

## ADJUSTABLE RADIAL PATTERN DIFFUSERS

- ADJUSTABLE CURVED BLADES
- TWO CENTER PANEL STYLES
- REMOVABLE FACE

### Perforated Center Panel:

92CBPRP-AL Aluminum

92CBPRP Steel

### Straight Blade Center Panel:

92CBSRP-AL Aluminum

92CBSRP Steel



The **Model Series 92CBRP Adjustable Radial Pattern Diffusers** have been designed to provide an adjustable radial air pattern for delivering high volumes of low velocity air.

Two sets of individually adjustable curved blade pattern controllers provide field control flexibility and can be set to produce custom, effective directional control with minimum resistance and noise generation. The diffusers are available with either a perforated center panel that ensures a fixed, controlled blow air pattern directly under the diffuser or with an adjustable straight blade center panel that allows fine adjustment of the air pattern. Internal air baffles equalize the airflow across the face of the diffuser.

The hemispherical 180° air pattern provides higher volumes with much shorter throws than conventional diffusers. The diffuser is suitable for pharmaceutical manufacturing, bio-technology research facilities, laboratories, food processing, and other cleanroom applications.

### FEATURES:

- Architecturally appealing face design.
- Extruded aluminum frame and blades.
- Face panel is removable for cleaning and is secured by 1/4 turn fasteners.
- Safety cables are included as standard and prevent accidental dropping of removable face.
- 180° hemispherical air pattern.
- Round inlets for simple duct connection
- The center panel on Model Series 92CBPRP has a perforated face with 3/16" (5) dia. holes on 1/4" (6) staggered centers (51% free area).
- The center panel on Model Series 92CBSRP has an adjustable straight blade pack.
- Standard unit designed for both Lay-in T-Bar ceiling systems and surface mount applications.

**Material:** Extruded aluminum frame and blades. Aluminum or corrosion-resistant steel backpan and equalization baffles depending on model selection.

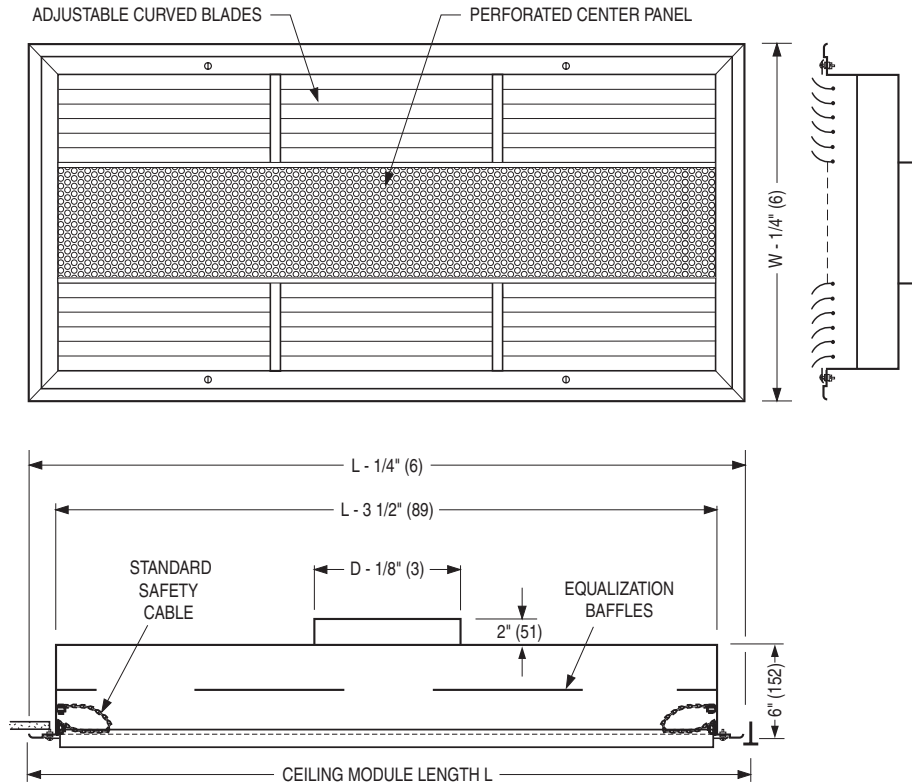
**Finish:** AW Appliance White baked enamel finish is standard. Other finishes are available.

