

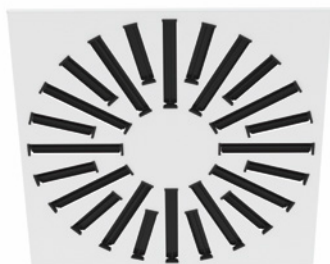
OSB
Adjustable Blade Swirl Diffuser – Type 2

- OSB – Adjustable Blade Swirl Diffuser Type 2 effectively keeps the space comfort at the ideal level with the swirl effect it brings to the air. They can be used in distributor and collector systems.
- There are air supply options between 50 and 2750 m³/h air flow rates depending on the product dimensions.
- In applications with a temperature difference of ± 14 °C in heating and cooling, blade positions can be adjusted in accordance with ambient conditions.
- The throw geometry remains stable regardless of the desired air flow and temperature difference in space ventilation.
- The air passage pattern is designed to create low pressure drop, low sound level and effective throw geometry. There are blades on the patterns that allow to adjust the throw directions.
- Compatible with ready-made aluminum suspended ceiling systems and metal suspended ceiling systems.
- It can be produced in square or circular form according to architectural requirements and has a decorative structure.
- Prismatic type OSB_P – Adjustable Swirl Diffusers can be sold as assembled with optional “Hepa Filter Box”, provided that the dimensions are specified for hepa in the catalog.
- It has TSE ISO EN 14644, DIN 1946/4, DIN 24194 and DIN 25414 hygiene quality standards.

PRODUCT OPTIONS

Two product options are available. In both options, the wings are arranged in a circular form on the case.

OSB_P



OSB_D



MATERIAL

- Standard Galvanized manufacturing, optional stainless manufacturing.
- There are ABS plastic blades that provide air direction inside the case.

SURFACE COATING

- RAL 9010 or RAL 9016 electrostatic powder paint as standard.
- Optional
 - Different RAL color codes
 - Paintless production

INSTALLATION

Standard Installation Types

Screwed	[OSB_P]
Tile	[OSB_P]
Clip-in	[OSB_P]
Center Bolted	[OSB_P ve OSB_D]

Installation with Hepa Filter Box

Screwed from the corners	[OSB_P]
Center Bolted	[OSB_P]

