



# RESIDENTIAL SYSTEM SOLUTIONS

## VentZone® Systems

### VentZone® Zoned IAQ with Heat Recovery Kits

PRODUCT  
SPECIFICATIONS  
& TECHNICAL  
DATA

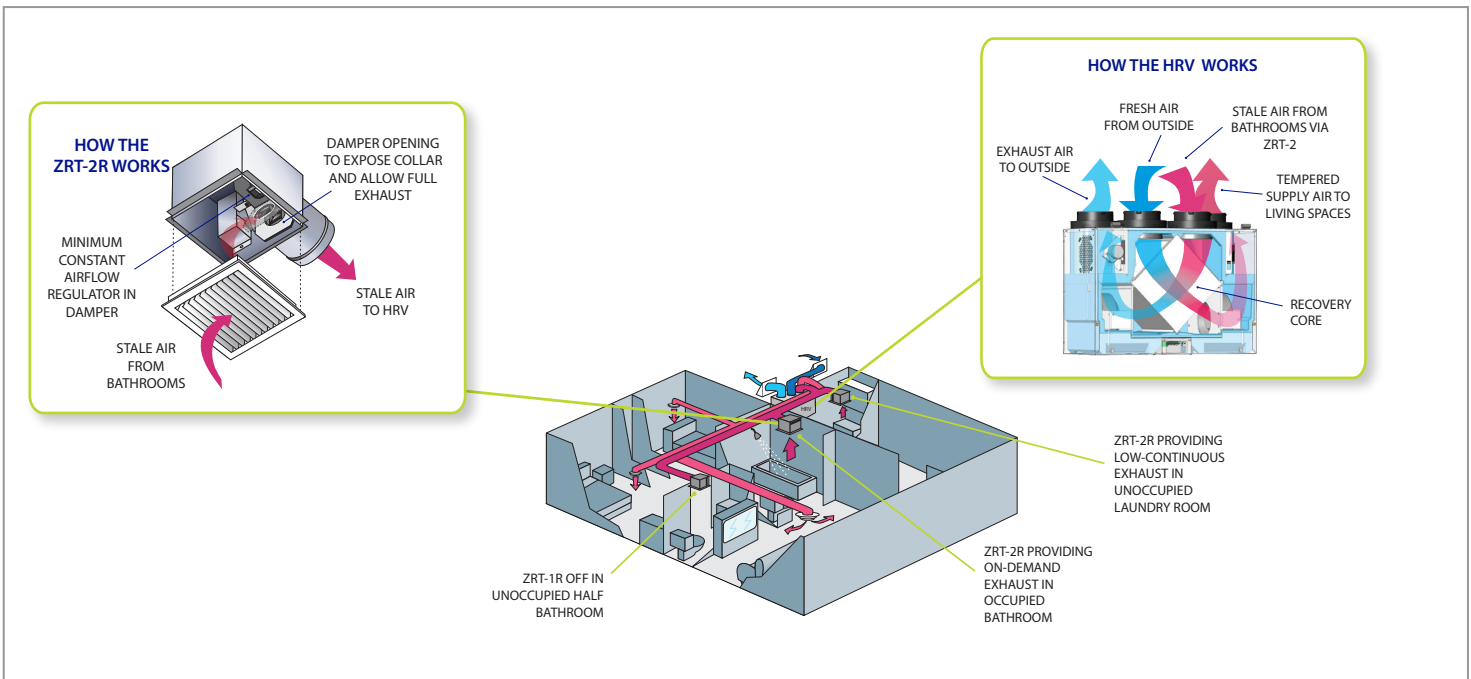
VentZone® Zoned IAQ Kits with Heat Recovery combine a Standard Residential Heat Recovery Ventilator (HRV) with residential Zone Register Terminals (ZRT® - R) for continuous IAQ exhaust and on-demand boost exhaust. Each ZRT® is installed in one bathroom in the house. These kits transfer sensible energy 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





STANDARD RESIDENTIAL  
**H150-TRG**  
Heat Recovery Ventilator  
For VentZone® Systems

PRODUCT  
SPECIFICATIONS  
& TECHNICAL  
DATA



#### PRODUCT DESCRIPTION

Compact size, large performance – the H150-TRG heat recovery ventilator produces approximately **142 CFM** at 0.20 in.w.g (ESP) and recovers heat through its high-efficiency polypropylene core. 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.

