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Duct pre-filter units KPF

Application

Duct pre-filter units KPF are built in supply air installations before rooms, which demand higher air cleanliness. KPF units extend the service life of HEPA filters, because larger dirty particles are removed by pre-filters, which are built in the system before HEPA filters.

Description

KPF unit comprises filter of B x H x L dimensions, filter frames and bag filters of Coarse 50% - ePM1 80% filter class according to ISO 16890 (old designation G3 to F9). Filter housing is made of sheet metal, air-tight welded according to DIN 1946 and coloured in RAL 9010. Housing is fitted with connections for measuring of pressure drop. Galvanized steel sheet KPF possible (not airtight).

Installation

Basic frames are being fitted into the KPF units via the side opening. The procedure requires 1000 mm of free space (Fig. 1). KPF housing is fitted into the duct network via the self-locking flange.

Accessories

See chapter Accessories.

Technical data

See chapter filters, subchapter Bag filters.

Filter lifetime

Filter pollution is controlled by means of a differential manometer. The connections for plastic tubes are already fitted on the duct pre-filter units KPF.

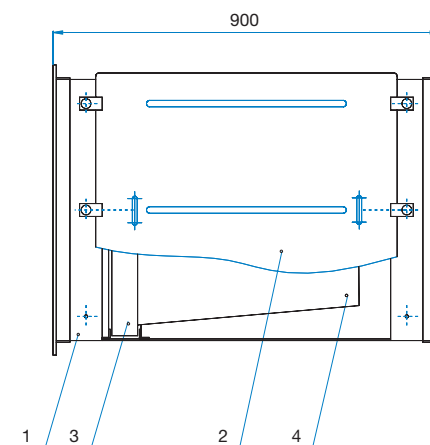


Fig. 1: Overview

1. Housing
2. Cover plate
3. Frame
4. Filter

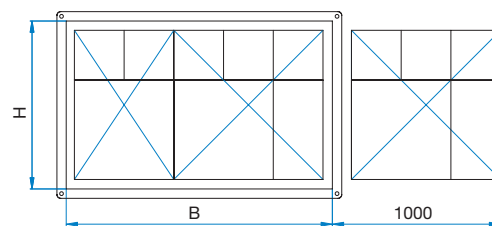
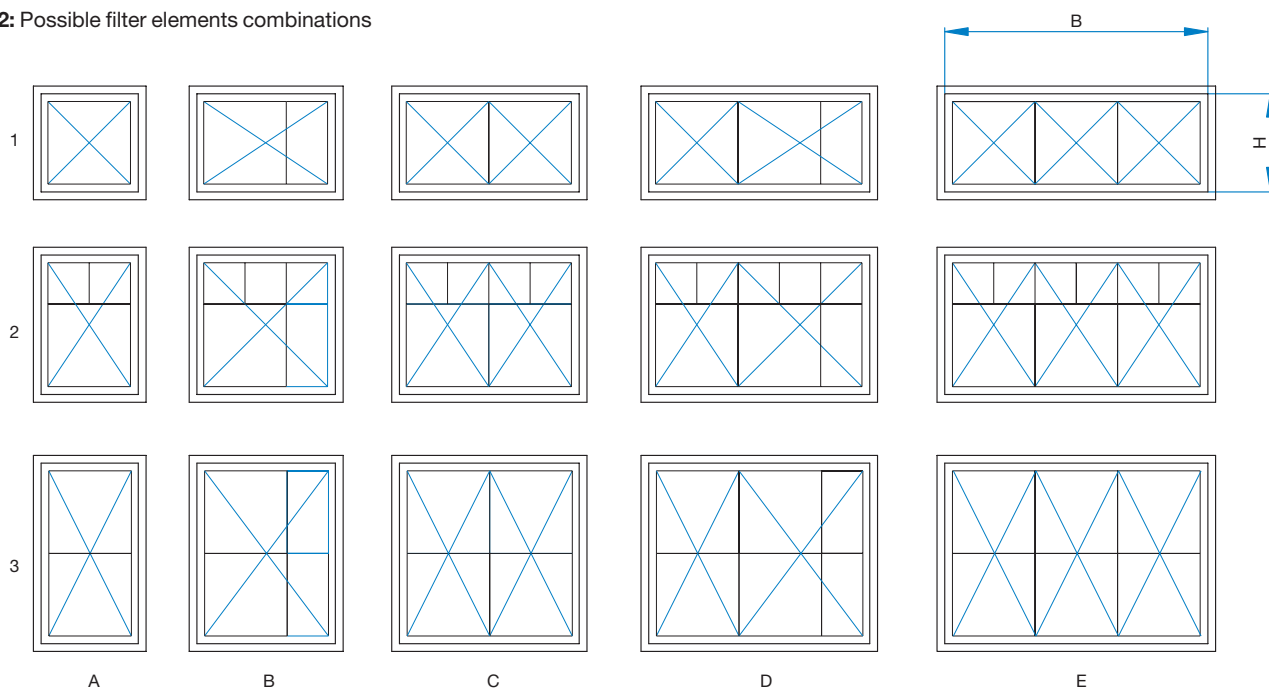


Table 1: Pre-filter unit size, quantity and size of bag filters

Size x	Weight (kg)	H (mm)	B (mm)	Bag filter, bag length 630 mm		
				592 x 592	287 x 592	287 x 287
1A	40	618	618	1	–	–
1B	52	618	925	1	1	–
1C	63	618	1232	2	–	–
1D	75	618	1539	2	1	–
1E	82	618	1846	3	–	–
2A	53	925	618	1	–	2
2B	68	925	925	1	1	3
2C	82	925	1232	2	–	4
2D	91	925	1539	2	1	5
2E	110	925	1846	3	–	6
3A	63	1232	618	2	–	–
3B	81	1232	925	2	2	–
3C	93	1232	1232	4	–	–
3D	110	1232	1539	4	2	–
3E	123	1232	1846	6	–	–

Fig. 2: Possible filter elements combinations



Ordering key

KPF-FV / G3 / 1A / POC

1 2 3 4

1 Filter type

FV	Bag filter
KA	Panel filters (on customer's request)

2 Filter class

G3-F9	Filter class acc. to EN 779:2012
Coarse 50% - ePM1 80%	Filter class according to ISO 16890

3 Filter size

1A	618 x 618 ... housing dimensions H x B
1B	618 x 925
1C	618 x 1232
1D	618 x 1539
1E	618 x 1846
2A	925 x 618
2B	925 x 925
2C	925 x 1232
2D	925 x 1539
2E	925 x 1846
3A	1232 x 618
3B	1232 x 925
3C	1232 x 1232
3D	1232 x 1539
3E	1232 x 1846

4 Finish

POC	Galvanized steel
RAL	Colored in RAL (standard color RAL 9010)

Note:

On request it is possible to produce also KPF units for other dimensions, types and classes of filters.
Manometers have to be ordered separately.

Duct HEPA filter units AKF

Application

Duct HEPA filter units AKF are used in the network of inlet and outlet ducts used to supply or extract air from rooms with the highest air cleanliness requirements. They can be used for:

- air supply and extraction in laboratories,
- air supply and extraction in operating theatres, infection-free and sterile environments,
- air supply in electronics, precision mechanics, chemistry, pharmaceuticals and food industry,
- air supply in film and audio tape industry,
- air supply and extraction in nuclear technology etc.

Description

The AKF unit is made of a filter housing with connection flanges and a HEPA filter. The filter housing is made of sheet metal, air-tight welded according to DIN 1946 and coated in RAL 9010. Two pressure gauge attachments for pressure drop measurements are fitted into the housing.

Bag-in/Bag-out (safe filter replacement with the use of bags)

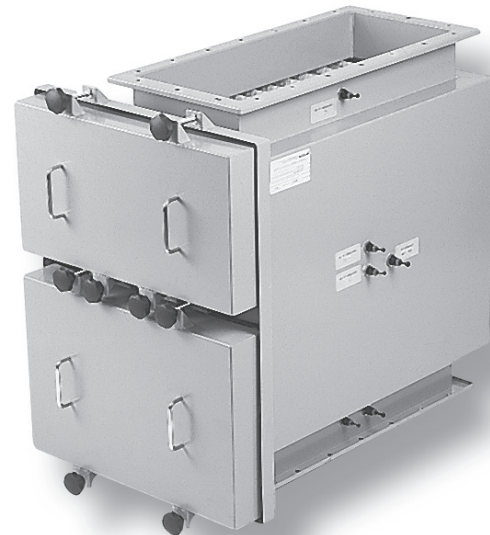
Bag-in/Bag-out is intended for filtration of air in processes during which hazardous or toxic substances are produced. The Bag-in/Bag-out system prevents any contact with the waste filter contents during replacement. The installation of a pre-filter prolongs the life of the HEPA filter. The pre-filter replacement procedure is the same as HEPA filter replacement.

Installation and design versions

AKF housings are designed for installation of single AKF-I filter units. (Fig. 1, Fig. 2) as well as for installation of several AKF-II units (Fig. 3, Fig. 4) into the duct system. To replace the filter, 700 mm of free space is required on the front side of the unit. The AKF-II unit is made in several set-up combinations, determined by the position of connection flanges A1, A2, B1, B2 (Fig. 5, Fig. 6).

Accessories

See chapter Accessories.



AKF-I

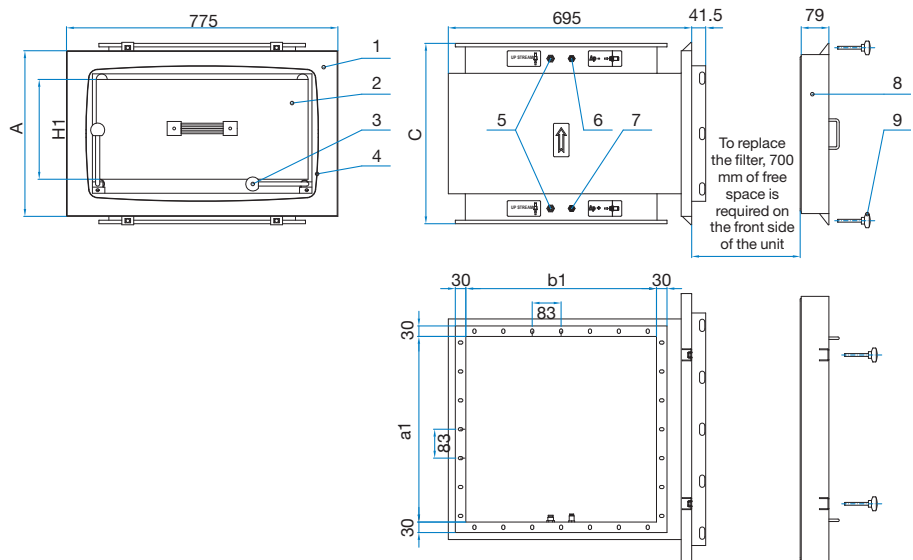


AKF-II

AKF-I

Fig. 1

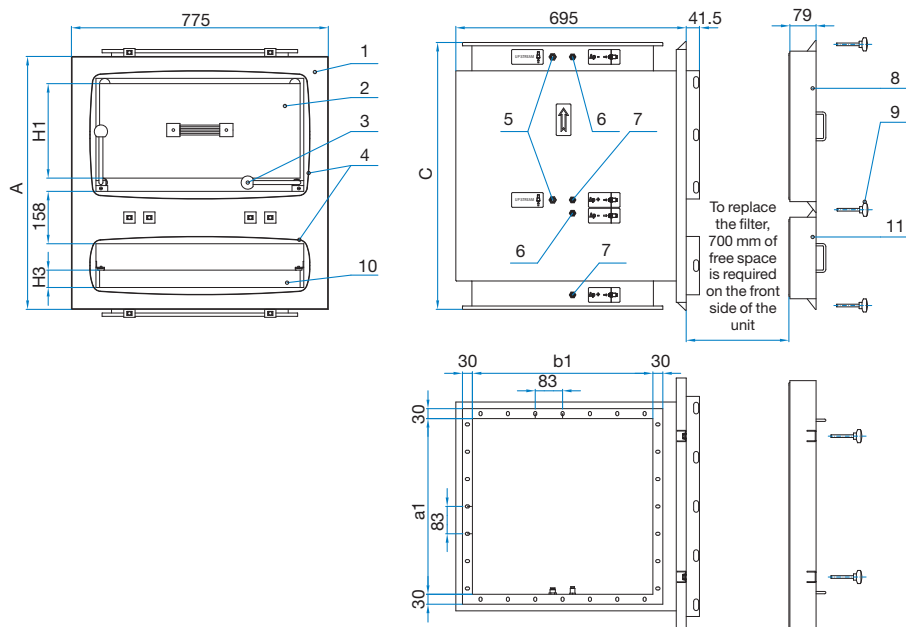
1. Filter housing
2. HEPA filter
3. Filter assembly levers
4. Bag-in/Bag-out spigot (only Bag-in/Bag-out version)
5. Connection (UPSTREAM) for scan test
6. Static pressure connection after filter – Δp
7. Static pressure connection before filter + Δp
8. HEPA filter cover
9. Screw for cover fixing



AKF-I+KPF

Fig. 2

1. Filter housing
2. HEPA filter
3. Filter assembly levers
4. Bag-in/Bag-out spigot (only Bag-in/Bag-out version)
5. Connection (UPSTREAM) for scan test
6. Static pressure connection after filter – Δp
7. Static pressure connection before filter + Δp
8. HEPA filter cover
9. Screw for cover fixing
10. PRE-filter
11. PRE-filter cover



Material and surface protection

Filter housing and filter covers are made from cold rolled steel.

SS materials are available upon request.

The filter housing and filter covers are powder-coated in RAL 9010. Other RAL colours are available upon request.

Table 1: Filter housing AKF-I dimensions and weight

Designation	H1	H3	A	C	a1	b1	Weight
HEPA filter 610 x 610 x 150	150	/	331	373	530	545	25.3 kg
HEPA filter 610 x 610 x 292	292	/	473	515	530	545	30.7 kg
HEPA filter 610 x 610 x 150 + PRE-filter 610 x 610 x 50	150	50	621	663	530	545	40.9 kg
HEPA filter 610 x 610 x 292 + PRE-filter 610 x 610 x 50	292	50	763	805	530	545	46.4 kg

Note: Weight deviation is $\pm 10\%$.

AKF-II (nominal size 1, 2, 3, 4)

Material and surface protection

Fig. 3

- Connection ducts are made from cold rolled steel.
- EPDM gasket.
- Adjustable legs are made from square steel tubes.

Other materials are available upon request.

Filter housing, connection ducts, adjustable legs and filter covers are powder-coated in RAL 9010. Other RAL colours are available upon request.

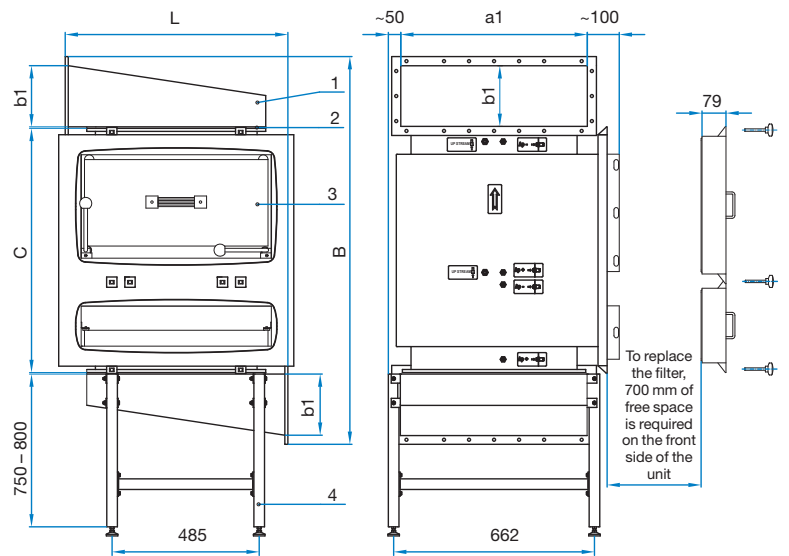
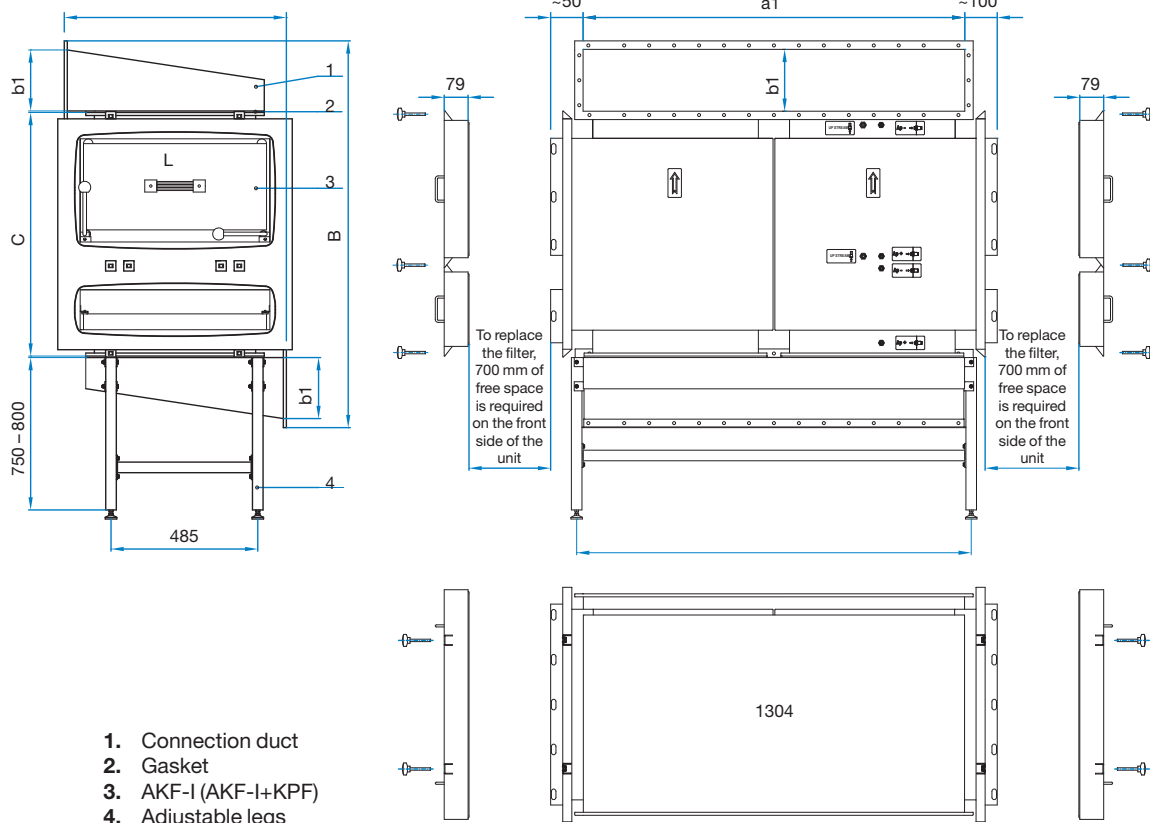


Fig. 3

1. Connection duct
2. Gasket
3. AKF-I (AKF-I+KPF)
4. Adjustable legs

AKF-II (nominal size 2D, 4D, 6D, 8D)

Fig. 4

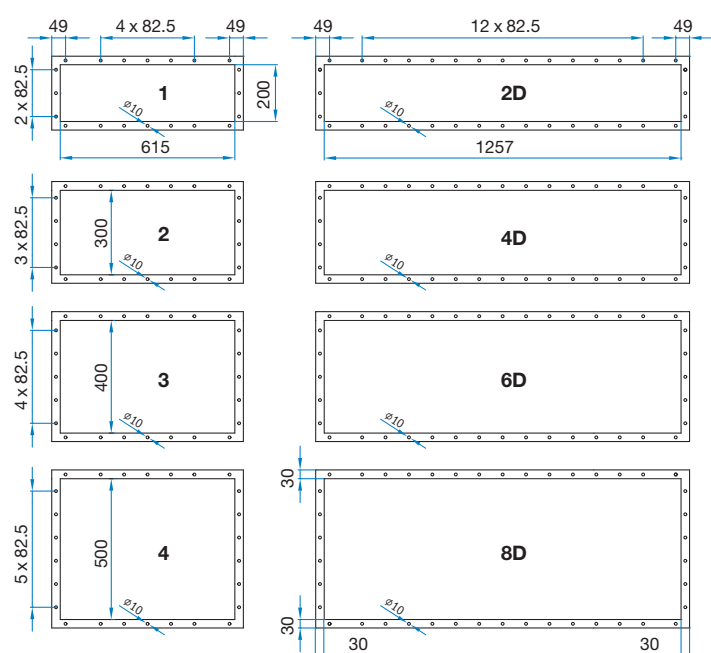
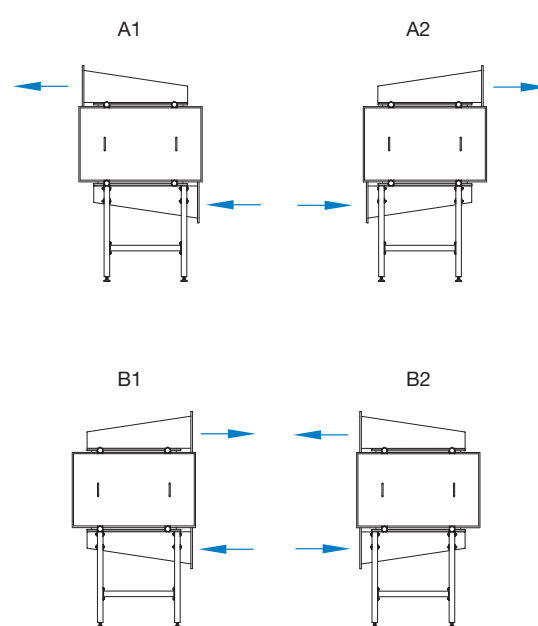


1. Connection duct
2. Gasket
3. AKF-I (AKF-I+KPF)
4. Adjustable legs

Table 2: Filter housing AKF-II dimension and weight table

Designation		AKF-II/1, 2, 3, 4				AKF-II/2D, 4D, 6D, 8D			
		1	2	3	4	2D	4D	6D	8D
Nominal size		1	2	3	4	2D	4D	6D	8D
No. of filters in length	n_L	1	2	3	4	1	2	3	4
No. of filters in width	n_W	/				2			
	L	734	1522	2312	3102	734	1522	2312	3102
Flange	a1	615				1257			
	b1	200	300	400	500	200	300	400	500
HEPA filter 610x610x150	B	846	1047	1247	1447	846	1047	1247	1447
	C	373				373			
	H1	150				150			
	weight	57 kg	123 kg	192 kg	266 kg	103 kg	217 kg	335 kg	457 kg
		B	1136	1337	1537	1737	1136	1337	1537
HEPA filter 610x610x150 + PRE-filter 610x610x50	C	663				663			
	H1	150				150			
	H3	50				50			
	weight	73 kg	154 kg	239 kg	328 kg	134 kg	279 kg	429 kg	582 kg
HEPA filter 610x610x292	B	988	1189	1389	1589	988	1189	1389	1589
	C	515				515			
	H1	292				292			
	weight	63 kg	134 kg	209 kg	288 kg	113 kg	239 kg	368 kg	501 kg
HEPA filter 610x610x292 + PRE-filter 610x610x50	B	1278	1479	1679	17879	1278	1479	1679	17879
	C	805				805			
	H1	292				292			
	weight	78 kg	165 kg	256 kg	350 kg	145 kg	301 kg	473 kg	626 kg

Note: Weight deviation is $\pm 10\%$.

