

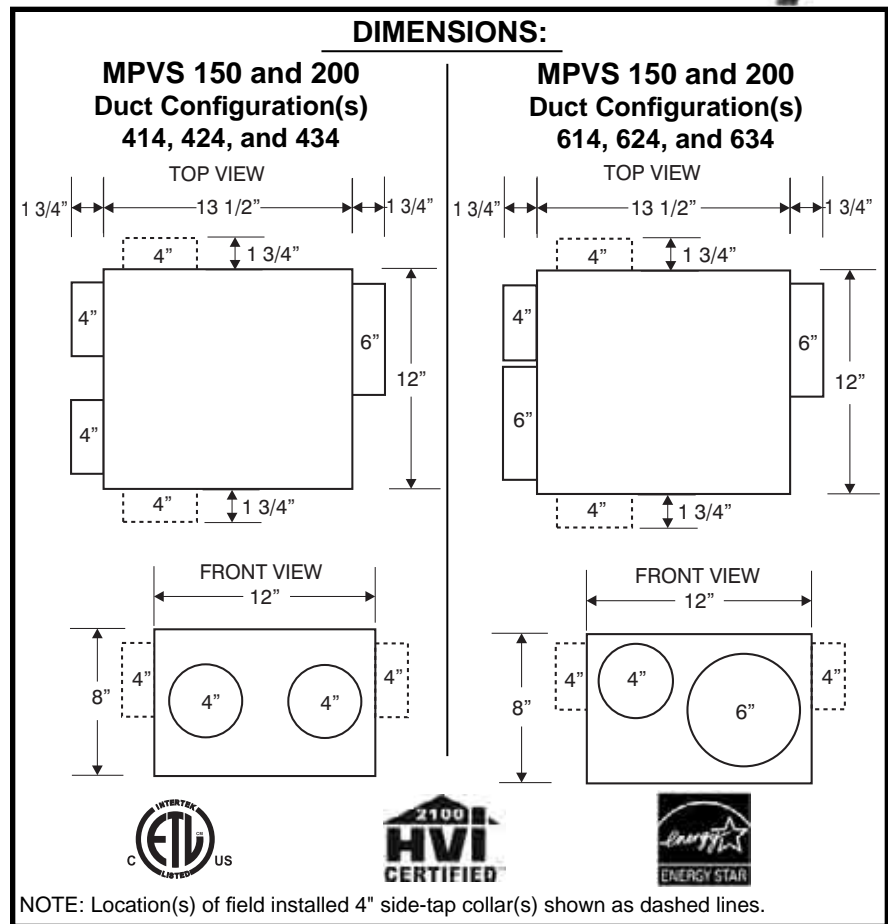
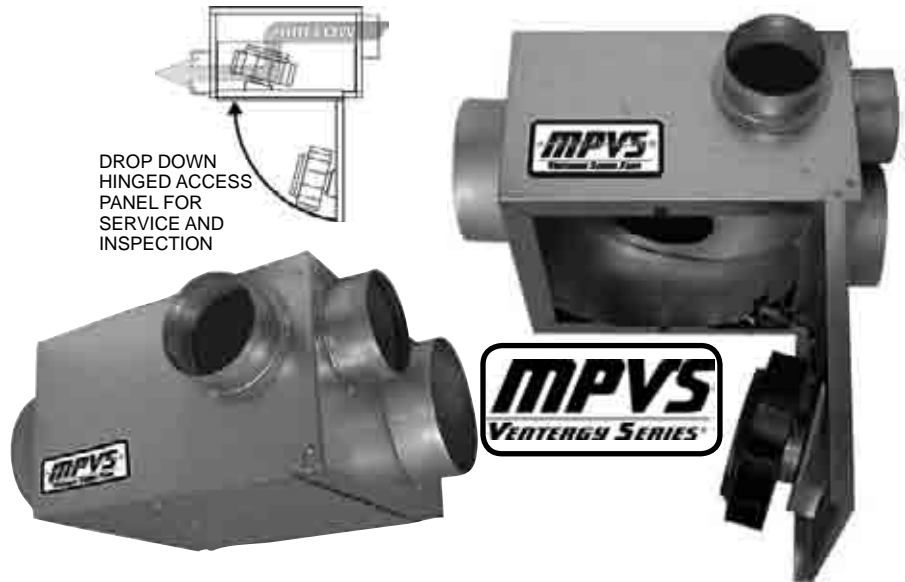
General: MPVS Series Multi-Port ventilators are highly versatile continuous duty rated fan units for residential and light commercial applications, and meet ENERGY STAR efficiency criteria for low energy consumption. The most popular use for the fan is central exhaust ventilation of bathrooms, kitchens, 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 principle advantage of the MPVS central exhaust system is the elimination of standard noisy bath fans, with the obvious benefits of quiet operation and reduced penetrations to the exterior of the building. In addition, with the increased tightness of construction for energy efficient buildings, there is a growing need of mechanical ventilation for indoor air quality. These fans are designed to serve this purpose as well, by providing effective bathroom ventilation, with the ability to run intermittently or continuously as needed. The quiet, energy efficient permanent split capacitor external rotor motor has permanently sealed bearings that provide many years of maintenance-free performance.

