



ADVANCED SERIES

CW MODELS

HEAT & ENERGY
RECOVERY VENTILATORS

IOM



READ AND SAVE THESE INSTRUCTIONS

CAUTION

Always turn off electrical power and verify that the unit is electrically safe before performing any maintenance on the unit. This unit contains high-voltage electrical components.

CAUTION

This unit has moving parts. All repairs and maintenance should be performed by a qualified technician to avoid serious injuries.

IMPORTANT

- Always turn off electrical power and verify that the unit is electrically safe before performing any maintenance on the unit.
- No modifications shall be made to the unit under any circumstances. Warranty will be immediately voided.
- Do not use this device to exhaust steam, inflammable or explosive gases.
- Electrical connections shall be made by a qualified electrician.
- Airflows shall be as per the approved submittal in order for the ventilation system to function properly and the warranty be honored.
- Installation shall be completed in conformance with local construction and safety codes.
- All drawings, photos and diagrams contained in this document are for reference purposes only. Units may differ.
- Carnes reserves the right to modify unit and its components without prior warning.

WARRANTY

Aldes products are guaranteed to be defect-free for a period of (2) years from the date of purchase.

- Labor not included.
- Wheel system is covered under a 2-year limited warranty.

WARRANTY DOES NOT APPLY IF:

- Modifications were made by or for the client.
- Product was poorly installed.
- Maintenance, cleaning and lubrication were not executed in accordance with recommendations made by Aldes.

WARRANTY EXCLUSIONS

- All installation fees and labor relating to product repairs.
- All fees related to a loss of operations, merchandise, inventory or equipment due to a defective Aldes product.

Unpacking Your Unit

Remove the protective wrapping from the unit including the foam protection at each corner. Extra care should be taken to not scratch the painted surfaces. Appropriately dispose of materials according to local and/or project specific requirement.

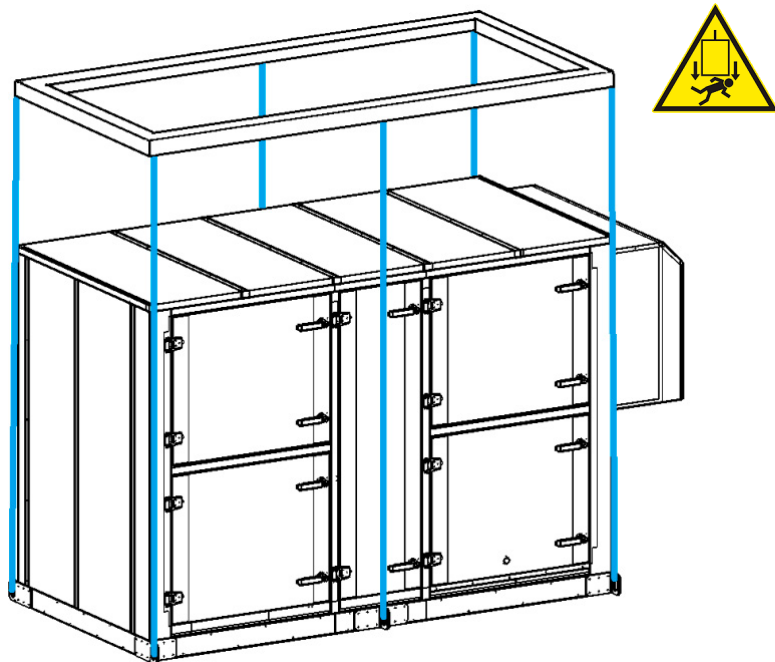
Inspecting Your Unit

Visually inspect the unit to ensure that no sheet metal has been dented or scratched. Verify that the air intake and exhaust hoods have not been damaged in transport.

Warning: Do not remove the shipping attachments until the unit has been moved to its final location.

