

LFD

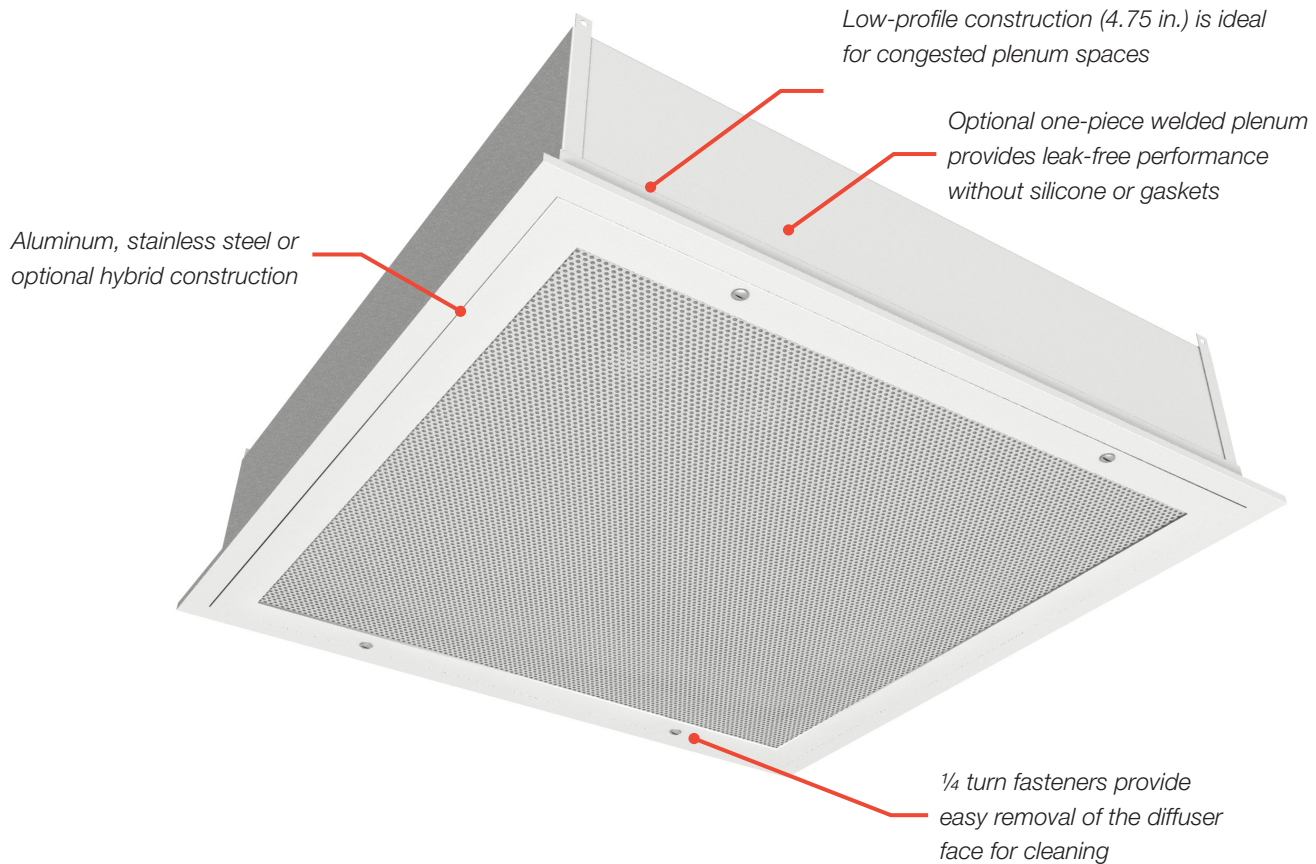
LAMINAR FLOW DIFFUSER



LFD

Laminar Flow Diffuser

Laminar flow diffusers are engineered to provide a uniform, unidirectional low velocity air pattern. The column-like airflow displaces airborne particulate down and away from the area below the diffuser. Available in a variety of sizes and construction types, with many standard and optional features, the LFD is the most versatile laminar flow diffuser on the market.

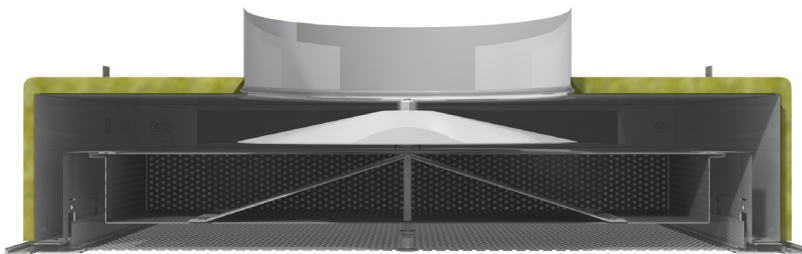


ENGINEERED EQUALIZATION BAFFLE

- + The integral equalization baffle divides the plenum to create a dual-chamber design, ensuring even distribution of supply air at consistent velocities across the face of the diffuser without excess pressure drop. Consistent low velocities across the diffuser face are essential to prevent room air from being entrained by the clean, filtered supply air.

