



# RESIDENTIAL SYSTEM SOLUTIONS






## VentZone® Systems

### VentZone® Zoned IAQ with Heat Recovery Kits

PRODUCT  
SPECIFICATIONS  
& TECHNICAL  
DATA

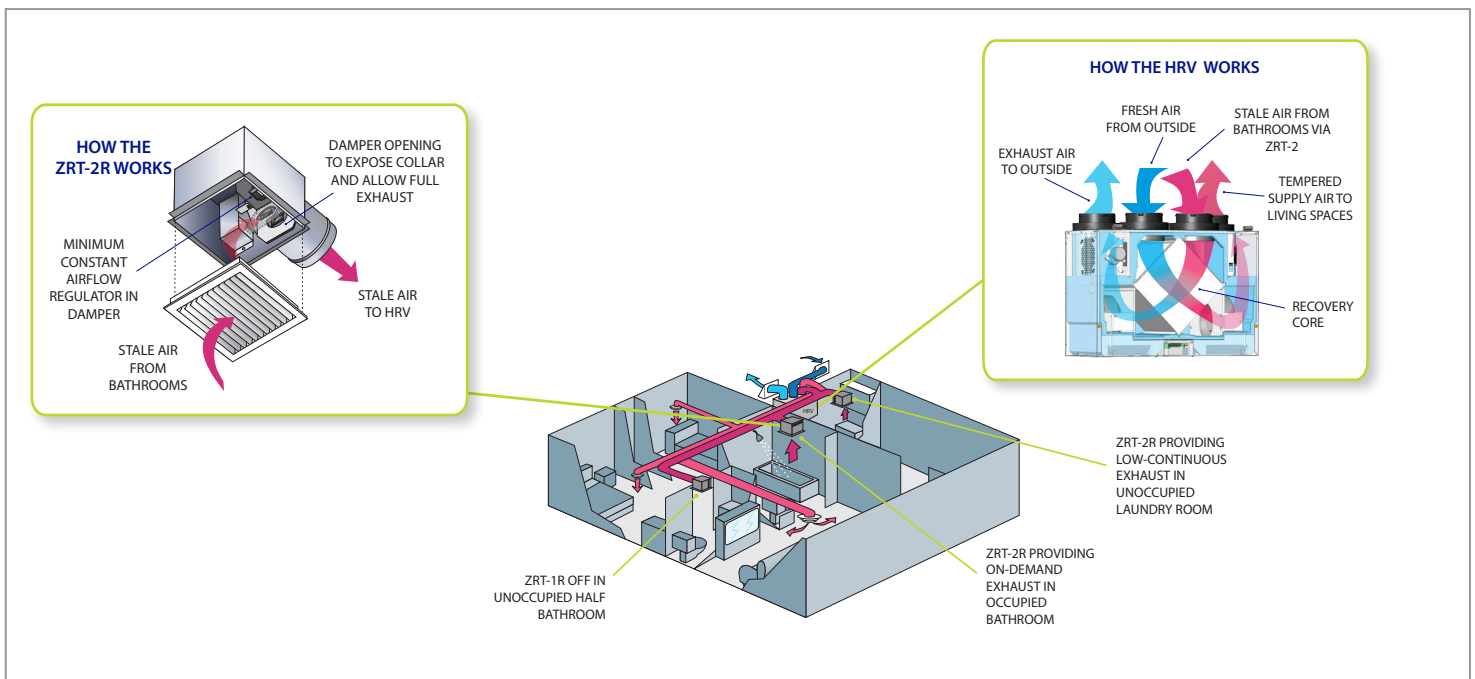
VentZone® Zoned IAQ Kits with Heat Recovery combine a Standard Residential Heat Recovery Ventilator (HRV) with residential Zone Register Terminals (ZRT® - R) for continuous IAQ exhaust and on-demand boost exhaust. Each ZRT® is installed in one bathroom in the house. These kits transfer sensible energy between stale exhaust air and fresh supply air, lowering the load on heating and cooling systems. The 24V ZRT-R's in the VentZone system are powered by the HRV, significantly reducing installation costs. Models H150-TRG and H190-TRG are ENERGY STAR Qualified (Canada).

