

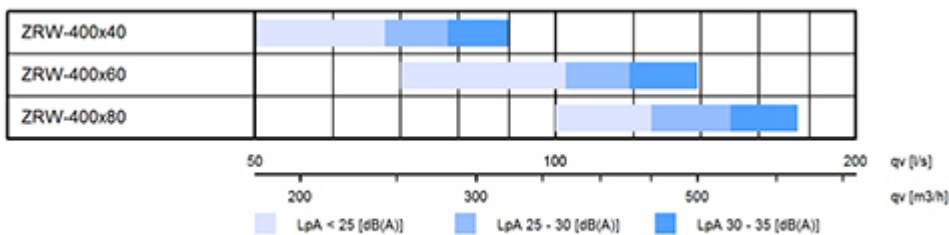
# Halton Zen Rectangular in Wall (ZRW) – Displacement ventilation unit



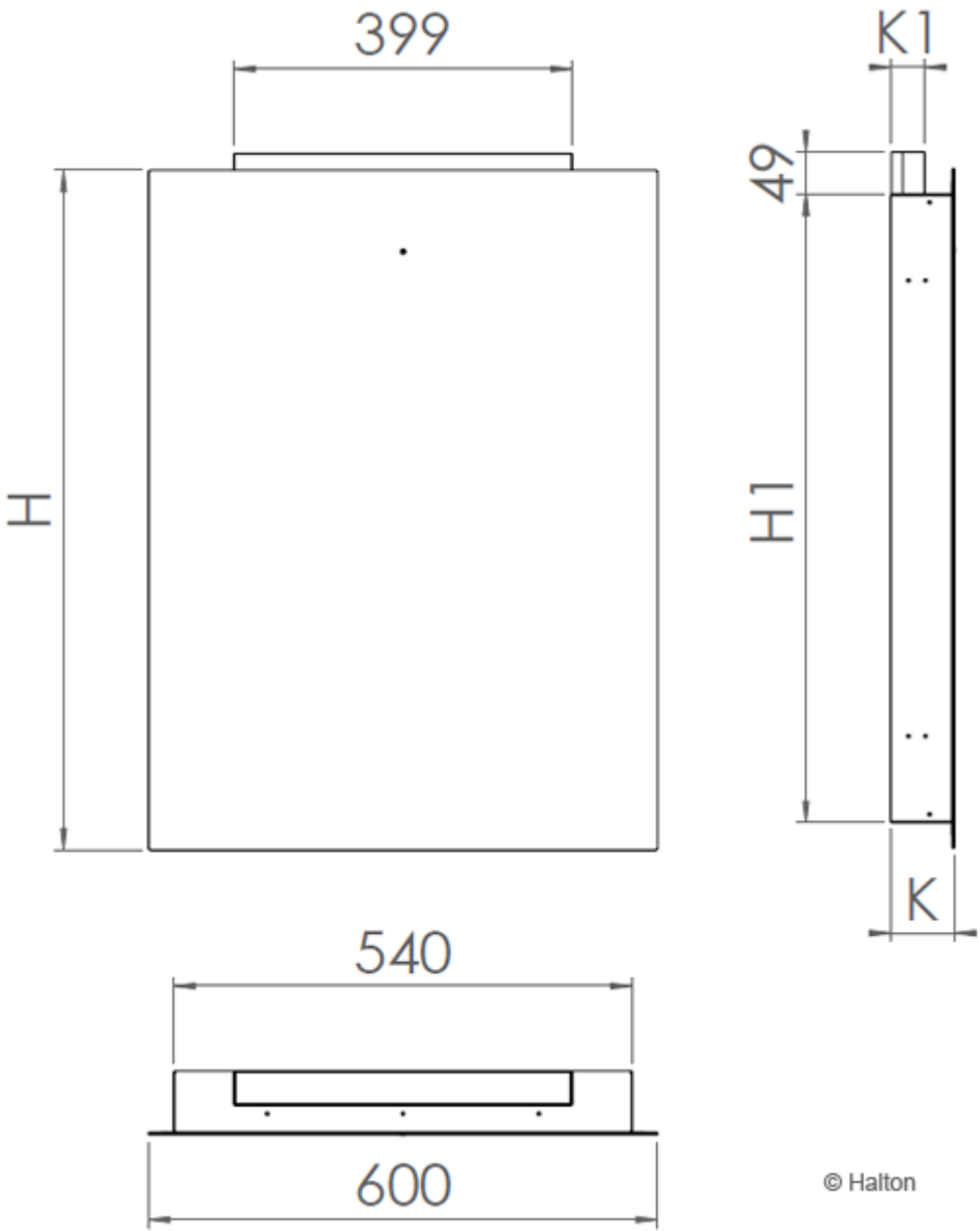
## Overview

- Capable of a large supply airflow range
- Uniform supply air distribution is achieved through small perforations, providing optimal conditions in the immediate proximity of the diffuser.
- Low velocity air is supplied horizontally at the floor level
- Suitable for integrated installation into a wall structure.
- The detachable front plate and metallic internal structure enable cleaning of the unit and ductwork
- Rectangular duct connection at top/bottom of the unit.

