

Hepatex DP

Deep Pleat EPA and HEPA Filter



CLEAN
AIR



POWER
GENERATION



CLEAN
ROOM



INDUSTRIAL

Hepatex DP (available in classes E11-H14-EN1822) can be used for supply, recirculation and exhaust air, where the highest demands are placed on air purity and filter life. For example, Hepatex DP can be used in the following areas:

- Industrial processes (pharmaceutical, food, medical, optics, biotechnology, etc)
- Operating theatres and hospitals
- Handling of hazardous materials, such as asbestos, heavy metals and carcinogenic compounds
- Nuclear power and nuclear research

Through the use of ultra-fine glass fibres and robust pleating technology with aluminium separators, Hepatex DP achieves a very high separating efficiency for sub-micron particles and guarantees optimum operating conditions, even under heavy duty operations.

KEY FACTS

- Available in a variety of frame materials: To suit a variety of applications
- Deep pleat design: For a longer life and reduced costs
- Ultra-fine, glass fibre media: Ensures maximum performance even under heavy duty operation
- Robust pleating technology: For stability in operation and optimised performance
- Temperature resistance to 120 °C: Suitable for use in the most extreme of operating environments
- Optional handle available: For ease of installation, handling and removal
- Guaranteed leak-free: For assured performance and safety



Hepatex DP

Technical Data

Variations	
Frame	Plywood, MDF, stainless steel, galvanised steel
Depth	150 & 292 mm
Gasket*	Foamed Polyurethane
Handle	On request
Temperature	up to 120°C
Rel. Humidity	up to 100%

* Further gasket variations available upon request.



SPECIAL VERSIONS

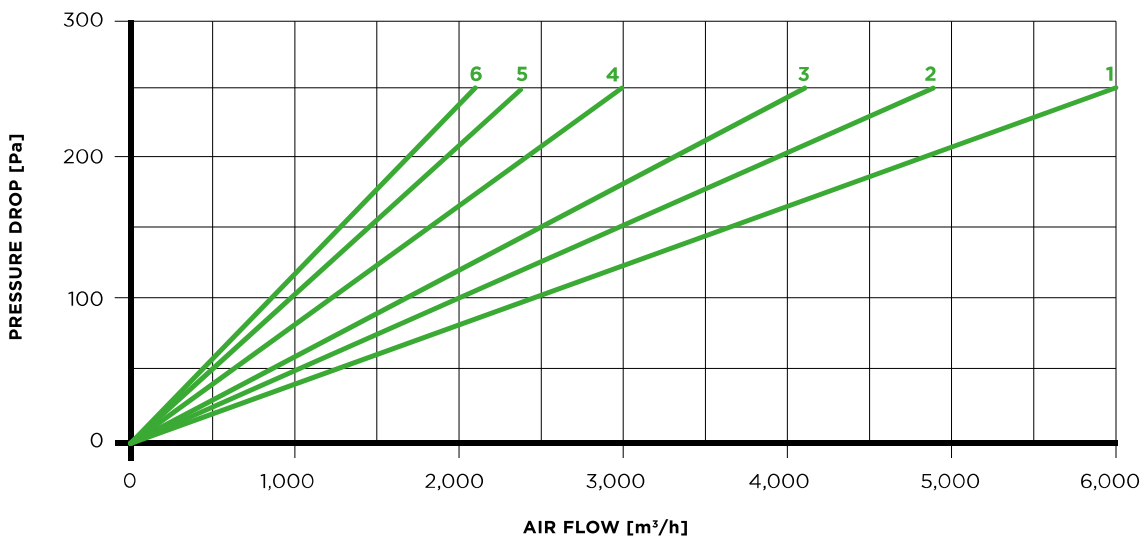
- Cleanable filter (Reatex)
- Earthed for special applications. ATEX Guidelines.
- Slanted aluminium separators version for high burst resistance.



QUALITY ASSURANCE

Before despatch, Hepatex DP filters are subject to EN1822 (oil smoke) quality assurance tests.