Transport Method

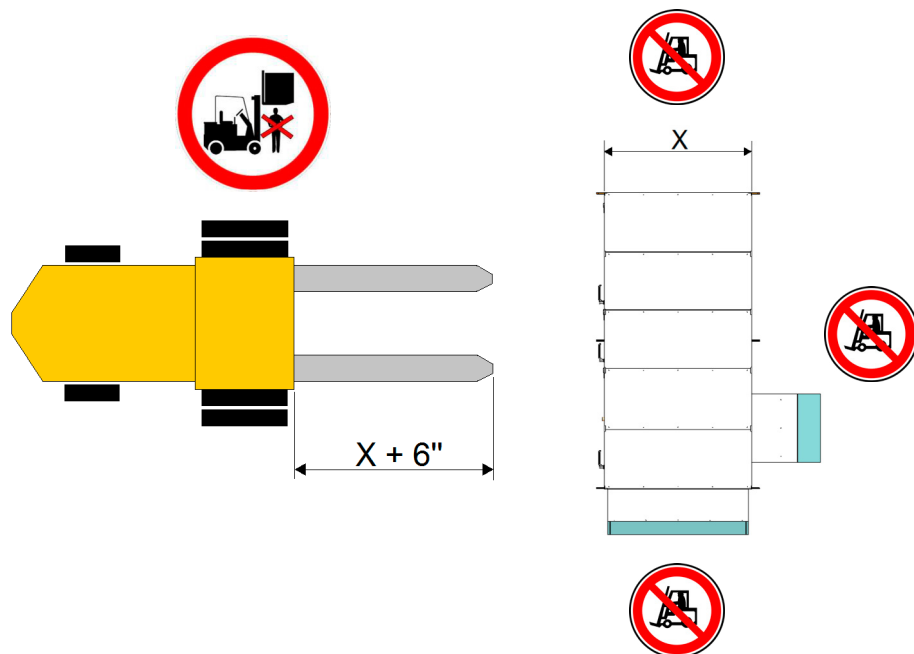
Your unit is equipped with anchors for handling purposes only. Strictly follow all directions before handling your unit. Always use all six (6) anchors points simultaneously as shown in the diagram.



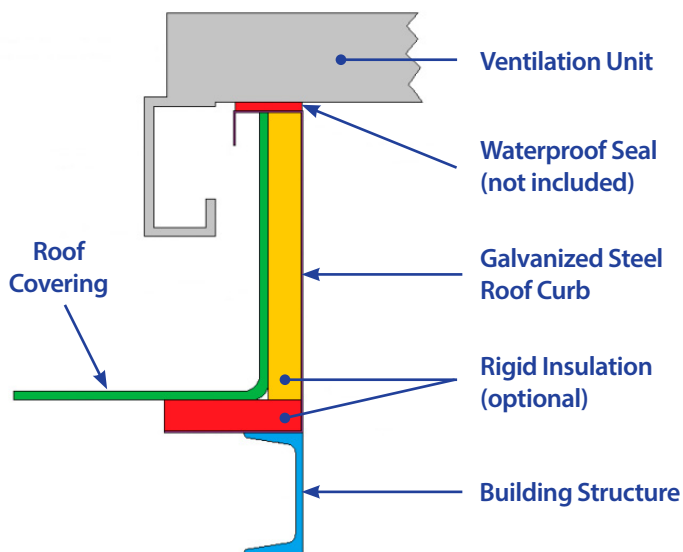
Using a Forklift to Move the Unit

Before using a forklift to move your unit, you must follow several safety rules.

- Weigh the unit and compare to the forklift capacity. The capacity of the forklift must exceed the weight of the device.
- Raise the device as shown in the diagram below. This is the only method authorized by Carnes to move the unit using a forklift.
- Transportation of the unit must be executed by a qualified forklift operator.
- Ensure that the forklift skids are a minimum of 6 inches longer than the width of the unit.

