

Halton Jaz JDB – Diffuser with side slot



Overview

- Ceiling diffuser with side slot in circular shape
- Suitable for supply and exhaust
- Installation either directly to ductwork or to balancing plenum
- Detachable front panel enables the cleaning of the diffuser and ductwork
- Deflector parts for direction of flow pattern in 1-3 directions
- Circular duct connection with rubber gasket

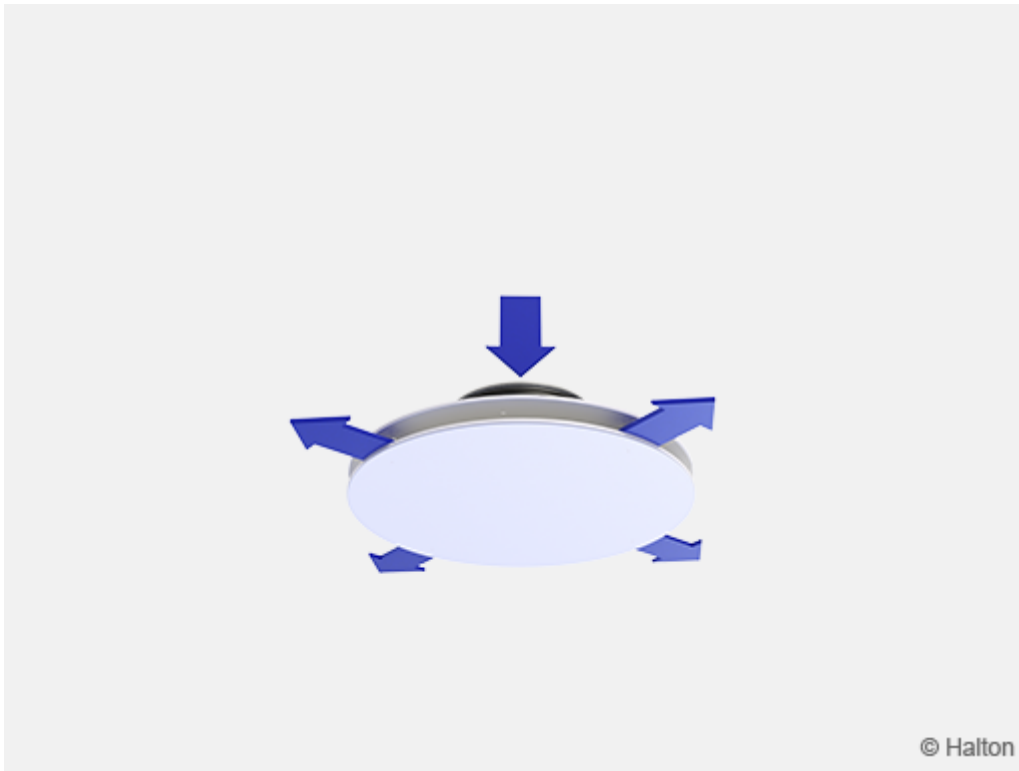
Accessories

- Set of deflector parts provide control flow pattern direction.
- Balancing plenum with measurement and adjustment functions
- Installation panel for modular ceiling

Product models

- JDB/S, solid front panel
- JDB/P, perforated front panel
- Direct installation to the ceiling opening
 - Standard T-bar ceiling
 - Clip-in ceiling

Operating principle

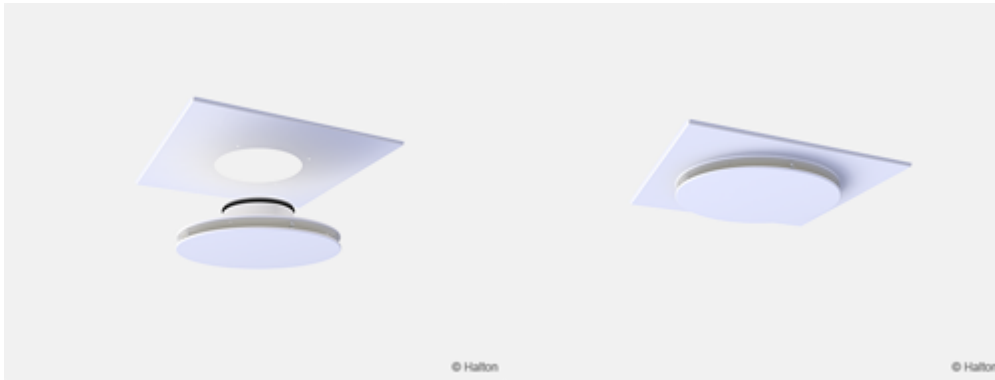


- Air is supplied into the space through the side slots and mixed with the room air outside the diffuser.
- Recommended maximum air temperature difference between supply and room air is 10 °C.
- The throw pattern can be deflected in different (1, 2 and 3) directions with the deflection panels.

