

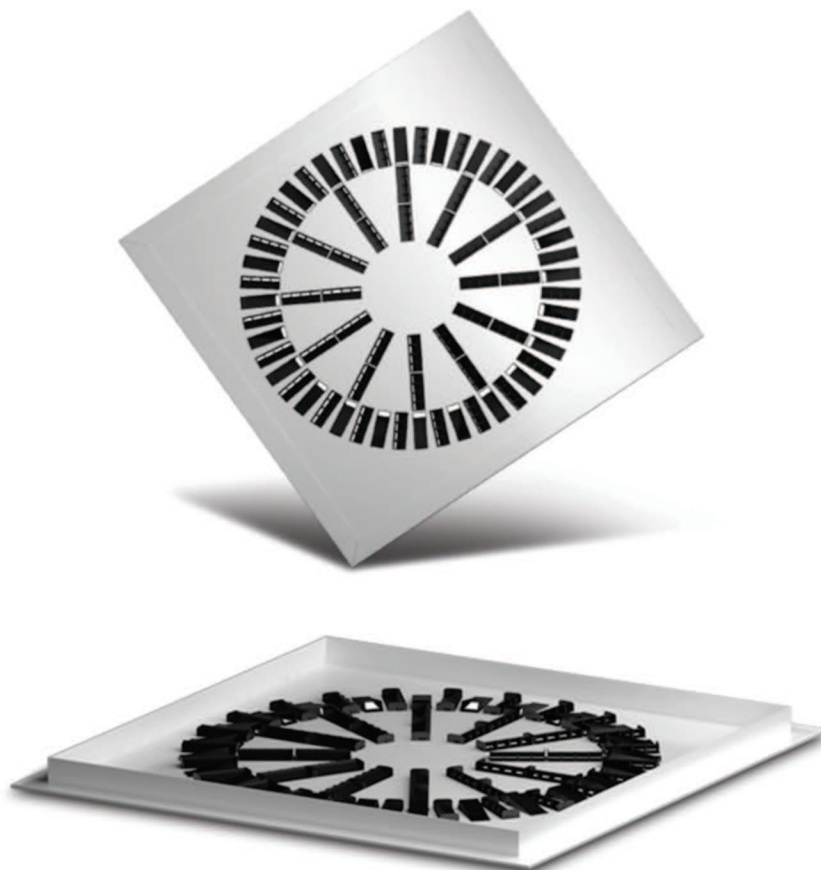


ADJUSTABLE RADIAL



Out standing technique for highest demands Unique in comfort, acousrics and design

Construction



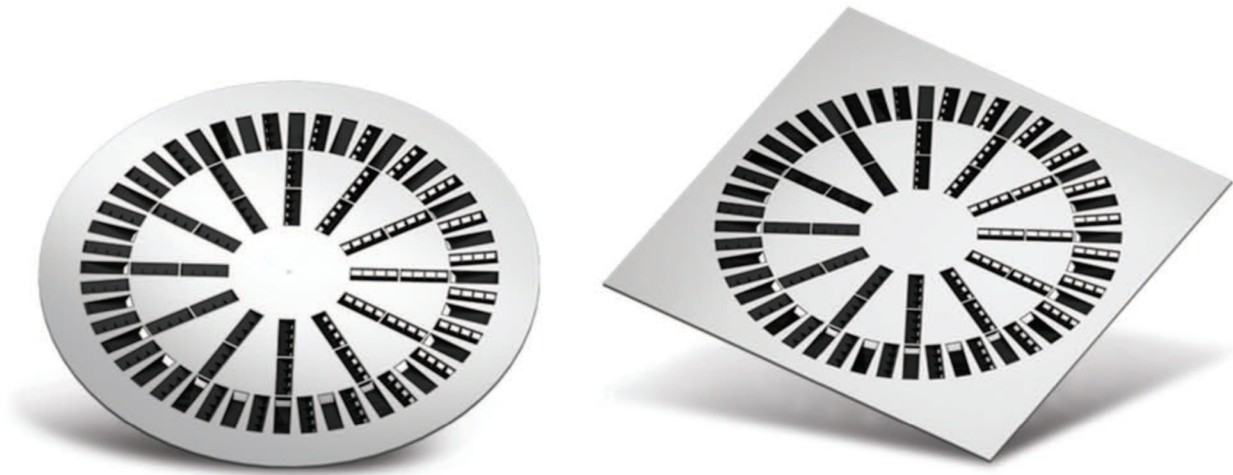
Frame

High quality extruded aluminum profiles with 30 mm flange width as standard and nonstandard widths are optional.

Swirl face

1.2 mm or 1.5 mm thick aluminum sheet.

