by 1 to 2 inch and add filters at the bottom slots one by one and push the strap back.



Cabinet Finish Maintenance

Use a fine grade automotive wax on the cabinet finish to maintain the finish's original high luster. This is especially important in installations with extended periods of direct sunlight.

Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.
When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used are designated for the recovered refrigerant and labeled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of the flammable refrigerant. If in doubt, the manufacturer should be consulted. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition.

The recovered refrigerant shall be processed according to local legislation in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The compressor body shall not be heated by an open flame or other ignition sources to accelerate this process. When oil is drained from a system, it shall be carried out safely.

Charging Procedures

In addition to conventional charging procedures, the following requirements shall be followed.

- Ensure that contamination of different refrigerants does not occur when using charging equipment.
- Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
- Cylinders shall be kept in an appropriate position according to the instructions.
- Ensure that the REFRIGERATING SYSTEM is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the REFRIGERATING SYSTEM.
- Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

Clean Indoor Coil (Qualified Servicer Only)

Before cleaning the indoor coil, A2L sensor must be removed from the unit to avoid damage and contamination. Air filters should also be removed before performing maintenance. The coil with the filtered air flowing over it should be inspected and cleaned as frequently as necessary to keep the finned areas free of debris. Any air blowing or water rinsing should be performed from inside-out (opposite operating airflow direction) to prevent damage to the tube, fin coil and any other components. Prior to resuming unit operation, ensure to reinstall the A2L sensor.

Clean Outside Coil

The coil with the outside air flowing over it should be inspected annually and cleaned as frequently as necessary to keep the finned areas free of lint, hair and debris. **NOTE:** Clean the opposite direction of air flow.

Maintenance of MicroChannel Heat Exchangers (MCHE)

Frequent servicing is essential to maintaining the required MCHE performance. For every installed Danfoss MCHE, service records must be documented.

CAUTION

Prior to servicing MCHE, be sure to disconnect the power supply and use lock-out methods to prevent the power from accidentally being turned on.

Shut Down Periods

During periods when the MCHE is not operated for longer than a week, the MCHE must be completely cleaned following the cleaning procedure. This practice must also be performed during short shut-down periods where corrosive deposits accumulate on the MCHE.

Cleaning Procedure

Relative to tube & fin heat exchangers, MicroChannel heat exchanger coils tend to accumulate more dirt on the surface of the coil and less dirt inside the coil, making them easier to clean. Follow the steps below for proper cleaning:

STEP 1: Remove Surface Debris

Remove surface dirt, leaves, fibers, etc. with a vacuum cleaner (preferably with a brush or other soft attachment rather than a metal tube), compressed air blown from the inside out, and/or a soft bristle (not wire!) brush. Do not impact or scrape the coil with the vacuum tube, air nozzle, etc.

STEP 2: Rinse

Rinse the coil by following procedure:

1. Rinse the coil by approved MCHE cleaner first, or rinsing by water directly;
2. Waiting for 5 minutes;
3. Wash the coil by water;
   Adjust the angle of gimbaled nozzle and insert it through fans. Using an extension rod if the nozzle cannot reach the bottom side. Preferably cleaning the coils from the inside-out and top to bottom (see figure 1), running the water through every fin passage until it comes out clean. The fins of MicroChannel coils are stronger than traditional tube & fin coil fins but still need to be handled with care. Do not hit the coil with the hose. We recommend placing your thumb over the end of the hose to obtain a gentler spray and reduce the possibility of impact damage. Please PAY MORE ATTENTION when using a pressure cleaning equipment to prevent damage.

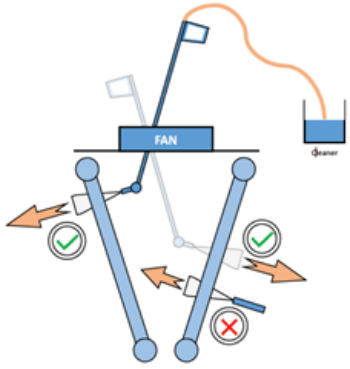


Figure 1

Highest pressure of cleaning equipment shall not exceed 15 bar, and tentatively move the cleaning equipment from far to near to prevent damage.

- KEEP the outlet of washer away from coil for at least 4in (see figure 2);
- KEEP the water gun perpendicular to the coil surface and the angle error shall less than 20°, or ±40° if the distance from washer to coil is more than 12in (see figure 2);
- Water outlet angle for high pressure cleaning equipment shall over 15° (see figure 3).

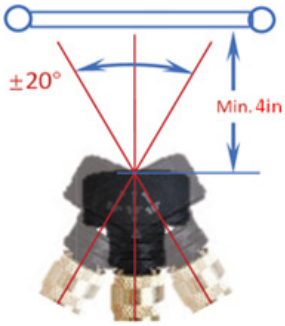


FIGURE 2

FIGURE 3

Warranty claims related to cleaning damage, especially for incorrect pressure washing operation, or corrosion resulting from applying non-recommended cleaners, will NOT be honored.

STEP 3: REMOVE SURFACE DEBRIS

Depending on the installation and fin geometry, MicroChannel heat exchangers could possibly retain more water compared to traditional tube & fin coils. It is advised to blow off or vacuum out the residual water from the coil to speed up drying and prevent pooling. Daikin recommends a quarterly cleaning of the coils, as the minimum. The cleaning frequency should be increased depending on the level of dirt/dust accumulation and the environment (e.g., coastal areas with chlorides and salts) or industrial areas with aggressive substances.

WARNING

FIELD APPLIED COATINGS ARE NOT RECOMMENDED FOR BRAZED ALUMINUM MICROCHANNEL HEAT EXCHANGERS. MICROCHANNEL HEAT EXCHANGERS MUST NOT BE COATED USING ANY OTHER COATING. COATING OF A COIL USING A SUPPLIER OR COATING PROCESS IS NOT APPROVED. IT MAY ALSO REDUCE THE LIFETIME AND/OR THE PERFORMANCE OF THE MICROCHANNEL HEAT EXCHANGER.

CONDENSER FANS

Bearings on the condenser fan motors are permanently lubricated. No additional oiling is required.

FUNCTIONAL PARTS

Refer to the unit Parts Catalog for a list of functional parts. Parts are available from your distributor.

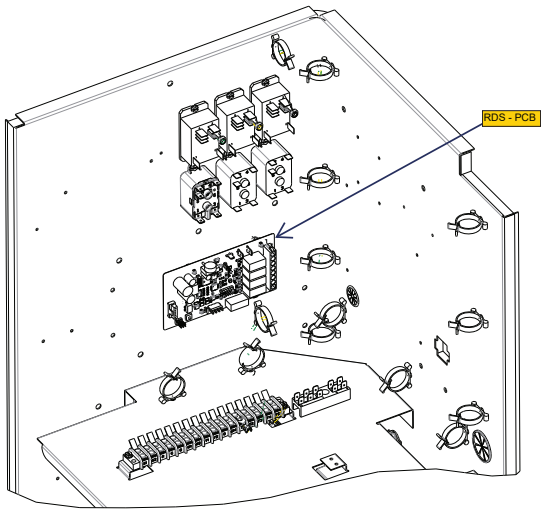
RDS

Servicing measures for the REFRIGERANT DETECTION SYSTEM:

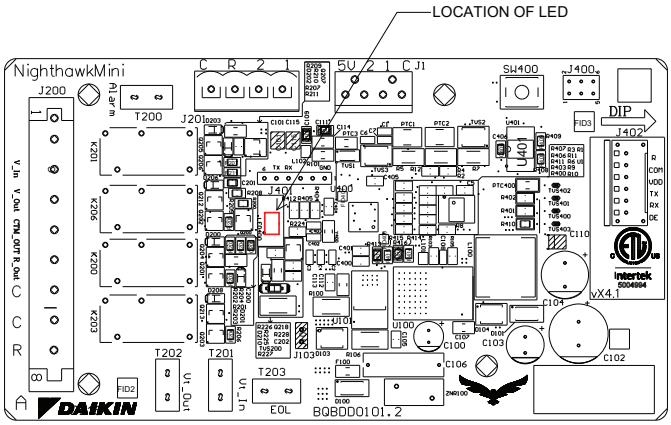
Before servicing, identify the mode of operation of the system by reading the LED flashing pattern on the PCB within the control box and matching the LED flashing pattern with mode of operation in the A2L PCB fault code table on the wiring diagram which is attached on the back side of the control box panel. After identifying the mode of operation, take recommended actions as specified in the recommended action for PCB LED Flashing Codes Table . REFRIGERANT SENSORS for REFRIGERANT DETECTION SYSTEMS shall only be replaced with sensors specified by the manufacturer.

LED STATUS	
MODE	**LED FLASHING PATTERN**
NORMAL OPERATION	SLOW LED FLASHING PATTERN (2 SECONDS ON 2 SECONDS OFF)
R-32 LEAK ALARM	FAST LED FLASHING PATTERN
DELAY MODE	LED WILL BE ON CONTINUOUSLY
SYSTEM VERIFICATION MODE	FAST LED FLASHING PATTERN
CONTROL BOARD INTERNAL FAULT	LED WILL FLASH 2 TIMES AND THEN BE OFF FOR 5 SECONDS
R32 SENSOR COMMUNICATION FAULT	LED WILL FLASH 3 TIMES AND THEN BE OFF FOR 5 SECONDS
R32 SENSOR FAULT	LED WILL FLASH 4 TIMES AND THEN BE OFF FOR 5 SECONDS

RDS PCB FAULT CODE TABLE



RDS PCB



PCB LED

RECOMMENDED ACTION FOR RDS PCB LED FLASHING CODES

LED TROUBLESHOOT STATUS					
	MODE	**DEFINITION**	**LED FLASHING PATTERN**	**RECOMMENDED ACTIONS**	**NOTES**
1	Normal Operation	No faults to report.	Slow LED flashing pattern (2 seconds on and 2 seconds off)	No actions needed.	
2	R32 Leak Alarm	R32 leak is currently being detected.	Fast LED Flashing Pattern	A technician will need to find where the refrigerant leak and address it. Unit shall be thawed before servicing.	In terms of the controls, no action is needed. The controls and sensor are working fine.
3	Delay Mode	After R32 leak or alarm has been cleared, the unit will remain in alarm mode for 5 minutes before returning to normal operation.	LED will be on continuously	No action needed - If the system was previously experiencing an actual R32 Leak, the refrigerant can no longer be detected by the sensor meaning it's either gone and the system won't work anymore or there was a false alarm. If the system was experiencing a Fault, the fault is gone and the system will return to normal operation in 5 min.	After any alarm or fault, it is required to remain in R32 mitigation mode for 5 minutes.
4	System Verification Mode	Manual test run by contractor to simulate R32 Leak Alarm (test will last for 5 minutes max).	Fast LED Flashing Pattern	No actions needed.	To enter system verification test mode, press the button on the control 2 times within 5 seconds. The control will enter a simulated R32 Leak Alarm state and remain in that mode for 5 minutes. After 5 minutes, the control will return to Normal Operation automatically. If the contractor wants to end the test early they need to press the button one time.
5	Control Board Internal Fault	Control board has detected an issue with the R32 detection system.	LED will flash 2 times and then be off for 5 seconds, before repeating pattern	1) Unplug and plug the R32 sensor back in. Cycle power to the system. 2) If the control is in "Normal Operation" or "Delay Mode", there is no more issue. If not, continue with diagnostics 3) Unplug R32 sensor and leave unplugged. Cycle power to the system 4) If the control still displays "Control Board Internal Fault" (2 flash pattern), replace the control. If the control now displays "R32 Sensor Communication Fault" (3 flash pattern), replace the sensor.	This error could indicate an on board relay failure or a short with the sensor communications. A sensor communication short could occur on the board itself or external to the board. These steps will determine if the error is on the board or external to the board.
6	R32 Sensor Communication Fault	Control board does not have communications with R32 sensor.	LED will flash 3 times and then be off for 5 seconds, before repeating pattern	1) Unplug and plug the R32 sensor back in. Cycle power to the system. 2) If control is in "Normal Operation" or "Delay Mode", there is no more issue. If not, continue with diagnostics. 3) If the control still displays "R32 Sensor Communication Fault" (3 flash pattern), replace both the sensor and the PCB.	If the control cannot talk to the sensor there could be a problem with the sensor, a problem with the sensor harness or a problem internal to the control. The field will not be able to measure anything to reliably fix this error assuming the connector is properly secured to the control. Replacing both is the only option.
7	R32 Sensor Fault	R32 Sensor has reported an internal issue.	LED will flash 4 times and then be off for 5 seconds, before repeating pattern	Replace R32 sensor.	Communications to the sensor are perfectly fine. The sensor itself is reporting an internal fault.

NOTE: FOR DECOMMISSIONING, PLEASE SEE DECOMMISSIONING SECTION IN SERVICE MANUAL.

APPENDIX A BLOWER PERFORMANCE DATA
DIRECT DRIVE - STANDARD

DSC180D - STD STATIC						
SPEED Tap	Static	AIR FLOW	RPM 1	RPM 2	BHP1	BHP2
T1	0.2	2489	442	436	0.17	0.17
	0.4	1540	561	560	0.21	0.21
	0.6	1029	619	620	0.24	0.24
	0.8	492	678	677	0.26	0.26
	1.0	-	-	-	-	-
	1.2	-	-	-	-	-
T2	0.2	4085	494	499	0.34	0.35
	0.4	3417	619	583	0.43	0.41
	0.6	2773	680	683	0.47	0.48
	0.8	1974	752	750	0.52	0.52
	1.0	1492	797	795	0.55	0.55
	1.2	1243	844	841	0.59	0.59
T3	0.2	4888	533	540	0.49	0.50
	0.4	4424	609	619	0.56	0.57
	0.6	3767	721	685	0.66	0.63
	0.8	3225	772	773	0.71	0.71
	1.0	2608	837	833	0.77	0.76
	1.2	2005	886	883	0.81	0.81
T4	0.2	7235	661	674	1.24	1.27
	0.4	6874	729	738	1.37	1.39
	0.6	6579	788	797	1.48	1.50
	0.8	6301	835	846	1.57	1.59
	1.0	6023	881	895	1.65	1.68
	1.2	5436	986	940	1.85	1.77
T5	0.2	8207	665	678	1.34	1.37
	0.4	7783	737	747	1.49	1.51
	0.6	7436	793	802	1.60	1.62
	0.8	7098	845	857	1.70	1.73
	1.0	6725	896	909	1.81	1.83
	1.2	6023	1002	956	2.02	1.93
T6	0.2	6824	633	644	1.04	1.06
	0.4	6489	700	710	1.15	1.16
	0.6	6119	758	767	1.24	1.26
	0.8	5803	809	820	1.33	1.35
	1.0	5187	916	869	1.50	1.43
	1.2	4817	964	926	1.58	1.52
T7	0.2	7041	640	653	1.10	1.13
	0.4	6682	709	719	1.22	1.24
	0.6	6354	768	777	1.33	1.34
	0.8	6035	819	830	1.41	1.43
	1.0	5470	917	879	1.58	1.52
	1.2	5111	971	925	1.68	1.60
T8	0.2	7291	650	663	1.19	1.21
	0.4	6936	719	728	1.32	1.33
	0.6	6604	778	786	1.42	1.44
	0.8	6311	828	840	1.51	1.54
	1.0	5998	877	890	1.60	1.63
	1.2	5388	980	935	1.79	1.71
T9	0.2	7399	656	669	1.23	1.26
	0.4	7019	725	734	1.36	1.38
	0.6	7138	800	815	1.50	1.53
	0.8	6826	843	851	1.59	1.60
	1.0	6501	888	888	1.67	1.67
	1.2	6149	942	928	1.77	1.74
T10	0.2	7700	719	739	1.39	1.42
	0.4	7502	764	782	1.47	1.51
	0.6	7247	805	821	1.55	1.58
	0.8	6941	848	857	1.63	1.65
	1.0	6620	892	893	1.72	1.72
	1.2	6275	946	932	1.82	1.80