Features and options

| Accessory | Code | Description |
|--------------------|------|--|
| Deflector part | DP | A set of parts for providing the flow pattern in 3, 2 and 1 directions (not needed for 4 direction flow) |
| Balancing plenum | PDI | For balancing and equalising the airflow and attenuating the duct noise |
| Installation panel | PI-N | For standard 600×600 module ceiling installation, colour white (RAL 9003) |
| | PI-C | For Clip-In module ceiling installation, colour white (RAL 9003) |

Installation panel (PI)



Quick selection

Values with adjustment module (MSM) fully open.

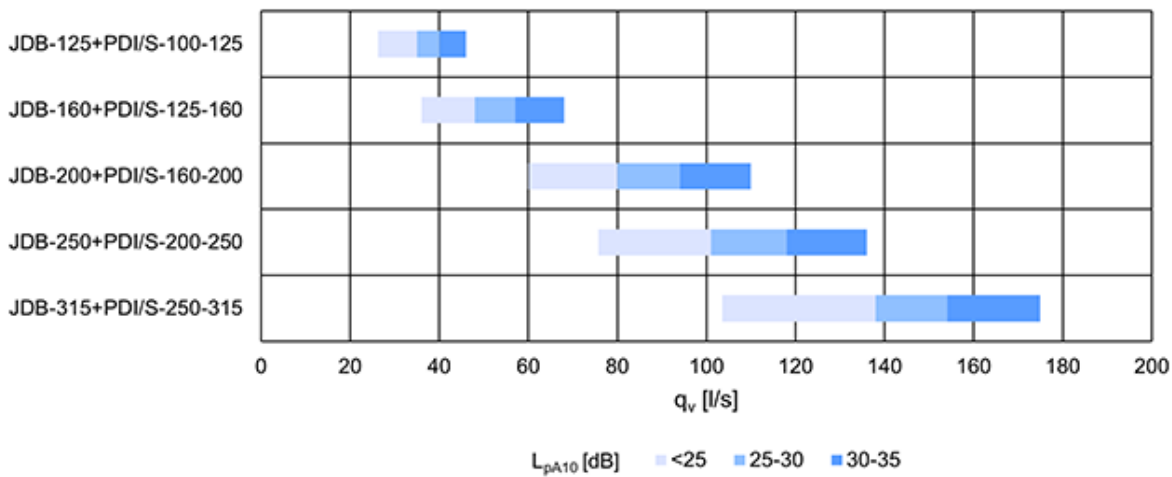


Fig. 1. Quick selection, supply with unit l/s

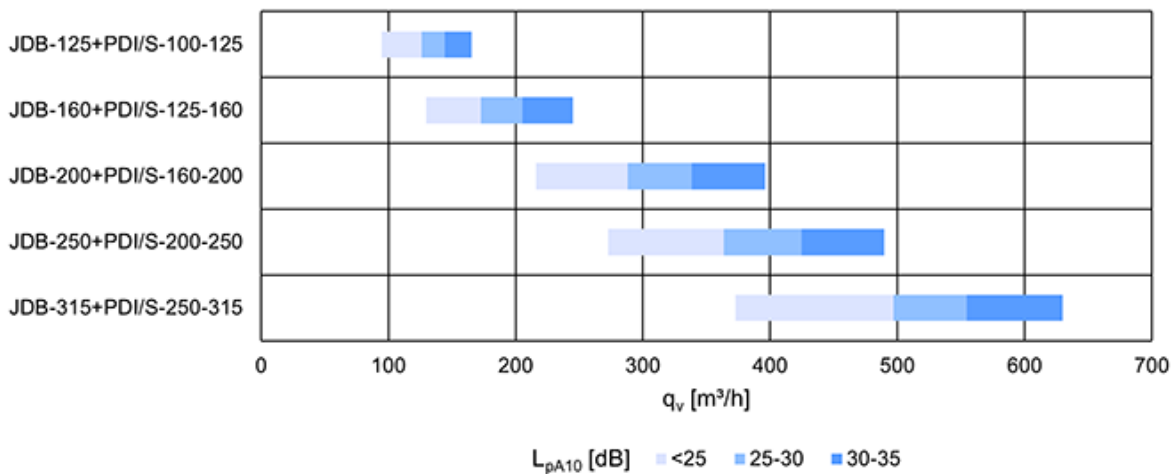