Description

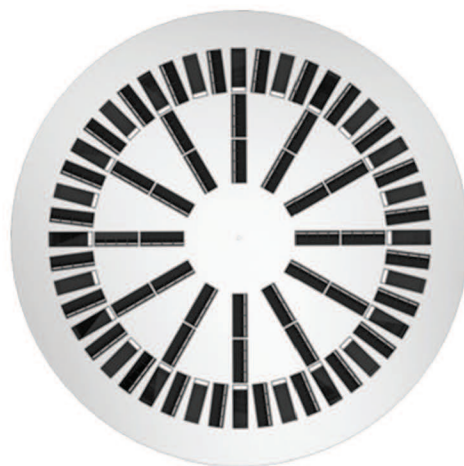
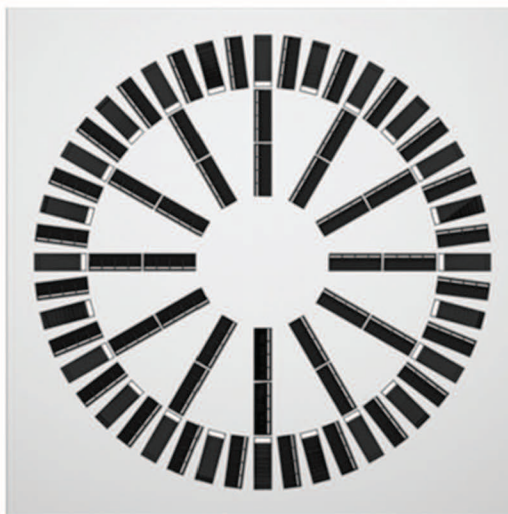


- The frame and blades are made from high quality extruded aluminum profiled construction with Powder coated color finish.
- Supply swirl diffuser and return swirl diffuser can be supplied with volume damper to control static pressure and the air volume flow rate: installed in plenum box.
- Square steel swirl diffuser with adjustable radial air pattern is used for the supply of cooled or heated air.
- In facilities such as offices, shopping centers, schools, diffusers for ceiling or exposed duct mounting.
- The square diffuser offered. complete with a plenum box with side - or top connection.
- This diffuser can also be used for exhaust.
- The diffuser is equipped with adjustable PVC defectors creating the possibility to obtain an external or internal swirl.
- A high induction is obtained by the exceptional swirl discharge which makes them extremely suitable for VAV terminal boxes.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- Powder coated color finish per RAL color codes as standard and flexibility of finish.

Variants

SWAP - Q

Square diffuser face



SWAP - R

Circular diffuser face

Connection

H:

Horizontal Duct Connection



V:

Vertical duct connection



Parts & Characteristics

- Circular or square diffuser face.
- Diffuser Faces with radially arranged fixed air control blades.
- Simple installation of the diffuser face due to central fixing screw with decorative cap.
- Damper blade for volume flow rate balancing (optional).

Attachments

- Damper blade for volume flow rate balancing.
- Pressure tap and cord - operated damper blade for volume flow rate balancing with the diffuser face in place.

Accessories

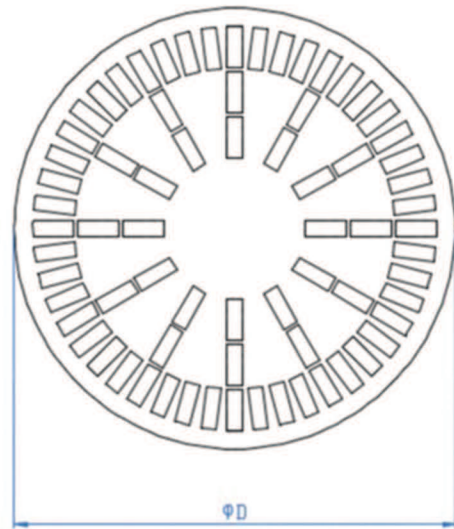
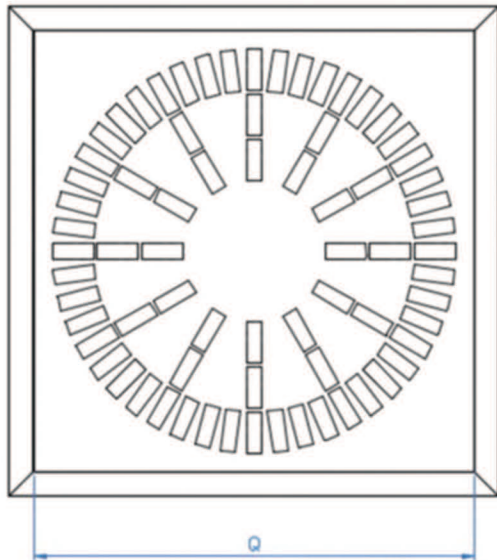
- Lip seal.

Materials & surfaces

- Diffuser face made of galvanized sheet steel.
- Plenum box and cross bar made of galvanized sheet steel.
- Plenum box made of plastic and galvanized sheet steel.
- Lip seal made of rubber.
- Diffuser face powder - coated RAL 9010, pure white or other color code.

