

SD5

Fixed pattern swirl air diffuser



Quick Facts

- Suitable for supply & extract air applications
- Square & circular formats
- Available in 300, 400, 500 & 600 nominal sizes
- Volume flow rate range - 26 l/s - 180 l/s (based on NR35 maximum)
- Suitable for mounting in suspended ceilings/exposed services & plasterboard ceilings
- Tile replacement module for lay-in, tegular & clip-in ceiling styles
- High induction swirl function
- Available in a variety of RAL colours
- Suitable for variable & constant volume
- Square or circular plenum options

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Technical Description

Design

The SD5 is a fixed pattern swirl air diffuser suitable for mixed flow ventilation, variable and constant volume systems.

The rotary swirl motion of the supply air rapidly induces room air to quickly decrease the velocity and temperature difference of the incoming supply air, and helps create uniform air velocities and temperatures within the occupied zone.

Due to the design of the diffuser and resulting air pattern, high air change rates can be achieved whilst still maintaining comfort levels.

The diffuser can be used on ceiling heights ranging from 2.6-4.0m, in cooling applications.

Our purpose designed and individually selected plenum boxes will ensure optimum performance from the SD5 diffuser.

Material and Surface Treatment

Constructed from 1.2mm Galvanised steel

Polyester powder coated to RAL9010 Matt (20%) finish to all external surfaces.

Alternative standard RAL colours to select from:

- RAL 9016 Matt (20%) finish - White
- RAL 9003 Matt (40%) finish - White
- RAL 9006 Matt (40%) finish - Silver
- RAL 9005 Matt (30%) finish - Black

Model Types

Square diffusers

SD5 S Ceiling

Square diffusers are suitable for lay-in, clip-in & tegular suspended ceiling types.

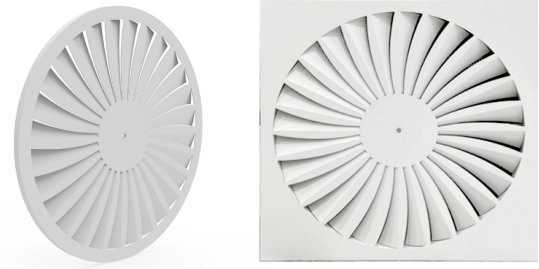
Square type naming convention:

- SD5 S 300
- SD5 S 400
- SD5 S 500
- SD5 S 600

Circular diffusers

SD5 C Ceiling

Circular diffusers are suitable for plasterboard & exposed ceiling applications (with optional circular plenum box CPB).



Circular type naming convention:

- SD5 C 300
- SD5 C 400
- SD5 C 500
- SD5 C 600

Accessories

Plenum

SD5 S is available with the SDVPS plenum box

SD5 C is available with the SDVPC or CPB plenum box.

Fixing collar

In a plasterboard ceiling application the SD5 C can be ordered with a fixing collar when no plenum box is ordered. This is typically for a non-ducted return air application.

Light baffle kit

SD5 S can be ordered with a light blocking return air baffle plate to prevent void vision & void light transfer. This is for a non-ducted return air application when no plenum box is ordered.

Installation

For our range of fixing details, please see our installation, operation & maintenance manual.

Maintenance

These are static units without moving parts therefore maintenance is confined to cleaning.

To remove significant amounts of lint etc from the unit a vacuum cleaner with a soft brush head may be used.

Powder coated surfaces should be washed with a warm water solution of mild detergent or suitable proprietary cleaning agent.

Abrasive cleaners or those containing ketones, esters, acids, alkali or alcohol should not be used.

