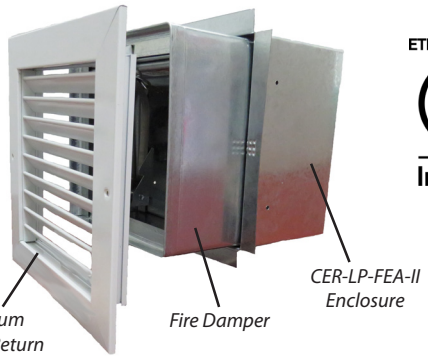
AIRFLOW & ZONE CONTROLS

CER-LP-FEA-II

Low-Pressure Constant Exhaust Register with Integral Fire Damper for Square or Rectangular Ducting

PRODUCT SPECIFICATIONS & TECHNICAL DATA



ETL CLASSIFIED

Intertek

GENERAL

Model CER-LP-FEA-II Constant Exhaust Register incorporates a modulating orifice that automatically regulates airflows in duct systems to constant levels. The passive control element in the CER-LP-FEA-II responds to duct pressure and requires no electric or pneumatic sensors or controls.

The CER-LP-FEA-II compensates for changes in duct pressure caused by thermal stack effect, building pressure, dust-clogged filters, etc. The CER-LP-FEA-II also eliminates the need for on-site balancing in exhaust and return air duct systems.

The active control element of the CER-LP-FEA-II is a unique aerofoil (CAR-II-LP). Using Bernoulli's Principle, the aero-wing damper lifts in response to increasing static pressure. This operation regulates the free-area opening through the control, resulting in maintenance of velocity and specific airflow set points. Each CAR-II-LP is designed and produced for control of air in temperatures ranging from -25° to 140°F (-32° to 60°C.)

CONSTRUCTION

The CER-FEA is saftey classified to UL 2043. The CAR-II-LP is mounted in a heavy-gauge galvanized steel enclosure that is designed to accommodate installation of curtain-type fire dampers and standard aluminum louvered return air grilles. The fire damper is tested and listed per UL555 for use in wall or shaft applications, and it is intended to be installed in a fire partition that is rated up to 2 hours. Three-hour fire dampers can also be used. Each enclosure is welded to prevent leakage. The assembly is sized to fit inside standard duct riser openings and chases. Each enclosure is designed to specifically accommodate the control element and prevent unwanted air leakage.

PERFORMANCE

The CAR-II-LP controls airflow accurately to within 10% of rated flow (15% for units 50 CFM or less) throughout the target operating pressure range of 0.1 to 0.42 in. w.g. (25 to 100 Pa). Each CAR-II-LP is factory tested and calibrated to the rated set point before shipping. Each CAR-II-LP is available in multiple factory-calibrated set points (see performance curves).

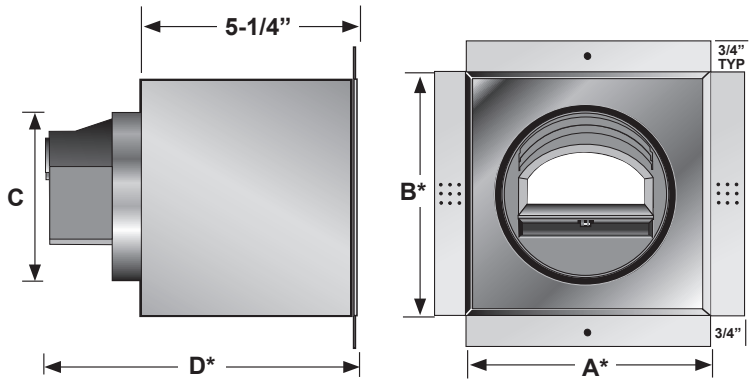
MAINTENANCE

The CAR-II-LP needs no maintenance when used in normal conditions. There is no risk of dust deposit or obstruction because the CAR-II-LP has no airways subject to clogging. If the intended application includes air heavily loaded with grease or dust, a fitting with an access panel or door, such as that used for flame dampers, should be provided.

