Item #: 422974
Rev Date: 2017-05-01

Installation, Operation and Maintenance Manual

ECHO™ 2800Xi Series

Light Commercial Heat/Energy Recovery Ventilators

Your ventilation system should be installed in conformance with the appropriate provincial/state requirements or, in the absence of such requirements, with the current edition of the National Building Code, and / or ASHRAE's "Good Engineering Practices".

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fantech®
a systemair company

				
Note	Warning/ Important note	Information	Technical information	Practical tip

PLEASE READ THIS MANUAL BEFORE INSTALLING UNIT

- The key to proper and safe operating of the unit is to read this manual thoroughly, use the unit according to given guidelines and follow all safety requirements.
- Before installation, careful consideration must be given to how this system will operate if connected to any other piece of mechanical equipment, i.e. an air handler, operating at a higher static pressure. After installation, the compatibility of the two pieces of equipment must be confirmed by measuring the airflows of the Heat / Energy Recovery Ventilator. It is always important to assess how the operation of any HRV/ERV may interact with vented combustion equipment (i.e. DOAS or other AHU using gas supplied equipment). Never install a ventilator in a situation where its normal operation, lack of operation or partial failure may result in the backdrafting or improper functioning of vented combustion equipment.

Danger

- Make sure that the Main power supply to the unit is disconnected before performing any maintenance or electrical work!
- All electrical connections must be carried out by an authorized installer and in accordance with local rules and regulations.

Warning

- The door handles are only intended to be used during the installation. Handles must be removed before the unit is put into operation to ensure the required level of safety for the unit.
- The unit must be duct connected or in some other way provided with protection so that it is not possible to come in contact with the fans through the duct connections.
- The unit is heavy. Be careful during transport and mounting. Risk of injury through pinching. Use protective clothing.
- Beware of sharp edges during mounting and maintenance. Make sure that a proper lifting device is used. Use protective clothing.
- The units electrical connection to main power supply must be preceded by an all pole circuit breaker (field supplied and specified).

Products are designed and manufactured to provide reliable performance, but they are not guaranteed to be 100% free of defects. Even reliable products will experience occasional failures, and this possibility should be recognized by the user. If these products are used in a life support ventilation system where failure could result in loss or injury, the user should provide adequate back-up ventilation, supplementary natural ventilation or a failure alarm system, or acknowledge willingness to accept the risk of such loss or injury.

Your ventilation system should be installed in accordance with the local building code that is in effect. In absence of such requirements, it is recommenced to check with local authorities having jurisdiction in your area prior to installing this product.

Table of content

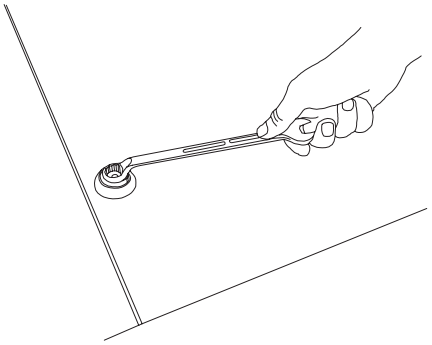
Installation

Inspection

The ECHO units are delivered on a pallet. Handles and necessary components are placed inside the unit.
The inspection hatches are opened by the use of a 5/8" (16 mm) cap key, see figure below. To facilitate opening and closing of the inspection hatches, install the 2 handles that are placed inside the unit on delivery.

The door handles must be locked before the unit is put into operation to ensure the required level of safety for the unit. (Hex size: 5/16 in (8 mm)

As an extra precaution, inspect the unit and verify that all ordered equipment is delivered before starting the installation. Any discrepancies from the ordered equipment must be reported to the supplier of Fantech products.



Location

The HRV/ERV must be protected from the elements (rain, snow, etc) at all times.

The HRV/ERV must be located in a conditioned space where it will be possible to conveniently service the unit. Typically the HRV/ERV would be located in the mechanical room, above a drop ceiling or an area close to the outside wall where the weatherhoods will be mounted.

Conditioned Space must meet the following conditions:

- Space temperature must be above freezing conditions at all times and preferably maintained above 12°C (54 °F).
- The condensate drain (if included) must be installed so that the condensate drains and is protected from freezing.
- The space is easily accessible for equipment maintenance and inspection.

Connecting appliances to the HRV/ERV s not recommended, including:

- clothes dryer
- kitchen exhaust hoods
- combustion venting
- central vacuum system

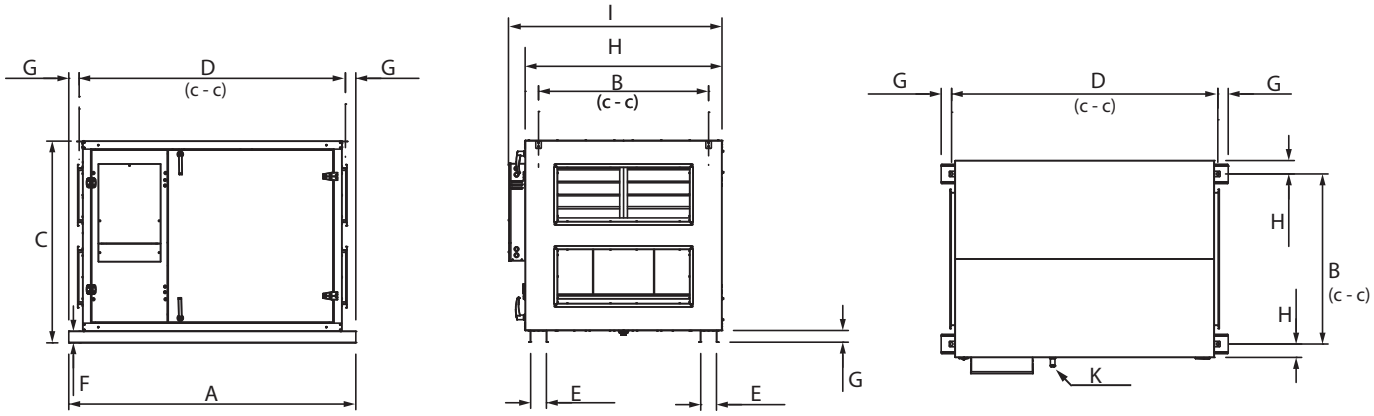
These appliances may cause lint, dust or grease to collect in the HRV/ERV , damaging the unit.

Connecting any of these type of appliances to the HRV/ERV will void your warranty.

The unit must be mounted level and may be hung with threaded rod with a minimum of 1/2" and a maximum of 3/4" in diameter (field supplied and specified) through the protruding frame at the base of the unit (see figure below for dimensions). Do not block access to unit doors as indicated. Rubber or seismic vibration isolation may be required in some region (field supplied and specified).

Installation (Cont'd)

Dimensions



A		B*		C		D		E		F	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
73 7/16	1865	43 1/2	1105	51 1/16	1311	68 1/8	1730	4	102	2 7/8	73

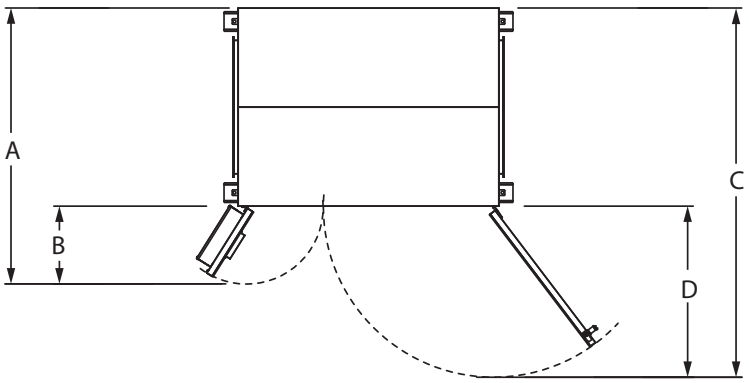
G		H		I		K (Drain 2x)		Duct Dimensions	
in	mm	in	mm	in	mm	in	mm	in	mm
2 11/16	68	50 3/8	1278	54 1/2	1384	3/4 NPT	19 NPT	14 x 34	352 x 859

* Dimensions B and D are centered to the mounting holes (Ø 3/4")

Weight

Models	kg	lbs
HRV	386	850
ERV	340	750

Space required

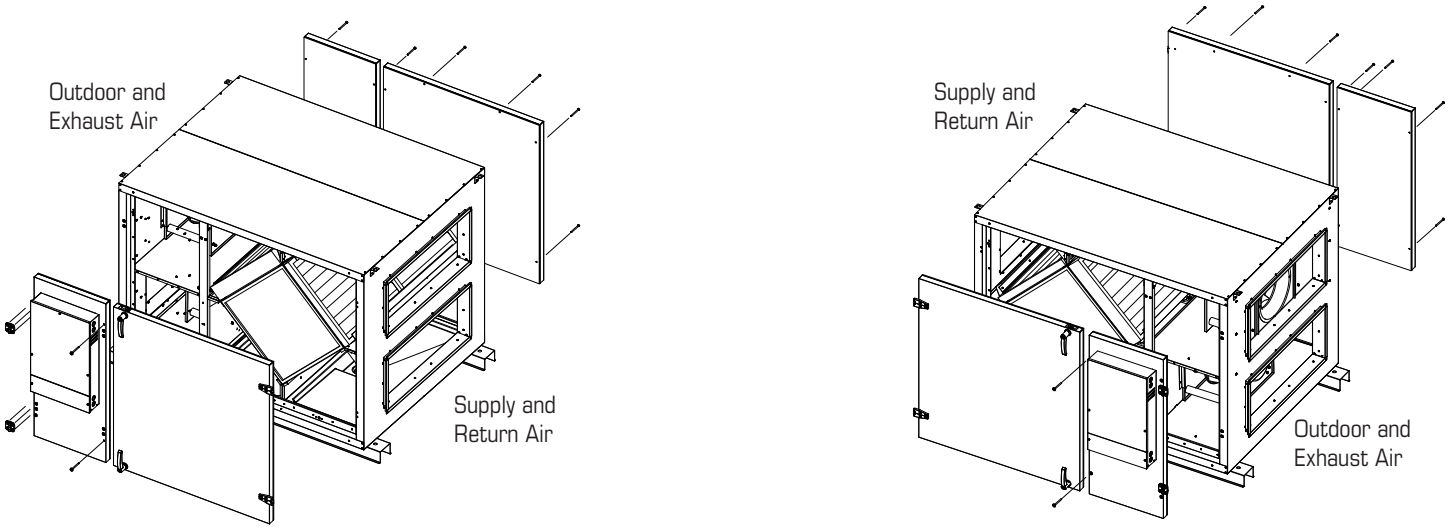


A		B		C		D	
in.	mm	in.	mm	in.	mm	in.	mm
69.5	1763	19.5	497	93	2360	43	1094

Installation (Cont'd)

Port configuration

The unit has hinged access doors on the front and removable panels on the back. The front left and right access doors are hinged for easy access to the filters, exchanger and fan motors while the back left and right panels are fastened to the unit.
When facing the front access doors the outdoor and exhaust air duct connections are on the left side of the unit and the supply and return air duct connections are on the right side of the unit. If this factory configuration is not suitable for the HRV/ERV designated space, the front access doors and back panels are interchangeable in order to get an alternate configuration for duct connections as shown below.

