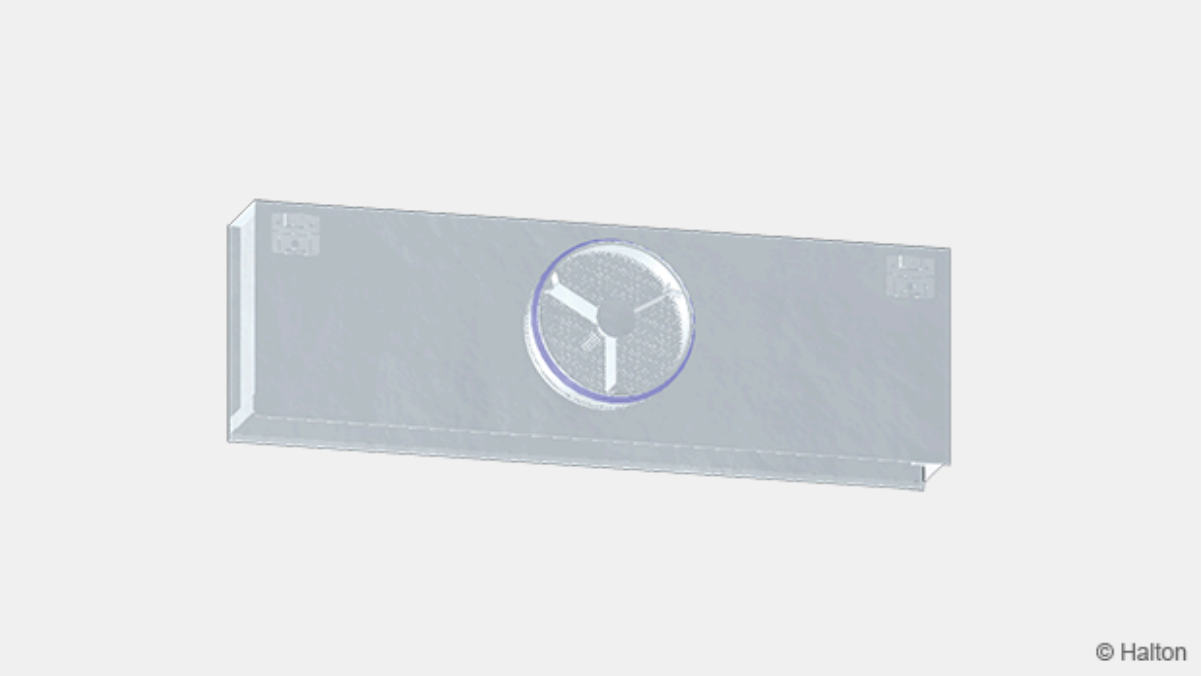
Halton PLD – Plenum for linear slot diffuser



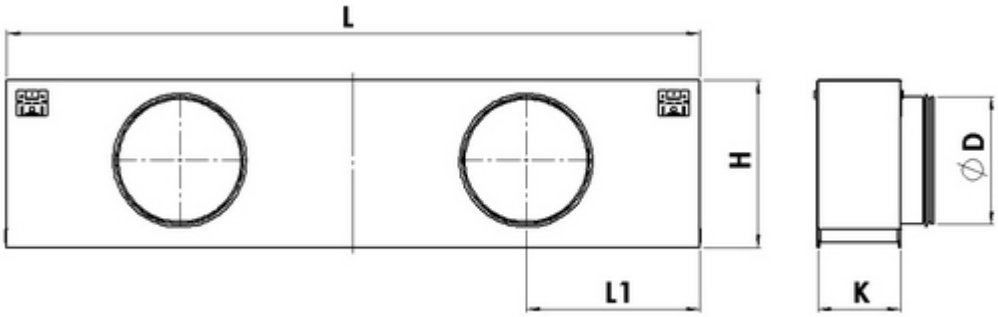
Overview

- Plenum for connecting Halton SLL and SLN linear slot diffuser supply/exhaust unit to ductwork
- Ensures proper function of the supply air diffuser
- Access for ductwork cleaning

Product models and accessories

- Detachable airflow rate measurement and balancing module available.

Dimensions



Slots	H	K	ØD
1	235	47	160
2	275	85	200
3	275	123	200
4	325	161	250

Standard dimensions for linear slot diffusers

Diffuser active length (mm)	572	872	1172	1472	1772
L (mm)	571	871	1171	1471	1771
L1 (mm)	286	436	586	368	443
Duct connections (pcs)	1	1	1	2	2

In addition to standard linear slot diffuser sizes, other sizes can be ordered.
The maximum length is 2000 mm.

