

Fixed Blade Swirl Diffusers

SDTA / SDTB

Introduction

The SDT Fixed Blade Swirl Diffuser present an attractive alternative to the existing range. These diffusers produce a horizontal radial air pattern with high induction effect, making them ideally suited for applications with high heating and cooling differentials.

Manufactured from sheet steel with press formed blades, the units are available in four standard sizes with either 24 straight (SDTA) or 24 curved blades (SDTB).

Product Description

SDTA Straight pattern swirl diffuser

SDTB Curved pattern swirl diffuser

DM Duct collar

WTP Side entry plenum box

FDC1 Cord operated flap damper

FDQ1 Quadrant operated flap damper

LINED 6mm acoustic lining (optional) reaction to fire class C-s3-d0 to EN 13501-1: 2007

Please note the duct collar is not required when ordering diffusers with plenums.

Sizes

See table

Finishes

PPG9010 (RAL 9010 Gloss - 80% Gloss White)

PPM9010 (RAL 9010 Matt - 20% Gloss White)

PPM9006 (RAL 9006 Matt - 30% Gloss Silver)

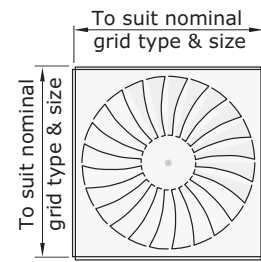
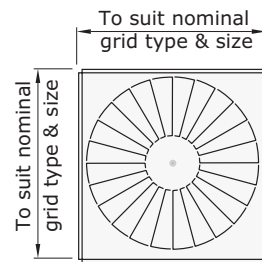
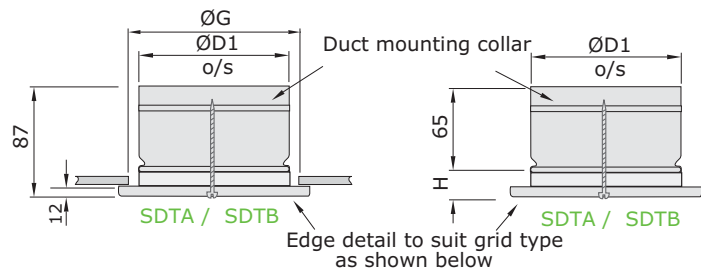
Other colours available on request



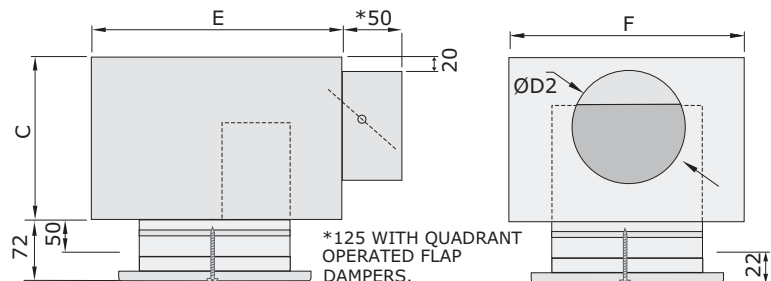
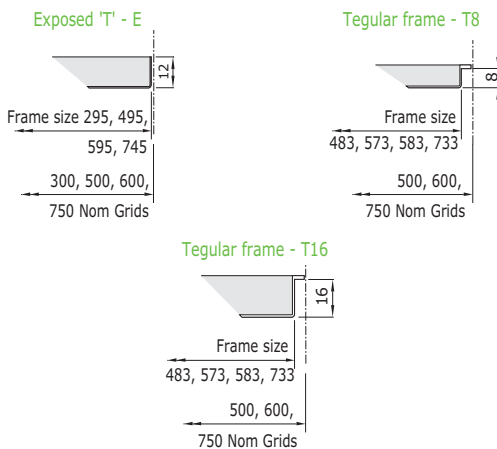
SDTA



SDTB



SDTA - SDTB Frame Styles and Grid Sizes



Nominal Size	Available Grid Sizes	Plenum Width 'F'	Plenum Length 'E'	Plenum Height 'C'	Spigot size ØD2	Duct collar ØD1	Ceiling opening ØG	H
250	300, 500, 600 or 750	400	400	260	200	248	260	22
350	500, 600 or 750	500	500	310	250	343	360	22
450	500, 600 or 750	560	560	375	315	443	460	22
550	600 or 750	650	650	375	315	543	560	22

ORDER EXAMPLE

SDTA/250/T16/500/PPM9010/WTP/FDC1/LINED
 Type _____
 Nominal Size _____
 Frame Style & Grid (if square diffuser) _____
 Colour Finish _____
 Duct Collar (DM) or Plenum (WTP) _____
 Plenum Spigot Damper (if required) _____
 Acoustic Plenum Lining (if required) _____

Weights

SDTA / SDTB	Diffuser + Collar	Plenum
250 Ø	3.7 kg	5.1 kg
350 Ø	3.9 kg	7.7 kg
450 Ø	4.0 kg	10.2 kg
550 Ø	4.2 kg	12.4 kg

