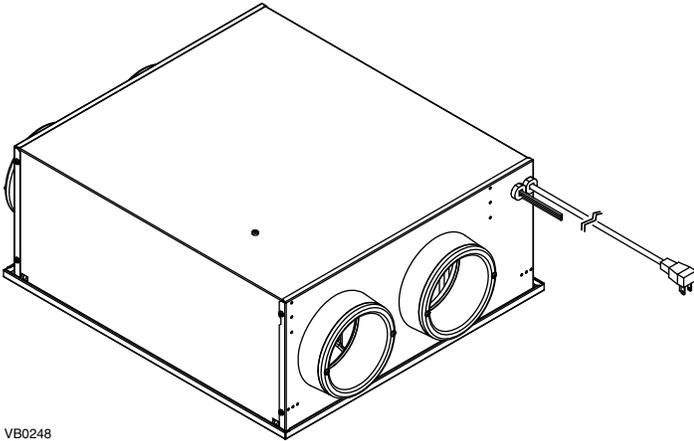




## **BROAN™ ERVS100**

### **Part no. ERVS100S**

65-105 CFM (0.4 in. w.g.)



VB0248

### **THE FRESH AIR SOLUTION FOR SOUTHERN REGIONS**

The Broan ERVS100 is an effective, balanced ventilation solution designed specifically for homes in southern regions. The ERVS100 provides a continuous supply of fresh air to the home while exhausting stale air and pollutants. Plus it manages excess moisture – making it a centerpiece for tightly-constructed, energy efficient homes in hot and humid or dry climates.

- 65 to 105 CFM at 0.4 in. w.g.;
- Energy recovery core recovering up to 51% of the excess moisture and up to 71% of the apparent heat or coolness;
- Built-in humidity sensor limiting the ventilation during periods of excessive outdoor humidity levels contributes to maintain a comfortable living area and mitigate the risks of mold growth;
- Exclusive bracket system providing a faster and easier installation in the ceiling, an attic or in a closet. See the Installation and User guide for more details;
- Integrates with existing forced-air furnace ducting for easy installation but runs independently to limit energy consumption related to ventilation;
- Built-in damper on fresh air supply port to prevent outdoor air infiltration when the unit is turned off;
- Integrated control to easily set the unit at installation.

### **REPAIRS AND MAINTENANCE**

All parts requiring maintenance can be removed in less than 5 minutes allowing easy access for repairs. The PSC motors are permanently lubricated.

### **WARRANTY**

The BROAN™ ERVS100 is protected by a 5-year warranty on parts only. The energy recovery core is covered by a 5-year warranty, with the original proof of purchase.

### **Product balancing**

The ERVS100 is equipped with 2 high static pressure blowers and is factory balanced. Once installed, the ERVS100 will remain balanced (within a 10% total difference between the exhaust and supply airflows) when the static pressure difference between the exhaust and the supply remains below 0.2 in. w.g. No balancing dampers are required when this condition is met.

### **Filters**

- 2 washable filters, 20 PPI
- MERV 8 optional filters, part V21030.

### **Defrosting system**

Unit performs a negative defrost during 10 minutes every 20 minutes when outdoor temperature is below 14°F, and 10 minutes every 10 minutes below -4°F.

### **Energy Recovery Core**

Material: Polymerized paper  
 Type: Cross flow  
 Warranty: 5 years

### **Options**

- Broan VTYIK1 Tandem transition (requires an additional backdraft damper, not included)
- Broan VB20W 20-minute push-button control
- Broan 69V Single-Function Control, Ivory (Dry contact standby switch)
- Broan 69W Single-Function Control, White (Dry contact standby switch)
- Broan 634M black exhaust roof cap 6" with backdraft damper and bird screen
- Broan 843BL black exhaust wall cap 6" with backdraft damper and bird screen
- Broan 641 aluminum exhaust wall cap 6"
- Broan 641FA aluminum inlet wall cap 6" with bird screen
- Broan CVG6 interior inlet plastic grille 6"
- Broan CVL6 mounting sleeve for inlet grille CVG6
- Broan CVLD6 sleeve with 6" backdraft damper

