

# Private: Halton Jaz Linear VAV (JLS ) – Linear diffuser

## Overview

Terminated as of 1<sup>st</sup> March 2023

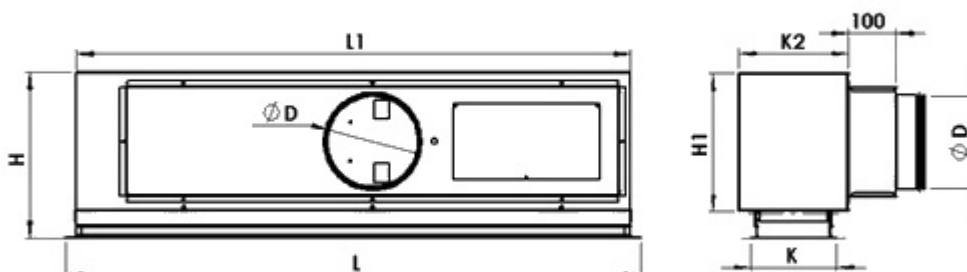
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- Suitable for demand based Halton Vario control system.
- Special profile diffuser blades create the Coanda effect which enables wide range of airflow rates.
- Designed for systems with constant static pressure ductwork system
- Horizontal or vertical plane jet air supply
- Supply in one or two directions
- Suitable also for exhaust air
- Ceiling installation

## Other options

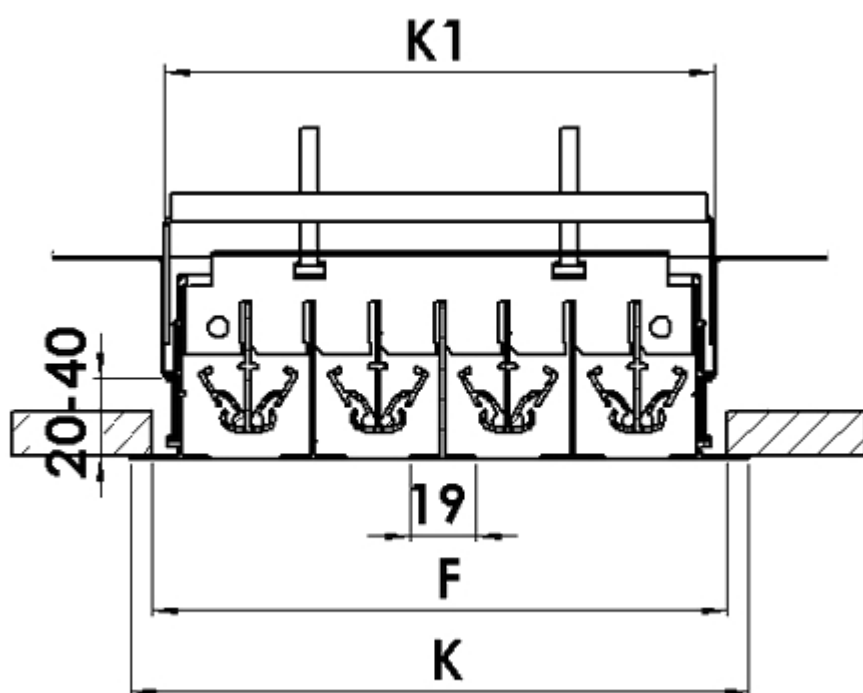
- Sound attenuation for plenum

## Dimensions



Active length	Slots	F	L	L1	H	H1	K	K1	K2	ØD (as default)
1172	1	54	1218	1172	275..295	220	67	47	117	160
1172	2	92	1218	1172	315..335	260	105	85	155	200
1172	3	130	1218	1172	315..335	260	143	123	193	200
1172	4	168	1218	1172	355..375	300	181	161	231	250 or