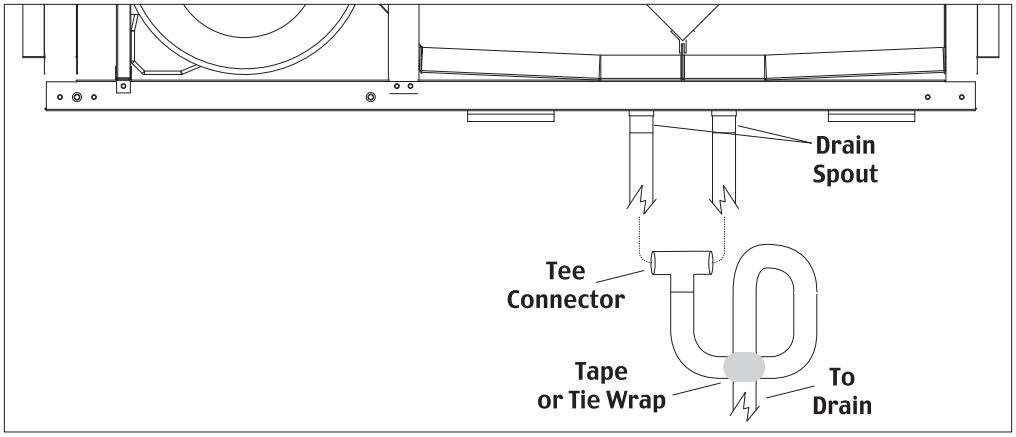


Factory configuration (left). Configuration can be reversed on site for alternate duct layout (right)

Installing Drain Line

Through normal operation and including defrost mode, the HRV/ERV may produce some condensation. This water should flow into a nearby drain, or be taken away by a condensate pump. The HRV/ERV and all condensate lines must be installed in a space where the temperature is maintained above the freezing point. A "P" trap should be made in the drain line. This will prevent odors from being drawn back up into the unit.

Install the drain hose, making a "P" trap



K (Drain 2x)	
in	mm
3/4 NPT	19 NPT

Installation (Cont'd)

Installing the BYPASS module (BPM1434 module) accessory

The BPM module accessory is an insulated recirculation damper box that is mounted on the side of the unit, over the outdoor air duct connection of the unit. It extends the outdoor air duct connection and has another duct connection for recirculating indoor tempered air.

The purpose of the BPM1434 module accessory is to offer an alternative exchanger defrost method. Instead of the default timed based exhaust defrost that can cause depressurization of the ventilated space in some especially tight building envelops, the BPM module can recirculate tempered indoor air through the supply air stream during defrost. See the “Exchanger defrost” section for more details.

The BPM module accessory can also be used to recirculate indoor air when ventilation is not required. See the “Recirculation” section for more details.

! If a BPM module accessory has been supplied with the unit it should be installed as per the provided installation manual that comes with the accessory.

The unit control has a dedicated 24VAC digital output to energize the BPM module. See the “Wiring the dampers & the BPM module actuators” section for more information on wiring the BPM module.

Weather hoods, louvers, ducts and dampers

The outdoor air intake weather hood or louver must be positioned well away from any source of contamination. The outdoor air intake and the exhaust air weather hoods or louvers must be adequately spaced, 10 feet (3 m) apart minimum, to prevent cross-contamination. They must be located such that they are high enough off the ground or other horizontal surfaces, 18 inches (460 mm) minimum, to be clear of any snow accumulation or other possible obstructions or as required per local building code.

In order to minimize the friction losses, the open area of the weather hoods or louvers must be adequate for the required airflow of the ventilation system. It is recommended that the velocity through the open area of a weather hood or louver be kept below 500 FPM (2.5 m/s) to minimize the rain water entrainment.

The weather hoods or louvers must have a screen with 1/4 inch (6 mm) mesh to prevent birds and rodents from entering the ductwork. Do not use smaller mesh as it may be more susceptible to getting clogged.

The outside perimeter of weather hoods or louvers must be adequately sealed to prevent leakage into the building envelop.

The ducts should be fabricated of galvanized sheet metal. In order to minimize the friction losses, ductwork should be sized adequately and be kept short with as few bends or elbows as possible. Favor 45° elbows over 90° elbows and use “Y” tees over standard 90° tees if possible. Account for dampers and/or other duct mounted accessories as part of the duct design.

All duct joints must be fastened and sealed with proper duct sealant to minimize air leakage.

Ducts connecting the unit to the outside weather hoods should be adequately insulated in order to prevent any condensate to form on the surface of the ducts.

Installation (Cont'd)

Weather hoods, louvers, ducts and dampers (Cont'd)

Dampers are strongly recommended on both the supply & exhaust airstreams for proper unit operation and are often required to conform to regional requirements for ventilation systems. Dampers prevent unconditioned air infiltrating the space when the unit is stopped or during the exchanger defrost sequence. The outdoor air and exhaust air dampers should be fitted, fastened and sealed to the ducts with proper duct sealant to minimize air leakage.
Dampers fitted to the ductwork connecting the unit to the outside weather hoods should be adequately insulated in order to prevent any formation of condensate on the outside surface.
The unit control has dedicated 24VAC digital outputs to energize both the outdoor air damper and the exhaust air damper. See the "Wiring the dampers & the BPM module actuators" section for more information on wiring the damper actuators.

Weather hoods, louvers, ducts and dampers should be designed and installed in accordance with the local building code that is in effect. In the absence of such requirements, it is recommended to check with local authorities having jurisdiction in your area prior to installing this product. It is also recommended to follow best practice guides such as ANSI/ASHRAE 62.1 IAQ standard

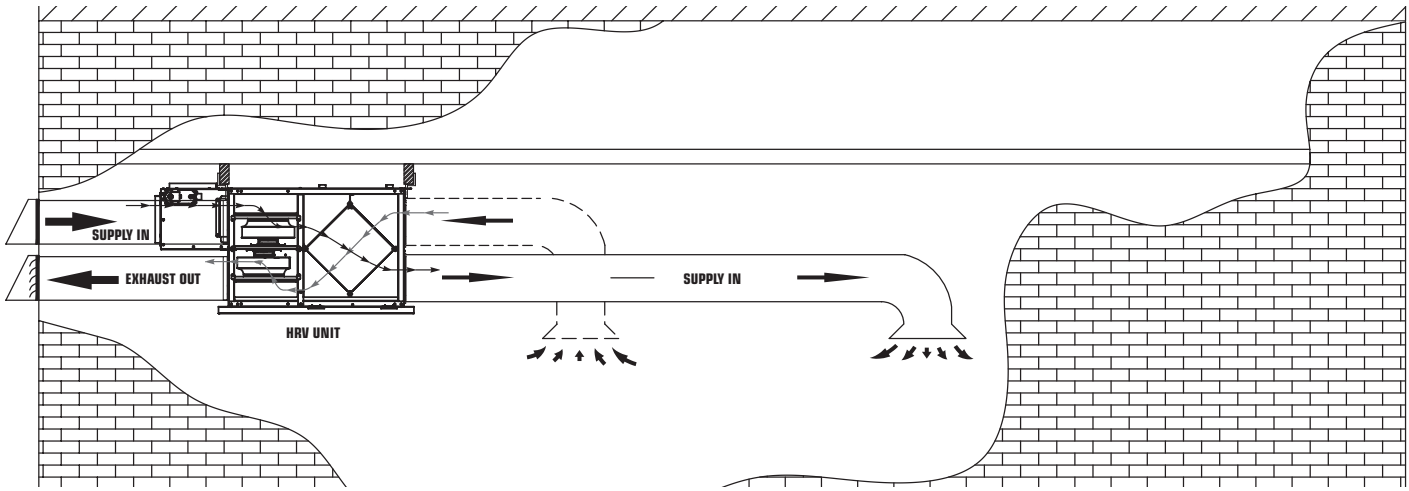
Installation examples

*** Drawings are illustrations only and actual port locations and airflow directions may vary, consult unit spec sheets.**
*** The BPM might need to be ducted depending on location of the installation.**

It is the responsibility of the installer to ensure all ductwork is sized and installed as designed to ensure the system will perform as intended. The amount of air (CFM) that an HRV/ERV will deliver is directly related to the total external static pressure (E.S.P.) of the system. Static pressure is a measure of resistance imposed on the blower by length of duct work/number of fittings used in duct work, duct heater etc.

Fully Dedicated System

- Stale air drawn from areas of contamination
- Fresh air supplied to main areas
- HRV/ERV airflow should be balanced
- External heating or cooling coil may be needed if air is not able to mix comfortably.



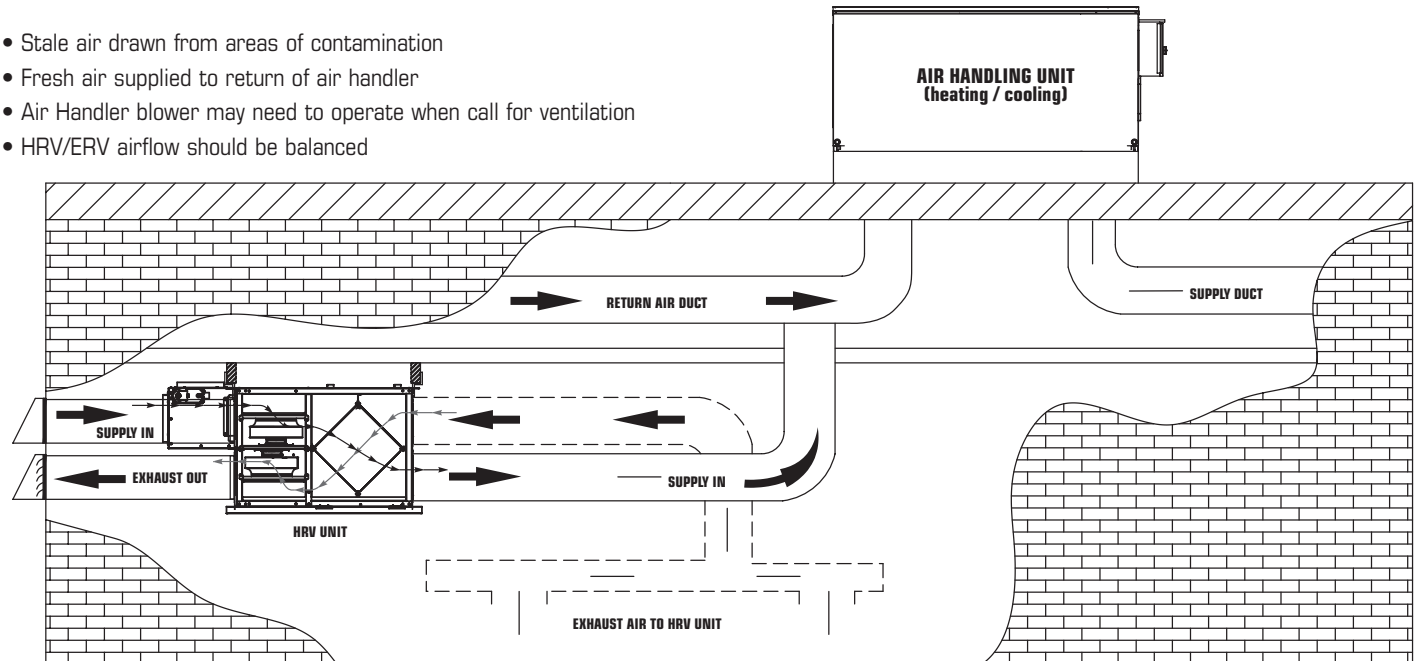
Installation examples (Cont'd)

*** Drawings are illustrations only and actual port locations and airflow directions may vary, consult unit spec sheets.**
*** The BPM might need to be ducted depending on location of the installation.**

It is the responsibility of the installer to ensure all ductwork is sized and installed as designed to ensure the system will perform as intended. The amount of air (CFM) that an HRV/ERV will deliver is directly related to the total external static pressure (E.S.P.) of the system. Static pressure is a measure of resistance imposed on the blower by length of duct work/number of fittings used in duct work, duct heater etc.

