



**Fantech**  
Your Ventilation Solutions Company

**Commercial**  
Heat Recovery Ventilators

## Installation Manual

**IMPORTANT - PLEASE READ AND SAVE 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. After installation, the compatibility of the two pieces of equipment must be confirmed by measuring the airflow's of the Heat / Energy Recovery Ventilators. It is always important to assess how the operation of any HRV/ERV 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 local building codes.

# Light Commercial Model

SHR6904 • SHR6905R • SHR8004 • SHR11004 • SHR11005R • SHR14104

## Limited Warranty

- The heat recovery aluminum core has a lifetime warranty.
- Fantech HRV'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 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.*

# TABLE OF CONTENTS

## TECHNICAL DATA

|                  |    |
|------------------|----|
| SHR 6904 .....   | 3  |
| SHR 6905R .....  | 5  |
| SHR 8004 .....   | 7  |
| SHR 11004 .....  | 9  |
| SHR 11005R ..... | 11 |
| SHR 14104 .....  | 13 |

## OPERATION

|                                |    |
|--------------------------------|----|
| Modes Of Operation .....       | 15 |
| Optional Remote Controls ..... | 15 |

## INSTALLATION

|                          |    |
|--------------------------|----|
| Mounting the Unit .....  | 16 |
| Location & Ducting ..... | 17 |
| Air Flow Balancing ..... | 18 |
| Examples .....           | 19 |

## MAINTENANCE .....

## ELECTRICAL CONNECTIONS .....

### Understanding Fantech Product Numbers

SHR 6904  
 S = Side Ducting  
 H = Heat Recover  
 R = Remote Control Option

690 = 690cfm @0.4 W.G  
 4 = Four Ports  
 5 = Five ports  
 R = Recirculation



# Fantech

## SHR 6904

### Commercial Heat Recovery Ventilator



The SHR 6904 Commercial Heat Recovery Ventilation system (HRV) complements today's tight buildings. Fantech Heat Recovery Ventilators (HRV) are designed to supply air into a building

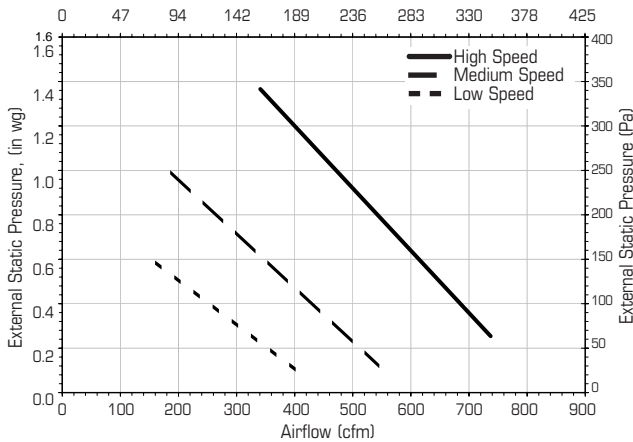
while exhausting an equal amount of contaminated air to the outside. The aluminum heat exchange core transfers sensible energy between air streams resulting in tempering of the supply air and reduced loads on the HVAC system.

### POWER & WEIGHT

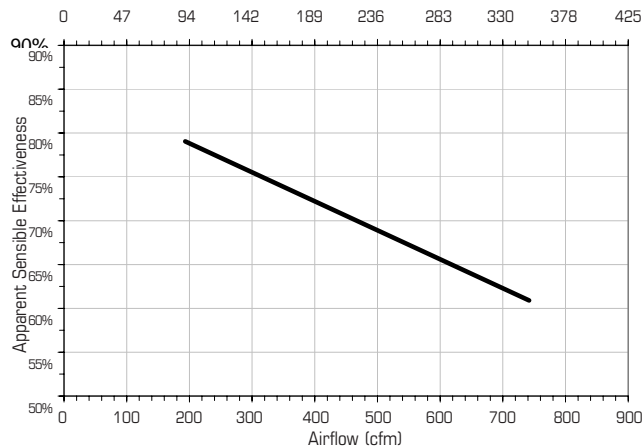
- Volts 120V Total
- Amperage 5.5 Amps Total
- Weight 84kg(185Lbs)
- Shipping Weight 102kg(225Lbs)
- Blowers (x2) 115V, 60 Hz, 2.7 Amps
- Phase Single



Airflow Performance  
Gross Supply  
Airflow (l/s)



Heating Performance at 0°C  
Airflow (l/s)



### SPECIFICATIONS

**CASE** 20 gauge G90 galvanized steel coated with baked powder paint, insulated with 25mm (1inch) foil-face fiberglass insulation to prevent condensation.

**BLOWERS** Two (2) maintenance-free Ebm-Papst™ backward motorized impellers with permanently lubricated sealed ball bearings and (TOP) thermal overload protected.

**HEAT RECOVERY CORES** The heat recovery cores are fixed plate cross-flow heat exchanger using 1100 alloy aluminum and capable of transferring sensible heat between air streams. The heat recovery cores are engineered with a turbulence inducing geometry in order to maximize heat transfer while allowing an effective evacuation of condensate. The plates are hemmed to avoid cross-contamination of airstreams.

**FILTERS** The exhaust and fresh air streams are protected by MERV1 washable filters constructed to meet UL Class2. Optional MERV6 filters are direct replacement to the MERV1. Use of MERV6 filters will add an additional system pressure of 64 Pa (0.26in.wg) at 326 l/s (690cfm).

**MOUNTING** Unit can be rod mounted or seated on a platform. Flanged connections are provided for suitable ductwork connections. Unit shall be adaptable for easy service of electrical components.

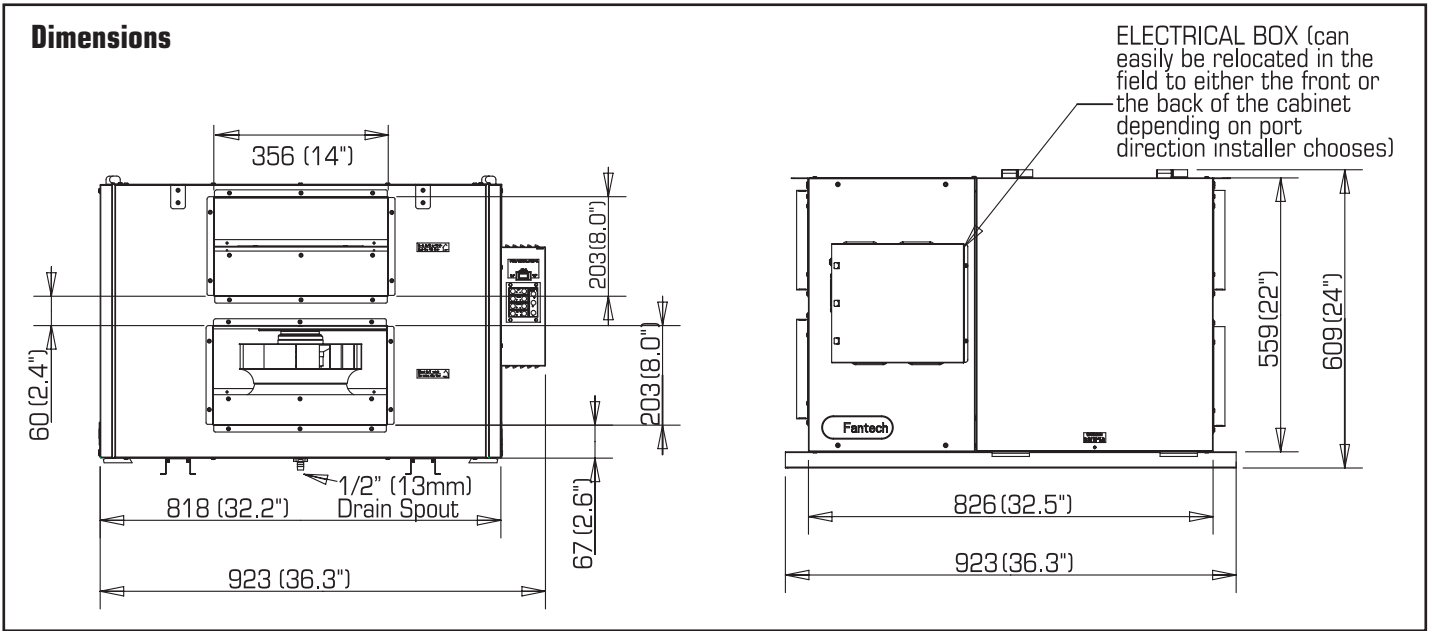
**CONTROLS** External three (3) position (Low/Stand By/Medium) rocker switch that will offer continuous ventilation. Compatible with all Fantech HRV controls.

**DEFROST** A preset defrost sequence is activated at an outdoor air temperature of 23°F (-5°C) and lower.

During the defrost sequence, the supply blower shuts down & the exhaust blower continues to ventilate for a few minutes. The unit then returns to normal operation, and continues cycle.

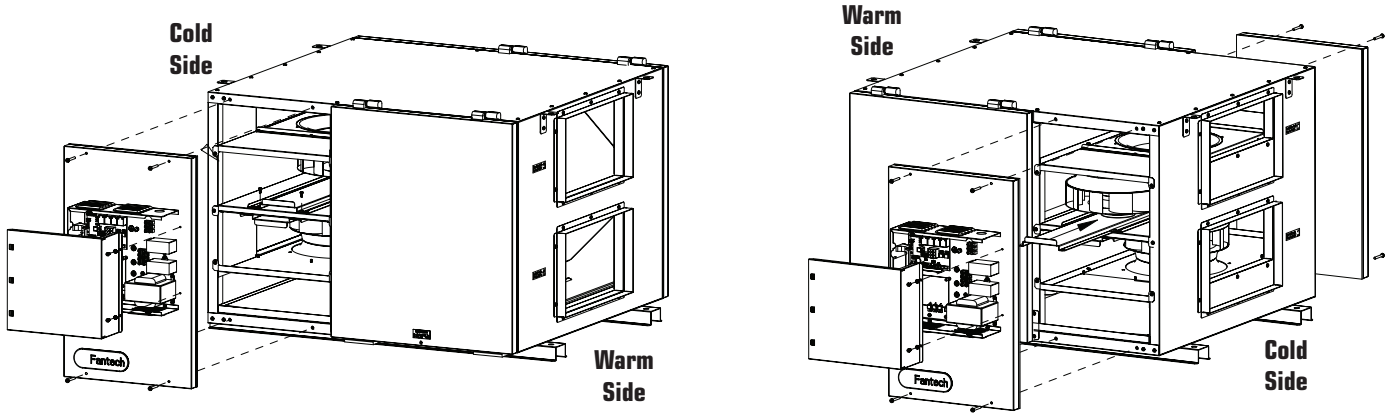
**SERVICEABILITY** Unit has hinged or screwed access panels on front and back. Cores, filters, motors and drain pan are serviceable from either sides of the unit. Fan assemblies are mounted on a removable sliding base. Heat recovery cores are mounted in slide-out rails for ease of inspection, removal and cleaning. Accessibility to the electrical box is maintained for any unit installation.

# SHR 6904 Commercial HRV



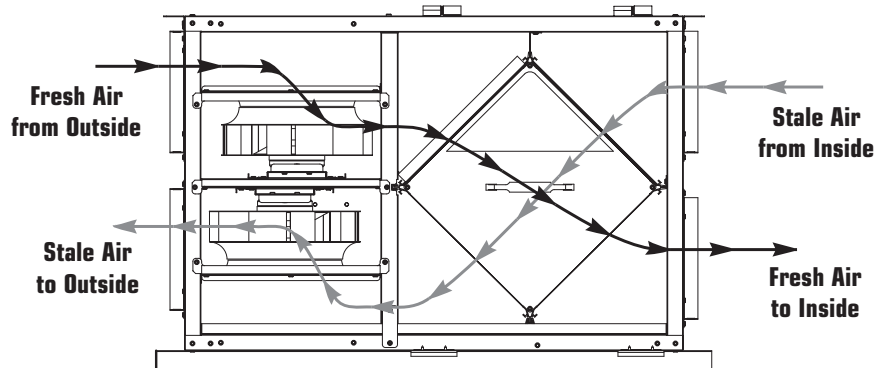
### PORT CONFIGURATION

The unit has access doors on the front and back. Also, the main control panel may be moved from front to back allowing for ducting layout.



Standard Configuration as shipped from factory.

