CRS – Ceiling Radial Swirl Diffuser

Model: **CRS**

The Holyoake CRS range of Radial Swirl Diffusers have been designed to provide high quality indoor air diffusion. The CRS comprises of radial deflection blades that produce a circular airflow pattern with a very strong ceiling effect. This diffuser is ideal for VAV applications, because the ceiling effect is maintained for minimal through to very high flowrates.

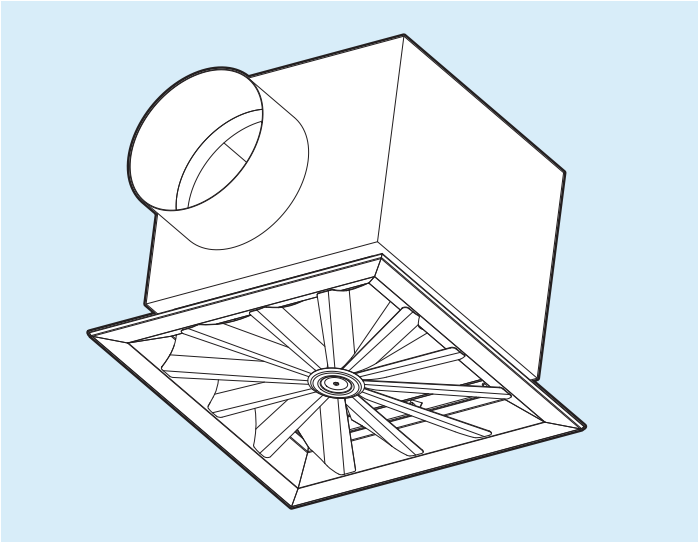
Ideal for large rooms, call centres and waiting rooms.

The CRS is able to achieve high room air diffusion quality due to the strong induction swirl pattern it produces. Strong induction draws room air up into the supply air flow path, which results in mixing at high level, reducing draughts and uneven temperature gradients.

Installation

Installation is simple due to 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 mounted, or held using one of the Holyoake mounting systems, such as the the T-Rail Support Frame. The supply air can be fed vertically onto the back of the diffuser, or through a specifically designed side entry box.

Specifically Designed Swirl Inducing Side Entry Box



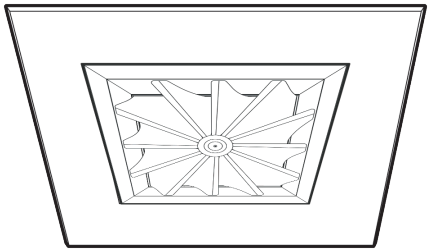
Construction

The CRS is constructed entirely from aluminium metal. It is a lightweight, but robust diffuser that can be fitted easily into the ceiling space.

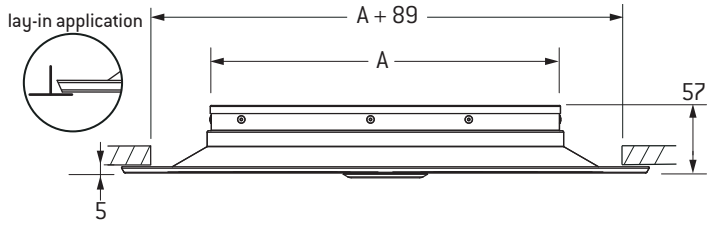
Features

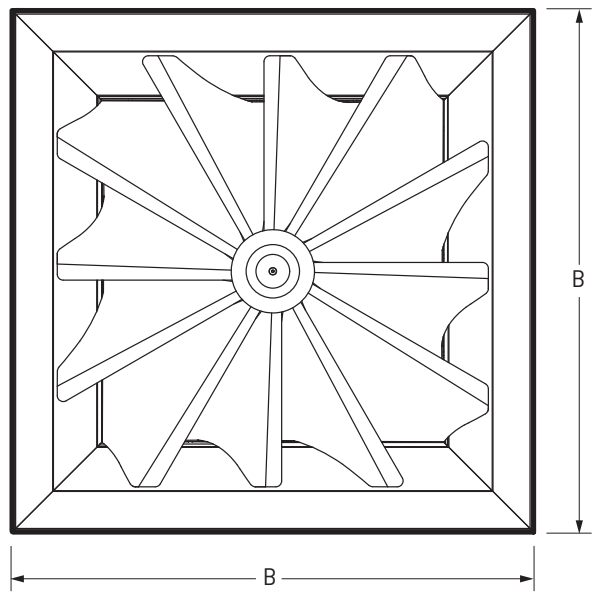
- Strong Ceiling Effect
- Radial Diffusion Pattern
- High Induction Swirl
- Easy Lay-in Installation
- Attractive Appearance

Note: The CRS300 can be mounted in a 595 x 595 panel for T-Rail mounting, see below.



Ceiling Radial Swirl Diffuser





	Sizes Available (Neck Size) (mm)	
	CRS300	CRS450
A	295	445
B	445	595
	Weights in Kg.	
Diffuser	0.9	1.45
CRS/Panel	2.00	N/A
Galv Box	4	6.5
Prem Box	1.5	2.5

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.

