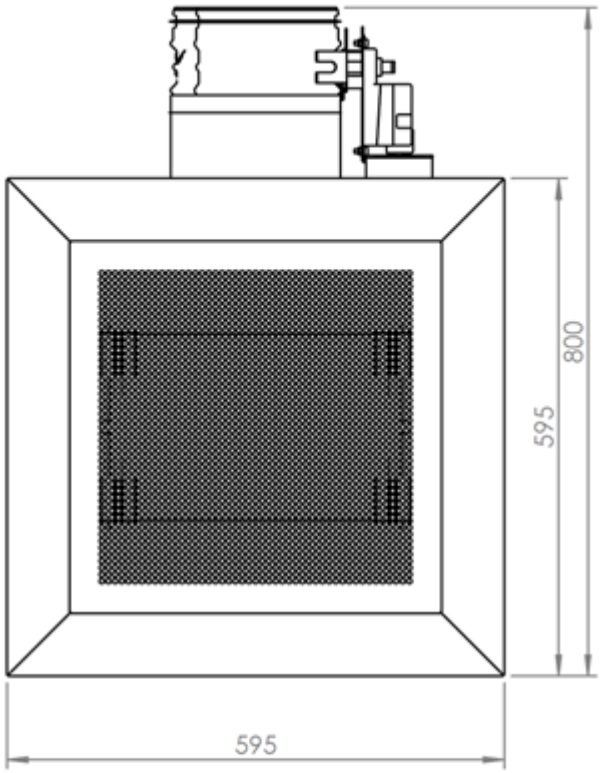
Private: Halton Jaz Perforated VAV (JDE) – Diffuser (terminated)

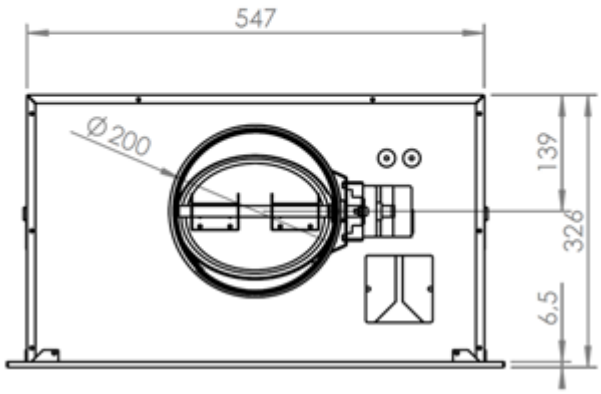
Overview

Terminated as of 1st March 2023
-> replaced with Halton Jaz JDS/E (exhaust)

- Suitable for demand based Halton Vario control system.
- Exhaust diffuser for variable airflow rate
- The diffuser controls that airflow with an active flow control damper
- Designed for systems with constant static pressure ductwork
- Integrated balancing plenum with measurement and adjustment functions
- Effective sound attenuation