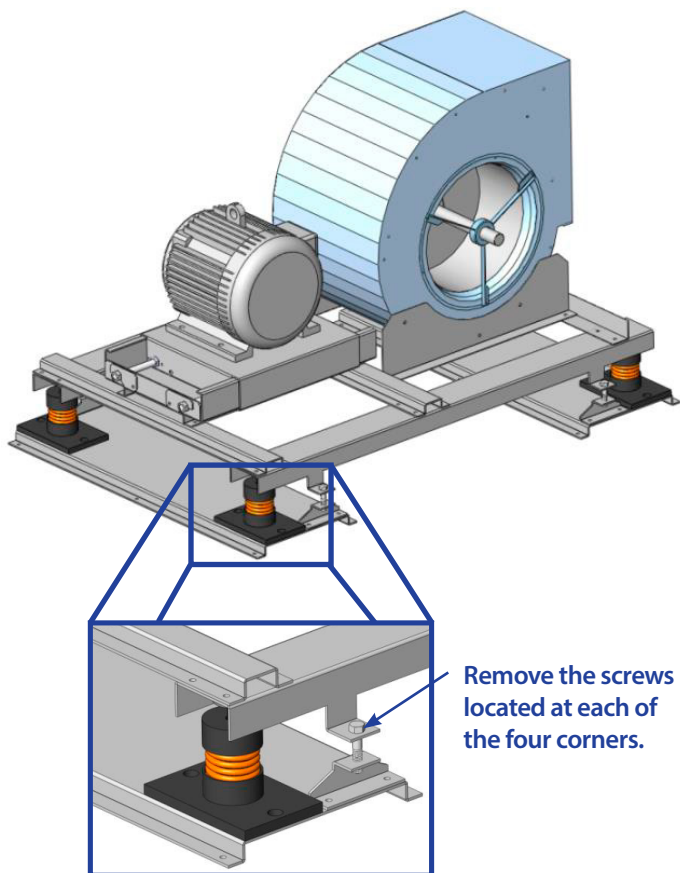


Roof curb Installation *(optional)*



Transport Attachments

Once the unit has been placed in its final location, remove all transport attachments.



Electrical Components

- Open the exterior panel using the handles (Photo 1).
- Turn the handles downwards and counterclockwise as indicated in the photo.
- Be aware that you must unlock the handles with the appropriate key in order to open the panel.

DANGER

This device contains high-voltage electrical components. All maintenance must be done by a qualified technician to prevent serious injury and possible death. Installation should be completed in conformance with local building standards and safety codes.

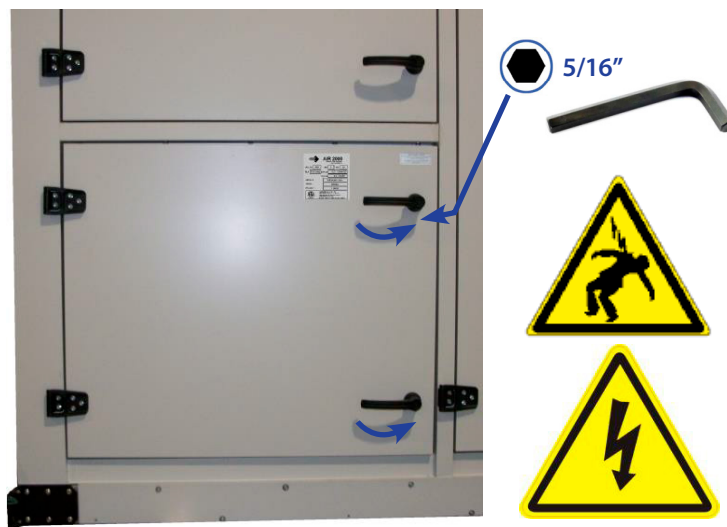


Photo 1

Connect the unit to the power grid using the disconnect switch. Such connection shall be made by a certified electrician in accordance with the applicable electrical code.



* Unit's specific control panel may differ. For reference only.

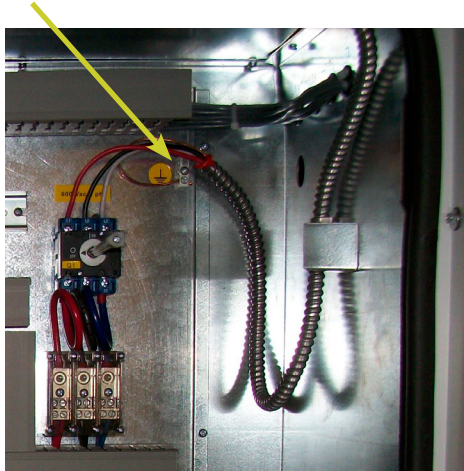
DANGER

This device contains high-voltage electrical components. All maintenance must be done by a qualified technician to prevent serious injury and possible death. Installation should be completed in conformance with local building standards and safety codes.



Set-Up Sequence

Make sure the Ground Wire is securely fasten to the appropriate socket. Such connection shall be made by a certified electrician in accordance with the applicable electrical code.



