

Diffuser - PSA Type Swirl Diffusers

The PSA Swirl Diffuser promotes high entrainment of ambient air into the supply air stream. The helical air flow reduces air velocity and provides a consistent spread resulting in relatively uniform temperature, humidity and air quality in all parts of the occupied space. The sound level is also low.

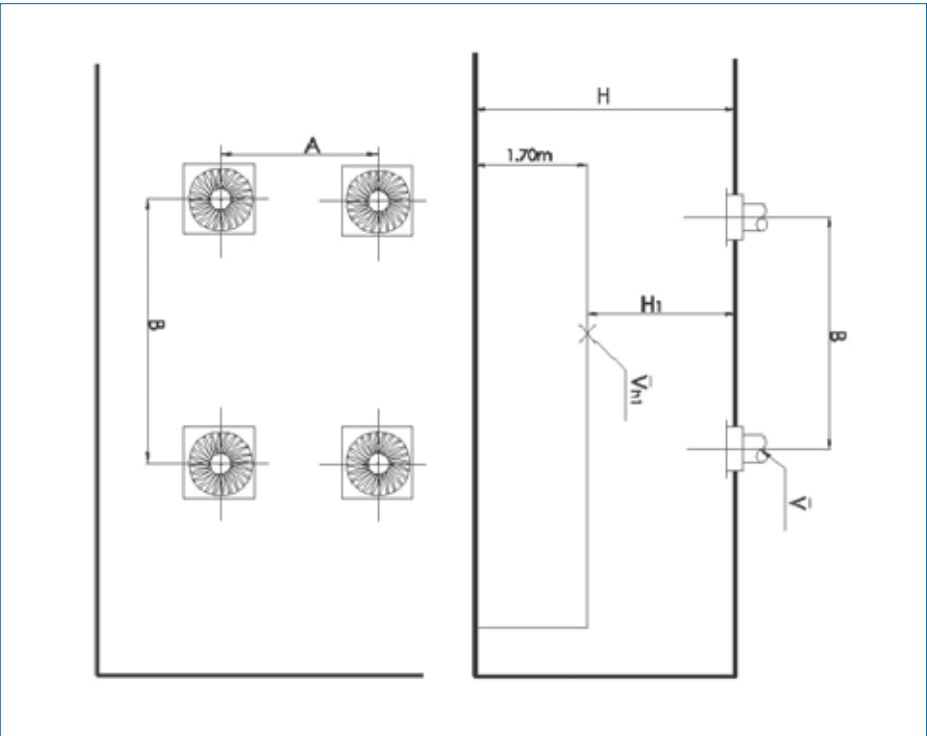
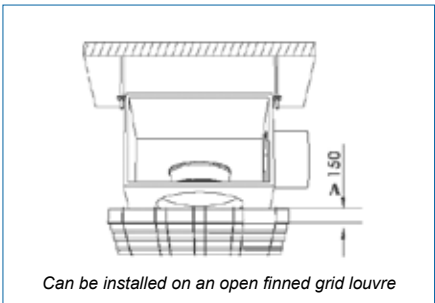
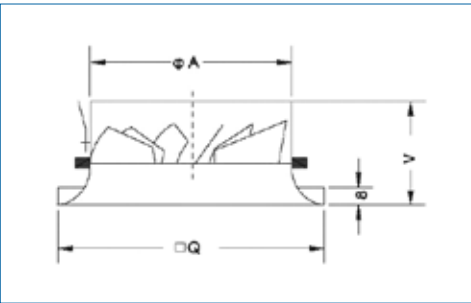
- During cooling the warmest air in the room is immediately mixed with the supply air and temperature variation around the space (hot & cold spots) is minimised.
- During heating, the high induction of the room air by the supply swirl ensures sufficient air diffusion to minimise stratification and stagnant areas in the space.

They are suitable for use in both constant volume flow and VAV systems and are suitable for all types of installation: in closed ceilings, above open grid ceilings and in ceiling panels. The standard PSA is made of cold rolled galvanized plate steel powder coated white(RAL9010). The face plate is 598mm square.



PSA Type Swirl Diffusers

Dimensions				
Code	Face size / Neck size	Q	A	V
247090	PSA Q 598/198	598	198	120
247091	PSA Q 598/248	598	248	120
247092	PSA Q 598/313	598	313	125
247093	PSA Q 598/398	598	398	125



- V (m³/h) Air volume of every outlet
- V_m (m/s) Average air velocity between the two outlets at height H
- H₁(m) Distance from the ceiling to the activity area
- ΔPT(Pa) Total pressure loss (air blowing)
- H(m) Installation height
- LWA(dB<A>) A sound power level noise

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See also Price Catalogue p35

Due to a policy of continuous development, prices and specifications are subject to change without notice.