### Airflow





# Fantech

## SHR 6905R

### Commercial Heat Recovery Ventilator



The SHR 6905R Commercial Heat Recovery Ventilation system (HRV) complements today's tight buildings. The SHR6905R is especially design for applications that require a fresh air motorized shut off damper and a fifth

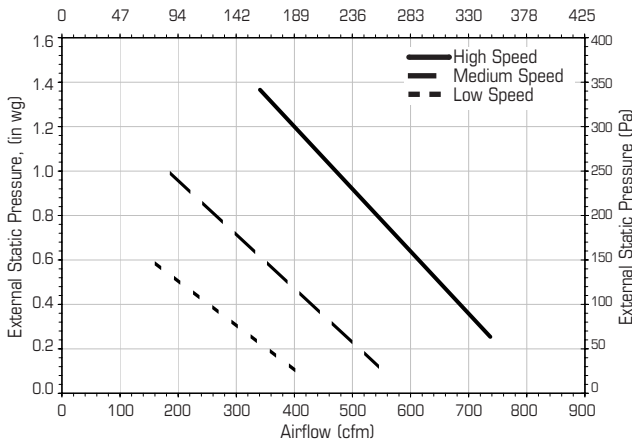
port to recirculate indoor air. Fantech Heat Recovery Ventilators (HRV) are designed to supply air into a building while exhausting an equal amount of contaminated air to the outside. The aluminum heat exchange core transfers sensible energy between air streams resulting in tempering of the supply air and reduced loads on the HVAC system.

### POWER & WEIGHT

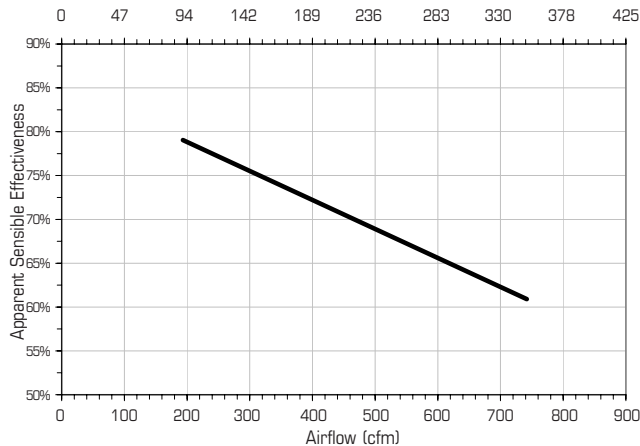
- Volts 120V Total
- Amperage 5.5 Amps Total
- Weight 91kg (200Lbs)
- Shipping Weight 109kg (240Lbs)
- Blowers (x2) 115V, 60 Hz, 2.7 Amps
- Phase Single



Airflow Performance  
Gross Supply  
Airflow (l/s)



Heating Performance at 0°C  
Airflow (l/s)



### SPECIFICATIONS

**CASE** 20 gauge G90 galvanized steel coated with baked powder paint, insulated with 25mm (1inch) foil-face fiberglass insulation to prevent condensation.

**BLOWERS** Two (2) maintenance-free Ebm-Papst™ backward motorized impellers with permanently lubricated sealed ball bearings and (TOP) thermal overload protected.

**HEAT RECOVERY CORES** The heat recovery cores are fixed plate cross-flow heat exchanger using 1100 alloy aluminum and capable of transferring sensible heat between air streams. The heat recovery cores are engineered with a turbulence inducing geometry in order to maximize heat transfer while allowing an effective evacuation of condensate. The plates are hemmed to avoid cross-contamination of airstreams.

**FILTERS** The exhaust and fresh air streams are protected by MERV1 washable filters constructed to meet UL Class2. Optional MERV6 filters are direct replacement to the MERV1. Use of MERV6 filters will add an additional system pressure of 64 Pa (0.26in.wg) at 326 l/s (690cfm).

**MOUNTING** Unit can be rod mounted or seated on a platform. Flanged connections are provided for suitable ductwork connections. Unit shall be adaptable for easy service of electrical components.

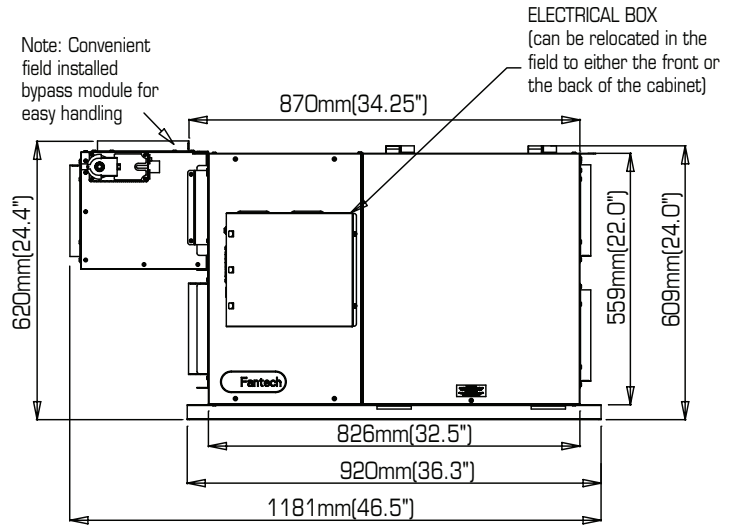
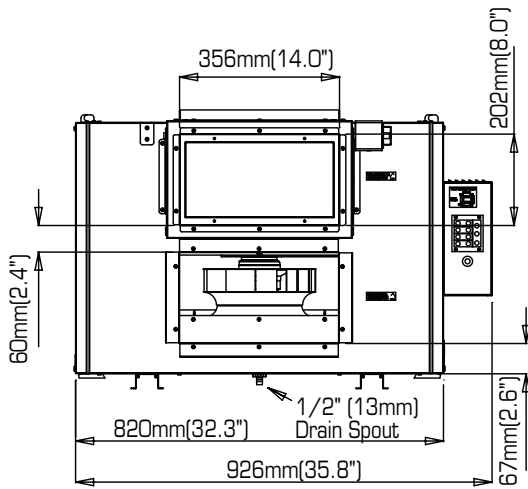
**CONTROLS** External three (3) position (Low/Stand By/Medium) rocker switch that will offer continuous ventilation. Compatible with all Fantech HRV controls.

**FROST CONTROL** During the defrost sequence, a motorized damper temporarily blocks the incoming fresh air stream so that the warm air from the building can circulate through the HRV. The exhaust blower shuts down and the supply blower switches into high speed to maximize the effectiveness of the defrost strategy.

**SERVICEABILITY** Unit has hinged or screwed access panels on front and back. Cores, filters, motors and drain pan are serviceable from either sides of the unit. Fan assemblies are mounted on a removable sliding base. Heat recovery cores are mounted in slide-out rails for ease of inspection, removal and cleaning. Accessibility to the electrical box is maintained for any unit installation.

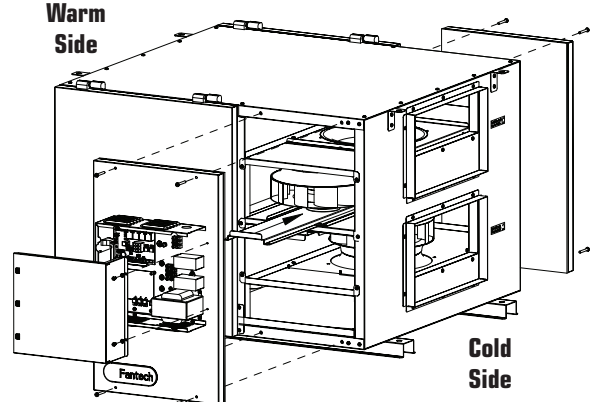
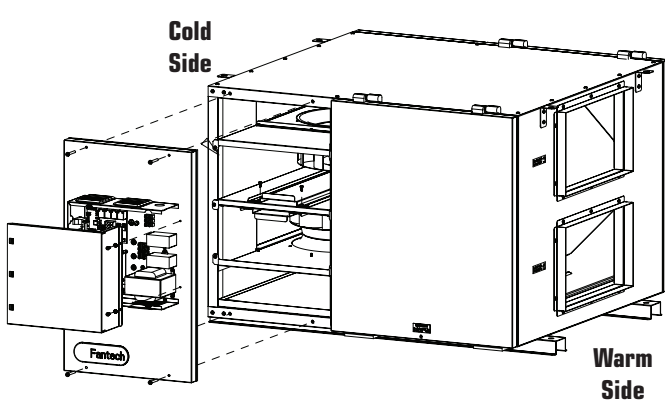
# SHR 6905R Commercial HRV

## Dimensions



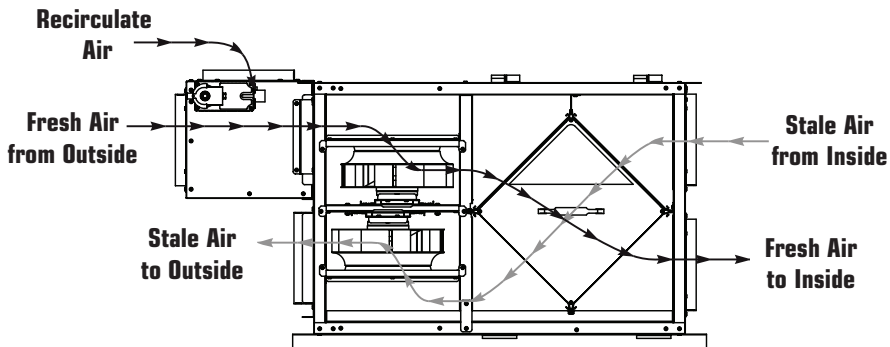
## PORT CONFIGURATION

The unit has access doors on the front and back. Also, the main control panel may be moved from front to back allowing for ducting layout.



Standard Configuration as shipped from factory.

## Airflow





# Fantech

## SHR 8004

### Commercial Heat Recovery Ventilator



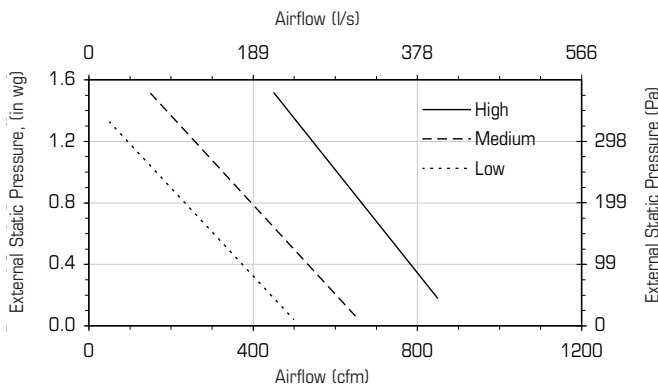
The SHR 8004 Commercial Heat Recovery Ventilation system (HRV) complements today's tight buildings. Fantech Heat Recovery Ventilators (HRV) are designed to supply air into a building while exhausting an equal amount of contaminated air to the outside. The aluminum heat exchange core transfers

sensible energy between air streams resulting in tempering of the supply air and reduced loads on the HVAC system.

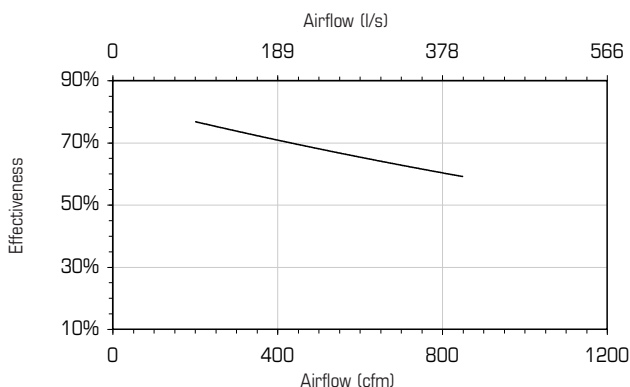
### POWER & WEIGHT

- Volts 120V
- Amperage 5.4 Amps Total
- Weight 71.5 Kg (158 Lbs)
- Shipping Weight 90 Kg (198 Lbs)
- Blowers (x2) 115V, 60 Hz, 2.7 Amps
- Phase Single

Airflow Performance



Thermal Effectiveness



### SPECIFICATIONS

**CASE** 20 gauge G90 galvanized steel sheet coated with baked powder paint, insulated with 25mm (1 inch) foil-faced high density polystyrene foam for condensation control.

**BLOWERS** Two (2) maintenance-free Ebm-Papst™ backward inclined motorized impellers with permanently lubricated sealed ball bearings and (TOP) thermal overload protected.

**HEAT RECOVERY CORE:** The heat recovery cores are fixed plate cross-flow heat exchanger using aluminum alloy 1100 and capable of transferring sensible heat between air streams. The heat recovery cores are engineered with a turbulence inducing geometry in order to maximize heat transfer while allowing an effective evacuation of condensate. The plates are hemmed to avoid cross-contamination of airstreams.

**FILTERS** The exhaust and fresh air streams are protected by MERV1 washable filters constructed to meet UL Class2. Optional MERV6 filters are direct replacement to the MERV1. Use of MERV6 filters will add an additional system pressure of 72 Pa (0.29in.wg) at 378 l/s (800cfm).