STANDARD SIZES

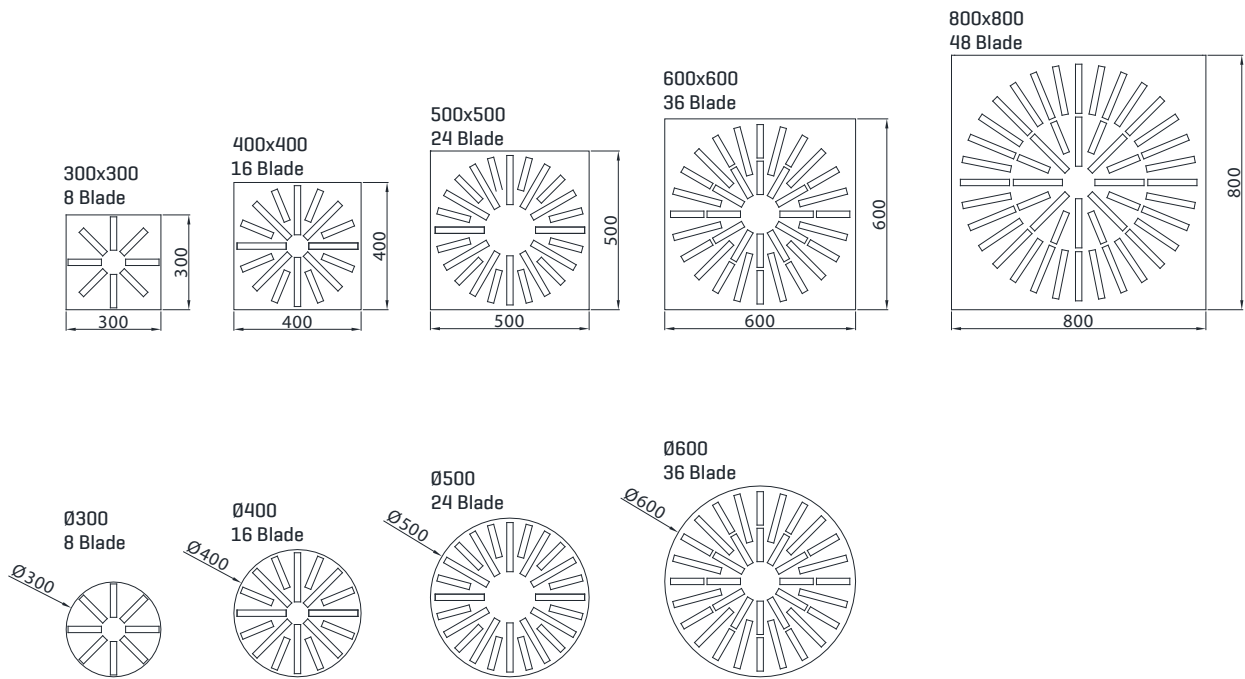
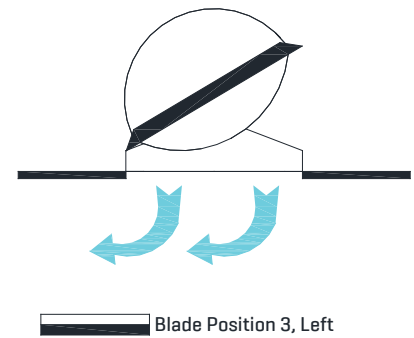
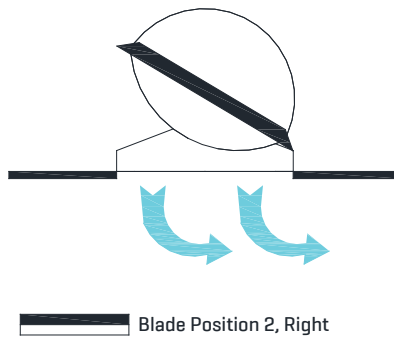
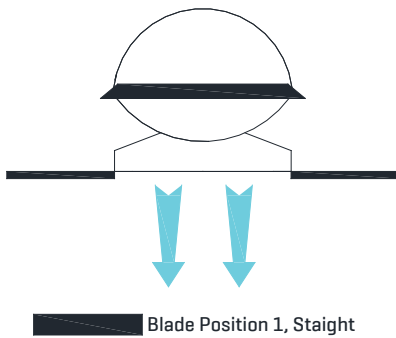


Table 1. Standard Sizes

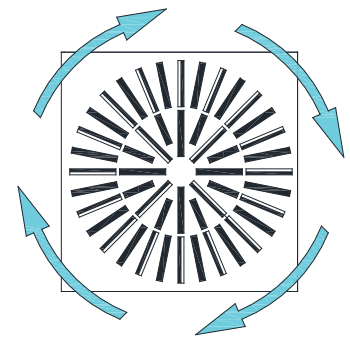
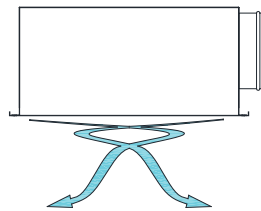
Product Series	Product Dimension [mm]	Number of Wings
OSB_P Kare OSB Swirl Diffuser	300x300	8
	400x400	16
	500x500	24
	600x600	36
	800x800	48
OSB_D Dairesel OSB Swirl Diffuser	Ø300	8
	Ø400	16
	Ø500	24
	Ø600	36

BLADE ADJUSTMENTS FOR SPECIAL AIR THROW

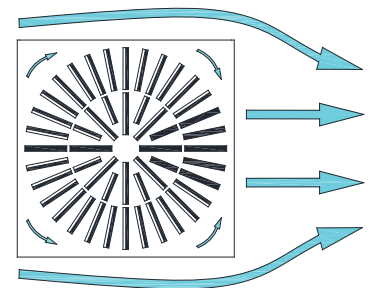
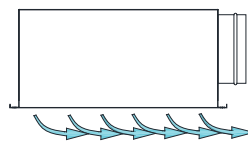
OSB Swirl diffuser has the ability to throw air that will meet the desired comfort conditions. Adjustment of each blade is done separately.