DSC240D- STD STATIC						
SPEED TAP	Static	AIR FLOW	RPM 1	RPM 2	BHP1	BHP2
T1	0.2	4329	529	538	0.30	0.31
	0.4	3748	613	632	0.35	0.36
	0.6	3175	698	713	0.40	0.41
	0.8	2598	765	776	0.44	0.45
	1	1961	826	824	0.48	0.47
	1.2	1581	861	858	0.50	0.49
T2	0.2	6131	630	641	0.66	0.67
	0.4	5728	698	709	0.73	0.75
	0.6	5383	751	766	0.79	0.81
	0.8	4875	824	839	0.87	0.88
	1	4430	881	903	0.93	0.95
	1.2	4032	933	953	0.98	1.00
T3	0.2	7378	770	720	1.14	1.07
	0.4	7012	770	779	1.14	1.15
	0.6	6713	819	832	1.21	1.23
	0.8	6434	862	879	1.28	1.30
	1	6147	907	928	1.34	1.37
	1.2	5641	968	994	1.43	1.47
T4	0.2	9035	831	853	2.04	2.09
	0.4	8705	885	905	2.17	2.22
	0.6	8441	931	949	2.28	2.33
	0.8	8214	972	986	2.38	2.42
	1	8010	1008	1024	2.47	2.51
	1.2	7817	1037	1057	2.54	2.59
T5	0.2	9243	853	876	2.19	2.25
	0.4	8881	909	928	2.33	2.38
	0.6	8628	954	971	2.45	2.49
	0.8	8428	991	1006	2.54	2.58
	1	8219	1027	1042	2.64	2.68
	1.2	8010	1058	1077	2.72	2.76
T6	0.2	8648	779	797	1.53	1.56
	0.4	8257	839	853	1.64	1.67
	0.6	7965	884	897	1.73	1.76
	0.8	7705	928	943	1.82	1.85
	1	7445	966	984	1.89	1.93
	1.2	7209	1002	1024	1.96	2.01
T7	0.2	9025	801	820	1.71	1.75
	0.4	8641	862	877	1.84	1.87
	0.6	8368	908	921	1.94	1.97
	0.8	8107	952	965	2.03	2.06
	1	7863	986	1003	2.10	2.14
	1.2	7616	1023	1043	2.18	2.23
T8	0.2	9429	837	846	1.94	1.96
	0.4	9073	885	900	2.05	2.09
	0.6	8768	931	945	2.16	2.19
	0.8	8508	972	987	2.26	2.29
	1	8261	1007	1024	2.34	2.38
	1.2	8052	1043	1064	2.42	2.47
T9	0.2	9997	863	886	2.26	2.32
	0.4	9632	919	940	2.40	2.46
	0.6	9340	967	985	2.53	2.57
	0.8	9089	1009	1024	2.64	2.68
	1	8863	1047	1063	2.74	2.78
	1.2	8649	1077	1098	2.81	2.87
T10	0.2	10340	881	905	2.45	2.52
	0.4	9935	939	958	2.61	2.66
	0.6	9652	986	1003	2.74	2.79
	0.8	9429	1024	1039	2.85	2.89
	1	9195	1061	1077	2.95	2.99
	1.2	8961	1093	1112	3.04	3.09

NOTES:

If high static fan is needed it should be ordered as factory installed.
Air flow tables represent dry coil with filters installed; SCFM correction factor for wet coil is 4%.
Refer to the 'Airflow Adjustment' section on page 15 for airflow adjustments.
Measured at standard conditions of 29.92 mm Hg pressure and 68°F temperature.

APPENDIX A BLOWER PERFORMANCE DATA
DIRECT DRIVE - STANDARD

DSC300D STD STATIC						
Speed Tap	Static	Airflow	RPM 1	RPM 2	BHP 1	BHP 2
T1	0.2	5677	764	679	0.75	0.67
	0.4	5447	804	725	0.79	0.71
	0.6	5218	844	773	0.83	0.76
	0.8	4937	883	822	0.87	0.81
	1	4689	923	867	0.91	0.85
	1.2	4376	963	914	0.95	0.90
T2	0.2	6841	842	753	1.14	1.02
	0.4	6594	790	874	1.07	1.19
	0.6	6555	802	881	1.09	1.20
	0.8	6377	907	836	1.23	1.13
	1	6174	941	872	1.28	1.18
	1.2	5651	1007	959	1.37	1.30
T3	0.2	7993	996	879	1.78	1.57
	0.4	7824	1024	913	1.83	1.63
	0.6	7646	1052	946	1.88	1.69
	0.8	7489	1079	976	1.92	1.74
	1	7307	1104	1007	1.97	1.80
	1.2	7131	1133	1043	2.02	1.86
T4	0.2	10787	1065	993	3.14	2.92
	0.4	10524	1091	1020	3.21	3.01
	0.6	10331	1120	1040	3.30	3.07
	0.8	10170	1147	1075	3.38	3.17
	1	10010	1167	1112	3.44	3.28
	1.2	9814	1194	1147	3.52	3.38
T5	0.2	10969	1086	1011	3.38	3.15
	0.4	10712	1110	1036	3.46	3.23
	0.6	10532	1138	1056	3.54	3.29
	0.8	10369	1162	1087	3.62	3.38
	1	10197	1183	1118	3.69	3.48
	1.2	10010	1209	1150	3.76	3.58
T6	0.2	9218	832	787	1.79	1.70
	0.4	8927	869	828	1.87	1.79
	0.6	-	-	-	-	-
	0.8	-	-	-	-	-
	1	-	-	-	-	-
	1.2	-	-	-	-	-
T7	0.2	9642	879	828	2.07	1.95
	0.4	9358	913	866	2.15	2.04
	0.6	9096	949	893	2.23	2.10
	0.8	8916	983	938	2.31	2.21
	1	8754	1008	991	2.37	2.33
	1.2	-	-	-	-	-
T8	0.2	9934	1083	971	2.78	2.49
	0.4	9735	1110	999	2.85	2.56
	0.6	9559	1138	1027	2.92	2.64
	0.8	9379	1162	1056	2.98	2.71
	1	9201	1187	1086	3.05	2.79
	1.2	9006	1212	1120	3.11	2.87
T9	0.2	10398	1123	1008	3.16	2.84
	0.4	10203	1149	1034	3.24	2.91
	0.6	10034	1176	1060	3.31	2.99
	0.8	9863	1199	1087	3.38	3.06
	1	9698	1222	1116	3.44	3.14
	1.2	9516	1245	1147	3.51	3.23
T10	0.2	10958	1088	1013	3.38	3.15
	0.4	10701	1112	1038	3.45	3.22
	0.6	10521	1140	1058	3.54	3.29
	0.8	10359	1164	1089	3.61	3.38
	1	10187	1186	1120	3.68	3.48
	1.2	10000	1211	1152	3.76	3.58

NOTES:

If high static fan is needed it should be ordered as factory installed.
Air flow tables represent dry coil with filters installed; SCFM correction factor for wet coil is 4%.
Refer to the 'Airflow Adjustment' section on page 15 for airflow adjustments.
Measured at standard conditions of 29.92 mm Hg pressure and 68°F temperature.

APPENDIX A BLOWER PERFORMANCE DATA
DIRECT DRIVE - HIGH STATIC

DSC180W HIGH STATC						
SPEED TAP	Static	AIR FLOW	RPM 1	RPM 2	BHP1	BHP2
T1	0.2	2070	436	436	0.17	0.17
	0.4	1373	539	536	0.21	0.21
	0.6	999.7	604	614	0.24	0.24
	0.8	-	-	-	-	-
	1	-	-	-	-	-
	1.2	-	-	-	-	-
	1.4	-	-	-	-	-
	1.6	-	-	-	-	-
	1.8	-	-	-	-	-
	2	-	-	-	-	-
	2.2	-	-	-	-	-
T2	0.2	2121	441	447	0.18	0.18
	0.4	1357	528	551	0.21	0.22
	0.6	1035	608	616	0.24	0.25
	0.8	-	-	-	-	-
	1	-	-	-	-	-
	1.2	-	-	-	-	-
	1.4	-	-	-	-	-
	1.6	-	-	-	-	-
	1.8	-	-	-	-	-
	2	-	-	-	-	-
	2.2	-	-	-	-	-
T3	0.2	6518	631	640	0.72	0.73
	0.4	6166	686	706	0.78	0.81
	0.6	5853	741	764	0.85	0.87
	0.8	5478	803	825	0.92	0.94
	1	4895	863	890	0.99	1.02
	1.2	4431	923	952	1.05	1.09
	1.4	4051	987	985	1.13	1.13
	1.6	3388	1052	1063	1.20	1.21
	1.8	2974	1087	1100	1.24	1.26
	2	2544	1124	1132	1.28	1.29
	2.2	2174	1153	1160	1.32	1.33
T4	0.2	9407	785	781	0.86	0.86
	0.4	9046	821	818	0.90	0.90
	0.6	8725	857	855	0.94	0.94
	0.8	8393	895	893	0.98	0.98
	1	8084	930	927	1.02	1.02
	1.2	7749	966	963	1.06	1.06
	1.4	7302	1015	1004	1.11	1.10
	1.6	6860	1058	1045	1.16	1.15
	1.8	6409	1105	1084	1.21	1.19
	2	5980	1146	1124	1.26	1.23
	2.2	5493	1191	1164	1.31	1.28
T5	0.2	9342	815	810	1.22	1.21
	0.4	9023	850	847	1.27	1.26
	0.6	8740	885	883	1.32	1.32
	0.8	8449	922	919	1.37	1.37
	1	8181	955	951	1.42	1.42
	1.2	7896	989	986	1.47	1.47
	1.4	7575	1027	1021	1.53	1.52
	1.6	7205	1067	1058	1.59	1.58
	1.8	6812	1113	1095	1.66	1.63
	2	6446	1154	1133	1.72	1.69
	2.2	6010	1200	1172	1.79	1.75
T6	0.2	8791	766	775	1.43	1.45
	0.4	8453	824	837	1.54	1.56
	0.6	8175	870	888	1.63	1.66
	0.8	7911	912	938	1.71	1.75
	1	7640	950	981	1.78	1.83
	1.2	7386	986	1016	1.84	1.90
	1.4	7118	1028	1058	1.92	1.98
	1.6	6582	1082	1117	2.02	2.09
	1.8	6206	1124	1158	2.10	2.16
	2	5852	1172	1210	2.19	2.26
	2.2	5455	1234	1241	2.31	2.32
T7	0.2	9167	790	803	1.59	1.62
	0.4	8822	848	863	1.71	1.74
	0.6	8546	902	912	1.82	1.84
	0.8	8276	937	963	1.89	1.94
	1	8015	973	1005	1.96	2.02
	1.2	7756	1010	1042	2.03	2.10
	1.4	7462	1047	1082	2.11	2.18
	1.6	7177	1092	1119	2.20	2.25
	1.8	6673	1138	1177	2.29	2.37
	2	6364	1182	1218	2.38	2.45
	2.2	5961	1228	1267	2.47	2.55
T8	0.2	9536	816	828	1.77	1.79
	0.4	9212	870	885	1.89	1.92
	0.6	8934	913	932	1.98	2.02
	0.8	8680	955	977	2.07	2.12
	1	8445	990	1016	2.15	2.20
	1.2	8170	1024	1056	2.22	2.29
	1.4	7938	1060	1093	2.30	2.37
	1.6	7669	1101	1130	2.39	2.45
	1.8	7185	1150	1150	2.49	2.49
	2	6823	1187	1227	2.57	2.66
	2.2	6527	1231	1269	2.67	2.75
T9	0.2	9916	836	849	1.95	1.98
	0.4	9546	892	912	2.08	2.13
	0.6	9271	936	954	2.18	2.22
	0.8	9036	977	1000	2.28	2.33
	1	8766	1013	1043	2.36	2.43
	1.2	8527	1044	1080	2.43	2.52
	1.4	8295	1092	1117	2.55	2.60
	1.6	8073	1115	1148	2.60	2.68
	1.8	7832	1153	1185	2.69	2.76
	2	7291	1200	1240	2.80	2.89
	2.2	6979	1239	1276	2.89	2.97
T10	0.2	10290	859	872	2.15	2.18
	0.4	9974	913	927	2.29	2.32
	0.6	9693	957	974	2.40	2.44
	0.8	9455	996	1017	2.49	2.55
	1	9222	1030	1058	2.58	2.65
	1.2	8986	1063	1098	2.66	2.75
	1.4	8736	1097	1132	2.75	2.84
	1.6	8530	1127	1163	2.82	2.91
	1.8	8305	1163	1197	2.91	3.00
	2	8016	1199	1231	3.00	3.08
	2.2	7453	1246	1284	3.12	3.22

NOTES:

If high static fan is needed it should be ordered as factory installed.
Air flow tables represent dry coil with filters installed; SCFM correction factor for wet coil is 4%.
Refer to the 'Airflow Adjustment' section on page 15 for airflow adjustments.
Measured at standard conditions of 29.92 mm Hg pressure and 68°F temperature.

APPENDIX A BLOWER PERFORMANCE DATA
DIRECT DRIVE - HIGH STATIC

DSC240W - HIGH STATIC						
SPEED TAP	Static	AIR FLOW	RPM 1	RPM 2	BHP1	BHP2
T1	0.2	6492	631	620	0.71	0.70
	0.4	6091	702	733	0.79	0.83
	0.6	5741	764	793	0.86	0.89
	0.8	5160	862	847	0.97	0.95
	1	4674	906	931	1.02	1.05
	1.2	4316	953	985	1.07	1.11
	1.4	3992	999	1027	1.13	1.16
	1.6	3577	1052	1070	1.19	1.21
	1.8	3116	1100	1100	1.24	1.24
	2	2667	1137	1153	1.28	1.30
	2.2	2195	1164	1185	1.31	1.34
T2	0.2	6962	666	697	0.83	0.87
	0.4	6573	729	761	0.91	0.95
	0.6	6187	787	819	0.98	1.02
	0.8	5633	874	881	1.09	1.10
	1	5273	921	936	1.15	1.17
	1.2	4783	976	1004	1.22	1.25
	1.4	4477	1018	1053	1.27	1.32
	1.6	4148	1061	1092	1.33	1.36
	1.8	3728	1115	1134	1.39	1.42
	2	3292	1158	1174	1.45	1.47
	2.2	2850	1193	1214	1.49	1.52
T3	0.2	9902	842	879	1.91	1.99
	0.4	9514	897	897	2.04	2.04
	0.6	9220	940	940	2.13	2.13
	0.8	8949	978	1019	2.22	2.31
	1	8695	1017	1060	2.31	2.41
	1.2	8415	1054	1098	2.39	2.49
	1.4	8158	1091	1136	2.48	2.58
	1.6	7604	1163	1184	2.64	2.69
	1.8	7336	1222	1205	2.77	2.73
	2	7034	1247	1244	2.83	2.82
	2.2	6667	1276	1306	2.90	2.96
T4	0.2	11001	820	859	1.81	1.90
	0.4	10606	873	909	1.93	2.01
	0.6	10247	916	954	2.02	2.11
	0.8	9983	952	994	2.10	2.20
	1	9713	987	1033	2.18	2.28
	1.2	9445	1026	1070	2.27	2.36
	1.4	9169	1062	1108	2.35	2.45
	1.6	8892	1095	1143	2.42	2.53
	1.8	8261	1169	1183	2.58	2.61
	2	8010	1222	1207	2.70	2.67
	2.2	7698	1242	1259	2.74	2.78
T5	0.2	11135	830	872	2.03	2.13
	0.4	10732	888	926	2.17	2.27
	0.6	10412	930	969	2.28	2.37
	0.8	10166	964	1008	2.36	2.47
	1	9895	1000	1046	2.45	2.56
	1.2	9640	1036	1082	2.54	2.65
	1.4	9397	1076	1116	2.63	2.73
	1.6	9119	1104	1153	2.70	2.82
	1.8	8865	1138	1188	2.79	2.91
	2	8254	1221	1219	2.99	2.98
	2.2	8010	1262	1250	3.09	3.06
T6	0.2	9125	822	779	1.74	1.65
	0.4	8832	860	821	1.82	1.74
	0.6	8546	898	852	1.90	1.80
	0.8	8348	935	901	1.98	1.91
	1	8158	964	958	2.04	2.03
	1.2	7887	998	1007	2.11	2.13
	1.4	7592	1029	1063	2.18	2.25
	1.6	7272	1072	1109	2.27	2.35
	1.8	-	-	-	-	-
	2	-	-	-	-	-
	2.2	-	-	-	-	-
T7	0.2	9412	852	805	1.91	1.81
	0.4	9124	888	845	1.99	1.90
	0.6	8851	925	874	2.08	1.96
	0.8	8663	960	920	2.15	2.06
	1	8490	987	976	2.22	2.19
	1.2	8232	1020	1024	2.29	2.30
	1.4	7947	1050	1079	2.36	2.42
	1.6	7646	1090	1124	2.45	2.52
	1.8	7366	1129	1155	2.53	2.59
	2	7134	1168	1186	2.62	2.66
	2.2	-	-	-	-	-
T8	0.2	9695	885	834	2.10	1.98
	0.4	9412	919	871	2.19	2.07
	0.6	9153	954	897	2.27	2.13
	0.8	8974	988	942	2.35	2.24
	1	8814	1013	995	2.41	2.37
	1.2	8568	1045	1042	2.48	2.48
	1.4	8293	1073	1095	2.55	2.60
	1.6	8010	1111	1140	2.64	2.71
	1.8	7743	1148	1170	2.73	2.78
	2	7518	1186	1201	2.82	2.86
	2.2	7200	1223	1229	2.91	2.92
T9	0.2	9881	909	854	2.30	2.16
	0.4	9602	941	890	2.38	2.25
	0.6	9353	976	915	2.46	2.31
	0.8	9179	1008	959	2.55	2.42
	1	9025	1032	1009	2.61	2.55
	1.2	8787	1063	1055	2.68	2.66
	1.4	8519	1090	1107	2.75	2.80
	1.6	8248	1127	1151	2.85	2.91
	1.8	7989	1163	1181	2.94	2.98
	2	7770	1199	1211	3.03	3.06
	2.2	7460	1237	1239	3.12	3.13
T10	0.2	10268	963	902	2.58	2.41
	0.4	9996	993	935	2.66	2.50
	0.6	9769	1025	957	2.74	2.56
	0.8	9604	1055	997	2.82	2.67
	1	9456	1077	1042	2.88	2.79
	1.2	9235	1106	1084	2.96	2.90
	1.4	8983	1132	1133	3.03	3.03
	1.6	8736	1164	1175	3.11	3.14
	1.8	8496	1197	1204	3.20	3.22
	2	8288	1232	1233	3.29	3.30
	2.2	8001	1267	1259	3.39	3.37

NOTES:

If high static fan is needed it should be ordered as factory installed.
Air flow tables represent dry coil with filters installed; SCFM correction factor for wet coil is 4%.
Refer to the 'Airflow Adjustment' section on page 15 for airflow adjustments.
Measured at standard conditions of 29.92 mm Hg pressure and 68°F temperature.

