RESIDENTIAL SYSTEM SOLUTIONS

VentZone® Systems

VentZone® IAQ Continuous Exhaust Ventilation Kits

PRODUCT SPECIFICATIONS & TECHNICAL DATA

American Aldes VentZone® IAQ systems are the only central ventilation systems available that provide precisely regulated whole-house Indoor Air Quality and centralized bathroom fans in a single, highly effective and efficient ventilation kit. Each kit has the capability to provide low, continous IAQ ventilation and zone-based on-demand "boost" ventilation. American Aldes fans are designed to meet ASHRAE 62.2, ENERGY STAR with IAP, LEED for Homes, and California Title 24 (CAL GREEN) standards.

VentZone® IAQ Continuous Exhaust Ventilation Kits

Part Number	Kit	Number of Bathrooms	Ventilator	6" ZRT-2	4" ZRT-2
					
39 200	VZ-IAQ-P2	2	MPVS150 Fan	1	1
39 201	VZ-IAQ-P3	3	MPVS150 Fan	1	2
39 202	VZ-IAQ-P4	4	MPVS150 Fan	1	3

MPVS150

ZRT-2

29 010

29 011

Optional Control Accessories for VentZone® Kits (sold separately)

Part Number	Description
29 010	Electronic Push-Button Timer (15/30/60/120 minutes for ZRT Operation)
29 011	Electronic Fan/Light Timer (15/30/60/120 minutes for separate ZRT/Light Operation)

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 • www.aldes.us

VENTERGY® SERIES FANS

MPVS150 & MPVS200

Multi-Port Exhaust Ventilators

PRODUCT SPECIFICATIONS & TECHNICAL DATA

ENERGY STAR

VENTERGY® SERIES FANS

Ventergy® Series Multi-Port Ventilators (MPVS) are highly versatile, continuous-duty rated fan units for residential and light commercial applications. They meet ENERGY STAR efficiency criteria for low energy consumption. The most popular use for the fan is central exhaust ventilation of bathrooms, kitchens, laundry rooms, and other rooms where humidity is a controlling factor since the fan has a single exhaust discharge duct directly to the outdoors.

The principal advantage of the MPVS is the elimination of standard noisy bath fans, with the benefits of quiet operation and reduced penetrations to the exterior of the building. With the increasingly tight construction of energy-efficient buildings, there is a growing need for mechanical ventilation for indoor air quality. These fans are designed to serve this purpose by providing effective bathroom ventilation with the ability to run intermittently or continuously. The quiet, energy-efficient, permanent-split-capacitor type of external-rotor motor has permanently sealed bearings that provide many years of maintenance-free performance.

CONSTRUCTION

The MPVS is constructed of heavy-gauge galvanized steel to prevent corrosion caused by moisture. The cabinet is internally lined with acoustic, closed-cell foam insulation that acts as a vapor barrier. This allows for installation directly above living spaces or in unheated plenum spaces without concern for noise or condensation.

FAN AND MOTOR

The fan motor is an energy-efficient, permanent-split-capacitor type of external-rotor design. Totally sealed to protect against moisture and contaminants, it is approved for use to remove steam and moisture in kitchen and bath areas. The motor incorporates permanently lubricated and sealed bearings and automatic-reset thermal-overload protection. It is designed and certified for continuous duty or intermittent operation.

The fan uses a backward-inclined impeller design that prevents dust from collecting on the blades. Each fan is statically and dynamically balanced in the factory to eliminate vibration and ensure quiet operation. The entire motor and fan assembly is mounted on a drop-down hinged access panel for simple service and inspection, and it can be removed from the fan without disassembling the duct connections.

CONTROLS

The fans can be operated manually or automatically by a programmable timer or dehumidistat. They may also be operated in conjunction with a variable speed control.

LOCATING AND INSTALLING THE FAN

The compact dimensions and versatile mounting options permit installation above drop ceilings, between ceiling joists, or within a small soffit location. The fan can be installed horizontally or vertically.

ACCESSORIES

Accessories are available to accommodate two-to-five bathrooms. Accessories are included with the MPVS150 only when ordered as a VentZone® VZ Zoned Intemittent Bath Exhaust Kit or a VentZone® IAQ Continous Exhaust Ventilation Kit. Accessories are included with the MPVS150 or MPVS200 only when ordered as a Multi-Port Bath Fan Kit (MBFK).