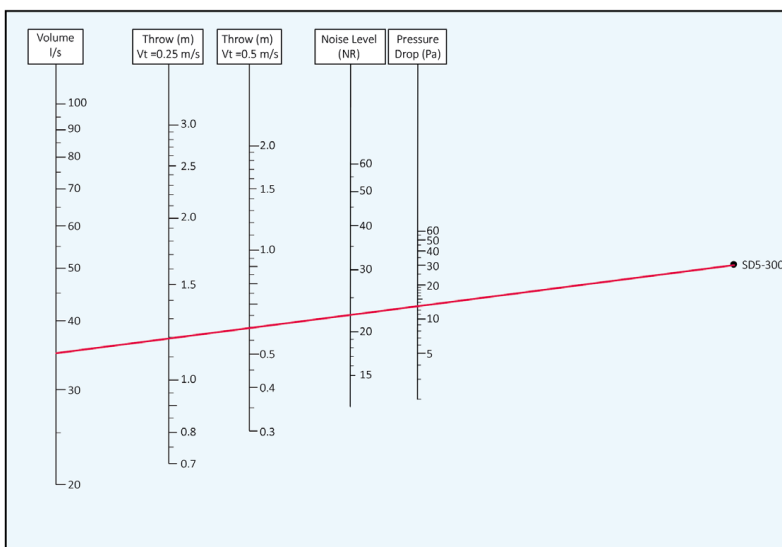
Environment

Our standard power coating process is suitable for a C2 Internal environment classification, ISO 12944-2. Design life >25 years.

Sizing

- Aerodynamic testing carried out in general accordance to BS EN 12238:2001 (Ventilation for buildings - Air terminal devices - Aerodynamic testing and rating for mixed flow applications).
- Throw data is based on a temperature differential of 10°C cooling to a terminal velocity of 0.5 m/s and 0.25 m/s respectively, to give average room velocities no greater than 0.25m/s with a room height of 2.7m when mounted flush with an unobstructed ceiling.
- For isothermal or +10°C heating conditions apply a factor of 1.15 or 1.32 respectively to the throws.
- A maximum permissible temperature below room temperature of 10K is recommended.
- Pressure loss measurements are shown as static plenum pressure based on a side entry plenum box fitted with a baffle plate.
- Acoustic testing carried out in general accordance to BS EN ISO 5135:1999 acoustics. Determination of sound power levels of noise from air-terminal devices, air-terminal units, dampers and valves by measurement in a reverberation room.
- NR figures are based on a product in a room with 8dB room absorption