The H150-TRG has two exclusive features. EvacMAX™ provides on-demand boost for maximum ventilation. With FLEXControl, airflow circuits can be calibrated electronically, eliminating the need for resistance-inducing balancing dampers and improving overall efficiency.

#### KEY FEATURES

- ENERGY STAR® qualified (Canada)
- Damage-free packaging protects the unit in transit and makes it easy to remove it from the carton without damaging the collars
- Electronically and independently adjustable supply and exhaust blowers (FLEXControl)
- Gauge ports on the door for fast and reliable airflow readings
- Twist-in collars for easy flex-duct attachment
- Non-dust-loading backward-inclined impellers on totally enclosed motors
- Snap-out motor decks
- Easy access to core and filters for cleaning
- Extremely durable polypropylene core
- Standard MERV 6 filters
- Multiple low-voltage controller options
- Recirculating defrost collar snaps into pre-punched area of cabinet for ducting flexibility
- Compatible with third-party controls, such as smart thermostats.

#### 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)

#### RECOVERY CORE

Material: Polypropylene

#### BLOWERS

Quantity: 2  
Type: Motorized impellers (backward-inclined)

#### ELECTRICAL REQUIREMENTS

120 VAC, 60 Hz, 1.3 Amps, 156 W  
Cord Set: 48" (1219 mm) with ground

#### CONTROLS

Low voltage terminal strip (24VAC) for:

- 20/40/60 Minute Timer (P/N: 611228)
- Digital Multifunction Control (P/N: 611242)

#### HVAC FAN INTERLOCK

Onboard dry contact connection to allow direct interlock with a forced air system. Ensures proper air distribution during ventilation cycles when air exchanger is connected to forced air system ductwork.

#### FROST CONTROL

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

#### FILTERS

Quantity: 2  
Type: MERV 6 (P/N: 612409)

#### WARRANTY

Core Assembly: Limited lifetime warranty  
All Other Covered Components: Limited 5-year warranty

#### APPROVALS

Meets Standards:

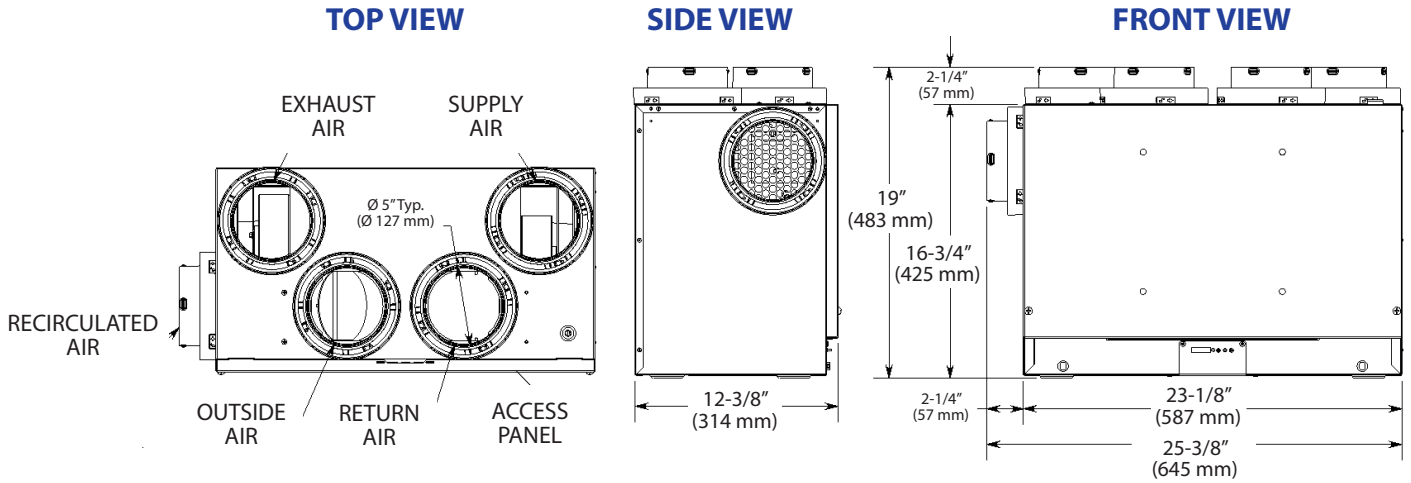
- C22.2 no113 and UL 1812
- ENERGY STAR® qualified (Canada)