### Options:

This product is also available in stainless steel construction. Contact your local Nailor Representative for more information.

## Dimensional Data

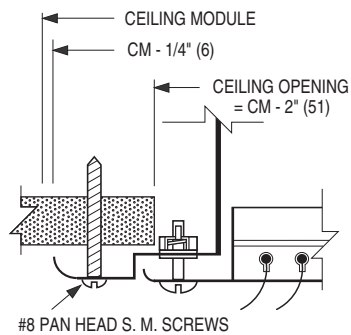
Model Series 92CBPRP • Adjustable Radial Pattern Diffusers • Perforated Center Panel



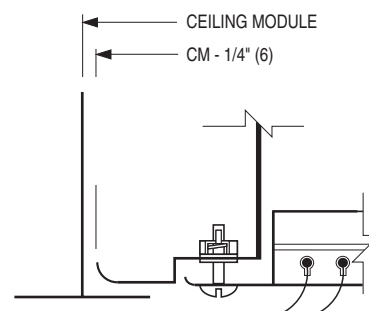
**Ceiling Module Sizes L x W & Nominal Round Duct Sizes D**

L x W	Imperial Modules (inches)		24 x 24	48 x 24
	Metric Modules (mm)		600 x 600	1200 x 600
Duct Size D	(inches)		8, 10	10, 12
	(mm)		203, 254	254, 305