WARRANTY

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

CER-LP-FEA-II Dimensions



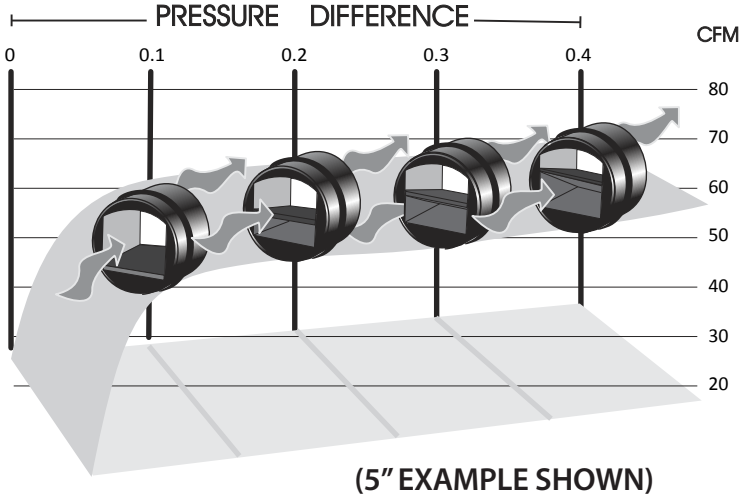
SIDE **FRONT**

PART NUMBER	SLEEVE SIZE* (NOMINAL)	REGULATOR (NOMINAL)	A	B	C	D	GRILLE FACE
18 922LP	6″ x 6″	4″	5.6″	5.6″	3.5″	7.1″	7.5″ x 7.5″
18 923LP	6″ x 6″	5″	5.6″	5.6″	4.5″	8.2″	7.5″ x 7.5″
18 924LP	6″ x 6″	6″	5.6″	5.6″	5.4″	8.2″	7.5″ x 7.5″
18 925LP	8″ x 8″	4″	7.6″	7.6″	3.5″	7.1″	9.5″ x 9.5″
18 926LP	8″ x 8″	5″	7.6″	7.6″	4.5″	8.2″	9.5″ x 9.5″
18 927LP	8″ x 8″	6″	7.6″	7.6″	5.4″	8.2″	9.5″ x 9.5″
18 928LP	8″ x 8″	8″	7.6″	7.6″	7.3″	7.9″	9.5″ x 9.5″
18 929LP	10″ x 10″	4″	9.6″	9.6″	3.5″	7.1″	11.5″ x 11.5″
18 930LP	10″ x 10″	5″	9.6″	9.6″	4.5″	8.2″	11.5″ x 11.5″
18 931LP	10″ x 10″	6″	9.6″	9.6″	5.4″	8.2″	11.5″ x 11.5″
18 932LP	10″ x 10″	8″	9.6″	9.6″	7.3″	7.9″	11.5″ x 11.5″
18 933LP	10″ x 10″	10″	9.6″	9.6″	9.3″	8.3″	11.5″ x 11.5″
18 934LP	12″ x 12″	4″	11.6″	11.6″	3.5″	7.1″	13.5″ x 13.5″
18 935LP	12″ x 12″	5″	11.6″	11.6″	4.5″	8.2″	13.5″ x 13.5″
18 936LP	12″ x 12″	6″	11.6″	11.6″	5.4″	8.2″	13.5″ x 13.5″
18 937LP	12″ x 12″	8″	11.6″	11.6″	7.3″	7.9″	13.5″ x 13.5″
18 938LP	12″ x 12″	10″	11.6″	11.6″	9.3″	8.3″	13.5″ x 13.5″

* Standard sizes shown. Sleeve assemblies are also available to accommodate any damper and grille size. Contact factory.

How the CAR-II-LP Works

Constant airflow is achieved by controlling the free area through the device. At minimum static pressure, the aero-wing is parallel to the air stream. As the static pressure increases, the aero-wing lifts, reducing the amount of free area through the regulator. At the same time, higher static pressure increases the air velocity resulting in CONSTANT AIRFLOW. This occurs regardless of pressure differences in the range of 0.1 to 0.42 in. w.g. (25 to 100 Pa).