HEPATEX DP PRESSURE DROP



Filter Class Graph	Unit	E11 1	E11 2	E11 3	H13 4	H13 5	H13 6
Dimensions	mm	610x610	610x610	610x610	610x610	610x610	610x610
Depth	mm	292	292	292	292	292	292
Separator Depth	mm	2.9	3.9	4.9	2.9	3.9	4.9
Air Flow	m³/h	6,000	4,800	4,200	3,000	2,400	2,100
Pressure Drop	Pa	250	250	250	250	250	250

Hepatex N

The Space Saver



CLEAN
AIR



POWER
GENERATION



CLEAN
ROOM



INDUSTRIAL

Rigid, robust and compact; Hepatex N is designed to provide assured performance and safety in all types of applications.

Hepatex N filters are manufactured to international standard dimensions based on 609x609x292 mm. They are designed for the separation of suspended matter in supply and exhaust air systems in industry, clean room applications, medical and nuclear installations.

For face velocities up to 3 m/s (air volumes up to 4,000 m³/h) Hepatex N with V-design filter mats (Fig. 1) are available in various pack densities as well as with various casing and gasket materials.

Hepatex N filters are unique in regard to their compact and robust construction with a one-piece front and end plate, minimising risk of damage and maximising service life by allowing a large active media area.

KEY FACTS

- Compact design: Saves space and simplifies handling
- Rigid and robust with one-piece front and end plate: Minimises risk of damage and ensures ultimate performance
- Large active media area: Maximises service life and reduces disposal and maintenance costs
- Low pressure drop: Reduces energy consumption
- Leak tested: Guaranteed leak-free for assured safety and performance
- Air flows up to 4,000 m³/h and efficiencies of F7 to U15: For assured performance in all types of applications
- Integrated handle: For ease of installation and transportation



MANN+HUMMEL participates in the ECC programme for Air Filters. Check ongoing validity of certificate: www.eurovent-certification.com or www.certiflash.com

Hepatex N Design and Prefilter Options

DESIGN

Hepatex N filters are manufactured by a process that provides for extremely careful treatment of the material. The basic element in all filter types is the filter mat (Fig. 2) which is manufactured from a high quality glass fibre filter medium.

The pleats of the filter medium allow for a flow velocity at the filter mat that is approximately 100 times higher than for unfolded material. The number of storage cells for trapping dust particles is also increased by the same factor. To keep the pleats uniformly spaced, special threads or a high temperature hot melt are inserted.

Thus, the filter mat not only achieve high strength but also excellent elasticity. It is assembled as a self supporting element into a solid wood or steel casing. The filter medium is sealed with its frame using a two-component Polyurethane compound. EPDM is used as gasket material. It is particularly resistant to acids, brines, light and ageing. In high temperature versions Silicone can replace Polyurethane or EPDM.

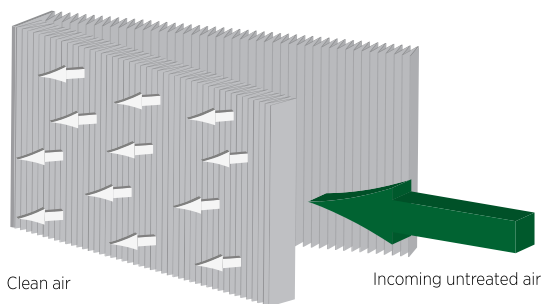


Fig. 1: V-shaped arrangement of filter mats in Hepatex N filters

PREFILTER FOR HEPATEX N

The service life of the Hepatex N filters can be extended by pre filtering larger particles. In general (depending on the application), the choice of a pre filter 3 classes lower than that of the final filter results in a service life of the final filter of approximately double. We recommend the Compatex FP fine dust filters as pre filters for Hepatex N filters of groups E, H or U.

Special Constructions

Various Hepatex N filters for special applications are available on request.

Operating Limits

The maximum relative humidity is 100%, however, the air temperature must remain higher than the dew point. Continuous operating temperature can be exceeded up to a max. of 1 hour and 10 °C.

Disposal

Filters contaminated by exterior air can be disposed of in the same way as normal industrial refuse in accordance with local regulations. Filters contaminated with bacterial, toxic and/or radioactive matter must be disposed of as hazardous waste in accordance with local regulations.



