Halton Jaz JCC – Diffuser

Overview

Features

- Ceiling diffuser with side slot in square and circular shape
- Low construction height minimizes the installation space
- Diffuser is available for air supply and exhaust
- Installation either directly to ductwork or to balancing plenum
- Detachable front panel enables the cleaning of the diffuser and ductwork
- Deflector panels available for selection of flow pattern in 1-4 directions

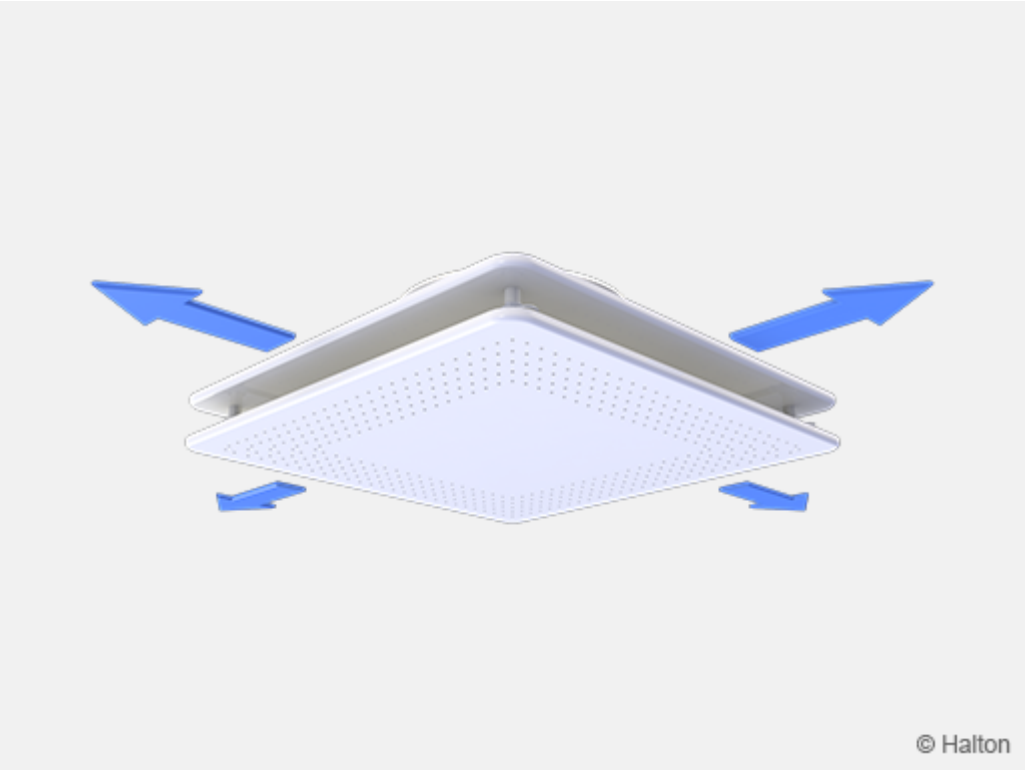
Accessories

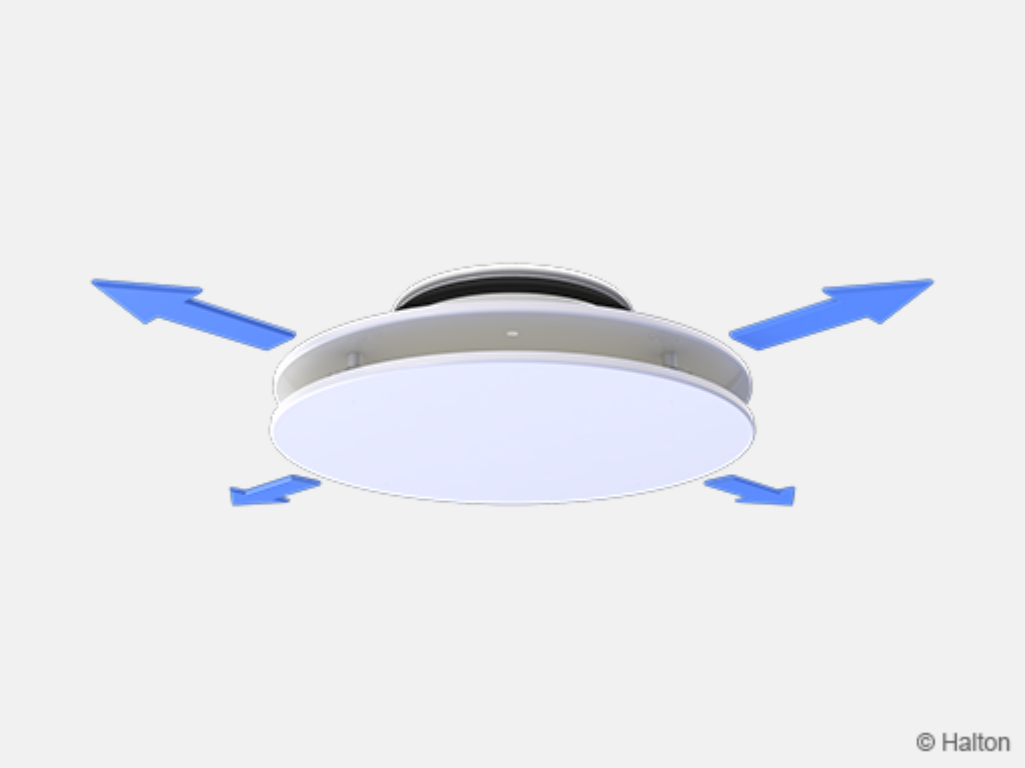
- Deflector panel to provide control for flow pattern direction
- Balancing plenum with measurement and adjustment functions
- Installation panel for modular ceiling
- Control knob when in use with cabin units (ships and ferries)

Product models

- Square, with solid or perforated front panel
- Circular, with solid or perforated front panel
- Direct installation to the standard T-bar ceiling opening
- Material alternative in stainless steel (EN1.4404/AISI316L)

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 parts

(included in delivery).
Deflection part not needed for 4 direction supply or exhaust airflow .