## Quick selection



# Dimension and weight



| NS     | H    | H1   | K   | K1 |
|--------|------|------|-----|----|
| 400x40 | 800  | 740  | 75  | 38 |
| 400x60 | 1000 | 940  | 92  | 58 |
| 400x80 | 1200 | 1140 | 105 | 78 |

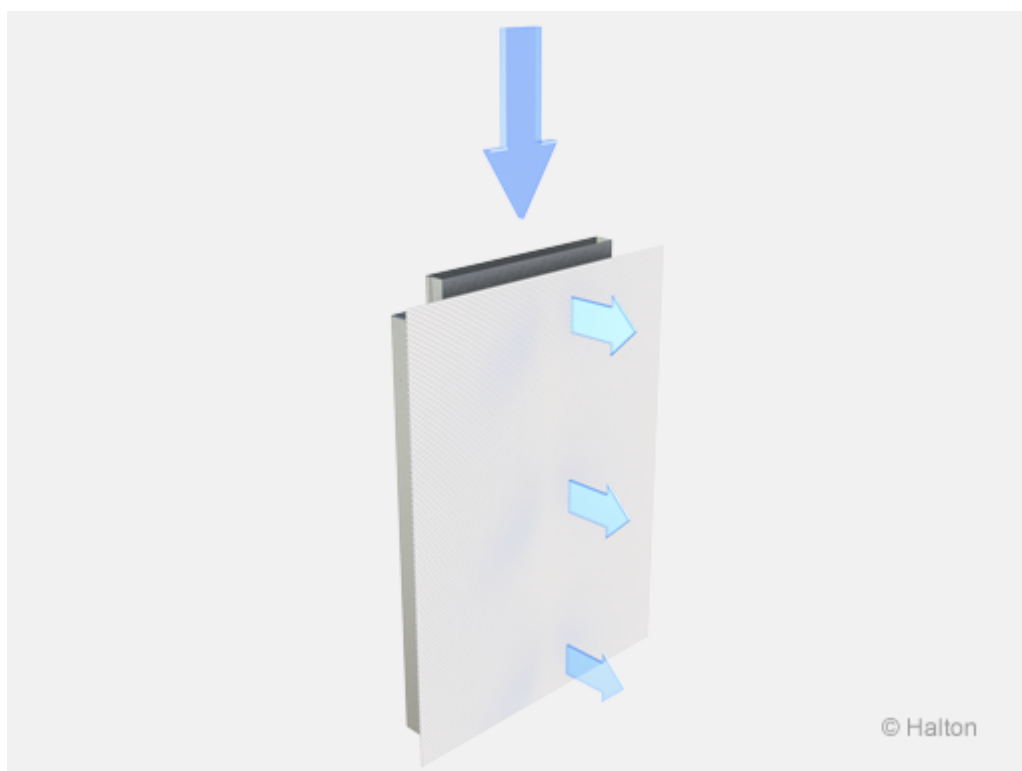
## Weight

| NS     | kg   |
|--------|------|
| 400×40 | 11.1 |
| 400×60 | 13.9 |
| 400×80 | 16.6 |

## Material

| Part        | Material  | Note                      |
|-------------|---|---------------------------|
| Front panel | Perforated galvanised steel                           | –                         |
| Casing      | Galvanised steel                                      | –                         |
| Finishing   | Polyester-epoxy-painted<br>White (RAL 9003/30% gloss) | Special colours available |

## Function



Air is supplied into the space through the front panel of Halton Zen Rectangular in Wall, 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 directed forwards.

