

FSD – Floor Swirl Diffuser

Model: FSD / FSD-DD

The FSD Floor Swirl Diffuser is designed for use in raised floor air distribution systems, where the floor cavity is used as a pressurised supply air plenum.

The FSD core design produces a high velocity “swirl” discharge air pattern. This achieves high induction rates of room air which optimises mixing for maximum comfort conditions.

Construction

The Holyoake FSD is constructed of either die cast aluminium or high impact polycarbonate, complying with UL Standard 94-5V for flammability. It includes a low pressure drop core, dirt and dust collection basket, (which catches anything that might fall through the diffuser face and is removable for cleaning); with a combined volume control damper assembly.

A unique adjustment Pentagon allows for 5 control positions at 30, 35, 45, 65 and 85% of design flow. Default is set at 30%.

By rotating the fascia the desired airflow can be obtained between the minimum (set position) and maximum (fully open) positions.

A trim ring flange, compliments contemporary décor and lies flush with the low profile face design (of a nominal 220 mm diameter), secures the carpet and prevents the edges from fraying.

A unique adjustable mounting clamp adapts for variable floor thicknesses and permits simple and secure installation from above, without removal of the floor panel, or carpet.

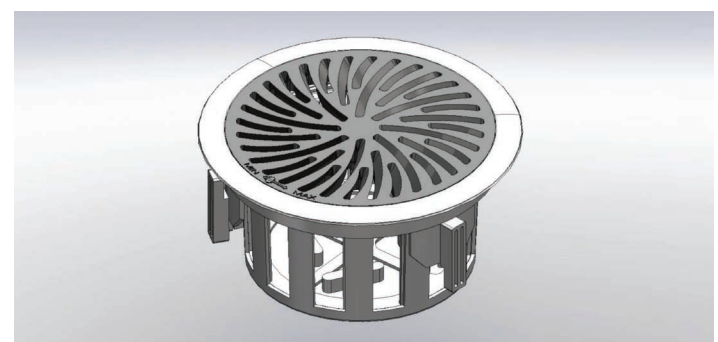
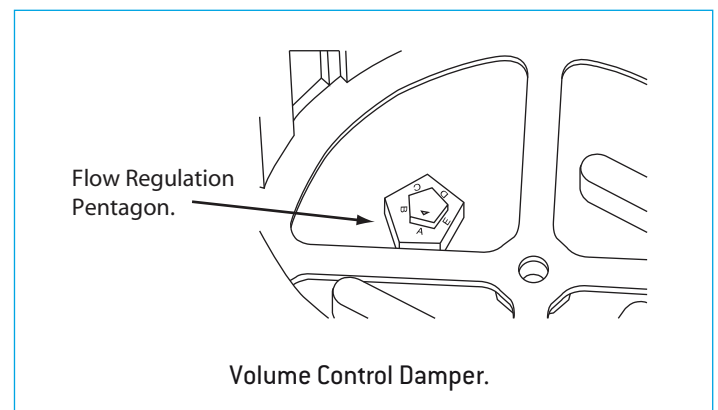
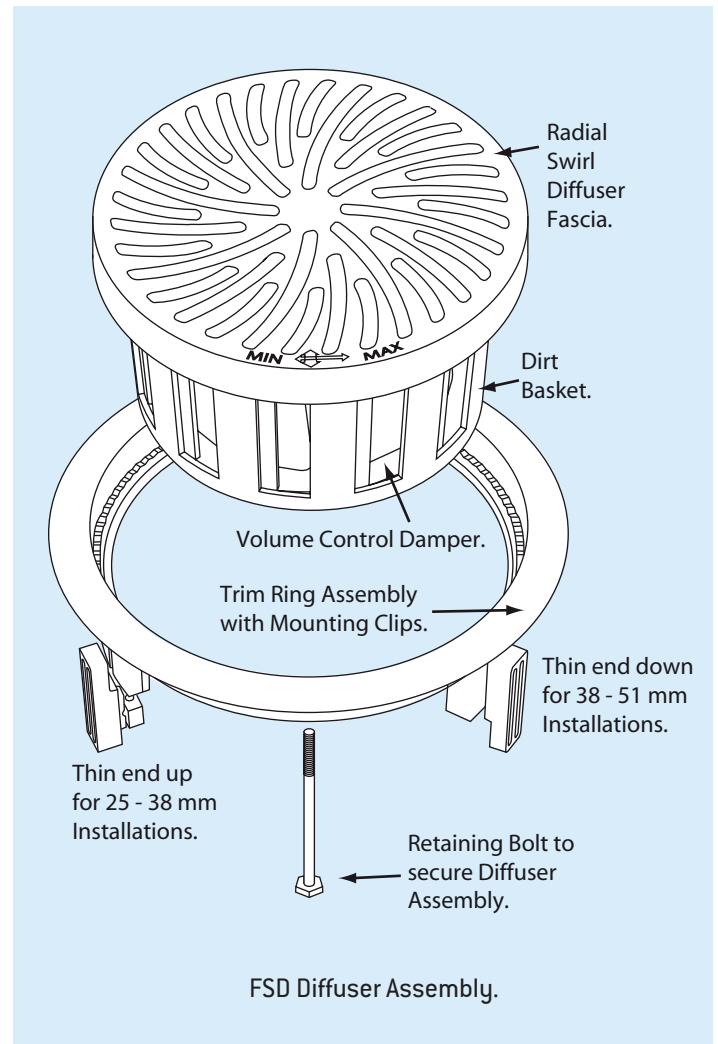
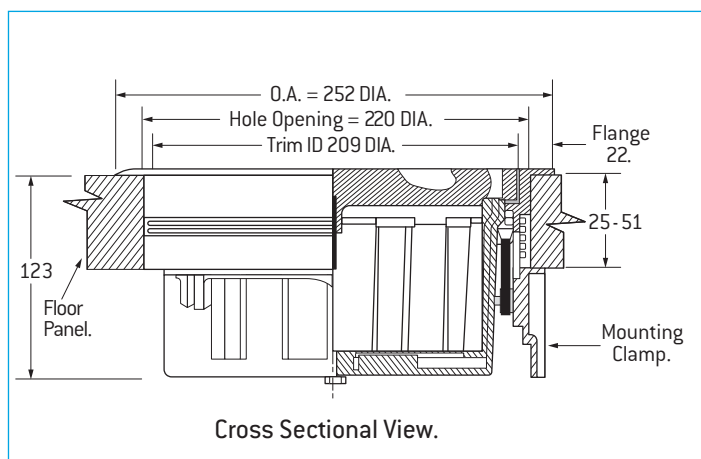
The FSD is also available in a directional model, the FSD-DD. The swirl discharge is offset by 15° and the direction can be user adjusted. The performance and swirl pattern is identical to the FSD, see the figure on the following page.

