

Swirl Diffusers & Adaptors

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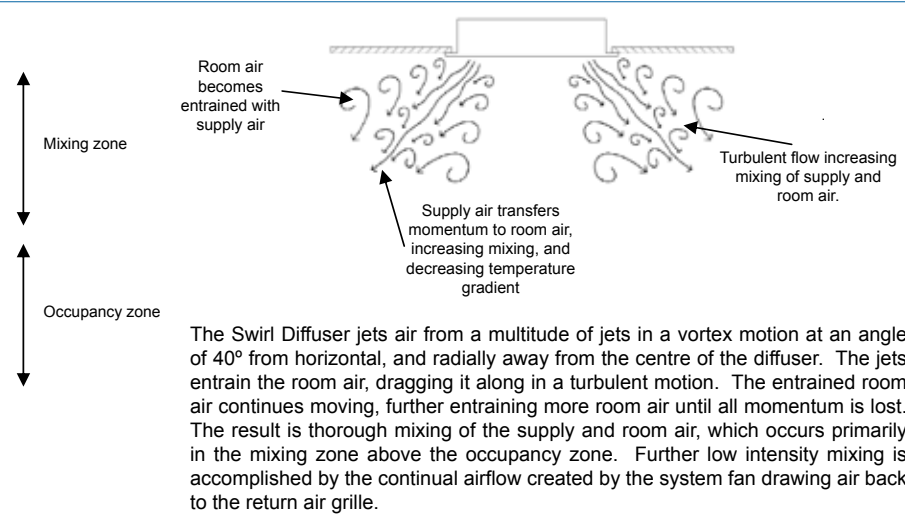
Code	Alt. Code	Size (mm) (Diameter)
SD200	Swirl Diffuser - white plastic	200
SDA200	Adaptor for Swirl Diffuser	200
SD250	Swirl Diffuser - white plastic	250
SDA250	Adaptor for Swirl Diffuser	250
SD300	Swirl Diffuser - white plastic	300
SDA300	Adaptor for Swirl Diffuser	300



Swirl Diffuser



Swirl Diffuser with Adaptor



Smoke test

The high induction Swirl diffuser creates high entrainment of room air above the occupancy zone, thereby strongly diluting the supply air with room air. Unlike traditional cone-type ceiling diffusers that produce a steady stream of air that flows radially hugging the ceiling, the Swirl Diffuser produces a number of rotation jets at a downward angle away from the ceiling.

With traditional ceiling diffusers, the slow moving air can suddenly break away from the ceiling, leading to cold air dumping and localised stagnation of air. The effective mixing of the Swirl Diffuser leads to lower air velocity in the occupancy zone with minimal draughts, uniform temperature through the living space, and high effective air changes.

The Swirl vane design has been configured to provide a lower static pressure than typical swirl designs used in commercial installations, in order to improve compatibility and design familiarity with traditional cone-type diffusers and multi-directional outlets that are commonly used in the residential market. Swirl diffusers operate at a slightly higher static pressure to cone type diffusers because of the need to force the airflow through the vanes. The different pressure characteristics of the swirl diffusers means that installation should avoid mixing diffuser types.

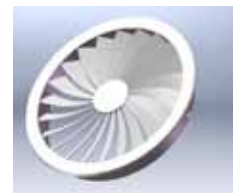
The stable discharge characteristics of the diffuser over a range of supply air temperatures and velocities means that the diffuser is suitable for cooling and heating at ceiling heights of 2.4m to 4m. The Swirl diffuser has been optimised for cooling and reverse cycle heating in which the supply air is +/- 20° of room temperature and the supply fan runs continuously.

The Swirl has been designed to maximise the most important aspect of the diffuser - the airflow - and reduce the space requirements of the installation and mounting mechanisms, which can contribute to an obtrusive appearance in other outlets. The result is a small, low profile design with an elegant appearance that harmonises with downlights, recessed light fittings and other ceiling fittings.

The Swirl is available in three sizes: 200, 250 and 300mm. Ceiling White is stocked colour, however, Satin Chrome plated and Satin Gold plated are also available (POA, approximately 3 weeks lead time). The adaptor has optional butterfly dampers for system balancing (POA, approximately 3 weeks lead time). The outlet face can be easily removed from the fixed adaptor by hand for cleaning, or to enable the ceiling to be painted, ensuring a neat painted finish around the outlet.



