

## Model: CFP

The Holyoake CFP range of square and round faced Fixed Pattern Radial Induction Swirl Diffusers, have been designed to provide high quality indoor air diffusion.

The CFP is constructed with swirl deflection blades that produce a highly turbulent radial airflow pattern. This draws room air up into the supply air path resulting in mixing at high level and rapid temperature equalization, whilst creating optimum room space conditions, with even temperature gradients.

The CFP diffuser is suitable for use with increased temperature differentials and in VAV applications, as the ceiling effect is maintained from minimal through to very high air flow rates.

### CFP Square Model Installation

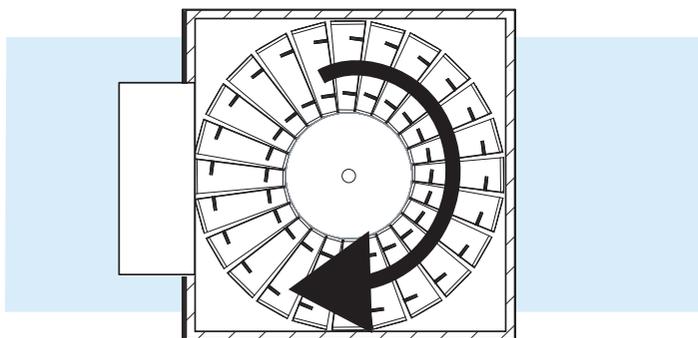
Installation is simple due to the availability of the square lay-in type design. The diffuser can be placed into the T-rail system quickly and easily and the supply duct attached. Alternatively, the diffuser may be conventionally flush mounted, or with the use of a surface mounted installation flange.

### CFPR Circular Model Installation

Installation is also made simple with this model, with the availability of a top entry round cushion head plenum. The diffuser outer edge can be placed flush mounted against the ceiling surface.

### Specifically Designed Swirl Inducing Side Entry Box for CFP Diffusers

A suitably sized specifically designed Holyoake Evenflow Plenum, should be incorporated to provide the best performance.

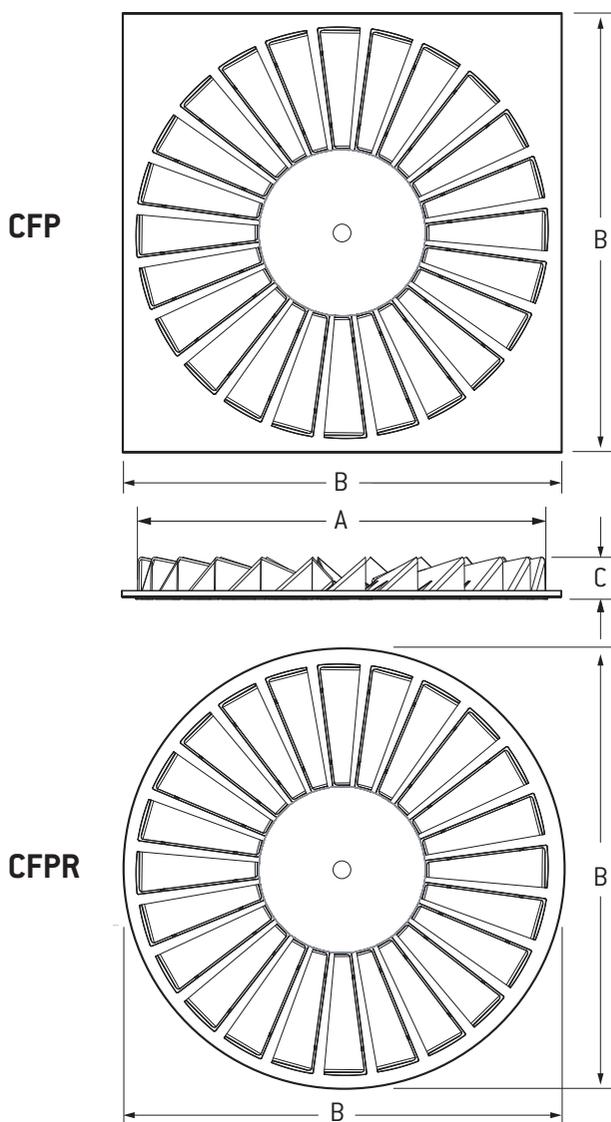


### Features

- Strong Ceiling Effect
- Radial Diffusion Pattern
- High Induction Swirl
- Easy Lay-in Installation
- Attractive Appearance
- Range of Square and Round Faced options