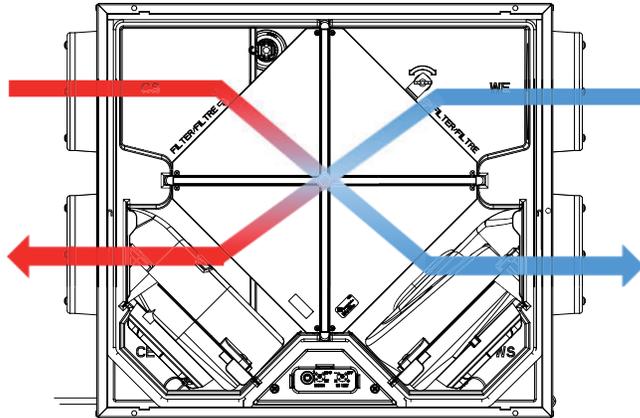
### **Requirements and standards**

- Complies with the UL 1812 requirements regulating the installation of Energy Recovery Ventilators;
- HVI certified;
- Airflow and energy recovery performance tested in accordance with CSA C439 standard.

## Performance in hot and humid climate

Supply air from outdoors  
82°F @ 74% RH

Exhaust to outdoors  
79°F @ 63% RH



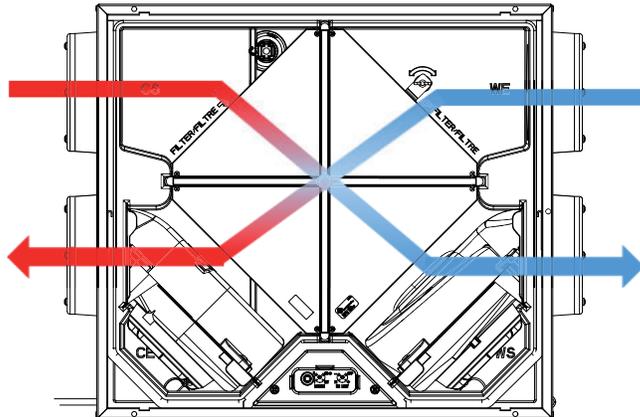
Exhaust from home  
75°F @ 50% RH

Supply to home  
78°F @ 67% RH

## Performance in hot and dry climate

Supply air from outdoors  
106°F @ 30% RH

Exhaust to outdoors  
94°F @ 36% RH



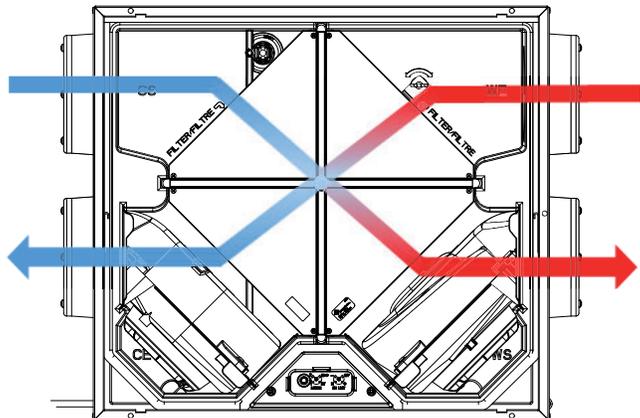
Exhaust from home  
75°F @ 50% RH

Supply to home  
87°F @ 44% RH

## Performance in winter season

Supply air from outdoors  
32°F @ 30% RH

Exhaust to outdoors  
45°F @ 36% RH



Exhaust from home  
75°F @ 50% RH

Supply to home  
63°F @ 40% RH

## Noise level

0.4 sone @ 105 cfm at grille with 5' of flexible ducting (tested in accordance with ISO 5136 and HVI 915).