**MOUNTING** Unit can be rod mounted or seated on a platform. Flanged connections are provided for suitable duct-work connections. Unit shall be adaptable for easy service of electrical components.

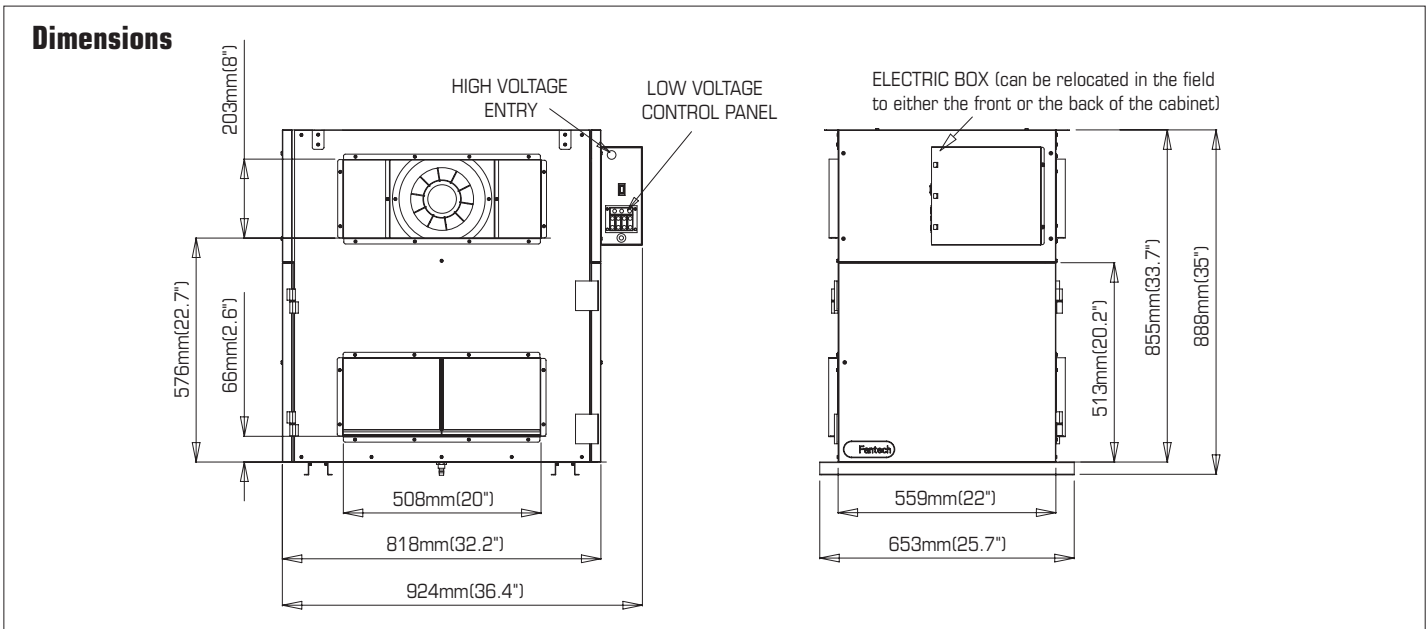
**CONTROLS** External three (3) position (Low/Standby/Medium) rocker switch that will offer continuous ventilation. Compatible with all Fantech HRV wall controls.

**DEFROST** A preset frost control sequence is initiated if the outdoor temperature falls below the set point of -5°C (23°F). During the initial stage, the supply blower shuts down & the exhaust blower switches into high speed to eliminate frost build-up in the core. The unit then returns to normal operation for the final stage of the frost control sequence at which time the sequence is repeated if the outdoor air temperatures is still below the set point.

**SERVICEABILITY** Unit has hinged or screwed access panels on front and back. Cores, filters, drain pan & motors are serviceable from either sides of the unit. Fan assemblies are mounted on a removable sliding base. Heat recovery cores are mounted in slide-out rails for ease of inspection, removal and cleaning. Accessibility to the electrical box is maintained for any unit installation.

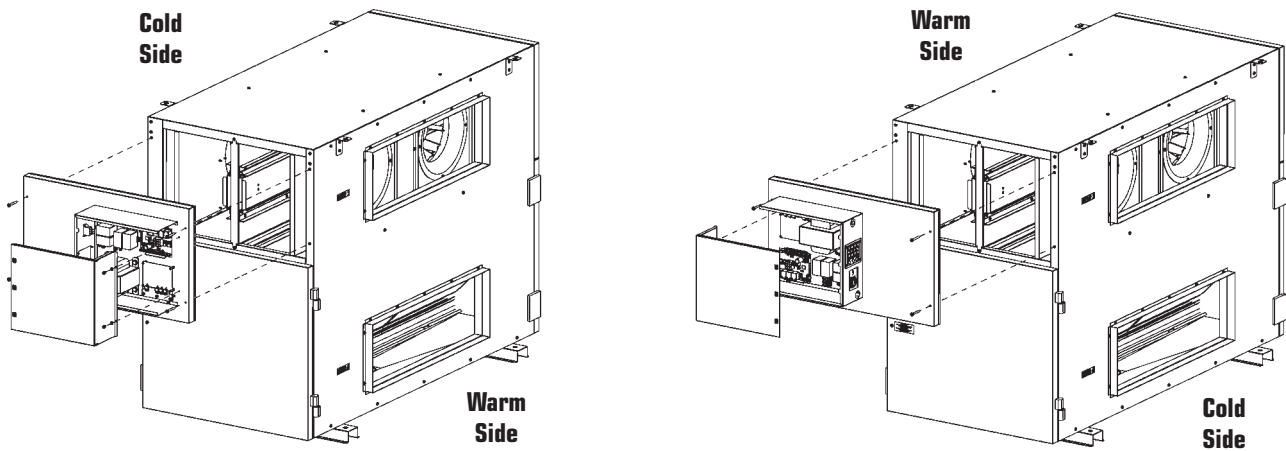


# SHR 8004 Light Commercial HRV



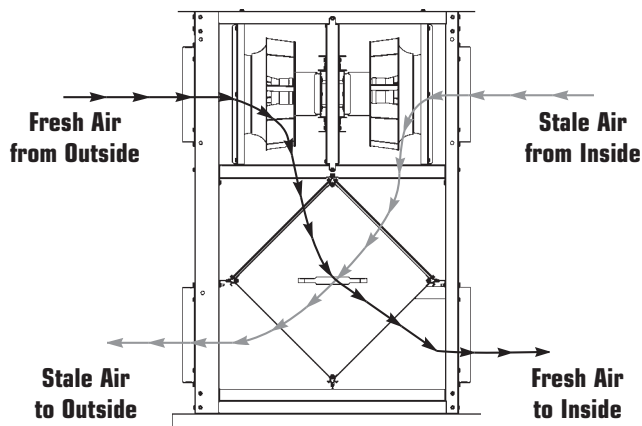
## PORT CONFIGURATION

The unit has access doors on the front and back. Also, the main control panel may be moved from front to back allowing for ducting layout.



Factory Setting. Unit may be easily reversed in field.

## Airflow







# Fantech

# SHR 11004

## Commercial Heat Recovery Ventilator



The SHR 11004 Commercial Heat Recovery Ventilation system (HRV) complements today's tight buildings. Fantech Heat Recovery Ventilators (HRV) are designed to supply air into a building

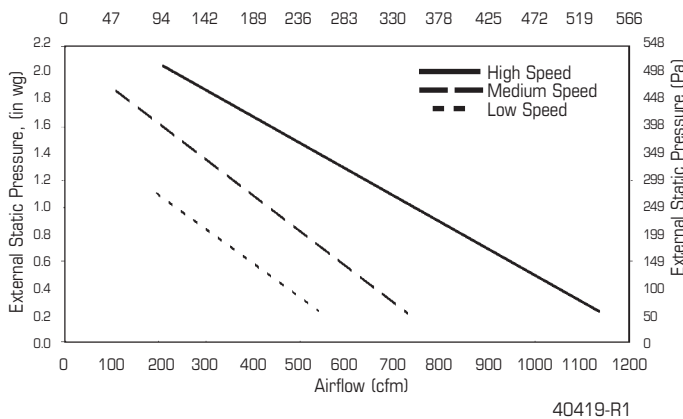
while exhausting an equal amount of contaminated air to the outside. The aluminum heat exchange core transfers sensible energy between air streams resulting in tempering of the supply air and reduced loads on the HVAC system.

### POWER & WEIGHT

- Volts 120V Total
- Amperage 11.0 Amps Total
- Weight 109kg(240Lbs)
- Shipping Weight 127kg(280Lbs)
- Blowers (x4) 120V, 60 Hz, 2.7 Amps
- Phase Single

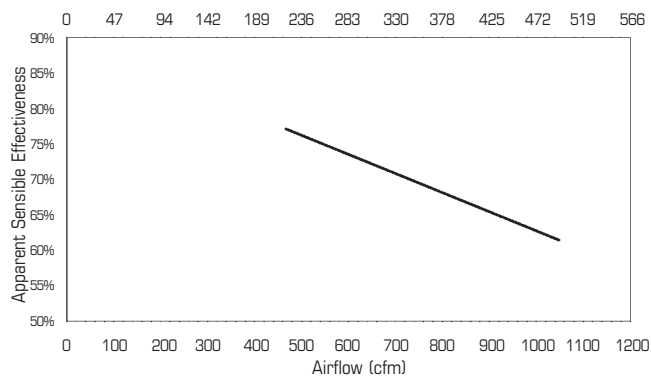


Airflow Performance  
Net Supply



40419-R1

Temperature Effectiveness  
Heating Performance at 0°C



40419-R1

### SPECIFICATIONS

**CASE** 20 gauge G90 galvanized steel coated with baked powder paint, insulated with 25mm(1inch) foil-face fiberglass insulation to prevent condensation.

**BLOWERS** Four (4) maintenance-free Ebm-Papst™ backward motorized impellers with permanently lubricated sealed ball bearings and (TOP) thermal overload protected.

**HEAT RECOVERY CORES** The heat recovery cores are fixed plate cross-flow heat exchanger using 1100 alloy aluminum and capable of transferring sensible heat between air streams. The heat recovery cores are engineered with a turbulence inducing geometry in order to maximize heat transfer while allowing an effective evacuation of condensate. The plates are hemmed to avoid cross-contamination of airstreams.

**FILTERS** The exhaust and fresh air streams are protected by MERV1 washable filters constructed to meet UL Class2. Optional MERV6 filters are direct replacement to the MERV1. Use of MERV6 filters will add an additional system pressure of 70 Pa (0.28in.wg) at 519 l/s (1100cfm).

**MOUNTING** Unit can be rod mounted or seated on a platform. Flanged connections are provided for suitable ductwork connections. Unit shall be adaptable for easy service of electrical components.

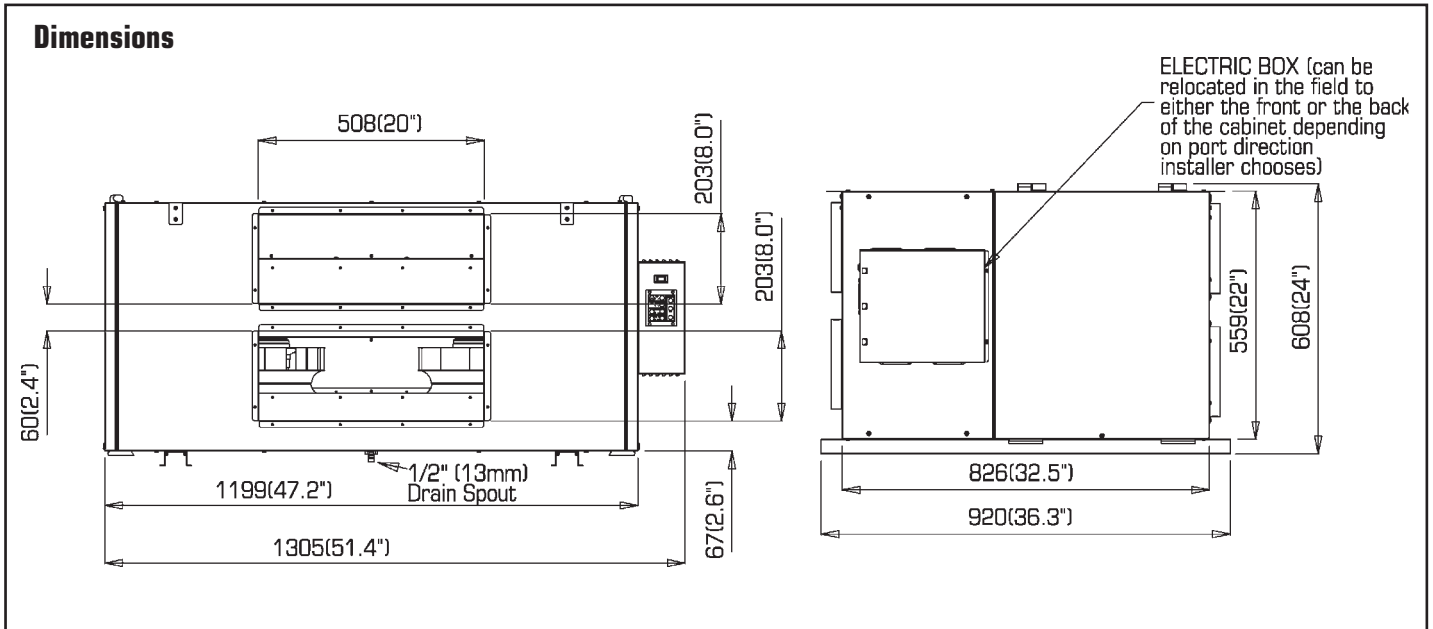
**CONTROLS** External three (3) position (Low/Stand By/Medium) rocker switch that will offer continuous ventilation. Compatible with all Fantech HRV controls.