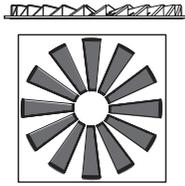
### Construction

The CFP is constructed from a pressed steel body and has a high quality powder coat finish. Air pattern elements are constructed from a tough UV stabilized and fire rated engineering polymer, in either white, or black. The CFP diffuser is both robust and lightweight making on-site installation easy.

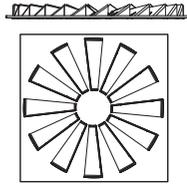


	Sizes Available (Nom: Face)				
	CFP450-12	CFP600-12	CFP600-20	CFP600-24	CFPR615-20
A	430	430	510	545	510
B	445	595	595	595	615
C	45	45	45	45	45

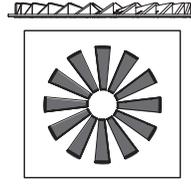
**Note** Refer to page 132D for box and diffuser weights.



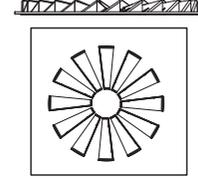
CFP-450 BLK 12



CFP-450 WHT 12



CFP-600 BLK 12



CFP-600 WHT 12

## Model: **CFP Radial** Induction Swirl Diffuser (Square)

**450/600/12 Nominal Face\***

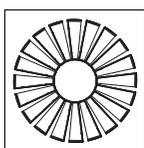
Duct Size	Flow Rate [l/s]	25	50	75	100	125	150	
150	Static Pressure [Pa]	2	5	11	19	29	43	
	Throw (m)	0.2-0.5-0.9	0.3-0.9-1.2	0.9-1.5-2.2	1.0-1.9-2.6	1.5-2.3-3.4	1.6-2.5-4.1	
	NC	*<10	11	18	24	31	37	
200	Static Pressure [Pa]	1	3	7	10	16	27	
	Throw (m)	0.2-0.3-0.8	0.3-0.6-1.2	0.5-1.0-2.0	0.8-1.5-2.3	1.2-1.9-3.0	1.2-2.0-3.8	
	NC	*<10	*<10	13	17	22	27	
250	Static Pressure [Pa]	*<1	2	5	8	10	18	
	Throw (m)	0.2-0.5-0.6	0.3-0.5-1.1	0.4-1.0-1.9	0.7-1.4-2.2	1.1-1.8-2.9	1.1-1.8-3.6	
	NC	*<10	*<10	11	13	16	20	

\* See Notes on Performance Data on Page 131D.

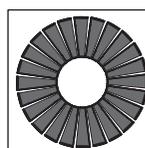
Due to a policy of continuous development and improvement the right is reserved to supply products which may differ slightly from those illustrated and described in this publication.



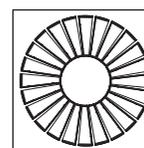
CFP-600 BLK 20



CFP-600 WHT 20



CFP-600 BLK 24



CFP-600 WHT 24

Model: **CFP Radial** Induction Swirl Diffuser (Square)