APPENDIX A BLOWER PERFORMANCE DATA
DIRECT DRIVE - HIGH STATIC

DSC3003W High Static						
Speed Tap	Static	AIR FLOW	RPM 1	RPM 2	BHP 1	BHP 2
T1	0.2	7629	701	674	1.07	1.03
	0.4	7314	746	725	1.14	1.11
	0.6	6969	789	777	1.21	1.19
	0.8	6701	833	829	1.28	1.27
	1.0	6380	882	892	1.35	1.37
	1.2	6049	919	939	1.41	1.44
	1.4	5706	956	994	1.46	1.52
	1.6	5285	1010	1035	1.55	1.58
	1.8	4952	1055	1066	1.62	1.63
	2.0	4673	1094	1098	1.68	1.68
	2.2	4339	1128	1134	1.73	1.74
T2	0.2	7900	719	690	1.17	1.12
	0.4	7588	763	739	1.24	1.20
	0.6	7253	805	787	1.31	1.28
	0.8	6999	848	839	1.38	1.37
	1.0	6706	893	902	1.45	1.47
	1.2	6386	929	949	1.51	1.55
	1.4	6051	966	1005	1.57	1.64
	1.6	5649	1018	1048	1.66	1.71
	1.8	5322	1063	1079	1.73	1.76
	2.0	5050	1102	1111	1.79	1.81
	2.2	4712	1137	1146	1.85	1.87
T3	0.2	9468	859	811	1.95	1.84
	0.4	9181	894	850	2.03	1.93
	0.6	8911	930	878	2.11	1.99
	0.8	8724	966	925	2.19	2.10
	1.0	8554	992	980	2.25	2.22
	1.2	8298	1025	1027	2.33	2.33
	1.4	8015	1054	1082	2.39	2.45
	1.6	7718	1094	1128	2.48	2.56
	1.8	7441	1133	1158	2.57	2.63
	2.0	7210	1171	1189	2.66	2.70
	2.2	6884	1209	1218	2.74	2.76
T4	0.2	12723	972	914	2.75	2.58
	0.4	12364	1007	952	2.84	2.69
	0.6	12043	1044	979	2.95	2.77
	0.8	11819	1078	1026	3.04	2.90
	1.0	11621	1104	1079	3.12	3.05
	1.2	11315	1137	1129	3.21	3.19
	1.4	10969	1166	1184	3.29	3.35
	1.6	10620	1206	1231	3.41	3.48
	1.8	10287	1244	1263	3.52	3.57
	2.0	10005	1283	1295	3.62	3.66
	2.2	9606	1323	1325	3.74	3.75
T5	0.2	12849	1012	948	2.99	2.80
	0.4	12509	1044	983	3.09	2.91
	0.6	12223	1078	1006	3.18	2.98
	0.8	12017	1109	1048	3.28	3.10
	1.0	11831	1131	1095	3.34	3.24
	1.2	11553	1163	1141	3.44	3.37
	1.4	11237	1190	1191	3.52	3.52
	1.6	10927	1224	1236	3.62	3.66
	1.8	10626	1258	1266	3.72	3.74
	2.0	10366	1295	1297	3.83	3.84
	2.2	10005	1333	1325	3.94	3.92
T6	0.2	10268	963	902	2.58	2.41
	0.4	9996	993	935	2.66	2.50
	0.6	9769	1025	957	2.74	2.56
	0.8	9604	1055	997	2.82	2.67
	1.0	9456	1077	1042	2.88	2.79
	1.2	9235	1106	1084	2.96	2.90
	1.4	8983	1132	1133	3.03	3.03
	1.6	8736	1164	1175	3.11	3.14
	1.8	8496	1197	1204	3.20	3.22
	2.0	8288	1232	1233	3.29	3.30
	2.2	8001	1267	1259	3.39	3.37
T7	0.2	10626	1022	955	2.95	2.75
	0.4	10361	1049	984	3.03	2.84
	0.6	10156	1080	1004	3.11	2.90
	0.8	9995	1107	1040	3.19	3.00
	1.0	9842	1127	1079	3.25	3.11
	1.2	9638	1155	1117	3.33	3.22
	1.4	9402	1179	1160	3.40	3.35
	1.6	9176	1207	1199	3.48	3.46
	1.8	8958	1236	1227	3.57	3.54
	2.0	8760	1269	1255	3.66	3.62
	2.2	8502	1302	1280	3.76	3.69
T8	0.2	10979	1092	1017	3.41	3.17
	0.4	10723	1116	1042	3.48	3.25
	0.6	10544	1144	1062	3.57	3.31
	0.8	10382	1168	1093	3.65	3.41
	1.0	10209	1190	1123	3.71	3.51
	1.2	10023	1216	1155	3.79	3.60
	1.4	9804	1237	1191	3.86	3.72
	1.6	9598	1261	1225	3.93	3.82
	1.8	9406	1285	1252	4.01	3.91
	2.0	9218	1314	1278	4.10	3.99
	2.2	9000	1344	1301	4.19	4.06
T9	0.2	11348	1185	1101	4.05	3.76
	0.4	11101	1206	1120	4.11	3.82
	0.6	10956	1230	1142	4.20	3.90
	0.8	10785	1250	1165	4.27	3.97
	1.0	10567	1275	1183	4.35	4.04
	1.2	10402	1298	1205	4.43	4.11
	1.4	10203	1317	1230	4.49	4.20
	1.6	10015	1335	1257	4.56	4.29
	1.8	9858	1353	1281	4.62	4.37
	2.0	9682	1376	1305	4.70	4.45
	2.2	9524	1400	1326	4.78	4.52
T10	0.2	11679	1301	1205	4.88	4.52
	0.4	11444	1317	1219	4.94	4.57
	0.6	11337	1338	1246	5.02	4.67
	0.8	11145	1353	1257	5.07	4.71
	1.0	10847	1386	1260	5.20	4.72
	1.2	10703	1405	1267	5.27	4.75
	1.4	10526	1421	1277	5.33	4.79
	1.6	10353	1432	1291	5.37	4.84
	1.8	10238	1441	1313	5.40	4.93
	2.0	10074	1457	1333	5.47	5.00
	2.2	10002	1473	1353	5.52	5.07

NOTES:

If high static fan is needed it should be ordered as factory installed.
Air flow tables represent dry coil with filters installed; SCFM correction factor for wet coil is 4%.
Refer to the 'Airflow Adjustment' section on page 15 for airflow adjustments.
Measured at standard conditions of 29.92 mm Hg pressure and 68°F temperature.

APPENDIX A BLOWER PERFORMANCE DATA

MODELS: DSC1803D, DSC1804D, DSC1807D
STANDARD STATIC TO 3.5HP (0.2 ~1.2 ESP)

CFM	0.2					0.4					0.6				
	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2
3600	449	462	27	0.36	0.38	554	551	29	0.41	0.41	667	640	31	0.52	0.50
3900	468	480	28	0.36	0.37	568	568	30	0.43	0.43	674	652	32	0.54	0.52
4200	486	499	29	0.37	0.38	583	584	31	0.45	0.46	682	665	33	0.58	0.56
4500	505	518	30	0.39	0.40	598	601	32	0.49	0.50	691	678	34	0.63	0.61
4800	523	537	32	0.42	0.44	613	618	34	0.54	0.55	700	692	36	0.69	0.68
5100	542	556	33	0.47	0.48	628	635	35	0.60	0.61	710	706	38	0.76	0.75
5400	561	575	35	0.52	0.54	644	652	37	0.67	0.68	721	721	40	0.84	0.84
5700	579	595	37	0.59	0.60	660	670	39	0.76	0.77	733	736	42	0.93	0.94
6000	598	614	39	0.67	0.68	676	687	42	0.85	0.86	745	751	44	1.04	1.05
6300	617	634	41	0.76	0.77	693	705	44	0.96	0.97	758	767	47	1.15	1.17
6600	636	653	43	0.86	0.88	709	724	47	1.07	1.09	772	784	50	1.28	1.30
CFM	0.8					1					1.2				
	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2
3600	758	745	36	0.76	0.75	798	784	34	0.74	0.71	861	855	37	0.90	0.87
3900	756	742	36	0.74	0.73	808	791	36	0.80	0.77	872	861	38	0.98	0.95
4200	756	741	36	0.74	0.72	817	800	37	0.87	0.84	883	868	40	1.06	1.03
4500	758	742	36	0.76	0.74	827	809	39	0.94	0.91	893	876	42	1.15	1.12
4800	761	745	37	0.79	0.77	836	819	41	1.03	1.00	904	884	44	1.25	1.22
5100	765	750	38	0.84	0.82	846	829	43	1.13	1.10	913	892	46	1.36	1.33
5400	772	758	39	0.91	0.89	856	840	45	1.23	1.21	923	902	49	1.48	1.44
5700	779	767	41	0.99	0.98	866	852	48	1.35	1.33	932	912	51	1.60	1.57
6000	789	778	43	1.10	1.09	875	865	50	1.47	1.46	941	922	54	1.73	1.71
6300	800	792	46	1.22	1.22	885	878	53	1.61	1.61	949	934	57	1.87	1.86
6600	812	807	48	1.36	1.36	895	892	56	1.75	1.76	957	946	60	2.02	2.01

MODELS: DSC1803W, DSC1804W, DSC1807W
HIGH STATIC TO 5HP (0.8 ~2.2 ESP)

CFM	0.8					1					1.2					1.4				
	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2
4200	689	688	17	1.72	0.41	761	770	20	1.89	0.54	836	838	22	1.77	0.60	994	948	27	2.26	0.81
4500	704	704	18	1.71	0.41	774	782	21	1.87	0.54	846	847	23	1.76	0.61	990	949	28	2.25	0.82
4800	720	719	19	1.70	0.41	787	793	22	1.86	0.55	857	857	24	1.74	0.63	987	951	29	2.23	0.84
5100	736	735	21	1.68	0.44	801	805	23	1.85	0.57	868	867	26	1.73	0.67	985	955	30	2.22	0.87
5400	752	751	22	1.67	0.47	814	818	25	1.83	0.61	879	878	27	1.72	0.72	985	959	31	2.21	0.92
5700	768	767	24	1.66	0.52	829	831	27	1.82	0.66	891	889	29	1.71	0.78	986	965	32	2.19	0.99
6000	785	783	26	1.65	0.58	843	844	28	1.81	0.72	903	901	31	1.70	0.86	989	971	34	2.18	1.07
6300	801	799	28	1.63	0.66	858	858	30	1.79	0.80	916	913	33	1.68	0.96	992	978	36	2.16	1.16
6600	818	816	30	1.62	0.75	873	872	32	1.78	0.90	929	926	35	1.67	1.06	998	986	38	2.15	1.27
CFM	1.6					1.8					2					2.2				
	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2
4200	1025	1009	29	1.82	0.90	1070	1049	30	1.36	0.99	1114	1095	32	1.10	1.13	1164	1140	34	0.77	1.29
4500	1024	1009	30	1.81	0.93	1073	1051	31	1.35	1.04	1119	1098	34	1.10	1.20	1170	1145	36	0.77	1.39
4800	1025	1010	31	1.79	0.97	1076	1054	33	1.34	1.11	1124	1101	35	1.09	1.28	1177	1150	38	0.77	1.49
5100	1027	1013	32	1.78	1.02	1080	1058	34	1.34	1.18	1129	1106	37	1.09	1.37	1183	1155	40	0.77	1.60
5400	1029	1016	33	1.77	1.09	1085	1062	36	1.33	1.27	1135	1111	38	1.09	1.47	1190	1161	41	0.77	1.72
5700	1033	1020	35	1.76	1.17	1090	1067	38	1.32	1.37	1141	1116	40	1.08	1.59	1196	1167	43	0.77	1.85
6000	1037	1025	37	1.75	1.26	1096	1073	40	1.32	1.49	1147	1122	42	1.08	1.71	1203	1173	45	0.77	1.98
6300	1043	1031	39	1.74	1.37	1102	1080	42	1.31	1.61	1153	1129	44	1.07	1.84	1209	1180	48	0.77	2.13
6600	1049	1038	41	1.73	1.50	1109	1088	44	1.30	1.75	1160	1136	47	1.07	1.99	1216	1187	50	0.76	2.29

APPENDIX A BLOWER PERFORMANCE DATA

MODELS: DSC2403D, DSC2404D, DSC2407D
STANDARD STATIC TO 3.5HP (0.2 ~1.2 ESP)

CFM	0.2					0.4					0.6				
	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2
4800	525	539	31	0.42	1.18	615	621	33	0.53	1.07	699	693	35	0.66	1.05
5200	550	566	33	0.48	1.17	635	644	35	0.61	1.07	712	712	37	0.75	1.05
5600	576	593	35	0.56	1.16	656	668	38	0.71	1.06	726	731	40	0.86	1.04
6000	601	620	38	0.65	1.15	678	691	40	0.82	1.05	742	752	43	1.00	1.03
6400	627	646	41	0.77	1.14	700	715	44	0.96	1.04	759	773	46	1.15	1.02
6800	652	672	44	0.91	1.13	722	739	47	1.12	1.03	778	794	50	1.32	1.01
7200	677	698	48	1.06	1.12	744	763	51	1.30	1.03	798	817	54	1.52	1.01
7600	702	724	52	1.24	1.11	767	788	55	1.49	1.02	819	840	59	1.73	1.00
8000	727	750	56	1.43	1.11	791	812	60	1.71	1.01	842	865	64	1.97	0.99
8400	752	775	61	1.65	1.10	814	836	65	1.95	1.00	867	890	69	2.22	0.99
8800	777	800	66	1.88	1.09	838	861	70	2.21	0.99	892	915	74	2.50	0.98
CFM	0.8					1					1.2				
	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2
4800	777	761	37	0.84	0.92	860	820	40	1.05	0.75	908	884	43	1.22	0.71
5200	791	776	40	0.95	0.91	874	834	43	1.18	0.75	920	896	46	1.36	0.71
5600	806	792	43	1.08	0.91	888	849	46	1.32	0.74	932	908	49	1.51	0.70
6000	821	809	46	1.23	0.90	900	866	49	1.48	0.74	944	922	52	1.68	0.70
6400	836	828	50	1.39	0.89	911	883	53	1.65	0.74	954	937	56	1.87	0.70
6800	852	848	53	1.57	0.89	922	902	57	1.84	0.73	964	953	60	2.07	0.70
7200	868	869	58	1.78	0.88	931	921	61	2.04	0.73	973	971	64	2.28	0.69
7600	885	892	62	2.00	0.88	939	942	66	2.26	0.72	981	989	69	2.50	0.69
8000	902	915	67	2.23	0.87	947	964	71	2.49	0.72	989	1009	74	2.74	0.69
8400	919	940	72	2.49	0.87										
8800															