**DEFROST** A preset defrost sequence is activated at an outdoor air temperature of 23°F (-5°C) and lower.

During the defrost sequence, the supply blower shuts down & the exhaust blower continues to ventilate for a few minutes. The unit then returns to normal operation, and continues cycle.

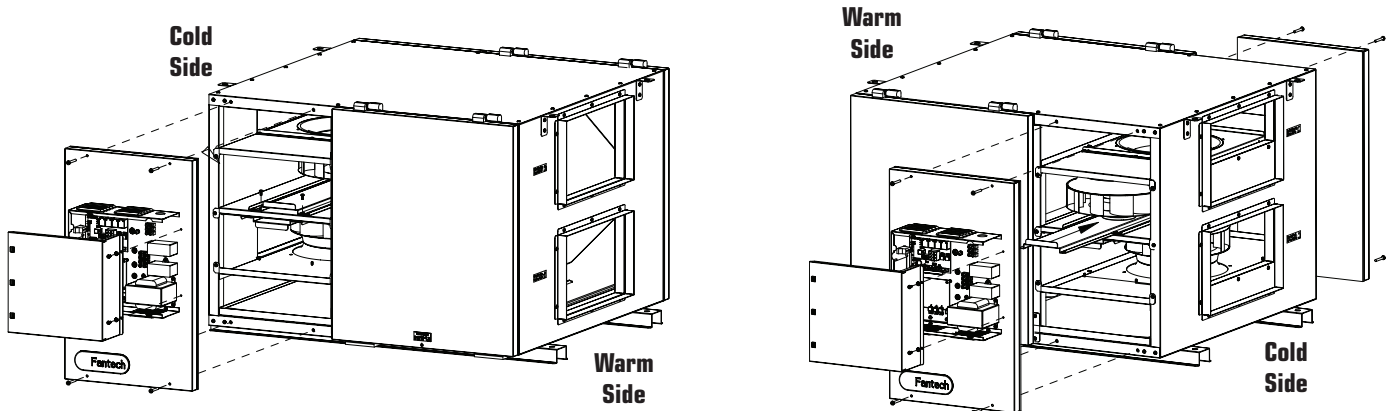
**SERVICEABILITY** Unit has hinged or screwed access panels on front and back. Cores, filters, motors and drain pan are serviceable from either sides of the unit. Fan assemblies are mounted on a removable sliding base. Heat recovery cores are mounted in slide-out rails for ease of inspection, removal and cleaning. Accessibility to the electrical box is maintained for any unit installation.

# SHR 11004 Commercial HRV



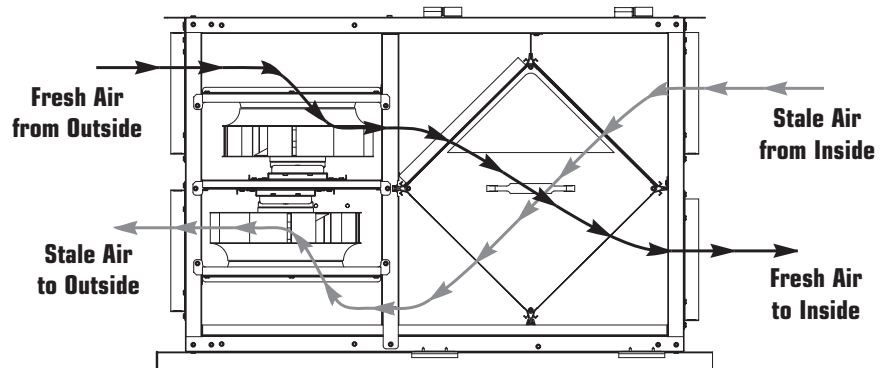
## PORT CONFIGURATION

The unit has access doors on the front and back. Also, the main control panel may be moved from front to back allowing for ducting layout.



Standard Configuration as shipped from factory.

## Airflow





# Fantech

## SHR 11005R

### Commercial Heat Recovery Ventilator



The SHR 11005R Commercial Heat Recovery Ventilation system (HRV) complements today's tight buildings. The SHR11005R is especially design for applications that require a fresh air motorized shut off

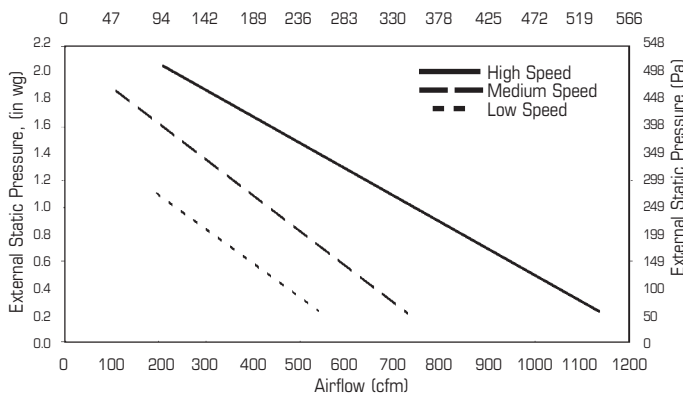
damper and a fifth port to recirculate indoor air. Fantech Heat Recovery Ventilators (HRV) are designed to supply air into a building while exhausting an equal amount of contaminated air to the outside. The aluminum heat exchange core transfers sensible energy between air streams resulting in tempering of the supply air and reduced loads on the HVAC system.

#### POWER & WEIGHT

- Volts 120V Total
- Amperage 11.0 Amps Total
- Weight 117.5kg(259Lbs)
- Shipping Weight 136kg(299Lbs)
- Blowers (x4) 120V, 60 Hz, 2.7 Amps
- Phase Single

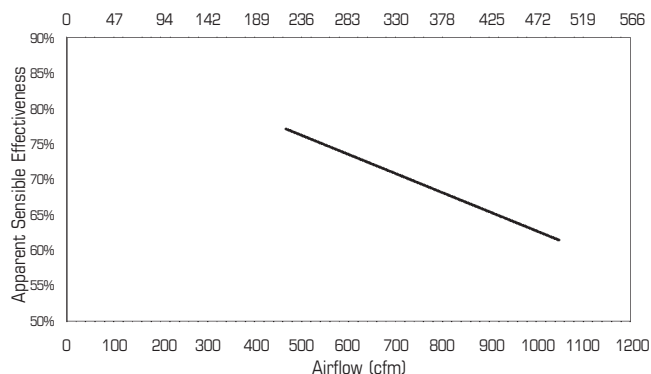


Airflow Performance  
Net Supply  
Airflow (l/s)



40419-R1

Temperature Effectiveness  
Heating Performance at 0°C  
Airflow (l/s)



40419-R1

#### SPECIFICATIONS

**CASE** 20 gauge G90 galvanized steel coated with baked powder paint, insulated with 25mm(1inch) foil-face fiberglass insulation to prevent condensation.

**BLOWERS** Four (4) maintenance-free Ebm-Papst™ backward motorized impellers with permanently lubricated sealed ball bearings and (TOP) thermal overload protected.

**HEAT RECOVERY CORES** The heat recovery cores are fixed plate cross-flow heat exchanger using 1100 alloy aluminum and capable of transferring sensible heat between air streams. The heat recovery cores are engineered with a turbulence inducing geometry in order to maximize heat transfer while allowing an effective evacuation of condensate. The plates are hemmed to avoid cross-contamination of airstreams.

**FILTERS** The exhaust and fresh air streams are protected by MERV1 washable filters constructed to meet UL Class2. Optional MERV6 filters are direct replacement to the MERV1. Use of MERV6 filters will add an additional system pressure of 70 Pa (0.28in.wg) at 519 l/s (1100cfm).

**MOUNTING** Unit can be rod mounted or seated on a platform. Flanged connections are provided for suitable ductwork connections. Unit shall be adaptable for easy service of electrical components.

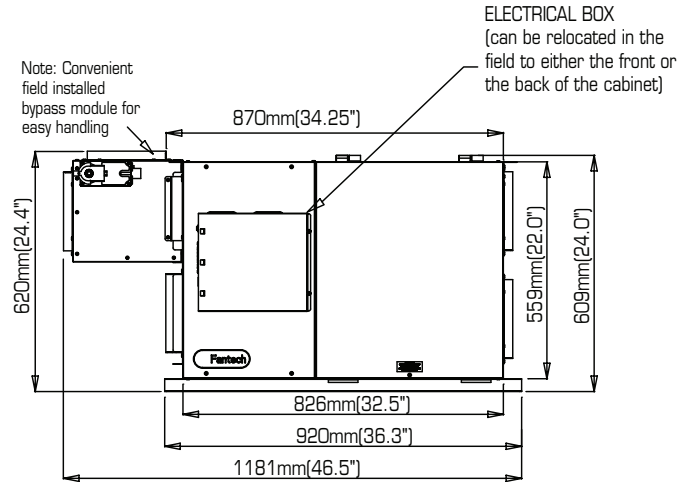
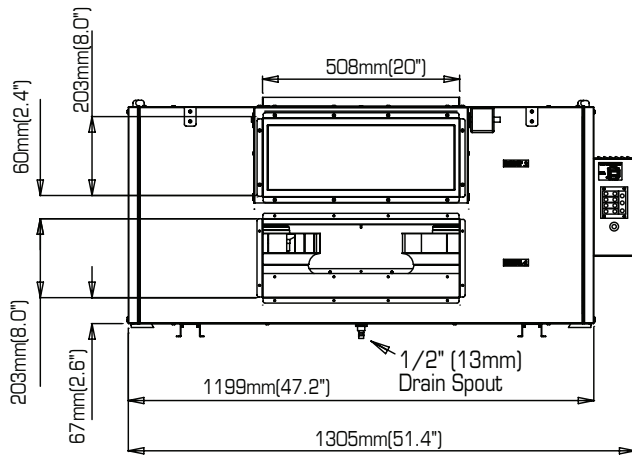
**CONTROLS** External three (3) position (Low/Stand By/Medium) rocker switch that will offer continuous ventilation. Compatible with all Fantech HRV controls.

**FROST CONTROL** During the defrost sequence, a motorized damper temporarily blocks the incoming fresh air stream so that the warm air from the building can circulate through the HRV. The exhaust blower shuts down and the supply blower switches into high speed to maximize the effectiveness of the defrost strategy.

**SERVICEABILITY** Unit has hinged or screwed access panels on front and back. Cores, filters, motors and drain pan are serviceable from either sides of the unit. Fan assemblies are mounted on a removable sliding base. Heat recovery cores are mounted in slide-out rails for ease of inspection, removal and cleaning. Accessibility to the electrical box is maintained for any unit installation.