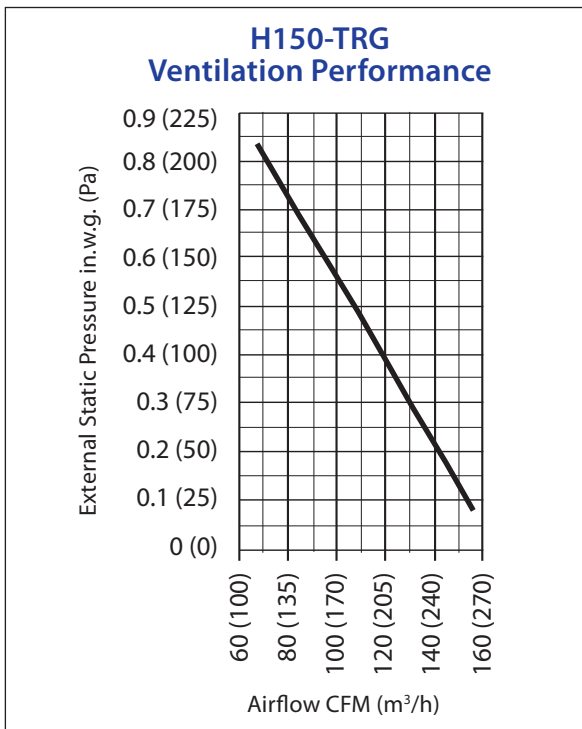
Intertek



# Dimensions



# Performance



Recovery Performance						
Supply Temperature		Net Airflow		Power Consumed (W)	Sensible Recovery Efficiency	Apparent Sensible Effectiveness
°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:			



# STANDARD RESIDENTIAL H190-TRG Heat Recovery Ventilator For VentZone® Systems

PRODUCT  
SPECIFICATIONS  
& TECHNICAL  
DATA



## PRODUCT DESCRIPTION

Compact size, large performance – the H190-TRG heat recovery ventilator produces approximately **199 CFM** 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 small businesses and spacious houses.

The H190-TRG has two exclusive features. EvacMAX™ provides on-demand boost for maximum ventilation. With FLEXControl, airflow circuits can be calibrated electronically, eliminating the need for resistance-inducing balancing dampers and improving overall efficiency.

## KEY FEATURES

- ENERGY STAR® qualified (Canada)
- Electronically and independently adjustable supply and exhaust blowers (FLEXControl)
- Gauge ports on the door for fast and reliable airflow readings
- Removable top-mounted collars
- Twist-in collars for easy flex-duct attachment
- Non-dust-loading backward-inclined impellers on totally enclosed motors
- Easy access to core and filters for cleaning
- Extremely durable polypropylene core
- Optional high-efficiency filters
- Multiple low-voltage controller options
- Recirculating defrost collar snaps into pre-punched area of cabinet for ducting flexibility
- Compatible with third-party controls, such as smart thermostats.

## CASING

Material: Pre-painted 24-gauge galvanized steel  
Drain Connection: Ø 3/8" (Ø 10 mm)  
Duct Diameter: Ø 6" (Ø 152 mm)  
Insulation: 1" (25 mm) Fiberglass with FSK  
Width: 29-5/16" (745 mm)  
Height: 19-7/16" (494 mm)  
Depth: 15-11/16" (398 mm)  
Weight: 50 lbs (23 kg); Shipping Weight: 56 lbs (25 kg)  
Supply Damper: Motorized; Exhaust Damper: Gravity

## MOUNTING

Suspended by chains with vibration-isolating springs

## RECOVERY CORE

Material: Polypropylene

## BLOWERS

Quantity: 2  
Type: Motorized impellers (backward-inclined)

## ELECTRICAL REQUIREMENTS

120 VAC, 60 Hz, 1.8 A, 216 W  
Cord Set: 48" (1219 mm) with ground

## CONTROLS

Low voltage (24VAC) for

- 20/40/60 Minute Timer (P/N 611228)
- Digital Multifunction Control (P/N 611242)

## HVAC FAN INTERLOCK

Onboard dry contact connection to allow direct interlock with a forced air system. Ensures proper air distribution during ventilation cycles when air exchanger is connected to forced air system ductwork.