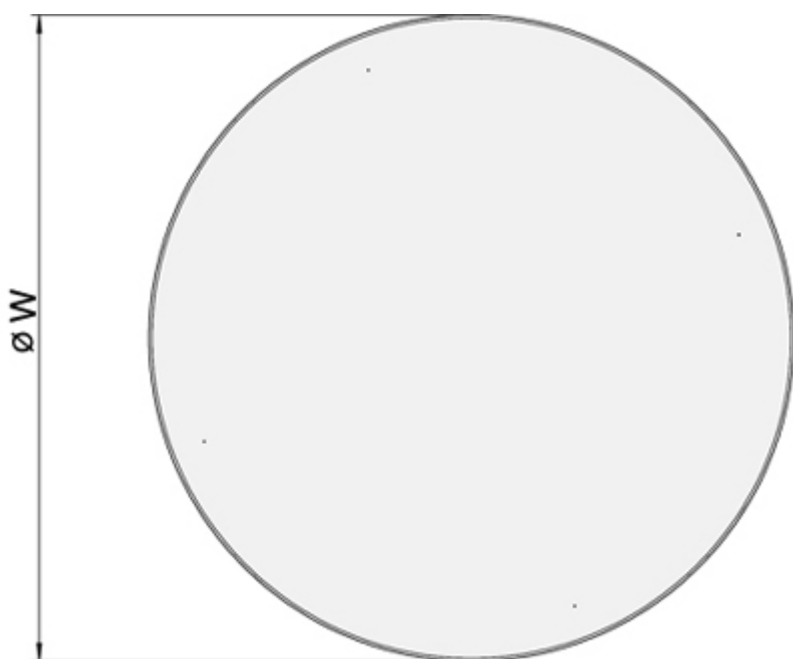
Fig. 2. Quick selection, supply with unit m³/h

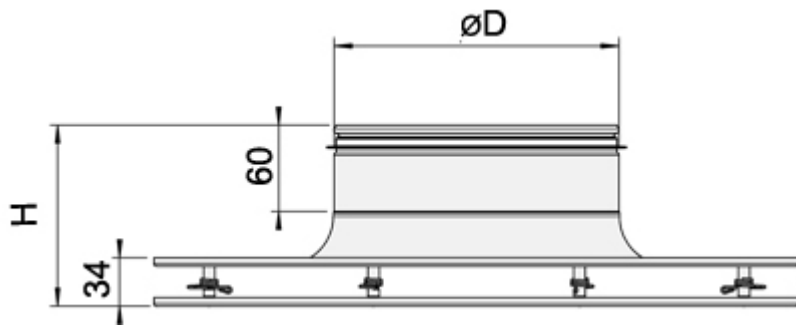
Materials

| Part | Material | Note |
|---|----------------------------------|---------------------------|
| Upper plate | Steel | – |
| Upper plate, ceiling integrated model (WS) | Steel | – |
| Front panel | Steel | – |
| Deflection parts (DP) | Foamed plastic | – |
| Coupling sleeve with gasket | Galvanised steel | Gasket rubber compound |
| Installation panel (PI) | Steel | – |
| Finishing | Painted, white (RAL 9003/30%) | Special colours available |

Dimensions and weight

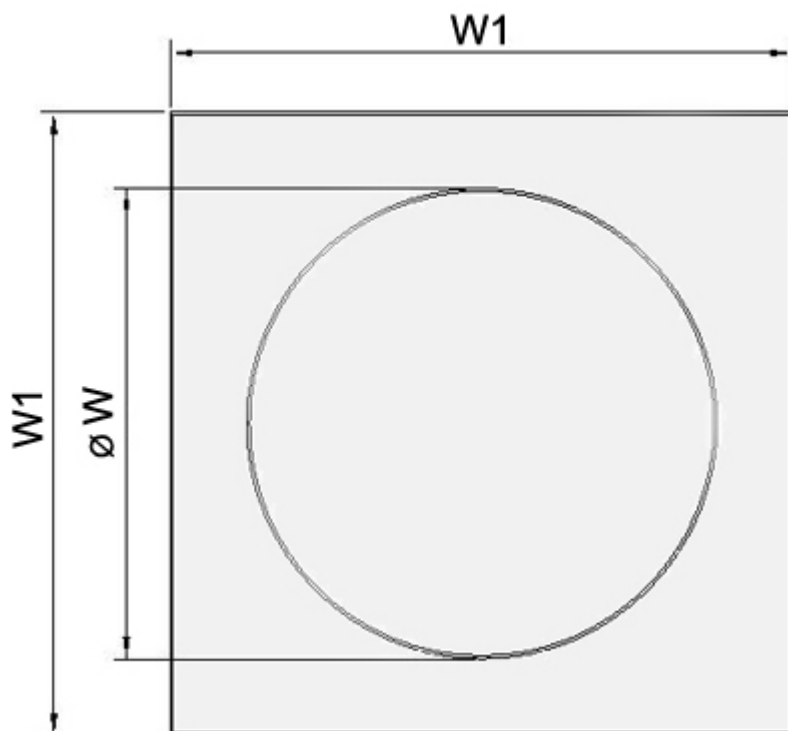
Halton Jaz JDB, basic model (WS=NA)

