

CAR3-S

CONSTANT AIRFLOW REGULATOR

AIRFLOW & ZONE CONTROL

Made in
USA

WARRANTY
7 YEARS



Patent
pending

Product Description

The Aldes CAR3-S Constant Airflow Regulator is a pressure independent balancing damper that automatically regulates airflow in duct systems to constant levels. The CAR3-S requires no electric or pneumatic power or sensors, and works solely off system pressure.

Unlike traditional manual dampers, the CAR3-S compensates for changes in duct pressure caused by stack effect, operable windows and doors, wind, loading filters, etc. The CAR3-S provides a low-cost solution to maintaining the correct airflow balance of ventilation systems, improving system performance and indoor air quality, which can provide significant savings on annual operating costs.

Key Features

- Dual-side airflow adjustment dial and CFM indicator allows you to set or change the airflow quickly, in supply or exhaust applications, without removing the CAR3 from the duct.
- Resin is enhanced with antimicrobial, anti-static, and flame retardant additives for increased safety and durability.
- Each mounting plate is designed specifically to install the CAR3 in square or rectangular duct and features Aldes exclusive twistlock feature to secure CAR3 without use of gasket or adhesive.

APPLICATIONS

- Automatic balancing of square or rectangular duct.
- Balance supply or exhaust/return duct in high-rise building.
- Sized to fit inside standard square ducting, take-offs, and more.
- New construction or retrofit.

Construction

- CAR3 constructed of amorphous thermoplastic resin enhanced with antimicrobial, anti-static, and flame retardant additives to improve material performance, reduce need for maintenance, and increase safety.
- CAR3 is UL 2043 safety classified and labeled for flame and smoke generation (File No. R39897).
- Galvanized steel mounting plate with Aldes twistlock design.

Maintenance

The CAR3-S needs no maintenance when used in normal conditions. The addition of antimicrobial and anti-static additives in the material increases the longevity and reliability of the CAR3. There is no risk of dust deposit or obstruction because the CAR3 has no airways subject to clogging. If the intended application includes air heavily loaded with dust or grease, access to the CAR3 will be possible through the terminal device or with an access panel or door.

Warranty

Guaranteed for 7 years, from date of shipment, against all defects in material or workmanship, provided that the material has been installed and used under normal conditions. This warranty is limited to the repair or replacement of the material.

How to Specify Aldes: CAR3-S

Step 1: Reference the model code below and performance details within this specifications sheet to select the appropriate CAR3.

Step 2: Determine the required **PRESSURE RANGE** for the CAR3 based on the anticipated external static pressure of the system at the installed CAR3 location.

NOTE: The CAR3-L (low-pressure) is designed for systems with pressures between 0.12 and 1.2 in. w.g. (30 to 300 Pa), and CAR3-H (high-pressure) between 0.4 and 2.8 in. w.g. (100 to 700 Pa).

Step 3: Select the desired **AIRFLOW RANGE**.

NOTE: Ranges available: 4, 5, 6, 8 or 10. Each has a unique range for both low- and high-pressure variants. See *Airflow Settings and Performance Data* for additional details. Factory calibration of the CAR3 is available on request.

Step 4: Select the **DIRECTION:** Exhaust or Supply.

NOTE: Direction is changed by reversing CAR3 in mounting plate. This can be done in the field if necessary to ease installation.

Step 5: Select the **NOMINAL DUCT WIDTH** and **NOMINAL DUCT HEIGHT**.

NOTE: Nominal width and height cannot be less than the CAR3 size; 4, 5, 6, 8 or 10 selected in **AIRFLOW RANGE**.

Model Code Example

CAR3-L4-SE-0606

PARENT MODEL

Constant Airflow Regulator

PRESSURE RANGE

L: Low-Pressure (0.12-1.2 in. w.g.)

H: High-Pressure (0.4-2.8 in. w.g.)

AIRFLOW RANGE

Low-Pressure

4: 15-85 CFM (25-144 m³/h)

5: 35-180 CFM (59-306 m³/h)

6: 45-260 CFM (76-442 m³/h)

8: 70-385 CFM (119-655 m³/h)

10: 110-620 CFM (187-1053 m³/h)

High-Pressure

4: 30-160 CFM (51-272 m³/h)

5: 55-260 CFM (93-442 m³/h)

6: 60-370 CFM (102-629 m³/h)

8: 130-630 CFM (220-1070 m³/h)

10: 170-900 CFM (289-1529 m³/h)

