

Halton Vita VHT – HEPA diffuser



Overview

Halton Vita VHT is a diffuser that is dedicated for hospitals and cleanrooms. It is suitable to install flush with the ceiling or the wall. Air is supplied through adjustable nozzles.

The diffuser is also available with a fully-perforated front plate for vertical air supply or exhaust. The diffuser is designed to be equipped with HEPA filter with foamed polyurethane (PUR) gasket.

Halton Vita VHT is available in three sizes with two different types of duct connection.

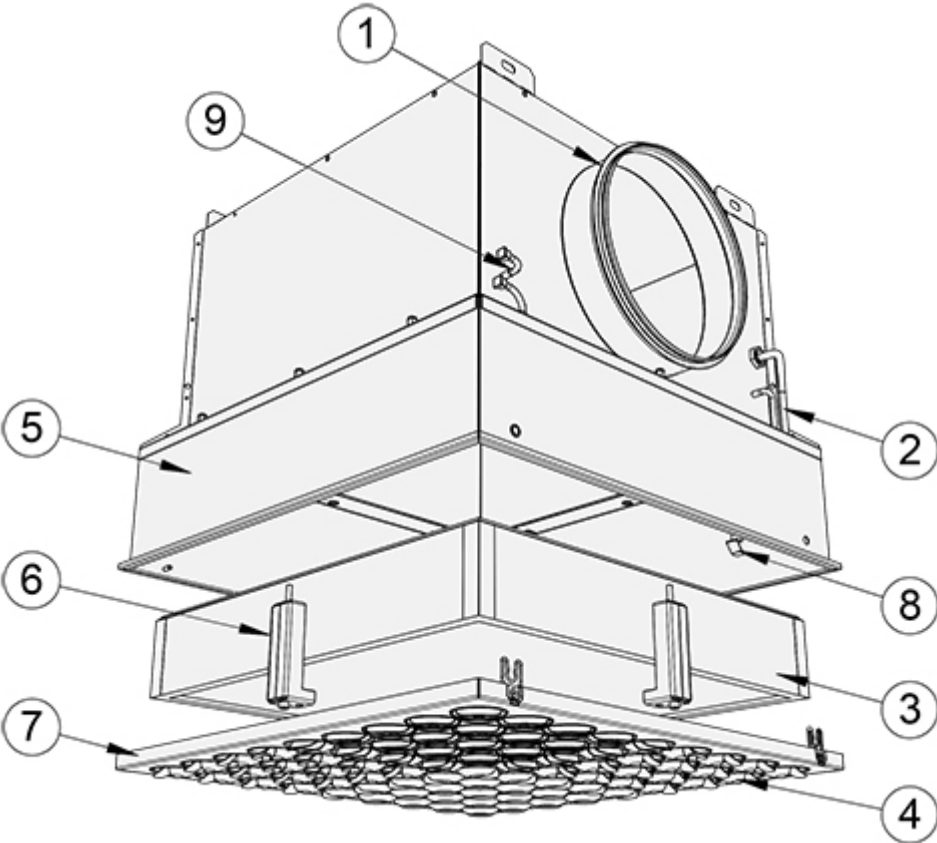
Applications

- Cleanrooms in hospitals and laboratories
- Suitable for supply and exhaust ventilation
- Can be installed flush with the ceiling or wall

Key features

- Radial, swirl or low turbulent flow pattern
- Air supply through adjustable nozzles or perforated front panel
- Lockable nozzles that allow easy cleaning without changing the nozzles setting
- E10, H13 and H14 class standard and high airflow HEPA filters available
- Antibacterial epoxy-polyester powder paint finishing to prevent microbial growth
- Easy filter change through the front panel
- Test probe for measuring the filter pressure loss

Structure and Materials



No.	Part	Description	Note
1	Duct seal gasket	Rubber	–
2	Test probes	PVC hoses	–
3	Filter	Fibreglass paper, aluminium frame and PUR gasket	–
4	Nozzles	Polyacetal (POM)	White, grey, black
5	Casing	Galvannealed steel with antimicrobial epoxy polyester powder paint, white (RAL 9003/30%) finishing	Standard epoxy polyester powder paint, white (RAL 9003/30%) and special colours available on request.
6	Filter brackets	Acid proof steel	–
7	Front panel	Galvannealed steel with antimicrobial epoxy polyester powder paint, white (RAL 9003/30%) finishing	Standard epoxy polyester powder paint, white (RAL 9003/30%) and special colours available on request
8	Filter springs	Stainless steel	–
9	Pressure measurement ports	Polyurethane	–

Dimensions

Halton Vita VHT is available in three sizes (600 x 300, 600 x 600, 1200 x 600). The possibilities of duct connection type and size are listed in the tables.