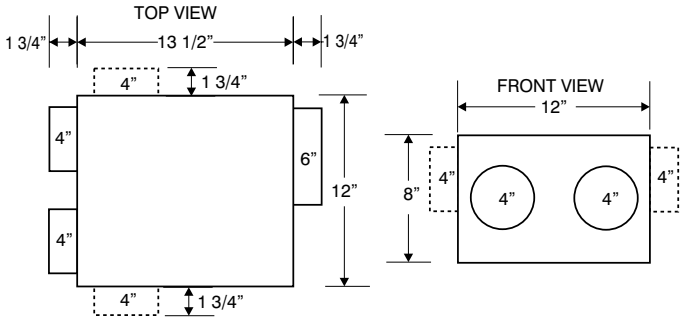
AIRFLOW BALANCING

The flow rates can be set with manually adjustable grilles, such as Aldes Algrilles, or with pre-set ALDES Constant Airflow Regulators (sold separately) and fixed grilles with large free area.

PERFORMANCE

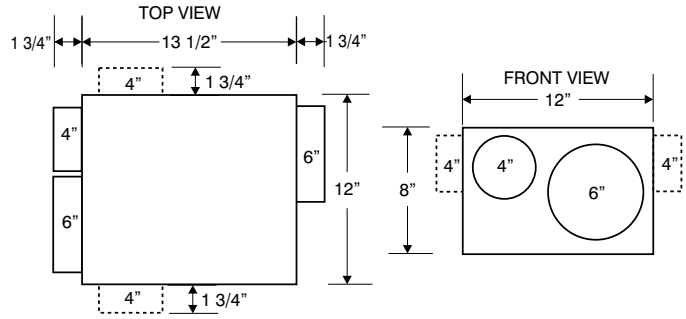
Fan airflow and energy performance shall be tested in accordance with HVI standards.

DUCT CONFIGURATIONS 414, 424, 434



NOTE: Location(s) of field-installed 4" side-tap collar(s) shown as dashed lines.

DUCT CONFIGURATIONS 614, 624, 634



NOTE: Location(s) of field-installed 4" side-tap collar(s) shown as dashed lines.

Performance

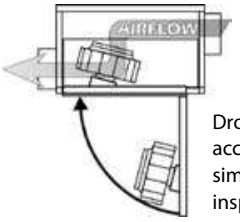
ELECTRICAL AND AIRFLOW PERFORMANCE*											
Model	Nominal RPM	HP	Volts	Watts at 0.2" Ps	MAX Amps	CFM vs. Static Pressure					
						0"	0.2"	0.4"	0.6"	0.8"	1.0"
MPVS150	2200	0.06	120	41	0.34	211	171	134	102	72	**45**
MPVS200	2960	0.08	120	63	0.53	276	251	224	197	171	**145**

*Certified airflow rating at 0.2" w.g. is derated from actual test results per HVI Certification procedure 920.

ELECTRICAL DATA – MPVS150 & MPVS200

120 V, 60 Hz., 0.34/0.53 Amp., 41/63 W Max., 2200/2960 RPM

Above ratings are intended for sizing electrical wiring only. Actual consumption will be lower.



Drop-down hinged access panel for simple service and inspection

AIRFLOWS AND DUCT LENGTHS

AIRFLOW CFM	INTAKE DUCT TO FAN Recommended Max. Duct Length from Grille to Fan (ft.)			
	4" SMOOTH	4" FLEXIBLE	6" SMOOTH	6" FLEXIBLE
50	50	**30**	400	**250**
60	40	**20**	280	**175**
80	--	--	170	**95**
100	--	--	110	**70**

TOTAL EXHAUST RATE CFM	FAN DISCHARGE DUCT Assumes low-pressure drop-vent cap		FOR EACH ELBOW DEDUCT
	6" SMOOTH	4" FLEXIBLE	
175	20 ft.	10 ft.	4" Diameter = 4 ft. 6" Diameter = 7 ft.
200	15 ft.	8 ft.	
225	13 ft.	7 ft.	

*This table should only be used as a general guide. Actual duct length allowances may be longer on some models. Contact the factory for assistance.
NOTE: 3" Ducting may be substituted to permit installation in partition walls. Smaller diameter ducting has increased resistance to airflow. For each foot of 3" ducting substituted for 4" diameter duct, reduce the allowable duct length by 3 feet. If duct runs longer than permitted in the table above are required, use smooth ducting and/or increase the diameter.

Typical Specification

MULTI-PORT EXHAUST FAN
American ALDES Ventilation Corporation, Florida (1-800-255-7749). ALDES model MPVS150 or MPVS200.

GENERAL
The fan shall be continuous-duty type with a backward-inclined centrifugal blower housed in a multi-port enclosure specifically designed for residential and commercial use. The fan shall be safety tested per UL standards and bear the agency listing certified mark, and be approved for use over cooking areas and tub/shower enclosures when used with GFCI branch circuiting. The fan must meet ENERGY STAR performance criteria for energy efficiency and bear the ENERGY STAR mark.