SQUARE DUCT

S: Square or Rectangular Duct

DIRECTION

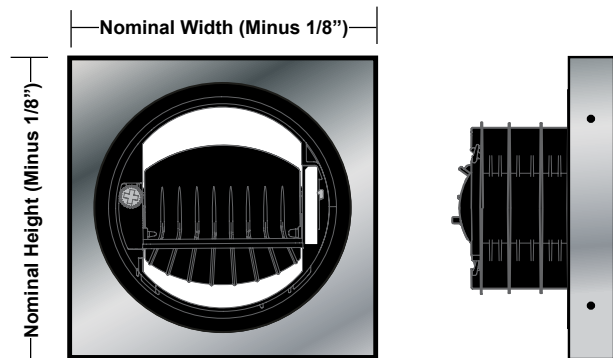
E: Exhaust

S: Supply

NOMINAL DUCT WIDTH

NOMINAL DUCT HEIGHT

CAR3-S Dimensions



FRONT VIEW

L/H4 = 4.5*

L/H5 = 5.2*

L/H6 = 6.1*

L/H8 = 7.2*

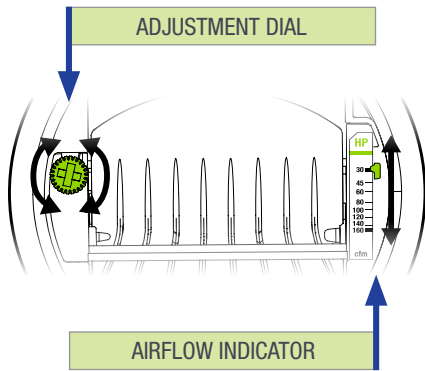
L/H10 = 8.4*

SIDE VIEW

* Actual depth may vary.

Figures represent maximum based on different possible configurations.

