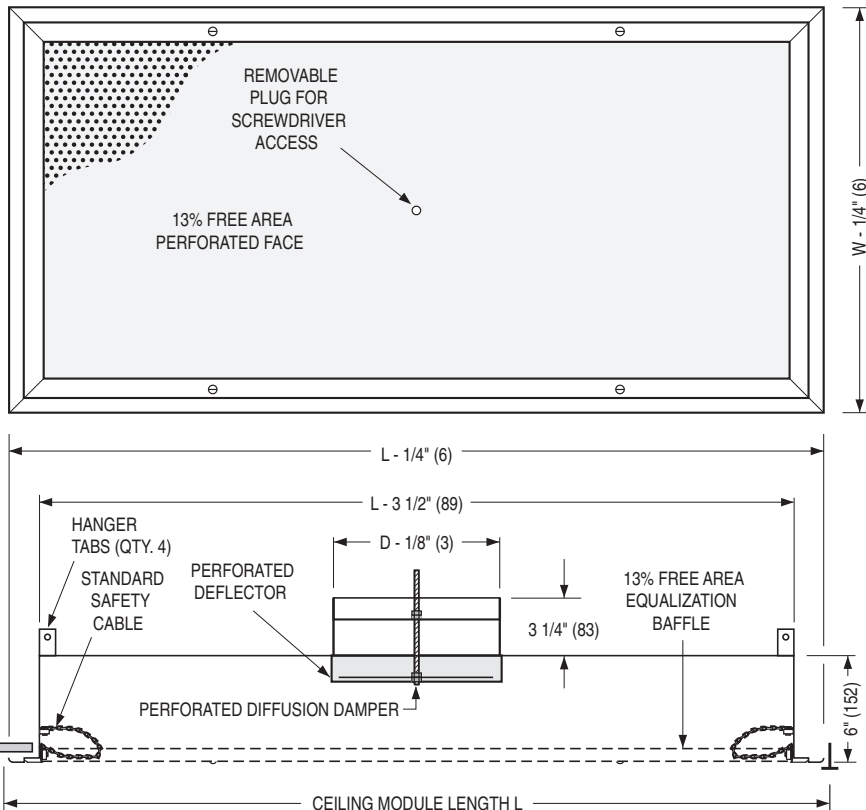
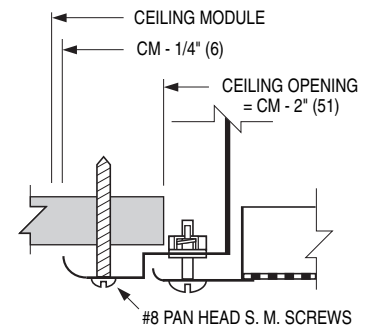




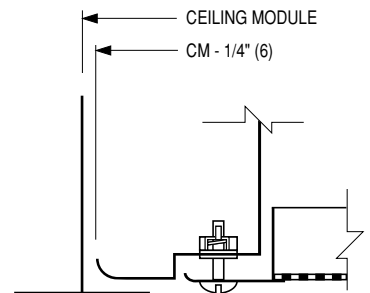
# **LAMINAR FLOW CEILING DIFFUSER** **STEEL • NON-CRITICAL APPLICATIONS** **LOW CAPACITY DESIGN** **MODEL: 92LFD**



## ☐ **TYPE S Surface Mount Detail**



## ☐ **TYPE L\* Lay-in T-Bar Detail**



\*Compatible with all T-Bars up to 2" (51) wide.

**Ceiling Module Sizes L x W & Nominal Round Duct Sizes D**

L x W	Imperial Modules (inches)		48 x 12	60 x 12	72 x 12	24 x 24	36 x 24	48 x 24	60 x 24	72 x 24
	Metric Modules (mm)		1200 x 300	1500 x 300	1800 x 300	600 x 600	900 x 600	1200 x 600	1500 x 600	1800 x 600
Duct Size D	(inches)		6, 7, 8	6, 7, 8	6, 7, 8	6, 7, 8, 10	6, 7, 8, 10, 12	7, 8, 10, 12	8, 10, 12	8, 10, 12
	(mm)		152, 178, 203	152, 178, 203	152, 178, 203	152, 178, 203, 254	152, 178, 203, 254, 305	178, 203, 254, 305	203, 254, 305	203, 254, 305

## **DESCRIPTION:**

The Model 92LFD Laminar Flow Diffuser is a low capacity/airflow range design and produces a non-aspirating, low velocity vertical air pattern. Recommended face velocity range is 20 – 60 cfm/sq. ft.

The steel construction 92LFD is designed to meet budgetary needs. Located above the work area, they provide a controlled low velocity downward projection "piston" of conditioned supply air.

The only significant amount of room air entrainment occurs at the outer boundary of the laminar flow mass, outside the confines of the operating table.

Applications include low invasive/minor surgical procedure operating rooms and clean rooms such as research laboratories, animal labs, food processing, pharmaceutical labs and computer rooms where localized heavy cooling loads present a problem.

## **CONSTRUCTION:**

1. Extruded aluminum frame and steel perforated face with 3/32" (2.4) dia. holes on 60 degree 1/4" (6) staggered centers (13% free area). The face plate is removable for cleaning and is secured by 1/4 turn fasteners.
2. Corrosion resistant steel backpan, perforated inlet deflector ring and disk type damper. Damper adjustment through removable face plug.
3. Standard safety cables prevent accidental dropping of removable face.
4. Standard finish is AW Appliance White.

## **OPTIONS:**

- ☐ EX External foil-back insulation (installed) – R-4.2.  
Finish:
- ☐ SP Special \_\_\_\_\_ .

## **SCHEDULE TYPE:**

## **PROJECT:**

## **ENGINEER:**

## **CONTRACTOR:**

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

6 - 7 - 16

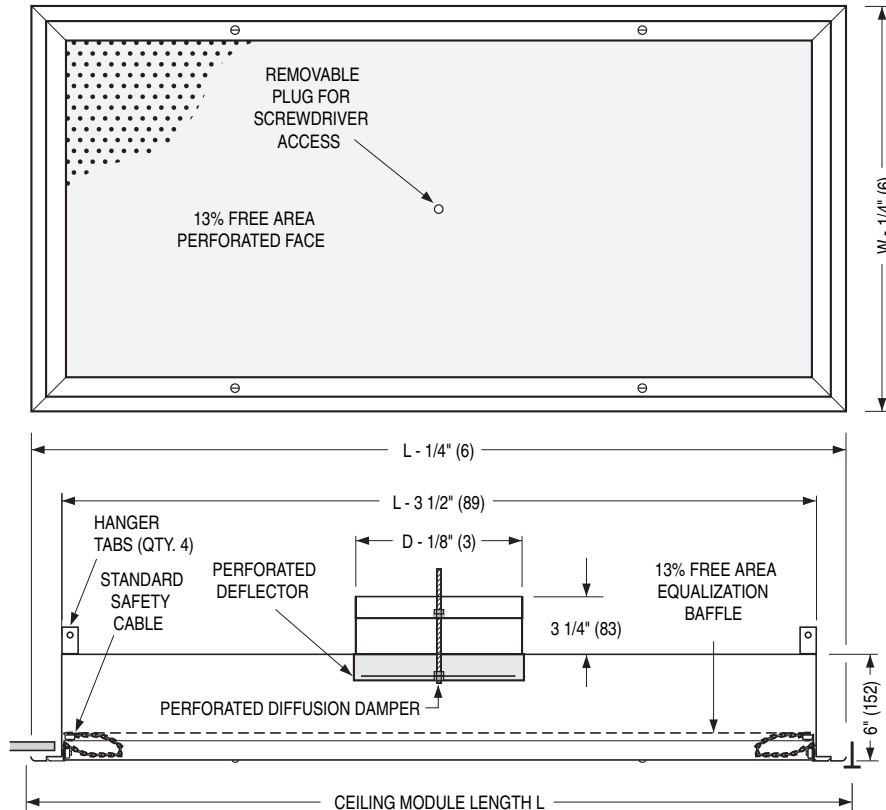
9200

10 - 28 - 15

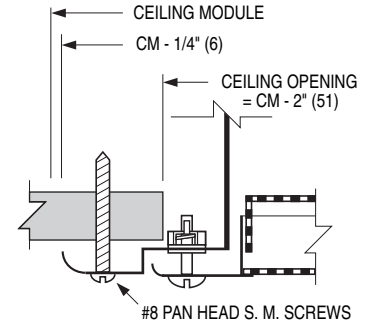
92LFD



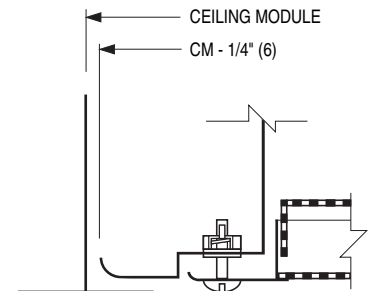
**LAMINAR FLOW CEILING DIFFUSER**  
**ALUMINUM • DUAL CHAMBER**  
**CRITICAL ENVIRONMENT APPLICATIONS**  
**LOW CAPACITY DESIGN**  
**MODEL: 92LFD-AL**



☐ **TYPE S Surface Mount Detail**



☐ **TYPE L\* Lay-in T-Bar Detail**



\*Compatible with all T-Bars up to 2" (51) wide.

