



Product catalogue

CFU

Ceiling filtration unit

Air filtration

Version 1.0.3
Date: 24.07.2024.



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PRODUCT OVERVIEW

Ceiling filtration unit is designed for supply of clean and filtered air into the areas with high demands for hygiene and dust-free environment, like pharmaceutical, food, chemical, space industries etc.

DESIGN FEATURES

CFU-W offers a completely welded plenum design produced from steel sheet and powder-coated to RAL 9010, while CFU-R is a riveted plenum bod produced from galvanized steel sheet and powder-coated to RAL 9010. Tightness and robustness guaranteed.



www.klimaoprema.com/cfu/dop

RIVETED PLENUM BOXES



 **CFU-R-VC**
Vertical cylindrical spigot connection



 **CFU-R-VP**
Vertical rectangular duct connection

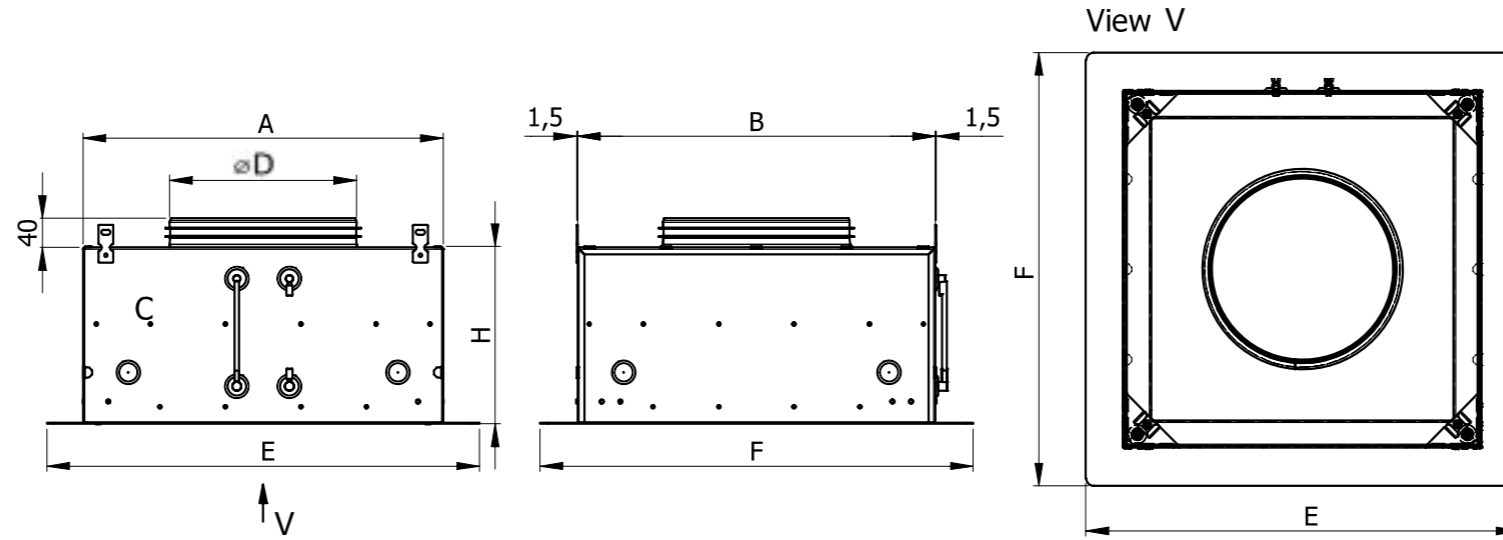


 **CFU-R-HC**
Side cylindrical spigot connection



 **CFU-R-HP**
Side rectangular duct connection

- ▼ Riveted plenum boxes
- ▼ Welded plenum boxes
- ▼ Filters
- ▼ Diffusers
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- ▼ Riveted plenum boxes
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CFU-R-VC

New generation casing designed with filter thickness 68 mm.

- Supply / Exhaust
- Circular duct connection
- Tightness validated to +2000 Pa, -500 Pa
- Local penetration at the joint plane < 0.01% (Emery 3004 test)
- 8 plenum sizes
- Adaptable diffusers

OPTIONS

Optional with 315mm connection diameter on sizes 9060 and 1260
Fastening system for sandwich panel (dagard ceiling).

CEILING OPENING

(E-30 mm) x (F-30 mm)
AC i 2AC is (E-50) x (F-50)

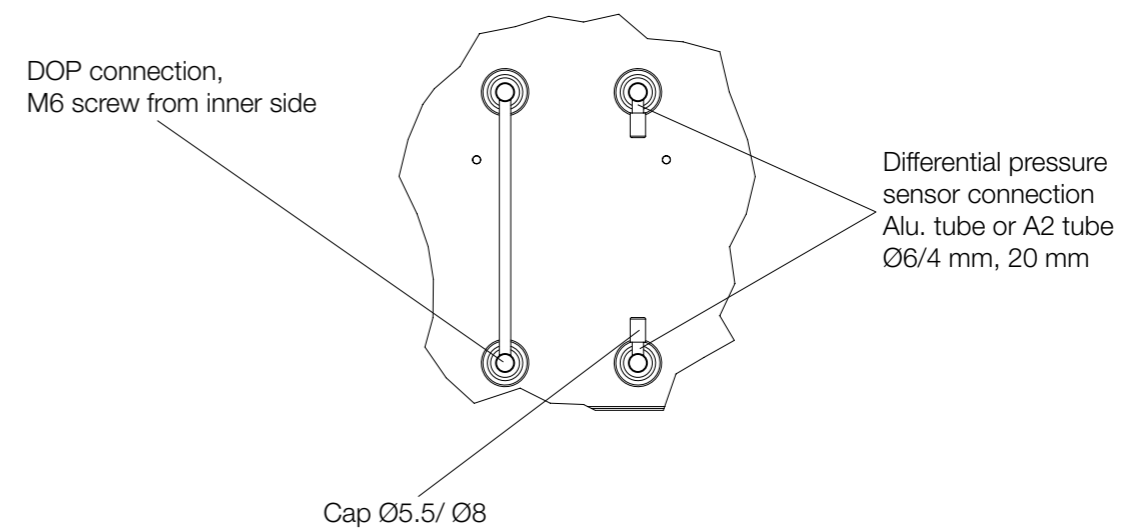


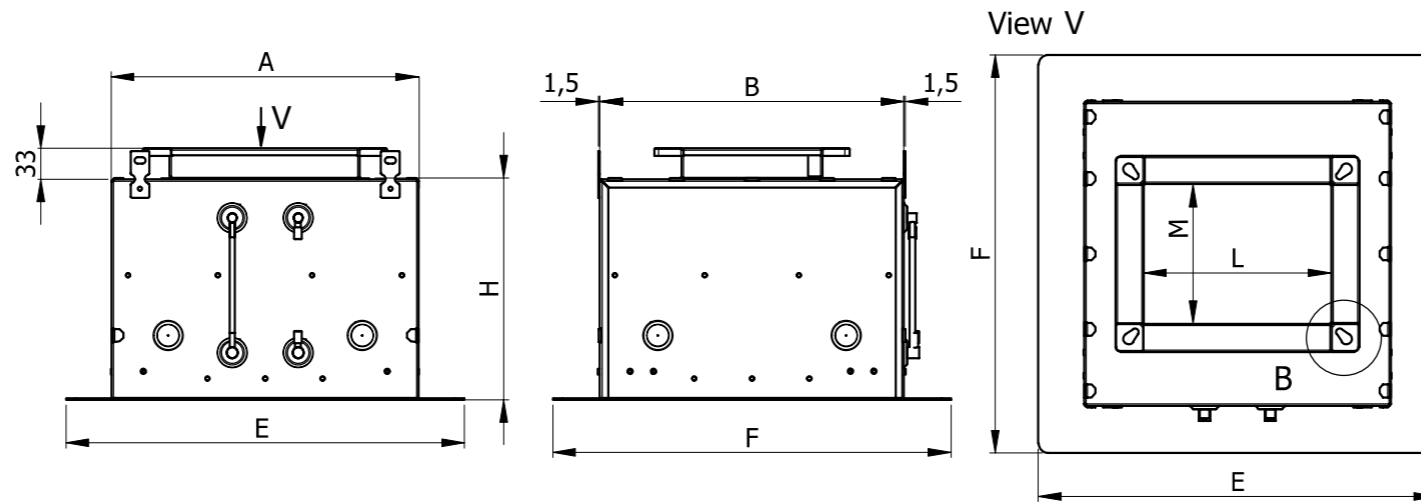
DIFFUSERS

AIR FILTRATION

DIMENSIONS

Characteristics	For CFU-R-VC							
	Filter size (mm)	Casing		Overall		Height	Diam.	Weight
		A (mm)	B (mm)	E (mm)	F (mm)	H (mm)	D (mm)	(kg)
3030	305 x 305 x 68	326	323	423	423	235	158	6
3060	305 x 610 x 68	326	628	423	728	235	248	9
4545	457 x 457 x 68	478	475	575	575	235	248	9
AC	457 x 457 x 68	478	475	595	595	235	248	10
6060	610 x 610 x 68	631	628	728	728	235	313	13
9060	915 x 610 x 68	936	628	1033	728	235	398	16
1260	1220 x 610 x 68	1241	628	1338	728	235	498	20
2AC	1157 x 457 x 68	1178	475	1195	595	235	398	16