### Type S Surface Mount Detail

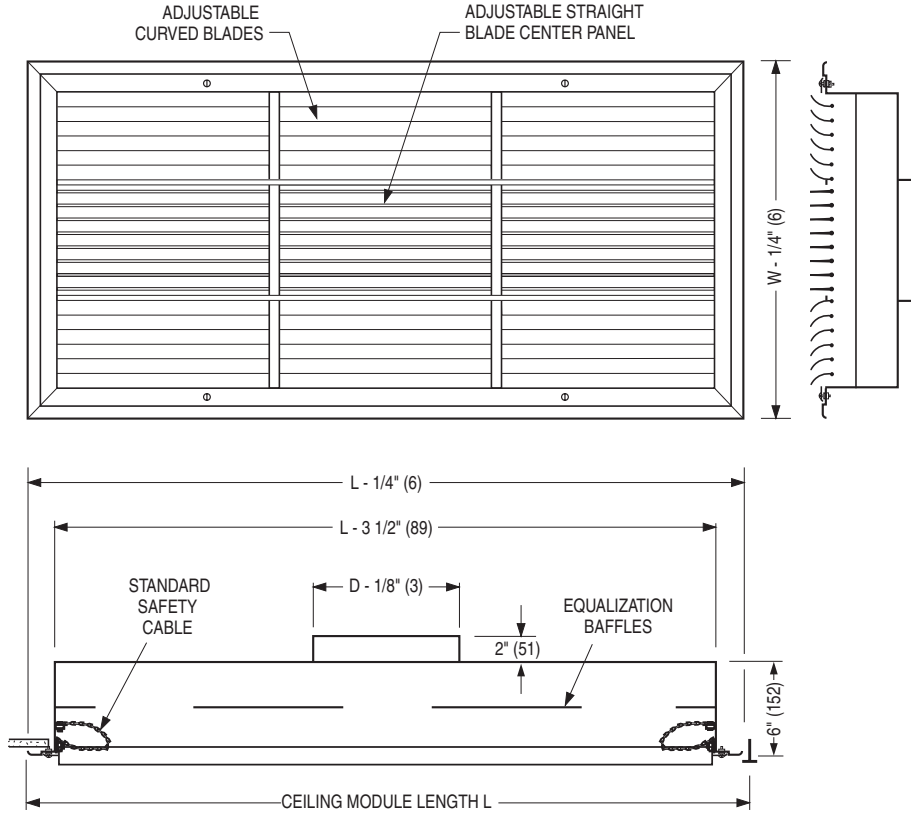


### Type L Lay-in T-Bar Detail



## Dimensional Data

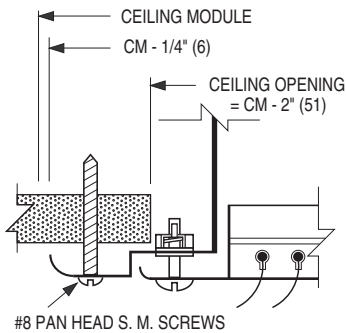
Model Series 92CBSRP • Adjustable Radial Pattern Diffusers • Straight Blade Center Panel



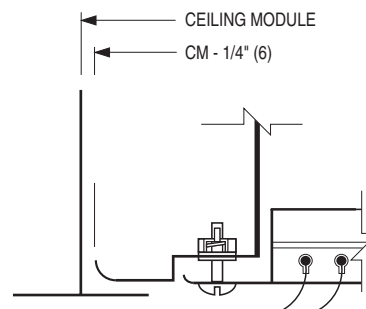
**Ceiling Module Sizes L x W & Nominal Round Duct Sizes D**

L x W	Imperial Modules (inches)		24 x 24	48 x 24
	Metric Modules (mm)		600 x 600	1200 x 600
Duct Size D	(inches)		8,	10,
			10	12
	(mm)		203,	254,
			254	305

**Type S Surface Mount Detail**



**Type L Lay-in T-Bar Detail**



## HOW TO SPECIFY OR TO ORDER

(Show complete Model Number and Size, unless "Default" is desired).

### Steel or Aluminum Adjustable Radial Pattern Diffusers – Model Series 92CBRP

92CBPRP-AL - 08 - 24 x 24 - L - AW - —

#### MODEL

##### Perforated Center Panel

- Aluminum 92CBPRP-AL
- Steel 92CBPRP

##### Straight Blade Center Panel

- Aluminum 92CBSRP-AL
- Steel 92CBSRP

#### ROUND INLET SIZE

08, 10, 12 (203, 254, 305)

#### CEILING MODULE SIZE

##### Imperial Modules (inches) (mm)

- 24 x 24 (610 x 610)
- 48 x 24 (1219 x 610)

##### Metric Modules (mm)

- 600 x 600
- 1200 x 600

#### OPTIONS

- None (default) —
- Earthquake Tabs EQT

#### FINISH

- Appliance White (default) AW
- Aluminum AL
- Special Custom Color SP
- Acrylic Appliance White AAW
- Acrylic Custom Color ASP

#### FRAME TYPE

- Lay-in T-Bar L
- Surface Mount S

#### Note:

1. Consult dimensional data as to limitations of model, module and neck size combinations.

#### SUGGESTED SPECIFICATION:

##### Models 92CBPRP-AL, 92CBPRP – Perforated Center Panel

Furnish and install **Nailor Model** (select one) **92CBPRP-AL** (aluminum backpan, baffles and perforated center) or **Model 92CBPRP** (corrosion-resistant steel backpan, baffles and perforated center) **Adjustable Radial Pattern Diffusers with a Perforated Center Panel** of the sizes and capacities as shown on the plans and air distribution schedules. The diffusers shall have an extruded aluminum frame and the face panel shall include adjustable extruded aluminum curved blades with a perforated center panel. The perforated center panel shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The face shall be attached to the plenum with 1/4 turn fasteners to allow for complete removal and access to the interior for cleaning. All diffusers are to include safety cables to prevent accidental dropping of the removable face. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

##### Models 92CBSRP-AL, 92CBSRP – Straight Blade Center Panel

Furnish and install **Nailor Model** (select one) **92CBSRP-AL** (aluminum backpan and baffles) or **Model 92CBSRP** (corrosion-resistant steel backpan and baffles) **Adjustable Radial Pattern Diffusers with a Straight Blade Center Panel** of the sizes and capacities as shown on the plans and air distribution schedules. The diffusers shall have an extruded aluminum frame and the face panel shall include adjustable extruded aluminum curved blades with an adjustable straight blade center panel. The face shall be attached to the plenum with 1/4 turn fasteners to allow for complete removal and access to the interior for cleaning. All diffusers are to include safety cables to prevent accidental dropping of the removable face. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