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Diffuser - PSA Type Swirl Diffusers (continued)

PSA Type Swirl Diffusers									
Specs	Air volume m ³ /h	N/G		N/W		S/G		S/W	
		Pressure Loss (Pa)	Noise (dB)	Pressure Loss (Pa)	Noise (dB)	Pressure Loss (Pa)	Noise (dB)	Pressure Loss (pa)	Noise (dB)
198	100	11.0	20	14.0	21	5.3	<20	6.2	<20
	125	16.5	26	21.5	27	8.0	<20	9.5	21
	150	25.0	32	31.0	34	12.0	24	14.0	25
	175	31.0	36	40.0	38	16.0	28	19.0	29
	200	40.0	39	54.0	41	21.0	33	26.0	34
	225	54.0	43	76.0	45	25.0	35	31.0	36
	250	64.0	46	81.0	48	32.0	38	39.0	39
	275	77.0	48	96.0	50	38.0	40	46.0	42
	300	-	-	-	-	49.0	43	60.0	45
	350	-	-	-	-	64.0	47	78.0	49
248	100	2.0	<20	4.0	<20	-	<20	-	<20
	150	10.0	<20	12.0	20	5.0	<20	6.5	<20
	175	13.0	23	14.0	24	6.5	<20	8.5	<20
	200	17.0	27	19.0	28	8.5	<20	12.0	20
	250	27.0	33	30.0	34	13.0	24	17.0	26
	300	39.0	39	45.0	40	19.0	29	26.0	32
	350	52.0	43	60.0	44	25.0	33	33.0	36
	400	64.0	47	78.0	48	35.0	37	44.0	40
	450	88.0	51	100.0	52	41.0	41	55.0	44
313	200	3.0	<20	6.0	<20	-	<20	-	<20
	250	8.0	<20	9.0	<20	-	<20	6.0	<20
	300	12.0	26	13.0	27	6.0	<20	9.5	22
	350	16.0	30	17.0	31	8.0	23	12.5	26
	400	21.0	35	22.0	36	11.0	28	16.0	30
	500	34.0	42	36.0	43	16.0	34	25.0	37
	600	49.0	48	51.0	49	24.0	40	37.0	43
	700	69.0	54	72.0	55	32.0	44	48.0	47
	800	-	-	-	-	41.0	48	62.0	52
398	300	8.0	23	6.0	<20	4.0	<20	5.0	<20
	400	12.0	30	11.0	24	7.0	<20	7.0	<20
	500	20.0	35	16.0	30	11.0	25	11.0	26
	700	40.0	45	25.0	39	21.0	35	28.0	34
	900	71.0	54	55.0	47	35.0	42	47.0	45
	1200	121.0	69	95.0	68	58.0	48	70.0	53

Note: Full performance data available

S/G: Installed inside of the ceiling with diffusing ring

N/G: Installed inside of the ceiling without diffusing ring

S/W: Hung with diffusing ring

N/W: Hung without diffusing ring

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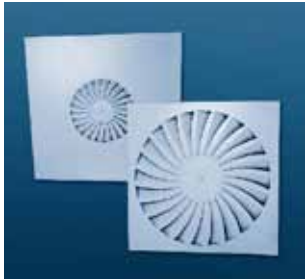
sales@smooth-air.co.nz
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Diffuser - PSB Type Swirl Diffusers

The PSB Swirl Diffuser has fixed spiral blades that create rotational as well as axial, tangential and radial air movement. This means that it produces a strong horizontal swirl, obtaining high inductivity, to allow the introduced flow to rapidly mix with the ambient air to reduce temperature and also perceived drafts or hot/cold spots.