EQUALIZATION “V” BAFFLE

- + The “V” baffle option optimizes flow and velocity equalization across the diffuser face using a multi-piece dual-chamber baffle system. An internal cone damper is ideal for applications where interstitial space restrictions make collar-mounted butterfly dampers impractical.



Cross section with “V” baffle option

ONE-PIECE WELDED PLENUM

- + Fully welded corners provide a tightly sealed plenum without the need for additional silicone or gasket.

HYBRID CONSTRUCTION

- + Customized hybrid solutions are available, as the plenum and face material can be independently selected. A variety of materials are available, including stainless steel, aluminum and steel.

TYPICAL APPLICATIONS

The LFD is ideal for use in applications where entrainment or mixing of room air is undesirable or unsafe including operating rooms, laboratories, pharmacies, pharmaceutical manufacturing facilities, cleanrooms and other critical environment spaces. Classified as an ASHRAE group E non-aspirating diffuser the LFD meets all ASHRAE 170 performance and construction requirements.

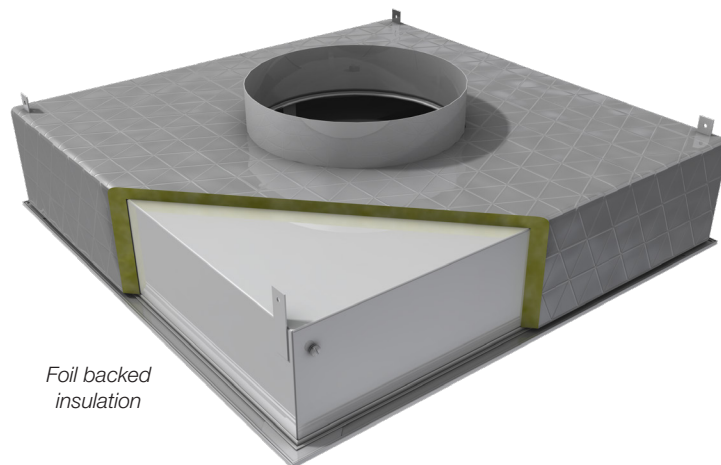
CONSTRUCTION

- + Baffle Style
 - Equalization baffle (LFD)
 - Equalization “V” Baffle (LFD3)
- + Options
 - Hybrid plenum construction
 - One-piece welded plenum
 - Adjustable inlet damper
 - Factory installed insulation



FACTORY INSTALLED INSULATION

- + Ensures quality application and minimize 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.
- + Insulation meets ASTM E84 and UL723 requirements.



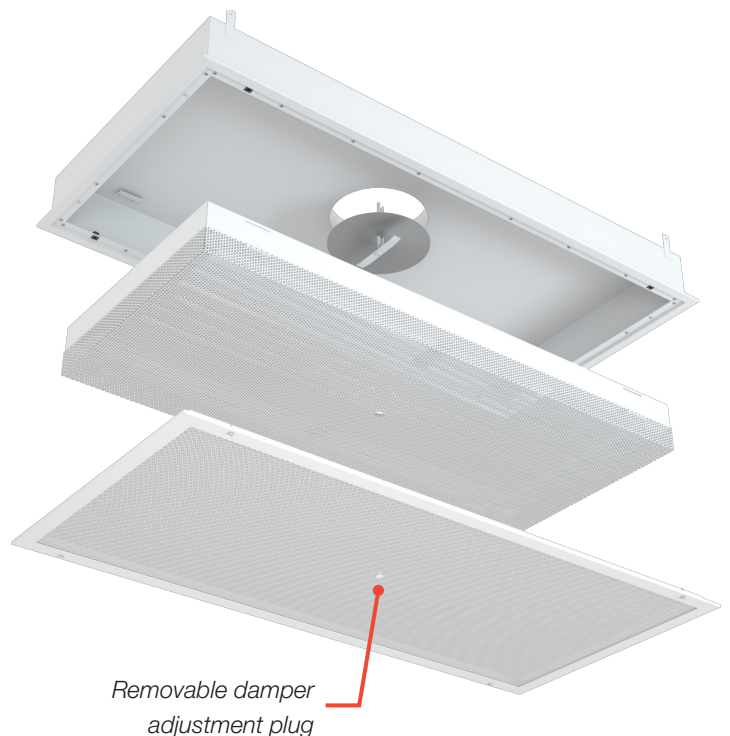


CLEANING & MAINTENANCE

- + Both standard and “V” baffle equalization options are easily removable without tools and satisfy ASHRAE 170 requirements for full access to all internal surfaces for cleaning and sterilization.
- + Powder coat paint finish 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 plenum for cleaning or damper adjustment.