200 mm Swirl



250 mm Swirl



300 mm Swirl

See also Price Catalogue p31

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

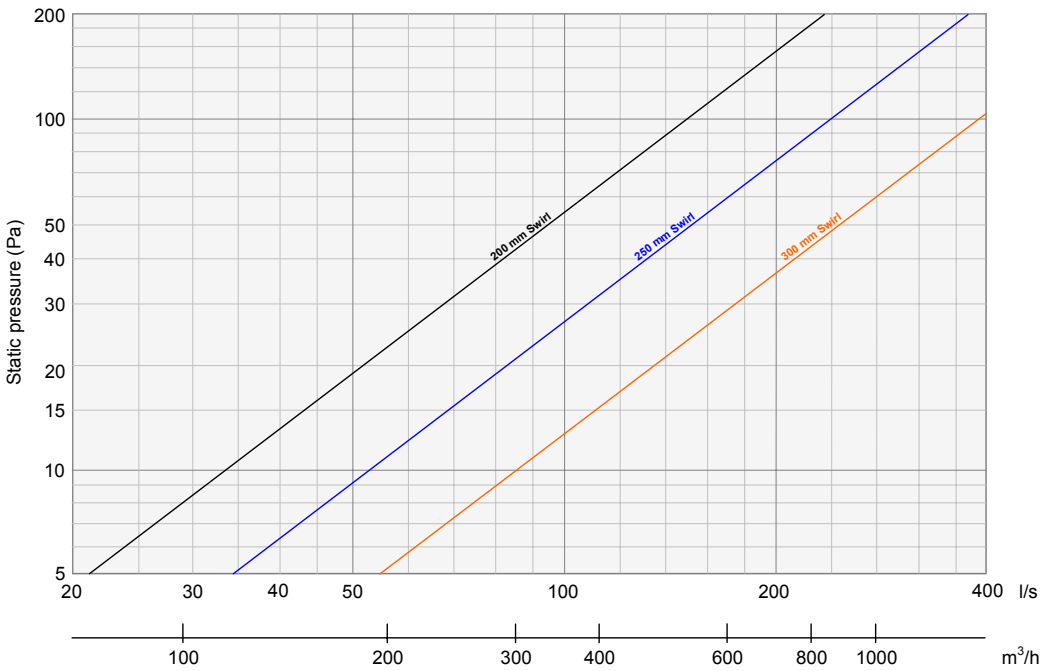
Smooth-Air	0800 SMOOTH (0800 766 684)	www.smooth-air.co.nz	sales@smooth-air.co.nz
Christchurch:	264 Annex Rd, PO Box 8358, Riccarton	Ph +64 3 343 6184	Fax +64 3 343 6004
Wellington:	10a Te Puni St, Petone (PO Box 8358, Chch)	Ph +64 4 566 7969	Fax +64 4 566 3143
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Swirl Diffusers & Adaptors (continued)

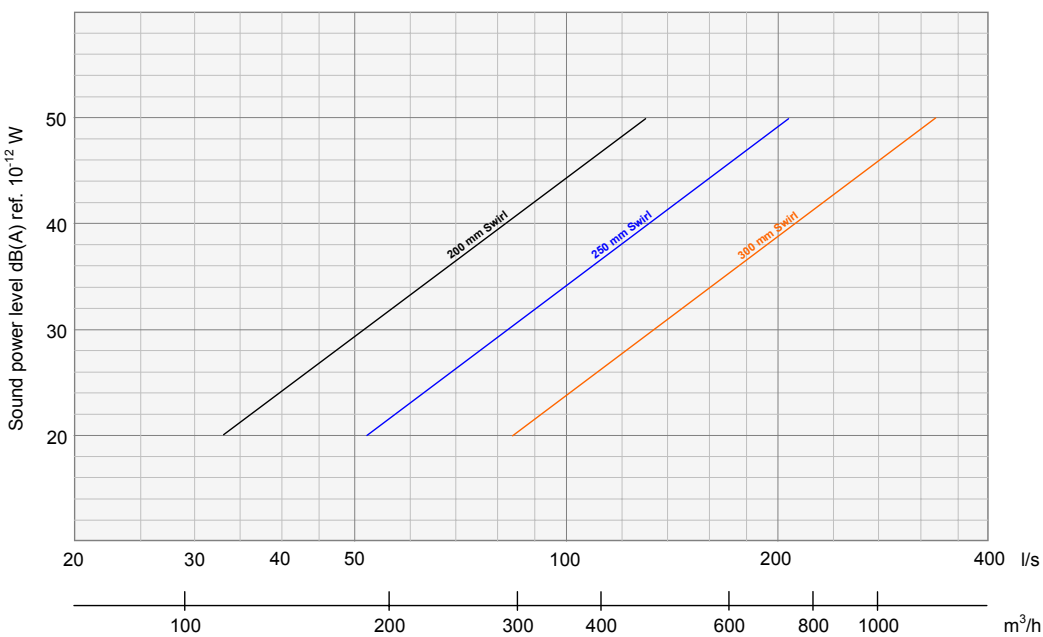
Swirl Flow Data			
Dia.	Volumetric flow rate $V_{max}@100Pa$		Discharge height m
	L/s	m ³ /h	
200	150	540	2.2-6.0
250	240	864	2.2-6.0
300	380	1368	2.2-6.0