## Specifications

Model : Broan ERVS100

Part number: ERVS100S

Total assembled weight including packaging: 40 lb.

Insulated round ports: 6" diameter

Built-in magnetic backdraft damper to close outdoor fresh air supply when the unit is turned off

Energy recovery core:

-Type cross flow

-Media membrane: Polymerized paper with aluminum

Core filters: 2 washable filters 20 PPI

Optional MERV 8 filter kit, part no. V21030

Housing material: galvanized steel 22 ga

Door and door frame material: White pre-painted steel 20 ga

Insulation material: Molded Expanded polystyrene, UL certified for Energy recovery ventilators requirements

Supply and exhaust blower motors:

-PSC motors

-Protection type: Thermally protected

-Lock rotor electronic detection stops unit if motors failed

Installation brackets: included with the unit, allow attic, flush to ceiling and under-ceiling installations. Unit must be installed with the door facing upward or downward. No vertical installation allowed.

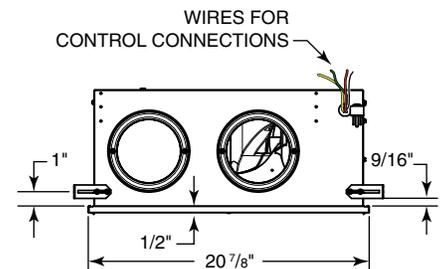
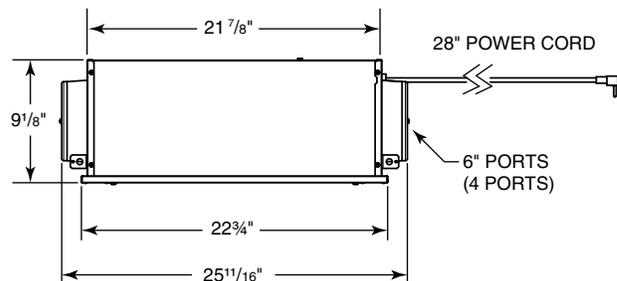
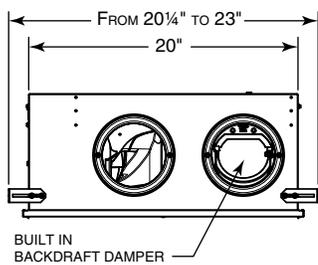
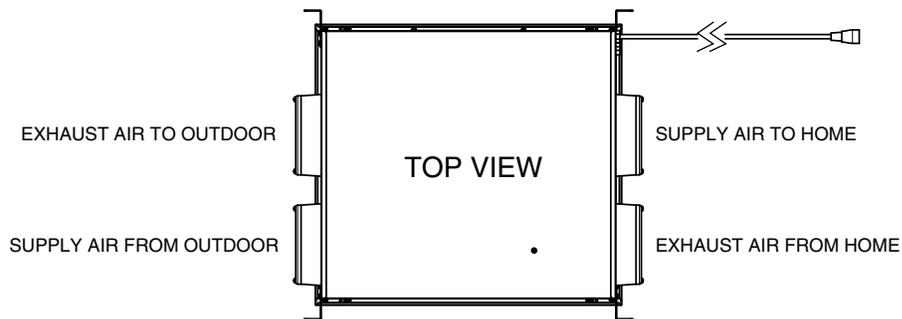
## Unit electrical characteristics