ADJUSTABLE INLET DAMPERS

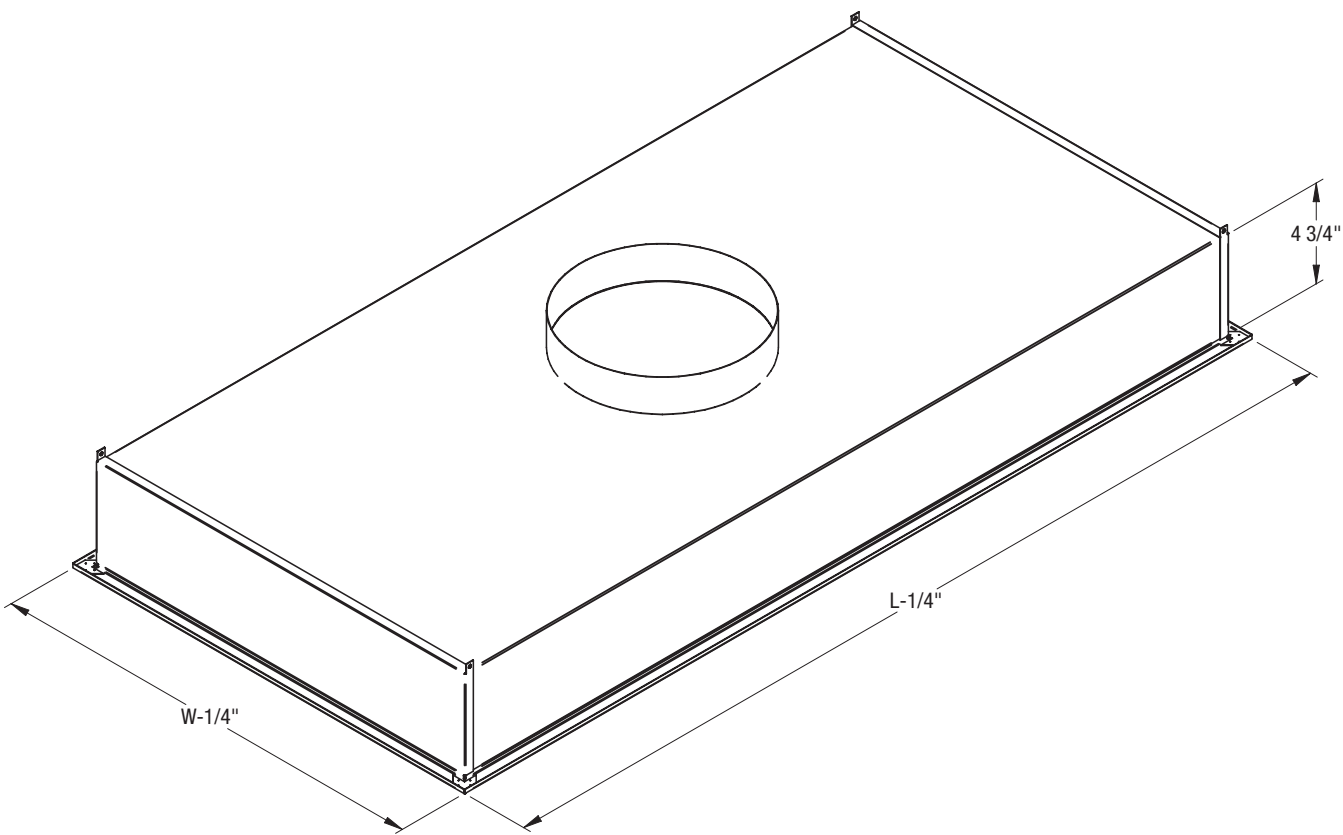
- + Optional inlet dampers facilitate fine-tuning of supply airflow rates to ensure even distribution of supply air across all diffusers in an array.
- + Aluminum or stainless steel construction.
- + Collar-mounted butterfly dampers are available in standard or room-side accessible configurations.
- + Room-side adjustable cone dampers are internal to the diffuser thereby avoiding an increase to the overall height of the diffuser assembly (only available with the “V” equalization baffle option).



