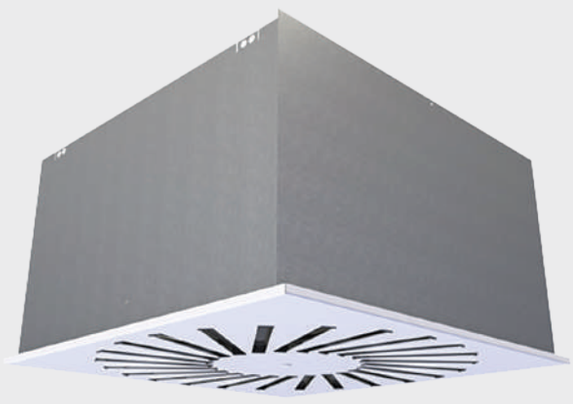
20/JTH/0416/EN

JTH

Swirl diffuser unit



- Swirl diffuser completed with black adjustable plastic air control blades and plenum with perforated equalizing plate.
- Blades can be manually adjusted to give either horizontal or vertical discharge. Therefore discharge direction can be easily matched with changing building layouts.
- Installation using balancing plenum with side connection. Connection box made of galvanized sheet metal.
- The device is perfectly suited for installations with variable airflow.
- Cooperates particularly well with fan-coil units operating at various speed (variable flow from 25% to 100% depending on the settings).
- Horizontal or vertical air supply. Therefore discharge direction can be easily matched with changing building layouts.
- Suitable for supply and exhaust.
- Ceiling integration installation.
- Supply air jet velocity is effectively reduced due to high mixing effect.
- Suited for installation in a modular or monolith ceilings.
- Circular duct connection with rubber gasket.

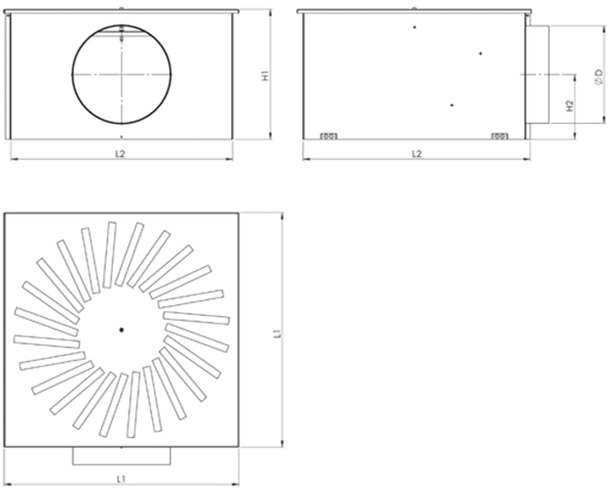
Product models & Accessories

- Model with sound attenuation material (mineral wool)
- Measurement and airflow rate adjustment module (MSM)
- Different front plate patterns.

MATERIAL AND FINISHING

PART	MATERIAL	FINISHING	NOTE
Casing	Galvanised steel	Epoxy-painted, white (RAL 9010)	Special colors available
Front panel	Steel with plastic vanes		
Attenuation	Mineral wool		Polyester fibre available by request
Coupling sleeve	Galvanised steel		
Duct gasket	Rubber compound		

DIMENSIONS



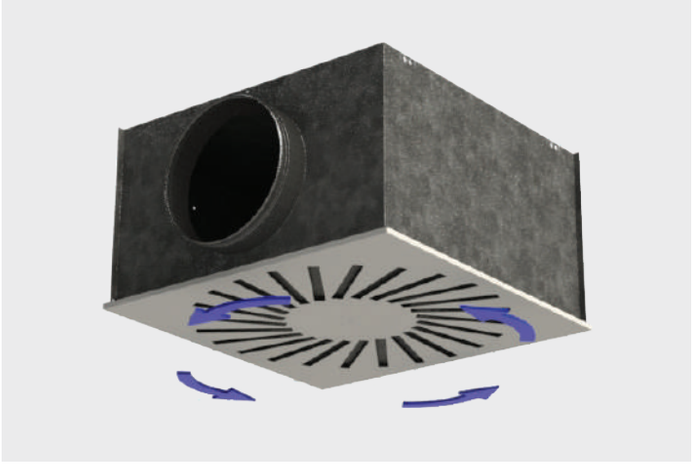
Size	L1	L2	H1	H2	ØD
395 x 395	395	367	270	135	124
495 x 495	495	467	270	135	159
595 x 595	595	577	330	165	199
620 x 620	620	587	376	188	249

ACCESSORIES

ACCESSORY	CODE	DESCRIPTION
Airflow measurement and adjustment unit	YS	Adjustment and measurement module for supply airflow rate
Airflow adjustment unit	YE	Adjustment module for exhaust airflow rate
Sides of sound attenuation	IN	3 sides or 5 sides

