



150 TON AHU OPERATING AND SERVICE MANUAL



STARTING S/N AHU 150-22-00037
REV-

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Important Safety Information

Most accidents that involve product operation, maintenance and repair are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. A person must be alert to potential hazards, including human factors that can affect safety. This person should also have the necessary training, skills and tools to perform these functions properly.

Improper operation, lubrication, maintenance or repair of this product can be dangerous and could result in injury or death.

Do not operate or perform any lubrication, maintenance or repair on this product, until you verify that you are authorized to perform this work, and have read and understood the operation, lubrication, maintenance, and repair information.

Safety precautions and warnings are provided in this manual and on the product. If these hazard warnings are not heeded, bodily injury or death could occur to you or to other persons.

The hazards are identified by the "Safety Alert Symbol" and followed by a "Signal Word" such as "DANGER", "WARNING" or "CAUTION". The Safety Alert "WARNING" label is shown below.



The meaning of this safety alert symbol is as follows:

Attention! Become Alert! Your Safety is involved.

The message that appears under the warning explains the hazard and can be either written or pictorially presented.

A non-exhaustive list of operations that may cause product damage are identified in this publication.

TCRS cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this publication and on the product are, therefore, not all inclusive. You must not use this product in any manner different from that considered by this manual without first satisfying yourself that you have considered all safety rules and precautions applicable to the operation of the product in the location of use, including site-specific rules and precautions applicable to the worksite. If a tool, procedure, work method or operating technique that is not specifically recommended by TCRS is used, you must satisfy yourself that it is safe for you and for others. You should also ensure that you are authorized to perform this work, and that the product will not be damaged or become unsafe by the operation, lubrication, maintenance or repair procedures that you intend to use.

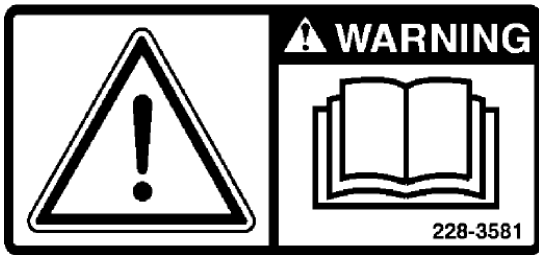
The information, specifications, and illustrations in this publication are on the basis of information that was available at the time that the publication was written. The specifications, torques, pressures, measurements, adjustments, illustrations, and other items can change at any time. These changes can affect the service that is given to the product. Obtain the complete and most current information before you start any job.



When replacement parts are required for this product, TCRS recommends using parts with equivalent specifications including, but not limited to, physical dimensions, type, strength and material.

Failure to heed this warning can lead to premature failures, product damage, personal injury or death.

Universal Warning

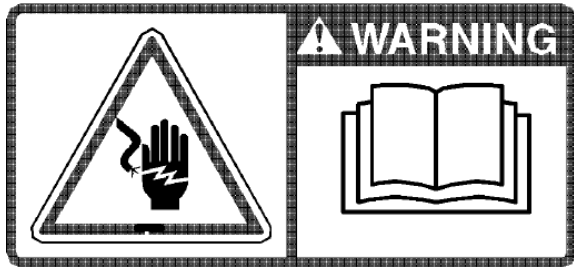


WARNING

Do not operate or work on this equipment unless you have read and understand the instructions and warnings in the Operation and Maintenance Manuals. Failure to follow the instructions or heed the warnings could result in serious injury or death.

Electrical Shock

The safety message for electrical shock is located on the control panel.



WARNING

WARNING! Shock/Electrocution Hazard! Read and understand the instructions and warnings in the Operation and Maintenance Manual. Failure to follow the instructions or heed the warnings could cause serious injury or death.

Additional Messages

There are several warning labels on this unit. Please be aware of all warning labels.

Make sure that all of the messages are legible. Clean the messages or replace the messages if the words or images are unreadable. When you clean the messages, use a cloth, water and soap. Do not use solvent, gasoline, or other harsh chemicals to clean the messages. Solvents, gasoline, or harsh chemicals could loosen the adhesive that secures the messages. Loose adhesive will allow the messages to fall off.

Replace any message that is damaged, or missing. If a message is attached to a part that is replaced, install a message on the replacement part.