Halton Vita VHT 600 x 300

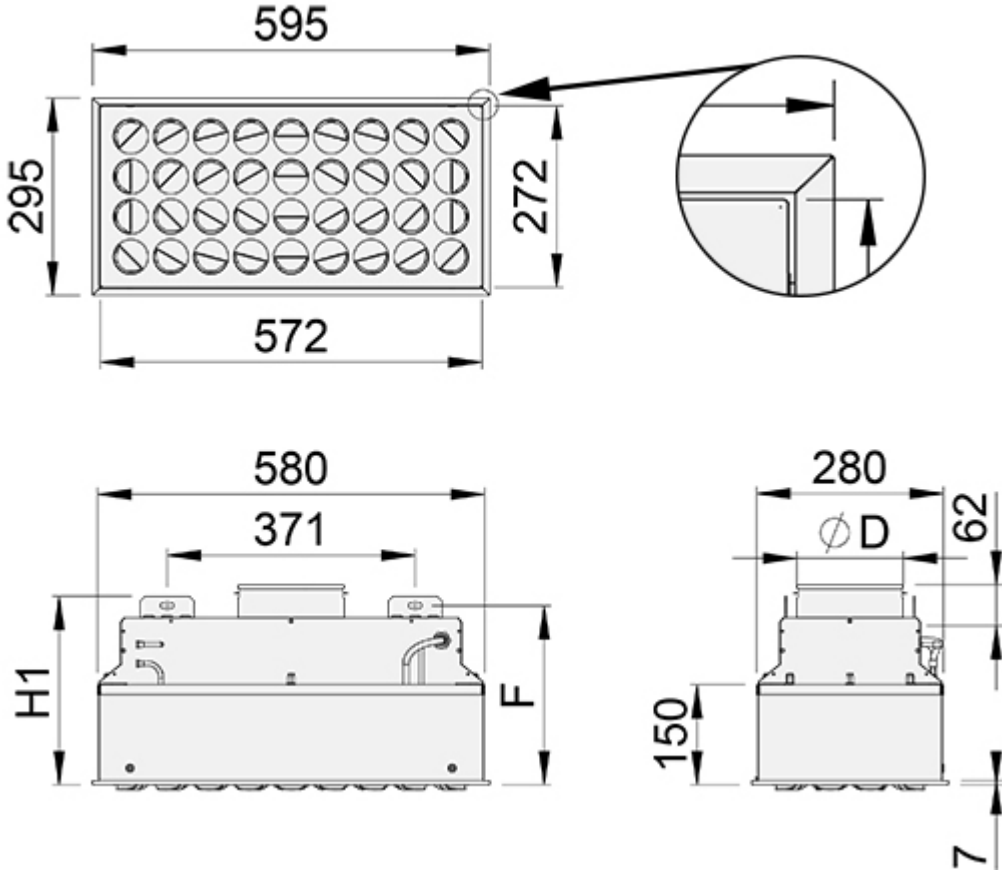


Fig.3. Halton Vita VHT with top circular duct connection

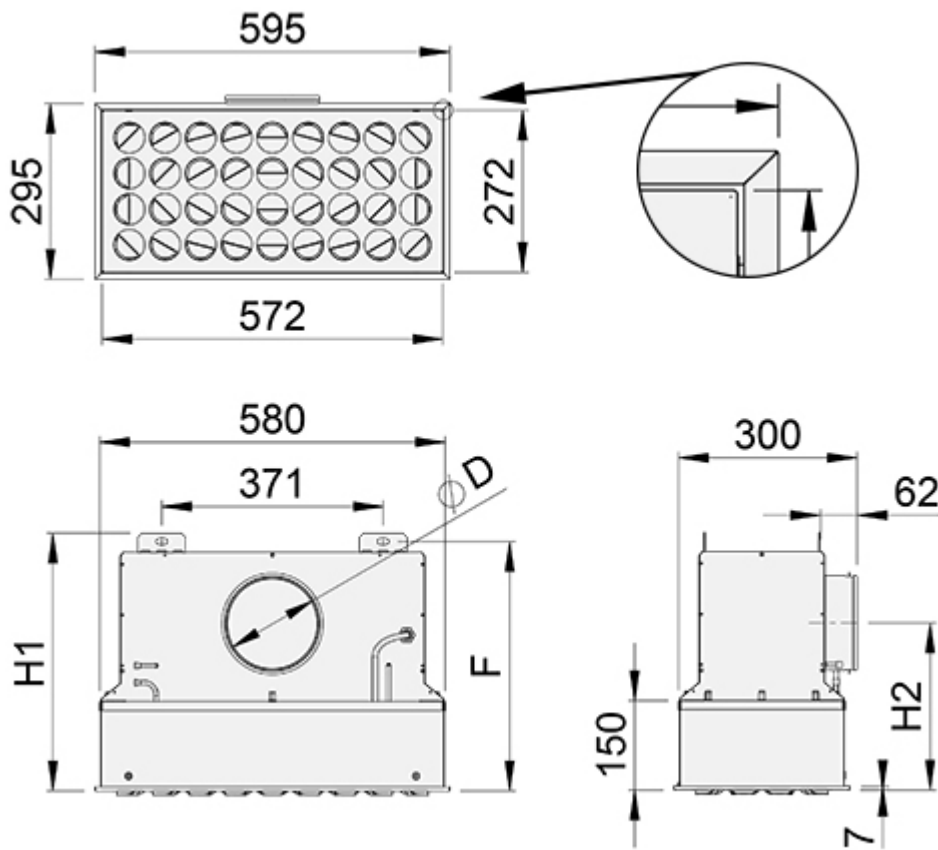


Fig.4. Halton Vita VHT with side circular duct connection