**Ceiling Module Sizes L x W & Nominal Round Duct Sizes D**

L x W	Imperial Modules (inches)		48 x 12	60 x 12	72 x 12	24 x 24	36 x 24	48 x 24	60 x 24	72 x 24
	Metric Modules (mm)		1200 x 300	1500 x 300	1800 x 300	600 x 600	900 x 600	1200 x 600	1500 x 600	1800 x 600
Duct Size D	(inches)		6, 7, 8	6, 7, 8	6, 7, 8	6, 7, 8, 10	6, 7, 8, 10, 12	7, 8, 10, 12	8, 10, 12	8, 10, 12
	(mm)		152, 178, 203	152, 178, 203	152, 178, 203	152, 178, 203, 254	152, 178, 203, 254, 305	178, 203, 254, 305	203, 254, 305	203, 254, 305

**DESCRIPTION:**

The Model 92LFD-AL Laminar Flow Diffuser is a low capacity/airflow range design and produces a non-aspirating, low velocity vertical air pattern. Recommended face velocity range is 20 – 60 cfm/sq. ft. Installed above the operating table in a hospital operating room, the 'clean' conditioned air flows over the operating table so helping to protect and effectively isolate the patient from contaminated air.

The "dual chamber" design and internal baffles provide improved air distribution across the perforated diffuser face resulting in superior performance.

The only significant amount of room air entrainment occurs at the outer boundary of the laminar flow mass, outside the confines of the operating table.

Other applications include clean rooms such as research laboratories, animal labs, food processing, pharmaceutical labs and computer rooms where localized heavy cooling loads present a problem.

**CONSTRUCTION:**

1. Extruded aluminum frame and aluminum perforated face with 3/32" (2.4) dia. holes on 60 degree 1/4" (6) staggered centers (13% free area). The face plate is removable for cleaning and is secured by 1/4 turn fasteners.
2. Corrosion resistant steel backpan, perforated inlet deflector ring and disk type damper. Damper adjustment through removable face plug.
3. Standard safety cables prevent accidental dropping of removable face.
4. Standard finish is AW Appliance White.

**OPTIONS:**

- ☐ AB Aluminum backpan, deflector and damper.
- ☐ EX External foil-back insulation (installed) – R-4.2.
- Finish:
- ☐ SP Special \_\_\_\_\_ .

**SCHEDULE TYPE:**

**PROJECT:**

**ENGINEER:**

**CONTRACTOR:**

Dimensions are in inches (mm).

**DATE**

**B SERIES**

**SUPERSEDES**

**DRAWING NO.**

10 - 28 - 15

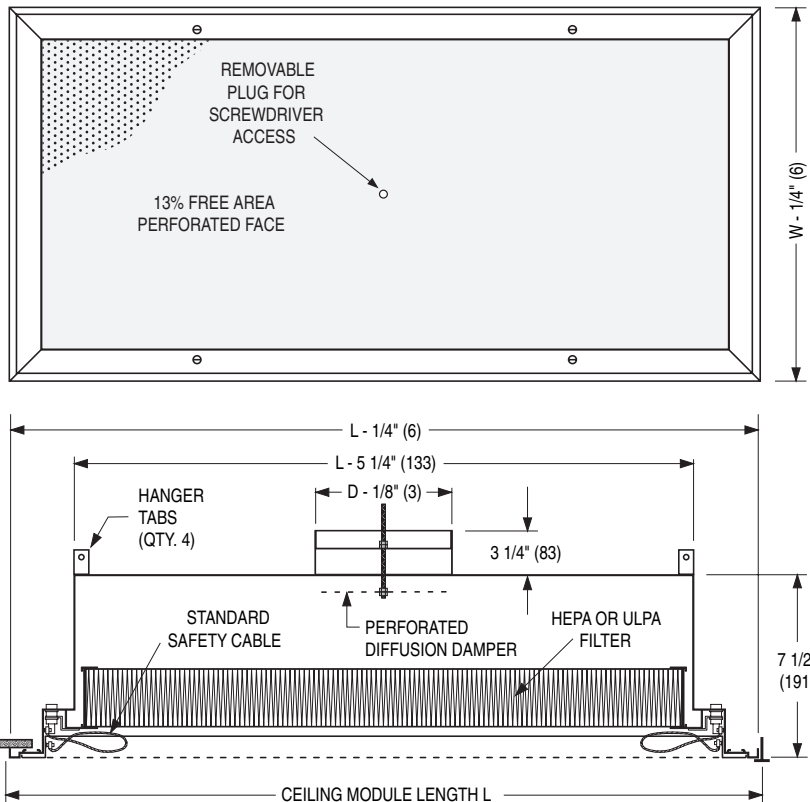
9200

9 - 15 - 10

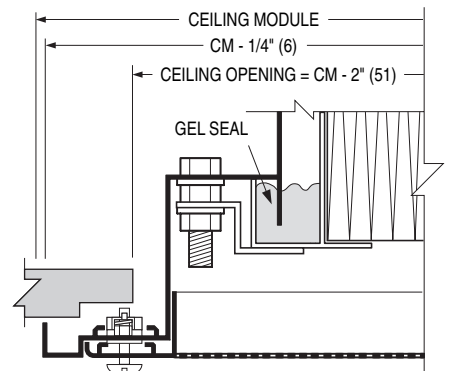
92LFD-AL



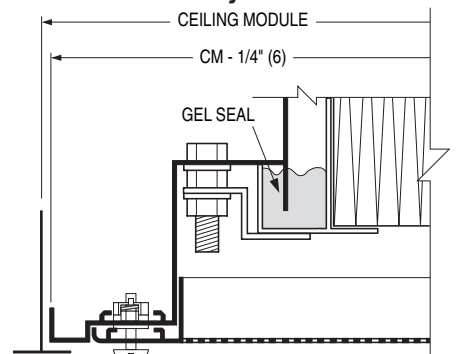
**LAMINAR FLOW CEILING DIFFUSER WITH FILTER RACK**  
**ALUMINUM • LOW CAPACITY DESIGN • HEPA OR**  
**ULPA FILTER**  
**MODEL: 92LFDF-AL**



☐ **TYPE S Surface Mount Detail**



☐ **TYPE L\* Lay-in T-Bar Detail**



\*Compatible with 15/16" (24) or 1" (25) T-Bar only.

**Ceiling Module Sizes L x W & Nominal Round Duct Sizes D**

L x W	Imperial Modules (inches)	48 x 12	60 x 12	24 x 24	36 x 24	48 x 24	60 x 24
	Metric Modules (mm)	1200 x 300	1500 x 300	600 x 600	900 x 600	1200 x 600	1500 x 600
Duct Size D	(inches)	6	6	6, 7, 8	6, 7, 8, 10	7, 8, 10, 12	10, 12
	(mm)	152	152	152, 178, 203	152, 178, 203, 254	178, 203, 254, 305	254, 305

**CLEANROOM APPLICATIONS:**  
For DOP/PAO Scan tested model, cable operated damper and other options, see Model 92LFDFS-AL.

**DESCRIPTION:**

The Model 92LFDF-AL Laminar Flow Diffuser is a low capacity/airflow range design that produces a non-aspirating, low velocity vertical air pattern. Recommended face velocity is 20 – 60 cfm/sq. ft. Incorporating an extended plenum and a unique frame they are designed to accommodate a Gel Seal HEPA or ULPA filter. The filters can be easily removed and replaced from the face of the unit. Installed above the operating table in a hospital operating room, the 'clean' conditioned air flows over the operating table so helping to protect and effectively isolate the patient from contaminated air. The installed HEPA or ULPA filter together with the diffusion damper equalizes air distribution across the perforated face resulting in excellent performance.

The only significant amount of room air entrainment occurs at the outer boundary of the laminar flow mass, outside the confines of the operating table.

Other applications include non-critical budgetary research laboratories, animal labs, food processing and computer rooms where localized heavy cooling loads present a problem.

**CONSTRUCTION:**

1. Extruded aluminum frame and aluminum perforated face with 3/32" (2.4) dia. holes on 60 degree 1/4" (6) staggered centers (13% free area). The face plate is removable for cleaning and is secured by 1/4 turn fasteners.
2. Aluminum backpan and disk type damper. Damper adjustment through removable face plug.
3. Standard safety cables prevent accidental dropping of removable face.
4. HEPA Filter: Clear anodized extruded aluminum filter frame with port for damper adjustment.
5. Standard finish is AW Appliance White.

**OPTIONS:**

- ☐ UL ULPA Filter (99.9995% on 0.12 µm).
- ☐ FBO Filter by others.
- ☐ EX External foil-back insulation (installed) – R-4.2.
- Finish:
- ☐ SP Special \_\_\_\_\_.

**SCHEDULE TYPE**

**PROJECT**

**ENGINEER**

**CONTRACTOR**

Dimensions are in inches (mm).

