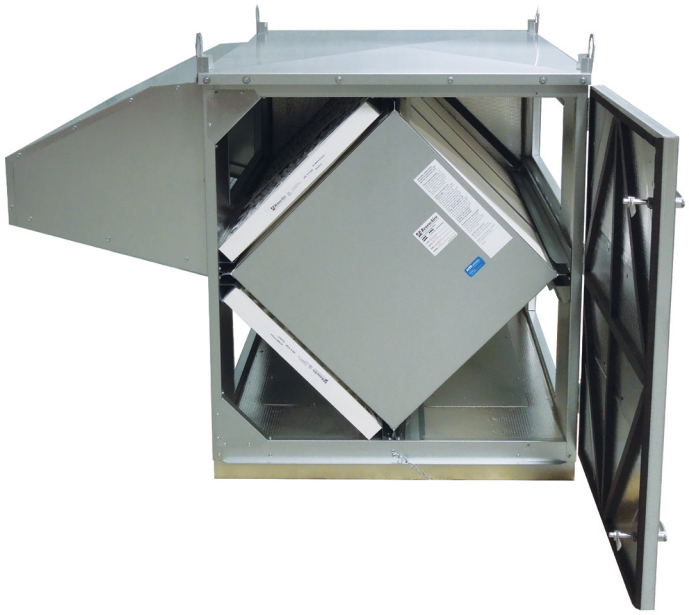
RenewAire
Energy Recovery Ventilation

CA SERIES ERV

Installation, Operation and Maintenance Manual

CA2XRT
CA3XRT
CA4XRT



CA3XRT shown

AHRI CERTIFIED
www.ahridirectory.org
Globally Recognized. Industry Respected.

⚠ WARNING

RISK OF FIRE, ELECTRIC SHOCK, OR INJURY.

OBSERVE ALL CODES AND THE FOLLOWING:

1. Before serviceing or cleaning the unit, switch power off at system disconnect switch or service panel and lock-out/tag-out to prevent power from being switched on accidentally. More than one disconnect switch may be required to de-energize the system for servicing.
2. This installation manual shows the suggested installation method. Additional measures may be required by local codes and standards.
3. Installation work and electrical wiring must be done by qualified professional(s) in accordance with all applicable codes, standards, and licensing requirements.
4. Any structural alterations necessary for installation must comply with all applicable building, health, and safety code requirements.
5. Electrical equipment connected to this unit must be properly grounded.
6. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment that might be installed in the area affected by this equipment. If this unit is exhausting air from a space in which chimney-vented fuel burning equipment is located, take steps to assure that combustion air supply requirements of applicable codes and standards.
7. Use the unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
8. This unit is intended for general ventilating only. Do not use to exhaust hazardous or explosive materials and vapors. Do not connect this unit to range hoods, fume hoods, or collection systems for toxics.
9. This unit must be properly ducted to the outdoors. Outside air inlets must not be located where air may be contaminated, for example by vehicle or appliance exhausts.

⚠ CAUTION

Tape both inner and outer vapor barriers of insulated duct to collars on duct adapters. This is critical to prevent migration of moisture into insulation. Build-up of moisture can result in failure of the duct system and/or frost in the insulation. Make sure any tears in the inner and outer vapor barriers are sealed.

⚠ CAUTION

Provide Adequate Service Access for Maintenance

The CA-Series Rooftop cabinet will require regular filter and core inspections. Install the CA-Series Rooftop cabinet where you can remove the doors for cleaning the core and replaceing the filters, and where you can get at the wiring for installation and service.

⚠ WARNING

The unit's outside air inlet should be at least 10' away from any exhaust, such as dryer vents, chimneys, furnace, and water heater exhausts, or other sources of contamination or carbon monoxide. Do not locate the outside air intet where vehicles may be serviced or left idling. Never locate the unit inside a structure.

⚠ WARNING

Danger of damage or severe injury if high winds move this unit. Secure unit to structure. Observe local code requirements at a minimum.

⚠ WARNING

Danger of injury if unit started unexpectedly. Switch power off at service disconnect. Lock-out/tag-out the disconnect.

⚠ CAUTION

Maximum Differential Pressure

The maximum pressure differential between the two airstreams shound not exceed 4 inches (H_2O).

⚠ CAUTION

It is the installer's responsibility to make sure that the screws or bolts used for securing the units are properly selected for the loads and substrates involved. Secure the CA2–4XRT so that it cannot fall or tip in the event of an accident, structural failure, or earthquake. See the Rigging Information section for unit weight.

RenewAire strongly recommends that you secure rooftop units properly to the building structure. Strong winds, tornados, and hurricanes can and do displace or remove rooftop equipment from rails or curbs. When this happens, the equipment, adjacent roof structure, and even vehicles parked near the building can be damaged, and rain typically enters the building. The equipment is put out of service and the collateral damage can be very expensive.

⚠ CAUTION

Filters must be used or the energy exchanger core will become blocked by dust and the unit will not do its job. In extreme cases components may be damaged.

⚠ CAUTION

Do Not Wash the Energy Exchange Core.

Keep it away from water or fire to avoid damaging it. Always handle the core carefully.

SAVE THIS MANUAL

UNIT INFORMATION

Record information as shown below.

In the unlikely event that factory assistance is ever required, information located on the unit label will be needed.

Locate the RenewAire unit label found on the outside of the unit.

NOTE: This information is for purposes of identifying the unit-specific option data from the Option Code.

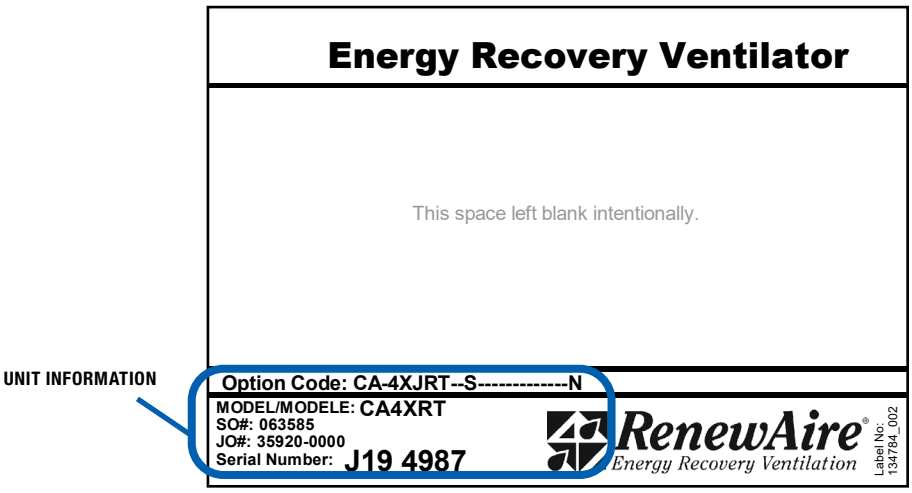
NOTE: This page is to be completed by the installing contractor. The completed document is to be turned over to the owner after start-up.

