

# HEAT & ENERGY RECOVERY VENTILATORS HRV/ERV



**SENSIBLE CHOICE  
TO IMPROVE YOUR  
INDOOR AIR QUALITY &  
HEALTHY LIVING**

## **INTRODUCING**

**Only HRV/ERV  
in the Market**

- **With built-in true Automatic Electronic Air-balancing and Constant Flow Technology**
- **That maintains constant air-flow to desire CFM at any floors on the high-rise buildings regardless of the pressure difference due to stack effect in summer to winter. (patented)**



**REVERSOMATIC**  
MANUFACTURING LIMITED

790 Rowntree Dairy Road, Woodbridge, ON Canada L4L 5V3  
Tel: 905.851.6701 Fax: 905.851.8376  
Toll Free: 1.800.810.3473 (Canada) / 1.800.499.5073 (U.S.A.)  
www.reversomatic.com • info@reversomatic.com



# HEAT & ENERGY RECOVERY VENTILATORS

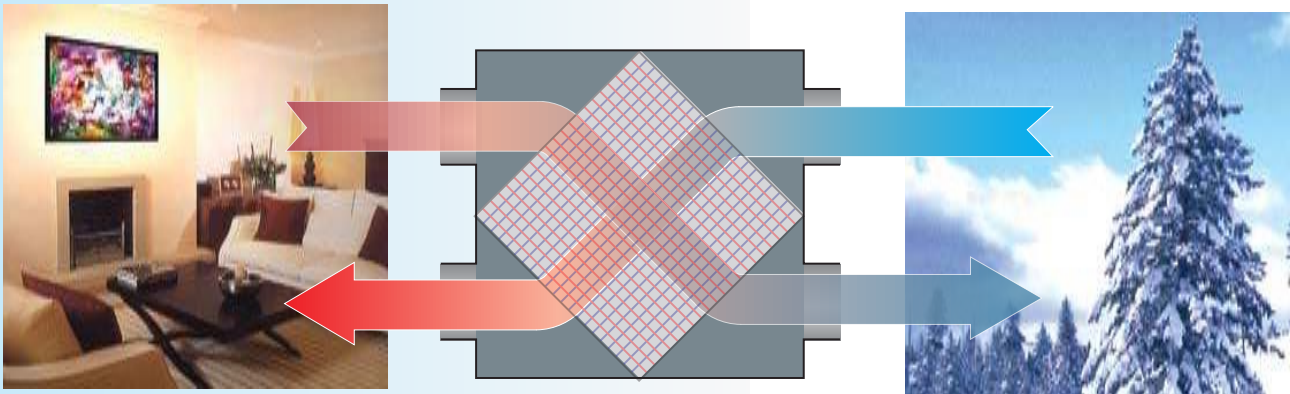
*Reversomatic HRVs (Heat Recovery Ventilators) and ERVs (Energy Recovery Ventilators) are designed to bring fresh air from outside into the home while exhausting the same amount of stale air to outside. These continuous and balanced ventilation systems consist of durable, long lasting and highly efficient cross-flow heat-exchanger cores. HRVs are available with polypropylene or aluminum cores and ERVs are available with enthalpy cores.*

*HRVs transfer heat (sensible) from the exhaust air to the incoming fresh air where ERVs transfer heat and moisture (sensible & latent) from the exhaust air to the fresh air in the winters and from the fresh air to the exhaust air in the summers.*

*HRVs are more likely used in cold areas that have longer heating seasons. ERVs are recommended for warm & humid areas where cooling seasons are longer and winters are moderate.*

## THE KEY BENEFITS OF REVERSOMATIC HRVs & ERVs ARE:

- Provide an energy-efficient means to exhaust indoor air pollutants and improve indoor air quality.
- Maintain a continuous supply of fresh, filtered and tempered outdoor air throughout the home.
- Control excess indoor humidity when outdoor humidity levels are lower.
- Recover heat from the exhaust air in winter and save energy.
- Cool incoming air in summer when the home is air-conditioned.
- Since ERVs have the ability to transfer heat & moisture, in summer they cool and reduce humidity from incoming fresh air to save cooling costs.



## HRV / ERV SIZE SELECTION

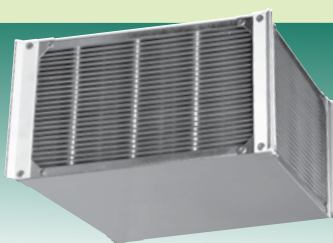
There are two methods commonly used to select proper size of HRV/ERV

**A)** Multiply your home total area (sq. ft.) including basement (if applicable) by 8' (ceiling height) to get total volume (ft<sup>3</sup>). Then multiply total volume by 0.35 (ACH) and after divide by 60 (min/hr) to get total ventilation required (CFM),

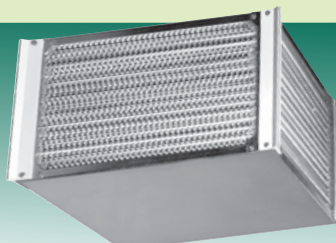
**B)** If you do not have your home area, then you may select the size by room count,  
10 CFM per room ( bathroom, kitchen, living room, utility room, laundry room);  
20 CFM for master bedroom and basement (if applicable)