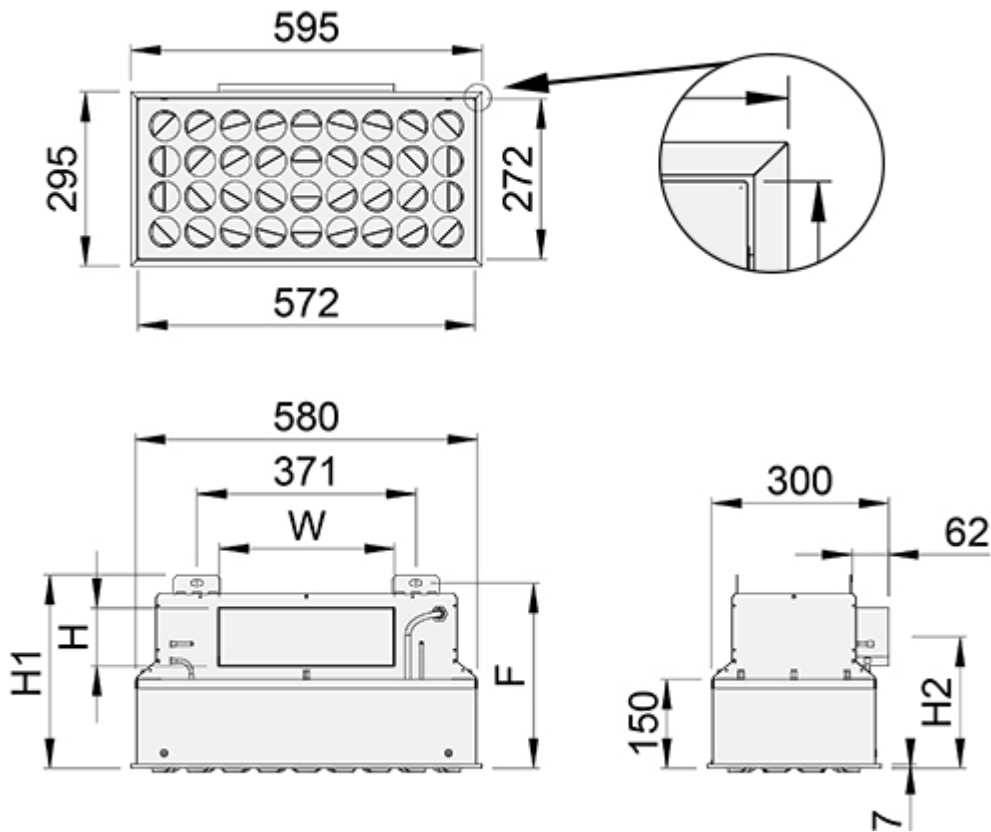


Fig.5. Halton Vita VHT with side rectangular duct connection

Duct connection location	ØD	W	H	H1	H2	F	Weight [kg]
Top	159	–	–	282	–	268	7.3
Side	159	–	–	432	280	418	9.0
Side	199	–	–	432	270	418	9.0
Side	–	298	98	327	222	313	8.0