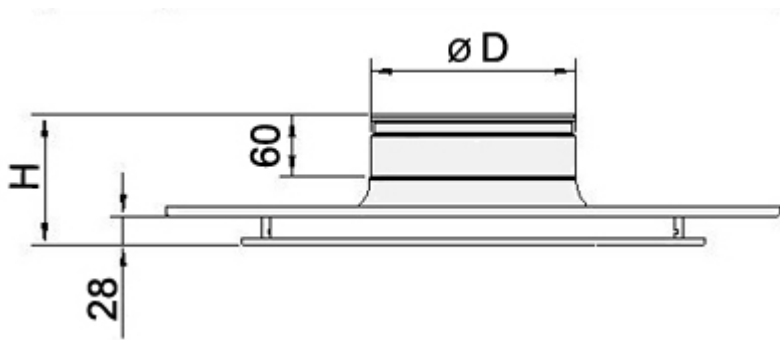




| NS [mm] | Ø W [mm] | H [mm] | ØD [mm] | Weight [kg] |
|---------|----------|--------|---------|-------------|
| 125 | 300 | 116 | 124 | 1.2 |
| 160 | 300 | 121 | 159 | 1.2 |
| 200 | 450 | 126 | 199 | 2.4 |
| 250 | 450 | 136 | 249 | 2.4 |
| 315 | 570 | 146 | 314 | 4.4 |

Halton Jaz JDB, ceiling integrated model (WS = T or C)

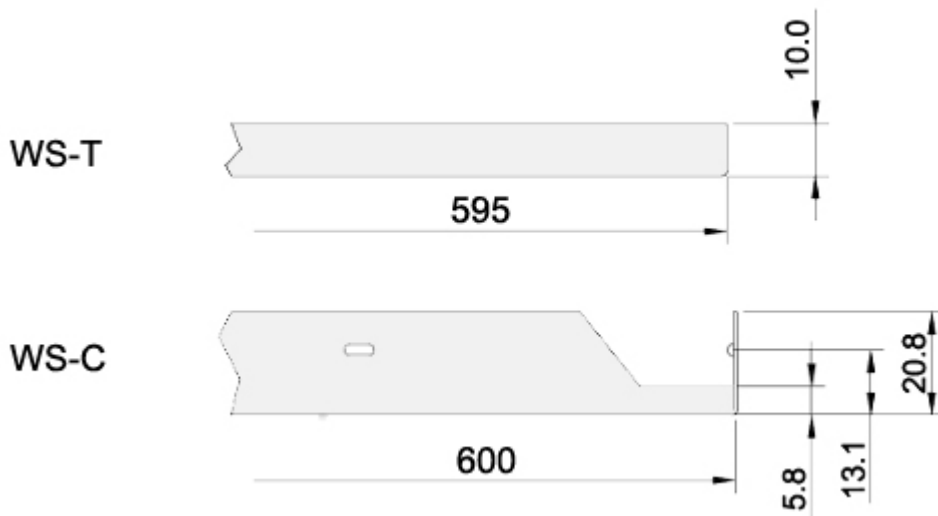




| NS [mm] | W [mm] | W1 (WS=T) [mm] | W1 (WS=C) [mm] | H [mm] | ØD [mm] |
|---------|--------|----------------|----------------|--------|---------|
| 125 | 300 | 595 | 600 | 119 | 124 |
| 160 | 300 | 595 | 600 | 124 | 159 |
| 200 | 450 | 595 | 600 | 129 | 199 |
| 250 | 450 | 595 | 600 | 139 | 249 |
| 315 | 600 | 595 | 600 | 149 | 314 |

