



ZRT-PDIL

PARALLEL DAMPER IN-LINE ZONE TERMINALS



AIRFLOW & ZONE CONTROL

Made in
USA

WARRANTY
3 YEARS



Product Description

Aldes Parallel Damper In-Line Zone Terminals (ZRT-PDIL) are designed to introduce flexibility and dynamic control to central supply or exhaust ventilation systems. Used in both large and small systems, the ZRT-PDIL regulates ventilation without the need for individual fans or traditional VAV terminal units.

Each ZRT-PDIL is a two-position, pressure-independent terminal with a control damper to regulate high limit on-demand airflow control and integral passive regulators for automatic air balancing of the continuous and boost airflow setpoints. This unique combination provides flexible control schemes without the need for expensive pneumatic, electronic, or DDC control systems.

The ZRT-PDIL is primarily used for combination low-flow indoor air quality ventilation or make-up air, and on demand high-flow spot ventilation using the same central exhaust or supply fan system. This is achieved by integrating a minimum Constant Airflow Regulator (CAR) in the terminal end panel and in-line with the branch duct. The maximum airflow is controlled by a series of 24 VAC or 120 VAC powered motorized damper(s) and a secondary CAR airflow controller. With the maximum-air motorized control damper completely closed, the continuous CAR allows steady, low-volume airflow control. (Continuous and Boost Constant Airflow Regulators may be CAR-II or CAR3 depending on required airflow. See ZRT-PDIL CFM Range for details).

When other ZRT-PDIL are activated for on-demand control of high flow, the unpowered ZRT-PDIL will maintain the specified continuous rate through the pressure-independent CAR. Opening the ZRT-PDIL's control damper adds its calibrated boost airflow rate to the continuous setpoint.

Construction

- Constructed of 24-gauge galvanized steel housing for durability.
- 24 VAC, 120 VAC, or 230 VAC actuator motor with spring return damper assembly.
- Gasketed damper blade ensures a tight seal preventing unwanted air leakage and noise in closed position.
- Designed for installation with slip-type duct connections.
- Access to all internal components through the screw-on access plate located at the bottom of the units.

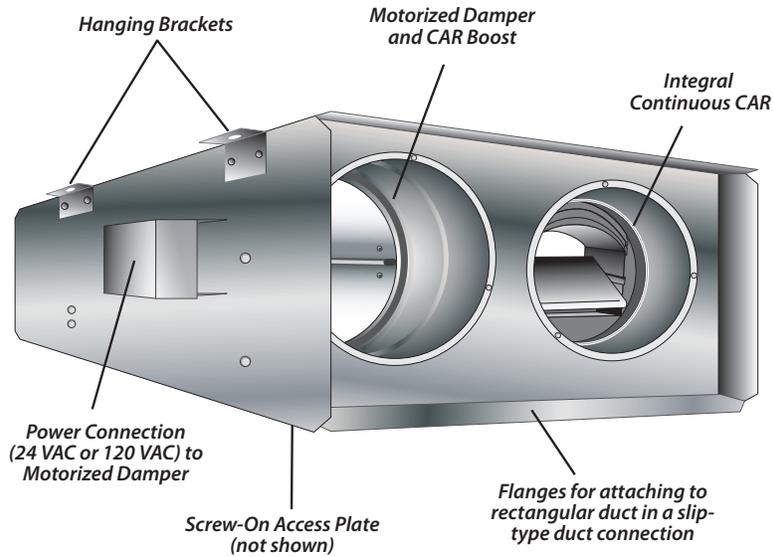
Maintenance

The ZRT-PDIL needs no maintenance when used in normal conditions.