**DATE**

**B SERIES**

**SUPERSEDES**

**DRAWING NO.**

7 - 11 - 19

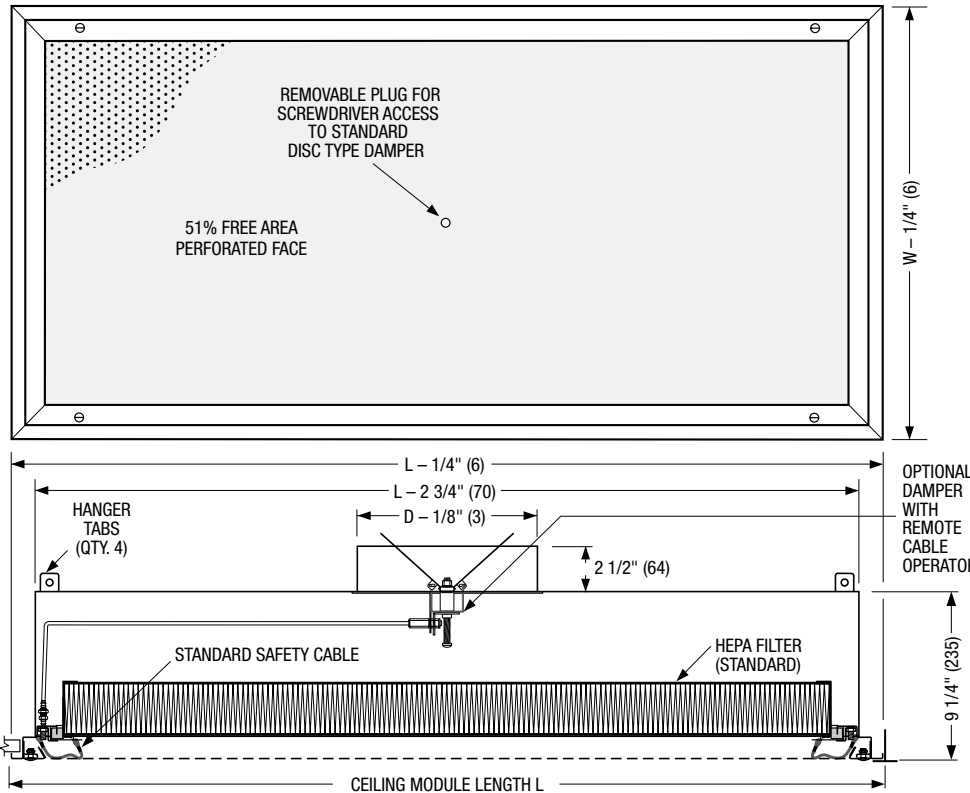
9200

6 - 27 - 19

92LFDF-AL



# **LAMINAR FLOW CEILING DIFFUSER** **ALUMINUM HYBRID • CRITICAL ENVIRONMENT** **APPLICATIONS • HEPA OR ULPA FILTER** **DOP SCAN TESTED** **MODEL: 92LFDFS-AL**



**Ceiling Module Sizes L x W & Nominal Round Duct Sizes D**

L x W	Imperial Modules (inches)		48 x 12	60 x 12	24 x 24	36 x 24	48 x 24	60 x 24
	Metric Modules (mm)		1200 x 300	1500 x 300	600 x 600	900 x 600	1200 x 600	1500 x 600
Duct Size D	(inches)		6, 7, 8	6, 7, 8	6, 7, 8	6, 7, 8, 10	7, 8, 10, 12	10, 12
	(mm)		152, 178, 203	152, 178, 203	152, 178, 203	152, 178, 203, 254	178, 203, 254, 305	254, 305

## **DESCRIPTION:**

The Model 92LFDFS-AL Laminar Flow Diffuser produces a non-aspirating, low velocity vertical air pattern. Recommended face velocity is 20 – 100 cfm/sq. ft. Incorporating an extended plenum and a unique frame they are designed to accommodate a Gel Seal HEPA or ULPA filter. The filters can be easily removed and replaced from the face of the unit.

Installed above the operating table in a hospital operating room, the 'clean' conditioned air flows over the operating table so helping to protect and effectively isolate the patient from contaminated air. The installed HEPA or ULPA filter equalizes air distribution across the perforated face resulting in excellent performance.

The plenum is factory DOP scan tested for leaks in accordance with Standard IEST-RP-CCO34.3.

The only significant amount of room air entrainment occurs at the outer boundary of the laminar flow mass, outside the confines of the operating table.

Other applications include clean rooms such as research laboratories, animal labs, food processing, pharmaceutical labs and computer rooms where localized heavy cooling loads present a problem.

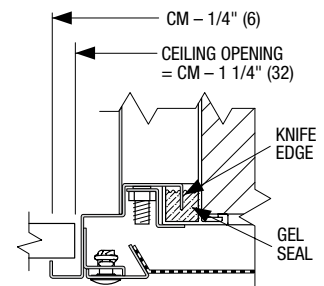
## **CONSTRUCTION:**

1. 304 stainless steel frame and aluminum perforated face with 3/16" (4.8) dia. holes on 60 degree 1/4" (6) staggered centers (51% free area). The face plate is removable for cleaning and is secured by 1/4 turn fasteners.
2. 304 stainless steel fully welded plenum and face operated disc type damper.
3. Standard safety cables prevent accidental dropping of removable face.
4. HEPA Filter: Clear anodized extruded aluminum filter frame with port for damper adjustment.
5. Standard finish is AW Appliance White.

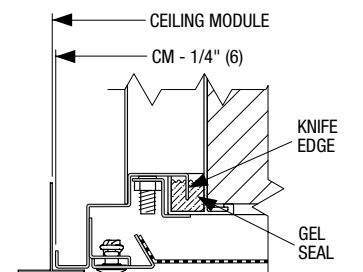
## **OPTIONS AND ACCESSORIES:**

- ☐ UL ULPA Filter (99.9995% on 0.12 µm).
- ☐ FBO Filter by others.
- ☐ BDS Butterfly damper, Stainless Steel (face operated).
- ☐ BDSR Butterfly damper, Stainless Steel with remote cable operator.
- ☐ RDS Radial opposed blade damper, Stainless Steel (face operated).
- ☐ RDSR Radial OBD, Stainless Steel with remote cable operator.
- ☐ EX External foil-back insulation (installed) – R-4.2.
- ☐ SPP Static pressure test/DOP port.
- ☐ CPM DOP/PAO Challenge Port and Manifold.
- ☐ LFI LED Loaded Filter Indicator.
- ☐ STC Scan Testing Certificate.
- ☐ SP Special Finish \_\_\_\_\_.
- ☐ PDB Perforated Diffusion Basket.

## ☐ **TYPE S** Surface Mount Detail

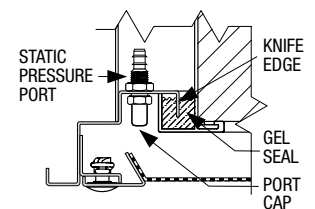


## ☐ **TYPE L\*** Lay-in T-Bar Detail



\* COMPATIBLE WITH T-BARS UP TO 1 1/2" (38) WIDE

## **Optional Static Pressure Port**



## **SCHEDULE TYPE:**

**PROJECT:**

**ENGINEER:**

**CONTRACTOR:**

Dimensions are in inches (mm).

**DATE**

**B SERIES**

**SUPERSEDES**

**DRAWING NO.**

1 - 29 - 25

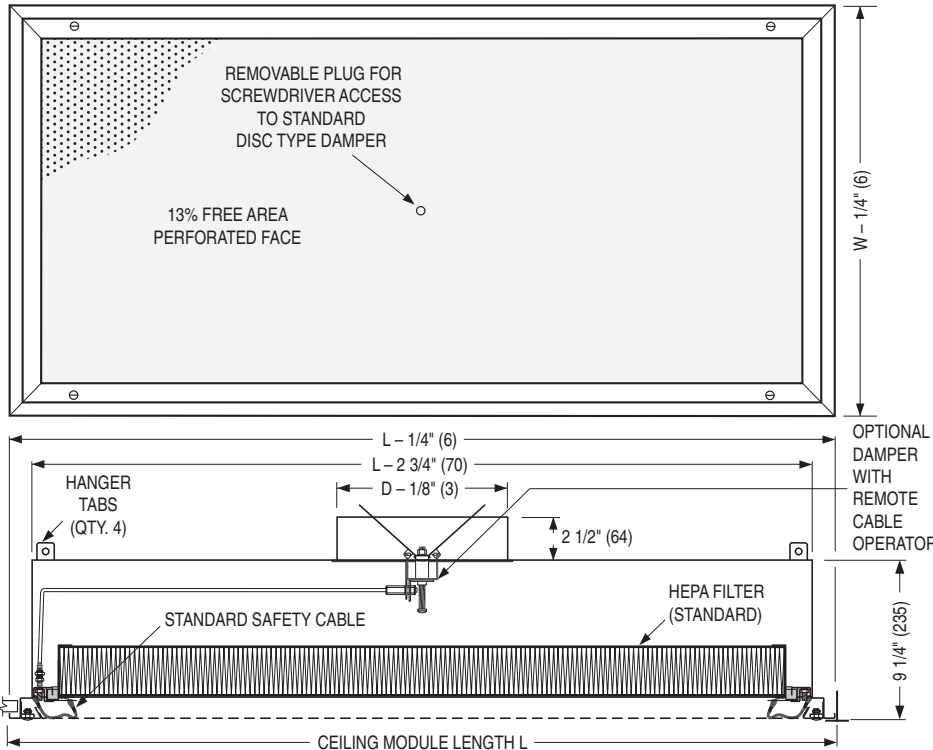
9200

7 - 17 - 17

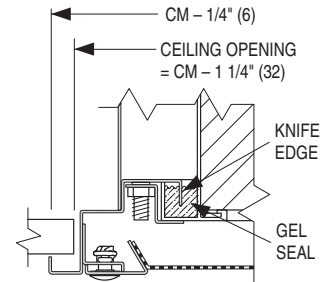
92LFDFS-AL



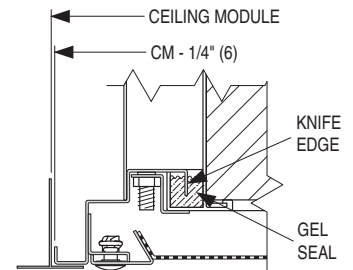
# **LAMINAR FLOW CEILING DIFFUSER** **STAINLESS STEEL • CRITICAL ENVIRONMENT** **APPLICATIONS • LOW CAPACITY DESIGN** **HEPA OR ULPA FILTER • DOP SCAN TESTED** **MODEL: 92LFDF-SS**



## ☐ **TYPE S** Surface Mount Detail

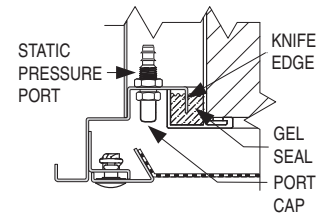


## ☐ **TYPE L\*** Lay-in T-Bar Detail



\* COMPATIBLE WITH T-BARS UP TO 1 1/2" (38) WIDE

## **Optional Static Pressure Port**



**Ceiling Module Sizes L x W & Nominal Round Duct Sizes D**

L x W	Imperial Modules (inches)		24 x 12	48 x 12	60 x 12	24 x 24	36 x 24	48 x 24	60 x 24
	Metric Modules (mm)		600 x 300	1200 x 300	1500 x 300	600 x 600	900 x 600	1200 x 600	1500 x 600
Duct Size D	(inches)		6, 7, 8	6, 7, 8	6, 7, 8	6, 7, 8	6, 7, 8, 10	7, 8, 10, 12	10, 12
	(mm)		152, 178, 203	152, 178, 203	152, 178, 203	152, 178, 203	152, 178, 203, 254	178, 203, 254, 305	254, 305

## **DESCRIPTION:**

The Model 92LFDF-SS Laminar Flow Diffuser is a low capacity/airflow range design that produces a non-aspirating, low velocity vertical air pattern. Recommended face velocity is 20 – 60 cfm/sq. ft. Incorporating an extended plenum and a unique frame they are designed to accommodate a Gel Seal HEPA or ULPA filter. The filters can be easily removed and replaced from the face of the unit.