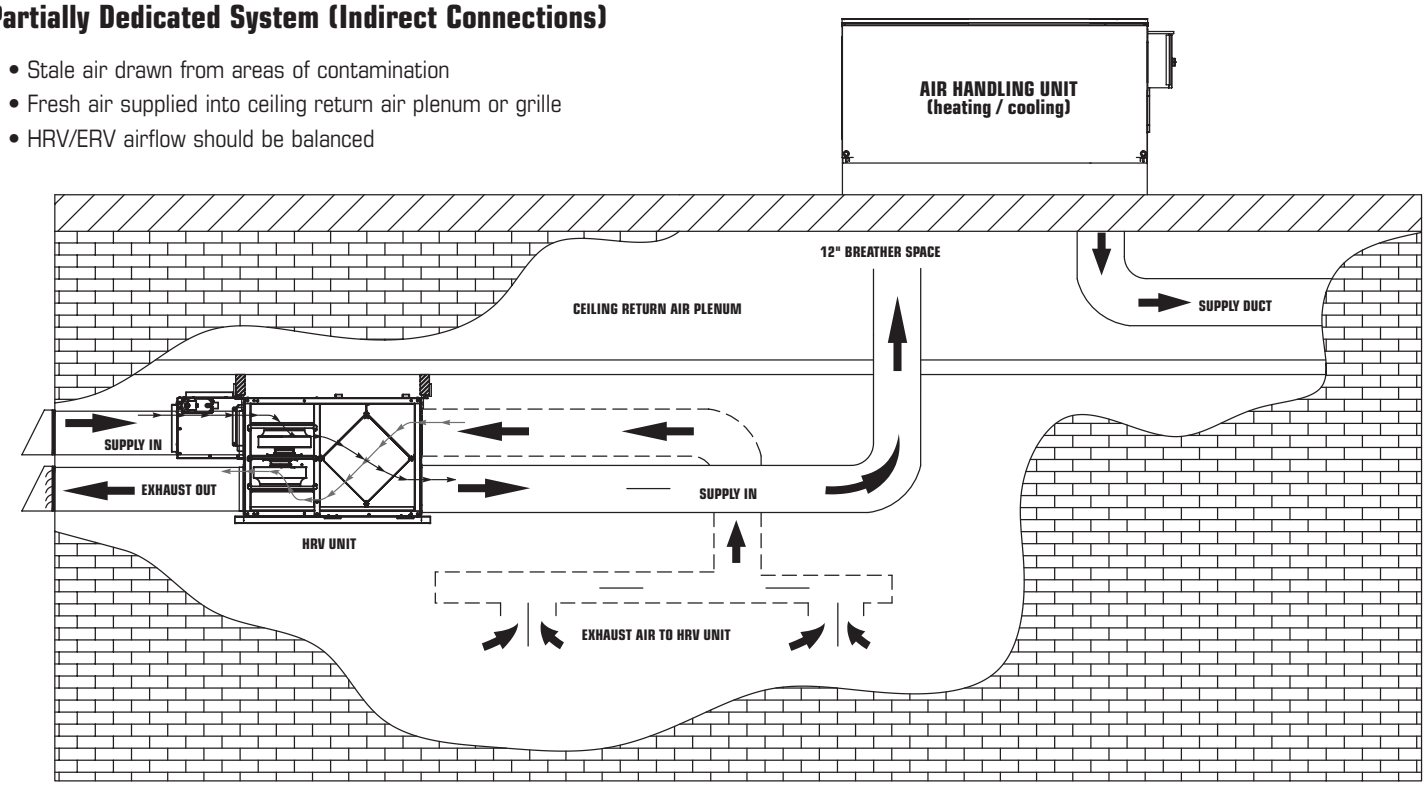
Partially Dedicated System (Direct Connection)

- Stale air drawn from areas of contamination
- Fresh air supplied to return of air handler
- Air Handler blower may need to operate when call for ventilation
- HRV/ERV airflow should be balanced



Partially Dedicated System (Indirect Connections)

- Stale air drawn from areas of contamination
- Fresh air supplied into ceiling return air plenum or grille
- HRV/ERV airflow should be balanced



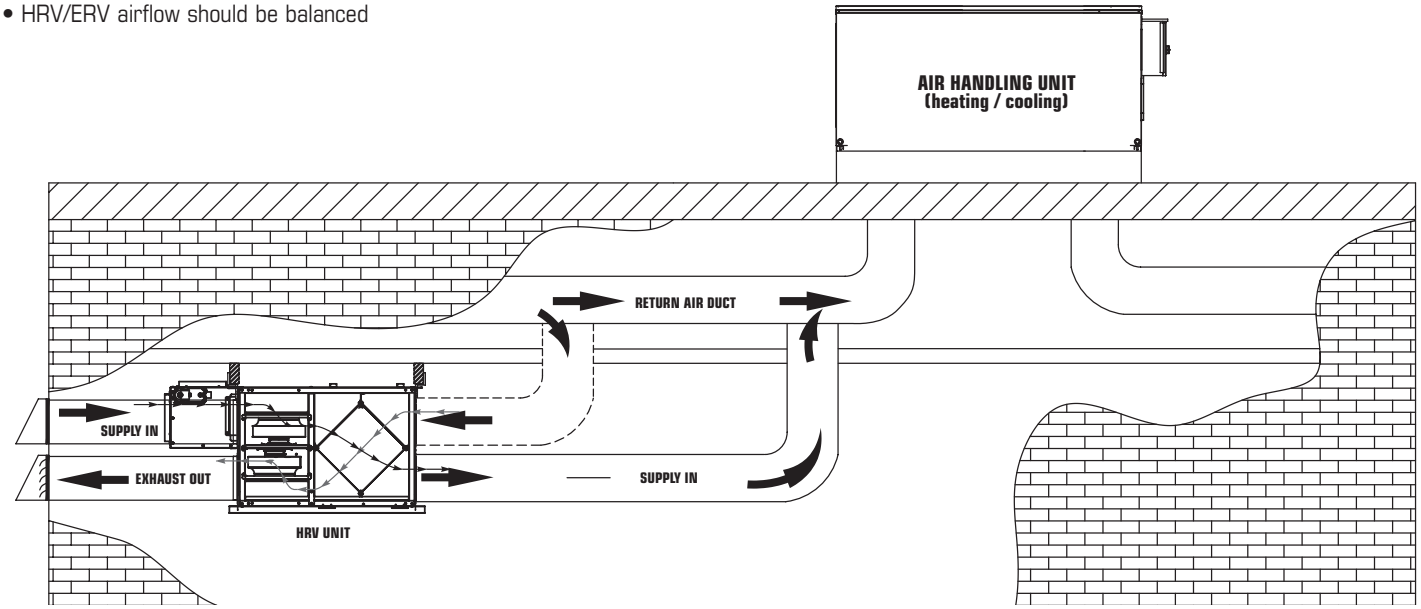
Installation examples (Cont'd)

*** Drawings are illustrations only and actual port locations and airflow directions may vary, consult unit spec sheets.**
*** The BPM might need to be ducted depending on location of the installation.**

It is the responsibility of the installer to ensure all ductwork is sized and installed as designed to ensure the system will perform as intended. The amount of air (CFM) that an HRV/ERV will deliver is directly related to the total external static pressure (E.S.P.) of the system. Static pressure is a measure of resistance imposed on the blower by length of duct work/number of fittings used in duct work, duct heater etc.

Simplified Installation

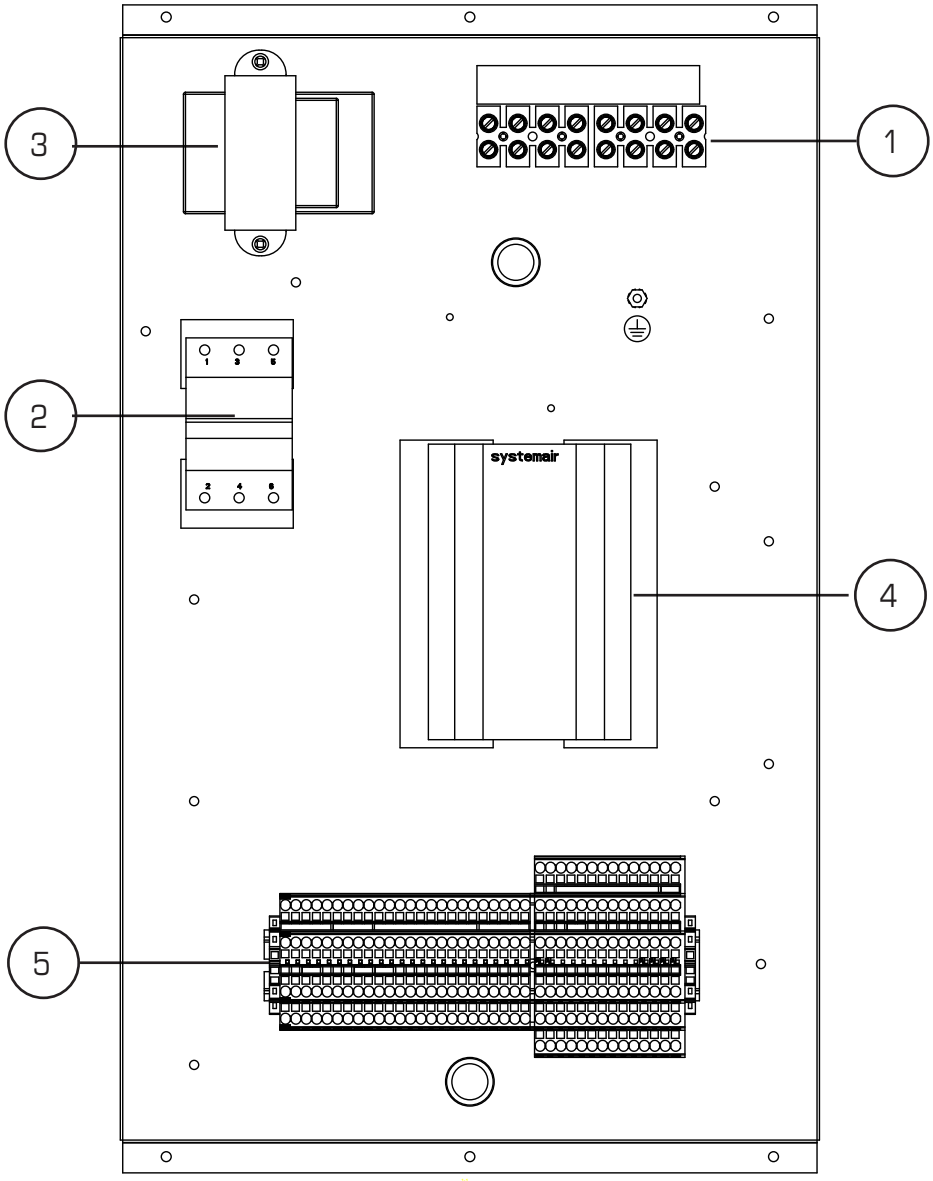
- Stale air drawn from return of air handler
- Fresh air supplied to return of air handler, further down stream of HRV/ERV exhaust
- Air Handler blower must operate when HRV/ERV is providing ventilation
- HRV/ERV airflow should be balanced



Unit components and electrical connections

Electrical connection box

All electrical connections are made in the electrical connection box found on the front of the unit. Remove the access panel by unscrewing the fasteners.

