

ZRW - Halton Zen Rectangular in Wall

Displacement ventilation unit



- Capacity for wide 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

MATERIAL AND FINISHING

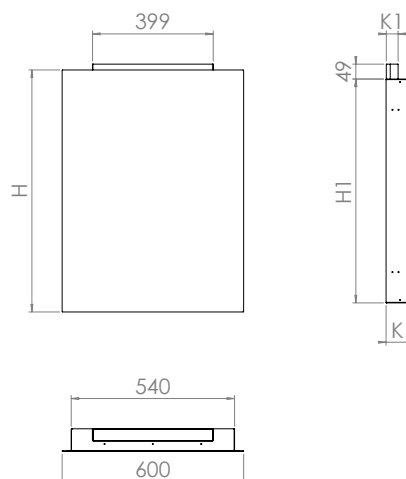
PART	MATERIAL	NOTE
Front panel	Perforated galvanised steel	Stainless steel AISI 316 as option
Plénum	Galvanised steel	Stainless steel AISI 316 as option
Finishing	Polyester-epoxy-painted White RAL 9010 (30% gloss)	Special colors available

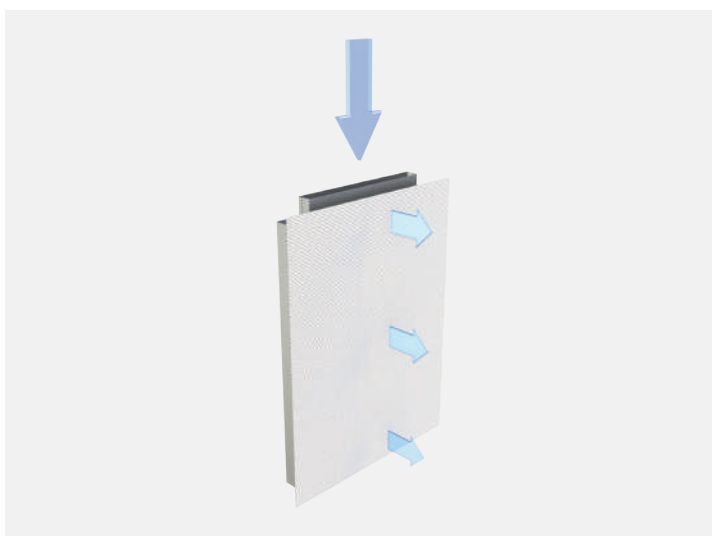
DIMENSIONS AND WEIGHT

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

Weight

Size	kg
400x40	11.11
400x60	13.87
400x80	16.63





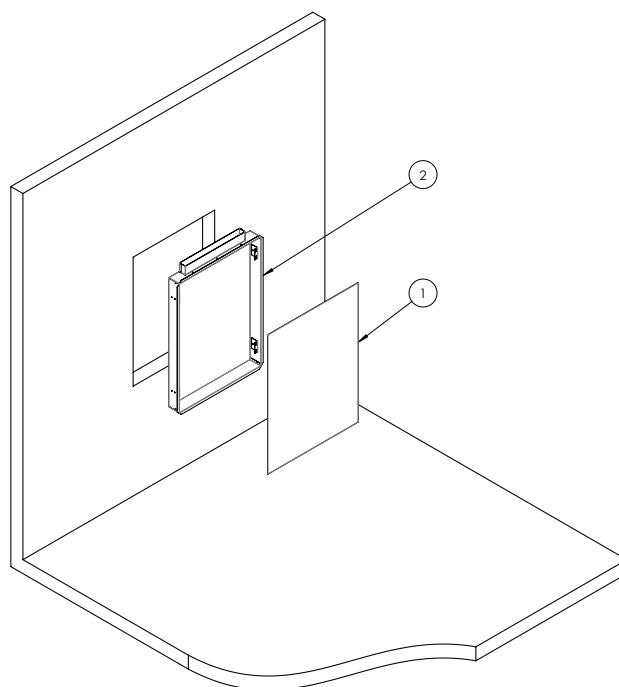
FUNCTION

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 air flows 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 PTS/C can be used as an airflow adjustment damper in round duct sections. The safety distance for reliable air flow measurement from the displacement unit is 5 duct dimensions between displacement unit and air flow adjustment damper. If air flow adjustment damper is installed closer to the displacement unit (minimum distance about 3 duct dimensions), supply air throw pattern is correct, but air flow measurement result will not be accurate. When installing air flow 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 is for a unit installed flush with a wall at floor level.



