

## FIXED SWIRL DIFFUSER



FSW = Fixed Swirl Diffuser

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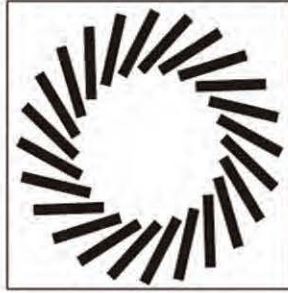
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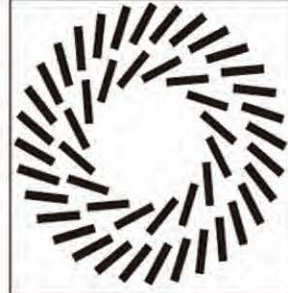
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**General Introduction**

FSW serial fixed swirl diffuser developed by our company could be adjusted manually. It adjusts the direction of the air current to adapt to any change of the pattern of the building. Air is blown by means of swirl, which guarantees high inductivity as well as the rapid reduces of the wind speed and the temperature. The air supply temperature difference can reach to  $\pm 20$  OC...



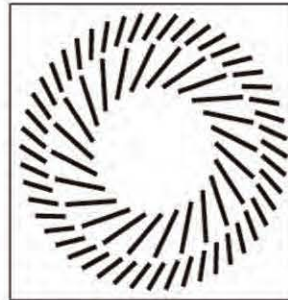
FSW : Specification: 500 x 24  
Black diversion blade included



FSW : Specification: 600 x 48  
Black diversion blade included



FSW : Specification: 600 X 24  
White diversion blade included



FSW : Specification: 825 X 72  
White diversion blade included

### Features

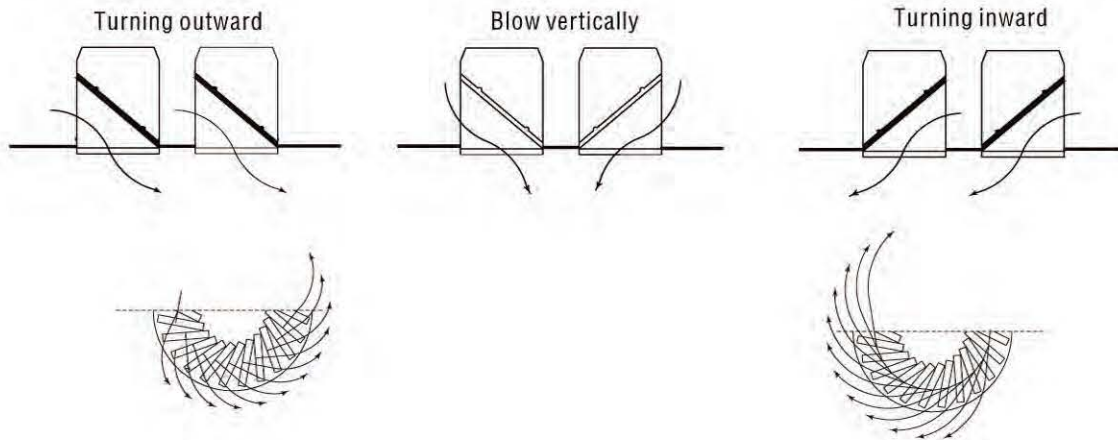
#### FSW Type Swirl Diffuser



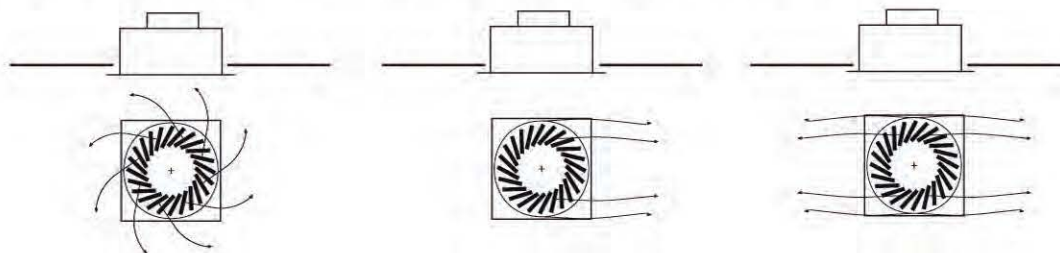
- To supply helical air with high inductivity rate, air speed and air temperature.
- Rapid reduce; round and square diffuser panel for option;
- The outlet can be adjusted by hand.

FSW type swirl diffuser could be used for air blow and air draught. The specified diversion blade is to be equipped when the diffuser is used for air blow. Change of air blow direction could be achieved by means of altering the setting of the blades when the diffuser is used for air blow.

