



PSWI

- > Swirl Diffuser
- > Supply/Return
- > Fixed air pattern

APPLICATION

Suitable for the supply of cooled air with a large temperature differential and can be utilised for constant and variable volume installations.

The special high induction swirl effect enables a significant number of air changes. The very shallow inflow pattern also makes the diffuser suitable for lower spaces.

DESIGN

Construction:
Steel face plate. Round duct connection.

Finish:
Epoxy powder RAL 9010 (visible parts only).

Options:

- Damper
- Lined/Unlined Plenum

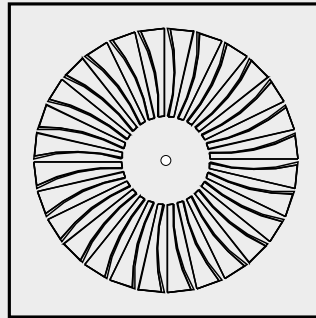
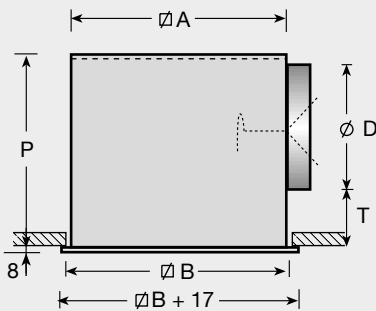
AVAILABLE TYPES

PSWI-S: Supply
PSWI-R: Return

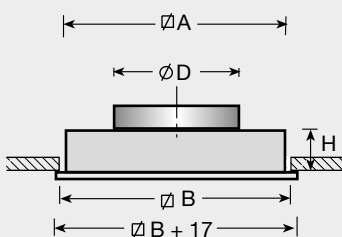
FEATURES

Max. air exchanges: up to 15 x
Under temperature: up to 10 K
Over temperature: up to 15 K

PSWI – Side connection



PSWI – Top connection



REMARKS

The dimensions are given in mm, weights in kg.
Connection "D" is actual O.D.
The face size of models 250, 350 and 450 are 295, 395 and 495 mm respectively overall.
As such these models fit in a Tee-bar modular ceiling with a respective size of 300, 400 and 500 mm.
For tegular edge the dimensions x, y and z must be provided when ordered.
x - z = 12 minimum (model 550: z = 583mm).
y = 6 minimum.

DIMENSIONAL DATA (mm)

Model	PSWI					
	B	A	D	T	P	H
250	278	273	123	55	215	110
350	378	373	158	65	260	125
450	478	473	198	75	310	140
550	578	573	248	75	360	160

WEIGHT (kg)

Model	Round top		Lined Plenum		Ø Damper
	S	R	S	R	
250	2.4	2.0	3.0	2.7	0.1
350	4.0	3.3	5.2	4.5	0.2
450	6.0	5.0	7.9	6.8	0.3
550	8.5	6.9	11.2	9.6	0.4

Note: S = Supply R = Return (Perforated only: 12 kg)

PSWI – PERFORMANCE DATA

SUPPLY (PSWI-S / PMSWI-S)													
Air Volume		250			350			450			550		
m ³ /s	m ³ /h	T	Ps	Lp	T	Ps	Lp	T	Ps	Lp	T	Ps	Lp
0.020	72	0.7	3	-									
0.025	90	0.9	5	-									
0.030	108	1.1	7	16	0.9	3	-						
0.040	144	1.5	13	24	1.2	5	-						
0.050	180	1.9	20	30	1.4	7	16	1.1	2	-			
0.060	216	2.2	28	34	1.7	11	21	1.3	3	-			
0.070	252	2.6	38	38	2.0	15	25	1.5	4	13	1.3	2	-
0.080	288	3.0	50	42	2.3	19	29	1.7	6	16	1.5	3	-
0.100	360				2.9	30	34	2.2	9	22	1.9	5	14
0.125	450				3.6	46	40	2.7	14	28	2.3	7	20
0.150	540							3.2	20	32	2.8	11	25
0.200	720							4.3	36	40	3.7	19	32
0.250	900										4.6	30	38

RETURN (PSWI-R / PMSWI-R)				
Air Volume		Round Connection		
m ³ /s	m ³ /h	Model	Ps	Lp
0.025	90	250	5	8
0.030	108	250	7	12
0.040	144	250	13	20
		350	5	-
0.050	180	250	20	26
		350	7	13
0.060	216	250	29	30
		350	10	17
		450	3	-
0.070	252	250	40	34
		350	14	21
		450	4	9
0.080	288	350	19	25
		450	6	12
		550	3	-
0.100	360	350	29	31
		450	9	18
		550	5	10
0.125	450	350	45	36
		450	14	24
		550	8	16
0.150	540	450	21	29
		550	11	21
0.200	720	450	37	36
		550	20	28
0.250	900	450	57	42
		550	31	34
0.300	1080	550	44	39

THROW CORRECTION FACTOR	
V _{end} m/s	Throw factor
0.15	1.67
0.20	1.25
0.25	1.00
0.35	0.71
0.50	0.50

Throw figures are based on 0.25 m/s end velocity. In case other end velocities are required correct according to table.

GENERAL

The throw applies to flush mounted in a horizontal dropped ceiling.

- Throw T in metres.
- Static pressure drop Ps in Pa.
The assumed room absorption is 10 dB.
- Sound pressure Lp in dB(A).
Intermediate values may be interpolated

For return diffuser pressure drop applies to fully opened damper.

LINED PLENUMS						
MODEL	Middle frequency bands					
	125	250	500	1K	2K	4K
250	5	0	3	10	5	11
350	2	2	7	7	7	9
450	2	3	9	7	7	9
550	0	6	7	7	6	9