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). See Fig.1.
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). See Fig.2. and 3.
Control knob	CK	For controlling cabin unit (ships and ferries). See Fig.4.

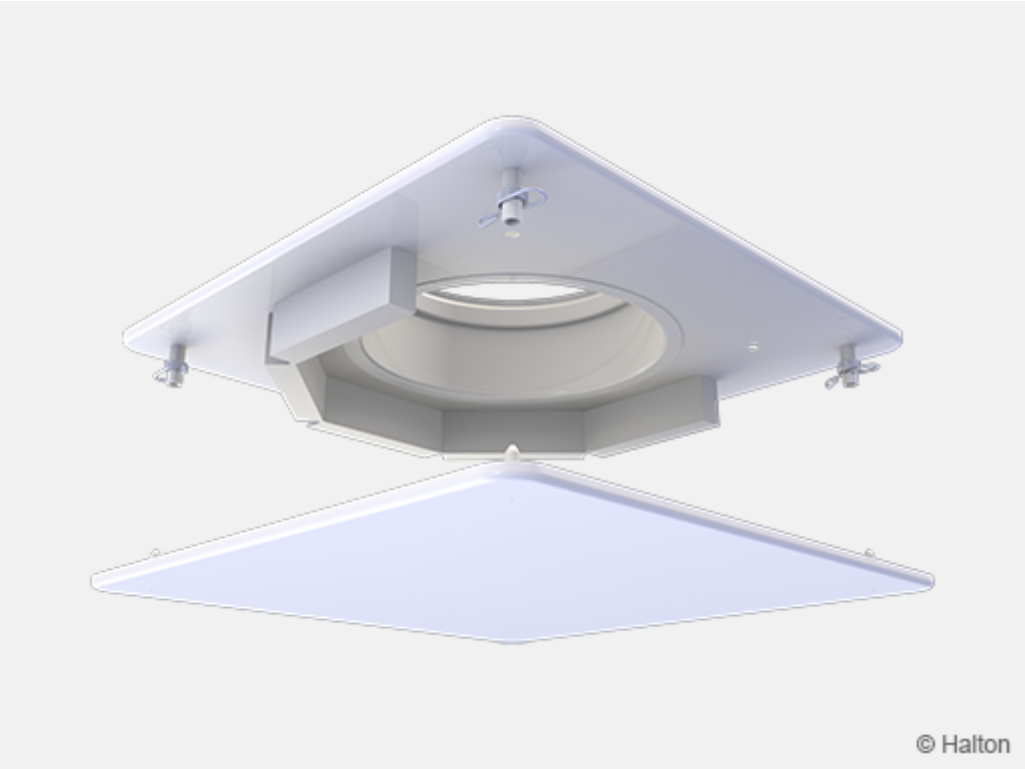


Fig.1. Deflector part attached to diffuser (DP)

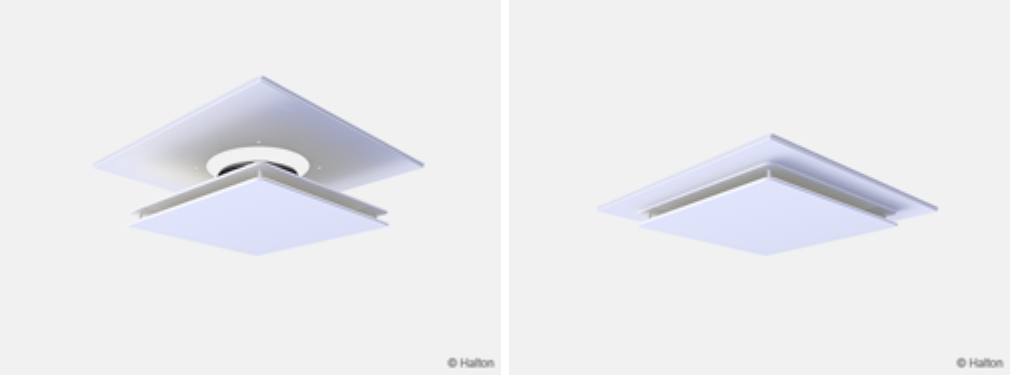


Fig.2. Square diffuser with installation panel (PI)

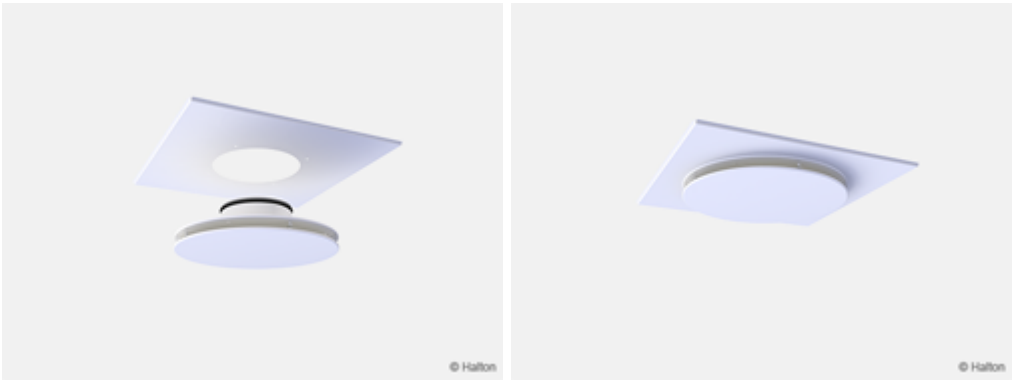


Fig.3. Circular diffuser with installation panel (PI)

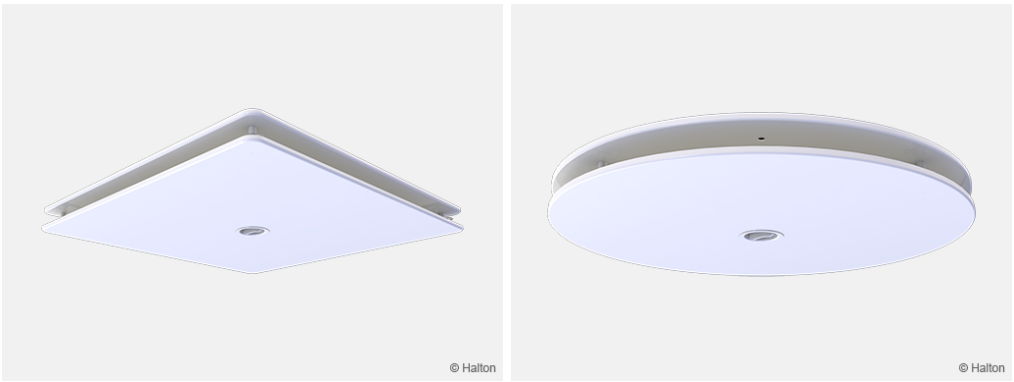


Fig.4. Diffuser with control knob (CK)

Quick selection

Values with adjustment module (MSM) fully open.