Selection example SD5-300



Air flow rate - 35 l/s

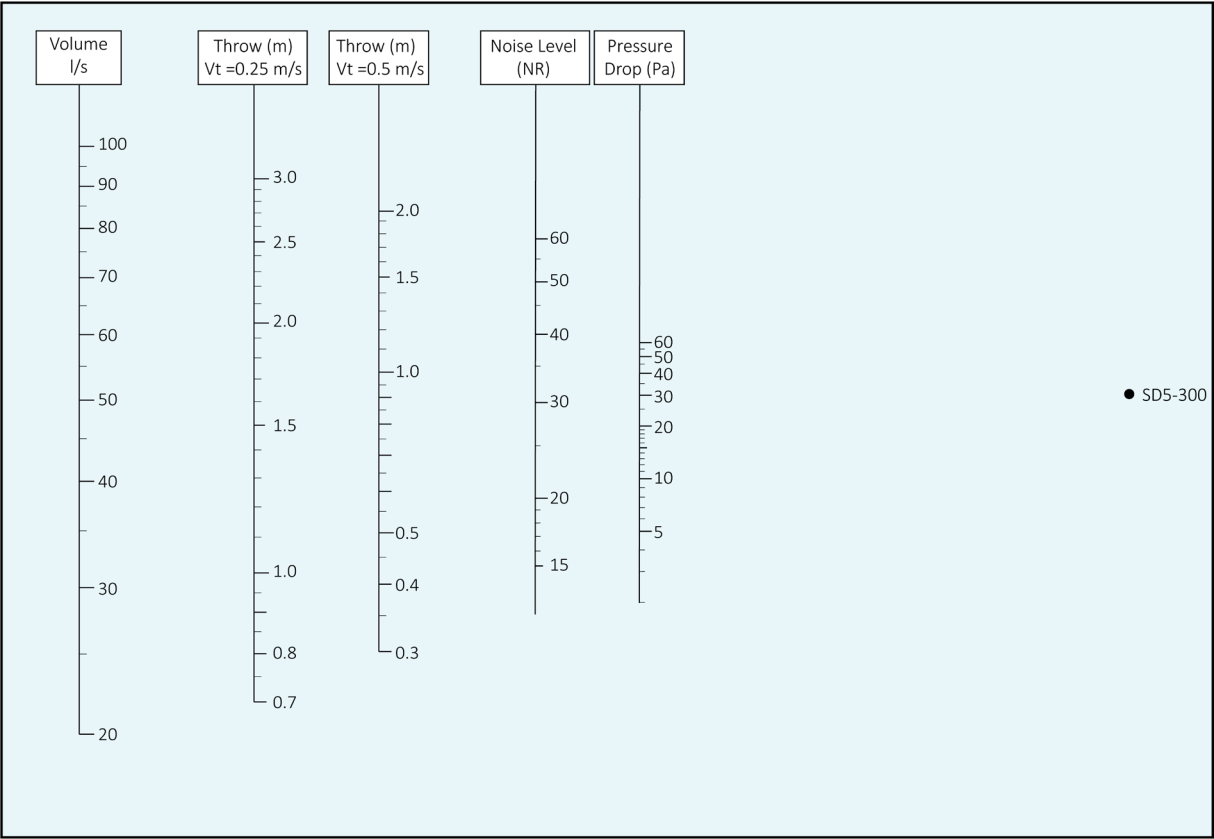
Throw @ 0.5m/s V_t - 0.7m

Throw @ 0.25m/s V_t - 1.3m

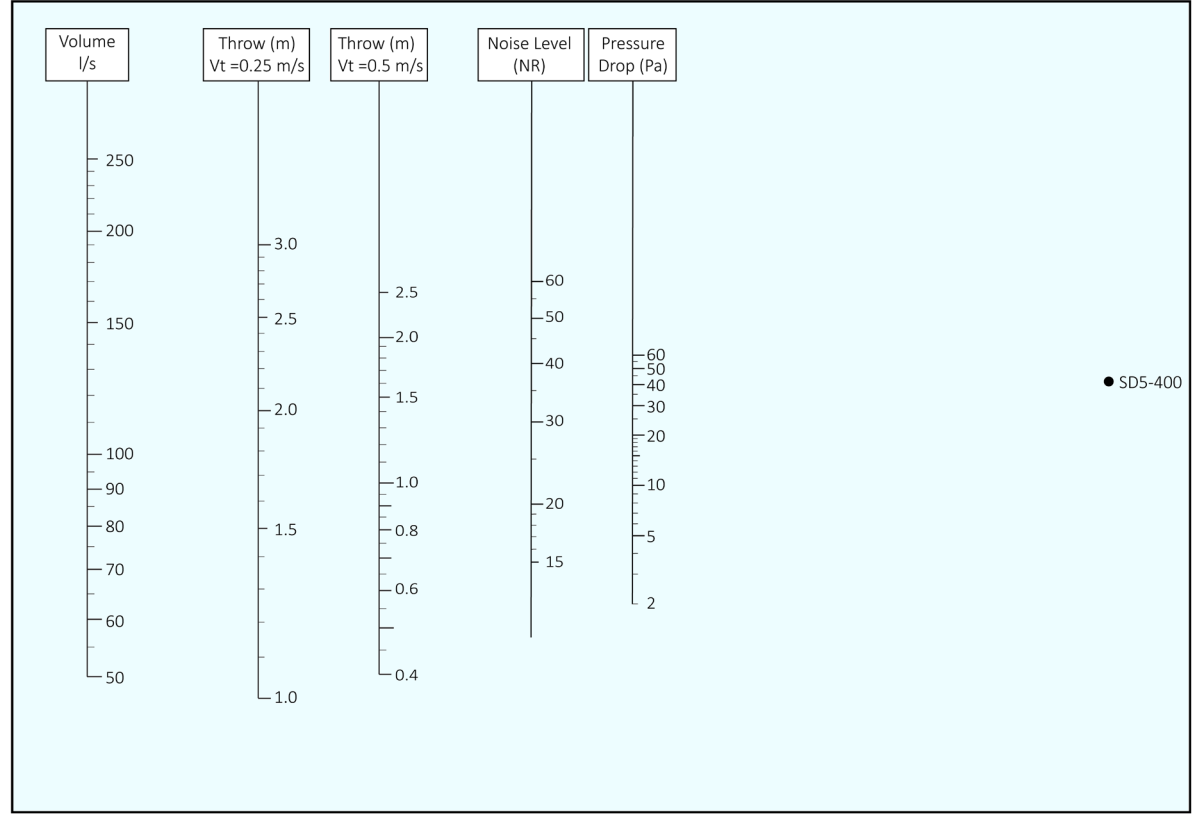
Static pressure loss (Ps) - 13pa

Room Noise Rating - NR23

