

# Halton Jaz JSC – Nozzle diffuser

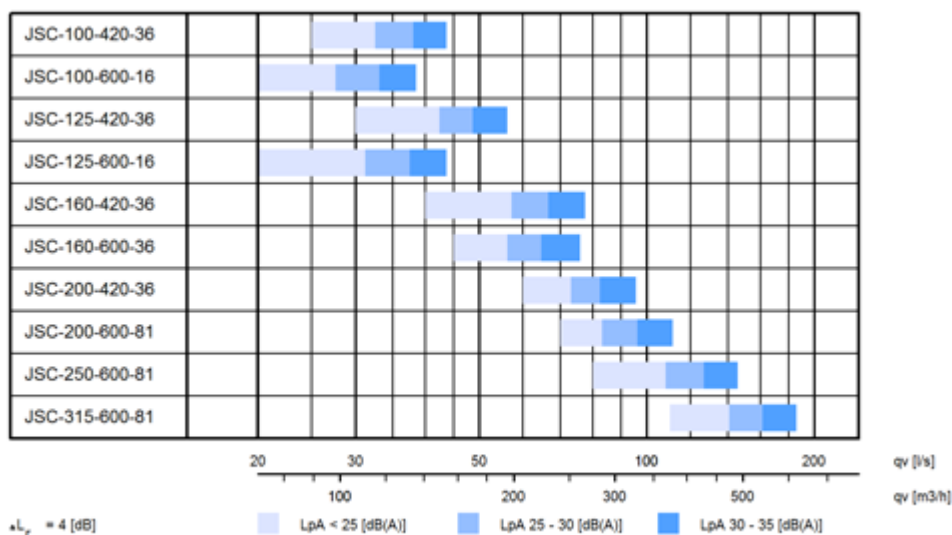
## Overview

- Ceiling diffuser for integrated installation with suspended T-bar ceiling
- Excellent and risk-free indoor air conditions with freely adjustable supply air pattern and high mixing effect
- Suitable for air supply and exhaust
- Installation either directly to ductwork or to balancing plenum
- Easily openable front panel for convenient cleaning of the diffuser and ductwork
- Circular duct connection with rubber gasket

## Accessories

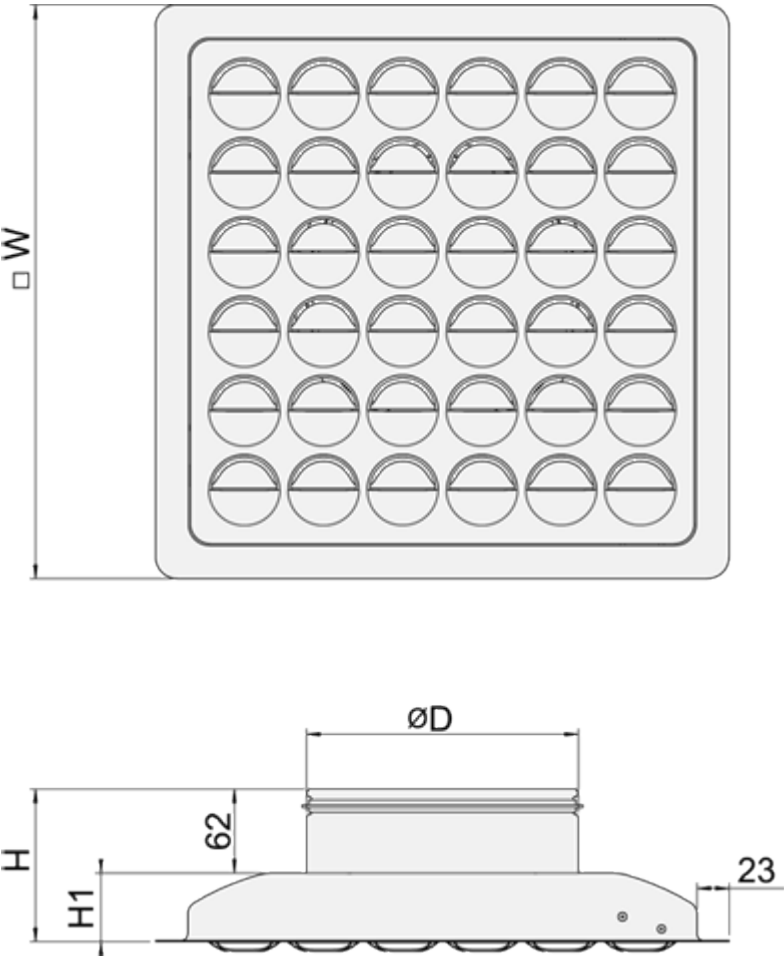
- Balancing plenum with measurement and adjustment functions
- Installation panel for modular ceiling