MODELS: DSC2403W, DSC2404W, DSC2407W
HIGH STATIC TO 5HP (0.8 ~2.2 ESP)

CFM	0.8					1					1.2					1.4				
	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2
5600	775	789	22	0.86	0.88	842	861	24	0.99	1.04	889	918	27	1.14	1.21	938	985	30	1.31	1.41
6000	789	797	25	0.95	0.97	852	871	27	1.10	1.14	901	931	30	1.26	1.33	953	999	33	1.46	1.55
6400	807	808	28	1.07	1.08	866	884	31	1.23	1.27	916	946	33	1.42	1.48	970	1015	36	1.63	1.72
6800	828	822	32	1.22	1.21	883	900	34	1.39	1.42	936	963	37	1.59	1.64	991	1032	40	1.82	1.90
7200	853	840	36	1.39	1.37	906	918	38	1.57	1.59	959	981	41	1.79	1.83	1015	1050	44	2.04	2.10
7600	882	861	40	1.59	1.56	932	938	42	1.79	1.79	987	1002	45	2.02	2.03	1043	1069	49	2.28	2.31
8000	914	886	44	1.82	1.77	963	961	47	2.03	2.01	1018	1024	50	2.27	2.26	1074	1090	53	2.54	2.54
8400	950	914	49	2.08	2.00	998	986	52	2.30	2.25	1052	1047	55	2.55	2.50	1108	1111	58	2.82	2.79
8800	989	946	54	2.36	2.26	1037	1014	57	2.59	2.51										
CFM	1.6					1.8					2					2.2				
	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2	RPM1	RPM2	DDC%	BHP1	BHP2
5600	1008	1042	33	1.54	1.63	1066	1086	36	1.75	1.82	1116	1129	38	1.94	1.98	1165	1175	41	2.16	2.19
6000	1023	1058	36	1.71	1.79	1081	1101	39	1.93	1.98	1132	1143	41	2.12	2.16	1182	1189	45	2.35	2.38
6400	1040	1074	40	1.89	1.97	1099	1117	43	2.12	2.17	1149	1159	45	2.32	2.35	1199	1203	48	2.56	2.57
6800	1060	1091	44	2.09	2.16	1118	1134	47	2.33	2.36	1168	1175	49	2.54	2.55	1219	1217	52	2.78	2.78
7200	1083	1108	48	2.31	2.36	1139	1150	51	2.56	2.57	1189	1191	53	2.77	2.77	1239	1232	56	3.02	2.99
7600	1109	1127	52	2.56	2.58	1163	1168	55	2.80	2.80	1212	1208	58	3.02	3.00	1261	1247	61	3.28	3.22
8000	1137	1146	57	2.82	2.82	1189	1186	60	3.06	3.03	1237	1225	62	3.29	3.24	1285	1262	65	3.55	3.46
8400																				
8800																				

APPENDIX A ECONOMIZER PRESSURE DROP

Airflow Pressure Drop of Downflow Economizer for 15 to 25 Ton Rooftop Units (100% Return Air)												
SCFM	4500	5000	5500	6000	6500	7000	7500	8000	8500	9000	9500	10000
(In WG)	0.15	0.18	0.22	0.27	0.32	0.37	0.42	0.48	0.55	0.61	0.69	0.76

APPENDIX B ELECTRICAL DATA

Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convenience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC1803D	208/230/3/60	2	25.0	179	3	0.33	2.0	2	3.5	10.9	-	-	-	-	-	-	84.1/84.1	100/100
											-	-	-	-	4.8	-	88.9/88.9	110/110
											-	-	-	-	-	13.9	98.0/98.0	110/110
											-	-	-	9.6/8.7	-	-	93.7/92.8	110/110
											-	-	-	9.6/8.7	4.8	-	98.5/97.6	110/110
											-	-	-	9.6/8.7	-	13.9	108/107	125/125
											EH**-3L30	21.6/28.8	60.0/69.3	-	-	-	102/114	110/125
														-	4.8	-	108/120	110/125
														-	-	13.9	120/131	125/150
														9.6/8.7	-	-	114/125	125/125
														9.6/8.7	4.8	-	120/131	125/150
														9.6/8.7	-	13.9	132/142	150/150
											EH**-3L45	32.4/43.2	90.1/104	-	-	-	140/157	150/175
														-	4.8	-	146/163	150/175
														-	-	13.9	157/175	175/175
														9.6/8.7	-	-	152/168	175/175
														9.6/8.7	4.8	-	158/174	175/175
														9.6/8.7	-	13.9	169/185	175/200
											EH**-3L60	43.3/57.6	120/139	-	-	-	177/166	200/175
														-	4.8	-	183/172	200/175
														-	-	13.9	195/183	200/200
														9.6/8.7	-	-	189/177	200/200
														9.6/8.7	4.8	-	195/183	200/200
														9.6/8.7	-	13.9	207/194	225/200
DSC1803W	208/230/3/60	2	25.0	179	3	0.33	2.0	2	5.0	14.5	-	-	-	-	-	-	91.3/91.3	110/110
											-	-	-	-	4.8	-	96.1/96.1	110/110
											-	-	-	-	-	13.9	105/105	125/125
											-	-	-	9.6/8.7	-	-	101/100	125/125
											-	-	-	9.6/8.7	4.8	-	106/105	125/125
											-	-	-	9.6/8.7	-	13.9	115/114	125/125
											EH**-3L30	21.6/28.8	60.0/69.3	-	-	-	111/123	125/125
														-	4.8	-	117/129	125/150
														-	-	13.9	129/140	150/150
														9.6/8.7	-	-	123/134	125/150
														9.6/8.7	4.8	-	129/140	150/150
														9.6/8.7	-	13.9	141/151	150/175
											EH**-3L45	32.4/43.2	90.1/104	-	-	-	149/166	150/175
														-	4.8	-	155/172	175/175
														-	-	13.9	166/184	175/200
														9.6/8.7	-	-	161/177	175/200
														9.6/8.7	4.8	-	167/183	175/200
														9.6/8.7	-	13.9	178/194	200/200
											EH**-3L60	43.3/57.6	120/139	-	-	-	186/175	200/175
														-	4.8	-	192/181	200/200
														-	-	13.9	204/192	225/200
														9.6/8.7	-	-	198/186	200/200
														9.6/8.7	4.8	-	204/192	225/200
														9.6/8.7	-	13.9	216/203	225/225

APPENDIX B ELECTRICAL DATA

Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convenience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC1804D	460/3/60	2	10.9	103	3	0.33	0.85	2	3.5	7.2	-	-	-	-	-	-	41.4	50
											-	-	-	-	2.4	-	43.8	50
											-	-	-	-	-	8.1	49.5	60
											-	-	-	4.3	-	-	45.7	50
											-	-	-	4.3	2.4	-	48.1	50
											-	-	-	4.3	-	8.1	53.8	60
											EH**-4L30	28.8	34.6	-	-	-	61.3	70
														-	2.4	-	64.3	70
														-	-	8.1	71.4	80
														4.3	-	-	66.7	70
														4.3	2.4	-	69.7	70
														4.3	-	8.1	76.8	80
											EH**-4L45	43.2	52.0	-	-	-	83.0	90
														-	2.4	-	86.0	90
														-	-	8.1	93.1	100
														4.3	-	-	88.3	90
														4.3	2.4	-	91.3	100
														4.3	-	8.1	98.5	100
											EH**-4L60	57.6	69.3	-	-	-	87.3	90
														-	2.4	-	90.3	100
														-	-	8.1	97.4	100
														4.3	-	-	92.7	100
														4.3	2.4	-	95.7	100
														4.3	-	8.1	103	110
DSC1804W	460/3/60	2	10.9	103	3	0.33	0.85	2	5.0	10.6	-	-	-	-	-	-	48.2	50
											-	-	-	-	2.4	-	50.6	60
											-	-	-	-	-	8.1	56.3	60
											-	-	-	4.3	-	-	52.5	60
											-	-	-	4.3	2.4	-	54.9	60
											-	-	-	4.3	-	8.1	60.6	70
											EH**-4L30	28.8	34.6	-	-	-	69.8	70
														-	2.4	-	72.8	80
														-	-	8.1	79.9	80
														4.3	-	-	75.2	80
														4.3	2.4	-	78.2	80
														4.3	-	8.1	85.3	90
											EH**-4L45	43.2	52.0	-	-	-	91.5	100
														-	2.4	-	94.5	100
														-	-	8.1	102	110
														4.3	-	-	96.8	100
														4.3	2.4	-	99.8	100
														4.3	-	8.1	107	110
											EH**-4L60	57.6	69.3	-	-	-	95.8	100
														-	2.4	-	98.8	100
														-	-	8.1	106	110
														4.3	-	-	101	110
														4.3	2.4	-	104	110
														4.3	-	8.1	111	125

APPENDIX B ELECTRICAL DATA

Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convenience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC1807D	575/3/60	2	8.4	78.0	3	0.33	0.67	2	3.5	5.0	-	-	-	-	-	-	31.0	35
											-	-	-	-	2.0	-	33.0	40
											-	-	-	-	-	8.3	39.3	45
											-	-	-	3.5	-	-	34.5	40
											-	-	-	3.5	2.0	-	36.5	40
											-	-	-	3.5	-	8.3	42.8	50
											EH**-7L30	28.8	27.7	-	-	-	47.1	50
														-	2.0	-	49.6	50
														-	-	8.3	57.5	60
														3.5	-	-	51.5	60
														3.5	2.0	-	54.0	60
														3.5	-	8.3	61.9	70
											EH**-7L45	43.2	41.6	-	-	-	64.5	70
														-	2.0	-	67.0	70
														-	-	8.3	74.8	80
														3.5	-	-	68.8	70
														3.5	2.0	-	71.3	80
														3.5	-	8.3	79.2	80
											EH**-7L60	57.6	55.4	-	-	-	67.9	70
														-	2.0	-	70.4	80
														-	-	8.3	78.3	80
														3.5	-	-	72.3	80
														3.5	2.0	-	74.8	80
														3.5	-	8.3	82.7	90
DSC1807W	575/3/60	2	8.4	78.0	3	0.33	0.67	2	5.0	7.2	-	-	-	-	-	-	35.4	40
											-	-	-	-	2.0	-	37.4	45
											-	-	-	-	-	8.3	43.7	50
											-	-	-	3.5	-	-	38.9	45
											-	-	-	3.5	2.0	-	40.9	45
											-	-	-	3.5	-	8.3	47.2	50
											EH**-7L30	28.8	27.7	-	-	-	52.6	60
														-	2.0	-	55.1	60
														-	-	8.3	63.0	70
														3.5	-	-	57.0	60
														3.5	2.0	-	59.5	60
														3.5	-	8.3	67.4	70
											EH**-7L45	43.2	41.6	-	-	-	70.0	70
														-	2.0	-	72.5	80
														-	-	8.3	80.3	90
														3.5	-	-	74.3	80
														3.5	2.0	-	76.8	80
														3.5	-	8.3	84.7	90
											EH**-7L60	57.6	55.4	-	-	-	73.4	80
														-	2.0	-	75.9	80
														-	-	8.3	83.8	90
														3.5	-	-	77.8	80
														3.5	2.0	-	80.3	90
														3.5	-	8.3	88.2	90

APPENDIX B ELECTRICAL DATA

Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convenience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC2403D	208/230/3/60	2	29.4	225	4	0.5	2.7	2	3.5	10.9	-	-	-	-	-	-	98.7/98.7	125/125
											-	-	-	-	4.8	-	103/103	125/125
											-	-	-	-	-	13.9	113/113	125/125
											-	-	-	9.6/8.7	-	-	108/107	125/125
											-	-	-	9.6/8.7	4.8	-	113/112	125/125
											-	-	-	9.6/8.7	-	13.9	122/121	150/150
											EH**-3L30	21.6/28.8	60.0/69.3	-	-	-	102/114	125/125
														-	4.8	-	108/120	125/125
														-	-	13.9	120/131	125/150
														9.6/8.7	-	-	114/125	125/125
														9.6/8.7	4.8	-	120/131	125/150
														9.6/8.7	-	13.9	132/142	150/150
											EH**-3L45	32.4/43.2	90.1/104	-	-	-	140/157	150/175
														-	4.8	-	146/163	150/175
														-	-	13.9	157/175	175/175
														9.6/8.7	-	-	152/168	175/175
														9.6/8.7	4.8	-	158/174	175/175
														9.6/8.7	-	13.9	169/185	175/200
											EH**-3L60	43.3/57.6	120/139	-	-	-	177/166	200/175
														-	4.8	-	183/172	200/175
														-	-	13.9	195/183	200/200
														9.6/8.7	-	-	189/177	200/200
														9.6/8.7	4.8	-	195/183	200/200
														9.6/8.7	-	13.9	207/194	225/200
											EH**-3L75	54.1/72.0	150/173	-	-	-	177/200	200/225
														-	4.8	-	183/206	200/225
														-	-	13.9	195/218	200/225
														9.6/8.7	-	-	189/211	200/225
														9.6/8.7	4.8	-	195/217	200/225
														9.6/8.7	-	13.9	207/229	225/250

APPENDIX B ELECTRICAL DATA

Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convenience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC2403W	208/230/3/60	2	29.4	225	4	0.5	2.7	2	5.0	14.5	-	-	-	-	-	-	106/106	125/125
											-	-	-	-	4.8	-	111/111	125/125
											-	-	-	-	-	13.9	120/120	125/125
											-	-	-	9.6/8.7	-	-	115/115	125/125
											-	-	-	9.6/8.7	4.8	-	120/119	125/125
											-	-	-	9.6/8.7	-	13.9	129/128	150/150
											EH**-3L30	21.6/28.8	60.0/69.3	-	-	-	111/123	125/125
														-	4.8	-	117/129	125/150
														-	-	13.9	129/140	150/150
														9.6/8.7	-	-	123/134	125/150
														9.6/8.7	4.8	-	129/140	150/150
														9.6/8.7	-	13.9	141/151	150/175
											EH**-3L45	32.4/43.2	90.1/104	-	-	-	149/166	150/175
														-	4.8	-	155/172	175/175
														-	-	13.9	166/184	175/200
														9.6/8.7	-	-	161/177	175/200
														9.6/8.7	4.8	-	167/183	175/200
														9.6/8.7	-	13.9	178/194	200/200
											EH**-3L60	43.3/57.6	120/139	-	-	-	186/175	200/175
														-	4.8	-	192/181	200/200
														-	-	13.9	204/192	225/200
														9.6/8.7	-	-	198/186	200/200
														9.6/8.7	4.8	-	204/192	225/200
														9.6/8.7	-	13.9	216/203	225/225
											EH**-3L75	54.1/72.0	150/173	-	-	-	186/209	200/225
														-	4.8	-	192/215	200/225
														-	-	13.9	204/227	225/250
														9.6/8.7	-	-	198/220	200/225
														9.6/8.7	4.8	-	204/226	225/250
														9.6/8.7	-	13.9	216/238	225/250

APPENDIX B ELECTRICAL DATA

Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convenience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC2404D	460/3/60	2	13.7	130	4	0.5	1.4	2	3.5	7.2	-	-	-	-	-	-	50.8	60
											-	-	-	-	2.4	-	53.2	60
											-	-	-	-	-	8.1	58.9	70
											-	-	-	4.3	-	-	55.1	60
											-	-	-	4.3	2.4	-	57.5	70
											-	-	-	4.3	-	8.1	63.2	70
											EH**-4L30	28.8	34.6	-	-	-	61.3	70
														-	2.4	-	64.3	70
														-	-	8.1	71.4	80
														4.3	-	-	66.7	70
														4.3	2.4	-	69.7	70
														4.3	-	8.1	76.8	80
											EH**-4L45	43.2	52.0	-	-	-	83.0	90
														-	2.4	-	86.0	90
														-	-	8.1	93.1	100
														4.3	-	-	88.3	90
														4.3	2.4	-	91.3	100
														4.3	-	8.1	98.5	100
											EH**-4L60	57.6	69.3	-	-	-	87.3	90
														-	2.4	-	90.3	100
														-	-	8.1	97.4	100
														4.3	-	-	92.7	100
														4.3	2.4	-	95.7	100
														4.3	-	8.1	103	110
											EH**-4L75	72.0	86.6	-	-	-	105	110
														-	2.4	-	108	110
														-	-	8.1	115	125
														4.3	-	-	110	110
														4.3	2.4	-	113	125
														4.3	-	8.1	120	125