Size 300

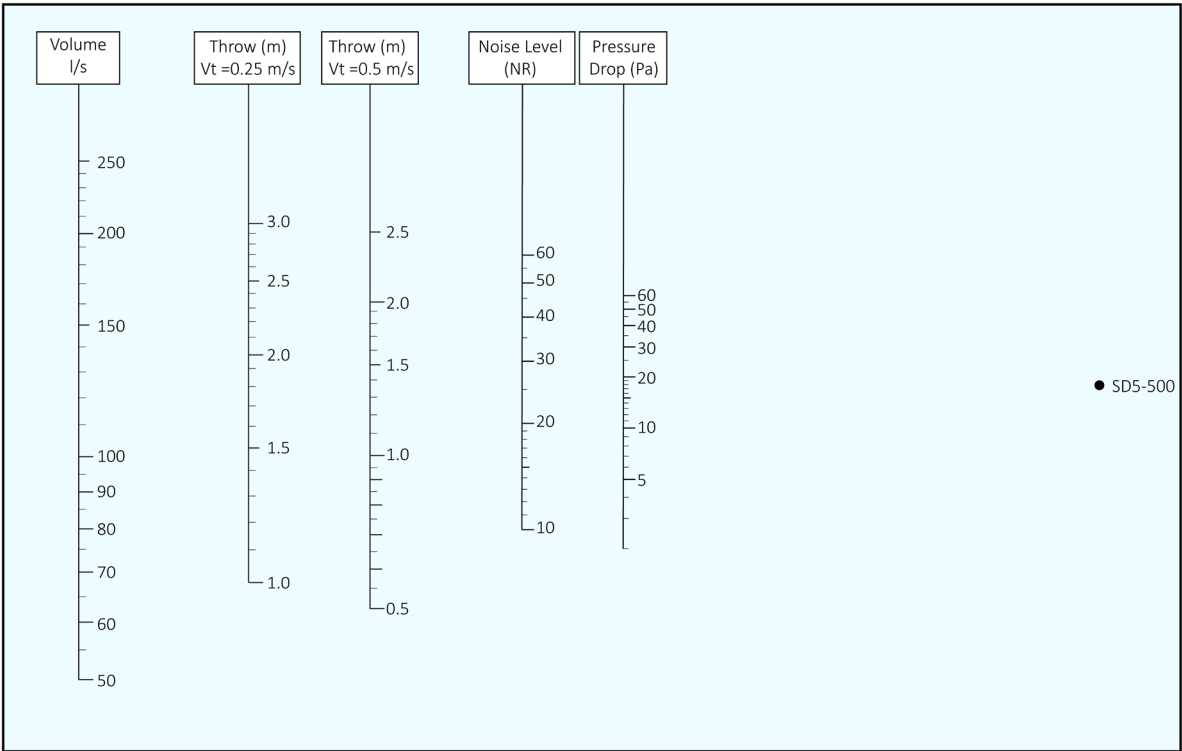


Size 400

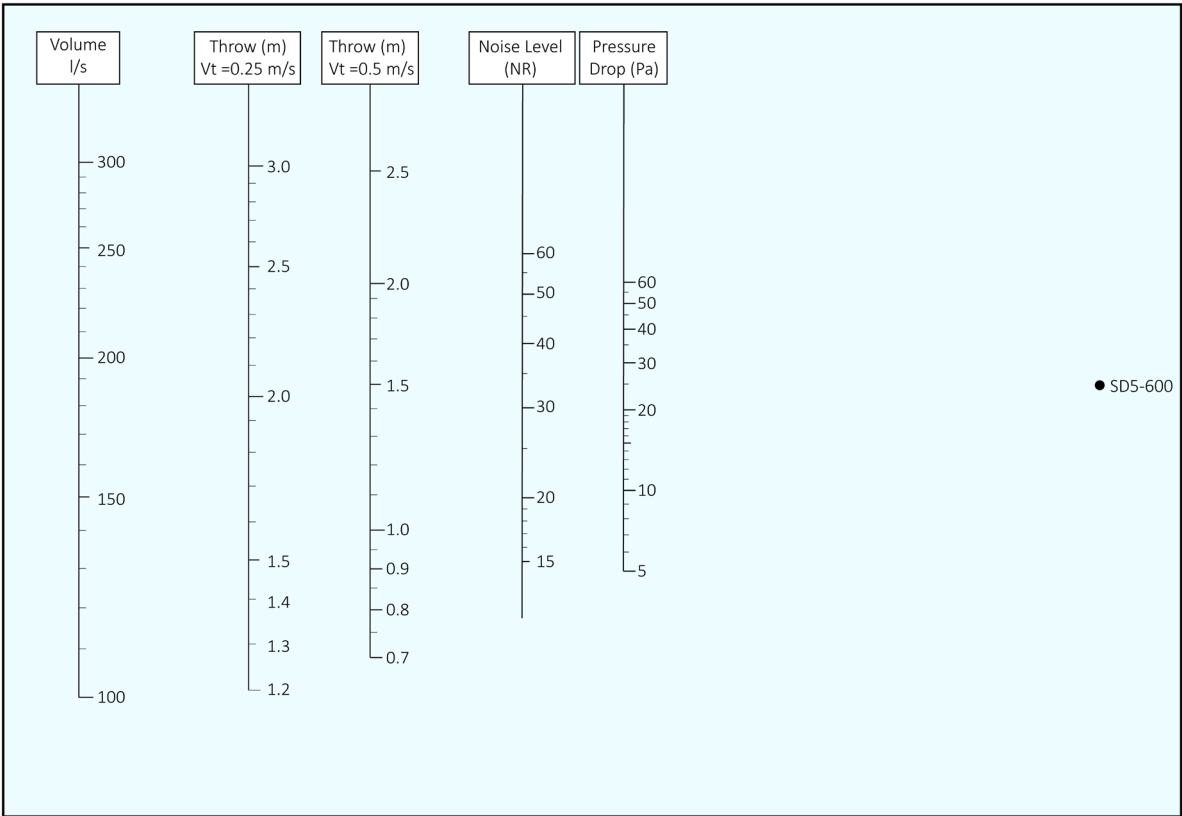


SD5

Size 500

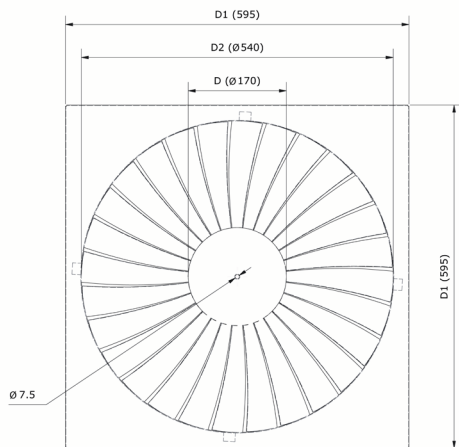


Size 600



Dimensions and Weights

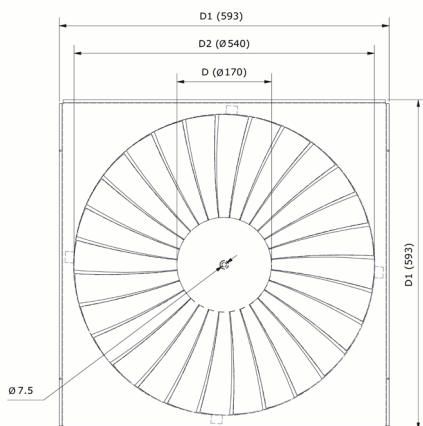
SD5/S/L



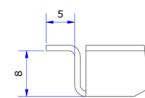
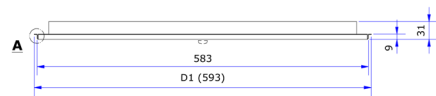
Size	D1	D2	D	Aeff M²	Weight (Kg)
300	595	254	84	0.0145	2.7
400	595	350	92	0.0301	2.8
500	595	450	150	0.0386	2.8
600	595	540	170	0.058	2.9



