Fantech

Your Ventilation Solutions Company

SHR & VHR Series
Heat Recovery Ventilator

IMPORTANT - PLEASE READ THIS MANUAL BEFORE INSTALLING UNIT

CAUTION - Before installation, careful consideration must be given to how this system will operate if connected to any other piece of mechanical equipment, i.e. a forced air furnace or air handler, operating at a higher static pressure. After installation, the compatibility of the two pieces of equipment must be confirmed by measuring the airflow of the Heat Recovery Ventilator using the balancing procedure found in this manual.

It is always important to assess how the operation of any HRV may interact with vented combustion equipment (i.e. Gas Furnaces, Oil Furnaces, Wood Stoves, etc.).

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!!!

Your ventilation system should be installed in conformance with the appropriate provincial or 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".

SHR & VHR Models

SHR 1504 • SHR 1505 R • SHR 2004 • SHR 2005 R • SHR 3005 R • SHR 3205RD
VHR 1404 • VHR 1405 R • VHR 2004 • VHR 2005 R

Installation Manual

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DETERMINING YOUR AIRFLOW REQUIREMENT

Example for maximum airflow normally required.

HRVs are typically sized to ventilate the whole house at a minimum of 0.35 air changes per hour. To calculate, simply take the square footage of the house (including basement) and multiply by the height of the ceiling to get the cubic volume. Then, divide by 60 and multiply by 0.35.

Example:		
	SQFT of House	1100
	Basement	1100
	Total SQFT	2200
	Height of ceiling	x 8
	Cubic volume	17600
	Minutes per hour	/ 60
	Maximum airflow required (CFM)	293
	Minimum air changes per hour	x 0.35
	Minimum airflow required (CFM)	103

* Always consult your local building codes for sizing requirements in your area.
  i.e. Local building codes may require more or less air change per hour.

1 cfm = 0.47189 L/s
1 L/s = 3.6 m^3/hr

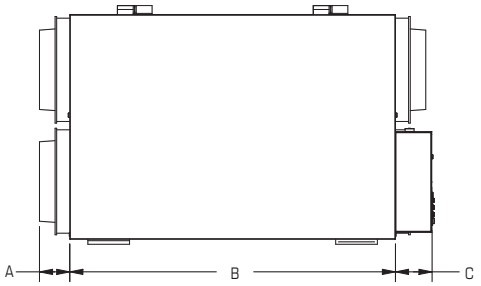
Alternate Method

Room classification	Number of rooms	CFM (L/s)	CFM Required
Master bedroom		x 10 L/s (20 CFM)	=
Basement	yes or no	if yes add 10 L/s (20 CFM) if no = 0	=
Bedrooms		x 5 L/s (10 CFM)	=
Living room		x 5 L/s (10 CFM)	=
Others		x 5 L/s (10 CFM)	=
Kitchen		x 5 L/s (10 CFM)	=
Bathroom		x 5 L/s (10 CFM)	=
Laundry room		x 5 L/s (10 CFM)	=
Utility room		x 5 L/s (10 CFM)	=
		Total Ventilation Requirements (add last column)	**=**

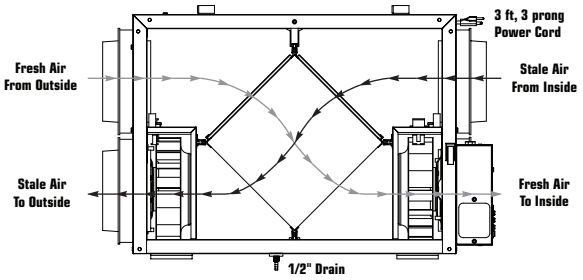
TECHNICAL DATA

SHR 1504, SHR 1505R, SHR 2004, SHR 2005R, SHR 3005R & SHR 3205RD
Heat Recovery Ventilators

Dimensions



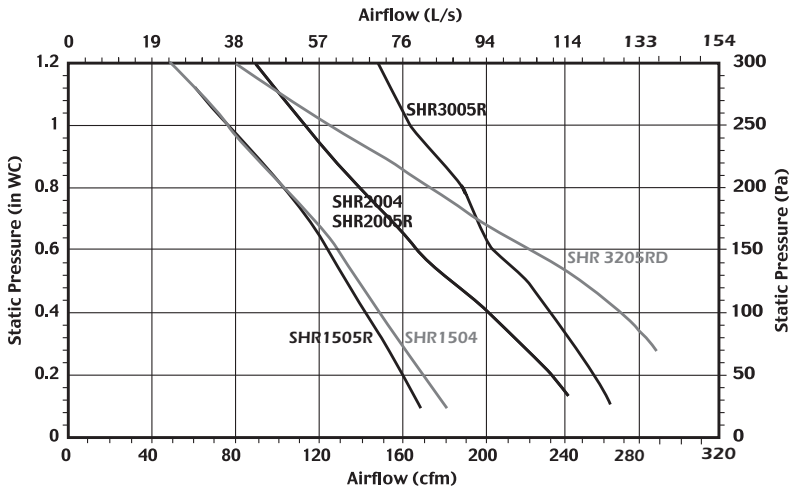
Airflow Path



		SHR 1504	SHR 1505	SHR 2004	SHR 2005R	SHR 3005R	SHR 3205RD
Measurements	A	56mm (2 1/4")	56mm (2 1/4")	56mm (2 1/4")	56mm (2 1/4")	56mm (2 1/4")	56mm (2 1/4")
	B	596mm (23 1/2")	596mm (23 1/2")	707mm (27 7/8")	707mm (27 7/8")	1292mm (50 7/8")	707mm (27 7/8")
	C	67mm (2 5/8")	67mm (2 5/8")	67mm (2 5/8")	67mm (2 5/8")	56mm (2 1/4")	71mm (2 3/4")
	D	441mm (17 3/8")	441mm (17 3/8")	441mm (17 3/8")	441mm (17 3/8")	441mm (17 3/8")	638mm (25 1/8")
	E	413mm (16 1/8")	441mm (17 3/8")	520mm (20 1/2")	520mm (20 1/2")	562mm (22 1/8")	520mm (20 1/2")
	F	152mm (6")	152mm (6")	152mm (6")	152mm (6")	152mm (6")	203mm (8")

SHR 3005R Unit is larger to accommodate 2 heat recovery cores. Electrical box is inside cabinet.

Fan Performance



Performance Data

Model	Apparent Sensible Effectiveness at 0°C (32°F)	Apparent Sensible Effectiveness at -25°C (-13°F)	Power Consumed Watts at 0°C (32°F)
SHR 1504	73% @31 L/s (65 CFM)	77% @32 L/s (68 CFM)	72 @31 L/s (65 CFM)
SHR 1505R	73% @31 L/s (65 CFM)	77% @32 L/s (68 CFM)	72 @31 L/s (65 CFM)
SHR 2004	77% @31 L/s (65 CFM)	79% @61 L/s (129 CFM)	108 @31 L/s (65 CFM)
SHR 2005R	77% @31 L/s (65 CFM)	81% @59 L/s (126 CFM)	108 @31 L/s (65 CFM)
SHR 3005R	92% @55 L/s (117 CFM)	91% @57 L/s (121 CFM)	212 @55 L/s (117 CFM)
SHR 3205RD	77% @56 L/s (118 CFM)	79% @58 L/s (123 CFM)	136 @56 L/s (118 CFM)

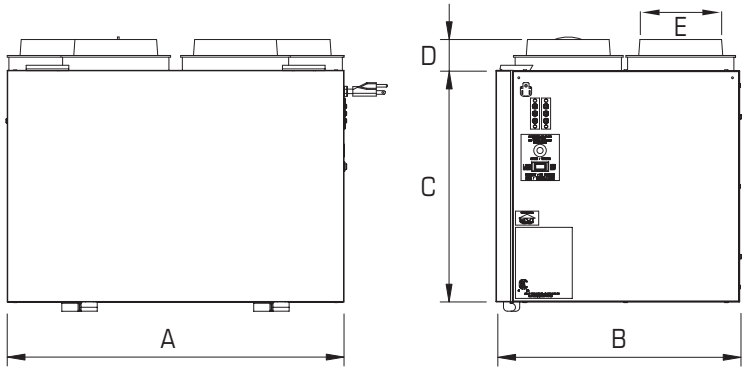
Power

- Volts 120 VAC
- Amperage
  - SHR 1504/1505R 1.3 Amps
  - SHR 2004/2005R 2.1 Amps
  - SHR 3005R 2.8 Amps
  - SHR 3205RD 2.5 Amps
- Single Phase