Fig. 2: Filter mat

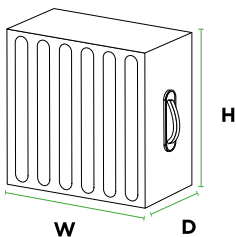
Hepatex N

Technical Data

Filter type	N-	F7-V40	F9-V40	E11-V35	H13-V30	H13-V34-T	H13-V40	H14-V35	U15-V30
Rated Air Flow ¹⁾ (V _N)	m ³ /h	4,000	4,000	3,500	3,000	3,400	4,000	3,500	3,000
Rated Face Velocity	m/s	3.0	3.0	2.6	2.25	2.55	3.0	2.6	2.25
Initial Pressure Drop ¹⁾ at V _N ²⁾	Pa	140	170	190	250	270	290	250	250
Recommended Final Pressure Drop ³⁾	Pa	450	450	600	600	600	600	600	600
Continuous Operating Temperature	°C	125	125	125	125	220	125/100 ⁷⁾	125	125
Typical Efficiencies									
EN 779 (average efficiency)	%	83	97	-	-	-	-	-	-
EN 1822 (typ. MPPS ⁴⁾ integral value)	%	-	-	98	99.97	99.99	99.98	99.998	99.9998
EN 1822 (min.MPPS ⁴⁾ integral value)	%	-	-	95	99.95	99.95	99.95	99.995	99.9995
EN 1822 (min. MPPS ⁴⁾ local value ⁵⁾)	%	-	-	-	99.75	99.75	99.75	99.975	99.975
Filter Class acc. to EN 779 / EN 1822 ¹⁾		F7	F9	E11	H13	H13	H13	H14	U15
Flam. Classification acc. to DIN 53 438		K1/F1	K1/F1	K1/F1	K1/F1	K1/F1	K1/F1	K1/F1	K1/F1

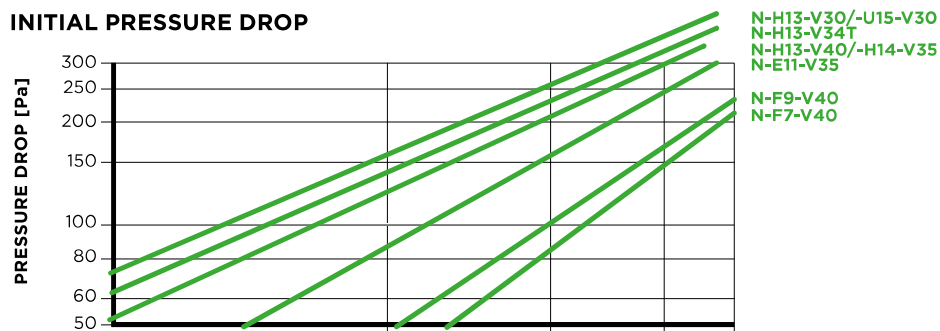
1) For cell size "610". Rated values for other filter sizes see "Available Types". 2) Tolerance ± 15%. 3) Maximum final pressure drop < 900 Pa
4) MPPS = Most Penetrating Particle Size. Aerosol DEHS = to (2-ethylhexyl) sebacate. 5) Local value = minimal value of efficiency at a leakage, tested with scanning.

DIMENSIONS (mm)



Type	610	305	762	205	595
H (mm)	609 ^(±1) / 595 ^(±1)	609 ^(±1) / 595 ^(±1)	609 ^(±1) / 595 ^(±1)	609 ^(±1) / 595 ^(±1)	609 ^(±1) / 595 ^(±1)
D (mm)	292 ^(±1)	292 ^(±1)	292 ^(±1)	292 ^(±1)	292 ^(±1)
W (mm)	609 ^(±1)	304 ^(±1)	762 ^(±1)	205 ^(±1)	595 ^(±1)

INITIAL PRESSURE DROP



Type	Dimensions W x H					
610/595	1,000	2,000	3,000	4,000	5,000	610 x 610 mm
305	500	1,000	1,500	2,000	2,500	305 x 610 mm
762	1,200	2,400	3,600	4,800	6,000	762 x 610 mm
205	333	666	1,000	1,333	1,666	205 x 610 mm

For related air flows only. Please contact us for values at other flow rates.