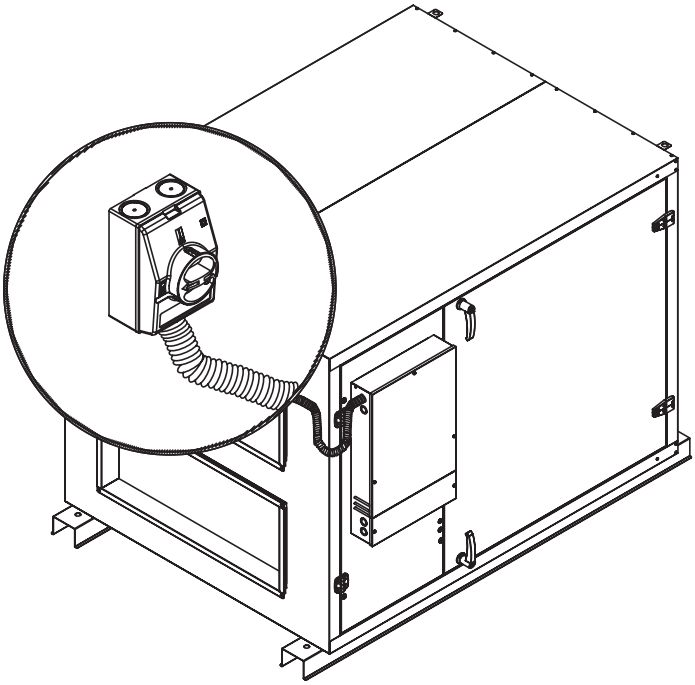


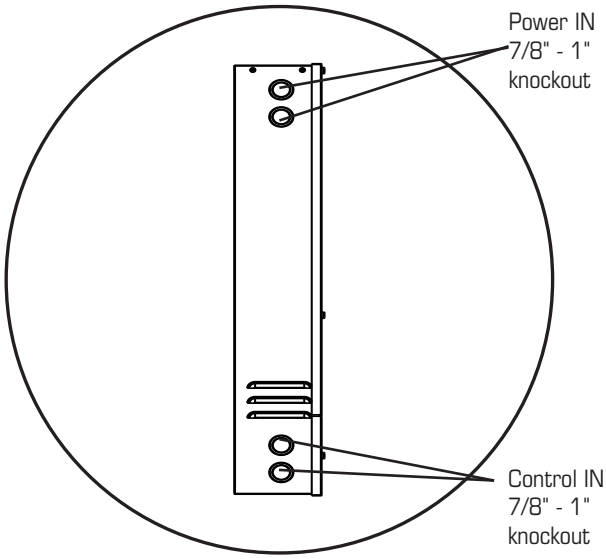
Position	Description
1	Terminal block for main power voltage to the unit (TB1)
2	Resettable fuse (Not a safety disconnect)
3	Transformer 240/24 VAC
4	Unit controller (Corrigo™)
5	Terminal block for low voltage / controls connections (TB3)

Unit components and electrical connections (Cont'd)

Main power & circuit breaker connection

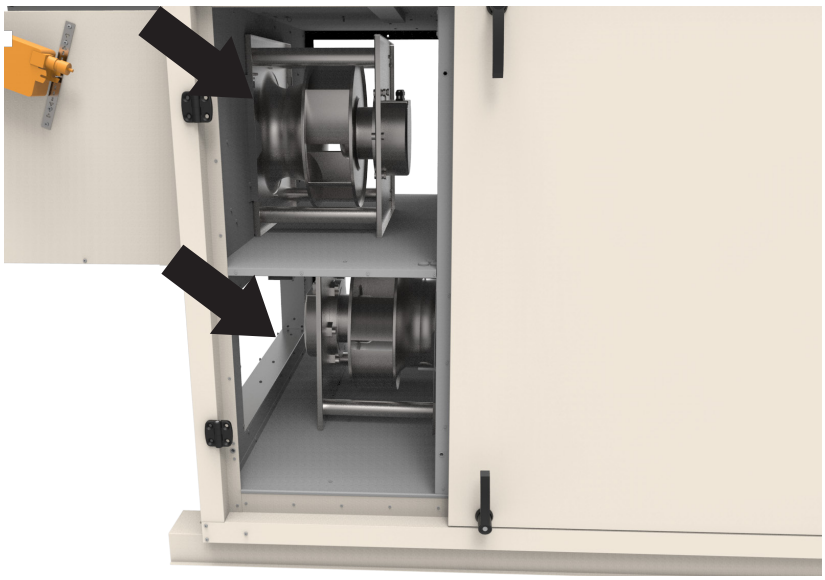
The main power connection of this unit must be preceded by an all pole circuit breaker. The connection from this circuit breaker to the unit main power knockout must be run in flexible conduit (field supply & specify) for the reason that the unit electrical connection box is mounted on a hinged access panel used to service the fan motors.





EC fan motor assemblies

This unit is equipped with two (2) electronically-commutated (EC) fan motors referred to as SF & SAF (supply air/fan) or EF & EAF (exhaust air/fan) (see unit wiring diagram). Both fan motors can be accessed by opening the smaller hinged access panel.

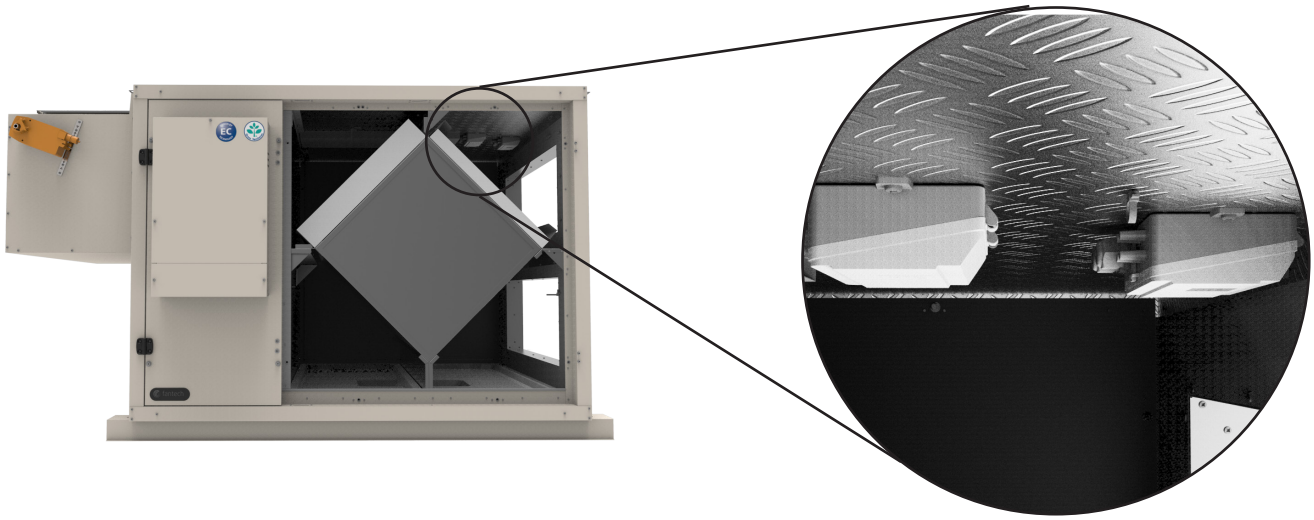


The speed of these EC fan motors are controlled by analog outputs from the unit controller. With feedback from the unit's built in pressure transducer modules, the controller will modulate the fan speed in order to maintain the airflow set point. This method of controlling the unit airflow is called Constant Air Volume (CAV). More details in the "Pressure transducer modules" section.

Unit components and electrical connections (Cont'd)

Pressure transducer modules

As mentioned in the previous section, this unit is equipped with two (2) pressure transducer modules referred to as Pressure transducer exhaust (PTE) and Pressure transducer supply (PTS) (see unit wiring diagram). They are located inside of the unit on the return air side and can be accessed by opening the larger hinged access panel.



Each module has two (2) pressure transducer.

The first pressure transducer on the PTE module measures the pressure drop over the inlet ring of the exhaust air fan in order to control the fan speed. The second one measures the pressure drop over the supply air filter for the dirty filter alarm.

The first pressure transducer on the PTS module measures the pressure drop over the inlet ring of the supply air fan in order to control the fan speed. The second one measures the pressure drop over the exhaust air filter for the dirty filter alarm

More details on the pressure transducers in the “Airflow control” & “Alarm handling” section.

Wiring the dampers & the BPM module actuators

If EFD dampers and/or a BPM module has been supplied with the unit and mounted as per their provided installation instruction, the electrical connection can now be made.

The outdoor air damper is connected to terminal TB3 10-12 (see unit wiring diagram) using the harness provided with the accessory.

The exhaust air damper is connected to terminal TB3 10-14 (see unit wiring diagram) using the harness provided with the accessory.

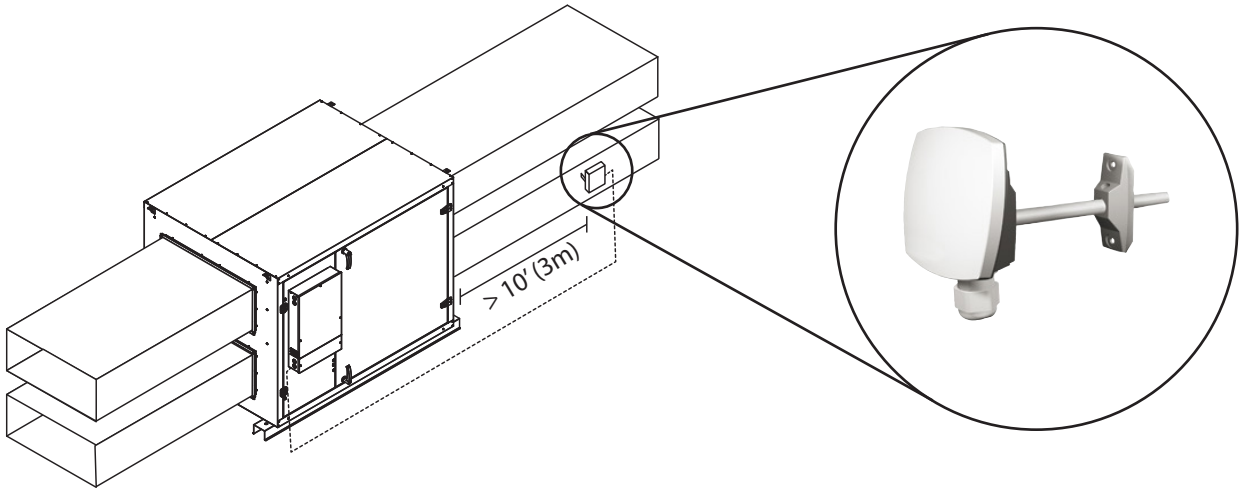
The BPM module is connected to terminal TB3 10-12 (see unit wiring diagram) using the harness provided with the accessory.