General Hazard Information



Attach a “Do Not Operate” warning tag to the start switch or controls before the unit is serviced or repaired. Attach the warning tags to the unit and to the operator control station. When appropriate, disconnect the starting controls. Do not allow unauthorized personnel on the unit, or around the unit when the unit is being serviced. Cautiously remove the following parts. To help prevent spraying or splashing of pressurized fluids, hold a rag over the part that is being removed.

- Gage ports
- Breathers
- Drain plugs

Use caution when cover plates are removed. Gradually loosen, but do not remove the last two bolts or nuts that are located at opposite ends of the cover plate or the device. Before removing the last two bolts or nuts, pry the cover loose in order to relieve any spring pressure or other pressure.

Wear a hard hat, protective glasses, and other protective equipment, as required. Do not wear loose clothing or jewelry that can snag on parts of the unit. Ensure that all protective guards and all covers are secured in place on the unit. Never put maintenance fluids into glass containers. Glass containers can break. Use all cleaning solutions with care. Report all necessary repairs.

Unless other instructions are provided, perform maintenance under the following conditions:

The unit is powered down and cannot be started.
The protective locks on the controls are in the locked out position.
Do not attempt any repairs that are not understood. Use the proper tools.
Replace any equipment that is damaged or repair the equipment.

Pressurized Air and Water

Pressurized air and/or water can cause debris and/or hot water to be blown out which could result in personal injury. The maximum air pressure for cleaning purposes must be reduced to 205 kPa (30 psi) when the air nozzle is deadheaded and used with effective chip guarding (if applicable) and personal protective equipment. The maximum water pressure for cleaning purposes must be below 275 kPa (40 psi). When pressurized air and/or pressurized water is used for cleaning, wear protective clothing, protective shoes, and eye protection. Eye protection includes goggles or a protective face shield. Always wear eye protection for cleaning the cooling system. Avoid direct spraying of water on electrical connectors, connections, and components. When using air for cleaning, allow the machine to cool to reduce the possibility of fine debris igniting when redeposited on hot surfaces.

Fluid Penetration

Always use a board or cardboard when you check for a leak. Leaking fluid that is under pressure can penetrate body tissue. Fluid penetration can cause serious injury and possible death. A pinhole leak can cause severe injury. If fluid is injected into your skin, you must get treatment immediately. Seek treatment from a doctor that is familiar with this type of injury.

Containing Fluid Spillage

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting, and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids. Dispose of all fluids according to local regulations and mandates.

Dispose of Waste Properly

Improperly disposing of waste can threaten the environment. Potentially harmful fluids should be disposed of according to local regulations. Always use leak proof containers when you drain fluids. Do not pour waste onto the ground, down a drain, or into any source of water.

Burn Prevention

Do not service an operating unit. Allow liquids to cool before any maintenance is performed.

Technical Data Specifications

Model Number	AH150TON
Serial Number	AC150-22-0037
Capacity	150 TON
Voltage	480V 3PH 60Hz
FL Amps - Cooling	27 AMPS
Interrupt Rating	10KAIC
Minimum Circuit	40 AMPS
Enclosure Type	Type 3R
Control	110V
Control	12V DC
Blower Motor	
WATTS	4400 WATTS x4
FLA	6.6 AMPS x4
Circuit Protection	10 AMPS
Condensate Pump	
H.P.	1/150 HP
FLA	1 AMP
Circuit Protection	2 AMPS
Control Transformer	
Rating	500 VA
Primary Fuse	ATDR4
Secondary Fuse	ATDR4
DBA @20'	76 DBA
DBA @20' with Ducts	66 DBA
Weight	3500 LBS.

Made in USA

Operator Control Panel



Operation and Service

- Turn on Main Disconnect
- Turn BLOWER switch to the ON position. Green BLOWER ON light indicates system is powered.
- Turn BLOWER SPEED to desired speed. Blower minimum speed is 30% when blower is on.
- Filter and mist eliminator must be kept clean to ensure proper operation.