#### VentZone® Zoned IAQ Kits with Heat Recovery

Part Number	System	Number of Bathrooms	Airflow @ 0.2 in. w.g.	Ventilator	6" ZRT-2-6-24R (24V) 10/20/30 CFM	4" ZRT-2-4-24R (24V) 10/20/30 CFM	4" ZRT-1-4-24R (24V)	20/40/60 Push Button Timer
								
R39 321-24	VZ-IAQ-H150-P2 -24V	2	142 CFM	H150-TRG	--	2	--	2
R39 322-24	VZ-IAQ-H150-P2.5-24V	2.5	142 CFM	H150-TRG	--	2	1	3
R39 323-24	VZ-IAQ-H190-P2.5-24V	2.5	201 CFM	H190-TRG	1	1	1	3
R39 324-24	VZ-IAQ-H190-P3-24V	3	201 CFM	H190-TRG	1	2	--	3
R39 325-24	VZ-IAQ-H190-P3.5-24V	3.5	201 CFM	H190-TRG	1	2	1	4
R39 328-24	VZ-IAQ-H190-P4.5-24V	4.5	201 CFM	H190-TRG	1	3	1	5
R39 329-24	VZ-IAQ-H190-P5-24V	5	201 CFM	H190-TRG	1	4	--	5

#### Accessories for VentZone® Kits

Part Number	Description	ZRT-1-6-24R	Digital Multifunction Wall Control	Shipping Weight
R39550-24	ZRT and multi-function wall control	1	1	11lb





## PRODUCT DESCRIPTION

The H150-TRG has been thoughtfully engineered for simple installation in apartments, condos, and small houses. The removable collars are top-mounted, which makes the unit both narrow and shallow enough to fit inside standard closets and other tight spaces.

### KEY FEATURES

Electronically and independently adjustable supply and exhaust blowers (FLEXControl)

Gauge ports on the door for fast and reliable airflow readings

Non-dust-loading backward-inclined impellers on totally enclosed motors

Twist-in collars for easy flex-duct attachment

Easy access to core and filters for cleaning

Extremely durable polypropylene core

Recirculating defrost collar snaps into pre-punched area of cabinet for ducting flexibility

# RESIDENTIAL

## HRV

### H150-TRG

HEAT RECOVERY VENTILATOR

142 CFM at 0.20 in.w.g (ESP)



CORE

UNIT



### Recovery Core

Material: Polypropylene

### Casing

Material: Pre-painted 24-gauge galvanized steel

Drain Connection: Ø 3/8" (Ø 10 mm)

Duct Connections: Ø 5" (Ø 127 mm)

Insulation: Molded EPS

Width: 23-1/8" (587 mm)

Height: 16-3/4" (425 mm)

Depth: 12-3/8" (314 mm)

Weight: 32 lbs (15 kg); Shipping Weight: 40 lbs (18 kg)

Supply Damper: Motorized



### Mounting

Suspended by chains with vibration-isolating springs  
Wall-mounting accessory available (P/N 608575)



### Electrical requirement

120 VAC, 60Hz, 1.3A, 156W

Cord Set: 48" (1219 mm) with ground



### Frost control

Automatic timed recirculation.

Cycles controlled by a temperature sensor when the outdoor temperature drops below 23°F (-5°C)



### Filters

Type : Two MERV6 filters (P/N 612409)