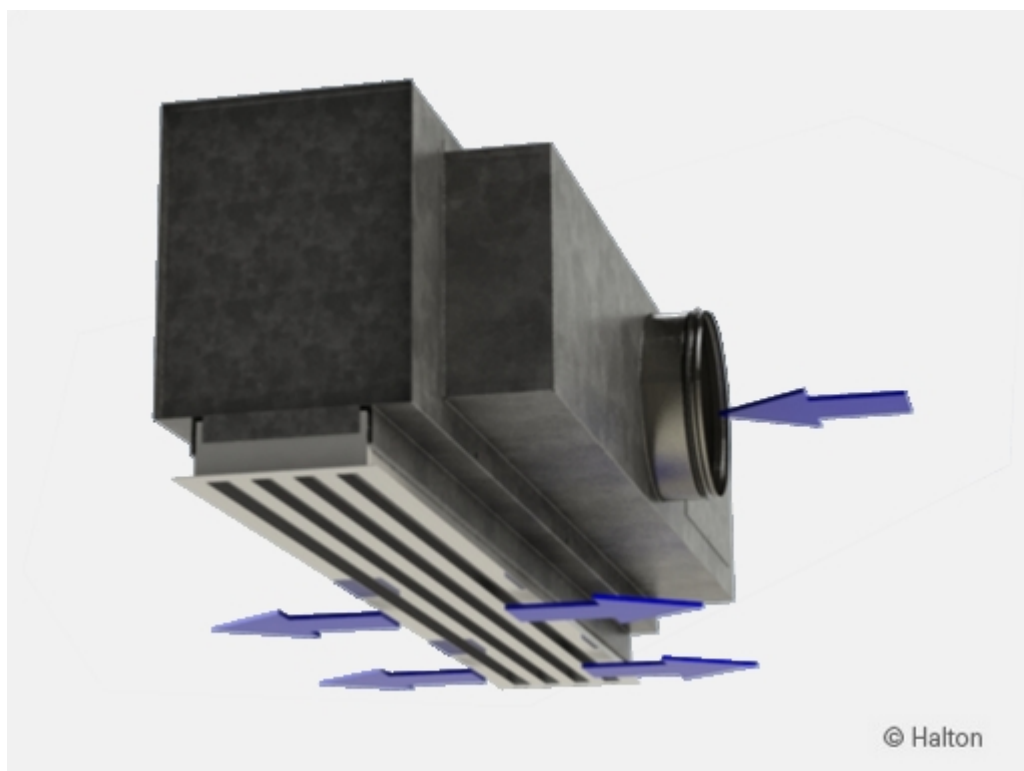
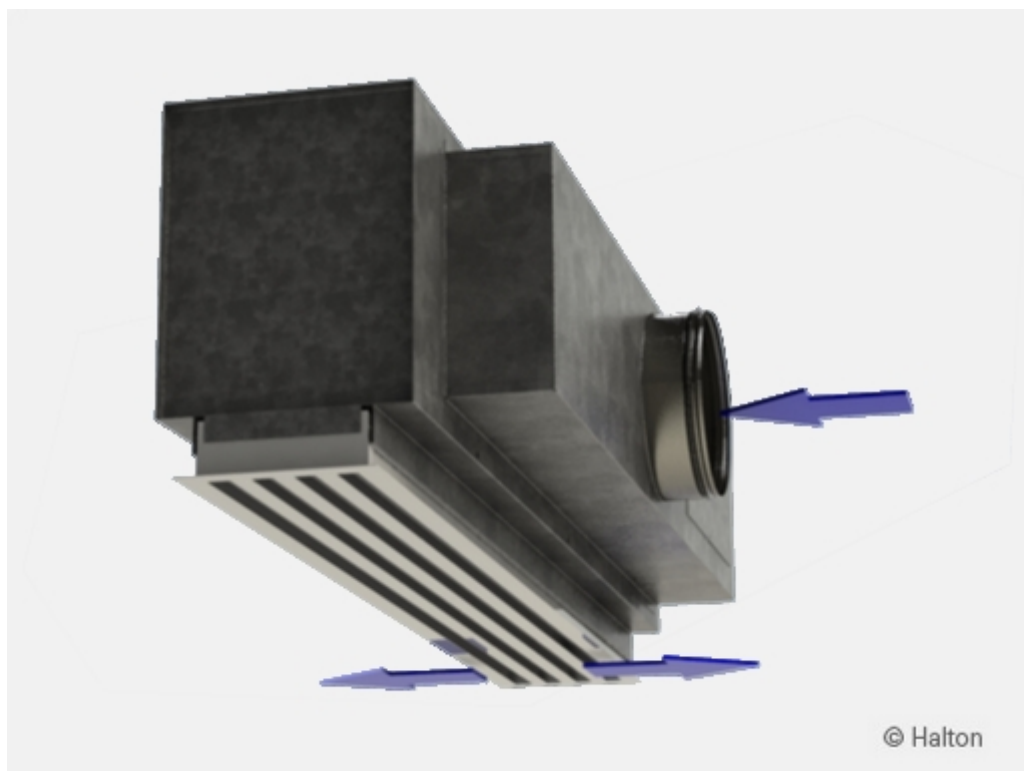
The installation hole in the ceiling:  $F \times (L1+10)$