CONSTRUCTION
The housing shall be of a minimum 22-gauge steel with a G90 galvanized coating or baked enamel paint finish. All interior surfaces of the housing shall be lined with non-porous, closed-cell foam insulation to allow installation above ceilings and in unheated spaces without concern for condensation or absorption of water. The unit shall not exceed 8-1/2" in total height and 14-1/2" in width to allow mounting within ceiling/floor joist spaces. The blower shall be external-rotor motor centrifugal type with backward-inclined impeller blades. The motor and blower assembly shall be mounted on a drop-down hinged access panel so as to permit removal from the housing without disassembly of the ducting connections. The intake duct connections shall be dimensioned so as to accept constant airflow regulators with a secure fit. The intake duct dimensions shall be nominal 4" or 6" depending on model. The discharge duct dimension shall be nominal 6" round. The fan housing and intake duct collar(s) shall be designed to allow removal and repositioning in the field to accommodate different installation requirements. Mounting brackets shall be provided for attachment to the fan housing, allowing vertical or horizontal installations.

MOTOR
The motor shall be direct-drive, external-rotor, high-efficiency, PSC type with permanently lubricated and sealed ball bearings. The motor shall have automatic thermal-overload protection and must be totally sealed to protect against contaminants and moisture. Naturally vented air-over motors are not acceptable.

ELECTRICAL
The fan shall operate on 115V, 50/60 Hz, and single-phase current. The motor shall be listed for use with a solid-state speed control.

WARRANTY

The entire unit is guaranteed for three (3) years, from date of shipment, against all manufacturing defects, provided the material has been installed and operated per manufacturer's instructions and 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 and is limited to the original end user.

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AIRFLOW & ZONE CONTROLS

ZRT-1 & ZRT-2

Zone Register Terminal

PRODUCT SPECIFICATIONS & TECHNICAL DATA

GENERAL

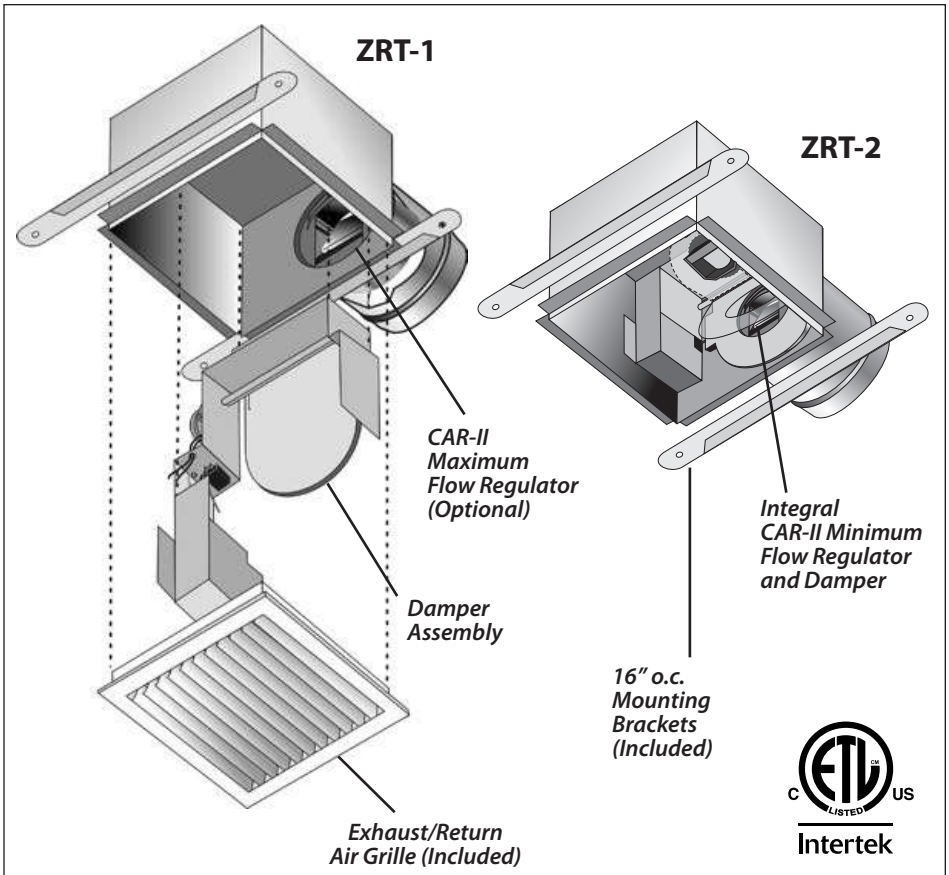
American ALDES ZRT Series Zone Control Terminals are designed to introduce flexibility and dynamic control to central ventilation systems. Used in both large and small systems, the ZRT regulates ventilation without the need for individual fans. Each ZRT is a combination grille, register box, control 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.

By replacing static grilles in large central exhaust systems, the ZRT-1 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 optional model CAR-II Constant Airflow Regulator can be installed in the ZRT-1's extended duct collar to place a maximum flow limit on each terminal. 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.