\* Always check your local building codes to select proper HRV/ERV size

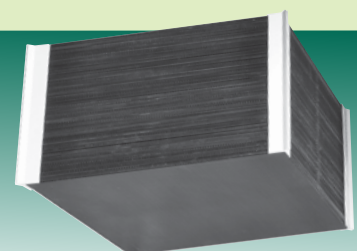
## REVERSOMATIC HRV/ERV CORES



Aluminum core (HRV)



Enthalpy core (ERV)



Polypropylene core (HRV)

# Deluxe

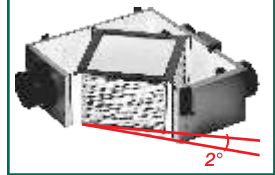
RHRV-D100A  
RHRV-D100P  
RERV-D100



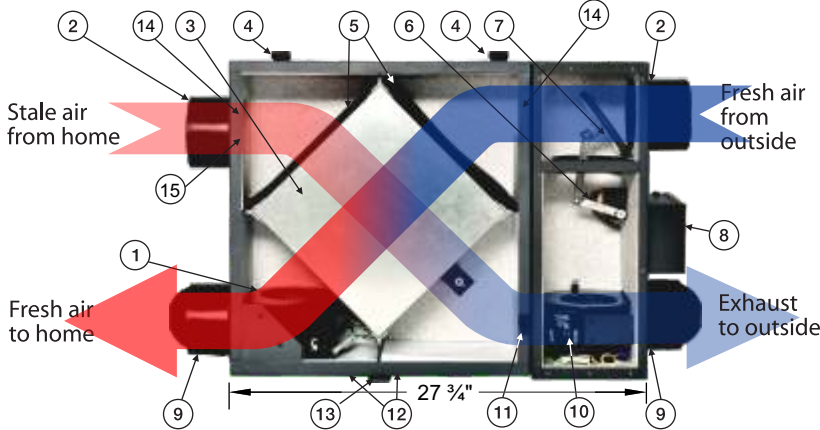
After extensive engineering research and development, Reversomatic is proudly introducing the only HRV/ERV in the market place with a **built-in true automatic electronic air-balancing technology** that doesn't require any balancing on HRV/ERV after installation and **it provides constant air flow at any floors.** Its unique **tilted core technique** provides maximum drainage to improve efficiency of the unit. And of course, its simplified design allows two individuals functions - HRV and ERV by simply changing the core of the unit.

## TILTED CORE

All models have Tilted core design that provides the most efficient drainage for horizontal installation



1. Supply blower
2. Polypropylene collar
3. Cross flow heat-exchanger
4. Door hinges
5. Air filters (MERV-4) (optional up to MERV-13)
6. Defrost motor
7. Defrost damper
8. Electrical box (Main Controller)
9. Polypropylene backdraft damper
10. Exhaust blower
11. Safety switch
12. Drains
13. Door latch
14. Air Flow Sensor
15. Humidity Sensor



## FEATURES

- Built-in true automatic electronic air-balancing technology
- Over all size 27 3/4" (W) x 21" (D) x 9" (H) App. weight 55 lbs.
- HRV is available with washable Aluminum (RHRV-D100A) or Polypropylene (RHRV-D100P) core - suitable up to -40°C
- ERV is available with Enthalpy core (RERV-D100) suitable up to -25°C (drainless design)
- Power ratings: 115V/1/60 Hz, 1.10 Amp.
- Standby current is 7W
- High efficiency energy saving permanently lubricated PSC motors (Thermally Protected) for continuous operation
- Fully automatic defrost (below -5°C)
  - Recirculating (Standard)
  - Non-recirculating (Optional)
- Adjustable 4-Normal/Low Speeds and 4-High Speeds
- Unique electronic control board allows the unit to return to the last memory mode when power restores after failure
- Furnace / Fan-coil / Heat Pump Interlock
- Ideal for horizontal and vertical installation
- **Dual Protection:** If for any reason HRV/ERV fan failure is detected, the outside fresh-air supply will be closed and interlocking relay contact will be opened. Fan Coil/Furnace low speed will be stopped and at normal operation and no air will enter into the system
- In "off" mode or power failure, the defrost damper is closed to prevent air entering in to the HRV/ERV
- Meets all standards and building code requirements
- Air flow: 45 - 95 CFM (normal operation), Max. 135 CFM
- For homes and suites up to 2000 sq. ft.
- 4 Mounting brackets and drain plugs are included
- Washable filters. 2 years warranty on parts

### OPTIONAL ACCESSORIES:

Push button Timer Switches, adjustable mounting straps or chain mounting system.