AIR FLOW [m³/h]

Hepatex N

Available Types

Filter type	Dimensions W x H x D [mm]	Rated Airflow	Filtering Area	Frame Material	Sealant Material	Gasket Material	Weight [kg]
N-F7-V40-610-vz	610x610x292	4,000 m³/h	26 m²	Galv. Steel	PU	EPDM	19 kg
N-F7-V40-305-vz	305x610x292	2,000 m³/h	13 m²	Galv. Steel	PU	EPDM	12 kg
N-F7-V40-305-vz	610x610x292	4,000 m³/h	26 m²	Galv. Steel	PU	EPDM	19 kg
N-F9-V40-305-vz	305x610x292	2,000 m³/h	13 m²	Galv. Steel	PU	EPDM	12 kg
N-E11-V35-610-vz	610x610x292	3,500 m³/h	26 m²	Galv. Steel	PU	EPDM	19 kg
N-E11-V35-305-vz	305x610x292	1,750 m³/h	13 m²	Galv. Steel	PU	EPDM	12 kg
N-E11-V35-762-vz	762x610x292	4,100 m³/h	30 m²	Galv. Steel	PU	EPDM	23 kg
N-H13-V30-610-vz	610x610x292	3,000 m³/h	26 m²	Galv. Steel	PU	EPDM	19 kg
N-H13-V30-305-vz	305x610x292	1,500 m³/h	13 m²	Galv. Steel	PU	EPDM	12 kg
N-H13-V34-T-610-rf	610x610x292	3,400 m³/h	37 m²	Stainless Steel	Silicone	Silicone	20 kg
N-H13-V34-T-305-rf	305x610x292	1,700 m³/h	18.5 m²	Stainless Steel	Silicone	Silicone	13 kg
N-H13-V40-610-vz	610x610x292	4,000 m³/h	37 m²	Galv. Steel	PU	EPDM	20 kg
N-H13-V40-305-vz	305x610x292	2,000 m³/h	18.5 m²	Galv. Steel	PU	EPDM	13 kg
N-H13-V40-762-vz	762 x 610 x 292	4,700 m³/h	43 m²	Galv. Steel	PU	EPDM	24 kg
N-H13-V40-205-vz	205 x 610 x 292	1,300 m³/h	12.5 m²	Galv. Steel	PU	EPDM	10 kg
N-H13-V40-595-vz	595 x 595 x 292	4,000 m³/h	18.5 m²	Galv. Steel	PU	EPDM	19 kg
N-H13-V40-610-rf	610x610x292	4,000 m³/h	37 m²	Stainless Steel	PU	EPDM	20 kg
N-H13-V40-305-rf	305x610x292	2,000 m³/h	18.5 m²	Stainless Steel	PU	EPDM	13 kg
N-H13-V40-762-rf	762x610x292	4,700 m³/h	43 m²	Stainless Steel	PU	EPDM	24 kg
N-H13-V40-610-sp	610x610x292	4,000 m³/h	37 m²	Chipboard	PU	EPDM	15 kg
N-H13-V40-305-sp	305x610x292	2,000 m³/h	18.5 m²	Chipboard	PU	EPDM	10 kg
N-H13-V40-762-sp	762x610x292	5,000 m³/h	46 m²	Chipboard	PU	EPDM	18 kg
N-H14-V35-610-vz	610x610x292	3,500 m³/h	40 m²	Galv. Steel	PU	EPDM	21 kg
N-H14-V35-305-vz	305x610x292	1,750 m³/h	20 m²	Galv. Steel	PU	EPDM	14 kg
N-H14-V35-762-vz	762x610x292	4,100 m³/h	47 m²	Galv. Steel	PU	EPDM	25 kg
N-H14-V35-610-rf	610x610x292	3,500 m³/h	40 m²	Stainless Steel	PU	EPDM	21 kg
N-H14-V35-305-rf	305x610x292	1,750 m³/h	20 m²	Stainless Steel	PU	EPDM	14 kg
N-H14-V35-762-rf	762x610x292	4,100 m³/h	47 m²	Stainless Steel	PU	EPDM	25 kg
N-U15-V30-610-rf	610x610x292	3,000 m³/h	40 m²	Stainless Steel	PU	EPDM	21 kg
N-U15-V30-305-rf	305x610x292	1,500 m³/h	20 m²	Stainless Steel	PU	EPDM	14 kg

ORDER CODE AND EXAMPLE

N	-	U15	-	V30	-	305	-	-rf
Filter Range		Filtering efficiency: Filter class acc. to EN 779 or EN 1822		Design: V: Filter mats in V arrangement Rated airflow, etc.: 30: VN = 3,000 m³/h 35: VN = 3,500 m³/h 40: VN = 4,000 m³/h For filter size 610 mm: T: High temp. version		Filter dimension W H = 610/595 mm D = 292 mm		Frame Material: sp: chipboard vz: galvanized steel rf: stainless steel

Hepatex PB

For the Separation of Fine Suspended Particles



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ROOM



INDUSTRIAL

Hepatex PB filters are designed for the separation of fine suspended particles such as bacteria, viruses, soot, dust etc. They are used in supply and exhaust air systems, or in clean room installations in the nuclear, electronic, optical, medical or chemical industries.