HOSPITAL / CLEANROOM DIFFUSERS

## Performance Data

### Adjustable Radial Pattern Diffusers

Models: 92CBPRP, 92CBPRP-AL and 92CBPRP-SS • Perforated Center Panel

Module Size and Inlet Size	Airflow cfm	Pt "w.g.	Ps "w.g.	NC	Horizontal Throw (ft)		Vertical Throw (ft)	
					5°ΔT	15°ΔT	5°ΔT	15°ΔT
					100-75-50	100-75-50	100-75-50	100-75-50
24" x 24" 8" Inlet	200	.037	.017	—	1-3-4	1-3-4	1-4-6	3-6-7
	300	.084	.038	23	1-4-5	1-3-5	2-5-7	4-7-8
	400	.149	.067	33	1-5-7	1-4-6	3-6-8	5-8-9
24" x 24" 10" Inlet	300	.045	.026	—	1-5-6	2-3-5	2-5-7	4-6-8
	400	.080	.047	21	1-5-7	2-5-6	2-6-8	5-7-9
	600	.181	.106	35	2-6-9	5-7-8	3-6-9	6-8-9
24" x 48" 10" Inlet	400	.068	.035	21	1-2-4	3-4-5	3-4-6	4-6-7
	600	.154	.079	32	2-4-5	2-5-6	4-5-7	5-7-8
	800	.274	.140	42	2-5-7	3-6-7	5-6-7	7-8-9
24" x 48" 12" Inlet	600	.094	.057	24	2-4-5	2-5-6	3-5-7	4-7-8
	800	.165	.100	33	2-5-7	3-5-7	3-6-8	5-7-9
	1000	.258	.157	41	3-5-8	4-6-9	4-7-9	6-8-10

Models: 92CBSRP, 92CBSRP-AL and 92CBSRP-SS • Straight Blade Center Panel

Module Size and Inlet Size	Airflow cfm	Pt "w.g.	Ps "w.g.	NC	Horizontal Throw (ft)		Vertical Throw (ft)	
					5°ΔT	15°ΔT	5°ΔT	15°ΔT
					100-75-50	100-75-50	100-75-50	100-75-50
24" x 24" 8" Inlet	200	.035	.015	—	1-2-3	1-2-3	1-5-7	2-6-8
	300	.079	.033	22	2-3-4	2-3-3	2-6-7	2-7-8
	400	.140	.058	32	2-3-5	2-3-4	3-7-8	3-8-9
24" x 24" 10" Inlet	300	.043	.024	—	2-3-4	2-3-3	2-6-7	2-7-8
	400	.076	.043	20	2-3-5	2-3-4	3-7-8	3-8-9
	600	.172	.097	34	3-4-7	3-4-5	3-7-9	4-9-10
24" x 48" 10" Inlet	400	.064	.031	—	2-4-5	3-5-6	2-3-5	4-6-7
	600	.144	.069	30	3-5-6	4-6-7	2-5-7	5-7-8
	800	.256	.122	40	5-6-7	6-7-8	3-6-8	6-8-9
24" x 48" 12" Inlet	600	.086	.049	22	3-5-6	4-6-7	2-6-7	5-7-8
	800	.154	.089	31	5-6-7	6-7-8	3-6-8	6-8-9
	1000	.240	.139	39	6-7-8	7-8-9	3-7-8	5-8-10

#### Performance Notes:

1. Throw values are given for terminal velocities of 100, 75 and 50 fpm.
2. Vertical throw is the furthest distance below the ceiling where the indicated terminal velocity can be measured.
3. ΔT is the cooling temperature differential between supply and room air.
4. NC (Noise Criteria) values based on 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (—) in space indicates an NC level of less than 20.
5. Data derived from tests were conducted in accordance with ANSI /ASHRAE Standard 70-1991.