## WALL CONTROL



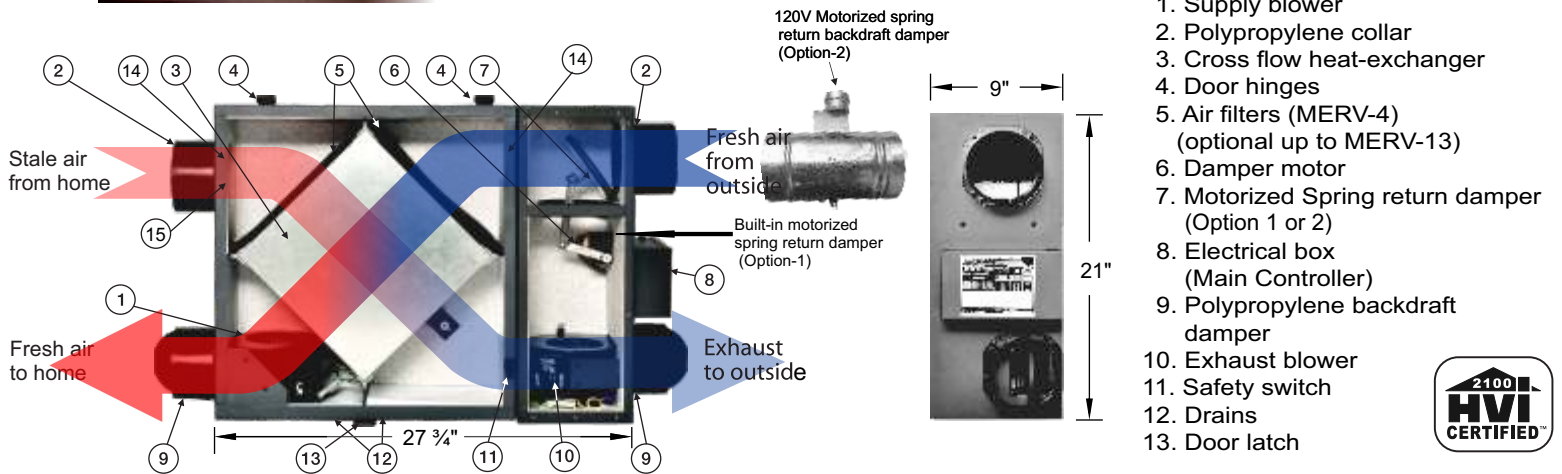
- Programmable LCD display c/w back light (New)
- Push button design
- Easy to mount and operate
- Self powered (no battery required)
- OFF/Normal/High/Recirculation/Energy Saving modes
- Humidity and Error indicators
- Humidity settings (up to 80% RH)
- Two defrost method selection:
  - Recirculating & Non-recirculating
- Multiple Wall Controls option
- Manual / Automatic balancing

# Superior

RHRV-S100A  
RHRV-S100P  
RERV-S100



The Superior series HRVs/ERVs are specially designed for high-rise condominium to provide constant fresh-air into the living room and bedrooms while exhausting same amount of stale air from the washroom. The low speed exhaust is constantly provided through the balancing box located in the washroom and can be activated on high speed to remove excessive humidity and odours by initiating the switch located in the washroom. All units are equipped with a state of the art fan cycled defrost mechanism. These units are equipped with a sophisticated control that can be used in conjunction with fan-coil unit / heat-pump.



1. Supply blower
2. Polypropylene collar
3. Cross flow heat-exchanger
4. Door hinges
5. Air filters (MERV-4) (optional up to MERV-13)
6. Damper motor
7. Motorized Spring return damper (Option 1 or 2)
8. Electrical box (Main Controller)
9. Polypropylene backdraft damper
10. Exhaust blower
11. Safety switch
12. Drains
13. Door latch

## FEATURES

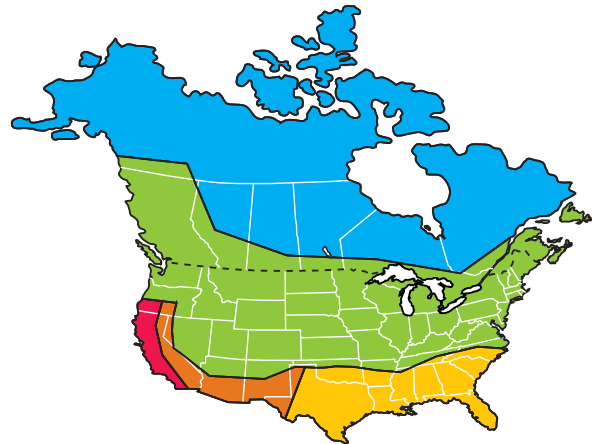
- Over all sizes 27 3/4"(W) x 21"(D) x 9"(H), App. weight 52 lbs.
- Power ratings: 115V/1/60 Hz, 1.50 Amp.
- HRV is available with washable Aluminum (RHRV-S100A) or Polypropylene (RHRV-S100P) core
- ERV is available w/ enthalpy core (RERV-S100, **drainless design**)
- High efficiency energy saving permanently lubricated variable speed PSC motors for air balancing
- Furnace / Fan-coil / Heat Pump Interlock
- **Dual Protection:** If exhaust fan fails, the outside fresh-air supply will be closed by shutting off supply motor and the relay contact for motorized and interlock will be opened. Fan Coil/Furnace low speed will be stopped and no air will enter into the system.
- In case of power failure, motorized spring return damper stops the fresh air intake and prevent core from freezing
- Automatic non-recirculating defrost
- Washable filters
- Tilted core design
- 2 years warranty on parts
- Two speed exhaust (high/low) up to 150 CFM
- Continuous fresh air supply up to 95 CFM
- Suitable for horizontal and vertical installation
- 4 Mounting brackets and drain plugs are included
- Exhaust up to two washrooms
- Meets all standards and building code requirements

### OPTIONAL ACCESSORIES:

Push button timer switch, Intermittent Switch, dehumidistat, time delay switch and adjustable mounting straps or chain mounting system. 120V Motorized spring return damper (Built-in or external).