AKF-II (connection flange dimensions)
Fig. 5

AKF-II (position of flange connections)
Fig. 6


Expected service life of HEPA filters and their replacement

HEPA filters are constructed for single use only. In AKF housing HEPA filters with semi-circular foam gasket are to be used. The expected service life of the filter depends on air-flow volume, pressure drop and amount of dust particles. Service life can be considerably increased by installing a pre-filter.

HEPA filter pollution is controlled by means of a differential manometer which can be fitted on the housing. Connections for plastic tubes are fitted on the AKF housing.

When the pressure drop reaches double its initial value, it is recommended to replace the HEPA filter. When replacing the AKF filter, remove the cover, release the lever and finally remove the frame with the used HEPA filter. When installing the new filter, use the above instructions in the opposite order.

In case of replacement of bag filters (bag-in, bag-out system), the procedure is the same with the exception of a bag attached to the extension. The waste filter is removed into a bag, which has been attached to the extension since the last replacement. The bag is then hermetically sealed so that after the separation of the part of the bag with the filter, a part of the bag remains on the extension, hermetically sealed as well. A new filter is put in a bag and then placed over the remaining part closing the duct. Upon the placement of the new bag, the remaining part of the old bag is first removed into the new bag. A new filter is installed from the new bag. The bags are attached to the extension by means of a rubber collar.

Ordering key

AKF-I / 1 / H1 / H3 / BIBO

1 2 3 4 5

1 Type

AKF-I	Duct mounted filter unit with HEPA filter
AKF-I+KPF	Duct mounted filter unit with HEPA filter and pre-filter

2 Nominal size

1	Single housing
----------	----------------

3 HEPA filter size

H1	610 x 610 x 150
H2	610 x 610 x 292
HX	WxBxH for custom size

4 Pre-filter size

H3	592 x 592 x 50
HX	WxBxH for custom size

Note:

- Filter is not included and must be ordered separately.
- AKF units with other HEPA filter sizes are available upon request.
- Manometers have to be ordered separately.

Ordering key

AKF-II / 1 / H1 / H3 / A1 / BIBO

1 2 3 4 5 6

1 Type

AKF-II	Duct mounted filter unit with HEPA filter
AKF-II+KPF	Duct mounted filter unit with HEPA filter and pre-filter

2 Nominal size

1	Single housing
2	Housings in line
3	Housings in line
4	Housings in line
2D	Housings in back to back configuration
4D	Housings in back to back configuration
6D	Housings in back to back configuration
8D	Housings in back to back configuration

3 HEPA filter size

H1	610 x 610 x 150
H2	610 x 610 x 292

4 Pre-filter size

H3	592 x 592 x 50
-----------	----------------

5 Connection flange position

A1
A2
B1
B2

6 BIBO

BIBO	with Bag-in/Bag-out safe filter exchange system
-	without BIBO

Note:

- Filter is not included and must be ordered separately.
- Units with other HEPA filter sizes are available upon request.
- Manometers have to be ordered separately.

Wall HEPA filter units AFH-1

Application

Wall HEPA filter units AFH-1 are used in a network of inlet and outlet ducts used to supply or extract air from rooms with highest air cleanliness. The HEPA filter is fitted with a rectangular cross-section. They can be used for:

- air supply and extraction in laboratories,
- air supply and extraction in operating theatres, infection-free and sterile environments,
- air supply in electronics, precision mechanics, chemistry, pharmaceuticals and food industry,
- air supply in film and audio tape industry,
- air supply and extraction in nuclear technology etc.

Description

The AFH-1 unit is made of a filter housing, two-row steel grille JR-5 and a HEPA filter. The sheet steel filter housing is airtight welded according to DIN 1946 and coated in RAL 9010. The grille is made of cold-drawn strip steel and coated in RAL 9010. The grille is fastened to the housing with nuts which can be screwed or unscrewed manually. The AFH-1 unit is fitted with special sealing frame for a sit-tightness test.

A stainless steel (RR-1) grille version is available upon request.

Design variations

The sealing frame type determines three filter unit types and two HEPA filter sizes (AFH-1/1 and AFH-1/3, size 1 and 2).

Installation

The AFH-1 unit is designed for installation in the walls of clean rooms.

Accessories

See chapter Accessories.

Technical data

Grille size in relation to housing and HEPA filter size is specified in Table 2.

Size and flow characteristics of HEPA filters installed in AFH-1 are specified in chapter Filters.

Expected service life of HEPA filters and their replacement

HEPA filters are constructed for single use only. The expected service life of filters depends on airflow volume, pressure drop and amount of dust particles.

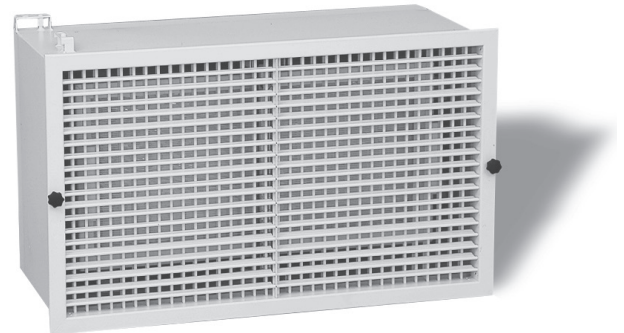
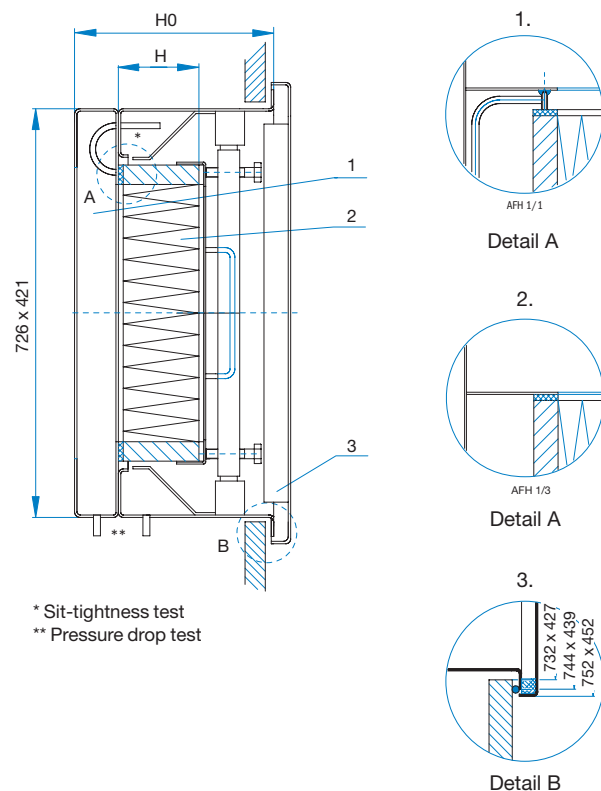


Table 1: Overview

HEPA filter unit	Application	Class
AFH - 1/1	Sit-tightness and SCAN test	E12, H13, H14
AFH - 1/3	SCAN test	E10, E11

Fig. 1: Overview



1. Housing
2. HEPA filter (with flat gasket)
3. Grille

HEPA filter pollution can be controlled by means of a differential manometer which can be fitted on the housing.

Connections for plastic tubes are fitted on AFH-1 housings.

When the pressure drop has reached double its initial value, it is recommended to replace the HEPA filter. When replacing the AFH-1 filter, remove the grille and screws on the holding bar and then remove the bar together with the used filter. When installing the new filter use the above instructions in opposite order. The sit-tightness is to be tested according to DIN 1946, chapter 4. The permeability at the test pressure of 2000 Pa should not exceed the values stated in standard.

The test is carried out with a sit-tightness measuring device.

Connection flange

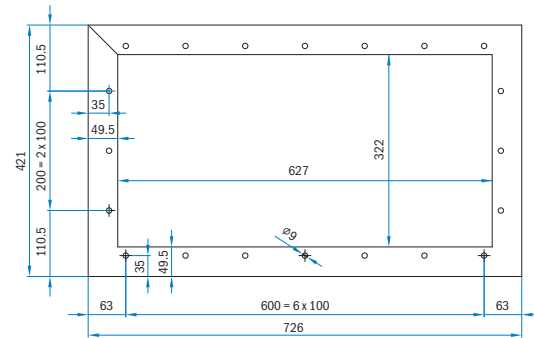


Table 2: Technical data

Nominal size	HEPA filter	H0	H1	Grille JR-5	weight AFH-1/1 *	weight AFH-1/3 *
1	305 x 610 x 150	338	150	725 x 425	23.7 kg	21.7 kg
2	305 x 610 x 292	480	292	725 x 425	27.6 kg	25.5 kg

Note: Weight deviation is $\pm 10\%$.

Ordering key

AFH-1 / 1 Size 1 / JR-5

1 2 3 4

1 Type

AFH-1

2 Tightness test

1 Tightness test and SCAN test (flat gasket on filter)

3 SCAN test (semicircular foam gasket on filter)

3 HEPA filter unit size

Size 1 For filter 305 x 610 x 150

Size 2 For filter 305 x 610 x 292

4 Grille

JR-5 Steel grille, powder coated in RAL 9010

RR-1 Stainless steel grille

Note:

•Filter is not included and must be ordered separately.

Ceiling HEPA filter units with flat gasket AFV-8

Application

Ceiling HEPA filter units AFV-8 are used in supply or extract air in air conditioning and ventilation installations in rooms with the highest air cleanliness requirements. They can be used for:

- Air supply and extraction in laboratories,
- Air supply and extraction in operating theatres, infection-free and sterile environments,
- Air supply in electronics, precision mechanics, chemistry, pharmaceuticals and food industry,
- Air supply in film and audio tape industry,
- Air supply and extraction in nuclear technology etc.

Description

The ceiling HEPA filter unit AFV-8 is made of a filter housing, standard diffusers KD-1A, KD-6, OD-8KR or OD-9KK and a HEPA filter. The filter is fitted with a rectangular cross-section washer. The sheet steel housing is airtight welded according to DIN 1946 and coated in RAL 9010. Two pressure gauge attachments for pressure drop measurement are fitted into the housing. Sheet steel diffusers are coated in white (RAL 9010). The AFV-8 housing has a special sealing frame designed to perform a sit-tightness test.

Installation

The AFV-8 unit is constructed to fit into suspended ceilings.

Types

The following AFV-8 HEPA filter units are available:

- With circular side entry spigot (AFV-8 RS) (fig. 2, table 1).
- With circular top entry spigot (AFV-8 RV) (fig. 3, table 2).
- With rectangular side entry spigot (AFV-8 KS) (fig. 4, table 3).

Accessories

See chapter Accessories.

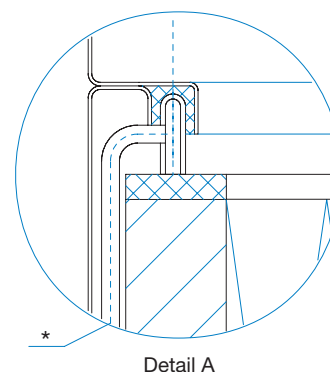
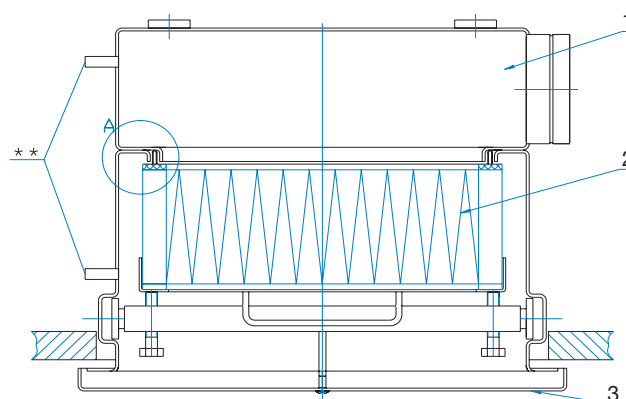


Fig. 1: Overview



* Sit-tightness test
** Pressure drop test

AFV-8/RS with circular side entry spigot

Fig. 2

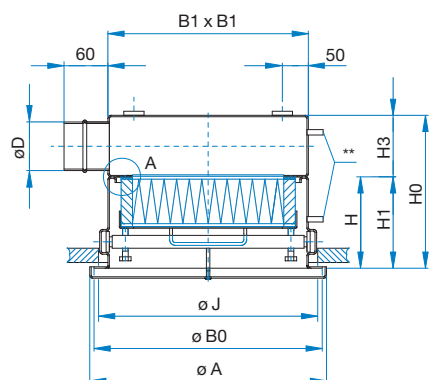


Table 1: Dimensions of AFV-8/RS

Size	HEPA filter	øD	A	B0	B1	J	H0	H1	H3
1	305 x 305 x 150	148	355	348	319	324	450	270	178
2A	457 x 457 x 78	198	507	500	471	476	428	198	230
2B	457 x 457 x 150	198	507	500	471	476	500	270	230
3	610 x 610 x 78	198	660	653	624	629	428	198	230
4	610 x 610 x 150	298	660	653	624	629	600	270	330
5	610 x 610 x 292	348	660	653	624	629	792	412	378

AFV-8/RV circular top entry spigot

Fig. 3

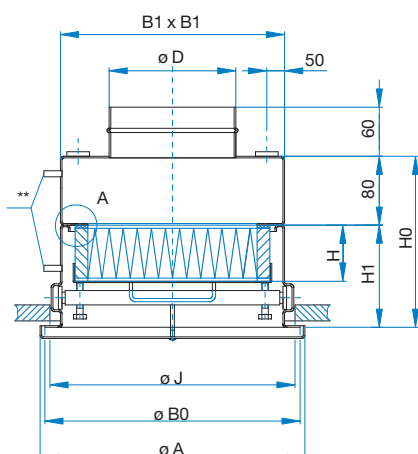


Table 2: Dimensions of AFV-8/RV

Size	HEPA filter	øD	A	B0	B1	J	H0	H1
1	305 x 305 x 150	148	355	348	319	324	350	270
2A	457 x 457 x 78	198	507	500	471	476	278	198
2B	457 x 457 x 150	198	507	500	471	629	350	270
3	610 x 610 x 78	198	660	653	624	629	278	198
4	610 x 610 x 150	298	660	653	624	629	350	270
5	610 x 610 x 292	348	660	653	624	629	492	412

AFV-8/KS rectangular side entry spigot

Fig. 4

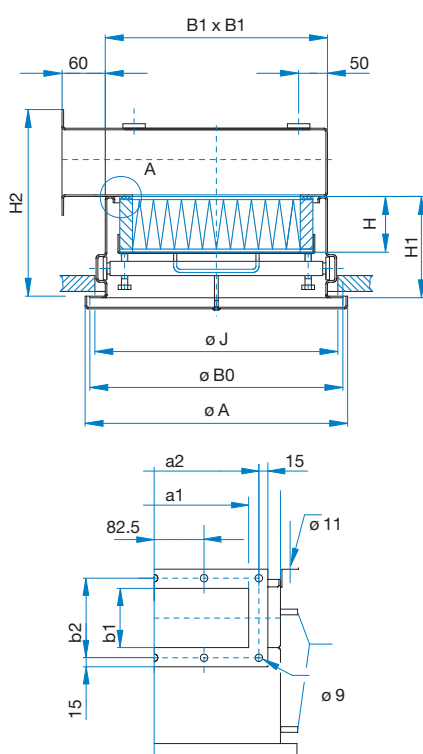


Table 3: Dimensions of AFV-8/KS

Size	HEPA filter	A	B0	B1	J	H1	H2	a1	b1	a2	b2
1	305 x 305 x 150	355	348	319	324	270	400	250	100	285	136
2A	457 x 457 x 78	507	500	471	476	198	328	400	100	435	131
2B	457 x 457 x 150	507	500	471	476	270	400	400	100	435	136
3	610 x 610 x 78	660	653	624	629	198	328	500	100	535	136
4	610 x 610 x 150	660	653	624	629	270	460	560	160	595	196
5	610 x 610 x 292	660	653	624	629	412	642	560	200	595	236

Diffuser types

- Sheet steel coated in RAL
- Stainless sheet steel (except KD-1A)
- Standard deflector colour is black

Technical data

Available combinations of diffuser size in relation to the size of the housing and HEPA filter are specified in Table 4. Mounting dimensions of diffusers to be installed in AFV-8 are specified in Tables 1, 2 and 3 and in column A.

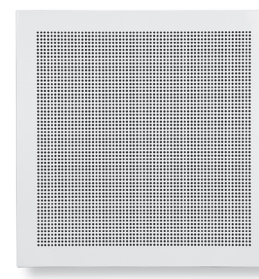
Technical data of HEPA filters

Size and flow characteristics of HEPA filters installed in AFV-8 are specified in chapter Filters.

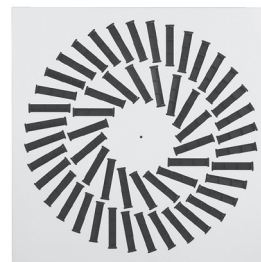
KD-1A



KD-6



OD-8KR



OD-9KK

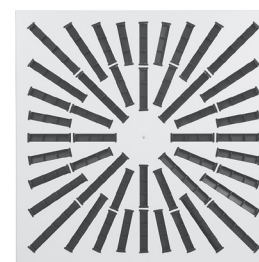


Table 4: Filter and front plate combinations

Filter unit size	HEPA filter	A*	Diffuser size**			
			KD-1A	KD-6	OD-8KR	OD-9KK
1	305 x 305 x 150	355 x 355	1,2,3	√	-	400
2A	457 x 457 x 78	507 x 507	3,4	√	500/16	500
2B	457 x 457 x 150	507 x 507	3,4	√	500/16	500
3	610 x 610 x 78	660 x 660	5,6,7,8	√	600/24, 625/54	600
4	610 x 610 x 150	660 x 660	7,8	√	600/24, 625/54	600
5	610 x 610 x 292	660 x 660	7,8	√	600/24, 625/54	600

*Outer dimension of diffuser front plate.

AFV-8 with airtight damper ZL-3N

Application

On the ceiling HEPA filter unit AFV-8 a shut-off damper ZL-3N is installed in the housing connection.

The advantage of the combination of an HEPA filter housing and a shut-off damper is the ability to close the shut-off damper during the filter replacement procedure to prevent room air pollution. Once the filter is replaced, the shut-off damper is reopened. This procedure eliminates the need to disinfect the room, which is mandatory in the case of replacing the filter without shutting off the inlet of non-filtered air.

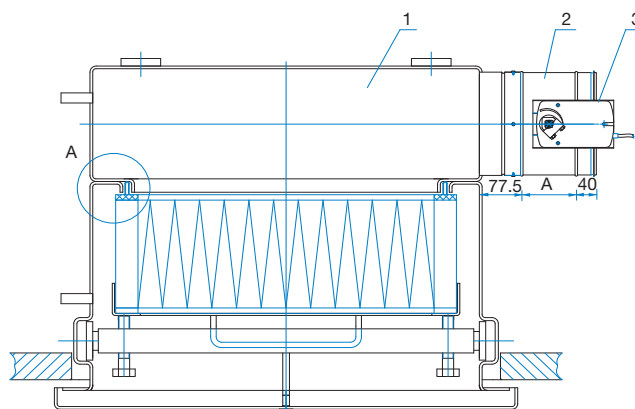


Fig. 5

1. AFV-8/RS, RV
2. ZL-3N
3. Electric actuator (24 V or 230 V)

Description

A galvanised sheet steel shut-off damper is mounted with four screws on the connection of the standard ceiling HEPA filter unit AFV-8. The damper may be controlled either manually or by means of an electric actuator.

Expected service life of HEPA filters and their replacement:

HEPA filters are constructed for single use only. Expected filter service life depends on airflow volume, pressure drop and the amount of dust particles. The dirtiness of the filter is controlled with a differential manometer. Connections for plastic tubes are fitted on the AFV housing.

The initial pressure drop is specified in the chapter Filters. When the pressure drop has reached double its initial value, it is recommended to replace the HEPA filter. When replacing the AFV-8 filter, remove diffuser and screws on the holding bar and then remove the bar together with the used filter. When installing a new filter, use the above instructions in the opposite order. The sit-tightness is to be tested according to DIN 1946 standard, chapter 4. The permeability at the test pressure of 2000 Pa should not exceed the values stated in standard. The test is carried out with a sit-tightness measuring device.

Ordering key

AFV-8 / RS - 1 / R / KD-6 / RAL

1	2a	3b	4	5
1 Type				
AFV-8	for flat filter gasket on filter			
2a Spigot type and placement				
RS	Circular side entry spigot			
RV	Circular top entry spigot			
KS	Square side entry spigot			
2b Adapted for filter size				
1	305 x 305 x 150			
2A	457 x 457 x 78			
2B	457 x 457 x 150			
3	610 x 610 x 78			
4	610 x 610 x 150			
5	610 x 610 x 292			
3 Air volume regulation				
R	Airtight damper ZL-3N - with manual control, adjustable from outside*			
Z1	Airtight damper ZL-3N - with 24 V actuator			
Z2	Airtight damper ZL-3N - with 230 V actuator			
4 Diffuser type				
KD-1A	Square 4-way diffuser			
KD-6	Perforated diffuser			
OD-8KR	Swirl diffuser			
OD-9KK	Swirl diffuser			
5 Finish				
RAL	Housing and diffuser coated in RAL 9010			
INOX	Housing coated in RAL 9010, diffuser made from AISI 304			

Table 5: Dimensions of AFV-8 with shut-off damper ZL-3N

AFV-8	HEPA filter	ZL-3N		
		φD	size	A
1	305 x 305 x 150	148	150	195
2A	457 x 457 x 78	198	200	195
2B	457 x 457 x 150	198	200	195
3	610 x 610 x 78	198	200	195
4	610 x 610 x 150	298	300	195
5	610 x 610 x 292	348	350	195

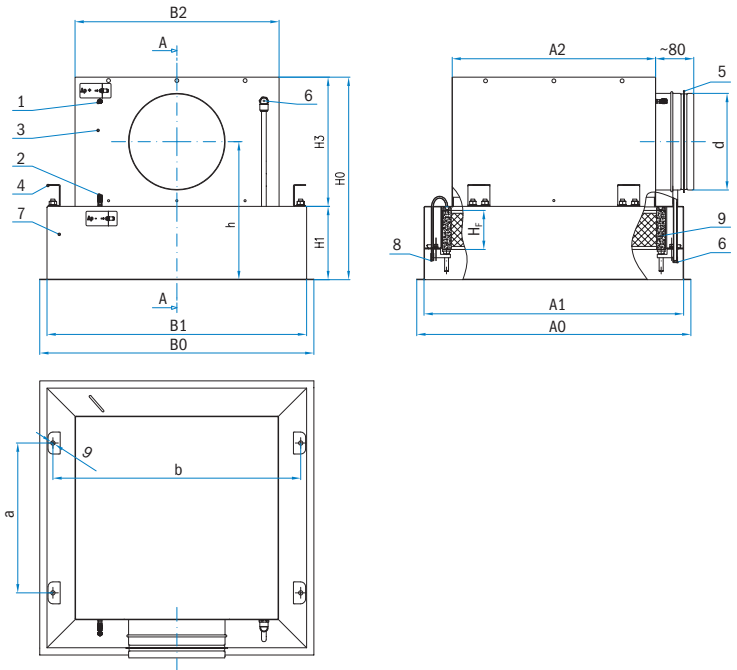
Note:

Filter is not included and must be ordered separately.
* Airtight damper ZL-3N is possible only with version RS and RV.