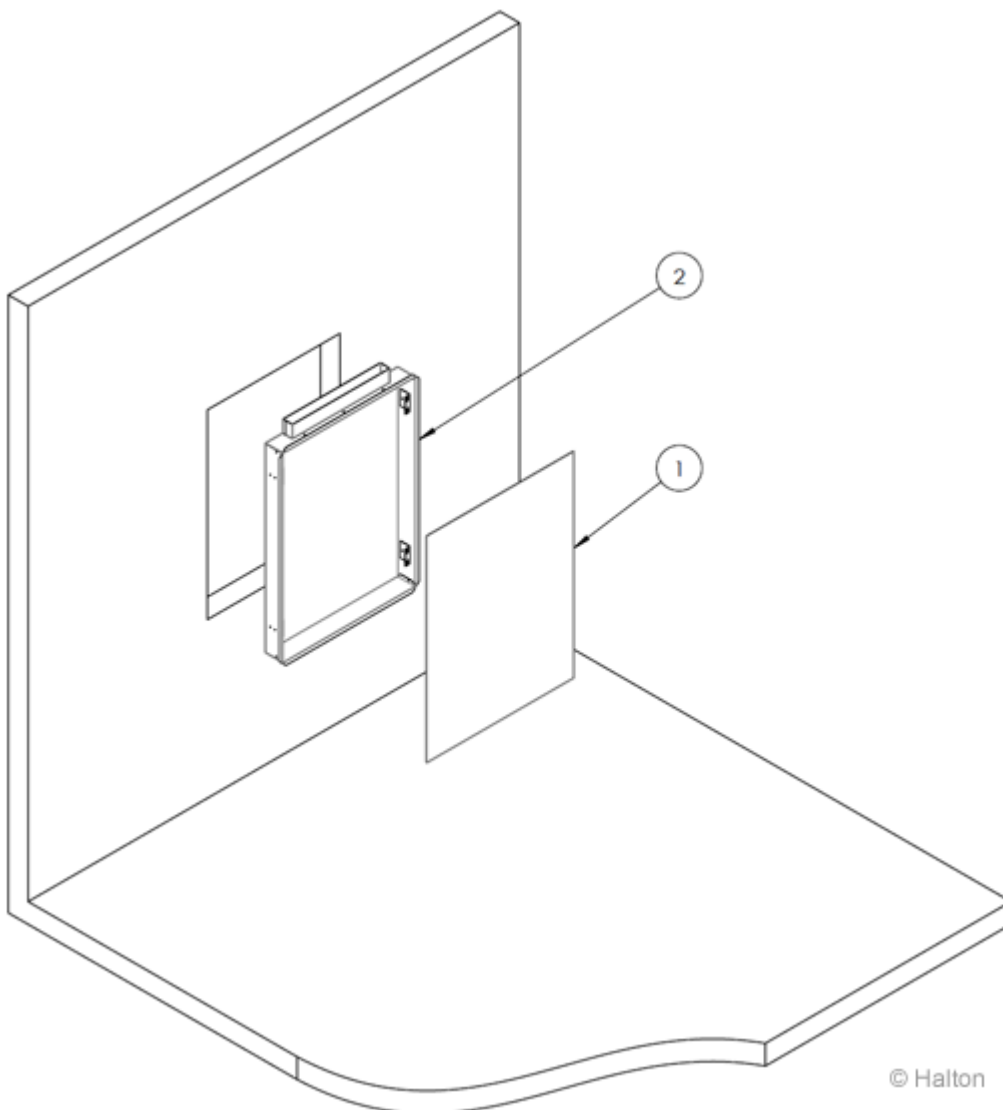
The non-clogging unit can be easily opened and cleaned.

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  $3xD$ ), attenuator could be needed between the damper and the displacement unit.

**Note:** The flow pattern data is for a unit installed flush with a wall at floor level.

## Installation



**Perform the installation in the following order:**

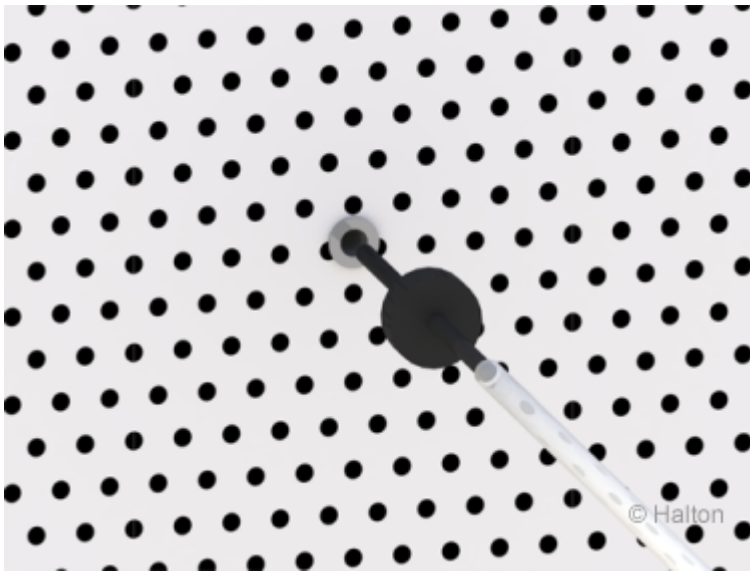
- A) Position the diffuser (2) within the wall space and connect the ductwork.
- B) Fix the diffuser to the wall with screws from inside the casing.