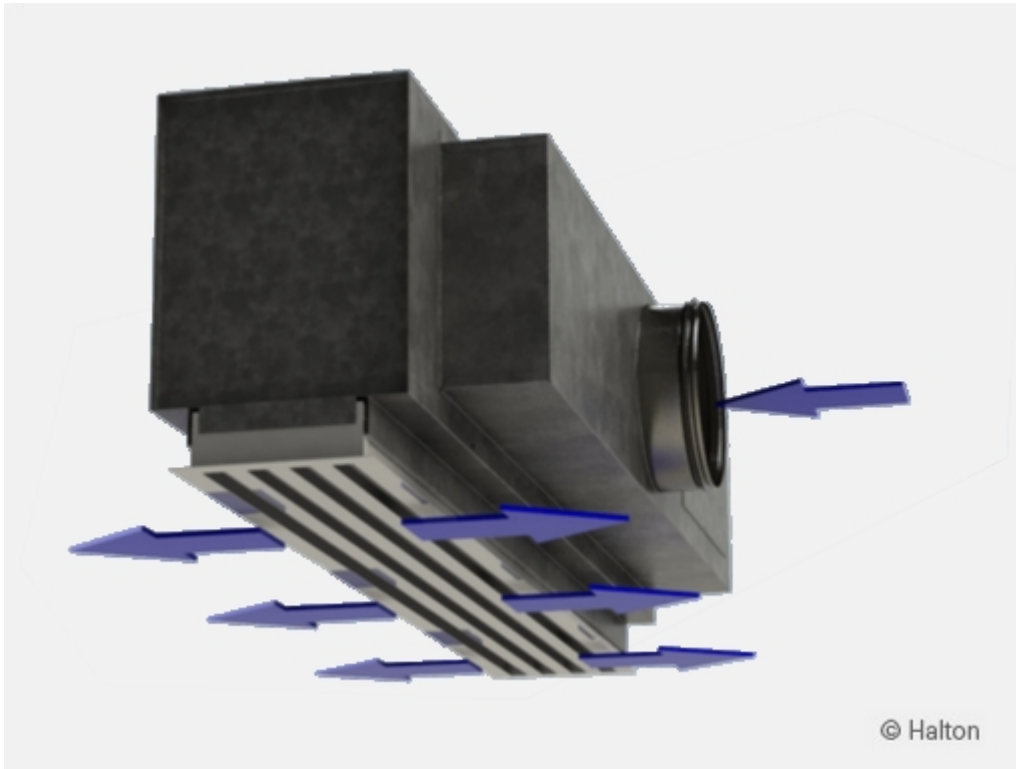


# Material

Part	Material	Finishing	Note
Outer frame	Aluminium	Anodised or Epoxy-painted: White (RAL 9003/30% gloss)	Special colours available. Epoxy/Polyester painted as option.
End caps / T profiles	Aluminium	Anodised or Epoxy-painted: White (RAL 9003/30% gloss)	Special colours available. Epoxy/Polyester painted as option.
Inner vanes	Aluminium	Anodised or Epoxy-painted : White (RAL 9003/30% gloss)	Special colours available. Epoxy/Polyester painted as option.
Flow deflection vanes (for supply application)	Aluminium	Painted: White (RAL9003/30% gloss)	Special colours available. Epoxy/Polyester painted as option.
Damper	Plastic POM	–	–
Plenum / spigot	Galvanised steel	–	–
Sound attenuation	Mineral wool	–	Fixed with nails.

# Function





The Halton Jaz Linear VAV is an active linear diffuser for supply or exhaust air in variable conditions.

The diffuser is composed in three parts:  
the linear diffuser, the plenum and the room damper.

The plenum is divided in three chambers.

The damper controls the number of chambers where air will be supplied.

Thus, there will be four possibilities:

fully closed, fully opened and two intermediate positions to adjust the flow rate.

The damper is moved thanks to an actuator, controlled by an external room controller with an analogic control signal.

The air flow rate maximum may be adjusted in modifying the factory parameter “preset”.