Ceiling HEPA filter units with semicircular or U-shaped gasket AFV-8B



AFV-8B/F/_R_-S (side entry spigot)



Description

- General description: air supply for the highest standards of air purity,
- Filter: E10...H14 class (EN 1822:2009),
- Front plate: KD-1A, KD-6, OD-5, OD-9KK, OD-15KK, SR-4, OD-8KR
- (PO) semicircular (foam) gasket or (U) U-shaped profile,
- Suitable for: air supply in laboratories, infection-free and sterile departments, electronics, precision mechanics, pharmaceuticals, chemistry, food, film and audio tape industry.

Material and surface protection

- Filter housing, diffuser and spigot connection housing made of cold rolled steel,
- Holding brackets made of stainless steel,
- Filter holders made of galvanized steel.

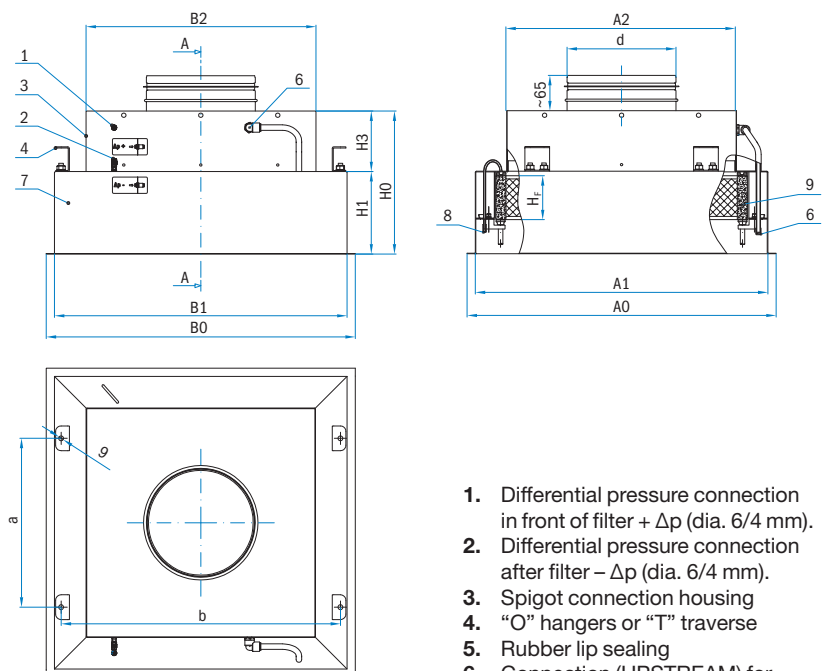
Stainless steel filter units are available upon request.

The filter housing and the front plate are powder coated in RAL 9010. Other RAL colours are available on request.

Accessories

See chapter Accessories.

AFV-8B/F/_R_-V (top entry spigot)



1. Differential pressure connection in front of filter + Δp (dia. 6/4 mm).
2. Differential pressure connection after filter - Δp (dia. 6/4 mm).
3. Spigot connection housing
4. "O" hangers or "T" traverse
5. Rubber lip sealing
6. Connection (UPSTREAM) for scan test (dia. 8/10 mm).
7. Filter housing
8. Connection for filter tightness test (DIN 1946-4)
9. Filter.

AFV-8BF_R_-N - lowered housing version

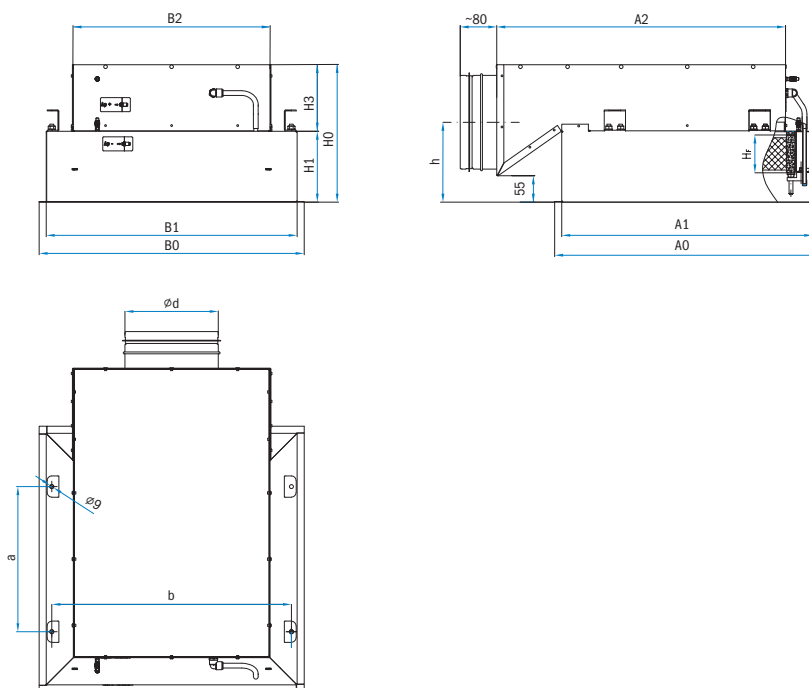


Table 1: Filter housing dimension and weight table AFV-8B

Filter dimension				Spigot	Plenum box								AFV-8B/F_/R_-S				AFV-8B/F_/R_-V							
				H _F	ød	A0	A1	A2	a	B0	B1	B2	b	h	H1	H3	H0	Weight [kg]	H1	H3	H0	Weight [kg]		
F10	305	x	305	x	69-80	R4	158	410	380	265	155	410	380	265	356	263	150	225	375	6.1	150	110	260	5.2
F20	305	x	610	x	69-80	R5	198	410	380	265	155	715	685	570	661	283	150	265	415	9.6	150	110	260	7.5
F30	457	x	457	x	69-80	R5	198	562	532	417	307	562	532	417	508	283	150	265	415	9.8	150	110	260	7.7
F40	535	x	535	x	69-80	R6	248	640	610	495	385	640	610	495	586	308	150	315	465	12.3	150	110	260	9.1
F50	610	x	610	x	69-80	R6	248	715	685	570	460	715	685	570	661	308	150	315	465	14.3	150	110	260	10.6
F60	610	x	915	x	69-80	R8	313	715	685	570	460	1020	990	875	966	340	150	380	530	19.8	150	110	260	13.6
F70	610	x	1220	x	69-80	R9	353	715	685	570	460	1325	1295	1180	1271	360	150	420	570	25.0	150	110	260	16.6

Table 2: Filter housing dimension and weight table AFV-8B - for installation in suspended ceilings 600x600

Filter dimension				Spigot	Plenum box								AFV-8B/F40/C6-SC				AFV-8B/F40/C6-VC							
				H _F	ød	A0	A1	A2	a	B0	B1	B2	b	h	H1	H3	H0	Weight [kg]	H1	H3	H0	Weight [kg]		
F40	535	x	535	x	69-80	C6	248	595	580	495	385	595	580	495	560	308	150	315	465	12	150	110	260	8,8

Table 3: Filter housing dimension and weight table AFV-8B/F_/R_-N - lowered housing version

Filter dimension				Spigot	Plenum box								AFV-8B/F_/R_-N							
				H _F	ød	A0	A1	A2	a	B0	B1	B2	b	h	H1	H3	H0	Weight [kg]		
F10	305	x	305	x	69-80	R4	158	410	380	460	155	410	380	265	356	149	150	100	250	6,1
F20	305	x	610	x	69-80	R5	198	410	380	460	155	715	685	570	661	169	150	140	290	9,6
F30	457	x	457	x	69-80	R5	198	562	532	612	307	562	532	417	508	169	150	140	290	9,8
F40	535	x	535	x	69-80	R6	248	640	610	690	385	640	610	495	586	194	150	190	340	12,3
F50	610	x	610	x	69-80	R6	248	715	685	765	460	715	685	570	661	194	150	190	340	14,3
F60	610	x	915	x	69-80	R8	313	715	685	765	460	1020	990	875	966	226	150	255	405	19,8
F70	610	x	1220	x	69-80	R9	353	715	685	765	460	1325	1295	1180	1271	261	150	310	460	25,0

Table 4: Filter housing dimension and weight table AFV-8B-F40-C6-N - lowered housing version for installation into suspended ceilings 600x600

Filter dimension					Spigot		Plenum box						AFV-8B/F40/C6-N							
					H _F	ød	A0	A1	A2	a	B0	B1	B2	b	h	H1	H3	H0	Weight [kg]	
F40	535	x	535	x	69-80	C6	248	595	580	690	385	595	580	495	560	194	150	190	340	12

Note:

- Total weight = weight of front plate + weight of housing + weight of filter.
- Deviation of weight is ±10 %.

Detail: Filter gasket type

(U) U-shaped profile:

- Filter tightness test (DIN 1946-4)
- Measuring tube size ø4 mm on the housing allows pressure tapping for filter tightness test (position 8)

(PO) Semicircular shaped profile:

- The housing does not have a measuring tube for pressure tapping for filter tightness test

Detail: Filter and diffuser front plate fixing

The front plate is mounted with screws to caged nuts (position 10) on filter housing. The filter is fixed in place with a pressure screw on filter holders (position 11 and 17). Filter frame height can be from 69 up to 80 mm.

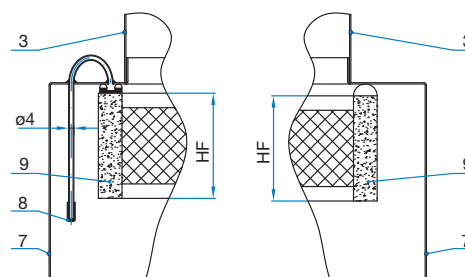
Detail: UPSTREAM connection for scan test

The housing has an UPSTREAM connection (position 6) size ø8 mm for scan test. This allows you to measure the concentration of MPPS size aerosol particles on the dirty side of the filter and to confirm filter efficiency and filter housing tightness.

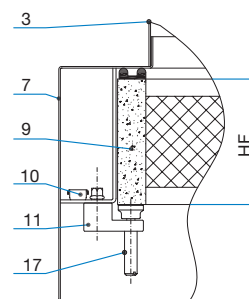
It can also be used to monitor differential pressure upstream of the filter + Δp.

Fig. 1

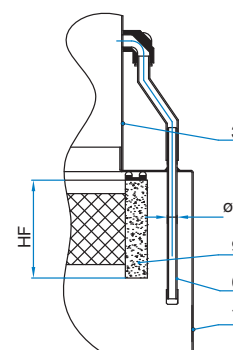
Detail: Filter gasket type



Detail: Filter and diffuser front plate fixing



Detail: UPSTREAM connection for scan test



- 3. Spigot connection housing
- 6. Connection UPSTREAM for scan test
- 7. Filter housing
- 8. Connection for filter tightness test (DIN 1946-4)
- 9. Filter
- 10. Front plate nuts
- 11. Filter holders

Installation: "O" hangers

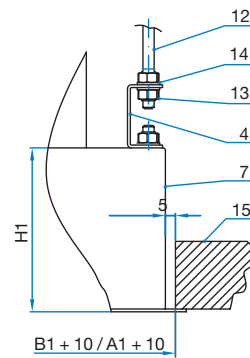
When using "O" hangers, the first step is to mount four threaded rods diameter 8 mm (position 12) to the fixed ceiling according to dimension a and b from Table 1 in place of the AFV-8B final position. The second step is to make a B1+10 / A1+10 sized opening in the suspended ceiling to fit the filter housing (position 7). The final step is to place a sealant on the interface of the filter housing and the suspended ceiling and secure it in place with a nut (position 13) and a spring washer (position 14) on the threaded rod.

Installation: "T" traverse

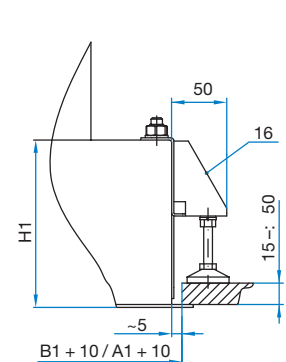
When using "T" traverse, the first step is to make a B1+10 / A1+10 sized opening in the suspended ceiling to fit the filter housing (position 7). Then place a sealant on the interface of the filter housing and the suspended ceiling, attach the traverse (position 16) on the filter housing and secure it to the suspended ceiling. The thickness of the suspended ceiling can be from 15 to 50 mm, other thicknesses on request.

Fig. 2

Installation: "O" hangers



Installation: "T" traverse



- | | |
|----------------------------|------------------------------------|
| 4. "O" hangers | 13. Nut for threaded rod |
| 7. Filter housing | 14. Spring washer for threaded rod |
| 11. Filter holders | 15. Suspended ceiling |
| 12. Threaded rod size 8 mm | 16. "T" traverse |

Regulation:

First install the filter and lock it into place. Then loosen the screw for the hatch blocker (position 5) and move the regulation hatch (position 1) into place with the regulation axis (position 3). Then tighten the screw for the hatch blocker (position 5) and install the diffuser front plate.

Housing size:

Standard air volume regulation can be chosen only for filter sizes F10, F20, F30, F40, F50.

Material and surface protection:

- filter housing, bottom plate and spigot connection housing made of cold-rolled steel,
- holding brackets and regulation axis made of stainless steel,
- detachable air volume regulator made of galvanized sheet steel,
- filter holders made of galvanized engineering steel.

Other materials are available upon request.

The filter housing and the diffuser front plate are powder coated in RAL 9010, 30 % gloss. Other RAL colours are available upon request.

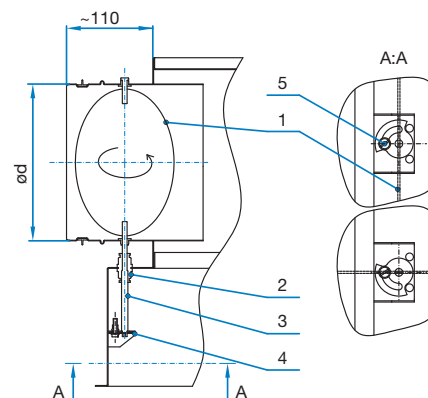
Dimensions and weight 1,2

1) The whole weight is the sum of the weight of the diffuser front plate, housing, filter and additional weight of the air volume regulator specified in Table 2.

2) The deviation of weight is $\pm 10\%$.

Fig. 3

Detail: Side entry spigot with air volume regulator (not airtight)



1. Air flow regulator
2. Air tight fittings
3. Regulation axis (0° to 90°)
4. Hatch blocker
5. Screw for hatch blocker

Table 2: Additional weight for air volume regulator

Spigot		
	ød	Weight [kg]
R4	158	0.3
R5	198	0.4
R6	248	0.5

Filter and front plate combinations AFV-8B

Filter size	Front plate					
F10	OD-9KK/AFV-8B size 310/F10 	OD-15KK/AFV-8B size 300/F10 	KD-6/AFV-8B size F10 	KD-1A/AFV-8B size 1(2)/F10 (1) (2)	OD-5/AFV-8B size 300/F10 	OD-8KR/AFV-8B size 300/16
F20	OD-9KK/AFV-8B size F20 	OD-15KK/AFV-8B size F20 	KD-6/AFV-8B size F20 	SR-4/AFV-8B size F20 		
F30	OD-9KK/AFV-8B size 400/F30 	OD-15KK/AFV-8B size 400/F30 	KD-6/AFV-8B size F30 	KD-1A/AFV-8B size 2(3,4)/F30 (2) (3) (4)	OD-5/AFV-8B size 400/F30 	OD-8KR/AFV-8B size 400/22/F30
F40	OD-9KK/AFV-8B size 500/F40 	OD-15KK/AFV-8B size 500/F40 	KD-6/AFV-8B size F40 	KD-1A/AFV-8B size 4(5,6)/F40 (4) (5) (6)	OD-5/AFV-8B size 500/F40 	OD-8KR/AFV-8B size 500/24/F40
F50	OD-9KK/AFV-8B size 600/F50 	OD-15KK/AFV-8B size 600/F50 	KD-6/AFV-8B size F50 	KD-1A/AFV-8B size 5(6,7,8)/F50 (5) (6) (7) (8)	OD-5/AFV-8B size 600/F50 	OD-8KR/AFV-8B size 600/54/F50
F60	OD-9KK/AFV-8B size F60 	OD-15KK/AFV-8B size F60 	KD-6/AFV-8B size F60 	SR-4/AFV-8B size F60 		
F70	OD-9KK/AFV-8B size F70 	OD-15KK/AFV-8B size F70 	KD-6/AFV-8B size F70 	SR-4/AFV-8B size F70 		

Filter and front plate combinations - AFV-8B for installation in suspended ceilings 600x600

Filter size	Front plate					
F30	OD-9KK/AFV-8B size 500/F40 	OD-15KK/AFV-8B size 500/F40 	KD-6/AFV-8B size F40 	KD-1A/AFV-8B size 4(5,6)/F40 (4) (5) (6)	OD-5/AFV-8B size 500/F40 	OD-8KR/AFV-8B size 500/24/F40

Table 3: Front plate weight table

Front plate	Filter size						
	F10	F20	F30	F40	F50	F60	F70
OD-5	1.5 kg	/	2.7 kg	3.4 kg	4.2 kg	/	/
OD-8KR	1.5 kg	/	2.6 kg	3.3 kg	4.0 kg	/	/
OD-9KK	1.5 kg	2.4 kg	2.6 kg	3.3 kg	4.0 kg	5.7 kg	7.3 kg
OD-15KK	1.3 kg	2.1 kg	2.3 kg	3.0 kg	3.7 kg	4.8 kg	6.2 kg
KD-6	1.0 kg	1.7 kg	1.8 kg	2.4 kg	2.9 kg	4.2 kg	5.4 kg
KD-1A	size 1 / 2.0 kg size 2 / 2.1 kg	/	size 2 / 3.3 kg size 3 / 3.5 kg size 4 / 3.7 kg	size 4 / 4.4 kg size 5 / 4.7 kg size 6 / 5.0 kg	size 5 / 5.5 kg size 6 / 5.8 kg size 7 / 6.4 kg size 8 / 6.5 kg	/	/
SR-4	/	3.7 kg	/	/	/	9.8 kg	13.0 kg

Ordering key

AFV-8B / F... / R... - S - ... / O / Z / PO / OD-5

1 2 3a 3b 3c 4 5 6 7

1 Type

AFV-8B for filters with semicircular foam gasket or filters with U shaped gasket (tightness test)

2 Adapted for filter size

F10 305 x 305 x 80 (standard spigot size in Table 1)
F20 305 x 610 x 80
F30 457 x 457 x 80
F40 535 x 535 x 80
F50 610 x 610 x 80
F60 610 x 915 x 80
F70 610 x 1220 x 80

3a Spigot type

S Side spigot entry
V Top spigot entry
N Low side spigot version

3b Spigot diameter

R4 Ø158
R5 Ø198
R6 Ø248
R7 Ø298
R8 Ø313
R9 Ø353

3c Version

C Version for suspended ceilings 600x600 (available only in size F40)
K Square entry spigot, size available on request

4 Installation

O Installation with hangers
T Installation with traverse

5 Air volume regulation

R Airtight damper ZL-3N - with manual control, adjustable from outside
Z1 Airtight damper ZL-3N - with 24 V actuator (available only with version RS and RV)
Z2 Airtight damper ZL-3N - with 230 V actuator (available only with version RS and RV)
M Air volume regulator, adjustable from room inside (not air tight)

6 Gasket type

U Dry gasket filter: U-shaped profile (connection for filter sit-tightness test acc. to DIN 1946-4)
PO Dry gasket filter: semicircular shaped profile

7 Diffuser type

OD-5 Swirl diffuser
OD-8KR Swirl diffuser
OD-9KK Swirl diffuser
OD-15KK Swirl diffuser
KD-1A Square 4-way diffuser (available for sizes F10, F30, F40, F50)
KD-6 Perforated diffuser
SR-4 Rectangular 4-way diffuser (available for sizes F20, F60, F70)

Note:
 Filter is not included and must be ordered separately.

Ceiling HEPA filter units with gel gasket AFV-8G

Application

Ceiling HEPA filter units with gel gasket AFV-8G are installed in ventilation and air conditioning systems in rooms which require absolutely clean air. They can be used for air supply and air extraction.

- Air supply and extraction in laboratories,
- Air supply and extraction in operating theatres, infection-free and sterile environments,
- Air supply in electronics, precision mechanics, chemistry, pharmaceuticals and food industry,
- Air supply in film and audio tape industry,
- Air supply and extraction in nuclear technology etc.

Description

The ceiling HEPA filter unit with gel gasket AFV-8G is made of a filter housing, standard diffusers KD-1A, KD-6, OD-8KR, OD-9KK or OD-15KK and a HEPA filter. The sheet steel housing is air tight welded according to DIN 1946. Diffusers are made of sheet steel and powder coated with epoxy paint in white (RAL 9010). The AFV-8G housing has a special sealing frame designed to fit "gasket" filters.

Advantages of a gel gasket:

With a liquid sealant, the force necessary to hold the filter is smaller, compared with neoprene washers, permitting a lighter and cheaper housing and faster filter replacement.

Installation

The AFV-8G unit is constructed to fit into suspended ceilings.

Types

The following ceiling HEPA filter units with gel gasket are available:

- With circular side entry spigot (AFV-8G/RS) (fig. 2, table 1),
- With circular top entry spigot (AFV-8G/RV) (fig. 3, table 2),
- With rectangular side entry spigot (AFV-8G/KS) (fig. 4, table 3).

Accessories

See chapter Accessories.

