

# CEB3-CS-F

## CONSTANT EXHAUST BOX

### AIRFLOW & ZONE CONTROL

Made in  
USA

WARRANTY  
7 YEARS



## Product Description

The Aldes CEB3-CS-F Constant Exhaust Box is a ceiling register box with integral ceiling radiation damper which incorporates an automatic, pressure independent balancing damper that regulates exhaust airflow in duct systems to constant levels. The passive control element, or CAR3, in the CEB3-CS-F requires no electric or pneumatic power or sensors, and works solely off system pressure. Each CEB3-CS-F includes mounting brackets, and all necessary hardware for installation.

The CEB3-CS-F compensates for changes in duct pressure caused by stack effect, operable windows and doors, wind, loading filters, etc. The CEB3-CS-F provides a low-cost solution to maintaining the correct airflow balance of ventilation systems, improving system performance and indoor air quality, and provides 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 CEB3-CS-F from the duct.
- Modulating rotary damper automatically responds to changes in duct pressure to maintain set flow.
- The CAR3 resin is enhanced with antimicrobial, anti-static, and flame retardant additives for increased safety and durability.

## 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 register box with steel duct collar.
- 3-hour rated ceiling radiation damper tested and listed per UL555C.

## Maintenance

The CEB3-CS-F 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 is possible by removing the grille.

## 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.

## APPLICATIONS

- Automatic balancing of ceiling duct.
- Balance exhaust/return air in high-rise building.
- Ideal for hotels, multi-family, dorms, and assisted living facilities.

# How to Specify Aldes: CEB3-CS-F

**Step 1:** Reference the model code below and performance details within this specifications sheet to select the appropriate CEB3-CS-F.

**Step 2:** Select the desired **AIRFLOW RANGE**.

**NOTE:** Ranges available: 4, 5, or 6.  
See *Airflow Settings and Performance Data* for additional details. Factory calibration of the CAR3 is available on request.

**Step 3:** Select the **COLLAR DIAMETER**: 4", 5" or 6".

**NOTE:** This number cannot be less than the **AIRFLOW RANGE**; i.e. an airflow range of 5 requires a duct size of 5" or 6".

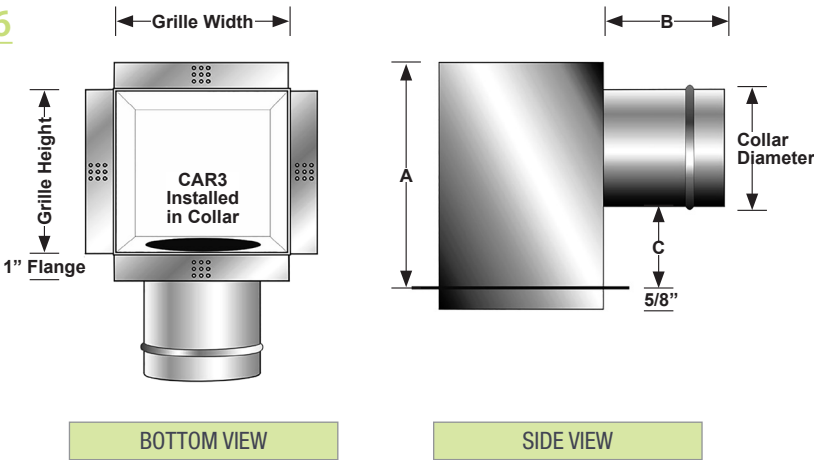
**Step 4:** Select the **NOMINAL GRILLE WIDTH** and **NOMINAL GRILLE HEIGHT**. See Table 1 below for standard sizes.

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

## Model Code Example

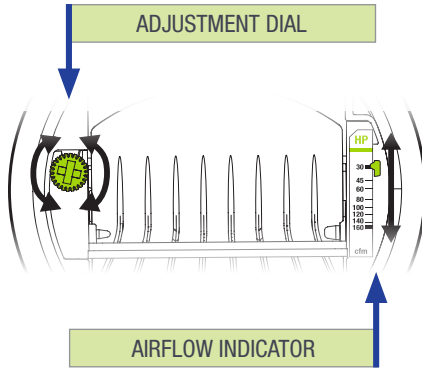
CEB3-L4-CS-4-F-0606	
PARENT MODEL	Constant Exhaust Box
PRESSURE RANGE	L: Low Pressure (0.12-1.2 in. w.g.)
AIRFLOW RANGE	Low Pressure
	4: 15-85 CFM (25-144 m³/h)
	5: 35-180 CFM (59-306 m³/h)
	6: 45-260 CFM (76-442 m³/h)
APPLICATION	C: Ceiling
COLLAR LOCATION	S: Side
COLLAR DIAMETER	4 inch
	5 inch
	6 inch
FIRE RATED:	F: 3 Hour Ceiling Radiation Damper Included
NOMINAL GRILLE WIDTH	
NOMINAL GRILLE HEIGHT	

