

SFRA – Performance Data

Model: SFRA

Nominal Duct Size 200mm Diameter	Flow Rate (l/s)	25	50	75					
	0.75m/s	-	0.1	0.2					
	Throw (m)	0.1	0.3	0.5					
	0.50m/s	0.2	0.6	1.0					
	0.25m/s	7	18	25					
Static Pressure (Pa)	17	32	40						
NC									
Nominal Duct Size 250mm Diameter	Flow Rate (l/s)	50	75	100	125	150	175		
	0.75m/s	0.2	0.3	0.5	0.6	1.0	1.2		
	Throw (m)	0.4	0.5	0.9	1.1	1.6	1.8		
	0.50m/s	0.8	1.1	1.6	1.9	2.5	3.0		
	0.25m/s	3	5	9	13	20	27		
Static Pressure (Pa)	18	22	26	32	38	48			
NC									
Nominal Duct Size 300mm Diameter	Flow Rate (l/s)	50	75	100	125	150	175	200	
	0.75m/s	0.2	0.4	0.6	0.8	1.1	1.3	1.4	
	Throw (m)	0.5	0.7	1.0	1.4	1.6	1.9	2.1	
	0.50m/s	1.0	1.2	1.6	2.1	2.5	2.9	3.4	
	0.25m/s	2	4	8	11	17	23	30	
Static Pressure (Pa)	16	20	24	30	36	42	44		
NC									
Nominal Duct Size 350mm Diameter	Flow Rate (l/s)	75	100	125	150	175	200	225	250
	0.75m/s	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.8
	Throw (m)	0.6	1.2	1.5	1.8	2.0	2.3	2.8	3.2
	0.50m/s	1.1	1.4	1.7	2.0	2.4	2.9	3.4	4.0
	0.25m/s	3	5	9	12	16	20	25	32
Static Pressure (Pa)	13	18	23	28	34	39	45	51	
NC									
Nominal Duct Size 400mm Diameter	Flow Rate (l/s)	125	150	175	200	225	250	275	300
	0.75m/s	0.6	0.8	1.0	1.2	1.4	1.8	2.3	2.7
	Throw (m)	0.8	1.2	1.4	1.6	1.8	2.4	2.8	3.1
	0.50m/s	1.2	1.5	2.0	2.4	2.6	3.0	3.4	3.6
	0.25m/s	5	7	10	13	17	20	24	29
Static Pressure (Pa)	18	21	24	27	30	33	37	42	
NC									

Product Ordering Key and Suggested Specification

SFRA – 200 – FINISH

Model

Nominal
Duct Size

Holyoake White
Mill Aluminium
Powder Coat

Holyoake Series SFRA Circular Fixed Round Aluminium Radial Swirl Diffusers shall be high induction horizontal swirl diffuser, with fixed pattern radial blades, to achieve a high induction swirl airflow pattern.

Series SFRA Diffusers shall be suitable for variable air volume (VAV) applications.

Circular Radial Swirl Diffusers shall be finished in white power coat.

Diffusers shall be fitted with accessories and dampers where indicated.

All shall be as manufactured by Holyoake.

Notes

- Horizontal radial throws (m) are to a terminal velocity (Vt) of 0.75 - 0.50 - 0.25 m/s.
- Pressure drop figures are based on duct mounted units.
- For Premi-Aire™ side entry supply boxes, Multiply Throws by a factor of 0.95 and Pressure Drop by a factor of 1.02.
- NC values are based on standard room attenuation of 10dB re 10⁻¹² Watts.
- NC values below NC 10 not shown.
- Seismic restraints would be required, but not supplied.

CFP, CFPP, CRS & CSS

Product Ordering Key and Suggested Specifications

CFP – **450** – **8** – **R** – **SE** – **150** – **FINISH**
500
600
615
12
20
24
TE
200
250
300
350

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.

CFPP – **R** – **600** – **C** – **SE** – **150** – **FINISH**
TE
200
250
300

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.

CRS – **P** – **300** – **SE** – **150*** – **T** – **FINISH**
450
200*
250*
300
350

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.

CSS – **R** – **8** – **450T** – **SE** – **200** – **FINISH**
16
21
24
48
600T
TE
250

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.

CSS - VAV, CSS - VAV - E & CSS - VAV - LP

Product Ordering Key and Suggested Specifications

CSS – VAV – **24** – **FINISH**
48

Ceiling Slot Swirl VAV Diffuser

Number of Slots

Holyoake White, Powder Coat

Ceiling Slot Swirl VAV Diffusers shall be Holyoake Model CSS – VAV. 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. Designed to control the temperature in an occupied space, by an externally controlled, pressure dependant damper. 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 V AC variable actuator, via a 0 – 10 V DC control signal. 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. All shall be as manufactured by Holyoake.

CSS – VAV – E – **24** – **FINISH** – **OPTIONS**
48

Ceiling Slot Swirl Electronic VAV Diffuser

Number of Slots

Holyoake White, Powder Coat

CSS VAV E Tandem Unit, 230/24 VAC Transformer, Infra Red Remote Controller, 'T Rail' Support Frame, (For Surface Mounted Applications)

Ceiling Slot Swirl Electronic VAV Diffusers shall be Holyoake Model CSS – VAV – E. 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. Designed to control the temperature in an occupied space, by a stand alone control system; with an externally controlled, pressure dependant damper*. The CSS – VAV – E diffuser incorporates a supply air duct temperature sensor and a facia mounted room temperature sensor, allowing the specifically designed, curved edge, single blade control damper, positioned via a 24 V AC motor, to provide an infinite range of airflows, from minimum to maximum design flow rates. The space temperature set point is factory preset at a default of 21 degrees C, or may be adjusted from the face of the diffuser, via an Optional Infrared Remote Control. CSS – VAV – E Diffusers shall be finished in powder coat and are complete with a 'Premi-Aire™' Pre-Insulated Side Entry box, with a 250 mm diameter inlet spigot and are suitable for Lay-in to a 'T Rail' ceiling grid, or may be surface mounted with an Optional 'T Rail' support frame. All shall be as manufactured by Holyoake. **A 'CSS-VAV-E Tandem' unit may be linked in parallel with the above, to provide the same airflow performance.*** ***An additional system static pressure device may be required, plus an input from the building system temperature control.**

CSS – VAV – LP – **16** – **FINISH**
24
48

Ceiling Slot Swirl VAV 'Low Profile' Diffuser

Number of Slots

Holyoake White, Powder Coat

Ceiling Slot Swirl VAV 'Low Profile' Diffusers shall be Holyoake Model "CSS – VAV – LP". 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. Designed to control the temperature in an occupied space, by an externally controlled, pressure dependant damper. Controlled by a room thermostat and building management system (supplied by others), the CSS- VAV – LP has a specifically designed, curved edge, single blade control damper, positioned by a 24 V AC modulating actuator, via a 0-10 V DC control signal. CSS – VAV – LP Diffusers shall be finished in Powder Coat and are complete with a 'Low Profile' Premi-Aire™ Pre-Insulated box, with an oval spigot of 200, or 250 mm equivalent diameter. All shall be as manufactured by Holyoake

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.