WS-T = Standard T-bar, tile 600×600

WS-C = Clip-in ceiling, tile 600×600



Halton Jaz JDB with Halton Pop PDI plenum

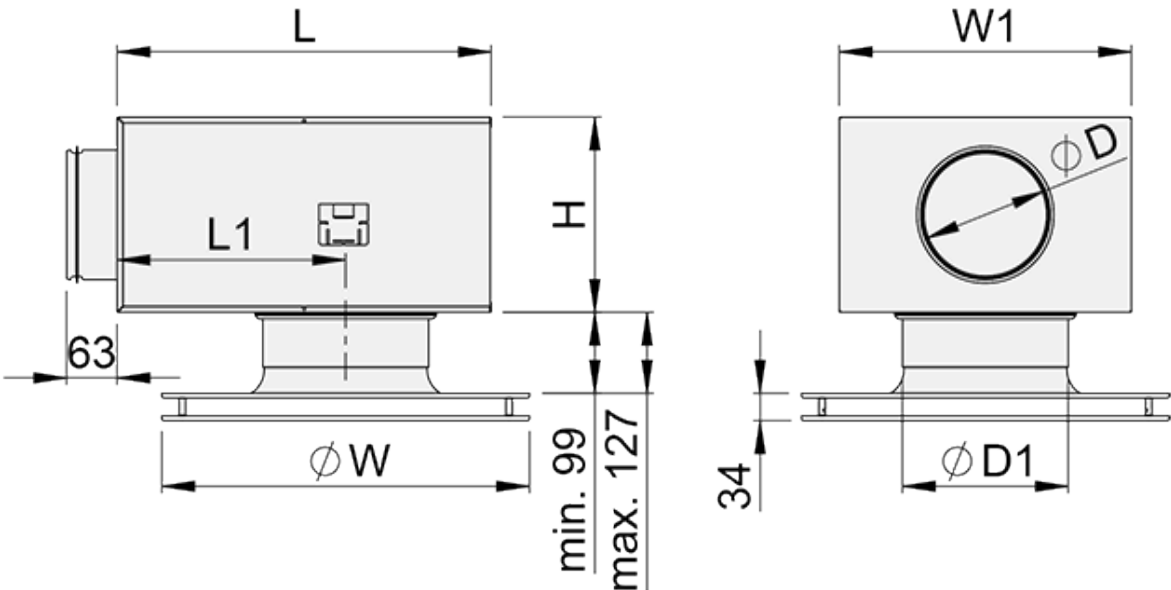


Fig. 3. Halton Jaz JDB with Halton Pop PDI plenum, externally positioned connection spigot

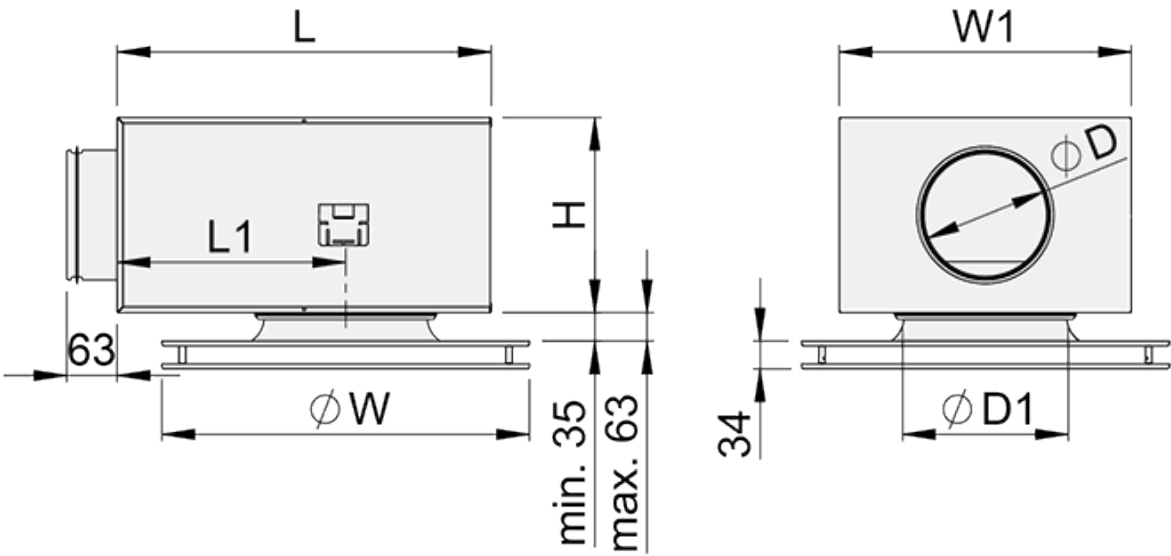


Fig. 4. Halton Jaz JDB with Halton Pop PDI plenum, internally positioned connection spigot