Construction: The MPVS fan is constructed of heavy gauge galvanized steel to prevent corrosion caused by moisture. The cabinet is internally lined with UL rated, acoustic closed-cell foam vapor barrier insulation. This allows 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 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 minimizes dust from collecting on the blades and affecting airflow performance. 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 service and inspection, and can be removed from the



ELECTRICAL AND AIRFLOW PERFORMANCE*											
Model	Nominal RPM	HP	Volts	Watts at .2" Ps	MAX. AMPS	CFM vs. Static Pressure					
						0"	.2"	.4"	.6"	.8"	1.0"
MPVS-150	2200	0.06	120	41	.34	211	171	134	102	72	45
MPVS-200	2960	0.08	120	63	.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.

fan without disassembly of the ducting connections.

Controls: The fans can be operated manually, or automatically by a programmable timer or dehumidistat and 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 either horizontally or vertically.

Airflow Balancing: The flow rates can be set with either manually adjustable grilles, such as the ALGRILLES in the standard kit of accessories, or with preset ALDES Constant Airflow Regulators, used with fixed grilles with large free area as in the deluxe kit.

Standard Accessory Kit Option: Each standard accessory kit includes round adjustable grilles constructed of heavy duty moisture resistant plastic. Also included are corresponding ceiling sleeves with integral energy saving back draft dampers that protect against drafts and risk of condensation in the duct when the MPVS is not being used.

Deluxe Accessory Kit Option: To ensure balanced exhaust points independent of duct lengths, the deluxe accessory kit includes constant airflow regulators at each point. A passively controlled element in each duct run inflates or deflates automatically in response to system pressure to maintain constant airflow. Also included are fixed Deco grilles constructed of heavy-duty moisture resistant plastic. Standard ceiling sleeves with integral energy saving back draft dampers are also included.

Typical Specification

Multi-Port Exhaust Fan: American ALDES Ventilation Corporation, Florida (1-800-255-7749). ALDES model MPVS 200.

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 the 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 a UL recognized 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 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.

TABLE OF 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	6" FLEXIBLE	
175	20 ft	10 ft	4" Diameter - 4.0 ft. 6" Diameter - 7.0 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 longer duct runs are required than permitted in the table above, use smooth ducting and/or increase the diameter.