## FROST CONTROL

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

## FILTERS

Quantity: 2  
Type: Aluminum (P/N 612261)  
Optional: Carbon (P/N 612262), MERV 6 (P/N 612408) or high-efficiency MERV 13 (P/N 612263)

## WARRANTY

Core Assembly: Limited lifetime warranty  
All Other Covered Components: Limited 5-year warranty

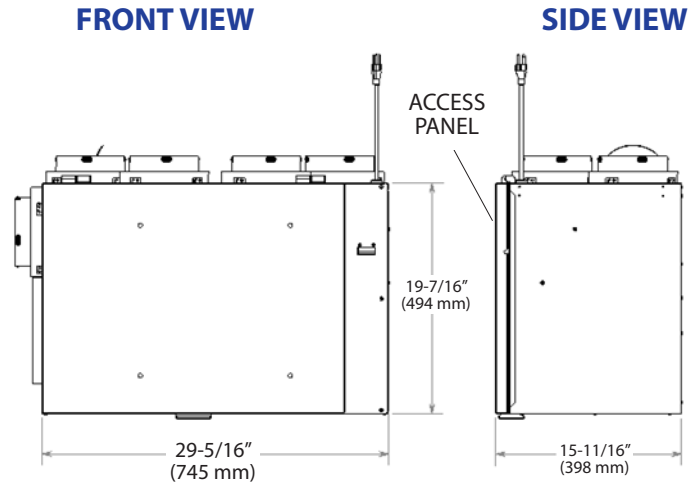
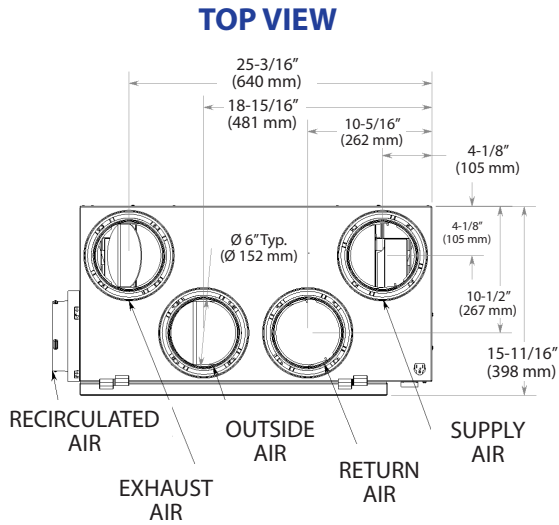
## APPROVALS

Meets Standards:

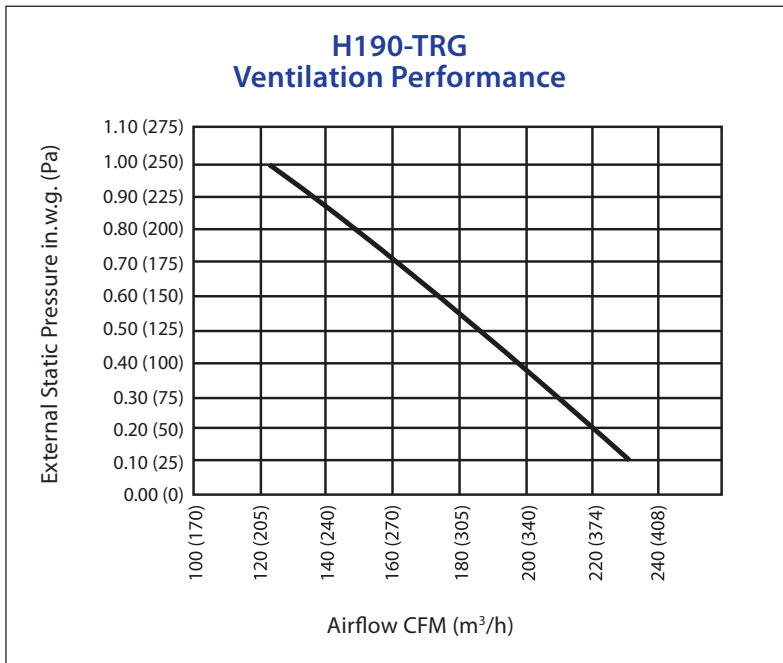
- C22.2 no113 and UL 1812
- ENERGY STAR® qualified (Canada)



# Dimensions



# Performance



**Energy Performance**

Supply Temperature		Net Airflow		Power Consumed (W)	Sensible Recovery Efficiency	Apparent Sensible Effectiveness
°F	°C	CFM	L/s			
32	0	64	30	68	75%	84%
32	0	81	38	70	74%	81%
32	0	120	57	110	68%	76%
-13	-25	73	34	84	67%	86%