-Power cord 28" with 3-prong plug

Volts	Frequency	Ampere	Watts
120	60 hz	0.9	103

Low voltage connections for optional controls energized by unit

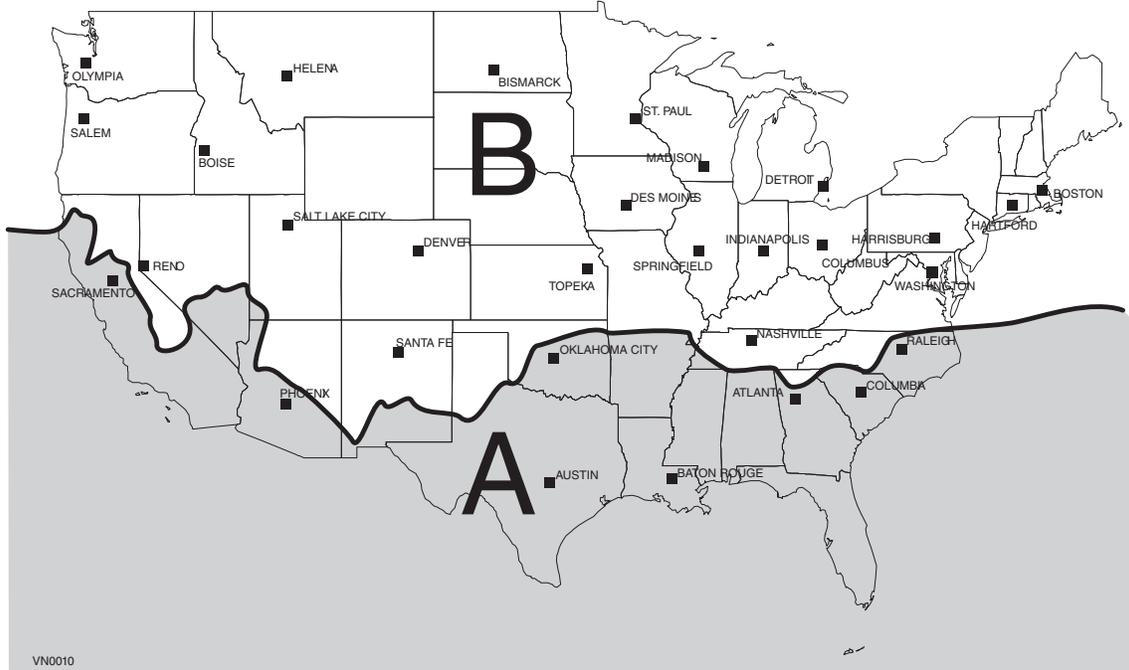
## Dimensions



VK0102A

## Safe Installation Zone

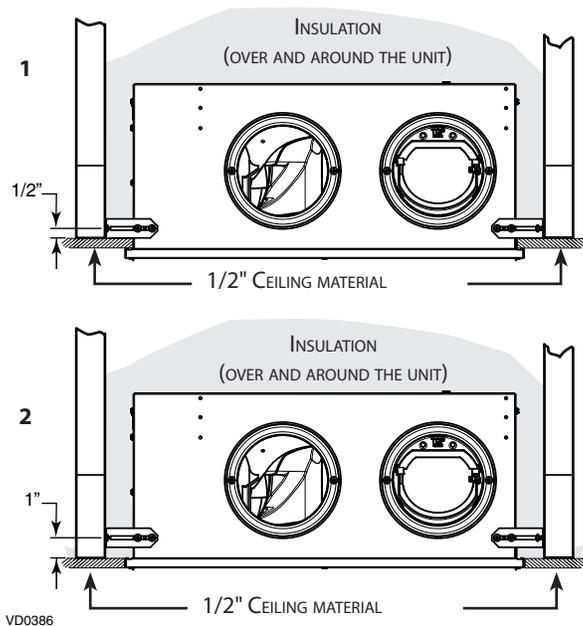
This unit is designed for installation where the outdoor temperature is above 14°F throughout the year (zone **A** on map below). For units installed in zone **B**, they must be installed in conditioned space or in the ceiling with a surrounding sealed enclosure, see section 3.3.1.