Butterfly-style
inlet air damper



DIMENSIONAL DATA



Nominal Sizes	
W x L	Inlet Sizes
12 in. x 24 in.	6,8
12 in. x 36 in.	6,8
12 in. x 48 in.	6,8
12 in. x 60 in.	6,8
12 in. x 72 in.	6,8
24 in. x 24 in.	6,8,10,12
24 in. x 36 in.	6,8,10,12
24 in. x 48 in.	6,8,10,12
24 in. x 60 in.	6,8,10,12
24 in. x 72 in.	6,8,10,12

PERFORMANCE DATA

Unit Size (in.)	Inlet Size (in.)	Air Flow (cfm)	Static Pressure (in. w.g.)	Total Pressure (in. w.g.)	Sound (NC)
12 x 48	6	80	0.02	0.03	-
		100	0.03	0.05	-
		120	0.04	0.06	-
		140	0.05	0.09	-
		160	0.07	0.11	16
		200	0.11	0.17	24
		240	0.15	0.24	31
	8	80	0.02	0.02	-
		100	0.02	0.03	-
		120	0.03	0.04	-
		140	0.04	0.05	-
		160	0.06	0.07	-
		200	0.08	0.10	-
		240	0.12	0.15	15
24 x 24	8	80	0.02	0.02	-
		100	0.02	0.03	-
		120	0.03	0.04	-
		140	0.04	0.05	-
		160	0.05	0.07	-
		200	0.08	0.10	16
		240	0.11	0.14	23
	10	80	0.01	0.01	-
		100	0.02	0.02	-
		120	0.02	0.03	-
		140	0.03	0.03	-
		160	0.04	0.04	-
		200	0.06	0.07	-
		240	0.08	0.09	-
24 x 36	8	120	0.02	0.03	-
		150	0.03	0.05	-
		180	0.05	0.06	-
		210	0.06	0.08	16
		240	0.08	0.11	21
		300	0.12	0.16	29
		360	0.16	0.23	35
	10	120	0.02	0.02	-
		150	0.03	0.03	-
		180	0.03	0.04	-
		210	0.05	0.05	-
		240	0.06	0.07	-
		300	0.09	0.10	18
		360	0.12	0.15	25

Performance Notes:

1. All pressure drops are in inches water gauge (in. w.g.)
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 NC level below 15 and a sp less than 0.01.
5. Total pressure, static pressure and NC performance assumes no damper.
6. Tested in accordance with ASHRAE Standard 70.

PERFORMANCE DATA

Unit Size (in.)	Inlet Size (in.)	Air Flow (cfm)	Static Pressure (in. w.g.)	Total Pressure (in. w.g.)	Sound (NC)
24 x 48	8	160	0.03	0.04	-
		200	0.05	0.07	-
		240	0.06	0.09	19
		280	0.08	0.12	24
		320	0.10	0.16	29
		400	0.15	0.24	37
		480	0.21	0.33	44
	10	160	0.02	0.03	-
		200	0.03	0.04	-
		240	0.05	0.06	-
		280	0.06	0.08	-
		320	0.08	0.10	19
		400	0.11	0.15	27
		480	0.16	0.21	33
	12	160	0.02	0.02	-
		200	0.03	0.03	-
		240	0.04	0.04	-
		280	0.05	0.06	-
		320	0.06	0.07	-
		400	0.09	0.10	18
		480	0.12	0.15	25
24 x 60	8	200	0.04	0.06	-
		250	0.06	0.09	19
		300	0.08	0.12	26
		350	0.10	0.17	31
		400	0.13	0.21	36
		500	0.19	0.32	44
		600	0.27	0.45	50
	10	200	0.03	0.04	-
		250	0.04	0.05	-
		300	0.06	0.08	15
		350	0.08	0.10	21
		400	0.10	0.13	26
		500	0.14	0.19	33
		600	0.20	0.27	40
	12	200	0.02	0.03	-
		250	0.03	0.04	-
		300	0.04	0.05	-
		350	0.06	0.07	-
		400	0.07	0.09	17
		500	0.11	0.14	25
		600	0.15	0.19	32

Performance Notes:

1. All pressure drops are in inches water gauge (in. w.g.)
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4. Blanks "-" indicate NC level below 15 and a sp less than 0.01.
5. Total pressure, static pressure and NC performance assumes no damper.
6. Tested in accordance with ASHRAE Standard 70.

PERFORMANCE DATA

Unit Size (in.)	Inlet Size (in.)	Air Flow (cfm)	Static Pressure (in. w.g.)	Total Pressure (in. w.g.)	Sound (NC)
24 x 72	8	240	0.03	0.05	-
		300	0.05	0.07	-
		360	0.07	0.10	21
		420	0.09	0.13	26
		480	0.11	0.16	31
		600	0.17	0.25	39
		720	0.24	0.34	45
	10	240	0.03	0.03	-
		300	0.04	0.05	-
		360	0.05	0.07	-
		420	0.07	0.09	18
		480	0.09	0.11	23
		600	0.13	0.17	30
		720	0.18	0.24	37
	12	240	0.02	0.02	-
		300	0.03	0.04	-
		360	0.04	0.05	-
		420	0.06	0.07	-
		480	0.07	0.08	15
		600	0.11	0.13	23
		720	0.15	0.18	30

Performance Notes:

1. All pressure drops are in inches water gauge (in. w.g.)
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 NC level below 15 and a sp less than 0.01.
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