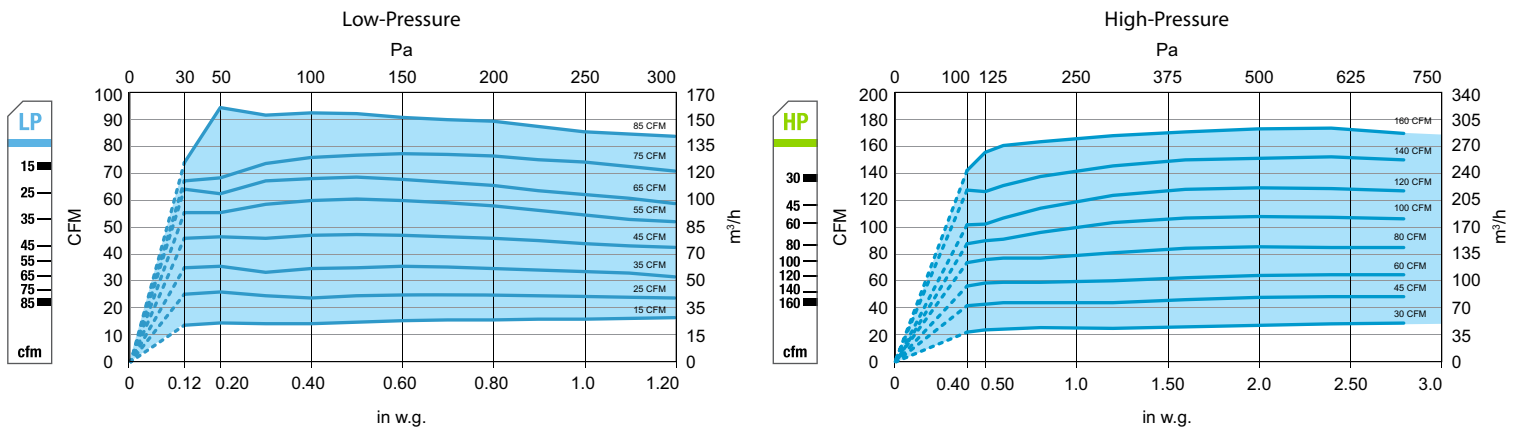
Airflow Settings & Performance Data



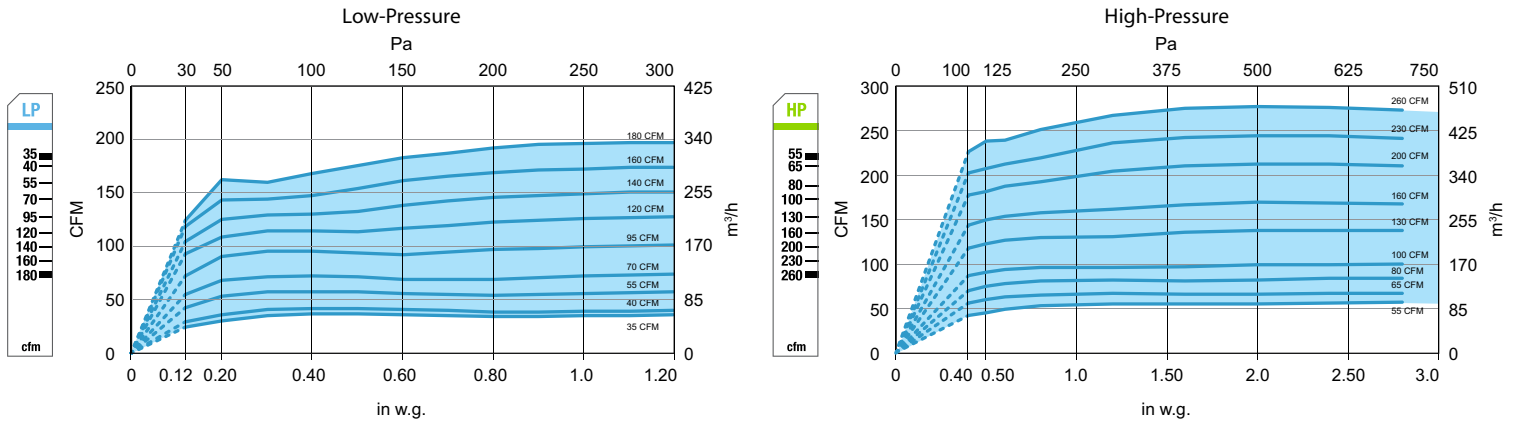
Airflow rate can be set or adjusted by rotating the dial from either side. The airflow indicator will move to show the selected CFM. The airflow label has multiple defined setpoints, but the unique adjustment mechanism of the CAR3 allows for infinite adjustability between the minimum and maximum limits.

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 $\pm 10\%$ 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.

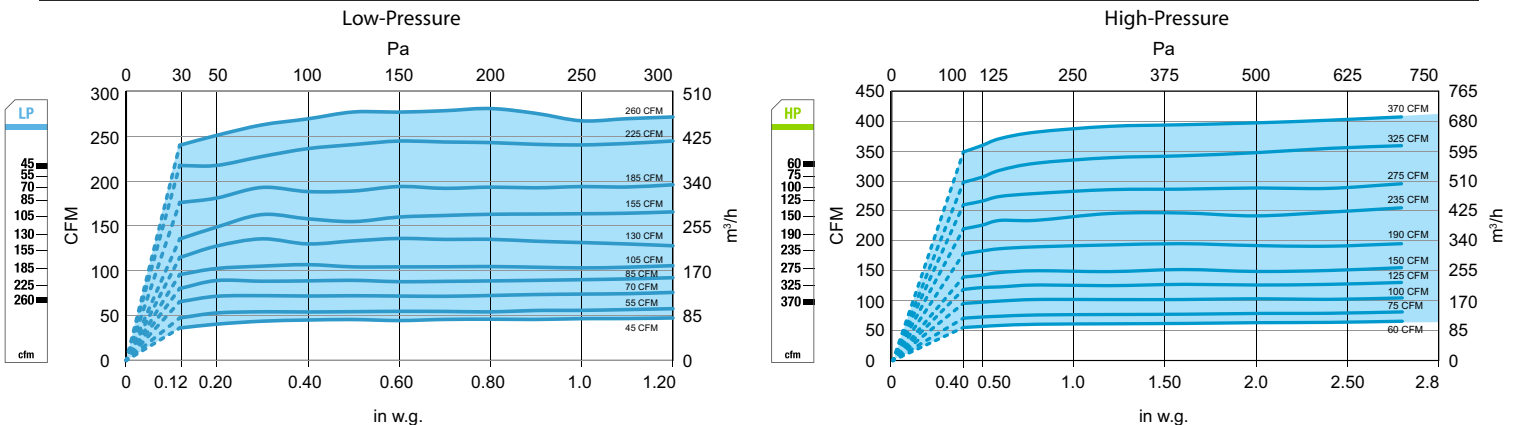
CAR3 4" DIAMETER (100 mm)



CAR3 5" DIAMETER (125 mm)