- ▼ Riveted plenum boxes
- ▼ Welded plenum boxes
- ▼ Filters
- ▼ Diffusers
- ▼ Ordering key
- ▼ Installation
- ▼ Diagrams

CFU-R-VP

New generation casing designed with filter thickness 68 mm.

- Supply / Exhaust
- Rectangular duct connection
- Tightness validated to +2000 Pa, -500 Pa
- Local penetration at the joint plane < 0.01% (Emery 3004 test)
- 8 plenum sizes
- Adaptable diffusers

OPTIONS

Optional with 315mm connection diameter on sizes 9060 and 1260
Fastening system for sandwich panel (dagard ceiling).

CEILING OPENING

(E-30 mm) x (F-30 mm)
AC i 2AC is (E-50) x (F-50)

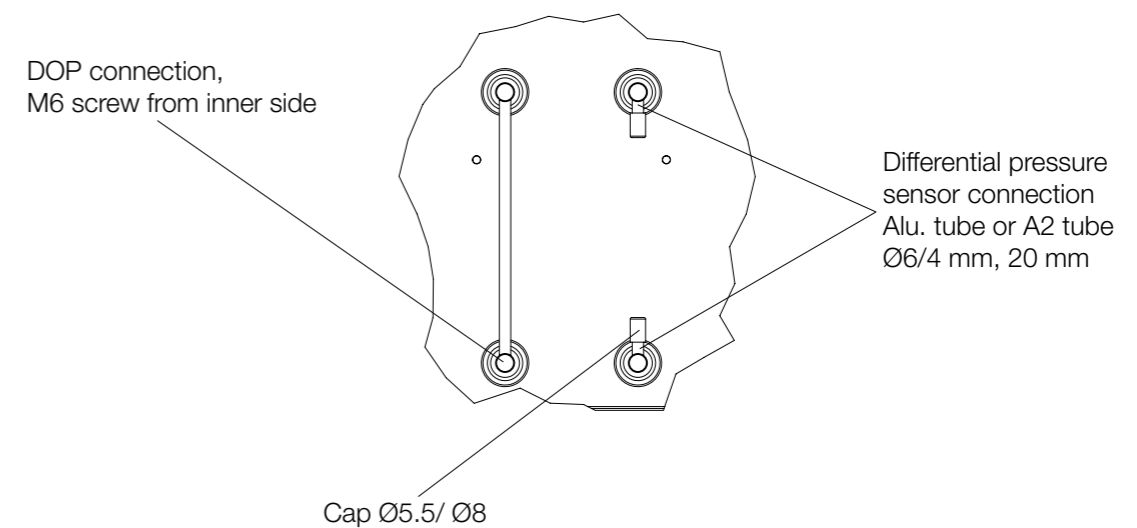


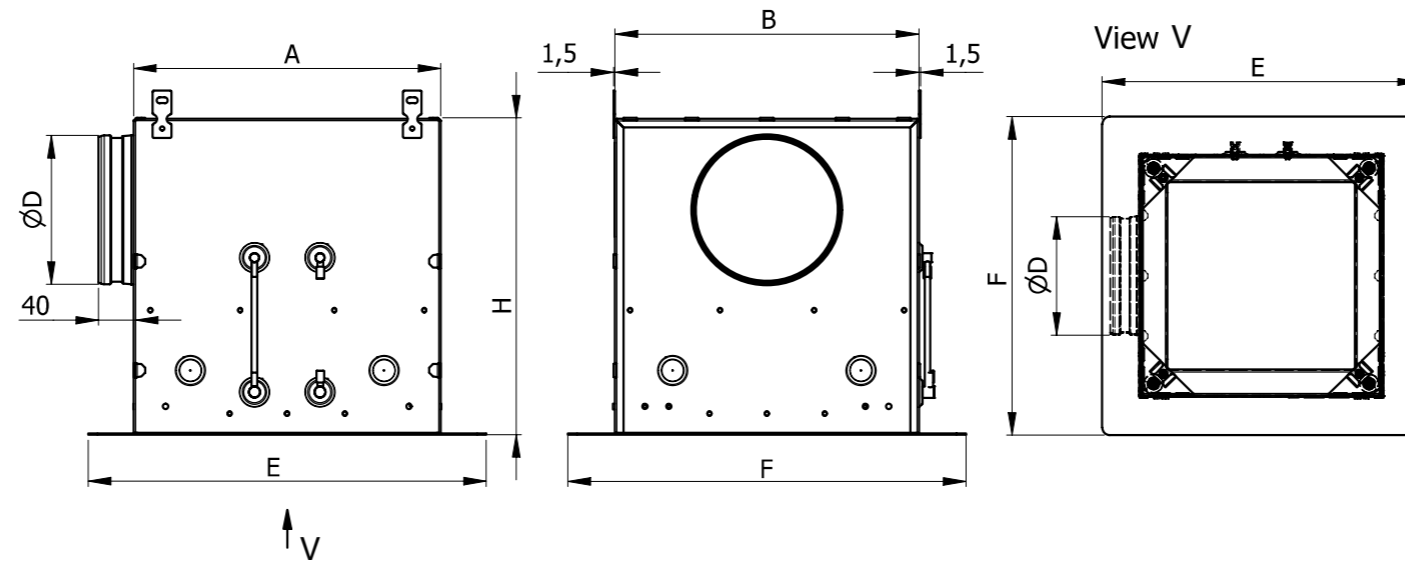
DIFFUSERS

AIR FILTRATION

DIMENSIONS

Characteristics	For CFU-R-VP							
	Filter size (mm)	Casing		Overall		Height	Connection	Weight
		A (mm)	B (mm)	E (mm)	F (mm)	H (mm)	L x M (mm)	(kg)
3030	305 x 305 x 68	326	323	423	423	235	199 x 148	7
3060	305 x 610 x 68	326	628	423	728	235	148 x 399	10
4545	457 x 457 x 68	478	475	575	575	235	349 x 148	10
AC	457 x 457 x 68	478	475	595	595	235	349 x 148	10
6060	610 x 610 x 68	631	628	728	728	235	399 x 248	13
9060	915 x 610 x 68	936	628	1033	728	235	599 x 248	17
1260	1220 x 610 x 68	1241	628	1338	728	235	799 x 248	21
2AC	1157 x 457 x 68	1178	475	1195	595	235	599 x 248	17





- ▼ Riveted plenum boxes
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CFU-R-HC

New generation casing designed with filter thickness 68 mm.

- Supply / Exhaust
- Circular duct connection
- Tightness validated to +2000 Pa, -500 Pa
- Local penetration at the joint plane < 0.01% (Emery 3004 test)
- 8 plenum sizes
- Adaptable diffusers

OPTIONS

Optional with 315mm connection diameter on sizes 9060 and 1260
Fastening system for sandwich panel (dagard ceiling).