| JDB | W [mm] | PDI | ØD [mm] | ØD1 [mm] | L [mm] | W1 [mm] | H [mm] | L1 [mm] | Weight [kg] |
|-----|-----------|---------|------------|-------------|-----------|------------|-----------|------------|----------------|
| 125 | 300 | 100-125 | 99 | 127 | 308 | 282 | 172 | 168 | 3.9 |
| | 300 | 125-125 | 124 | 127 | 308 | 282 | 172 | 168 | 4.0 |
| 160 | 300 | 125-160 | 124 | 162 | 308 | 282 | 172 | 168 | 3.9 |
| | 300 | 160-160 | 159 | 162 | 458 | 358 | 239 | 280 | 6.2 |
| 200 | 450 | 160-200 | 159 | 202 | 458 | 358 | 239 | 280 | 7.3 |
| | 450 | 200-200 | 199 | 202 | 458 | 358 | 239 | 280 | 7.4 |
| 250 | 450 | 200-250 | 199 | 252 | 458 | 358 | 239 | 280 | 7.3 |
| | 450 | 250-250 | 249 | 252 | 520 | 480 | 359 | 280 | 10.6 |
| 315 | 570 | 250-315 | 249 | 317 | 520 | 480 | 359 | 280 | 12.4 |
| | 570 | 315-315 | 314 | 317 | 520 | 480 | 359 | 280 | 12.6 |

Product models

Halton Jaz JDB/S (solid front panel)



Halton Jaz JDB/P (perforated front panel)



Halton Jaz JDB, ceiling integrated model (WS=T or C)



Specification

The diffuser shall be made of painted steel with a white (RAL 9003) standard colour. Air shall be introduced into the space through the side slot, ensuring a high mixing rate. Flow pattern of the diffuser shall be adjustable in 1, 2 or 3-way directions by shaping the deflector.

Alternative 1: No balancing plenum

The diffuser shall have a spigot with integral gasket for connection to circular duct.
The diffuser shall have a detachable solid or perforated front panel to provide access to the duct.

Alternative 2: Option with balancing plenum

The diffuser shall be connected to a balancing plenum equipped with a measurement and adjustment module.

The diffuser shall have a detachable solid or perforated front panel to provide access to the measurement and adjustment module in the plenum.

The balancing plenum shall have a spigot with integral gasket for airtight duct connection.

The balancing plenum shall comprise sound attenuation material made of polyester fibre with a washable surface.

Installation



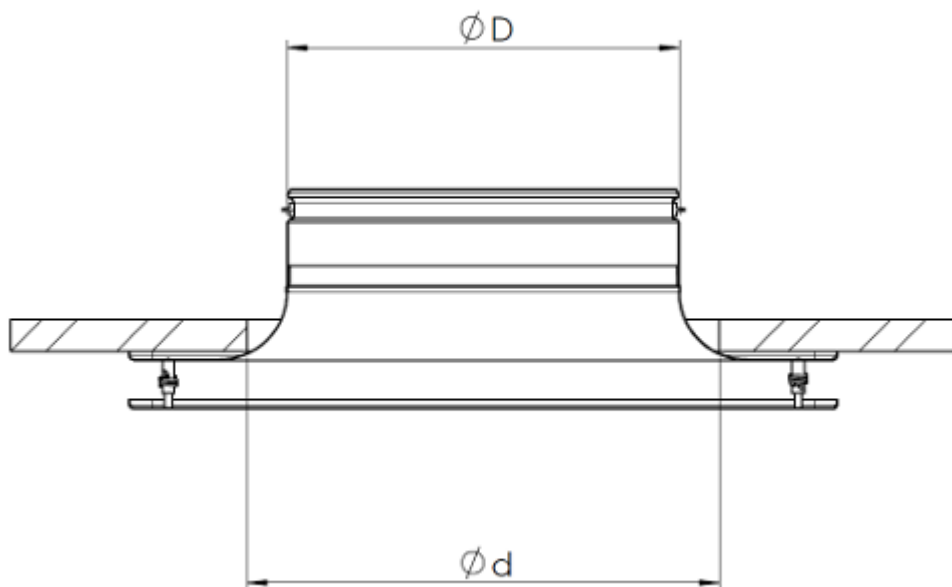
Fig. 5. Halton Jaz JDB diffuser connected to a Halton Pop PDI plenum

The diffuser is connected usually to balancing plenum Halton Pop PDI. Alternatively, it can be connected direct to the duct by riveting or screwing. In that case, minimum safety distance to the

next T-branch or curve is three times the duct diameter (3xD).