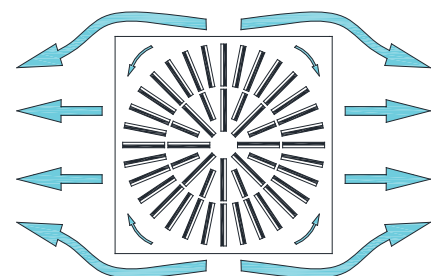
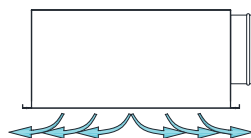
Recommended blade position for areas where high performance spreading and penetration properties are required:



Suggested blade position to ensure one-way air supply from the ceiling in the room:



Suggested blade position to provide air supply from ceiling in the room in two directions:



PERFORMANCE DATA

Table 2. Performance Data

		Sizes [mm]				
		Ø300 / 300x300	Ø400 / 400x400	Ø500 / 500x500	Ø600 / 600x600	Ø800 / 800x800
50	Pressure Drop [Pa]	<1	<1	<1	<1	1
	Sound Pressure Level [db(A)]	<15	<15	<15	<15	<15
	Throw Distance [m]	1	1	<1	<1	<1
150	Pressure Drop [Pa]	20	3	1	<1	1
	Sound Pressure Level [db(A)]	28	<15	<15	<15	<15
	Throw Distance [m]	2	2	1	<1	<1
200	Pressure Drop [Pa]	33	5	2	<1	1
	Sound Pressure Level [db(A)]	35	<15	<15	<15	<15
	Throw Distance [m]	3	3	1	1	<1
250	Pressure Drop [Pa]	49	8	4	1	1
	Sound Pressure Level [db(A)]	42	18	<15	<15	<15
	Throw Distance [m]	4	3	1	1	<1
300	Pressure Drop [Pa]	75	11	6	2	1
	Sound Pressure Level [db(A)]	48	23	<15	<15	<15
	Throw Distance [m]	5	4	2	1	<1
400	Pressure Drop [Pa]		20	10	4	2
	Sound Pressure Level [db(A)]		32	23	<15	<15
	Throw Distance [m]		5	2	1	<1
500	Pressure Drop [Pa]		32	16	6	3
	Sound Pressure Level [db(A)]		39	30	17	<15
	Throw Distance [m]		6	3	2	1
750	Pressure Drop [Pa]		72	35	13	6
	Sound Pressure Level [db(A)]		51	42	29	20
	Throw Distance [m]		8	4	2	1
1000	Pressure Drop [Pa]			63	23	12
	Sound Pressure Level [db(A)]			51	38	29
	Throw Distance [m]			5	3	2
1250	Pressure Drop [Pa]			98	36	18
	Sound Pressure Level [db(A)]			58	45	36
	Throw Distance [m]			7	4	2
1500	Pressure Drop [Pa]				52	27
	Sound Pressure Level [db(A)]				50	42
	Throw Distance [m]				5	3
1750	Pressure Drop [Pa]				70	36
	Sound Pressure Level [db(A)]				55	46
	Throw Distance [m]				5	3
2000	Pressure Drop [Pa]				91	48
	Sound Pressure Level [db(A)]				59	50
	Throw Distance [m]				6	4
2250	Pressure Drop [Pa]					60
	Sound Pressure Level [db(A)]					54
	Throw Distance [m]					4
2500	Pressure Drop [Pa]					74
	Sound Pressure Level [db(A)]					57
	Throw Distance [m]					5
2750	Pressure Drop [Pa]					90
	Sound Pressure Level [db(A)]					60
	Throw Distance [m]					5

- ⚙ The data is obtained when the blades are in the flat position, the heating mode temperature difference is 8K.
- ⚙ Throw distance: It is the vertical distance of the air in the comfort zone leaving the air diffuser equipment at a speed of 0.25 m/s.