OPTION CODE:

C	A	-		X	J	R	T	-			-	-	-	-	-	-	-	-	-		-	-	-	N

SERIAL NUMBER:

SO #:

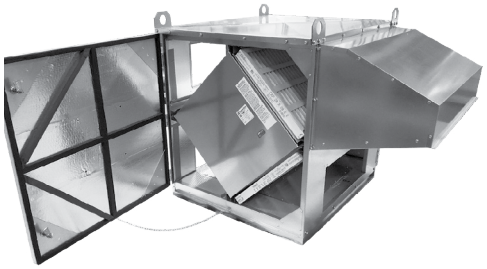


UNIT LABEL (TYPICAL)

CA OUTDOOR Energy Recovery Module

AHRI CERTIFIED® www.ahridirectory.org
Globally Recognized. Industry Respected.

ROOFTOP UNITS
Modular Cabinets



Download specification at:
renewaire.com/specifications

SPECIFICATIONS

Ventilation Type:
Static plate, heat and humidity transfer

Standard Features:
Insulated sheet metal cabinets with energy exchange cores and filters.
Blower not included and must be specified to meet job requirements.

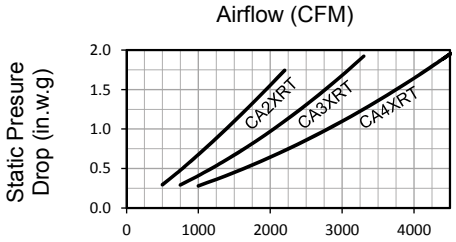
Insulation:
One inch, high density, FSK faced, fiberglass

Options:
Double wall construction
Exterior paint - white, custom colors

Accessories:
Roof curb - standard 14"
Filters - MERV 13, 2" (shipped loose)

Description	CA2XRT	CA3XRT	CA4XRT
Typical Airflow Range CFM	500-2,200	750-3,300	1,000-4,400
AHRI 1060 Certified Core	Two L125-G5	Three L125-G5	Four L125-G5
Unit Dimensions & Weight	55 1/2" L x 43 1/4" W x 42 1/4" H 250-329 lbs.	55 1/2" L x 63 1/2" W x 42 1/2" H 377-482 lbs.	55 1/2" L x 83 1/4" W x 42 1/4" H 462-593 lbs.
Max. Shipping Dimensions & Weight (on pallet)	63" L x 47" W x 48" H 400 lbs.	60" L x 90" W x 48" H 590 lbs.	60" L x 90" W x 48" H 700 lbs.
Filters: MERV 8: 20" x 20" x 2"	Total qty. 4	Total qty. 6	Total qty. 8

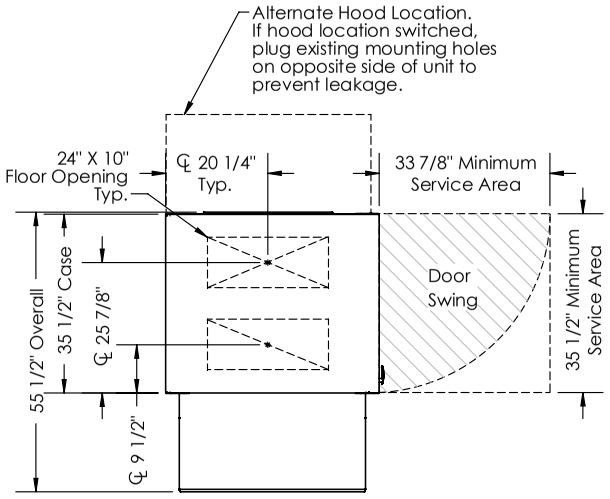
AIRFLOW PERFORMANCE



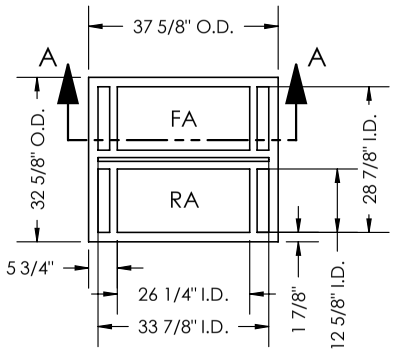
Note: Airflow performance includes effect of clean, standard filter supplied with unit.

RenewAire® Energy Recovery Ventilation

CA2XRT Energy Recovery Module



TOP VIEW



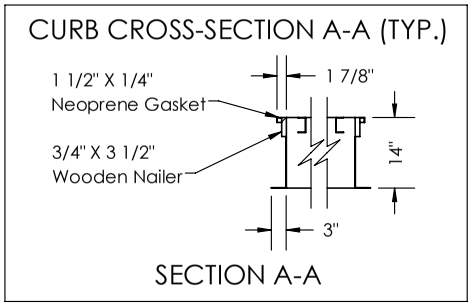
TOP VIEW

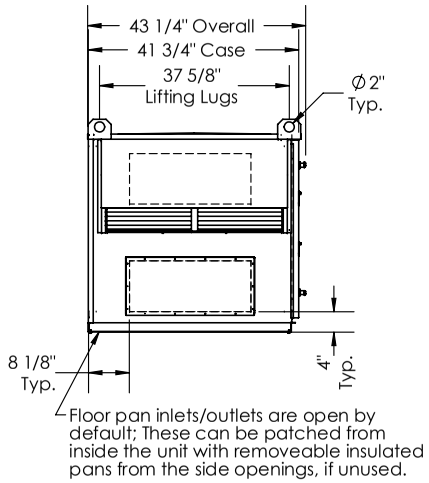
ABBREVIATIONS
EA: Exhaust Air to outside
OA: Outside Air intake
RA: Room Air to be exhausted
FA: Fresh Air to inside

INSTALLATION ORIENTATION
Unit must be installed in orientation shown.

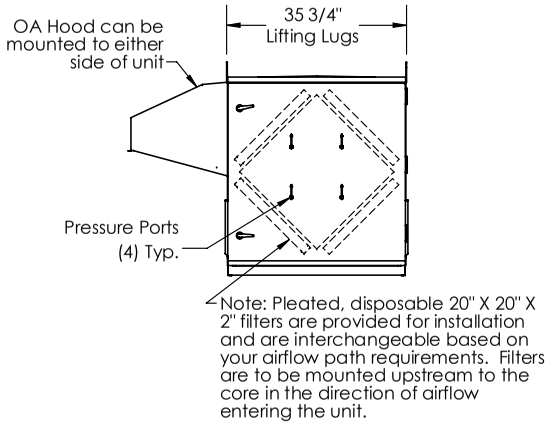
NOTE
1. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE ROUNDED TO THE NEAREST EIGHTH OF AN INCH.

2. SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE.

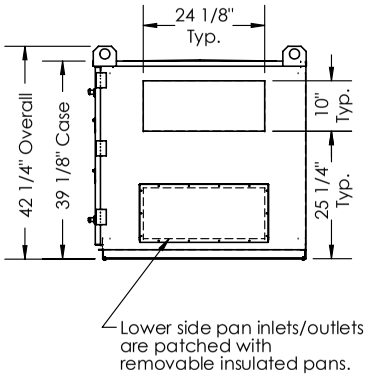




LEFT VIEW



FRONT VIEW

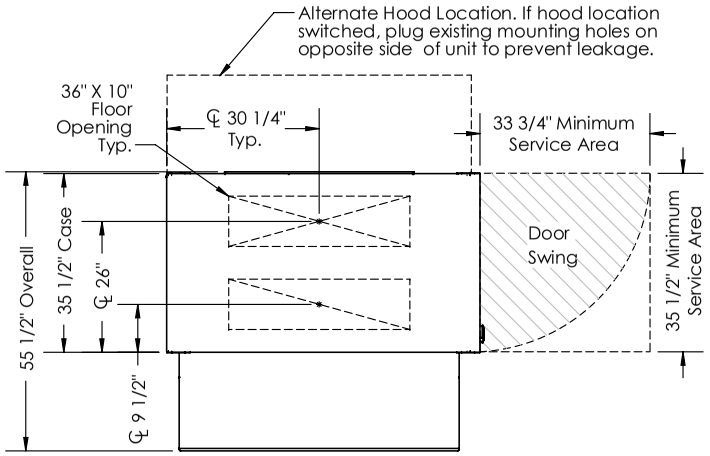


RIGHT VIEW

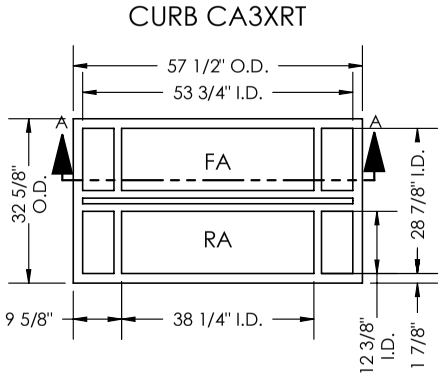
AIRFLOW CONFIGURATION
Available as shown in dimension drawing.

UNIT MOUNTING & APPLICATION
Must be mounted as shown. Duct configuration is field convertible. Weather hood can be moved in the field. RA/EA airstream can be switched with OA/FA airstream.

CA3XRT Energy Recovery Module



TOP VIEW



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FA: Fresh Air to inside

INSTALLATION ORIENTATION
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NOTE
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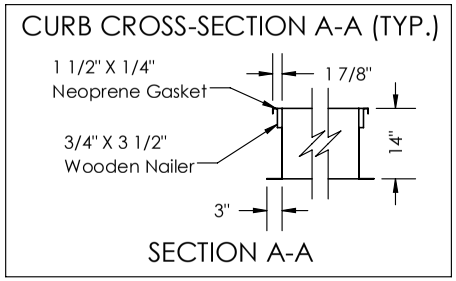
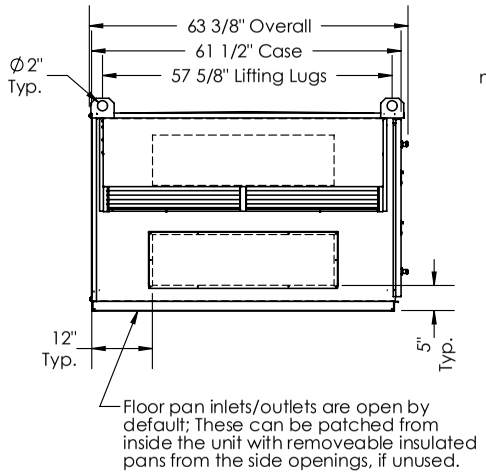
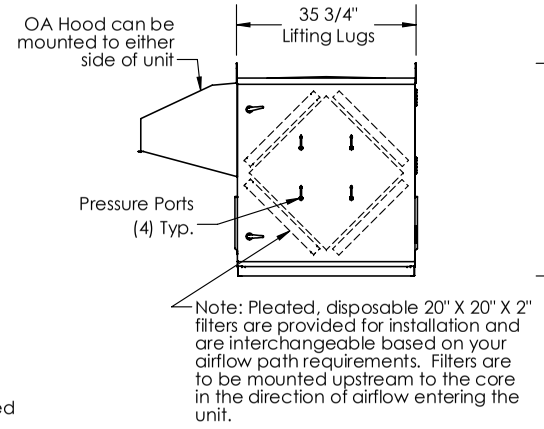
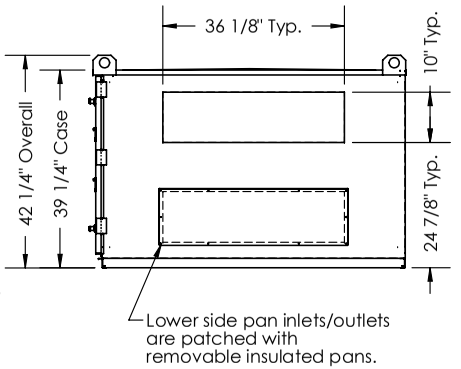




LEFT VIEW



FRONT VIEW



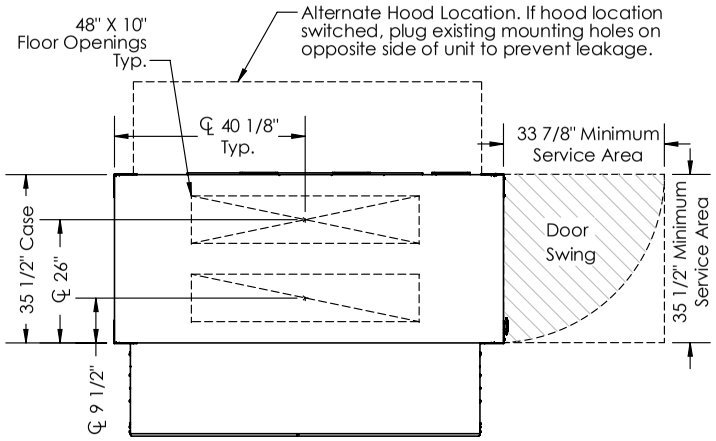
RIGHT VIEW

AIRFLOW CONFIGURATION
Available as shown in dimension drawing.

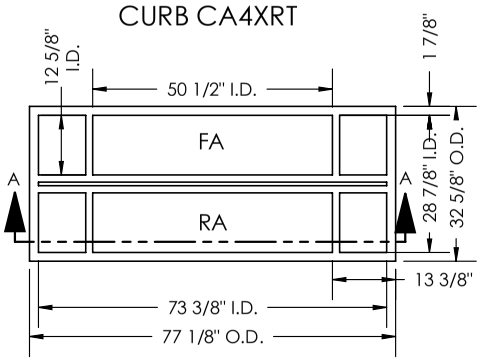
UNIT MOUNTING & APPLICATION
Must be mounted as shown. Duct configuration is field convertible. Weather hood can be moved in the field. RA/EA airstream can be switched with OA/FA airstream.

RenewAire® A Energy Recovery Ventilation

CA4XRT Energy Recovery Module



TOP VIEW



TOP VIEW

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FA: Fresh Air to inside

INSTALLATION ORIENTATION
Unit must be installed in orientation shown.