(5" EXAMPLE SHOWN)

Typical CER-LP-FEA-II Applications

- **Return and exhaust air systems.**
- **Balancing exhaust airflows in high-rise building duct risers.**
- **Bathroom exhaust in nursing homes, hotels, motels, dormitories, apartment buildings, offices, etc.**

Typical Specification

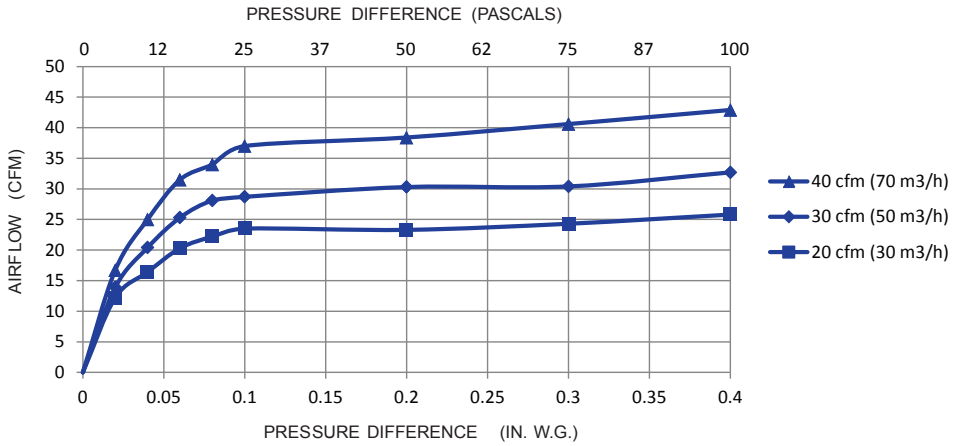
Model CER-LP-FEA-II Constant Exhaust Registers by American ALDES Ventilation Corporation, Bradenton, Florida, shall solely operate on duct pressure and require no external power supply. Each register shall be pre-set and factory calibrated, requiring no field adjustment to the airflows as indicated on the schedule, and shall be rated for use in air temperatures ranging from -25° to 140°F (-32° to 60°C.)

Constant Exhaust Registers shall be capable of maintaining constant airflow within +/- 10% of scheduled flow rates (15% for units 50 CFM or less), within the operating range of 0.1 to 0.42 in. w.g. differential pressure, or 0.2 to 0.8 in. w.g. on standard-pressure models (CER-FEA-II). Integral CAR-II-LP Constant Airflow Regulators shall be provided as an assembly consisting of a 94V-0 UL ABS plastic body. All regulators must be classified per UL 2043 and carry the UL mark indicating compliance. The Constant Airflow Regulator assembly shall be mounted in a heavy-gauge galvanized steel sleeve with a curtain-type fire damper and an all-aluminum exhaust/return air grille. The fire damper shall be tested and listed per UL555 for use in wall or shaft applications, and be rated for 2-hour protection. All Constant Exhaust Registers will require no maintenance and must be warranted for a period of no less than five years. Constant Exhaust Registers shall be installed in tight ducting systems in accordance with all applicable codes and manufacturer's instructions.

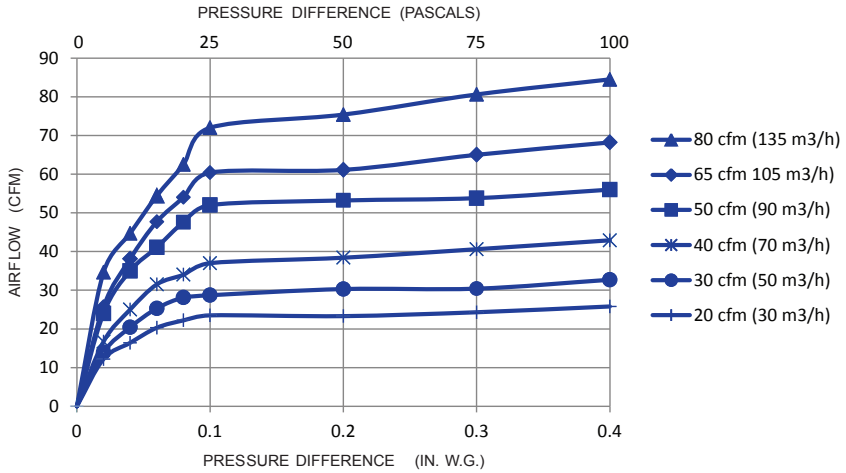
CER-LP-FEA-II Airflow Performance Data

Performance charts reflect airflow measurements taken at 68°F (20°C) at 1 atmosphere pressure. The CER-LP-FEA-II is designed for system pressures between 0.1 and 0.42 in. w.g. Models are also available for applications with system pressures between 0.2 and 0.8 in. w.g (CER-FEA-II).

