

LFDC

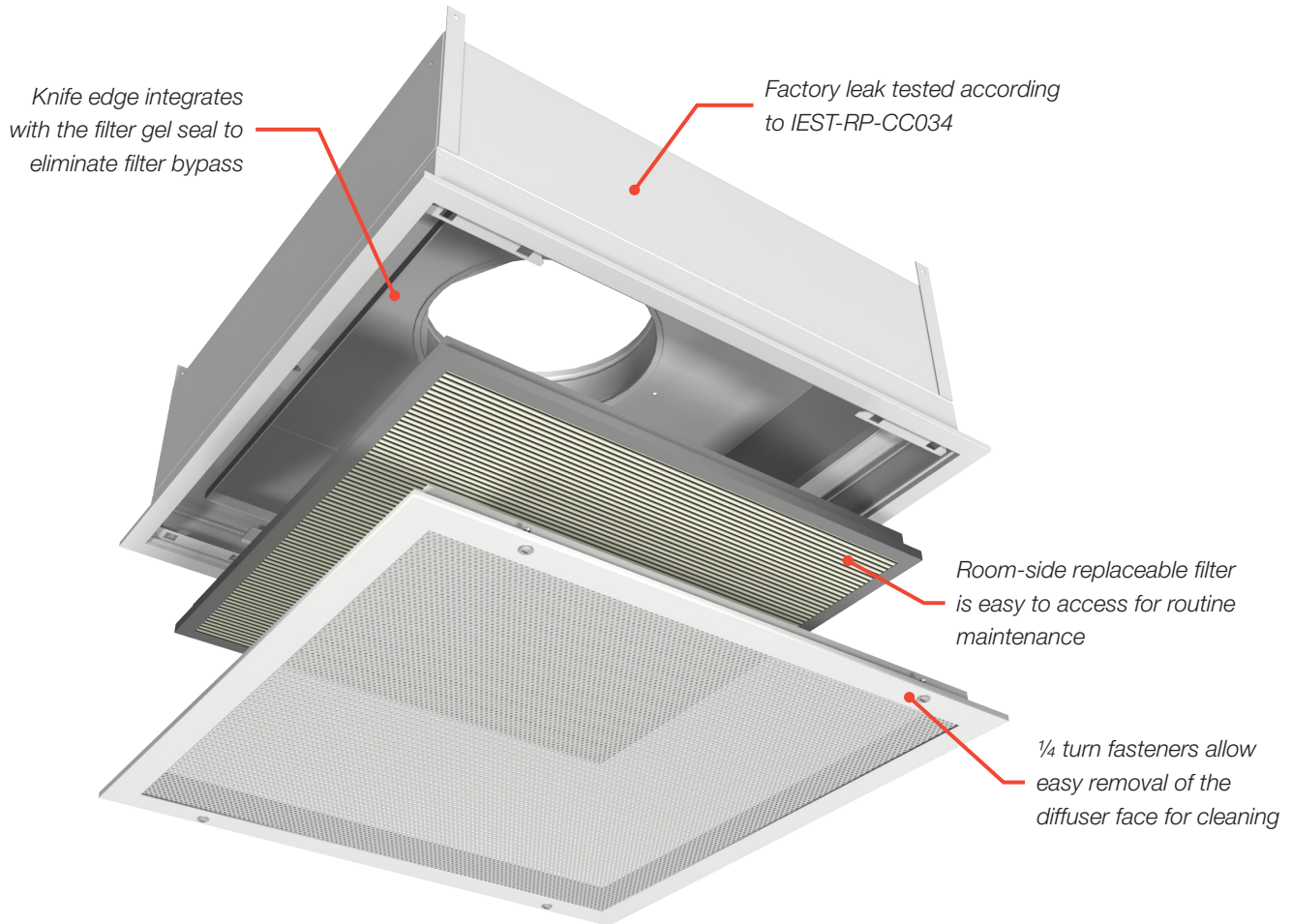
LAMINAR FLOW DIFFUSER WITH HEPA FILTER



LFDC

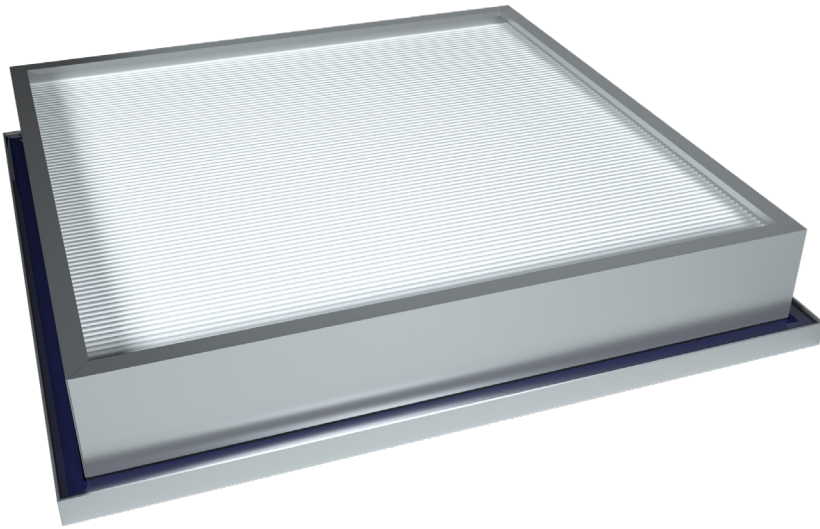
Laminar Flow Diffuser with HEPA Filter

The Laminar Flow Diffuser with HEPA Filter has been designed to suit the stringent requirements of modern operating rooms and other clean spaces. The LFDC provides a means of controlling particle concentration within a room by providing unidirectional laminar airflow with low initial face velocity, supplying clean air to the space without entrainment of contaminated air from the occupied space.



ROOM-SIDE REPLACEABLE FILTER

- + Convenient access from the room-side for periodic filter replacement.
- + Gel seal filter frame and diffuser “knife edge” flange create a reliable seal to prevent filter bypass.
- + Compatible with factory supplied HEPA and ULPA rated filters.



CLEANING & MAINTENANCE

- + LFDC units satisfy all ASHRAE 170 requirements for diffuser cleaning and maintenance.
- + Powder coat paint finish is formulated for routine exposure to hospital grade cleaning solutions and disinfectants.
- + Stainless steel ¼ turn fasteners and retainer cables provide straightforward and convenient access to the filter and knife-edge frame.

TYPICAL APPLICATIONS

The LFDC is classified as an ASHRAE group E non-aspirating diffuser and meets all ASHRAE 170 performance and construction requirements. LFDC diffusers are required by code or commonly used in Operating Rooms, Laboratories, Pharmacies, Pharmaceutical Manufacturing facilities, Cleanrooms and other critical environment spaces.

CONSTRUCTION

- + Material
 - Aluminum (LFDC)
 - Stainless steel (LFDCCSS)
- + Options
 - LED filter status indicator
 - Room-side adjustable damper
 - Aerosol test system
 - Distribution plate
 - Casing Insulation