Halton Vita VHT 600 x 600

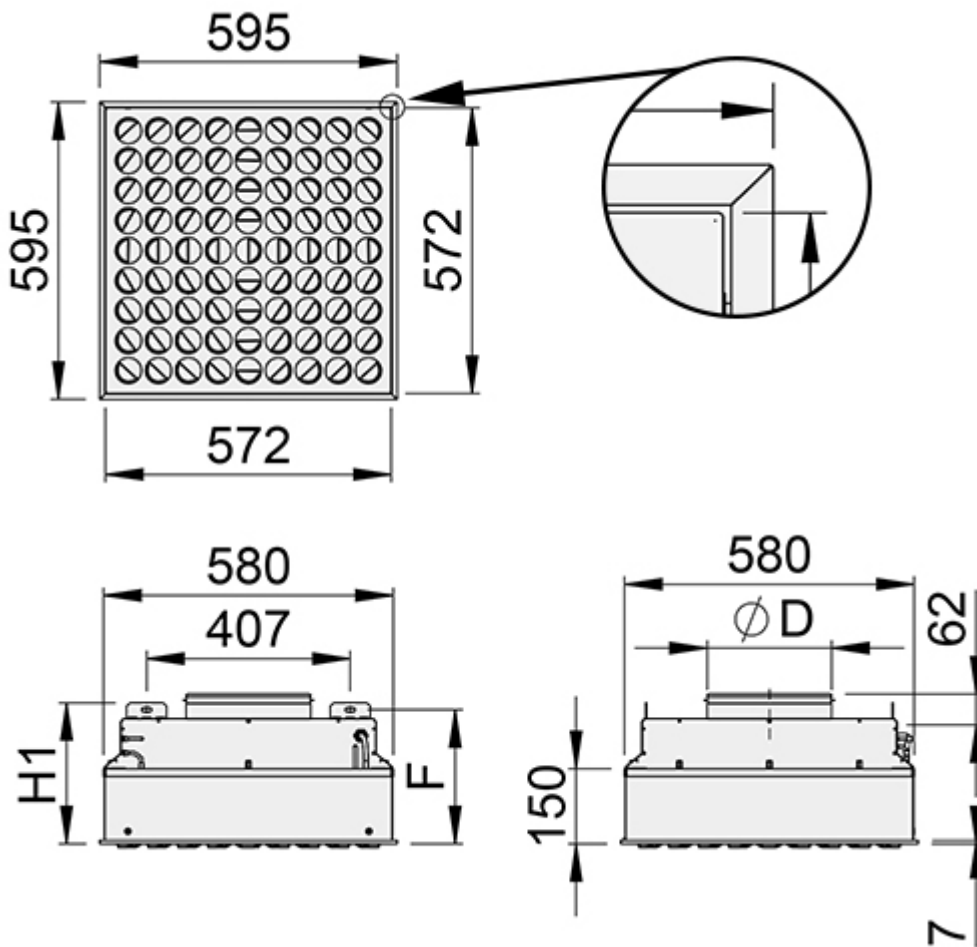


Fig.6. Halton Vita VHT with top circular duct connection

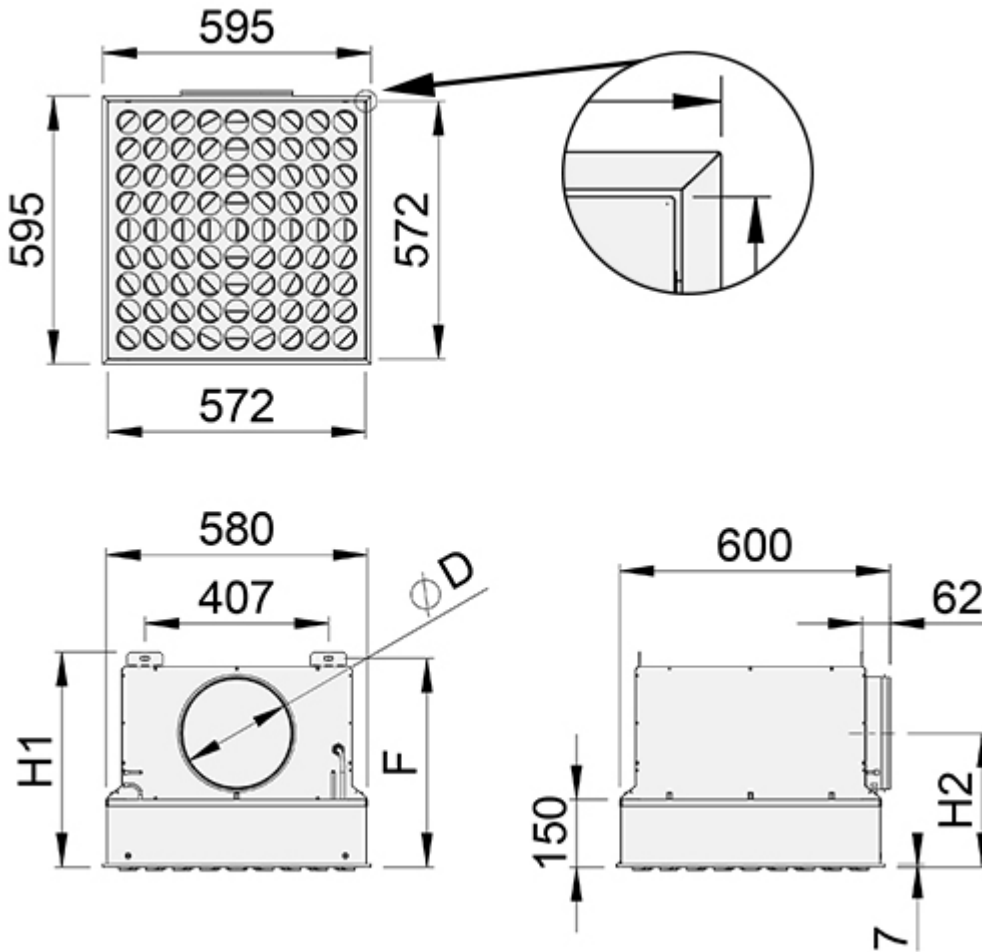


Fig.7. Halton Vita VHT with side circular duct connection

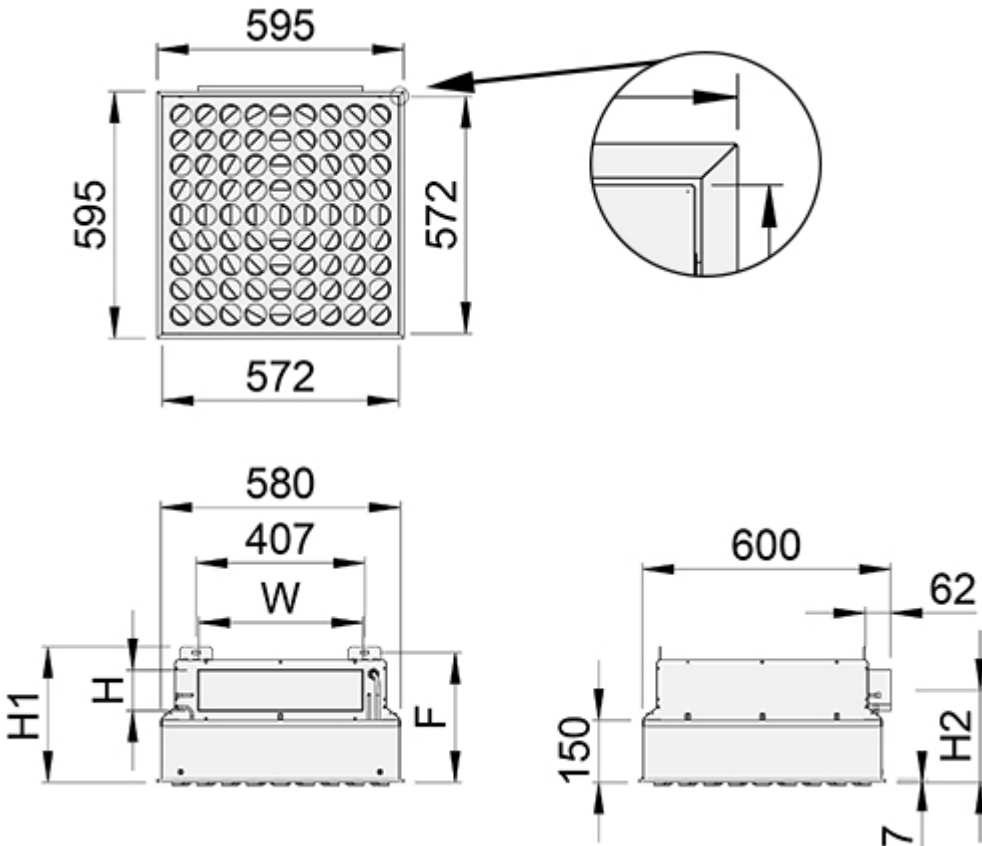


Fig.8. Halton Vita VHT with side rectangular duct connection

Duct connection location	ØD	W	H	H1	H2	F	Weight [kg]
Top	249	–	–	282	–	268	11.1
Top	314	–	–	282	–	268	11.0
Side	249	–	–	477	297	463	14.2
Side	314	–	–	542	330	528	15.2
Side	–	398	98	327	222	313	12.1
Side	–	398	148	327	247	363	12.8