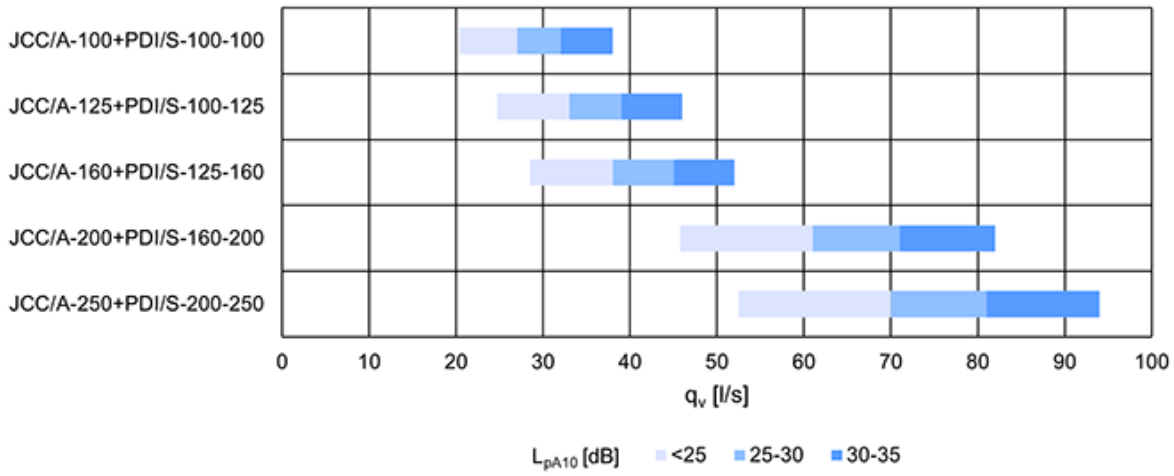


Fig. 5. *Quick selection for square front panel (models A and C), supply with unit l/s*

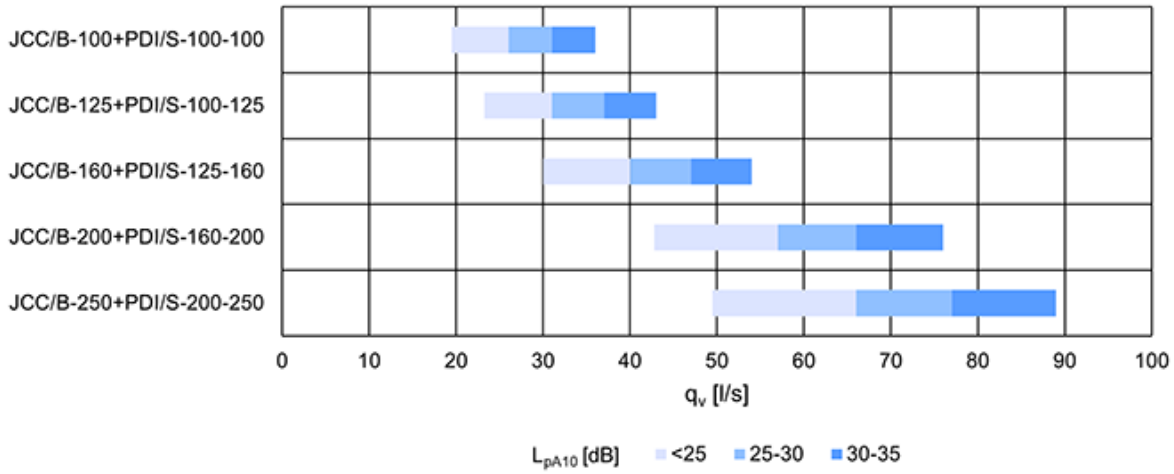


Fig. 6. *Quick selection for circular front panel (models B and D), supply with unit l/s*

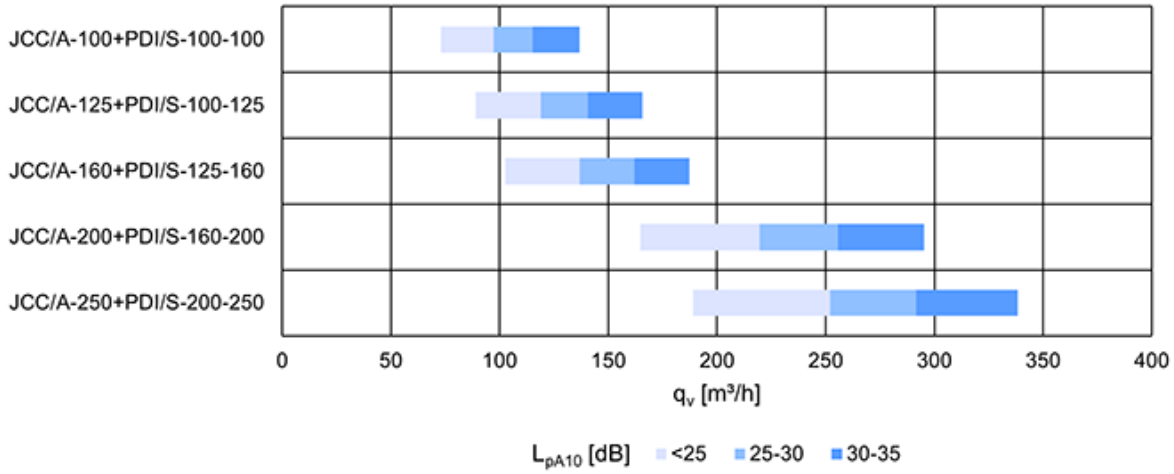


Fig. 7. *Quick selection for square front panel (models A and C), supply with unit* m^3/h

