ZRT-SDIL-1

IN-LINE ZONE TERMINAL

AIRFLOW & ZONE CONTROL

Made in USA

WARRANTY 3 YEARS

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Product Description

ALDES Zone Register Terminals (ZRT®) are designed to introduce flexibility and dynamic control of central ventilation systems. Used in both large and small systems, the ZRT-SDIL-1 zonally regulates ventilation without the need for individual fans. Each ZRT-SDIL-1 is a combination register box, control damper, removable access plate, and optional flow regulator(s). This unique combination provides up to three different control schemes without the need for expensive pneumatic, electronic, or DDC control systems.

The ZRT-SDIL-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 Constant Airflow Regulator (CAR) installed in the ZRT-SDIL-1's extended duct collar places a maximum flow limit on each terminal. The automatic operation of the CAR 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-SDIL-1 can activate fans used in smaller central exhaust or supply ventilation systems. Through the use of an integral damper end-switch, the ZRT-SDIL-1 can trigger the remote fan to start. This provides the distinct advantage of allowing the fan to only ventilate specific spaces without the need for separate fans in each space. This capability is especially important in residential bath exhaust applications with in-line and multi-port fans, where low noise and a single exterior vent penetration are desired.

Control

ZRT-SDIL-1 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, allowing maximum ventilation control. Upon disconnecting the power, the ZRT-SDIL-1's integral spring will return the damper blade to its normally closed position.

Airflow control for maximum flow rate is achieved using optional, integral, dynamic Constant Airflow Regulators (CAR). The CAR 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.

Construction

The ZRT-SDIL-1 is constructed of a heavy-gauge galvanized steel housing for durability. Units are designed for in-line installation. The extended duct collars allow for simple attachment to rigid or flexible ducting, and insertion of an optional Constant Airflow Regulator (CAR) for maximum flow control.

The damper assembly is provided with a long-life 24 VAC or 120 VAC actuator motor with spring return. An optional damper end-switch is included 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.

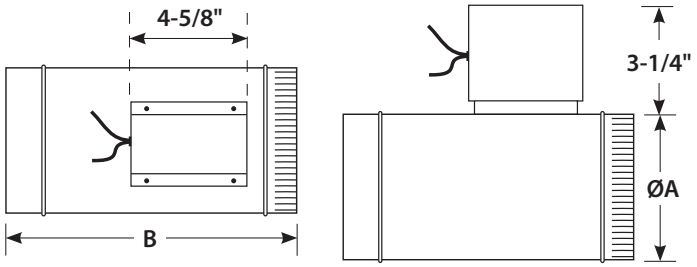
Maintenance

The ZRT-SDIL-1 needs no maintenance when used in normal conditions.

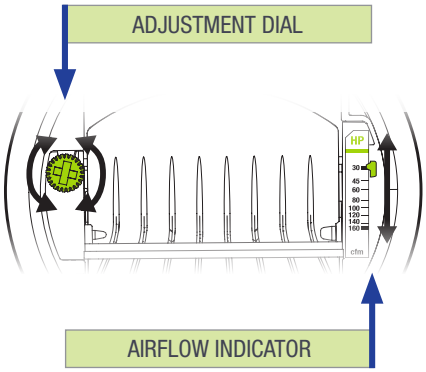
Warranty

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.

Dimensions



DIMENSIONS		
MODEL	ØA	B
ZRT-SDIL-1-4	4" (100 mm)	12" (300 mm)
ZRT-SDIL-1-5	5" (125 mm)	12" (300 mm)
ZRT-SDIL-1-6	6" (150 mm)	12" (300 mm)
ZRT-SDIL-1-8	8" (200 mm)	14" (355 mm)



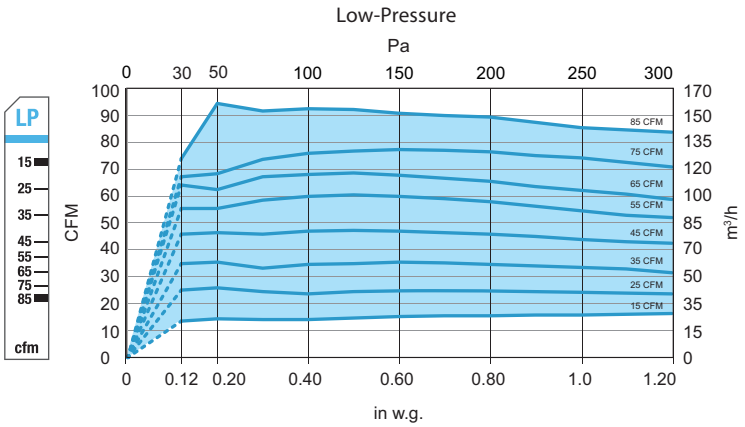
Airflow Settings & Performance Data

Airflow rate can be set or adjusted by rotating the dial from either side. The airflow indicator will move to show the selected CFM. The airflow label has multiple defined setpoints, but the unique adjustment mechanism of the CAR3 allows for infinite adjustability between the minimum and maximum limits.