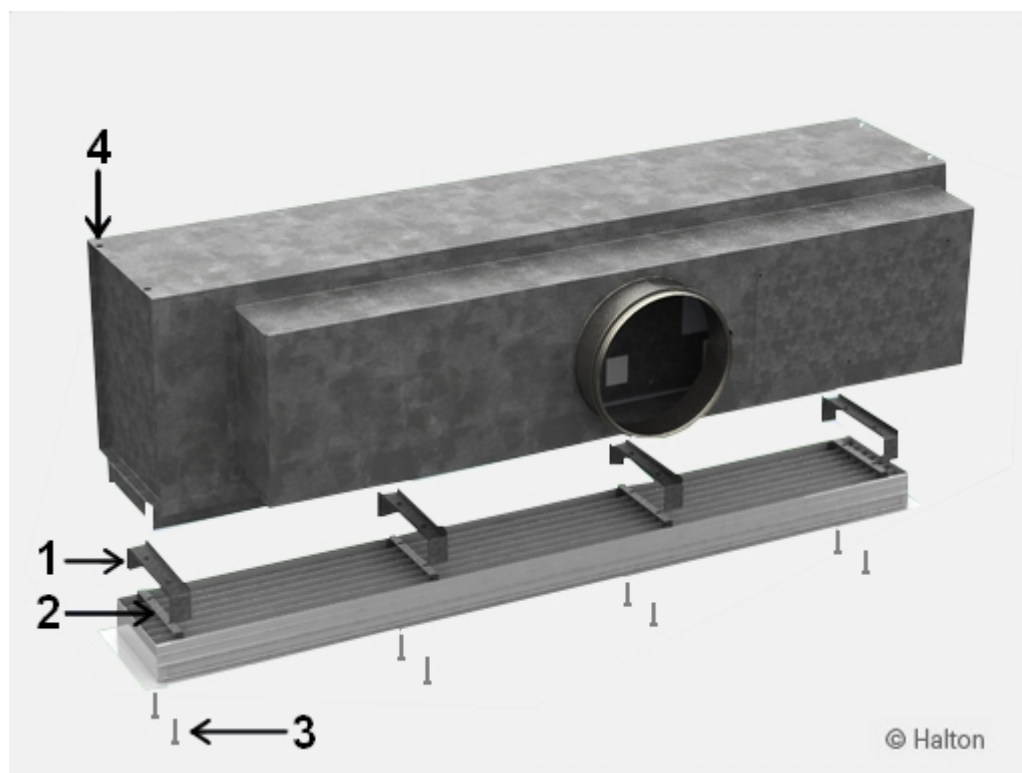
The air flows to the plenum where the duct pressure and air velocities are reduced, to improve the air distribution quality and to reduce the noise.

The air is supplied to the space through the linear slots of the diffuser horizontally in one or two directions along the ceiling surface (coanda effect) or vertically into the occupied zone.

For an exhaust application, the diffuser is extracted without flow control vanes.

The system is designed to operate with a constant pressure ductwork.

# Installation



## Key:

1. Mounting bracket
2. Transversal bar
3. Screw
4. Fixing hole

We recommend installing the plenum part into the suspended ceiling with M8 drops rods (not supplied in the delivery) in the four corners thanks to the fixing holes. Connect to the ductwork with a spigot equipped with an integral rubber gasket.

Connect the linear diffuser directly to the plenum. Remove the T-profiles of the diffuser by pulling them out gently, in order to access the transversal bars located behind the profiles.

Fit the installation brackets into the grooves of the plenum and secure with the screws into the holes of the transversal bars.

Screw on until the diffuser is flush to the ceiling. Replace the T-profiles.

# Commissioning

Check that the duct zone constant pressure is at the intended level (for example, between 40 and 70 Pa).

If the duct zone pressure is too low and the zone pressure control damper is fully open, you should either adjust the supply fan pressure set point to be higher.

The damper which control the duct zone pressure shall have a sufficient differential pressure over the diffuser damper (for example, 30 Pa or more).