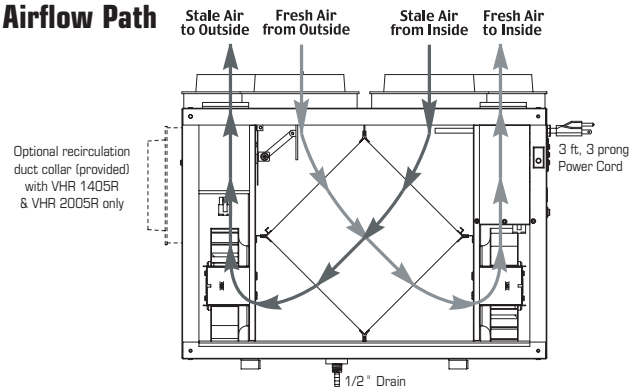
TECHNICAL DATA (CONT'D)

VHR 1404, VHR 1405R, VHR 2004 & VHR 2005R
Heat Recovery Ventilators

Dimensions

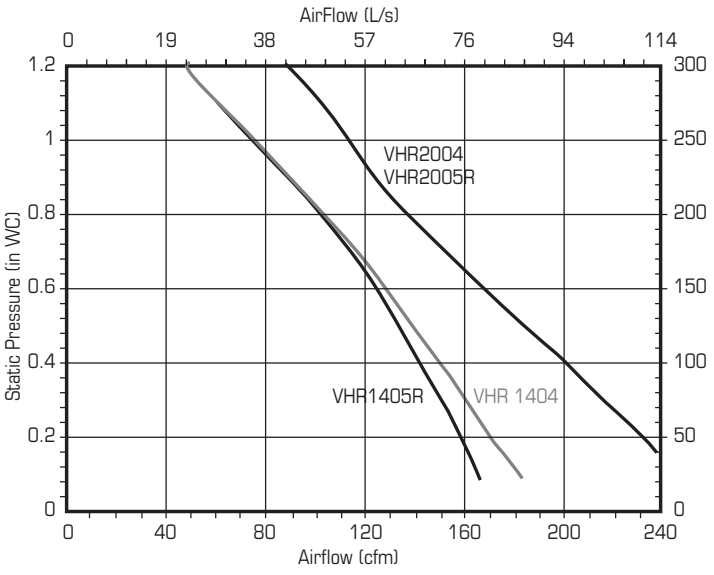


Airflow Path



		VHR 1404	VHR 1405R	VHR 2004	VHR 2005R
Measurements	A	604mm (22 3/4")	604mm (22 3/4")	711mm (28")	711mm (28")
	B	438mm (17 1/4")	438mm (17 1/4")	438mm (17 1/4")	438mm (17 1/4")
	C	413mm (16 1/4")	413mm (16 1/4")	521mm (20 1/2")	521mm (20 1/2")
	D	56mm (2 1/4")	56mm (2 1/4")	56mm (2 1/4")	56mm (2 1/4")
	E	152mm (6")	152mm (6")	152mm (6")	152mm (6")

Fan Performance



Performance Data

Model	Apparent Sensible Effectiveness at 0°C (32°F)	Apparent Sensible Effectiveness at -25°C (-13°F)	Power Consumed Watts at 32°F (0°C)
VHR 1404	73% @31 L/s (65 CFM)	77% @32 L/s (68 CFM)	72 @31 L/s (65 CFM)
VHR 1405R	73% @31 L/s (65 CFM)	77% @32 L/s (68 CFM)	72 @31 L/s (65 CFM)
VHR 2004	77% @31 L/s (65 CFM)	79% @61 L/s (129 CFM)	108 @31 L/s (65 CFM)
VHR 2005R	77% @31 L/s (65 CFM)	81% @59 L/s (126 CFM)	108 @31 L/s (65 CFM)

Power

- Volts 120 VAC
- Amperage
  - VHR 1404/1405R 1.3 Amps
  - VHR 2004/2005R 2.1 Amps
- Single Phase

NOTE: Some products may not be exactly as illustrated in the Installation Manual.

Fantech Inc. reserves the right to modify, at any time and without notice, any or all of its products' features, designs, components and specifications, to maintain their technological leadership position.

HRV INSTALLATION

PRACTICAL TIPS

- Have a nearby power supply (120 Volts, 60Hz).
- Choose a location which allows the possibility of mounting the unit to supporting beams.
- The unit should be level in order to allow proper condensate drainage.
- To minimize noise, do not install unit in living area.

LOCATION

The HRV must be located in a heated space where it will be possible to conveniently service the unit. Typically the HRV would be located in the mechanical room or an area close to the outside wall where the weatherhoods will be mounted. If a basement area is not convenient or does not exist, a utility or laundry room may be used.

Attic installations are not normally recommended due to:

– the complexity of the installation
– freezing conditions in the attic
– difficulty of access for service and cleaning
– no drain access

Connecting appliances to the HRV is not recommended. These include:

– clothes dryer
– range top
– stovetop fan
– central vacuum system

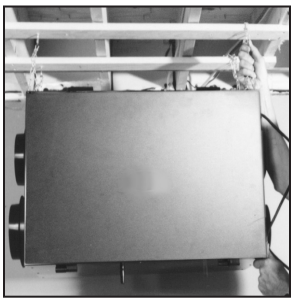
These appliances may cause lint, dust or grease to collect in the HRV, damaging the unit.

NOTE: Connecting any of these type of appliances to the HRV will void your warranty.

MOUNTING

1 Place fastening hooks on the strapping board or the floor joists.

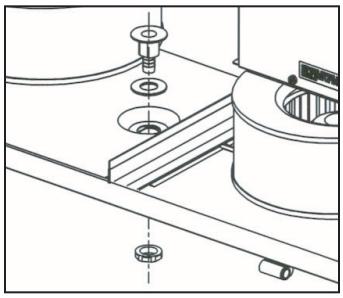
2 Attach a hanging chain (provided) to each 19mm (3/4") bolt (provided) in the top 4 corners of the unit and tighten.



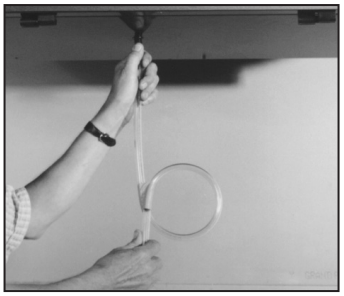
3 Hang the unit by slipping a link onto the hanging hooks, making sure the unit is level.

Installing Drain Line

Through normal operation and during its defrost mode, the HRV may produce some condensation. This water should flow into a nearby drain, or be taken away by a condensate pump. The HRV 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.



1 Install the drain nipple.



2 Install the drain hose, making a "P" trap

EXTERIOR DUCTING INSTALLATION

WEATHERHOOD LOCATION

•Decide where your intake and exhaust hoods will be located.

Locating the Intake Weatherhood

- Should be located upstream (if there are prevailing winds) from the exhaust outlet
- At a minimum distance of 3m (10') away from dryer vents and furnace exhaust (medium or high efficiency furnaces), driveways, oil fill pipes, gas meters, or garbage containers
- At a minimum height of 457mm (18") above the ground, or above the level of expected snow accumulation
- At a minimum distance of 1m (3') from the corner of the building
- Do not locate in a garage, attic or crawl space

Locating the Exhaust Weatherhood

- At least 457mm (18") above ground or above the depth of expected snow accumulation
- At least 1m (3') away from the corner of the building
- Not near a gas meter, electric meter or a walkway where fog or ice could create a hazard
- Do not locate in a garage, workshop or other unheated space

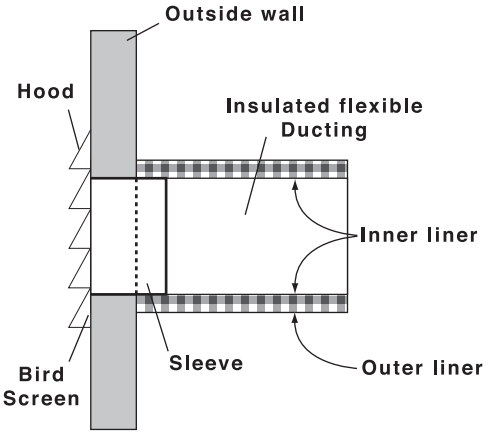
INSTALLING THE DUCTING TO THE WEATHERHOODS

A well designed and installed ducting system will allow the HRV to operate at its maximum efficiency. The inner liner of the flexible insulated duct must be secured to the sleeve of the weatherhoods (as close to the outside as possible) and to the appropriate port on the HRV. The insulation should remain full and not be squished. The outer liner, which acts as a vapor barrier, must be completely sealed to the outer wall and the HRV using tape and/or caulking. A good bead of high quality caulking (preferably acoustical sealant) will seal the inner flexible duct to both the HRV port and the weatherhood prior to securing them.