<b>Project:</b>		<b>Architect:</b>	
<b>Location:</b>		<b>Engineer:</b>	
<b>Model #:</b>		<b>Contractor:</b>	
<b>Quantity:</b>		<b>Comments:</b>	
<b>Submitted By:</b>			
<b>Date:</b>			



# AIRFLOW & ZONE CONTROLS

## ZRT<sup>®</sup>-R

### Zone Register Terminals - Residential

PRODUCT  
SPECIFICATIONS  
& TECHNICAL  
DATA

#### GENERAL

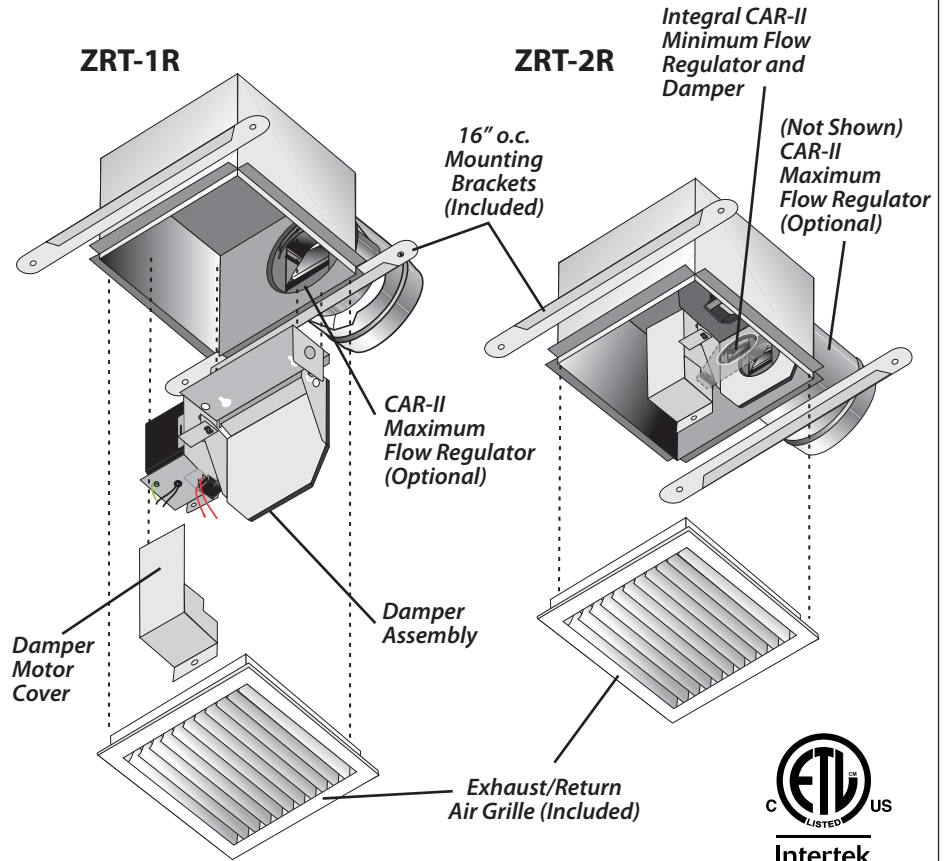
American Aldes patented\* Zone Register Terminals (ZRT<sup>®</sup>-R) are designed to introduce flexibility and on-demand control to central ventilation systems. Used in single family systems, the ZRT<sup>®</sup>-R zonally regulates ventilation without the need for individual fans. Each ZRT<sup>®</sup> 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.

By replacing static grilles in central exhaust systems, the ZRT-1R model provides on-off control for on-demand ventilation. This allows central fan downsizing and promotes energy savings by minimizing necessary fan horsepower and ventilation-induced heating and cooling loads on the building. The automatic operation of the CAR-II will prevent noise and excessive energy consumption caused by over-ventilation, as well as fluctuations in airflow rates as total system pressure varies.