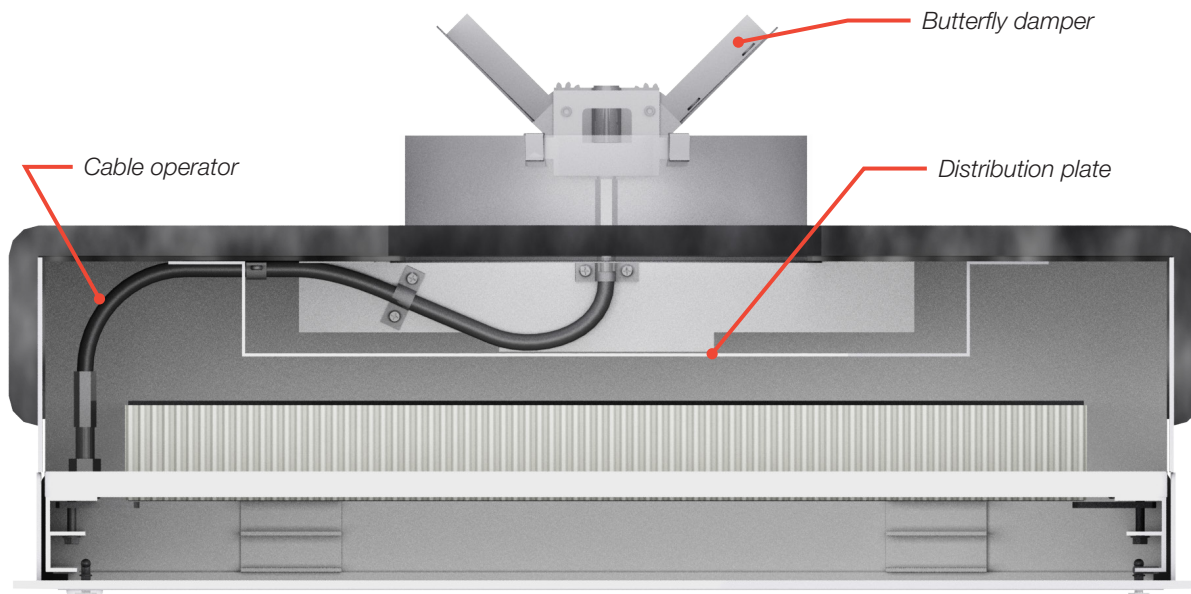
LED FILTER STATUS INDICATOR

- + An optional LED filter status light, visible from the room-side, changes from green to yellow when the filter is loaded and due for replacement.
- + The LED light is factory calibrated to trigger once the filter pressure drop has increased by 50% above that of an unloaded filter and can be adjusted in the field to suit facility preferences.



ROOM-SIDE ADJUSTABLE DAMPER

- + An optional remote cable operator allows adjustment of the damper with the filter in place using a standard screwdriver.
- + Locating the damper operator outside of the filter maximizes filter area, leading to a larger airflow capacity and less pressure drop.



Room-side adjustable damper cross sectional view

DISTRIBUTION PLATE

- + The optional distribution plate, located beneath the inlet, equalizes airflow and ensures even loading across the filter.

FACTORY LEAK TESTING AND CERTIFICATION

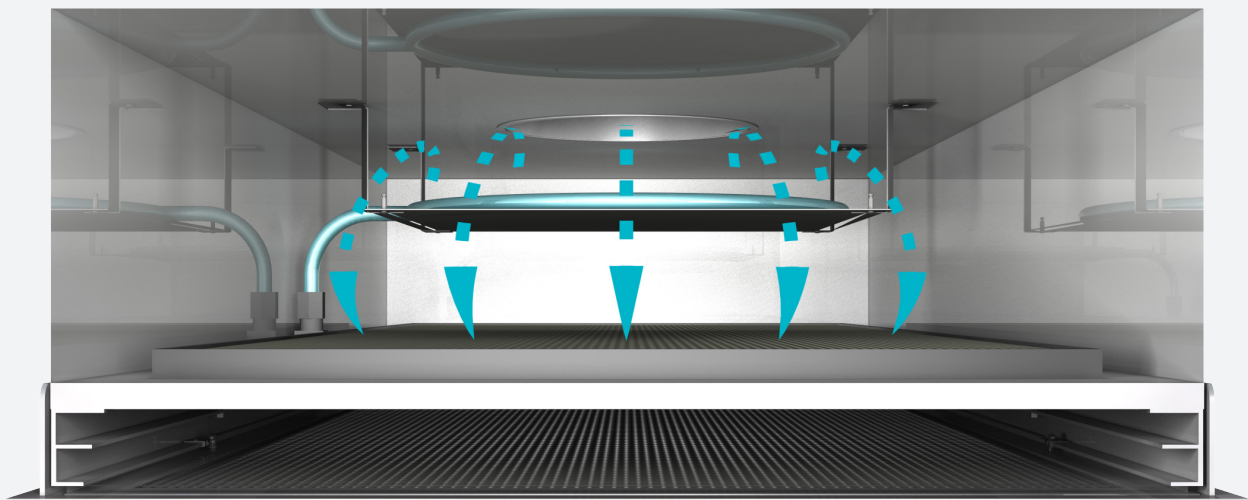
- + Every LFDC is factory tested and certified leak-free in accordance with IEST-RP-CC034.

AEROSOL SAMPLE & STATIC PRESSURE PORT

- + Used for room-side field measurement of static pressure and challenge aerosol concentrations upstream of the filter during the commissioning process.