CEILING OPENING

(E-30 mm) x (F-30 mm)
AC i 2AC is (E-50) x (F-50)

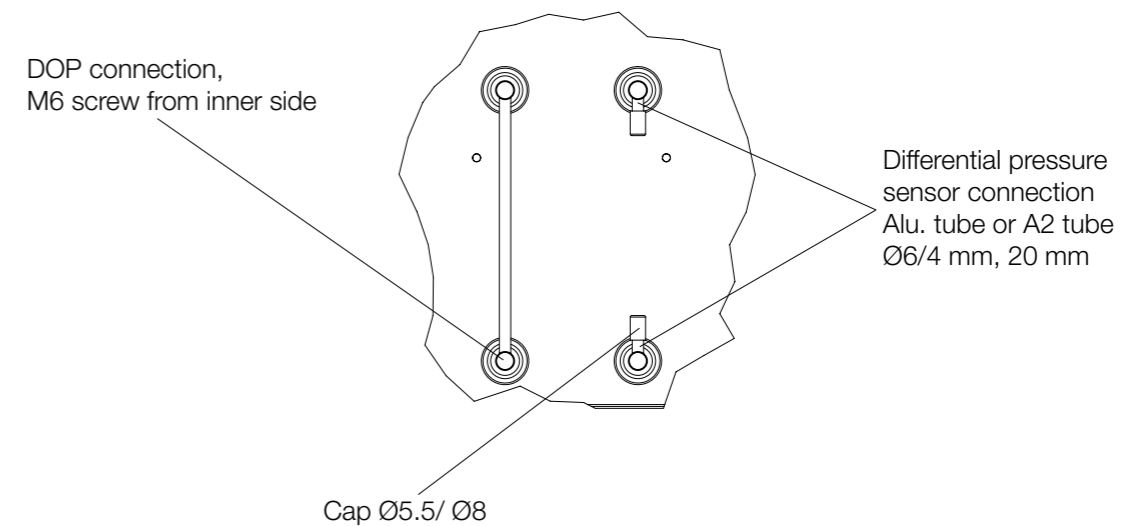


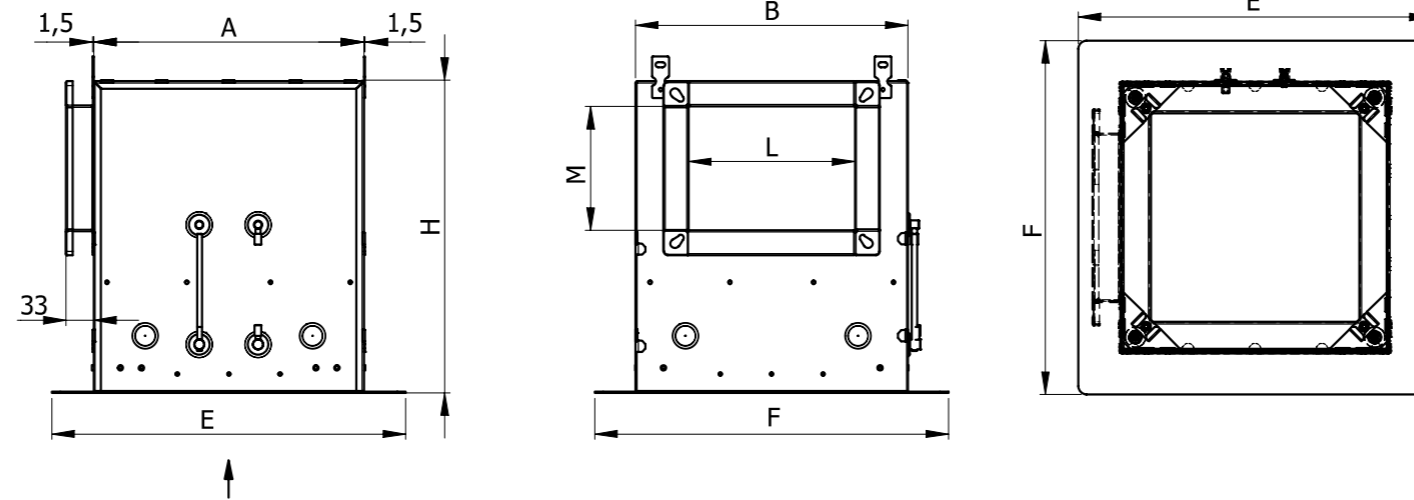
DIFFUSERS

AIR FILTRATION

DIMENSIONS

Characteristics	For CFU-R-HC							
	Filter size (mm)	Casing		Overall		Height	Diam.	Weight
		A (mm)	B (mm)	E (mm)	F (mm)	H (mm)	D (mm)	(kg)
3030	305 x 305 x 68	326	323	423	423	336	158	7
3060	305 x 610 x 68	326	628	423	728	426	248	12
4545	457 x 457 x 68	478	475	575	575	426	248	12
AC	457 x 457 x 68	478	475	595	595	426	248	12
6060	610 x 610 x 68	631	628	728	728	491	313	18
9060	915 x 610 x 68	936	628	1033	728	576	398	25
1260	1220 x 610 x 68	1241	628	1338	728	676	498	33
2AC	1157 x 457 x 68	1178	475	1195	595	576	398	25





- ▼ Riveted plenum boxes
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CFU-R-HP

New generation casing designed with filter thickness 68 mm.

- Supply / Exhaust
- Rectangular duct connection
- Tightness validated to +2000 Pa, -500 Pa
- Local penetration at the joint plane < 0.01% (Emery 3004 test)
- 8 plenum sizes
- Adaptable diffusers

OPTIONS

Optional with 315mm connection diameter on sizes 9060 and 1260
Fastening system for sandwich panel (dagard ceiling).

CEILING OPENING

(E-30 mm) x (F-30 mm)
AC i 2AC is (E-50) x (F-50)

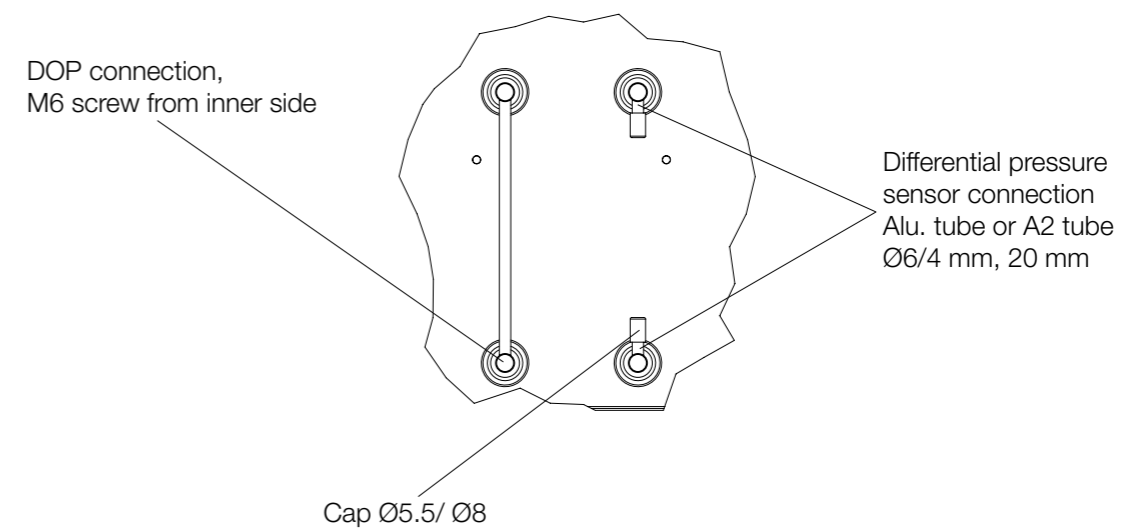


DIFFUSERS

AIR FILTRATION

DIMENSIONS

Characteristics	For CFU-R-HP							
	Filter size (mm)	Casing		Overall		Height	Connection	Weight
		A (mm)	B (mm)	E (mm)	F (mm)	H (mm)	L x M (mm)	(kg)
3030	305 x 305 x 68	323	326	423	423	373	199 x 148	8
3060	305 x 610 x 68	326	628	423	728	373	399 x 148	12
4545	457 x 457 x 68	475	478	575	575	373	349 x 148	12
AC	457 x 457 x 68	475	478	595	595	373	349 x 148	12
6060	610 x 610 x 68	628	631	728	728	473	399 x 248	18
9060	915 x 610 x 68	628	936	728	1033	473	599 x 248	23
1260	1220 x 610 x 68	628	1241	728	1338	473	799 x 248	28
2AC	1157 x 457 x 68	475	1178	595	1195	473	599 x 248	23