## Quick selection





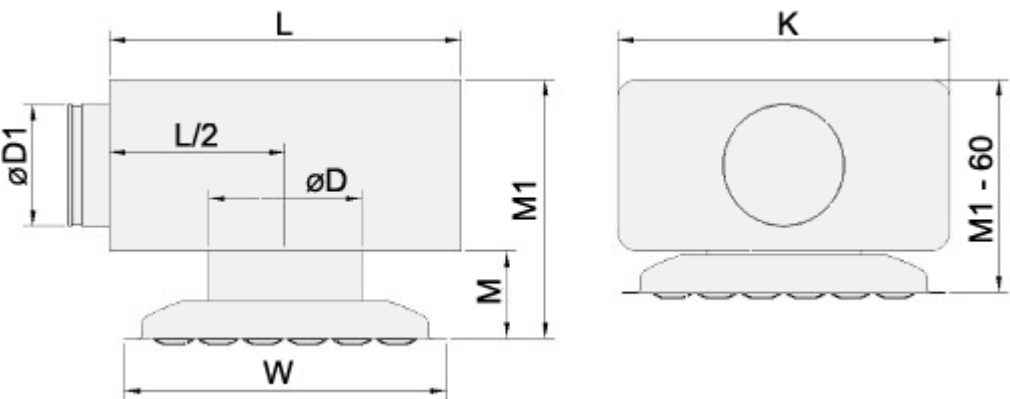
# Dimensions



NS	ØD	W	H	H1	N
100-420-36	99	420	112	50	36
100-600-16	99	595	112	50	16
125-420-36	124	420	112	50	36
125-600-16	124	595	112	50	16
160-420-36	159	420	112	50	36
160-600-36	159	595	112	50	36
200-420-36	199	420	112	50	36
200-600-81	199	595	112	50	81
250-600-81	249	595	112	50	81
315-600-81	314	595	112	50	81