600/20 Nominal Face

Duct Size:	Flow Rate [l/s]	100	125	150	175	200	250	300	350
150	Static Pressure [Pa]	8	10	13	18	25			
	Throw (m)	1.2-1.9-3.0	1.6-2.4-3.4	1.8-2.5-3.8	1.9-2.7-3.9	2.2-2.9-4.2			
	NC	14	23	33	41	51			
200	Static Pressure [Pa]	6	8	11	15	19	30	42	
	Throw (m)	1.2-1.9-3.0	1.5-2.2-3.3	1.6-2.3-3.6	1.9-2.5-3.8	2.0-2.7-3.9	2.6-3.3-4.7	2.9-3.4-5.0	
	NC	13	22	30	38	45	54	61	
250	Static Pressure [Pa]	5	6	9	12	14	21	28	38
	Throw (m)	0.9-1.2-2.4	1.2-1.3-2.7	1.3-1.6-2.8	1.5-2.0-3.0	1.6-2.2-3.5	2.1-3.0-3.9	2.4-3.3-4.5	2.8-3.4-5.1
	NC	<10	14	17	21	27	34	39	46
300	Static Pressure [Pa]	4	5	7	10	12	19	26	35
	Throw (m)	0.7-1.4-2.1	0.9-1.5-2.2	1.1-1.7-2.7	1.3-1.9-2.9	1.4-2.0-3.4	1.9-2.6-3.8	2.2-2.8-4.5	2.6-3.3-4.9
	NC	<10	<10	10	18	21	28	35	42
350	Static Pressure [Pa]	2	3	5	6	8	12	17	28
	Throw (m)	0.6-1.1-2.40	0.8-1.3-2.1	1.0-1.5-2.5	1.3-2.0-2.7	1.4-2.1-3.3	1.9-2.9-3.6	2.2-3.2-4.3	2.5-3.4-4.8
	NC	<10	<10	<10	14	19	26	33	40

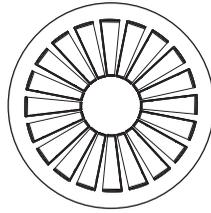
Model: **CFP Radial** Induction Swirl Diffuser (Square)

600/24 Nominal Face

Duct Size	Flow Rate [l/s]	25	50	100	150	200	250	300	400
150	Static Pressure [Pa]	*<1	2						
	Throw (m)	0.3-0.6-1.2	1.2-1.6-2.3						
	NC	*<10	*<10						
200	Static Pressure [Pa]	*<1	1	4	9	15	22	30	49
	Throw (m)	0.3-0.5-1.17	1.1-1.5-2.2	1.9-2.8-3.3	2.9-3.2-4.7	3.5-4.1-4.9	3.7-4.3-5.4	4.7-4.9-5.6	4.7-5.6-6.8
	NC	*<10	*<10	12	24	31	37	42	53
250	Static Pressure [Pa]	*<1	1	3	5	8	11	15	28
	Throw (m)	0.2-0.3-0.6	0.6-1.0-1.5	1.2-1.8-2.3	2.2-3.2-4.5	2.7-3.5-4.7	2.9-3.8-5.2	3.2-4.3-5.6	3.8-4.7-6.7
	NC	*<10	*<10	11	14	24	33	42	52
300	Static Pressure [Pa]	*<1	*<1	2	4	8	10	15	28
	Throw (m)	0.2-0.3-0.5	0.5-0.6-0.8	1.0-1.4-1.7	1.7-2.2-2.8	2.2-2.4-3.0	2.3-2.7-3.1	2.6-3.4-4.2	4.3-5.0-5.6
	NC	*<10	*<10	10	14	24	26	36	52
350	Static Pressure [Pa]	*<1	*<1	2	3	7	9	13	26
	Throw (m)			0.9-1.2-1.6	1.5-2.1-2.7	2.1-2.3-3.0	2.2-2.6-3.0	2.5-3.2-4.1	4.2-4.9-5.5
	NC	*<10	*<10	*<10	12	22	25	34	50

**\*Notes**

1. Performance data is based on a specifically designed side entry box.
2. Listed throw distances are to a terminal velocity (Vt) of 0.75 - 0.5 - 0.25m/s.
3. The NC values are based on a room absorption of 10dB re 10<sup>-12</sup> Watts.
4. Static pressure less than 1Pa not shown.
5. NC values of less than 10 NC not shown.