The desired flow pattern is selected during installation with the deflector panels, according to the installation manual.

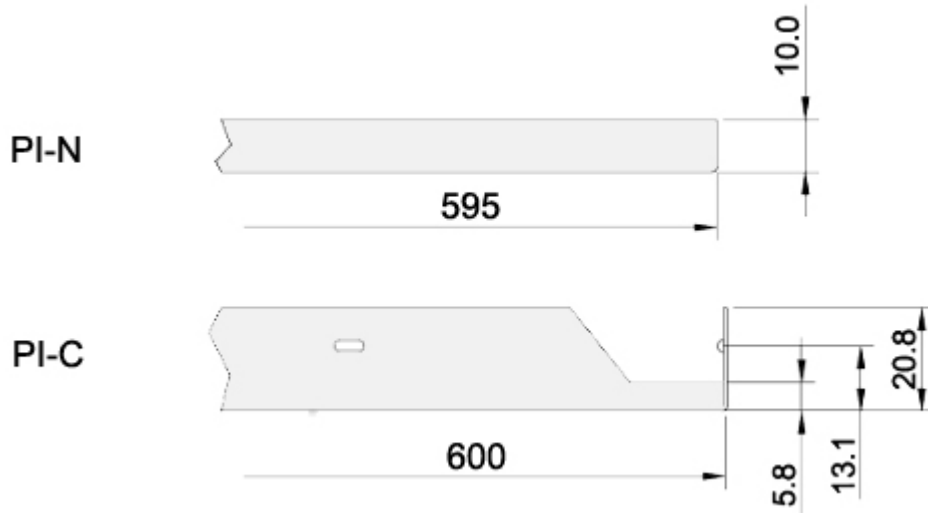
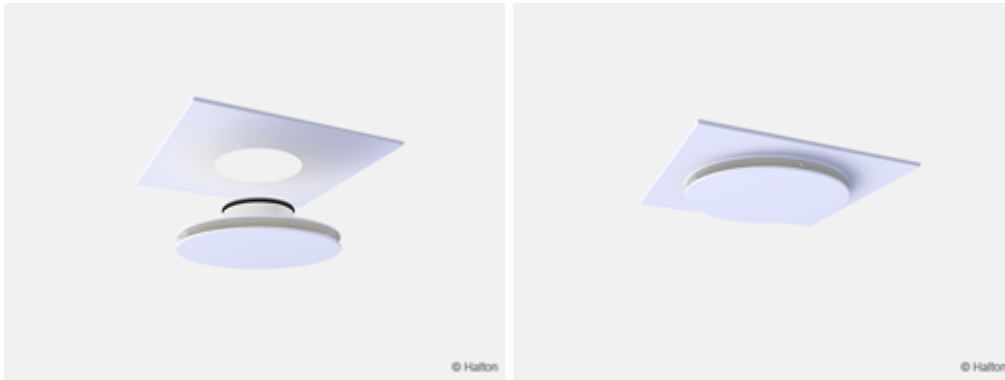
Installation in suspended ceiling



| $\varnothing D$ | $\varnothing d$ |
|-----------------|-----------------|
| 124 | 160 |
| 159 | 215 |
| 199 | 255 |
| 249 | 320 |
| 314 | 405 |

Installation with ceiling panel (PI)