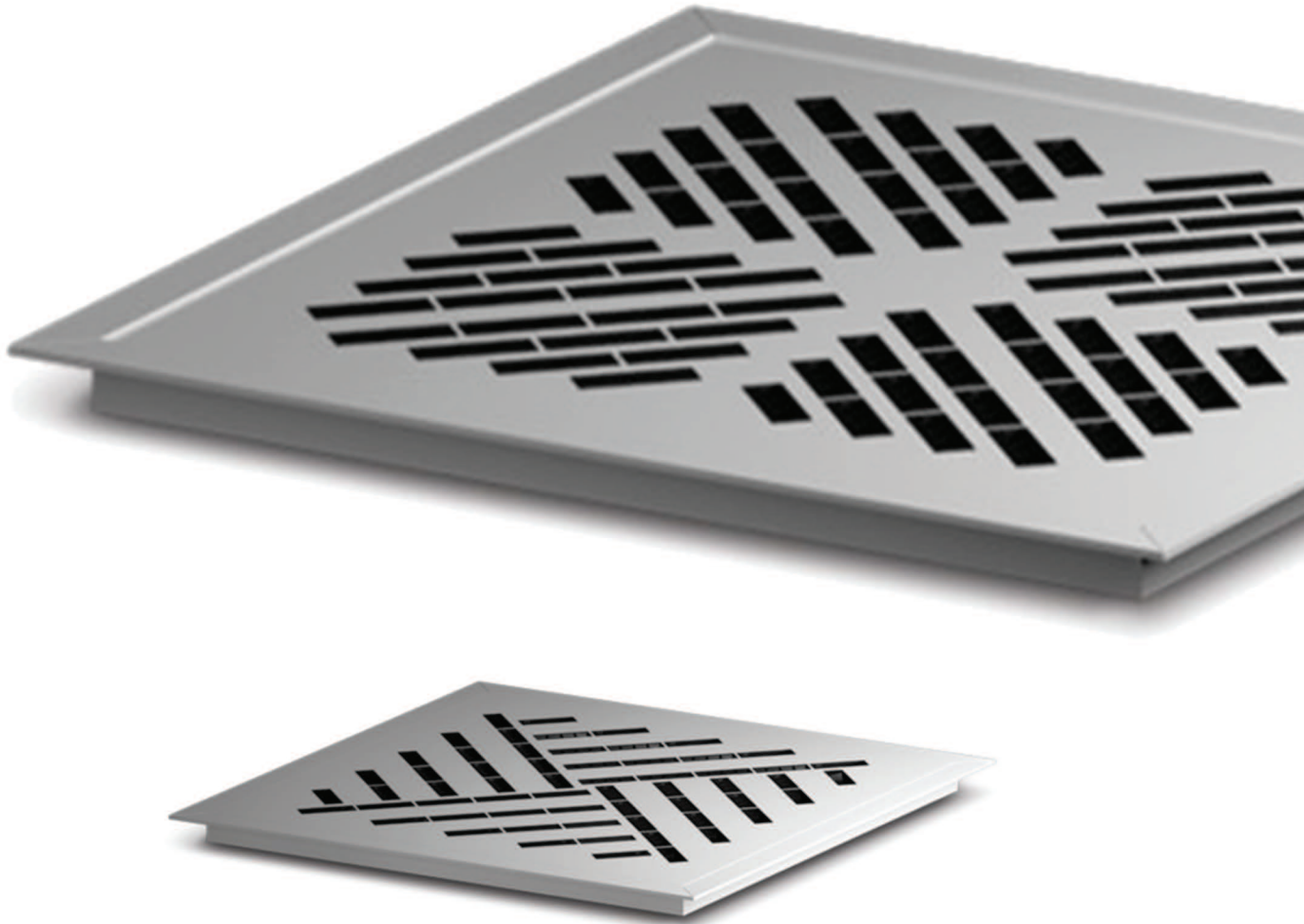
ADJUSTABLE RADIAL (SWAP)

Dimension



Normal Size	ΦQ	ΦD
	mm	mm
400	398	400
600	598	600

Construction



Frame

Made from high quality extruded aluminum profile with 30 mm flange width.

Face

A radial array of deflection blades are pressed into a square panel.

Description



- The frame and blades are made from high quality extruded aluminum profiled construction with powder coated color finish.
- Supply swirl diffuser and return swirl diffuser can be supplied with volume damper to control static pressure and the air volume flow rate: installed in plenum box.
- In facilities such as offices, shopping centers, schools, diffusers for ceiling or exposed duct mounting.
- The square diffuser offered, complete with a plenum box with side - or top connection.
- The diffuser is equipped with adjustable PVC deflectors creating the possibility to obtain an external or internal swirl.
- A high induction is obtained by the exceptional swirl discharge, which makes them extremely suitable for VAV terminal boxes.
- Foam gasket is sealed around the back of the frames as option to avoid air leakage.
- Powder coated color finish per RAL color codes as standard and Flexibility of finish.

Connection

H:

Horizontal duct connection



V:

Vertical duct connection



ADJUSTABLE RADIAL (SWAO)

Parts & Characteristics

- Circular or square diffuser face.
- Diffuser Faces with radially arranged fixed air control blades.
- Simple installation of the diffuser face due to central fixing screw with decorative cap.
- Damper blade for volume flow rate balancing (optional).

Attachments

- Damper blade for volume flow rate balancing.
- Pressure tap and cord - operated damper blade for volume flow rate balancing with the diffuser face in place.