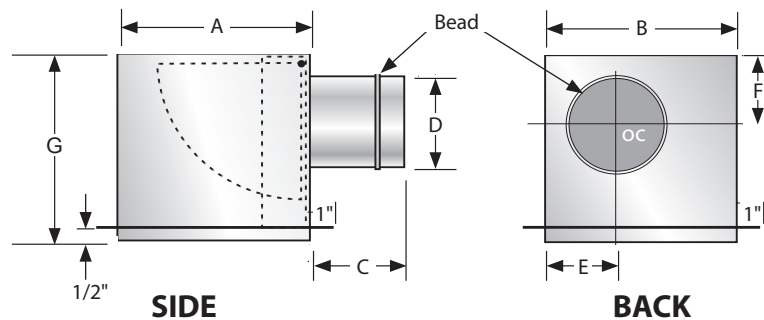
The ZRT-2R model can be used for combination low-flow indoor air quality ventilation and on-demand high-flow spot ventilation using the same central fan system. This is achieved by integrating a minimum Constant Airflow Regulator (CAR-II) directly into the damper sub-assembly. With the damper completely closed, the factory-calibrated CAR-II will still allow steady, low-continuous ventilation during fan operation (consult the CAR-II specifications sheet for sizing and specifying information). When other ZRT<sup>®</sup>-R are opened for on-demand control of spot ventilation, the closed ZRT-2R will maintain the specified low-continuous rate through the minimum CAR-II. By opening the ZRT-2Rs control damper, the low-flow CAR-II is removed from the air stream, allowing full maximum-boost ventilation.

The ZRT<sup>®</sup>-R can activate fans used in central exhaust ventilation systems. Through the use of an integral damper end-switch, the ZRT<sup>®</sup>-R can trigger the remote fan to start. This provides the distinct advantage of allowing the fan to only ventilate specific spaces when called upon, without the need for separate fans

## ZRT<sup>®</sup>-R Models



## ZRT<sup>®</sup>-R Dimensions



SIZE	A	B	C	D	E	F	G
4"	8"	8"	4-1/2"	3-7/8"	2-1/2"	3-1/2"	7"
6"	10"	10"	5-1/2"	5-7/8"	3-1/2"	4-1/2"	8-1/2"

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

in each space. This is especially important in residential bath exhaust applications using popular in-line and multi-port fans, where low noise and a single exterior vent penetration are desired.

**CONSTRUCTION**

The ZRT®-R is constructed of a heavy-gauge galvanized steel housing for durability. Units are designed for installation in all ceiling types, with an overall height that allows location between floors using 10-inch or larger joist construction. The extended duct collar allows for simple attachment to rigid or flexible ducting. An integral steel mounting flange assembly encapsulates the ceiling opening and allows for simple attachment of American Aldes white all-aluminum flush-mount exhaust/return grilles.

The damper assembly is provided with a long-life 24 VAC or 120 VAC actuator motor with spring return. A damper end-switch is available to allow signaling of a remote fan to activation. The gasketed tight-seal damper blade prevents air leakage and noise in the closed position. A solid one-piece damper that pivots on permanently lubricated bearings is used to support the blade assembly and to prevent deflection caused by motor torque and exposure to air velocity. The entire damper assembly can be installed or removed from below the register box without disconnecting the duct or removing the box from the ceiling.

**CONTROL**

The ZRT®-R can be activated using a variety of control options, on-off or timer switches, dehumidistats, occupancy sensors, or time-clock switches. Any on-off control device(s) will signal the damper to open fully, providing maximum ventilation control. Upon disconnecting the power, the ZRT®-R integral spring will return the damper blade to its normally closed position.

A Zone Terminal Fan Control Center (model ZTC) is available for use with up to (8) 24 VAC ZRT®-R.

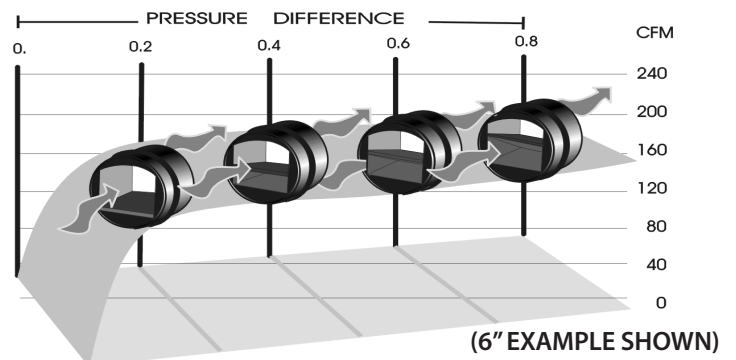
Airflow control for both maximum and minimum flow rates is achieved using optional, integral, dynamic Constant Airflow Regulators (CAR-II). The CAR-II is an automatic modulating orifice that regulates airflows to constant levels in response to duct pressure. They require no additional power supply and are ideally suited for use in zone-controlled systems where duct pressures can fluctuate in response to the opening and closing of dampers.