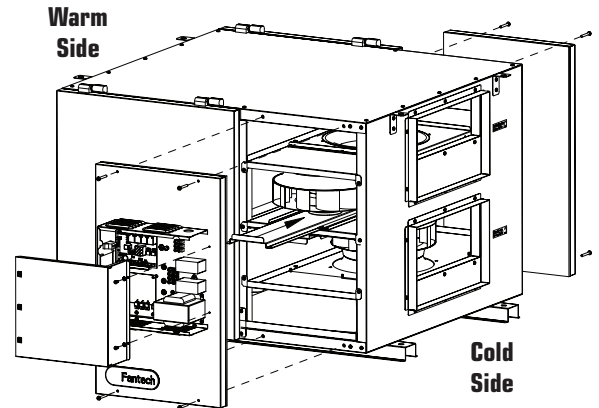
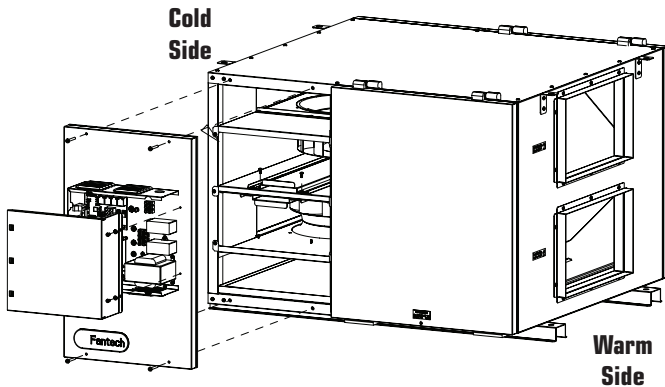
# SHR 11005R Commercial HRV

## Dimensions



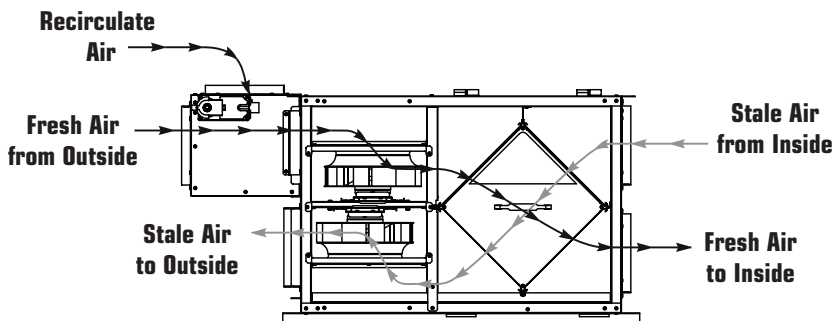
## PORT CONFIGURATION

The unit has access doors on the front and back. Also, the main control panel may be moved from front to back allowing for ducting layout.



Standard Configuration as shipped from factory.

## Airflow





# Fantech

## SHR 14104

### Commercial Heat Recovery Ventilator



The SHR 14104 Commercial Heat Recovery Ventilation system (HRV) complements today's tight buildings. Fantech Heat Recovery Ventilators (HRV) are designed to supply air into a building while exhausting an equal amount of contaminated air to the outside. The aluminum

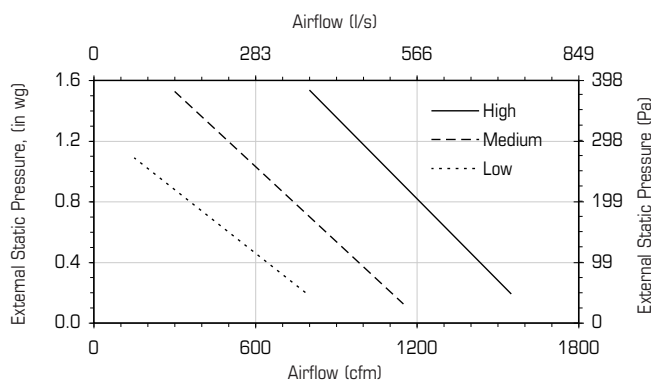
heat exchange core transfers sensible energy between air streams resulting in tempering of the supply air and reduced loads on the HVAC system.

### POWER & WEIGHT

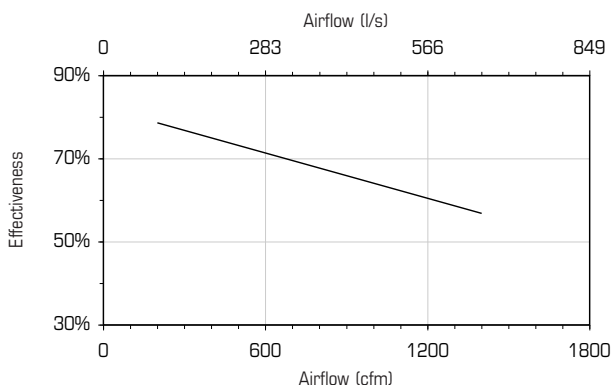
- Volts 120V
- Amperage 10.8 Amps Total
- Shipping Weight 125 Kg (276 Lbs)
- Blowers (x4) 115V, 60 Hz, 2.7 Amps
- Phase Single



Airflow Performance



Thermal Effectiveness



### SPECIFICATIONS

**CASE** 20 gauge G90 galvanized steel sheet coated with baked powder paint, insulated with 25mm (1 inch) foil-faced high density polystyrene foam for condensation control.

**BLOWERS** Four (4) maintenance-free Ebm-Papst™ backward inclined motorized impellers with permanently lubricated sealed ball bearings and (TOP) thermal overload protected.

**HEAT RECOVERY CORE:** The heat recovery cores are fixed plate cross-flow heat exchanger using aluminum alloy 1100 and capable of transferring sensible heat between air streams. The heat recovery cores are engineered with a turbulence inducing geometry in order to maximize heat transfer while allowing an effective evacuation of condensate. The plates are hemmed to avoid cross-contamination of airstreams.

**FILTERS** The exhaust and fresh air streams are protected by MERV1 washable filters constructed to meet UL Class2. Optional MERV6 filters are direct replacement to the MERV1. Use of MERV6 filters will add an additional system pressure of 90 Pa (0.36in.wg) at 665 l/s (1410cfm).

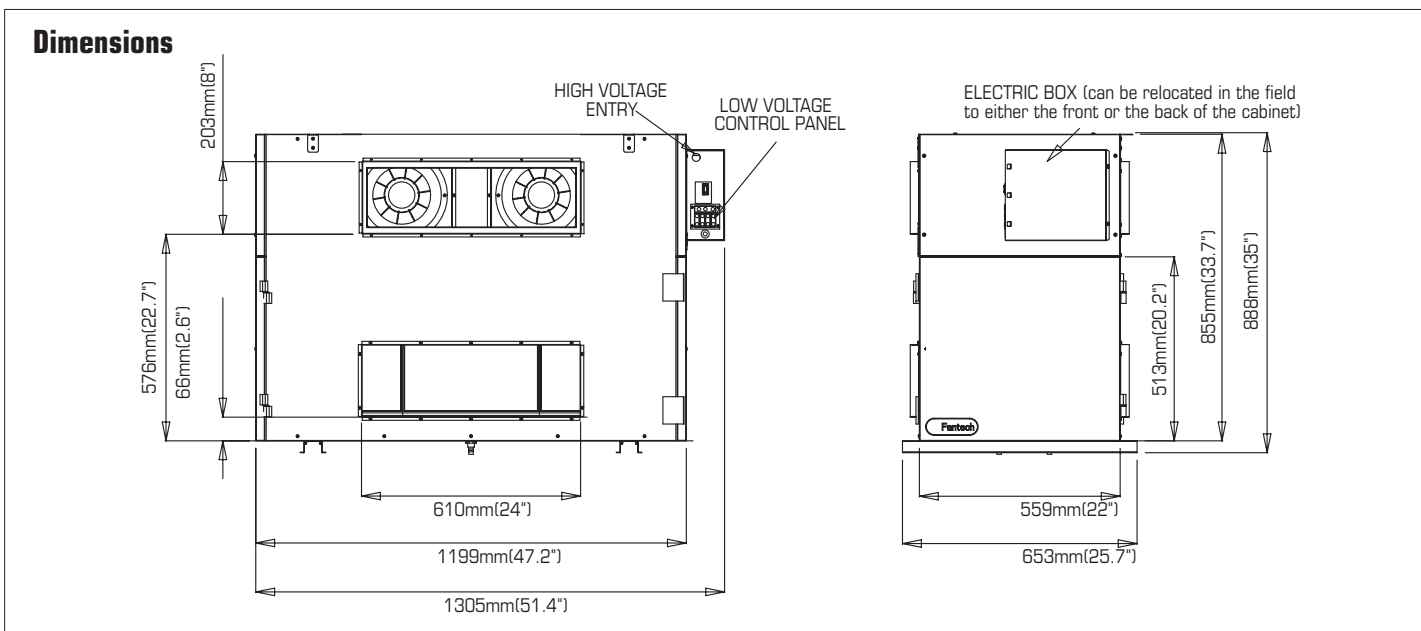
**MOUNTING** Unit can be rod mounted or seated on a platform. Flanged connections are provided for suitable duct-work connections. Unit shall be adaptable for easy service of electrical components.

**CONTROLS** External three (3) position (Low/Standby/Medium) rocker switch that will offer continuous ventilation. Compatible with all Fantech HRV wall controls.

**DEFROST** A preset frost control sequence is initiated if the outdoor temperature falls below the set point of -5°C (23°F). During the initial stage, the supply blower shuts down & the exhaust blower switches into high speed to eliminate frost build-up in the core. The unit then returns to normal operation for the final stage of the frost control sequence at which time the sequence is repeated if the outdoor air temperatures is still below the set point.

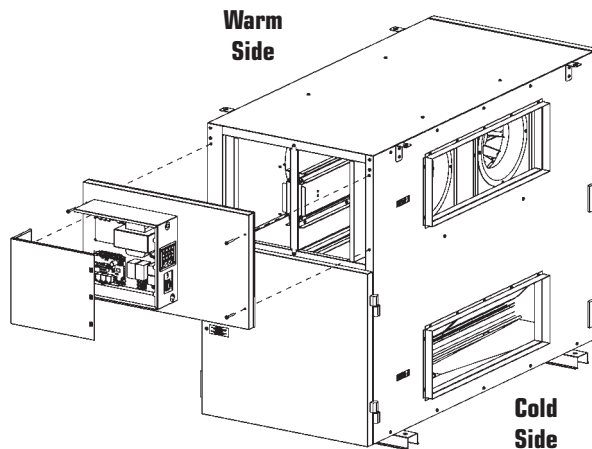
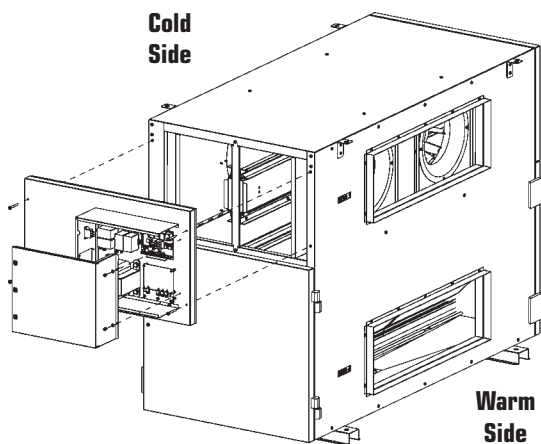
**SERVICEABILITY** Unit has hinged or screwed access panels on front and back. Cores, filters, drain pan & motors are serviceable from either sides of the unit. Fan assemblies are mounted on a removable sliding base. Heat recovery cores are mounted in slide-out rails for ease of inspection, removal and cleaning. Accessibility to the electrical box is maintained for any unit installation.

# SHR 14104 Commercial HRV



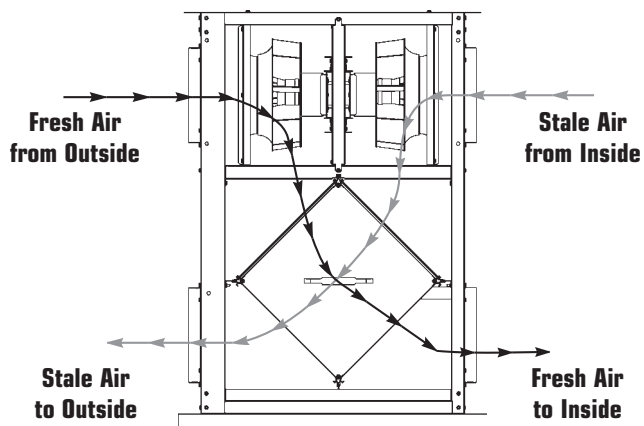
## PORT CONFIGURATION

The unit has access doors on the front and back. Also, the main control panel may be moved from front to back allowing for ducting layout.



Factory Setting. Unit may be easily reversed in field.

## Airflow





# MODES OF OPERATION

## 1. Continuous / Ventilation Mode

In this mode of operation both fans are operating and exchanging air with the outside. The heat recovery ventilator (HRV) constantly exchanges the air at the rate you select, either at low or medium speed, and switches to high speed when activated by an optional remote control. The "Low" and "Med" fan speed selection will cause the unit to operate in continuous exchange mode at a reduce exchange rate. Continuous mode is recommended, since pollutants are slowly but constantly being generated in a building.