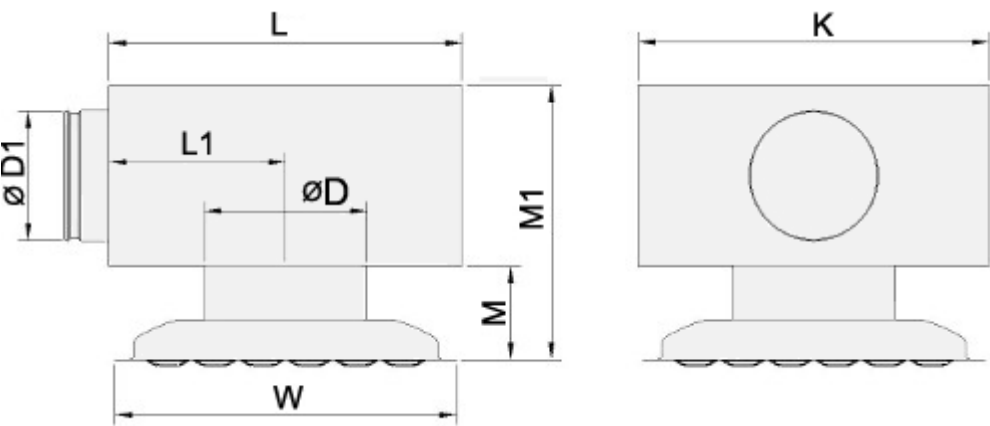
N = Number of nozzles

# Halton Jaz Sky Ceiling with Halton TRI plenum



Sky	TRI	ØD1	ØD	W	M	M1	K	L
100-420	100-100	99	100	420	118	270	282	308
100-600	100-100	99	100	595	118	270	282	308
125-420	100-125	99	125	420	118	270	282	308
125-600	100-125	99	125	595	118	270	282	308
160-420	125-160	124	160	420	118	300	432	458
160-600	125-160	124	160	595	118	300	432	458
200-420	160-200	159	200	420	118	340	432	458
200-600	160-200	159	200	595	118	340	432	458
250-600	200-250	199	250	595	118	390	592	618
315-600	250-315	249	315	595	118	454	592	618

# Halton Jaz Sky Ceiling with Halton TRH plenum



Sky	TRH	ØD1	ØD	W	M	M1	K	L	L1
125-420	100-125	99	125	420	106	258	281	281	141
125-600	100-125	99	125	595	106	258	281	281	141
160-420	125-160	124	160	420	106	286	431	431	216
160-600	125-160	124	160	595	106	286	431	431	216
200-420	160-200	159	200	420	106	318	431	431	216
200-600	160-200	159	200	595	106	318	431	431	216
250-600	200-250	199	250	595	106	351	400	550	355
315-600	250-315	249	315	595	106	401	450	600	378

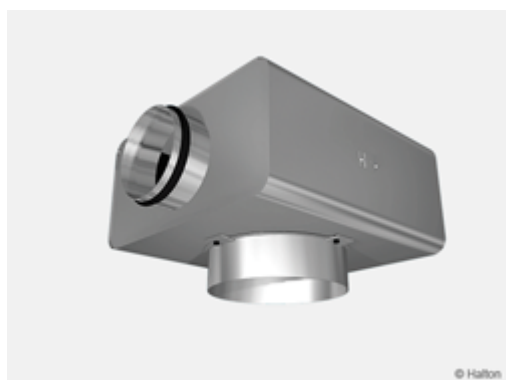
## Material

Part	Material	Note
Casing	Galvanised steel (EN 10130)	–
Front panel	Galvanised steel (EN 10130)	–
Coupling sleeve with gasket	Galvanised steel (EN 10130)	Gasket rubber compound
Nozzles	Plastic (Polyacetal POM)	Standard colours: White, black and grey
Finishing	Painted with polyester powder, white (RAL 9003)	Special paintings in RAL colours available

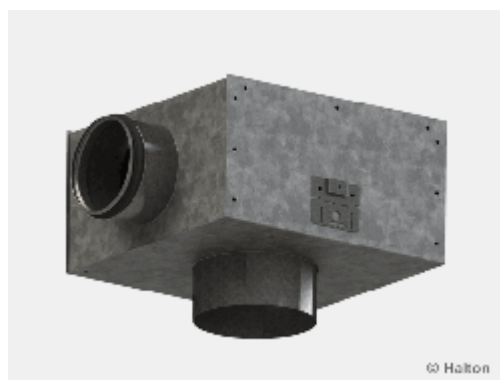
Maximum allowed temperature for the plastic material in nozzles is 60 °C.