ELECTRICAL DATA

MPVS 150 / 200:
120 V, 60 Hz., .34/.53 amp., 41/63 W Max.,
2200/2960 RPM

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

WARRANTY

The entire unit is guaranteed for 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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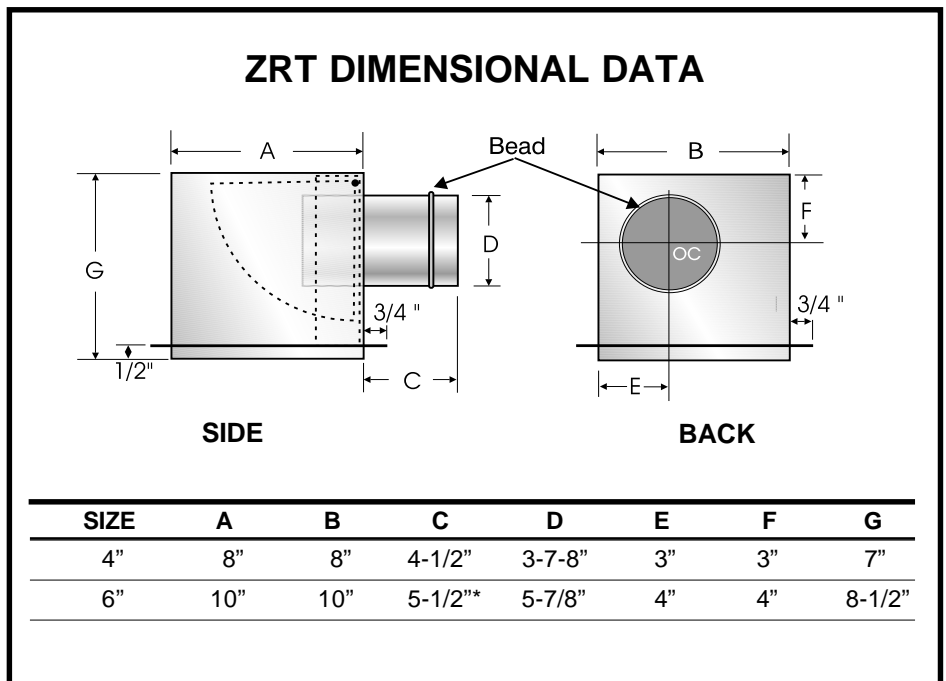
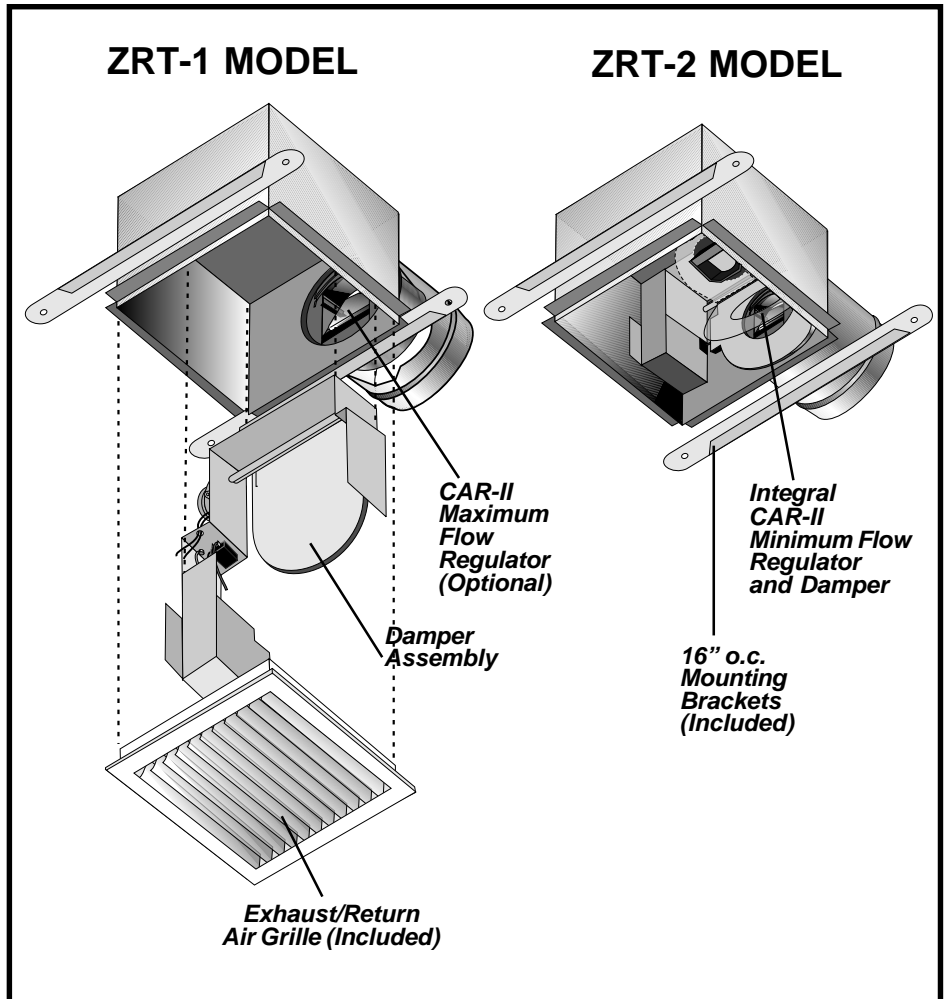
mpvs_150_200_multiport_fan_spec_0510