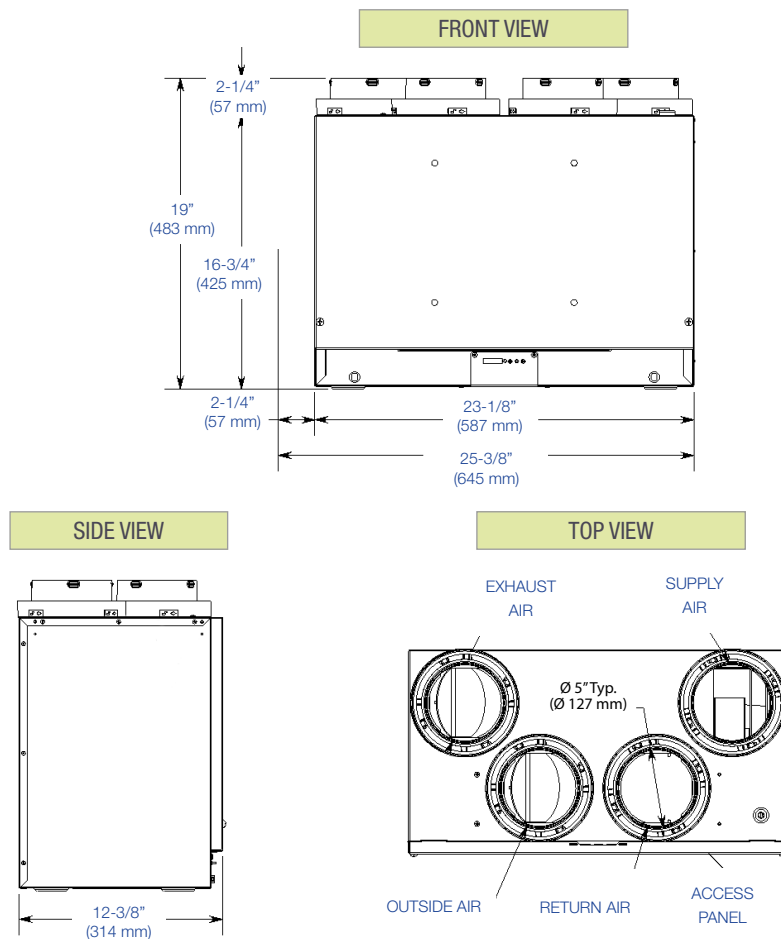
Option : Two MERV13 filters (P/N 612410)



### Blowers

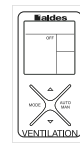
Motorized impellers (backward-inclined)

# Dimensions

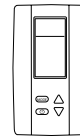


# Controls

Low voltage dry contact (24VAC) for interlock with heating/cooling systems.



Digital Multifunction Control  
(# 611242) and (#611242-FC)



LCD Electronic Multifunction  
Control (P/N 611227)



20/40/60 Minute Timer (P/N  
611228)



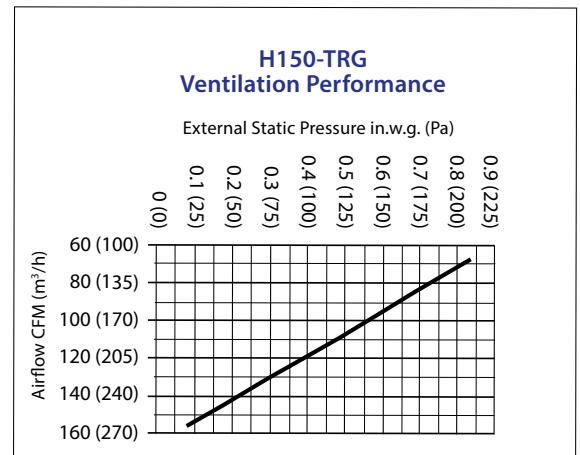
Speed Control (Low/Intermittent/High)  
(P/N 611229)



Mode Control  
(Recirculation) (P/N 611230)

# Performance

Supply Temperature		Net Airflow		Power Consumed (W)	Sensible Recovery Efficiency	Adjusted Sensible Recovery Efficiency
°F	°C	CFM	L/s			
32	0	52	25	44	67%	76%
32	0	64	30	46	65%	72%
32	0	99	47	110	56%	66%
-13	-25	68	32	73	63%	78%



Project:		Architect:	
Location:		Engineer:	
Model #:		Contractor:	
Quantity:		Comments:	
Submitted By:			
Date:			

For more information, contact your Aldes sales advisor, visit [aldes-na.com](http://aldes-na.com), call 1.800.255.7749, or find us on





## PRODUCT DESCRIPTION

Compact size, large performance. The H190-TRG heat recovery ventilator exchanges up to 200 CFM of fresh air at 0.4 in.w.g. (ESP) and recovers heat through its high-efficiency polypropylene core. The H190-TRG has been thoughtfully engineered for simple installation in almost any size of house.