Installed above the operating table in a hospital operating room, the 'clean' conditioned air flows over the operating table so helping to protect and effectively isolate the patient from contaminated air. The installed HEPA or ULPA filter equalizes air distribution across the perforated face resulting in excellent performance.

The plenum is factory DOP scan tested for leaks in accordance with Standard IEST-RP-CCO34.3.

The only significant amount of room air entrainment occurs at the outer boundary of the laminar flow mass, outside the confines of the operating table.

Other applications include clean rooms such as research laboratories, animal labs, food processing, pharmaceutical labs and computer rooms where localized heavy cooling loads present a problem.

## **CONSTRUCTION:**

1. 304 stainless steel frame and perforated face with 3/32" (2.4) dia. holes on 60 degree 1/4" (6) staggered centers (13% free area). The face plate is removable for cleaning and is secured by 1/4 turn fasteners.
2. 304 stainless steel fully welded plenum and face operated disc type damper.
3. Standard safety cables prevent accidental dropping of removable face.
4. HEPA Filter: Clear anodized extruded aluminum filter frame with port for damper adjustment.
5. Standard finish is #4 Brushed Satin Polished.

## **OPTIONS AND ACCESSORIES:**

- |   |  |
|---|--|
| <input type="checkbox"/> 316 Stainless Steel construction.  | Finish:                                      |
| <input type="checkbox"/> UL ULPA Filter (99.9995% on 0.12 µm).                                      | <input type="checkbox"/> AW Appliance White. |
| <input type="checkbox"/> FBO Filter by others.  | <input type="checkbox"/> BW British White.   |
| <input type="checkbox"/> BDS Butterfly damper, Stainless Steel (face operated).                     |  |
| <input type="checkbox"/> BDSR Butterfly damper w/remote cable operator, Stainless Steel.            |  |
| <input type="checkbox"/> RDS Radial opposed blade damper, Stainless Steel (face operated).          |  |
| <input type="checkbox"/> RDSR Radial opposed blade damper, Stainless Steel w/remote cable operator. |  |
| <input type="checkbox"/> EX External foil-back insulation (installed) – R-4.2.                      |  |
| <input type="checkbox"/> SPP Static pressure test/DOP port.   |  |
| <input type="checkbox"/> CPM DOP/PAO Challenge Port and Manifold.                                   |  |
| <input type="checkbox"/> LFI LED Loaded Filter Indicator.   |  |
| <input type="checkbox"/> PDB Perforated Diffusion Basket.   |  |
| <input type="checkbox"/> STC Scan Testing Certificate.  |  |

## **SCHEDULE TYPE:**

## **PROJECT:**

## **ENGINEER:**

## **CONTRACTOR:**

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

8 - 1 - 17

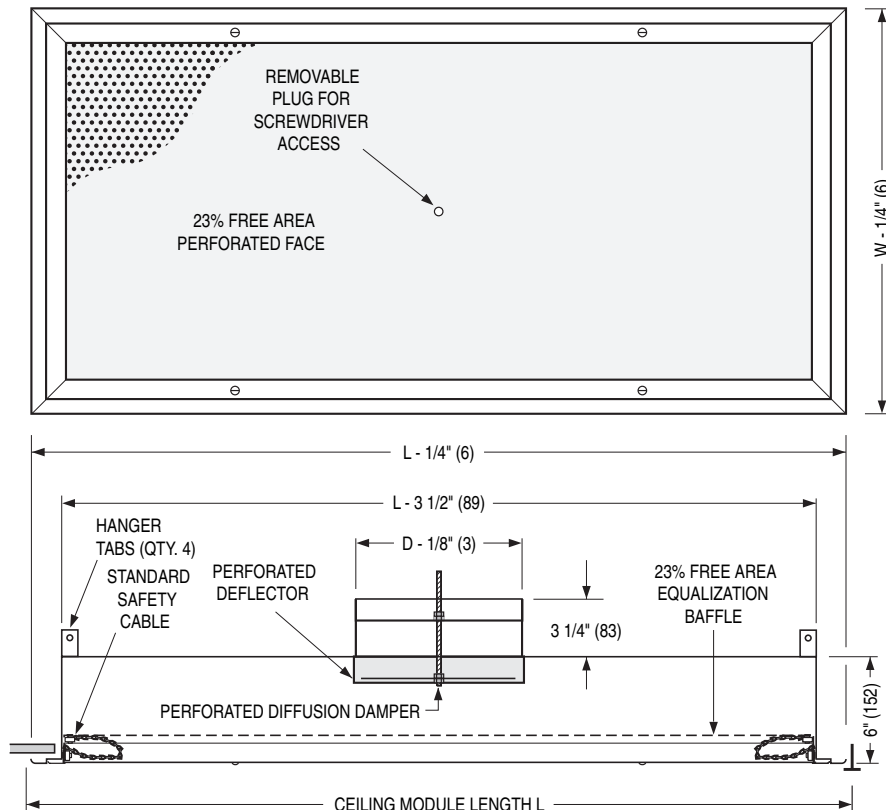
9200

9 - 2 - 16

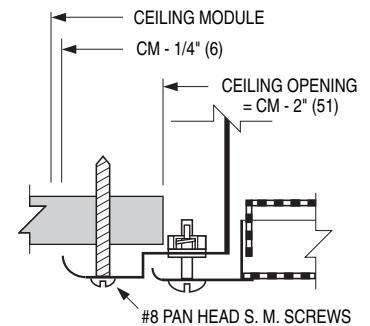
92LFDF-SS



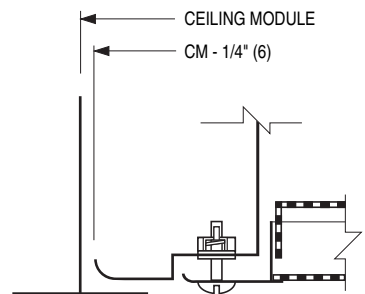
**LAMINAR FLOW CEILING DIFFUSER**  
**ALUMINUM • DUAL CHAMBER**  
**CRITICAL ENVIRONMENT APPLICATIONS**  
**MEDIUM CAPACITY DESIGN**  
**MODEL: 92LFDM-AL**



☐ **TYPE S** Surface Mount Detail



☐ **TYPE L\*** Lay-in T-Bar Detail



\*Compatible with all T-Bars up to 2" (51) wide.

**Ceiling Module Sizes L x W & Nominal Round Duct Sizes D**

L x W	Imperial Modules (inches)		48 x 12	60 x 12	72 x 12	24 x 24	36 x 24	48 x 24	60 x 24	72 x 24
	Metric Modules (mm)		1200 x 300	1500 x 300	1800 x 300	600 x 600	900 x 600	1200 x 600	1500 x 600	1800 x 600
Duct Size D	(inches)		8	10	10	8, 10, 12	10, 12, 14	10, 12, 14	12, 14, 16	14, 16, 18
	(mm)		203	254	254	203, 254, 305	254, 305, 356	254, 305, 356	305, 356, 406	356, 406, 457

**DESCRIPTION:**

The Model 92LFDM-AL Laminar Flow Diffuser is a medium capacity/airflow range design and produces a non-aspirating, low velocity vertical air pattern. Recommended face velocity range is 50 – 90 cfm/sq. ft.

Located above the work area they provide a controlled low velocity downward projection "piston" of conditioned supply air. The "dual chamber" design and internal baffles provide improved air distribution across the perforated diffuser face resulting in superior performance.

The only significant amount of room air entrainment occurs at the outer boundary of the laminar flow mass.

Applications include clean rooms such as research laboratories, animal labs, food processing, pharmaceutical labs and computer rooms where localized heavy cooling loads present a problem.

**CONSTRUCTION:**

1. Extruded aluminum frame, aluminum perforated face and equalization baffle with 3/32" (2.4) dia. holes on 60 degree 3/16" (5) staggered centers (23% free area). The face plate is removable for cleaning and is secured by 1/4 turn fasteners.
2. Corrosion resistant steel backpan, perforated inlet deflector ring and disk type damper. Damper adjustment through removable face plug.
3. Standard safety cables prevent accidental dropping of removable face.
4. Standard finish is AW Appliance White.

**OPTIONS:**

- ☐ AB Aluminum backpan, equalization baffle, deflector and damper.
- ☐ EX External foil-back insulation (installed) – R-4.2.

Finish:

- ☐ SP Special \_\_\_\_\_.

**SCHEDULE TYPE:**

**PROJECT:**

**ENGINEER:**

**CONTRACTOR:**

Dimensions are in inches (mm).