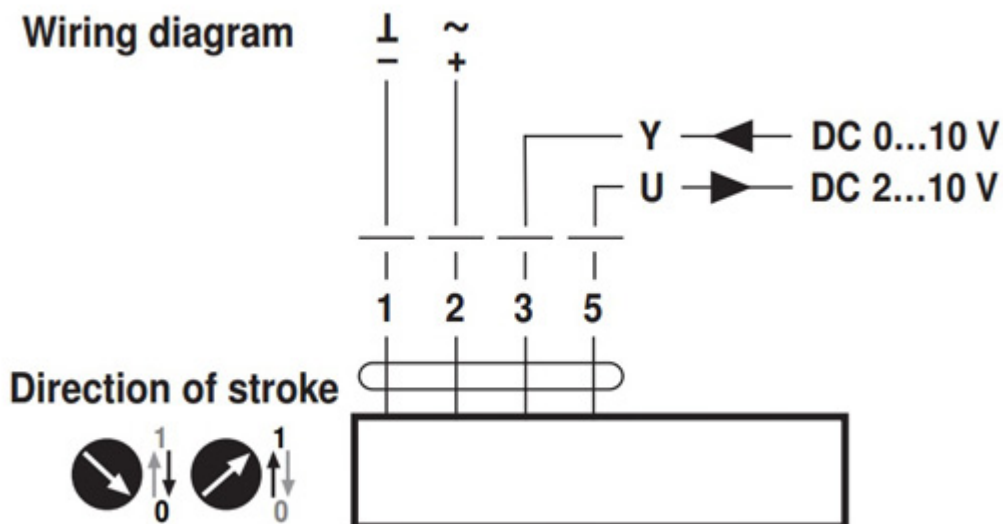
## Wiring

The wiring shall be carried out in accordance with local regulations and by professional technicians.

For the power supply of all control options, a safety-isolating transformer shall be used.



With 0 V control signal the active flow control damper is fully open.



**Terminals 1&2**

Supply : 24 VAC or 24 VDC

**Terminal 3**

Analogue signal control : 0...10 VDC

**Terminal 5**

Optional, damper position signal

For U = 2 VDC: damper fully opened

For U = 10 VDC: damper fully closed

**Stroke direction** For Y = 0 VDC: damper fully opened

For Y = 10 VDC: damper fully closed

## Controls

The Halton Jaz Linear VAV diffuser flowrate is adjustable according to the damper position. The damper has 4 position options: fully opened, fully closed, and two intermediate positions.

The damper position is managed by the controller according to the data received from the sensors.

This flowrate management allow to, according to the case

- Maintain a room space temperature
- Improve air quality thanks to a carbon dioxide sensor (CO<sub>2</sub>)
- Adjust the fresh air to the occupancy

## Servicing



### Key

1. T-profiles
2. Screw
3. Access door

Remove the T-profiles.

Remove the linear diffuser by unscrewing the screws of the transversal bars.

Clean the parts by wiping with a damp cloth.

Push the linear diffuser back into place by screwing the transversal bars to the installation brackets.

An access door is designed in the plenum to give access to the actuator.



# Specification

Halton-brand ceiling diffuser unit, type Halton Jaz Linear VAV, with one to four slots, for variable airflow.

Excellent Coanda effect provided with a wide range of airflow rates.

The airflow is adjust by the damper without consequences for the jet length.

The airflow rate maximum can be adjusted in modifying the factory parameter “preset”.

Each air pattern adjustment section compromises two flow deflection vanes.

The supply air pattern is directable by adjusting the flow deflection vanes without any change in the appearance of the diffuser.

The linear slot diffuser has an extruded aluminium outer frame, flow deflection vanes and T-profiles, and be anodised or polyester-painted to white (RAL 9003/30%) colour.

The plenum part comprises sound attenuation material made of mineral wool.

The plenum part reduces duct pressure and air velocity in order to supply air throughout the entire face area of the linear diffuser and improve the air distribution quality.

The removable linear slot diffuser are mounted into the invisible screws.

Flow deflection vanes and T-profiles is easily removable for access to the plenum.

An access door for access to the actuator.

## Order code

### JLS/S-N-L-D

**S = Model**

S Supply

E Exhaust

**N = Number of slots**

1,2,3,4

**L = Active lenght**

1172

**D = Diameter of duct connection**

125, 160, 200, 250

## Other options and accessories

### **FI = Finishing**

PN Painted

AN Anodised

### **CO = Colour**

SW White (RAL 9003)

X Special colour

N No painting

### **IO = Ceiling type installation options**

NA Standard T-profile

FL Fineline 15

### **IN = Number of insulated sides**

N No attenuation

2 Sound attenuation on 2 sides

4 Sound attenuation on 4 sides

### **RC = Room controller**

NA Not assigned

### **SE = Sensors**

NA Not assigned

### **ZT = Tailored product**

N No

Y Yes (ETO)

## Code example

JLS/S-4-1172-250, FI=AN, CO=N, IO=NA, IN=N, RC=NA, SE=NA, ZT=N