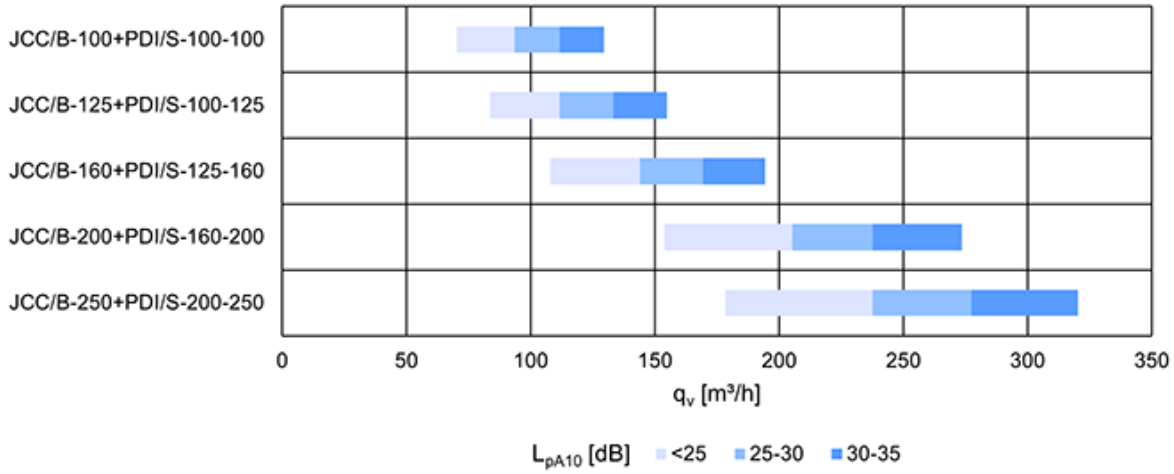
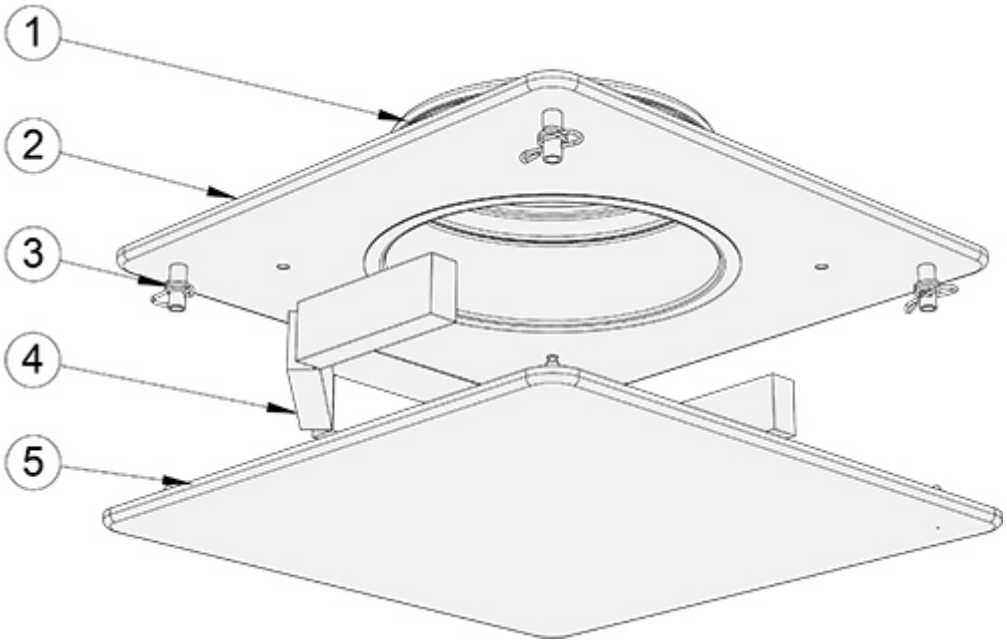


Fig. 8. *Quick selection for circular front panel (models B and D), supply with unit* m^3/h

