

Halton Zen Corner (ZCO) – Displacement ventilation unit



Overview

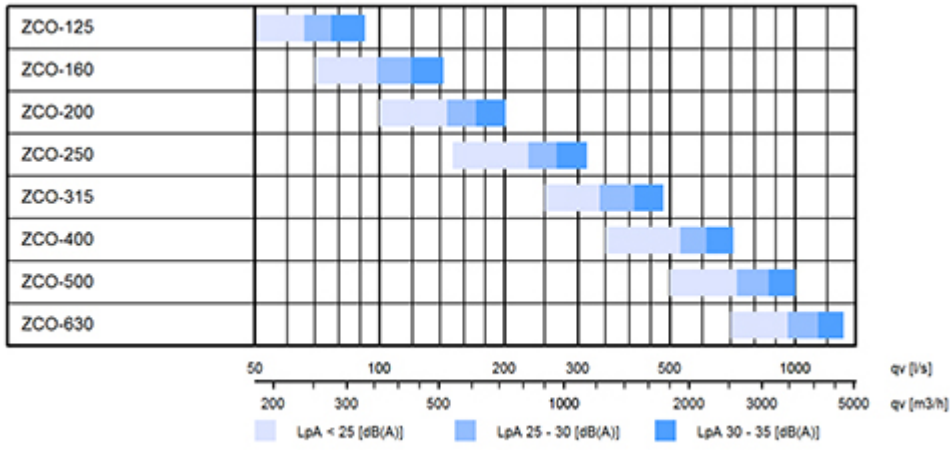
- Capable of large supply airflow range.
- Uniform supply air distribution is achieved through small perforations, providing optimal conditions in the immediate proximity of the unit.
- Low velocity air is supplied horizontally at the floor level.
- Suitable for installation in the corner of a room; the airflow pattern is diffused at an angle of 90 degrees.
- If ceiling installation (not recommended) is required, please contact sales.
- The detachable front plate and metallic internal structure enable cleaning of the unit and ductwork.
- Circular duct connection with an integrated rubber gasket on top/bottom.

Product models and accessories

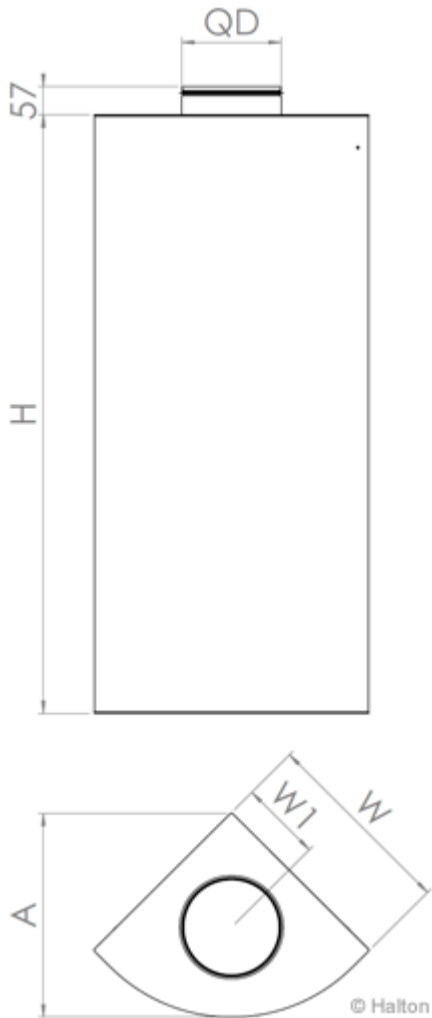
- Model with stainless steel (AISI 316L) design
- Model with thick front panel (1,5 mm)
- Duct cover
- Installation base

Selection

Quick selection



Dimensions and weight



NS	W	W1	H	ØD	A
125	280	108	600	124	295
160	340	139	800	159	357
200	390	163	1200	199	410
250	440	180	1200	249	460
315	515	214	1600	314	540
400	620	262	2000	399	650
500	750	325	2000	499	790
630	900	375	2000	629	945

- **AB/ZCO** installation base:
Height = 100 mm
- **SB/ZCO** installation base, high (store) model:
Height = 200 mm / unit size + 60 mm