Accessories

- Lip seal.

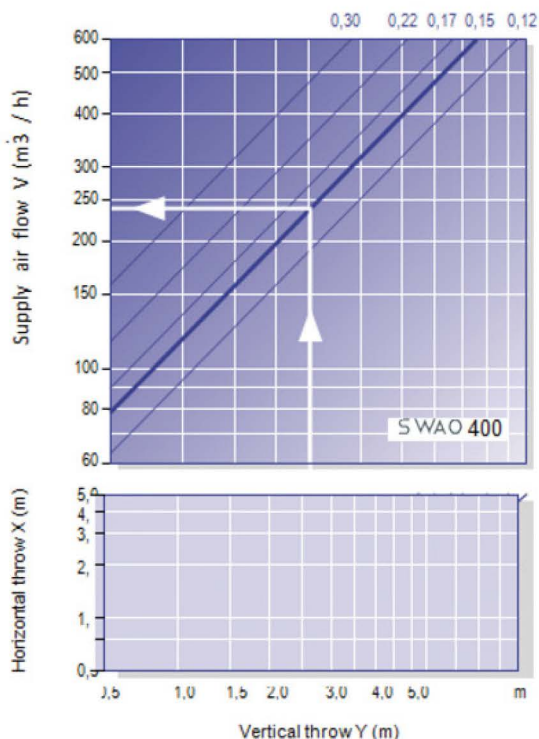
Materials & surfaces

- Diffuser face made of galvanized sheet steel.
- Plenum box and cross bar made of galvanized sheet steel.
- Plenum box made of plastic and galvanized sheet steel.
- Lip seal made of rubber.
- Diffuser face powder - coated RAL 9010, pure white or other color code.

Selection

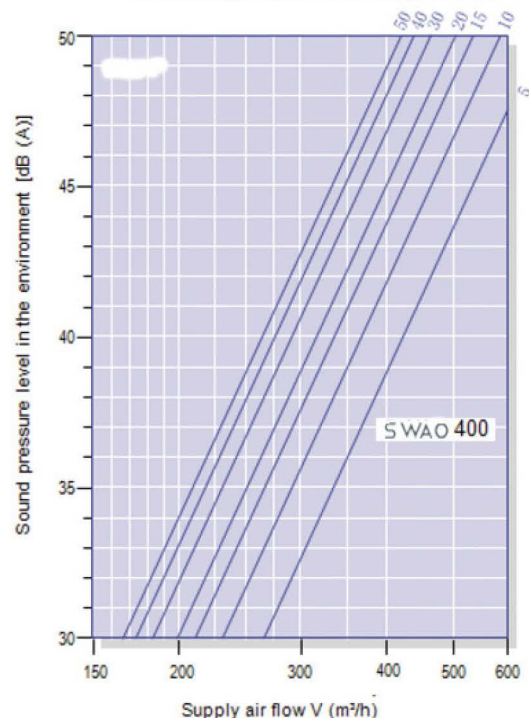
SWAO 400

Average terminal air velocity in the environment V (m/s)



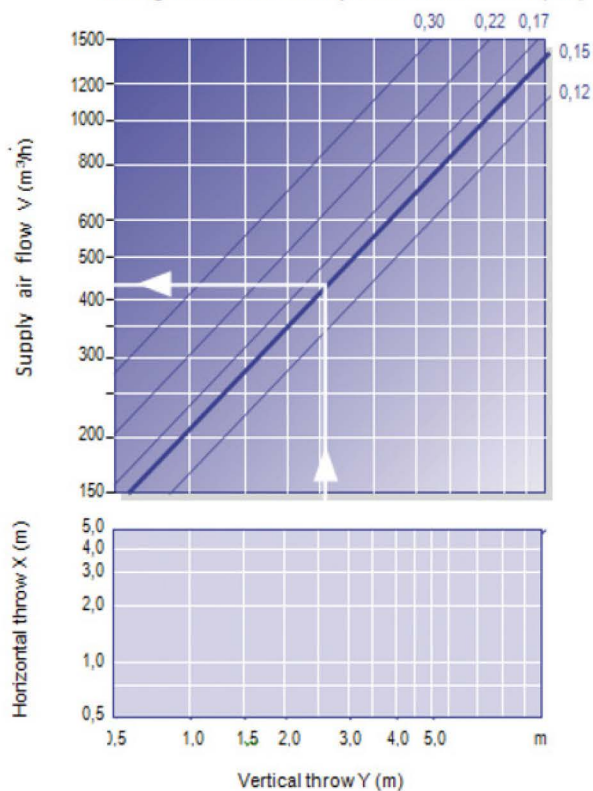
SWAO 400

Air exchange in the environment (m³/hm²)