NOTE
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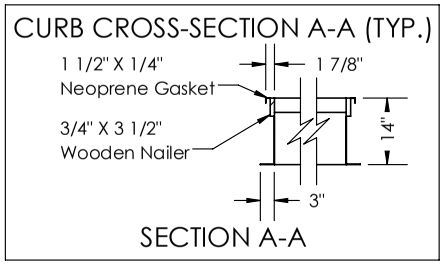
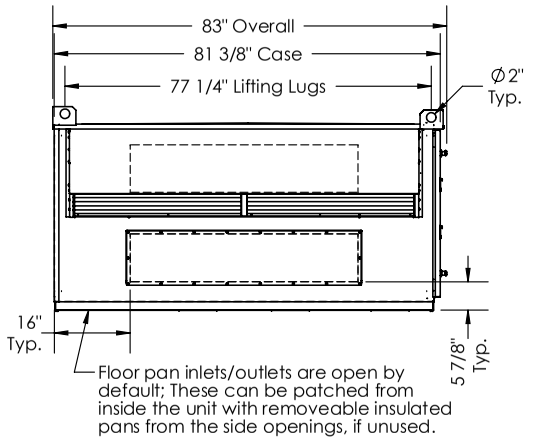
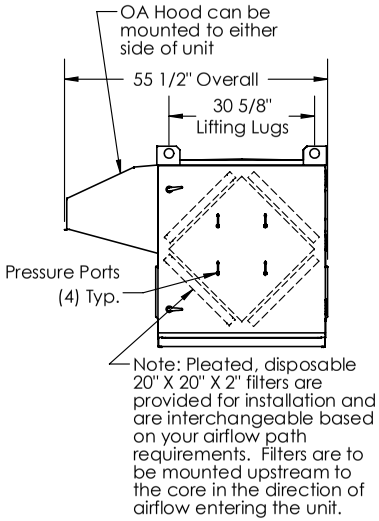
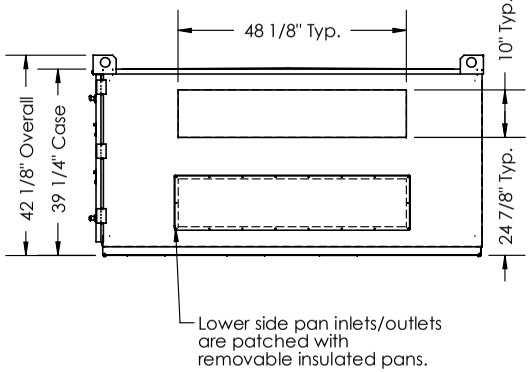




LEFT VIEW



FRONT VIEW



RIGHT VIEW

AIRFLOW CONFIGURATION
Available as shown in dimension drawing.

UNIT MOUNTING & APPLICATION
Must be mounted as shown. Duct configuration is field convertible. Weather hood can be moved in the field. RA/EA airstream can be switched with OA/FA airstream.

TABLE OF ILLUSTRATIONS

MODEL NUMBER	C	A	-			J	R	T	-	-		-	-	-	-	-	-	-	-	-	-	-	-		N
DIGIT NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

Digits 1 - 5:	Model
"CA-2X" = Cabinet Applied 2 Cores "CA-3X" = Cabinet Applied 3 Cores "CA-4X" = Cabinet Applied 4 Cores	

Digit 11:	Wall Type
"S" = Single "D" = Double	

Digit 24:	Other Options
"-" = None "W" = White Paint "C" = Custom Paint "X" = Custom Unit	

Digit 25:	Safety Listing
"N" = Non-Listed	

1.0 OVERVIEW

1.1 CA-SERIES ROOFTOP OPERATION

The CA-Series Rooftop cabinets have one basic purpose: to transfer heating or cooling energy from an exhaust airstream to a fresh airstream.

The CA-Series Rooftop cabinets operate with no moving parts. The cores in the modules will transfer energy between the two airstreams as long as the two system blowers are moving air through the module. (These blowers are separate from the cabinets).

1.2 APPLICATION GUIDELINES

1.2.1 Purpose of CA-Series Rooftop

The CA-Series Rooftop cabinets are modular cases with 2, 3, or 4 energy recovery cores.

A variety of duct connection configurations are possible. Disposable filters are provided; they are of a common size and can easily be replaced.

1.2.2 General Layout

The CA-Series Rooftop cabinets are used to transfer energy from exhaust air leaving a building, into fresh air being brought in from the outside for ventilation. By recovering energy from the exhaust airstream, the benefits of ventilation can be enjoyed without the full energy cost to condition the outside air.

The CA-Series Rooftop cabinets do not contain blowers. Therefore, two blowers must be installed as part of the system. Several ducts must also be installed.

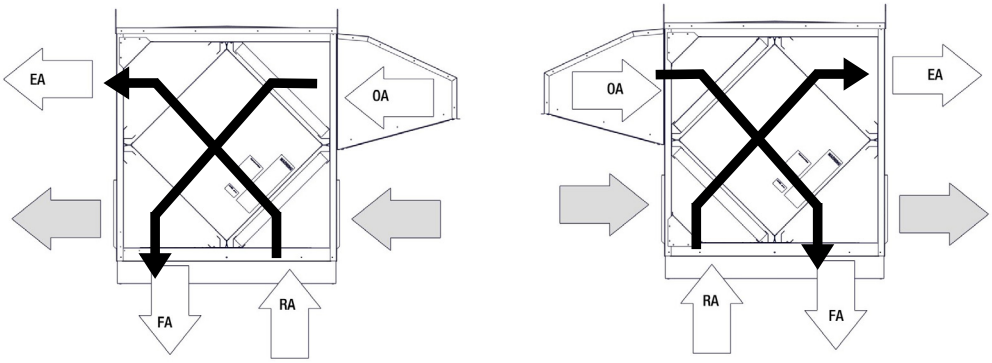


FIGURE 1.3.0 CA-SERIES ROOFTOP CROSS SECTION

1.3 SERVICE ACCESS

1.3.1 Service Access

Install the ERV where you can open the door for cleaning the core and filter. Although there is no electrical connection to the cabinet, there should be a nearby system disconnect switch, so service people can shut off the blowers connect to the system when changing filters.

1.3.2 Connection to the HVAC System

In most cases, one or two ducts connect the CA-Series Rooftop cabinet to the building's ducted HVAC system. A variety of connection approaches are possible, depending on the number of CA-Series Rooftop cabinets in the installation, purpose of the system, and available space.

The filters must cover the INLET FACES of the cores. Filter racks are provided at each face to handle all possible airflow configurations.

2.0 INSTALLATION

2.1 BLOWER ORIENTATION

Two blowers will be required: one for the air to be exhausted from the building, another for the fresh air to be brought into the building. See diagram for proper and improper blower locations.

⚠ CAUTION

The maximum pressure differential between the two airstreams shound not exceed 4 inches (H_2O).

