



E N G I N E E R E D A I R P R O D U C T S

SWIRL DIFFUSERS
DW SERIES

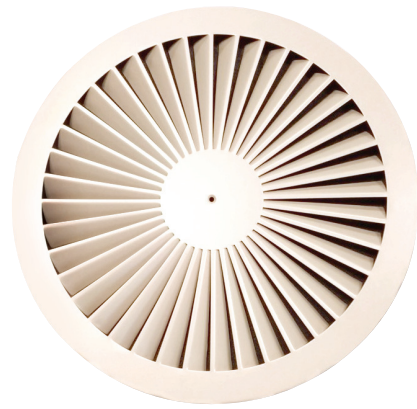


DW
SERIES

SWIRL DIFFUSERS

DW SERIES

QUALITY AND EFFICIENCY WITHOUT COMPROMISE



Application

The DW type swirl diffuser has been designed to supply cooled or warmed air to a wide range of commercial applications. A high level of induction is achieved due to the pitch of the radial outlet pattern combined with a high relative free area. Temperature and velocity differences between supplied and room air are therefore quickly reduced.

The high relative free area also makes this diffuser type well suited to extract applications.

Description

A circular array of deflection blades are pressed into a square steel panel. Nominal size is determined by the diameter of the radial outlet pattern and the overall diffuser panel size.

Two types of swirl pattern are available – a fixed vane type and a curved vane.

The DWS is available in overall panel sizes of 394, 494 and 594mm overall. The DWV is available only in a standard 594mm x 594mm panel.

A circular version is also available for both the DWS and DWV to match the respective nominal petal sizes.

The DW type swirl diffuser can be supplied with matching side or top

entry plenum boxes, with or without monoblade volume control dampers.

Fixing

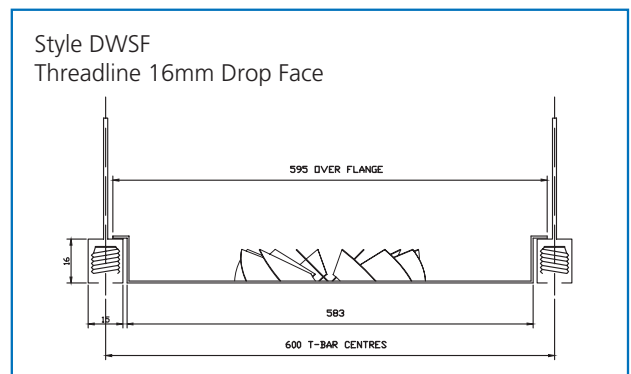
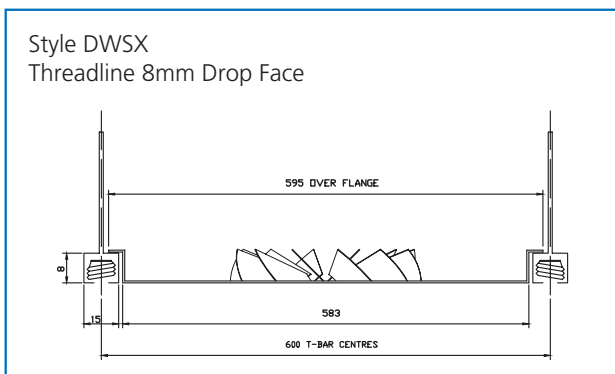
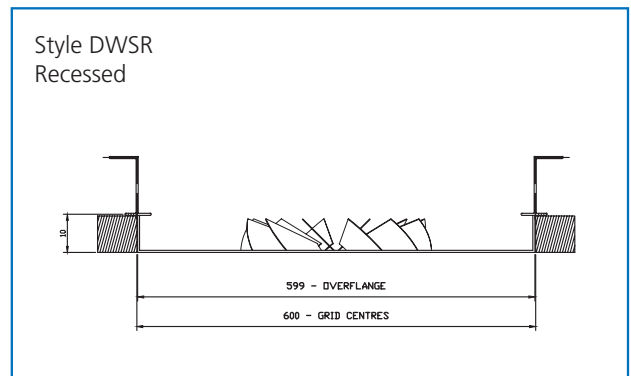
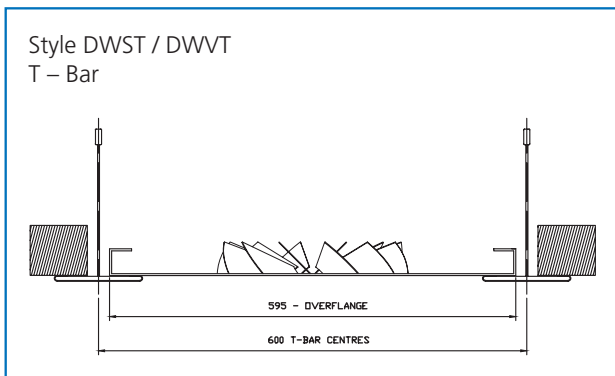
The DW type swirl diffuser is suitable for mounting at heights of between 2.5m and 4m from floor level.