Dimensions

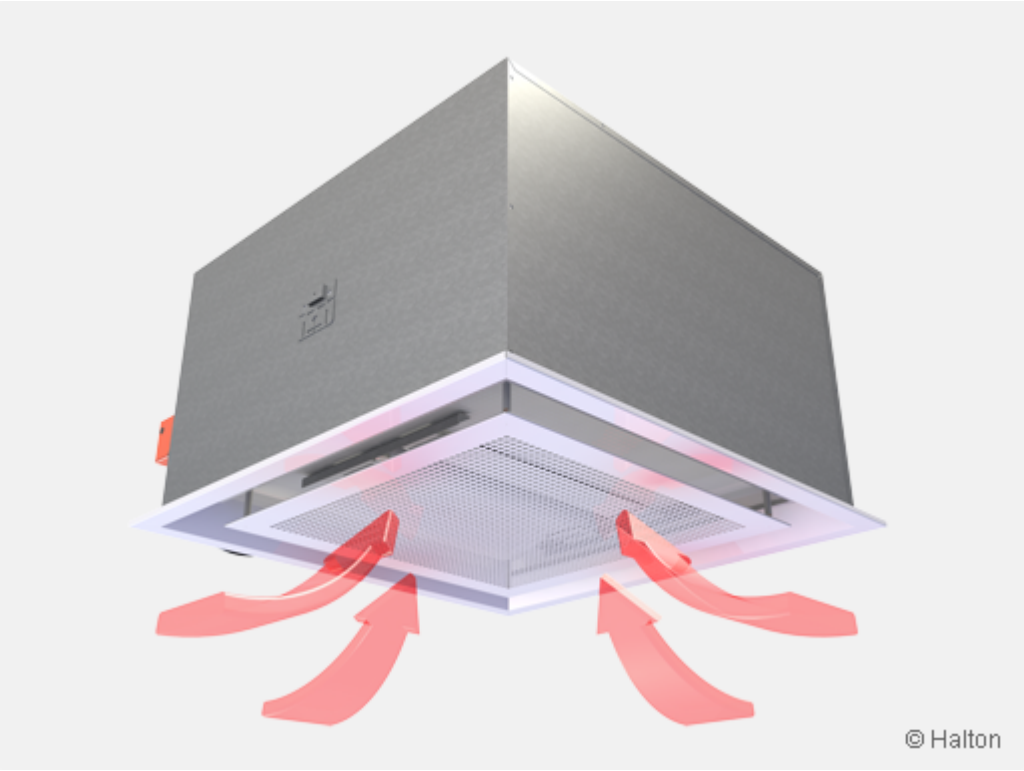




Material

Part	Material	Finishing	Note
Diffuser plate	Steel	Powder painted, white (RAL 9003/30%)	Special colour available
Front panel	Perforated steel	Powder painted, white (RAL 9003/30%)	Special colour available
Balancing vanes	Aluminium	Powder painted	–
Plenum casing	Galvanised steel	–	–
Attenuation material	Polyester fibre	–	–
Flow control damper	**Casing:** Galvanised steel **Plate:** Galvanised steel **Gears:** Plastic **Gasket:** rubber compound	–	–

Function



The Halton Jaz Perforated VAV is an active ceiling diffuser unit for exhaust air.

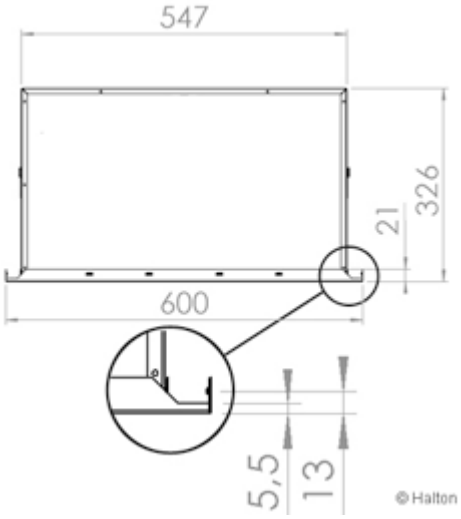
The air is exhausted from the space through the perforated front panel and the side slot of the diffuser. Maximum airflow rate is selectable and will be made with the movable balancing vanes in the diffuser.

An external room controller varies the room airflow rate by running the Halton Jaz Perforated VAV diffuser's actuator with a standard 2 – 10 V control signal. The pressure dependent function of the Halton Jaz Perforated VAV operates in combination with constant pressure ductwork.

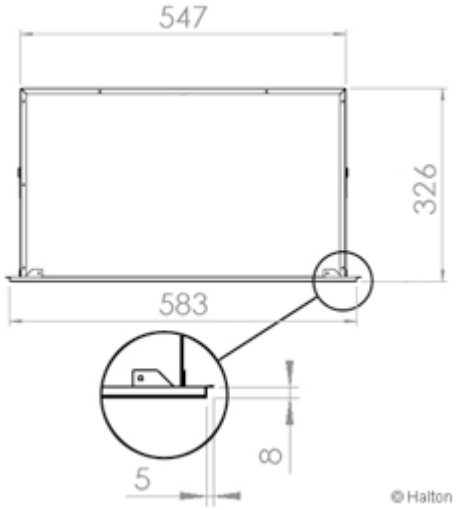
Effective sound attenuation reduces the generated noise and attenuates the duct noise.

