

FLD Floor Diffuser



• FLD-C

ASLI FLD Round Floor Diffusers are specially designed for use in raised floor air distribution systems, where the floor cavity is used as a pressurized supply air plenum. FLD produces a high velocity swirl air pattern with the guidance of guide vane in the basket. Maximum comfort level could be achieved by producing high induction rates of room air with the design of FLD. Aesthetically appealing FLD is accessible by removing the diffuser core to remove the dust in the dust tray.

Materials

- Diffuser core :** Aluminum die casting.
- Outer ring :** Aluminum die casting.
- Housing :** 0.7mm thickness galvanized steel.
- Basket :** 0.7mm thickness galvanized steel.
- Plenum Box Internal Insulation :** Fiber glass, 25mm, 32kg/m³.
- Blade :** 1.0mm thickness Aluminum extrusion.

Surface Finish

- Diffuser Core :** Mill Finished
- Outer ring :** Mill Finished
- Housing :** Powder coated
- Basket :** Powder coated

Standard Models

- FLD-S :** Straight line floor diffuser with basket.
- FLD-C :** Curve line floor diffuser with basket.

Features

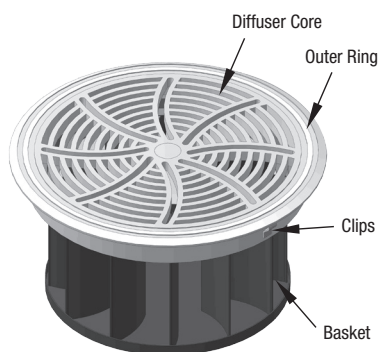
- Used in raised floor air distribution systems.
- Swirl air pattern provides high induction rates of room air.
- Suitable for high ceiling air conditioning system
- Air volume can be controlled by the butterfly damper or the basket blade.
- Dust tray catches anything that might fall through the diffuser face and is removable for cleaning.
- Aluminum die casting diffuser core provides high strength to withstand high weight load.
- Internal insulation to attenuate noises and prevents condensation for FLD-PB.
- The FLD-PB housing can be removed by simply rotating the housing and disengaged at the collar.
- FLDB can be installed without removing the floor tiles.