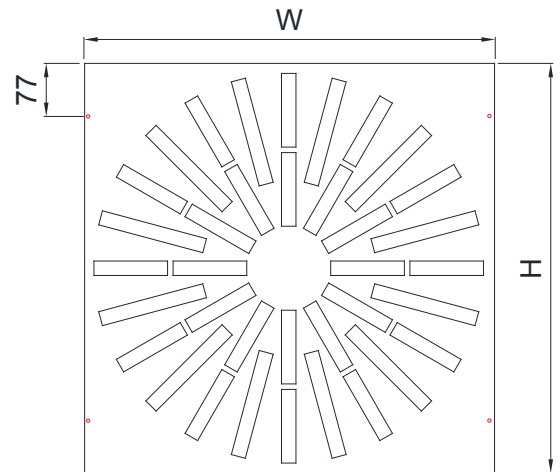
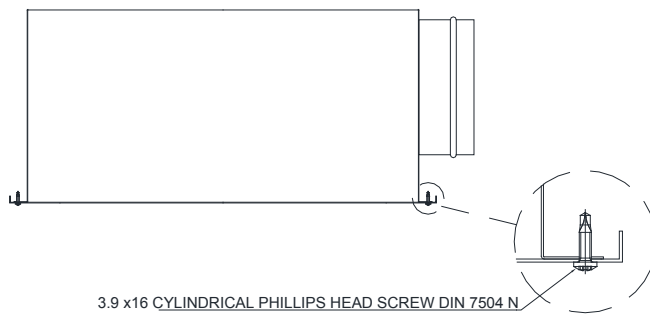
THROW DISTANCE CORRECTION TABLE

Table 3. Throw Distance Correction Table

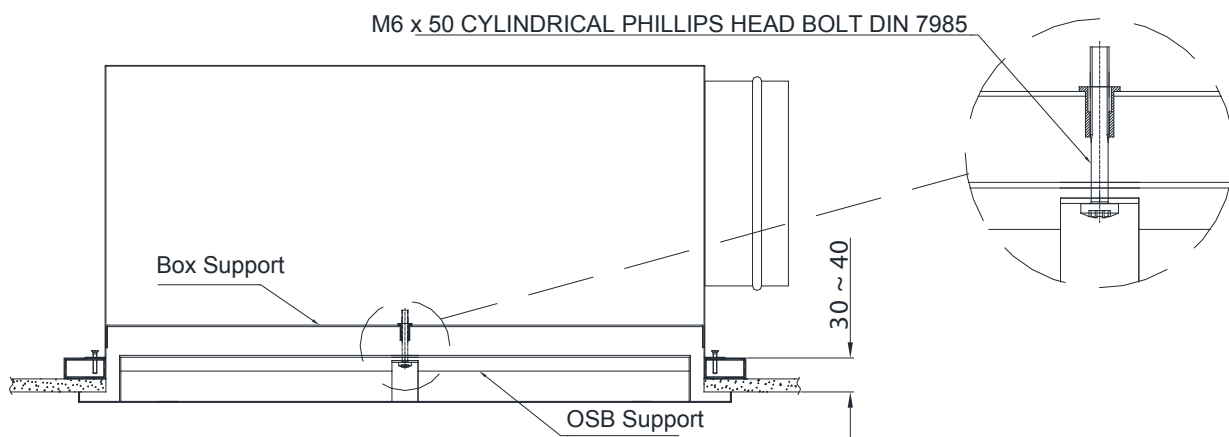
Heating Mode [ΔT]	4	6	8	10	12
Throw Range Multiplier	1.07	1.02	1	0.90	0.83
Cooling Mode [ΔT]	4	6	8	10	12
Throw Range Multiplier	1.31	1.36	1.42	1.48	1.54

