



# ZRT-PDIL / ZRT-PDIL-HP

## PARALLEL DAMPER IN-LINE ZONE TERMINAL

### AIRFLOW & ZONE CONTROL **IOM**

## 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.

## Mounting

The ZRT-PDIL/ZRT-PDIL-HP is intended to be installed in-line in a duct system. It is provided with four (4) mounting tabs that are suitable to suspend the unit with threaded rods (not included). See Figure 1. The unit should be installed in a location that provides clearance for the access plate.

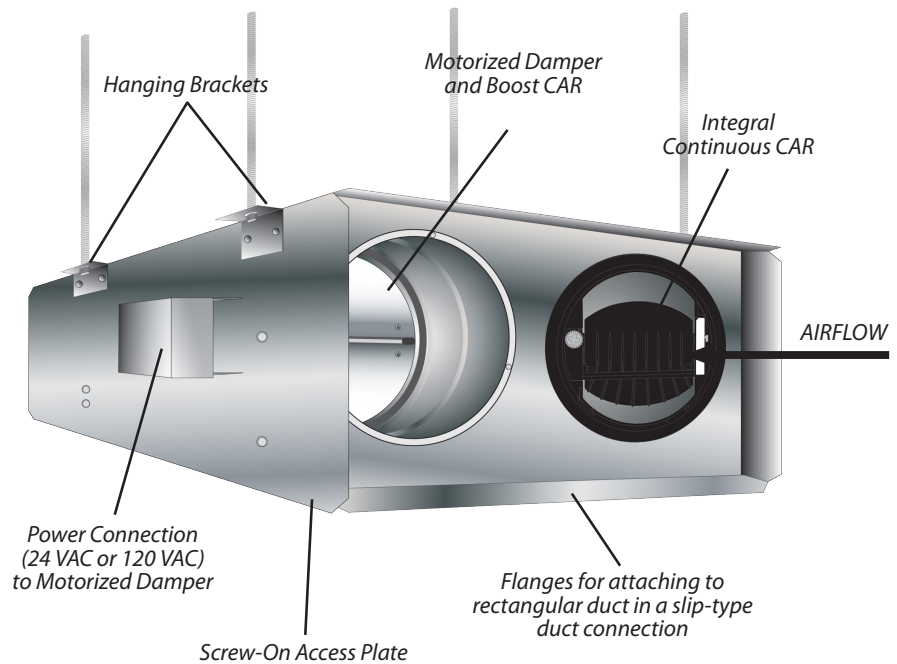
## Maintenance

All components of the ZRT-PDIL/ZRT-PDIL-HP are accessible through the opening provided by the access plate.



### READ AND SAVE THESE INSTRUCTIONS

FIGURE 1 - MOUNTING



## Wiring

ZRT-PDIL/ZRT-PDIL-HP wiring needs to meet all applicable electrical and building codes. If the electrical connection to the damper motor wiring box is not accessible after mounting, there needs to be enough slack (approximately 24") in the electrical wiring leading to the wiring box to allow the damper assembly to be removed through the access opening. This will allow access to the electrical connections from the access opening.

ZRT-PDIL/ZRT-PDIL-HP models are available with 24 VAC or 120 VAC motorized dampers. 120 VAC wiring is shown in Figure 2 and 24 VAC wiring is shown in Figure 3 (next page).

## Warning

### TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

1. Use this unit only in the manner intended by the manufacturer. If you have any questions, contact the manufacturer.
2. Before servicing or cleaning the unit, switch power off at service panel and lock service panel to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
3. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel-burning equipment to prevent backdrafting. Follow the heating equipment manufacturer's guidelines and safety standards, such as those published by the National Fire Protection Association (NFPA), and the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and the local code authorities.
4. In addition to the following manufacturer's instructions, it is necessary to comply with federal, state, and local government codes. Your purchase of this ALDES ventilation system represents an investment in the health and comfort of the occupants, as well as an investment in the protection of the building from the damaging effects of excessive indoor humidity.
5. Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
6. When cutting or drilling into wall or ceiling, do not damage electrical wiring and hidden utilities.
7. **WARNING** - To reduce the risk of fire, electric shock or injury, do not use replacement parts that have not been recommended by the manufacturer (e.g., parts made at home using a 3D printer).

## Caution

1. For general ventilating use only. Do not use to exhaust hazardous or explosive materials and vapors.
2. Automatically operated device. To reduce the risk of injury, disconnect from power supply before servicing.

## System Design

Satisfactory performance of a central ventilation system requires:

- Proper integration of all the components, compatible grilles, and wall/roof caps;
- Proper duct design for friction losses;
- Consideration of acoustic and vibration properties of the fan and its mounting;
- Acoustic properties of the grilles;
- Consideration of the mode of operation, whether continuous or automatically controlled by dehumidistat, timer, or occupancy sensor;
- Installation in a heated or unheated space, with consideration for the potential of condensation in the ducting or fan housing.

Inspect the carton upon receipt to ensure the terminal has not been damaged in transit. If damaged, it is the responsibility of the recipient to file a damage claim with the carrier. ALDES is not responsible for damage incurred during shipment.

Note: Prior to installation, inspect the terminal to ensure that damper(s) move freely and that the constant airflow regulators have not shifted during handling. Handle the unit with care to prevent damage to the housing and other components. Store the unit indoors if possible. If outdoor storage is required, protection against moisture and dirt is necessary.