Both the aluminium and polycarbonate FSD have been load tested by the Australian Wool Testing Authority (AWTA) and supported loads of 1600kg and 700kg respectively before failure.

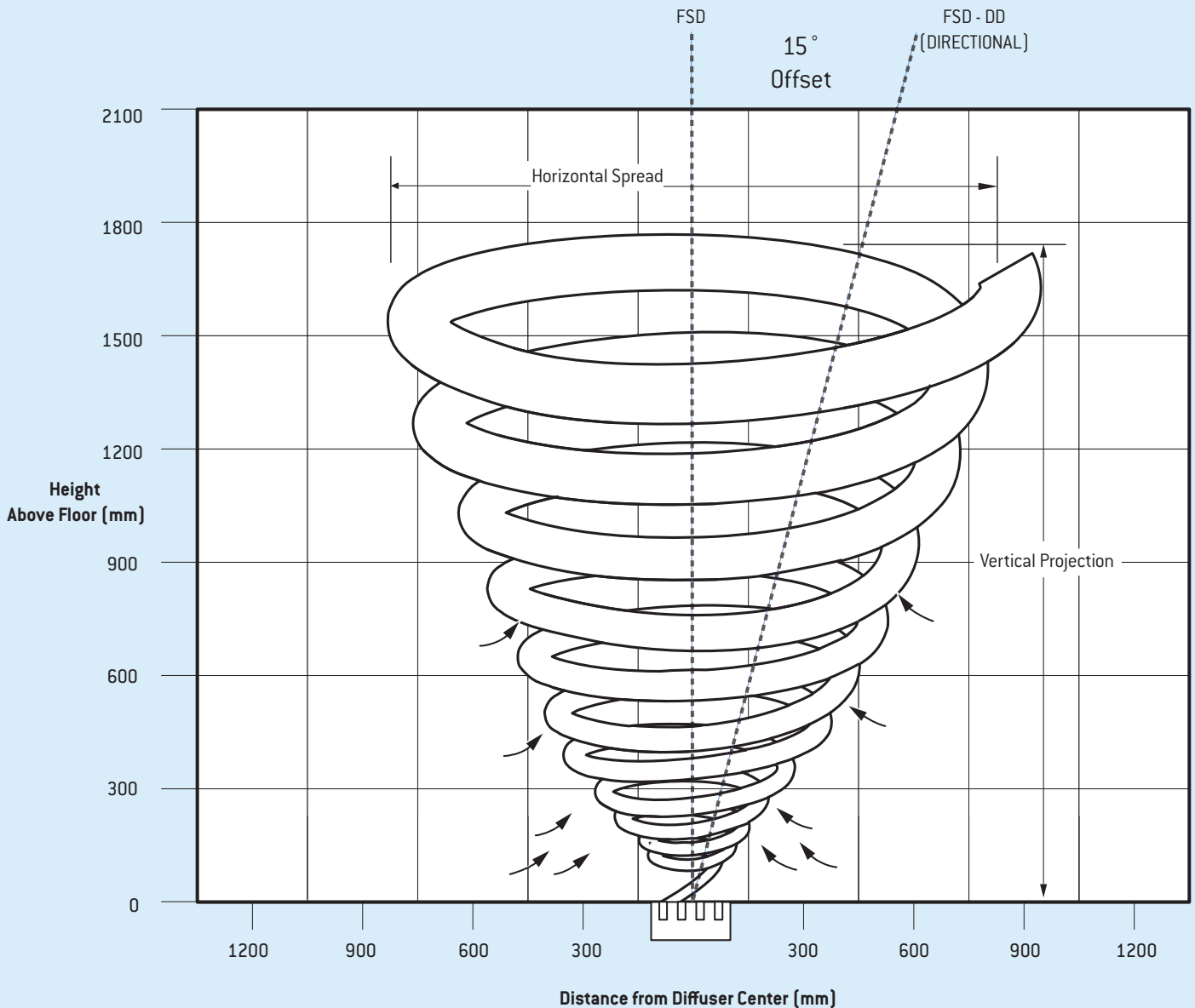
The polycarbonate version comes finished standard in grey, or black. Please specify when ordering.

Features

- Rotatable Swirl Fascia.
- Volume Control Damper, with Unique Adjustment Pentagon.
- Dirt and Dust Collection Basket.
- Adjustable Mounting Clamps, with Trim Ring.
- Architecturally Pleasing.
- High Impact Polycarbonate or Die Cast Aluminium.



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.



High Induction "Swirl" Pattern 50 l/s supply @12°C ΔT.
Outline Indicates Maximum Room Air Velocity of 0.25 m/s.

Performance Notes

- Projection and spread data were determined in a room with a 3.4m ceiling height and 12°C ΔT, between supply air and averaged occupied room temperature.
- Vertical projection (throw) is the maximum height above the floor where the terminal velocities of 0.75, 0.5 and 0.25 m/s were observed. Horizontal spread is the total width of the isovel where terminal velocities of 0.75, 0.5 and 0.25 m/s were observed.
- Noise Criteria (values) based on 10dB room absorption, re 10⁻¹² watts. Dash (-) in space denotes an NC value less than 15.
- Pressure is in Pa.
- Tests conducted with dirt basket/damper installed. Damper fully open.
- Acoustic testing was performed by VIPAC and full noise spectrum data is available on request.

DT (°C)	-6	-8	-10	-12	-14	-16
Projection, m	x 1.33	x 1.11	x 1.00	x 1.06	x 0.92	x 0.91
Spread, m	x 0.87	x 0.94	x 1.00	x 1.06	x 1.11	x 1.16

Series	Approximate Weight in Kg.
FSD	1.41 Polycarbonate
FSD-A	2.75 Die Cast Aluminium

Airflow l/s	10	20	30	40	50	60	70	80
Plenum Pressure (Pa)	0	3	5	11	12	17	26	33
Vertical Projection, m	0.04 - 0.26 - 0.96	0.20 - 0.45 - 1.10	0.30 - 0.70 - 1.60	0.50 - 1.00 - 2.00	0.55 - 1.15 - 2.05	0.59 - 1.30 - 2.10	1.00 - 1.83 - 2.14	1.28 - 1.97 - 2.20
Horizontal Spread, m	0.07 - 0.19 - 0.38	0.13 - 0.19 - 0.38	0.16 - 0.25 - 0.64	0.17 - 0.30 - 0.70	0.18 - 0.36 - 0.71	0.20 - 0.40 - 0.76	0.30 - 0.51 - 0.83	0.41 - 0.64 - 0.92
NC	-	-	-	-	-	-	-	15