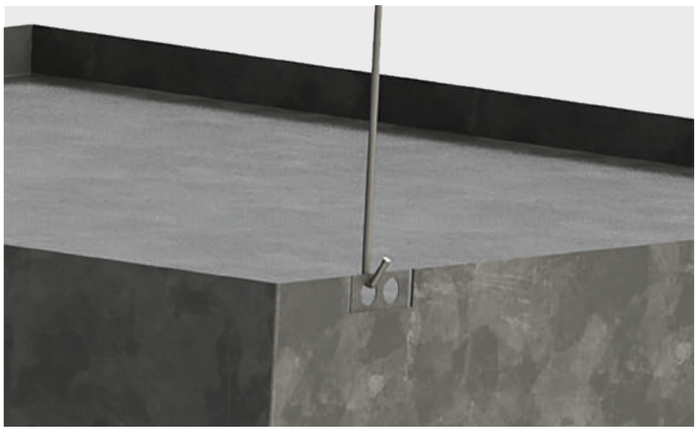
FUNCTION

The highly efficient mixing of the swirl jet produced by the diffuser reduces the end velocity of the jet, as well as the temperature differences very quickly. This allows the air to be blown into the room free from draughts even under extreme conditions (high air exchange or temperature differences).
The free cross-section is the same in all louvre positions, so that pressure loss and volume level do not change when the throw pattern is adjusted. Ensures a high level of air flow volume and rapid air temperature change while maintaining low noise levels.
Appropriate for air supplier differences up to 10°C.



INSTALLATION

We recommend installing the plenum part into the suspended ceiling with metal hangers (not supplied in the delivery) and connected to the ductwork with the spigot equipped with an integral rubber gasket.



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ADJUSTMENT

The supply volume flow rate is determined using the measurement and adjustment module MSM.
Open the front panel and equalisation plate, pass the tubes and control spindle through the equalisation plate and side slot of the diffuser.
Replace the front panel.

Measure the differential pressure using a manometer. The airflow rate is calculated using the formula below:

$$q_v = k * \sqrt{\Delta p_m}$$

Adjust the airflow rate by rotating the control spindle until the desired setting is achieved.
Lock the damper position with a screw.
Reassemble the tubes and spindle into the plenum and replace the diffuser front panel.

The exhaust flow rate is determined by using the separate measurement module located in the equalisation plate.

The k factor for installations with different safety distances (distance of other items from the MSM):

Spigot (ØD)	> 8xD	min 3xD
125	9,9	12,6
160	16,9	21,9
200	28,3	32,0
250	47,9	51,5

SERVICING

Detach the front panel of the diffuser by removing the central bolt and pulling it down.
Wipe the parts with a damp cloth.
Push the front panel back into place and fasten the central bolt.

Option with balancing plenum

Detach the front panel of the diffuser by removing the central bolt and pulling it down. Remove the measurement and adjustment module by gently pulling out the shaft (Not the control spindle or measurement tubes!).
Wipe the parts with a damp cloth instead of immersing in water.
Remount the measurement and adjustment module by pushing in the shaft until the module meets the stopper.
Push the front panel back into place and fasten the central bolt.

TECHNICAL SPECIFICATION

Halton JTH is a swirl type ceiling diffuser with a square-shaped powder-coated frontplate and a galvanized plenum with perforated balancing plate. The individually adjustable plastic louvres generate high induction swirl jet which ensures effective mixing of the supply air with air present in the room, as well as enables fast temperature decrease resulting in low air velocities in the comfort zone. Since the plastic louvres can be adjusted individually, it is allowing users to set the throw pattern according to the room specification.

PRODUCT CODE

JTH/S-D-F-P

S = Model
- S: Supply
- E: Exhaust

D = Diameter of duct connection
- 125, 160, 200, 250

F = Front panel size
- 395: 395x395
- 495: 495x495
- 595: 595x595
- 620: 620x620

P = Front panel pattern
- R: Round
- S: Star

Other options and accessories

CO = Colour
- W: White (RAL 9010)
- X: Special colour

AT= Sound attenuation material
- W: Mineral wool
- D: Polyester fibre
- N: No attenuation material

IN= Sides of sound attenuation
- 3: Sound attenuation on 3 sides
- 5: Sound attenuation on 5 sides
- N: No sound attenuation

OM = Measurement and adjusment control
- YS: MSM (supply)
- YE: MEM (exhaust)
- NA: No measurement or adjustment module

Code example

JTH/S-200-495-R, CO=W,AT=W, IN=3, OM=YS