General: The ZRT series zone control exhaust terminals by American ALDES are designed to introduce flexibility and dynamic control of central ventilation systems. Used in both large and small systems, the ZRT controls the ventilation where it is required 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 heat 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. 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-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 subassembly. With the damper completely closed, the factory calibrated CAR-II will still allow steady low continuous ventilation during fan operation (consult the CAR-II submittal sheet for sizing and specifying information). Even as 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, which allows either controlled (optional using 2nd 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 trigger the remote fan to start. This provides the distinct advantage of allowing the fan to only ventilate specific spaces when called upon, again 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 extremely low noise and single exterior vent penetrations are desired.



Construction: All ZRT zone control exhaust 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 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 simple attachment of 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 allow 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 full open, allowing 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 24 volt zone terminals, (See specification sheet #1262B for additional information on the ZTC fan center.)

Airflow control for both maximum and

minimum flow rates are achieved using optional integral dynamic constant air 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. (see specification sheet #1312-09-20-05 for additional information on the CAR-II).

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.

Warranty: Guaranteed for 3 years from date of shipment, against all defects in material or workmanship, provided that the material has been installed and utilized under normal conditions. This warranty is limited to the repair or replacement of the material.

TYPICAL SPECIFICATION

Furnish and install model ZRT zone control exhaust 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 air regulator for maximum flow control, and 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.

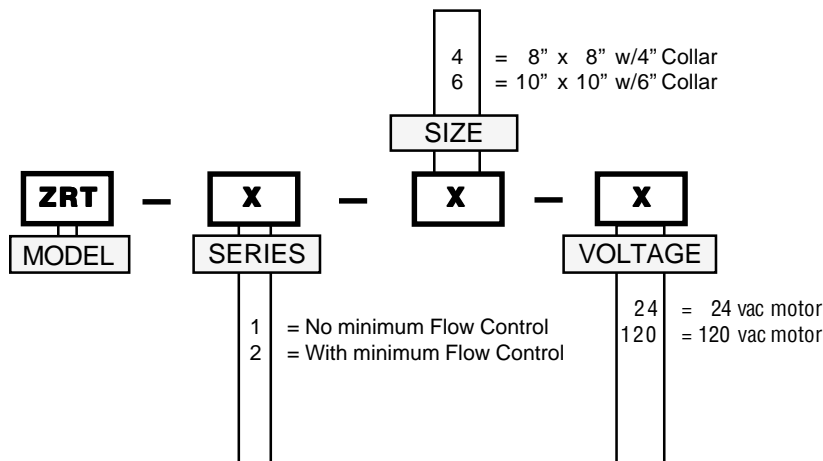
The primary air volume mechanism shall be a single-blade damper operated by a long-life 24VAC or 120VAC disconnecting type drive motor with normally closed spring return closure. When full-open, the damper shall rotate out of the air stream on a solid-through blade shaft, and pivot on permanently lubricated 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 operable parts shall be capable of removal from the terminal housing from below, and without disconnecting duct or removal of 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 air 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.