To minimize air flow restriction, the flexible insulated duct that connects the two outside weatherhoods to the HRV should be stretched tightly and be as short as possible.

Twisting or folding the duct will severely restrict air flow.

See "Installation Diagrams" for installation examples.



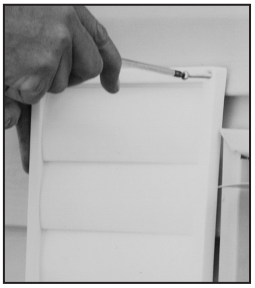
Model	Description
FML 8*	8" Metal Hood (White)
COM 6P	Plastic Supply & Exhaust Hoods
COM 6M	Metal Supply & Exhaust Hoods

* Can be used as supply or exhaust hood

STEPS FOR HOOD INSTALLATION:

1 Using the collar of the outside hood, outline the intake & exhaust hole to be cut. The holes should be slightly larger than the collar to allow for the thickness of the insulated flexible duct. Cut a hole for both the intake and exhaust hoods.

2 Pull the insulated flexible duct through the opening until it is well extended and straight. Slide the duct's inner vinyl sleeve over the hood collar and secure. Pull the insulation over the duct and pull the vapor barrier over the sleeve. Secure with duct tape.



3 Push the hood into the opening, then attach the hood to the outside wall with mounting screws. Repeat the installation procedure for both the Supply and Exhaust hoods.

4 Using a caulking gun, seal around both hoods to prevent any leaks.

INTERIOR DUCTING INSTALLATION

GENERAL TIPS

To maximize airflow through the ductwork system, all ducts should be kept short and have as few bends or elbows as possible. 45º elbows are preferable to 90º. Use "Y" tees instead of 90º elbows whenever possible.

All duct joints must be fastened with screws or duct sealant and wrapped with aluminium foil duct tape to prevent leakage. Galvanized ducting from the HRV to the living areas in the house is recommended whenever possible, although flexible ducting can be used in moderation when necessary. To avoid possible noise transfer through the ductwork system, a short length (approximately 300mm, 12") of nonmetallic flexible insulated duct should be connected between the HRV and the supply/exhaust ductwork system.

The main supply and return lines to/from the HRV must have a diameter of 150mm (6"). Branch lines to the individual rooms may be as small as 100mm (4"), but 125mm (5") is preferred.

INSTALLING DUCT TO HRV

Collar is equipped with hooks that will prevent flexible duct from slipping. For flex duct installation, slide flex onto collar and over hooks. Then install a cable tie over flex duct to prevent leakage between the ducting and collar.

In the case of solid ducting, slide solid duct over collar, screw in place and seal with tape.

SUPPLY AIR GRILLES LOCATION

In homes without a forced air furnace, fresh air should be supplied to all habitable rooms including, bedrooms and living areas. It should be supplied from high wall or ceiling locations. Grilles that diffuse the air comfortably such as the Fantech metal grilles (MGE) or plastic grilles (CG) are recommended. If the floor is the only option available, then special care should be taken in locating grilles. Areas such as under baseboard heaters will help to temper the air. In homes with a forced air furnace, you may want to connect the HRV to the furnace ductwork (see information below).

EXHAUST AIR GRILLES LOCATION

The stale air exhaust system is used to draw air from the points in the house where the worst air quality problems occur. It is recommended that return air ducts be installed in the bathroom, kitchen, and laundry room. Additional return air ducts from strategic locations (i.e. greenhouse, atrium, swimming pool, sauna, etc.) may be installed. The furnace return duct may also be used to exhaust from. In this method, the exhaust air is not ducted back from bathrooms, kitchens, etc to the HRV with "dedicated lines".

DUCTING FIFTH PORT UNITS (R)

Units SHR1505R, SHR2005R, SHR3005R and SHR3205RD have a 5th port on top and units VHR1405R and VHR2005R have a 5th port on the side. This duct port is for both the defrost and recirculation modes. A motorized damper installed in the port closes during defrost or recirculation, temporarily blocking the incoming fresh air-stream, allowing the warm air from the house to circulate through the HRV. You may wish to duct this port to a common room with clean air (living room or dining room), so when the recirculation mode is activated, household odors from the kitchen, bathroom or basement won't be introduced into the living spaces of the home environment.

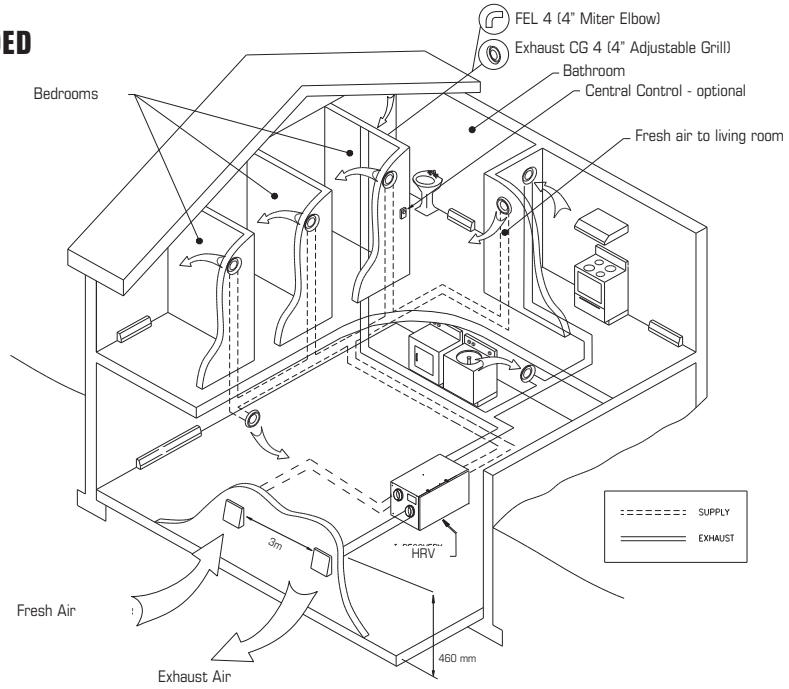
WARNING!

AS PER BUILDING CODES AND INSTALLATION REQUIREMENTS FOR COMBUSTION APPLIANCES: AIR RETURN DUCTS, OR OPENINGS FOR AIR RETURN, SHOULD NOT BE PLACED IN ENCLOSED SPACES CONTAINING COMBUSTION APPLIANCES THAT ARE SUBJECT TO SPILLAGE.