## 2. Intermittent / Standby Mode

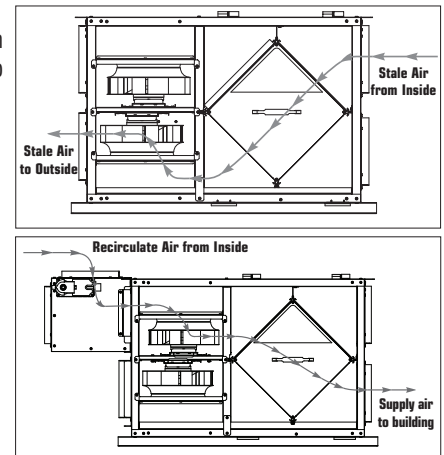
The system is always on standby and operates at high speed when activated by an optional remote control (required): "Standby" should be selected if the user wishes to stop the unit from continuous exchange.

### 3a. Defrost (SHRXX04 Model)

A preset defrost sequence is activated at an outdoor air temperature of 23°F (-5°C) and lower. During the defrost sequence, the supply blower shuts down & the exhaust blower continues to ventilate for a preset time. The unit then returns to normal operation, and continues cycle.

### 3b. Defrost (SHRXX05R Model)

During the defrost sequence, a motorized damper temporarily blocks the incoming fresh air stream so that the warm air from the building can circulate through the HRV. The exhaust blower shuts down and the supply blower switches into high speed to maximize the effectiveness of the defrost strategy.



# SETTING SPEED

The HRV is shipped from the factory on low speed, intermittent operation can be obtain by toggle switch located on outside of cabinet. External low voltage contacts allow for high speed operation when optional remote control is used.

## Convenient Optional Low Voltage Wall Controls

### Main Control



### EDF1

#### Triple Function Wall Control



2-wire

- Press button once for continuous low speed
- Press button twice and the unit will cycle 20 minutes ON/40 minutes OFF and repeat
- Press the button a third time and the system will run continuously on high speed
- Use in one central location

### EDF2

#### Multi-Function Wall Control



2-wire

- Features: Digital Display, Speed Control, Override Timer, Maintenance Light and Dehumidistat Control.
- Stand-by or Continuous Ventilation Modes
- Use in one central location

### EDF5

#### Five-Function Wall Control



2-wire

- Features: Digital Display, Maintenance Light, Power Button, Cycle Timer, Longer Override Timer, Speed Control and Dehumidistat Control.
- Intermittent, Recirculation or Continuous Ventilation Modes
- Use in one central location

### MDEH2 Dehumidistat



3-wire

- Dial lights up when dehumidistat turns unit to high speed
- Use one per system
- On/off slider switch
- (Do not use with EDF5)
- Dehumidifies when air outside is dryer than air inside.

### AQS1 Air Quality Sensor



3-wire

- Activates HRV to high speed if levels of pollutants exceed normal conditions
- Light changes color to indicate level of pollution
- Pushbutton override switch sets unit to run 1, 2, or 3 hours at high speed
- Use one per HRV

## Boost Switches

### RTS 2

#### Pushbutton Timer



2-wire

- 20-Minute Timer with LED Light
- Boosts system to high speed with the touch of a button
- Up to five can be used with one system
- Use in bathrooms, kitchens, laundry

### RTS3

#### Pushbutton Timer



3-wire

- 20-40-60 Min. Boost Timer
- Press button once to energize system to high speed for 20 minutes
- Press button twice unit will run for 40 minutes on high speed.
- Press button three times for 60 minutes of high speed
- Up to five can be used with one system

### MDEH1

#### Dehumidistat



2-wire

- Rotary Dial Dehumidistat
- Just turn dial to set desired humidity level
- Multiple units can be used
- Install in bathrooms, kitchen, laundry
- Dehumidifies when air outside is dryer than air inside



# INSTALLATION

## LOCATION

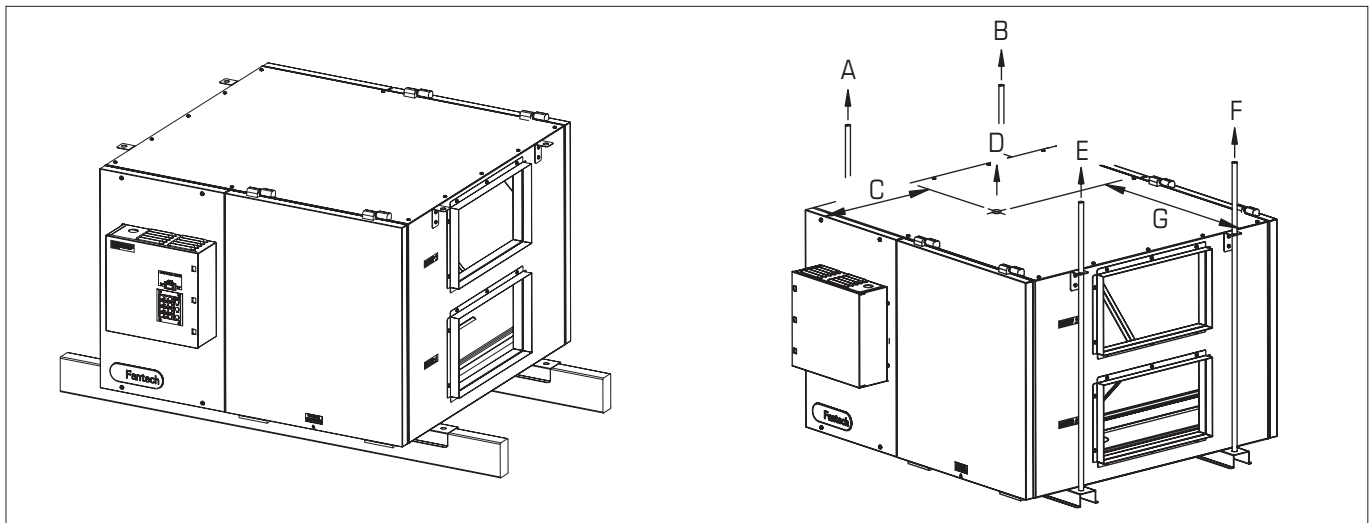
The HRV must be located in a heated space where it will be possible to conveniently service the unit. Typically the HRV would be located in the mechanical room, above a drop ceiling or an area close to the outside wall where the weatherhoods will be mounted. Attic installations are not normally recommended due to extreme temperatures, and difficulty in performing, required service & maintenance. If an attic is selected, special care should be taken in ensuring the unit will perform as intended. Unit may need to be protected with insulated shelter, built on site.

**Connecting appliances to the HRV** It is not recommended, including:

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

These appliance 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 invalidate your warranty

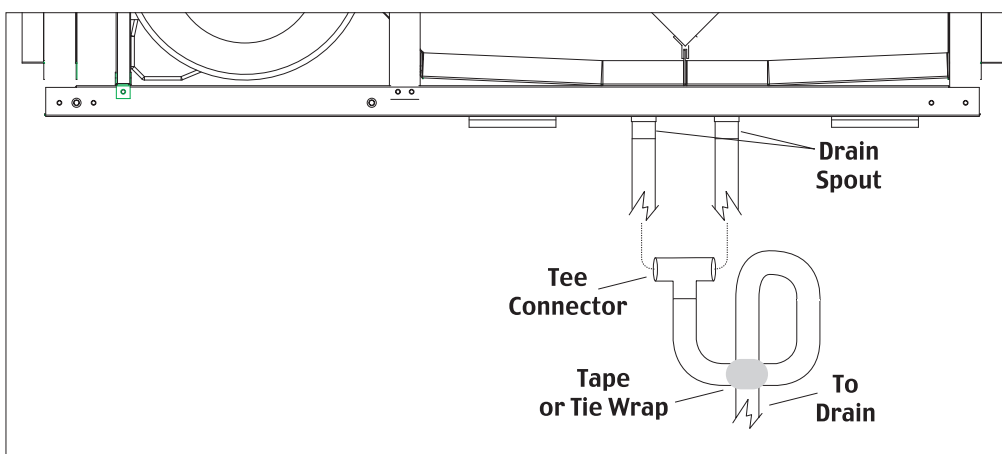


| Model            | A                | B                | C             | D               | E              | F                | G             |
|------------------|------------------|------------------|---------------|-----------------|----------------|------------------|---------------|
| SHR 6904/6905R   | 23.8Kg (52.5lbs) | 22.5Kg (49.6lbs) | 390mm (15.4") | 85Kg (187lbs)   | 20Kg (44lbs)   | 18.8Kg(41.3lbs)  | 448mm (17.6") |
| SHR 8004         | 20Kg (44lbs)     | 17Kg (37.5lbs)   | 404mm (15.9") | 71.5Kg (158lbs) | 19Kg (41.9lbs) | 16.5Kg (36.4lbs) | 282mm (11")   |
| SHR 11004/11005R | 30.4Kg (67lbs)   | 27Kg (60lbs)     | 544mm (21.4") | 109Kg (241lbs)  | 27.7Kg (61lbs) | 24.3Kg (53.5lbs) | 455mm (18")   |
| SHR 14104        | 29.2Kg (64.4lbs) | 24.5Kg (54lbs)   | 483mm (19")   | 116Kg (255lbs)  | 30Kg (66.2lbs) | 34.7Kg (76.5lbs) | 254mm (10")   |

## Installing Drain Line

Through normal operation and including 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.

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



# INSTALLING DUCTS GOING TO / FROM OUTSIDE

## INSTALLING THE DUCTING TO THE WEATHERHOODS

**OUTSIDE WEATHERHOODS** – The weatherhoods must have built-in "bird" screens with 1/4 inch (6.35 mm) minimum mesh to prevent birds and rodents from entering into the ductwork. Do not use smaller mesh as it will be very susceptible to plugging up. The preferred location of the weatherhoods is:

- No less than 10 ft. (3 m) apart from each other.
- At least 18 inches (457.2 mm) snow line or ground level.
- Supply hood must be kept away from sources of contaminant, such as automobile exhaust fumes, gas meters, garbage cans, containers, cooling towers, tar roofs, etc.
- Avoid prevailing winds, whenever reasonably possible.

The outside perimeter of the weatherhood must be sealed to prevent leakage into the building.

The design and size of the weatherhoods or louvers chosen by the installer must allow for adequate free area. Water and snow penetration of the system is minimized when the airflow does not exceed 1000 FPM (5.08 m/s) free area velocity.

**DUCTING FROM THE WEATHERHOODS—TO AND FROM THE HRV** – Galvanized sheet metal ducting with sufficient cross section with an integral single piece of insulated wrap with vapor barrier should be used to connect the HRV to the weatherhoods. Insulated flex duct may be used in moderation, if sized and installed properly. (Consult local codes)

A minimum R value of insulation should be equal to 4 (RSI 0.75) ,consult local codes.

All ducts should be sealed using a good bead of high quality caulking (preferably acoustical sealant) and a high quality aluminum foil tape, or other approved duct sealant.

# INSTALLING DUCTS TO / FROM INSIDE

To maximize airflow in the ductwork system, all ducts should be kept short and have as few bends or elbows as possible. Forty-five degree are preferred to 90° elbows. Use “Y” tees instead of 90° elbows whenever possible.

All duct joints must be fastened with screws or duct sealant and wrapped with a quality duct tape to prevent leakage. Aluminum foil duct tape is recommended.

## SUPPLY AIR DUCTING

In buildings without a forced air HVAC systems, fresh air should be supplied to all habitable areas. It should be supplied from high wall or ceiling locations. Grilles that diffuse the air comfortably such as Fantech grille (MGE (metal) or CG (plastic) grilles with “coanda effect” are recommended.

Optional inline duct heaters may be used to add heat if required.

## Direct Connection to Furnace/ Air handler return duct

- Should you wish to hard duct the supply air directly into the cold air return of the HVAC systems, remember to check the airflow balance of the HRV with the HVAC systems fan both “on” and “off” to determine that it does not imbalance the HRV more than 10%. Make sure you respect the minimum distance from the supply air in of the HRV and the HVAC systems.
- It may be necessary to install a separate fresh air supply ductwork system if the heating is other than forced air.

When installing an HRV, the designer and installer should be aware of local codes that may require smoke detectors and/or firestats in the HVAC or HRV ductwork.

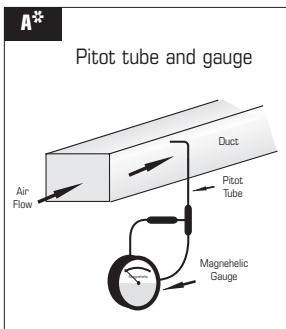
Because an HRV is designed to bring fresh air into the building, structures may require supply voltage interrupt when smoke or flame sensors are triggered, or when a central fire alarm system is activated.

## Exhaust Air ducting

The stale air exhaust system is used to draw air from the points in the building where the worst air quality problems occur. ( See installation examples in the manual.)

# AIR FLOW BALANCING

- The balancing procedure consists of measuring the exhaust air leaving the system and the supply air entering the system and ensuring that these two are equal. A deviation of 10% or less is acceptable.