MODEL NUMBER SPECIFICATIONS

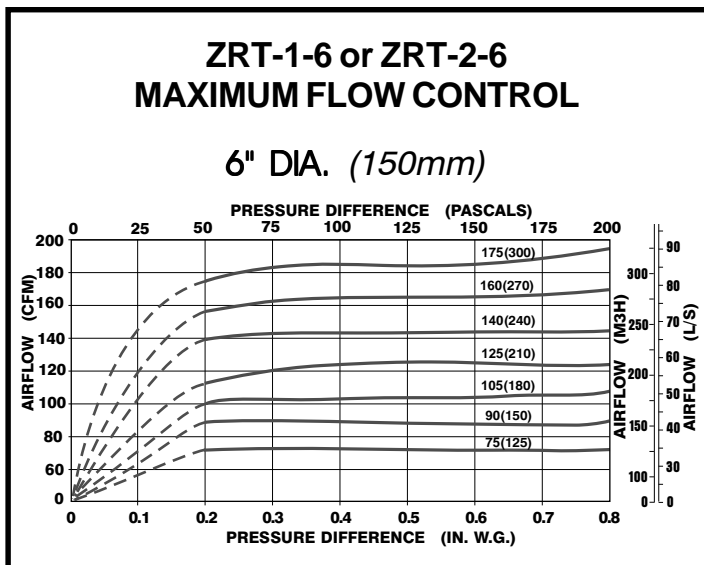
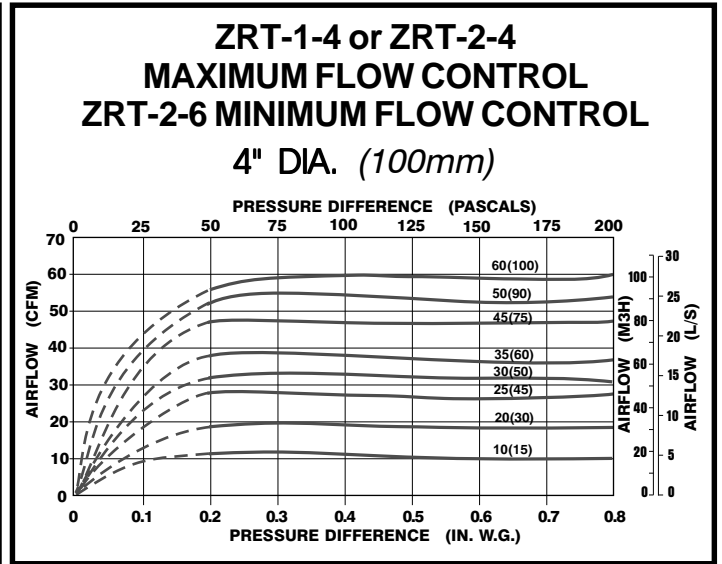
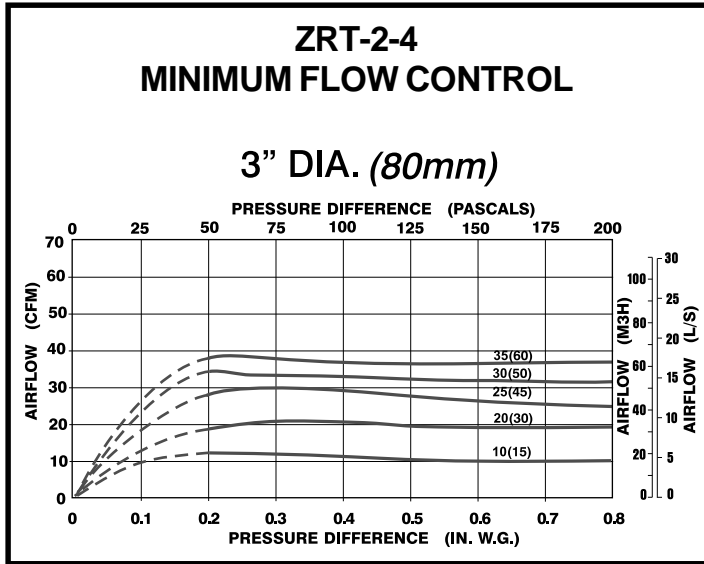