! The dampers and/or BPM module must be installed and wired back to the electrical connection box as indicated above for the unit to function properly. Ensure this is done before proceeding.

Unit components and electrical connections (Cont'd)

Installing the supply air temperature sensor

A temperature sensor, as seen in the illustration below, is enclosed in the unit packaging on delivery. This temperature sensor is the supply air sensor and it must be mounted in the supply air duct no closer than 10 ft. (3 m) away from the unit. Using a two (2) wire conductor (field supplied and specified), connect the supply air sensor to terminal TB3 30-31 (see unit wiring diagram).



The supply air sensor must be installed and wired back to the electrical connection box as indicated above for the unit to function. Ensure this is done before proceeding.

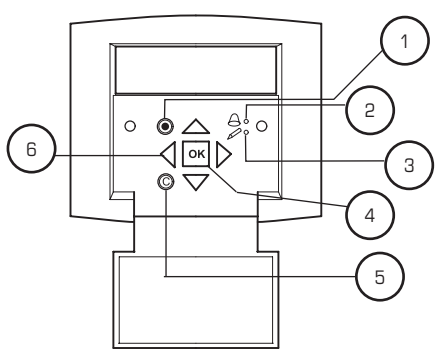
Unit components and electrical connections (Cont'd)

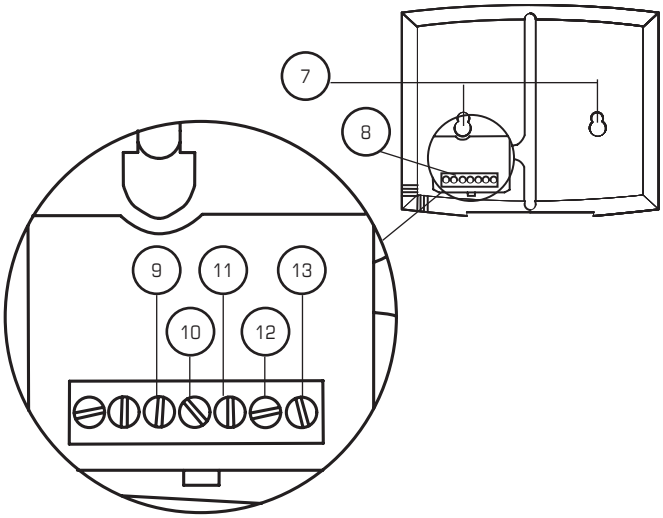
Installing the unit external display

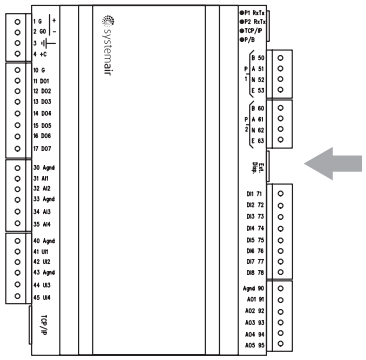
The unit external display is delivered with a 32 ft. (10 m) cable that is used to connect the display to the **Corrigo™** controller in the electrical connection box. See figure below for instruction on wiring the cable to the display. Find an appropriate place to install the display within 32 ft. (10 m) of the unit.

Supplied cable comes with a connector to connect the display to the corrigo.

* The unit external display is required for the start up and the commissioning of the unit. Ensure it is installed as indicated below before continuing.







Connect display

Position	Explanation
1	Alarm button: Gives access to the alarm list.
2	Alarm LED: Indicates alarm by flashing red light.
3	Write LED: Indicates by flashing yellow light that parameters can be set or changed.
4	OK button: Press this button to be able to change or set parameters whenever possible. Also used to move between changeable parameters in one dialogue window frame.
5	Cancel button: Used to abort a change and return to the initial setting.
6	Right/Left & Up/Down buttons: Used to move up, down, left & right in the menu tree. Up/Down buttons are also used to increase values when setting or changing parameters.
7	Mounting holes
8	Connection block.
9	Connection to yellow cable.
10	Connection to orange cable.
11	Connection to red cable.
12	Connection to brown cable.
13	Connection to black cable
	Supplied Cable

Unit operation

System operation modes

This unit has the following operation modes:

- Starting up: The unit is performing the start sequence
- Normal run: Normal speed or reduced speed ventilation active
- Stop fan: The unit is performing the stop sequence
- Stopped: Ventilation stopped
- Recirculation: Exhaust air fan is stopped, Supply air fan is active and BPM module is open, room air is recirculated through the unit (Only available if unit is equipped with BPM module).

The unit will automatically change from one operation mode to another based on start and stop conditions. The unit will remain stopped until a start condition is met. If the unit is in normal run or recirculation, it will run until a stop condition is met.

Unit Start conditions and sequence

The unit, when powered, will start and run when any of the following condition is met:

1. The programmable schedule for normal speed or reduced speed is active (more details in the "Time settings & schedule" section).
2. The extended run digital input is active (more details in the "Extended run" section).
3. If a CO2 sensor is equipped and configured on the dedicated analog input channel, the unit will start if the CO2 level reading reaches the preset lower limit value (more details in the "Demand controlled ventilation by CO2 level" section).
4. If a BPM module is equipped and the recirculation digital input / timer schedule 5 is configured, the unit will start if the recirculation digital input is active (More details in the "Recirculation" section).

Once any of the conditions listed above is met, the unit will initiate the start sequence:

1. Operation mode changes from *stopped* to starting up
2. The digital outputs for the fresh air damper and the exhaust air damper are activated
3. The exhaust air fan and the supply air fan will start after a preset time. Note that the delay for each fan to start might be different meaning that one can come on before the other.
4. Operation mode changes from *starting up* to *normal run* or *recirculation.*

Note that the Starting up sequence might take up to a minute. Once the unit is in normal run or recirculation it may take another minute to reach the airflow set point.

Unit Stop conditions and sequence

The unit will be stopped when any of the following condition is met:

1. None of the starting conditions are met.
2. The external switch digital input is active. More details in the "External switch" section
3. The fire alarm digital input is active. More details in the "Fire alarm" section
4. A systems alarm is active and forcing the unit to stop. More details in the "Alarm handling" section.

Once any of the condition listed above is met, the unit will initiate the stop sequence:

1. Operation mode changes from *normal run* or *recirculation* to *stop fan*
2. The exhaust air fan and the supply air fan will stop after a preset time. Note that the delay for each fan to stop might be different meaning that one can turn off before the other.
3. The digital outputs for the fresh air damper and the exhaust air damper are deactivated
4. All other remaining digital and analog outputs are deactivated.
5. Operation mode changes from *stop fan* to *stopped.*

Unit operation (Cont'd)

Controller display & start screen

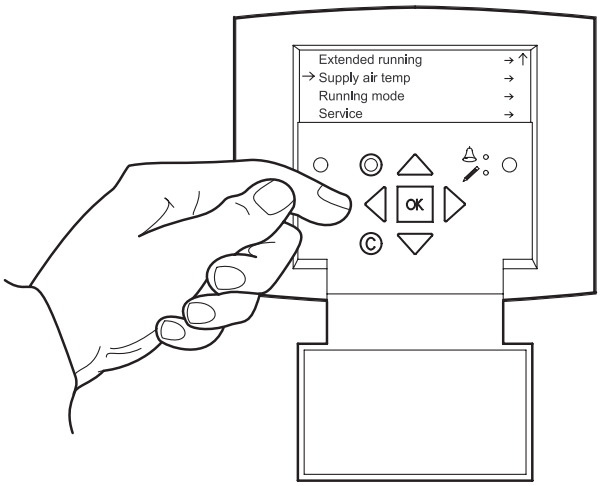
On startup, the start screen will be visible on the unit controller's external display. The first line is the unit model name followed by the date and time (24h clock) and the current system operation mode.

```
H2800Xi

YYYY-MM-DD                HH : MM

SYSTEM: STOPPED
```

The unit external display is used to configure & commission the unit. It is also used to troubleshoot and handle alarms generated by the controller. Navigate through the menus from the start screen by using the:

- UP/DOWN arrows to navigate the menus
- LEFT/RIGHT arrows to access and exit submenus
- OK button to access the changeable parameters
- UP/DOWN arrows to change the value of a parameter
- OK button to accept changes to a parameter
- Cancel button © to clear parameter values
- Alarm button ⊙ to access the alarm log

There are also 2 LED by the arrow buttons. The top one by the bell symbol will blink red when an alarm is triggered and the bottom one by the pencil symbol will blink yellow when a menu with changeable parameters is accessed.



Access right

In order to change parameters, access rights are required. Follow the instruction below to logon as administrator in order to change unit parameters.

1 Access rights

Go to `Access Rights` by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button.

```
Temperature

Air Control

Time settings

→Access Rights
```

2 Log on

Choose `Log on`. Select by pressing the RIGHT arrow button.

```
→Log on

Log off

Change password
```

3 Password

Enter password `1111` by pressing OK followed by the UP/DOWN arrow buttons. Select next digit by pressing the RIGHT arrow button. Press OK when all 4 digits have been entered.

```
Log on

Enter password xxxx

Actual level:  None
```

Unit operation (Cont'd)

Airflow control (CAV & airflow set points)

By monitoring the pressure drop over the inlet ring of both fans, the unit control can calculate the airflow moved by each fan using a technique based on the Bernoulli and continuity equations. The unit control will modulate the analog output sent to each EC fan motor in order to maintain a given airflow set point. Follow the steps below to enter the airflow set points of the supply and exhaust air fans.

1 Air Control

Go to `Air control` by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
Temperature

→Air Control

Time settings

Access Rights
```

2 Flow Control SAF

From this submenu, the actual supply airflow measured is displayed along with the set point for the current unit operation mode. Press the RIGHT arrow button to access the next submenu.

```
Flow control SAF
Actual:            CFM
  Setp:            CFM
```

3 Flow Control SAF

From this submenu, the set points for normal speed (1/1) and reduced speed (1/2) for the supply air fan can be entered. Press the OK button to access the field, use the arrow buttons to set a value and press ok again to save the value.

```
Flow control SAF
Step 1/1:          CFM
Setp 1/2:          CFM
```

4 Flow Control EAF

The same can be done for the exhaust air flow. Locate Flow control EAF from the air control menu and enter the EAF set points.