Standard size *Unit : mm*

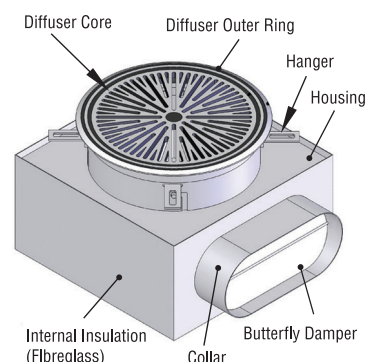
- FLD-S :** ø200, ø250
- FLD-C :** ø250

Accessories

PB Plenum Box



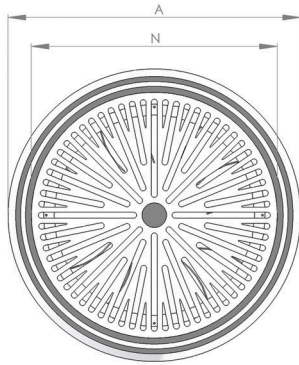
FLD



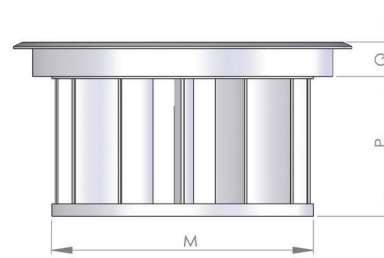
FLD-PB

FLD Floor Diffuser

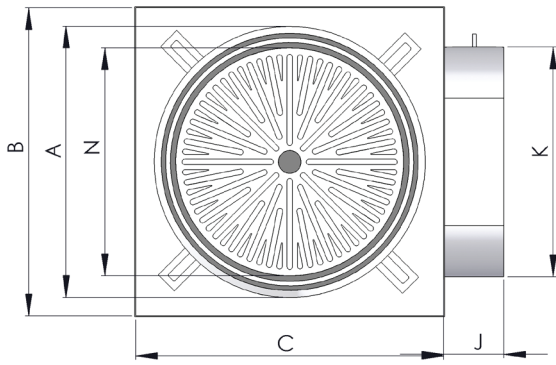
FLD Construction Illustration



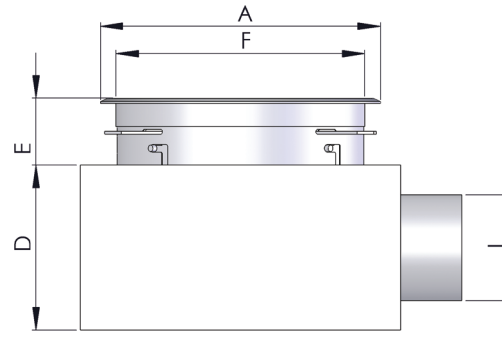
FLD top view



FLD side view



FLD-PB top view



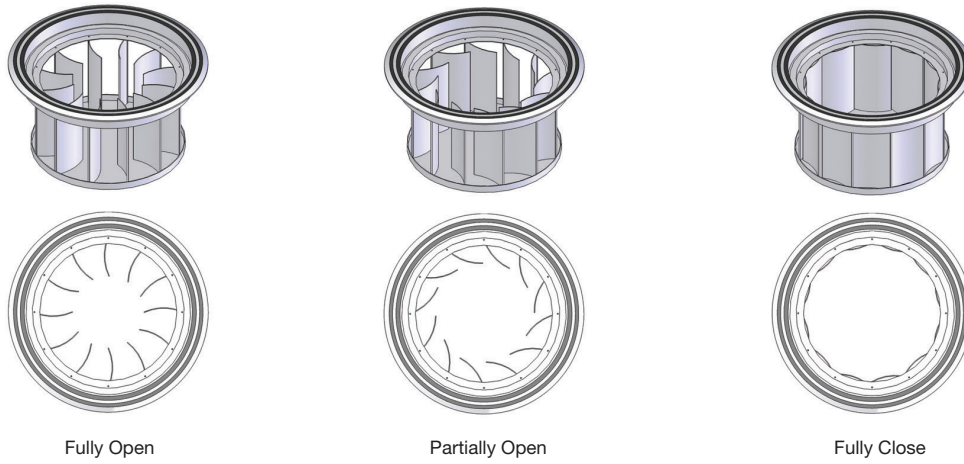
FLD -PB side view

FLD-PB Physical Dimension *Unit : mm*

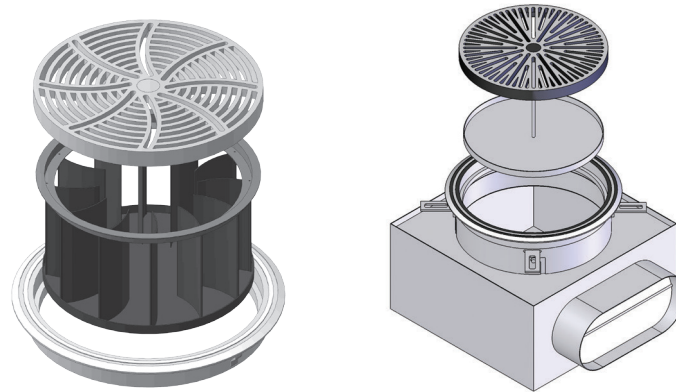
N	A	B	C	D	E	F	J	K	L	M	P	Q	X	Y
200	247	290	290	175	71	214	66	252	112	185	170	30	90	62
250	297	340	340	175	71	264	66	252	112	235	170	30	90	62

FLD Floor Diffuser

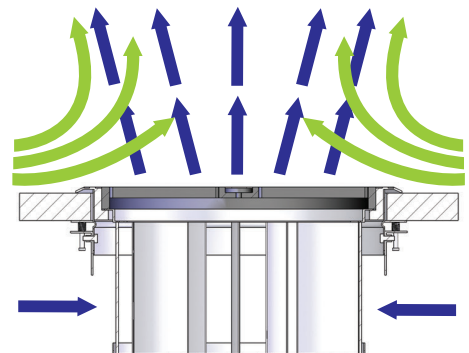
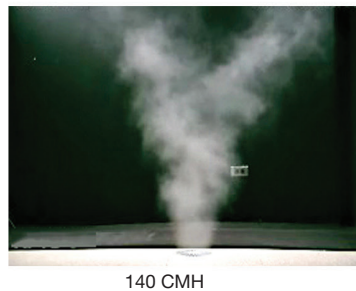
FLD-S Air Flow Performance



- The basket in FLD serves as a guide vane, volume control damper and duct tray.
- The guide vane in the basket creates a swirl air pattern, hence increases induction ratio.



- The basket and diffuser core can be lifted up from the floor surface to performance adjustment on the blades or dispose the dust on the basket or dust tray.