**Installation** (please refer to the installation and user guide for complete details)

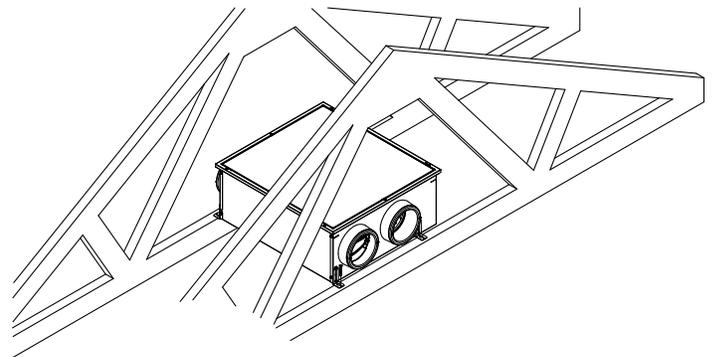
### Positioning the unit

#### Installation in the ceiling (option 1 and 2)

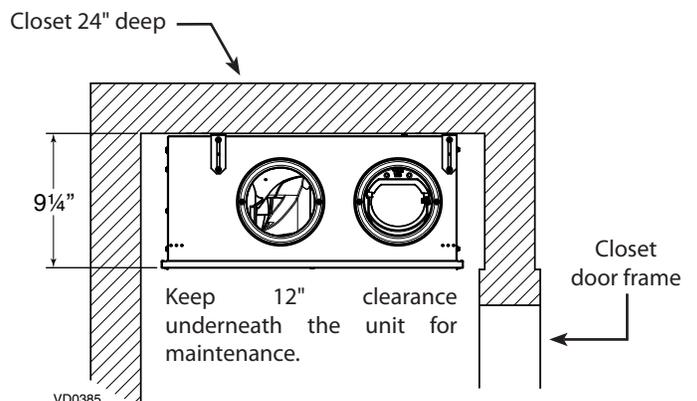


Refer to Installation and User guide for more details on installation in zone B with a surrounding sealed enclosure.

#### Installation in attic over the insulation (climate zone A only)



#### Installation under ceiling (in a living area)

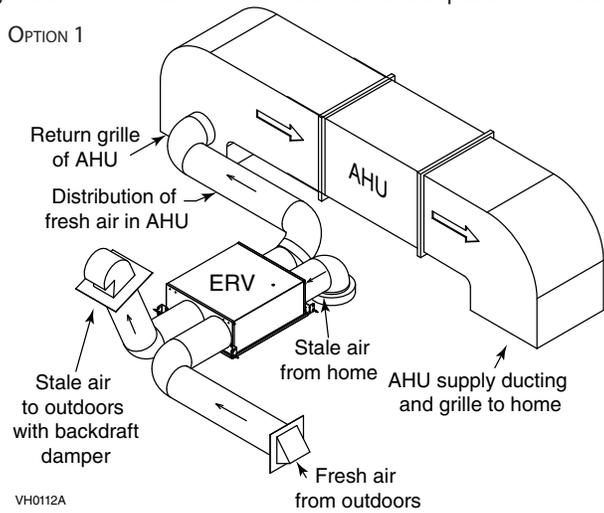


## Combining with an AHU

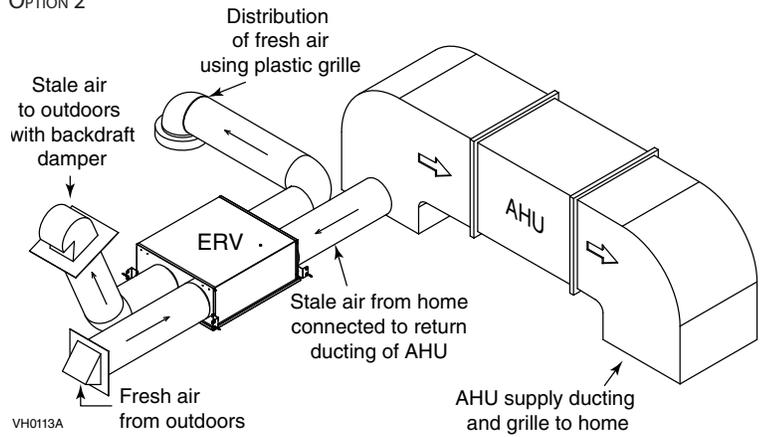
### Recommended configurations

Option 1 - When the distribution of fresh air from the ERV is connected to the return of an AHU (such as in the image below, on the left), static pressure where the fresh air from the ERV enters the AHU return ducting must be below 0.15 in.w.g. to ensure proper functioning of the built-in fresh air damper. If return duct static pressure exceeds the 0.15 in.w.g. threshold, an indirect connection combined with a supplemental return grille or "T" connection with the conditioned space should be used. See the User and Installer guide for more details.

