

RFDC

RADIAL FLOW DIFFUSER WITH HEPA FILTER



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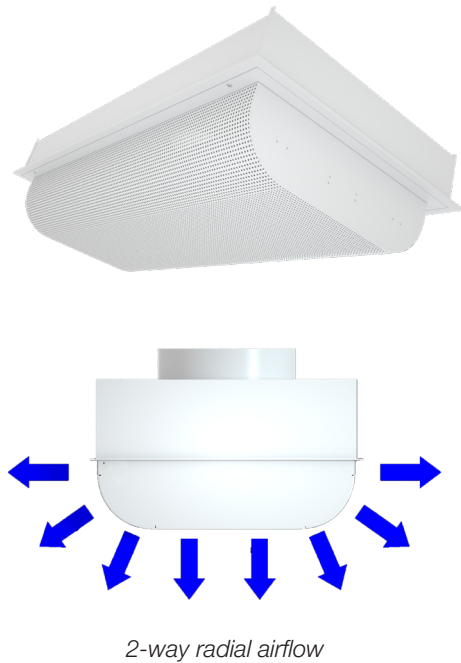
Radial Flow Diffuser with HEPA Filter

The Radial Flow Diffuser with HEPA Filter (RFDC)'s patented construction is designed to deliver large volumes of filtered air with extremely short throws to minimize velocity in critical applications. Ideal for use in laboratories, the RFDC is able to provide large volumes of make-up air without adversely impacting containment at fume hoods.



INDUSTRY LEADING PERFORMANCE

- + The RFDC's semi-cylindrical construction provides exceptional performance through the increased surface area of the face, producing low initial face velocity and minimizing entrainment of room air.



CLEANING & MAINTENANCE

- + RFDC 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 1/4 turn fasteners and retainer cables provide straightforward and convenient access to the filter and knife-edge frame.

TYPICAL APPLICATIONS

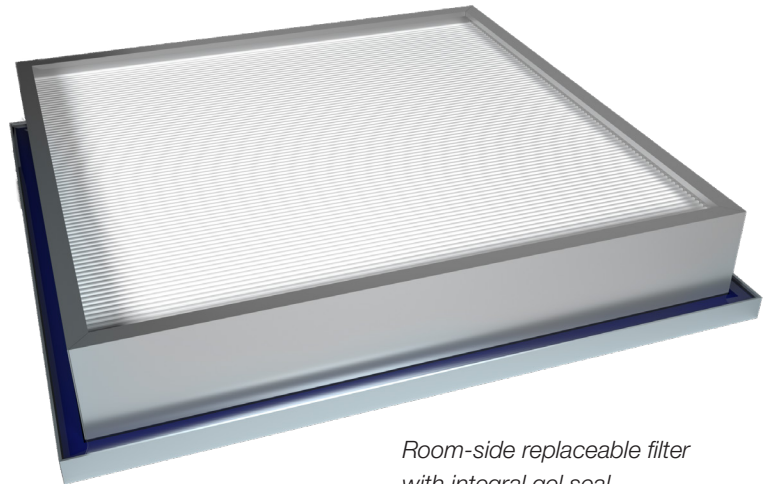
The RFDC is commonly used in laboratories and airborne infectious isolation rooms where short throw and high capacity, filtered airflow are required. These diffusers are able to provide a high level of dilution while maintaining occupant comfort with a minimal number of diffusers. The RFDC is a combination of ASHRAE group A and group E diffusers and meets ASHRAE 170 requirements for the ventilation of healthcare facilities.

CONSTRUCTION

- + Material
 - Aluminum (RFDC)
 - Stainless steel (RFDCSS)
- + Options
 - Exterior insulation