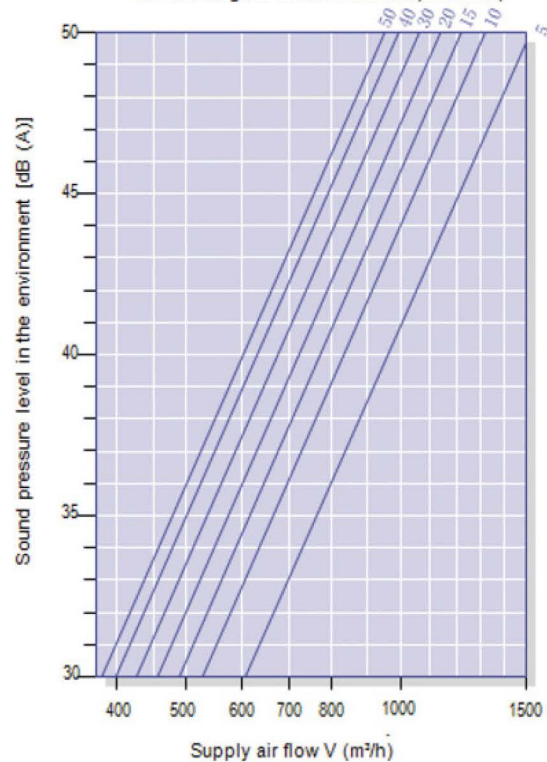
SWAO 600/625

Average terminal air velocity in the environment V (m/s)

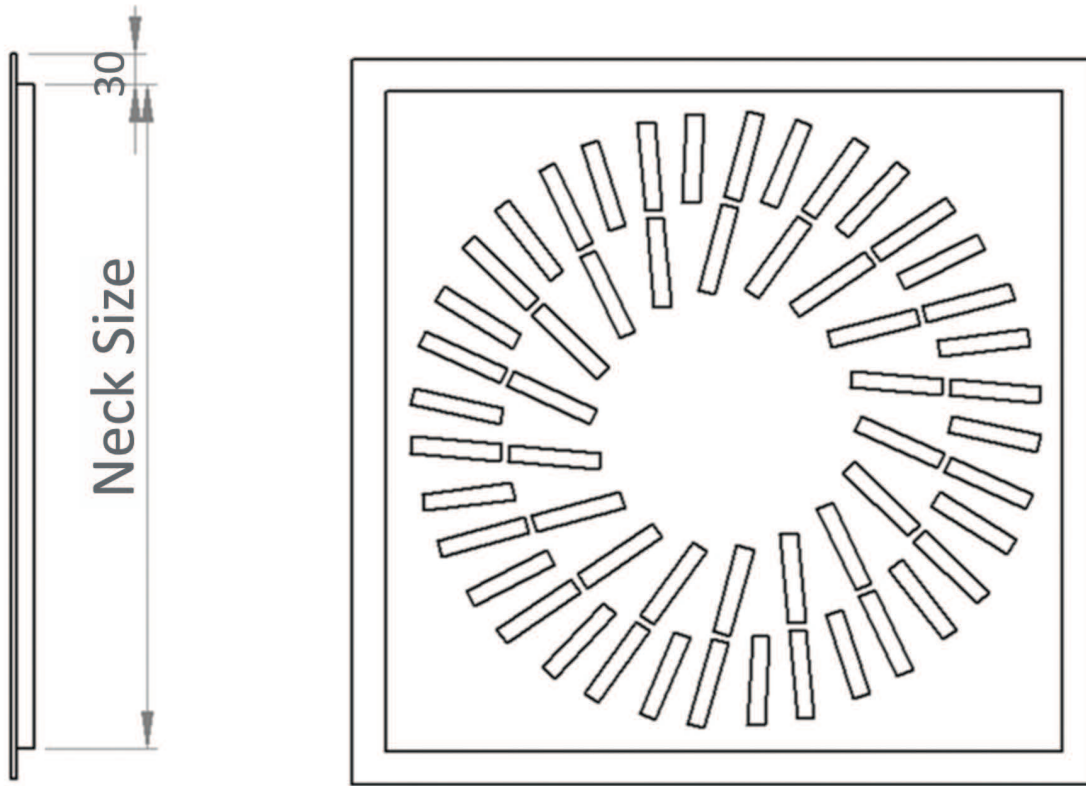


SWAO 600/625

Air exchange in the environment (m³/hm²)



Construction



Frame

Made from high quality extruded aluminum profile with 30 mm flange width.

Face

A radial array of deflection blades are pressed into a square panel.

Description



- The frame and blades are made from high quality extruded aluminum profiled construction with Powder coated color finish.
- Supply swirl diffuser and return swirl diffuser can be supplied with volume damper to control static pressure and the air volume flow rate; installed in plenum box.
- Square steel swirl diffuser with adjustable radial air pattern is used for the supply of cooled or heated air.
- In facilities such as offices, shopping centers, schools. Diffusers for ceiling or exposed duct mounting.
- The square diffuser offered, complete with a plenum box with side or top connection.
- The diffuser is equipped with adjustable PVC deflectors creating the possibility to obtain an external or internal swirl.
- A high induction is obtained by the exceptional swirl discharge. Which makes them extremely suitable for VAV terminal boxes.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- Powder coated color finish per RAL color codes as standard and flexibility of finish.