OPTION 1



OPTION 2



## Energy performance ERVS100

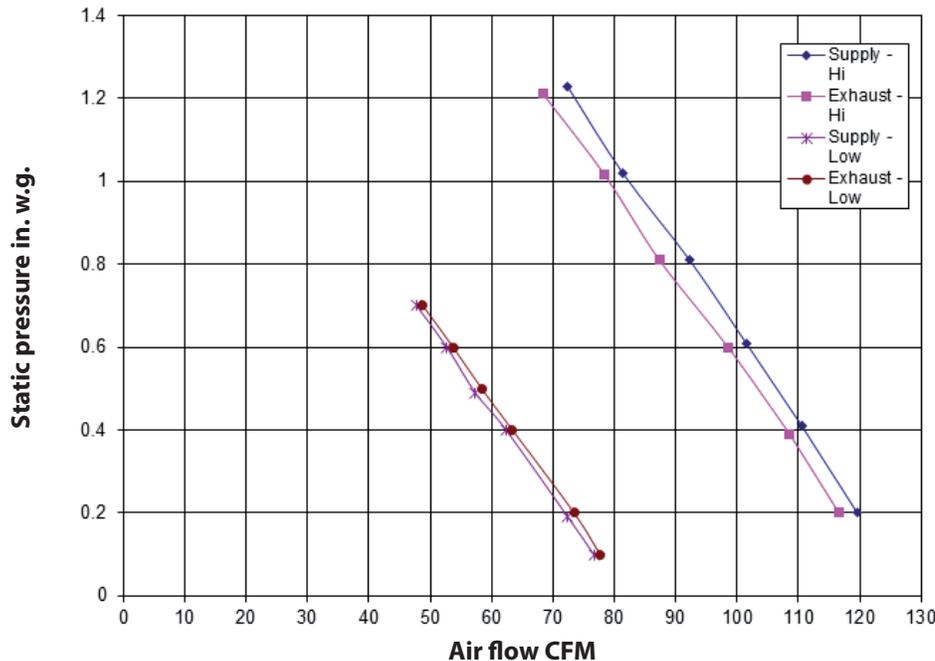
	Supply Temperature	Net Air Flow	Power Consumed	Sensible Recovery Efficiency	Adjusted Sensible Recovery Efficiency	Apparent Sensible Effectiveness*	Latent Recovery/Moisture Transfer	Total Recovery Efficiency	Adjusted Total Recovery Efficiency
	°F	CFM	Watts	%	%	%	%	%	
Cooling	95	64	46			62	45	48	51
	95	106	103			55	35	38	41
Heating	32	64	46	64	68	71	51		
	32	106	103	57	63	67	42		

\*Data not certified by HVI.

NOTE: All specifications are subject to change without notice.

## Ventilation performance

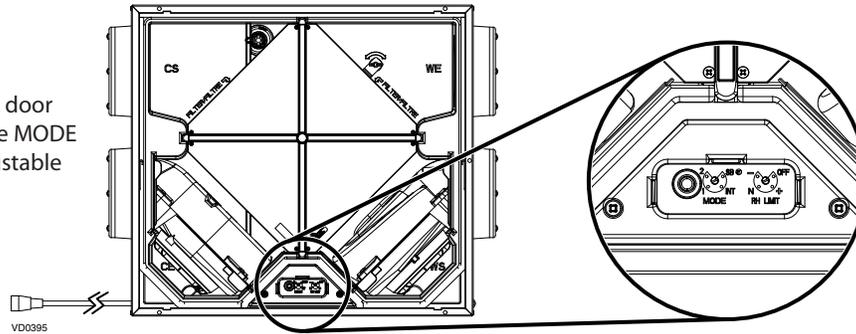
Broan ERVS100 Air flow vs Static pressure



Note: In high speed, account for an increase in static pressure of approximately 0.2 in. w.g. when installed with the Broan VTYIK1 Tandem transition, depending on installation.