Halton Vita VHT 1200 x 600

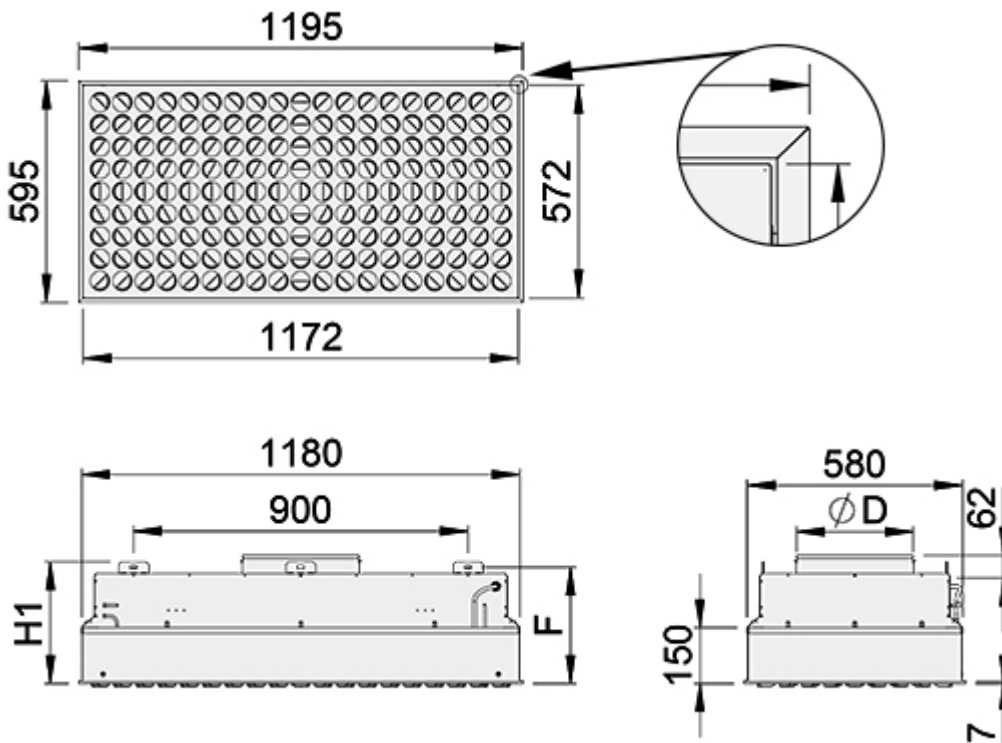


Fig.9. Halton Vita VHT with top circular duct connection

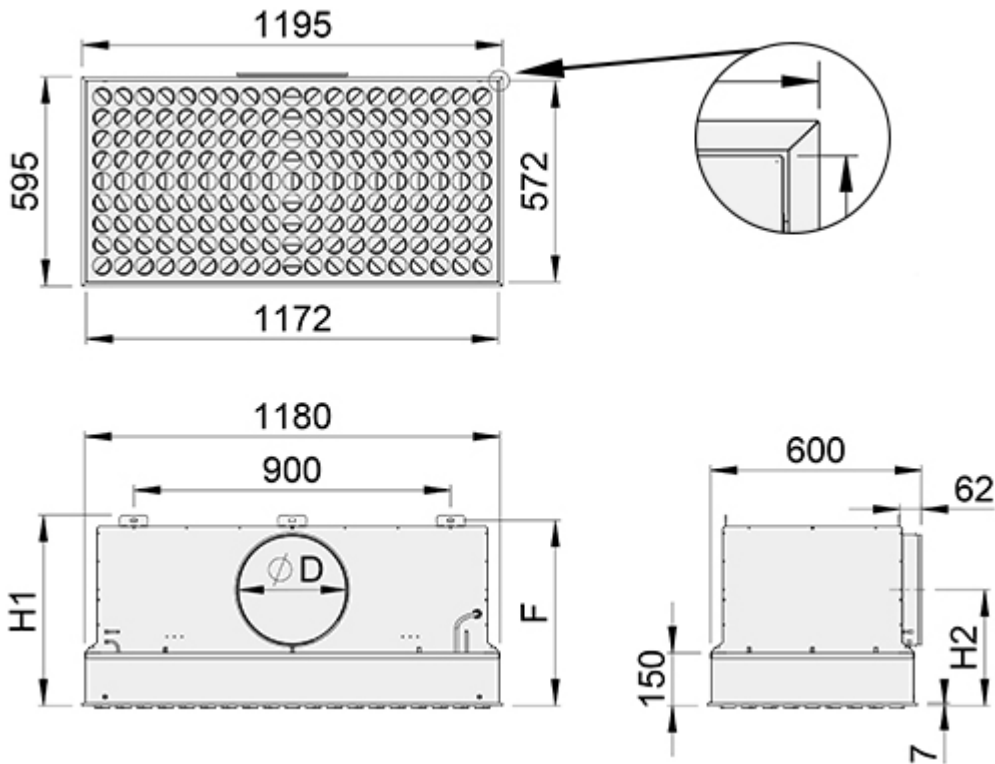


Fig.10. Halton Vita VHT with side circular duct connection

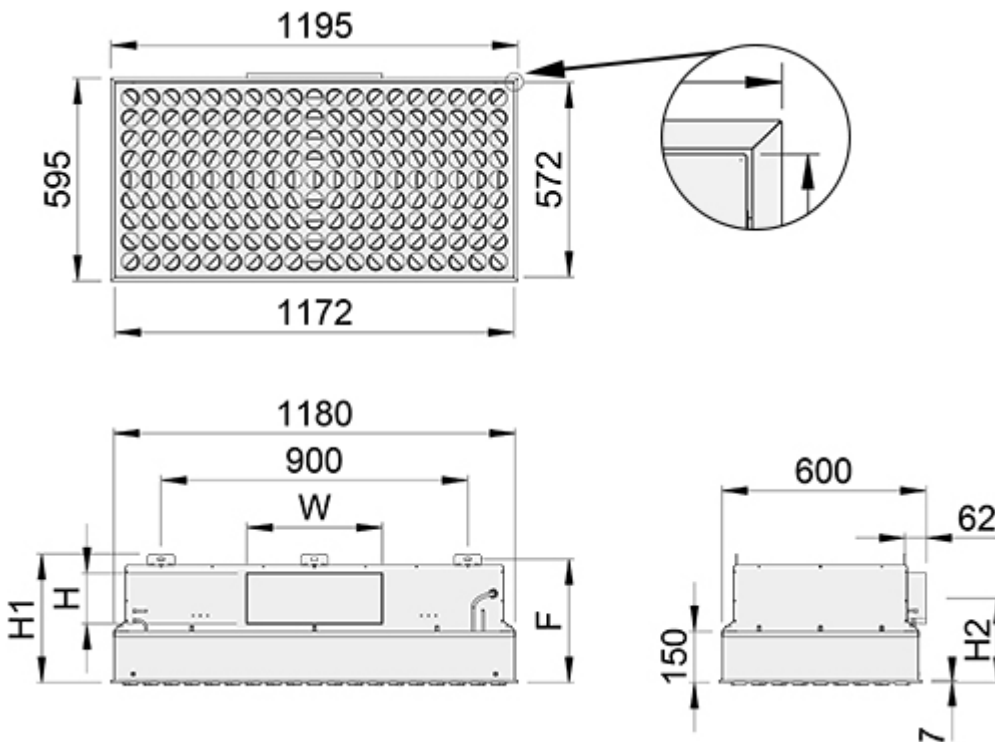


Fig.11. Halton Vita VHT with side rectangular duct connection

Duct connection location	ØD	W	H	H1	H2	F	Weight [kg]
Top	314	–	–	327	–	313	21.4
Top	399	–	–	327	–	313	21.2
Side	314	–	–	542	330	528	22.8
Side	399	–	–	627	372	613	28.9
Side	–	398	148	377	247	363	23.0
Side	–	598	198	427	272	413	24.1