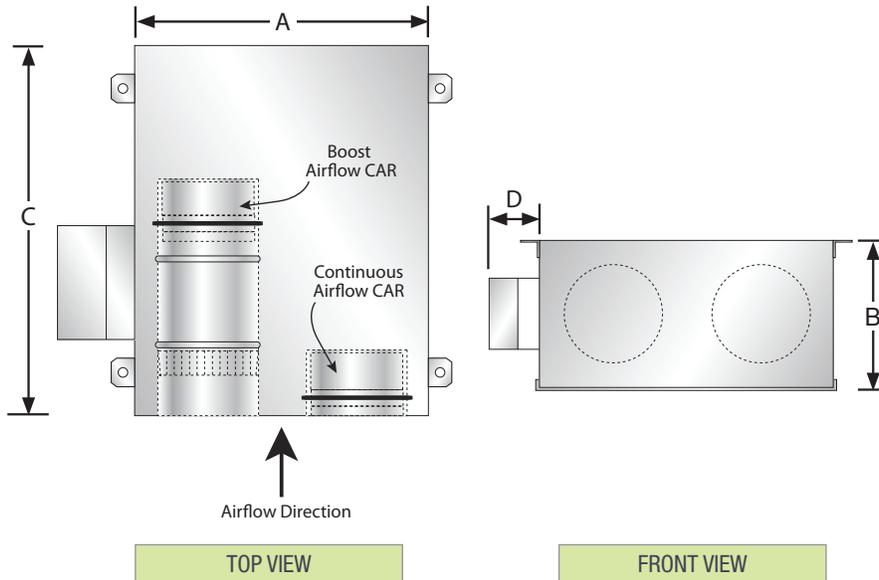
Warranty

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.

ZRT-PDIL



ZRT-PDIL Dimensions



SIZE (Duct) Inches / mm	CAR Diameter		A	B	C	D
	Min	Max				
12" x 6" (300 mm x 150 mm)	4" (100 mm)	4" (100 mm)	12" (300 mm)	6" (150 mm)	19-5/8" (500 mm)	3-1/8" (80 mm)
16" x 8" (400 mm x 200 mm)	6" (150 mm)	6" (150 mm)	16" (400 mm)	8" (200 mm)	21-5/8" (550 mm)	3-1/8" (80 mm)
20" x 10" (500 mm x 250 mm)	8" (200 mm)	8" (200 mm)	20" (500 mm)	10" (250 mm)	23-5/8" (600 mm)	3-1/8" (80 mm)
24" x 12" (610 mm x 300mm)	10" (250 mm)	10" (250 mm)	24" (610 mm)	12" (300 mm)	25-5/8" (650 mm)	3-1/8" (80 mm)

Compatible with CAR-II & CAR3



How to Specify Aldes: ZRT-PDIL

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

Step 2: Determine the required **DUCT SIZE**.

Step 3: Select the required **MOTOR VOLTAGE**.

Step 4: Select the desired **CONTINUOUS CFM** for low volume continuous ventilation.

NOTE: The continuous rate is always active.

Step 5: Select the necessary **BOOST CFM** for intermittent high-volume ventilation.

NOTE: The boost rate is normally off and powered on. The boost rate adds to the continuous rate. Ex. If the continuous rate is 50 CFM and the boost is 250 CFM, when powered the ZRT-PDIL will provide 300 CFM. See example below.

Model Code Example

PARENT MODEL

ZRT-PDIL

DUCT SIZE

12" x 6"
16" x 8"
20" x 10"
24" x 12"

MOTOR VOLTAGE

24: 24 VAC
120: 120 VAC

CONTINUOUS CFM

12" x 6": 15-85 CFM
16" x 8": 15-260 CFM
20" x 10": 15-295 CFM
24" x 12": 15-410 CFM

BOOST CFM

12" x 6": 15-85 CFM
16" x 8": 15-260 CFM
20" x 10": 15-295 CFM
24" x 12": 15-410 CFM

PARENT MODEL

Parallel Damper In-Line Zone Terminal

ZRT - PDIL - 16x8 - 120 - 250 / 50

DUCT SIZE

16x8 = 16" x 8"