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Swirl Pressure Data



Swirl Accoustic Data



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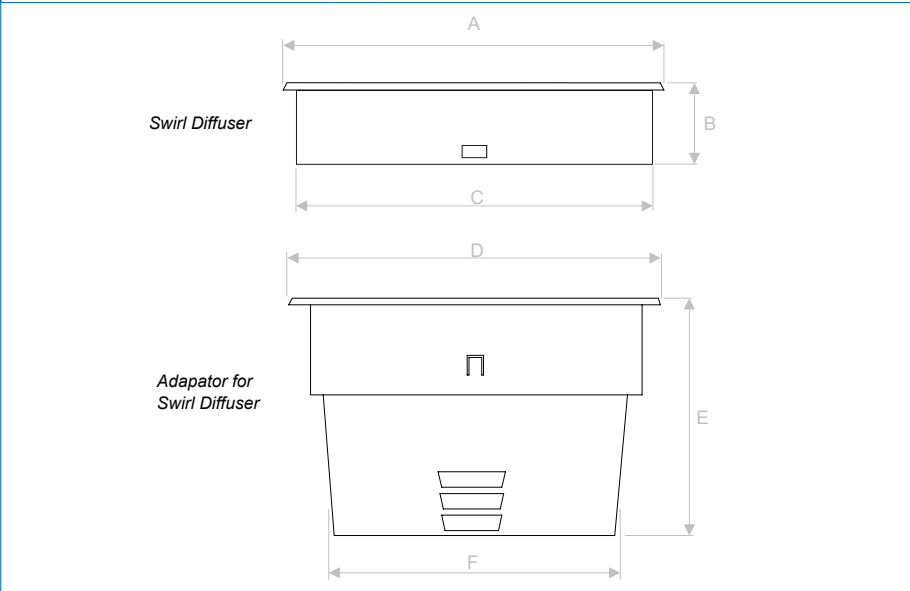
Construction

The Diffuser faces are constructed of ABS polymers, and are suitable for heated air up to 80°C and cooled air down to 0°C. All sizes except for 100mm can be supplied with butterfly dampers (POA, 3 weeks lead time) installed in the adaptor for balancing. The 100mm has an optional shut-off face, which can be inserted by the householder / occupier in place of any of the standard faces to shut off a room or area. The Swirl is available in three sizes: 200, 250 and 300mm.



Dimensional Data

		200mm (8")	250mm (10")	300mm (12")
Diffuser overall diameter	A	240	329	379
Diffuser height	B	49	49	49
Diffuser collar outer diameter	C	204	283	333
Adaptor overall diameter	D	265	324	374
Adaptor height	E	155	167	192
Adaptor mid-taper collar diameter	F	203	254	305
Hole size		222	300	350



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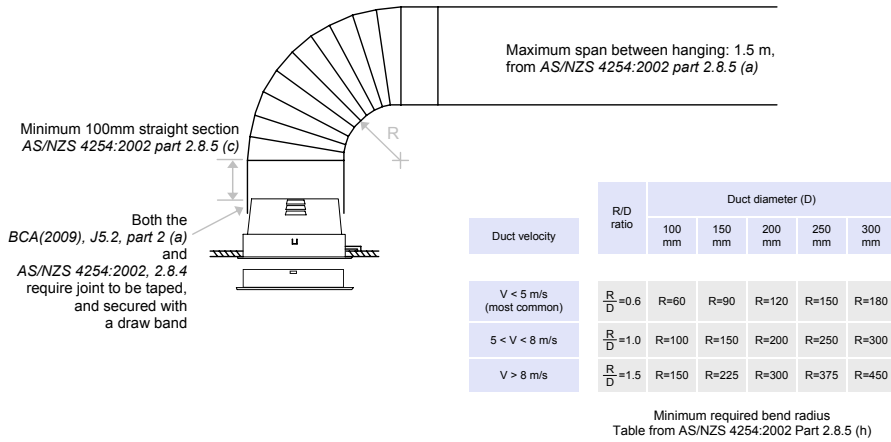
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Swirl Diffusers & Adaptors (continued)