## Mode and RH Adjustable Controls Location

Remove the door to access the MODE and RH adjustable controls.



## Control Ventilation modes

POSITION	MODE	DESCRIPTION
SB*	Standby	Unit is off. Unit can be activated in high speed by the VB20W 20-minute push-button control, if applicable.
INT	Intermittent	Unit works 20 minutes per hour in low speed. Unit can be activated in high speed by the VB20W 20-minute push-button control, if applicable.
1	Low Speed	Unit runs at 65 cfm. Unit can be activated in high speed by VB20W 20-minute push-button, if applicable.
2	High Speed	Unit runs at 105 cfm. Unit can be activated in high speed by the VB20W 20-minute push-button control, if applicable.

\*Factory setting

## Relative humidity limit

The ERVS100 monitors the outdoor air conditions (temperature and humidity level) every 10 minutes with a built-in sensor. When the outdoor conditions are above the set limits, the unit will limit the ventilation to 10 minutes per hour and come back to its previous setting when the conditions get back to the set limit. The accepted RH limit varies in function of the outdoor conditions and can be adjusted to 4 different positions:

Position	Description	RH* limit of distributed air	
		Outdoor temp. <73°F	Outdoor temp. ≥73°F
OFF	Relative humidity limit is deactivated.	-	-
+	Higher relative humidity limit.	Up to 60%	Up to 80%**
N	Factory set relative humidity limit.	Up to 55%	Up to 75%**
-	Lower relative humidity limit.	Up to 50%	Up to 70%**

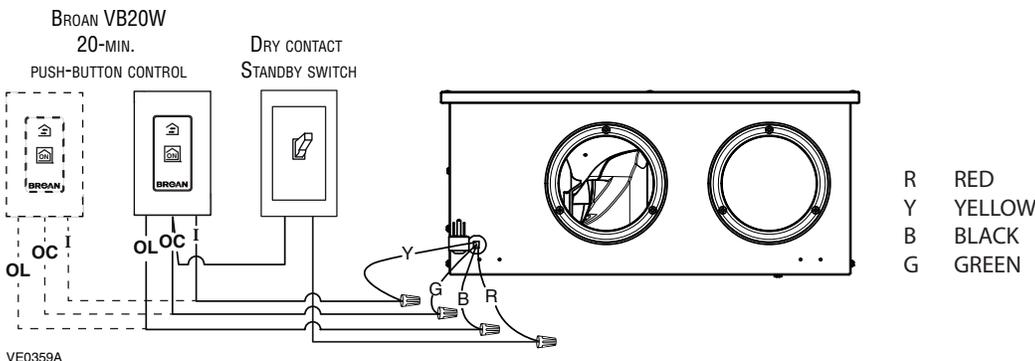
\* The RH limit of distributed air is calculated at 75°F.

\*\* When the outdoor temperature is equal or above 73°F, the maximum relative humidity level accepted is higher considering that the air conditioning will partly dehumidify the incoming fresh air after it is distributed and mixed with the conditioned indoor air.

## Optional controls wiring

-Broan VB20W 20-minute push-button control: Activates 105 cfm speed in all ventilation modes (recommended when the unit exhausts from a bathroom).

-Dry contact standby switch (Broan 69W and 69V): Unit remains powered on, but is put on Standby mode when the switch is turned on.



VE0359A

This connection allows the operation of VB20W push-button controls even if the dry contact standby switch is turned off.

ERVS100d210406