APPENDIX B ELECTRICAL DATA

Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convenience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC2404W	460/3/60	2	13.7	130	4	0.5	1.4	2	5.0	10.6	-	-	-	-	-	-	57.6	70
											-	-	-	-	2.4	-	60.0	70
											-	-	-	-	-	8.1	65.7	70
											-	-	-	4.3	-	-	61.9	70
											-	-	-	4.3	2.4	-	64.3	70
											-	-	-	4.3	-	8.1	70.0	80
											EH**-4L30	28.8	34.6	-	-	-	69.8	70
														-	2.4	-	72.8	80
														-	-	8.1	79.9	80
														4.3	-	-	75.2	80
														4.3	2.4	-	78.2	80
														4.3	-	8.1	85.3	90
											EH**-4L45	43.2	52.0	-	-	-	91.5	100
														-	2.4	-	94.5	100
														-	-	8.1	102	110
														4.3	-	-	96.8	100
														4.3	2.4	-	99.8	100
														4.3	-	8.1	107	110
											EH**-4L60	57.6	69.3	-	-	-	95.8	100
														-	2.4	-	98.8	100
														-	-	8.1	106	110
														4.3	-	-	101	110
														4.3	2.4	-	104	110
														4.3	-	8.1	111	125
											EH**-4L75	72.0	86.6	-	-	-	113	125
														-	2.4	-	116	125
														-	-	8.1	123	125
														4.3	-	-	118	125
														4.3	2.4	-	121	125
														4.3	-	8.1	129	150

APPENDIX B ELECTRICAL DATA

Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convenience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC2407D	575/3/60	2	10.9	93.7	4	0.5	1.0	2	3.5	5.0	-	-	-	-	-	-	38.5	45
											-	-	-	-	2.0	-	40.5	50
											-	-	-	-	-	8.3	46.8	50
											-	-	-	3.5	-	-	42.0	50
											-	-	-	3.5	2.0	-	44.0	50
											-	-	-	3.5	-	8.3	50.3	60
											EH**-7L30	28.8	27.7	-	-	-	47.1	50
														-	2.0	-	49.6	50
														-	-	8.3	57.5	60
														3.5	-	-	51.5	60
														3.5	2.0	-	54.0	60
														3.5	-	8.3	61.9	70
											EH**-7L45	43.2	41.6	-	-	-	64.5	70
														-	2.0	-	67.0	70
														-	-	8.3	74.8	80
														3.5	-	-	68.8	70
														3.5	2.0	-	71.3	80
														3.5	-	8.3	79.2	80
											EH**-7L60	57.6	55.4	-	-	-	67.9	70
														-	2.0	-	70.4	80
														-	-	8.3	78.3	80
														3.5	-	-	72.3	80
														3.5	2.0	-	74.8	80
														3.5	-	8.3	82.7	90
											EH**-7L75	72.0	69.3	-	-	-	81.8	90
														-	2.0	-	84.3	90
														-	-	8.3	92.2	100
														3.5	-	-	86.2	90
														3.5	2.0	-	88.7	90
														3.5	-	8.3	96.5	100

APPENDIX B ELECTRICAL DATA

Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convenience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC2407W	575/3/60	2	10.9	93.7	4	0.5	1.0	2	5.0	7.2	-	-	-	-	-	-	42.9	50
											-	-	-	-	2.0	-	44.9	50
											-	-	-	-	-	8.3	51.2	60
											-	-	-	3.5	-	-	46.4	50
											-	-	-	3.5	2.0	-	48.4	50
											-	-	-	3.5	-	8.3	54.7	60
											EH**-7L30	28.8	27.7	-	-	-	52.6	60
														-	2.0	-	55.1	60
														-	-	8.3	63.0	70
														3.5	-	-	57.0	60
														3.5	2.0	-	59.5	60
														3.5	-	8.3	67.4	70
											EH**-7L45	43.2	41.6	-	-	-	70.0	70
														-	2.0	-	72.5	80
														-	-	8.3	80.3	90
														3.5	-	-	74.3	80
														3.5	2.0	-	76.8	80
														3.5	-	8.3	84.7	90
											EH**-7L60	57.6	55.4	-	-	-	73.4	80
														-	2.0	-	75.9	80
														-	-	8.3	83.8	90
														3.5	-	-	77.8	80
														3.5	2.0	-	80.3	90
														3.5	-	8.3	88.2	90
											EH**-7L75	72.0	69.3	-	-	-	87.3	90
														-	2.0	-	89.8	90
														-	-	8.3	97.7	100
														3.5	-	-	91.7	100
														3.5	2.0	-	94.2	100
														3.5	-	8.3	102	110

APPENDIX B ELECTRICAL DATA

Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convienience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC3003D	208/230/3/60	2	48.3	336	5	0.5	2.7	2	5.0	14.5	-	-	-	-	-	-	151/151	175/175
											-	-	-	-	4.8	-	156/156	200/200
											-	-	-	-	-	13.9	165/165	200/200
											-	-	-	9.6/8.7	-	-	161/160	200/200
											-	-	-	9.6/8.7	4.8	-	166/165	200/200
											-	-	-	9.6/8.7	-	13.9	175/174	200/200
											EH**-3L30	21.6/28.8	60.0/69.3	-	-	-	151/151	175/175
														-	4.8	-	156/156	200/200
														-	-	13.9	165/165	200/200
														9.6/8.7	-	-	161/160	200/200
														9.6/8.7	4.8	-	166/165	200/200
														9.6/8.7	-	13.9	175/174	200/200
											EH**-3L45	32.4/43.2	90.1/104	-	-	-	151/166	175/175
														-	4.8	-	156/172	200/200
														-	-	13.9	166/184	200/200
														9.6/8.7	-	-	161/177	200/200
														9.6/8.7	4.8	-	167/183	200/200
														9.6/8.7	-	13.9	178/194	200/200
											EH**-3L60	43.3/57.6	120/139	-	-	-	186/175	200/175
														-	4.8	-	192/181	200/200
														-	-	13.9	204/192	225/200
														9.6/8.7	-	-	198/186	200/200
														9.6/8.7	4.8	-	204/192	225/200
														9.6/8.7	-	13.9	216/203	225/225
											EH**-3L75	54.1/72.0	150/173	-	-	-	186/209	200/225
														-	4.8	-	192/215	200/225
														-	-	13.9	204/227	225/250
														9.6/8.7	-	-	198/220	200/225
														9.6/8.7	4.8	-	204/226	225/250
														9.6/8.7	-	13.9	216/238	225/250

APPENDIX B ELECTRICAL DATA

Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convienience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC3003W	208/230/3/60	2	48.3	336	5	0.5	2.7	2	5.0	14.5	-	-	-	-	-	-	151/151	175/175
											-	-	-	-	4.8	-	156/156	200/200
											-	-	-	-	-	13.9	165/165	200/200
											-	-	-	9.6/8.7	-	-	161/160	200/200
											-	-	-	9.6/8.7	4.8	-	166/165	200/200
											-	-	-	9.6/8.7	-	13.9	175/174	200/200
											EH**-3L30	21.6/28.8	60.0/69.3	-	-	-	151/151	175/175
														-	4.8	-	156/156	200/200
														-	-	13.9	165/165	200/200
														9.6/8.7	-	-	161/160	200/200
														9.6/8.7	4.8	-	166/165	200/200
														9.6/8.7	-	13.9	175/174	200/200
											EH**-3L45	32.4/43.2	90.1/104	-	-	-	151/166	175/175
														-	4.8	-	156/172	200/200
														-	-	13.9	166/184	200/200
														9.6/8.7	-	-	161/177	200/200
														9.6/8.7	4.8	-	167/183	200/200
														9.6/8.7	-	13.9	178/194	200/200
											EH**-3L60	43.3/57.6	120/139	-	-	-	186/175	200/175
														-	4.8	-	192/181	200/200
														-	-	13.9	204/192	225/200
														9.6/8.7	-	-	198/186	200/200
														9.6/8.7	4.8	-	204/192	225/200
														9.6/8.7	-	13.9	216/203	225/225
											EH**-3L75	54.1/72.0	150/173	-	-	-	186/209	200/225
														-	4.8	-	192/215	200/225
														-	-	13.9	204/227	225/250
														9.6/8.7	-	-	198/220	200/225
														9.6/8.7	4.8	-	204/226	225/250
														9.6/8.7	-	13.9	216/238	225/250

APPENDIX B ELECTRICAL DATA

Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convenience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC3004D	460/3/60	2	20.5	147	5	0.5	1.4	2	5.0	10.6	-	-	-	-	-	-	74.3	90
											-	-	-	-	2.4	-	76.7	90
											-	-	-	-	-	8.1	82.4	100
											-	-	-	4.3	-	-	78.6	90
											-	-	-	4.3	2.4	-	81.0	100
											-	-	-	4.3	-	8.1	86.7	100
											EH**-4L30	28.8	34.6	-	-	-	74.3	90
														-	2.4	-	76.7	90
														-	-	8.1	82.4	100
														4.3	-	-	78.6	90
														4.3	2.4	-	81.0	100
														4.3	-	8.1	86.7	100
											EH**-4L45	43.2	52.0	-	-	-	91.5	100
														-	2.4	-	94.5	100
														-	-	8.1	102	110
														4.3	-	-	96.8	100
														4.3	2.4	-	99.8	100
														4.3	-	8.1	107	110
											EH**-4L60	57.6	69.3	-	-	-	95.8	100
														-	2.4	-	98.8	100
														-	-	8.1	106	110
														4.3	-	-	101	110
														4.3	2.4	-	104	110
														4.3	-	8.1	111	125
											EH**-4L75	72.0	86.6	-	-	-	113	125
														-	2.4	-	116	125
														-	-	8.1	123	125
														4.3	-	-	118	125
														4.3	2.4	-	121	125
														4.3	-	8.1	129	150

APPENDIX B ELECTRICAL DATA

Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convenience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC3004W	460/3/60	2	20.5	147	5	0.5	1.4	2	5.0	10.6	-	-	-	-	-	-	74.3	90
											-	-	-	-	2.4	-	76.7	90
											-	-	-	-	-	8.1	82.4	100
											-	-	-	4.3	-	-	78.6	90
											-	-	-	4.3	2.4	-	81.0	100
											-	-	-	4.3	-	8.1	86.7	100
											EH**-4L30	28.8	34.6	-	-	-	74.3	90
														-	2.4	-	76.7	90
														-	-	8.1	82.4	100
														4.3	-	-	78.6	90
														4.3	2.4	-	81.0	100
														4.3	-	8.1	86.7	100
											EH**-4L45	43.2	52.0	-	-	-	91.5	100
														-	2.4	-	94.5	100
														-	-	8.1	102	110
														4.3	-	-	96.8	100
														4.3	2.4	-	99.8	100
														4.3	-	8.1	107	110
											EH**-4L60	57.6	69.3	-	-	-	95.8	100
														-	2.4	-	98.8	100
														-	-	8.1	106	110
														4.3	-	-	101	110
														4.3	2.4	-	104	110
														4.3	-	8.1	111	125
											EH**-4L75	72.0	86.6	-	-	-	113	125
														-	2.4	-	116	125
														-	-	8.1	123	125
														4.3	-	-	118	125
														4.3	2.4	-	121	125
														4.3	-	8.1	129	150

APPENDIX B ELECTRICAL DATA

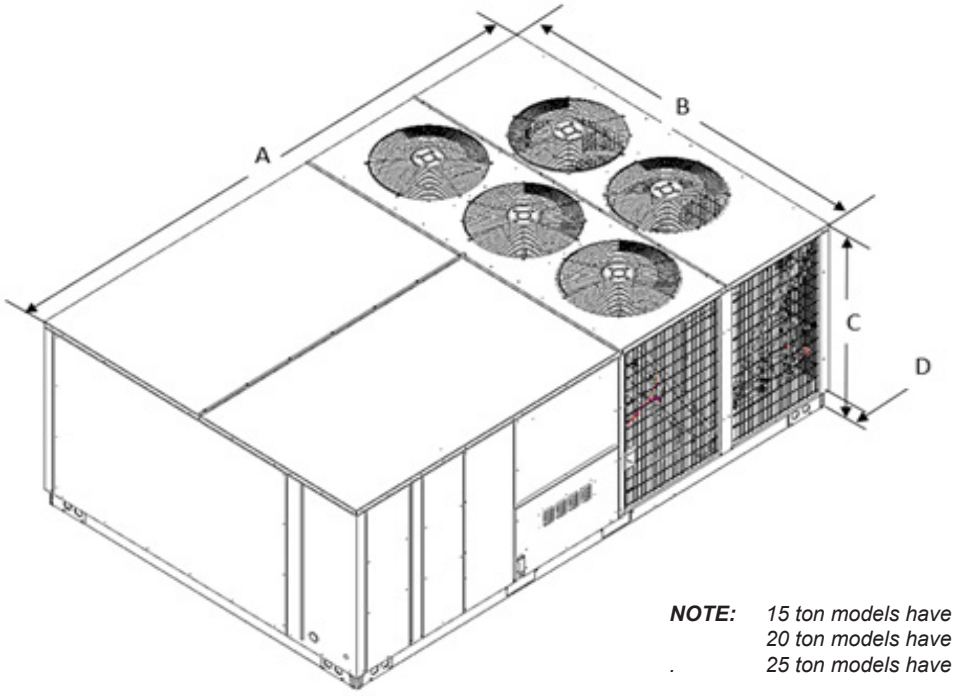
Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convenience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC3007D	575/3/60	2	13.8	109	5	0.5	1.0	2	5.0	7.2	-	-	-	-	-	-	50.4	60
											-	-	-	-	2.0	-	52.4	60
											-	-	-	-	-	8.3	58.7	70
											-	-	-	3.5	-	-	53.9	60
											-	-	-	3.5	2.0	-	55.9	60
											-	-	-	3.5	-	8.3	62.2	70
											EH**-7L30	28.8	27.7	-	-	-	52.6	60
														-	2.0	-	55.1	60
														-	-	8.3	63.0	70
														3.5	-	-	57.0	60
														3.5	2.0	-	59.5	60
														3.5	-	8.3	67.4	70
											EH**-7L45	43.2	41.6	-	-	-	70.0	70
														-	2.0	-	72.5	80
														-	-	8.3	80.3	90
														3.5	-	-	74.3	80
														3.5	2.0	-	76.8	80
														3.5	-	8.3	84.7	90
											EH**-7L60	57.6	55.4	-	-	-	73.4	80
														-	2.0	-	75.9	80
														-	-	8.3	83.8	90
														3.5	-	-	77.8	80
														3.5	2.0	-	80.3	90
														3.5	-	8.3	88.2	90
											EH**-7L75	72.0	69.3	-	-	-	87.3	90
														-	2.0	-	89.8	90
														-	-	8.3	97.7	100
														3.5	-	-	91.7	100
														3.5	2.0	-	94.2	100
														3.5	-	8.3	102	110