Stucture and materials

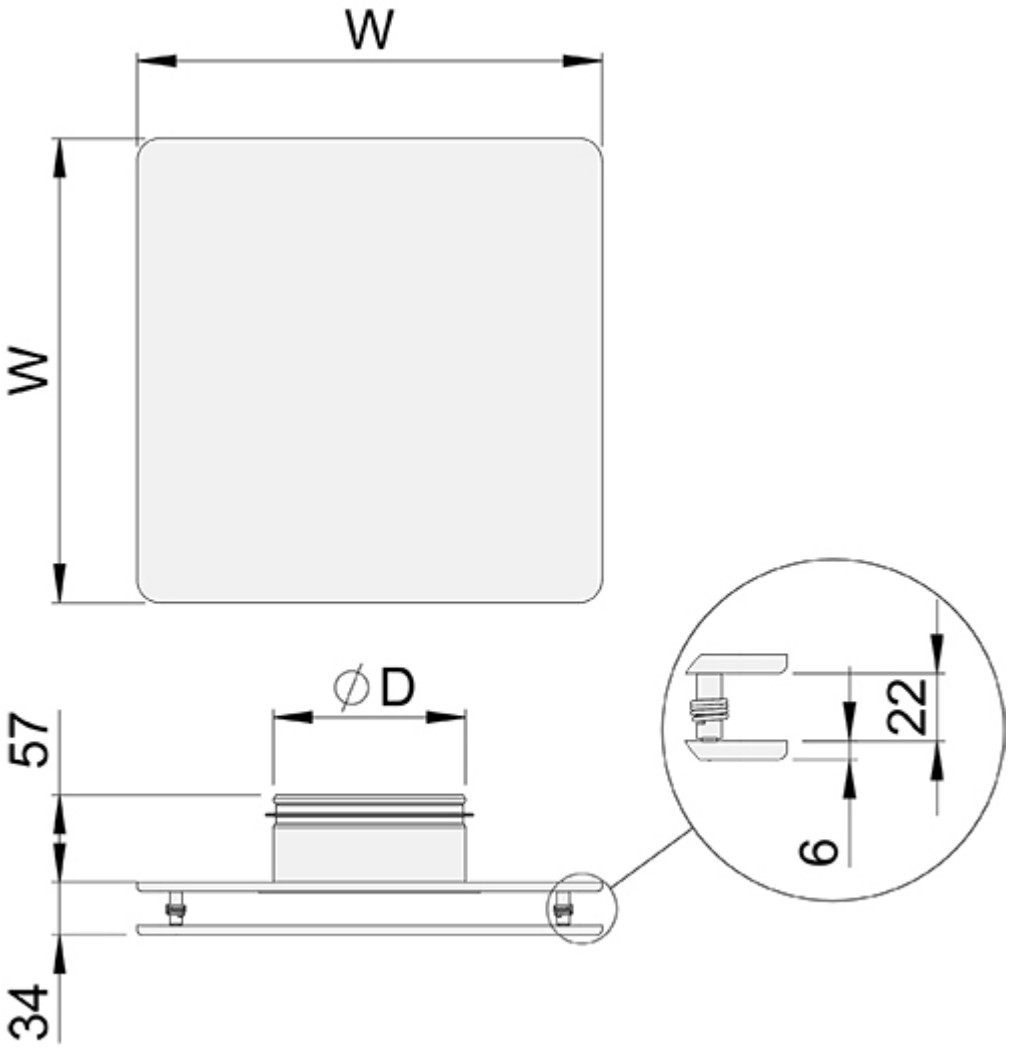


Key	Part	Material	Note
1	Duct seal gasket	Rubber	–
2	Upper plate	Steel or stainless steel (EN1.4404/AISI 316L)	Powder paint, white (RAL 9003) Special colours available on request
3	Spring lock	Steel or stainless steel (EN1.4404/AISI 316L)	–
4	Deflector part	Foamed plastic	–
5	Front panel	Steel or stainless steel (EN1.4404/AISI 316L)	Powder paint, white (RAL 9003) Special colours available on request

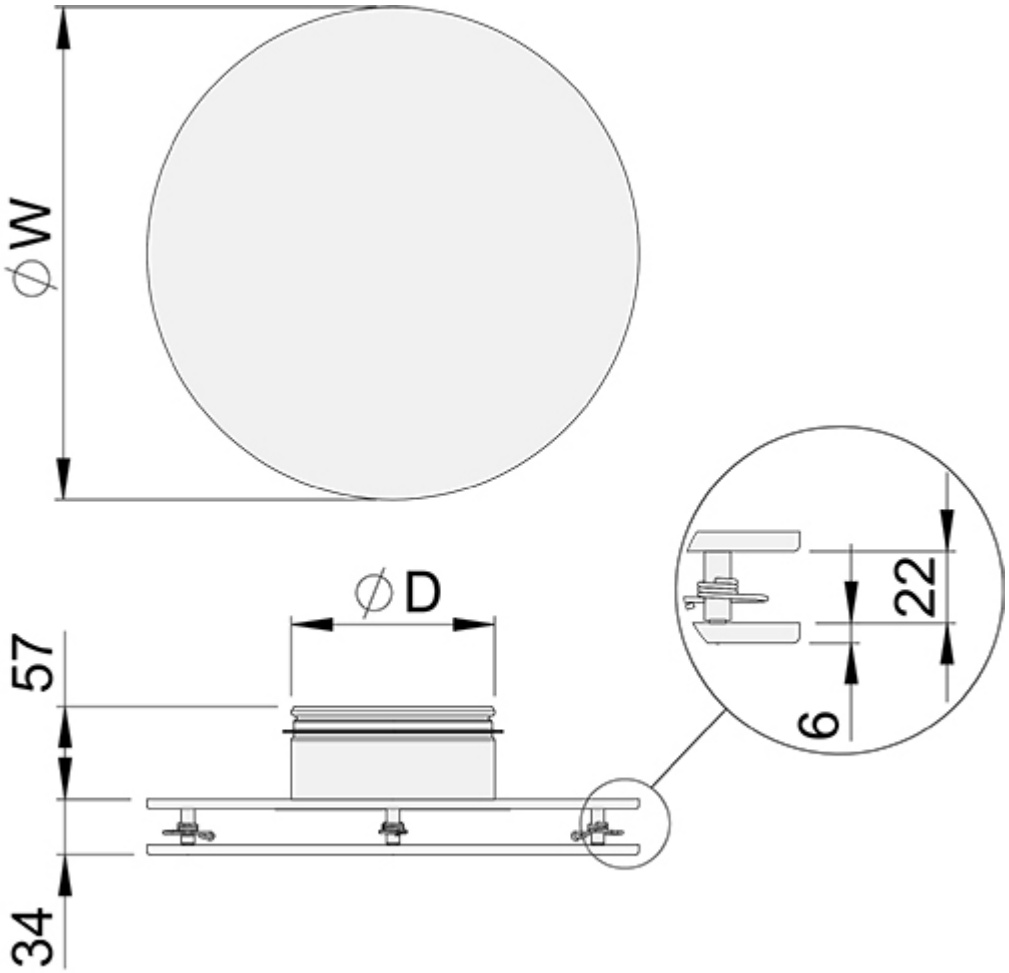
Note: Same material options available for circular and square models.