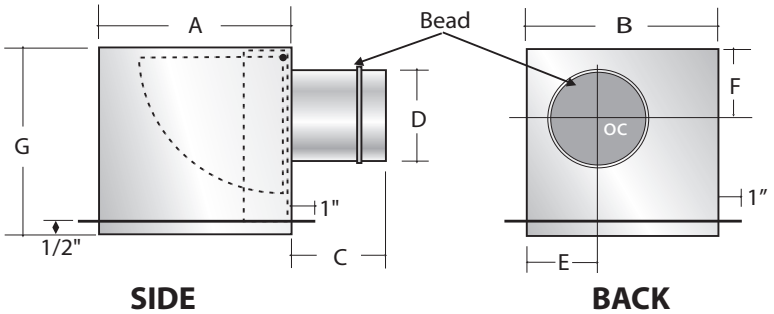
The ZRT-2 model can also be used for combination low-flow indoor air quality ventilation and on-demand high-flow spot ventilation using the same central fan system. This is achieved by integrating a CAR-II minimum airflow controller directly into the damper sub-assembly. With the damper completely closed, 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 terminals are opened for on-demand control of spot ventilation, the closed ZRT-2s will maintain the specified low continuous rate through the CAR-II minimum flow control. By opening the ZRT-2's control damper, the low-flow regulator is removed from the air stream, allowing either controlled (optional using a second CAR-II) or full maximum-boost ventilation.

The ZRT series terminals can themselves activate fans used in smaller central exhaust ventilation systems. Through the use of an integral damper end-switch, the ZRT can

ZRT Models



ZRT 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"

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 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

All ZRT Zone Control Terminals are constructed of a heavy-gauge galvanized steel housing for durability. The 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, and insertion of an optional CAR-II constant airflow regulator for maximum flow control. An integral steel mounting flange assembly encapsulates the ceiling opening and allows for simple attachment of American ALDES all-aluminum or steel flush-mount grilles.

The damper assembly is provided with a long-life 24V or 120VAC actuator motor with spring return. An optional damper end-switch is available to control signaling of a remote fan to activation. The gasketed tight seal damper blade prevents air leakage and noise in the closed position. A solid through-blade damper shaft 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 series terminals can be activated using a variety of control options, including on-off or timer switches, dehumidistats, occupancy sensors, or time-clock switches. Any on-off control device(s) will signal the damper to go fully open, providing maximum ventilation control. Upon disconnecting the power, the ZRT's integral spring will return the damper blade to its normally closed position.

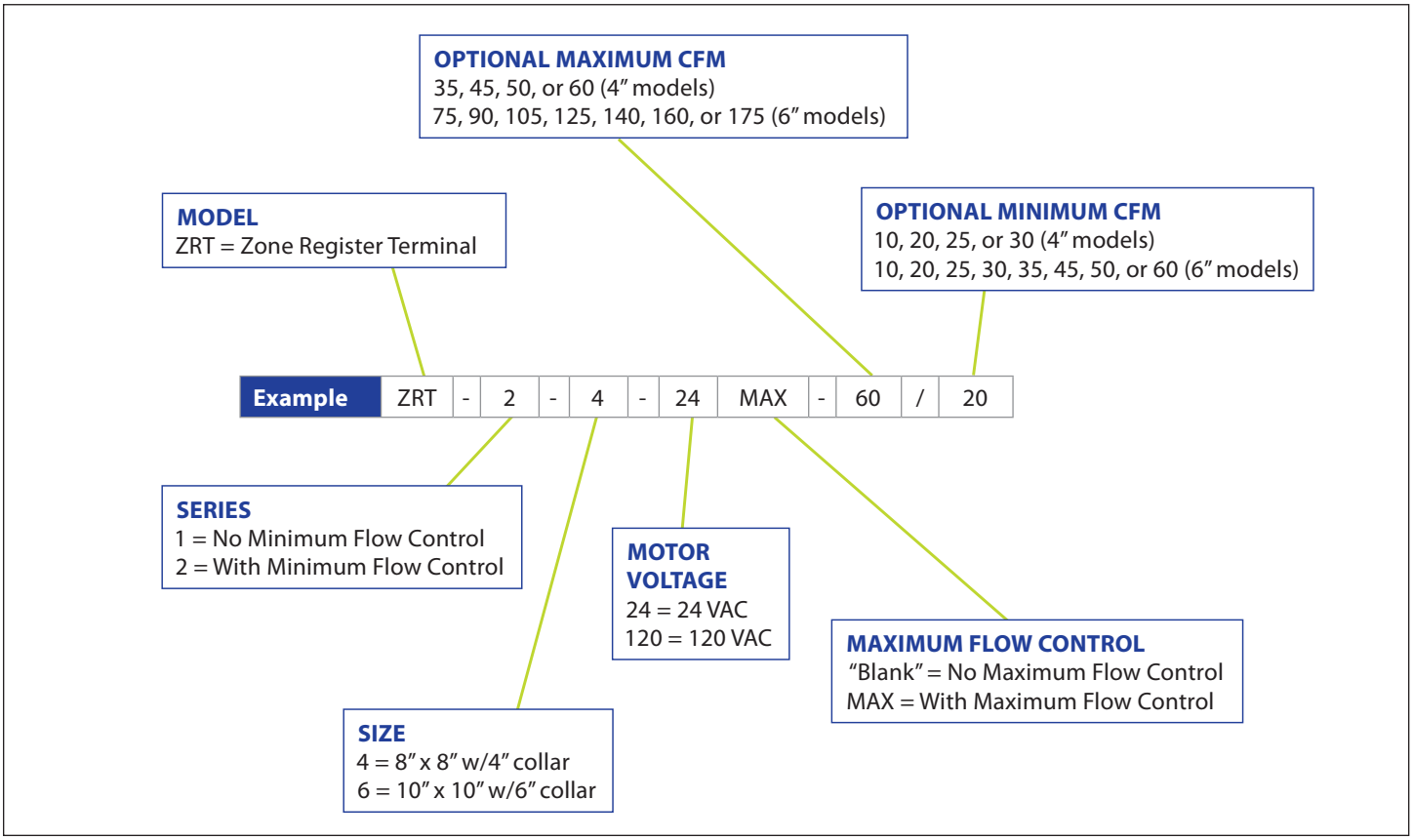
A Zone Terminal Fan Control Center (model ZTC) is available for use with 24V zone terminals.