# Accessories

Accessory	Code	Description
Balancing plenums	TRI	Aesthetical connection plenum with airflow balancing and sound attenuation
	TRH	Basic connection plenum with airflow balancing and sound attenuation

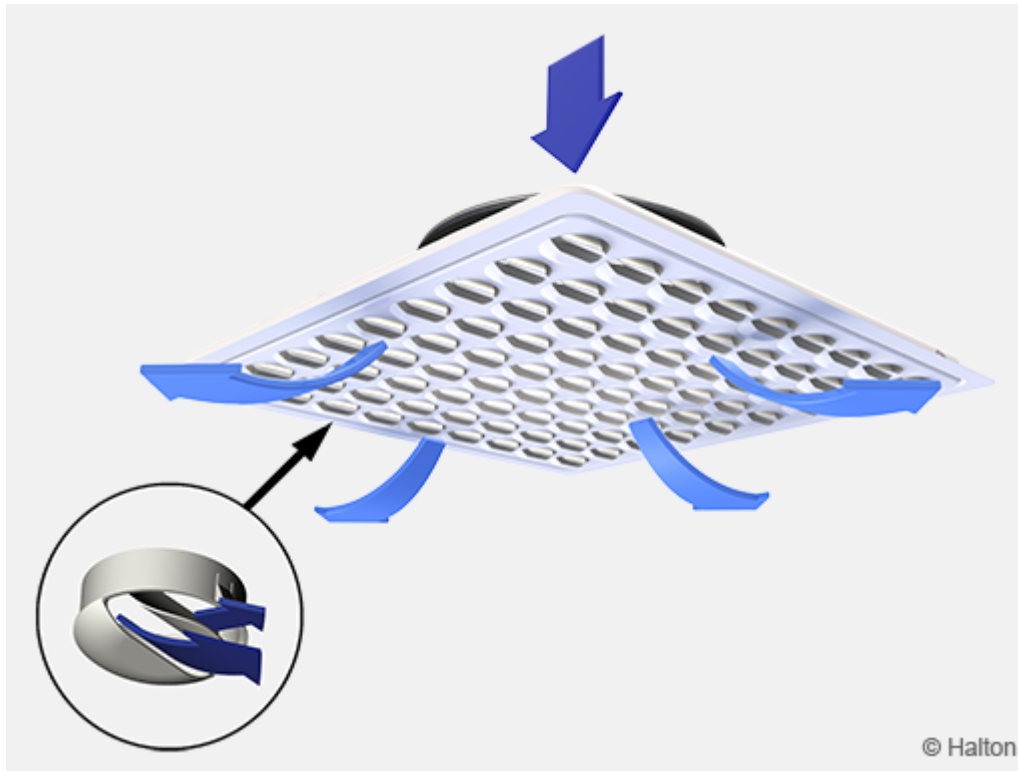


**Fig.1.** Halton TRI



**Fig.2.** Halton TRH

# Function



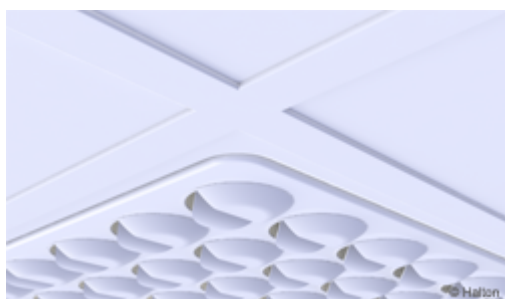
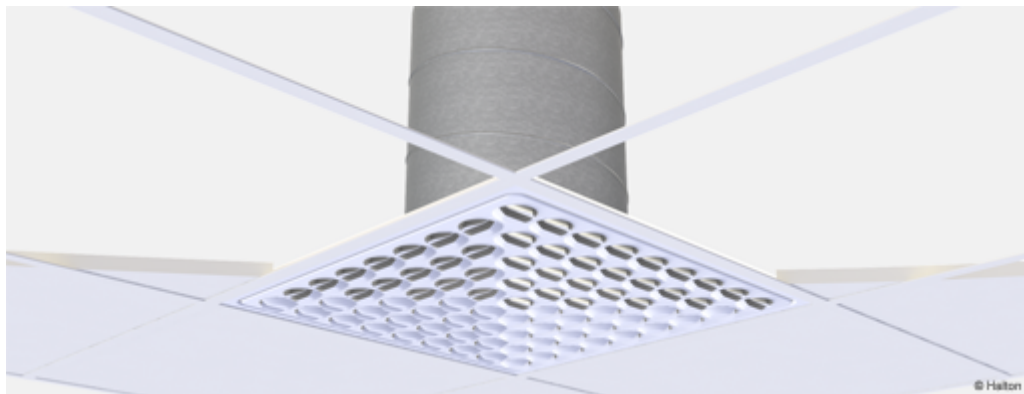
The air is supplied into the space through the adjustable nozzles in front panel of the diffuser.