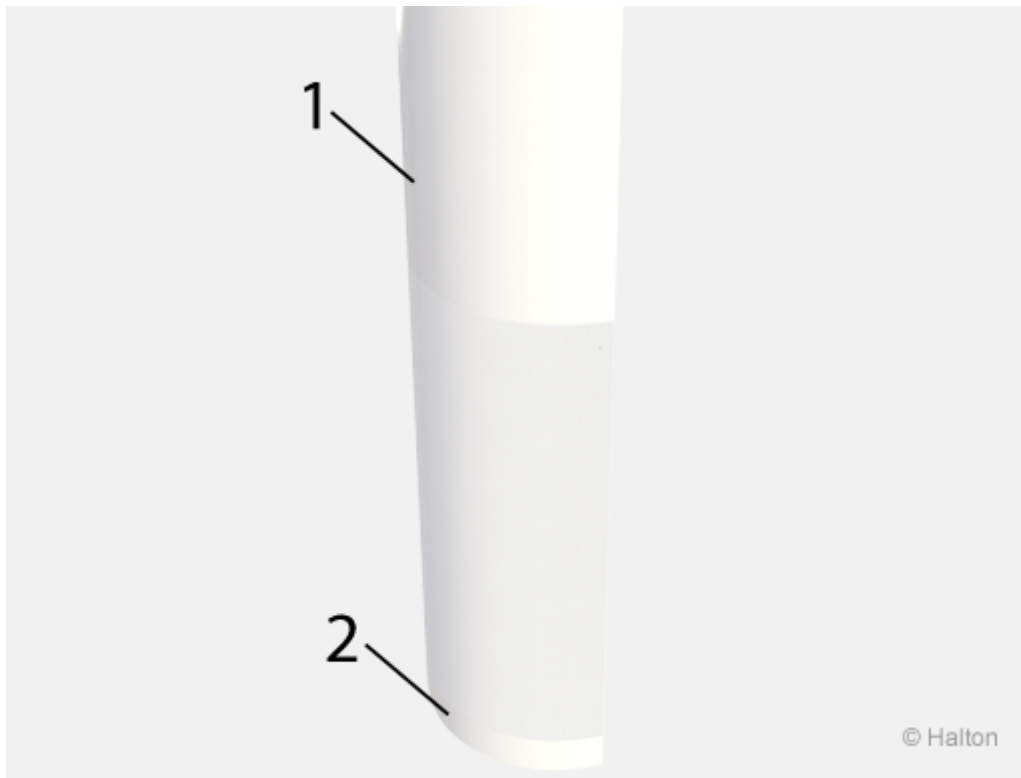
Weight

NS	kg
125	8.2
160	12.7
200	20.2
250	23.1
315	34.7
400	51.6
500	66.5
630	81.9

Material

Part	Material	Note
Front panel	Perforated galvanised steel	Stainless steel (AISI 316L) as option
Casing	Galvanised steel	Stainless steel (AISI 316L) as option
Flow equalisation element	Perforated galvanised steel	–
Pressure measurement pipe	Plastic	–
Spigot	Galvanised steel	–
Gasket	Rubber compound	–
Duct cover	Galvanised steel	–
Installation base	Galvanised steel	–
Finishing	Polyester-epoxy-painted White (RAL 9003/30% gloss)	Special colours available