Airflow control for both maximum and minimum flow rates is achieved using optional integral dynamic constant air regulators (CAR-II). 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 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.

Understanding the Model Code

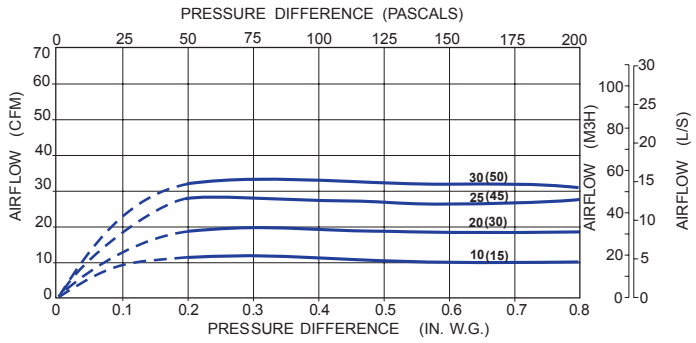


ZRT Acoustic Performance

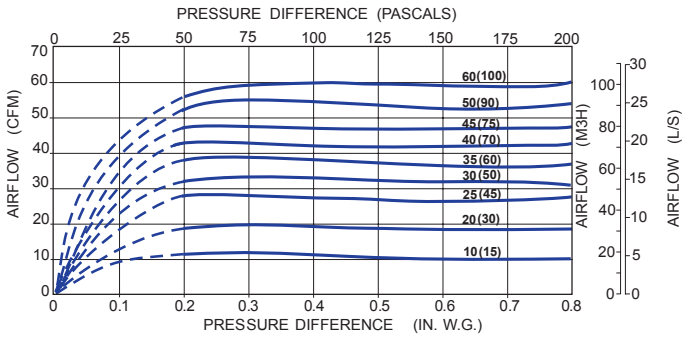
	AIRFLOW			0.2 In. w.g. (50 Pa)			0.4 In. w.g. (100 Pa)			0.6 In. w.g. (150 Pa)			0.8 In w.g. (200 Pa)		
	CFM	m^3/h	L/s	Lw-dB(A)	Lw - NR	Lw-NC	Lw-dB(A)	Lw - NR	Lw-NC	Lw-dB(A)	Lw - NR	Lw-NC	Lw-dB(A)	Lw - NR	Lw-NC
Damper Closed w/4" Minimum Flow Control	10	15	4	24	22	21	28	25	24	31	28	26	34	30	29
	20	30	8	25	22	21	30	25	24	34	29	27	37	31	30
	25	45	13	27	24	22	32	26	25	35	30	28	38	32	31
	30	50	14	28	24	22	33	27	25	36	30	28	39	32	31
	35	60	17	31	28	26	37	33	30	38	33	31	42	36	35
	45	75	21	32	28	26	37	33	30	39	34	32	42	37	36
	50	90	25	32	29	26	38	34	31	40	34	33	44	40	38
	60	100	28	34	30	27	39	34	32	41	35	34	43	41	39
Damper Open w/6" Maximum Flow Control	75	130	36	31	27	25	34	32	31	39	36	35	42	39	38
	90	150	42	33	28	27	37	34	33	41	37	35	45	39	38
	105	180	50	34	28	27	40	35	33	44	38	36	46	40	39
	125	210	59	34	29	28	40	36	34	42	37	35	44	38	37
	140	240	67	35	30	28	41	37	34	44	38	36	47	40	39
	160	270	76	37	31	29	43	38	35	45	39	38	49	43	41
	175	300	84	38	32	30	44	39	36	46	41	39	50	44	42