Fixed Blade Swirl Diffusers

SDTA / SDTB

Performance Table

SDTA & SDTB			Supply Air Volume (l/s)								
Diameter	Type	Parameter	25	30	40	60	80	100	125	150	175
250	A & B	Throw (m)	0.8	1.4	2.2						
		L _{WA} (dBA)	<20	21	24						
	A	Δp (Pa)	4	9	17						
		L _{WA} (dBA)	<20	20	23						
350	A & B	Throw (m)		0.8	1.5	2.2	3.0				
		L _{WA} (dBA)		<20	<20	21	29				
	A	Δp (Pa)		4	9	18	27				
		L _{WA} (dBA)		<20	<20	20	24				
450	A & B	Throw (m)				1.6	2.4	3.1	3.6		
		L _{WA} (dBA)				<20	23	30	36		
	A	Δp (Pa)				10	14	23	41		
		L _{WA} (dBA)				<20	22	25	28		
550	A & B	Throw (m)				0.6	1.5	2.3	3.0	3.6	4.1
		L _{WA} (dBA)				<20	20	22	28	35	42
	A	Δp (Pa)				4	7	10	16	25	32
		L _{WA} (dBA)				<20	<20	22	23	24	26
550	B	Throw (m)				4	5	7	13	22	29
		L _{WA} (dBA)				4	5	7	13	22	29

Selection Criteria

Throw data is expressed in metres and is based on a terminal velocity of 0.5 m/s at 10°C cooling differential. For isothermal conditions apply a factor of 1.15 to the throws. For 10°C heating apply a factor of 1.32.

Noise levels are sound power levels with an assumed 8 dB room attenuation expressed in dBA. Pressure loss data is shown for a WTP plenum mounted diffuser.

Selection Example

SDTA/350, SDTB/350

Air flow rate 60 l/s

SDTA Diffuser

Throw 2.2m

Static Pressure Loss 18 Pa

Noise level 21 dBA

SDTB Diffuser

Throw 2.2m

Static Pressure Loss 15 Pa

Noise level 20 dBA

Fixed Blade Swirl Diffusers

SDFS - LCT

Introduction

The SDFS - LCT has been developed for use when mounted directly on top of a ceiling tile (supplied by others). The diffuser is supplied in matt black as standard and the outer flange has a black gasket to seal against the back of the tile and offers a high induction effect.

ORDER EXAMPLE

SDFS-LCT/400/600/T16/500/Black/WTP/FDC1/LINED /DM

Type _____

Nominal Size _____

Grid Size _____

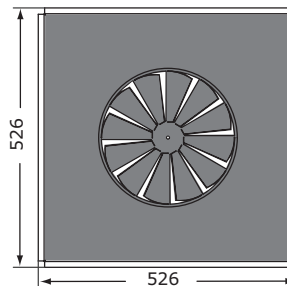
Frame Style & Grid (if square diffuser) _____

Colour Finish _____

Duct Collar (DM) or Plenum (WTP) _____

Plenum Spigot Damper (if required) _____

Acoustic Plenum Lining (if required) _____



Product Description

SDFS-LCT Lay-on ceiling tile

DM Duct collar

WTP Side entry plenum box

FDC1 Cord operated flap damper

FDQ1 Quadrant operated flap damper

LINED 6mm acoustic lining (optional) reaction to

fire class C-s3-d0 to EN 13501-1: 2007

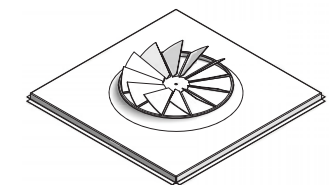
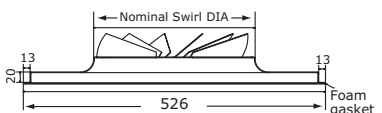
Please note the duct collar is not required when ordering diffusers with plenums.

Finishes

Matt Black

Performance Table

SDFS - LCT		Supply Air Volume														
Diameter	Grid Size	m³ / h	108	144	180	216	288	360	450	540	630	720	810	900	990	
		l/s	30	40	50	60	80	100	125	150	175	200	225	250	275	
160	600x600	Throw (m)	0.5	0.8	1											
		L _{WA} Plenum (dBA)	27	36	42											
		P _s Plenum (Pa)	17	31	52											
200	600x600	Throw (m)		0.5	0.6	0.8	1.1									
		L _{WA} Plenum (dBA)		20	29	38	43									
		P _s Plenum (Pa)		15	20	32	41									
250	600x600	Throw (m)			0.4	0.5	0.8	1.3								
		L _{WA} Plenum (dBA)			22	28	33	40								
		P _s Plenum (Pa)			8	11	23	35								
315	600x600	Throw (m)				0.3	0.5	0.7	0.9	1.4	1.9					
		L _{WA} Plenum (dBA)				15	21	26	31	36	41					
		P _s Plenum (Pa)				5	8	12	18	26	35					
400	600x600	Throw (m)						0.4	0.6	0.9	1.1	1.4	1.6	1.7	2	
		L _{WA} Plenum (dBA)						<10	16	23	29	33	37	40	42	
		P _s Plenum (Pa)						5	9	11	14	17	22	29	35	



Notes:

Tested at 40% free area perforated ceiling tile. Different size perforation will effect the tested data. Not recommended to go below 35% free area without first consulting head office.