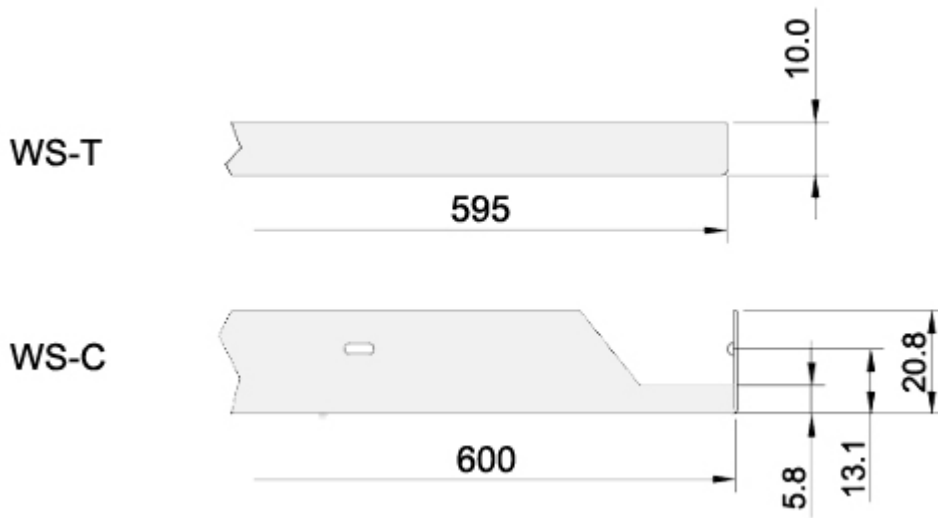
The ceiling panel will enable installation in different modular suspend ceiling tiles.



| Code | Description |
|------|------------------|
| PI-N | T-bar ceilings |
| PI-C | Clip-in ceilings |

Installation with integrated ceiling model (WS)





| Code | Description |
|------|------------------|
| WS-T | T-bar ceilings |
| WS-C | Clip-in ceilings |

Commissioning



Fig. 6. Adjustment of airflow of diffuser and plenum combination

Airflow control

The diffuser itself has no airflow adjustment. To adjust and measure the supply airflow rate, the

diffuser shall be combined with Halton Pop PDI balancing plenum with measurement and adjustment module MSM. In case of exhaust air, use of adjustment module MEM is recommended. It is not possible to measure exhaust airflow rate with adjustment module MEM.

Open the front plate and pass the tubes and control spindle through the front panel (*Fig. 6*). Replace the front panel. Measure the differential pressure with a manometer. The flow rate is calculated using the formula below:

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

where

- q_v Airflow rate [l/s] or [m³/h]
- Ωp_m Measured pressure [Pa]
- k The k factor (see the table below)

Adjust the airflow rate by rotating the control spindle until the desired airflow rate (pressure difference) is achieved.

Set the tubes and spindle back into the plenum. Damper position can be locked with a knurled head screw of the adjuster.

| Duct connection (PDI) | k factor of MSM adjuster, opening >0 [l/s] | |
|-----------------------|--|---------|
| | > 8D | Min. 3D |
| 100 | 5.7 | 7.5 |
| 125 | 9.6 | 12.6 |
| 160 | 16.4 | 21.9 |
| 200 | 26.3 | 31.0 |
| 250 | 47.1 | 51.5 |
| 315 | 78.8 | – |

| Duct connection (PDI) | k factor of MSM adjuster, opening >0 [m ³ /h] | |
|-----------------------|--|---------|
| | > 8D | Min. 3D |
| 100 | 20.6 | 27.0 |
| 125 | 34.4 | 45.4 |
| 160 | 59.0 | 78.8 |
| 200 | 94.8 | 111.6 |
| 250 | 169.5 | 185.4 |
| 315 | 283.6 | – |

Maintenance

Open the front panel of the diffuser and clean the parts by wiping them with a damp cloth.

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

Option with balancing plenum

Open the front panel of the diffuser.

Remove the measurement and adjustment module by gently pulling the shaft.

Note: 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 unit meets the stopper.

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

Order code

JDB/S-D; CO-WS-ZT

| Main options | |
|---|-------------------------|
| S = Model | |
| S | Solid front panel |
| P | Perforated front panel |
| D = Diffuser duct connection size [mm] | 125, 160, 200, 250, 315 |

| Other options and accessories | |
|---------------------------------------|--|
| WS = Ceiling integration model | |
| NA | Not assigned |
| T | T-bar ceiling, tile 600×600 (standard) |
| C | Clip-in ceiling, tile 600×600 |
| CO = Colour | |
| SW | Signal white (RAL 9003) |
| X | Special colour (RAL xxxx) |
| ZT = Tailored product | |
| N | No |
| Y | Yes (ETO) |

| Sub product (ordered separately) | |
|----------------------------------|--|
| DP | Deflector part |
| PI-N | Panel for T-bar ceiling installation |
| PI-C | Panel for Clip-in ceiling installation |
| Halton Pop PDI | Balancing plenum |

Order code example

JDB/S-200, WS=NA, CO=SW, ZT=N