30 = 30 cfm	60 = 60 cfm
25 = 25 cfm	50 = 50 cfm
20 = 20 cfm	45 = 45 cfm
10 = 10 cfm	35 = 35 cfm
0 = 0 cfm	30 = 30 cfm
	25 = 25 cfm
	20 = 20 cfm
	10 = 10 cfm
	0 = 0 cfm
SIZE 4 SIZE 6	
MINIMUM FLOW CONTROL CFM	
X / X	
MAXIMUM FLOW CONTROL CFM	
SIZE 4 SIZE 6	
0 = None	0 = None
20 = 20 cfm	75 = 75 cfm
25 = 25 cfm	90 = 90 cfm
30 = 30 cfm	105 = 105 cfm
35 = 35 cfm	125 = 125 cfm
45 = 45 cfm	140 = 140 cfm
50 = 50 cfm	160 = 160 cfm
60 = 60 cfm	175 = 175 cfm

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	M3/H	LPS	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
Damper Open w / 6" Maximum Flow Control	60	100	28	34	30	27	39	34	32	41	35	34	43	41	39
	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	

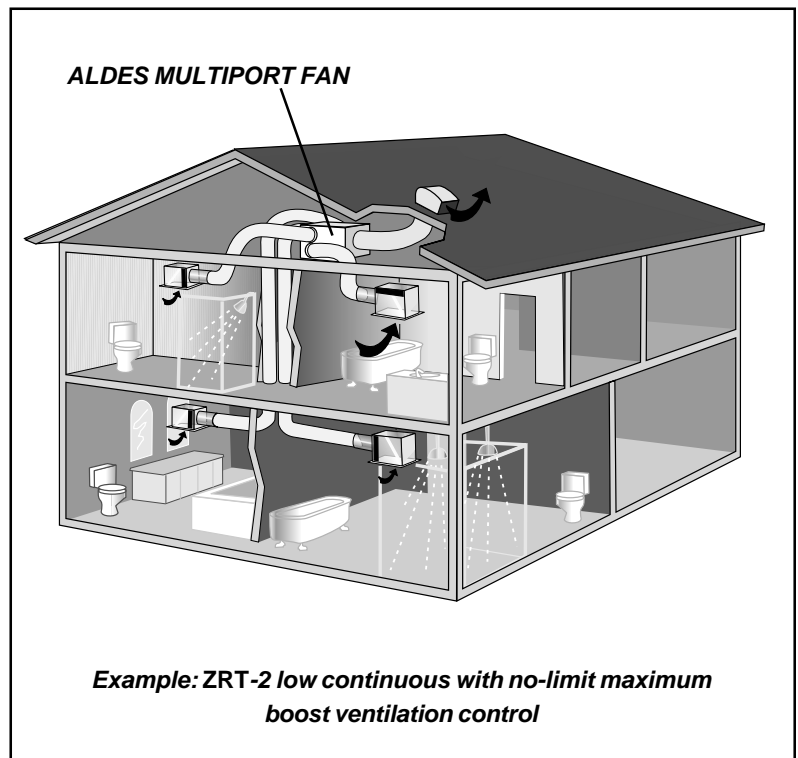
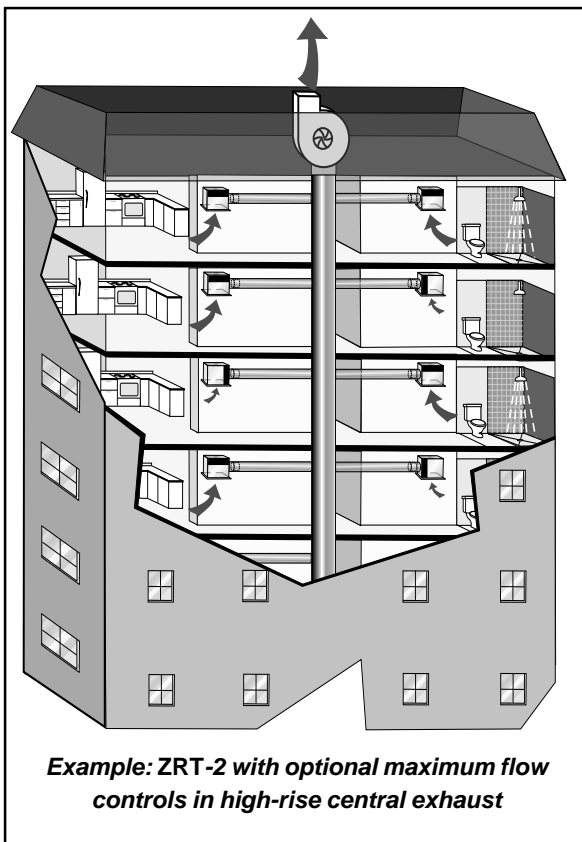
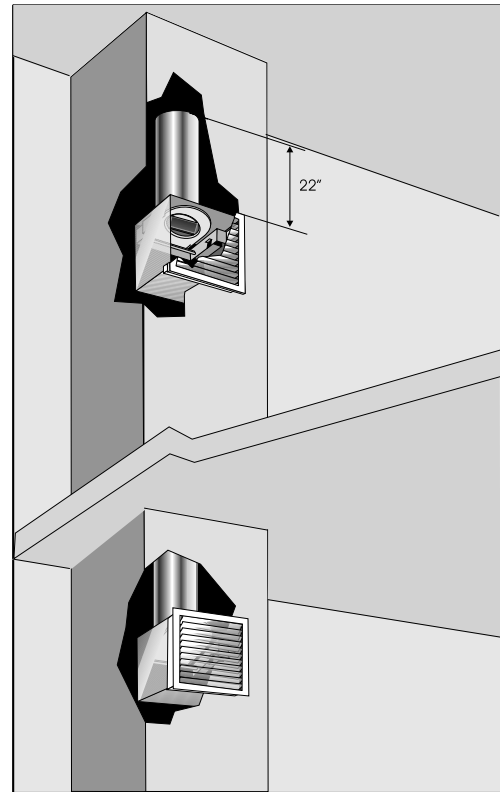
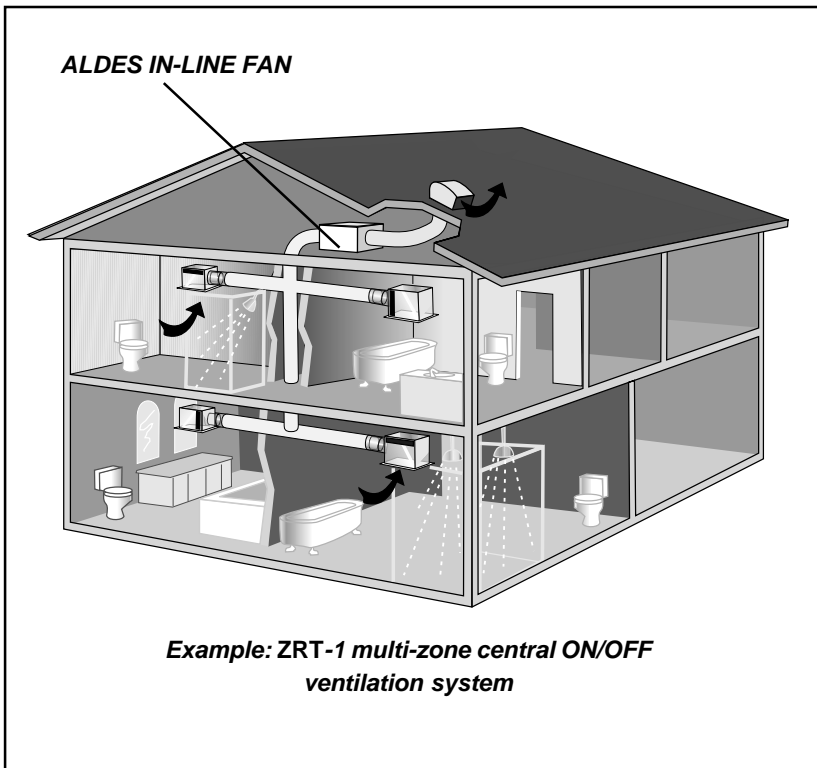
ZRT AIRFLOW REGULATOR PERFORMANCE



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, thereby 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



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