Special Characteristics

- Black or white air control blades.
- Air control blades can be adjusted individually manually for adjusting the air pattern.
- For all types of ceiling systems, and with an extended border also suitable for freely suspended installation.
- Air change rates of up to 35 per hour can be achieved by arranging several diffusers in a row with a minimum pitch of 0.9 m (center line to center line).

Variants

- SWA -Q: Square diffuser face.
- SWA -R: Circular diffuser face.

Connection

- H: Horizontal duct connection.
- V: Vertical duct connection.

Parts & characteristics

- Circular or square diffuser face.
- Simple installation of the diffuser face due to central fixing screw with decorative cap.
- Diffuser faces with individually manually adjustable air control blades.
- Damper blade for volume flow rate balancing (optional).

Attachment

- Damper blade for volume flow rate balancing.
- Pressure tap and cord-operated damper blade for volume flow rate balancing with the diffuser face in place.

Accessories

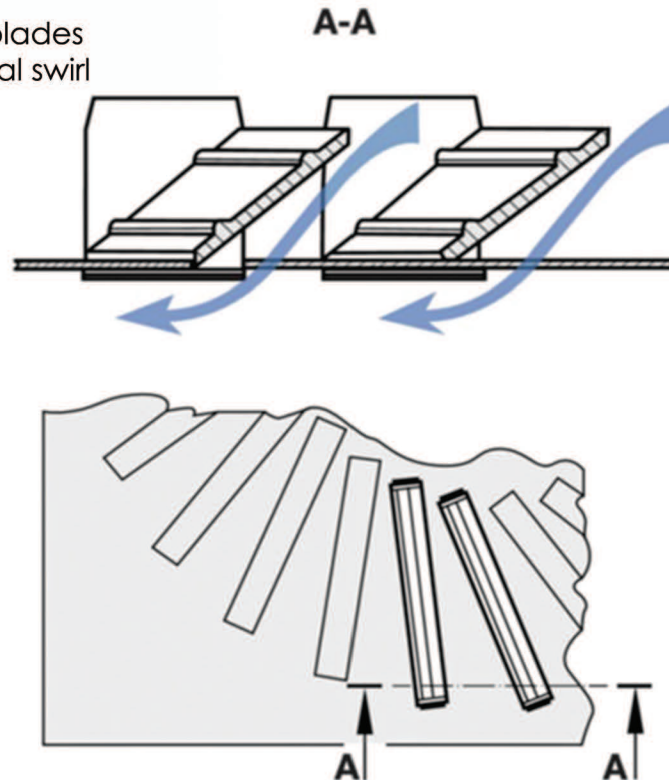
- Lip seal.

Materials and surfaces

- Diffuser face made of galvanized sheet steel.
- Plenum box and cross bar made of galvanized sheet steel.
- Plenum box made of plastic and galvanized sheet steel.
- Air control blades made of plastic, UL 94, V—0, flame retardant.
- Lip seal made of rubber.
- Exposed diffuser face powder-coated RAL 9010, pure white.
- PI: Powder-coated, RAL CLASSIC cooler.
- Air control blades for supply air similar to RAL 9005, black; extract air variant without air control blades.