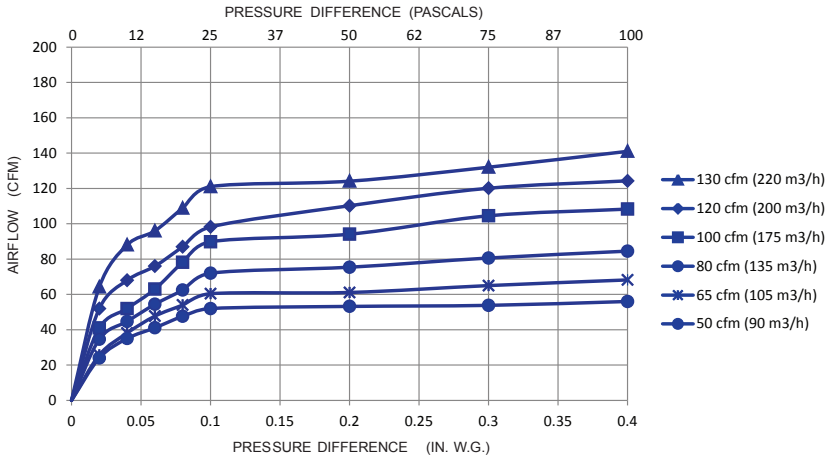
4" DIAMETER (100 mm) REGULATING ELEMENT



5" DIAMETER (125 mm) REGULATING ELEMENT



6" DIAMETER (150 mm) REGULATING ELEMENT



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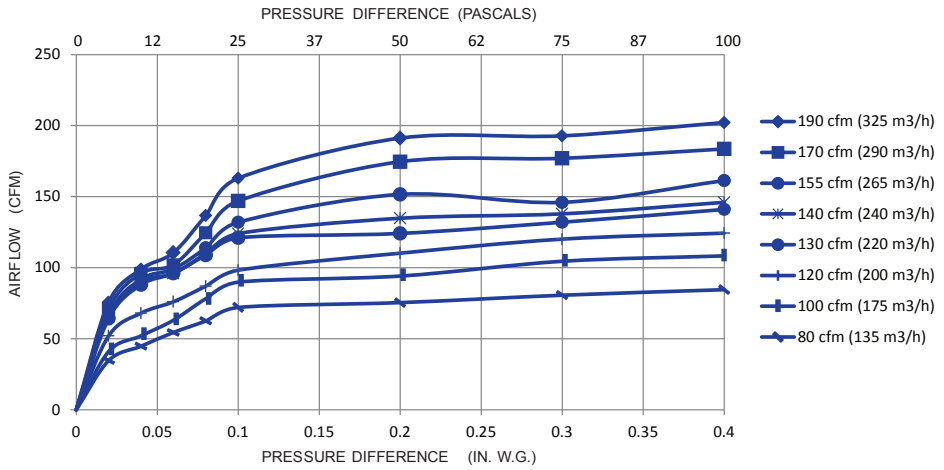
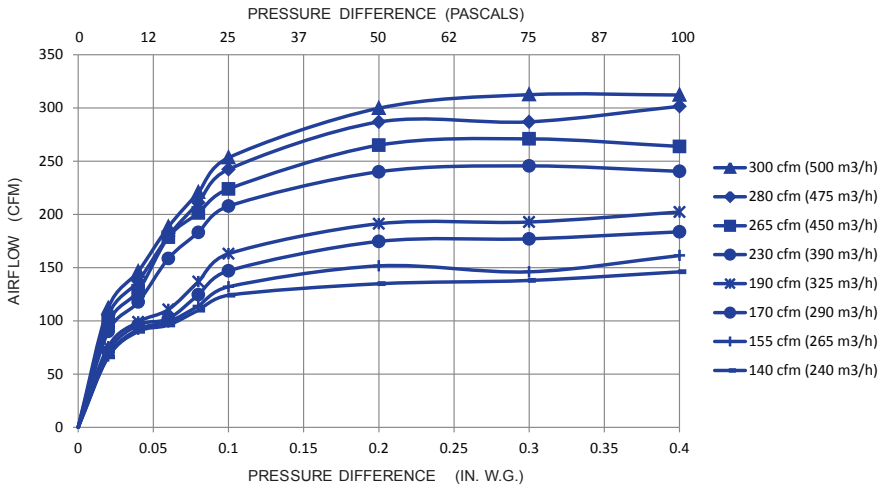
8" DIAMETER (200 mm) REGULATING ELEMENT



10" DIAMETER (250 mm) REGULATING ELEMENT



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