**MAINTENANCE**

The ZRT®-R needs no maintenance when used in normal conditions. If the intended application includes air heavily loaded with grease or dust, a filtered grille is recommended.

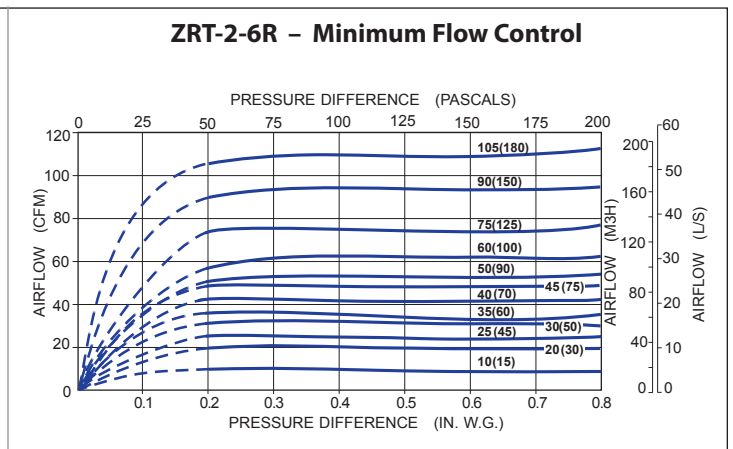
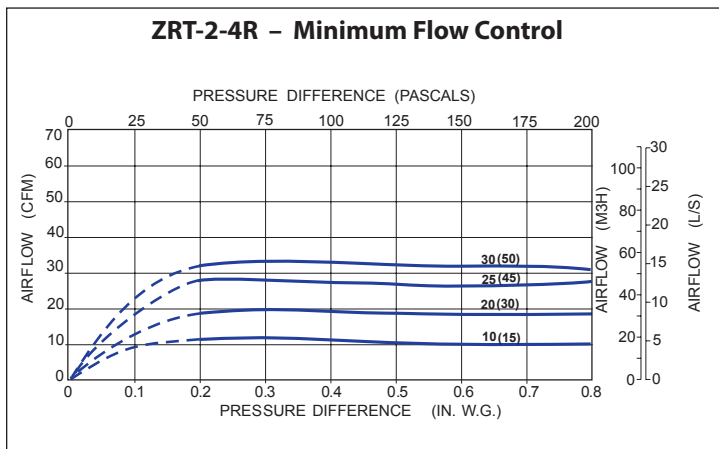
# How the CAR-II Works

Constant airflow is achieved by controlling the free area through the device. At minimum static pressure, the aero-wing is parallel to the air stream. As the static pressure increases, the aero-wing lifts, reducing the amount of free area through the regulator. At the same time, higher static pressure increases the air velocity resulting in CONSTANT AIRFLOW. This occurs regardless of pressure differences in the range of 0.2 to 0.8 in. w.g. (50 to 200 Pa). The air velocity in the duct is in the range of 60 to 700 ft/min. (0.3 to 3.5 m/s).



## ZRT®-R Airflow Regulator Performance

Performance curves reflect airflow measurements taken at 68°F (20°C) at 1 atmosphere pressure. The CAR-II is capable of maintaining constant airflow within +/- 10% of scheduled flow rates (15% for units 15 CFM or less) within the operating range of 0.2 to 0.8 in. w.g. differential pressure.





# RESIDENTIAL HRV/ERV Controls

For Use with VentZone® Systems

PRODUCT  
SPECIFICATIONS  
& TECHNICAL  
DATA

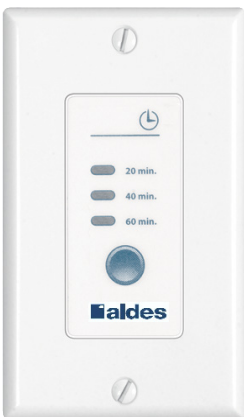
These controls allow you to easily activate a variety of functions at the touch of a button. Each control fits inside any 2" x 4" service box. All controls include retaining screws and a white deco wall plate.

## 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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