SD5/S/T8-15

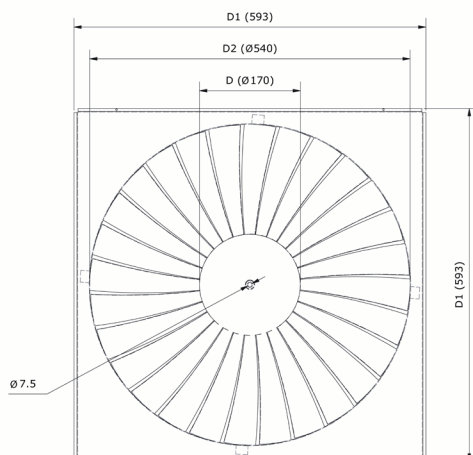


Size	D1	D2	D	Aeff M²	Weight (Kg)
300	593	254	84	0.0145	2.7
400	593	350	92	0.0301	2.8
500	593	450	150	0.0386	2.8
600	593	540	170	0.058	2.9

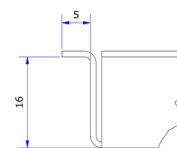


DETAIL A
SCALE: 2 : 1

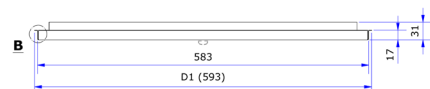
SD5/S/T16-15



Size	D1	D2	D	Aeff M²	Weight (Kg)
300	593	254	84	0.0145	2.7
400	593	350	92	0.0301	2.8
500	593	450	150	0.0386	2.8
600	593	540	170	0.058	2.9

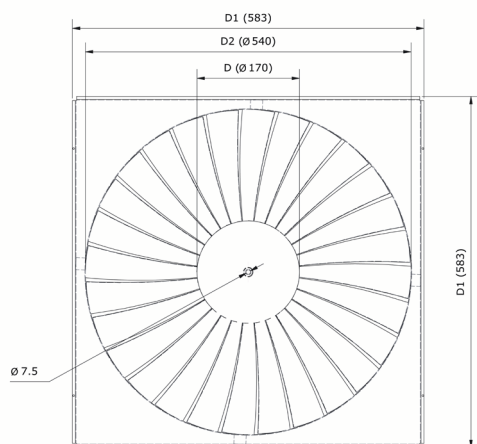


DETAIL B
SCALE: 2 : 1

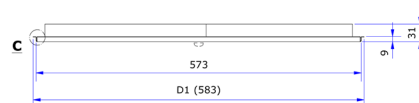
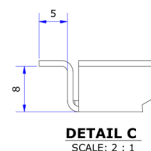


Dimensions and Weights

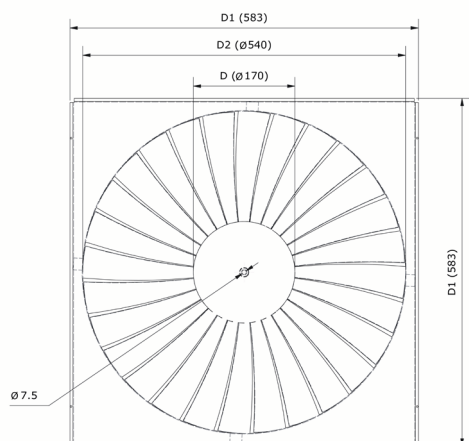
SD5/S/T8-24



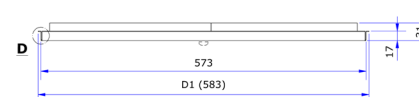
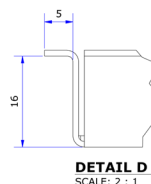
Size	D1	D2	D	Aeff M²	Weight (Kg)
300	583	254	84	0.0145	2.7
400	583	350	92	0.0301	2.8
500	583	450	150	0.0386	2.8
600	583	540	170	0.058	2.9