WELDED PLENUM BOX



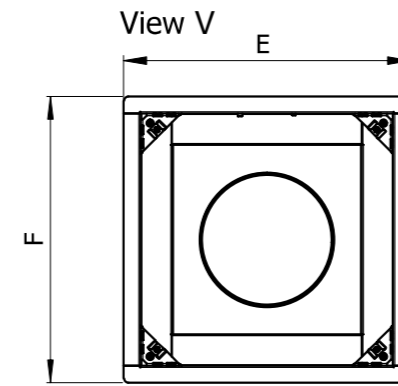
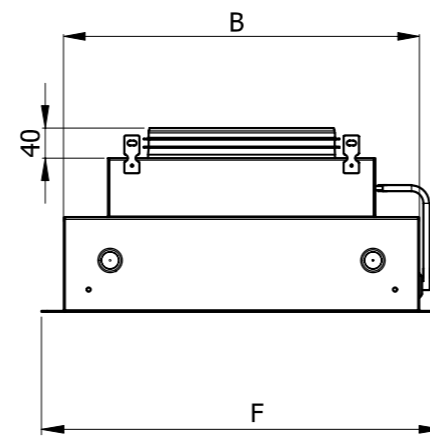
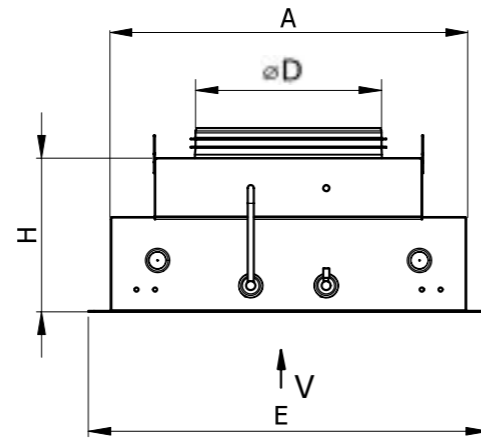
 **CFU-W-VC**
Vertical cylindrical spigot connection



 **CFU-W-HC**
Side cylindrical spigot connection

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CFU-W-VC

New generation casing designed with filter thickness 68 mm.

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- Tightness validated to +2000 Pa, -500 Pa
- Local penetration at the joint plane < 0.01% (Emery 3004 test)
- 8 plenum sizes
- Adaptable diffusers

OPTIONS

Optional with 315mm connection diameter on sizes 9060 and 1260
Fastening system for sandwich panel (dagard ceiling).

CEILING OPENING

(A-30 mm) x (B-30 mm)
AC i 2AC is (A-50) x (B-50)



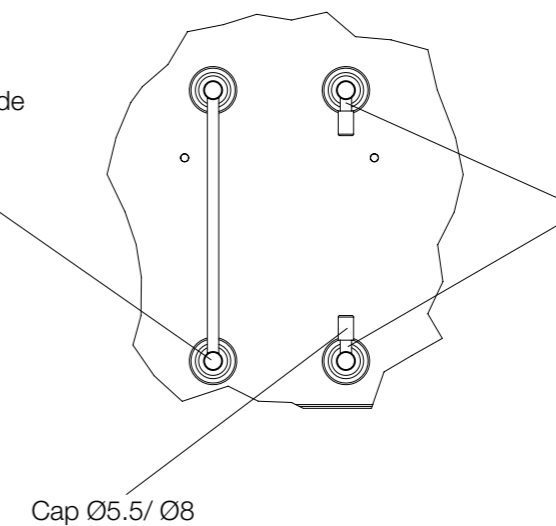
DIFFUSERS

AIR FILTRATION

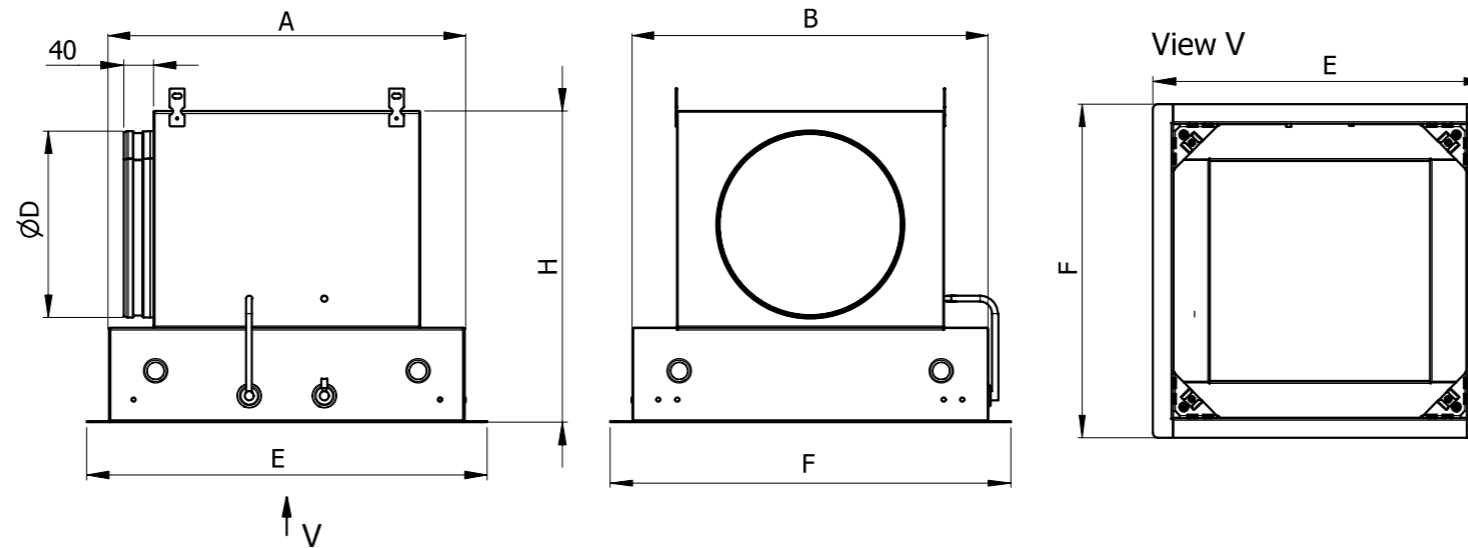
DIMENSIONS

Characteristics	For CFU-W-VC							Weight (kg)
	Casing		Opening on the ceiling		High.	Diam.		
Filter size (mm)	A (mm)	B (mm)	E (mm)	F (mm)	H (mm)	D (mm)		
3030 305 x 305 x 68	320	320	380	380	204	158	5	
3060 305 x 610 x 68	320	625	380	685	204	158	8	
4545 457 x 457 x 68	472	472	532	532	204	248	8	
AC 457 x 457 x 68	472	472	595	595	204	248	9	
6060 610 x 610 x 68	625	625	685	685	204	313	11	
9060 915 x 610 x 68	625	930	685	990	204	398	15	
1260 1220 x 610 x 68	625	1235	685	1295	204	498	18	
2AC 1157 x 457 x 68	472	1172	595	1195	204	313	16	

DOP connection,
M6 screw from inner side



Differential pressure
sensor connection
Alu. tube or A2 tube
Ø6/4 mm, 20 mm



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New generation casing designed with filter thickness 68 mm.

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OPTIONS

Optional with 315mm connection diameter on sizes 9060 and 1260
Fastening system for sandwich panel (dagard ceiling).