INSTALLATION TYPES

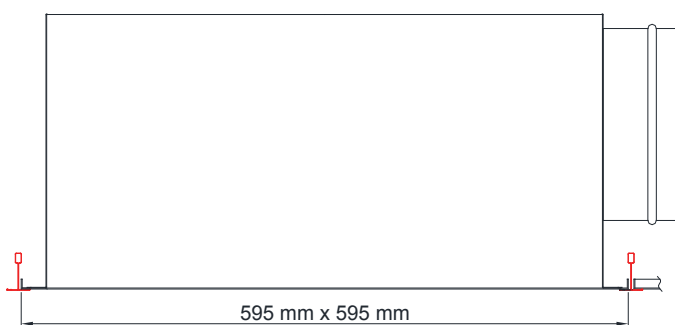
OSB_P SCREW INSTALLATION



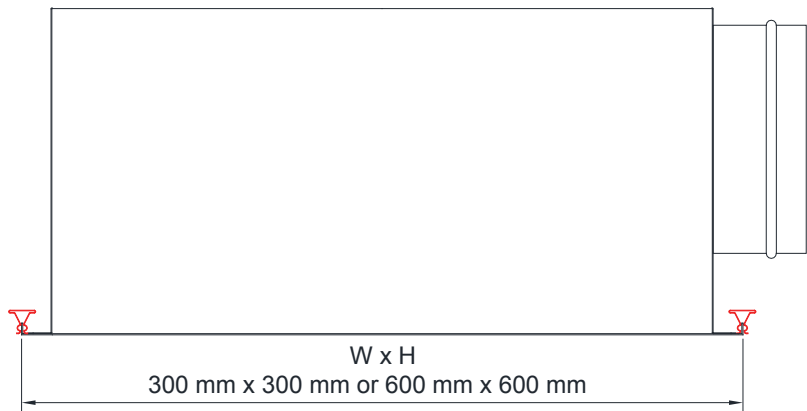
OSB_P CENTER BOLTED INSTALLATION



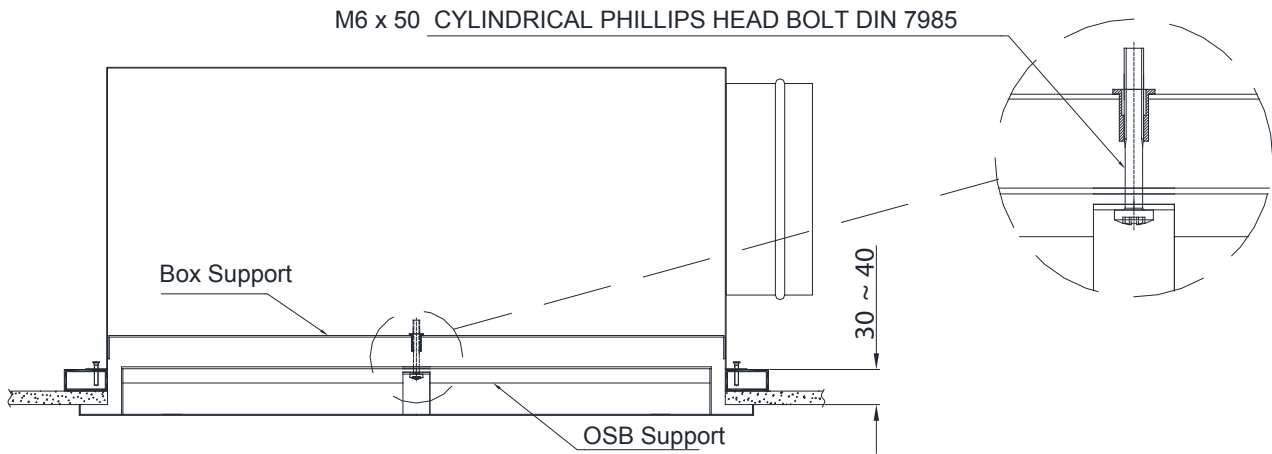
OSB_P TILE INSTALLATION



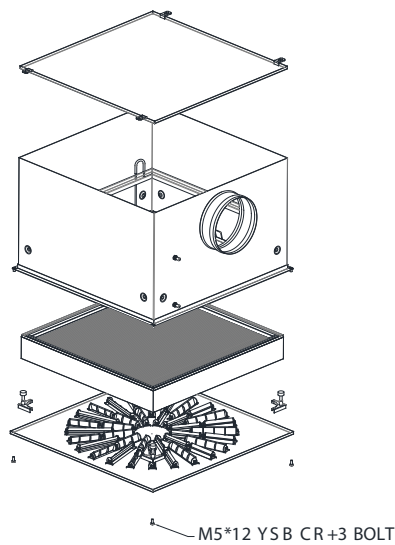
OSB_P CLIP-IN INSTALLATION



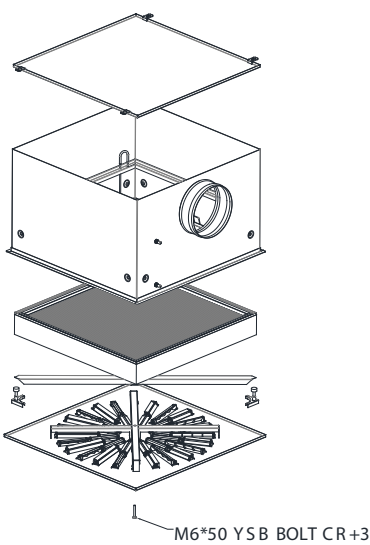
OSB_D CENTER BOLTED INSTALLATION



GFP - INSTALLATION FROM HEPA BOX CORNERS



GFP - HEPA BOX CENTER BOLTED INSTALLATION