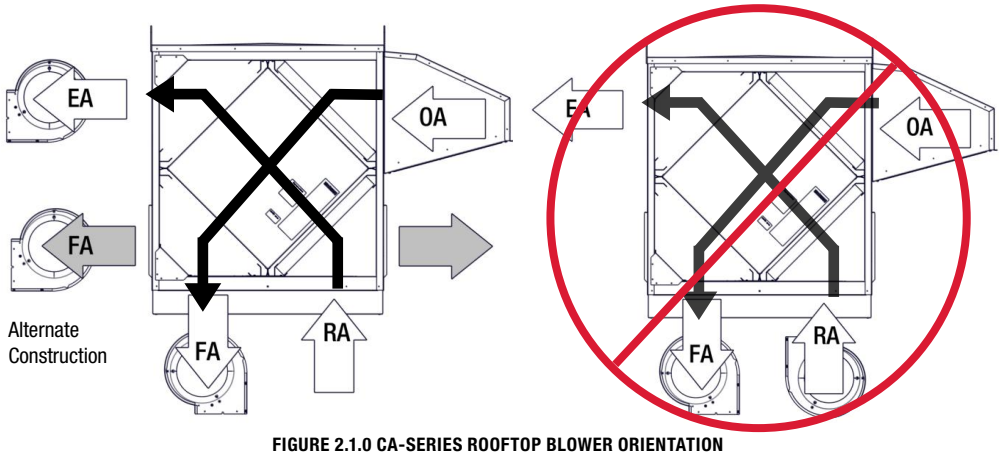


FIGURE 2.1.0 CA-SERIES ROOFTOP BLOWER ORIENTATION

2.1.1 Pull-Pull—RECOMMENDED

This is the recommended blower orientations for virtually every application. In “Pull-Pull” applications, both pull from the cabinet.

With Pull-Pull blower orientation, there is generally no need to review the static pressure differences between the two airstreams.

An “RA Push-FA Pull” blower orientation is unacceptable.

The advantage is that both blowers are on the “outside” of the cabinets, taking advatage of the acoustic attenuation offered by the cabinets. If outside airstream bypass airflow occurs, it additionally insures no exhaust contaminants leak past seals into the fresh air.

The disadvantage is that both blowers must be sized to provide the additional bypass air, which in most cases is a needless waist of energy.

The higher overall static pressure tend to increase duct leakage.

NOTE: This bypass air volume is lower than in most competing technologies, such as heat wheels, and even some other plate-type exchangers.

2.2 BLOWER SIZING

Most “low airflow” problems in the field are caused by under-sized blowers. Systems can under-perform if the designer does not make sufficient allowance for duct leakage, variations in duct layout from ideal design, less-than-ideal blower outlet conditions, dirty filters, and the like.

In general, ventilation systems with energy-recovery components tend to need blowers with relatively high static pressure curves. In addition, parts of the duct system may be operating at higher static pressures than usual, and greater duct leakage may result. While these effects may be small, they may consume a large portion of the “safety factor” that a designer conventionally adds in every blower selection exercise.

Given all these concerns, it is prudent to select blowers and motors that can be operated at higher RPMs than required by the nominal design.

2.3 STATIC PRESSURE DROP THROUGH THE CABINET

The following chart is to be used when considering a Pull-Pull orientation of the blowers. The chart represents clean filters. It will be necessary to add an additional drop to allow for the build-up of dirt on the filters.

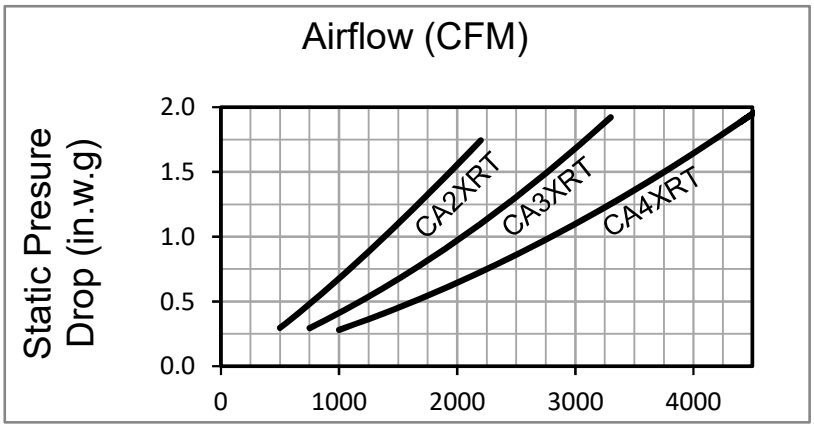


FIGURE 2.3.0 RATED PRESSURE DROP THROUGH CABINET

2.4 PLACEMENT OF THE CA-SERIES ROOFTOP

The CA-Series Rooftop cabinet is designed for installation on a roof or other outside location.

Select a location that is central to the inside duct runs, and close to any other air handler that might be part of the system.

⚠ WARNING

The unit's outside air inlet should be at least 10' away from any exhaust, such as dryer vents, chimneys, furnace, and water heater exhausts, or other sources of contamination or carbon monoxide. Do not locate the outside air inlet where vehicles may be serviced or left idling. Never locate the unit inside a structure.

⚠ WARNING

Danger of damage or severe injury if high winds move this unit. Secure unit to structure. Ovserve local code requirements at a minimum.

⚠ CAUTION

It is the installer's responsibility to make sure that the screws or bolts used for securing the units are properly selected for the loads and substrates involved. Secure the CA-Series Rooftop cabinet so that it cannot fall or tip in the event of an accident, structural failure, or earthquake. See Rigging Information for unit weight.
RenewAire strongly recommends that you secure rooftop units properly to the building structure. Strong winds, tornados, and hurricanes can and do displace or remove rooftop equipment from rails or curbs. When this happens, the equipment, adjacent roof structure, and even vehicles parked near the building can be damaged, and rain typically enters the building. The equipment is put out of service and the collateral damage can be very expensive.

⚠ CAUTION

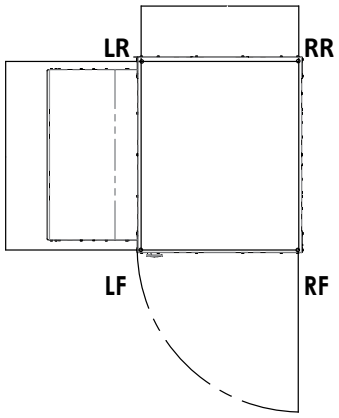
Provide Adequate Service Access for Maintenance

The CA-Series Rooftop cabinet will require regular filter and core inspections. Install the CA-Series Rooftop cabinet where you can remove the doors for cleaning the core and replacing the filters, and where you can get at the wiring for installation and service.

The CA-Series Rooftop cabinet is available from the factory in one configuration where room air enters the bottom of the unit and fresh air exits the bottom of the unit. The relocatable patch pans allow different duct connection configurations.

2.5 RIGGING INFORMATION

There are lifting lugs at each upper corner of the unit. Use slings or shackles at all four corners. Spreader bars are recommended in order to avoid damage to the unit.



CA2-4XRT CABINET UNIT WEIGHTS (LBS)						
MODELS	UNIT	Dim "A"	LF	LR	RR	RF
CA2XRT	250	39 3/8"	71	69	54	56
CA3XRT	377	59 1/4"	107	104	81	85
CA4XRT	462	79"	131	128	99	104

FIGURE 2.5.0 CA-SERIES ROOFTOP UNIT AND CORNER WEIGHTS (LBS) (CA2XRT DEPICTED)

2.6 MOUNTING THE CA-SERIES ROOFTOP

2.6.1 On Roof Curbs:

The base of the CA-Series Rooftop cabinets are designed for installation on our optional Roof Curb. See Curb portion on Dimension Drawings.