**DATE**

**B SERIES**

**SUPERSEDES**

**DRAWING NO.**

10 - 29 - 15

9200

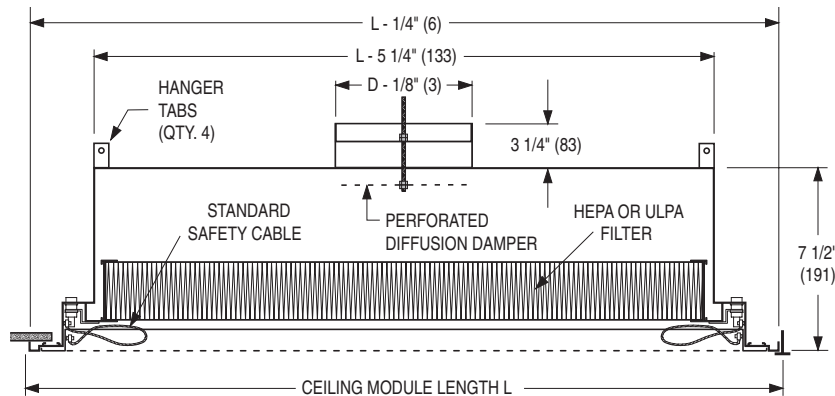
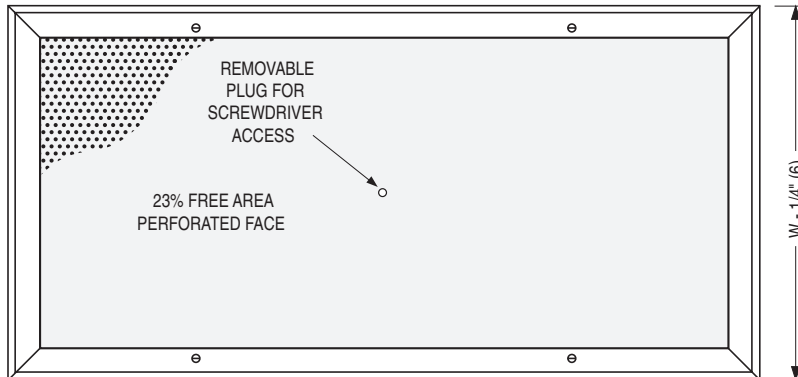
1 - 10 - 11

92LFDM-AL





**LAMINAR FLOW CEILING DIFFUSER WITH FILTER RACK**  
**ALUMINUM • MEDIUM CAPACITY DESIGN • HEPA OR**  
**ULPA FILTER**  
**MODEL: 92LFDMF-AL**



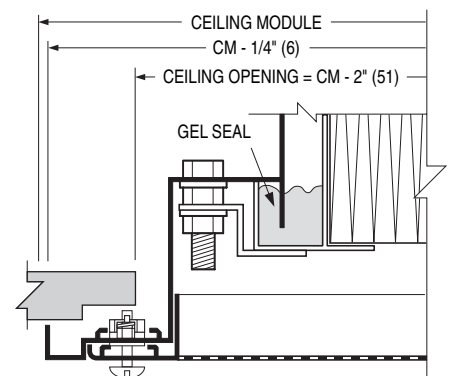
**Ceiling Module Sizes L x W & Nominal Round Duct Sizes D**

L x W	Imperial Modules (inches)	24 x 24	36 x 24	48 x 24	60 x 24
	Metric Modules (mm)	600 x 600	900 x 600	1200 x 600	1500 x 600
Duct Size D	(inches)	8, 10, 12	10, 12, 14	10, 12, 14	12, 14, 16
	(mm)	203, 254, 305	254, 305, 356	254, 305, 356	305, 356, 406

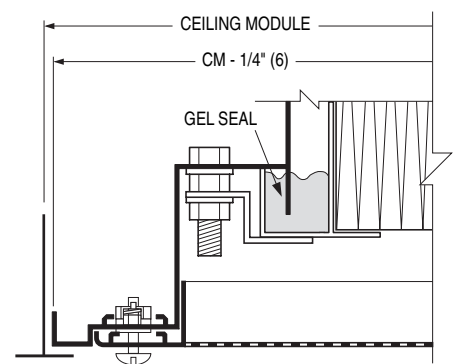
**DESCRIPTION:**

The Model 92LFDMF-AL Laminar Flow Diffuser is a medium capacity/airflow range design that produces a non-aspirating, low velocity vertical air pattern. Recommended face velocity is 50 – 90 cfm/sq. ft. Incorporating an extended plenum and a unique frame they are designed to accommodate a Gel Seal HEPA or ULPA filter. The filters can be easily removed and replaced from the face of the unit. Located above the work area, they provide a controlled low velocity downward projection "piston" of conditioned supply air. The installed HEPA or ULPA filter together with the diffusion damper equalizes air distribution across the perforated face resulting in excellent performance. The only significant amount of room entrainment occurs at the outer boundary of the laminar flow mass. Applications include non-critical research laboratories, animal labs, food processing and computer rooms where localized heavy cooling loads present a problem.

☐ **TYPE S** Surface Mount Detail



☐ **TYPE L\*** Lay-in T-Bar Detail



\*Compatible with 15/16" (24) or 1" (25) T-Bar only.

**CLEANROOM APPLICATIONS:**

For DOP/PAO Scan tested model, cable operated damper and other options, see Model 92LFDMF-SS.

**CONSTRUCTION:**

1. Extruded aluminum frame and aluminum perforated face with 3/32" (2.4) dia. holes on 60 degree 3/16" (5) staggered centers (23% free area). The face plate is removable for cleaning and is secured by 1/4 turn fasteners.
2. Aluminum backpan and perforated disc type damper. Damper adjustment through removable face plug.
3. Standard safety cables prevent accidental dropping of removable face.
4. HEPA Filter: Clear anodized extruded aluminum filter frame with port for damper adjustment.
5. Standard finish is AW Appliance White.

**OPTIONS:**

- ☐ UL ULPA Filter (99.9995% on 0.12 µm).
  - ☐ FBO Filter by others.
  - ☐ EX External foil-back insulation (installed) – R-4.2.
- Finish:
- ☐ SP Special \_\_\_\_\_.

**SCHEDULE TYPE:**

**PROJECT:**

**ENGINEER:**

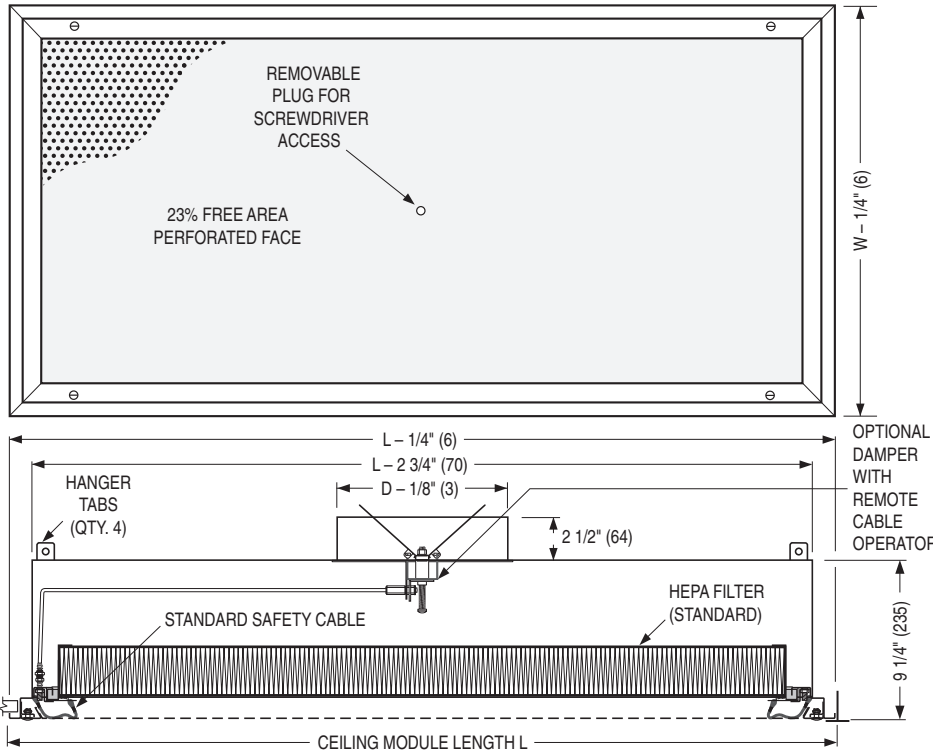
**CONTRACTOR:**

Dimensions are in inches (mm).