INSTALLATION EXAMPLES

Example diagram only - Duct configuration may change depending on model

Fully Dedicated System - RECOMMENDED (New Construction)



NOTES:

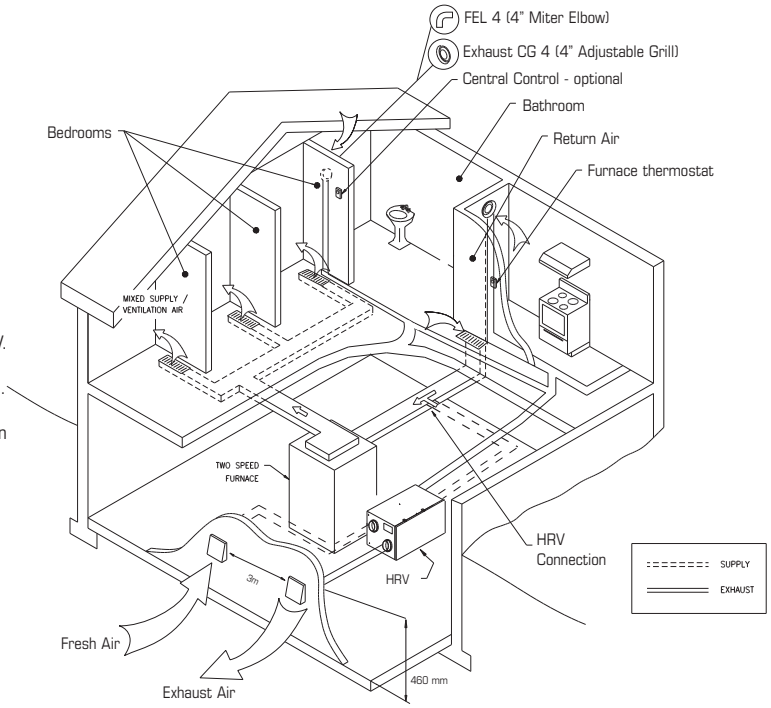
1. Stale air is drawn from key areas of the home (bathroom, kitchen, laundry room).
2. Fresh air is distributed through habitable rooms in the house (bedrooms, living room).
3. The HRV's airflow must be balanced on site using the procedure found in section "AIRFLOW BALANCING"

INSTALLATION EXAMPLES (CONT'D)

Example diagram only - Duct configuration may change depending on model

DIRECT CONNECTION of the SUPPLY AIR STREAM to the FURNACE COLD AIR RETURN
(Stale air drawn from key areas of home)

Partially Dedicated System

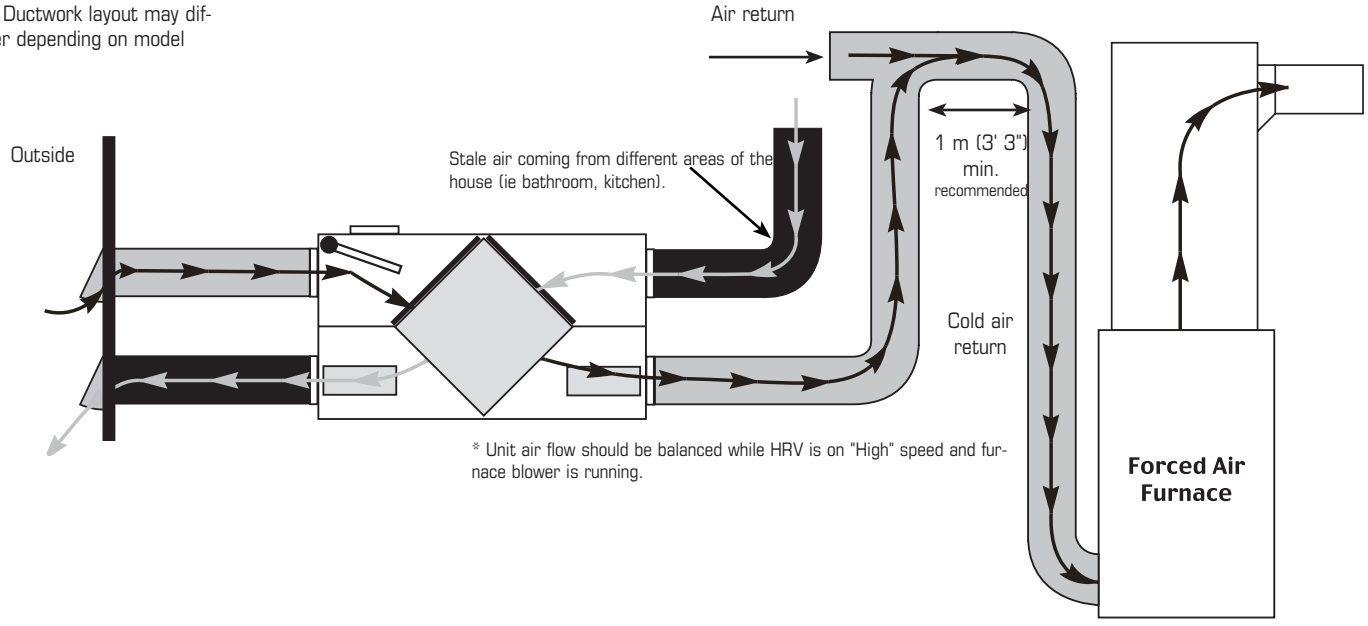


NOTES:

1. Furnace blower must operate when ventilation from HRV is required. The furnace should be set to run continuously or interlocked with HRV.
2. Weatherhood arrangement is for illustrative purposes only. 3m (10') minimum separation and 460mm (18") above grade is recommended.
3. Due to the differences in pressure between the HRV and the equipment it is being connected to, the HRV's airflow must be balanced on site, using the procedure found in section "AIRFLOW BALANCING".

HRV/Furnace ducting for Partially Dedicated System

* Ductwork layout may differ depending on model



* Unit air flow should be balanced while HRV is on "High" speed and furnace blower is running.

INSTALLATION EXAMPLES (CONT'D)

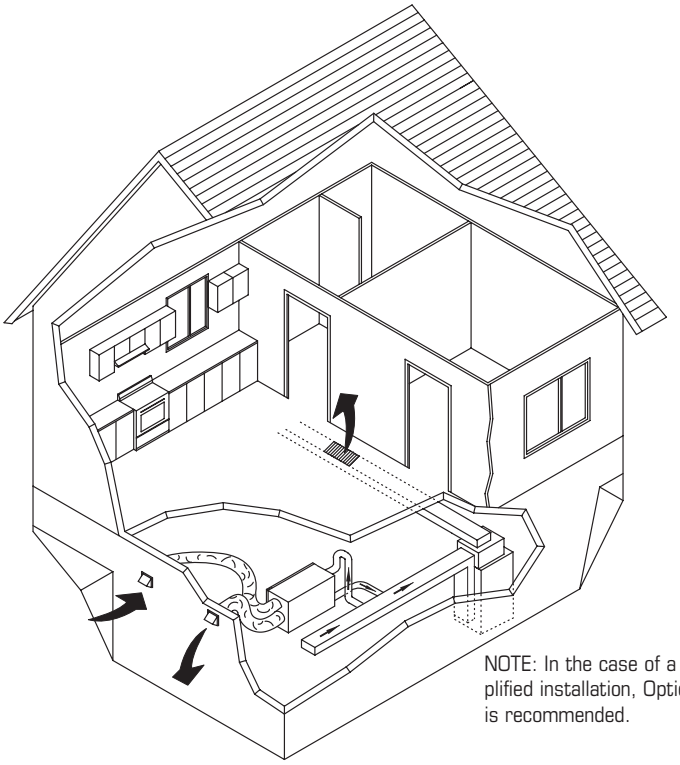
Example diagram only - Duct configuration may change depending on model

DIRECT CONNECTION of both the HRV SUPPLY AIR STREAM and EXHAUST AIR STREAM to the FURNACE COLD AIR RETURN

Simplified Installation

Option 1
(Return/Return Method)