## SELECT HRV/ERV FOR YOUR CLIMATE ZONE

HRVs are recommended for colder climates. ERVs are designed for warm-humid climates with long cooling seasons.



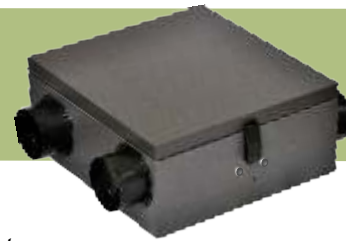
HRV		HRV, ERV (optional)	
<span style="color: blue;">■</span>	Severe Conditions	<span style="color: red;">■</span>	Pacific Conditions
<span style="color: green;">■</span>	Moderate Conditions	<span style="color: yellow;">■</span>	High Humidity
<span style="color: orange;">■</span>	Dry Climate		

U.S. Department of Energy climate zones map

# Project

RHRV-P100A  
RHRV-P100P  
RERV-P100

Project and Economy series shown



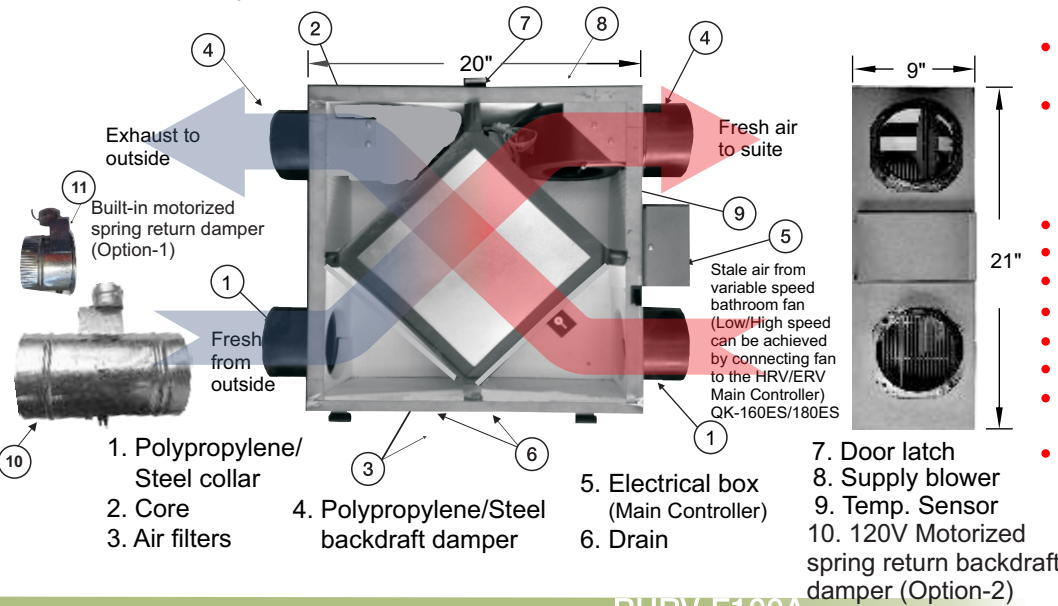
Project series HRVs/ERVs are also designed for high-rise condominiums to provide constant fresh air by using built-in fan while exhausting same amount of stale air from the bathroom by using reversomatic bathroom exhaust fan. The low speed exhaust is constantly provided through the fan grille located in the bathroom and can be activated on high speed to remove excessive humidity and odors by initiating the fan switch located in the bathroom. All units are equipped with state of the art fan cycled defrost mechanism. They can also be used in conjunction with fan-coil units.

## FEATURES

- Over all sizes 20"(W) x 21"(D) x 9"(H)
- App. weight: 35 lbs.
- Power ratings: 115V/1/60 Hz, 1.5 Amp.
- HRV is available with washable Aluminum (RHRV-P100A) or Polypropylene (RHRV-P100P) core
- ERV is available with Enthalpy core (RERV-P100)
- High efficiency energy saving permanently lubricated variable speed PSC motor for fresh air supply up to 95 CFM and air-balancing
- Dual Protection: Same as Superior
- Washable filters
- Automatic non-recirculating defrost
- Tilted core design
- Can handle up to two washrooms
- 2 years warranty on parts
- Suitable for horizontal and vertical installation
- 4 Mounting brackets and drain plugs are included

### OPTIONAL ACCESSORIES:

Push button timer switch, Intermittent Switch, dehumidistat, time delay switch and adjustable mounting straps or chain mounting system.



# Economy

RHRV-E100A  
RHRV-E100P  
RERV-E100

Reversomatic Economy series HRVs/ERVs are the most economical solution for the house to provide constant fresh-air up to 50 CFM by simply connecting the fresh-air supply duct of the unit to the furnace return-air duct while exhausting same amount of stale air from the bathroom by using Reversomatic two speed bathroom exhaust fan operating continuously at low speed. The high speed of the bathroom fan can be activated by using fan switch located in the bathroom.