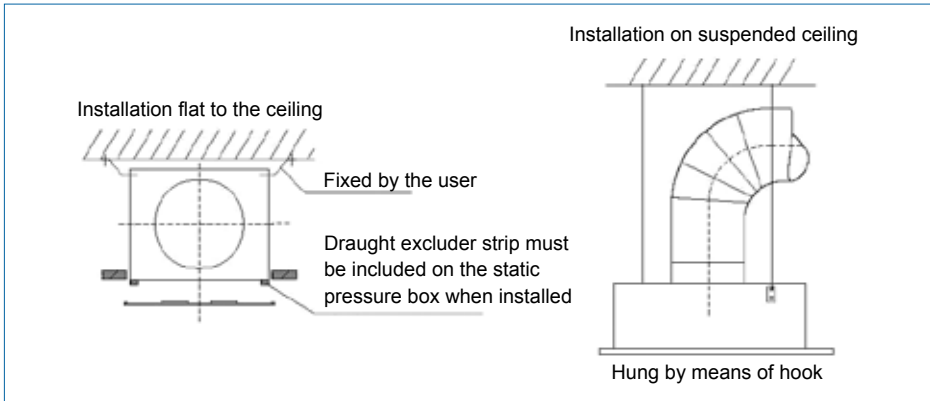
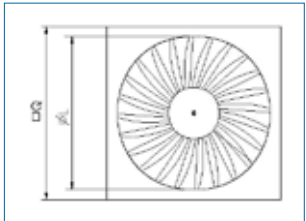
Velocity is reduced while still maintaining volume and reduced noise and this product is ideally suited to handling large volumes. The PSB maintains high quality air diffusion throughout the space with minimal temperature variation. The Swirl effects ensure good mixing of supply and ambient air.

The PSB is also suitable for return air application due to low pressure drop across the grille. The standard PSB is made of cold rolled galvanized plate steel powder coated white (RAL9010). The face plate is 598mm square.

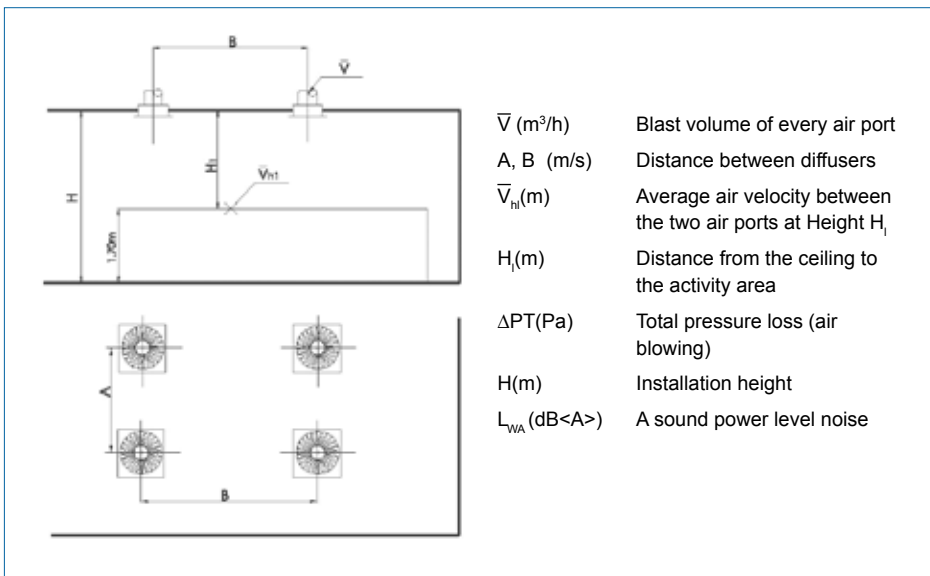


PSB Type Swirl Diffusers

Dimensions			
Code	Face size / Neck size	Q	L
247094	PSB Q 598/254	598	254
247095	PSB Q 598/336	598	336
247096	PSB Q 598/440	598	440
247097	PSB Q 598/530	598	530



- Note:**
- Installation flat to the ceiling is applicable to all types
 - Min. 2.6m from the bottom edge of the installation surface to the floor



Continued on next page
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Diffuser - PSB Type Swirl Diffusers (continued)

PSB Type Swirl Diffusers			
Specs	Air Volume (m ³ /h)	Pressure Loss (Pa)	Noise (dB)
254	100	6.5	<20
	150	13.0	24
	250	35.0	37
	400	90.0	53
	500	140.0	65
336	150	4.5	<20
	200	9.0	<20
	300	18.0	28
	400	36.0	38
	500	50.0	44
440	180	4.5	<20
	250	8.0	<20
	350	15.0	27
	550	38.0	42
	700	60.0	47
530	300	6.0	<20
	400	10.0	22
	600	20.0	32
	800	38.0	42
	1200	85.0	55

Air Return			
Specs	Air Volume (m ³ /h)	Pressure Loss (Pa)	Noise
254	150	18.0	26
	200	35.0	33
	300	80.0	42
	400	145.0	55
336/ 440	200	8.0	22
	300	16.0	33
	400	30.0	42
	500	45.0	46
	700	80.0	55
530	200	5.5	<20
	300	13.0	20
	400	22.0	27
	500	35.0	35
	700	60.0	43

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Note: Full performance data available

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