### KEY FEATURES

Electronically and independently adjustable supply and exhaust blowers (FLEXControl)

Gauge ports on the door for fast and reliable airflow readings

Non-dust-loading backward-inclined impellers on totally enclosed motors

Twist-in collars for easy flex-duct attachment

Easy access to core and filters for cleaning

Extremely durable polypropylene core

Recirculating defrost collar snaps into pre-punched area of cabinet for ducting flexibility

# RESIDENTIAL HRV

## H190-TRG

HEAT RECOVERY VENTILATOR

200 CFM at 0.40 in.w.g (ESP)



CORE

UNIT



### Recovery Core

Material: Polypropylene

### Casing

Material: Pre-painted 24-gauge galvanized steel

Drain Connection: Ø 3/8" (Ø 10 mm)

Duct Connections: Ø 6" (Ø 152 mm)

Insulation: Molded EPS

Width: 29-3/16" (741 mm)

Height: 21" (533 mm)

Depth: 15-1/8" (384 mm)

Weight: 46 lbs (21 kg); Shipping Weight: 51 lbs (23 kg)

Supply Damper: Motorized; Exhaust Damper: Gravity



### Mounting

Suspended by chains with vibration-isolating springs



### Electrical requirement

120 VAC, 60 Hz, 1.95 A, 155 W

Cord Set: 48" (1219 mm) with ground



### Frost control

Automatic timed recirculation, fifth port. Cycles controlled by a temperature sensor when outdoor temperature drops below 23°F (-5°C)



### Filters

Type : Aluminum (P/N 683959)

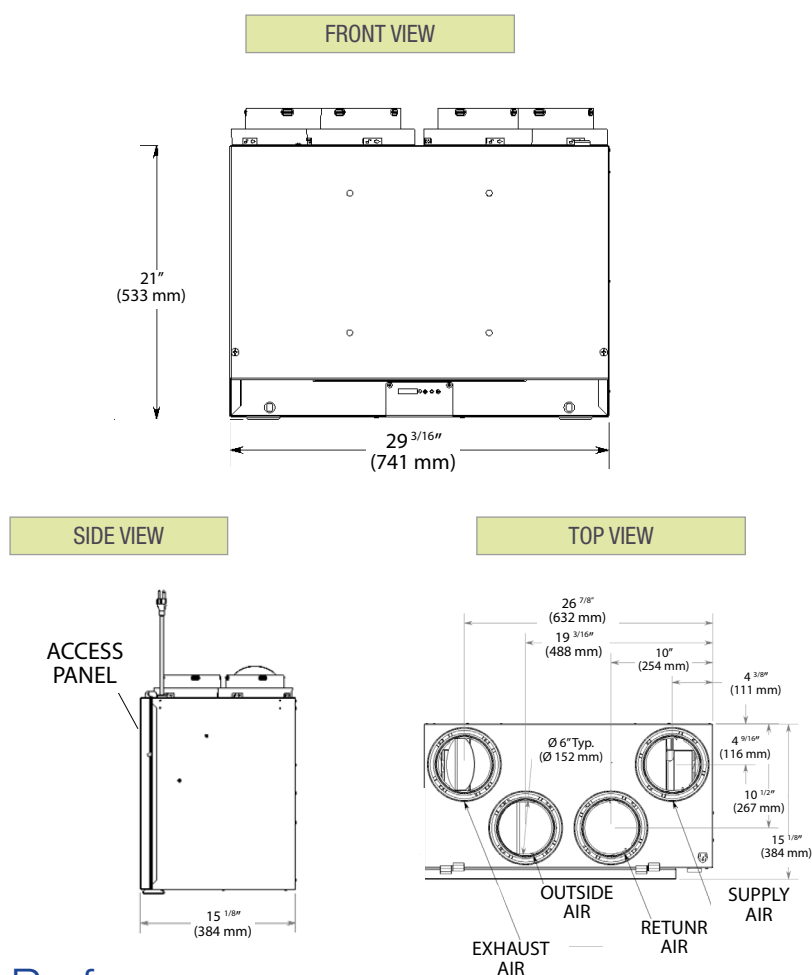
Option : MERV 6 (P/N 683958) or high-efficiency MERV 13 (P/N 683957)