** Unit's specific control panel may differ. For reference only.*

1- Measure the voltage of the main circuit breaker and note the values (1 to 3 steps). Such Measurement shall be made by a certified electrician in accordance with the applicable electrical code.

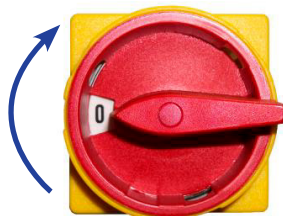
- L1 – L2 : _____
- L1 – L3 : _____
- L2 – L3 : _____
- L1 – G : _____
- L2 – G : _____
- L3 – G : _____

A maximum deviation of $\pm 5\%$ is acceptable.

2- With the unit's Electrical Wiring Diagram (supplied separately), close the Start/stop and Occupancy control Dry contact.

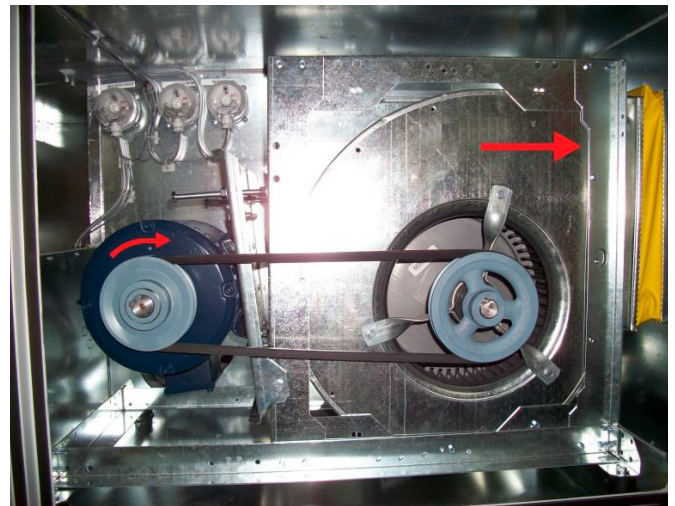
3- Close the main disconnect switch, the unit should start

WARNING, from this point on, the unit is no longer Electrically safe.



Device Start-Up

Verify that the motors and blowers are rotating in the proper direction.



DANGER

This device has moving parts. All repairs should be made by a qualified technician in order to avoid serious injury.



RECOMMENDATION

Before turning on your new device, inspect the condition of the ventilation ducts. Clean the ducts before turning on your device. If building construction has not yet been completed, we recommend that you wait until work has been finished before starting up your device. An abnormal volume of dust in the air could clog the device filters and cause damage to the motors. Ensure that all diffusers are opened to their maximum capacity before turning on your device. It is common to notice a faint smell of burning upon the first start-up.



CAUTION

This device should be installed and balanced by a specialized contractor in ventilation services.



WARNING

Electrical currents remain at the capacitors for 5 minutes after circuits disconnect have been opened. The following electrical components may not be electrically safe immediately:

- Variable Frequency Drive for the enthalpy wheel motor;
- Variable Frequency Drive for the blowers motors.



Options Glossary

The following options may not be included with your device. Consult the specifications form provided with your device for more information.

Options Glossary *Continued*

All of the defrost modes listed below may not be included with your device. Consult the specifications form provided with your device for more information.

Control Options

Dirty filters contact: A dry contact, available at the unit's terminal board, closes when the pressure drop across a specific filter bank reaches its final pressure drop.

Blowers rotation detection: Unit stops if rotation if the pressure increase in the supply air blower is null.

Free-Cooling Management: The unit measures and monitors outdoor air temperature and when within a specific range, the unit goes into free-cooling.

End switch on Dampers: Unit start-up conditionally to the dampers openings.

BACnet compatible Controller: Unit is controlled using a BACnet compatible controller. The controller can communicate with either a:

- MS/TP connection or
- IP connection

Remote Displays:

Offered with command buttons or with touch screen (Only available with the BACnet controller).