Note: The drawing above is valid for GFP – Standard Hepa Box. GFP, GFB and GFD catalogs should be consulted for detailed hepa box product selection.

BOX SIZES

Standard box dimensions for OSB_P.

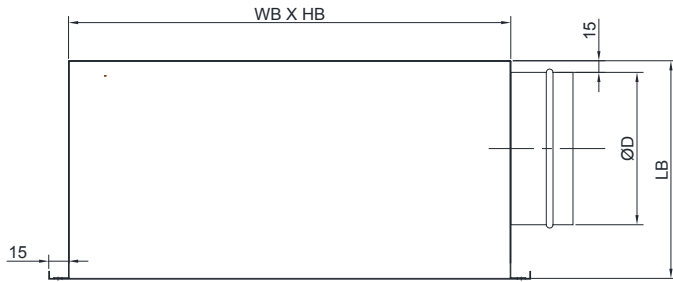


Table 4. Standard Box Sizes for OSB_P

OSB_P	Box Throat Diameter [ØD] [mm]	Box Height [LB] [mm]	Box Width [WB] [mm]	Box Length [HB] [mm]
300	200	275	270	270
400	200	275	370	370
500	250	325	470	470
600	300	375	570	570
800	350	425	770	770

Standard box Sizes for OSB_D are given below.