ROOM-SIDE REPLACEABLE FILTER

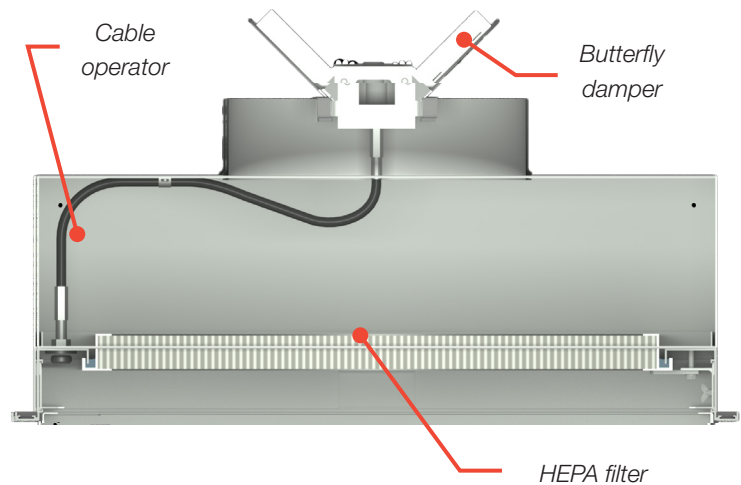
- + Convenient access from the room-side for periodic filter replacement.
- + Gel seal filter frame and diffuser “knife edge” flange create a reliable seal to prevent filter bypass.
- + Compatible with factory supplied HEPA and ULPA rated filters.



Room-side replaceable filter with integral gel seal

ROOM-SIDE ADJUSTABLE INLET 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

FACTORY LEAK TESTING AND CERTIFICATION

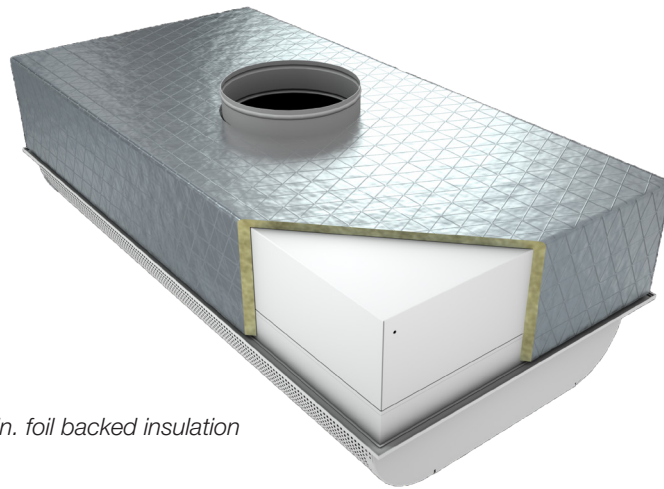
- + Every RFDC is factory tested and certified leak-free in accordance with IEST-RP-CC034.

AEROSOL SAMPLING & STATIC PRESSURE PORT

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

EXTERIOR INSULATION

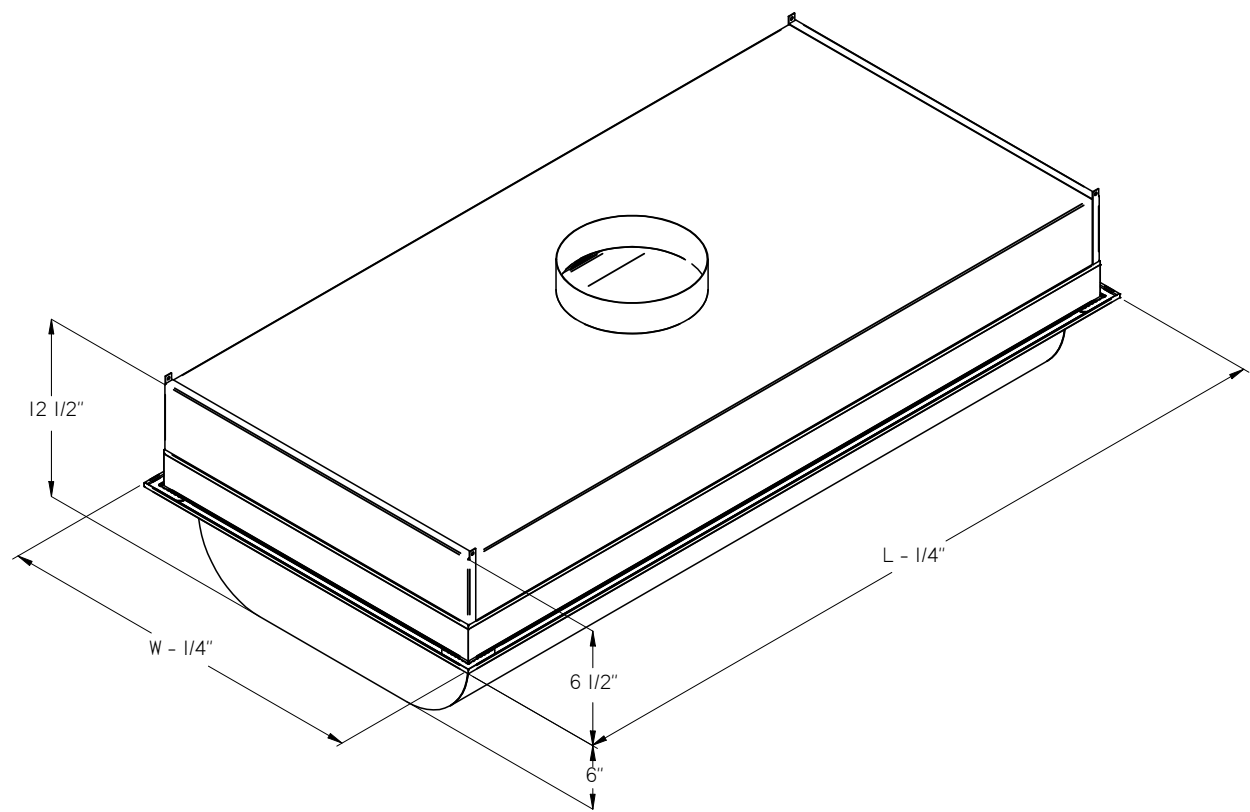
- + Ensures quality application and minimizes field labor with factory installed insulation
- + Eliminates condensation risk associated with unconditioned plenum air exposure to cold diffuser surfaces
- + Reduces thermal gain for improved energy savings
- + Meets ASTM E84 and UL723 requirements