CEILING OPENING

(A-30 mm) x (B-30 mm)
AC i 2AC is (A-50) x (B-50)

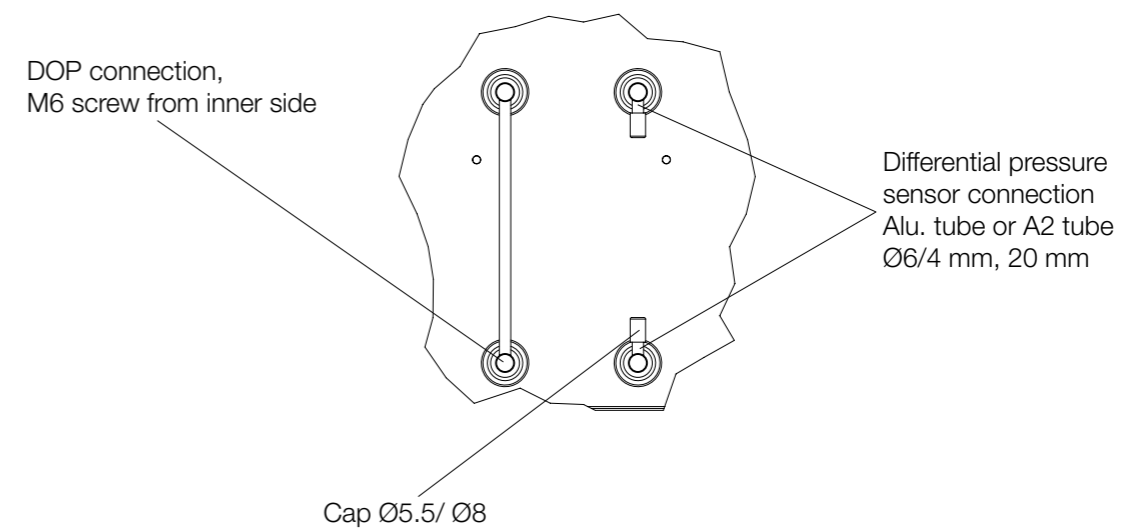


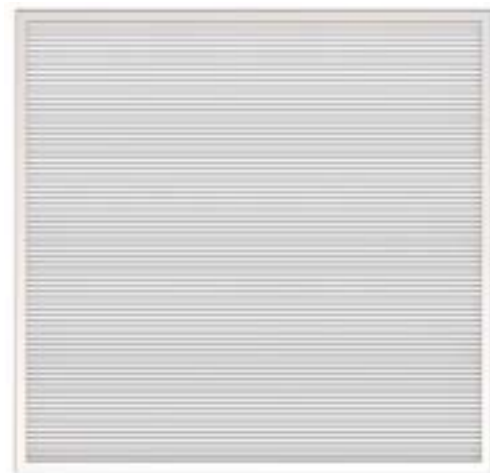
DIFFUSERS

AIR FILTRATION

DIMENSIONS

Characteristics	For CFU-W-HC							
	Filter size (mm)	Casing		Opening on the ceiling		High.	Diam.	Weight (kg)
	A (mm)	B (mm)	E (mm)	F (mm)	H (mm)	D (mm)		
3030	305 x 305 x 68	320	320	380	380	323	158	7
3060	305 x 610 x 68	320	625	380	685	413	248	11
4545	457 x 457 x 68	472	472	532	532	413	248	12
AC	457 x 457 x 68	472	472	595	595	413	248	12
6060	610 x 610 x 68	625	625	685	685	478	313	18
9060	915 x 610 x 68	930	625	990	685	563	398	26
1260	1220 x 610 x 68	625	1235	685	1295	661	498	36
2AC	1157 x 457 x 68	472	1172	595	1195	563	398	27





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Filters

They can be of type LF10, LF13, LF14 or LF15 of the Klimaoprema range. Note that all the filters in our range are filters of standardized sizes with the aim of simplifying maintenance replacement operations and in order not to lock users into a single manufacturer.



FILTERS

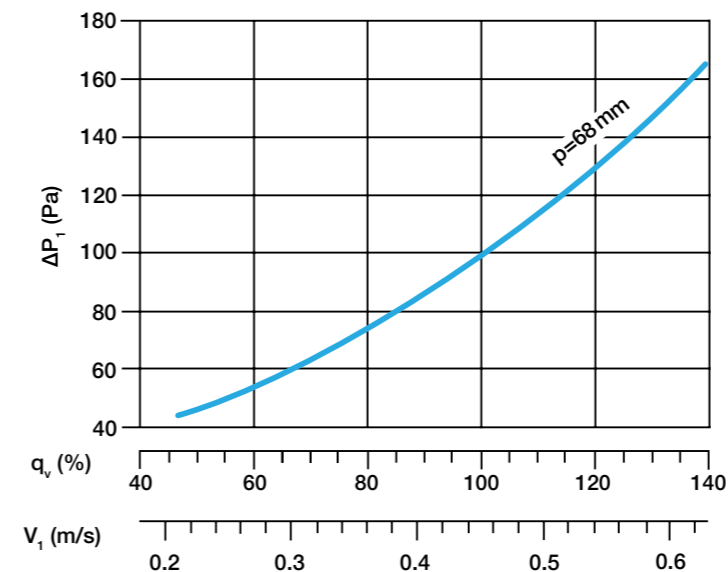
LF10, LF13, LF14 and LF15, thickness 68 mm

They consist of a frame in anodized aluminum profile 68 mm thick receiving the filter media (micro-fiber glass paper in mini-plies). A white lacquered metal grid protects the media on both sides during handling. The filters have been tested in accordance with EN 1822 and are effective, as desired:

- LF10: EPA class E10 according to EN 1822-1:2019 (E ≥ 85% @ MPPS).
- LF13: HEPA class H13 according to EN 1822-1:2019 (Eintegrale ≥ 99,95% - Elocale ≥ 99,75% @ MPPS)
- LF14: HEPA class H14 according to EN 1822-1:2019 (Eintegrale ≥ 99,995% - Elocale ≥ 99,975% @ MPPS)
- LF15: ULPA class U15 according to EN 1822-1:2019 (Eintegrale ≥ 99,9995% - Elocale ≥ 99,9975% @ MPPS)

Each filter, delivered in individual plastic packaging, in a rigid cardboard box, is supplied with its individual test certificate according to EN 1822 (MPPS 100% scanning) which must be given to the future user. A polyurethane gasket (continuously cast on the aluminum frame) ensures tightness during the mechanical tightening of the filter on the underside of the self-supporting frame.

LF14- initial pressure drop





Adjustable swirl diffuser **DEV-Q / DEK-Q**

CFU size	DEV-Q size	No. of discharge elements	Material
CFU 3030	314 x 314	8	Galvanized/ 304/316L
CFU 4545/AC	466 x 466	24	
CFU 6060	619 x 619	48	



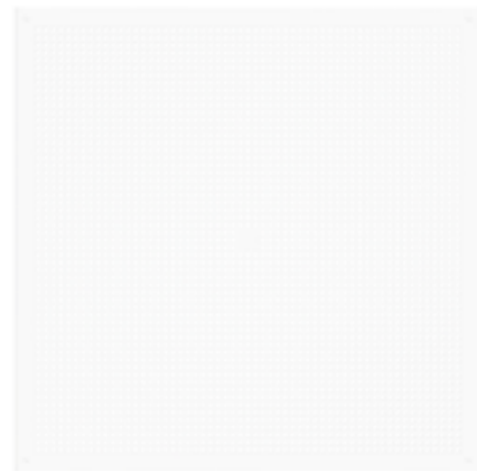
Adjustable ceiling diffuser **DVF-Q**

CFU size	DVF-Q size	Material
CFU 3030	314 x 314	Galvanized steel
CFU 4545/AC	466 x 466	
CFU 6060	619 x 619	



Four way diffuser **DFW-Q**

CFU size	DFW-Q size	Material
CFU 3030	314 x 314	Galvanized steel
CFU 4545/AC	466 x 466	
CFU 6060	619 x 619	



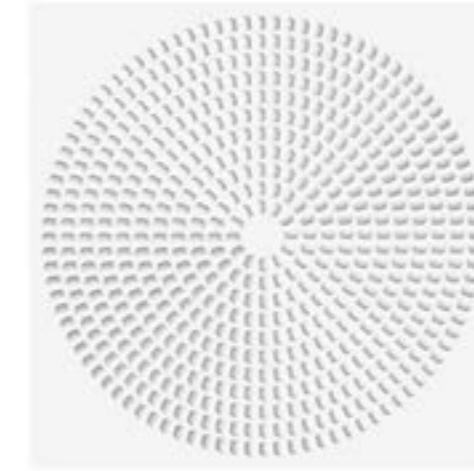
Perforated diffuser **DIP-Q**

CFU size	DIP-Q size	Material
CFU 3030	314 x 314	Galvanized/ 304/316L
CFU 4545/AC	466 x 466	
CFU 6060	619 x 619	
CFU 9060	924 x 619	
CFU 1260	1229 x 619	
CFU 1245/2AC	1066 x 466	



Ceiling swirl diffuser **DOS-Q**

CFU size	DOS-Q size	No. of discharge elements	Material	Diffuser shape
CFU 3030	314 x 314	8	Galvanized/ 304/316L	QR/QQ
CFU 4545/AC	466 x 466	24		QR/QQ
CFU 6060	619 x 619	48		QR/QQ
CFU 9060	924 x 619			QQ
CFU 1260	1229 x 619			QQ
CFU 1245/2AC	1066 x 466			QQ