Hepatex PB can be combined in a variety of units to suit most applications, particularly where the available space is limited.

Our filters offer long service life thanks to a manufacturing process that ensures high product quality.

The filter medium is tested for penetration, pressure drop, tensile strength, density, weight and water repellency. Each “glass” quality filter is submitted to the oil mist test and is guaranteed leak-free.

KEY FACTS

- Low pressure drop: Reduced energy consumption and operating costs
- Fully-utilised, large filter surface: Extremely long service life
- Optimised air flow: For optimum performance and longer life
- Paper filter medium: No fibre loss
- Inherently stable filter mat: Eliminates dust penetration
- Self-supporting, robust, cellular structure: For rigidity, strength and high burst pressure



Hepatex PB

Hepatex PB

Technical Data

DESIGN, MATERIALS

Hepatex PB are maintenance-free filter cell units, of size 86,5x202x600 mm, consisting of cell frame in galvanised or stainless steel, with cast-in, self-supporting mini-pleated filter media of cellulose, cellulose and glass, or glass fibres.

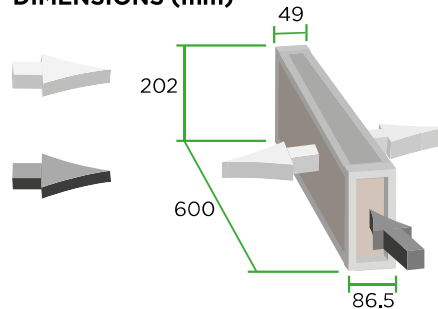
INSTALLATION

Whenever possible, Hepatex PB should be installed on the pressure side of the system, i.e. between the fan and the distribution duct work.

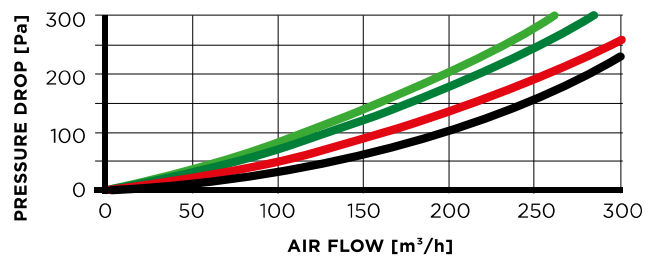
SEALING THE FILTER CELL

With Silicone or PU mastic or by special adhesive tape. One roll is sufficient for approx. 100 PB filters.

DIMENSIONS (mm)



INITIAL PRESSURE DROP



Technical Data	Unit	Cellulose	Cellulose	Cellulose + Glass	Glassfibres
Filter Media	-	Cellulose	Cellulose	Cellulose + Glass	Glassfibres
Active Filter Surface per Cell	approx. m ²	2.8	3.4	3.4	2.8
Weight per Filter Cell	approx. kg	1.2	1.5	1.45	1.25
Rated Air Flow (V _{LN}) per Filter Cell	m ³ /h	200	200	200	200
Rated Air Flow per 610 x 610 mm Module	m ³ /h	4,250	4,250	4,250	4,250
Initial Pressure Drop at V _{LN}	Pa	105	140	180	205
Nominal Final Pressure Drop ¹⁾	Pa	600	600	600	800
Max. Admissible Relative Humidity	%	85	85	85	100
Max. Continuous Temperature	°C	100	100	100	125/220
Filter Class to EN 779/EN 1822	-	F9	E10	E11	H13
Flammability classification to DIN 53438	-	K2/F2	K2/F2	K2/F2	K1/F1
Initial Separation Efficiency					
Sodium Flame Test, EUROVENT 4/4 ²⁾	%	-	92.3	98.6	>99.995
MPPS-DEHS-Test to EN 1822	%	-	>85	>95	>99.97
Efficiency to EN 779 ³⁾	%	>95	-	-	-

1) Recommended final pressure drop approx. 2.5 times the initial pressure drop. 2) GB: B.S. 3928 3) As well as ASHRAE 52.1

Hepatex PL

The Compact Solution for Highly Pure Air



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INDUSTRIAL

Hepatex PL filters are high-efficiency submicron particulate air filters designed to protect people, equipment and processes from airborne particulate contamination.