Continuous plenums with modular design are also available for installation lengths greater than 2000 mm.

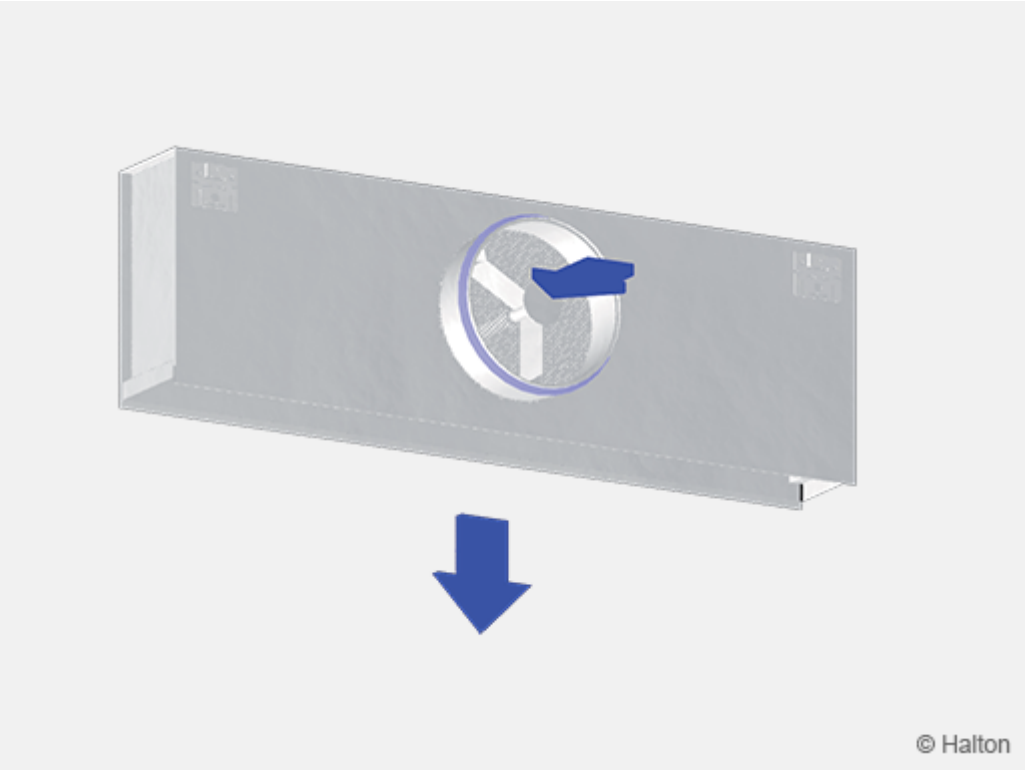
Material

Part	Material	Note
Plenum box / spigot	Galvanised steel	Spigot equipped with rubber gasket
Sound attenuation material	Mineral wool or polyester fibre	The mineral wool is fixed with nails

Accessories

Accessory	Code	Descritption
Sound attenuation material	2W	Mineral wool on 2 sides
Sound attenuation material	5W	Mineral wool on 5 sides
Sound attenuation material	2P	Polyester fibre on 2 sides
Sound attenuation material	5P	Polyester fibre 5 sides
Airflow measurement and adjustment unit	OM	For supply installation