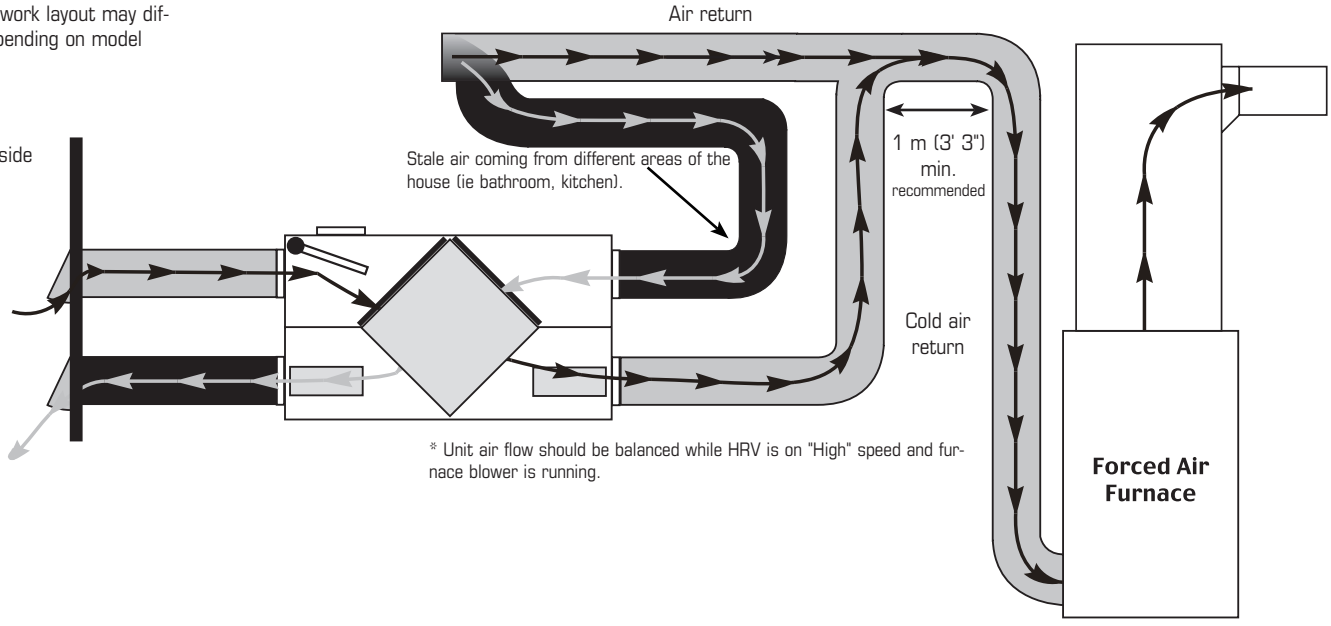
NOTES:
1. Furnace blower must operate when ventilation from HRV is required. The furnace should be set to run continuously or interlocked with HRV.
2. A minimum separation of 1m (39") is recommended between the two direct connections.
3. In order to prevent exhausting any fresh air, the HRV's exhaust air connection should be upstream of the HRV's supply air connection when ducting to the furnace's cold air return.
4. Weatherhood arrangement is for illustrative purposes only. 3m (10') minimum separation and 460mm (18") above grade is recommended.
5. Due to the differences in pressure between the HRV and the equipment it is being connected to, the HRV's airflow should be balanced on site, using the procedure found in section "AIRFLOW BALANCING".



NOTE: In the case of a simplified installation, Option 1 is recommended.

HRV/Furnace ducting for Simplified Installation - Option 1

* Ductwork layout may differ depending on model



* Unit air flow should be balanced while HRV is on "High" speed and furnace blower is running.

INSTALLATION EXAMPLES (CONT'D)

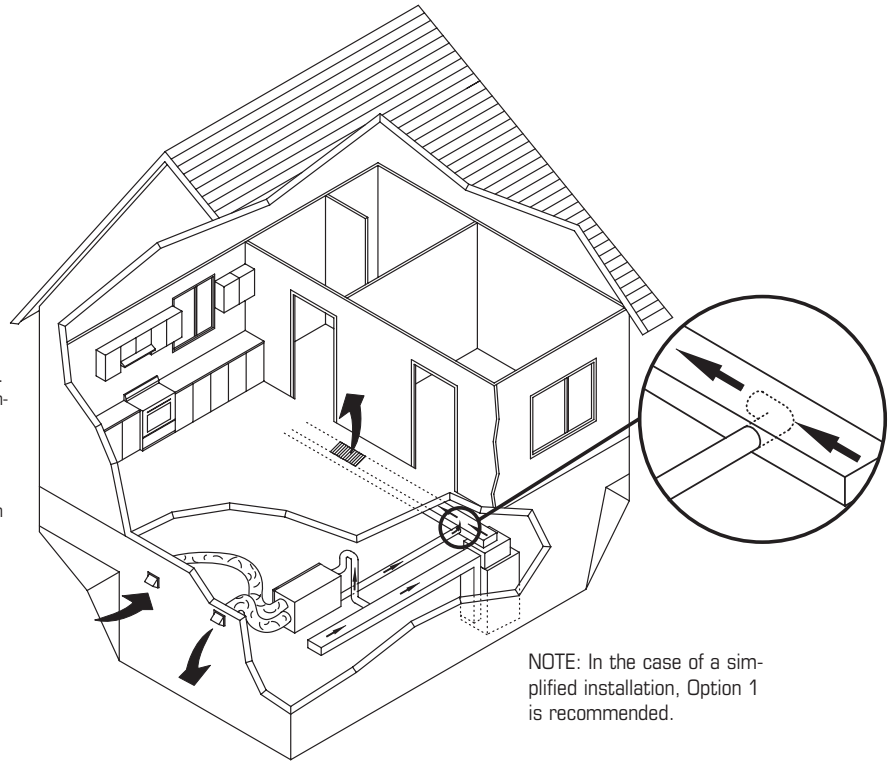
Example diagram only - Duct configuration may change depending on model

DIRECT CONNECTION of both the HRV SUPPLY AIR STREAM &
EXHAUST AIR STREAM to the FURNACE COLD AIR RETURN & SUPPLY AIR SIDE

Simplified Installation

Option 2

(Supply/Return Method)



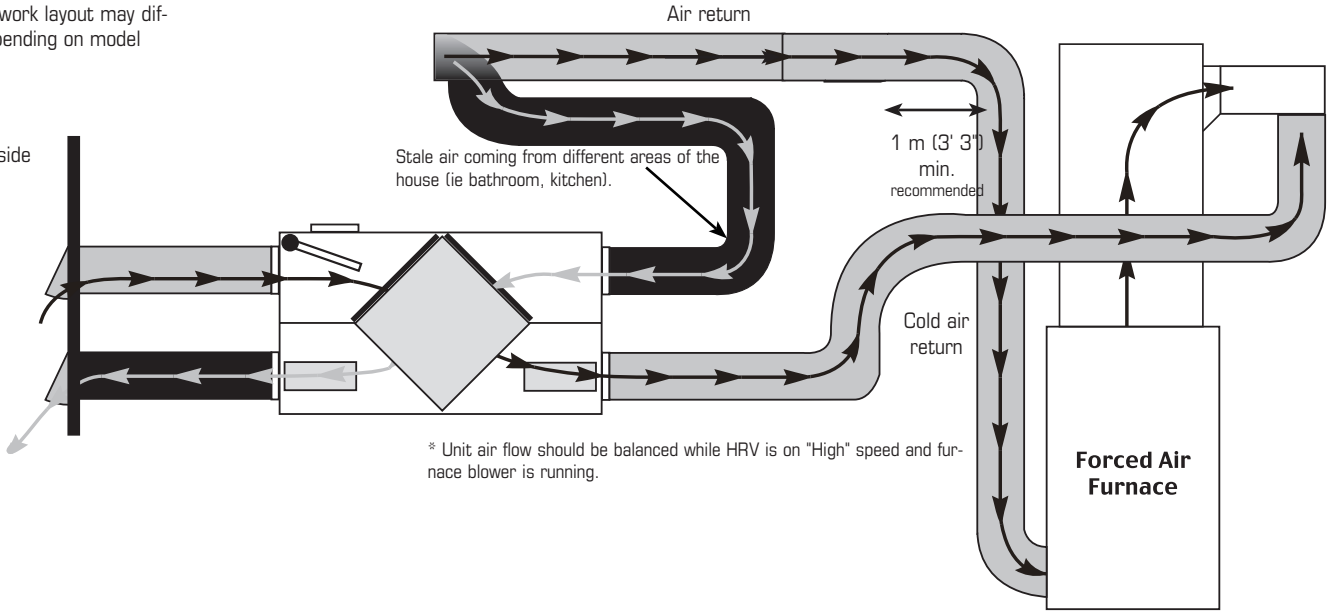
NOTES:

1. Furnace blower must operate when ventilation from HRV is required. The furnace should be set to run continuously or interlocked with HRV.
2. The exhaust air connection should be upstream of the supply air connection to prevent exhausting any fresh air.
3. Weatherhood arrangement is for illustrative purposes only. 3m (10') minimum separation and 460mm (18") above grade is recommended.
4. Due to the differences in pressure between the HRV and the equipment it is being connected to, the HRV's airflow must be balanced on site, using the procedure found section "AIRFLOW BALANCING".

NOTE: In the case of a simplified installation, Option 1 is recommended.

HRV/Furnace ducting for Simplified Installation - Option 2

* Ductwork layout may differ depending on model



* Unit air flow should be balanced while HRV is on "High" speed and furnace blower is running.