C) Install front plate (1) of the diffuser.

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

## Adjustment

The supply flow rate for the displacement 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.



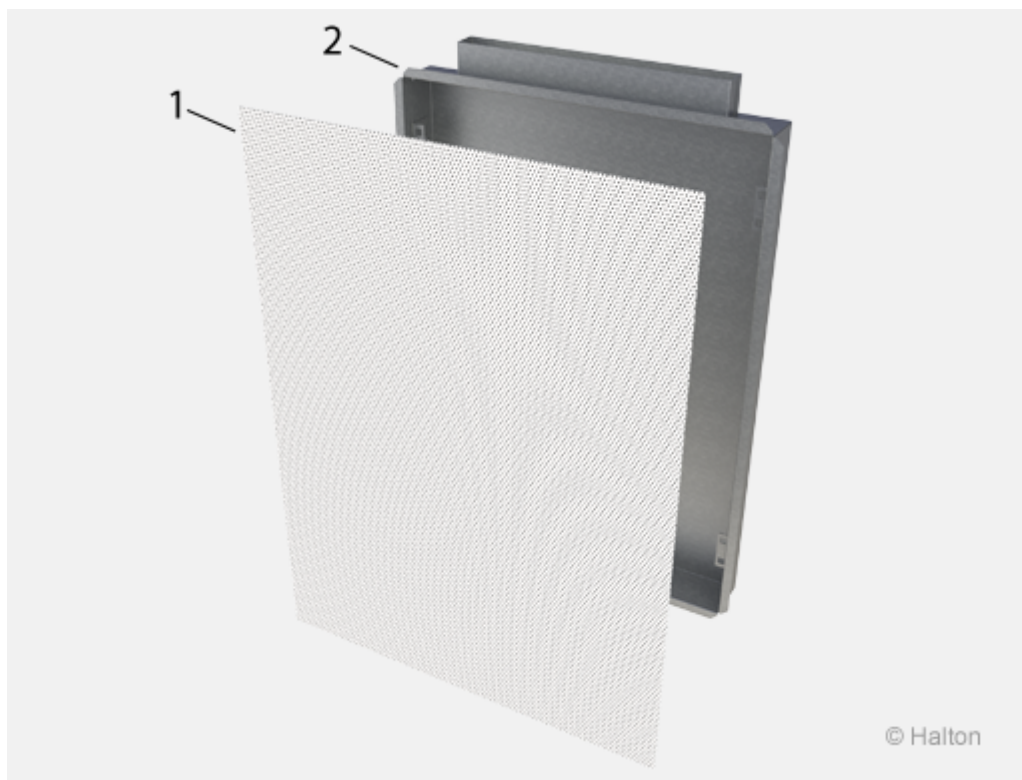
The flow rate is calculated by using the formula below:

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

Values of the k factor for formula

| NS     | k    |
|--------|------|
| 400×40 | 15.2 |
| 400×60 | 21.4 |
| 400×80 | 27.6 |

# Servicing



## Code description

1. Front panel
2. Casing

Open the front panel (1) by carefully pulling the spring connections out.

Clean the parts using a brush or damp cloth. Do not immerse in water.

Reassemble in reverse order.

## Specification

The Halton Zen Rectangular in Wall displacement ventilation supply unit is made of galvanized steel, polyester-epoxy-painted with a standard white (RAL 9003/30%) colour.

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

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

The unit has a rectangular duct connection at the top or bottom depending on where the unit is located.

# Order code

## ZRW-D,CO-ZT

**D = Size of duct connection (mm)**

400×40, 400×60, 400×80

## Other options and accessories

**CO = Colour**

SW Signal white (RAL 9003)

X Special colour (RAL xxxx)

**ZT = Tailored product**

N No

Y Yes (ETO)

## Code example

ZRW-400×40, CO=SW, ZT=N