The individual nozzle includes two separate flow channels that enable a large free area for supply air and effective mixing effect. The supply air pattern can be freely directed radially in the direction(s) desired (1, 2, 3 and 4) by rotating the nozzles. Horizontal swirl or compact air patterns can also be achieved by adjusting the nozzles.

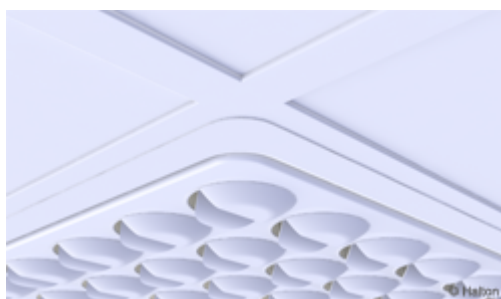
Direction of the supply air jet has no effect on the noise level, pressure drop or airflow rate.

The recommended maximum temperature difference between supply and room air is 10 °C.

# Installation



**Fig.3.** Installation above list



**Fig.4.** Installation under list

The diffuser is available in size 595×595 for direct integration to the modular T-bar ceiling (600×600, T-profiles 24mm).

Ceiling installation for standard sizes can be made above or below T-bars.

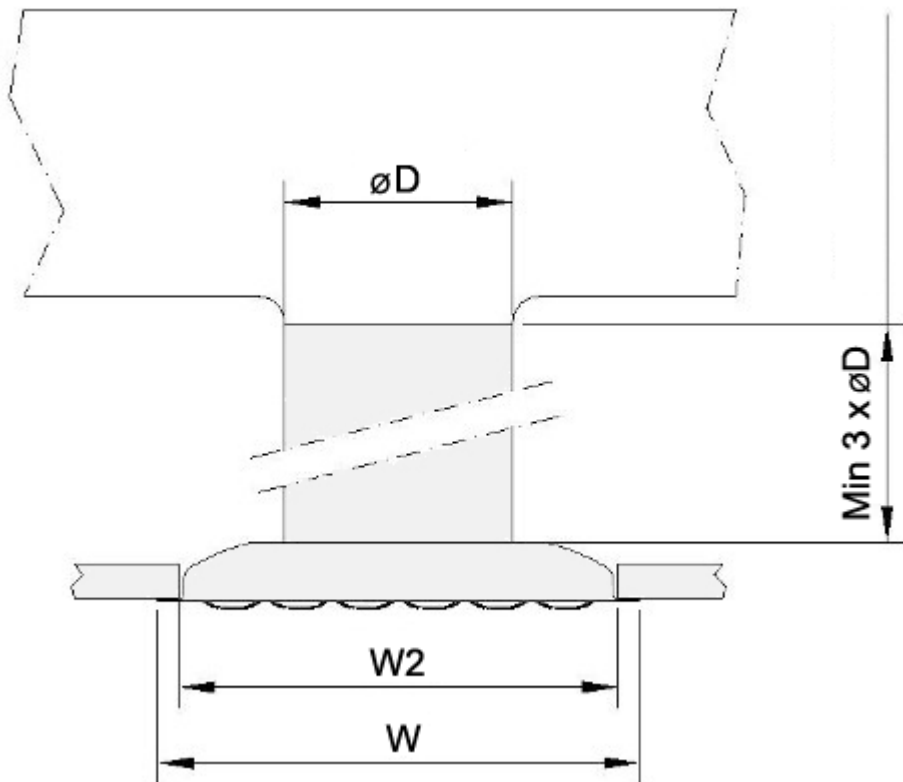
The diffuser is connected either direct to the duct by screwing or riveting, alternatively to the Halton's connection plenums TRI or TRH.