```
Flow control EAF
Actual:            CFM
  Setp:            CFM
```

```
Flow control EAF
Step 1/1:          CFM
Setp 1/2:          CFM
```

The airflow read on the unit external display is accurate to +/-5% of the measured value in a laboratory setting. According to the Field Performance Measurements of Fan Systems published by AMCA (AMCA 203-90), airflow field measurements typically have an uncertainty of up to 10%. If you are unsure of what is acceptable in your application, we recommend you contact a qualified air tester & balancer in your area.

Unit operation (Cont'd)

Time settings & schedule

The unit controller has a year-based 24h clock function. This means that a weekly schedule with holiday periods for a full year can be set. The clock also has an automatic daylight saving time change-over. To set the date and time follow the steps below.

1 Time settings

Go to `Time settings` by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
Temperature

Air Control

→Time settings

Access Rights
```

2 Time/Date

Go to `Time/Date` by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
→Time/Date

Timer normal speed

Timer reduced speed

Extended running
```

3 Time/Date

Press the OK button to access the field, use the arrow buttons to set a value and press ok again to save the value. Note the time parameter format is 00:00 to 24:00

```
   Time: HH:MM

   Date: YYYY-MM-DD

Weekday: Sunday-Monday
```

Once the date and time has been set, schedules can be programmed to operate the unit in normal or reduced speed. While the normal speed schedule is active, the unit will run at the desired airflow set point (setp 1/1). The reduced speed schedule can be used for when a reduced airflow set point (setp 1/2) is desired during night, weekends or holidays for example. The normal speed schedule has precedence over the reduced speed schedule.

Each schedule has two (2) run periods that can be set per day (i.e. run from period 1, 06:00-11:00 and from period 2, 13:00-21:00). If both periods for a weekday are set to 00:00-00:00 then the schedule for this day will be inactive. If either period for a weekday is set to 00:00-24:00 then the schedule will be active all day.

To set an operation schedule follow the steps below.

1 Timer normal speed

Access the timer normal speed submenu from the time settings menu. Use the UP/DOWN arrows to toggle between weekdays. Press the OK button to access the field, use the arrow buttons to set a value and press ok again to save the value. Note that the time parameter format is 00:00 to 24:00

```
Normal speed

Monday

Per1: HH:MM-HH:MM

Per2: HH:MM-HH:MM
```

2 Timer reduced speed

Access the timer reduced speed submenu from the time settings menu. Use the UP/DOWN arrows to toggle between weekdays. Press the OK button to access the field, use the arrow buttons to set a value and press ok again to save the value. Note that the time parameter format is 00:00 to 24:00

```
Reduced speed

Monday

Per1: HH:MM-HH:MM

Per2: HH:MM-HH:MM
```

Unit operation (Cont'd)

Time settings & schedule (Cont'd)

The schedules are set to inactive (00:00 – 00:00 Monday to Sunday & holidays) from the factory. If it is intended to have the unit operated by schedules then they have to be programmed in the field. Once the airflow set points, the time/date and the schedules have been programed, the unit will start up and operate at the given airflow set point when a schedule is active. If it is intended to have the unit operate at normal speed constantly for a given day then set the period 1 of the normal speed schedule for that day to 00:00 – 24:00. If all week days are set to 00:00 – 24:00 the unit will run continuously, year round. The same can be done with the reduced speed schedule but keep in mind that the normal speed schedule has precedence over the reduced one.

Holiday periods can be programmed and set to be active or inactive in the normal or reduced speed schedules. Set the day of which month a holiday period starts followed by the day of which month it ends (i.e. 12-25 – 12-26 for December 25 to December 26 or 01-01 – 01-01 for January 1). Once holiday periods have been set, access the schedules to set the holiday run time. To program the holiday periods follow the steps below.

1 Holiday

Access the holiday submenu from the time settings menu. Press the OK button to access the fields, use the arrow buttons to set a value and press OK again to save the value. Up to 24 holiday periods can be set for a year.

```
Holidays            (mm:dd)

1: mm-dd - mm-dd

2: mm-dd - mm-dd

3: mm-dd - mm-dd
```

Exchanger defrost

If the outdoor air temperature falls below the frost threshold of the unit the exchanger defrost function will be triggered and the unit will cycle between ventilation and the selected defrost mode in order to prevent any frost build up within the unit.

Exchanger defrost sequece (exhaust only defrost and reciculation defrost)		
Defrost Stage	Outdoor air temperature	Defrost run time/ Normal run time (min)
1	≤ 23 ºF (-5 ºC)	5/40
2	≤ 14 ºF (-10 ºC)	5/35
3	≤ 5 ºF (-15 ºC)	5/30
4	≤ -4 ºF (-20ºC)	5/25

During exhaust only defrost, the supply fan will shut down and the outdoor air damper (if equipped) will close (interruption of the cold outdoor airflow). The unit will keep extracting warm air for a defined period of time preventing any frost build up before going back to normal ventilation mode. This mode of defrost is configured from the factory and available on every unit by default.

If a BPM module has been installed on the unit, the option of recirculation defrost is available. During recirculation defrost, the motorized damper on the module will temporarily block the incoming outdoor air stream and open a path to circulate warm air from the building through the HRV/ERV. The exhaust fan shuts down and the supply fan will circulate warm air for a defined period of time to prevent any frost build up before going back to normal ventilation mode.

To configure the recirculation defrost for a unit equipped with the BPM module follow the steps below.

1 Configuration

Go to `Configuration` by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
Manual/Auto

Settings

→Configuration

Access rights
```

Unit operation (Cont'd)

Exchanger defrost (Cont'd)

2 Exchanger frost prevention

Go to `Exchanger` frost prevention by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
Exchanger deicing
→Exchanger frost pre
Cooling recovery
Enthalpy control
```

3 Exchanger frost prevention

From this submenu, press the OK button to access the fields. Ensure the `Mode` is set to `On` and the `Type` is set to `Recirculation` by using the arrow buttons to set a value and press OK again to save the value.

```
Mode
On
Type
Recirculation
```

Recirculation (units equipped with the BPM module only)

If a BPM module has been installed on the unit, the recirculation operation mode can be made available. It can be configured to run via a digital input and/or a schedule. When recirculation is activated, the exhaust air fan will stop, the BPM module will close the path to the outdoor air and open the path to the indoor recirculation air and the supply air fan will recirculate air throughout the space. This can be done when ventilation is not required during a certain period but air circulation is desired.

To have the recirculation mode controlled by a digital input, the input will have to be configured first. A means of triggering the input will also be required (field supplied and specified) and wired to terminals TB3 71 & 4, DI1 & +24VDC respectively (see wiring diagram).
Remember to cut the power to the unit at the all pole circuit breaker before performing any electrical work. The recirculation digital input has precedence over the normal & reduced speed schedules. If any stop condition is met, the unit will stop even if the recirculation input is active.

To configure the recirculation digital input, after the means of triggering the input has been wired, follow the steps below.

1 Configuration

Go to `Configuration` by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
Manual/Auto
Settings
→Configuration
Access rights
```

2 Inputs/Outputs

Locate `Inputs/Outputs` submenu by using the UP/DOWN arrow buttons and select it by pressing the RIGHT arrow button

```
→Inputs/Outputs
Sensor settings
Control function
Fan control
```

3 DI

Go to `DI` by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
AI
→DI
UI
AO
```

Unit operation (Cont'd)

Recirculation (units equipped with the BPM module only) (Cont'd)

4 Configuring DI1

From this submenu, press OK and change the DI from Not used to Recirculation. Press OK again to access the NO/NC field to set the digital input contact to either normally open (NO) OR normally closed (NC) based on what will be used to trigger the input.

```
DI1 :

NO/NC: NO Signal:

Recirculation

Status: Off                    ↓
```

Once the input has been set, the recirculation mode can be configured.

1 Configuration

Go to Configuration by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
Manual/Auto

Settings

→Configuration

Access rights
```

2 Recirculation

Locate Recirculation submenu by using the UP/DOWN arrow buttons and select it by pressing the RIGHT arrow button

```
Actuator period tim

Step controllers

→Recirculation

Pretreatment
```

3 Recirculation

From this submenu, press the OK button to access the fields and set values. Use the UP/DOWN arrow buttons to toggle through the different function settings.

```
Enable temp control when recirculation: No
(*Always leave values set to No)

End recirculation control when room temp
exceeds:  Value °F/°C
(If the unit is to remain in recirculation
regardless of the room temperature, set a high
temperature value in this field, i.e. 85°F)

Enable free cool when recirculating: No
(Always leave value set to No)

Use extra time group 5 to start recirculation: No
(If you wish to control the recirculation
mode using a schedule, set value to Yes. More
details to come below in this section. If not,
set value to No)

EAF running during recirculation: No
(Always leave value set to No)
```

A schedule can also be programmed for recirculation. The recirculation schedule can be set just as the normal and reduced speed schedule. The normal & reduced speed schedules have precedence over the recirculation schedule. To configure the recirculation schedule, follow the steps below.

1 Configuration

Go to Configuration by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
Manual/Auto

Settings

→Configuration

Access rights
```

Unit operation (Cont'd)

Recirculation (units equipped with the BPM module only) (Cont'd)

2 Recirculation

Locate `Recirculation` submenu by using the UP/DOWN arrow buttons and select it by pressing the RIGHT arrow button

```
Actuator period time
Step controllers
→Recirculation
Pretreatment
```

3 Recirculation

Using the UP/DOWN arrow buttons, locate the `use extra time group 5` in the `Recirculation` submenu then press the OK button and set the field value to `Yes`.

```
Use extra time                    ↑
group5 to start
recirculation: Yes
                                  ↓
```

4 Time settings

Go back to the top level menu by using the arrow buttons then locate the `Time settings` menu. Select it by pressing the RIGHT arrow button

```
Temperature
Air Control
→Time settings
Access rights
```

5 Timer output 5

From the `Time settings` submenu locate `Timer output 5` and select it by pressing the RIGHT arrow button.

```
Timer reduced speed
Extended running
→Timer output5
Holidays
```

6 Timer output 5

Use the UP/DOWN arrows to toggle between weekdays. Press the OK button to access the field, use the arrow buttons to set a value and press ok again to save the value. Note that the time parameter format is 00:00 to 24:00

```
Timer output 5
Monday
Per1: HH:MM-HH:MM
Per2: HH:MM-HH:MM
```

Extended running

The extended running digital input, when activated, changes to unit's operation mode to normal run, normal speed (1/1).

Operating the unit via the schedules is, in most case, an adequate approach but the extended running digital input brings additional functionality that can be customized for different scenarios by offering an event based operation mode.

For example, the unit is running, as intended, on the reduced speed schedule, recirculation schedule, recirculation DI or the unit is stopped because no start conditions are met. An external control or other mechanical equipment triggers the extended running digital input to activate/increase the ventilation rate by changing the operation mode to normal run, normal speed (1/1).

Unit operation (Cont'd)

Extended running (Cont'd)

A means of triggering the input will be required (field supplied and specified) and wired to terminals TB3 74 & 4, DI4 & +24VDC respectively (see wiring diagram). Remember to cut the power to the unit at the all pole circuit breaker before performing any electrical work. The Extended running digital input has precedence over the recirculation digital input and the normal, reduced and recirculation schedules. If any stop condition is met, the unit will stop even if the extended running input is active.

The extended running input is configured on DI4 from the factory and is set as a normally open contact (NO) by default. If you require a normally closed contact (NC) follow the steps below.

1 Configuration

Go to `Configuration` by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
Manual/Auto
Settings
→Configuration
Access rights
```

2 Inputs/Outputs

Locate `Inputs/Outputs` submenu by using the UP/DOWN arrow buttons and select it by pressing the RIGHT arrow button

```
→Inputs/Outputs
Sensor settings
Control function
Fan control
```

3 DI

Go to `DI` by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
AI
→DI
UI
AO
```

4 Configuring DI4

From this submenu, use the UP/DOWN arrow buttons to locate DI4 and select it by pressing the RIGHT arrow button. Press OK again to access the `NO/NC` field to set the digital input contact to either normally open (NO) OR normally closed (NC) based on what will be used to trigger the input.