The diffuser plate is fastened to the plenum by a central fixing screw. The side or top entry plenum is to be fixed via support rods or wires to suitable structural support.

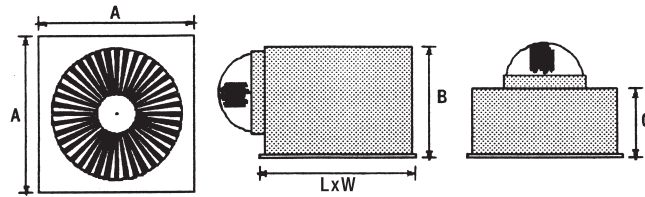
Finish

The diffuser is supplied powder coated white (RAL 9010) matt as standard. Gloss finish is available at no extra cost. Other RAL colours are available on request.

Alternative Ceiling Fixings



Diffuser Dimensions



DWS

Nominal Size code	Diameter of radial outlet pattern (mm)	Calculated free area (m3)	A Overall panel size (mm)	Plenum size (L & W (mm))	B Side entry plenum height (mm)	C Top entry plenum height (mm)_
3540	350	0.0320	394 x 394	355	305	225
3550			494 x 494			
3560			594 x 594			
5060	500	0.0732	594 x 594	555	420	

DWV

Nominal Size code	Diameter of radial outlet pattern (mm)	Calculated free area (m3)	A Overall panel size (mm)	Plenum size (L & W (mm))	B Side entry plenum height (mm)	C Top entry plenum height (mm)_
2560	250	0.023	594 x 594	355	305	225
3360	330	0.031	594 x 594	355	305	225
4460	440	0.064	594 x 594	535	420	225
5360	530	0.078	594 x 594	535	420	225

Note. Side entry plenum height may differ depending on spigot size.

Options and Order Codes

Diffuser codes

1. SERIES	2. STYLE	3. CORE	4. ACCESSORIES	5. ARRANGEMENT	6. FIXING	7. FINISH
D	W Swirl 1 Special	S Fixed Vane pattern V Curved Vane pattern 1 Special	T T-bar mounted C Circular X Threadline mounting 8mm drop face F Threadline mounting 16mm drop face R Recessed mounting 1 Special	O Fixed Blade	O None C Central screw fixing 1 Special	F RAL 9010 matt white E RAL 9010 gloss white 1 Special

Plenum codes

1. SERIES	2. LINING	3. INSTALLATION METHOD	4. ACCESSORIES	5. ARRANGEMENT	6. SPIGOT TYPE	7. SPIGOT DIAMETER
D	L Lined N Unlined 1 Special	W For DWS V For DWV 1 Special	O None A Cord operated monoblade damper B Cord operated monoblade damper (matt black) P Internally painted (matt black) 1 Special	S Supply E Extract	R Round — Side entry T Round — Top entry 1 Special	B 125 C 150 D 200 E 250 F 300 N 315 P 280 R 225 T 175 1 Special

Example of Order Codes

DWSTOCF 5060
DNWASRN 5060

Supply diffuser complete with side entry plenum.

Monoblade damper in 315 spigot.

Overall diffuser size 594 × 594 square with 500mm diameter radial outlet.

Diffuser panel powder coated white (RAL9010) gloss.