CFP R-615 WHT 20

## Model: **CFPR Radial** Induction Swirl Diffuser (Circular)

**615/20 Nominal Face**

Duct Size:	Flow Rate (l/s)	50	75	100	125	150	175	200	250	300	350	400
250	Static Pressure (Pa)	4	6	11	16	24	31	40	52	67		
	Throw (m)	0.4-1.0-1.5	0.8-1.4-2.0	1.2-1.6-2.5	1.4-2.4-3.4	1.7-2.6-3.6	2.0-3.1-3.9	2.2-3.1-3.9	2.4-3.4-4.9	3.0-4.3-5.6		
	NC	<10	<10	16	25	30	35	38	45	50		
300	Static Pressure (Pa)	1	3	5	7	9	13	17	26	36	48	
	Throw (m)	0.3-0.4-1.0	0.6-0.9-1.7	0.9-1.4-2.5	1.2-1.6-2.7	1.3-1.7-2.8	1.4-1.8-3.1	1.5-1.9-3.2	1.7-2.6-3.6	2.2-2.8-4.3	2.9-3.7-4.9	
	NC	<10	<10	<10	14	23	30	32	39	46	50	
350	Static Pressure (Pa)	1	2	3	4	5	7	11	15	19	23	30
	Throw (m)	0.2-0.4-1.0	0.3-0.5-1.5	0.5-1.0-1.7	1.0-1.4-2.3	1.1-1.5-2.6	1.2-1.6-2.7	1.3-1.8-2.8	1.4-2.0-3.2	2.2-2.6-4.1	2.4-3.5-4.8	2.9-3.9-5.6
	NC	<10	<10	<10	10	18	26	29	37	44	48	52

### Product Weights in Kg

	CFP450-12	CFP600-12	CFP600-20	CFP600-24	CFPR615-20
Diffuser	1.23	2.23	2.11	2.13	1.76
Galv Box	6.5	6.5	6.5	6.5	3.14
Prem Box	2.5	2.6	2.6	2.6	N/A

### Notes

1. CFPR Performance Data is based on a specifically designed top entry galvanized plenum box.
2. Listed throw distances are to a terminal velocity (Vt) of 0.75 – 0.50 – 0.25 m/s.
3. The NC values are based on room absorption of 10dB re: 10<sup>-12</sup> Watts.
4. NC values of less than 10 NC not shown.

# CFP, CFPP, CRS, & CSS

## Product Ordering Key and Suggested Specifications

<b>CFP</b>	-	<b>450</b> <b>600</b> <b>615</b>	-	<b>12</b> <b>20</b> <b>24</b>	-	<b>R</b>	-	<b>SE</b> <b>TE</b>	-	<b>150</b> <b>200</b> <b>250</b> <b>300</b> <b>350</b>	-	<b>FINISH</b>
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ceiling Fixed Pattern	Diffuser Nominal Size	Number of Slots*	Circular Option		Side, or Top Entry Cushion Head Box			Duct Size		Holyoake White, Powder Coat		

\* Size & Slot Options - See Page 133D.

Ceiling Radial Induction Swirl Diffusers shall be Holyoake Model CFP. These diffusers shall be designed for use in Variable Air Volume (VAV) systems with radial, high induction, air flow patterns.

CFP shall maintain a COANDA effect at reduced volume and provide uniform temperature gradients throughout the occupied space.

CFP Diffusers shall be finished in powder coat and be supplied with a suitable side, or top entry box and be fitted with accessories and dampers where indicated.

All shall be as manufactured by Holyoake.

<b>CFPP</b>	-	<b>R</b>	-	<b>600</b>	-	<b>C</b>	-	<b>SE</b> <b>TE</b>	-	<b>150</b> <b>200</b> <b>250</b> <b>300</b>	-	<b>FINISH</b>
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ceiling Fixed Pattern Pressed Steel	Circular Option	Diffuser Nominal Size	Optional Velocity Enhancer		Side, or Top Entry Cushion Head Box			Duct Size		Holyoake White, Powder Coat		

Ceiling Radial Swirl Diffusers shall be Holyoake Model CFPP 600 series. These diffusers shall be designed for use in Variable Air Volume (VAV) systems with radial, high induction, air flow patterns.

CFPP shall maintain a COANDA effect at reduced volume and provide uniform temperature gradients throughout the occupied space.

CFPP Diffusers shall be finished in powder coat and be supplied with a suitable side, or top entry box and be fitted with accessories and dampers where indicated.

All shall be as manufactured by Holyoake.