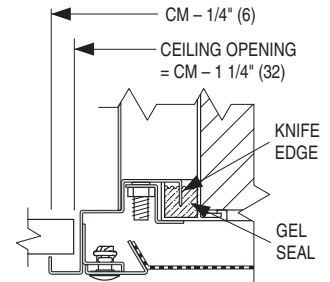
DATE	B SERIES	SUPERSEDES	DRAWING NO.
7 - 11 - 19	9200	11 - 2 - 15	92LFDMF-AL



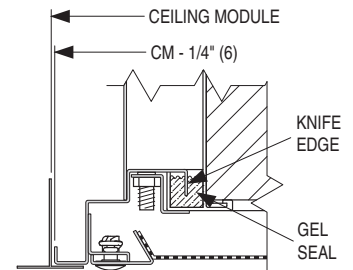
# **LAMINAR FLOW CEILING DIFFUSER** **STAINLESS STEEL • CRITICAL ENVIRONMENT** **APPLICATIONS • MEDIUM CAPACITY DESIGN** **DOP SCAN TESTED • HEPA OR ULPA FILTER** **MODEL: 92LFDMF-SS**



## ☐ **TYPE S** Surface Mount Detail

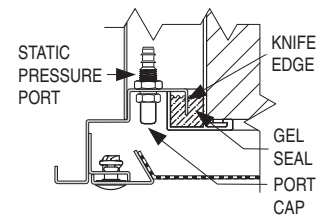


## ☐ **TYPE L\*** Lay-in T-Bar Detail



\* COMPATIBLE WITH T-BARS UP TO 1 1/2" (38) WIDE

## **Optional Static Pressure Port**



**Ceiling Module Sizes L x W & Nominal Round Duct Sizes D**

L x W	Imperial Modules (inches)		48 x 12	60 x 12	24 x 24	36 x 24	48 x 24	60 x 24
	Metric Modules (mm)		1200 x 300	1500 x 300	600 x 600	900 x 600	1200 x 600	1500 x 600
Duct Size D	(inches)		8	10	8, 10, 12	10, 12, 14	10, 12, 14	12, 14, 16
	(mm)		203	254	203, 254, 305	254, 305, 356	254, 305, 356	305, 356, 406

## **DESCRIPTION:**

The Model 92LFDMF-SS Laminar Flow Diffuser is a medium capacity/airflow range design that produces a non-aspirating, low velocity vertical air pattern. Recommended face velocity is 50 – 90 cfm/sq. ft. Incorporating an extended plenum and a unique frame they are designed to accommodate a Gel Seal HEPA or ULPA filter. The filters can be easily removed and replaced from the face of the unit. Located above the work area, they provide a controlled low velocity downward projection "piston" of conditioned supply air. The "dual chamber" design and internal baffles provide improved air distribution across the perforated diffuser face resulting in superior performance. The only significant amount of room entrainment occurs at the outer boundary of the laminar flow mass. The plenum is factory DOP scan tested for leaks in accordance with Standard IEST-RP-CCO34.3. Applications include clean rooms such as research laboratories, animal labs, food processing, pharmaceutical labs and computer rooms where localized heavy cooling loads present a problem.

## **CONSTRUCTION:**

1. 304 stainless steel frame and perforated face with 3/32" (2.4) dia. holes on 60 degree 3/16" (5) staggered centers (23% free area). The face plate is removable for cleaning and is secured by 1/4 turn fasteners.
2. 304 stainless steel fully welded plenum and perforated disc type damper.
3. Standard safety cables prevent accidental dropping of removable face.
4. HEPA Filter: Clear anodized extruded aluminum filter frame with port for damper adjustment.
5. Standard finish is #4 Brushed Satin Polished.

## **OPTIONS AND ACCESSORIES:**

- |                               |   |  |
|-------------------------------|---|--|
| <input type="checkbox"/> 316  | Stainless Steel construction.   | Finish:                                      |
| <input type="checkbox"/> UL   | ULPA Filter (99.9995% on 0.12 µm).                                    | <input type="checkbox"/> AW Appliance White. |
| <input type="checkbox"/> FBO  | Filter by others.   | <input type="checkbox"/> BW British White.   |
| <input type="checkbox"/> BDS  | Butterfly damper, Stainless Steel (face operated).                    |  |
| <input type="checkbox"/> BDSR | Butterfly damper w/remote cable operator, Stainless Steel.            |  |
| <input type="checkbox"/> RDS  | Radial opposed blade damper, Stainless Steel (face operated).         |  |
| <input type="checkbox"/> RDSR | Radial opposed blade damper, Stainless Steel w/remote cable operator. |  |
| <input type="checkbox"/> EX   | External foil-back insulation (installed) – R-4.2.                    |  |
| <input type="checkbox"/> SPP  | Static pressure test/DOP port.  |  |
| <input type="checkbox"/> CPM  | DOP/PAO Challenge Port and Manifold.                                  |  |
| <input type="checkbox"/> LFI  | LED Loaded Filter Indicator.  |  |
| <input type="checkbox"/> PDB  | Perforated Diffusion Basket.  |  |
| <input type="checkbox"/> STC  | Scan Testing Certificate.   |  |

## **SCHEDULE TYPE:**

## **PROJECT:**

## **ENGINEER:**

## **CONTRACTOR:**

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

8 - 1 - 17

9200

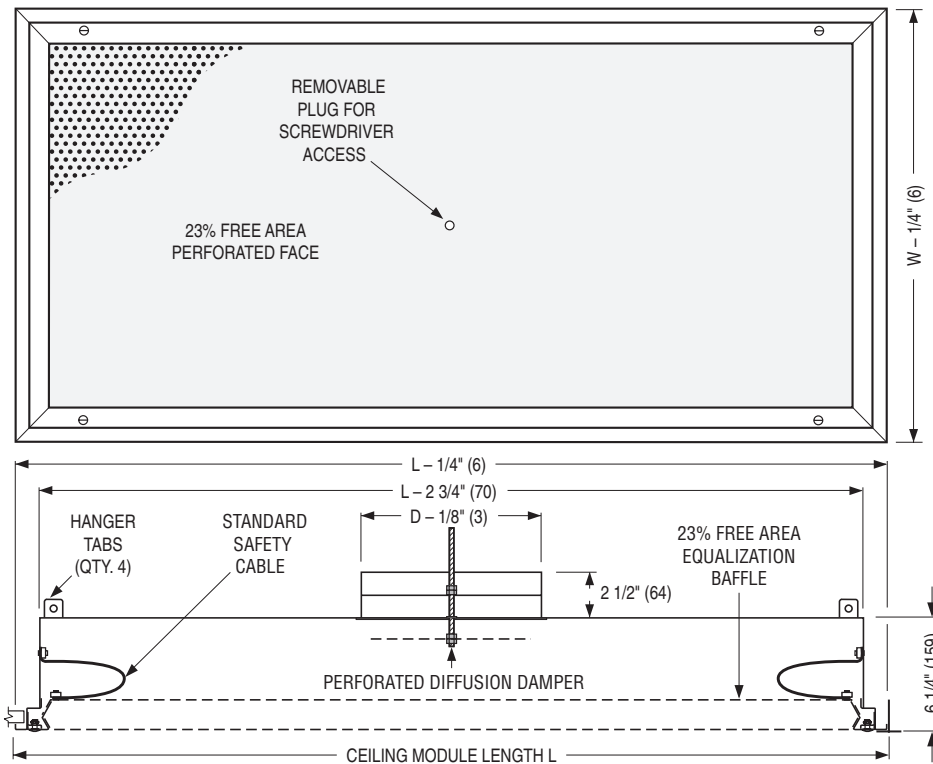
9 - 2 - 16

92LFDMF-SS

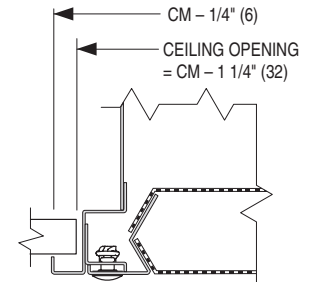




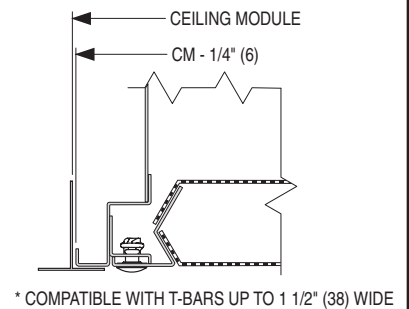
**LAMINAR FLOW CEILING DIFFUSER**  
**STAINLESS STEEL • DUAL CHAMBER**  
**CRITICAL ENVIRONMENT APPLICATIONS**  
**MEDIUM CAPACITY DESIGN**  
**MODEL: 92LFDM-SS**



☐ **TYPE S** Surface Mount Detail



☐ **TYPE L\*** Lay-in T-Bar Detail



**Ceiling Module Sizes L x W & Nominal Round Duct Sizes D**

L x W	Imperial Modules (inches)		48 x 12	60 x 12	72 x 12	24 x 24	36 x 24	48 x 24	60 x 24	72 x 24
	Metric Modules (mm)		1200 x 300	1500 x 300	1800 x 300	600 x 600	900 x 600	1200 x 600	1500 x 600	1800 x 600
Duct Size D	(inches)		8	10	10	8, 10, 12	10, 12, 14	10, 12, 14	12, 14, 16	14, 16, 18
	(mm)		203	254	254	203, 254, 305	254, 305, 356	254, 305, 356	305, 356, 406	356, 406, 457

**DESCRIPTION:**

The Model 92LFDM-SS Laminar Flow Diffuser is a medium capacity/airflow range design that produces a non-aspirating, low velocity vertical air pattern. Recommended face velocity range is 50 – 90 cfm/sq. ft.

Located above the work area they provide a controlled low velocity downward projection "piston" of conditioned supply air.

The "dual chamber" design and internal baffles provide improved air distribution across the perforated face resulting in superior performance.

The only significant amount of room air entrainment occurs at the outer boundary of the laminar flow mass.

Applications include clean rooms such as research laboratories, animal labs, food processing, pharmaceutical labs and computer rooms where localized heavy cooling loads present a problem.

**CONSTRUCTION:**

- 304 stainless steel frame and perforated face with 3/32" (2.4) dia. holes on 60 degree 3/16" (5) staggered centers (23% free area). The face plate is removable for cleaning and is secured by 1/4 turn fasteners.
- 304 stainless steel fully welded plenum, perforated pressure plate and disc type damper. Damper adjustment through removable face plug.
- Standard safety cables prevent accidental dropping of removable face.
- Standard finish is #4 Brushed Satin Polished.

**OPTIONS:**

- ☐ 316 Stainless Steel construction.
- Finish:
  - ☐ AW Appliance White.
  - ☐ BW British White.
  - ☐ SP Special \_\_\_\_\_.
  - ☐ EX External foil-back insulation, R-4.2 (installed).

