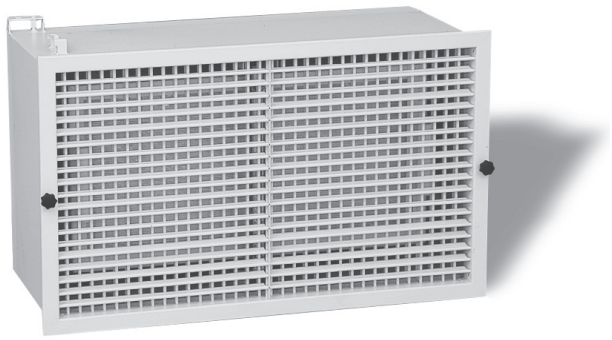
Wall HEPA filter units AFH-1

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, pharmaceutics 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.

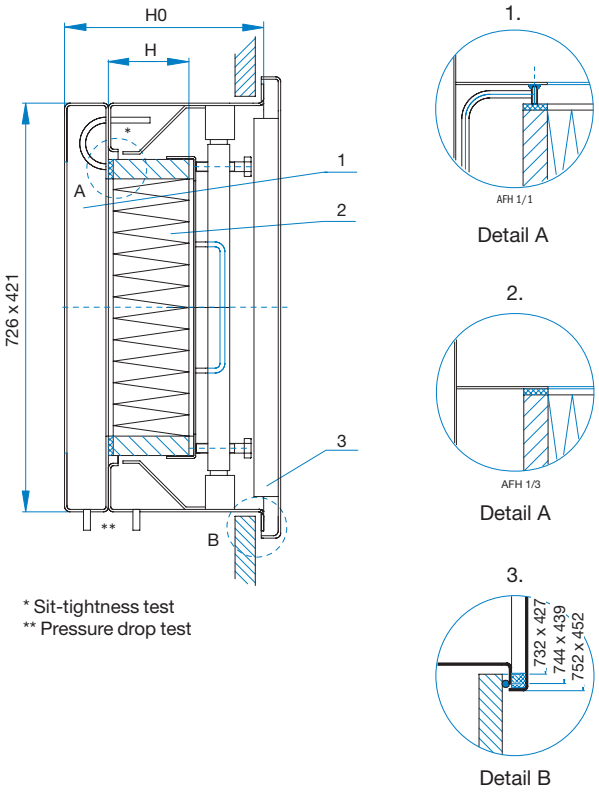
Expected service life of HEPA filters and their replacement

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



* Sit-tightness test
** Pressure drop test

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

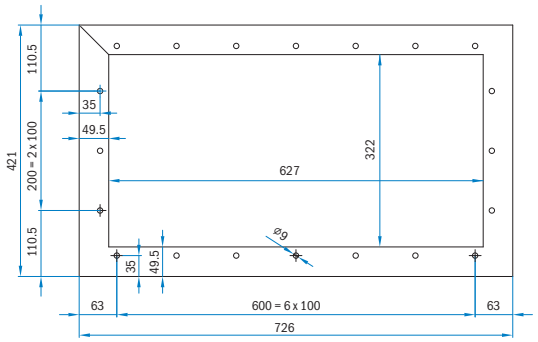


Table 2: Technical data

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 x292	480	292	725 x 425	27.6 kg	25.5 kg

Note: Weight deviation is ±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.