Diversion blades are set to operate turning outward for specification 300 x 8, 400 x 16, 500 x 54, 600 x 24, 625 x 24, whereas for specification 600 x 48, 825 x 72, the external diversion blades are set to operate turning outward and the internal ones are set to operate tuning inward.



The direction of current (specifications 300X8、400X16、500X24、600X24、625X24 )



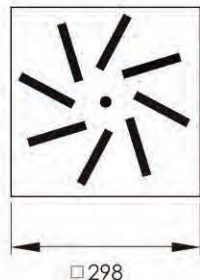
All of the diversion blades are set at turning outward.

Diversion blades are set at turning half outward and half inward.

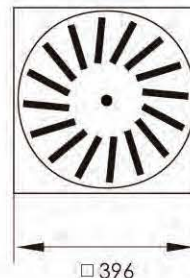
Within the scope of every 90° on the diffuser panel diversion blades are set in agreement, whereas diversion blades between neighboring scope of 90° are set reversely, i.e., half inward and half outward.

### Specifications

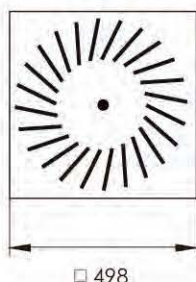
SIZE 300X8



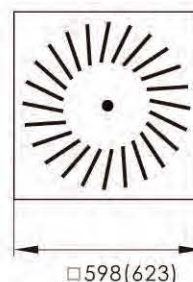
SIZE 400X16



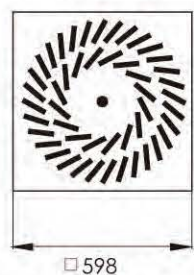
SIZE 500X24



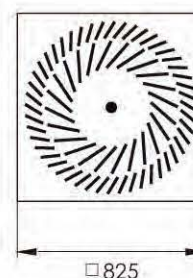
SIZE 600X24/SIZE 625X24



SIZE 600X48



SIZE 825X72



### Material

The diffuser adopts cold rolling galvanized plate for its panels; the panel is pre-processed, and painted white (RAL9010). The diversion blades are made out of polystyrene, and painted white or black.

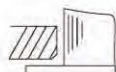
### Installations

Installation flat to the ceiling is applicable to all types. If the density of diversion ring is less than 50mm, and even if the diffuser is installed and sealed beneath the suspended ceiling, stable blowing current would be guaranteed as well.

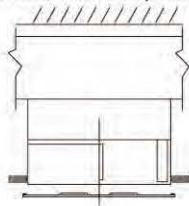
Install flat to the ceiling



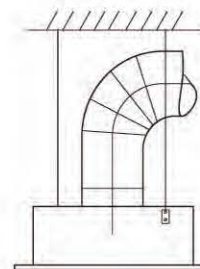
Install through tapping on the hover



Installation on suspended ceiling (connecting pipe)

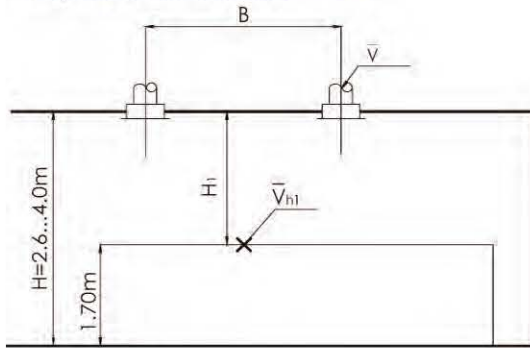


Hang freely

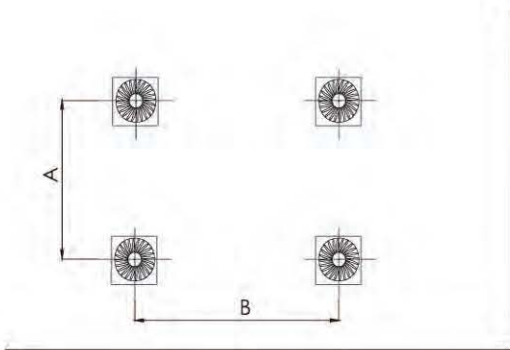


Install through hooks

### Symbol Definitions



- $\bar{V}$  (m<sup>3</sup>/h) blast volume of every air port
- A, B (m) Distance of diffuser
- $\bar{V}_{h,i}$  (m/s) average air velocity between the two air ports at Height H
- H<sub>i</sub> (m) Distance from the ceiling to the activity area
- $\Delta P_t$  (Pa) total pressure loss (air blowing)
- A<sub>eff</sub> (m<sup>2</sup>) Effective air blowing area (m<sup>2</sup>)
- L<sub>WA</sub> (dB(A)) A sound power level noise