Troubleshooting

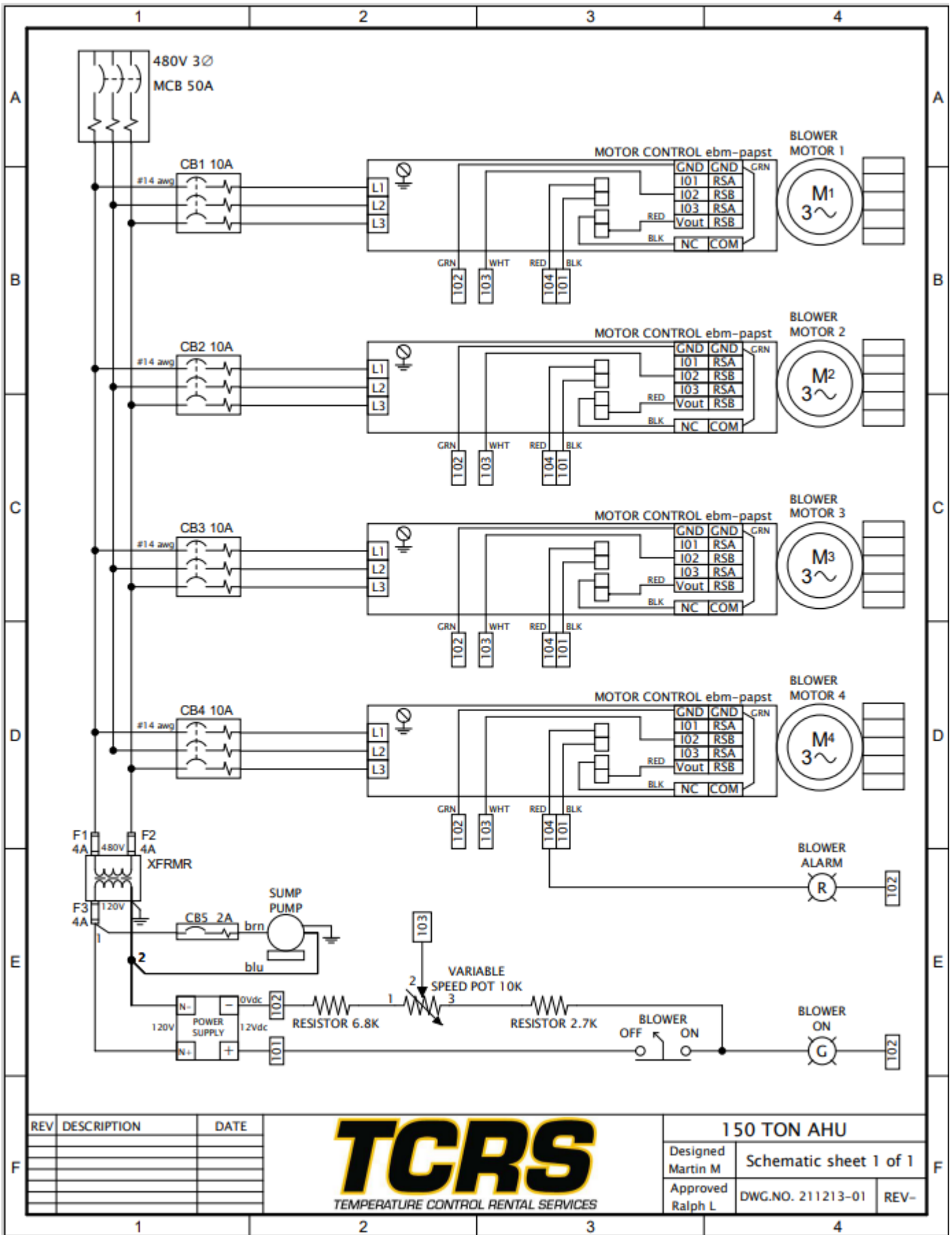
Caution must be taken when troubleshooting the electrical circuit and should only be performed by a trained service technician.