Accessories

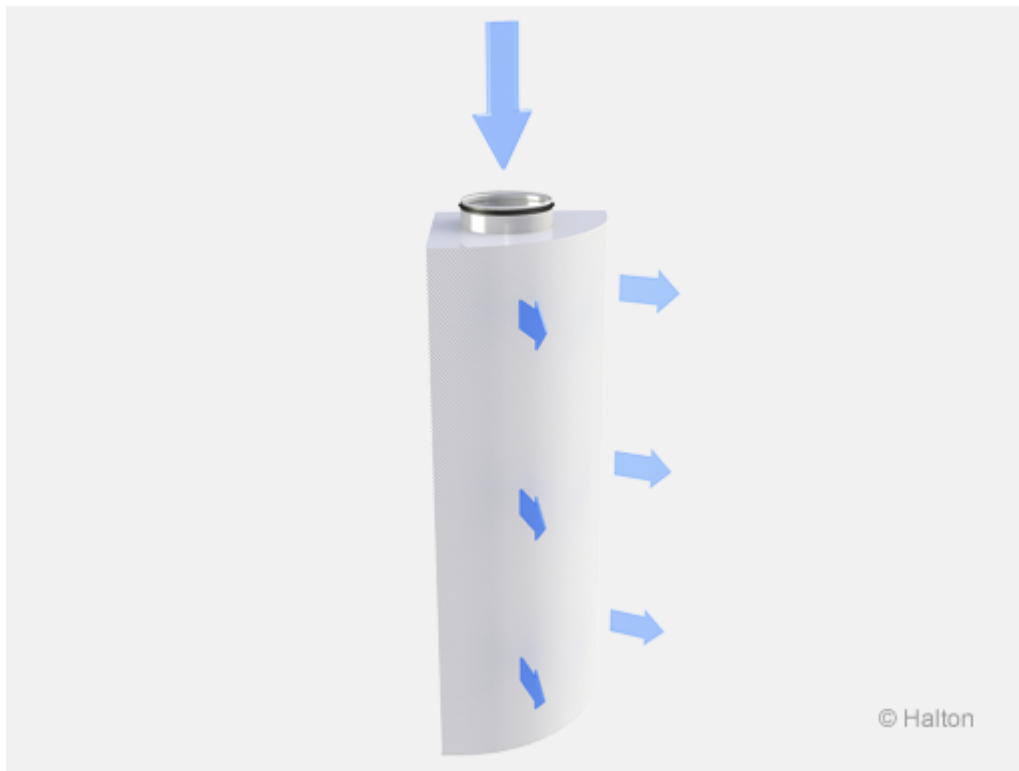


Accessory	Code	Description	Note
Duct cover (1)	DC	Standard lengths 1000 / 1500 / 2000 mm	–
Installation base (2)	AB	Standard height 100 mm	–
Installation base	SB	Standard height 200 mm/ Dimensions =unit size + 60 mm	High (store) model

Product models and options

- Model with stainless steel (AISI 316L) design
- Duct cover (DC) made of perforated steel (same as ZCO unit)
- Thick front panel (1.5 mm)

Function



Air is supplied into the space uniformly through the front panel of Halton Zen Corner, generally at a slightly lower temperature than the room air. The supply airflows down to the floor level, before gradually pervading the occupied zone at a low velocity. Finally the convection of warm surfaces causes the air to rise out of the occupied zone. The low velocity flow pattern is quarter-circular (90°).

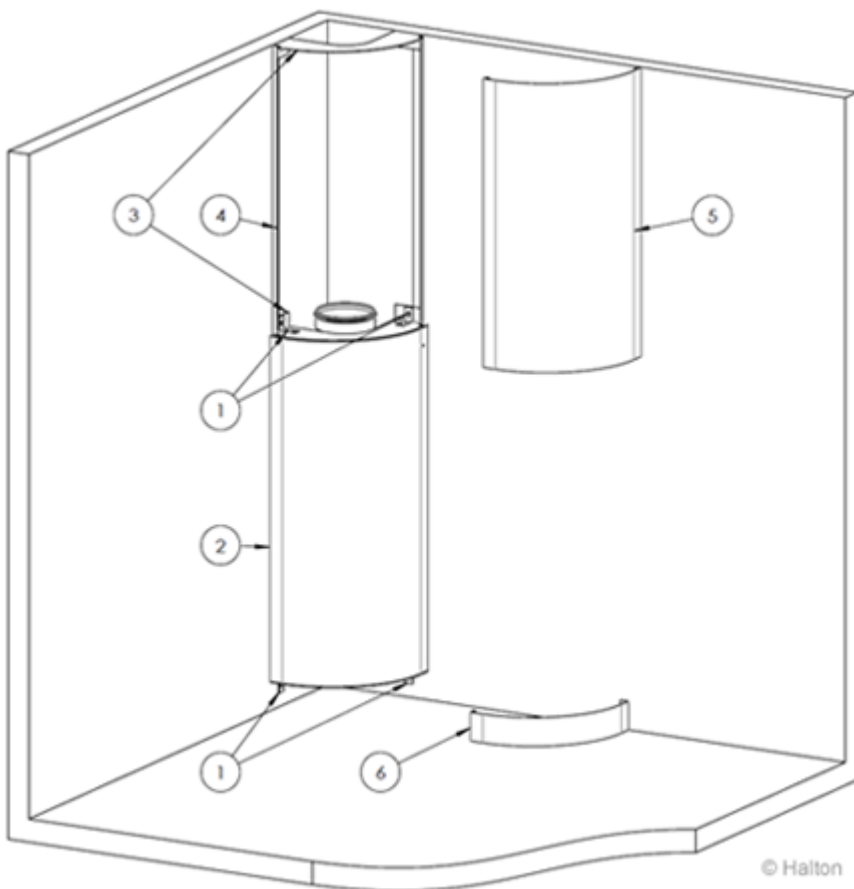
The non-clogging unit can be easily opened and cleaned.