APPENDIX B ELECTRICAL DATA

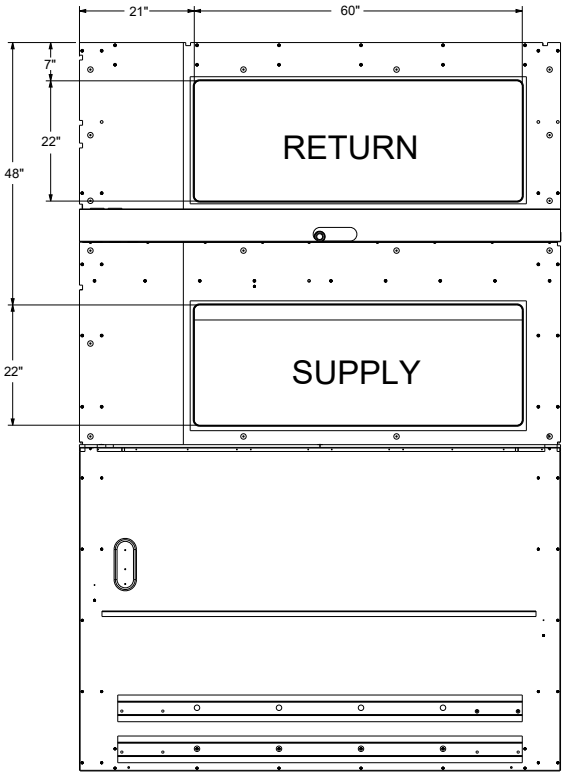
Model Number	Electrical Rating	Compressor			Outdoor Fan Motor			Indoor Fan Motor			Optional Electric Heat			Optional Powered Convenience Outlet	Power Exhaust	Power Exhaust (Modulating)	Power Supply	
		QTY	RLA	LRA	QTY	HP	FLA	Type	HP	FLA	Part #	KW*	FLA	FLA	FLA	FLA	MCA	MOP
DSC3007W	575/3/60	2	13.8	109	5	0.5	1.0	2	5.0	7.2	-	-	-	-	-	-	50.4	60
											-	-	-	-	2.0	-	52.4	60
											-	-	-	-	-	8.3	58.7	70
											-	-	-	3.5	-	-	53.9	60
											-	-	-	3.5	2.0	-	55.9	60
											-	-	-	3.5	-	8.3	62.2	70
											EH**-7L30	28.8	27.7	-	-	-	52.6	60
														-	2.0	-	55.1	60
														-	-	8.3	63.0	70
														3.5	-	-	57.0	60
														3.5	2.0	-	59.5	60
														3.5	-	8.3	67.4	70
											EH**-7L45	43.2	41.6	-	-	-	70.0	70
														-	2.0	-	72.5	80
														-	-	8.3	80.3	90
														3.5	-	-	74.3	80
														3.5	2.0	-	76.8	80
														3.5	-	8.3	84.7	90
											EH**-7L60	57.6	55.4	-	-	-	73.4	80
														-	2.0	-	75.9	80
														-	-	8.3	83.8	90
														3.5	-	-	77.8	80
														3.5	2.0	-	80.3	90
														3.5	-	8.3	88.2	90
											EH**-7L75	72.0	69.3	-	-	-	87.3	90
														-	2.0	-	89.8	90
														-	-	8.3	97.7	100
														3.5	-	-	91.7	100
														3.5	2.0	-	94.2	100
														3.5	-	8.3	102	110

APPENDIX C UNIT DIMENSIONS

Model	A	B	C	D
15 Ton	133 - 7/8”	88 - 1/2”	51 - 11/16”	5 - 5/32”
20 Ton 25 Ton	133 - 7/8”	88 - 1/2”	51	5 - 5/32”



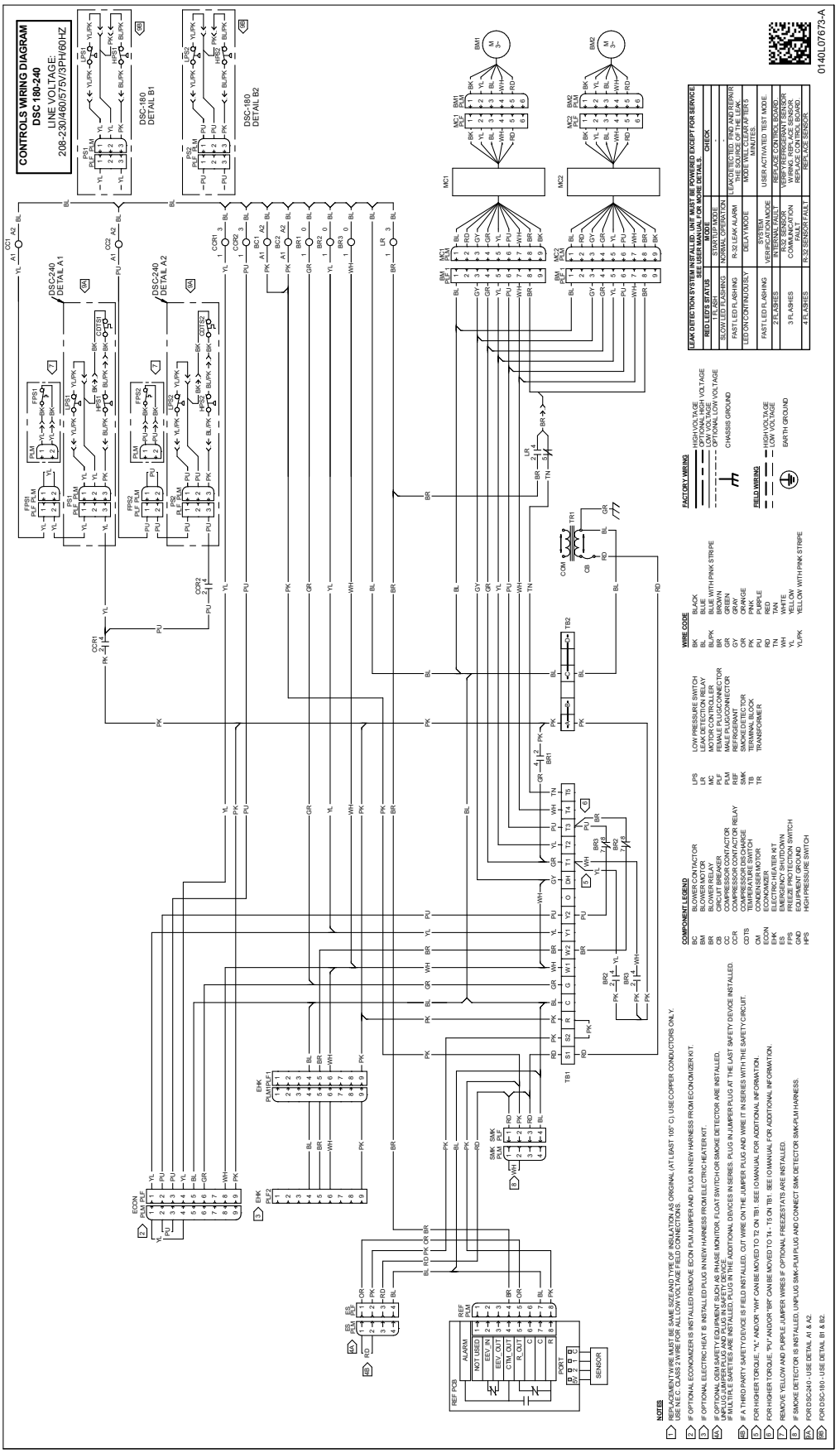
NOTE: *15 ton models have 3 fans.*
20 ton models have 4 fans
25 ton models have 5 fans



Vertical Discharge (Top View)

WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.

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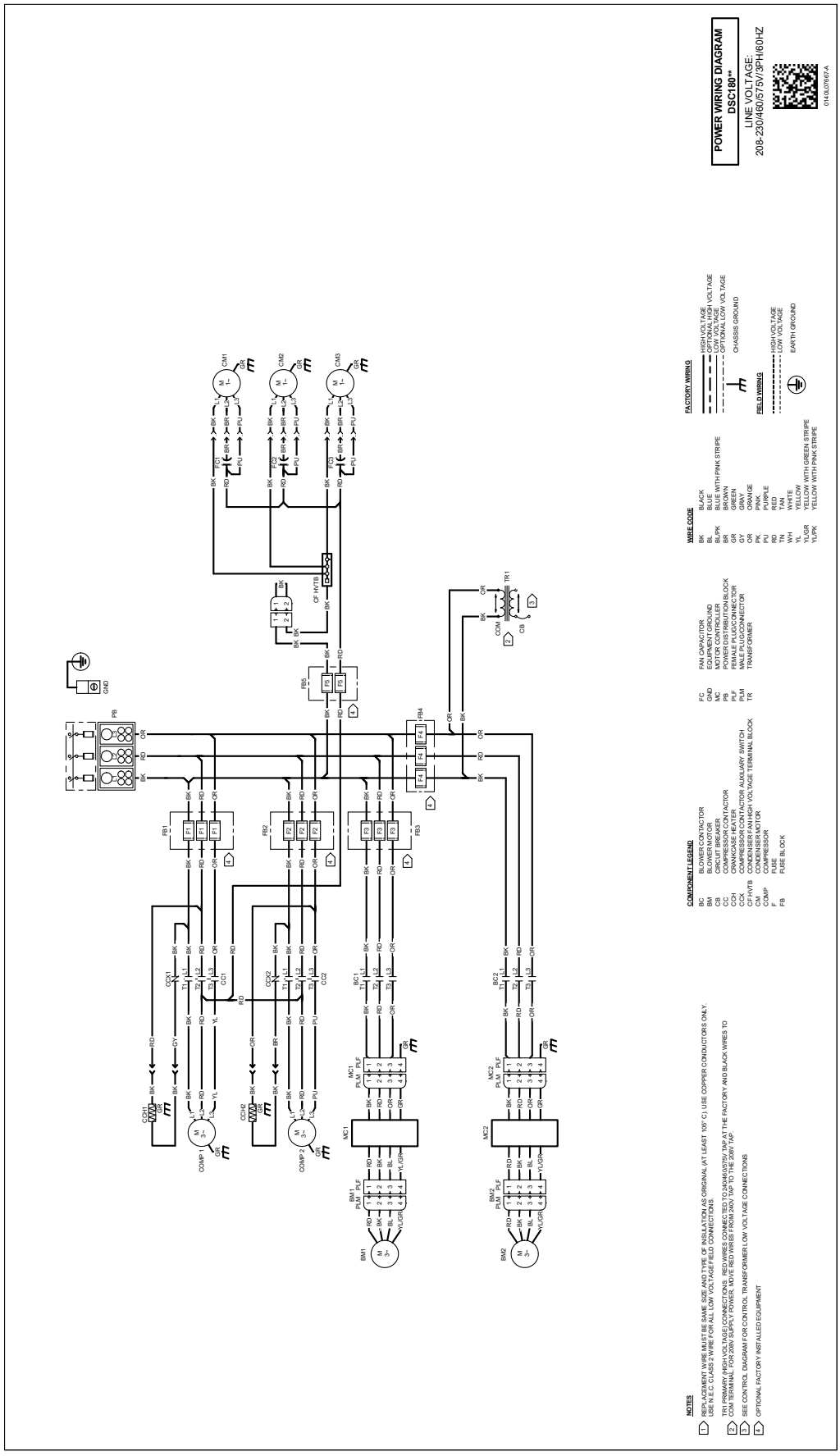

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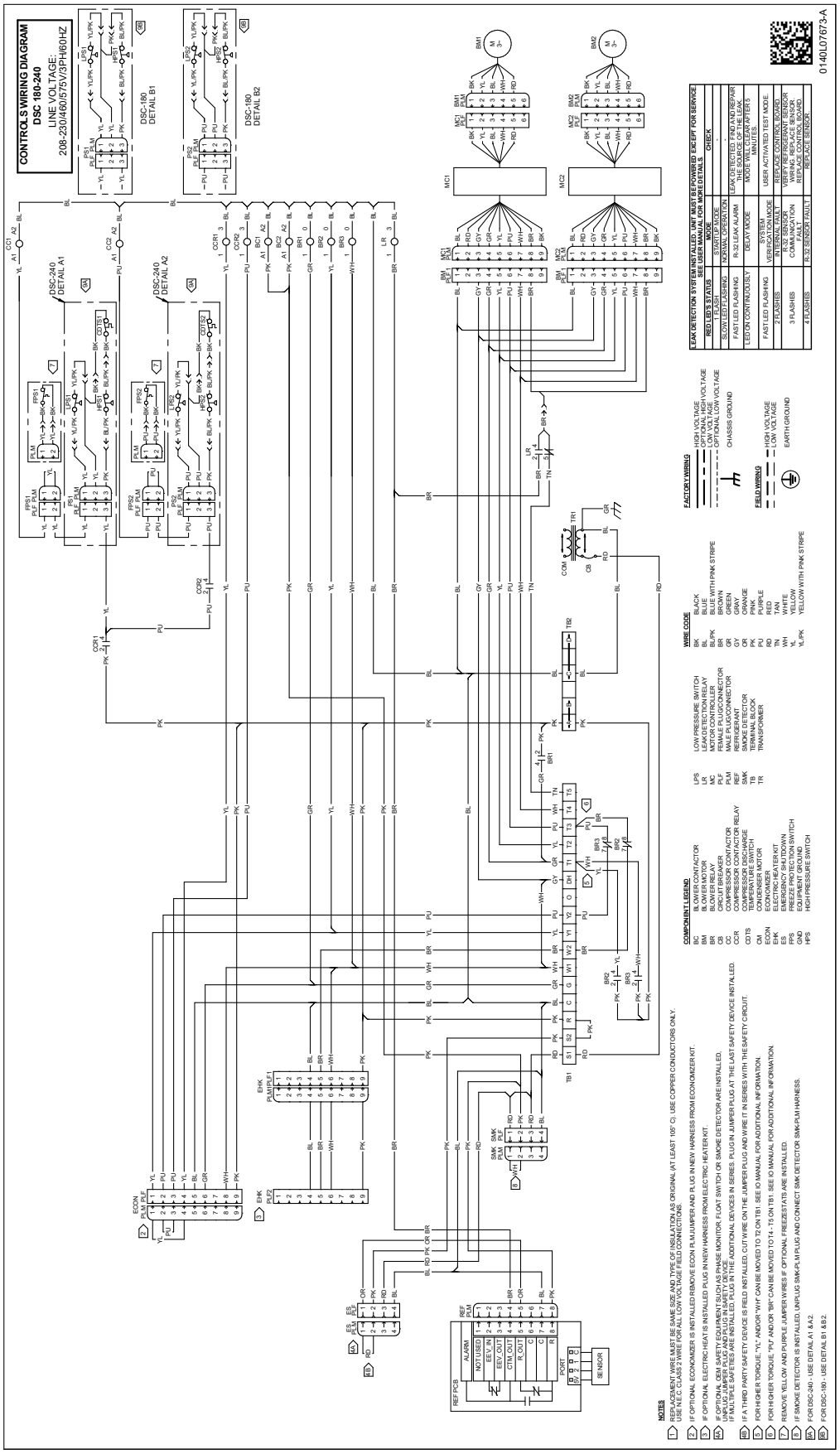

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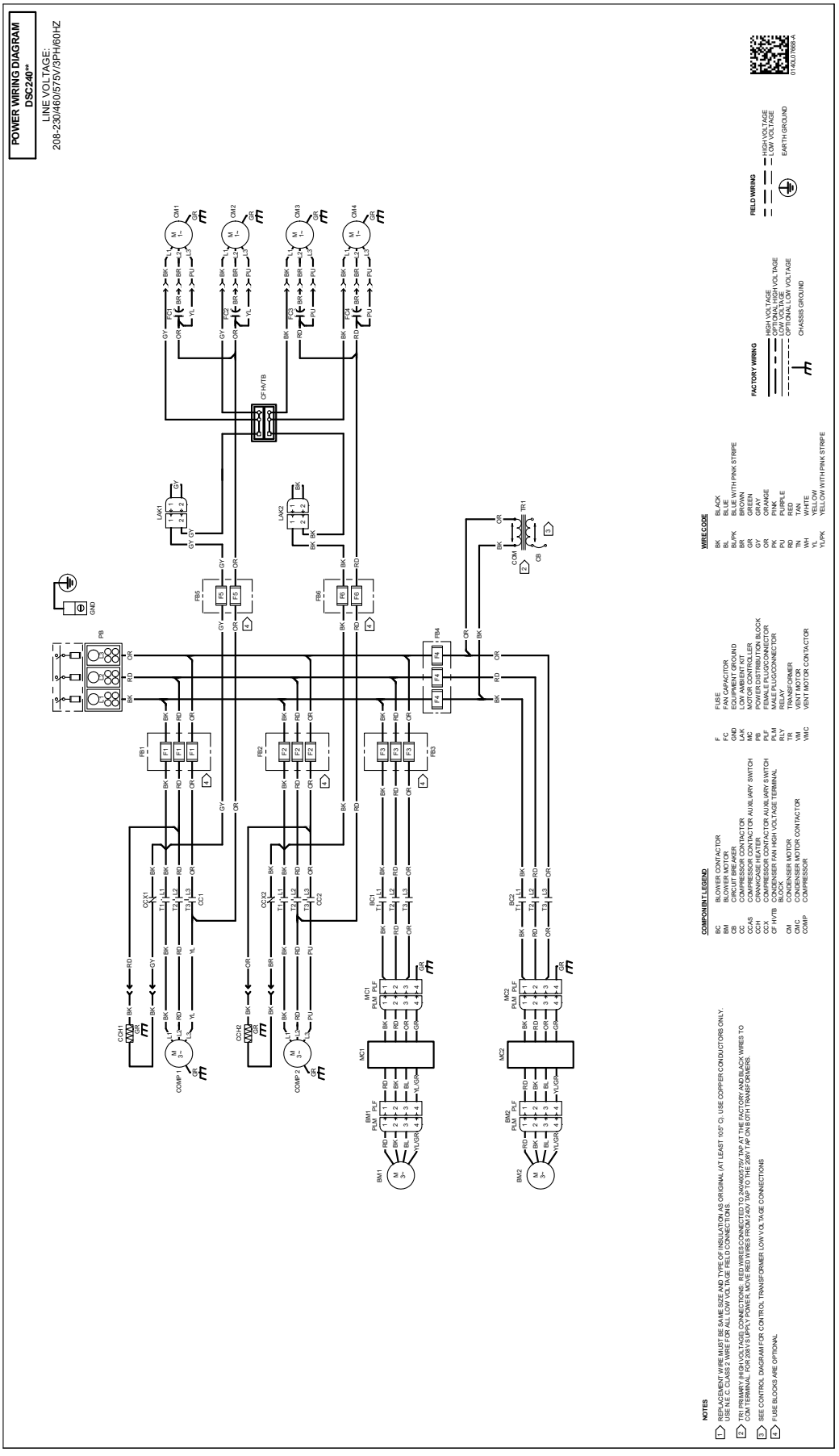