**SCHEDULE TYPE:**

**PROJECT:**

**ENGINEER:**

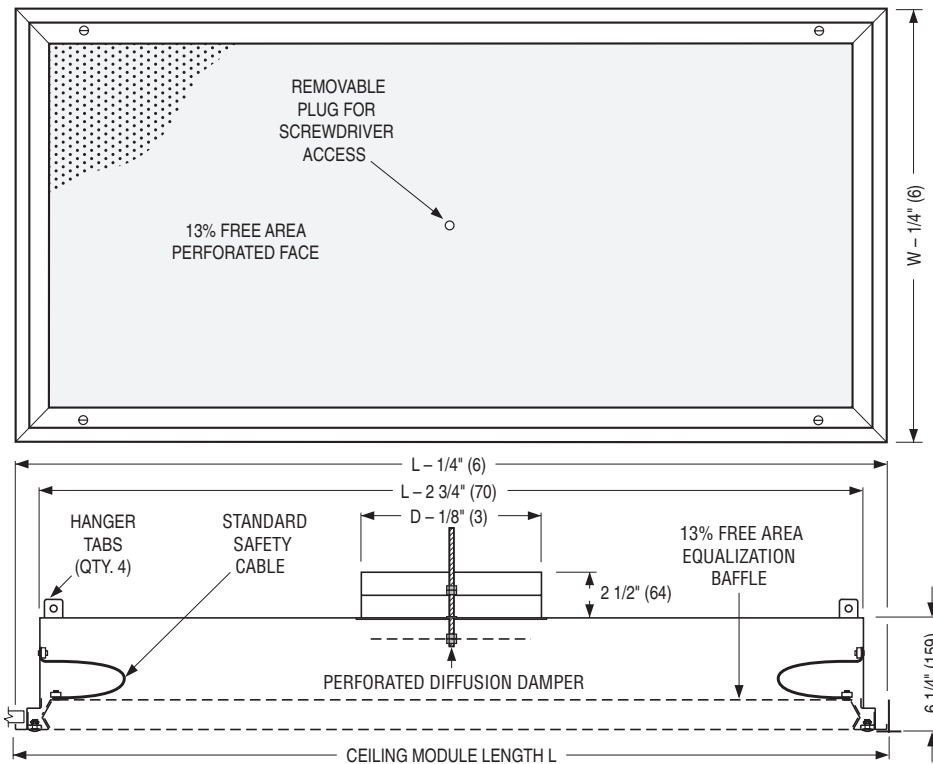
**CONTRACTOR:**

Dimensions are in inches (mm).

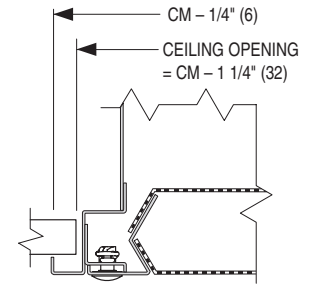
DATE	B SERIES	SUPERSEDES	DRAWING NO.
5 - 10 - 21	9200	9 - 2 - 16	92LFDM-SS



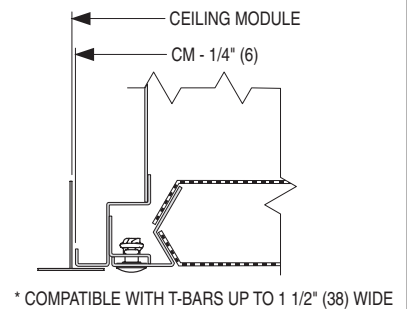
**LAMINAR FLOW CEILING DIFFUSER**  
**STAINLESS STEEL • DUAL CHAMBER**  
**CRITICAL ENVIRONMENT APPLICATIONS**  
**LOW CAPACITY DESIGN**  
**MODEL: 92LFD-SS**



☐ **TYPE S** Surface Mount Detail



☐ **TYPE L\*** Lay-in T-Bar Detail



**Ceiling Module Sizes L x W & Nominal Round Duct Sizes D**

L x W	Imperial Modules (inches)	24 x 12	48 x 12	60 x 12	72 x 12	24 x 24	36 x 24	48 x 24	60 x 24	72 x 24
	Metric Modules (mm)	600 x 300	1200 x 300	1500 x 300	1800 x 300	600 x 600	900 x 600	1200 x 600	1500 x 600	1800 x 600
Duct Size D	(inches)	6, 7, 8	6, 7, 8	6, 7, 8	6, 7, 8	6, 7, 8, 10	6, 7, 8, 10, 12	7, 8, 10, 12	8, 10, 12	8, 10, 12
	(mm)	152, 178, 203	152, 178, 203	152, 178, 203	152, 178, 203	152, 178, 203, 254	152, 178, 203, 254, 305	178, 203, 254, 305	203, 254, 305	203, 254, 305

**DESCRIPTION:**

The Model 92LFD-SS Laminar Flow Diffuser is a low capacity/airflow range design that produces a non-aspirating, low velocity vertical air pattern. Recommended face velocity range is 20 – 60 cfm/sq. ft.

Installed above the operating table in a hospital operating room, the 'clean' conditioned air flows over the operating table so helping to protect and effectively isolate the patient from contaminated air.

The "dual chamber" design and internal baffles provide improved air distribution across the perforated face resulting in superior performance.

The only significant amount of room air entrainment occurs at the outer boundary of the laminar flow mass, outside the confines of the operating table.

Other applications include clean rooms such as research laboratories, animal labs, food processing, pharmaceutical labs and computer rooms where localized heavy cooling loads present a problem.

**CONSTRUCTION:**

- 304 stainless steel frame and perforated face with 3/32" (2.4) dia. holes on 60 degree 1/4" (6) staggered centers (13% free area). The face plate is removable for cleaning and is secured by 1/4 turn fasteners.
- 304 stainless steel fully welded plenum, perforated pressure plate and disc type damper. Damper adjustment through removable face plug.
- Standard safety cables prevent accidental dropping of removable face.
- Standard finish is #4 Brushed Satin Polished.

**OPTIONS:**

- ☐ 316 Stainless Steel construction.
- Finish:
- ☐ AW Appliance White.
- ☐ BW British White.
- ☐ SP Special \_\_\_\_\_.
- ☐ EX External foil-back insulation, R-4.2 (installed).

**SCHEDULE TYPE:**

**PROJECT:**

**ENGINEER:**

**CONTRACTOR:**

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

5 - 6 - 21

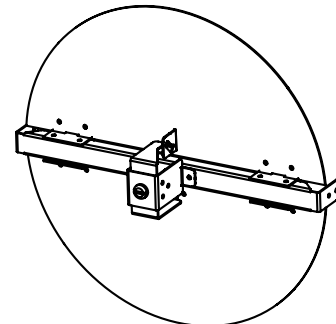
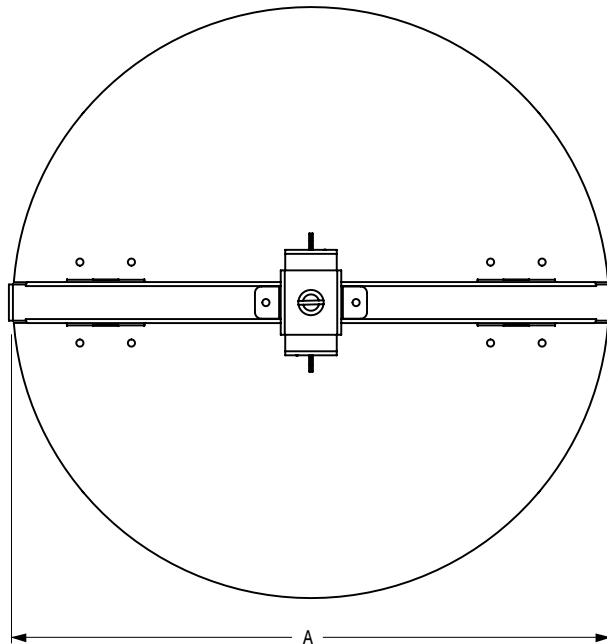
9200

9 - 2 - 16

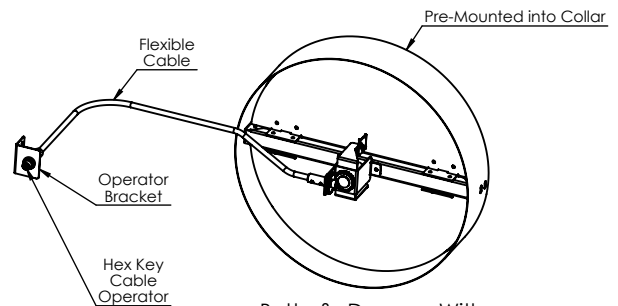
92LFD-SS



# AIR BALANCING DEVICE BUTTERFLY DAMPER STAINLESS STEEL • FOR CRITICAL ENVIRONMENT ROUND NECK DIFFUSERS MODEL: BDS4 (BDS ACCESSORY)



Butterfly Damper  
BDS4 (BDS Accessory)



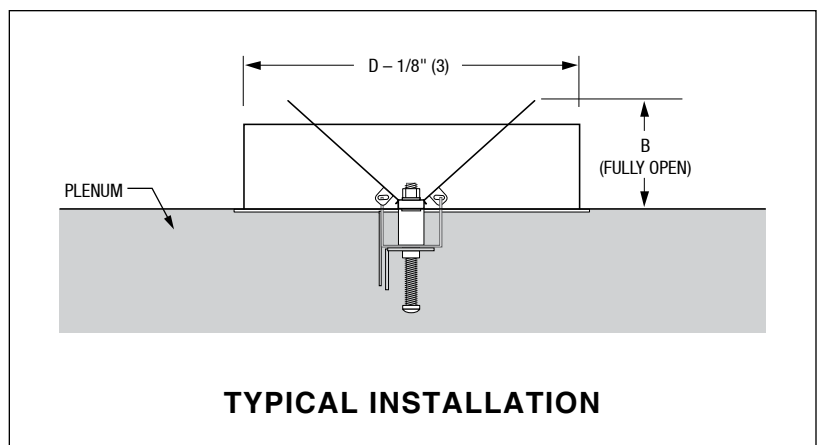
Butterfly Damper With  
Remote Cable Operator  
(BDSR Accessory)

## DESCRIPTION:

**The Model BDS4 Butterfly Damper** is an economical damper for volume balancing in critical environment round neck diffusers. Adjustable friction pivots hold the blades at the required setting.