MOTOR VOLTAGE

120 = 120 VAC

CONTINUOUS CFM

250 CFM

BOOST CFM
50 CFM

ZRT-PDIL CFM Range

SIZE	MINIMUM	BOOST
12" x 6" (300 mm x 150 mm)	15-85 CFM	15-85 CFM
16" x 8" (400 mm x 200 mm)	15-260 CFM	15-260 CFM
20" x 10" (500 mm x 250 mm)	15-295 CFM	15-295 CFM
24" x 12" (610 mm x 300mm)	15-410 CFM	15-410 CFM

AVAILABLE SETPOINTS (CFM)	
CAR3*	CAR-II**
15-260	265
	295
	325
	355
	380
	410

* CAR3 are infinitely adjustable across their ranges due to a unique calibration mechanism. The lowest available setpoint is 15 CFM, and the maximum is 260 CFM. For airflows greater than 260 CFM, the CAR-II will be used. Depending on the selected airflows, it may be possible for the CAR3 and CAR-II to be used in the same assembly; i.e. CAR3 at 100 CFM for the minimum, and CAR-II set to 355 CFM for the boost.

** CAR-II have a finite number of setpoints. Please select the specific required airflow from the available setpoints listed.

Control

The ZRT-PDIL can be activated using a variety of control options, including dry contact switches for interlocking with other devices, on-off or timer switches, occupancy sensors, etc. Any on-off control device(s) will signal the max-flow damper to open fully, allowing for maximum ventilation control. Upon disconnecting the power, the ZRT-PDIL's integral spring will return the blade to its normally closed position to resume the continuous airflow rate and operation.

Airflow control for both boost and continuous flow rates is achieved using integral Constant Airflow Regulators (CAR). The CAR is an automatic, pressure independent modulating orifice that regulates airflows to constant levels in response to changes in duct pressure. They ideally suited for use in zone-controlled systems where duct pressures can fluctuate in response to the opening and closing of dampers, or variable volume systems.

Recommended Specification

Furnish and install model ZRT-PDIL Parallel Damper In-Line Zone Terminals by ALDES North America or approved equal. The 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 duct flange that allows attachment of rectangular rigid ducting in a slip-type duct connection. Each terminal shall include integral, pressure-independent Constant Airflow Regulators (CAR) that provide the capability of automatically regulating airflow in both a continuous and boost setting. Each regulator shall automatically respond to changes in duct pressure to maintain specified flow rates at a constant level.

The low-volume continuous and on-demand boost Constant Airflow Regulators (CAR) shall be factory calibrated to the specified set points. Both regulators shall be capable of being adjusted in the field to any desired airflow within their noted minimum and maximum setpoints. The continuous CAR will automatically control the amount of air any time the central fan is operating. The boost CAR shall be located in series with a motorized single-blade damper operated by a long-life synchronous-drive motor with normally closed spring-return closure. When the ZRT-PDIL is powered, the motorized damper will open allowing air through the boost regulator, automatically adding the prescribed boost rate to the continuous rate during central fan operation. The damper blade shall rotate on a solid one-piece damper that pivots 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. Access to all regulator and damper components shall be through an integral screw-on access plate. All terminals and/or pertinent components must be listed per UL standards and carry the UL, UR or ETL mark indicating compliance. Each ZRT-PDIL shall include all necessary mounting brackets and hardware. Installation shall be per all applicable codes and manufacturer's instructions.

ELECTRICAL SPECIFICATIONS				
MOTOR VOLTAGE	MAXIMUM AIRFLOW DAMPER OPEN (POWERED)		MAXIMUM AIRFLOW DAMPER CLOSED (NOT POWERED)	
	24 VAC	0.36 A	6 W	0.00 A
120 VAC	0.08 A	6 W	0.00 A	0.0 W

For more information, contact your Aldes sales advisor, visit aldes-na.com, call 1.800.255.7749, or find us on