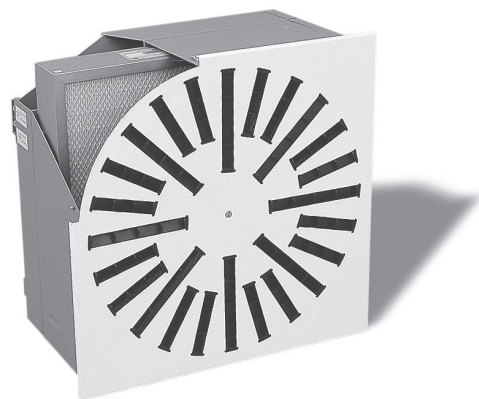
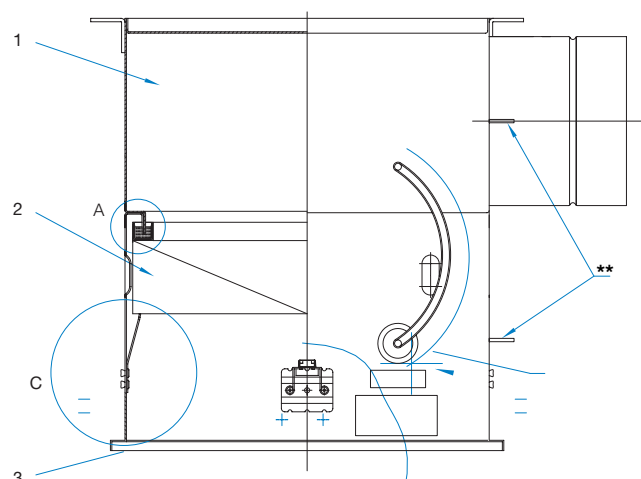


Fig. 1: Overview



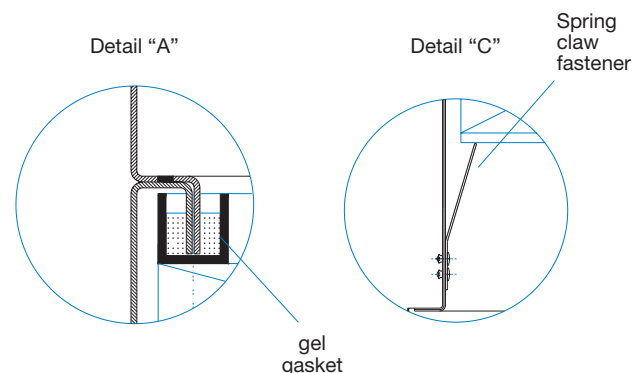
* PAO (before: DOP) connection on the housing top section

** Pressure drop test

1. Housing

2. HEPA filter (with gel gasket)

3. Diffuser



AFV-8G/RS circular side entry spigot

Fig. 2

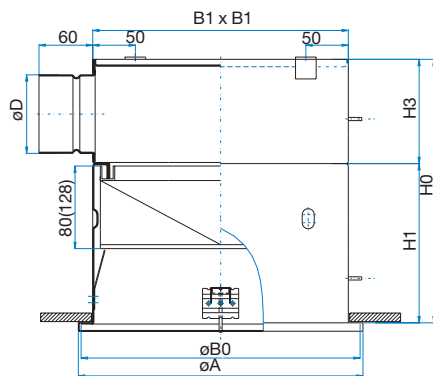


Table 1: Dimensions of AFV-8G/RS

HEPA filter unit size	HEPA filter	ϕD	A	B0	B1	H0	H1	H3
1	305 x 305 x 80	158	355	348	319	395	200	195
2	457 x 457 x 80	198	507	500	471	435	200	235
3A	610 x 610 x 80	198	660	653	624	435	200	235
3B	610 x 610 x 128	248	660	653	624	535	250	285
3C	305 x 610 x 80	198	355 x 660	348 x 653	319 x 624	435	200	235
4	610 x 915 x 80	313	660 x 965	653 x 958	624 x 929	550	200	350
5	610 x 1220 x 80	353	660 x 1270	653 x 1263	624 x 1234	590	200	390
6	545 x 545 x 80	198	595	588	559	435	200	235

For the data ϕD , H0, H3 for version with DTU or DTBCU add 5 mm to the basic version.

AFV-8G/RV circular top entry spigot

Fig. 3

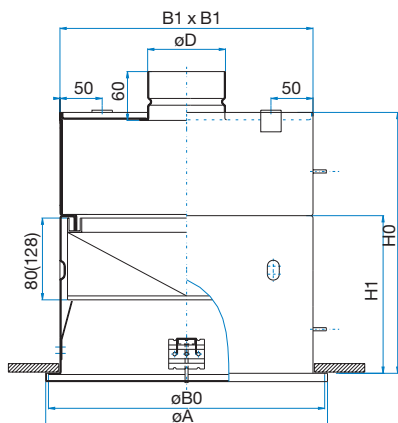


Table 2: Dimensions of AFV-8G/RV

HEPA filter unit size	HEPA filter	ϕD	A	B0	B1	H0	H1
1	305 x 305 x 80	158	355	348	319	280	200
2	457 x 457 x 80	198	507	500	471	280	200
3A	610 x 610 x 80	198	660	653	624	280	200
3B	610 x 610 x 128	248	660	653	624	330	250
3C	305 x 610 x 80	198	355 x 660	348 x 653	319 x 624	280	200
4	610 x 915 x 80	313	660 x 965	653 x 958	624 x 929	280	200
5	610 x 1220 x 80	353	660 x 1270	653 x 1263	624 x 1234	280	200
6	545 x 545 x 80	198	595	588	559	280	200

AFV-8G/KS rectangular side entry spigot

Fig. 4

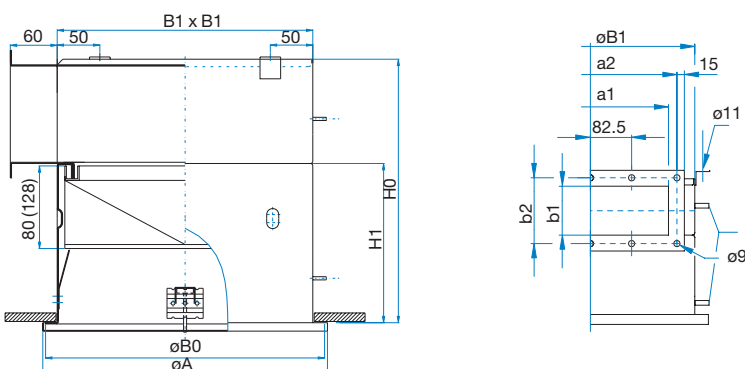


Table 3: Dimensions of AFV-8G/KS

HEPA filter unit size	HEPA filter	øD	A	B0	B1	H0	H1	a1	b1	a2	b2
1	305 x 305 x 80	158	355	348	319	314	200	250	100	285	135
2	457 x 457 x 80	198	507	500	471	314	200	400	100	435	135
3A	610 x 610 x 80	198	660	653	624	314	200	500	100	535	135
3B	610 x 610 x 128	248	660	653	624	414	250	500	150	535	185
3C	305 x 610 x 80	198	355 x 660	348 x 653	319 x 624	314	200	500	100	535	135
4	610 x 915 x 80	313	660 x 965	653 x 958	624 x 929	314	200	800	100	835	135
5	610 x 1220 x 80	353	660 x 1270	653 x 1263	624 x 1234	314	200	1000	100	1035	135
6	545 x 545 x 80	198	595	588	559	314	200	400	100	435	135

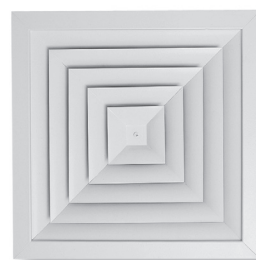
Diffuser types

- Sheet steel coated in RAL
- Stainless sheet steel (except KD-1A)
- Standard deflector colour is black

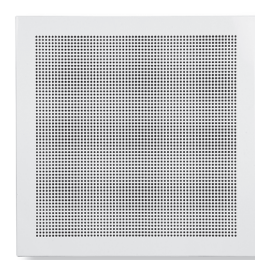
Technical data

Available combinations of diffuser size in relation to the size of the filter unit and the HEPA filter are specified in Table 4. Mounting dimensions of diffusers to be installed in AFV-8G are specified in Tables 1, 2, 3 and in column A.

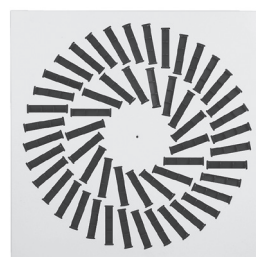
KD-1A



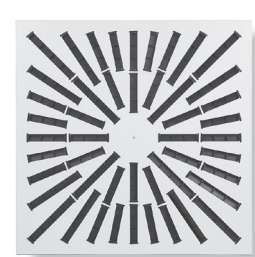
KD-6



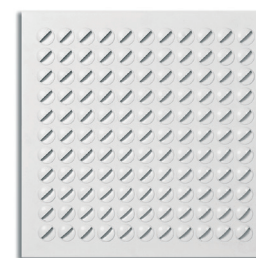
OD-8KR



OD-9KK



OD-15KK



Technical data for HEPA filters

Size and flow characteristics of HEPA filters installed in AFV-8G are specified in the chapter Filters.

In case filters operate under the air flow volume larger or smaller than the nominal air flow, the pressure drop is increased or decreased, respectively.

Definition of symbols

A_{ef} (m²) Effective area

Table 4: Combinations of HEPA filter units with different front plate types

HEPA filter unit size	HEPA filter	A*	KD-6	OD-8KR	OD-9KK	OD-15KK
1	305 x 305 x 80	355 x 355	√	-	√	√
2	457 x 457 x 80	507 x 507	√	√	√	√
3A	610 x 610 x 80	660 x 660	√	√	√	√
3B	610 x 610 x 128	660 x 660	√	√	√	√
3C	305 x 610 x 80	660 x 355	√	-	√	√
4	610 x 915 x 80	660 x 965	√	-	√	√
5	610 x 1220 x 80	660 x 1270	√	-	√	√
6	545 x 545 x 80	595 x 595	√	√	√	√

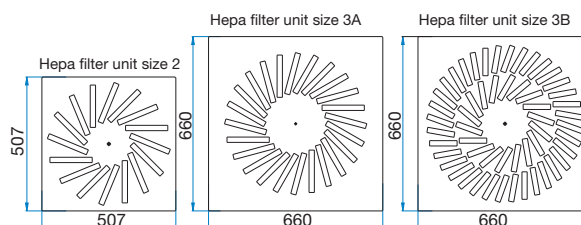
* Outer dimension of diffuser front plate.

Table 5: Effective discharge area A_{ef}

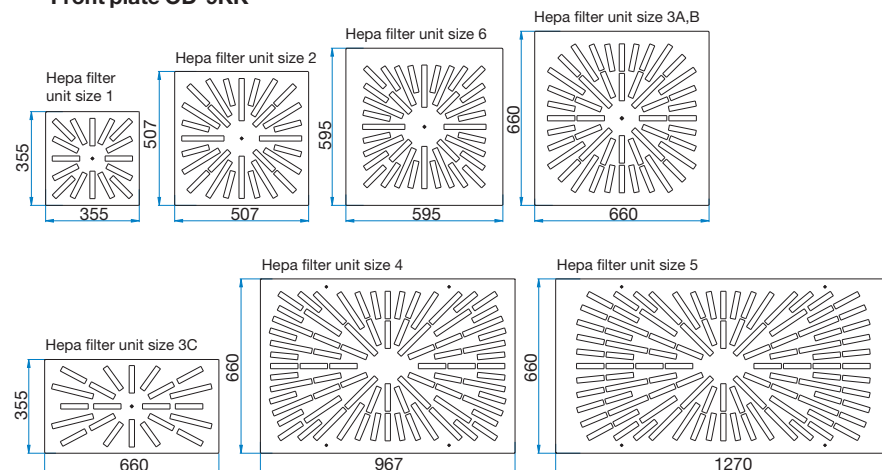
Filter unit size	KD-6	OD-8KR A _{ef} (m ²)	OD-9KK	KD-1A	A _{ef} (m ²)
1	0.0342	-	0.0189	1	0.0104
2	0.0743	0.0300	0.0414	2	0.0185
3A	0.1368	0.0450	0.0651	3	0.0279
3B	0.1368	0.0639	0.0651	4	0.0440
3C	0.0684	-	0.0288	5	0.0628
4	0.1980	-	0.1088	6	0.0728
5	0.2664	-	0.1348	7	0.1175
6	0.1095	0.0450	0.0509	8	0.1280

Filter and front plate combinations

Front plate OD-8KR



Front plate OD-9KK



AFV-8G with airtight damper ZL-3N

Application

On the ceiling HEPA filter units with gel gasket AFV-8G a shut-off damper ZL-3N is installed in the housing connection. The shut-off damper ZL-3N conforms to the EN 1751 class 4 standard requirements.

The advantage of this combination of an HEPA filter housing and a shut-off damper is the ability to close the shut-off damper during the filter replacement procedure to prevent room air pollution. Once the filter is replaced, the shut-off damper is re-opened. This procedure eliminates the need to disinfect the room, which is mandatory in the case of replacing the filter without shutting off the inlet of non-filtered air.

Description

A galvanised sheet steel shut-off damper is mounted with four screws on the connection of the standard AFV-8G unit. The damper can be controlled either manually or by means of an electric motor.

Expected service life of HEPA filter and their replacement

HEPA filters are designed for single use only. The expected service life of the filter depends on airflow volume, pressure drop and amount of dust particles. When the airflow volume is reduced by 25%, the expected service life of the HEPA filter doubles. The service life can be considerably increased by installing a pre-filter. The dirtiness of the filter is controlled with a differential manometer. Connections for plastic tubes are fitted on the AFV-8G housing.

The initial pressure drop is specified in the chapter Filters. When the pressure drop reaches double its initial value, it is recommended to replace the HEPA filter. When replacing the AFV-8G filter, remove the diffuser and press the springs to unlock the filter and remove it (fig. 1, detail C). When installing the new filter, press the filter frame until mounting spring lock at the bottom of the filter frame.

Fig. 6

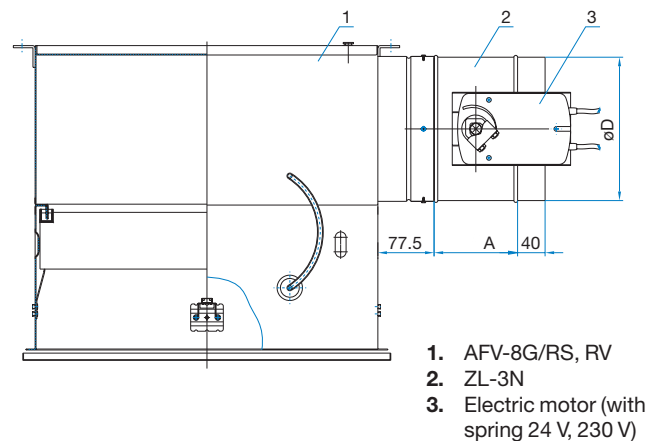


Table 6: Dimensions of AFV-8G with shut-off damper ZL-3N

HEPA filter unit size	HEPA filter	Size ZL-3N	
		øD	A
1	305 x 305 x 80	158	195
2	457 x 457 x 80	198	195
3A	610 x 610 x 80	198	195
3B	610 x 610 x 128	248	195
3C	305 x 610 x 80	198	195
4	610 x 915 x 80	313	195
5	610 x 1220 x 80	353	195
6	545 x 545 x 80	198	195

Ordering key

AFV-8G / RS - 1 / R / KD-6 / RAL

1 2a 2b 3 4 6

1 Type

AFV-8G	for filter with GEL (liquid) gasket
---------------	-------------------------------------

2a Spigot type and placement

RS	Circular side entry spigot
RV	Circular top entry spigot
KS	Square side entry spigot

2b Adapted for filter size

1	305 x 305 x 80
2	457 x 457 x 80
3A	610 x 610 x 80
3B	610 x 610 x 128
3C	305 x 610 x 80
4	610 x 915 x 80
5	610 x 1220 x 80
6	545 x 545 x 80

3 Air volume regulation

R	Airtight damper ZL-3N - with manual control, adjustable from outside*
Z1	Airtight damper ZL-3N - with 24 V actuator
Z2	Airtight damper ZL-3N - with 230 V actuator

4 Diffuser type

KD-1A	Square 4-way diffuser
KD-6	Perforated diffuser
OD-8KR	Swirl diffuser
OD-9KK	Swirl diffuser
OD-15KK	Swirl diffuser

5 Finish

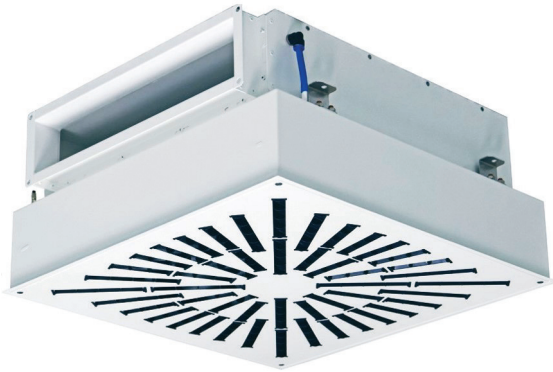
RAL	Housing and diffuser coated in RAL 9010
INOX	Housing coated in RAL 9010, diffuser made from AISI 304

Note:

Filter is not included and must be ordered separately.

* Air tight damper ZL-3N is possible only with version RS and RV.

Ceiling HEPA filter units LFH



Description

The LFH filter housing is a clean room diffuser, which can be equipped with a HEPA filter. It is designed for installation in ceilings in premises with stringent requirements concerning the amount of particles and germs in the air. LFH is typically used for fresh air supply from the ceiling.

Features

- Customers can select from 6 different diffuser front plates, depending on visual design preference, throw requirements or intended purpose. Diffusers allow mixing (swirl and non-swirl) or displacement ventilation.
- 2 housing types with different heights enable installation of various filters with heights from 48 mm up to 150 mm.
- 10 different sizes of filter media can be installed.
- 2 gasket types:
 - semicircular foam gasket
 - liquid gel gasket
- 3 possible duct connections:
 - circular side connection
 - circular top connection
 - rectangular side connection

Standard connections for aerosol (DOP) leakage testing and for filter differential pressure measurements are available. LFH filter housings are airtight.

Optional accessory: shut-off damper (manual or motorized) for optimum conditions during filter replacement.

The LFH quick selection table offers basic technical parameters required for designing clean room technology.

Customized and non-standard versions are available upon request.

Materials and components

Upper section:

Material: Steel / epoxy powder coated or stainless steel EN 1.4301 / AISI 304

Lower section:

Material: Steel / epoxy powder coated or stainless steel EN 1.4301 / AISI 304

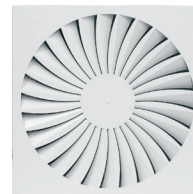
Standard colour: RAL 9010

Front plate:

Material: Steel / epoxy powder coated or stainless steel EN 1.4301 / AISI 304

Standard colour: RAL 9010

Diffuser front plate versions:



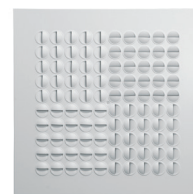
S1R



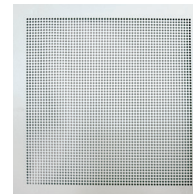
S2R



S3R



S4R



P1R



4WR

Gasket:

Liquid gel gasket
Semicircular foam gasket

Filters:

LFH is a versatile filter housing, making it possible to install various filter types with different heights and filter frame materials. If the filter type or supplier is not specified in the order specifications, a standard OC IMP Klima filter is supplied with the unit by default.

LFH / 606-1 / SC-0250 / W / H / P / R / R

1 2 3 4 5 6 7 8

1 Type

LFH for filter with semicircular foam gasket, for filter with GEL (liquid) gasket

2 Adapted for filter size

303-1	305 x 305 x (48-90)
303-2	305 x 305 x (104-150)
306-1	305 x 610 x (48-90)
306-2	305 x 610 x (104-150)
404-1	457 x 457 x (48-90)
404-2	457 x 457 x (104-150)
505-1	535 x 535 x (48-90)
505-2	535 x 535 x (104-150)
606-1	610 x 610 x (48-90)
606-2	610 x 610 x (104-150)
609-1	610 x 915 x (48-90)
612-1	610 x 1220 x (48-90)
511-1	535 x 1135 x (48-90)
707-1	762 x 762 x (48-90)
909-1	

Size	3 Circular side connection	3 Circular top connection	3 Rectangular side connection
303-1	SC-0160 Ø158	TC-0160 Ø158	SR-2010 (BxH) 200x100
303-2	SC-0160 Ø158	TC-0160 Ø158	SR-2010 (BxH) 200x100
306-1	SC-0200 Ø198	TC-0200 Ø198	SR-3010 (BxH) 300x100
306-2	SC-0200 Ø198	TC-0200 Ø198	SR-3010 (BxH) 300x100
404-1	SC-0200 Ø198	TC-0200 Ø198	SR-3010 (BxH) 300x100
404-2	SC-0200 Ø198	TC-0200 Ø198	SR-3010 (BxH) 300x100
505-1	SC-0250 Ø248	TC-0250 Ø248	SR-4510 (BxH) 450x100
505-2	SC-0250 Ø248	TC-0250 Ø248	SR-4510 (BxH) 450x100
606-1	SC-0250 Ø248	TC-0250 Ø248	SR-5010 (BxH) 500x100
606-2	SC-0250 Ø248	TC-0250 Ø248	SR-5010 (BxH) 500x100
609-1	SC-0315 Ø313	TC-0315 Ø313	SR-5015 (BxH) 500x150
612-1	SC-0355 Ø353	TC-0355 Ø353	SR-6015 (BxH) 600x150
511-1	SC-0315 Ø313	TC-0315 Ø313	SR-5015 (BxH) 500x150
707-1	SC-0315 Ø313	TC-0315 Ø313	SR-5015 (BxH) 500x150
909-1	SC-0400 Ø398	TC-0400 Ø398	SR-8015 (BxH) 800x150

4 Air volume regulation

W	Without any regulation
M	Manual control airtight damper adjustable from outside
R	Manual control airtight damper adjustable from room side
L	Air tight damper with 24 V actuator
B	Air tight damper with 230 V actuator

5 Installation

H	With hangers (ceiling installation)
T	With traverse (fixed panel installation)

6 Filter gasket type

G	Gel (liquid) gasket
P	Semicircular (foamed) shaped profile

7 Housing finish

R	RAL 9010 (epoxy powder coating)
I	AISI 304 (stainless steel)

8 Diffuser type
























































S1R	Swirl diffuser RAL 9010 (epoxy powder coating)
S2R	Swirl diffuser RAL 9010 (epoxy powder coating)
S3R	Swirl diffuser RAL 9010 (epoxy powder coating)
S4R	Swirl diffuser RAL 9010 (epoxy powder coating)
P1R	Perforated diffuser RAL 9010 (epoxy powder coating)
4W1	4-way diffuser RAL 9010 (epoxy powder coating), low air flow
4W2	4-way diffuser RAL 9010 (epoxy powder coating), high air flow
S2I	Swirl diffuser AISI 304
S3I	Swirl diffuser AISI 304
S4I	Swirl diffuser AISI 304
P1I	Perforated diffuser AISI 304

Note:

Filter is not included and must be ordered separately.