START UP PROCEDURE

Every time the unit is plugged in, it will go through a 45 second self diagnostic. During this time, the fresh air fans will not turn on.

The switch on the side of the unit is used to toggle between STANDBY, LOW speed and MEDIUM speed modes.

In order to activate HIGH speed, a jumper must be placed between the DEHUM + and DEHUM - contacts.

Airflow Balancing

WARNING

If the unit's air flows are not properly balanced…

– The unit's efficiency may be reduced.
– The unit's core may become damaged.
– Normal operation of the unit could cause the pressurization or depressurization of your home, which can lead to air leaks or backdrafting of any combustion appliances.

The balancing procedure consists of measuring the supply air flow and the return air flow to ensure that they are equal. A difference of up to 10% is considered acceptable. In the cases where the air flow is not exactly the same, it is recommended to have a higher return air flow to ensure that the temperature of the supply air flow coming from outside is as close to room temperature as possible.

NOTE: For optimal performance, HRV unit should be re-balanced after a major renovation or after the installation of extra grilles or registers.

AIRFLOW BALANCING (CONT'D)

ADJUSTING AIRFLOWS

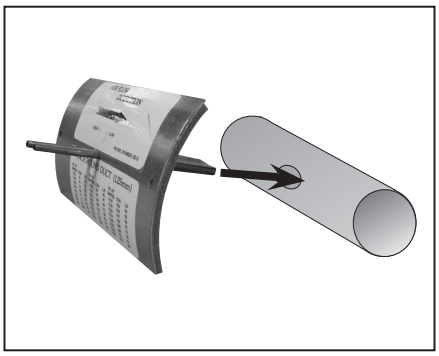
A damper is integrated into the Fresh Air to Building collar. This damper replaces the installation of a separate damper into the Fresh Air to Building ducting line.

The damper-collar is pre-set in the fully opened position. If the procedure requires a reduction in airflow to the fresh air duct, simply turn positioning knob located on the side of the collar clockwise until desired airflow is obtained. The damper position can be determined by the orientation of the pointers situated on the side of the damper. The damper is fully open when the pointers are towards the top of the collar (as shown in picture) and fully closed when they are sideways.

Once procedure is completed, install a piece of tape over positioning knob to avoid any tampering by the home owner.

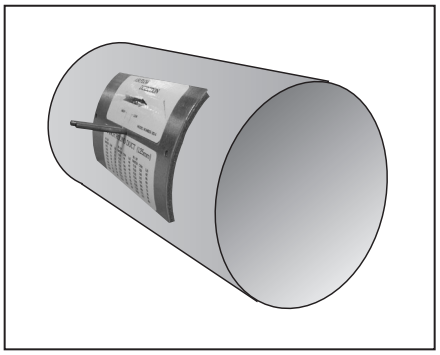
WARNING! DO NOT TURN POSITIONING KNOB COUNTERCLOCKWISE WHEN DAMPERS ARE FULLY OPENED AS DAMAGE MAY OCCUR TO THE MECHANISM

MEASURING THE AIRFLOW USING STATION (GRID) METHOD

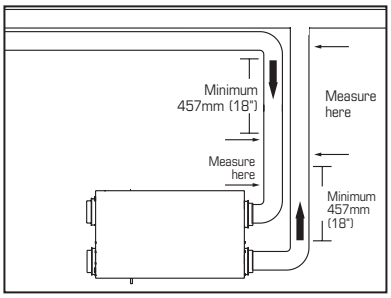


1 Cut hole in duct and insert flow measuring station. Make sure that the flow measuring station's air direction arrow points in the direction of the airflow. Secure the flow measuring station with duct tape.

2 Before taking the reading, make sure that the magnehelic gauge is level and at 0. Refer to the flow measuring station's chart to determine your unit's airflow velocity.



3 Adjust the "Supply Air Out" damper until you reach the desired velocity. Follow steps 1-3 to adjust the "Exhaust Air Out" damper, if needed.



- To avoid airflow turbulence and incorrect readings, the airflow velocity should be measured on a section of steel ducting. Reading should also be taken at a minimum distance of 457mm (18") from the unit or elbow. Measurement should also be made prior to any transition in the duct work so entire airflow is measured.

Low Voltage Control Systems

*** Please see instruction manuals for individual controls for proper wiring and set up of control systems.**

EDF1

2-wire connection

- Press button once for continuous low speed.
- Pressing the button twice allows the HRV/ERV to run a continous cycle of 20 minutes on and then standby for 40 minutes.
- Press the button a third time and the system will run continuously on high speed.
- Use in one central location.

EDF1R

2-wire connection

This control is designed to provide 3 modes of operation to the Heat Recovery Ventilator.

- Pressing the "Fan" button once initiates the unit to run at a continuous low speed of operation (green).
- Pressing the button twice allows the HRV to run a continuous cycle of 20 minutes on and then standby for 40 minutes (yellow).
- Touch the button a third time and the system will run in recirculation mode at high speed (red).

The ventilation system will stay on the last function selected until it is manually changed.

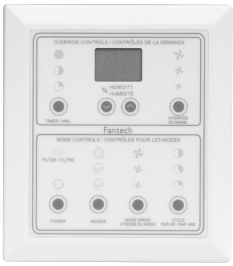
EDF2

2-wire connection

This 3-speed control (Low, Med, High) provides 2 modes of operation:

- Continuous: Unit will remain ON to exchange outside air with stale indoor air.
- Intermittent: Unit will remain on STANDBY until it is activated by the integrated Override Timer or Dehumidistat.

EDF5



2-wire connection

This 3-speed control (Low, Med, High) provides 3 modes of operation:

- Recirculation: Allows air to move gently throughout the home without exchanging air to the outside, until needed.
- Continuous: Unit will remain ON to exchange outside air with stale indoor air.
- Intermittent: Unit will remain on STANDBY until it is activated by the integrated Cycle control, Override Timer or Dehumidistat.

Also, the Cycle Control will allow the user to choose the amount of fresh air supplied to the house: 15, 20 or 30 minutes per hour before returning to its normal mode of operation.

MDEH1

2-wire connection

- Allows occupants to control the level of indoor humidity.
- When the humidity exceeds the desired level, the ventilation system operates at HIGH speed. Once the desired humidity level is achieved, your system resumes its normal mode of operation.

MDEH2

4-wire connection

- Allows occupants to control the level of indoor humidity.
- On/Off slider switch must be ON for the HRV to operate. When the switch is OFF, the HRV cannot be energized by a remote control, or at the unit itself.
- When the humidity exceeds the desired level, the ventilation system operates at HIGH speed and the light on the dial will illuminate. Once the desired humidity level is achieved, your system resumes its normal mode of operation.

RTS2

2-wire connection

- Press button once to activate continuous mode operation at HIGH speed for 20 minutes. The system then returns to its normal mode of operation.
- To cancel, simply press the button a second time.