Before installing CA-Series Rooftop cabinets, apply roofing and counterflashing to Roof Curb as per standard practice.

Install appropriate gasket on top of Roof Curb.

Set CA-Series Rooftop cabinet in place. We recommend bolting through sides of unit base into the Roof Curb to secure the unit against high winds.

2.6.2 On Equipment Rails:

Review drawing of Roof Curb and specify Equipment Rail to fit.

Before installing CA-Series Rooftop cabinets, apply roofing and counterflashing to Equipment Rails as per standard practice.

Set CA-Series Rooftop cabinet in place. We recommend bolting through sides of unit base into the Equipment Rails to secure the unit against high winds.

NOTE: OA Hood provided, can be mounted on either side of the cabinet over the upper cabinet openings. See Duct Connection locations below depending on which side of the cabinet the OA hood is installed.

2.7 DUCTING

Before unit is installed on Curb:

Basic Requirements:

Always connect an RA and an FA duct to each Rooftop unit.

The RA and FA ducts can be interchanged depending on where you install the OA hood.

With standard configuration units, both ducts are inside the building. In other unit, that utilize the optional configuration openings, at least one of the ducts is outside and must be weatherized.

Any weatherized duct must be thermally insulated to prevent condensation on the inside or outside of the duct. The duct lining must be vapor-sealed, and the duct exterior must be rain tight.

Duct(s) connected to the bottom of the CA-Series Rooftop cabinet are generally installed at this time. Install (2) ducts with CA-Series Rooftop cabinet standard configuration.

Drop duct(s) into openings in top of roof curb.

Install appropriate gasket on top of Roof Curb and edges of ducts.

⚠ CAUTION

Tape both inner and outer vapr barriers of insulated duct to collars on duct adapters. This is critical to prevent migration of moisture into insulation. Build-up of moisture can result in failure of the duct system and/or frost in the insulation. Make sure any tears in the inner and outer vapor barriers are sealed.

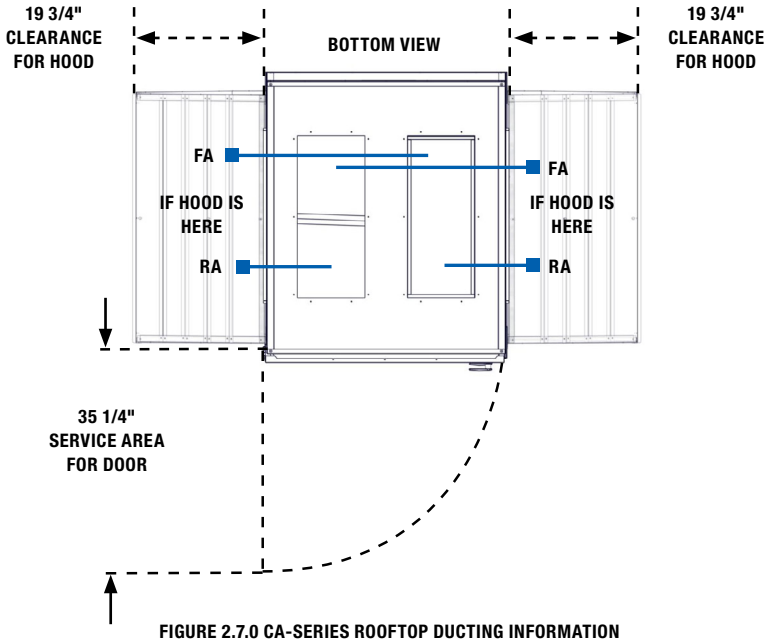


FIGURE 2.7.0 CA-SERIES ROOFTOP DUCTING INFORMATION

2.8 INSIDE DUCTWORK SYSTEM

Follow Engineer's Ductwork Design:

- Ductwork should be designed by an engineer to allow the unit to provide the required airflow.
- Ducts should enter and exit the unit through smoot gradual transitions.
- If the inside ducts run through un-conditioned spaces, they must be insulated, with a sealed vapor barrier on both inside and outside of insulation.

See drawings below for examples of some common installation approaches.