Ceiling swirl diffuser **DOR-Q**

CFU size	DOR-Q size	Material
CFU 3030	314 x 314	Galvanized steel
CFU 4545/AC	466 x 466	
CFU 6060	619 x 619	

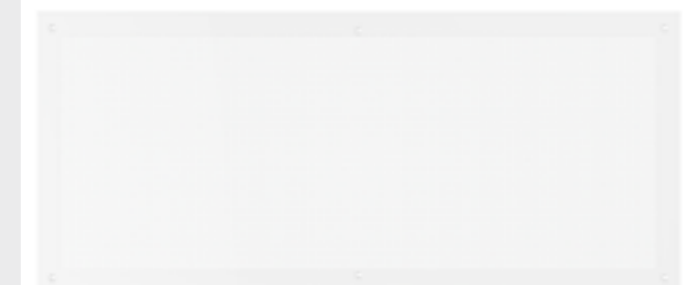
- ▼ Riveted plenum boxes
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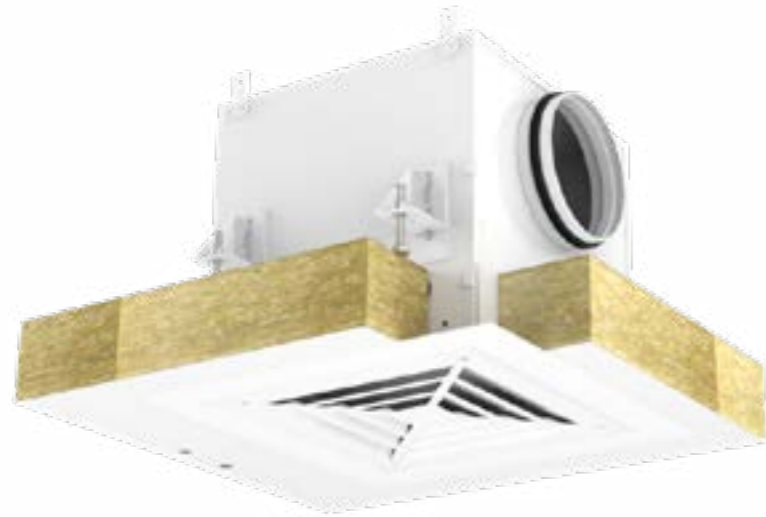
DIFFUSERS

DOS-2AC (Suspended ceiling system)



DIP-2AC (Suspended ceiling system)





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AIR FILTRATION

ORDERING KEY FOR CFU

(1) Ceiling filter unit (2) Plenum design (3) Nominal dimension (4) Connection (5) Panel Ceiling (6) Material

CFU - W - 3030 - HC - D - 304

- | | |
|--|---|
| (1) Ceiling filter unit: CFU | (4) Round certical spigot connection VC
Rectangular top connection VP
Round side spigot connection HC
Rectangular side connection HP |
| (2) Welded plenum design: W
Rivited plenum design: R | |
| (3) Nominal dimensions:
3030
3060
4545
AC (Suspended ceiling system)
6060
9060
1260
2AC (Suspended ceiling system) | (5) Sandwich panel ceiling: D
*Optional installation type

(6) Material:
Stainless steel 304
Stainless steel 316L
Powder coated RAL
*If material is not defined product is delivered in RAL 9010 as standard |

ORDERING KEY FOR FILTER

(1) HEPA filter type (2) Dimensions

LF14 - 305x305x68

- (1) Hepa filter type: **LF10, LF11, LF13, LF14, LF15**
- (2) Filter dimensions:
305x305x68 **457x457x68** **915x610x68**
305x610x68 **610x610x68** **1220x610x68**

ORDERING KEY FOR DIFFUSER

(1) Product type (2) Diffuser plate (3) Diffuser shape * only for DEV/DEK/DOS (4) Diffuser size / Pattern size (5) Discharge elements color * only for DEV/DEK (6) Material

CFU-A - DOS - QQ - 3030 - B -

- | | |
|---|--|
| (1) Accessories for ceiling filter unit: CFU-A | (4) 3030, 4545, 6060, 6090, 1260, AC, 2AC |
| (2) DOR ceiling swirl diffuser
*** DOS adjustable ceiling diffuser
* DFW-R four way diffuser
* DVF ceiling swirl diffuser
* DEV adjustable swirl diffuser
* DEK adjustable swirl diffuser
** DIP perforated diffuser
*possible with these dimensions: 3030, 4545, 6060, AC
**possible with these dimensions: 2AC | (5) W - white discharge elements
B - black discharge elements

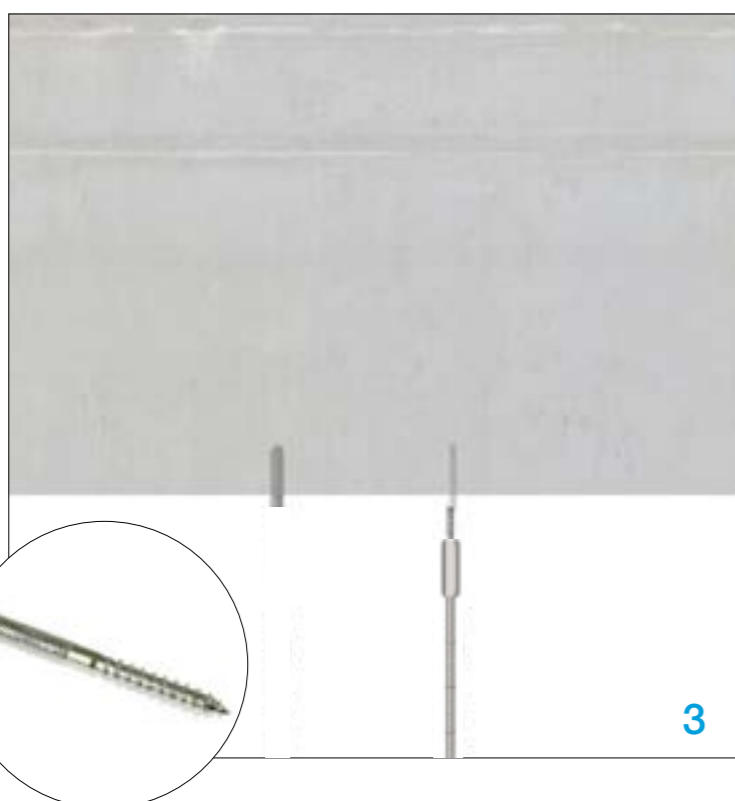
(6) Material:
Stainless steel 304
Stainless steel 316L
Powder coated RAL
*If material is not defined product is delivered in RAL 9010 as standard |
| (3) QQ - rectangular shape / rectangular pattern
QR - rectangular shape / circulare pattern | |

Casing installation instructions

Ceiling filtration unit meets waterproofing standards. Piercing the plenum during assembly can cause leaks that could invalidate EMERY integrity tests and particulate validations.

Installation

1. Bend the installation brackets 90°
2. Measure the distance between the brackets and make marks on the ceiling
3. Install the suspension in the ceiling
4. Install the casing on the suspension