Halton PRA or Halton PTS/C can be used as an airflow adjustment damper in round duct sections.

The safety distance for reliable airflow measurement from the displacement unit is 5 duct dimensions between displacement unit and airflow adjustment damper. If airflow adjustment damper is installed closer to the displacement unit (minimum distance about 3 duct dimensions), supply air throw pattern is correct, but airflow measurement result will not be accurate. When installing airflow adjustment damper close to the displacement unit (minimum $3 \times D$), attenuator could be needed between the damper and the displacement unit.

Note: The flow pattern data has been defined for floor level installation.

Installation



Perform the installation the following order:

A) Installation without base:

Fix mounting brackets (4 places) to the displacement ventilation unit (1). Position the unit (2) against wall and secure with mounting brackets (included in delivery).

Installation with base:

Fix the base (6) onto the floor and fix the displacement ventilation unit (2) onto that. Secure with mounting brackets on top (1) (2 places).

B) Fix displacement ventilation unit duct cover frames (4) onto the wall between the unit and ceiling with screws (3).

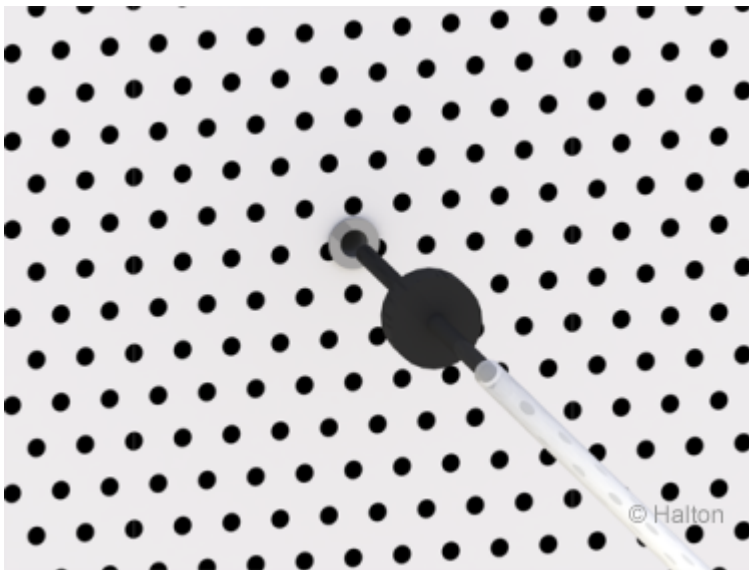
C) After installation of the ductwork, install the front plate of the duct cover (5).

D) When multiple sections of duct cover are used, secure them with screws (not included in delivery).

If ceiling installation (not recommended) is required, please contact sales.

Adjustment

The supply flow rate for displacement ventilation unit is determined by measuring the differential pressure from the measurement nipple with a manometer. Use a measurement probe thin enough fit into the nipple. Then use tape or another gasket to create a seal in the nipple in order to get an accurate reading.