Installation

The Halton Jaz Perforated VAV exhaust air diffuser unit is available for installation in different suspend ceiling types.



Clip-in ceilings

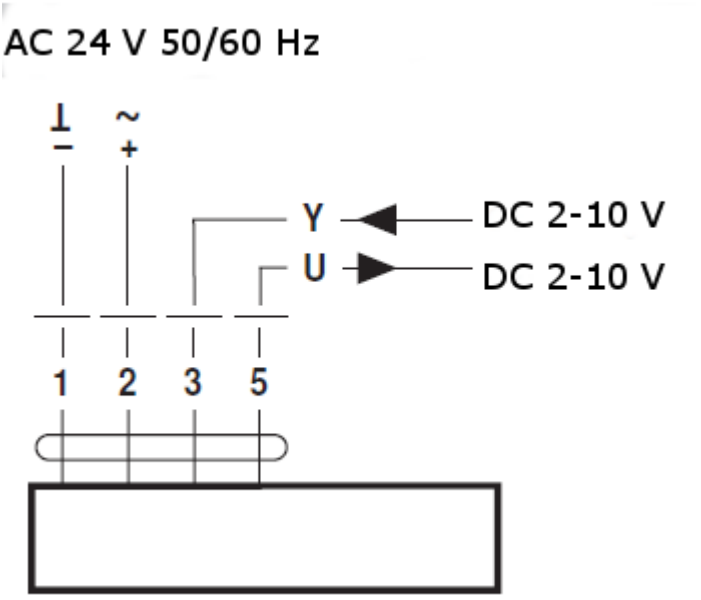


Fine-line 15 ceilings

Commisioning

Wiring

The Halton Jaz Perforated VAV active air exhaust diffuser shall be connected to the control system.



With 10 V control signal the active flow control damper is fully open.

Balancing

The balancing function will not be avaialble when Halton Jaz Perforated VAV exhaust diffuser is connected to Halton Vario control system and when getting the control signal from supply air terminal. In that case the control vanes should be adjusted to the position 20 and maximum and minimum airflow rates shall be adjusted with the control signal.

In balancing function ensure that the flow control damper on each active Halton Jaz Perforated VAV exhaust air diffuser is fully open. This can be done either mechanically or electrically:

- If the power is connected to the active diffuser, press the knop in the actuator and turn the damper blade on horizontal position (visual mark on the end of blade axle showing the position).
- If power is not connected to the diffuser, please make sure that the control signal is constantly at 10 VDC.

Check that the duct zone constant pressure is at the intended level (for examble between 30 to 50 Pa. If the airflow rate of the active exhaust diffuser is too high, adjust the position of the balancing vanes to the closer position. If the maximum airflow can not be reached, open the vanes first fully open and if this is not enough, increase the duct zone pressure.