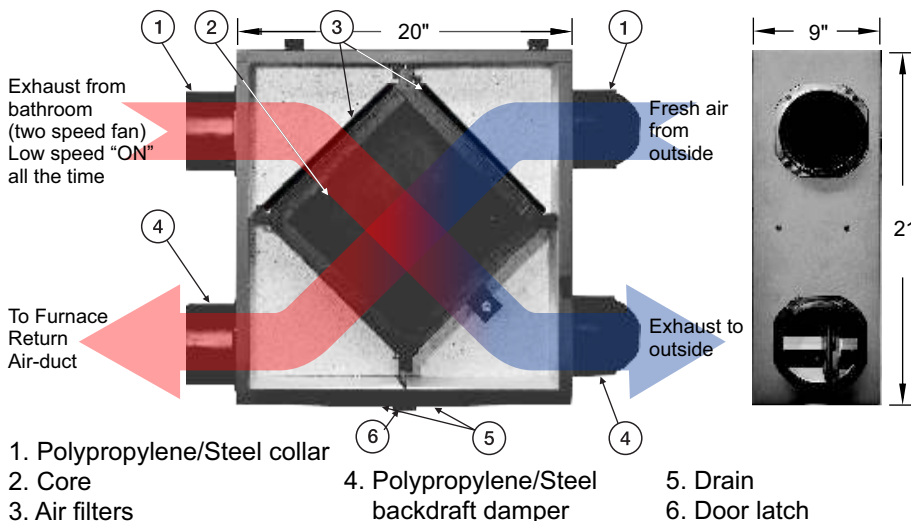
NOTE: These units are suitable up to -5°C outdoor temperature. If outdoor temperature falls below -5°C, a manual damper is required to shut-off the fresh-air intake duct.

## FEATURES

- Over all sizes 20"(W) x 21"(D) x 9"(H)
- App. weight: 25 lbs.
- HRV is available with washable Aluminum (RHRV-E100A) or Polypropylene (RHRV-E100P) core
- ERV is available with Enthalpy core (RERV-E100)
- No moving parts, very low maintenance
- No power source required
- Washable filters
- Tilted core design
- Suitable for horizontal and vertical installation
- 2 years warranty on parts
- 4 Mounting brackets and drain plugs are included

### OPTIONAL ACCESSORIES:

Manual damper and adjustable mounting straps or chain mounting system. .

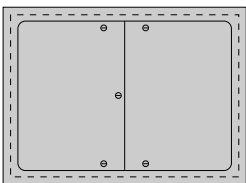


# HRV / ERV PERFORMANCE DATA AND SPECIFICATION

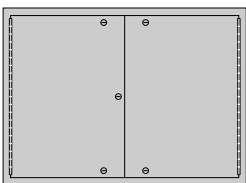
MODEL	AIR FLOW RANGE (CFM)		Volts	Max. Amps	Size W x D x H (inch)	Duct Dia.	CORE	Defrost below -5°C)	Air Balancing	SONES (30L/S @ 50 Pa)	Apparent Sensible Effectiveness (at 0) °C	App. Weight lbs.
	Normal Speed	High Speed										
<b>DELUXE</b>												
RHRV-D100A	45 - 95	93 - 155	120	1.10	27.75 X 21 X 9	5"	Aluminum	Automatic	Automatic	2.2	70%	55
RHRV-D100P	45 - 95	93 - 145	120	1.10		5"	Polypropylene	Automatic	Automatic	1.7	80%	55
RERV-D100	45 - 95	93 - 154	120	1.10		5"	Enthalpy	Automatic	Automatic	1.4	74%	55
<b>SUPERIOR</b>												
RHRV-S100A	20 - 95	70 - 155	120	1.50	27.75 X 21 X 9	5"	Aluminum	Automatic	Variable Speed Motor	2.2	70%	52
RHRV-S100P	20 - 95	70 - 145	120	1.50		5"	Polypropylene	Automatic	Variable Speed Motor	1.7	80%	52
RERV-S100	20 - 95	70 - 154	120	1.50		5"	Enthalpy	Automatic	Variable Speed Motor	1.4	74%	52
<b>PROJECT</b>												
RHRV-P100A	20 - 95	70 - 155	120	0.70	20 X 21 X 9	5"	Aluminum	Fan Cycled	Variable Speed Motor	2.2	70%	35
RHRV-P100P	20 - 95	70 - 145	120	0.70		5"	Polypropylene	Fan Cycled	Variable Speed Motor	1.7	80%	35
RERV-P100	20 - 95	70 - 154	120	0.70		5"	Enthalpy	Fan Cycled	Variable Speed Motor	1.4	74%	35
<b>ECONOMY</b>												
RHRV-E100A	50	-	-	-	20 X 21 X 9	5"	Aluminum	Manual	Manual		73%	25
RHRV-E100P	50	-	-	-		5"	Polypropylene	Manual	Manual		82%	25
RERV-E100	50	-	-	-		5"	Enthalpy	Manual	Manual		78%	25

## ACCESSORIES

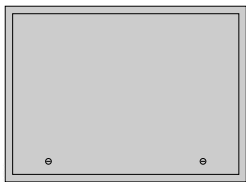
### Access Doors:



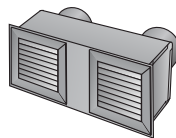
FLAT - ADF 3426



PROJECT - ADP 3224

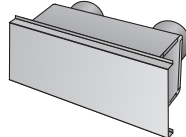


DETACHABLE - ADD 3224



#### Double Vent with Extruded Aluminum Grilles

Exhaust and Intake (DVG-200)  
Optional: Stamped Aluminum Grilles



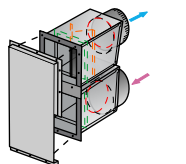
#### Double Vent with Side Exhaust / Intake