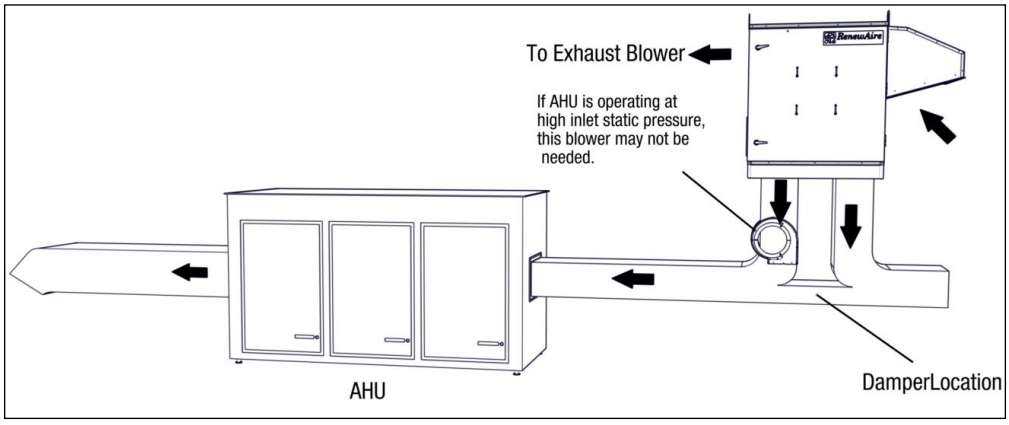


FIGURE 2.8.0 CA-SERIES ROOFTOP DUCTING CONFIGURATION 1

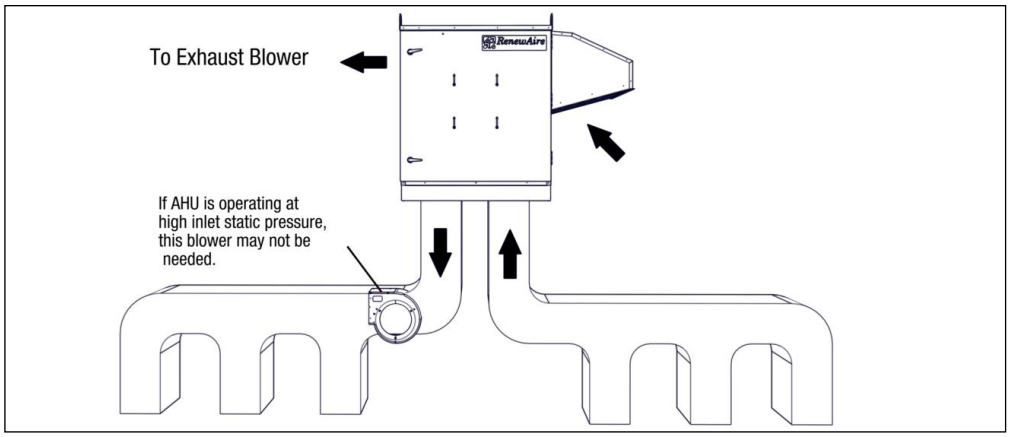


FIGURE 2.8.1 CA-SERIES ROOFTOP DUCTING CONFIGURATION 2

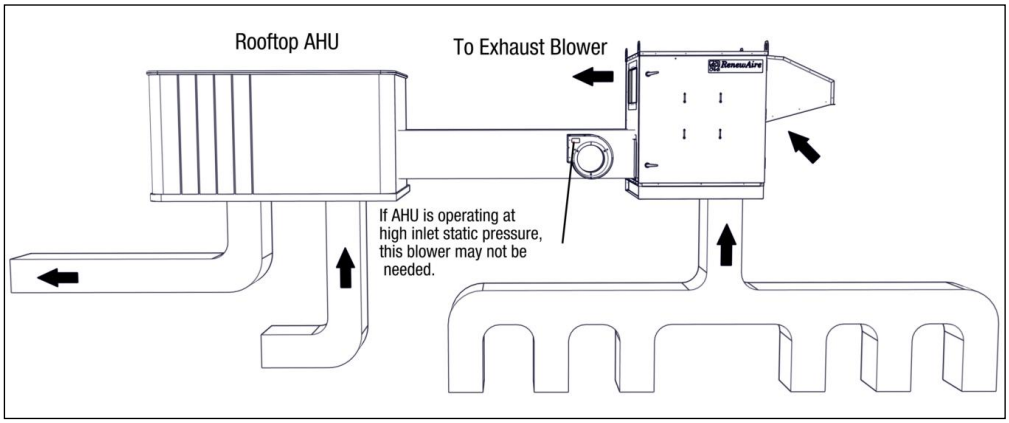


FIGURE 2.8.2 CA-SERIES ROOFTOP DUCTING CONFIGURATION 3

3.0 OPERATION

3.1 PRINCIPAL OF OPERATION

The CA-Series Rooftop cabinet has one basic purpose: to exhaust air from a structure and bring in fresh air from outside, while transferring heating or cooling energy from the exhaust air to the fresh air.

The CA-Series Rooftop cabinet is a very simple device, and will accomplish this purpose as long as the blowers for both airstreams are able to move air through the energy-exchange core.

3.2 CHECKING THAT UNIT IS OPERATING

3.2.1 Airflow

Airflow should be occurring in both airstreams. Sometimes the easiest place to confirm that air is moving is at the weatherhoods.

If exact airflow is critical, it may be desirable to permanently install flow measuring stations and manometers in the ductwork connected to the unit. These also can be used to determine when filters should be cleaned or changed.

3.2.2 Use Static Taps in Doors to Measure Airflow Rates

See “Cross-Core Static Drop” in MEASURING AIRFLOW table. These may be used to directly measure airflow in the unit.

3.3 ENERGY EXCHANGE

Precise determination of installed sensible energy exchange effectiveness requires careful measurement of temperatures and air flows in all four airstreams, and in practice is somewhat difficult.

It is possible to confirm that energy is being exchanged simply by feeling the ducts. If the Fresh Air duct from the unit into the room is closer to room temperature than to the outside temperature, energy is being recovered.

3.4 CONTINUOUS OPERATION

Continuous operation is acceptable in virtually all conditions. Unit will not be damaged by continuous operation as long as air flow occurs. Blower motors may overheat if filters become completely blocked due to lack of maintenance. With continuous operation, some external frosting may occur in very cold weather (see below).

3.5 OPERATION IN EXTREME COLD WEATHER

Unit is capable of operating at outside temperatures down to -10˚F, with indoor humidities below 40%, without any internal frosting. Unit can operate at more severe conditions occasionally with little or no impact on its performance. At lower humidities, it can operate at lower outside temperatures without freezing the energy-exchange core.

3.6 MEASURING AIRFLOW

3.6.1 Equipment Required

- A magnehelic gauge or other device capable of measuring 0–1.5 inch water of differential pressure.
- Two pieces of natural rubber latex tubing, 1/8" ID, 1/16" wall works the best.

3.6.2 Cross Core Static Pressure Measurement Instructions

- The individual differential static pressures (DSP) can be measured using the installed pressure ports located in the front of the units core access doors.
- To read SCFM of Fresh Air (FA), install the “high” pressure side (+) of your measuring device to the Outside Air (OA) port and the “low” pressure side (-) to the FA port.
- To read SCFM of Room Air (RA) install the “high” pressure side (+) of your measuring device to the RA port and the “low” pressure side (-) to the Exhaust Air (EA) port.
- Use the reading displayed on your measurement device to cross reference the CFM output using the conversion chart.

Model	CFM
CA2X	500–2200
CA3X	750–3300
CA4X	1000–4400

FIGURE 3.6.0 PROPER OPERATING AIRFLOW RANGE

NOTE: Be sure to remove cap from pressure port before inserting tubing. Insure tubing is well seated in pressure port.

NOTE: The tubing should extend in thepressure port approximately 1".

NOTE: These ports have been carefully located on the unit as to give you the most accurate airflow measurement.

NOTE: Do not relocate pressure ports.

NOTE: Be sure to replace cap into pressure port when air flow measuring is completed.

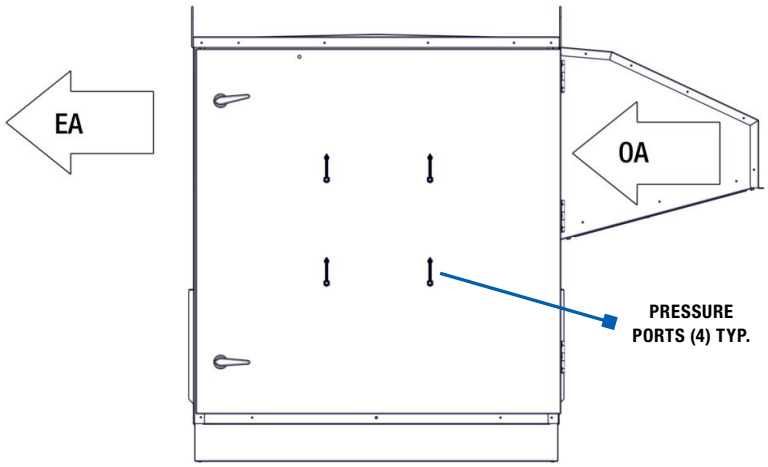


FIGURE 3.6.1 PRESSURE PORT LOCATIONS

		DSP	0.20"	0.25"	0.30"	0.35"	0.40"	0.45"	0.50"	0.55"	0.60"	0.65"	0.70"	0.75"
CA2X	Fresh Air (FA)	CFM	529	662	794	926	1058	1191	1323	1455	1588	1720	1852	1985
	Room Air (EA)		567	709	851	993	1134	1276	1418	1560	1701	1843	1985	2127
CA3X	Fresh Air (FA)		818	1023	1227	1432	1636	1841	2045	2250	2454	2659	2863	3068
	Room Air (EA)		732	915	1098	1281	1464	1647	1830	2013	2196	2379	2562	2745
CA4X	Fresh Air (FA)		1221	1526	1832	2137	2442	2747	3053	3358	3663	3969	4274	4579
	Room Air (EA)		1130	1412	1695	1977	2260	2542	2825	3107	3390	3672	3955	4237

FIGURE 3.6.2 DIFFERENTIAL STATIC ACROSS CORE DSP VS. CFM

4.0 MAINTENANCE

4.1 CHANGING THE FILTERS

Inspect and/or replace filters every 2–3 months when the unit is in regular use, or as needed.