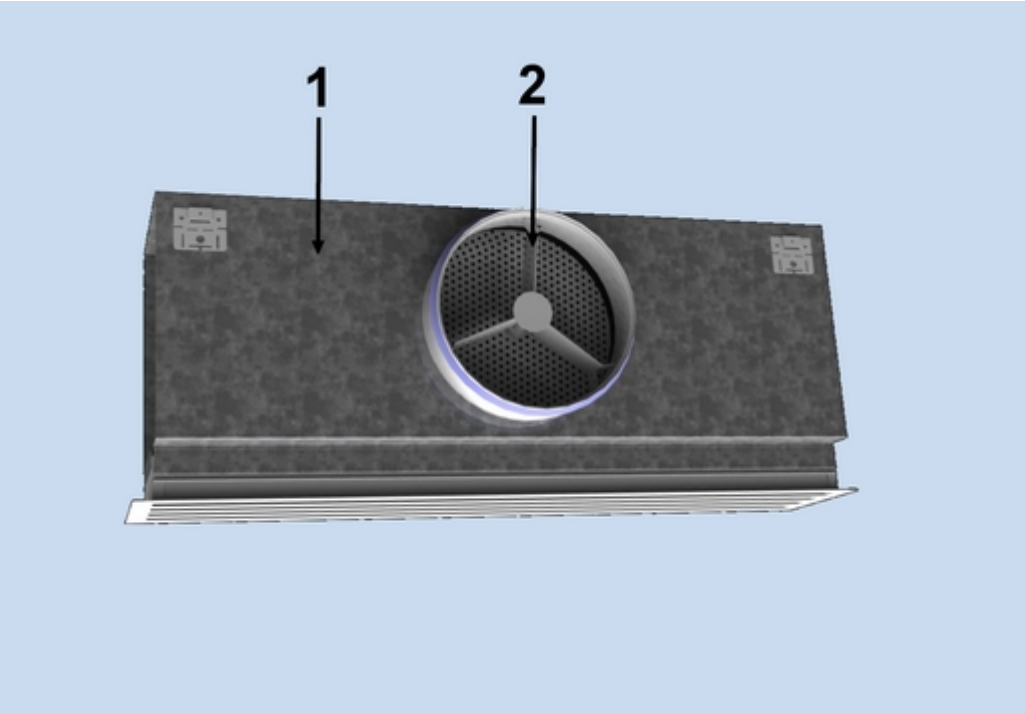
Function



The duct pressure and air velocity are reduced inside the Halton PLD plenum box.
Air is supplied into the space through the diffuser, improving the air distribution quality.

When the Halton PLD is supplied equipped with a measurement and adjustment unit, the volume flow rate can be balanced.

Installation



Key:
1. Plenum
2. Measurement and adjustment module

The plenum is installed into the suspended ceiling with M8 drop rods (not supplied in the delivery). Connect the plenum to the ductwork with a spigot equipped with an integrated rubber gasket.

When equipped with a measurement and adjustment module, the recommended safety distance upstream of the device is at least 3D, in order to ensure a reliable airflow rate measurement.

The unit s control spindle must not be excessively bent.

Adjustment

In order to enable airflow adjustment and measurement of airflow rate, it is recommended that you connect the diffuser to the plenum equipped with the MSM module.
The supply flow rate is determined by using the measurement and adjustment module MSM.

Detach the linear slot diffuser and pass the tubes and control spindle through the diffuser.
Replace the diffuser / exhaust unit.

Measure the differential pressure using a manometer. The flow rate is calculated using the formula below:

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

Ωpm Measured pressure [Pa]
k k factor given as a function of mounting and diameter
qv Airflow rate [l/s]

The k-factor for installations with different safety distances
(D= duct diameter)

NS	> 6xD	min 3xD
160	19	22
200	28	32
250	49	51

Adjust the airflow rate by rotating the control spindle until the desired setting is achieved.
Lock the damper position with a screw.

Replace the tubes and spindle into the plenum and replace the diffuser.

Servicing

Remove the measurement and adjustment module by gently pulling the shaft (not the control spindle).
Wipe the parts with a damp cloth, instead of immersing in water.

Reassemble the measurement and adjustment module by pushing the shaft back into place until the module meets the stopper.

Specification

The plenum is made of galvanised steel.

The plenum comprises an airflow measurement and adjustment module.

The diffuser is detachable in order to provide access to the measurement and adjustment module in the plenum.

The plenum 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.

Order code

PLD/S-L-D-N, IN-OM-ID-ZT

S = Number of slots
1, 2, 3, 4

L = Length (mm)
372,+1,..,50000

D = Diameter of duct connection (mm)
160, 200, 250

N = Number of duct connections
1, 2, 3, 4 .., 322

Other options and accessories

IN = Sound attenuation material
N No attenuation material
2W 2 sides, mineral wool
5W 5 sides, mineral wool
2P 2 sides, polyester fibre
5P 5 sides, polyester fibre

OM = Measurement/adjustment module (MSM)
N No measurement or adjustment module
Y MSM installed in each duct connection

ID = Diffuser assembled with plenum
N No
Y Yes

ZT = Tailored product
N No
Y Yes (ETO)

Code example

PLD/1-400-160-1, IN=N, OM=N, ZT=N