

LabSOX™

Better **Air**
Dispersion for
Critical
Environments



LabSox™ Products are “Fabric” Air Dispersion Devices designed for laboratory environments (vivariums, pharmaceutical, research education, etc.) in critical applications commonly associated with a fume hood or other airflow sensitive equipment (scales, laser, microscope, etc). LabSox are also applicable to industrial or commercial kitchen applications.

Airflow in laboratories is a critical design factor as turbulent air can negatively affect research or even cause hood failure resulting in a compliancy issue. The LabSox advantage is clear as air passes through specialized fabric panels resulting in uniform, low velocity, radially diverging air patterns with little if any turbulence.

LabSox products are not only ideal for labs of the future, but can be easily retrofitted to resolve air flow issues in existing facilities.

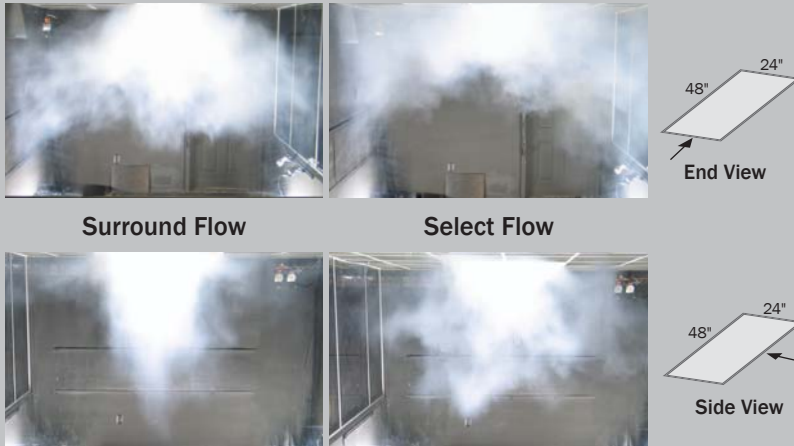


Cover: Smoke testing reveals uniform air flow pattern of a Surround Flow All-Fabric D-Fuser (500 CFM).

Better Air Dispersion

The following images reveal airflow patterns of two “fabric” faced D-Fusers and two industry standard “metal” faced diffusers. Each of the diffusers were tested at 750 CFM and yielded the airflow patterns as shown in both the end (24" width) and side (48" length) view.

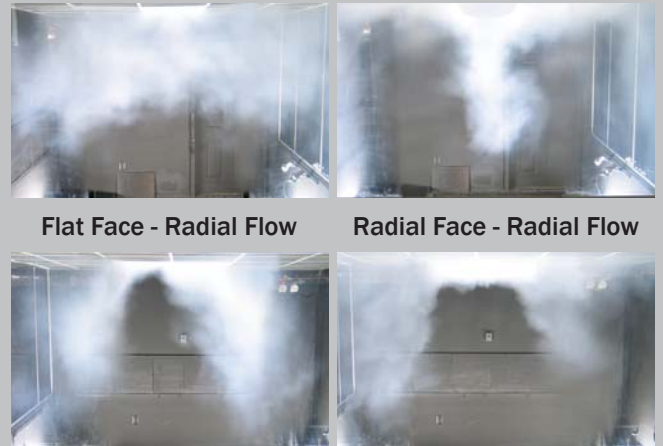
Fabric: MetalPan D-Fuser



Surround Flow

Select Flow

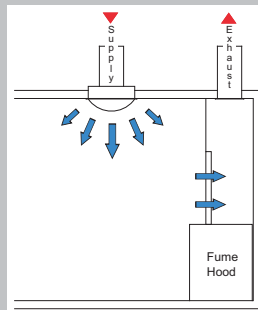
Metal: Radial Flow Diffusers



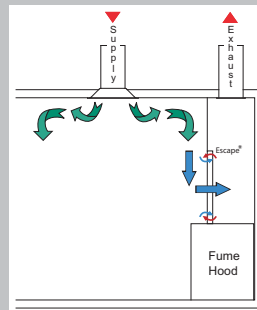
Flat Face - Radial Flow

Radial Face - Radial Flow

Fabric provides uniform, low velocity airflow patterns that have little or no turbulence. In many critical environments, this may enhance hood performance.



Metal diffusers use turbulent airflow to create radial airflow patterns that may reduce hood capture rates and possibly cause hood failure.



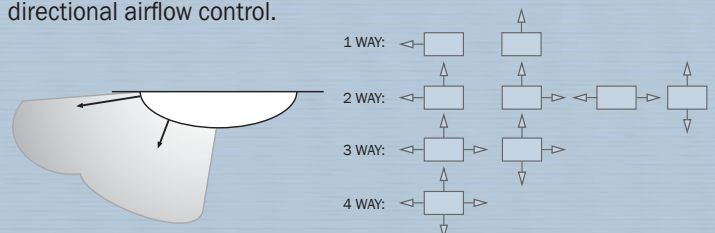
Surround Flow™

Surround Flow is the standard air flow model for all D-Fuser models. The radial shape of the fabric face produces a uniform and radially diverging air pattern. Even with high volumes, D-Fusers deliver less turbulence and lower noise than conventional metal D-Fusers.