INDICATION	POSSIBLE CAUSE	CORRECTIVE ACTION
Nothing operates	Main power Control power	Check voltage Check transformer and fusing
Blower Fault	Breaker tripped Motor failure	Find cause, reset breaker Verify 480V 3ph is present Verify 0-10VDC control voltage is present replace blower motor if not responding

For operation and service concerns please call:



Electrical Schematic

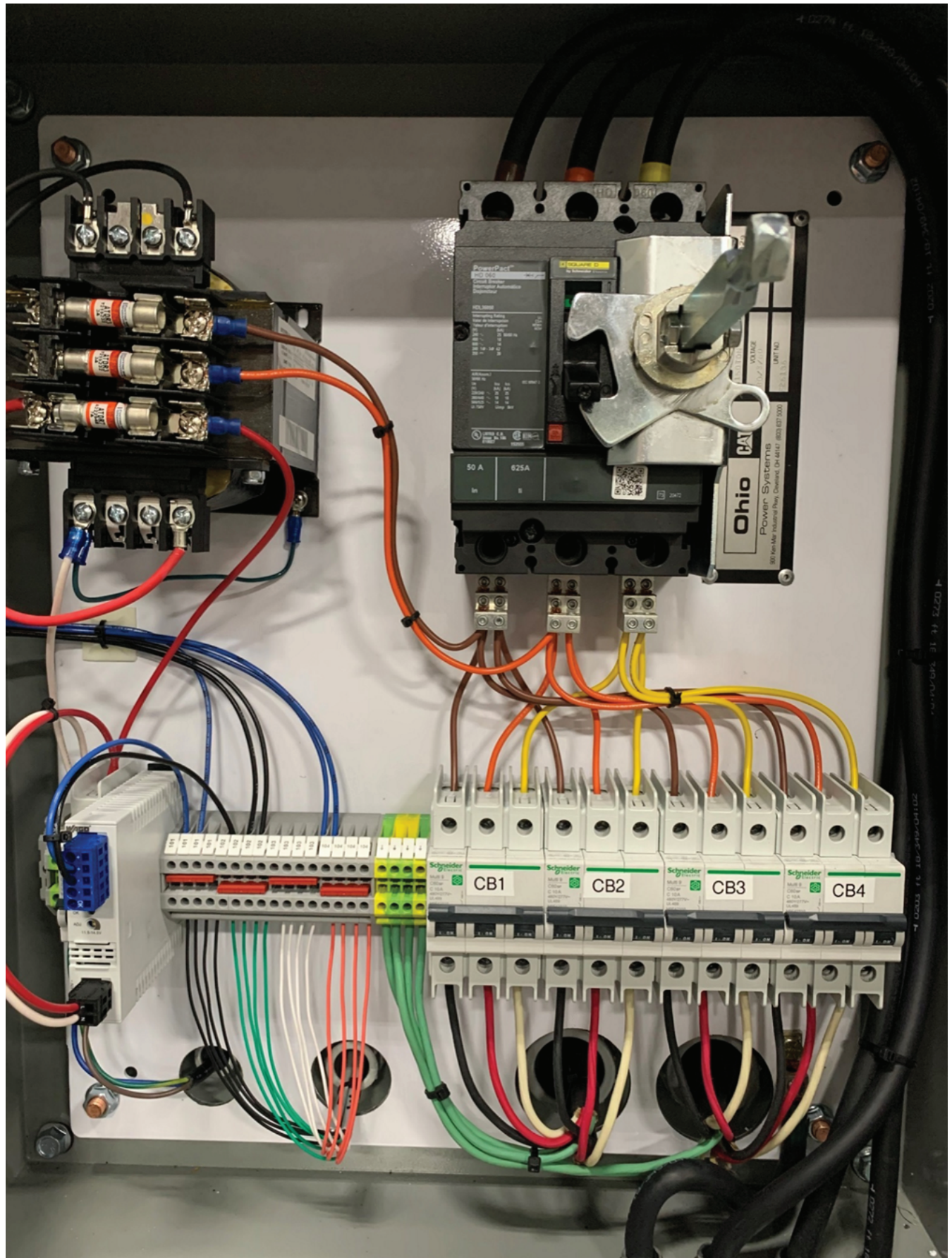


REV	DESCRIPTION	DATE



150 TON AHU	
Designed Martin M	Schematic sheet 1 of 1
Approved Ralph L	DWG.NO. 211213-01 REV-

Electrical Panel Layout



GENERAL SPECIFICATIONS

BASE CONSTRUCTION

- 8" 6061 ALUMINUM CHANNEL PERIMETER
- 8" X 4" X 1/4" WALL 6061 ALUMINUM FORK TUBES
- 1/4" ALUMINUM FLOOR

WALL CONSTRUCTION

- 6061 ALUMINUM EXTRUDED FRAMING WITH THERMAL BREAK
- 2" THICK PANELS WITH .063 ALUMINUM SKINS, POLYURETHANE FOAM FILLED WITH THERMAL BREAK