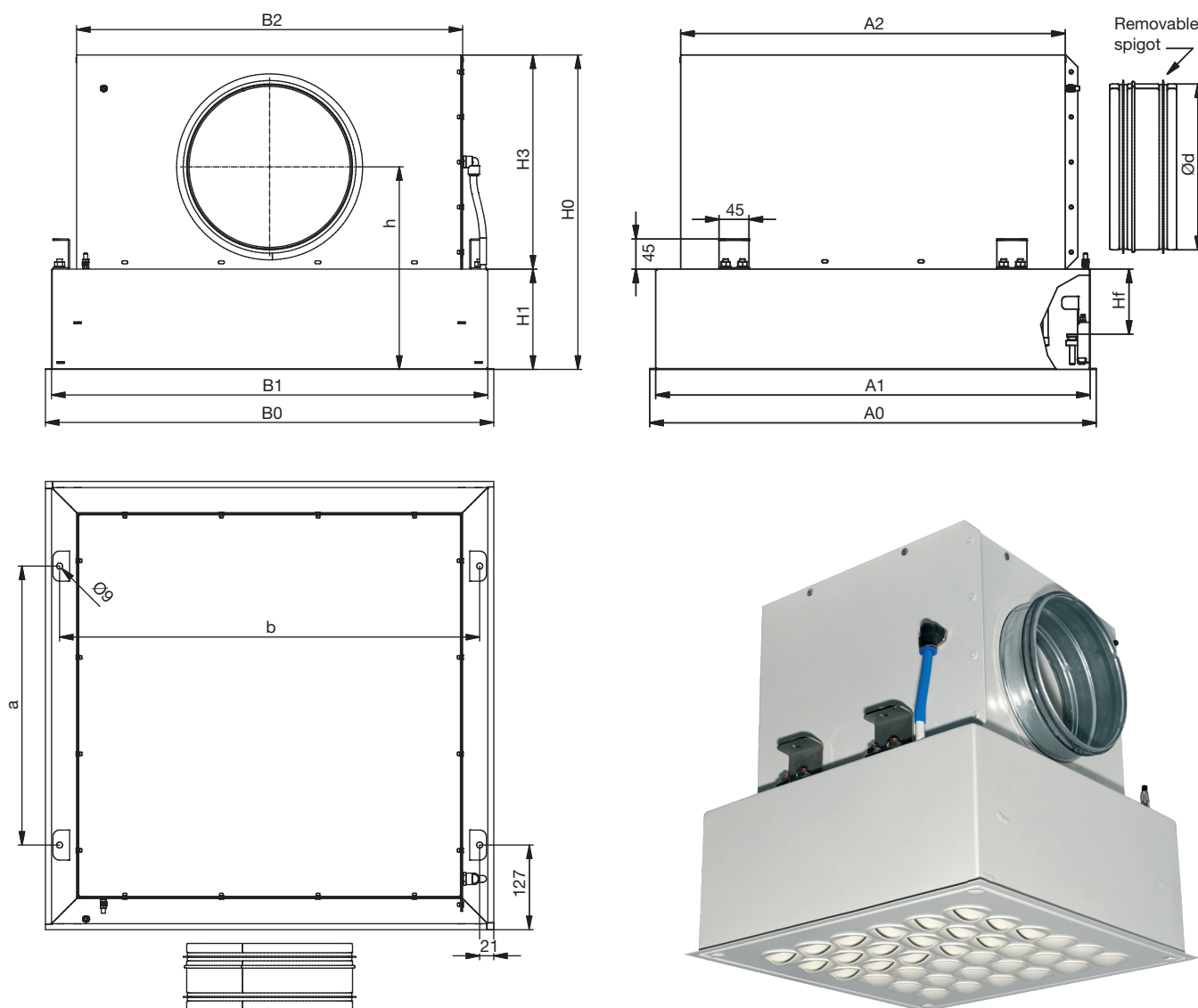
Front plates and dimensions

Filter dimension		Front plate dimension A3 x B3	S1R	S2R S2I	S3R S3I	S4R S4I	P1R P1I	4W1	4W2
305x305	48-90	342 x 342	•	•	•	•	•	•	•
305x610	48-90	342 x 647	-	-	•	•	•	•	•
457x457	48-90	494 x 494	•	•	•	•	•	•	•
535x535	48-90	572 x 572	•	•	•	•	•	•	•
610x610	48-90	647 x 647	•	•	•	•	•	•	•
610x915	48-90	647 x 952	-	-	•	•	•	•	-
610x1220	48-90	647 x 1257	-	-	•	•	•	•	-
535x1135	48-90	572 x 1172	-	-	•	•	•	•	-
762x762	48-90	799 x 799	-	•	•	•	•	•	-
915x915	48-90	952 x 952	-	•	•	•	•	•	-

Size	S1R	S2R / S2I	S3R / S3I	S4R / S4I	P1R / P1I	4W1	4W2
303							
306	•	•					
404							
505							
606							
609	•	•					•
612	•	•					•
511	•	•					•
707	•						•
909	•						•

Circular side connection – housing type 1

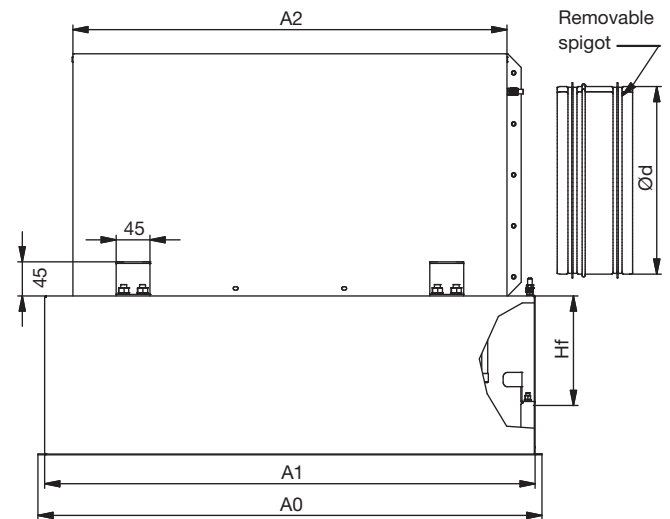
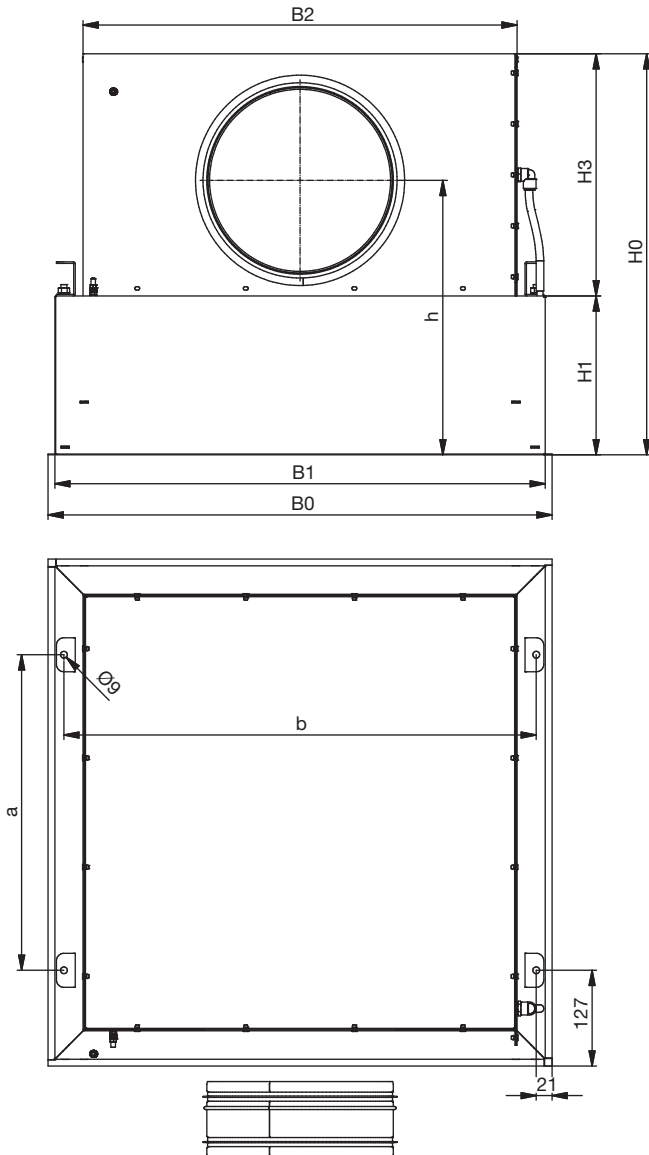
Dimensions



Filter dimension		Circular connection Ød	Plenum box dimensions										
Size	Hf		A0	A1	A2	a	B0	B1	B2	b	H1	H3	H0
305x305	48-90	158	365	347	272	112	365	347	272	323	150	230	380
305x610	48-90	198	365	347	272	112	670	652	577	628	150	270	420
457x457	48-90	198	517	499	424	264	517	499	424	475	150	270	420
535x535	48-90	248	595	577	502	342	595	577	502	553	150	320	470
610x610	48-90	248	670	652	577	417	670	652	577	628	150	320	470
610x915	48-90	313	670	652	577	417	975	957	882	933	150	385	535
610x1220	48-90	353	670	652	577	417	1280	1262	1187	1238	150	425	575
535x1135	48-90	313	595	577	502	342	1195	1177	1102	1153	150	385	535
762x762	48-90	313	822	804	729	569	822	804	729	780	150	385	535
915x915	48-90	398	975	957	882	722	975	957	882	933	150	470	620

Circular side connection – housing type 2

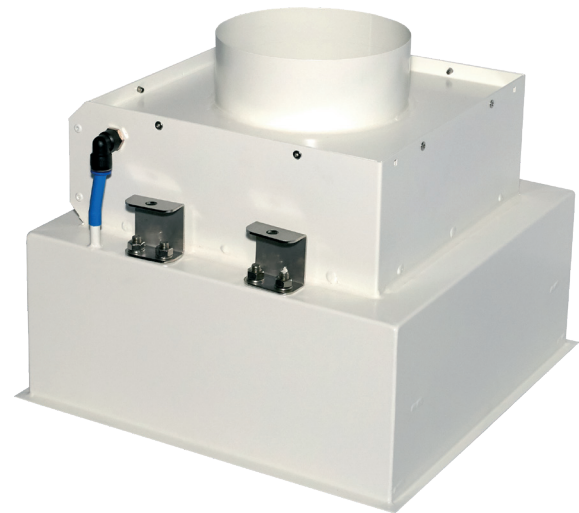
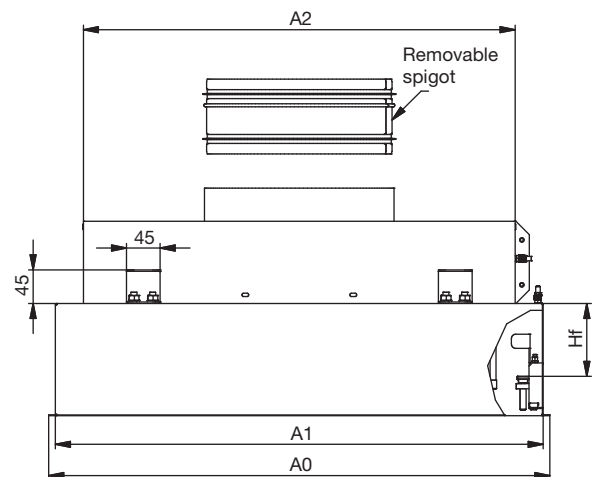
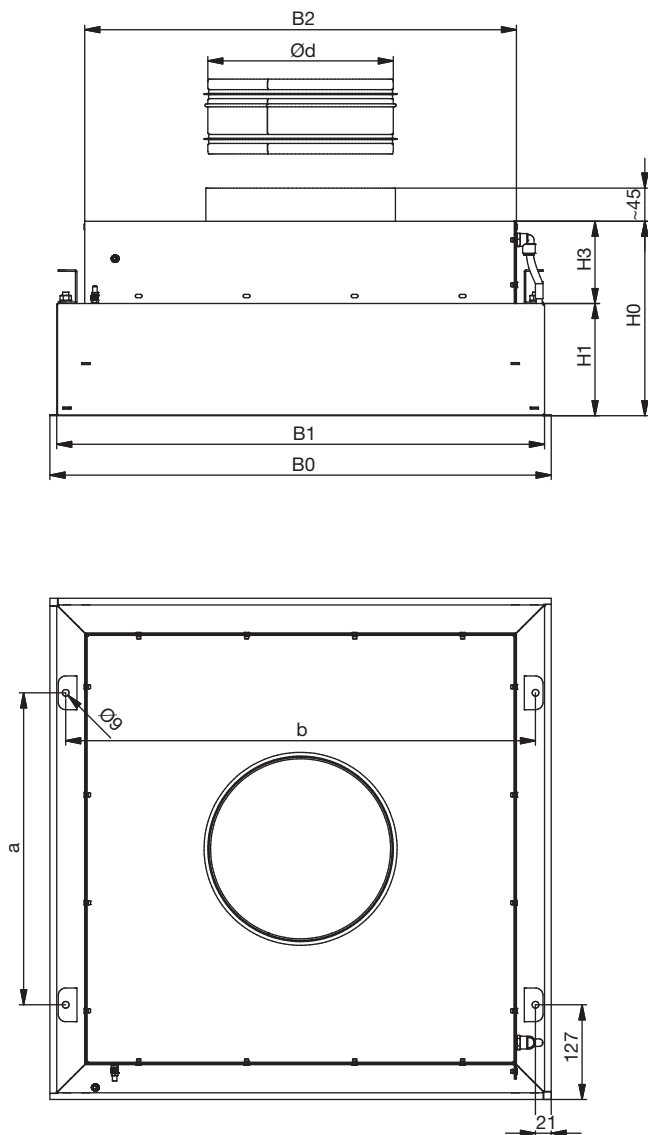
Dimensions



Filter dimension		Circular connection	Plenum box dimensions										
	Hf	Ød	A0	A1	A2	a	B0	B1	B2	b	H1	H3	H0
305x305	104-150	158	365	347	272	112	365	347	272	323	210	230	440
305x610	104-150	198	365	347	272	112	670	652	577	628	210	270	480
457x457	104-150	198	517	499	424	264	517	499	424	475	210	270	480
535x535	104-150	248	595	577	502	342	595	577	502	553	210	320	530
610x610	104-150	248	670	652	577	417	670	652	577	628	210	320	530

Circular top connection – housing type 1

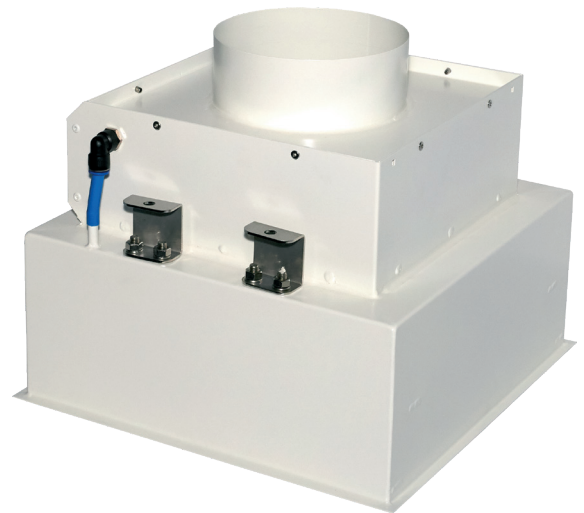
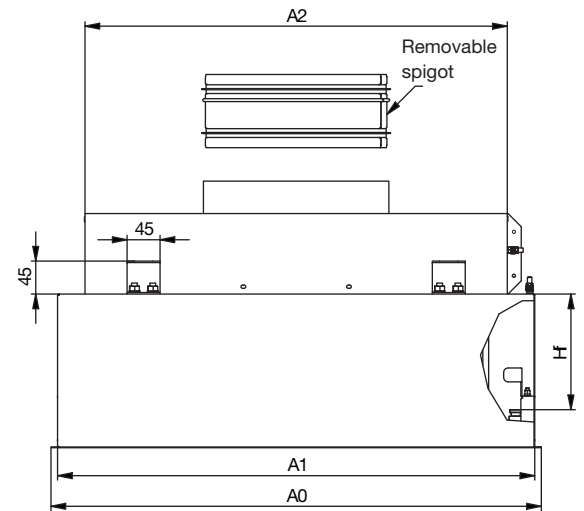
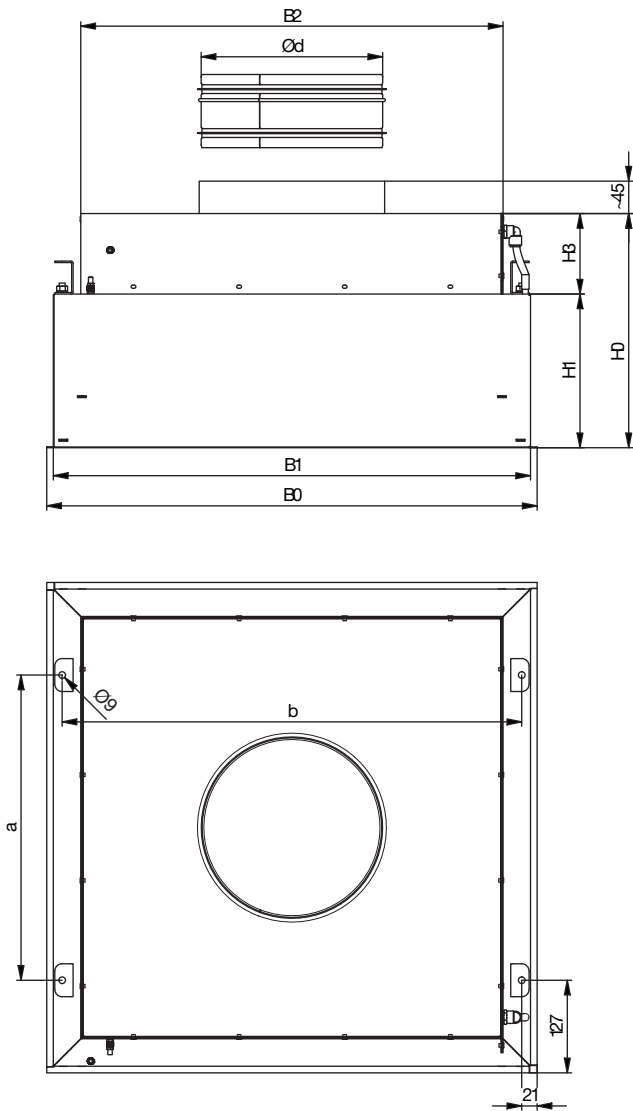
Dimensions



Filter dimension		Circular connection	Plenum box dimensions										
Size	Hf	Ød	A0	A1	A2	a	B0	B1	B2	b	H1	H3	H0
305x305	48-90	158	365	347	272	112	365	347	272	323	150	110	260
305x610	48-90	198	365	347	272	112	670	652	577	628	150	110	260
457x457	48-90	198	517	499	424	264	517	499	424	475	150	110	260
535x535	48-90	248	595	577	502	342	595	577	502	553	150	110	260
610x610	48-90	248	670	652	577	417	670	652	577	628	150	110	260
610x915	48-90	313	670	652	577	417	975	957	882	933	150	110	260
610x1220	48-90	353	670	652	577	417	1280	1262	1187	1238	150	110	260
535x1135	48-90	313	595	577	502	342	1195	1177	1102	1153	150	110	260
762x762	48-90	313	822	804	729	569	822	804	729	780	150	110	260
915x915	48-90	398	975	957	882	722	975	957	882	933	150	110	260

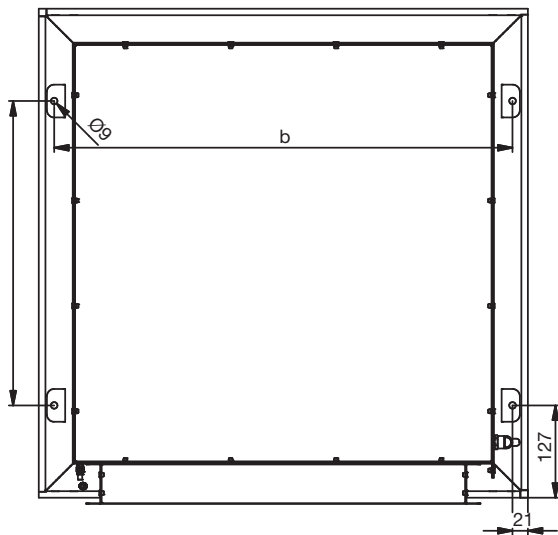
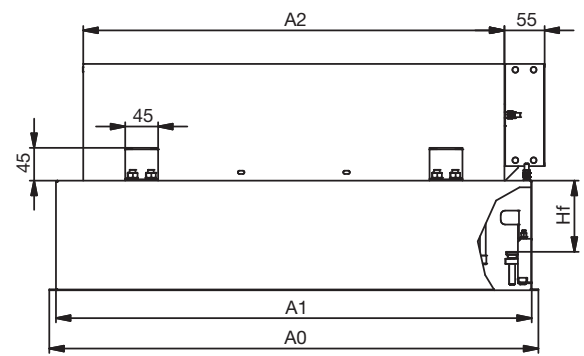
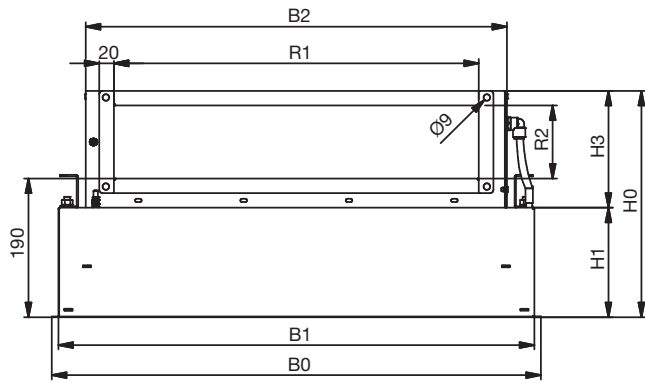
Circular top connection – housing type 2

Dimensions



Filter dimension		Circular connection	Plenum box dimensions										
	Hf	Ød	A0	A1	A2	a	B0	B1	B2	b	H1	H3	H0
305x305	104-150	158	365	347	272	112	365	347	272	323	210	110	320
305x610	104-150	198	365	347	272	112	670	652	577	628	210	110	320
457x457	104-150	198	517	499	424	264	517	499	424	475	210	110	320
535x535	104-150	248	595	577	502	342	595	577	502	553	210	110	320
610x610	104-154	248	670	652	577	417	670	652	577	628	210	110	320

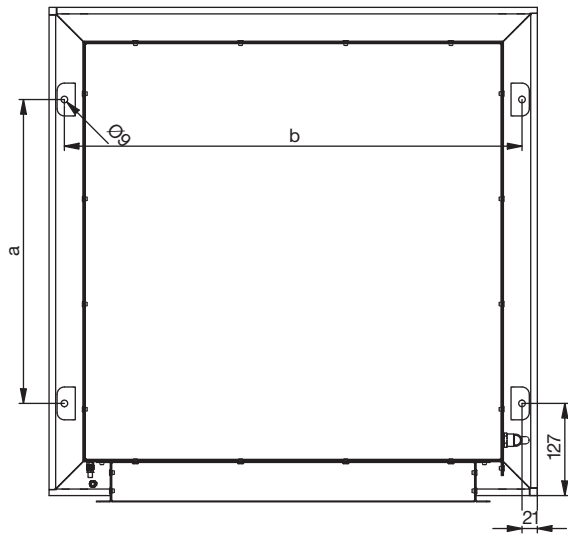
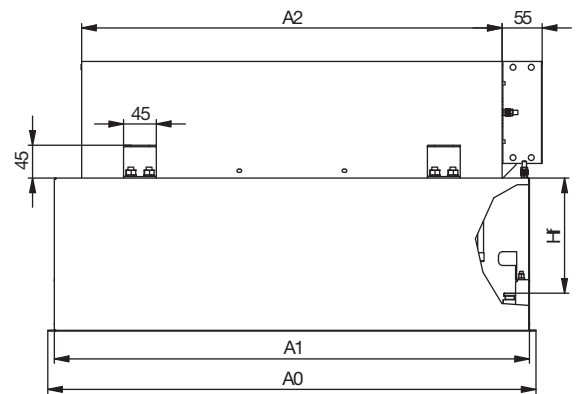
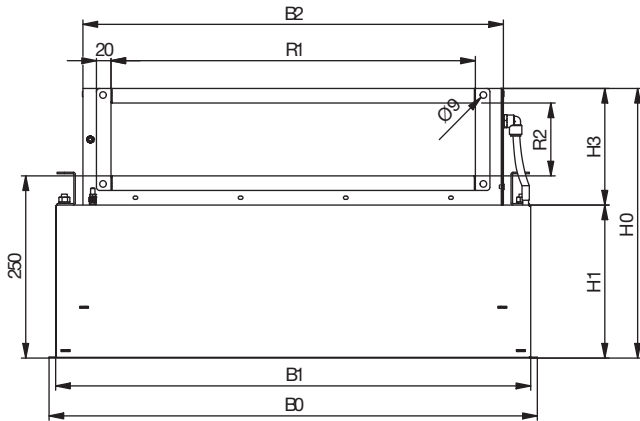
Rectangular side connection – housing type 1 Dimensions



Filter dimension		Circular connection	Plenum box dimensions										
Size	Hf	Ød	A0	A1	A2	a	B0	B1	B2	b	H1	H3	H0
305x305	48-90	200x100	365	347	272	112	365	347	272	323	150	160	310
305x610	48-90	300x100	365	347	272	112	670	652	577	628	150	160	310
457x457	48-90	300x100	517	499	424	264	517	499	424	475	150	160	310
535x535	48-90	450x100	595	577	502	342	595	577	502	553	150	160	310
610x610	48-90	500x100	670	652	577	417	670	652	577	628	150	160	310
610x915	48-90	500x150	670	652	577	417	975	957	882	933	150	210	360
610x1220	48-90	600x150	670	652	577	417	1280	1262	1187	1238	150	210	360
535x1135	48-90	500x150	595	577	502	342	1195	1177	1102	1153	150	210	360
762x762	48-90	500x150	822	804	729	569	822	804	729	780	150	210	360
915x915	48-90	800x150	975	957	882	722	975	957	882	933	150	210	360

Rectangular side connection – housing type 2

Dimensions



Filter dimension		Circular connection	Plenum box dimensions										
	Hf	Ød	A0	A1	A2	a	B0	B1	B2	b	H1	H3	H0
305x305	104-150	200x100	365	347	272	112	365	347	272	323	210	160	370
305x610	104-150	300x100	365	347	272	112	670	652	577	628	210	160	370
457x457	104-150	300x100	517	499	424	264	517	499	424	475	210	160	370
535x535	104-150	450x100	595	577	502	342	595	577	502	553	210	160	370
610x610	104-150	500x100	670	652	577	417	670	652	577	628	210	160	370

Filter data

Filter efficiency of all filters is compliant with class H14 acc. to EN 1822.