**A** The duct's airflow velocity is generally measured with a magnehelic gauge and a pitot tube.

- To avoid airflow turbulence and incorrect readings, the airflow velocity should be measured on steel ducting a minimum of 3 duct cross-section from the unit or elbow and before any transition.

**Note:** A professional air balancer should be contacted to commission the system properly. A skilled HVAC Tech may complete the balance of air providing they possess the proper equipment. Call Fantech Technical support for assistance.

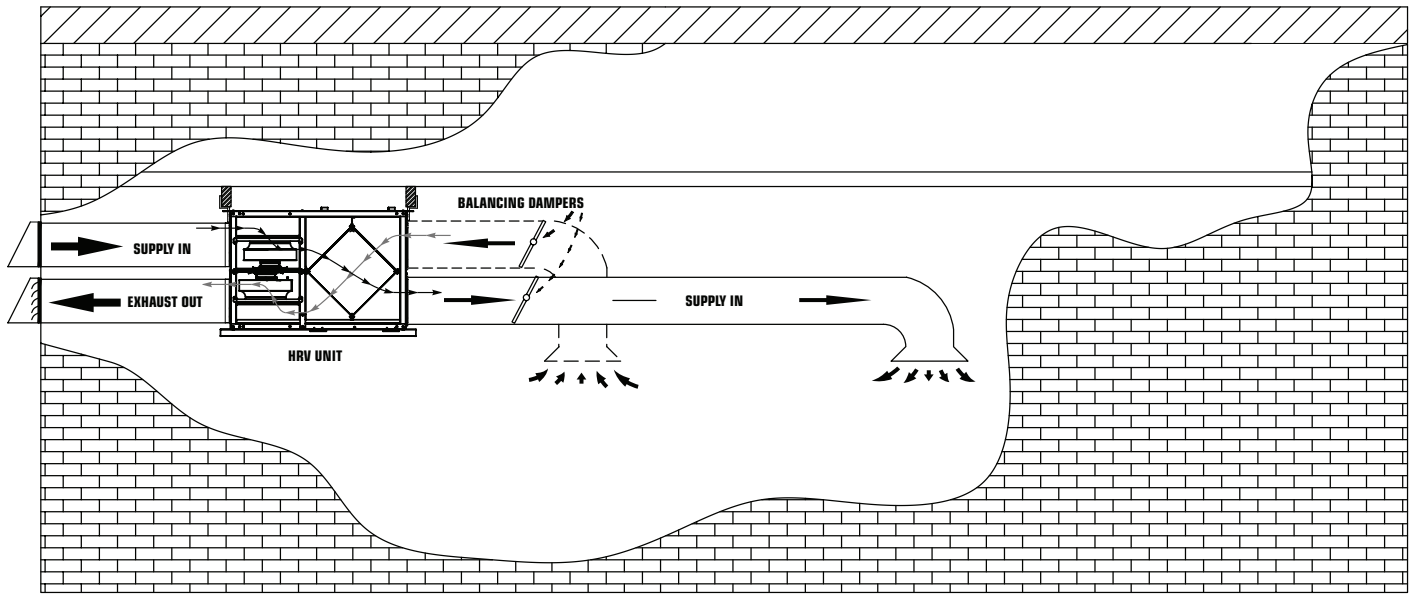
# INSTALLATION EXAMPLES

\* Drawings are illustrations only and actual port locations and airflow directions may vary, consult unit spec sheets.

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 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.

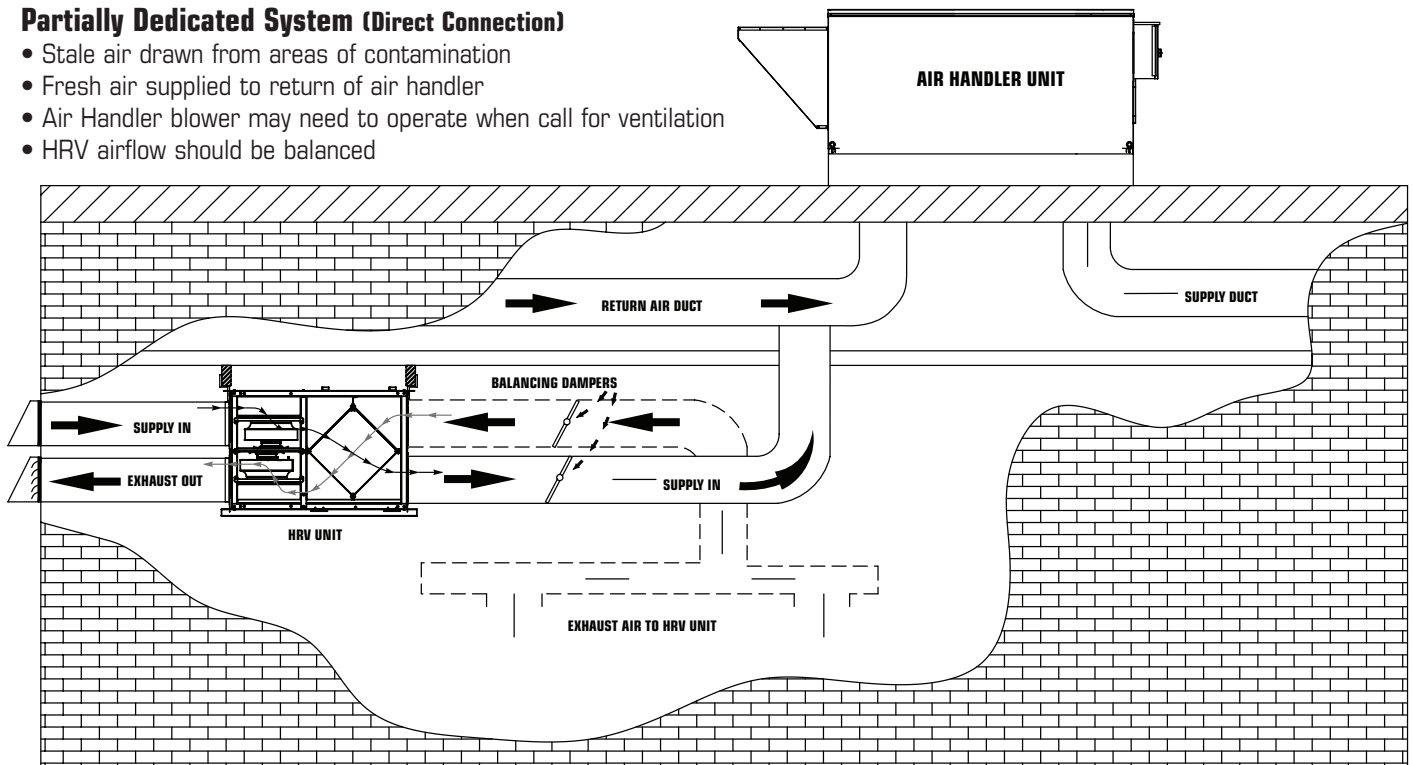
## Fully Dedicated System

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



## 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 airflow should be balanced



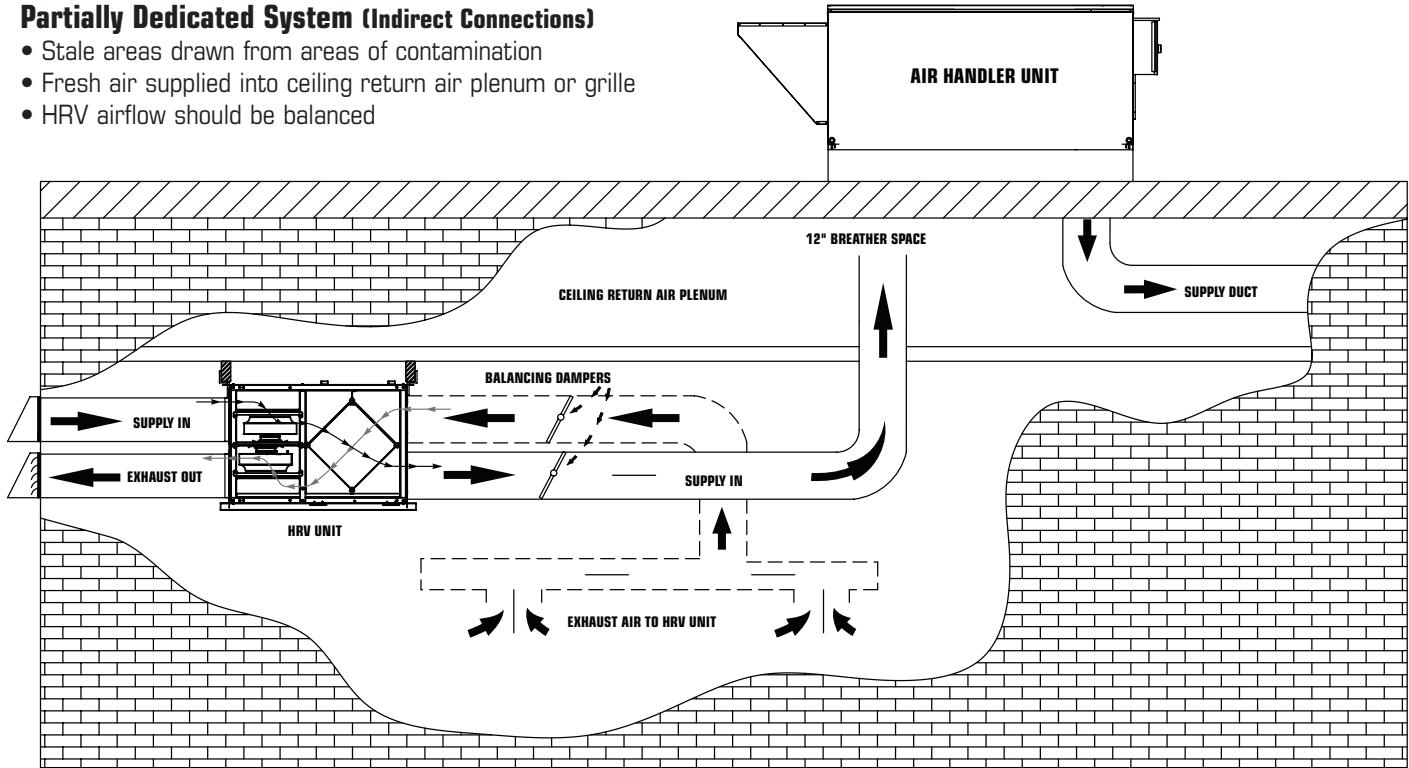
# INSTALLATION EXAMPLES (CON'T)

\* Drawings are illustrations only and actual port locations and airflow directions may vary, consult unit spec sheets.

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 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.

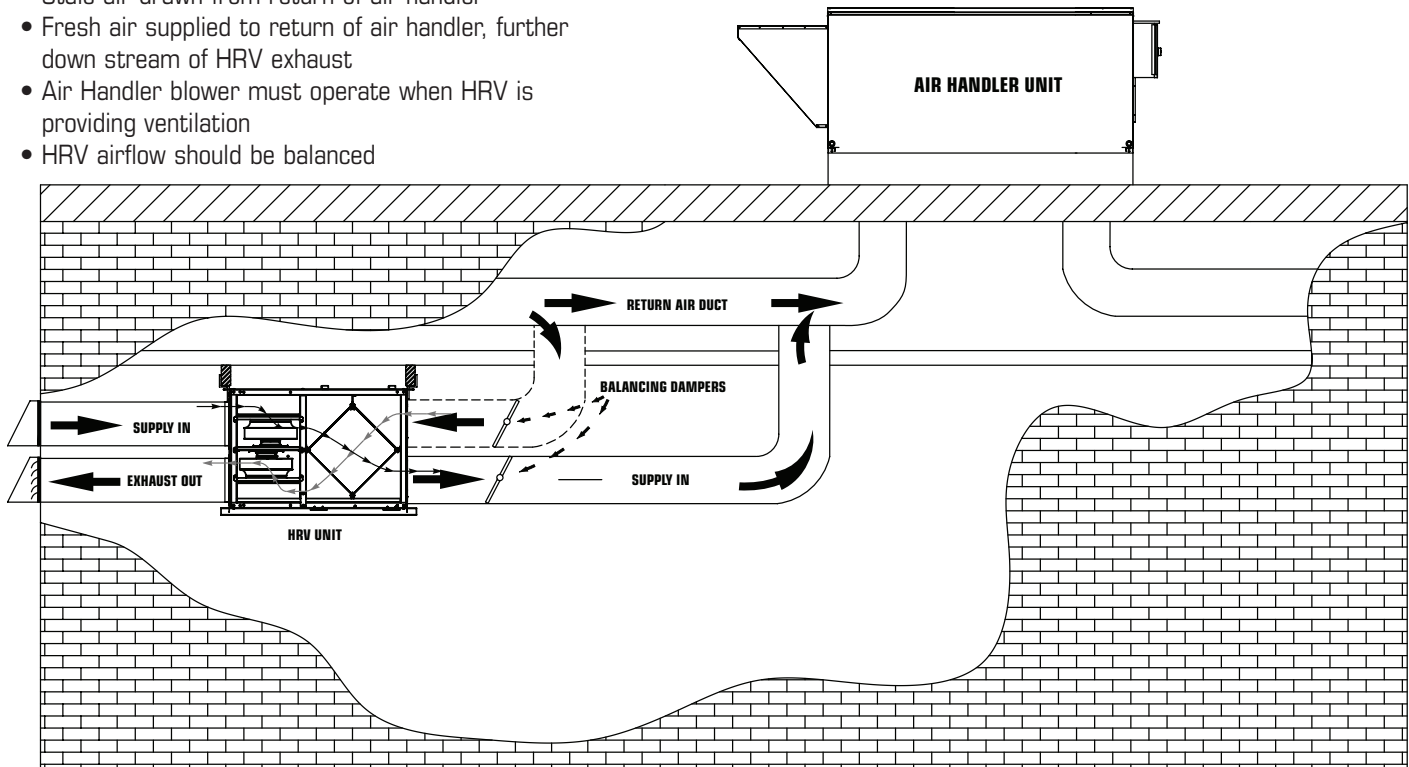
## Partially Dedicated System (Indirect Connections)