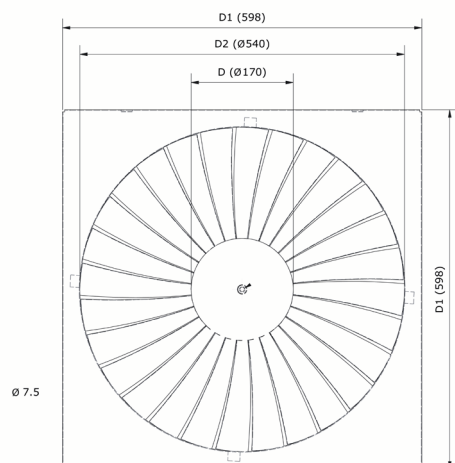
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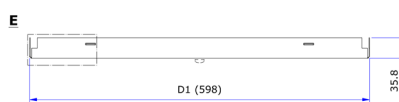
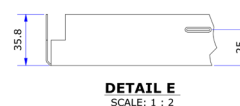
Size	D1	D2	D	Aeff M²	Weight (Kg)
300	583	254	84	0.0145	2.7
400	583	350	92	0.0301	2.8
500	583	450	150	0.0386	2.8
600	583	540	170	0.058	2.9



SD5/S/C120

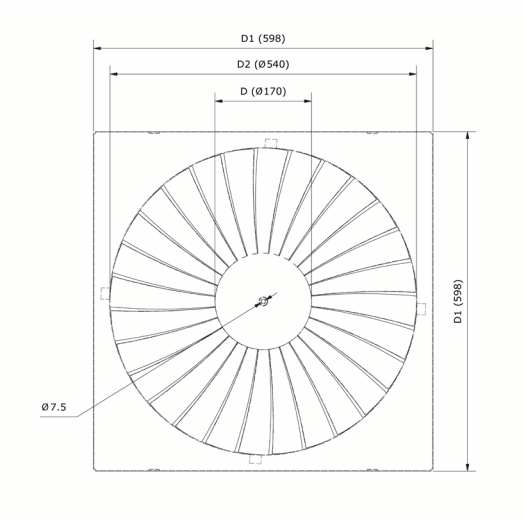


Size	D1	D2	D	Aeff M²	Weight (Kg)
300	598	254	84	0.0145	3.2
400	598	350	92	0.0301	3.3
500	598	450	150	0.0386	3.3
600	598	540	170	0.058	3.4

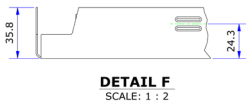


Dimensions and Weights

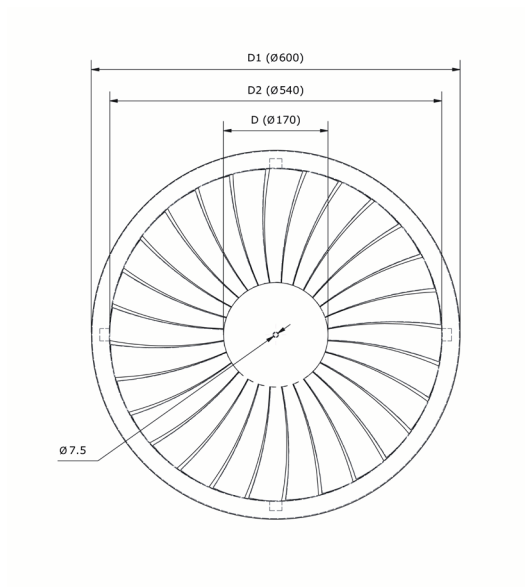
SD5/S/C150



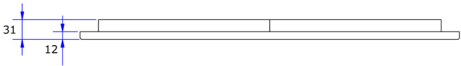
Size	D1	D2	D	Aeff M²	Weight (Kg)
300	598	254	84	0.0145	3.2
400	598	350	92	0.0301	3.3
500	598	450	150	0.0386	3.3
600	598	540	170	0.058	3.4



SD5/C



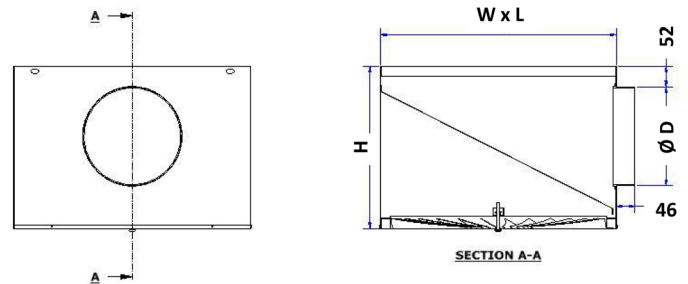
Size	D1	D2	D	Aeff M²	Weight (Kg)
300	300	254	84	0.0145	0.6
400	400	350	92	0.0301	1.1
500	500	450	150	0.0386	1.7
600	600	540	170	0.058	2.4