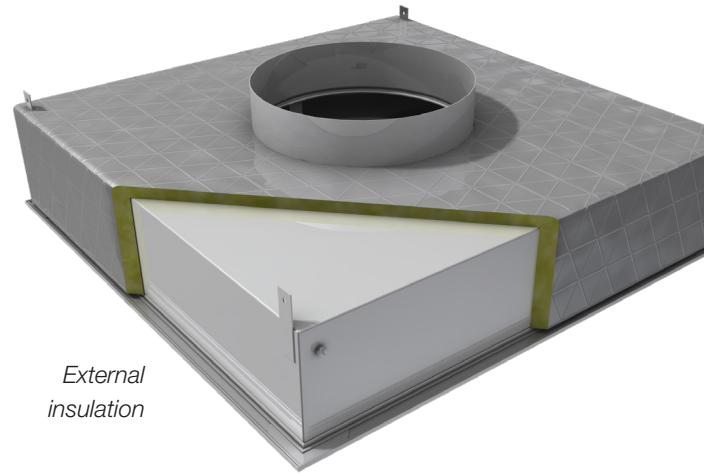
AEROSOL TEST SYSTEM

- + Unique and convenient option when upstream aerosol injection during field commissioning is impractical.
- + The aerosol injection port (3/8 in. female NPT) and aerosol sample and static pressure port facilitate the complete room-side aerosol challenge of the diffuser.
- + Stainless steel aerosol dispersion ring for equalized aerosol challenge across the entire active filter area.