ZRT Airflow Regulator Performance

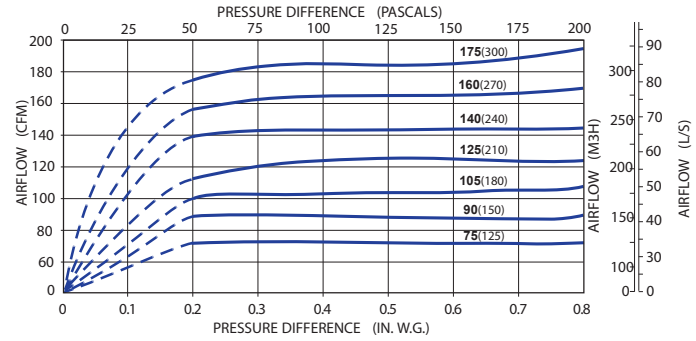
ZRT-2-4 – Minimum Flow Control
3" Diameter Regulator (80 mm)



ZRT-1-4 or ZRT-2-4 – Maximum Flow Control
ZRT-2-6 – Minimum Flow Control
4" Diameter Regulator (100 mm)

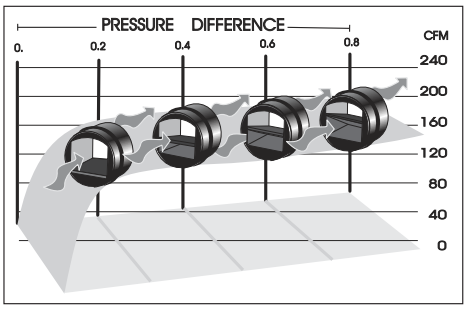


ZRT-1-6 or ZRT-2-6 – Maximum Flow Control
6" Diameter Regulator (150 mm)

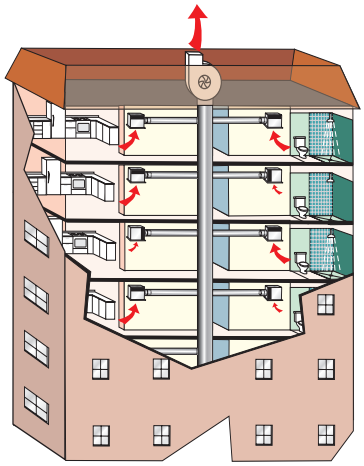


HOW THE CAR-II WORKS

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, the 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).

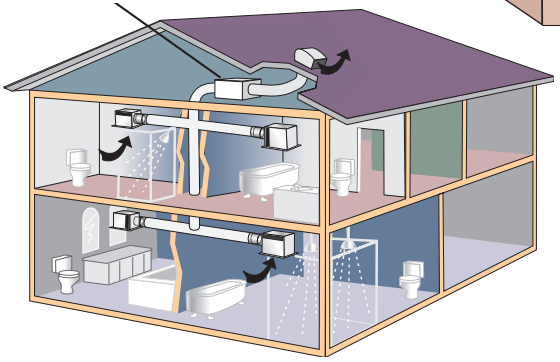


Typical ZRT Applications



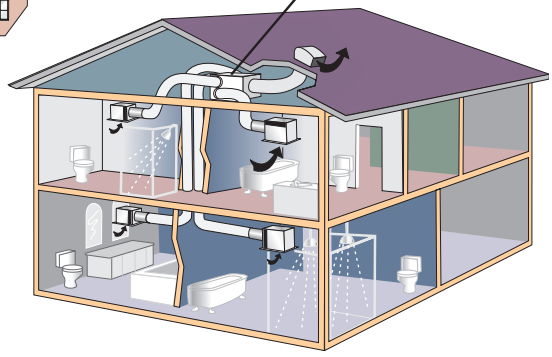
ZRT-2 with optional maximum flow controls in high-rise central exhaust

ALDES IN-LINE FAN



ZRT-1 multi-zone central ON/OFF ventilation system

ALDES MULTI-PORT FAN



ZRT-2 low continuous with no-limit maximum-boost ventilation control

Typical Specification

Furnish and install model ZRT zone control terminals by American ALDES Ventilation Corporation or approved equal. The exhaust terminals shall be of sizes and capacities, and at locations scheduled on the drawings. The terminal casing shall be minimum 24-gauge G90 galvanized steel with integral duct collar that allows attachment of both rigid and flexible ducting. The collar shall be sized to allow full insertion of a model CAR-II constant airfow regulator for maximum flow control, but without the regulator extending into attaching duct. All 120V terminals must be listed per UL standards and carry the UL or ETL mark indicating compliance. Each ZRT terminal shall include all necessary mounting brackets and hardware.