The under floor supply air flows into the basket and distributed through the air slots into the room. High turbulence air jets create an intensive induction effect with rapid drop in velocity. Entrainment is accomplished within the 2 meters occupied zone. This causes a fast equalization of supply air temperature and room air temperature.

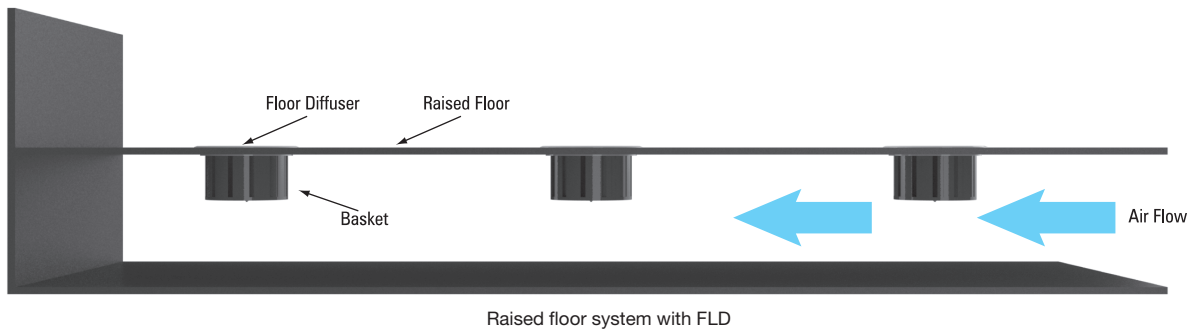
The recommended location for FLD is minimum 1.5m from seating for 200mm FLD and 2.0m from seating for 250mm FLD.

FLD Floor Diffuser

Underfloor Air Distribution System

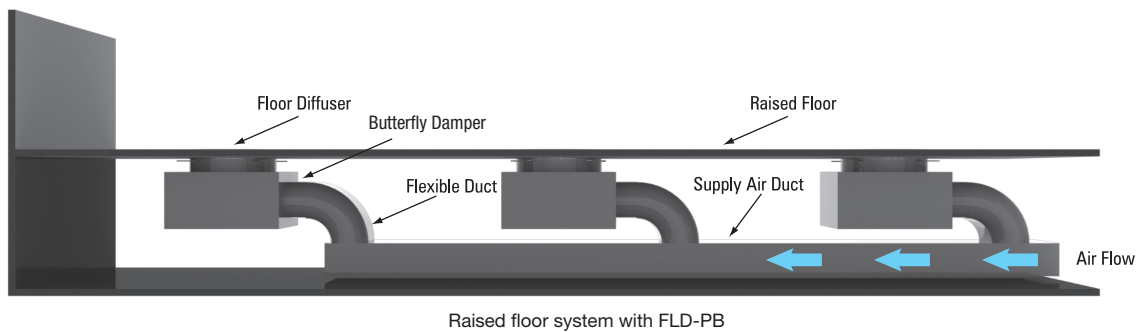
Floor Plenum System

Raised floor with positive pressure plenum floors are preferred for large areas. The space under the raised floor serves as an air plenum. Plenum boxes are not required due to the uniform pressure distribution.



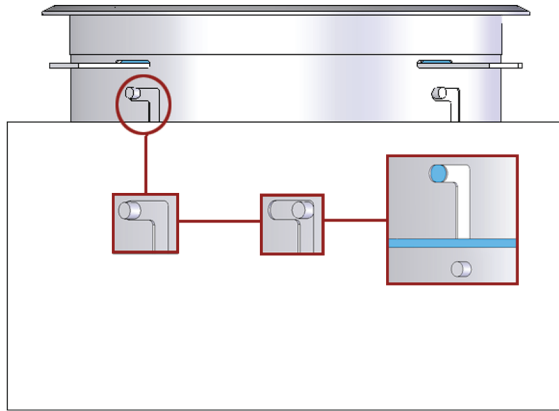
Ducted System

The floor diffuser comes with individual plenum box is connecting to the ducted system with flexible duct. The use of plenum boxes is recommended for individual room control. This will allow air volume to be controlled separately into each room.

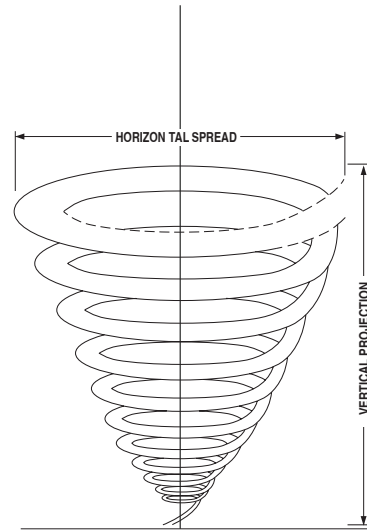


FLD Floor Diffuser

FLD-PB Installation Instructions



Remove plenum box from the collar by rotating the plenum box and pulling it out.