Filter frame PU 69 mm / GEL 80 mm

Suitable for LFH housing type 1.

Filter frame height: 69 mm PU foam gasket, 80 mm GEL (liquid) gasket.

Filter size [mm]	Nominal airflow [m ³ /h]	Initial pressure drop [Pa]
305x305	150	125
305x610	300	125
457x457	340	125
535x535	470	125
610x610	600	125
610x915	900	125
610x1220	1200	125
535x1135	980	125
762x762	930	125
915x915	1470	125

Filter frame PU 150 mm

- Suitable for LFH housing type 2.
- Filter frame height: 150 mm PU Foam gasket

Filter size [mm]	Nominal airflow [m ³ /h]	Initial pressure drop [Pa]
305x305	150	80
305x610	300	80
457x457	340	80
535x535	470	80
610x610	600	80

Filter frame GEL 128 mm

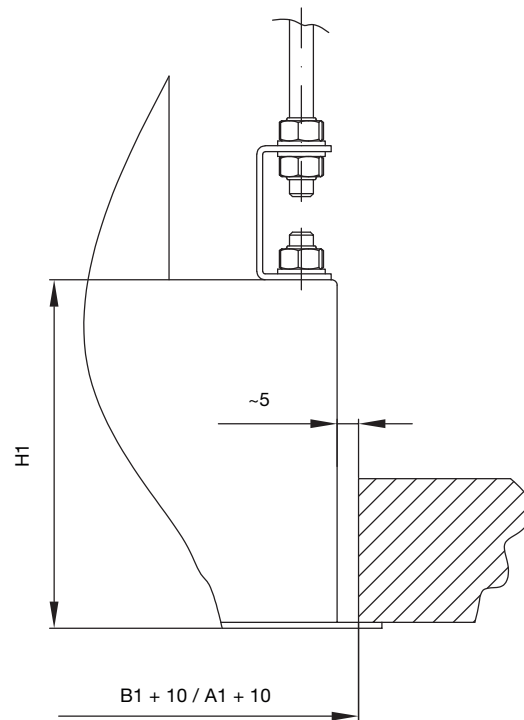
- Suitable for LFH housing type 2.
- Filter frame height: 128 mm GEL (liquid) gasket

Filter size [mm]	Nominal airflow [m ³ /h]	Initial pressure drop [Pa]
305x305	150	80
305x610	300	80
457x457	340	80
535x535	470	80
610x610	600	80

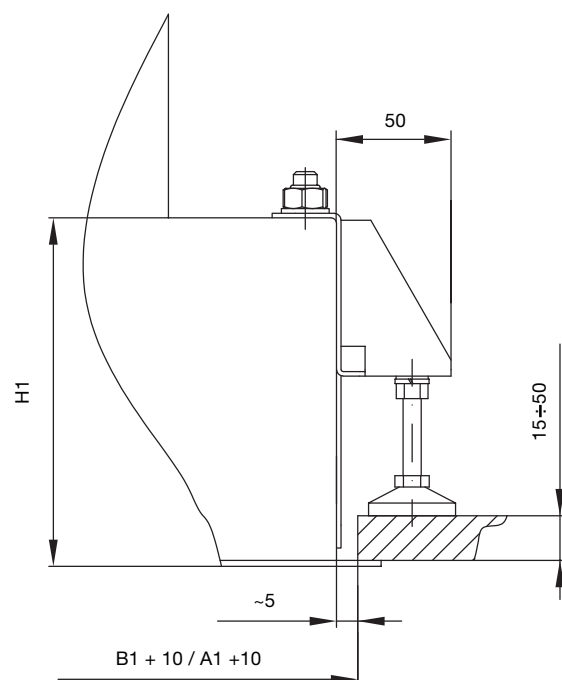
Installation

Installation is possible with hangers (H) into suspended ceilings or with traverse (T) for installation into fixed panels, see installation manual for detailed instructions.

Hanger installation (H)



Traverse installation (T)



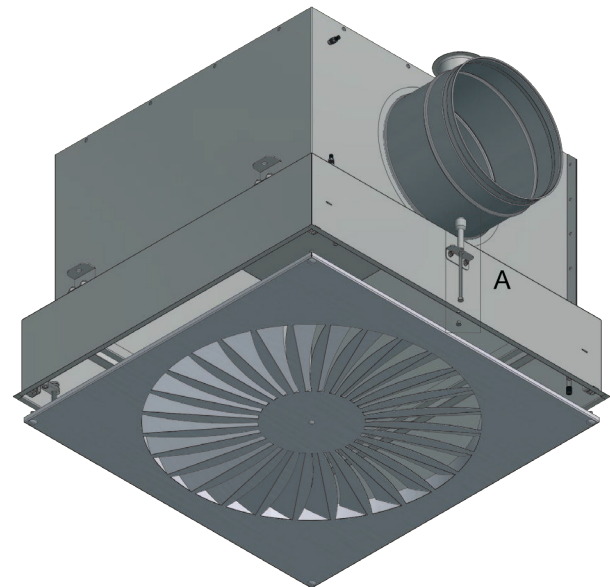
Manual air tight damper R, adjustable from room side

Version R of the airtight damper can be manually opened or closed from room side, without any intervention in the ceiling or need for an inspection opening.

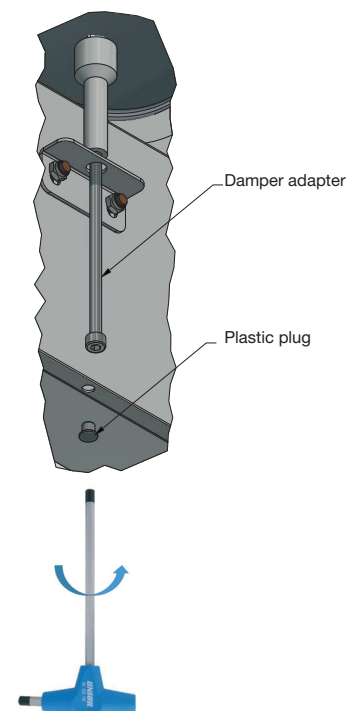
The airtight damper can be adjusted by simply turning the damper mechanism with a regular hex key through the opening in the filter housing frame.

This feature significantly simplifies maintenance and filter replacement from the room where the housing is installed.

Damper adjustment element



Turning the damper blade with a hex key



Operating theatre ceiling – perforated version DPS-N

Application

The DPS-N laminar supply ceiling with high-efficiency filters is used in clean rooms which require clean air as well as laminar airflow in the working area. They are designed to be built into suspended ceilings of OP rooms and intensive care units to ensure a laminar flow of clean air into the target zone. DPS-N is suitable for OP rooms class Ib as defined in DIN 1946-4.

Description

The coarse and fine filtration of the air for the operation theatre takes place in an air handling unit according to DIN 24185. The filtered supply air is distributed to the high-efficiency filter on the DPS-N plenum box. The air is discharged from the pressure chamber into the OP theatre via the perforated ceiling plates. The temperature of the discharged air must be 1° to 3 °C lower than the average room temperature. Two thirds of the air current should be extracted from the room via the floor and one third via the ceiling. The air current which is being discharged from the DPS-N flows over the entire area under the ceiling thus preventing the surrounding air from penetrating within the operating area (fig. 1).

DPS-N Material, surface protection and assembly

- The housing of DPS-N operating ceilings is made of disinfectant-resistant cold rolled steel, powder coated in RAL 9010, or stainless steel AISI 304 (INOX).
- On request, the ceiling contains a transition for the operating light. In this case, a blind plate and a plate with a round opening of $\varnothing 150$ mm.
- The perforated plates are attached with hinges on one side and locks on the other side.
- The DPS-N laminar ceiling is fitted with HEPA filters inserted above the perforated mask over the entire surface. The dimensions of the connection spigot and weights are given in Table 2.
- The inside of the ceiling is fitted with filter pressure drop measurement connections (the difference between the pressure upstream and downstream of the filter, which indicates the dirtiness of the filter) and with a SCAN test connection.
- DPS-N is mounted to the concrete ceiling with threaded bars and inners for the concrete.
- The pressure chambers are made of two or three parts, which are screwed together at the installation site. In the assembly operations the connections are additionally packed with acrylic putty, which is attached to the ceiling.



Fig. 1 DPS-N operating ceiling

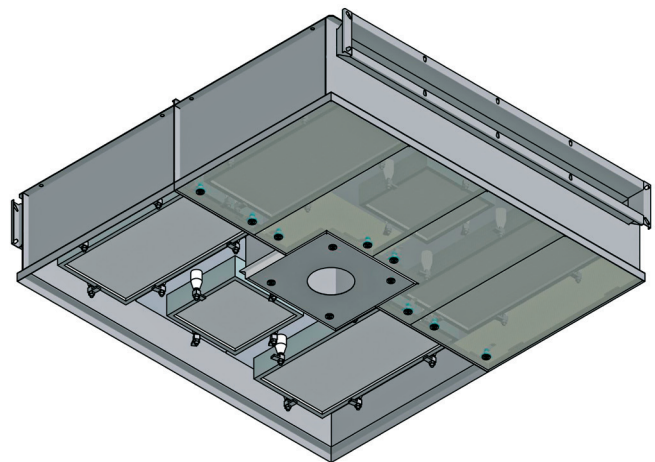


Fig. 2: DPS-N air flow pattern

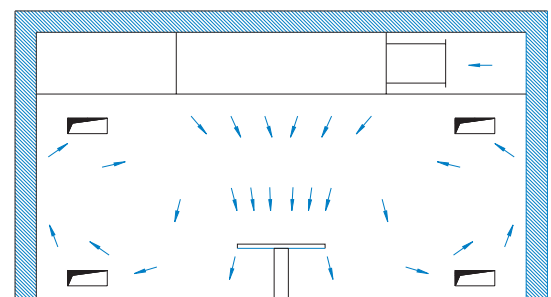
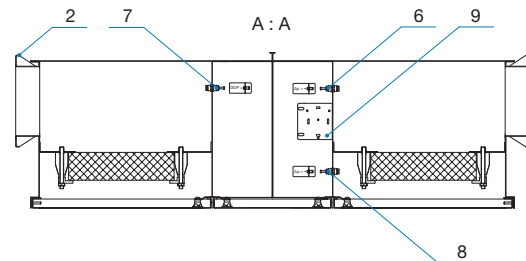
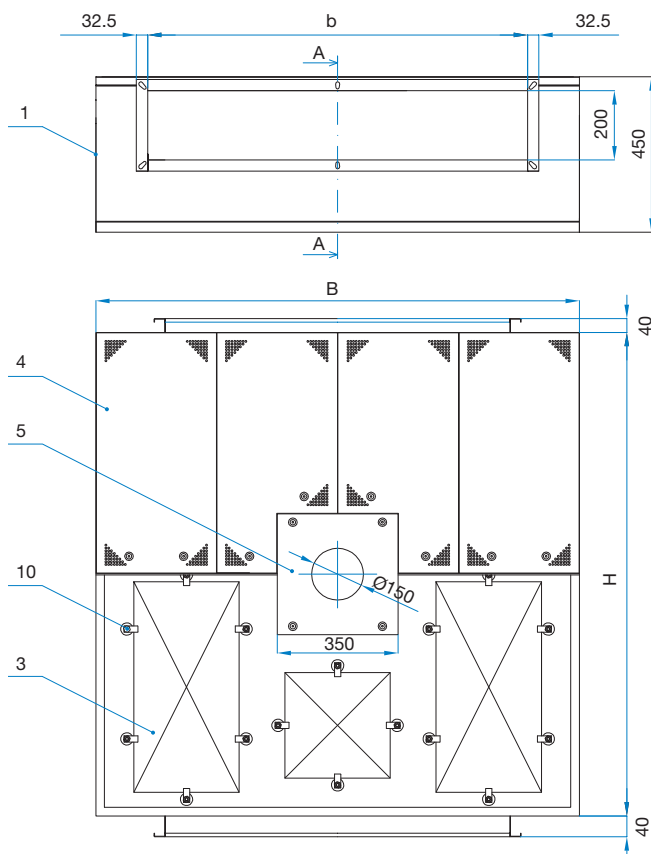


Table 1: DPS-N ceiling dimensions

B	H	H _{DPS}	Q [m ³ /h]	Weight [kg]	Connection flange
2000	1000	450	1200	110	200 x 800
2400	1200	450	2400	150	200 x 1200
2400	1400	450	2700	165	two connections 200 x 650
2400	1500	450	3080	180	two connections 200 x 750
2400	1800	450	3300	230	two connections 200 x 800
3000	1800	450	4500	275	two connections 200 x 1100
3000	2400	450	6000	325	two connections 200 x 1500
3000	3000	450	9000	405	four connections 200 x 1100
3200	3200	450	10800	490	four connections 200 x 1300

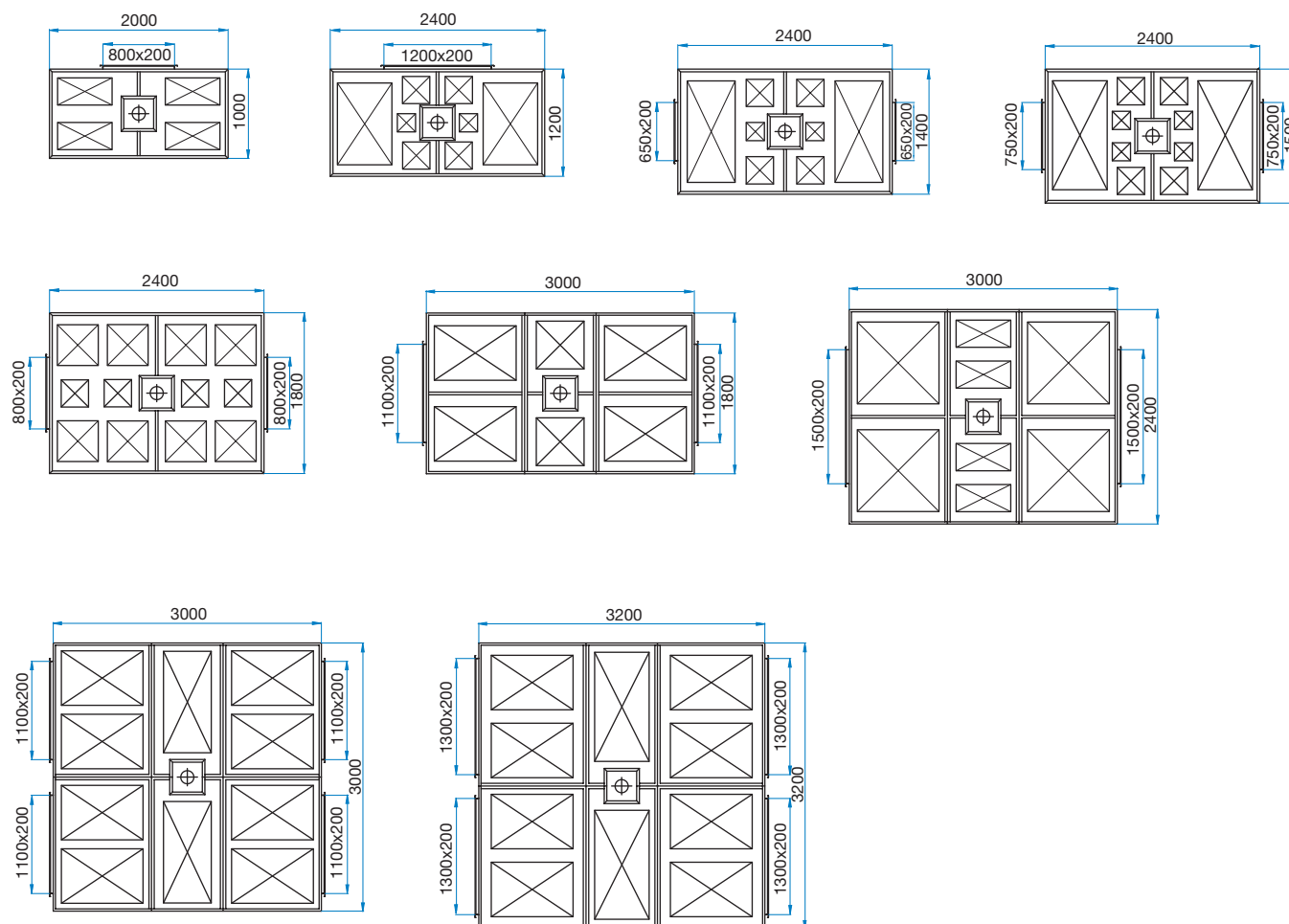
DPS-N – B x H / L / S



Legend

1. Pressure chamber
2. Filter housing
3. HEPA filter
4. Perforated mask
5. Blend plate with or without opening
6. Static pressure connection before filter + Δp
7. Connection (UPSTREAM) for scan test
8. Static pressure connection after filter - Δp
9. Holder for pressure gauge
10. Filter holder

DPS-N - positions of spigots and HEPA filters



Ordering key

DPS-N - B x H / L / S / H13 / RAL

1 2 3 4 5 6

1 Type

DPS-N Laminar flow ceiling with steel perforated diffuser

2 Dimensions

B x H Dimension B x H in mm (see table 1)

3 Lighting

L Light transition
- Without light transition

3 Spigot

S Side entry spigot
V Vertical entry spigot (on request)

4 Filter type

H13 ≥ 99,95% efficiency - filter classification EN 1822:2010
H14 ≥ 99,995% efficiency - filter classification EN 1822:2010

5 Finish

RAL Steel epoxy coated in RAL 9010.
INOX Stainless steel (AISI 304).

Note:

Filters are included in price.
 Other dimensions are available on request.

Operating theatre ceiling – textile version DSS-N

The DSS-N ventilation ceiling with polyester textile is used for air supply in hospitals where a high air exchange rate is required. It is intended to be built into suspended ceilings in operating theatres and intensive care facilities. DSS-N is suitable for OP rooms class Ib as defined in DIN 1946-4.

Description

DSS-N is based on a standard DPS-N perforated ventilation ceiling whose panels are replaced with synthetic textile affixed to stainless steel frames. The ceiling and filter housing is made of either stainless steel or epoxy coated sheet steel.

The synthetic textile allows laminar flow, as the tight weave of the fibers prevents turbulent flow from forming on the surface. The polyester textile is DIN 4799 compliant in terms of minimum hygienic requirements for operating rooms. Moreover, it has all the necessary certificates for use in operating theatres, as well as high resistance to aggressive disinfectants. The synthetic textile may be single-layer or double-layer. The second layer allows the air to be evenly distributed across the entire surface before it enters the room.

The units are made of one, two or four parts, depending on size. All elements are assembled with screws on site.

The supply ceiling is also available with a transition for an operation light with dimensions of 300 x 300 mm. In this case a plate with a round opening for the lamp is attached.

The synthetic mask is fastened with screws which require no special tools.

Depending on project requirements, side or top duct connections are available. The dimensions of the connecting ducts and the number of filters are specified in the table. Inside are connectors for measuring the pressure drop on filters (the difference between the pressure upstream and downstream of the filter, which indicates the dirtiness of the filter), as well as a connection for the SCAN test.

In accordance with applicable standards, a scan test must be performed after each filter replacement.

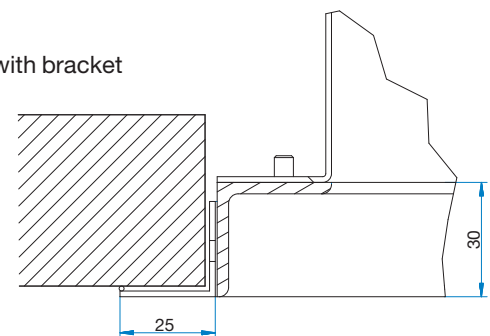
Accessories

See chapter Accessories.