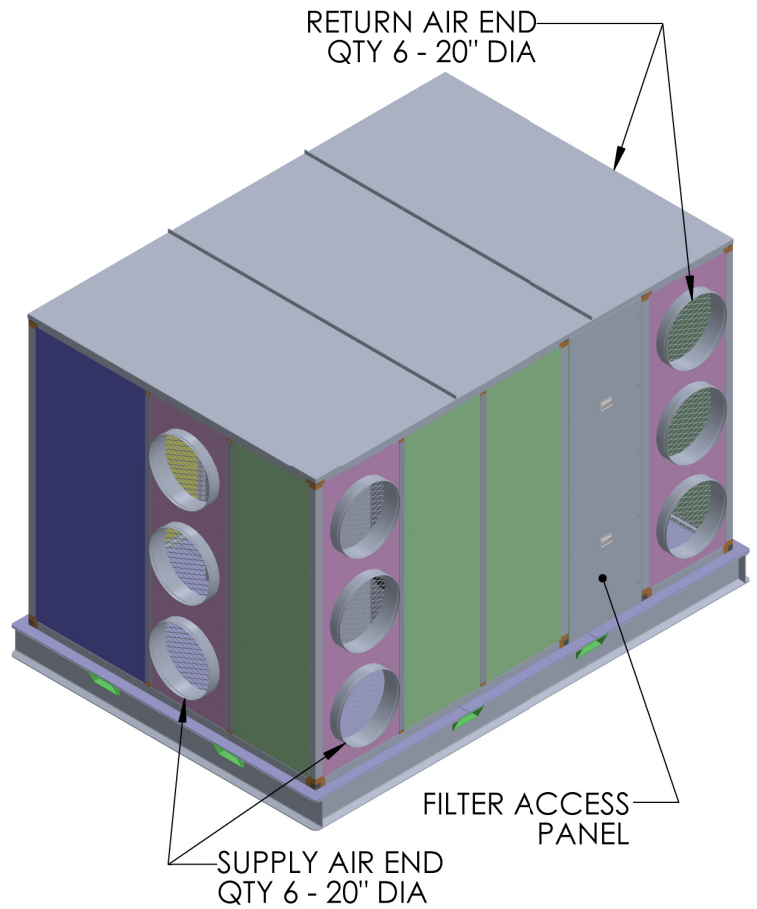
ROOF CONSTRUCTION

- 2" THICK INSULATED
- .063 ALUMINUM INNER SKINS
- .063 ALUMINUM TOP ROOF SKINS

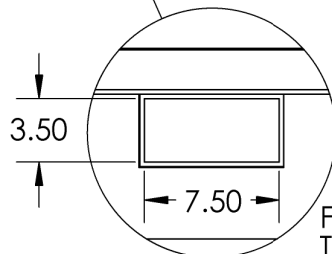
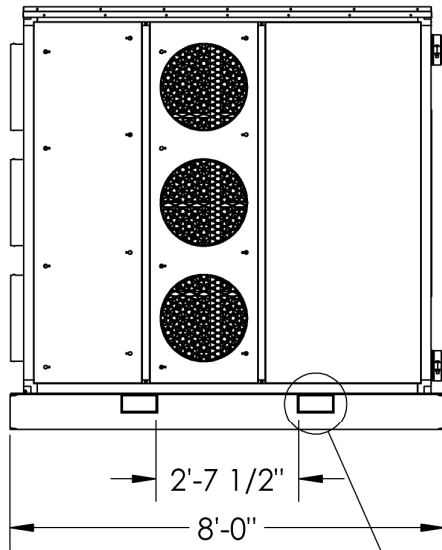
BLOWER DATA

- QTY 4 VARIABLE SPEED REVERSE INCLINE EC FANS
- 14000-32000CFM, 24000CFM@4.5 TSP

WEIGHT - 3800Lbs



WATER CONNECTION/OPERATOR SIDE



FORK POCKET DETAIL
TYPICAL 4 SIDES