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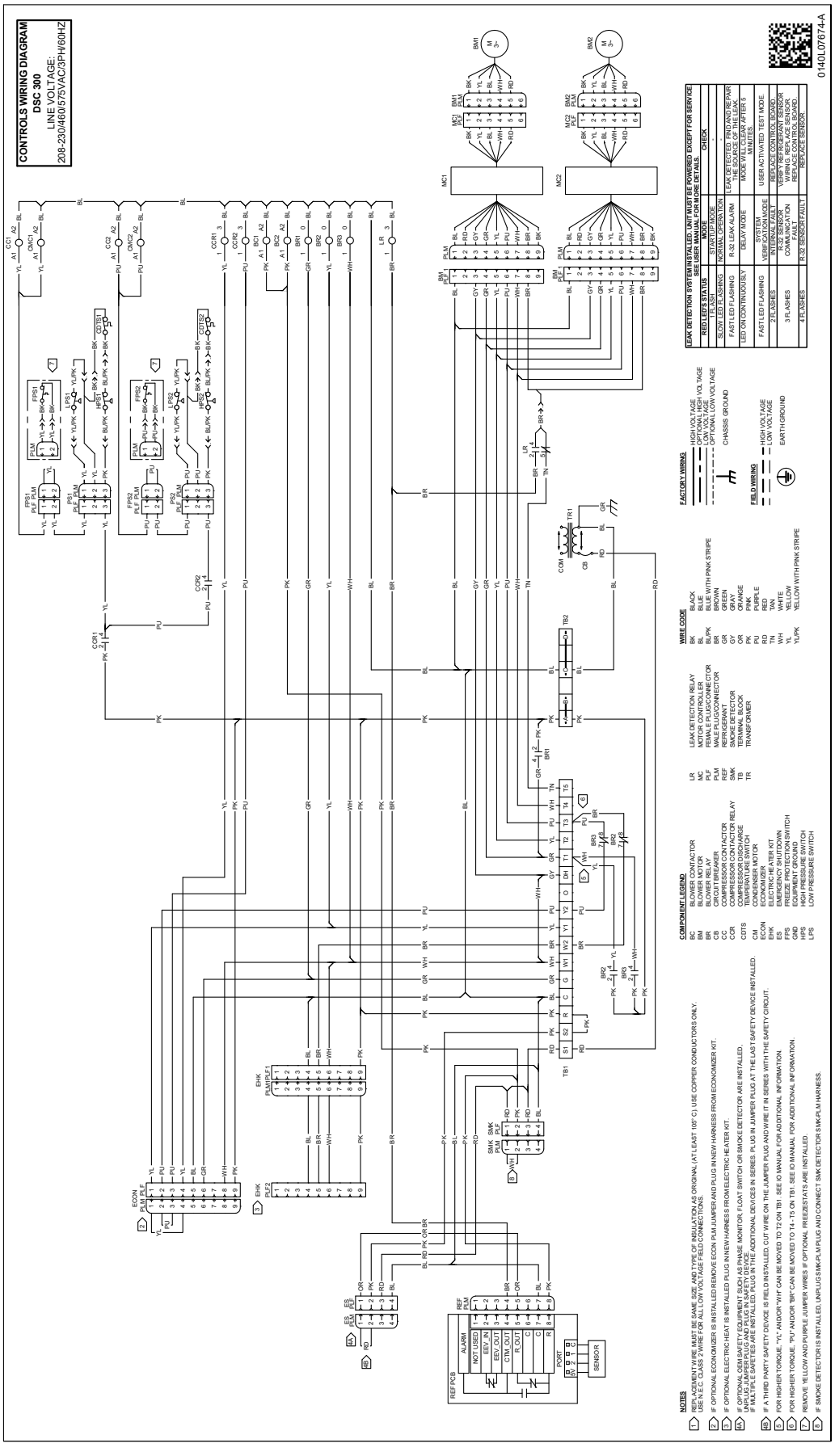

LED'S STATUS	SYSTEM MODE	CHECK
SOLID LED FLASHING	NORMAL OPERATION	-
SLOW LED FLASHING	SYSTEM IDLE	-
FAST LED FLASHING	R-32 LEAK ALARM	LEAK DETECTED. FIND AND REPAIR THE LEAK. CONTACT A QUALIFIED SERVICER
LED ON CONTINUOUSLY	DELAY MODE	MODE WILL CLEAR AFTER 5 MINUTES
FAST LED FLASHING	SYSTEM VERIFICATION MODE	USER ACTIVATED TEST MODE.
2 FLASHES	INTERNAL FAULT	REPLACE CONTROL BOARD
3 FLASHES	R-32 SENSOR COMMUNICATION FAULT	VERIFY R-32 SENSOR WIRING. REPLACE SENSOR. REPLACE CONTROL BOARD
4 FLASHES	R-32 SENSOR FAULT	REPLACE SENSOR

Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.

WARNING

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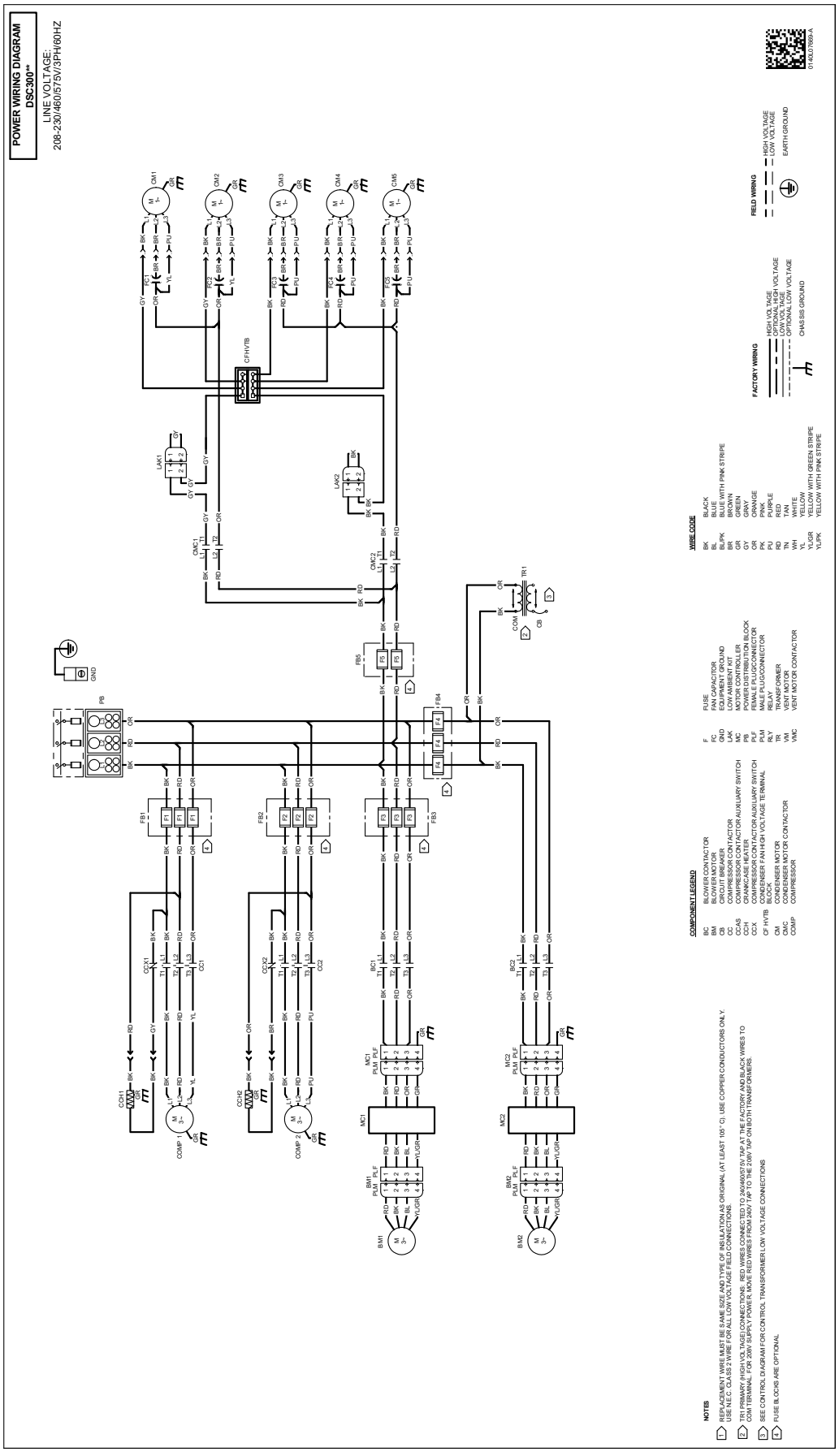

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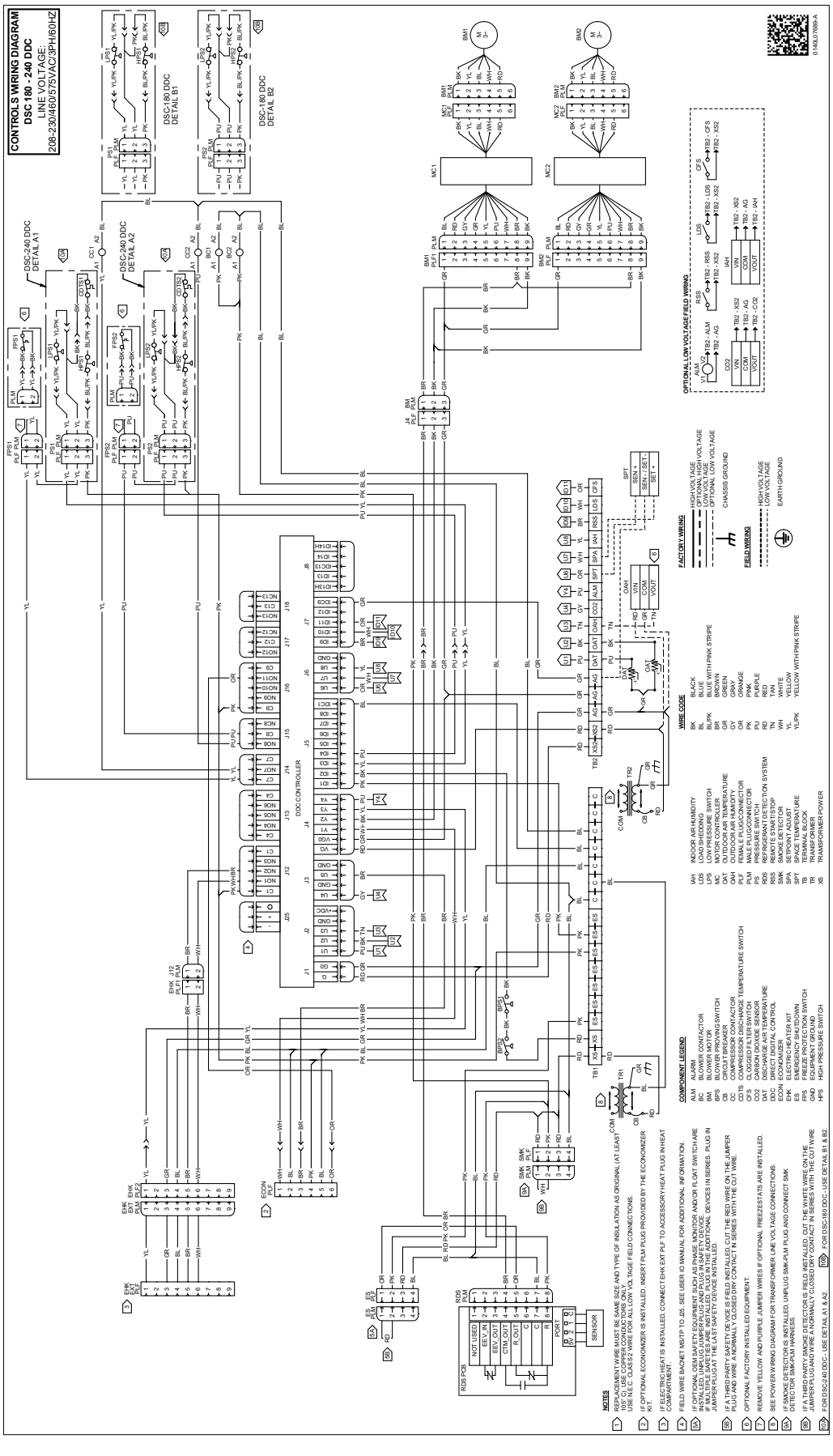

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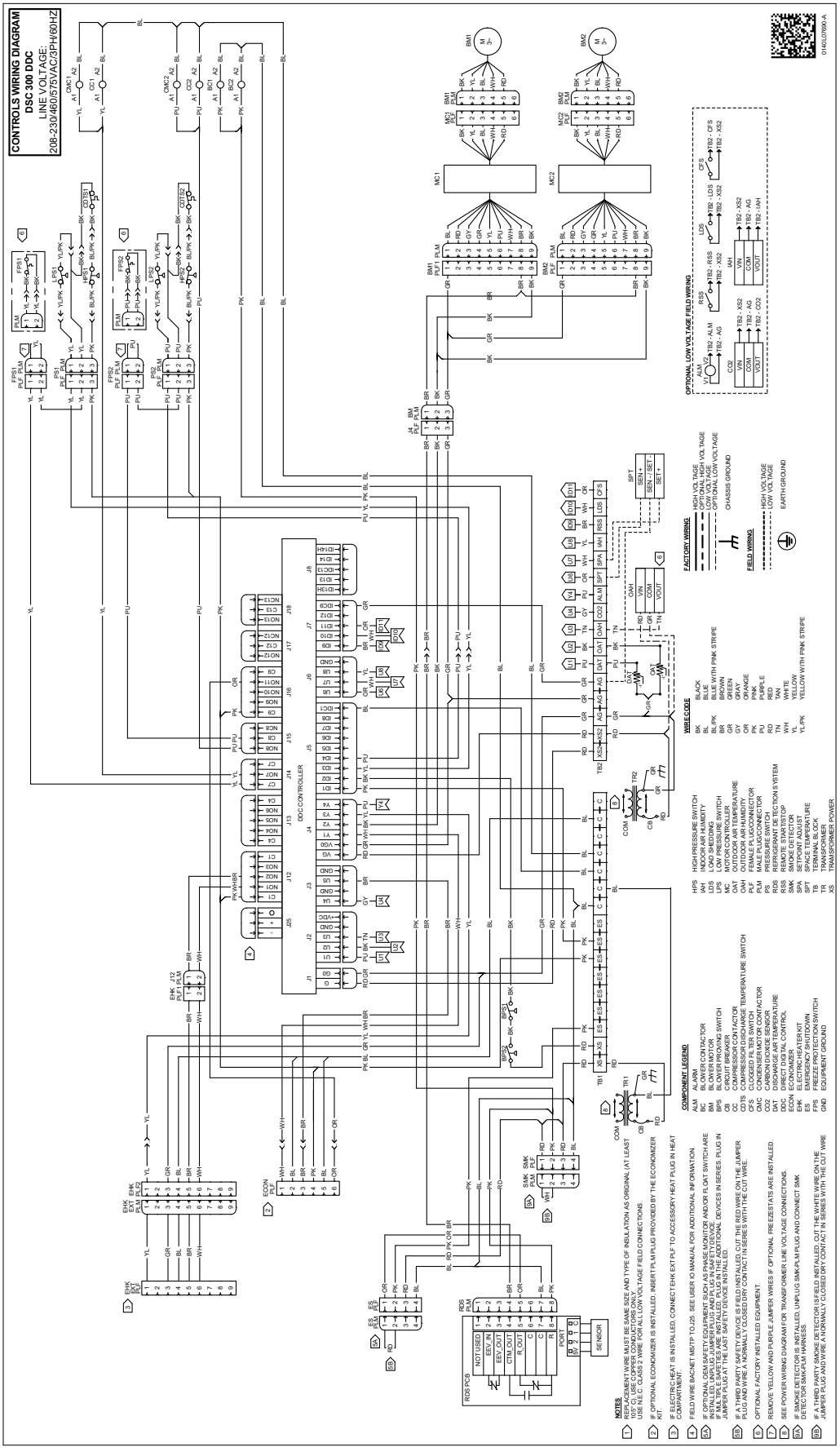