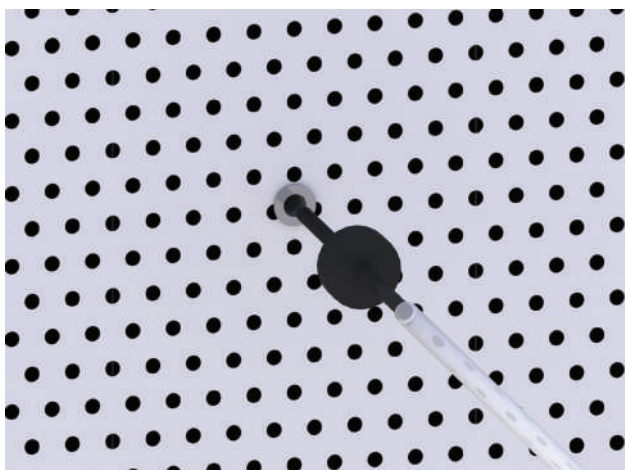
INSTALLATION

Perform the installation of Halton Zen Rectangular in Wall 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.

ADJUSTMENT

The supply flow rate for Halton Zen Rectangular in Wall 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:

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

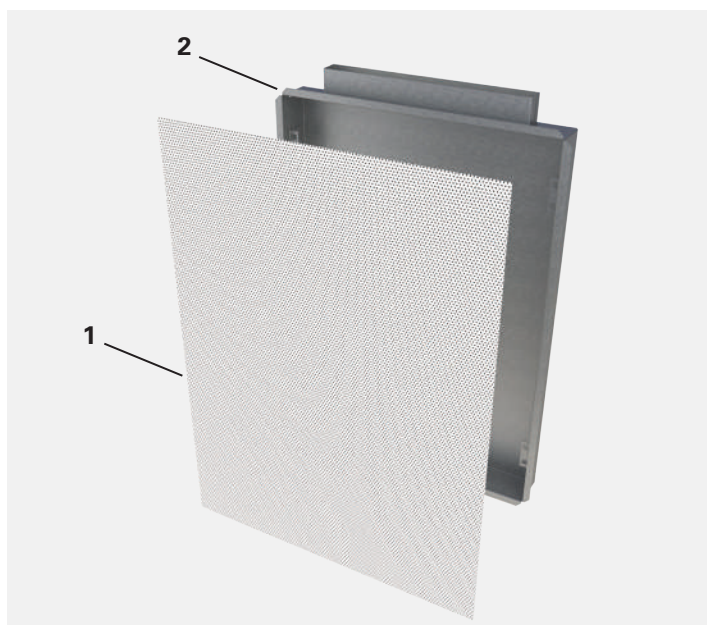
q_v : airflow rate, [l/s]

k : k factor

Δp_m : differential pressure of the measurement probe [Pa]

K factor for formula (D = duct diameter):

D	K
400x40	15.2
400x60	21.4
400x80	27.6



SERVICING

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.

SOUND DATA

Size	Duct velocity		Airflow		ΔP [Pa]	LpA (1) [dB(A)]
	[m/s]	[l/s]	[m ³ /h]			
ZRW-400x40	3	48	173		2	<20
	4	64	231		3	<20
	5	80	288		4	27
ZRW-400x60	3	72	260		3	<20
	4	96	346		4	<20
	5	120	432		6	26
ZRW-400x80	3	96	346		5	<20
	4	128	461		8	21
	5	160	576		12	28

(1) LpA values presented with room attenuation 8 dB (red 10m² - sab). When using room attenuation 4 dB (red 10m² - sab): LpA + 4dB.

SPECIFICATION

The displacement ventilation supply unit is made of galvanized steel, polyester-epoxy-painted with a standard white (RAL 9010 / 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.

PRODUCT CODE

ZRW-D

D = Size of duct connection

400 x 40

400 x 60

400 x 80

Specifics and accessories

CO = Color

W : White

X : Special color

Code example

ZRW-400x40, CO=W