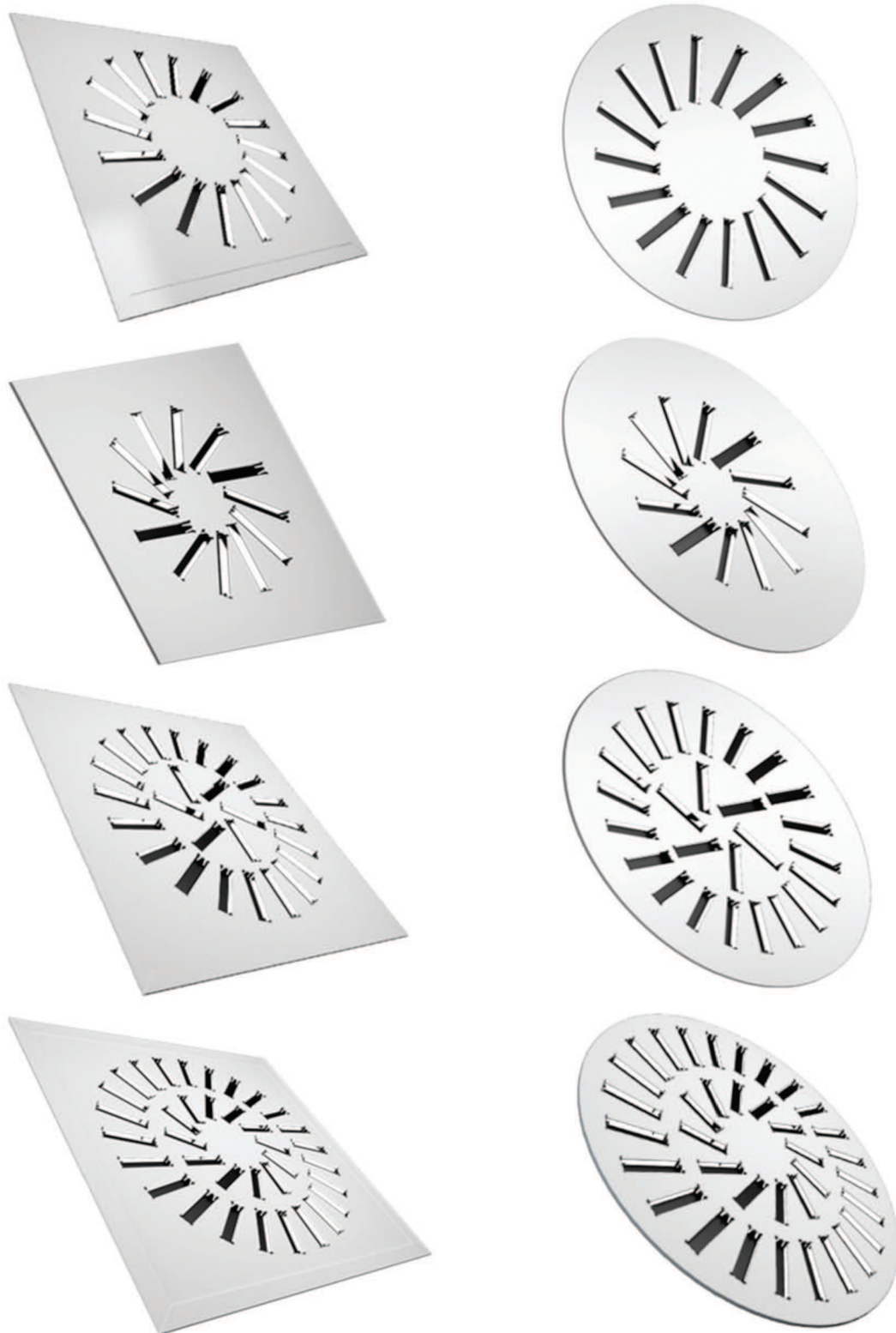
Functional Description

Air control blades
set to internal swirl



- Ceiling swirl diffuser in air conditioning system create a swirl to supply air to rooms. The resulting airflow induces high levels of room air, thereby rapidly reducing the airflow velocity and the temperature difference between supply air and room air. Ceiling swirl diffuser allow for large volume flow rates. The result is a mixed flow ventilation in comfort zones, with good overall room ventilation, creating only very little turbulence in the occupied zone.
- Type SWA ceiling swirl diffusers have adjustable air control blades. The air pattern can be adjusted to meet different local requirements. Horizontal air discharge is one – way, two – way or Omni directional. Vertical air discharge is possible but only for heating. The supply air to room air temperature difference may range from -12 to +10 K.
- A damper blade (optional) simplifies volume flow rate balancing for commissioning. Pressure tap and cord-operated damper blade (optional) allow for volume flow rate balancing with the diffuser face in place.
- To give rooms an aesthetic, uniform look, type SWA diffuser may also be used for extract air. Air control blades are not required for extract air applications.

Variants

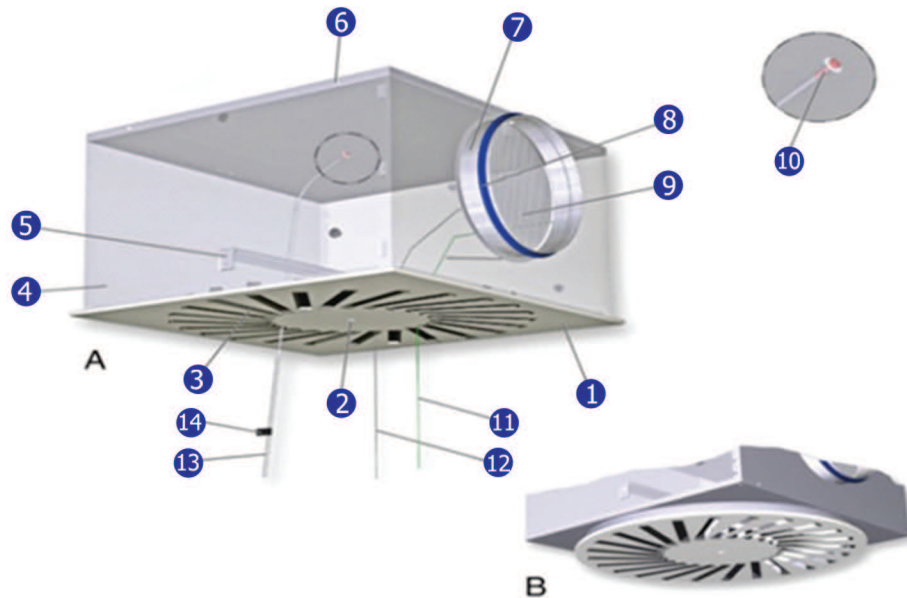


ADJUSTABLE RADIAL (SWA)