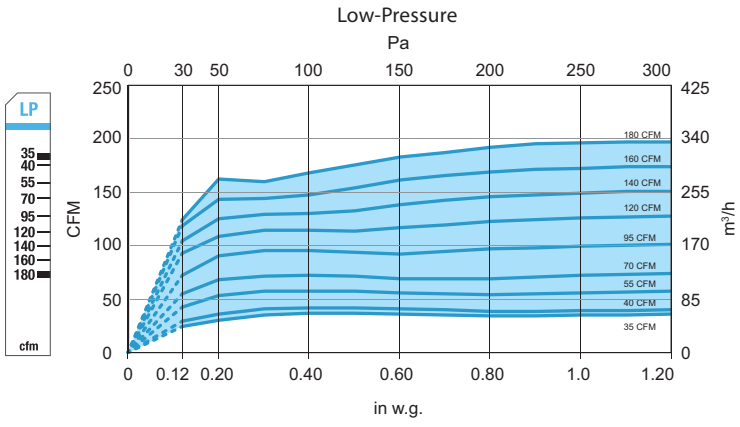
Performance charts found in the specifications sheet reflect this data, with the available range (shaded) and marked setpoints (lines). The CAR3 will maintain the airflow accurately to within +/- 10% of the indicated lines below for each marked setpoint. At the higher airflow rates, the minimum pressure required to achieve the selected airflow may exceed 0.12 in. w.g.

Airflow measurements taken at 68°F (20°C) at 1 atmosphere pressure.

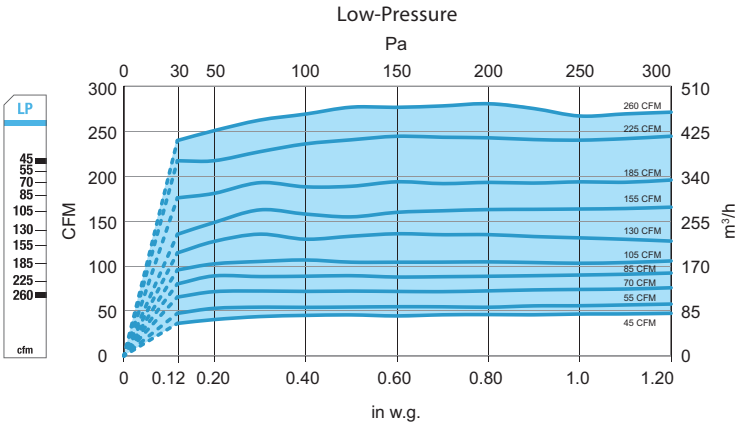
ZRT-SDIL-1-4 MAXIMUM FLOW CONTROL



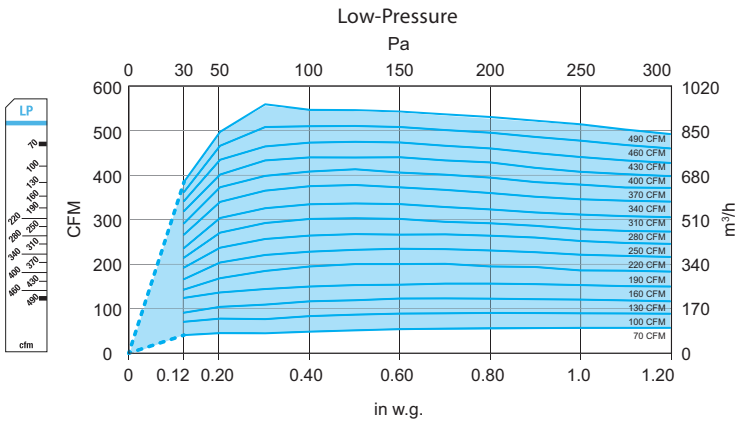
ZRT-SDIL-1-5 MAXIMUM FLOW CONTROL



ZRT-SDIL-1-6 MAXIMUM FLOW CONTROL



ZRT-SDIL-1-8 MAXIMUM FLOW CONTROL



Recommended Specification

Furnish and install model ZRT-SDIL-1 In-Line Zone Control Terminals by ALDES Ventilation Corporation 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 an 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 Constant Airflow Regulator for maximum flow control, but without the regulator extending into attaching duct. All terminals must be listed per UL standards and carry the UL or ETL mark indicating compliance. Each ZRT-SDIL-1 shall include all necessary hardware and a mounting bracket.

The primary air volume mechanism shall be a single-blade damper operated by a long-life 24 VAC or 120 VAC 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 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 ZRT-SDIL-1 must be capable of overcoming a minimum of 2.4 in. w.g. (600 Pa) of differential pressure across the damper door. The entire damper assembly and all operable parts shall be capable of being removed from inside the terminal housing without disconnecting duct or removing the housing.

Where a maximum flow is indicated on the drawings and/or schedule, a model CAR 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.