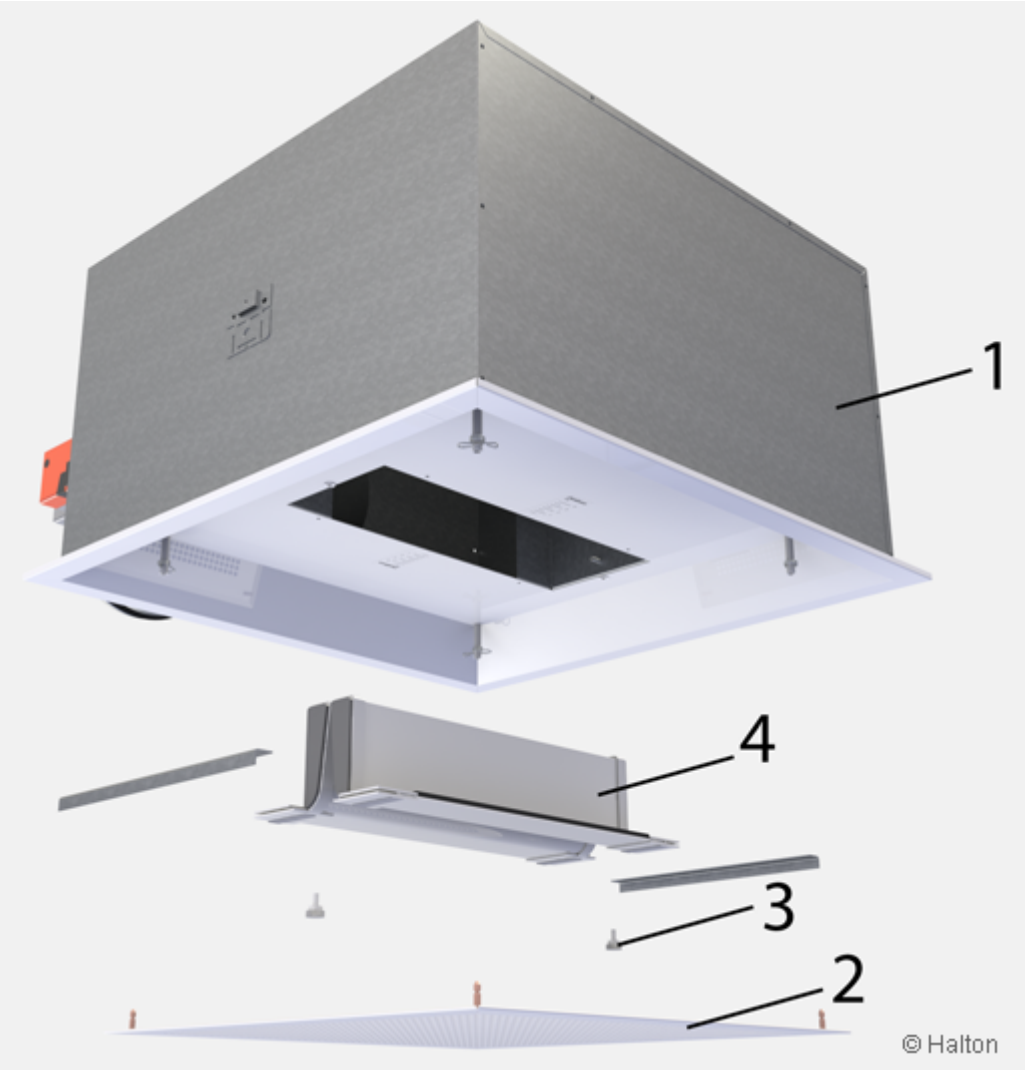
The minimum airflow rate if factory pre-adjusted to the variable flow control damper and can not be adjusted.

Airflow rate is calculated using the pressure difference reading and the k factors
(see formula below):

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

q_v	Calculated airflow rate [l/s]
k	Coefficient = 14.3 (opening 20)
Δp_m	Measured pressure [Pa]

Servicing



Key

1. Diffuser plenum
2 . Front panel
3. Fixing screws
4. Balancing vanes

For servicing open the front panel (2) of the diffuser and detach the flow control element. Detach the balancing vanes (4) by opening the screws (3) and remove the vanes.

Clean the parts with a damp cloth instead of immersing in water.

Replace the parts in opposite order. Ensure that the balancing vanes are in right position.

Specification

The active exhaust diffuser unit is made of steel and powder painted with a white (RAL 9003/30%) standard colour. Air is exhausted through the perforated front panel and the side slot of the diffuser.

The system balancing and maximum airflow selection are made with the balancing vanes in diffuser.
Variable airflow rate is controlled with the electrical flow control damper.

The diffuser is integrated to a balancing plenum designed for the active diffuser installation and equippped with air measurement and sound attenuation properties.

Order code

JDE-D, CO-IO-ZT

D = Size for duct connection (mm)
200

Other options and accessories

CO = Colour
SW White (RAL 9003)
X Special colour (RAL xxxx)

IO = Ceiling type installation options
NA T-profile (standard)
DC Clip-In ceiling
FL Fineline-15

ZT = Tailored product
N No
Y Yes (ETO)

Code example

JDE-200, CO=SW, IO=DC, ZT=N