Dimensions and Weights

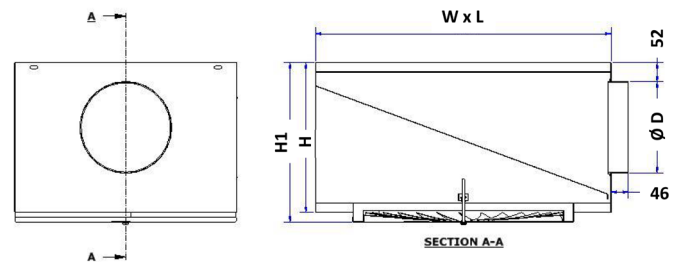
SD5 S + SDVPS

Size	H	W x L	D
SD5/S/300	290	290 x 290	160
SD5/S/400	330	390 x 390	200
SD5/S/500	330	490 x 490	200
SD5/S/600	330/380	590 x 590	200/250



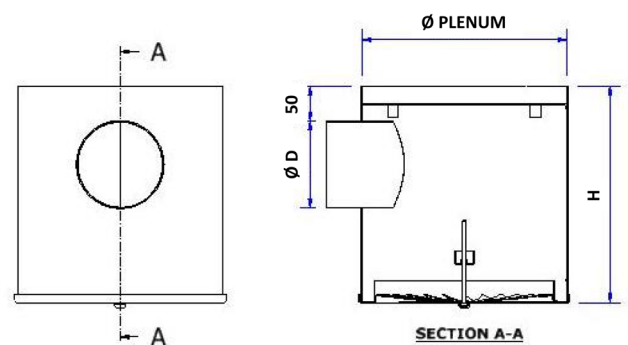
SD5 C + SDVPC

Size	H1	H	W x L	D
SD5/C/300	H+25	290	390 x 390	160
SD5/C/400	H+25	330	490 x 490	200
SD5/C/500	H+25	330	590 x 590	200
SD5/C/600	H+25	330/380	690 x 690	200/250



SD5 C + CPB

Size	Ø Plenum	H	Ø D
SD5/C/300	290	305	125
SD5/C/400	390	340	160
SD5/C/500	490	380	200
SD5/C/600	590	430	250



Order Key

Composite Reference: SD5/S/L/500/9010

Diffuser Order Key

Order example:

SD5

1

S

2

L

3

500

4

9010

Diffuser Type:

C	Circular
S	Square

Ceiling type (only applies to square type):

L	Lay-in style/surface mounted
T8-15	8mm Tegular style ceiling grid (15mm grid)
T8-24	8mm Tegular style ceiling grid (24mm grid)
T16-15	16mm Tegular style ceiling grid (15mm grid)
T16-24	16mm Tegular style ceiling grid (24mm grid)
C120	120 Clip in (spring tee) style ceiling grid
C150	150 Clip in (spring tee) style ceiling grid

Size:

300	300
400	400
500	500
600	600

Finish:

9010	White RAL 9010 Matt (20%) finish
9005	Black RAL 9005 Matt (30%) finish
9006	Silver RAL 9006 Matt (40%) finish
9016	White RAL 9016 Matt (20%) finish
9003	White RAL 9003 Matt (40%) finish
SPC	Other colours available to special order

Specification Text

- Fixed blade ceiling swirl diffuser for supply or extract air
- Aerodynamic curved blade pattern
- High induction resulting in a rapid reduction of temperature differential and airflow velocity
- Nominal Sizes 300, 400, 500, 600
- Ready to install
- For installation in suspended ceilings using SDVSP square plenum box
- For installation in to plasterboard ceilings using SDVCP square plenum box
- For installation in exposed services application CPB circular plenum box
- Aerodynamic testing carried out in general accordance to BS EN 12238:2001 (Ventilation for buildings - Air terminal devices - Aerodynamic testing and rating for mixed flow applications).
- Acoustic testing carried out in general accordance to BS EN ISO 5135:1999 acoustics. Determination of sound power levels of noise from air-terminal devices, air-terminal units, dampers and valves by measurement in a reverberation room.
- Polyester powder coated to RAL9010 – Matt (20%) finish to all external surfaces.