Dimensions and weight

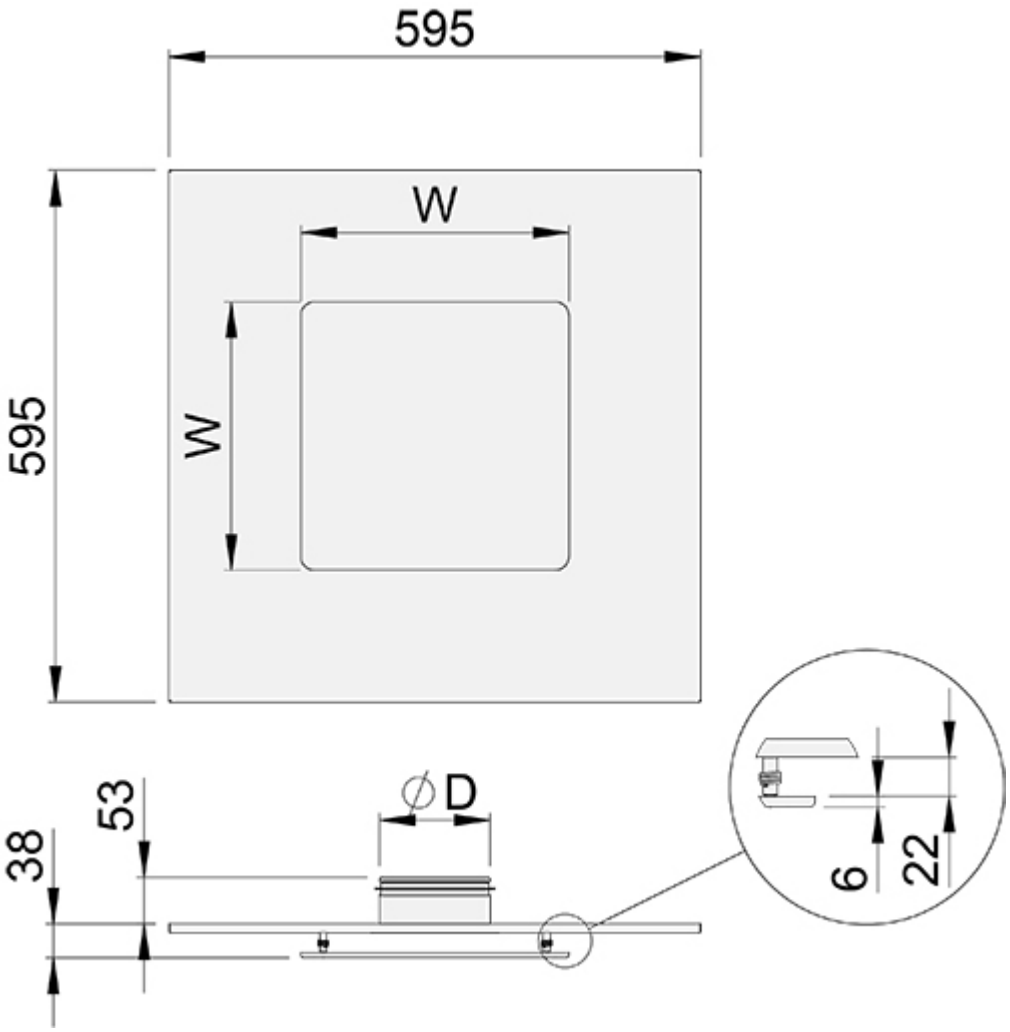
Halton Jaz JCC, square model (A,C)



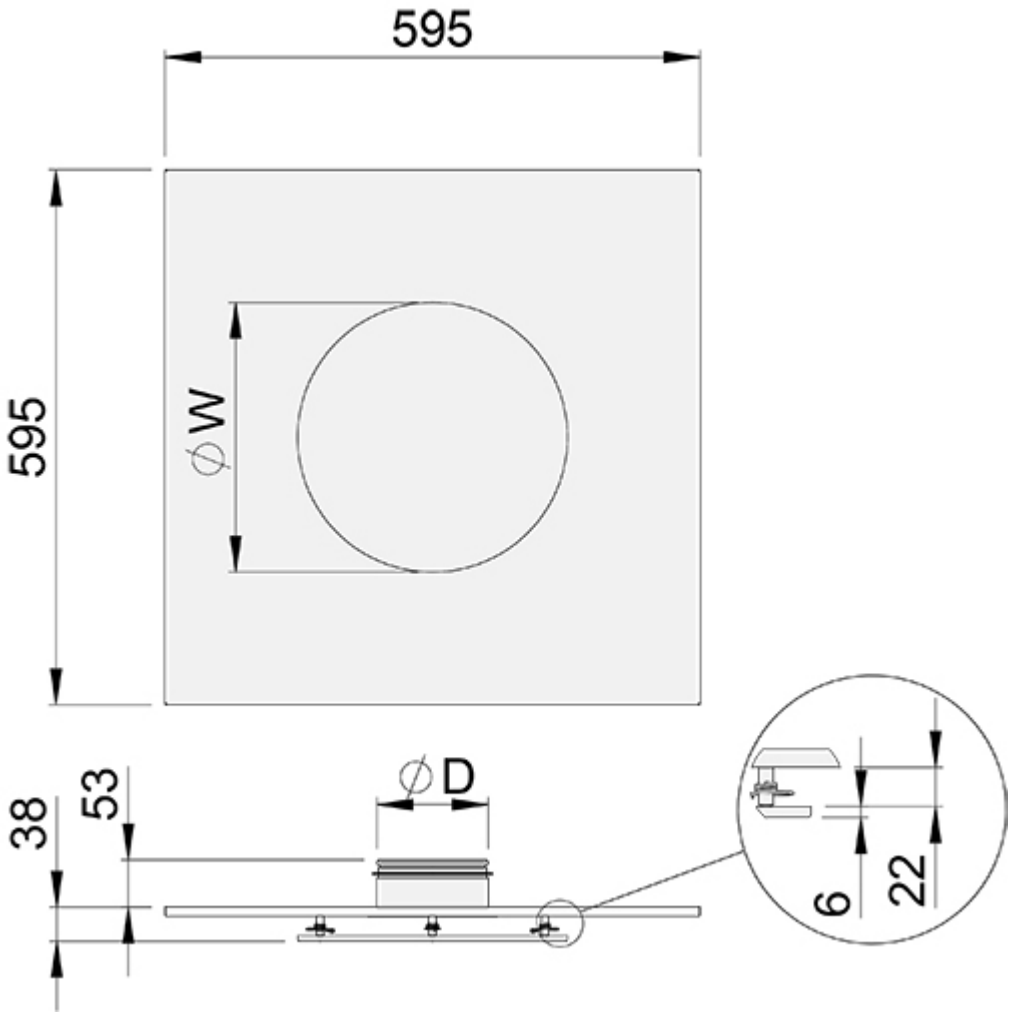
Halton Jaz JCC, circular model (B,D)