DWS Performance data

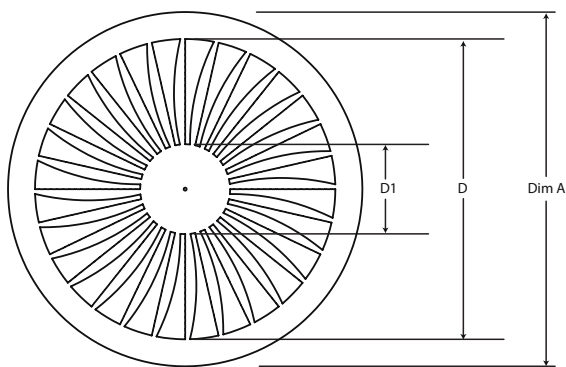
Nominal size code	Volume (l/s)	Volume (m ³ /s)	Face Velocity (m/s)	Pressure Drop (Pa)	Throw to 0.5 m/s Velocity (m)	Noise Rating (NR)	
3540	60	0.06	2.1	4	0.9	14	
	70	0.07	2.5	5	1.0	17	
	80	0.08	2.9	7	1.2	22	
	90	0.09	3.2	8	1.4	24	
	100	0.10	3.5	10	1.5	28	
	3550	110	0.11	4.0	13	1.7	30
	3560	120	0.12	4.4	15	1.8	32
	125	0.125	4.5	15	1.9	34	
	130	0.13	4.6	16	2.0	35	
	135	0.135	4.8	17	2.1	36	
5060	140	0.14	5.0	19	2.2	38	
	130	0.13	2.3	5	0.9	15	
	140	0.14	2.5	6	1.0	17	
	150	0.15	2.7	7	1.1	18	
	160	0.16	2.9	8	1.2	20	
	170	0.17	3.0	9	1.3	23	
	180	0.18	3.2	10	1.4	26	
	190	0.19	3.4	11	1.5	28	
	200	0.20	3.6	12	1.6	30	
	210	0.21	3.8	13	1.7	32	
	220	0.22	3.9	14	1.8	33	
	230	0.23	4.1	15	1.8	34	
	240	0.24	4.3	17	1.9	35	
	250	0.25	4.5	18	2.0	36	
	260	0.26	4.6	19	2.1	37	
270	0.27	4.8	21	2.2	39		
280	0.28	5.0	23	2.3	40		
290	0.29	5.2	24	2.4	42		
300	0.30	5.4	26	2.5	43		

DWV Performance data

Nominal size code	Volume (l/s)	Volume (m ³ /s)	Pressure Drop (Pa)	Throw to 0.5 m/s Velocity (m)	Noise Rating (NR)
2560/250 dia	20	0.02	<5	0.4	<15
	30	0.03	7	0.6	<15
	40	0.04	14	0.8	19
	50	0.05	21	1	24
3360/350 dia	30	0.03	<5	0.55	<15
	40	0.04	5	0.65	<15
	55	0.055	8	0.8	<15
	75	0.075	17	1.35	23
4460/450 dia	50	0.05	5	1	<20
	75	0.075	8	1.2	20
	100	0.1	15	1.7	27
	150	0.15	38	2.5	47
5360/540 dia	75	0.075	6	0.9	<20
	100	0.1	9	1.2	21
	150	0.15	17	1.6	30
	200	0.2	32	2.1	37

Performance figures are for diffuser only and assume supply air temperature -10 to +10 degrees C relative to room temperature. Pressure drop shown is static pressure drop for diffuser only and does not allow for effect of plenum. Throw value is measured horizontally to terminal velocity of 0.5 m/s and assumes ceiling effect. Multiply throw value by 0.7 for installation without ceiling effect. All NR ratings based on room absorption of 8 dB, dampers fully open.

DWVC Dimensions



Nominal Size	A Ø	D	D1
254	300	254	84
350	400	350	92
450	500	450	150
540	600	540	170



Colman's Circular DWS Diffuser with Circular Plenum.

PRODUCT RANGES

GRILLES	DIFFUSERS	LOUVRES
Linear Bar	Linear Slot	External
Ceiling	Louvre Face	Circular
Sidewall	Sidewall	Door
Floor	Perforated Face	Screens
Computer Floor	Circular	Penthouse
Cill	Swirl	Sand Louvres
Single & Double Deflection	Ceiling	Roof Louvres
Egg Crate	Sidewall Fixed & Adjustable	
Hinged Core	Jet Flow / Nozzle	
Door Transfer	Repus Displacement Ventilation	
Security and Prison		
Supply and Extract Valves		

BESPOKE SERVICE

We offer a bespoke design service where standard products do not fit the requirements of the build, we also supply products in special colours and finishes including bronze, brass, gold and chrome to meet Architectural design specifications.



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