### Blowers

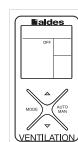
Motorized impellers (backward-inclined)

## Dimensions

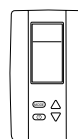


## Controls

Low voltage dry contact (24VAC) for interlock with heating/cooling systems.



Digital Multifunction Control  
(# 611242) and (#611242-FC)



LCD Electronic Multifunction  
Control (P/N 611227)



20/40/60 Minute Timer (P/N  
611228)



Speed Control (Low/Intermittent/High)  
(P/N 611229)

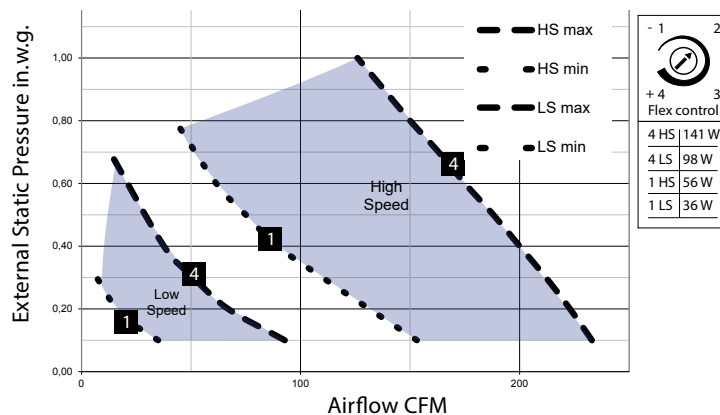


Mode Control  
(Recirculation) (P/N 611230)

## Performance

Supply Temperature		Net Airflow		Power Consumed (W)	Sensible Recovery Efficiency	Adjusted Sensible Recovery Efficiency
°F	°C	CFM	L/s			
32	0	64	30	68	75%	82%
32	0	81	38	70	74%	80%
32	0	120	57	110	68%	75%
-13	-25	74	35	84	66%	70%

### H190-TRG Ventilation Performance



Project:		Architect:	
Location:		Engineer:	
Model #:		Contractor:	
Quantity:		Comments:	
Submitted By:			
Date:			

For more information, contact your Aldes sales advisor, visit [aldes-na.com](http://aldes-na.com), call 1.800.255.7749, or find us on





# ZRT-R

## ZONE REGISTER TERMINALS

### AIRFLOW & ZONE CONTROL

Made in  
USA

WARRANTY  
3 YEARS

Patent  
pending



## Product Description

Aldes patented Zone Register Terminal (ZRT-R)\* are designed to introduce flexibility and demand control to central ventilation systems. The multi-zone ZRT® regulates ventilation without need for individual fans. Each ZRT-R is a combination grille, register box, control damper, and optional flow regulator(s). This unique combination provides up to four different control schemes without the need for expensive pneumatic, electronic, or DDC control systems. To ensure the proper calibration of the damper assembly, do not exceed 1.0 in. w.g. (250 Pa) of differential pressure across the damper door.

When used in central systems, the ZRT-1 model provides on-off control for on-demand ventilation. This allows fan downsizing and promotes energy savings by minimizing necessary fan horsepower and ventilation-induced heating and cooling loads on the building. The optional Constant Airflow Regulator (CAR3) can be installed in the ZRT-1's extended duct collar to place a maximum flow limit on each terminal when activated. The automatic operation of the CAR3 will provide precise balancing to each terminal, compensating for intermittent use of other ZRTs around the building, as well as factors like stack-effect.