Halton Jaz JCC, square ceiling integrated model (WS)



Halton Jaz JCC, circular ceiling integrated model (WS)



NS	W [mm]	ØD [mm]	Weight, square [kg]	Weight, circular [kg]	Weight, square + WS [kg]	Weight, circular +WS [kg]
100	300	99	1.4	1.2	3.6	3.4
125	300	124	1.4	1.2	3.6	3.4
160	300	159	1.4	1.2	3.6	3.4
200	450	199	2.9	2.3	4.9	4.4
250	450	249	2.8	2.3	4.9	4.4

Halton Jaz JCC with Halton Pop PDI plenum

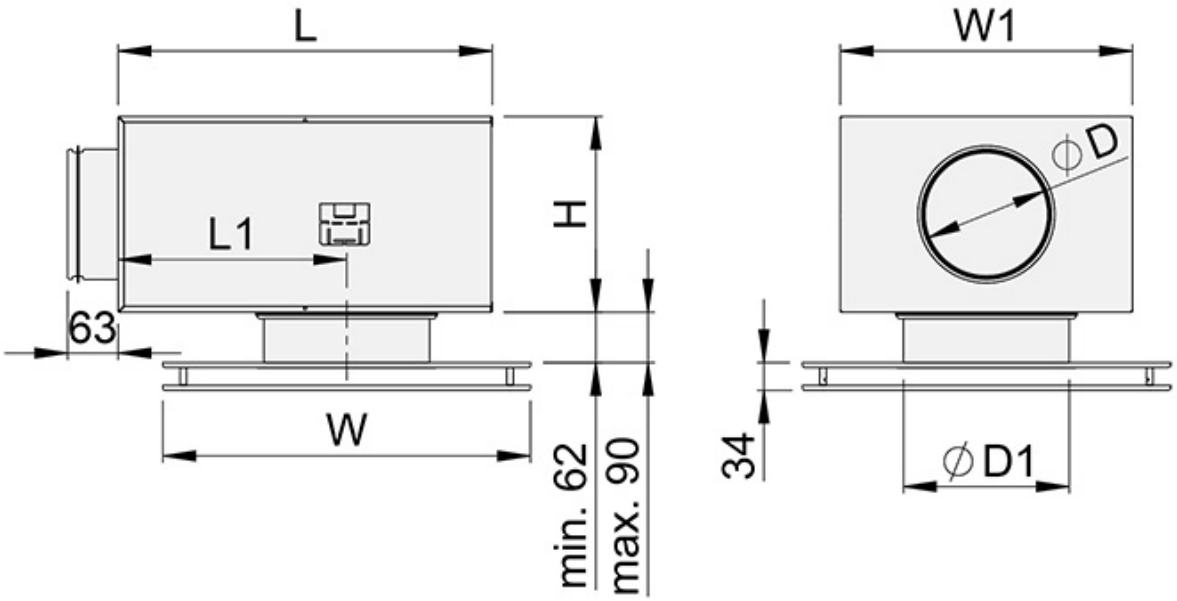


Fig. 9. *Halton Jaz JCC with Halton Pop PDI plenum, externally positioned connection spigot*

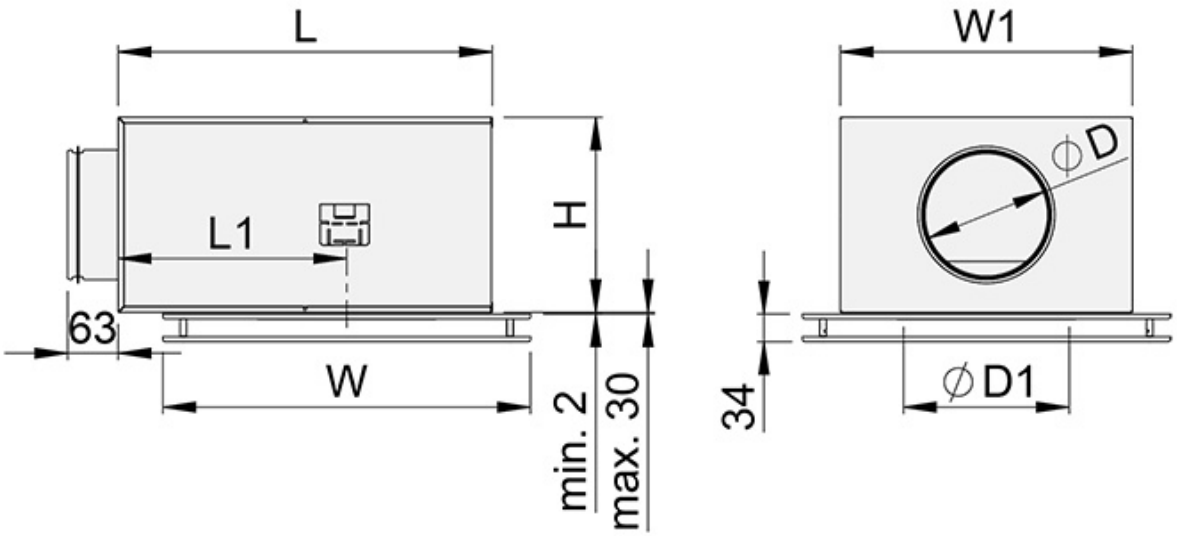


Fig. 10. *Halton Jaz JCC with Halton Pop PDI plenum, internally positioned connection spigot*