Mounting and Cleaning Instructions



Installation

1. Mark and cut hole - holesaws are available for some sizes.
2. Pull duct through hole from above.
3. Attach duct to adaptor to AS/NZS 4254 part 2.8.4, using adhesive tape and draw band
4. Pull mounting clips inwards towards centre of adaptor.
5. Push adaptor and duct up through hole in plaster board.
6. With one hand on the adaptor and pushing adaptor against plaster board:
 - a) Move mounting clip upward.
 - b) Push mounting clip about half-way in.
 - c) Bring mounting clip down towards top of plaster board.
 - d) When the clip reaches the plaster board, push the clip inwards firmly.
 - e) Repeat for all clips.
7. Put diffuser against adaptor and rotate until mounting slots correspond to grooves in adaptor.
8. Push diffuser into adaptor firmly until it clicks.

The **elevant** adaptor is designed for use with plaster or panel board from 5 to 20 mm thickness. For panels up to 30 mm, the top of the mounting clips can be cut off to increase the available panel thickness.

Removal of adaptor

1. Remove diffuser from adaptor by placing two fingers into the diffuser and pulling firmly.
2. Using a narrow flat blade screwdriver, gently lever mounting clip inwards.
3. Repeat for all clips.

Painting and fit-off

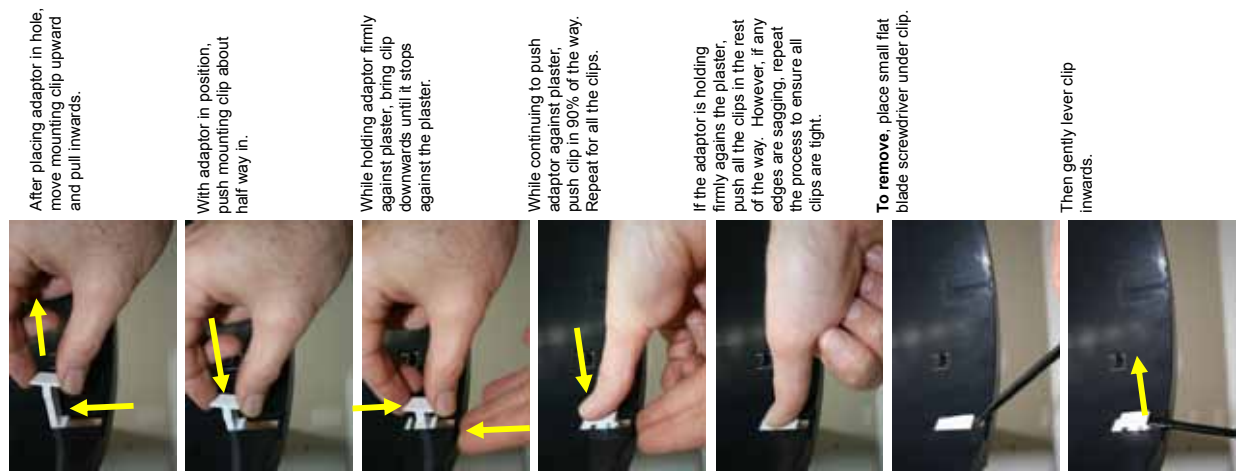
The ceiling can be painted with the adaptor installed, and the diffuser pushed in afterwards. Each size of the **elevant** shares the same adaptor, so the diffuser style or colour can be changed after installation.

Cleaning

The diffuser can be removed by placing two fingers into the diffuser and pulling down. The diffuser can be cleaned with warm water and non-abrasive cleaning cloths and solutions. Extra care should be given to Satin Chrome and Satin Gold colours to avoid scratching the surface.

See also Price Catalogue p31

Mounting Clip Instructions



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