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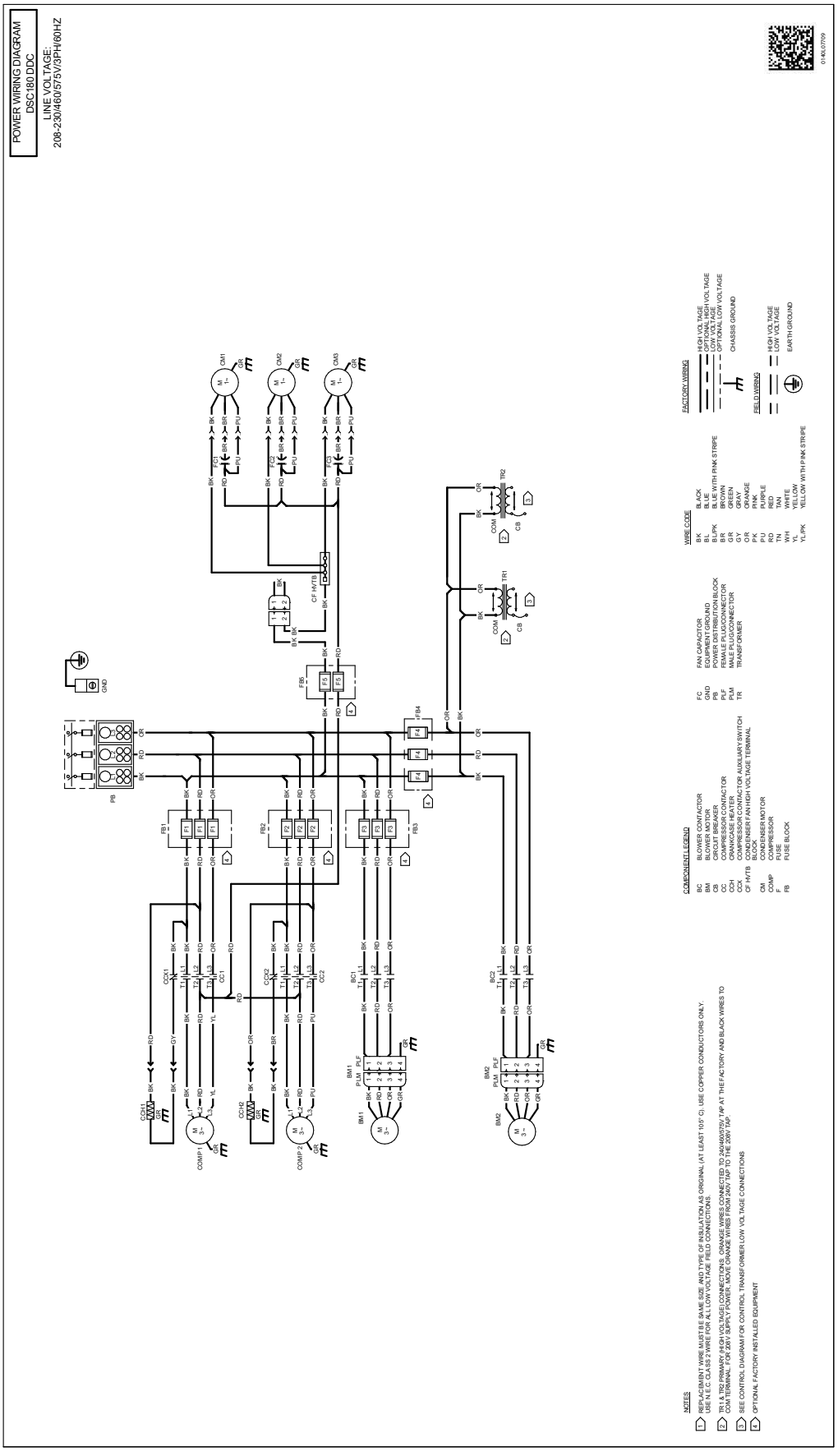

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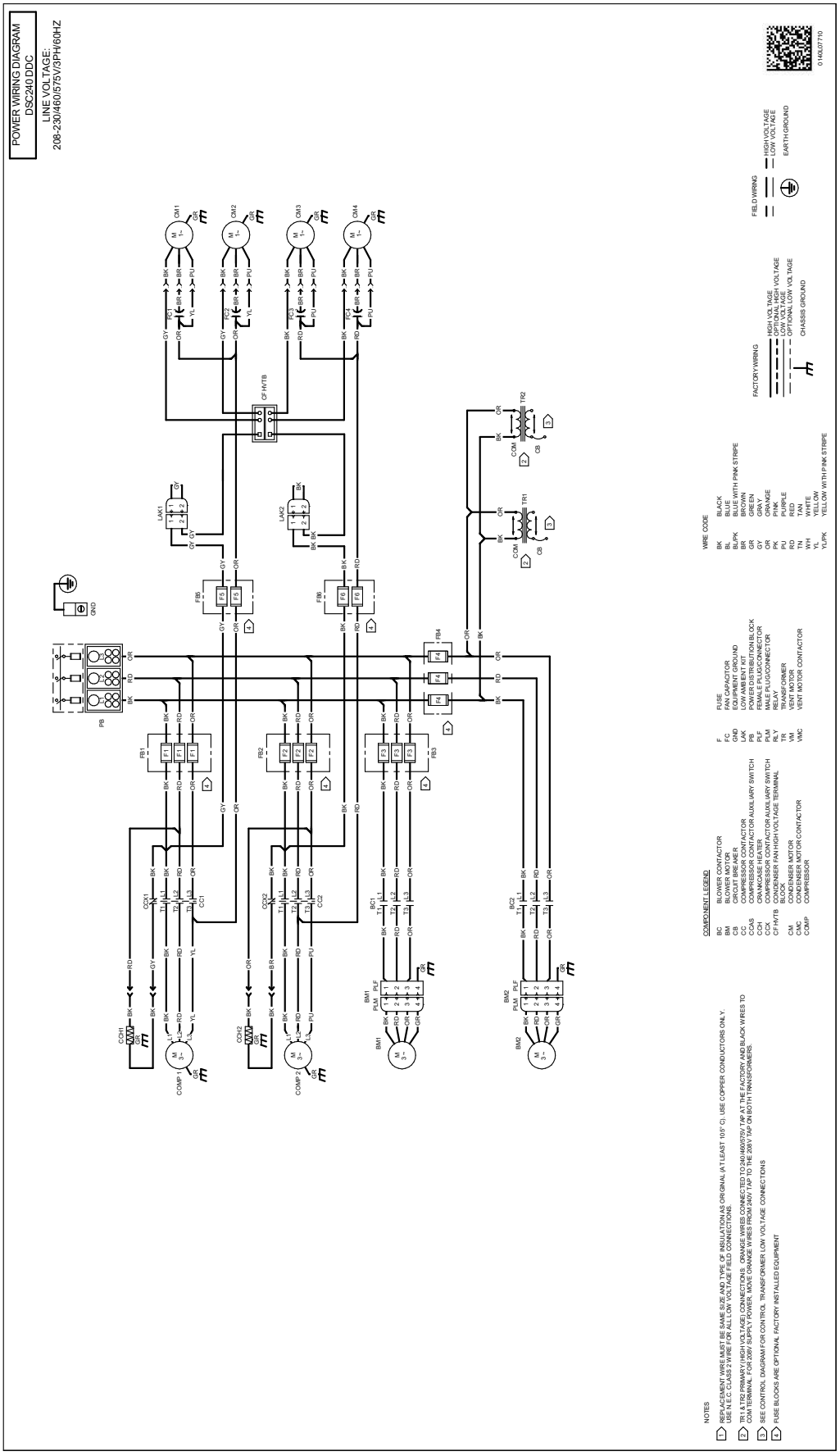

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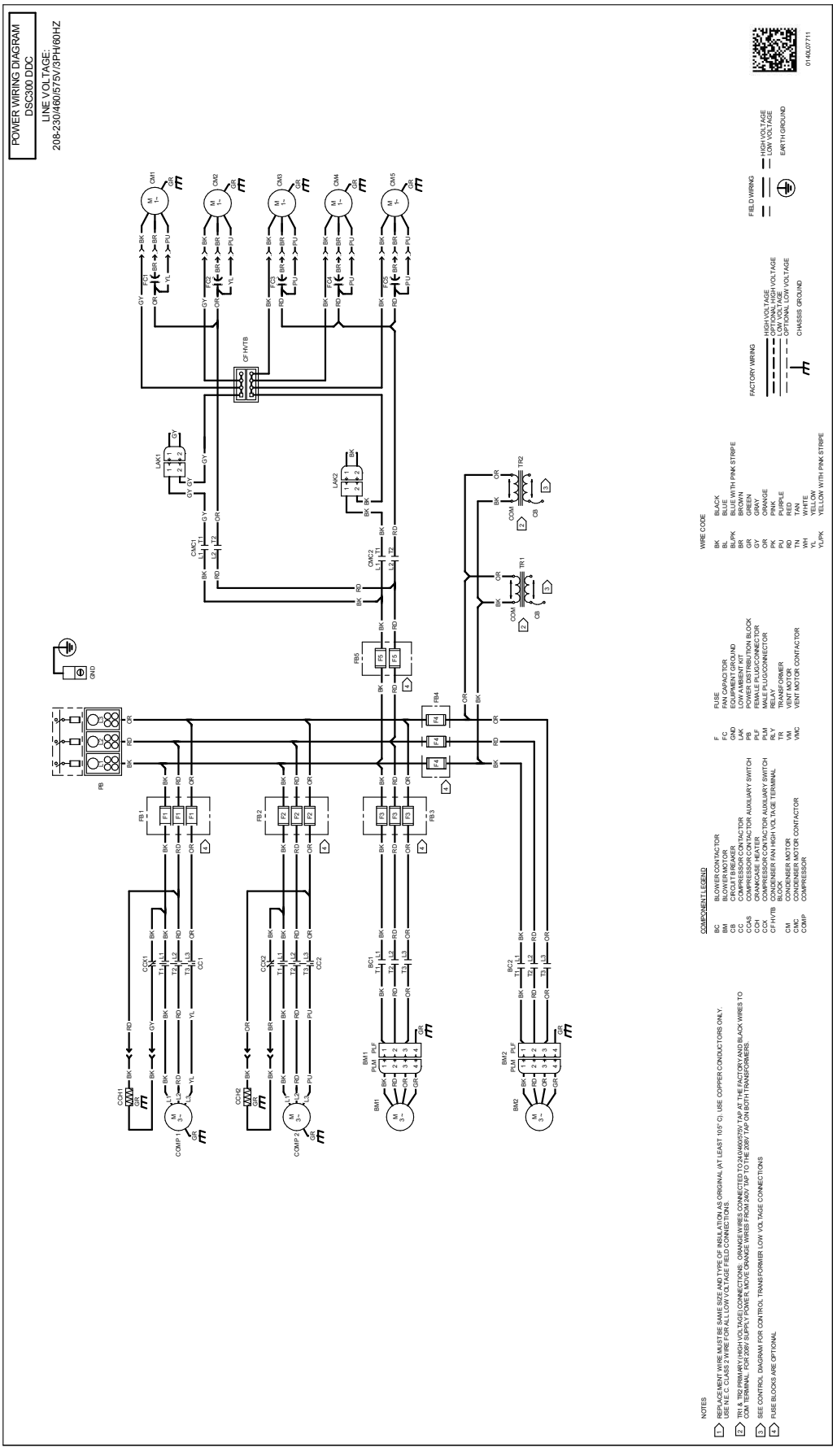

Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.

Start-up Checklist

**Store in job file*

Date: _____ Location: _____

Model Number: _____ _____

Serial Number: _____ _____

Technician: _____ Unit #: _____

Pre Start-Up

(Check each item as completed)

☐ Verify all packaging material has been removed.

☐ Remove all shipping brackets per installation instructions.

☐ Verify the job site voltage agrees with the unit serial plate.

☐ Verify condensate connection is installed per installation instructions.

☐ Verify proper clearance around the unit for safety, service, maintenance and proper unit operation.

☐ Verify proper weatherproofing of all ductwork, roof curbs and electrical connections.

☐ Check to ensure that all fans, pulleys and wheels are secure.

☐ Check for proper belt tension and alignment per installation instructions.

☐ Check refrigerant piping for rubbing and leaks. *Repair if necessary.*

☐ Check unit wiring to ensure it is not in contact with refrigerant piping or sharp metal edges.

☐ Check all electrical connections and terminals. *Tighten as needed.*

☐ Verify that the crankcase heaters have been energized for 24 hours.

☐ Verify the scroll compressor(s) are rotating in the right direction.

☐ Verify all accessories are installed and operating correctly.

☐ Check filters and replace if necessary.

☐ Verify the installation of the thermostat.

Start-up Checklist

Start-Up
(Insert the values as each item is completed.)

ELECTRICAL

Supply Voltage	L1 - L2	_____	L2 - L3	_____	L3 - L1	_____
Circuit 1 Compressor Amps	L1	_____	L2	_____	L3	_____
Circuit 2 Compressor Amps	L1	_____	L2	_____	L3	_____
Blower Amps	L1	_____	L2	_____	L3	_____
Condenser Fan Amps	Fan 1	_____	Fan 2	_____	Fan 3	_____

BLOWER EXTERNAL STATIC PRESSURE

Return Air Static Pressure	_____	IN. W.C.
Supply Air Static Pressure	_____	IN. W.C.
Total External Static Pressure	_____	IN. W.C.
Blower Wheel RPM	_____	RPM

TEMPERATURES

Outdoor Air Temperature	_____	DB	_____	WB
Return Air Temperature	_____	DB	_____	WB
Cooling Supply Air Temperature	_____	DB	_____	WB
Heating Supply Air Temperature	_____	DB		

PRESSURES

Gas Inlet Pressure	N/A	IN. W.C.		
Gas Manifold Pressure	N/A	IN. W.C. (Low Fire)	N/A	IN. W.C. (High Fire)
Suction Circuit 1	_____	PSIG	_____	°F
Superheat (Orifice System)			_____	°F
Suction Circuit 2	_____	PSIG	_____	°F
Superheat (Orifice System)			_____	°F
Discharge Circuit 1	_____	PSIG	_____	°F
Subcooling (TXV System)			_____	°F
Discharge Circuit 2	_____	PSIG	_____	°F
Subcooling (TXV System)			_____	°F

(HEAT PUMP ONLY)

Suction Circuit 1	_____	PSIG	_____	°F
Suction Circuit 2	_____	PSIG	_____	°F
Discharge Circuit 1	_____	PSIG	_____	°F
Discharge Circuit 2	_____	PSIG	_____	°F

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CUSTOMER FEEDBACK
Daikin is very interested in all product comments.
Please fill out the feedback form on the following link:
https://daikincomfort.com/contact-us
You can also scan the QR code on the right to be directed to the feedback page.

Our continuing commitment to quality products may mean a change in specifications without notice.
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