Direct the flow pattern in the desired directions by individually rotating each nozzle in order to meet the required specifications (directed at 4 ways as standard).

A recommended minimum safety distance upstream of the diffuser is normally 3 x duct diameter.



## Installation in suspended ceiling



NS	$\varnothing D$	W	W2
100-420	99	420	385
125-420	124	420	385
125-600	124	595	560
160-420	159	420	385
160-600	159	595	560
200-420	199	420	385
200-600	199	505	560
250-600	249	595	560
315-600	314	595	560

Recommended opening dimensions when installing to the drywall or other panel ceilings.

## Installation with plenum

The collar in Halton's TRI can be installed either internally or externally on the bottom of plenum. The height of unit is presented in the tab Dimensions.

A recommended minimum safety distance upstream of the plenum is normally 3 x duct diameter.

The technical performance for the combination of Halton Jaz Sky Ceiling diffuser and Halton plenum is presented separately for different installations.



**Fig.5.** Installation with Halton TRI plenum

## Opening the diffuser

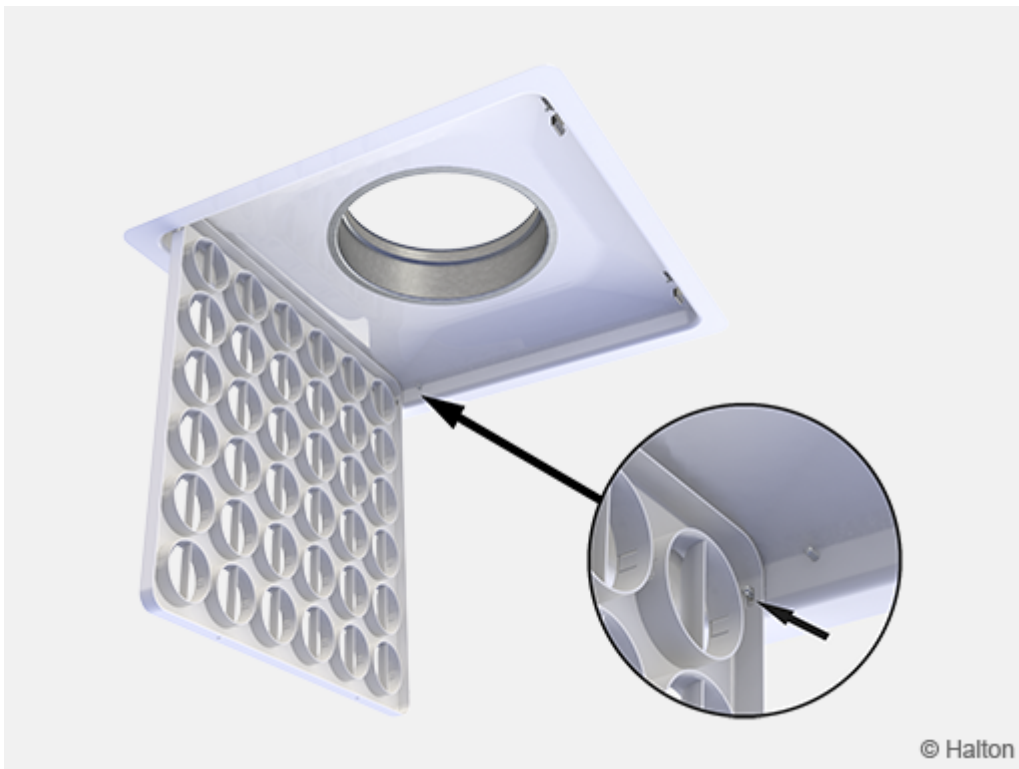
Open the front panel using some suitable thin material (like plastic sheet – Fig.4.). Push the sheet on the slot between front panel and chamber on the side where the Halton logo is located (distance about 50 mm from the corners). Pull slightly to open the front panel.