The ZRT-2 model is used for combination low-flow continuous indoor air quality ventilation and on-demand high-flow spot ventilation using the same central fan system. This is achieved by integrating a minimum Constant Airflow Regulator (CAR3) directly into the damper assembly. When the ZRT-2 is powered on, the control damper powers open, bypassing the low-flow CAR3 to allow the boost ventilation rate set by the maximum flow CAR3 (when equipped).

## Construction

- Gasketed damper blade ensures a tight seal preventing unwanted air leakage and noise in closed position.
- Constructed of 24-gauge galvanized steel housing for durability.
- 24 VAC, 120 VAC, or 230 VAC actuator motor with spring return damper assembly.
- Painted white extruded aluminum grille; blades fixed at 38°.
- Optional CAR3 constant airflow regulator.

## Key Features

- Provides on-off control for on-demand ventilation.
- Combination low-flow continuous ventilation and on-demand high-flow spot ventilation using the same central fan system (ZRT-2).
- All access for service through grille; no additional access panel required.

## APPLICATIONS

- Occupancy-based control systems for hotels, dormitories and high-rise residential.
- Large and small commercial systems.
- Intermittent ventilation for bathrooms and kitchens.
- ALDES VentZone Systems.

\*U.S. Pat. No. 7,766,734

# How to Specify Aldes: ZRT-R

**Step 1:** Reference the model code below and performance details within this specifications sheet to select the appropriate ZRT-R.

**Step 2:** Determine the **SERIES** required for your specific project.

**NOTE:** The ZRT is available with or without a minimum flow option for application requiring low volume continuous airflows. The minimum flow control equips a CAR3 to provide a balanced minimum airflow rate. Factory calibration of the minimum flow CAR3 is available on request.

**Step 3:** Select the required **SIZE**.

**Step 4:** Select the required motor based on available **POWER**.

**Step 5:** If equipped, select the **MAXIMUM FLOW CONTROL**.

**NOTE:** The different size models have different airflow ranges. See *Airflow Settings and Performance Data* for additional details. Factory calibration of the maximum flow CAR3 is available on request.

## Model Code Example

**ZRT-R-2-4-24**

**PARENT MODEL**

Zone Register Terminal

**APPLICATION**

R: Exhaust

**SERIES**

1: No Minimum Flow Control  
2: With Minimum Flow Control

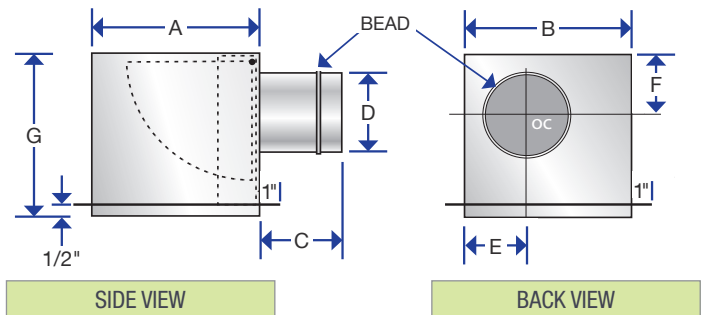
**SIZE**

4: 8" x 8" Grille w/ 4" collar  
6: 10" x 10" Grille w/ 6" collar

**POWER**

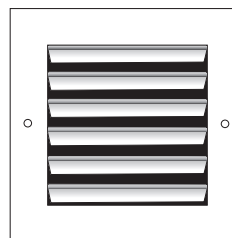
24: 24 V/60Hz  
120: 120 V/60Hz  
230: 230 V/50Hz