1. Material: 304 Stainless Steel. Mill finish.
2. The BDS4 damper must be field mounted by others.
3. Screwdriver slot operator is adjustable from the face of the diffuser.
4. Dampers are factory mounted when ordered as an option on applicable diffuser using the accessory code (BDS, BDSR)

Nominal Size (inches)						Nominal size (mm)				
	6	8	10	12	14	152	203	254	305	356
A	5 13/18	7 13/18	9 13/18	11 13/18	13 13/18	145	196	247	298	349
B	2 1/2	3 1/2	4 1/2	5 1/2	6 1/2	64	89	114	140	165



TYPICAL INSTALLATION

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

3 - 18 - 25

ACC.CED.

NEW

ABD-BDS4



**Nailor**<sup>®</sup>  
Industries Inc.

## STANDARD AND OPTIONAL FINISHES FOR GRILLES AND DIFFUSERS

Nailor offers a selection of standard colors and finishes available on our grilles, registers and diffusers. For painted finishes, our state-of-the-art paint systems provide environmentally friendly finishing solutions with uniform coverage and coating thickness. The result is an exceptionally durable finish that resists scratching, corrosion and general wear. Additional facilities for special requirements, as well as a selection of anodized or brushed finishes, complete our ability to provide unmatched beauty and durability for any application.

### NAILOR POWDER COAT PROPERTIES

FILM THICKNESS	2.0 to 3.0 mils
HARDNESS	2 H
IMPACT RESISTANCE	Direct: 160 inch - lbs. Reverse 160 inch - lbs.
SALT SPRAY	1000 hours

### ELECTROCOATING PROPERTIES

FILM THICKNESS	.8 to 1.2 mils
HARDNESS	HB TO H
IMPACT RESISTANCE	80 inch - lbs
SALT SPRAY	100 hours



### POWDER COAT

Nailor's powder coat is a high-tech thermosetting polyester powder coating with superior physical properties that provide excellent color and gloss retention. The finish offers extreme durability and hardness that resists scratching, chipping and general wear. Surface preparation includes degreasing and a chemical cleaning followed by a clean rinse before a final powder coat finish is applied and baked. The environmentally friendly Nailor powder coat system assures uniform coverage and color consistency resulting in a long lasting superior finish. Colors, including simulated anodizing, which is far more economical than color anodizing, can be selected from Nailor's standard color chart or non-standard colors and can be matched from sample chips provided to Nailor.

### ELECTROCOATING

E-Coat is an environmentally friendly coating that provides complete coverage and a wide range of performance properties, formulated to meet corrosion, durability and other performance specifications. Electrocoating is a highly automated process in which paint is electrically deposited onto a metal foundation. Film build thickness is uniform and overall application efficiencies are in excess of 90%. Paint is consistent on all part-to-part surfaces, preventing sags, runs or drips. E-Coat offers flexibility, better first yield pass and quicker production times compared to other forms of paint applications. Electrocoating is an excellent solution that offers superior properties and uniform finish.

### CLEAR ANODIZING (Aluminum products only)

Clear anodizing is a clear oxide coating that exemplifies an aluminum surface's natural oxide coating producing a hard, scratch resistant surface that is resistant to general wear and mild chemicals. The process provides a natural looking, virtually maintenance free finish that will endure for many years.

### COLOR ANODIZING (Aluminum products only)

Color anodizing is an electrolytic process where, after standard anodizing procedures, colored metallic pigments penetrate the oxide surface pores producing a corrosion resistant, colorfast finish. The process results in a natural metallic appearance that requires little maintenance.

### BRUSHED AND CLEAR COAT

Available on specific aluminum products (consult applicable product page for availability). Surface is brushed to achieve a scratch finish texture before being degreased and chemically cleaned. A clear lacquer coating is then applied to provide a durable protective finish.

### #4 BRUSHED SATIN POLISHED (Stainless Steel products only)

Surface is polished to ASTM A480 #4 standard to achieve a bright durable finish that is resistant to mild chemicals and corrosion. A final coating is not required due to the inherent anti-corrosion properties of the stainless steel.

### PRIME COAT

Prime coat provides a stable base for painting in the field. Surface pretreatment includes degreasing and a chemical cleaning before an alkyd prime coat is applied. After a thorough cleaning for dust, etc. that can contaminate the final finish and cause premature flaking or peeling, finish coat should be field applied as soon as possible.

### PAINT PREPARED ALUMINUM (Aluminum products only)

Allows for field applied paint. Surface preparation includes degreasing and a chemical cleaning followed by a clean rinse. Finish coat should be field applied as soon as possible.

### MILL FINISH

Surface is left untreated and requires cleaning, degreasing, etc. in the field before final finish can be applied if required.

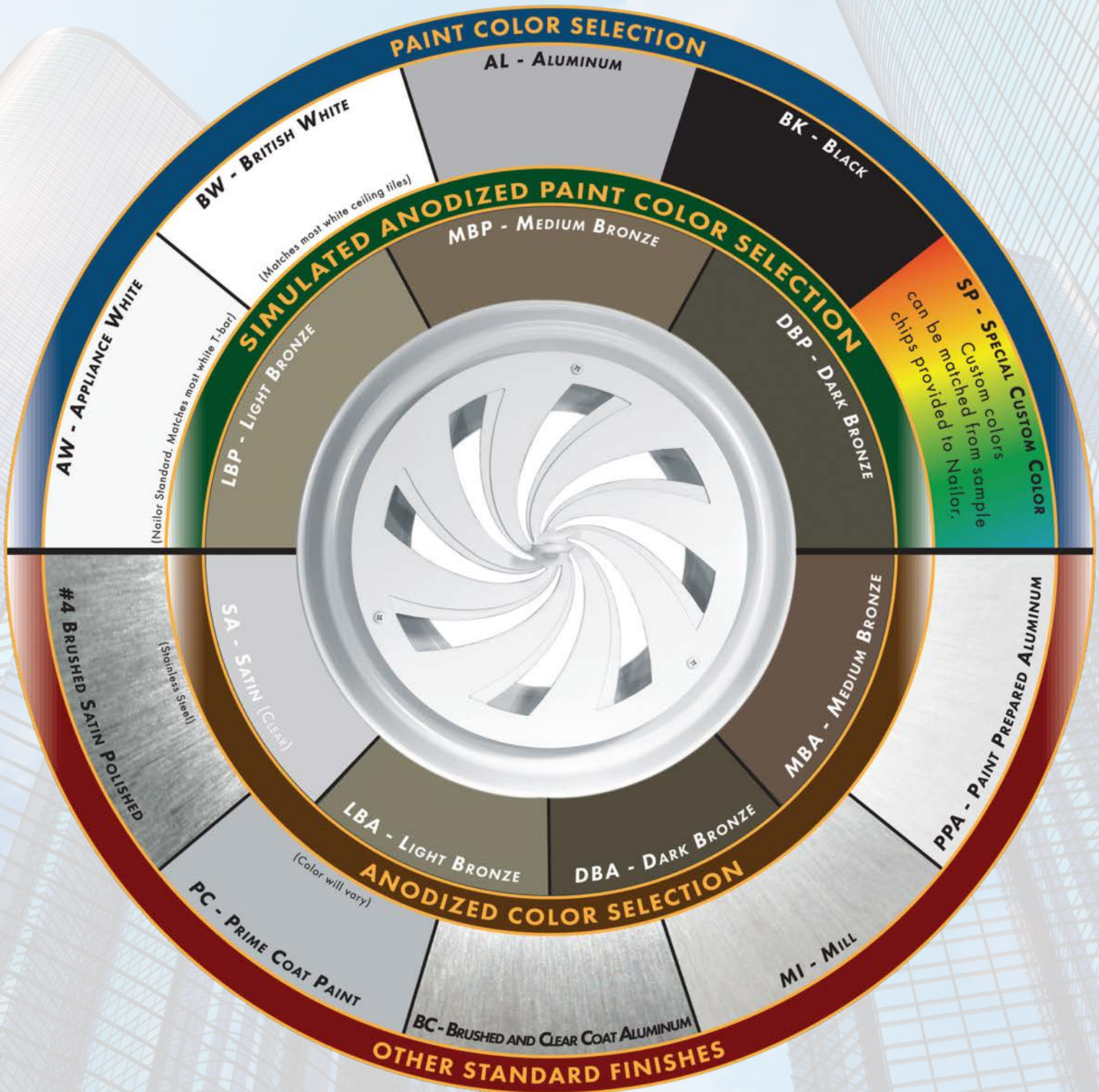




**Nailor®**  
Industries Inc.

## STANDARD AND OPTIONAL FINISHES FOR GRILLES AND DIFFUSERS

The following standard colors and finishes are available on applicable Nailor air distribution products. Consult individual product pages for availability



The pictured finishes have been represented as best as possible within printing limitations. However, actual finish may vary. Contact your Nailor representative for a color chip sample on the material specified for a more accurate representation.

**DBK** - Black (for registers ordered with factory mounted dampers) - **BA** - Perforated Diffusers (4300 series only) Appliance White (AW) face with black back pan and pattern controllers.

**"Complete Air Control and Distribution Solutions."**

**WGDSOF2015**

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