Defrost Modes

- Built-in self controlled electric preheating coil (SSR-controlled).
- The unit preheats the outside air at a given set point at which no frost will occur. The electric coil is self-controlled and powered by the unit (single point power connection).
- Built-in liquid preheating coil.
- The unit preheats the outside air at a given set point at which no frost will occur. A 0 to 10VDC control signal is available to control external hydronic valves (supplied by others).
- Fan exhaust defrost cycles.
- The unit monitors the outdoor air and when it reaches below a specific temperature, the unit cycles the supply air blower on and off for a specific duration to remove any built frost inside the fixed plate recovery core.
- Recirculation defrost cycles.
- The unit monitors the outdoor air and when it reaches below a specific temperature, the unit cycles the exhaust air blower and the recirculation damper on and off for a specific duration to remove any built frost inside the fixed plate recovery core. During such cycles, the unit will recirculate the air drawn from the building directly back into the building.

ENTHALPY WHEEL

°C	°F	Defrost Time	Ventilation Time
T° > -15°C	T° > 5°F	N/A	Continuous
-25°C < T° < -15°C	-13°F < T° < 5°F	7 min	32 min
T° < -25°C	T° < -13°F	7 min	20 min

Options Glossary

The following options may not be included with your device. Consult the specifications form provided with your device for more information.

Components Options

MERV13 Filters: Addition of a second MERV13 filters bank on the fresh air circuit only.

Extruded Aluminum Insulated dampers: Activated by a servomotor upon admission of fresh or exhaust air.

Non-Insulated Backdraft Gravity dampers (for evacuation purposes only).

Backward Inclined blowers (BI).

Post-Heating Coil: Electric or liquid (0-10 VDC signal or 0-10 VDC signal provided by other components to maintain air input temperature).

Liquid Cooling Coil: Cold water cooling coil installed inside the unit (0 to 10 VDC signal by others). Supplied with a drain pan.

DX Cooling Coil: Direct expansion cooling coil installed inside the unit. Condensation unit provided by other components. Supplied with a drain pan.

Unit Features

Intake and Exhaust Hoods: Hoods on the intake opening and the exhaust opening to protect from rain and snow. Comes with 3/8 bird screen mesh.

Roof curb: 14 inches in height, insulated or non-insulated, in 18-calibre galvanized steel.

Piping connection (for hydronic coils and drain pan): Can be located either at the front of the unit (same side as the doors) or at the back of the unit (opposite side of the doors).

Always consult a professional plumber to connect the drain pans. Typical installation uses a properly sized P-Trap. (For outdoor installation, the P-trap can be removed to avoid frozen condensation).

Options Glossary *Continued*

Blowers Motor Options

Construction: TEFC

Two speeds application: A single speed motor is controlled with a preprogrammed VFD for a two speed application. The unit goes into high speed unis a dry contact.

Variable speeds: A single speed motor is controlled with a VFD. The unit speed is controlled using a 0-10 VDC signal provided by others.

Maintenance

CAUTION

Always turn off electrical power before performing device maintenance. Device contains high-voltage electrical components.



Every 3 months

- Check the condition of the filters and make replacements if necessary.
- Check the condition and tension of belts. Adjust or replace if necessary.
- Check the condition of ventilators and clean if needed.
- Check the condition of the wheel. The wheel is normally self-cleaning due to reversing of cool and contaminated air currents; however, certain conditions may cause grease build-up or accumulation of particles. Clean the wheel with water and mild soap. Note that the desiccant will not be affected during cleaning operations.
- Check the condition of the brushes on the thermal wheel and make adjustments if necessary.
- Check the condition of the belt on the thermal wheel.



IMPORTANT – Please read the following before placing a service call



Before making a service request, please have the following information ready concerning your device:

- Device series number
- Model number
- Project number

This information is necessary in order to address your problem as quickly as possible. The information is available on the specification card located on your device (see photo below).

		CW3000 ← Model Number	
VOLTS	575	PH	3
		HZ	60
MCA	86.6	MOP	90
		SCCR	5 KA
Mot.1:	5HP	Mot.2:	5HP
KW (Electr.):	22	Temp.:	22.6C
N° Série/Serial N°:	CW3000i1311001 ← Serial Number		
Projet/Project:	130368 ← Project Number		
 CONFORME SELON UL 1995 CONFORMS TO UL 1995 CERTIFIÉ SELON CSA C22.2 NO.236 CERTIFIED TO CSA C22.2 NO.236 MADE IN CANADA - FABRIQUÉ AU CANADA			