FLD-S Air Flow Performance 200mm

Air Volume (CMH)	51	68	85	102	119	136	153	170	187	204
Inlet Pressure (mmAq)	0.3	0.5	0.7	1.0	1.3	1.6	2.0	2.4	2.7	3.2
Vertical Projection (m)	0.2 - 0.4	0.3 - 0.6	0.6 - 0.9	0.8 - 1.1	1.0 - 1.3	1.3 - 1.5	1.4 - 1.6	1.6 - 1.8	1.7 - 1.9	1.8 - 2.0
Horizontal Projection (m)	0.3 - 0.5	0.3 - 0.6	0.6 - 0.8	0.9 - 1.3	1.2 - 1.7	1.3 - 1.8	1.2 - 1.8	1.2 - 1.7	1.1 - 1.7	1.1 - 1.7
NC	-	-	-	-	-	-	-	15	18	20

FLD-S Air Flow Performance 250mm

Air Volume (CMH)	73	97	121	146	170	194	219	243	267	291
Inlet Pressure (mmAq)	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3
Vertical Projection (m)	0.2 - 0.5	0.4 - 0.9	0.8 - 1.3	1.2 - 1.6	1.5 - 1.9	1.8 - 2.1	2.1 - 2.4	2.3 - 2.6	2.5 - 2.8	2.6 - 3.0
Horizontal Projection (m)	0.4 - 0.6	0.4 - 0.8	0.7 - 1.1	1.2 - 1.6	1.6 - 2.2	1.6 - 2.3	1.6 - 2.3	1.5 - 2.2	1.5 - 2.2	1.4 - 2.2
NC	-	-	-	-	-	-	-	17	20	22

FLD-C Air Flow Performance 250mm

Air Volume (CMH)	87	117	146	175	204	233	262	291	321	350
Inlet Pressure (mmAq)	0.3	0.5	0.7	1.0	1.3	1.6	2.0	2.4	2.7	3.2
Vertical Projection (m)	0.3 - 0.6	0.5 - 1.1	1.0 - 1.5	1.4 - 1.9	1.8 - 2.2	2.2 - 2.6	2.5 - 2.8	2.7 - 3.1	2.9 - 3.3	3.1 - 3.5
Horizontal Projection (m)	0.5 - 0.7	0.5 - 1.0	0.9 - 1.3	1.4 - 2.0	1.9 - 2.6	2.0 - 2.8	1.9 - 2.7	1.8 - 2.6	1.8 - 2.6	1.7 - 2.6
NC	-	-	-	-	-	-	-	17	20	22

- Terminal velocities are based on 0.5m/s and 0.25m/s respectively.
- Throw is based on 6° Celsius difference of supply air and room air temperature.
- NC value is based on room absorption of 10dB, re 10⁻¹² watts.
- Dash (-) in space indicates NC value less than 15.
- Test conducted with damper fully open.

FLD Floor Diffuser

FLD-S Suggested Specification

The diffuser core and outer ring shall be constructed of high strength cast aluminum. The diffuser core shall consist of multiple straight slots. The diffusers shall incorporate a removable dust/dirt collection basket to catch anything that might fall through the diffuser face. The dust/dirt collection basket shall consist of multiple curve blades to serve as a guide vane to create the swirl effect and serve as a air flow regulator to control the air volume. An adjustable spring loaded mounting clamp shall be provided for each diffuser to permit installation from above the floor without removal of the floor panel or carpet.

FLD-C Suggested Specification

The diffuser core and outer ring shall be constructed of high strength cast aluminum. The diffuser core shall consist of multiple curved slots and radial slots. The diffusers shall incorporate a removable dust/dirt collection basket to catch anything that might fall through the diffuser face. The dust/dirt collection basket shall consist of multiple curve blades to serve as a guide vane to create the swirl effect and serve as a air flow regulator to control the air volume. An adjustable spring loaded mounting clamp shall be provided for each diffuser to permit installation from above the floor without removal of the floor panel or carpet.

FLD Order Code

Model	Type	Accessories	Material	Size
FLD	S	PB	Aluminium (A)	ø200

Example : FLD - S - PB - A - 250