1/2 in. foil backed insulation



DIMENSIONAL DATA



Nominal Sizes	
W x L	Inlet Sizes
24 in. x 24 in.	12
24 in. x 48 in.	12

PERFORMANCE DATA

Unit Size (in.)	Air Flow (cfm)	Filter Face Velocity (fpm)	Filter	Static Pressure (in. w.g.)	Sound (NC)	Vertical Throw (ft.) 150-100-50 fpm	Horizontal Throw (ft.) 150-100-50 fpm
24 x 24	150	74	HE 95% .3 µm	0.22	-	0-2-4	-
	200	98		0.32	-	0-2-4	-
	250	123		0.43	-	0.5-2-4.5	-
	150	74	HEPA 99.99% .3 µm	0.36	-	0-2-4	-
	200	98		0.50	-	0-2-4	-
	250	123		0.62	-	0.5-2-4.5	-
	150	74	ULPA 99.999% .12 µm	0.50	-	0-2-4	-
	200	98		0.70	-	0-2-4	-
	250	123		0.88	-	0.5-2-4.5	-
24 x 48	300	61	HE 95% .3 µm	0.18	-	0-1.5-1	0-0.5-1
	400	82		0.27	-	1.5-1.5-2.5	0.5-1-2
	500	102		0.37	19	3-3.5-4	1-2-2.5
	600	123		0.46	23	3-3.5-4	2-3-4
	300	61	HEPA 99.99% .3 µm	0.31	-	0-1.5-1	0-0.5-1
	400	82		0.42	-	1.5-1.5-2.5	0.5-1-2
	500	102		0.54	19	3-3.5-4	1-2-2.5
	600	123		0.66	23	3-3.5-4	2-3-4
	300	61	ULPA 99.999% .12 µm	0.44	-	0-1.5-1	0-0.5-1
	400	82		0.60	-	1.5-1.5-2.5	0.5-1-2
	500	102		0.76	19	3-3.5-4	1-2-2.5
	600	123		0.92	23	3-3.5-4	2-3-4

Performance Notes:

1. sp = Static Pressure, in. w.g., required at inlet for the listed cfm.
2. cfm = Air flow in cubic feet per minute, cfm.
3. NC = Noise Criteria. NC values are based on room absorption of 10dB, re 10⁻¹² watts.
4. Blanks "-" indicate an NC level below 15.
5. Throw values are given in feet to terminal velocities of 100 fpm (minimum), 75 fpm (middle) and 50 fpm (maximum).
6. Throw values are based on vertical pattern at 10 °F cooling.
7. sp and NC at full open damper position.
8. Tested in accordance with ASHRAE Standard 70-2006 "Method of Testing for Rating the Performance of Air Outlets and Inlets."



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