(DVS-100)

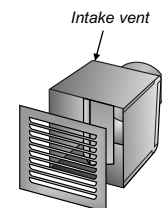


#### Double Vent for window panel

Exhaust and Intake (DV-200)



DVV-100 - Double Vent  
cw Vertical Exhaust / Intake hood



#### Single Vent with Standard Stamped Aluminum Grille

(RSVG200)  
Optional: Extruded Aluminum Grille



#### Manual Balancing and Volume Control Damper

Satin coat steel available for Economy series (MB9348)



#### Dehumidistat

Wall-mount unit allows to control indoor humidity level. Suitable for Superior Series HRVs and ERVs. (RH100)



#### Intermittent Switch (IC 100-5V)

Low/High/Intermittent/Off mode. In Intermittent mode, HRV/ERV runs for 20 min. in low speed & 40min. OFF. and cycles continuously. (Also available w/o OFF mode)



#### Time Delay Switch (120V AC)

Activates the unit on high speed for 5-30 minutes. Suitable for Superior Series and Compact Units. (TC100-120)



#### Time Delay Switch (120V AC)

24 Hour Programmable Timer. Suitable for Superior Series and Compact Units. (TC100-120P)



#### Reversomatic Electronic Timer Switch

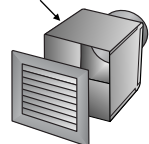
Activates the unit on high speed for 20, 40, 60 minutes. Suitable for Deluxe, Superior & Project Series. (TC100-5V)



#### Motorized Damper

5 inch diameter spring return round damper SPRD110-5 (110V AC) Superior & Project Series.

Exhaust vent



#### Single Vent with Extruded Aluminum Grille

(RSVG100)  
Optional: Stamped Grille



#### Wall Control

Multiple Wall-Controls option is available for Deluxe Series only. (WC100)

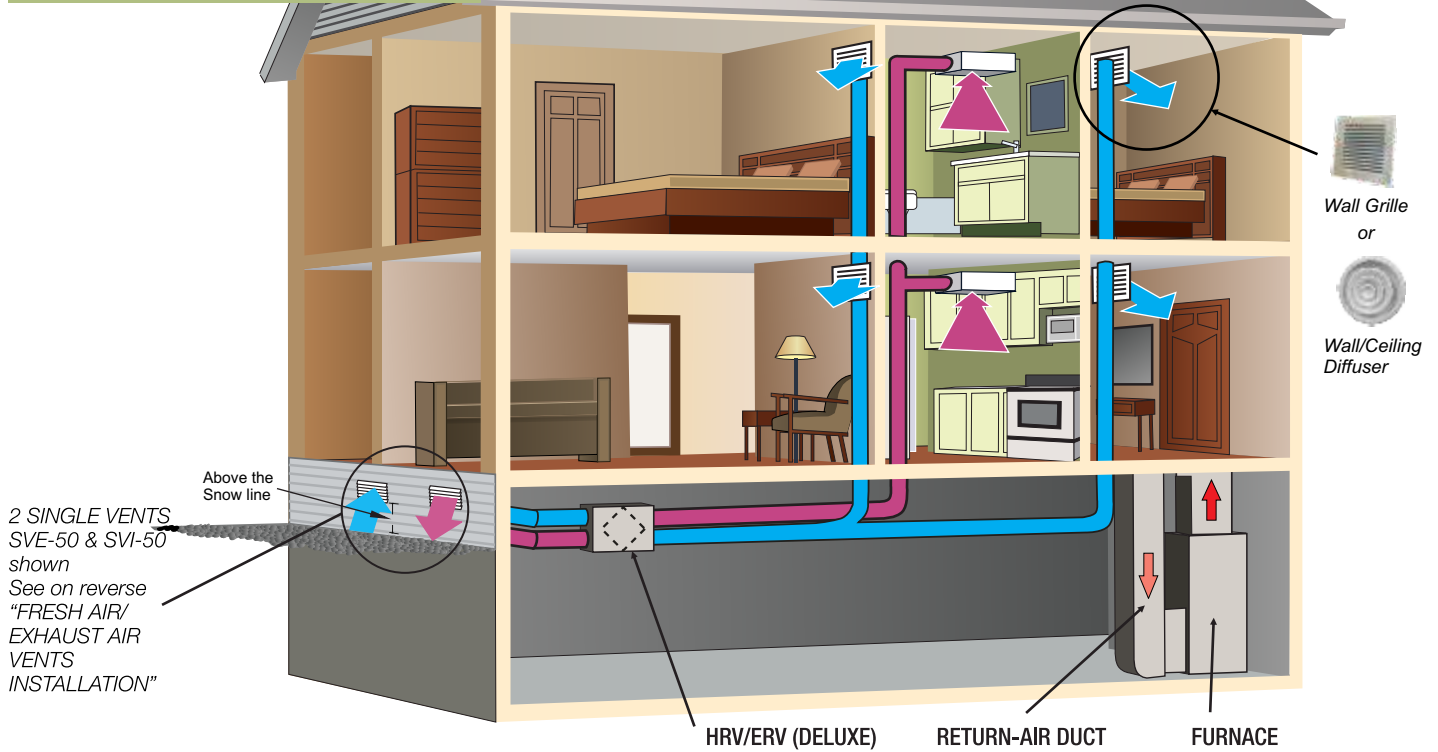
**Note:** For safety and optimum performance always use Reversomatic accessories.