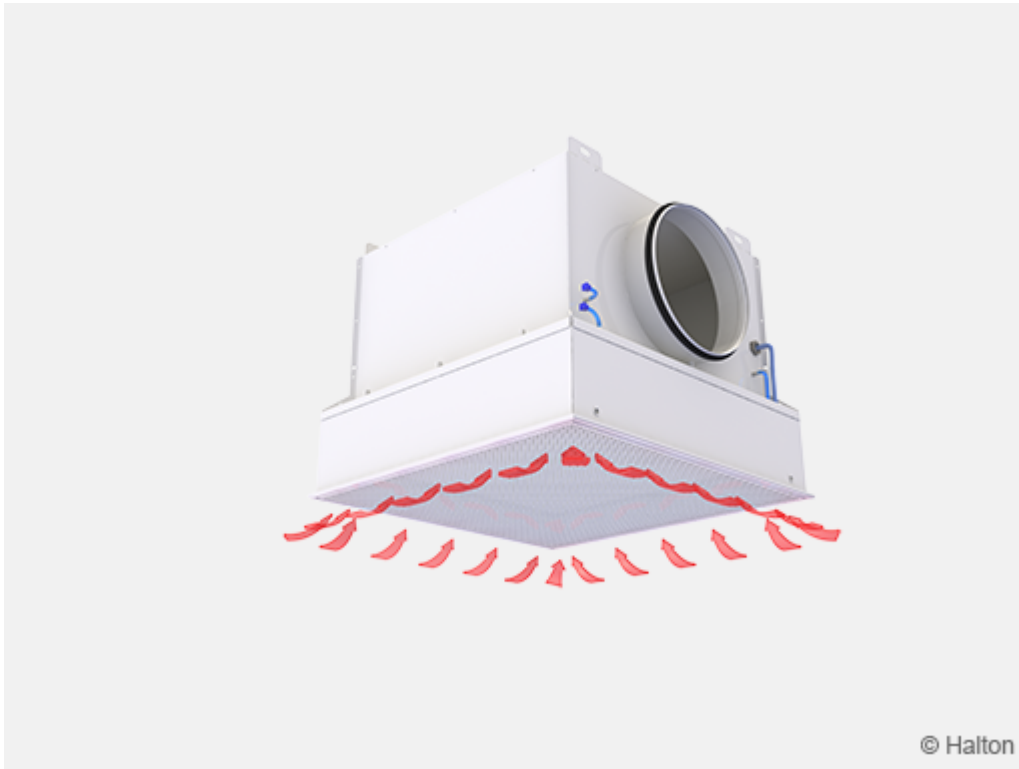
Function

Halton HEPA diffuser can be used both to supply and exhaust air.

The diffuser supplies the filtered air into the space. Adjustable nozzles allow creating the desired airflow pattern. Nozzles can be adjusted in 15 degrees intervals.



In case of exhaust application, the air is exhausted through the diffusers perforated front panel.



Installation

The installation of Halton Vita HEPA diffuser is performed by the ventilation contractor.

The diffuser is connected to the duct by screwing or by riveting. The duct connection spigot is equipped with a seal gasket. The diffuser can be installed:

- Flush with the ceiling (hung from the ceiling with M6 drop rods using fixing brackets)
- Flush with the wall

CAUTION!

Do not drill any holes into the casing. If the casing has been damaged, unfiltered air may leak.

Note: Step-by-step instructions on how to install the diffuser can be found in the Halton Vita HEPA diffuser Installation, commissioning and maintenance guide. To download the guide go to the “Downloads” section.

Adjustment

The nozzles are pre-set in the factory to four directions.

To create the desired airflow pattern adjust the nozzles manually on site. Nozzles can be adjusted in 15 degrees intervals.

Note: Step-by-step instructions on how to adjust the nozzles can be found in the Halton Vita HEPA

diffuser Installation, commissioning and maintenance guide. To download the guide go to the “Downloads” section.

Servicing

The required servicing tasks include filter change and cleaning the diffuser.

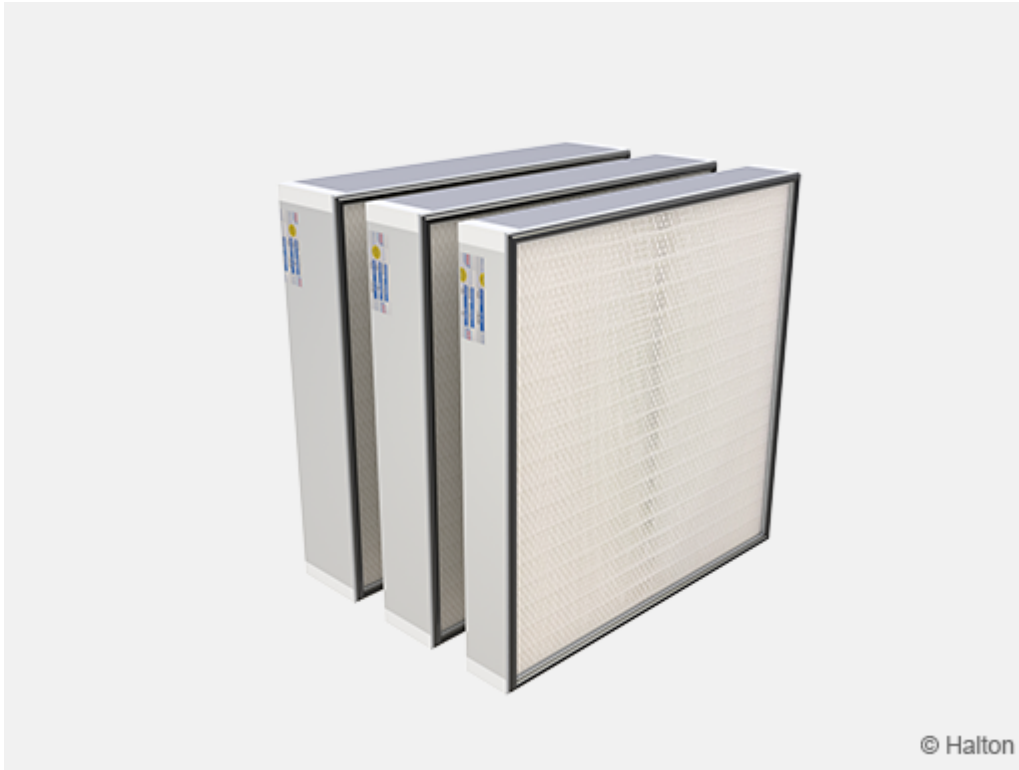
To ensure that air quality meets the requirements check the HEPA filter in short time intervals and replace the filter when necessary. The servicing frequency of a filter depends on the air cleanliness of the supply air and room air. Replace the filter immediately if:

- the final differential pressure has been reached
- the filter is damaged
- micro-organisms, fungal spores, or odours are present in the filter

Clean the diffuser with disinfectants. The front panel can be detached and cleaned in the pre autoclave washing machine (<95°C). Lockable nozzles, that ensure that nozzles setting is not changed during cleaning.