## CEB3-CS-F Dimensions



COLLAR DIAMETER	A	B	C
4	8" (203 mm)	4.5" (114 mm)	3.25" (83 mm)
5	9" (229 mm)	5.75" (146 mm)	3.25" (83 mm)
6	10" (254 mm)	5.75" (146 mm)	3.25" (83 mm)

GRILLE SIZES		Nominal Width*			
		6	8	10	12
Nominal Height*	6				
	8				
	10				
	12				

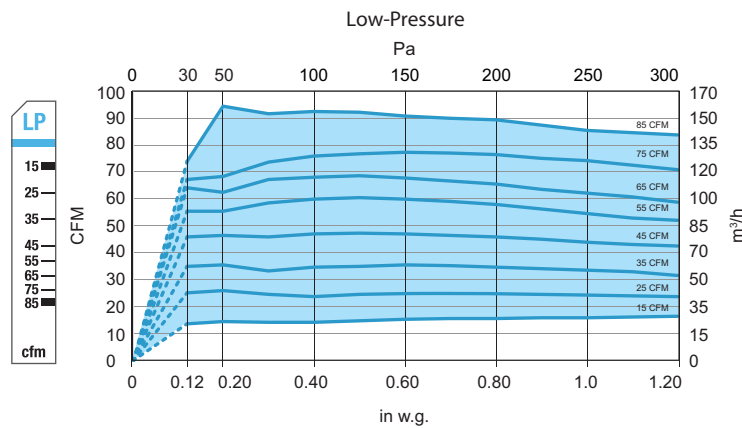


## Airflow Settings & Performance Data

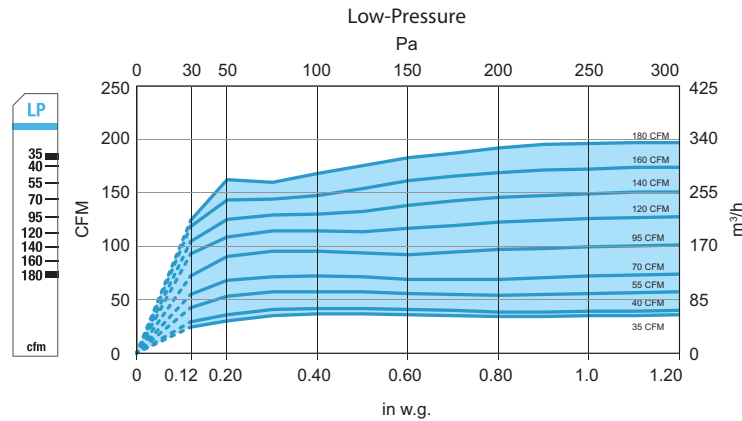
Airflow rate can be set or adjusted by rotating the dial from either side. The airflow indicator will move to show the selected CFM. The airflow label has multiple defined setpoints, but the unique adjustment mechanism of the CEB3-CS-F allows for infinite adjustability between the minimum and maximum limits.

Performance charts found in the specifications sheet reflect this data, with the available range (shaded) and marked setpoints (lines). The CEB3-CS-F 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.

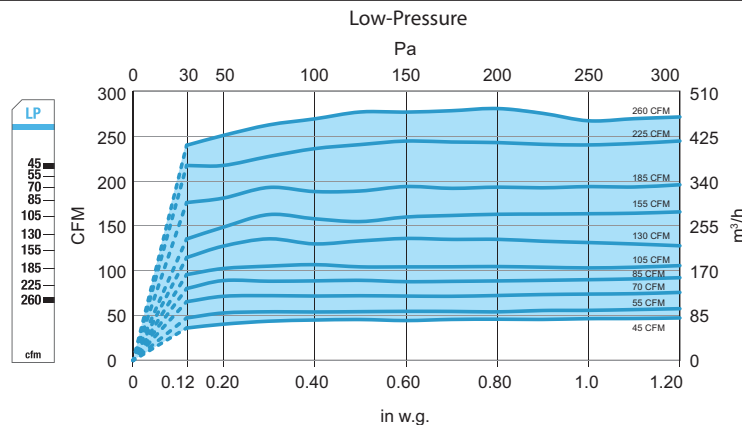
### CAR3 4" DIAMETER (100 mm)



### CAR3 5" DIAMETER (125 mm)



### CAR3 6" DIAMETER (150 mm)



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

## Recommended Specification

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Model CEB3-CS-F Constant Exhaust Box by ALDES North America shall be of sizes and capacities as scheduled, and located per the drawings. The plenum box casing shall be minimum 24-gauge G90 galvanized steel with an integral steel duct collar that allows attachment of both rigid and flexible ducting. The collar shall be sized to allow full insertion of a model CAR3 Constant Airflow Regulator for airflow control, but without the regulator extending into attaching duct. Each assembly will be capable of maintaining constant airflow within +/-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). CEB3-CS-F 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). Each airflow 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 assembly. Each CAR3 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. Each CEB3-CS-F shall be equipped with a 3-hour rated ceiling radiation damper which has been tested and listed per UL555C 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. Each CEB3-CS-F shall include all necessary mounting brackets and hardware. Constant Exhaust Box shall be installed in accordance with local code and manufacturer's instructions.