



## FHD

### FOR THE MOST CRITICAL REQUIREMENTS IN CLEAN ROOM AREAS

Final filters for the separation of suspended particles, suitable for industrial, research, medical, and pharmaceutical applications

- Filter classes E11, H13, H14, U15
- Performance data factory tested to EN 1822
- Filter media for special requirements, glass fibre papers with spacers made of thermoplastic hot-melt adhesive
- Low initial differential pressure due to ideal pleat position and largest possible filter area
- Perfect adjustment to individual requirements due to different constructions
- Filter hood available in various sizes and the usual grid sizes
- Automatic filter scan test for all filters from filter class H14

Optional equipment and accessories

- Mechanism for volume flow rate setting

## Application



### Application

- Mini Pleat filter panel with hood, type FHD, for the separation of suspended particles such as aerosols, toxic dusts, viruses and bacteria from the supply and extract air in clean room systems with controlled air cleanliness and airflow
- Particulate filters: Final filters for the most critical requirements of air cleanliness and sterility in areas such as industry, research, medicine, pharmaceuticals, and nuclear engineering

### Special characteristics

- Ideal pleat geometry of the filter medium
- Low-turbulence airflow on the downstream side
- Leakage test, standard for all particulate filters of classes H13, H14, U15

## Description



### Filter classes

- Particulate filters E11, H13, H14, U15

### Construction

- Without centre mullion, spigot with fixed baffle plate
- D: Centre mullion with pressure measurement point on the downstream side, spigot with fixed baffle plate
- R: Centre mullion with pressure measurement point on the downstream side, spigot with adjustable baffle plate for volume flow rate balancing
- V: Centre mullion with pressure measurement point on the downstream side, spigot with damper blade for volume flow rate balancing

### Options

- D: Spigot diameter
- PD: Protection grid on the downstream side
- SD: Stainless steel protection grid on the downstream side
- SPD: Perforated stainless steel face plate on the downstream side
- APD: Perforated aluminium face plate on the downstream side
- FND: Flat section seal on the downstream side
- WS: Without seal
- OT: Oil mist test (only for filter classes H13, H14)
- OTC: Oil mist test with certificate (only for filter classes H13, H14)
- ST: Scan test (only for filter classes H13, H14, U15)

### Construction features

- Hood with top entry circular spigot
- Spigot diameter available in commercial sizes
- Some constructions are fitted with an optional flat section seal on the downstream side
- Protection grid on downstream side: expanded metal grid or stainless steel
- Perforated stainless steel or aluminium face plate on the downstream side

### Materials and surfaces

- Filter media made of high-quality, moisture-resistant glass fibre papers, pleated
- Spacers made of thermoplastic hot-melt adhesive provide a uniform spacing of the pleats
- Joint sealing compound made of permanently elastic two-component polyurethane adhesive
- Frame made of extruded aluminium sections
- Hood with spigot made of galvanised sheet steel

## INFORMATION TECHNIQUE

Filter class according to EN 1822	E11	H13	H14	U15
Efficiency according to EN 1822	>95 %	>99.95 %	>99.995 %	>99.9995 %
Nominal face velocity	0.82 m/s	0.82 m/s	0.45 m/s	0.45 m/s
Initial differential pressure at nominal face velocity	125 Pa	250 Pa	125 Pa	145 Pa
Recommended final differential pressure	300 Pa	600 Pa	600 Pa	300 Pa
Maximum operating temperature	80°C	80°C	80°C	80°C
Maximum relative humidity	100 %	100 %	100 %	100 %

Mini Pleat filter panels with hood, type FHD, for the separation of suspended particles such as aerosols, toxic dusts, viruses and bacteria from the supply and extract air in clean room systems with controlled air cleanliness and airflow.

Use as particulate filters, i.e. main or final filters, for the most critical requirements of air cleanliness and sterility in areas such as industry, research, medicine, pharmaceuticals, and nuclear engineering.

Mini Pleat filter panels with hood, consisting of an extruded aluminium frame, filter medium, and a hood with top entry circular spigot; filter media made from high-quality, moisture-resistant glass fibre papers with spacers made of thermoplastic hot-melt adhesive.

Low initial differential pressure due to ideal pleat position and largest possible filter area. Filter hood available in various sizes and the usual grid sizes, filter classes E11, H13, H14 and U15.

Optional flat section seal and protection grid on the downstream side. Choice of expanded metal, powder-coated (RAL 9010) protection grid, stainless steel protection grid, or perforated plate made of stainless steel or aluminium.

Mini Pleat filter panels from filter class H14 are subjected to an automatic filter scan test.

#### Special characteristics

- Ideal pleat geometry of the filter medium
- Low-turbulence airflow on the downstream side
- Leakage test, standard for all particulate filters of classes H13, H14, U15

#### Materials and surfaces

- Filter media made of high-quality, moisture-resistant glass fibre papers, pleated
- Spacers made of thermoplastic hot-melt adhesive provide a uniform spacing of the pleats
- Joint sealing compound made of permanently elastic two-component polyurethane adhesive
- Frame made of extruded aluminium sections
- Hood with spigot made of galvanised sheet steel

#### Construction

- Without centre mullion, spigot with fixed baffle plate
- D: Centre mullion with pressure measurement point on the downstream side, spigot with fixed baffle plate
- R: Centre mullion with pressure measurement point on the downstream side, spigot with adjustable baffle plate for volume flow rate balancing
- V: Centre mullion with pressure measurement point on the downstream side, spigot with damper blade for volume flow rate balancing

#### Sizing data

- Filter class
- Volume flow rate [m<sup>3</sup>/h]
- Initial differential pressure [Pa]
- Nominal size [mm]

**FHD**

**FHD – H13 – D / 1220 x 610 x 140 x 313 / PD / FND / ST**  

1
2
3
4
5
6
7
8

**1 Type****FHD** Mini Pleat filter panel with hood**2 Filter class****E11** Particulate filter according to EN 1822**H13** Particulate filter according to EN 1822**H14** Particulate filter according to EN 1822**U15** Particulate filter according to EN 1822**3 Construction**

No entry; without centre mullion; spigot with fixed baffle plate

**D** Centre mullion with pressure measurement point on the downstream side, spigot with fixed baffle plate**R** Centre mullion with pressure measurement point on the downstream side, spigot with adjustable baffle plate for volume flow rate balancing**V** Centre mullion with pressure measurement point on the downstream side, spigot with damper blade for volume flow rate balancing**4 Nominal size [mm]**

B x H x T

**5 Spigot diameter [mm]****D****6 Protection grid****PD** Protection grid on the downstream side**SD** Stainless steel protection grid on the downstream side**SPD** Perforated stainless steel plate on the downstream side**APD** Perforated aluminium plate on the downstream side**7 Seal****WS** Without seal**FND** Flat section seal on the downstream side**8 Testing**

No entry; no leakage test

**OT** Oil mist test (only for filter classes H13, H14)**OTC** Oil mist test with certificate (only for filter classes H13, H14)**ST** Scan test (only for filter classes H13, H14, U15)