<b>CRS</b>	-	<b>P</b>	-	<b>300</b> <b>450</b>	-	<b>SE</b>	-	<b>150*</b> <b>200*</b> <b>250*</b> <b>300</b> <b>350</b>	-	<b>T</b>	-	<b>FINISH</b>
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ceiling Radial Swirl	Optional Perforated Face Plate	Nominal Neck Size	Special Side Entry Box		Duct Size	Optional 'T' Rail Frame		Holyoake White, Powder Coat				

\* Note: Only these diameters are available on CRS 300

Ceiling Swirl Diffusers shall be Holyoake Model CRS. These shall be designed with a radial, high induction, air flow pattern. They shall maintain a COANDA effect at reduced volume and provide uniform temperature gradients throughout the occupied space.

CRS Diffusers shall be finished in powder coat and be supplied complete with a specifically designed swirl inducing side entry box and be fitted with accessories and dampers where indicated.

All shall be as manufactured by Holyoake.

<b>CSS</b>	-	<b>R</b>	-	<b>8</b> <b>16</b> <b>21</b> <b>24</b> <b>48</b>	-	<b>450T</b> <b>600T</b>	-	<b>SE</b> <b>TE</b>	-	<b>200</b> <b>250</b>	-	<b>FINISH</b>
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ceiling Slot Swirl	Circular Option	Number of Slots	'T-Rail' Size		Side, or Top Entry Box			Duct Size		Holyoake White, Powder Coat		

Ceiling Slot Swirl Diffusers shall be Holyoake Model CSS. These shall be designed with a radial, high induction, air flow pattern.

CSS diffusers shall maintain a COANDA effect at reduced volume and provide uniform temperature gradients throughout the occupied space. They shall have pattern blades which can be adjusted from the diffuser face to allow the air to be directed horizontally, or vertically.

CSS Diffusers shall be finished in powder coat and be supplied with a suitable side, or top entry box and be fitted with accessories and dampers where indicated.

All shall be as manufactured by Holyoake.

### Note

All ceiling diffusers, seismic restraints are required, but not supplied.

## Product Ordering Key and Suggested Specifications

<p><b>CSS – VAV</b></p> <p>—</p> <div style="border: 1px solid black; padding: 2px; display: inline-block; text-align: center;"> <b>24 48</b> </div> <p>—</p> <p><b>FINISH</b></p> <p>-----</p> <p>Ceiling Slot Swirl VAV Diffuser</p> <p>-----</p> <p>Number of Slots</p> <p>-----</p> <p>Holyoake White, Powder Coat</p>	<p>Ceiling Slot Swirl VAV Diffusers shall be Holyoake Model CSS – VAV.</p> <p>These shall be designed with a radial, high induction, air flow pattern, providing strong ceiling effect (COANDA) and be capable of handling a wide range of air flows.</p> <p>Designed to control the temperature in an occupied space, by an externally controlled, pressure dependant damper.</p> <p>Controlled by a room thermostat and building management system (supplied by others), the CSS – VAV has a specifically designed, curved edge, single blade control damper, positioned by a 24 VAC variable actuator, via a 0 – 10 V DC control signal.</p> <p>CSS – VAV Diffusers shall be finished in Powder Coat and are complete with a 'Premi-aire™' Pre-Insulated box, with a 250 mm diameter inlet spigot.</p> <p>All shall be as manufactured by Holyoake.</p>
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Series CSS Product Weights	
Sizes Available	Weights in Kg
CSS8	1.3
CSS16	2.4
CSS21	2.5
CSS24	2.5
CSS48	2.6
CSSR500 8	2.81
CSSR500 16	3.01
CSSR500 21	3.03
CSSR615 8	3.05
CSSR615 16	3.25

Series CSS Product Weights	
Sizes Available	Weights in Kg
CSSR615 21	3.35
CSSR615 24	3.35
CSSR615 48	3.45
450 GALV BOX	6.5
600 GALV BOX	6.5
450 PREM BOX	2.1
600 PREM BOX	2.7
500 DIA GALV PLENUM	2.94
615 DIA GALV PLENUM	3.14

**Note: All ceiling diffusers, seismic restraints are required, but not supplied.**