## ZRT-R Dimensions



Size	A	B	C	D	E	F	G
4" (100 mm)	8" (203 mm)	8" (203 mm)	4-1/2" (114 mm)	3-7/8" (98 mm)	2-1/2" (64 mm)	3-1/2" (89 mm)	7" (177 mm)
6" (150 mm)	10" (254 mm)	10" (254 mm)	5-1/2" (140 mm)	5-7/8" (149 mm)	3-1/2" (89 mm)	4-1/2" (114 mm)	8-1/2" (216 mm)

### EXHAUST GRILLE



*Optional Finishes: anodized or black.  
Contact Aldes representatives for additional colors.*

## Warranty

The entire unit is guaranteed for 3 years, from date of shipment, against all manufacturing defects, provided the material has been installed & operated per manufacturer's instructions & under normal conditions. Warranty is limited to the repair or replacement of the material upon its return freight paid to our factory. This warranty is not transferable & limited to the original end user.

## Maintenance

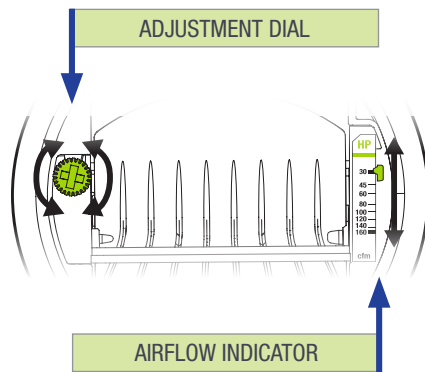
The ZRT-R needs no maintenance when used in normal conditions. If the intended application includes air heavily loaded with grease or dust, access to all components of the assembly is through the removable grille for cleaning.



## Control

The ZRT-R is a normally-closed, spring-return damper mechanism which can be powered by any on-off control device(s). When powered, the control damper will fully open. Upon disconnecting the power, the ZRT integral spring will return the damper to the closed position. The included confirmation switch can be used to monitor ZRT status, or power other devices. Any on-off control device(s) will signal the damper to open fully, providing maximum ventilation control.

Optional Constant Airflow Regulator used to regulate airflows to constant levels in response to duct pressure. Use the CAR3 to control for both maximum and minimum flow rates.



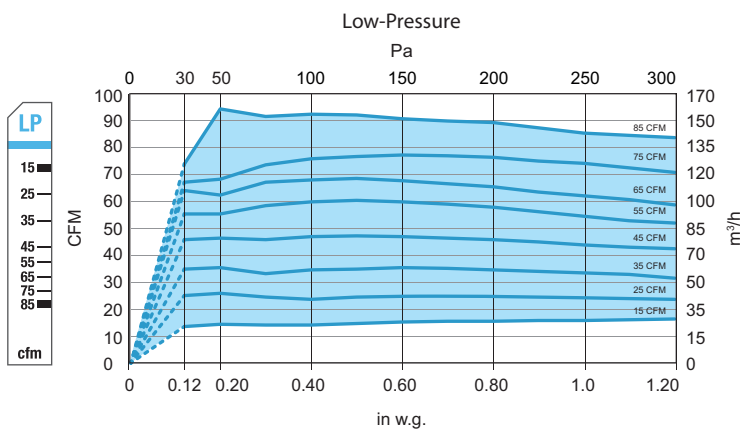
## Airflow Settings & Performance Data

When equipped, the CAR3(s) installed in the ZRT can be factory calibrated, or field set as necessary per the specified airflow rates. The ZRT-2 is equipped with a minimum flow low-pressure, 4" CAR3 (model CAR3L4R4) as standard for both the 4" and 6" ZRTs. When equipped, the maximum flow regulator on the 4" ZRT is a low-pressure, 4" CAR3 (model CAR3L4R4), and the 6" ZRT is a low-pressure, 6" CAR3 (model CAR3L6R6).

Airflow rate can be set or adjusted by rotating the dial from either side. The airflow indicator will move to show the selected CFM. The airflow label has multiple defined setpoints, but the unique adjustment mechanism of the CAR3 allows for infinite adjustability between the minimum and maximum limits.