Installation

Z - installation with bracket



X - installation without bracket

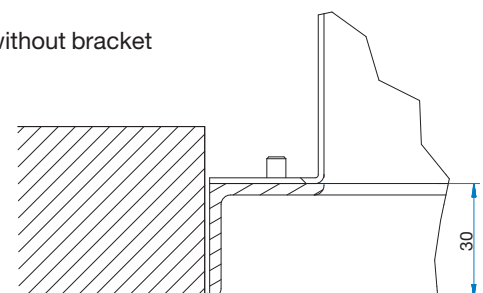
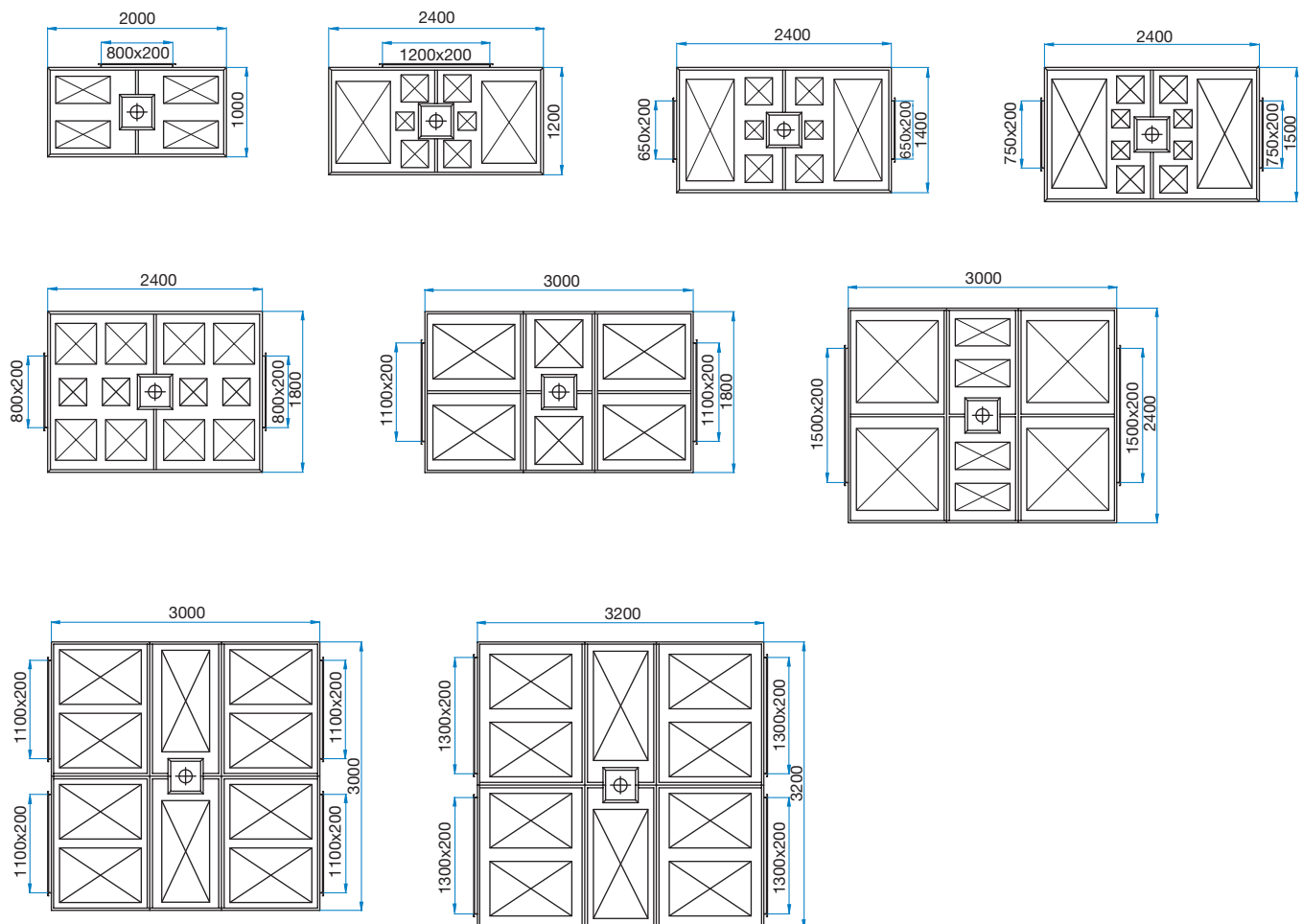


Table 1: DSS-N technical data

B	H	H _{DPS}	Q [m ³ /h]	Weight [kg]	Connection flange
2000	1000	450	1200	110	200x800
2400	1200	450	2400	150	200x1200
2400	1400	450	2700	165	two connections 200 x 650
2400	1500	450	3080	180	two connections 200 x 650
2400	1800	450	3300	230	two connections 200x800
3000	1800	450	4500	275	two connections 200x1100
3000	2400	450	6000	325	two connections 200x1500
3000	3000	450	9000	405	four connections 200 x 1100
3200	3200	450	10800	490	four connections 200 x 1300

DSS-N - positions of spigots and HEPA filters



Ordering key

DSS-N – B x H / L / S / Z / H13 / RAL

1 2 3 4 5 6 7

1 Type

DSS-N Laminar flow ceiling with textile diffuser

2 Dimensions

B x H Dimension B x H in mm (see table 1)

3 Lighting

L Light transition
- Without light transition

3 Spigot

S Side entry spigot
V Vertical entry spigot

4 Installation

Z With end bracket
- Without end bracket

5 Filter type

H13 ≥ 99,95% efficiency - filter classification EN 1822:2010
H14 ≥ 99,995% efficiency - filter classification EN 1822:2010

5 Finish

RAL Steel epoxy coated in RAL 9010
INOX Stainless steel (AISI 304)

Note:

Filters are included in price.
 Other dimensions are available on request.

Fluff separator LN-1

Application

The fluff separator is an air exhaust grille designed for wall mounting in rooms with special air purity demands (operating theatres, computer centres, ...). It is primarily used for air exhaust.

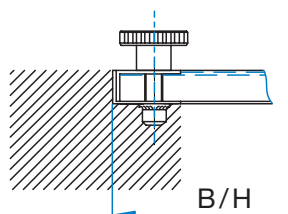
Description

The grilles are made of stainless (grinding) sheet steel. The grille face consists of a frame with a densely woven stainless mesh welded on.

A filter (LN-1/filter) or an airflow rate adjustment stainless steel insert F (LN-1/F) can be placed on the installation frame. (To adjust the insert, remove the grille face.) The front plate is fastened on the installation frame with a stainless steel screw.

Installation

The grille may be mounted flush with the wall face.



Filter insert cleaning and replacement

Due to the build-up of impurities, the grille must be removed and cleaned. Loosen the grille face screw and simply remove the grille face from the installation frame. With the LN-1/filter variant, remove the filter insert from the frame and replace it with a new insert.

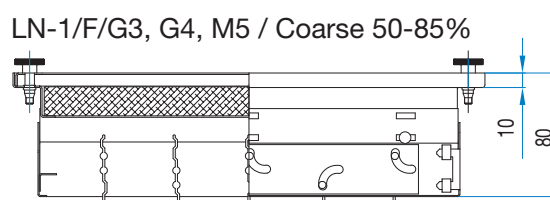
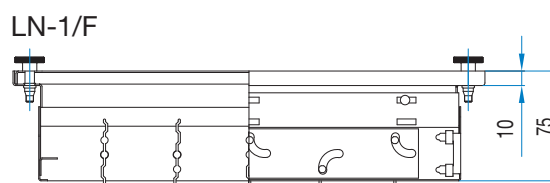
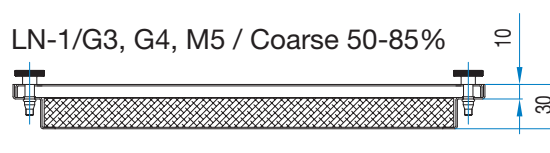
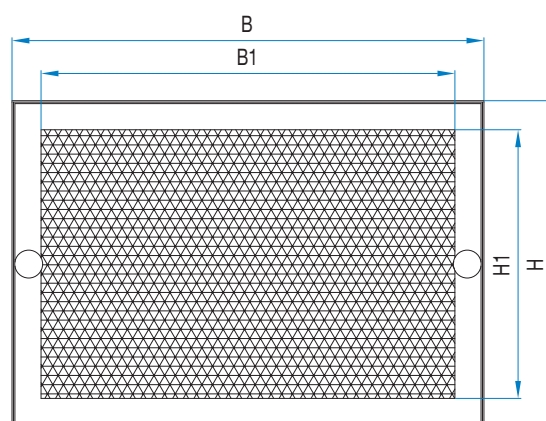


Table 1: Dimensions and weight

Nominal dimension		Free area		Weight [kg]			
B	H	B1	H1	LN-1	LN-1/filter	LN-1/F	LN-1/F/filter
325	225	285	185	0.7	1.2	1.5	2.0
425	225	385	185	0.9	1.4	1.9	2.4
525	225	485	185	1.0	1.7	2.2	2.9
425	325	385	285	1.0	1.7	2.3	3.0
525	325	485	285	1.1	2.0	2.7	3.6
625	325	585	285	1.3	2.3	3.1	4.1

Note: Deviation of weight is $\pm 10\%$.

Ordering key

LN-1 / M5 / F B x H

1 2 3 4

1 Type

LN-1

2 Filter class

M5 Filter classification EN 799:2012
G4 Filter classification EN 799:2012
G3 Filter classification EN 799:2012
Coarse 50-85% Filter classification ISO 16890

3 Register

F Air flow adjustment insert

4 Nominal size

BxH Nominal size B x H in mm

Note:

Filter is not included in price.
 Other dimensions are available on request.

Fluff Separator LN-2

Application

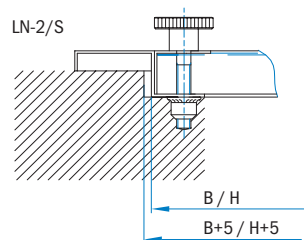
The fluff separator is an air exhaust grille designed for wall mounting in rooms with special air purity demands (operating theatres, computer centres, ...). It is primarily used for air exhaust.

Description

The grilles are made of stainless (grinding) sheet steel. The grille face consists of a frame with a densely woven stainless mesh welded on.

A filter (LN-2/filter) or an airflow rate adjustment stainless steel insert F (LN-2/F) can be placed on the installation frame. (To adjust the insert, remove the grille face). The front plate is fastened on the installation frame with a stainless steel screw.

Installation



Filter insert cleaning and replacement

Due to the build-up of impurities, the grille must be removed and cleaned. Loosen the grille face screw and simply remove the grille face from the installation frame.

With the LN-2/filter variant, remove the filter insert from the frame and replace it with a new insert.

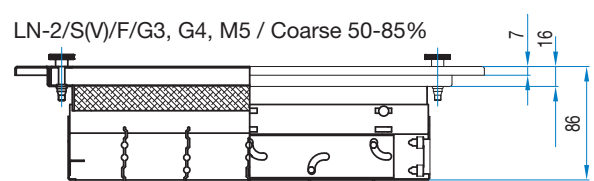
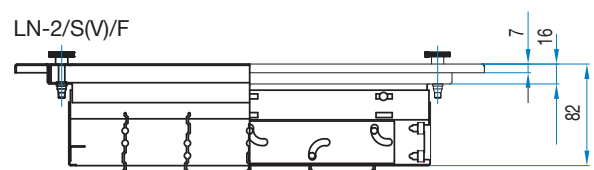
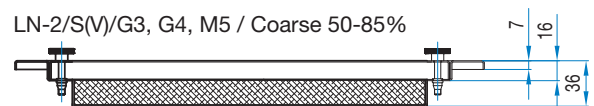
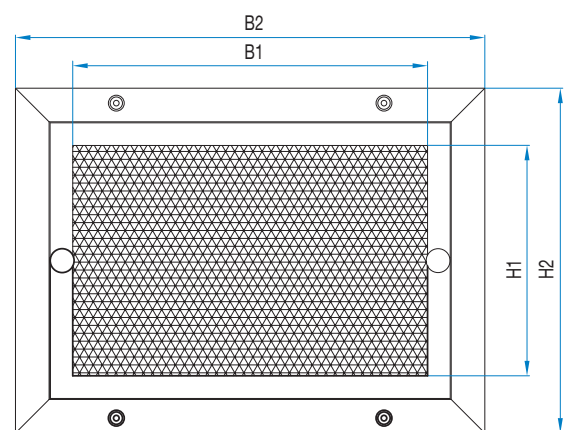


Table 1: Dimensions and weights

Nominal dimension		Free area		Overall dimension		Weight [kg]			
B	H	B1	H1	B2	H2	LN-2/S(V)	LN-2/S(V)/filter	LN-2/S(V)/F	LN-2/S(V)/F/filter
325	225	285	185	377	277	1.2	1.8	2.0	2.6
425	225	385	185	477	277	1.4	2.2	2.4	3.0
525	225	485	185	577	277	1.6	2.5	2.9	3.5
425	325	385	285	477	377	1.6	2.1	2.9	3.2
525	325	485	285	577	377	1.8	2.5	3.4	3.8
625	325	585	285	677	377	2.0	2.9	3.8	4.5

Note: Deviation of weight is $\pm 10\%$.

Ordering key

LN-2 / V / M5 / F / B x H

1 2 3 4 5

1 Type

LN-2

2 Installation

V Visible screw fixing (only for LN-2)
S Hidden screw fixing (only for LN-2)

3 Filter class

M5 Filter classification EN 799:2012
G4 Filter classification EN 799:2012
G3 Filter classification EN 799:2012
Coarse 50-85% Filter classification ISO 16890

4 Register

F Air flow adjustment insert

5 Nominal size

BxH Nominal size BxH in mm

Note:

Filter is not included in price.
 Other dimensions are available on request.

Filter grille FR

Application

Filter grilles are intended for wall installation in rooms which require a higher level of air purity (computer centres, libraries, clean rooms, etc.). They are primarily used to extract air from the room.

Description

The grilles are made of stainless (polished) sheet metal. The installed filter is of the Coarse 50% - Coarse 85% filter class according to ISO 16890 (old designation: G3, G4 or M5).

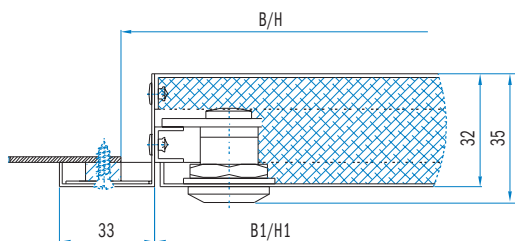
Dimensions

Standard grille dimensions are 225 x 225 mm to 625 x 625 mm. Grille depth is 35 mm. Other dimensions available on request.

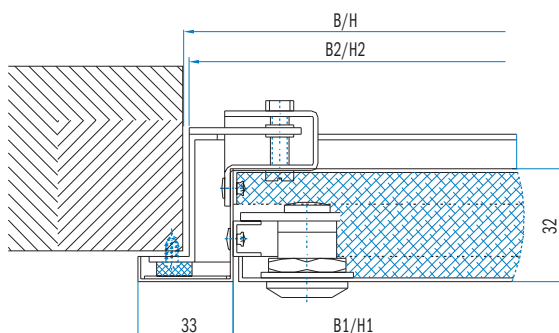
Installation

Grilles may be fixed with visible screws (designation V, screws on the grille frame) or hidden into the installation frame (designation 2, grille is fastened on the installation frame with a lock on the internal side of the grille. The installation frame must be fixed on the wall before the installation of the grille.)

1. with screws (designation V)



2. on the installation frame (designation 2)



Filter replacement

Filters must be replaced once the louvre pressure drop increases due to dirt trapped in the filter. The filter replacement is a quick and simple procedure. Use the lock to open the grille and replace the dirty filter with a new one. Then close the mask with the lock.

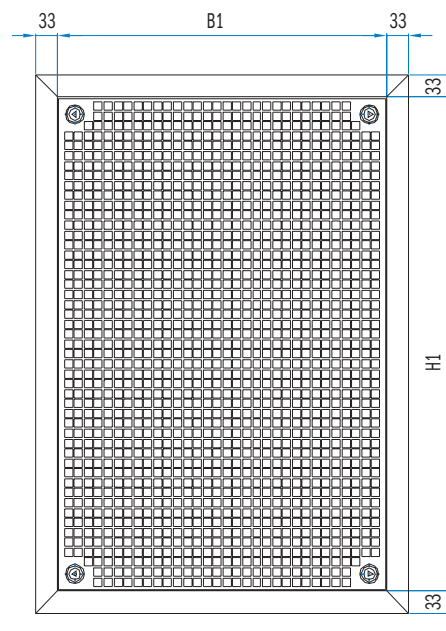
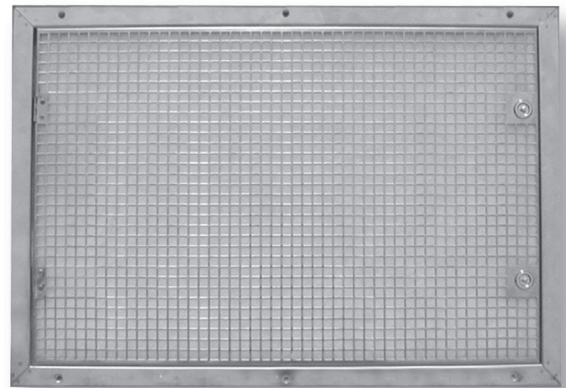


Table 1: Dimensions and weights

B	H	B1	B2	H1	H2	Weight [kg]	
						FR/2	FR/V
225	225	198	222	198	222	1.4	0.8
325		298	322			1.8	1.1
425		398	422			2.1	1.3
525		498	522			2.5	1.6
625		598	622			2.8	1.8
325	325	298	322	298	322	2.1	1.4
425		398	422			2.6	1.8
525		498	522			3.1	2.1
625		598	622			3.5	2.5
425	425	398	422	398	422	3.1	2.2
525		498	522			3.6	2.6
625		598	622			4.2	3.0
525	525	498	522	498	522	4.2	3.2
625		598	622			4.9	3.6
625	625	598	622	598	622	5.6	4.2

Note: Deviation of weight is $\pm 10\%$.

Ordering key

FR / V / M5 / F B x H
 1 2 3 4 5

1 Type

FR _____

2 Installation

V Visible screw fixing
S Hidden screw fixing

3 Filter class

M5 Filter classification EN 799:2012
G4 Filter classification EN 799:2012
G3 Filter classification EN 799:2012
Coarse 50-85% Filter classification ISO 16890

4 Register

F Air flow adjustment insert

5 Nominal size

BxH Nominal size B x H in mm

Note:

Filter included in price.
 Other dimensions are available on request.

Filters

Table 1: Quick selection table according to filter class

Filter group	Filter class EN 779:2012	Filter class ISO 16890	Average arrestance (Am) of synthetic dust	Average efficiency (Em) of 0,4 µm particles	Minimum efficiency of 0,4 µm particles	Filter type
Coarse	G1	Coarse 50%	$50 \% \leq A_m < 65 \%$	–	–	Bag filters (FV) Panel filters (KA)
	G2	Coarse 50%	$65 \% \leq A_m < 80 \%$	–	–	
	G3	Coarse 50-55%	$80 \% \leq A_m < 90 \%$	–	–	
	G4	Coarse 60-65%	$90 \% \leq A_m$	–	–	
Medium	M5	Coarse 85-90%	–	$40 \% \leq E_m < 60 \%$	–	Bag filters (FV) Panel filters (KA)
	M6	ePM10 65%	–	$60 \% \leq E_m < 80 \%$	–	
Fine	F7	ePM2,5 65%	–	$80 \% \leq E_m < 90 \%$	35	
	F8	ePM1 75%	–	$90 \% \leq E_m < 95 \%$	55	
	F9	ePM1 80%	–	$95 \% \leq A_m$	70	

Table 2: Quick selection table according to filter class EPA, HEPA, ULPA

Filter group	Filter class	According to standard	Value Efficiency (MPPS)	Filter type
E ... EPA filters Efficient Particulate Air Filter	E10	EN 1822–1:2010	≥ 85 %	EPA,HEPA,ULPA filters
	E11		≥ 95 %	
	E12		≥ 99,5 %	
H ... HEPA filters High Efficiency Particulate Air Filter	H13		≥ 99,95 %	
	H14		≥ 99,995 %	
U ... ULPA filters Ultra Low Penetration Air Filter	U15		≥ 99,9995 %	
	U16		≥ 99,99995 %	
	U17		≥ 99,999995 %	

Table 3: Quick selection table according to application for carbon filters

Application type	Contaminants	Filter type
C1	Airports, Pharms & Food / Hydrocarbons	Carbon filters (FO)
C2	Industry / Mineral acids	
C3	Industry / Ammonia, amines	
C4	Industry & Waste water / (H _a S), (SO ₂)	
C5	Museums & Libraries / H ₂ S, S _{ox} , NO _x formaldehyde	
C6	General Purpose / General Gas Removal	
C7	Nuclear industry / Radioactive dust particles	

Equation 1: Quick calculation of fan energy consumption for one filter

$$E = \frac{q_v \times \Delta p \times t}{\eta_f \times 1000}$$

Definition of symbols

E [kWh]	energy consumed by fan
q_v [m³/s]	air flow rate at filter
Δp [Pa]	filter pressure drop
t [h]	operating time
η_F [/]	fan efficiency (usually from 0.6 – 0.8)

EPA, HEPA, ULPA filters

Liquid gasket, GEL

- filter version: standard HEPA filter for clean rooms (ceiling installation)
- manufacturer: American Air Filter
- frame material: aluminum
- temperature limit: 70 °C
- max. final pressure: 500 Pa, recommended final pressure drop 2x initial pressure drop
- suitable for: AFV-8G, LFH

Picture 1: Filter drawing H-H14/G/ALU/AAF/F_

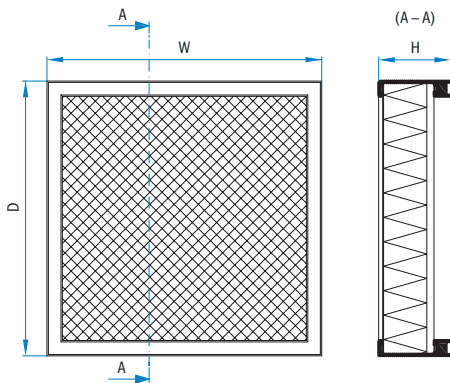


Table 1: Filter technical data H-H14/G/ALU/AAF/F_

Nominal size	Width W [mm]	Depth D [mm]	Height H [mm]	Filter class	
				H14	
				Pressure drop Δp_s [Pa]	Airflow Q [m³/h]
F10	305	305	80	125	150
F20	305	610	80	125	300
F30	457	457	80	125	340
F50	610	610	80	125	600
F60	610	915	80	125	900
F70	610	1220	80	125	1200
F80	545	545	80	125	480
F51	610	610	128	75	600

Liquid gasket, GEL

- filter version: standard HEPA filter for clean rooms (ceiling installation)
- manufacturer: OC IMP Klima
- frame material: aluminum
- temperature limit: 70 °C
- Max. final pressure: 500 Pa, Rec.
Final pressure drop 2x Initial pressure drop
- suitable for: AFV-8G, LFH

Picture 2: Filter drawing H-H14/G/ALU/OCK/size

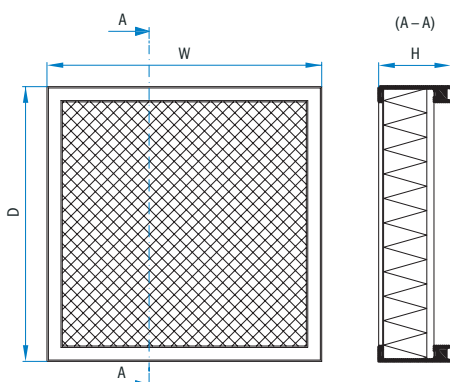


Table 2: Filter technical data H-H14/G/ALU/OCK/size WxDxH, 80 mm ALU frame

Nominal size Width Depth Height W x D x H [mm] [mm] [mm]	Filter class	
	H14	
	Pressure drop Δp_s [Pa]	Airflow Q [m³/h]
305 x 305 x 80	125	150
305 x 610 x 80	125	300
457 x 457 x 80	125	340
535 x 535 x 80	125	465
545 x 545 x 80	125	470
610 x 610 x 80	125	600
610 x 915 x 80	125	900
610 x 1220 x 80	125	1200
535 x 1135 x 80	125	980
762 x 762 x 80	125	940
915 x 915 x 80	125	1350

Table 3: Filter technical data H-H_/G/ALU/OCK/size WxDxH, 128 mm ALU frame

Nominal size	Filter class	
	H14	
Width Depth Height W x D x H [mm] [mm] [mm]	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]
305 x 305 x 128	80	150
305 x 610 x 128	80	300
457 x 457 x 128	80	340
535 x 535 x 128	80	465
610 x 610 x 128	80	600

Dry gasket, U-shaped profile

- filter version: standard HEPA filter for clean rooms (ceiling installation)
- manufacturer: OC IMP Klima
- frame material: MDF wood
- temperature limit: 70 °C
- max. final pressure: 500 Pa, recommended final pressure drop: 2x initial pressure drop
- suitable for: AFV-8B