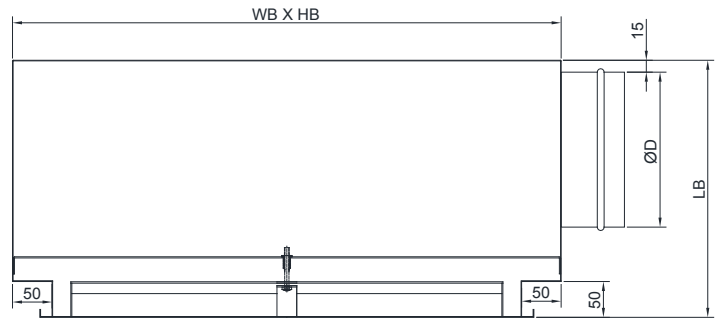


Table 5. Standard Box Sizes for OSB_D

OSB_D	Box Throat Diameter [ØD] [mm]	Box Height [LB] [mm]	Box Width [WB] [mm]	Box Length [HB] [mm]
300	200	325	400	400
400	200	325	500	500
500	250	375	600	600
600	300	425	700	700

PRODUCT SELECTION

Example: The air flow rate distributed in the space is 4000 m³/h and the cooling temperature difference is determined as -8 K. 10 prismatic swirl diffusers will be used. Make your product selection.

Solution: Supply flow rate for a diffuser $4000/10 = 400$ m³/h

From the performance data table [Table 2], the product corresponding to the appropriate pressure drop, sound pressure level and throw distance at 400m³/h air flow is selected.

For example, the pressure drop that will occur in a 400 mm x 400 mm product will be 20 Pa, the sound pressure level will be 32 dB(A) and the throw distance will be 5 m.

Throw Distance Correction Chart

In the previous example, the throw distance was found to be 5 m for the heating mode 8K. For cooling mode -8 K, refer to the Throw Distance Correction Table [Table 4]. The multiplier is 1.42.

Corrected throw distance = 5 m x 1,42 = 7.1 m

OSB_P ORDER CODE

You can place your prismatic swirl diffuser orders according to the coding format below.

OSB_P . <A> . . <C> . <D>

A	Raw Material Type	
	GAL	Galvanized
	PAS	Stainless Steel
B	Installation Type	
	VD	Screwed
	GC	Center Bolted
	KR	Tile
	KL	Clip - in
	KM	Center Bolted (Hepa Box)
	GK	Center Bolted + Clip - in (Hepa Box)
C	Size [mm]	
	300-08	300 x 300 - 8 blade
	400-16	400 x 400 - 16 blade
	500-24	500 x 500 - 24 blade
	600-36	600 x 600 - 36 blade
	825-48	825 x 825 - 48 blade
	355-08	355 x 355 - 8 blade - 305 x 305 (Hepa Box)
	507-16	507 x 507 - 16 blade - 457 x 457 (Hepa Box)
	585-24	585 x 585 - 24 blade - 535 x 535 (Hepa Box)
	625-36	625 x 625 - 36 blade - 575 x 575 (Hepa Box)
	660-36	660 x 660 - 36 blade - 610 x 610 (Hepa Box)
	812-48	812 x 812 - 48 blade - 762 x 762 (Hepa Box)
	366-16	355 x 660 - 16 blade - 305 x 610 (Hepa Box)
	566-36	507 x 660 - 36 blade - 457 x 610 (Hepa Box)
D	Paint	
	00	Unpainted
	S1	Standard Painted - RAL 9010
	S2	Standard Painted - RAL 9016
	XX	Special Painted

Sample Coding: OSB_P.GAL.GC.600-36.XX

OSB_D ORDER CODE

You can place your circular swirl diffuser orders according to the coding format below.

OSB_D . < A > . < B > . < C > . < D >

A	Raw Material Type	
	GAL	Galvanized
	PAS	Stainless Steel
B	Installation Type	
	GC	Center Bolted
C	Size [mm]	
	300-08	300 mm - 8 blade
	400-16	400 mm - 16 blade
	500-24	500 mm - 24 blade
	600-36	600 mm - 36 blade
D	Paint	
	00	Unpainted
	S1	Standard Painted - RAL 9010
	S2	Standard Painted - RAL 9016
	XX	Special Painted

Sample Coding: OSB_D.GAL.GC.600-36.S1

NOTES