Detach the open front panel by pressing the hinge from inside (Fig.5); reassembly it by pulling it against the hinges.

Close the front panel by pushing it until the springs lock.



**Fig.6.** Open with thin plastic sheet



**Fig.7.** Press the hinge from inside

## Adjustment

Halton Jaz Sky Ceiling diffuser does not include any separate airflow adjustment.

In order to enable the adjustment and measurement of airflow rate it will be recommended to connect the diffuser to Halton TRI or TRH plenum. The supply airflow rate is determined by using the plenum's measurement and adjustment module.

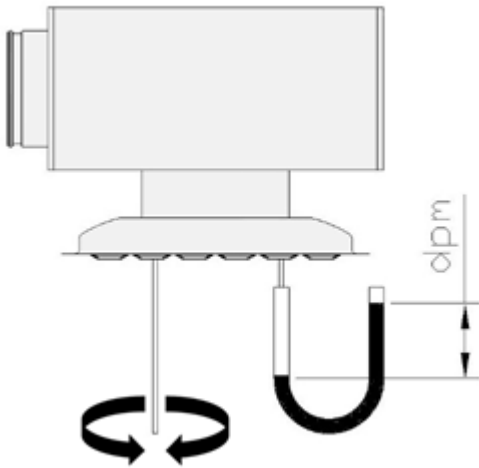
Open the diffuser's front panel and pass the tubes and control spindle through the plastic nozzle. Replace then the front panel.

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

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

TRI	> 8xD	min. 3xD
100	6.0	7.5
125	9.9	12.6
160	16.9	21.9
200	28.3	32.0
250	47.9	51.5
315	78.6	–

TRH	> 8xD	min. 3xD
100	6.5	7.5
125	10.8	12.6
160	19.4	21.9
200	29.7	31.0
250	48.8	51.



Adjust the airflow rate by rotating the control spindle until the desired setting is achieved. If needed lock the damper position with the screw in module.

Replace the tubes and spindle into the plenum.

## Servicing



Detach the front panel of the diffuser and let it balance on the hinges. If needed, each nozzle can be easily removed by pressing the stoppers and then pushing the nozzle through the front panel. Wipe the diffuser casing, nozzles and front panel with damp cloth.

The nozzles are replaced into the front panel by pushing. After cleaning reattach the front panel.

## Option with balancing plenum

Remove the measurement and adjustment module by gently pulling from the shaft; not from the control spindle or measurement tubes.

Wipe the components with damp cloth instead of immersing in water. Wipe also the inner part of the plenum; detach the attenuation material if needed.

Reassemble the module by pushing the shaft until the unit meets the stopper.

Push the front panel back into casing so that the springs lock.

## Specification

The diffuser is installed flush with the ceiling surface. The diffuser is made of powder painted galvanised steel with a white standard colour (RAL 9003). Air is supplied through the plastic nozzles, which have two-slot design in order to ensure efficient mixing of supply air. Nozzles are also individually adjustable for providing high flexibility for the adjustment of throw pattern.

The diffuser has a detachable front panel providing access to the duct and/or plenum.

The diffuser is installed alternatively to the balancing plenum or direct to the duct. Connection plenum has a detachable measurement and adjustment module, attenuation material and cleanable structure.

## Order Code

### JSC-D-A-N, CO-ZT

**D = Size of duct connection (mm)**

100, 125, 160, 200, 260, 315

**A = Diffuser front panel size (mm)**

420, 600

**N = Number of nozzles**

16, 36, 81

## Other options and accessories

**CO = Colour**

SW Signal white (RAL 9003)

X Special colour (RAL xxxx)

**ZT = Tailored product**

N No

Y Yes (ETO)

## Sub products

**Balancing plenums with airflow controls and sound attenuation**

Halton TRI/S for supply air

Halton TRI/E for exhaust air

Halton TRH/S for supply air

## Code example

JSC-125-420-36, CO=SW, ZT=N