Select Flow™

Select Flow combines customized vent patterns to include directional airflow control.

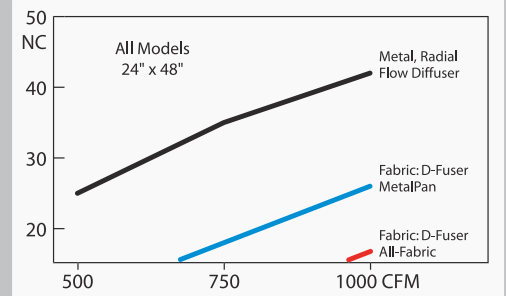


Reduced Noise

Fabric faced products offer noise levels at least 10NC quieter than metal.

The combination of perforated metal panels and louvers result in significantly higher noise criteria (NC) ratings than fabric faced D-Fuser products. The chart reveals NC levels for an industry standard metal diffuser and a D-Fuser at varying air volumes (500 CFM, 750 CFM, and 1000 CFM).

Noise Criteria Comparison
Common Metal vs. D-Fuser



Unique Rx LabSox Fabrics

LabSox are designed with Rx fabrics, engineered and designed for Critical Environments. A complement of high permeable fabrics woven only with filament threads avoiding risk of shedding. All Rx fabrics are made with 50% post-industrial recycled content and include a durable anti-microbial treatment. All Rx fabrics are launderable!

Better Performance at Lower Cost

- More CFMs/\$ than metal
- Simple and easy to install
- Low weight and reduced freight costs
- Flexible fabric is less susceptible to damage
- Less jobsite storage
- Custom product configurations for extremely sensitive applications



Versatile Product Offering

To ensure ease of use, our LabSox products include all the traditional product configurations plus two innovative D-Fusers, the All-Fabric and MetalPan models. Both feature a removable fabric assembly that simplifies installation and maintenance.

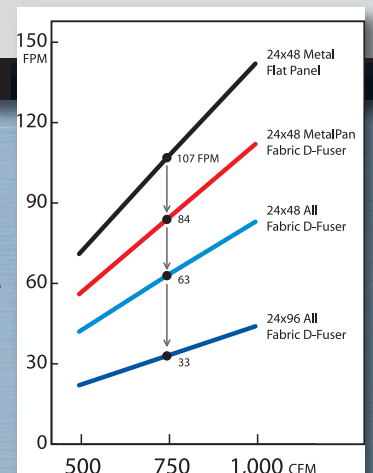
For existing applications, D-Fuser Retrofit Kits are available to outfit most industry standard metal backpans.

Low Discharge Velocity

By increasing the air dispersion surface area, D-Fuser models feature lower average discharge velocity when compared to flat faced metal diffusers. At 750 CFM, a 24" x 48" All-Fabric D-Fuser offers 63 ft/min average discharge velocity, lower than the 107 ft/min average of metal.

Surround Flow D-Fusers produce a uniform and radially diverging air flow pattern, providing:

- Less airflow turbulence
- Lower average discharge velocity
- Lower terminal velocity (reducing risk of air escaping through fume hood sash openings)
- Lower noise

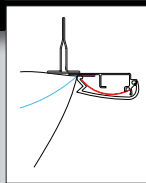
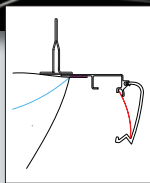


D-Fuser™ All-Fabric™

The All-Fabric LabSox product features an innovative snap frame aluminum extrusion which secures the fabric assembly in place and allows it to be easily removed for maintenance. With this product, the only ceiling penetration required is for the inlet connection. The slightly larger and deeper 9-inch face profile of the All-Fabric model increases internal mixing volume and decreases average discharge velocity.



24" x 48" All-Fabric D-Fuser



Snap Frame (open) Snap Frame (closed)



24" x 96" All-Fabric D-Fuser



Fabric Inlet Connection

Features:

- Lower discharge velocity
- Simple, snap frame installation
- Universal installation configurations (T-bar or finished ceiling)
- Lightweight shipping
- Increased airflow volume per unit
- Easy maintenance
- Quiet

Options:

- Standard 24" x 48", 24" x 96" (custom sizes available)
- Surround Flow (std.) or Select Flow
- Custom inlet size and position

Fabric Inlet Collar

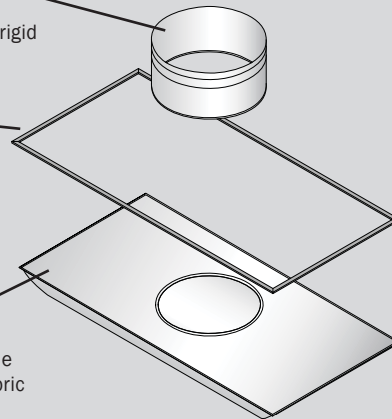
16" dia. standard, zips to fabric assembly, seals to rigid supply duct.