Picture 3: Filter H-H_/U/MDF/OCK/F_

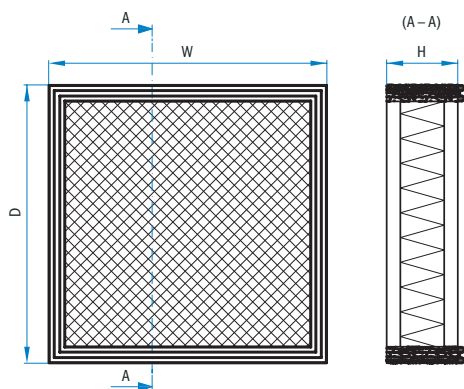


Table 4: Filter technical data H-H_/U/MDF/OCK/size WxDxH, 80 mm MDF frame

Nominal size	Filter class	
	H14	
Width Depth Height W x D x H [mm] [mm] [mm]	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]
305 x 305 x 80	125	150
305 x 610 x 80	125	300
457 x 457 x 80	125	340
535 x 535 x 80	125	465
610 x 610 x 80	125	600
610 x 915 x 80	125	900
610 x 1220 x 80	125	1200

Dry gasket, semicircular FOAM profile

- filter version: standard HEPA filter for clean rooms (ceiling installation)
- manufacturer: OC IMP Klima
- frame material: MDF wood
- temperature limit: 70 °C
- max. final pressure: 500 Pa,
- recommended final pressure drop: 2x initial pressure drop
- suitable for: AFV-8B, DPS-N, DSS-N

Picture 4: Filter drawing H-H_/PO/MDF/OCK/size

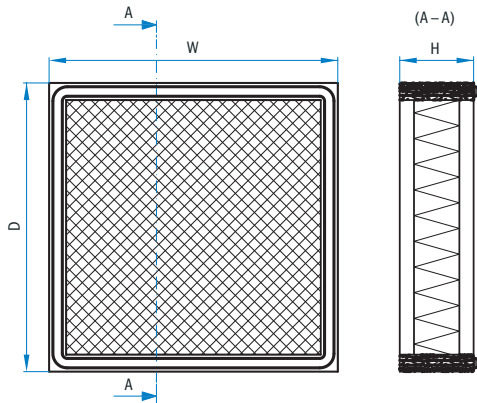


Table 5: Filter technical data H-H_/PO/MDF/OCK/size WxDxH, 80 mm MDF frame

			Filter class H14	
Nominal size				
Width W	Depth D	Height H	Pressure drop Δp_s [Pa]	Airflow Q [m³/h]
W x D x H [mm] [mm] [mm]				
305	305	80	125	150
305	610	80	125	300
457	457	80	125	340
535	535	80	125	465
610	610	80	125	600
610	915	80	125	900
610	1220	80	125	1200
535	1135	80	125	980
762	762	80	125	940
915	915	80	125	1350

Table 6: Filter technical data H-H_/PO/MDF/OCK/size WxDxH, 150 mm MDF frame

			Filter class H14	
Nominal size				
Width W	Depth D	Height H	Pressure drop Δp_s [Pa]	Airflow Q [m³/h]
W x D x H [mm] [mm] [mm]				
305	305	150	85	150
305	610	150	85	300
457	457	150	85	340
535	535	150	85	465
610	610	150	85	600

Table 7: Filter technical data H-H_/PO/MDF/OCK/size WxDxH, 292 mm MDF frame

			Filter class H14	
Nominal size				
Width W	Depth D	Height H	Pressure drop Δp_s [Pa]	Airflow Q [m³/h]
W x D x H [mm] [mm] [mm]				
305	305	292	270	750
305	610	292	270	1500
457	457	292	270	1700
535	535	292	270	2310
610	610	292	270	3000
610	762	292	270	3750

Dry gasket, semicircular foam profile

- filter version: standard HEPA filter for clean rooms (duct filter housings, exhaust housings)
- manufacturer: American Air Filter
- frame material: MDF wood
- temperature limit: 70 °C
- max. final pressure: 600 Pa, recommended final pressure drop: 2x initial pressure drop
- suitable for: AKF, AFH, LFH

Picture 5: Filter drawing H-H_/PO/MDF/AAF/F_

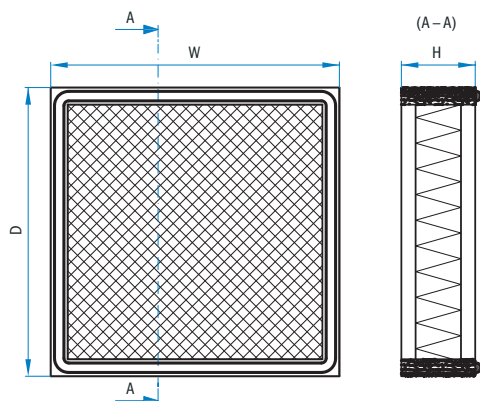


Table 8: Filter technical data H-H_/PO/MDF/AAF/F_

Nominal size	Filter dimension			Filter class			
	Width W [mm]	Depth D [mm]	Height H [mm]	H13		H14	
				Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]
F12	305	x 305	x 150	250	250	320	250
F22	305	x 610	x 150	250	500	320	500
F32	457	x 457	x 150	250	570	320	570
F52	610	x 610	x 150	250	1000	320	1000
F13	305	x 305	x 292	250	500	320	500
F23	305	x 610	x 292	250	1000	320	1000
F33	457	x 457	x 292	250	1130	320	1130
F53	610	x 610	x 292	250	2000	320	2000

Dry gasket, semicircular foam profile

- filter version: standard HEPA filter for clean rooms
- manufacturer: OC IMP Klima
- frame material: aluminum

Table 9: Filter technical data H-H_/PO/ALU/OCK/size WxDxH, 80 mm ALU frame

Nominal size	Filter class	
	H14	
	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]
305 x 305 x 80	125	150
305 x 610 x 80	125	300
457 x 457 x 80	125	340
535 x 535 x 80	125	465
610 x 610 x 80	125	600
610 x 915 x 80	125	900
610 x 1220 x 80	125	1200
535 x 1135 x 80	125	980
762 x 762 x 80	125	940
915 x 915 x 80	125	1350

Table 10: Filter technical data H-H_/PO/ALU/OCK/size WxDxH, 150 mm ALU frame

Nominal size	Filter class	
	H14	
	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]
305 x 305 x 150	85	150
305 x 610 x 150	85	300
457 x 457 x 150	85	340
535 x 535 x 150	85	465
610 x 610 x 150	85	600

Dry gasket, semicircular foam profile

- filter version: standard HEPA filter for clean rooms
- manufacturer: OC IMP Klima
- frame material: galvanized steel

Table 11: Filter technical data H-H_/PO/GAL/OCK/size WxDxH, 292 mm galvanized steel frame

Nominal size	Filter class	
	H14	
Width Depth Height W x D x H [mm] [mm] [mm]	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]
305 x 305 x 292	270	750
305 x 610 x 292	270	1500
457 x 457 x 292	270	1690
535 x 535 x 292	270	2310
610 x 610 x 292	270	3000
610 x 762 x 292	270	3750

Dry gasket, semicircular foam profile

- filter version: FilHF ... high flow
- manufacturer: American Air Filter
- frame material: galvanized steel
- temperature limit: 70 °C
- recommended final pressure: 750 Pa
- suitable for: AKF

Picture 6: Filter drawing H-H_/PO/POC/AAF/F_

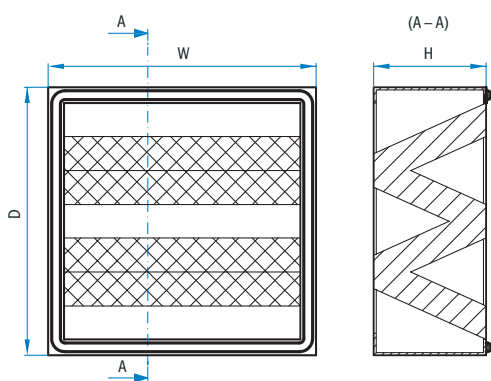


Table 12: Filter technical data H-H_/PO/POC/AAF/F_

Nominal size	Filter dimension			Filter class			
	Width W [mm]	Depth D [mm]	Height H [mm]	H13		H14	
				Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]
F23	305	x 610	x 292	250	1500	380	1500
F53	610	x 610	x 292	250	4000	380	4000

Dry gasket, flat profile

- filter version: standard HEPA filter for clean rooms (ceiling installation, duct filter housings, exhaust housings)
- manufacturer: OC IMP Klima
- frame material: MDF wood
- temperature limit: 70 °C
- max. final pressure: 600 Pa,
- recommended final pressure drop: 2x initial pressure drop
- suitable for: AFV-8, AFH-1

Picture 7: Filter drawing H-H_/PL/MDF/OCK/size

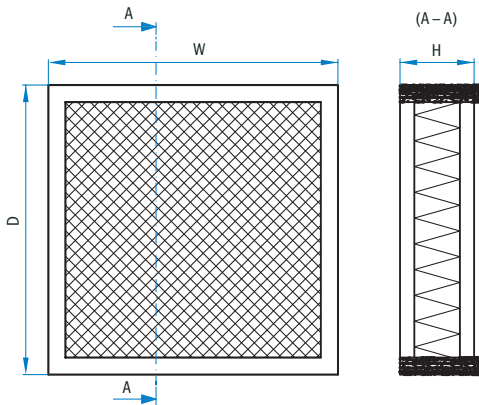


Table 13: Filter technical data for 80 mm MDF frame H-H_/PL/MDF/OCK/size WxDxH

			Filter class	
			H14	
Nominal size				
Width	Depth	Height	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]
W	D	H		
[mm] [mm] [mm]				
305	305	80	125	150
305	610	80	125	300
457	457	80	125	340
535	535	80	125	465
610	610	80	125	600
610	915	80	125	900
610	1220	80	125	1200
535	1135	80	125	980
762	762	80	125	940
915	915	80	125	1350

Table 14: Filter technical data for 150 mm MDF frame H-H_/PL/MDF/OCK/size WxDxH

			Filter class	
			H14	
Nominal size				
Width	Depth	Height	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]
W	D	H		
[mm] [mm] [mm]				
305	305	150	85	150
305	610	150	85	300
457	457	150	85	340
535	535	150	85	465
610	610	150	85	600

Table 15: Filter technical data for 292 mm MDF frame H-H_/PL/MDF/OCK/size WxDxH

			Filter class	
			H14	
Nominal size				
Width	Depth	Height	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]
W	D	H		
[mm] [mm] [mm]				
305	305	292	270	750
305	610	292	270	1500
457	457	292	270	1700
535	535	292	270	2310
610	610	292	270	3000
610	762	292	270	3750

Panel filters

Without gasket

- filter version: Filter ... standard
- manufacturer: Ecotip
- frame material: galvanized steel
- temperature limit: 80 °C
- recommended final pressure: 450 Pa (exception is 250 Pa for filter classes Coarse 55% - 85% acc. to ISO 16890 (old designation: G3, G4, M5))
- suitable for: AKF

Picture 9: Filter drawing KA-G_/-/POC/ECO/F_

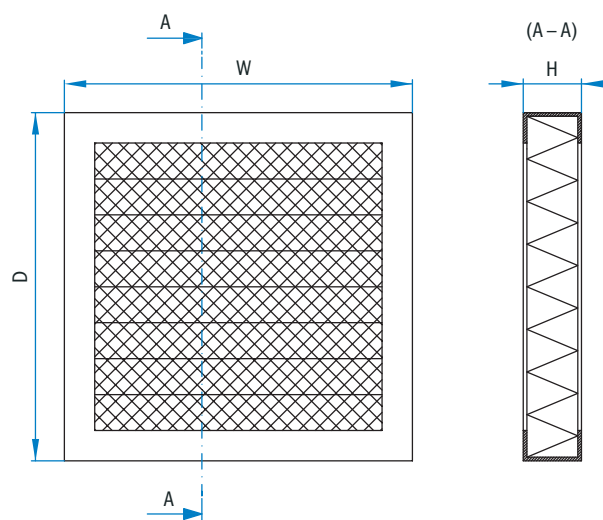


Table 18: Filter technical data KA-G_/-/POC/ECO/F_ ... coarse and medium filters

Filter dimension				Filter class									
Nominal size	Width W		Depth D	Height H	G3 / Coarse 50%		G4 / Coarse 60%		M5 / Coarse 85%		M6 / ePM10 65%		
	[mm]	[mm]	[mm]	[mm]	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]	Pressure drop Δp_s [Pa]	Airflow Q [m ³ /h]	
F102	287	x	287	x	48	30	460	40	460	60	460	68	460
F112	287	x	490	x	48	30	820	40	820	60	820	68	820
F122	287	x	592	x	48	30	985	40	985	60	985	68	985
F132	490	x	490	x	48	30	1440	40	1440	60	1440	68	1440
F142	490	x	592	x	48	30	1735	40	1735	60	1735	68	1735
F152	592	x	592	x	48	30	2130	40	2130	60	2130	68	2130
F103	287	x	287	x	98	30	755	40	755	60	755	68	755
F113	287	x	490	x	98	30	1280	40	1280	60	1280	68	1280
F123	287	x	592	x	98	30	1540	40	1540	60	1540	68	1540
F133	490	x	490	x	98	30	1935	40	1935	60	1935	68	1935
F143	490	x	592	x	98	30	2325	40	2325	60	2325	68	2325
F152	592	x	592	x	98	30	2720	40	2720	60	2720	68	2720

Table 19: Filter technical data KA-G_-/-/POC/ECO/F_ ... fine filters

Filter dimension					Filter class					
					F7 / ePM2,5 65%		F8 / ePM1 75%		F9 / ePM1 80%	
Nominal size	Width	Depth	Height	Pressure drop	Airflow	Pressure drop	Airflow	Pressure drop	Airflow	
	W	D	H	Δp_s	Q	Δp_s	Q	Δp_s	Q	
	[mm]	[mm]	[mm]	[Pa]	[m ³ /h]	[Pa]	[m ³ /h]	[Pa]	[m ³ /h]	
F102	287	x 287	x 48	83	460	86	460	86	460	
F112	287	x 490	x 48	83	820	86	820	86	820	
F122	287	x 592	x 48	83	985	86	985	86	985	
F132	490	x 490	x 48	83	1440	86	1440	86	1440	
F142	490	x 592	x 48	83	1735	86	1735	86	1735	
F152	592	x 592	x 48	83	2130	86	2130	86	2130	
F103	287	x 287	x 98	83	755	86	755	86	755	
F113	287	x 490	x 98	83	1280	86	1280	86	1280	
F123	287	x 592	x 98	83	1540	86	1540	86	1540	
F133	490	x 490	x 98	83	1935	86	1935	86	1935	
F143	490	x 592	x 98	83	2325	86	2325	86	2325	
F152	592	x 592	x 98	83	2720	86	2720	86	2720	

Ordering key

HHV / H-13 / P / M / OCK / 305x610x292

1 2 3 4 5 6

1 Filter type

UHV	V-shape high flow filters (filter frame 292) U15-U17
HHV	V-shape high flow filters (filter frame 292) H13-H14
EHV	V-shape high flow filters (filter frame 292) E10-E12
ECA	High-temperature filters with aluminum sep. (filter frame 292 mm) E10-E12
HCA	Standard high-flow filters (filter frame 292 mm) H13-H14
EHS	Standard high-flow filters (filter frame 292 mm) E10-E12
HHS	Standard high-flow filters (filter frame 292 mm) H13-H14
UC	Standard filters for ceiling installation (filter frame 66-150 mm) U15-U17
HC	Standard filters for ceiling installation (filter frame 66-150 mm) H13-H14
EC	Standard filters for ceiling installation (filter frame 66-150 mm) E10-E12
FP	Panel filters G3-F9
FB	Bag filters G3-F9
FC	Carbon filters

2 Filter class

U15-U17
H13-H14
E10-E12
G3-F9
G3-F9
Active carbon

3 Gasket type

P	Polyurethane, endless foamed
U	U-shaped EPDM
F	EPDM flat continuous
G	GEL (silicone gel, liquid)
X	Without any gasket

4 Frame material

M	MFD (plywood)
A	Aluminum
I	Stainless steel (INOX)
G	Galvanized steel
P	Plastic (ABS)
C	Cardboard (water resistant)

5 Manufacturer

OCK	OC IMP Klima
AAF	American Air Filter
CAF	Camfil
ECO	Ecotip

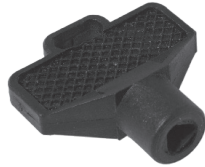
6 Filter size = A x B x H [mm]

A	Width
B	Length
H	Frame height (depth)

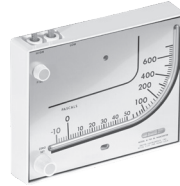
Accessories



AF-01/001
DPS key lock



AF-01/002
FR key lock



AF-02/001
Mark II pressure gauge



AF-02/002, AF-02/003,
AF-02/004, AF-02/005,
AF-02/006
Magnehelic pressure gauge



AF-02/007, AF-02/008,
AF-02/009
Photohelic pressure gauge



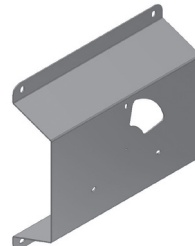
AF-02/010, AF-02/011
Digihelic pressure gauge



AF-02/012
Digihelic (3-in-1) pressure
gauge



AF-03/001
02/002-02/006 pressure
gauge holder



AF-03/002
02/007-02/011 pressure
gauge holder



AF-04/001, 04/002, 04/003
Pressure switch

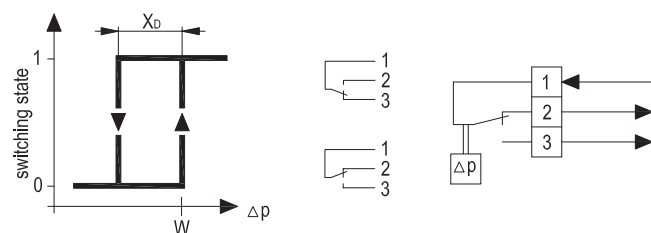
Table 1: Pressure gauge table

Technical Data	AF-02/001	AF-02/002, AF-02/003, AF-02/004, AF-02/005, AF-02/006	AF-02/007, AF-02/008, AF-02/009	AF-02/010, AF-02/011	AF-02/012
Description	Mark II pressure gauge	Magnehelic pressure gauge	Photohelic pressure gauge	Digihelic pressure gauge	Digihelic (3-in-1) pressure gauge
Type Accuracy	analogue ±3 % full scale	analogue ±2 % full scale	Analogue ±2 % full scale	Digital ±0.5 % at 25 °C	Digital ±0.5 % at 25 °C
Pressure range	10-0-700 Pa	AF-02/002 ... 0-250 Pa AF-02/003 ... 0-500 Pa AF-02/004 ... 0-750 Pa AF-02/005 ... 0-1000 Pa AF-02/006 ... 0-1500 Pa	AF-02/007 ... 0-500 Pa AF-02/008 ... 0-750 Pa AF-02/009 ... 0-1000 Pa	AF-02/010 ... 0-622.75 Pa AF-02/011 ... 0-1245.5 Pa	0-1245 Pa
Pressure connection	1/8" female NTP	1/8" female NTP	1/8" female NTP	1/8" female NTP	2 male NTP 1/8" plugs for tube ø4 up to ø6
Standard accessories	2 male NTP 1/8" plugs for tube ø4 up to ø6	2 male NTP 1/8" plugs for tube ø4 up to ø6	2 male NTP 1/8" plugs for tube ø4 up to ø6	2 male NTP 1/8" plugs for tube ø4 up to ø6	/
Temperature range	max. 60 °C	-6.67 to 60 °C	-6.67 to 60 °C	0 to 60 °C	0 to 60 °C
Housing material	ABS plastic	die cast aluminum case	die cast aluminum case	die cast aluminum case	ABS plastic
Electrical connection	/	/	8 wire cable	male 15 pin d-Sub	screw terminals
Operative voltage	/	/	24 VDC±10 %	12-28 VDC or 12-28 VAC 50-400Hz	High voltage power: from 100 to 240 VAC 50 to 400 Hz or from 132 to 240 VDC Low voltage power: 24 VDC ±20 %
Relay	/	/	Switch type: each setpoint has a solid state relay Switching voltage: 20-280 VAC (47-63 Hz) Switching current: 0.01 – 1 A	Switch type: 2 SPDT relay Electrical rating: 1 A @ 30 VAC/VDC	Switch type: 2 SPDT relay Electrical rating: 8 A @ 240 VAC
Agency approvals	/	/	CE	CE	CE, UL
Communication	/	/	/	/	Modbus® RTU, RS485, 9600 baud.
Output	/	/	/	4-20 mA DC into 900 ohms max.	4-20 mA DC into 900 ohms max.

Table 2: Pressure switch table

Technical Data	AF-04/001	AF-04/002	AF-04/003
Description	Pressure switch	Pressure switch	Pressure switch
Type	QBM81-3	QBM81-5	QBM81-10
Accuracy	< ±2.5 Pa	< ±5 Pa	< ±10 Pa
Pressure range	20...300 Pa	50...500 Pa	100...1000 Pa
Pressure connection	Male, ø 6.2 mm	Male, ø 6.2 mm	Male, ø 6.2 mm
Standard accessories	/	/	/
Temperature range	- 30 ... + 84 °C	- 30 ... + 84 °C	- 30 ... + 84 °C
Housing material	Polycarbonate, PVC, ABS	Polycarbonate, PVC, ABS	Polycarbonate, PVC, ABS
Electrical connection	3 screw terminals	3 screw terminals	3 screw terminals
Operative voltage	/	/	/
Relay	Switch type: single-pole change-over Switching voltage and current: AC/DC 24 V ≥ 0,01 A AC 250 V, ≤ 5 (0,8) A	Switch type: single-pole change-over Switching voltage and current: AC/DC 24 V ≥ 0,01 A AC 250 V, ≤ 5 (0,8) A	Switch type: single-pole change-over Switching voltage and current: AC/DC 24 V ≥ 0,01 A AC 250 V, ≤ 5 (0,8) A
Agency approvals	CE conformity to (Low-voltage directive 2006/95/EC)	CE conformity to (Low-voltage directive 2006/95/EC)	CE conformity to (Low-voltage directive 2006/95/EC)
Communication	/	/	/
Output	/	/	/

Picture 1: Pressure switch function diagram and connection terminals



Legend:

- 1** Phase
- 2** Switch position 1-2: lower pressure
- 3** Switch position 1-3: higher pressure
- X_p** Switching difference
- Δp** Pressure difference
- W** Switching point, top

Ordering key

AF – 01 / 001

1 2

1 Type

AF

2

Keys for locks	01/001	DPS
	01/002	FR
Pressure gauge	02/001	Mark II
	02/002	Magnehelic 0-250 Pa
	02/003	Magnehelic 0-500 Pa
	02/004	Magnehelic 0-750 Pa
	02/005	Magnehelic 0-1000 Pa
	02/006	Magnehelic 0-1500 Pa
	02/007	Photohelic 0-500 Pa
	02/008	Photohelic 0-750 Pa
	02/009	Photohelic 0-1000 Pa
	02/010	Digihelic 0-622.75 Pa
	02/011	Digihelic 0-1245.5 Pa
	02/012	Digihelic (3-in-1) 0-1245 Pa
Holders for pressure gauges	03/001	02/002 – 02/006
	03/002	02/007 – 02/011
	03/003	02/012
Pressure switches	04/001	SI QBM81-3 (20-300 Pa)
	04/002	SI QBM81-5 (50-500 Pa)
	04/003	SI QBM81-10 (100-1000 Pa)

Note:

When choosing pressure gauge you have to connect it with ø6/ø4 tube.