RTS3

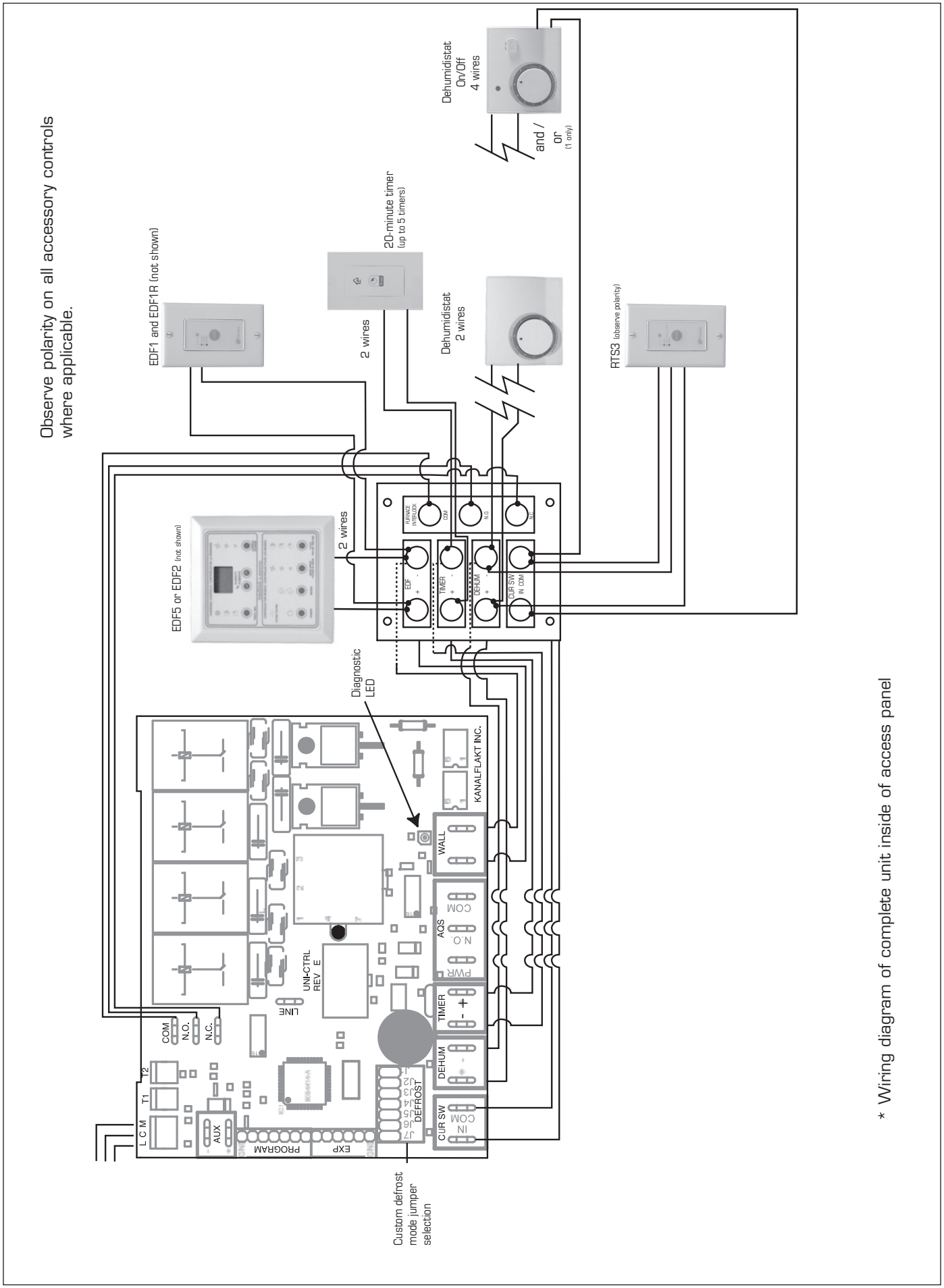
2-wire connection

- Press button once and unit will operate in continuous mode on HIGH speed for 20 minutes (Green).
- Press button a second time and unit will operate in continuous mode on HIGH speed for 40 minutes (Yellow).
- Press button a third time and unit will operate in continuous mode on HIGH speed for 60 minutes (Red).
- Press button a fourth time to cancel the timer (LED turns off).

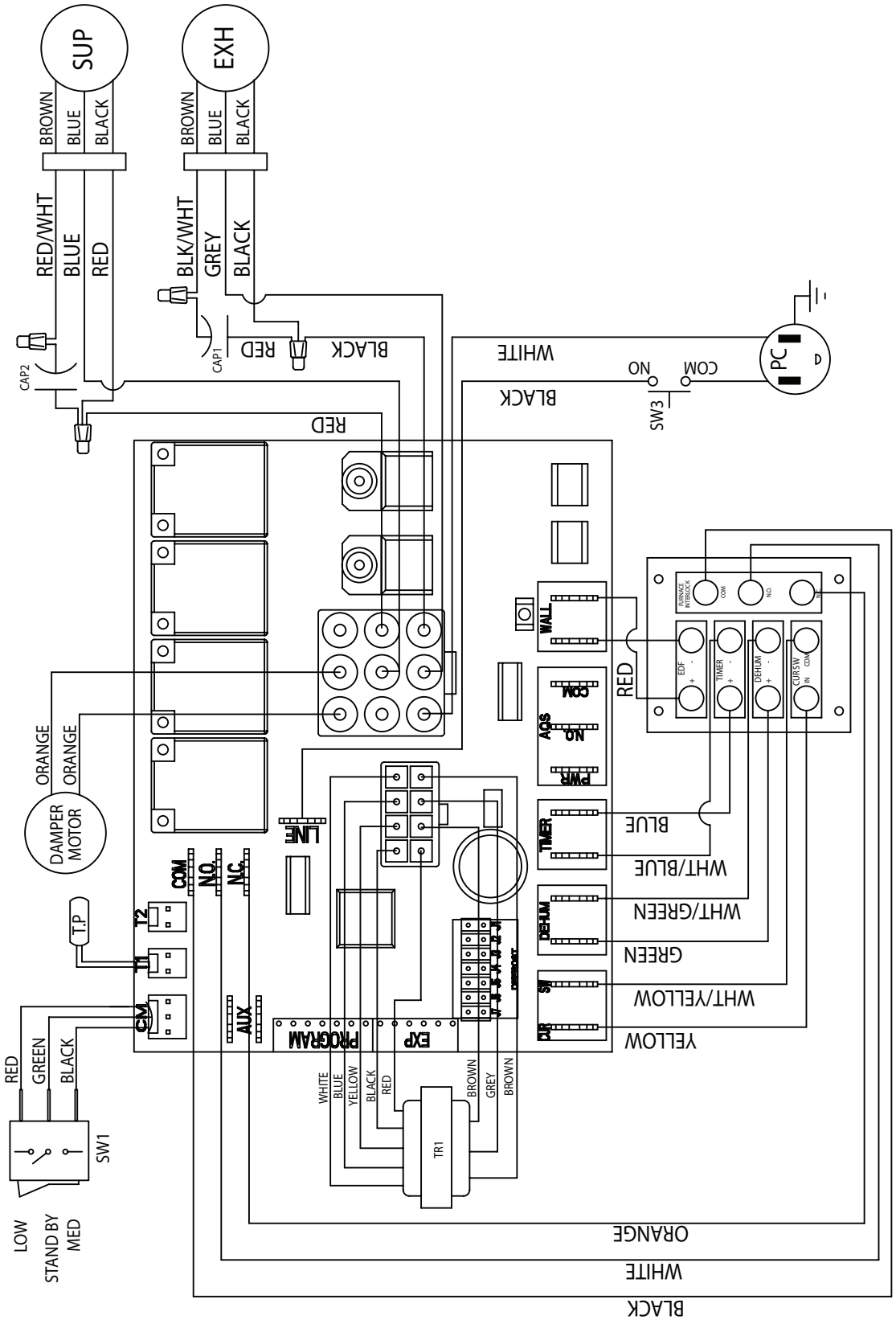
Notes:

1. Recirculation mode is only available on models with the "R" suffix at the end of the model number.
2. Dehumidifier controls will only work if outdoor humidity levels are lower than indoor humidity levels. Never use the Dehumidistat controls when outdoor temperatures are above 15 C (59F).

ELECTRICAL CONNECTIONS



ELECTRICAL CONNECTIONS (CONT'D)



ELECTRICAL CONNECTIONS (CONT'D)

ELECTRICAL CONNECTION TO A FURNACE

PRACTICAL TIPS

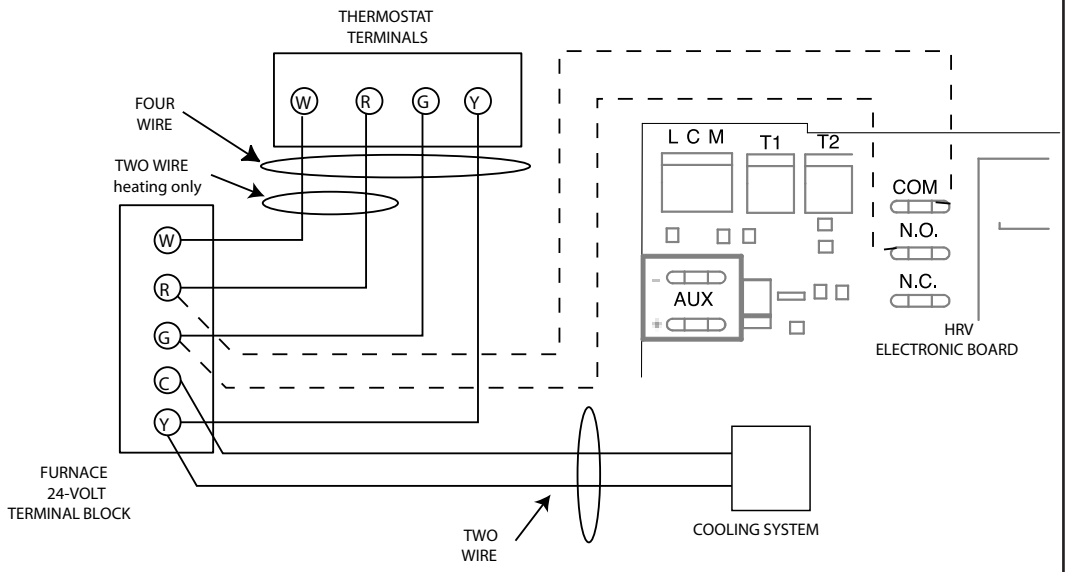
Caution:

- Never connect a 120 volt AC circuit to the terminals of the Accessory Control Contacts. Only use the low voltage class 2 circuit of the furnace blower control.