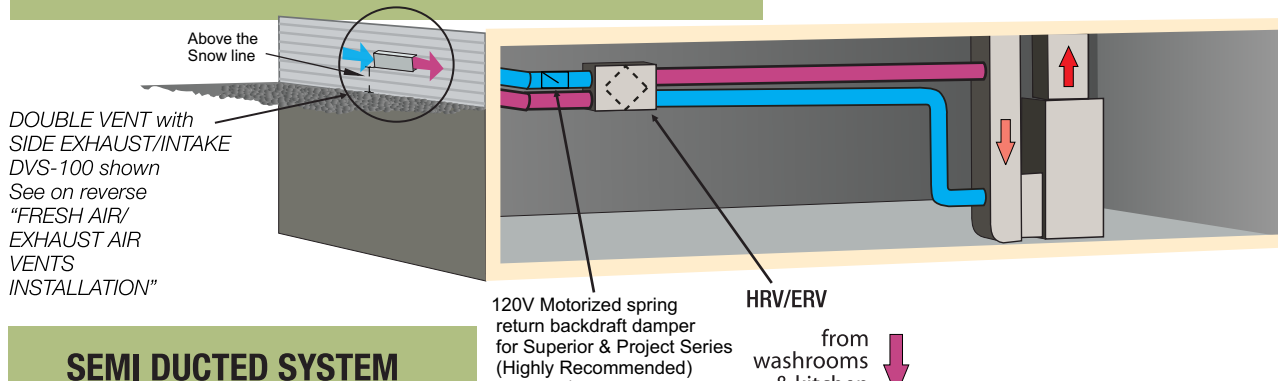
# HEAT & ENERGY RECOVERY VENTILATORS

## TYPICAL INSTALLATION FOR HOUSE

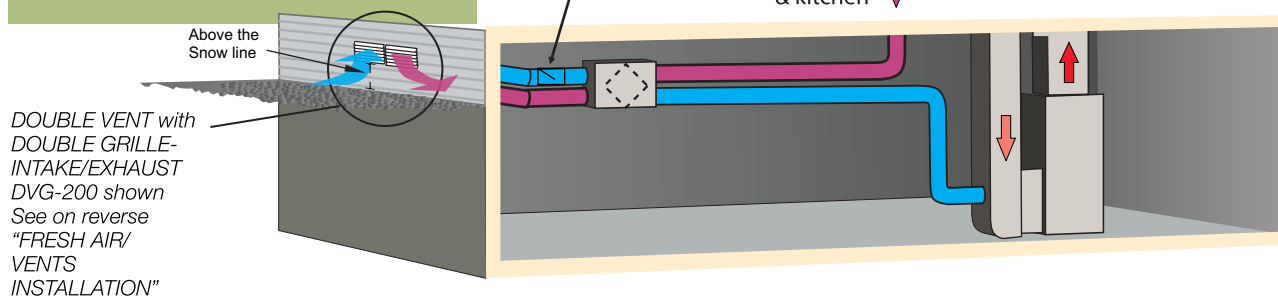
### FULLY DUCTED SYSTEM



### FURNACE RETURN AIR-DUCT CONNECTION



### SEMI DUCTED SYSTEM



■ FRESH AIR   
 ■ EXHAUST/STALE AIR   
 ■ HEATED AIR

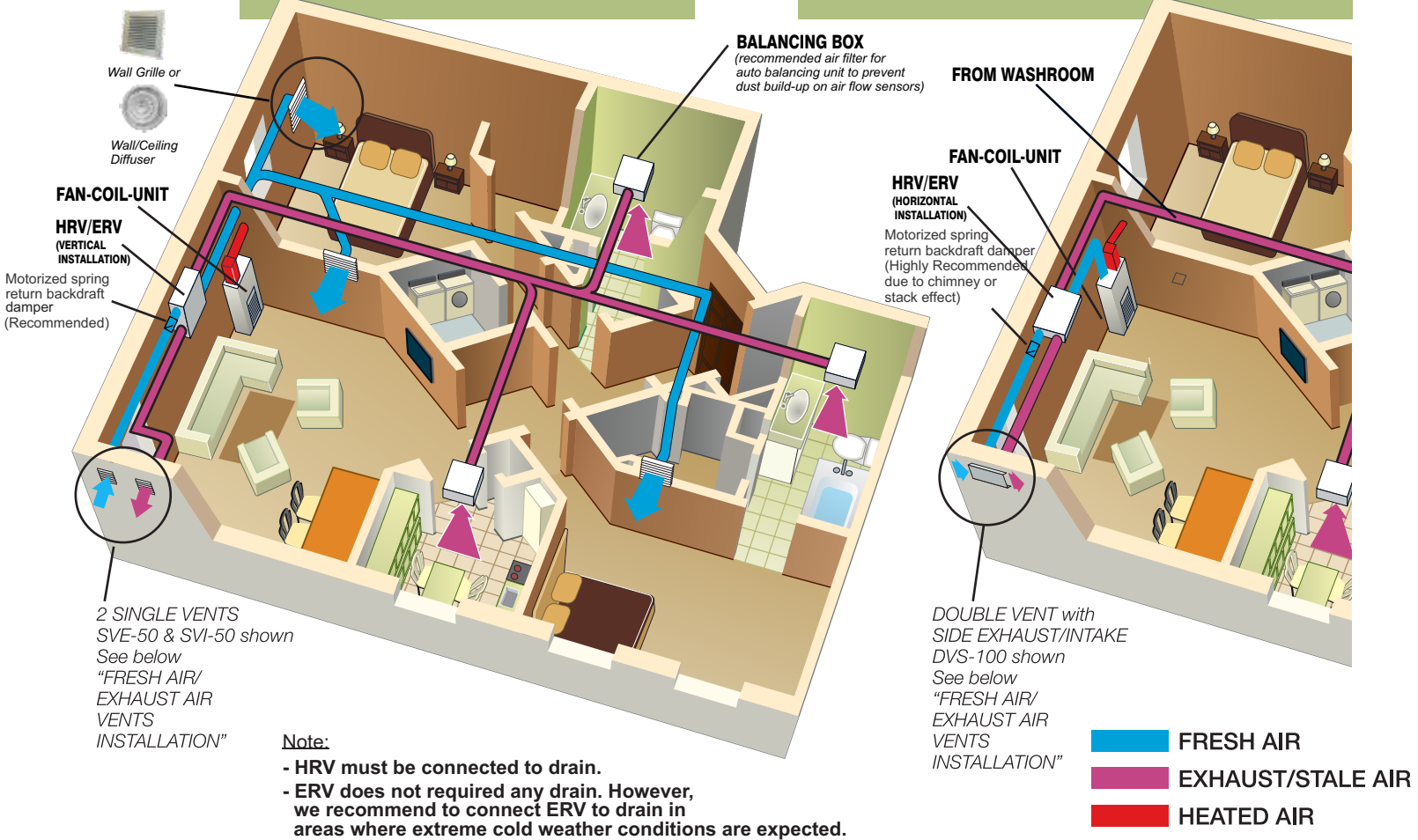


# HEAT & ENERGY RECOVERY VENTILATORS

## TYPICAL INSTALLATION FOR HIGH-RISE CONDOMINIUM

### FULLY DUCTED SYSTEM

### HRV/ERV WITH FAN-COIL SYSTEM



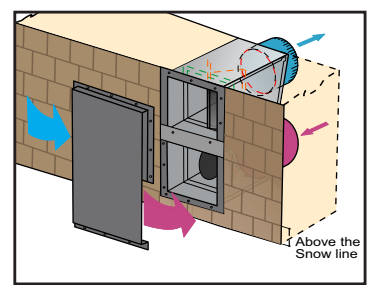
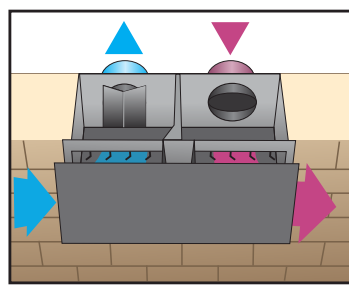
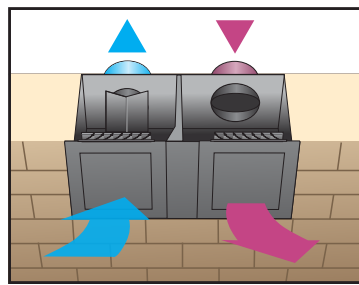
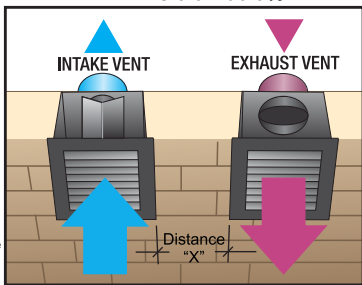
## FRESH AIR / EXHAUST AIR VENTS INSTALLATION

**Exhaust (SVE-50) & Intake (SVI-50) vents c/w extruded aluminum grilles**  
 Re - Circulation Efficiency  
 If distance "X" is 5ft - 99.7%  
 "X" is 3ft - 96.5%

**Double Vent (DVG-200) c/w extruded aluminum grilles**  
 Re - Circulation Efficiency - 95%

**Double Vent (DVS-100) c/w side Exhaust / Intake hood**  
 Re - Circulation Efficiency - 98%

**Double Vent (DVV-100C) c/w vertical Exhaust / Intake hood**  
 Re - Circulation Efficiency - 98%



All vents are tested @ 400 Pa according to ASTM E547-00 for water Penetration test.  
 (tested @ 5-10 mph wind velocity)

**Note: All Exhaust Vents must be installed min. 5 ft away from sidewalls.**



**REVERSOMATIC**  
 MANUFACTURING LIMITED

790 Rowntree Dairy Road, Woodbridge, ON Canada L4L 5V3  
 Tel: 905.851.6701 Fax: 905.851.8376  
 Toll Free: 1.800.810.3473 (Canada) / 1.800.499.5073 (U.S.A.)  
 www.reversomatic.com • info@reversomatic.com