```
DI4 :
NO/NC: NO Signal:
Ext run 1/1
Status: Off                    ↓
```

A timer is also available for the extended running mode. By default, the timer value for the function is set to 0 minutes. This means that the unit will go in extended running once the input is triggered and remain in extended running until the input goes from on to off.

Depending on the source used to trigger the input and/or the nature of the application, an extended running timer can be configured. The timer will start after the extended running input goes from on to off. For example, if the extended running input is triggered, the unit will go into normal speed (1/1) and remain in that mode as long as the input is active. Once the input goes from on to off, the unit will remain in extended running for the duration set for the timer. To configure the extended running timer follow the steps below.

1 Time settings

Go back to the top level menu by using the arrow buttons then locate the `Time settings` menu. Select it by pressing the RIGHT arrow button

```
Temperature
Air Control
→Time settings
Access rights
```

Unit operation (Cont'd)

Extended running (Cont'd)

2 Extended running

From the `Time settings` submenu locate `Extended running` and select it by pressing the RIGHT arrow button.

```
Timer normal speed

Timer reduced speed

→Extended running

Holidays
```

3 Configure extended running

From this submenu, press the OK button to access the fields and set values.

```
Extended running
0 min
Set the time value for extended running to
remain active once the extended running input
goes from on to off.

Time in ext running
0 min
This field only displays the actual timer value,
in minutes. Starting at 0 minute and counting
up every minute until the timer as reach the
extended running time value configured above.
Always leave value at 0 min.
```

Fire alarm

The fire alarm digital input can be used to connect the unit to fire alarms or the building management system (BMS) in order to stop the unit in case of a fire. If the fire alarm input is triggered the unit will initiate the stop sequence and stop the ventilation. A controller alarm will also appear on the unit external display to indicate that the fire alarm input is active.

Check if the unit's operation, as explained above in case of a fire, conforms to the local building code or the authorities having jurisdiction in your area.

The fire alarm(s) or BMS output has to be wired to terminals TB3 75 & 4, DI5 & +24VDC respectively (see wiring diagram). Remember to cut the power to the unit at the all pole circuit breaker before performing any electrical work.

The fire alarm input is configured on DI5 from the factory and is set as a normally open contact (NO) by default. If you require a normally closed contact (NC) follow the steps below.

1 Configuration

Go to `Configuration` by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
Manual/Auto

Settings

→Configuration

Access rights
```

Unit operation (Cont'd)

Fire alarm (cont'd)

2 Inputs/Outputs

Locate `Inputs/Outputs` submenu by using the UP/DOWN arrow buttons and select it by pressing the RIGHT arrow button

```
→Inputs/Outputs
Sensor settings
Control function
Fan control
```

3 DI

Go to `DI` by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
AI
→DI
UI
AO
```

4 Configuring DI5

From this submenu, use the UP/DOWN arrow buttons to locate DI5 and select it by pressing the RIGHT arrow button. Press OK again to access the `NO/NC` field to set the digital input contact to either normally open (NO) OR normally closed (NC) based on what will be used to trigger the input.

```
DI5 :                                    ↑
NO/NC: NO Signal:
Fire alarm
Status: Off                              ↓
```

External switch

The external switch digital input can be used to stop the unit remotely. If the external switch input is triggered the unit will initiate the stop sequence and stop the ventilation. A controller alarm will also appear on the unit external display to indicate that the external switch is active.

A means of triggering the input will be required (field supplied and specified) and wired to TB3 76 & 4, DI6 & +24VDC respectively (see wiring diagram). Remember to cut the power to the unit at the all pole circuit breaker before performing any electrical work.

The external switch input is configured on DI6 from the factory and is set as a normally open contact (NO) by default. If you require a normally closed contact (NC) follow the steps below.

1 Configuration

Go to `Configuration` by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
Manual/Auto
Settings
→Configuration
Access rights
```

2 Inputs/Outputs

Locate `Inputs/Outputs` submenu by using the UP/DOWN arrow buttons and select it by pressing the RIGHT arrow button

```
→Inputs/Outputs
Sensor settings
Control function
Fan control
```

Unit operation (Cont'd)

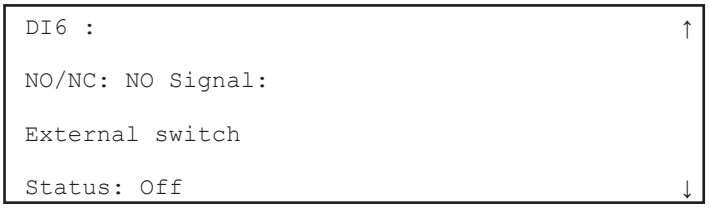
External switch (Cont'd)

3 DI

Go to DI by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

4 Configuring DI6

From this submenu, use the UP/DOWN arrow buttons to locate DI6 and select it by pressing the RIGHT arrow button. Press OK again to access the NO/NC field to set the digital input contact to either normally open (NO) OR normally closed (NC) based on what will be used to trigger the input.



Alarm handling

The unit controller comes with preprogrammed alarms to ensure it functions properly and to help troubleshoot problems when they occur. Active alarms are indicated by the flashing red LED on the unit external display.

These alarms have different characteristics. Alarms related to safe operation of the unit (alarms class A and B) will, when triggered, stop the ventilation until the alarm has been acknowledged and the alarm conditions are no longer met. Alarms of lower priority (Classe C) will not stop the ventilation and will auto reset once the alarm conditions are no longer met. Each alarm has a delay which is the time period the alarm conditions have to be met before the alarm is triggered. The table below lists all the preconfigured alarms of the unit with their descriptions and other characteristics. See table below.

Alarm	#	≥Description	Stop	Auto reset	Delay
Malfunction supply air fan	1	Alarm text: Run error supply air fan Cause: No feedback from supply air fan	Yes	No	300s (5 min)
Malfunction extract air fan	2	Alarm text: Run error extract air fan Cause: No feedback from extract air fan	Yes	No	300s (5 min)
Filter guard 1	6	Alarm text: Check supply air filter Cause: Supply air filter is dirty	No	No	300s (5 min)
Fire alarm	10	Alarm text: Fire alarm Cause: Fire alarm DI is active	Yes	No	0s
External switch	11	Alarm text: External switch Cause: External switch DI is active	Yes	Yes	0s
High supply air temp	15	Alarm text: High supply air temp Cause: Supply air temp ≥ 86°F (30°C)	No	No	300s (5 min)
Low supply air temp	16	Alarm text: Low supply air temp Cause: Supply air temp ≤ 50°F (10°C)	Yes	No	300s (5 min)
High Extract air temp	21	Alarm text: High extract air temp Cause: Extract air temp ≥ 86°F (30°C)	No	No	300s (5 min)
Low extract air temp	22	Alarm text: Low extract air temp Cause: Extract air temp ≤ 50°F (10°C)	No	No	30 min
Sensor error outdoor temp	27	Alarm text: Sensor error outdoor temp Cause: No signal from outdoor air sensor	No	No	5s

Alarm handling (Cont'd)

Alarm	#	≥Description	Stop	Auto reset	Delay
Supply air fan pressure control error	31	Alarm text: Supply air fan control error Cause: Supply air fan cannot maintain airflow setpoint	No	No	4 min
Extract air fan pressure control error	32	Alarm text: Extract air fan control error Cause: Extract air fan cannot maintain airflow setpoint	No	No	4 min
Manual supply air control	36	Alarm text: Manual supply air control Cause: manual control of supply temp	No	Yes	0s
Manual supply air fan freq control	38	Alarm text: Manual supply air fan freq control Cause: manual control of extract air fan	No	Yes	0s
Manual extract air fan freq control	40	Alarm text: Manual extract air fan freq control Cause: manual control of extract air fan	No	Yes	0s
Internal battery error	48	Alarm text: Internal battery error Cause: Controller battery malfunction	Yes	No	0s
Sensor error supply air temp	49	Alarm text: Sensor error supply air temp Cause: No signal from supply air sensor	No	No	5s
Sensor error extract air temp	50	Alarm text: Sensor error extract air temp Cause: No signal from extract air sensor	No	No	5s
Sensor error exhaust air temp	53	Alarm text: Sensor error exhaust air temp Cause: No signal from exhaust air sensor	No	No	5s
Sensor error SAF pressure	55	Alarm text: Sensor error SAF pressure Cause: No signal from SAF pressure sensor	No	No	5s
Sensor error EAF pressure	56	Alarm text: Sensor error EAF pressure Cause: No signal from EAF pressure sensor	No	No	5s
Sensor error CO2	59	Alarm text: Sensor error CO2 Cause: No signal from CO2 sensor (only if an AI is configured with the CO2 function)	No	No	5s
Communication error expension unit 1	81	Alarm text: Communication error expansion unit 1 Cause: Lost communication with expansion unit 1	No	Yes	0s
Communication error expension unit 2	81	Alarm text: Communication error expansion unit 2 Cause: Lost communication with expansion unit 2	No	Yes	0s
Output in manual mode	85	Alarm text: Output in manual mode Cause: one or more I/O's in manual mode	No	Yes	0s
Filter guard 2	90	Alarm text: Check extract air filter Cause: Extract air filter is dirty	No	No	300s (5 min)

All alarms can be monitored and acknowledged using the unit external display. Follow the steps below to handle active alarms.

1 Access the alarm log

Press the alarm button to access the alarm log when the red LED is flashing to indicate that an alarm has been triggered. Once the alarm log is accessed, the alarm will be displayed with the date and time it was triggered. Use the UP/DOWN arrow buttons to see all active alarms in the log.

2 Acknowledge an alarms

Press the OK button to acknowledge an alarm. Once an alarm has been acknowledged and the alarm conditions are no longer met, the alarm will be cleared from the log.

Alarm handling (Cont'd)

3 Acknowledged alarms

If an alarm is acknowledged but the alarm conditions are still present, the alarm will remain in the log and the red LED will be on instead of flashing to indicate that the alarm is still active. Some alarms auto reset after the conditions are no longer met therefore they will clear from the log automatically.

```
External switch


7 Feb 14:37 Class:C

Acknowledged
```

There is an option to block alarms but it is strongly recommended that no alarms be blocked since they are required for safe operation of the unit. The alarm settings should also not be changed to avoid any complications.

Configuring BACnet MS/TP (port 1)

The unit controller ships with native BACnet MS/TP configured on communication port 1. The device name will be seen on the network as *CorrigoVentilation* after connectivity is established. In order to establish connectivity between the network and the unit controller, the unit controller MAC address, device ID, and baud rate may need to change (ship as MAC address = 10, BACnet device ID = 2640, and baud rate = 9600 as default).