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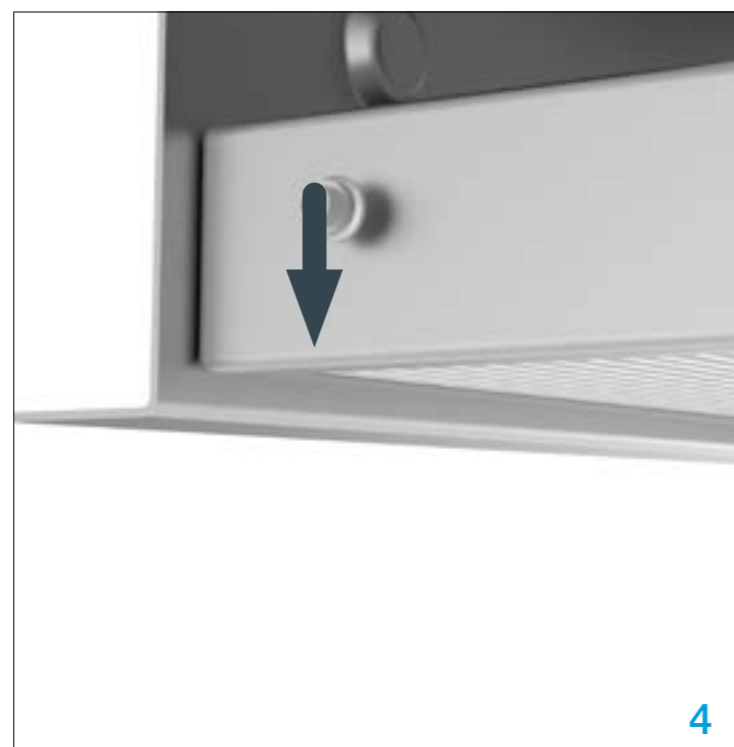
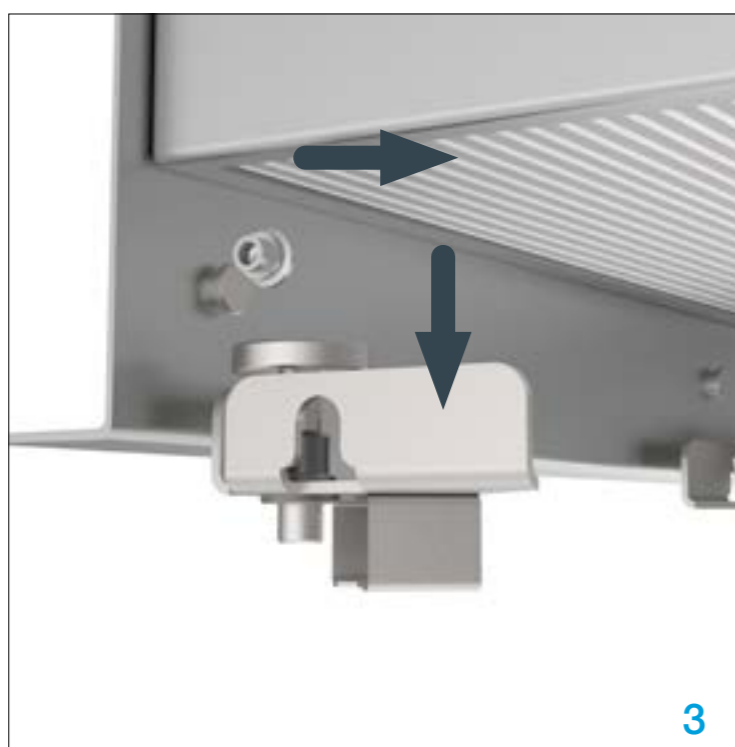
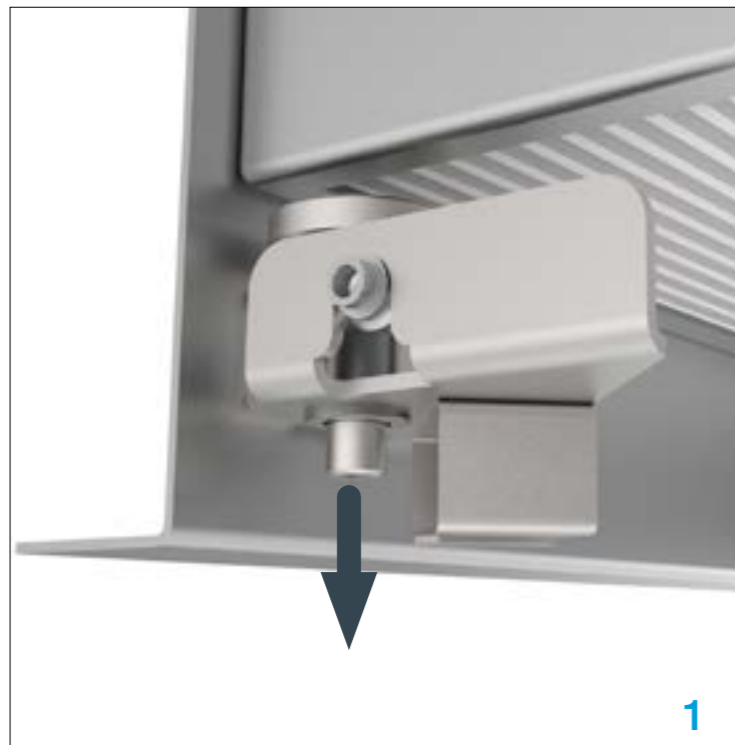
INSTALLATION

Filter installation instructions

The 68 mm thick filter must be installed before installing the diffuser plate on the plenum.
The filter is thightentght using a support system in the each corner.

Installation

1. Unscrew the lower bolts in the each corner
2. Push the support systems up
3. Remove the support system
4. Remove the filter



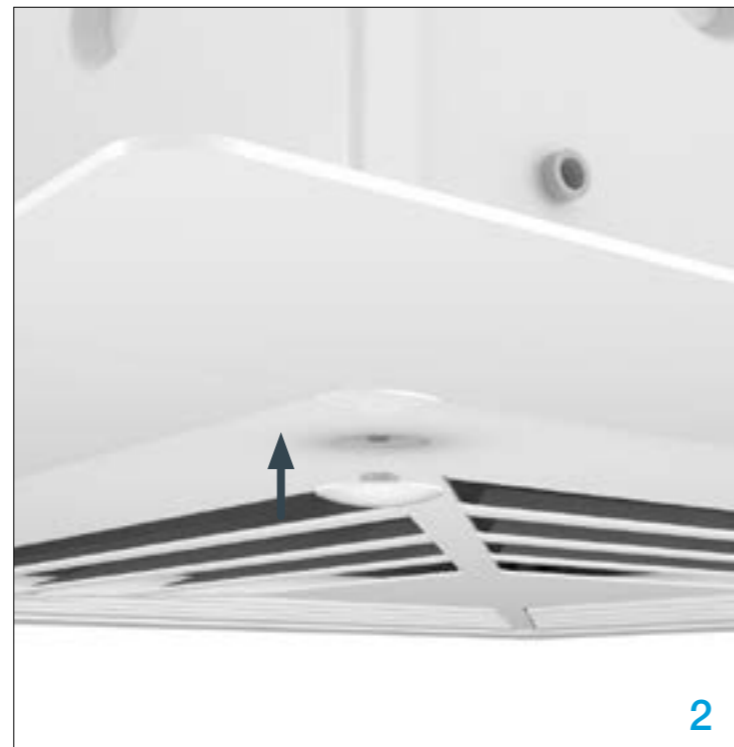
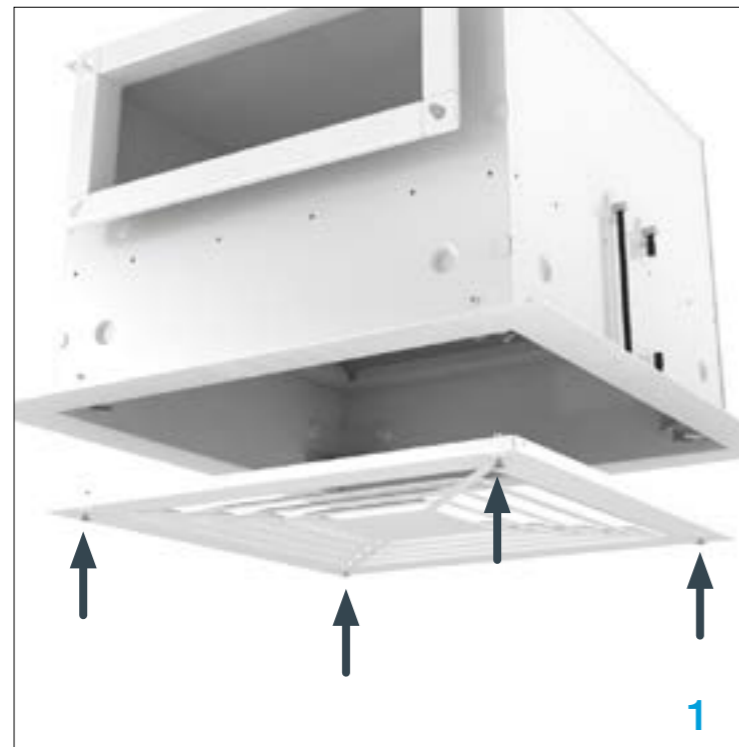
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Diffusor plate installation instructions

Diffusor plate is fixed with 4 screws on the casing.