The primary air volume mechanism shall be a single-blade damper operated by a long-life 24VAC or 120VAC disconnecting type drive motor with normally closed spring-return closure. When fully open, the damper shall rotate out of the air stream on a solid through-blade shaft and pivot on permanently lubricated bearings. A permanently fixed perimeter gasket seal shall be provided to prevent air noise and leakage at the closed position. The entire damper assembly and all operable parts shall be capable of being removed from the terminal housing from below without disconnecting duct or removing the housing.

Where indicated on the drawings or schedule, a minimum airflow modulating control device shall be incorporated into the damper assembly. The control device shall respond to changes in duct pressure to maintain specified flow rates at a constant level. The minimum airflow control device shall be calibrated at the factory. Mechanical damper stops are not acceptable. Where a maximum flow is indicated on the drawings and/or schedule, a model CAR-II constant airflow regulator shall be installed in the terminal's duct collar. VAV terminal units with analog electronic or direct digital controls may be used as an alternative. Installation shall be per all applicable codes and manufacturer's instructions.

WARRANTY

The entire unit is guaranteed for three (3) years, from date of shipment, against all manufacturing defects, provided the material has been installed and operated per manufacturer's instructions and 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 and is limited to the original end user.

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FAN CONTROLS

Electronic Fan Timer

P/N 29 010 – Push-Button Timer Switch Control

PRODUCT SPECIFICATIONS & TECHNICAL DATA

DESCRIPTION

The ALDES Electronic Timer Control is ideal for controlling a 120V load, such as a fan, Zone Register Terminal (ZRT), or light. It assures sufficient run-time to remove odors and humidity from bathrooms and kitchens, promoting good indoor air quality.

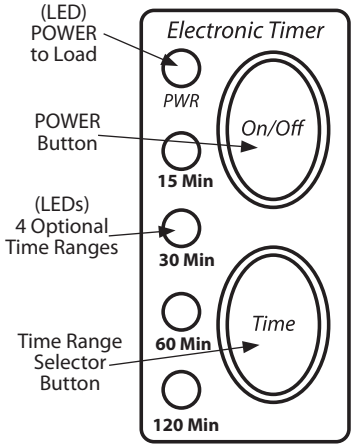
The LED display, which makes for easy viewing in darkened rooms, indicates ON/OFF status and pre-set time delays of 15, 30, 60 or 120 minutes. The selected delay time remains in memory until it is changed by the user.

The Decora™ style timer fits single or multi-gang wall boxes and is shipped with both white and ivory overlays. It is UL listed to US and Canadian standards. Electrical ratings: 120V input, 60 Hz. Output: 1/3 HP, (7.2 A), 500W incandescent. Neutral required. One-year manufacturer's limited warranty.

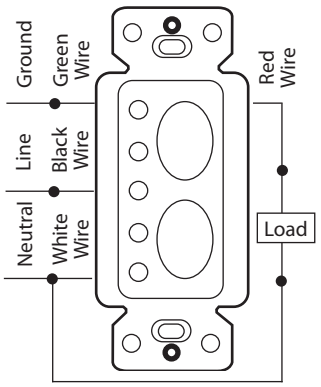
OPERATION INSTRUCTIONS

- The POWER (LED) is always illuminated red to indicate the device is OFF; green to indicate the device is ON.
- Press the top ON/OFF button to energize the device for the selected time delay. The POWER (LED) will change from red to green. Once the time delay has expired, the device will automatically turn OFF and the POWER (LED) will change back to red.
- To turn the device OFF before the time delay is finished, press the ON/OFF button.
- To change the pre-set delay time, press the bottom TIME button to cycle through the four available time delays. A green light (LED) indicates the stored selection.

Operation Diagram



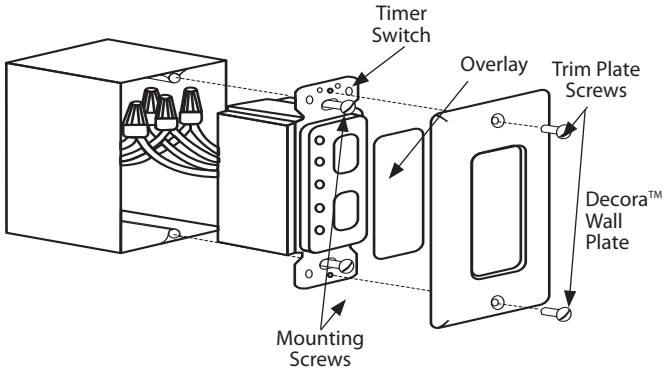
Wiring Diagram



INSTALLATION INSTRUCTIONS

1. **Turn power OFF** at circuit breaker or fuse panel.
2. Remove wall plate and existing switch from the wall box if one is presently installed.
3. Select white or ivory overlay matching decorator-style wall plate. Peel protective backing and apply overlay to the front rectangular recess of the time switch. Be sure to align push-button and LED locations of overlay to timer switch.
4. Refer to Wiring Diagram at right. Connect the wires from the electronic timer switch to the wires in the wall box using the wire nuts provided.
5. Carefully place wires and switch into wall box and secure with the two mounting screws provided.
6. Install decorator-style wall plate (**not included**).
7. Turn power ON at circuit breaker or fuse panel.