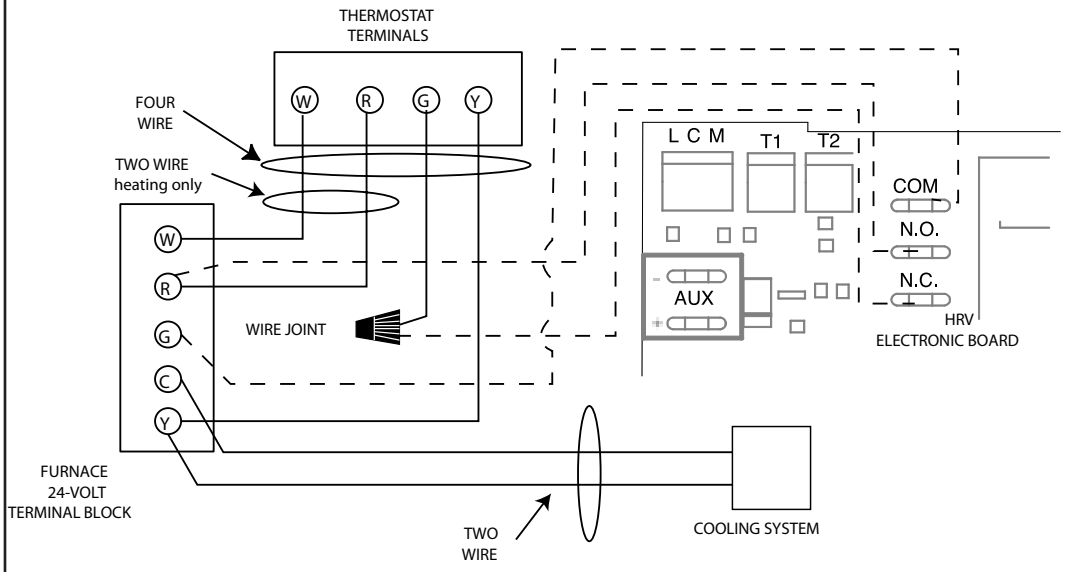
For a Furnace Connected to a Cooling System:

- On some newer furnaces and older thermostats, energizing the R and G terminals at the furnace has the effect of energizing the Y at the thermostat and thereby turning on the cooling system. If you identify this type of thermostat, you must use the "Alternate Furnace Interlock Wiring".

Standard Accessory Control Contact



Alternative Accessory Control Contact



TROUBLESHOOTING

Problem	Causes	Solutions
Air is too dry	– Dehumidistat control is set too low	– Increase the desired level of humidity. Change ventilation mode from continuous mode to standby.
	– HRV out of balance	– Have contractor balance HRV airflows
Air is too humid	– Dehumidistat control is set too high	– Reduce the desired level of humidity. Combine this with the use of continuous exchange mode.
	– Sudden change in temperature	– Wait until outside temperature stabilizes (winter). Heating will also improve situation.
	– Storing too much wood for heating	– Store a majority of your wood outside. Even dried, a cord of wood contains more than 20 gallons of water.
	– Dryer vent exhaust is inside home	– Make sure the dryer vent is exhausting outside.
	– Poor air circulation near windows	– Open curtains or blinds.
	– HRV out of balance	– Have contractor balance HRV airflows
	– Well sealed basement door is closed	– Open the door or install a grill on the door.
	– Failed damper system may be stuck in recirculation mode	– Check defrost damper. If damper is always blocking incoming fresh air, have contractor verify damper system.
Persistent condensation on window	– Improper adjustment of dehumidistat control	– Reduce the desired level of humidity. Combine this step with use of continuous exchange mode.
	– HRV out of balance	– Have contractor balance HRV
	– Poor air circulation near windows	– Open curtains or blinds.
Poor Air Flows	– 1/4" (6mm) mesh on the outside hoods is plugged	– Clean exterior hoods or vents
	– Filters plugged	– Remove and clean filter
	– Core obstructed	– Remove and clean core
	– Indoor grilles closed or blocked	– Check and open grilles
	– Inadequate power supply at site	– Have electrician check supply voltage
	– Ductwork is restricting airflow	– Check duct installation
	– Improper speed control setting	– Increase the speed of the HRV (i.e. change unit control from LOW to MED speed)
	– HRV airflow improperly balanced	– Have contractor balance HRV airflows
	– Ducting has fallen down or been disconnected from HRV	– Have contractor reconnect ducting
Supply air feels cold	– Poor location of supply grilles, the airflow may irritate the occupant	– Locate the grilles high on the walls or under the baseboards, install ceiling mounted diffuser or grilles so as not to directly spill the supply air on the occupant (eg. Over a sofa) – Turn down the HRV supply speed. A small duct heater (1kw) could be used to temper the supply air – Placement of furniture or closed doors is restricting the movement of air in the home
	– Outdoor temperature extremely cold	– If supply air is ducted into furnace return, the furnace fan may need to run continuously to distribute ventilation air comfortably
HRV and/or Ducts frosting up	– HRV air flows are improperly balanced	– Have HVAC contractor balance the HRV airflows
	– Malfunction of the HRV defrost system	– Note: minimal frost build-up is expected on cores before unit initiates defrost cycle functions
Condensation or Ice Build Up in Insulated Duct to the Outside	– Incomplete vapor barrier around insulated duct	– Tape and seal all joints
	– A hole or tear in outer duct covering	– Tape any holes or tears made in the outer duct covering – Ensure that the vapor barrier is completely sealed.
Green LED Light Codes on Control Board		
Constant Flash	– Everything is in good operations	
Light is ON, and not Flashing	– Control Board is defective	– Replace Control Board
Light is OFF, and not Flashing	– No Power is being transmitted to the Control Board	– Make sure unit is plugged. – Transformer may need replacing.

Note: It is best to get the unit checked by a certified HVAC Contractor/Technician.

HRV MAINTENANCE CHART

Maintenance Required	Recommended Frequency	Date Maintenance Performed					
Check and Clean Filters	Every 3 months or if dirty						
Check Heat Recovery Core	Every 6 months						
Check Drain Pan and Lines	Every 3 months						
Vacuum the Inside of the Unit	Annually						
Clean and Un-block Outside Hoods	Annually						
Clean and Inspect Duct Work	Annually						
General Servicing by a Qualified Contractor	Annually						

* Schedule may be altered to meet your own needs. More frequent servicing may be required depending on the severity of your home's indoor and outdoor environments.

Contractor	Telephone Number	Date Serviced

Limited Warranty

- The heat recovery aluminum core has a lifetime limited warranty..
- The warranty is limited to 5 years on parts and 7 years on fans 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 fans found in all Fantech HRVs 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, fortuitous 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 result in the cancellation 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 to adhering to all codes in effect in his area.

** 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.*

Fantech

United States
10048 Industrial Blvd.
Lenexa, KS 66215
Phone: 800-747-1762; 913-752-6000
Fax: 800-487-9915; 913-752-6466
www.fantech.net; info@fantech.net

Canada
50 Kanalflakt Way,
Bouctouche, NB E4S 3M5
Phone: 800.565.3548; 506.743.9500
Fax: 877.747.8116; 506.743.9600
www.fantech.net; info@fantech.net

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