Performance charts found in the specifications sheet reflect this data, with the available range (shaded) and marked setpoints (lines). The CAR3 will maintain the airflow accurately to within +/- 10% of the indicated lines below for each marked setpoint. At the higher airflow rates, the minimum pressure required to achieve the selected airflow may exceed 0.12 in. w.g.

**ZRT with CAR3 4" DIAMETER (100 mm)**





## Recommended Specification

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Furnish and install model ZRT-R Zone Register Terminals by ALDES North America. The exhaust terminals shall be of sizes and capacities as scheduled, and located per the drawings. The terminal casing shall be minimum 24-gauge G90 galvanized steel with an integral steel duct collar that allows attachment of both rigid and flexible ducting. The collar shall be sized to allow full insertion of a model CAR3 Constant Airflow Regulator for maximum flow control, but without the regulator extending into attaching duct. All terminals must be listed per UL 507 standards and carry the UL or ETL mark indicating compliance. Each ZRT-R shall include painted aluminum grille and all necessary mounting brackets and hardware.

The primary air volume mechanism shall be a single-blade damper operated by a long-life 24 VAC, 120 VAC, or 230 VAC disconnecting-type drive motor with permanently lubricated bearings and normally closed spring-return closure. When fully open, the damper shall rotate out of the air stream as a single piece. A permanently fixed perimeter gasket seal shall be provided to prevent air noise and leakage at the closed position. The ZRT-R must be capable of overcoming a minimum of 1.0 in. w.g. (250 Pa) of differential pressure across the damper door. The entire damper assembly and all operable components shall be accessible or capable of being removed for maintenance or cleaning through the grille and without disconnecting the duct.

Where indicated on the drawings or schedule, a minimum airflow CAR3 shall be incorporated into the damper assembly. The control device shall respond to changes in duct pressure to maintain the specified flow rate at a constant level. Mechanical damper stops for balancing are not acceptable. Where a maximum flow is indicated, a CAR3 shall be installed in the terminal's duct collar. Adjustment of airflow setpoint on either the minimum or maximum flow CAR3 shall be possible without removal from the assembly. Installation shall be per all applicable codes and manufacturer's instructions.



# RESIDENTIAL HRV/ERV Controls

For Use with VentZone® Systems

PRODUCT  
SPECIFICATIONS  
& TECHNICAL  
DATA

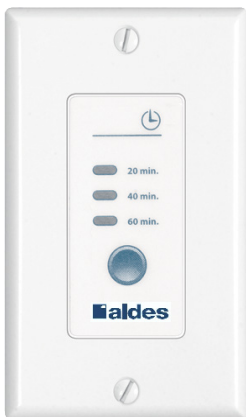
These controls allow you to easily activate a variety of functions at the touch of a button. Each control fits inside any 2" x 4" service box. All controls include retaining screws and a white deco wall plate.

## Digital Multifunction Control (P/N 611242)



- Complete control over HRV/ERV:
- Dehumidistat mode
- ECO Mode (low-speed air exchange for 20 minutes of every hour)
- High Occupancy Mode (high-speed air exchange for 1, 2, or 4 hours when more people are in the space)
- Air exchanger maintenance indicator
- Relative humidity display
- 1" x 1" Liquid-crystal display
- Blue LED backlight (configurable as a nightlight)
- Compatible with 20/40/60 Minute Timer (P/N 611228)
- 24 VAC
- Fits inside 2" x 4" service box
- Includes retaining screws and white Decora™-style faceplate

## 20/40/60 Minute Timer (P/N 611228)



- Activates the HRV/ERV to operate on high-speed mode for 20, 40, or 60 minutes
- Works with Digital Multifunction Control (P/N 611242)
- 24 VAC
- Fits inside 2" x 4" service box
- Includes retaining screws and white Decora™-style faceplate

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American ALDES Ventilation Corporation • 4521 19th Street Court East, Suite 104 • Bradenton, FL 34203 – USA  
941.351.3441 • 800.255.7749 • 941.351.3442 (fax) • [info@americanaldes.com](mailto:info@americanaldes.com) • [www.aldes.us](http://www.aldes.us)