- Turn off unit completely! Lock-out and tag-out the system disconnect switch.
- Open the door. The door is secured with turn-type latches.
- Remove and dispose of all filters. Replace all filters.
- Close the door.

NOTE: See chart for information on the initial resistance of the filters originally supplied with this unit. If replacement filters have higher resistance, the airflow of the system will be lower.

4.2 GENERAL CLEANING AND INSPECTION

Perform general cleaning and inspection when changing filters.

- Remove paper, leaves, etc. from inlet and outlet screens.
- Inspect for insect nests.

4.3 CLEAN THE ENERGY EXCHANGE CORE

Clean the core annually.

- Remove the filters.
- Vacuum the exposed faces of the energy exchanger core with a soft brush.
- Vacuum out dust from the rest of the unit case.
- Install new filters.

IMPORTANT

Make sure all four lips of the core enter the receiver channels when re-inserting the core into the unit.

⚠ CAUTION

Filters must be used or the energy exchanger core will become blocked by dust and the unit will not do its job. In extreme cases components may be damaged.

⚠ CAUTION

Do Not Wash the Energy Exchange Core.

Keep it away from water or fire to avoid damaging it. Always handle the core carefully.

⚠ WARNING

ALWAYS DISCONNECT POWER SOURCE BEFORE SERVICING, TO ENSURE NO AIR FLOW IN THE SYSTEM.

High volume of air in the case when operating! If you open an access door when the system is running, you may be exposed to as much as 8,000 CFM! Severe eye injury could result!

4.4 FILTERS

4.4.1 Filter Specifications

- 20" x 20" x 2" (nominal) pleated filters
- Actual size: 19.5" x 19.5" x 1.75"

Units are shipped with MERV 8 Filters. Minimum recommended effectiveness is MERV 6.

4.4.2 Filter Resistance

Initial resistance of filters supplied with this unit:

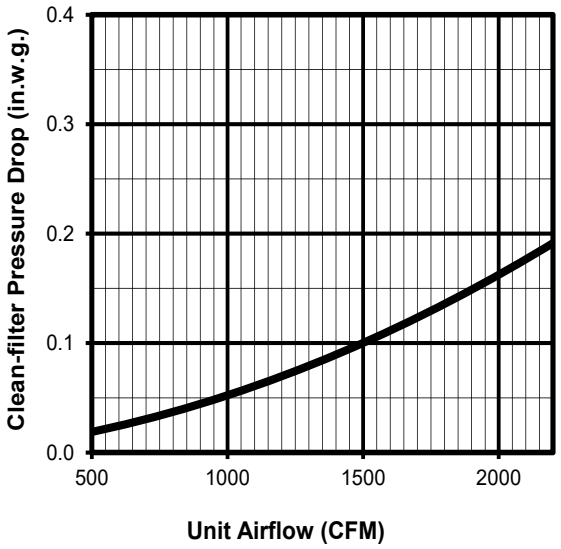


FIGURE 4.4.0 CA-2XRT INITIAL PRESSURE DROP 20" X 20" MERV 8 FILTERS

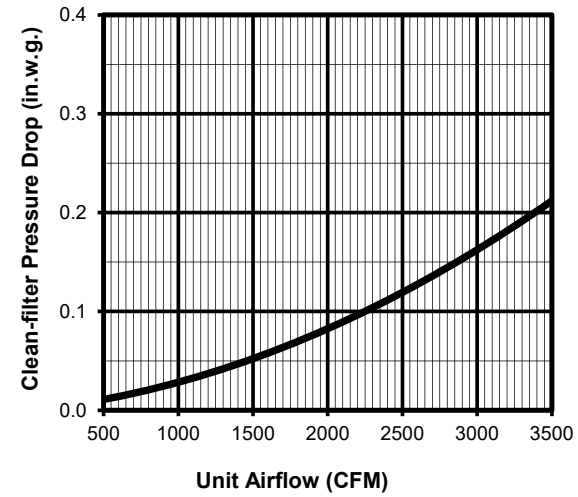


FIGURE 4.4.1 CA-3XRT INITIAL PRESSURE DROP 20" X 20" MERV 8 FILTERS

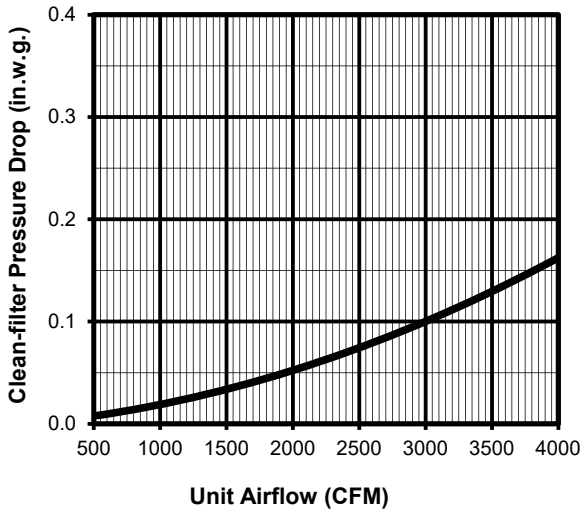


FIGURE 4.4.2 CA-4XRT INITIAL PRESSURE DROP 20" X 20" MERV 8 FILTERS

5.0 FACTORY ASSISTANCE

In the unlikely event that you need assistance from the factory for a specific issue, make sure that you have the information called for in the Unit Records page in the Owner Information section of this manual. The person you speak with at the factory will need that information to properly identify the unit and the installed options.

To contact RenewAire Customer Service:

Call 800-627-4499

Email: RenewAireSupport@RenewAire.com

Remember that RenewAire Customer Service can only assist with the products sold by RenewAire, it cannot resolve engineering issues that result from air handling system design by others.

About RenewAire

For over 30 years, **RenewAire has been a pioneer in enhancing indoor air quality (IAQ)** in commercial and residential buildings of every size.This is achieved while maximizing sustainability through our fifth-generation, static-plate, enthalpic-core **Energy Recovery Ventilators (ERVs) that optimize energy efficiency**, lower capital costs via load reduction and decrease operational expenses by minimizing equipment needs, resulting in significant energy savings. Our ERVs are competitively priced, simple to install, easy to use and maintain and have a quick payback. They also enjoy the industry's best warranty with the lowest claims due to long-term reliability derived from innovative design practices, expert workmanship and **Quick Response Manufacturing (QRM)**.

As the pioneer of static-plate core technology in North America, RenewAire is the largest ERV producer in the USA. We're **committed to sustainable manufacturing** and lessening our environmental footprint, and to that end our Waunakee, WI plant is 100% powered by wind turbines. The facility is also one of the few buildings worldwide to be LEED and Green Globes certified, as well as having achieved ENERGY STAR Building status. In 2010, RenewAire joined the Soler & Palau (S&P) Ventilation Group in order to provide direct access to the latest in energy-efficient air-moving technologies. For more information, visit: renewaire.com

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