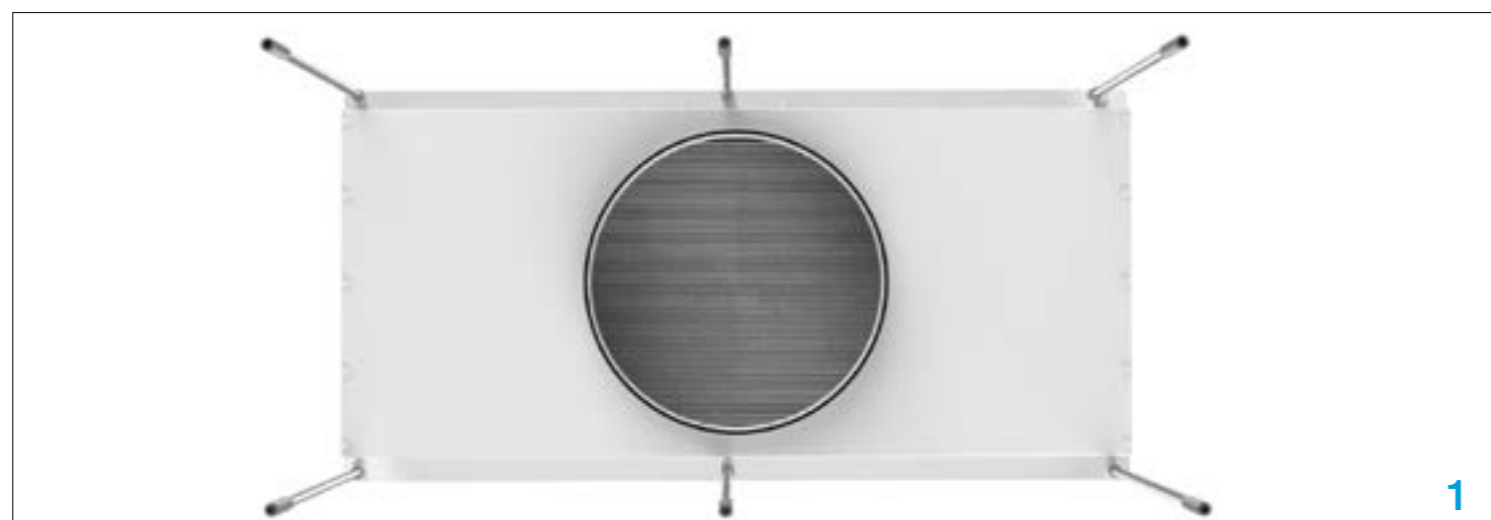
Installation

1. Screw the bolts in the each corner of the diffusor plate
2. Put the decorative caps on the bolts



- ▼ Riveted plenum boxes
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2AC installation instructions

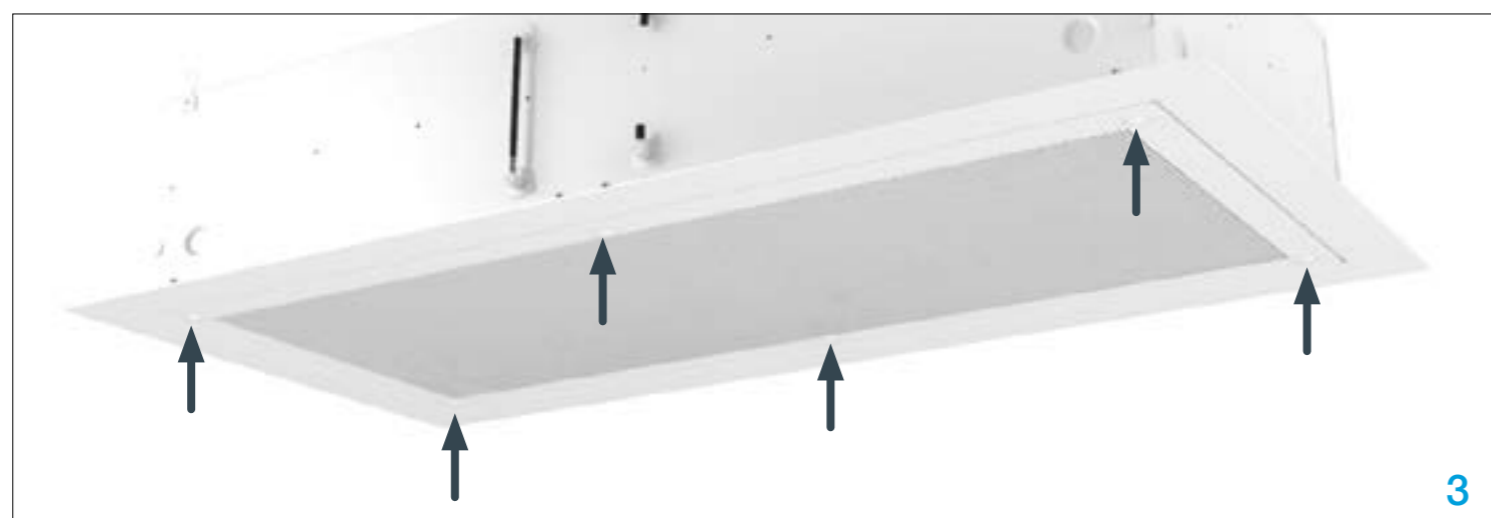


Installation

1. Bend the installation brackets 90°, measure the distance between the brackets and make marks on the ceiling. Install the suspension in the ceiling and casing on the suspension



2. Place the filter in the casing, hook the support systems on the four corners and install the support system in the middle of the casing



3. Install six bolts in the shown positions of the diffuser plate and put the decorative caps on the bolts

- ▼ Riveted plenum boxes
- ▼ Welded plenum boxes
- ▼ Filters
- ▼ Diffusers
- ▼ Ordering key
- ▼ Installation
- ▼ Diagrams

INSTALLATION

Sandwich ceiling panels installation instructions

Installation

1. Insert casing in the ceiling and holders on the casing
2. Push holders up
4. Fix the ceiling with holders



- ▼ Riveted plenum boxes
- ▼ Welded plenum boxes
- ▼ Filters
- ▼ Diffusers
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INSTALLATION

ADDITIONAL TECHNICAL FEATURES

Options

- Stainless steel plenum and diffusers.
- RAL...

Additional instructions:

- Carefully unpack the filter and visually inspect for any defects.
- Carefully install the filters and secure the distributor plate to avoid damaging the plenum box.
- Unpacking and installation of distributors from below.
- Commissioning in the presence of an installer is recommended.

Space cleaning:

- It is necessary to clean the space in order to achieve the desired cleanliness. Be sure to clean all surfaces inside the room.

NOTE: After the space is cleaned, no one should enter the space until the checks have been done.

- ▼ Riveted plenum boxes
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Quick selection table

CFU dimension/ Filter dimension	$q_{v\ nom}$	$q_{v\ nom}$	ΔP_{LF10}	ΔP_{LF14}	ΔP_{LF15}	S_f	m
	(m ³ / h)	(CFM)	(Pa)	(Pa)	(Pa)	(m ²)	(Kg)
3030/68	150	88,29	60	100	130	2,8	1,3
3060/68	300	176,57	60	100	130	5,5	2,3
4545/68	335	197,17	60	100	130	6,3	2,5
6060/68	600	353,15	60	100	130	11,3	3,7
9060/68	900	529,72	60	100	130	16,9	4,9
1260/68	1200	706,30	60	100	130	22,5	6,5
3030/115	150	88,29	50	70	-	5,0	2,1
3060/115	300	176,57	50	70	-	9,9	3,7
4545/115	335	197,17	50	70	-	11,3	4,1
6060/115	600	353,15	50	70	-	20,3	6,2
9060/115	900	529,72	50	70	-	30,4	8,3
1260/115	1200	706,30	50	70	-	40,5	11,1

$q_{v\ nom}$ [m³/h] - nominal volume flow rate

ΔP_{LF10} [Pa] - LF10 initial pressure drop (± 20 Pa) @ nominal volume flow rate

ΔP_{LF14} [Pa] - LF14 initial pressure drop (± 20 Pa) @ nominal volume flow rate

ΔP_{LF15} [Pa] - LF15 initial pressure drop (± 20 Pa) @ nominal volume flow rate

$S_{f\ nom}$ [m²] - filtering area

m [kg] - weight

- Riveted plenum boxes
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DIAGRAMS



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