Note: Step-by-step instructions on how to perform servicing can be found in the Halton Vita HEPA diffuser Installation, commissioning and maintenance guide. To download the guide go to the “Downloads” section.

Filters



Description

High efficiency particulate air (HEPA) filters are widely applied in cleanrooms where high air quality standards are essential.

Technical data of HEPA filters

Filters compatible with Halton Vita VHT diffuser are available in classes E10, H13 and H14 (European Standard EN 1822-1:2009) for standard and high airflow. The available filter depths are: with different depths: 68, 90, 110 (H14) mm. All filters have a polyurethane (PUR) foam gasket.

Operating range:

- Temperature max. 70 °C
- Humidity max. 90 %
- Final pressure drop max. 500 Pa

Dimensions WxHxD [mm]	Filter class	Weight [kg]	Order code
225x525x68	H14, H13, E10	2.5	AF-H14/H13/E10-AL-225*525*68-PUR
225x525x90	H14, H13, E10	2.8	AF-H14/H13/E10-AL-225*525*90-PUR
225x525x110	H14	2.9	AF-H14-AL-225*525*110-PUR
525x525x68	H14, H13, E10	3.1	AF-H14/H13/E10-AL-525*525*68-PUR
525x525x90	H14, H13, E10	3.3	AF-H14/H13/E10-AL-525*525*90-PUR
525x525x110	H14	3.1	AF-H14-AL-525*525*110-PUR
1125x525x68	H14, H13, E10	9.5	AF-H14/H13/ E10-AL-1125*525*68-PUR
1125x525x90	H14, H13, E10	9.7	AF-H14/H13/ E10-AL-1125*525*90-PUR
1125x525x110	H14	9.9	AF-H14-AL-1125*525*110-PUR

To get the right performance data (dpt and Lp(A)) to diagrams and CAD export files, select:

- desired duct connection location and size,
- filter class and depth

under the Accessories tab.

Filter class / Filter depth	Filter selection code
H14 / 68 mm	A1
H14 / 90 mm	A2
H14 / 110 mm	A3
H13 / 68 mm	B1
H13 / 90 mm	B2
E10 / 68 mm	C1
E10 / 90 mm	C2

Specification

Diffuser with HEPA filter for cleanroom application. Creates radial, swirl or low turbulent airflow pattern. Suitable for supply and exhaust ventilation. Possible to install flush to the ceiling or the wall.

Construction

- Air supply through adjustable nozzles or perforated front panel
- Lockable nozzles that ensure that nozzles setting is not changed during cleaning
- A smooth internal surface that enables easy cleaning
- Easy filter change through the front panel
- Test probe for measuring the filter pressure loss

Material

- Galvannealed steel casing
- Antibacterial epoxy-polyester powder paint finishing to prevent microbial growth

Accessories

- A HEPA filter with aluminium frame and PUR gasket according to EN 1822 with individual test certificate
- Test probe for measuring particle concentration above the filter
- Pressure difference transmitter to inform the user when to change the filter (optional).

Order code

VHT/M-A-FP; C-D-MA-CO-IO-DF-FA-PT-ZT

M = Model of diffuser

S Supply
E Exhaust

A = Size of diffuser

300 600×300
600 600×600
1200 1200×600

FP = Front panel

NO Nozzle
PE Perforated

Other options and accessories

C = Location of duct connection

S Side
T Top

D = Size of duct connection

Circular

A	160
B	200
C	250
D	315
E	400

Rectangular

F	300×100
G	400×100
H	400×150
I	600×200

MA = Material

GE	Galvanealed steel
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CO = Colour

SA	Signal White (antibacterial, RAL 9003)
SW	Signal White (RAL 9003)
X	Special colour (RAL xxxx)

IO = Installation options for ceiling types

NA	Not assigned
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DF = Diffuser delivered with front panel

Y	Yes
N	No

FA = Front panel attached to unit

Y	Yes
N	No

FT = Filtering type/bracket height (filter to be ordered separately)

A2	H14/90 mm
A1	H14/68 mm
A3	H14/110 mm
B1	H13/68 mm
B2	H13/90 mm
C1	E10/68 mm
C2	E10/90 mm

PT = Differential pressure transmitter

NA	Not assigned
P1	HDP-PE

ZT = Tailored product

N	No (standard)
Y	Yes (ETO)

Code example

VHT/S-600-NO;C=S,D=G, MA=GE,CO=SW, IO=NA,
DF=Y,FA=Y,PT=NA, ZT=N

Sub products

FP, Front panel for Halton Vita diffuser

P = Product

VHH VHH

VHT VHT

VSN VSN

M = Model

S Supply

E Exhaust

W With pins

O Without pins

NA Not assigned

A = Size of diffuser

300 600×300

600 600×600

1200 1200×600

Other options and accessories

FP = Front panel

NO Nozzle

PE Perforated

MA = Material

GE Galvannead steel

CO = Colour

SA Signal White (antibacterial, RAL 9003/30%)

SW Signal White (RAL 9003/30%)

X Special colour (RAL xxxx)

Code example

FP/VHT-S-600;FP=NO,MA=GE,CO=SW