Size	Max. Air Volume (m <sup>3</sup> /h)	Min. Air Volume (m <sup>3</sup> /h)	Max. Noise dB (A)	Min. Noise dB (A)	Effective air blowing area (m <sup>2</sup> )
300X8	252	54	40	<20	0.0070
400X16	396	108	40	<20	0.0140
500X24	468	144	40	<20	0.0210
600X24	684	216	40	<20	0.0295
600X48	828	360	40	<20	0.0390
625X24	684	216	40	<20	0.0295
825X72	1260	558	40	<20	0.0730

### Performance Parameters

Air blow (YXIC-...-V)					Air blow (YXIC-...-H)				
Specs	Breastplate angle	0°	45°	90°	Specs	Breastplate angle	0°	45°	90°
300X8	$\Delta P_t$	X1.0	X1.2	X1.8	300X8	$\Delta P_t$	X1.0	X1.3	X2.2
	L <sub>WA</sub>	—	—	—		L <sub>WA</sub>	—	+3	+5
400X16	$\Delta P_t$	X1.0	X1.1	X2.0	400X16	$\Delta P_t$	X1.0	X1.2	X2.3
	L <sub>WA</sub>	—	—	+1		L <sub>WA</sub>	—	+1	+3
500X24	$\Delta P_t$	X1.0	X1.4	X2.8	500X24	$\Delta P_t$	X1.0	X1.5	X3.4
	L <sub>WA</sub>	—	+3	+6		L <sub>WA</sub>	—	+2	+3
600X24	$\Delta P_t$	X1.0	X1.3	X2.8	600X24	$\Delta P_t$	X1.0	X1.5	X4.0
625X24	L <sub>WA</sub>	—	+3	+5	625X24	L <sub>WA</sub>	—	+2	+5
600X48	$\Delta P_t$	X1.0	X1.6	X3.4	600X48	$\Delta P_t$	X1.0	X1.7	X4.5
	L <sub>WA</sub>	—	+4	+9		L <sub>WA</sub>	—	+5	+10
625X54	$\Delta P_t$	X1.0	X1.6	X3.4	825X72	$\Delta P_t$	X1.0	X1.5	X4.7
	L <sub>WA</sub>	—	+4	+9		L <sub>WA</sub>	—	+5	+11
825X72	$\Delta P_t$	X1.0	X1.3	X3.3					
	L <sub>WA</sub>	—	+2	+4					

**2) Performance diagram for air blow pressure loss and noise**

Air Blow [YXIC--V]				Air Blow [YXIC--H]			
SpecS	Air Volume (m <sup>3</sup> /h)	Pressure loss (Pa)	Noise (db)	SpecS	Air Volume (m <sup>3</sup> /h)	Pressure loss (Pa)	Noise (db)
300 X 8	72	5.5	<20	300 X 8	108	10	<20
	90	9	<20		144	18	22.5
	108	15	20		180	28	28
	144	25	27.5		252	55	38
	180	35	38		288	65	42.5
	252	70	47.5		360	120	50
	288	100	50		180	9	<20
400 X 16	162	4	<20	400 X 16	252	18	26
	180	8	<20		288	23	30
	216	13	23		360	35	37.5
	288	25	25		450	50	42
	360	36	37		540	70	50
	540	80	55		252	10	15
500 X 24	252	10	22	500 X 24	360	20	33
	360	20	33		450	28	37
	576	45	45		540	45	43
	720	70	50		630	60	47
	1080	170	70		720	70	70
600/625 X 24	360	9.5	21	600/625 X 24	288	6	<20
	450	14	26		360	8	22
	540	20	33		450	13	27
	720	33	42		540	19	34
	900	55	47.5		720	30	41
	1080	80	55		900	40	45
600 X 48	360	6.5	<20	600 X 48	1080	65	53
	450	9	20		360	6	13
	540	13	25		450	10	22.5
	720	25	35		540	15	27
	900	50	46		720	26	36
	1080	90	50		900	33	40
825 X 72	630	7.5	20	825 X 72	1080	60	46
	720	10	28		540	7	<20
	900	15	31		720	10	23
	1080	20	36		900	13	26
	1440	40	45		1080	20	36
	1800	60	53		1440	32	43
-	-	-	-	1800	60	47	