Model: **CRS300 Ceiling** Radial Swirl Diffuser

300 x 300 Nominal Neck

Duct Size	Flowrate (l/s)	25	50	75	100	125	150	200
150	Static Pressure (Pa)	2	6	12	23	40	55	95
	Throw (m)	na - na - 0.8	na - 0.6 - 1.8	0.6 - 1.5 - 2.2	1.3 - 2.4 - 3.3	1.6 - 2.7 - 3.4	1.9 - 3.0 - 3.9	2.2 - 3.3 - 4.2
	NC	-	-	32	37	42	47	54
200	Static Pressure (Pa)	2	4	9	15	24	34	60
	Throw (m)	na - 0.45 - 0.75	na - 0.6 - 1.3	0.65 - 0.9 - 1.8	0.85 - 1.5 - 2.2	1.4 - 1.8 - 2.5	1.7 - 2.4 - 3.3	2.1 - 2.7 - 3.9
	NC	-	-	23	26	31	36	42
250	Static Pressure (Pa)	1	4	9	15	23	33	58
	Throw (m)	na - 0.3 - 0.7	0.4 - 0.7 - 1.0	0.6 - 0.9 - 1.8	0.9 - 1.2 - 2.0	1.4 - 1.8 - 2.5	1.6 - 2.4 - 3.0	2.0 - 2.6 - 3.9
	NC	-	-	-	24	29	34	40

Model: **CRS450 Ceiling** Radial Swirl Diffuser

450 x 450 Nominal Neck

Duct Size	Flowrate (l/s)	50	100	150	200	300	400	500	600
150	Static Pressure (Pa)	5	15	32					
	Throw (m)	na – na - 0.5	na – 0.6 – 1.2	0.3 – 1.0 – 1.8					
	NC	21	28	39					
200	Static Pressure (Pa)	1	5	11	18	40	72		
	Throw (m)	na – na – 0.3	na – 0.5 – 1.0	0.3 – 0.9 – 1.8	0.6 – 1.2 – 2.1	1.5 – 2.1 – 3.0	2.1 – 2.9 – 3.6		
	NC	22	26	32	36	47	56		
250	Static Pressure (Pa)	1	2	5	8	19	33	51	
	Throw (m)	na – na – 0.3	na – 0.5 – 1.0	0.3 – 0.9 – 1.8	0.6 – 1.2 – 2.1	1.5 – 2.0 – 3.0	2.1 – 2.7 – 3.6	2.1 – 3.0 – 4.2	
	NC	15	21	24	27	39	47	54	
300	Static Pressure (Pa)	-	2	3	6	11	21	30	43
	Throw (m)	-	0.2 - 0.5 – 1.0	0.3 – 0.9 – 1.8	0.6 – 1.1 – 2.1	1.4 – 2.0 – 3.0	2.1 – 2.3 – 3.6	2.1 – 3.0 – 4.2	2.5 – 3.6 – 4.6
	NC	-	17	22	23	34	41	48	53
350	Static Pressure (Pa)	-	1	2	5	10	17	26	41
	Throw (m)	-	0.2 – 0.5 – 1.0	0.3 - 0.8 - 1.8	0.6 – 1.1 – 2.1	1.1 – 1.8 – 3.0	1.8 – 2.3 – 3.3	1.8 – 3.0 – 4.2	2.5 – 3.6 – 4.6
	NC	-	14	21	23	31	38	46	51

Options

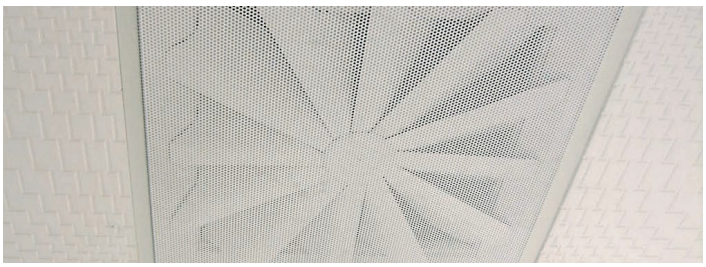
CRSP

The CRS may be supplied with a perforated face plate to provided a less open appearance. See performance notes for the effect on the performance data.

CRSP	
ΔPs	x1.2
Throw	x 1.0
NC	+3

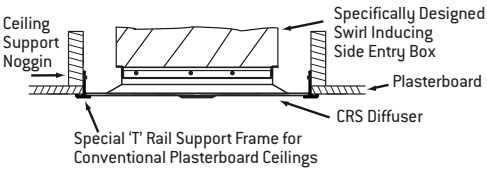
	Weights in Kg.	
	CRS300	CRS450
CRSP	0.83	1.31
'T' Rail Frame	0.46	0.64

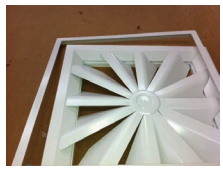
Model: **CRSP**

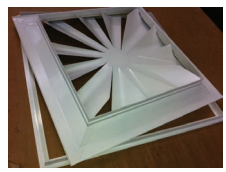


'T' Rail Support Frame

Lay in application – Special 'T' Rail Frame Option available for Surface Mounted applications.







Notes on Performance Data

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^{-12} Watts.
4. "Duct Size' in tables above are plenum inlet sizes.
5. CRSP performance can be approximated by using the CRSP table.