Installation Diagram



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FAN CONTROLS

Electronic Fan-Light Timer

P/N 29 011 – Timer Switch Control

PRODUCT SPECIFICATIONS & TECHNICAL DATA

DESCRIPTION

The ALDES Electronic Fan-Light Timer Switch Control is ideal for controlling a 120V load, such as a fan, Zone Register Terminal (ZRT), or light. Use for turning "ON" fan and light circuits simultaneously, and for turning the light "OFF" manually, allowing the fan to remain on for a manually pre-set delay time of 20, 40 or 60 minutes.

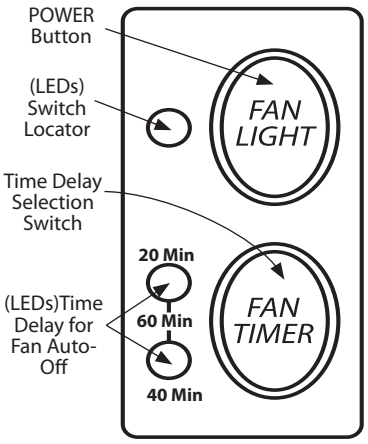
The LED display, which can be seen even in darkened rooms, indicates ON-OFF status and pre-set time delays of 20, 40 or 60 minutes. The selected delay time remains in memory until it is changed by the user.

The Decora™ style timer fits single or multi-gang wall boxes and includes both white and ivory overlays. Use for residential and commercial bathrooms. Electrical ratings: 120VAC, 60Hz, 1/6 HP, 500W Incandescent.

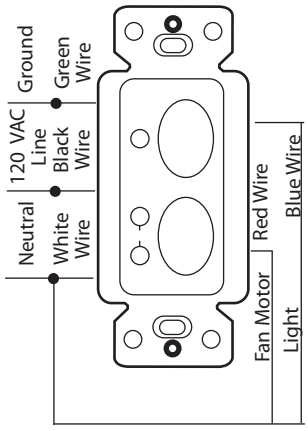
OPERATION INSTRUCTIONS

- The "SWITCH LOCATOR" LED is intended to remain ON to assist finding the switch in a darkened room.
- Press the top "ON/OFF" switch once to turn the fan and light ON.
- Press the top "ON/OFF" switch again to turn the light OFF. NOTE: the fan will remain ON for the selected time delay (factory default setting is 20 minutes).
- When the time delay is completed, the fan will automatically shut OFF.
- Press the bottom "TIME DELAY SELECTION SWITCH" to cycle the fan time delay to 20, 40 or 60 minutes. The corresponding LED will light, indicating the selected time period.
- NOTE: Both "TIME DELAY" LEDs indicate a 60-minute time period.

Operation Diagram



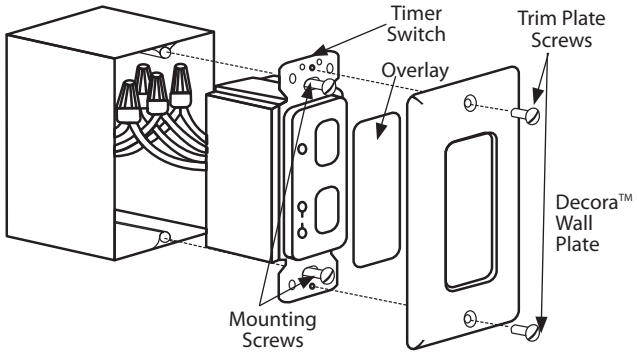
Wiring Diagram



INSTALLATION INSTRUCTIONS

1. **Turn power OFF** at circuit breaker or fuse panel.
2. Remove wall plate and existing switch from the wall box, if one is presently installed.
3. Select white or ivory overlay to match decorator-style wall plate. Peel protective backing and apply overlay to the front rectangular recess of the time switch. Be sure to align push button and LED locations of overlay to the timer switch.
4. Refer to Wiring Diagram (at right), connect the wires from the fan/light timer switch to the wires in the wall box using the wire nuts provided.
5. Carefully place wires and switch into wall box and secure with the two mounting screws provided.
6. Install decorator-style wall plate (**not included**).
7. Turn power ON at circuit breaker or fuse panel.

Installation Diagram



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 • www.aldes.us