Plenum Box

A SWA-Q

B SWA-R



1- Diffuser face

2- Central fixing screw

3- Adjustable air control blades

4- Plenum box

5- Cross bar

6- Suspension hole

7- Spigot Optional

8- Lip seal

9- Damper blade for volume flow rate balancing

10- Pressure tap

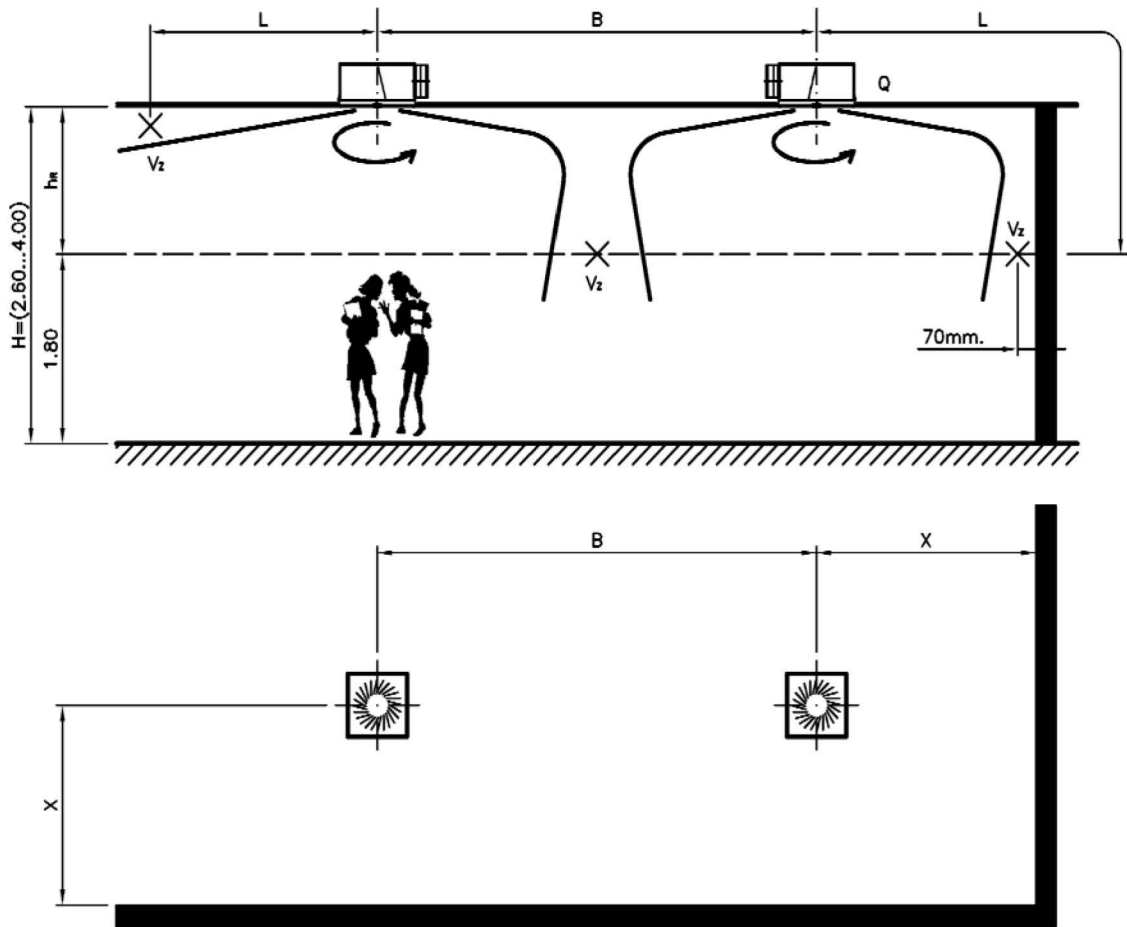
11- Green cord for closing the damper blade

12- White cord for opening the damper blade

13- Measuring tube

14- Text label indicating plenum box variant

Adjustable – Blade Swirl Diffusers



Legend

- B = Distance between diffuser axes, in m.
- X = Distance between diffuser axis and wall, in m.
- h_R = Distance between ceiling and occupied area, in m.
- L = $X + h_R$, in m.
- H = Room height, in m.
- Q = Air flow per diffuser, in m³/h and in l/s.
- V_z = Air flow velocity in occupied area, in m/s.
- ΔP_f = Pressure drop, in Pa.
- L_{WA} = Sound power, in dB(A).

Selection

AIR FLOW IN CFM	186	234	280	327	374	419	464	511	566
AIR FLOW IN M ³ / SEC	0.088	0.111	0.132	0.154	0.176	0.197	0.219	0.241	0.267
Face velocity in m ² / sec	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
p loss in mm of H ₂ O	0.410	0.640	0.922	1.26	1.64	2.05	2.46	2.96	3.57
throw in meters	1.3-2.0	1.8-2.6	2.1-3.2	2.6-3.6	2.6-4.3	3.1-4.7	3.6-5.4	4.2-6.2	5.0-6.8
NC	15	18	23	28	31	35	39	43	50

- Module size 600 × 600 mm & plenum neck size 250 dia.
- Neck velocity is measured in m/sec.
- Ps: static pressure loss across the diffuser in mm of H₂O.
- Throw (meters) is measured for a terminal velocities of 0.75 & 0.5 ,0.25 m/sec.
- Noise criteria (NC) based on a room attenuation of 10 db.

How To Order