1 Configuration

Go to `Configuration` by using the UP/DOWN arrow buttons. Select by pressing the RIGHT arrow button

```
Manual/Auto

Settings

→Configuration

Access rights
```

2 Communication

Go to `Communication` by using the UP/DOWN arrow buttons and select it by pressing the RIGHT arrow button

```
Pre treatment

Alarm settings

→Communication

Other parameter
```

3 Function port1 Slave

Select `Function port1 Slave` by pressing the RIGHT arrow Button

```
Function port1                    →

Slave

                                  ↓
```

4 BACnet MS/TP communication port1

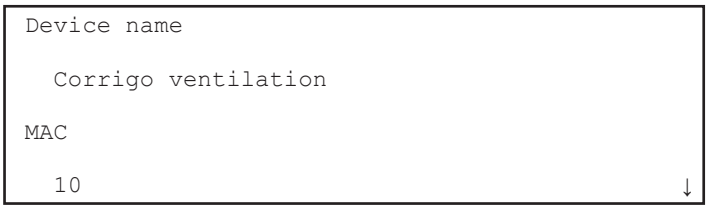
Select `BACnet MS/TP communication port1` by pressing the DOWN arrow Button followed by the RIGHT arrow button

```
BACnet MS/TP                      ↑

Communication

port1

Active                            →
```

Configuring BACnet MS/TP (port 1) (Cont'd)

5 Set MAC Address (default value = 10)

Select MAC address by pressing the OK button until the cursor flashes on the first digit of the value below MAC. Use the UP/DOWN arrow Buttons to increase / decrease the selected digit value and the RIGHT/LEFT arrow Buttons to move the cursor between digits. Once the required MAC address is displayed, press the OK button to store it in the unit controller.



6 Set Device ID (default value = 2640)

Go to Device ID by pressing the Down arrow. For device IDs that are 4 digits or less, only the Device ID low is used. For Device IDs greater than 4 digits, both Device ID low and Device ID high are used (example1: ID required = 1973, Device ID low = 1973 & Device ID high = 0. Example 2: ID required = 27039, Device, ID low =7039 & Device ID high = 2). Press the OK button to select Device ID low. The cursor will flash on the first digit of Device ID low. Use the UP/DOWN arrow Buttons to increase / decrease the selected digit value and the RIGHT/LEFT arrow Buttons to move the cursor between digits. Once the required Device ID low is displayed, press the OK button to store it in the unit controller.

The cursor will then flash on the first digit of Device ID high. If the device ID high is NOT required (device ID < 10000) set this value to 0. If the device ID high IS required (device ID ≥ 10000), use the UP/DOWN arrow Buttons to increase / decrease the selected digit value and the RIGHT/LEFT arrow Buttons to move the cursor between digits. Once the required Device ID high is displayed, press the OK button to store it in the unit controller.

7 Set Baud rate (default = 9600)

Go to Speed by pressing the DOWN arrow. To set baud rate, press the OK button. The cursor will flash on the first digit below Speed. Use the UP/DOWN arrow buttons to cycle through the baud rate (speed) options (9600 bps, 19200 bps, 38400 bps, 76800 bps) until the desired value is show. Press the OK button twice to store it in the unit controller. Use the LEFT arrow button to return to the previous menus.

Maintenance

Make sure power to the unit is disconnected and locked out before attempting any maintenance work.
The following components should also be inspected regularly and well maintained.

The motor - The motors are factory balanced and lubricated for life. They require no maintenance.

The unit - The inside of the unit should be wiped clean as needed.

Condensation Pan - Units with drain hoses should have their line and connection checked regularly.

Outside hoods - The outside hoods need to be checked every season to make sure there are no leaves or insects blocking the airflow. Check regularly that there are no pollutants near the intake hood. Make sure they are clear of any snow accumulation during the winter months.

Filters

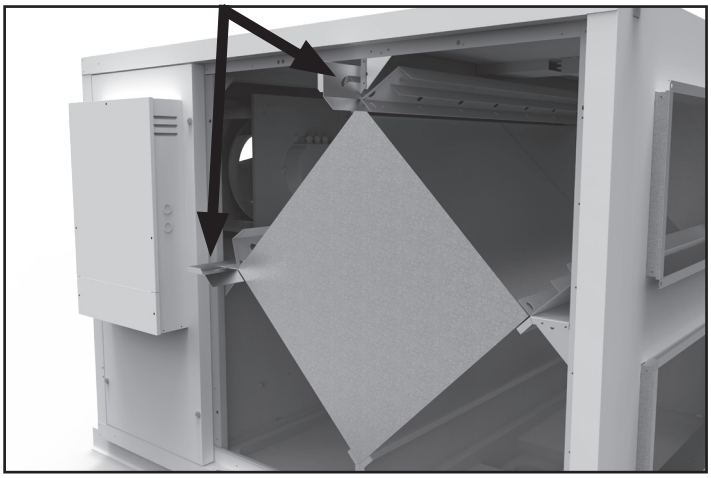
The filters cannot be cleaned and must be replaced when necessary. New filters can be ordered from your local Fantech distributor. Operation time between filter changes depends on the air pollution at the installation site. A differential pressure switch indicates when it's time to change the filters. This will trigger an alarm in the control panel.

HRV/ERV core

Inspect the HRV core every 3-6 months and clean as needed.

1. Open access door & remove filters.
2. Unlock the core by pulling the 2 brackets securing the cores (see figure on the right)
3. Carefully grip ends of core and pull evenly outward. Core may be snug, but will slide out of the channel.
4. Wash the core in warm soapy water or light coil solution.
5. Install clean core
6. Install the clean filters
7. Close access door

Locking mechanisms



Inspect the ERV core every 3-6 months and clean as needed.

1. Open access door & remove filters.
2. Unlock the core by pulling the 2 brackets securing the cores (see figure on the right)
3. Remove the core from the unit.
4. With one of the core's inlet facing down, place it in a large sink, bathtub, or shower.
5. Pour clean tap water through the face of the core facing upward until it runs clear. Ensure the entire surface is rinsed.
6. Rotate the core so that its other air inlet is facing down and repeat step 4.
7. With the plates still oriented vertically allow the core to dry, normally 2-3 hours.

Core installation label on the outer end of the core.

To install the clean Core and Filters.

1. First mount the bottom flange of the core guide into the bottom channel approximately 1/4" (6 mm)
2. Mount the left or right side flange of the core guide approximately 1/4" (6 mm) followed by the other side
3. Mount the top flange of the core guide into the top channel approximately 1/4" (6 mm)
4. With all four corners in place and the core straight and even, push hard in the centre of the core until the core stops on the back of the cabinet.
5. Push bracket back into place to secure the cores

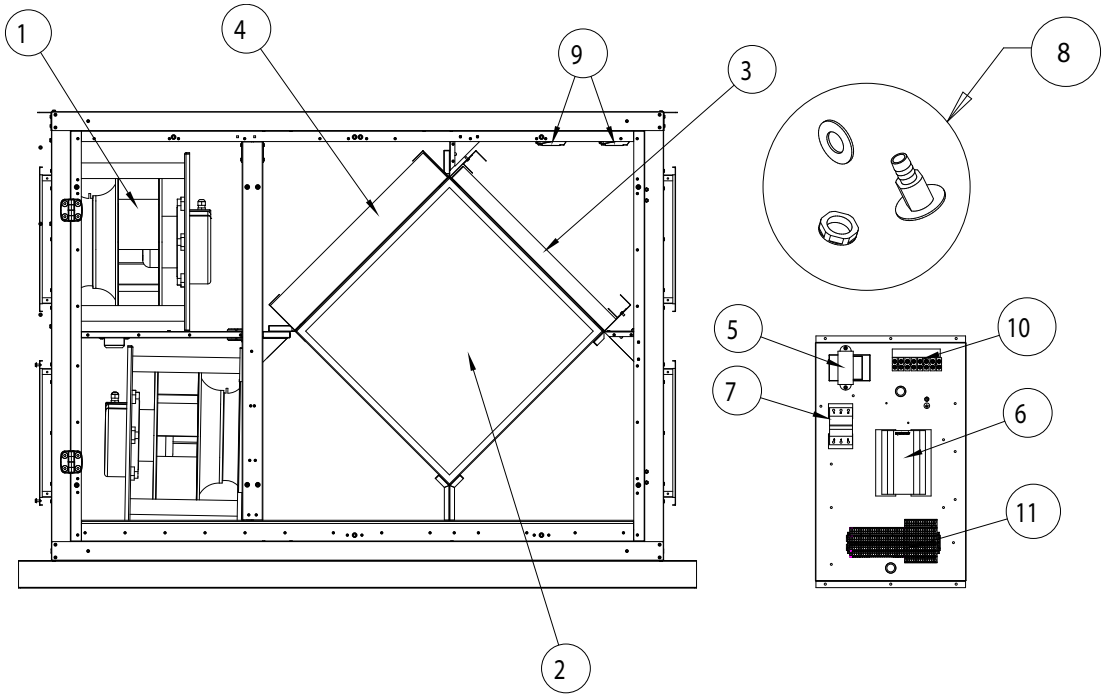
Refer to the ERV core label for the proper core orientation.

Limited Warranty

- The **Heat recovery aluminum** core has a lifetime warranty.
- The **Energy recovery** core has a 3 year warranty.
- Fantech commercial HRV/ERV's have a warranty that is limited to 3 years on all parts from the date of purchase, including parts replaced during this time period. If there is no proof of purchase available, the date associated with the serial number will be used for the beginning of the warranty period.
- The motors found in all Fantech HRV/ERVs require no lubrication, and are factory balanced to prevent vibration and promote silent operation.
- The limited warranty covers normal use. It does not apply to any defects, malfunctions or failures as a result of improper installation, abuse, mishandling, misapplication, unfortunate occurrence or any other circumstances outside Fantech's control.
- Inappropriate installation or maintenance may result in the cancellation of the warranty.
- Any unauthorized work will void of the warranty.
- Fantech is not responsible for any incidental or consequential damages incurred in the use of the ventilation system.
- Fantech is not responsible for providing an authorized service centre near the purchaser or in the general area.
- Fantech reserves the right to supply refurbished parts as replacements.
- Transportation, removal and installation fees are the responsibility of the purchaser.
- The purchaser is responsible for adhering to all codes in effect in his area.
- Fantech does not cover labor only parts.

* This warranty is the exclusive and only warranty in effect relative to the ventilation system and all other warranties either expressed or implied are invalid.

Parts list



BOM #	Description	ECHO H2800Xi (95749)	ECHO E2800Xi (95750)
1	R3G 355-PG60-25	414457	414457
2	Replacement core (3 cores per units)	414463	414493
3	Filter,Merv8,H2800Xi,Rep.Kit	422991	422991
4	Filter,Merv13,H2800Xi,Rep.Kit	422992	422992
5	TFMR,480/240/208/120v-24V,75VA	412749	412749
6	Controlunit E283 WEB Small	209664	209664
7	Auto.fuse C32	413759	413759
8	Drain,Plug,3/4",Threaded,Black	414476	414476
9	Pressigo Duo 2500	209651	209651
10	Terminal Block, 4 Pole, X.Large	413551	413551
11	Term.Block,TR Low Volt,Rev-2	414451	414451
	Wiring Diagram	422871	422871
	Installation Manual	422974	422974

Notes

Notes

Fantech reserves the right to make technical changes.
For updated documentation please refer to www.fantech.net

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