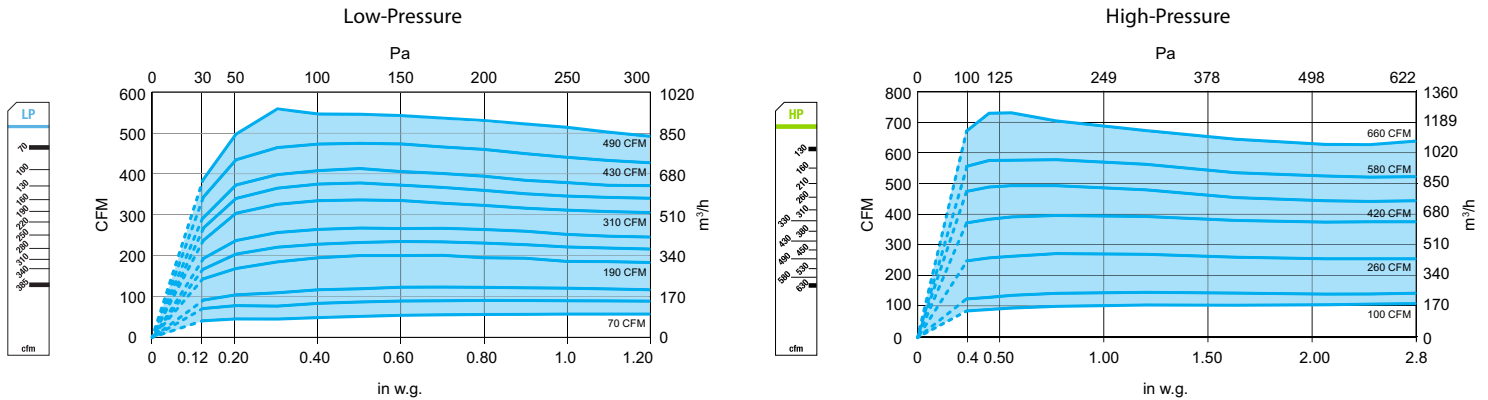


CAR3 6" DIAMETER (150 mm)

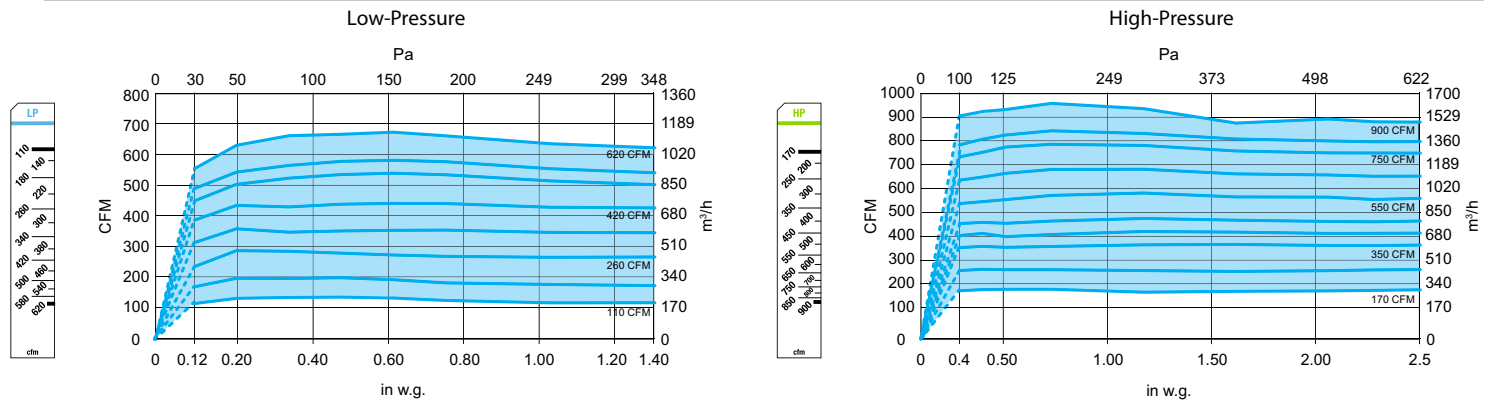


Airflow measurements taken at 68°F (20°C) at 1 atmosphere pressure.

CAR3 8" DIAMETER (200 mm)



CAR3 10" DIAMETER (250 mm)



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

Recommended Specification

Model CAR3-S Constant Airflow Regulator by ALDES North America shall be capable of maintaining constant airflow within $\pm 10\%$ of the scheduled flow rate, within the operating range of 0.12 to 1.2 in. w.g. differential pressure for low-pressure model (CAR3-L), or 0.4 to 2.8 in. w.g. with high-pressure model (CAR3-H). CAR3-S shall solely operate on duct pressure and require no external power supply or sensor, and shall be rated for use in air temperatures ranging from -25°F to 140°F (-32°C to 60°C). CAR3-S shall be provided as an assembly consisting of a galvanized steel mounting plate and CAR3 designed to fit in square or rectangular duct. CAR3 shall be secured to mounting plate without use of gasket or adhesive. Each regulator shall feature dual-side adjustment dial to allow changes in airflow setpoint while installed in either the supply or exhaust direction without removing the regulator from the duct. Each CAR3-S must be calibrated to match the airflow indicated on the schedule or drawing. Regulator must be classified per UL 2043 and carry the UL mark indicating compliance. Constant Airflow Regulator is enhanced with antimicrobial, anti-static, and flame retardant additives for increased durability and safety, and covered under warranty for a period of no less than seven years. Constant Airflow Regulator shall be installed in accordance with local code and manufacturer's instructions.

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