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



## Simplified Installation

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



# MAINTENANCE

## **CAUTION** MAKE SURE UNIT IS UNPLUGGED 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.

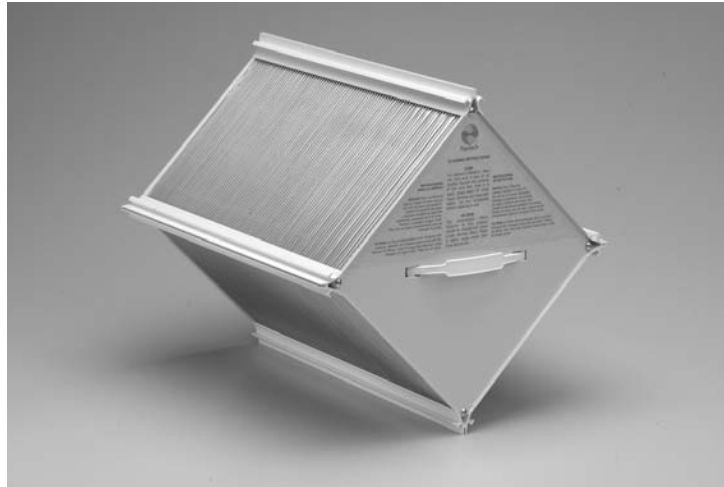
**Condensation Pan** - Units with drain hoses should have their line and connection checked regularly.

**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 need to be checked and cleaned once a month or when they appear dirty.

## **FIXED PLATE**



### **Clean core on an average every 3-6 months or as needed.**

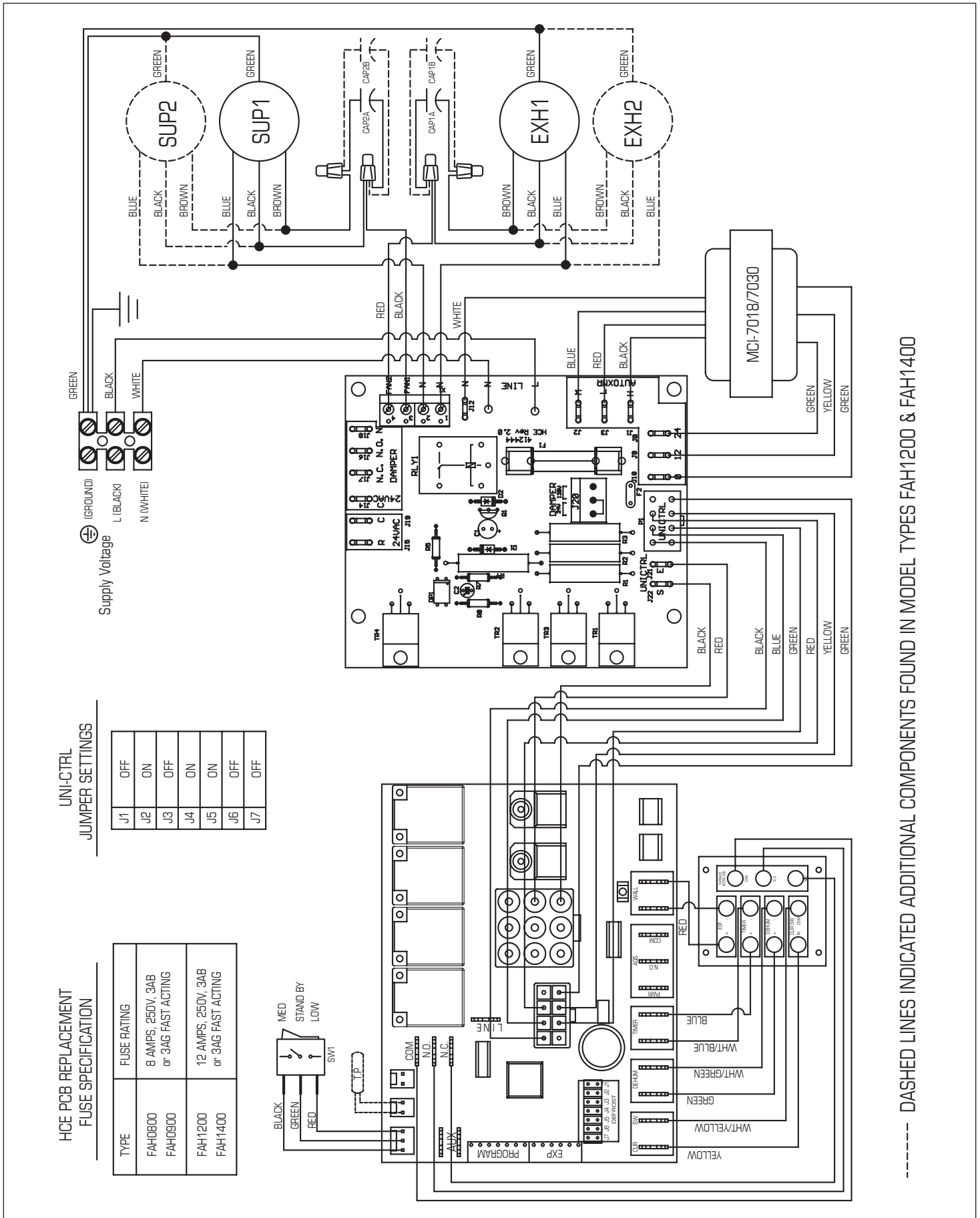
- a) Open access door & remove filters.
- b) Carefully grip ends of core and pull evenly outward. Core may be snug, but will slide out of the channel.
- c) Wash the core in warm soapy water or light coil solution.
- d) Install clean core
- e) Install the clean filters
- f) Replace access door

**Note:** Core installation label on the outer end of the core.

### **To install the clean Core and Filters.**

- a) First mount the bottom flange of the core guide into the bottom channel approximately 1/4" (6mm)
- b) Mount the left or right side flange of the core guide approximately 1/4" (6mm) followed by the other side
- c) Mount the top flange of the core guide into the top channel approximately 1/4" (6mm)
- d) 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.

# WIRING DIAGRAM SHR6904/SHR8004/SHR11004/SHR14104



## HCE PCB REPLACEMENT FUSE SPECIFICATION

| TYPE               | FUSE RATING                              |
|--------------------|--|
| FAH0800<br>FAH0900 | 8 AMPS, 250V, 3AB<br>or 3AG FAST ACTING  |
| FAH1200<br>FAH1400 | 12 AMPS, 250V, 3AB<br>or 3AG FAST ACTING |

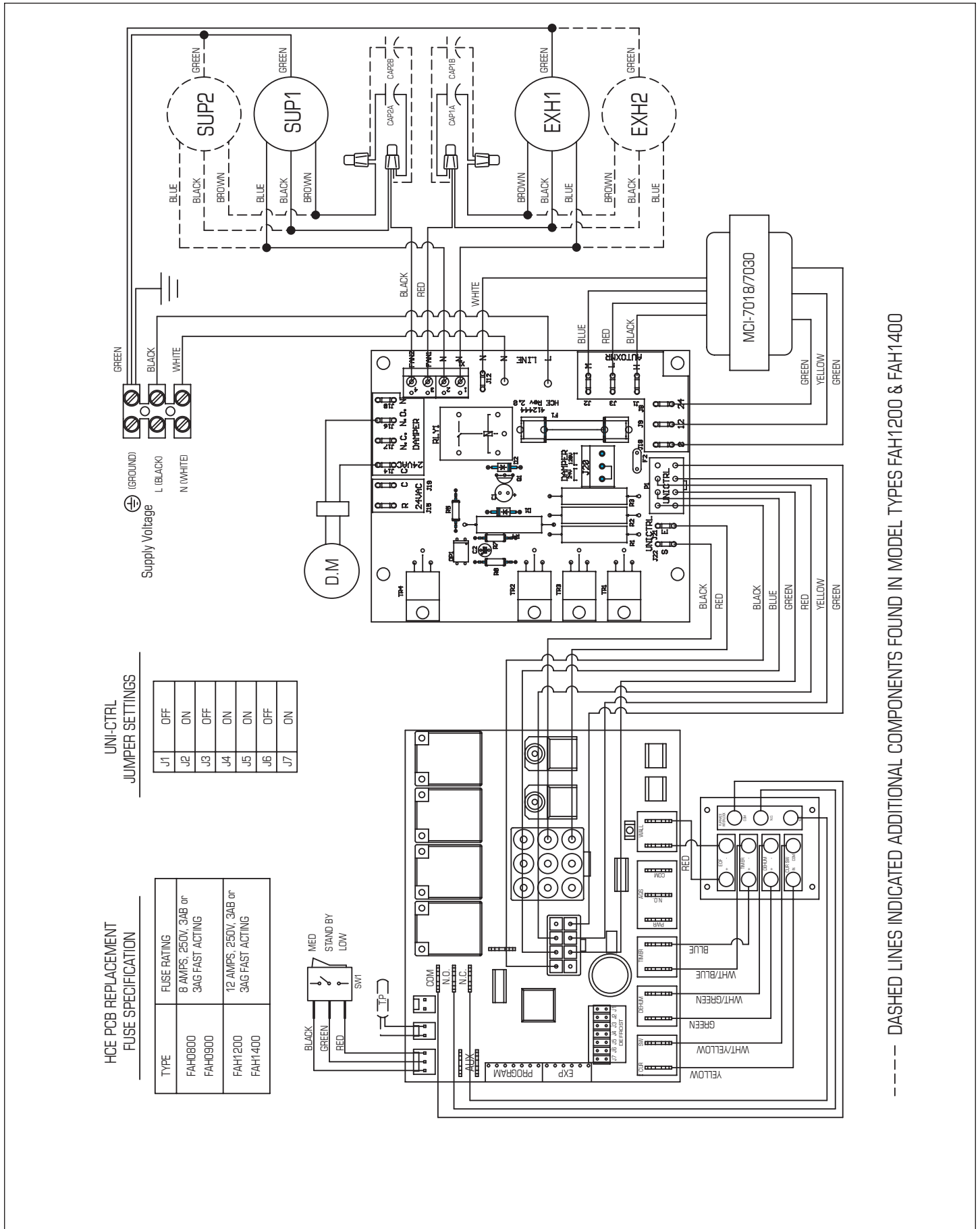
## UNI-CTRL JUMPER SETTINGS

|    |     |
|----|-----|
| J1 | OFF |
| J2 | ON  |
| J3 | OFF |
| J4 | ON  |
| J5 | ON  |
| J6 | OFF |
| J7 | OFF |

----- DASHED LINES INDICATED ADDITIONAL COMPONENTS FOUND IN MODEL TYPES FAH1200 & FAH1400



# WIRING DIAGRAM SHR6905R/SHR11005R



United States  
10048 Industrial Blvd.  
Lenexa, KS 66215  
Phone: 800.747.1762; 941.309.6000  
Fax: 800.487.9915; 941.309.6099  
[www.fantech.net](http://www.fantech.net); [info@fantech.net](mailto:info@fantech.net)

Canada  
50 Kanalfakt Way,  
Bouctouche, NB E4S 3M5  
Phone: 800.565.3548; 506.743.9500  
Fax: 877.747.8116; 506.743.9600



Fantech, 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.

Item #: 403558  
Rev Date: 100209