Snap Frame

Aluminum frame secures fabric assembly to T-bar on finished ceiling. Hook and loop fastener eases alignment.

Fabric Assembly

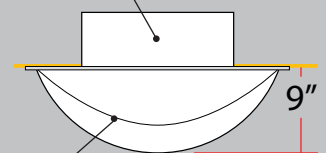
Includes a non-porous fabric backpanel, a flexible diffusion panel, and a fabric face. Added depth and size increases dispersion area, improving airflow and discharge velocity.



All-Fabric™ D-Fuser

35% More Surface Area Yields Lower Average Discharge Velocities

16" Dia. Inlet



Diffusion Panel

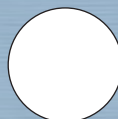
*Patent Pending

Traditional™

This Traditional product grouping includes the conventional DuctSox product configurations and installation methods. These include our Cylindrical, D-Shape, and Quarter Round shapes with all suspension options, including tension cable, suspended track, and surface mount track.



Cylindrical



For open ceiling environments, the cylindrical shape provides a large air dispersion surface with a simple shape that is both easy to install and maintain.

For design purposes, the cylindrical shape offers flexibility in diameter and length. As needed, standard or custom fittings may be incorporated. To minimize deflation when not operating, consider a Hanger Suspension option.

D-Fuser™ MetalPan™

The MetalPan LabSox combines the traditional metal backpan with the unique advantages of a fabric face for improved airflow performance using an industry standard installation method. The construction features a metal backpan with snap frame and fabric face. The shallow 6-inch depth of the face provides a low profile dispersion panel, yet delivers excellent performance.



24" x 24" MetalPan D-Fuser

24" x 48" MetalPan D-Fuser

Snap Frame released and face removed, reveals rigid diffusion panel



Features:

- Industry standard configuration
- Simple, snap frame installation
- Interchangeable fabric face
- Our standard backpan contains over 55% recycled content
- Lightweight (10 lbs lighter than metal for 24" x 48")
- Shallow 6" face depth and tapered ends
- Capable of airflow volumes up to 1,000 CFM (24" x 48")

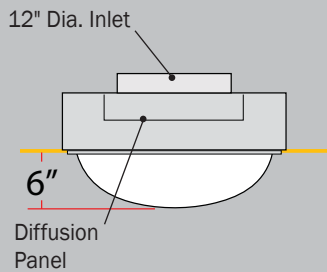
Options:

- Size 24" x 24", 24" x 48"
- Optional Select Flow
- Inlet diameter
- Filtration
- Insulated backpan
- Backpan construction (steel, aluminum, or stainless steel)

*Patent Pending

MetalPan™ D-Fuser

Metal Backpan Offers Short 6" Face Depth and Easy Installation



Inlet Collar (rigid)

12" or 10" dia., per size

Metal Backpan

Rigid metal pan includes diffusion panel and snap frame mechanism for mounting fabric face. Available in steel or aluminum (baked enamel) or stainless steel (mill). Also available with filter rail (for gel seal: 9" deep pan) or insulation.

Fabric Face

Highly permeable fire retardant fabric dispersion panel that quickly mounts to the snap frame assembly. Fabric face is fully launderable and available in either Surround Flow (standard) or Select Flow dispersion options.



D-Shape

For applications mounting against a flat surface such as a ceiling or wall, our D-Shape model provides extended surface area for air dispersion. The semi-cylindrical shape is custom made for each application and is available in sizes from 14 to 34 inch diameter. Airflow can be supplied from top or end of product. D-Shape can also be mounted to ceiling or wall (horizontal or vertical).



Quarter Round

For applications including two adjacent surfaces, our quarter round shape offers a unique dispersion capability. Airflow can be supplied from top, side, or end. Quarter Round can be mounted to wall-ceiling (horizontal) or wall-wall (vertical) configurations.





DuctSox products have been accepted within key industry organizations such as ASHRAE, Underwriters Laboratories (US & Canada), International Code Council, and by many building code authorities throughout the world.

More than evolving our standard products, DuctSox strives to be the leader in the industry through our commitment to quality, service, and innovation.

To better support our Global Distribution Network, we have expanded our production capabilities to Kunshan, China.



Our commitment to INNOVATION provides unique products for many environments.

DUCTSOX[®]
Fabric Air Dispersion Products

Custom engineered air dispersion systems for open ceiling and finished ceiling applications.

LabSOX[™]
Air Dispersion For Critical Environments

Unique air dispersion systems offer reduced discharge velocities for critical environments.

under floor SOX[™]
Plenum Air Dispersion Systems

Engineered distribution and dispersion systems provide uniform temperature and pressure for raised access floors.



LabSox products are constructed of Rx fabrics which are classified by Underwriters Laboratories as an air distribution device in accordance with the requirements of NFPA 90A. Rx25 and Rx50 are also classified in accordance with ICC Evaluation Service AC167 and UL2518.

DUCTSOX[®]
Fabric Air Dispersion Products

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