JCC	W [mm]	PDI	ØD [mm]	ØD1 [mm]	L [mm]	W1 [mm]	H [mm]	L1 [mm]	Weight, square [kg]	Weight, circular [kg]
100	300	100-100	99	102	308	282	172	168	4.1	3.9
125	300	100-125	99	127	308	282	172	168	4.1	3.9
	300	125-125	124	127	308	282	172	168	4.2	4.0
160	300	125-160	124	162	308	282	172	168	4.1	3.9
	300	160-160	159	162	458	358	239	280	6.4	6.2
200	450	160-200	159	202	458	358	239	280	7.8	7.2
	450	200-200	199	202	458	358	239	280	7.9	7.3
250	450	200-250	199	252	458	358	239	280	7.7	7.2
	450	250-250	249	252	520	480	359	280	11.0	10.5

Product models

Fig.11. *Halton Jaz JCC, square with solid front panel (A)*

Fig.12. *Halton Jaz JCC, circular with solid front panel (B)*

Fig.13. *Halton Jaz JCC, square with perforated front panel (C)*

Fig.14. *Halton Jaz JCC, circular with perforated front panel (D)*

Fig.15. *Halton Jaz JCC, square solid ceiling integrated model (WS=T)*

Fig.16. *Halton Jaz JCC, circular solid ceiling integrated model (WS=T)*

Specification

The diffuser is made of painted steel with a white (RAL 9003) standard colour or stainless steel (EN1.4404/AISI 316L). Air is introduced into the space through the side slot, ensuring a high mixing rate. The flow pattern of the diffuser is as standard for 4 directions. It is adjustable in 1, 2, or 3 -way directions by shaping the deflector.

Alternative 1: Without balancing plenum

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

Alternative 2: With balancing plenum

The diffuser is connected to a balancing plenum equipped with a measurement and adjustment module.
The diffuser has a detachable solid or perforated front panel to provide access to the measurement and adjustment module in the plenum.

The balancing plenum has a spigot with integral gasket for airtight duct connection.
The balancing plenum comprises sound attenuation material made of polyester fibre with a washable surface or mineral wool.

Installation

Fig. 17. *Halton Jaz JCC diffuser with square front panel 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 parts, according to the installation manual. In exhaust application the deflector part is not used.

Commissioning

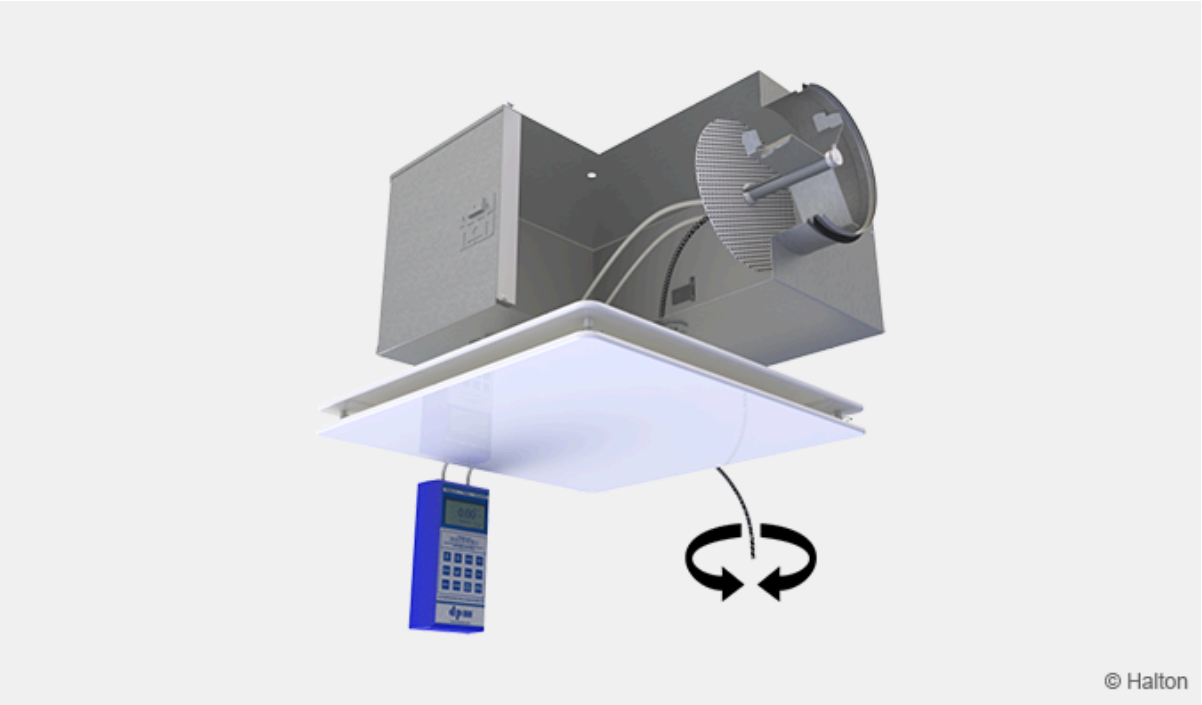


Fig. 18. *Adjustment of airflow of diffuser and plenum combination*

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. 18.*). 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

- $\mathbf{q_v}$ Airflow rate [l/s] or [m^3/h]
- $\mathbf{\Omega p_m}$ 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

JCC-M-D; MA-CO-WS-DP-CK-ZT

Main options	
M = Model	
A	Square with solid front panel
B	Circular with solid front panel
C	Square with perforated front panel
D	Circular with perforated front panel
D = Diffuser duct connection size [mm]	100, 125, 160, 200, 250

Other options and accessories	
MA = Material	
ST	Steel
AS	Stainless steel (EN1.4404/AISI 316L)
CO = Colour	
SW	Signal white (RAL 9003)
X	Special colour (RAL xxxx)
NA	Not assigned
WS = Ceiling integration model	
NA	Not assigned
T	T-bar ceiling, tile 600×600 (standard)
DP = Deflection parts	
Y	Yes
N	No
CK = Control knob (for cabin units only)	
N	No
Y	Yes
ZT = Tailored product	
N	No
Y	Yes (ETO)

Sub product (ordered separately)	
PI-N	Panel for T-bar ceiling installation
Halton Pop PDI	Balancing plenum

Order code example

JCC-A-200; MA=ST, CO=SW, WS=NA, DP=Y, CK=N, ZT=N