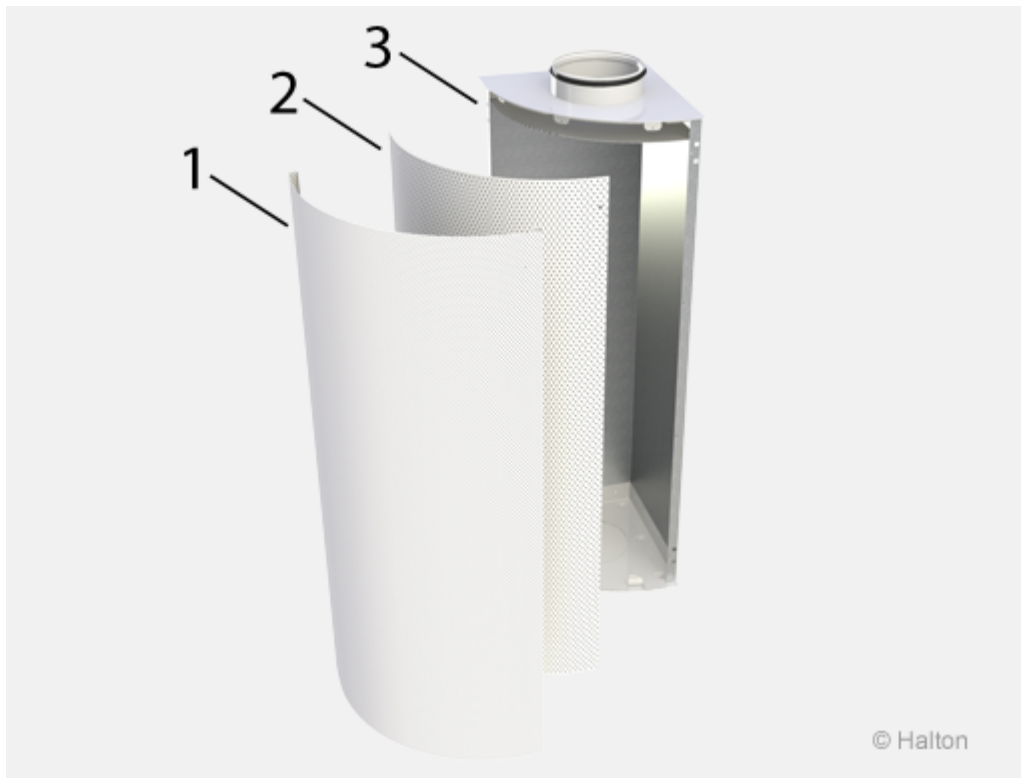
The flow rate is calculated by using the formula below:

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

The values for k factor for formula
(D = duct diameter)

D	k
125	11.3
160	18.8
200	29.4
250	43.7
315	67.9
400	104.2
500	153.1
630	220.8

Servicing



Code description

1. Front panel
2. Inner panel
3. Casing

Open the front panel (1) by carefully pulling the spring connections out. Open the inner panel (2) by unscrewing the screws. If required, the flow equalization plate can be detached.

Wipe the parts with a brush or damp cloth. Do not immerse in water.

After cleaning, reassemble in reverse order.

Specification

The Halton Zen Corner displacement ventilation supply unit is made of galvanised steel, polyester-epoxy-painted with a white (RAL 9003) colour.

The unit has a robust maintenance free, non-clogging design.

The unit is comprised of a detachable, perforated front and inner panel, an internal flow equalization plate, and casing.

The unit has a circular duct connection at the top or bottom, depending on the location of the unit.

Mounting brackets are included in the delivery, screws not.

Options

The unit can be equipped with a duct cover and/or installation base, where required.

The front panel of the unit is available of 1.5 mm thick galvanised steel for demanding spaces.

Order Code

ZCO/D; MA-TP-CO-ZT

D = Diameter of duct connection

125,160, 200, 250, 315, 400, 500, 630

Other options and accessories

MA = Material

CS Steel

AS Stainless steel (AISI 316L)

TP = Front panel thickness 1.5 mm

N No

Y Yes

CO = Colour

SW White (RAL 9003)

X Special colour (RAL xxxx)

ZT = Tailored product

N No

Y Yes (ETO)

Sub products

DC Duct cover
AB Installation base (standard)
SB Installation base (high, store model)

Code example

ZCO-125, MA=CS, TP=N, CO=SW, ZT=N