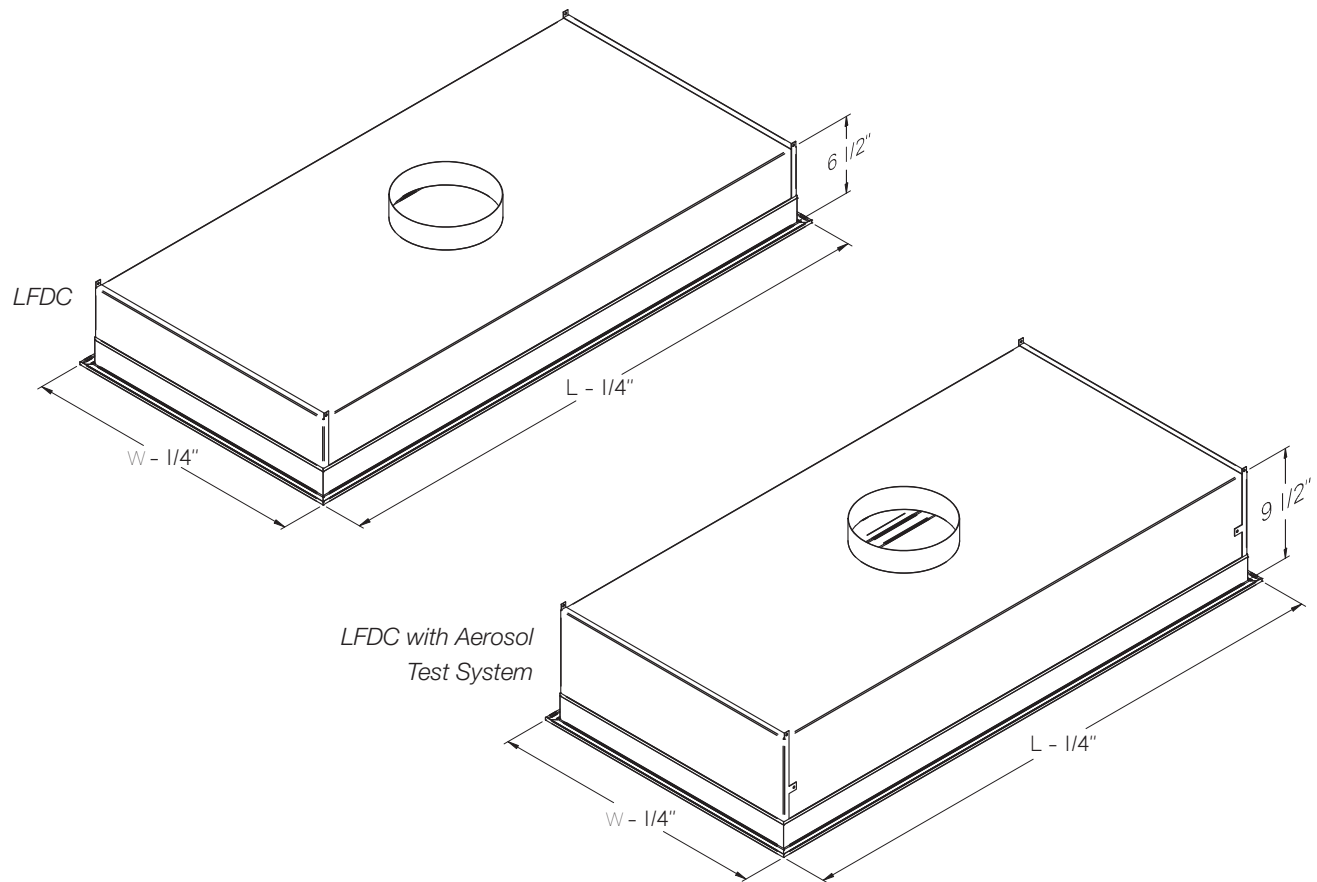


FACTORY INSTALLED INSULATION

- + Ensures quality application and minimizes field labor with factory installed insulation
- + Minimizes condensation risk associated with unconditioned plenum air exposure to cold diffuser surfaces
- + Reduces thermal gain for improved energy savings
- + Meets ASTM E84 and UL723 requirements



DIMENSIONAL DATA



Nominal Sizes	
W x L	Inlet Sizes
24 in. x 24 in.	8,10,12
24 in. x 36 in.	8,10,12
24 in. x 42 in.	8,10,12
24 in. x 48 in.	8,10,12

PERFORMANCE DATA

Unit Size (in.)	Inlet Size (in.)	Air Flow (cfm)	Filter	Static Pressure (in. w.g.)	Sound (NC)
24 x 24	10	100	HE 95% .3 µm	0.13	-
		150		0.22	-
		200		0.32	-
		250		0.43	-
		100	HEPA 99.99% .3 µm	0.25	-
		150		0.36	-
		200		0.50	-
		250		0.62	-
		100	ULPA 99.9995% .12 µm	0.33	-
		150		0.50	-
		200		0.70	-
		250		0.88	-
24 x 36	10	150	HE 95% .3 µm	0.13	-
		200		0.18	-
		250		0.25	-
		300		0.31	16
		350		0.37	19
		400		0.45	22
		150	HEPA 99.99% .3 µm	0.23	-
		200		0.30	-
		250		0.39	-
		300		0.47	18
		350		0.55	21
		400		0.65	24
		150	ULPA 99.9995% .12 µm	0.34	-
		200		0.44	-
		250		0.54	-
		300		0.67	18
		350		0.80	22
		400		0.92	26
24 x 42	12	200	HE 95% .3 µm	0.14	-
		250		0.18	-
		300		0.24	-
		350		0.29	-
		400		0.34	-
		450		0.39	16
		500		0.47	18
		200	HEPA 99.99% .3 µm	0.25	-
		250		0.32	-
		300		0.40	-
		350		0.45	-
		400		0.54	-
		450		0.60	18
		500		0.70	20
		200	ULPA 99.9995% .12 µm	0.36	-
		250		0.45	-
		300		0.56	-
		350		0.66	-
		400		0.75	17
		450		0.87	20
		500		1.00	22
24 x 48	12	200	HE 95% .3 µm	0.11	-
		300		0.19	-
		400		0.27	-
		500		0.35	18
		600		0.45	24
		200	HEPA 99.99% .3 µm	0.22	-
		300		0.34	-
		400		0.45	16
		500		0.56	22
		600		0.68	26
		200	ULPA 99.9995% .12 µm	0.33	-
		300		0.48	-
		400		0.62	-
		500		0.78	22
		600		0.92	26

Performance Notes:

- sp = Static Pressure, in. w.g.
- cfm = Air flow in cubic feet per minute, cfm.
- NC = Noise Criteria. NC values are based on room absorption of 10dB re 10⁻¹² watts.
- Blanks "-" indicate an NC level below 15.
- sp and NC at full open damper position.
- Tested in accordance with ASHRAE Standard 70-2006.



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