Hepatex PL filters are used in situations requiring high or very high levels of air purity. They are primarily designed as intake filters for low turbulence displacement laminar flow clean room ceilings and clean workbenches.

Typical applications can be found in: microelectronics, semiconductor manufacture, medicine, chemistry, pharmacy, microbiology, film and magnetic tape production, compact disk manufacture, laboratories and the food industry.

KEY FACTS

- Available in efficiencies of 95 % and 99.98 % according to EN 1822:
To suit a variety of applications
- Large filter area:
For a long service life
- Anodised aluminium frame: For rigidity, strength and low weight
- 100 % leak-tested: Guaranteed leak-free for assured performance
- Low frame height – only 30 mm:
For space-saving installation
- Fits securely into Filtrasept units:
For use directly at air outlet



Hepatex PL

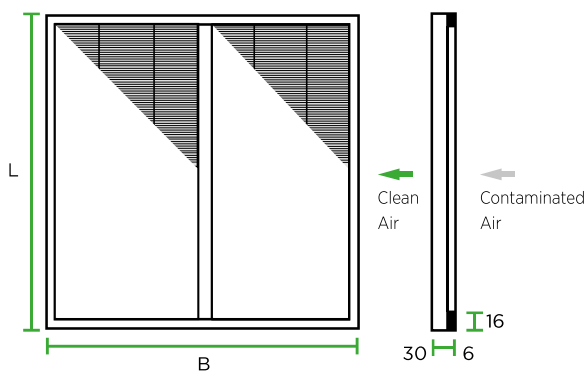
Hepatex PL

Technical Data

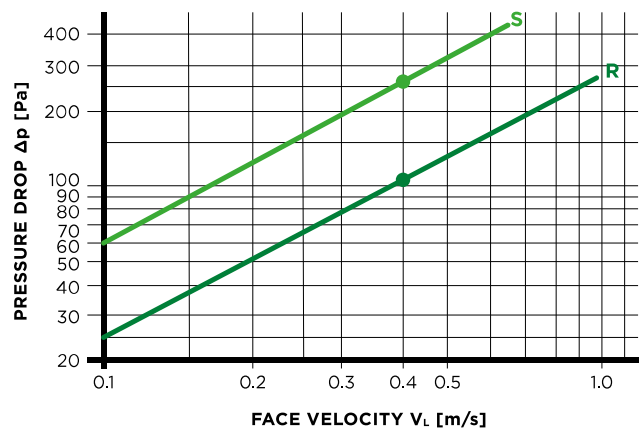
Technical Data	Unit	PL-R	PL-S
Rated Face Velocity *)	m/s	0.40	0.40
Initial Pressure Drop at Rated Face Velocity	Pa	105	250
Final Pressure Drop	Pa	300	500
Filter Medium Area per m ² Face Section *)	m ² /m ²	10	11
Filter Class According to EN 1822	-	E11	H13
Flammability Class According to DIN 53 438	-	K1/F1	K1/F1
Max. Continuous Temperature	°C	125	125
Admissible Relative Air Humidity	%	100	100
Initial Separation Efficiencies: EN 1822 (MPPS-DEHS aerosol)	%	95	99.95

*) Relative to external filter dimensions

DIMENSIONS (mm)



INITIAL PRESSURE DROP



AVAILABLE SIZES

Length L [mm]	Width B [mm]	Face area [m ²]	Air flow @ 0.4 m/s [m ³ /h]	Weight [kg]
204	610	0.12	180	1.2
610	610	0.37	535	3.0
762	610	0.46	670	3.7
915	610	0.56	805	4.4
1,220	610	0.74	1,070	5.8
762	762	0.58	835	4.6

Material Specification

Filter Medium	Micro glass fibre paper
Frame	Anodised aluminium
Sealant	Polyurethane
Gasket	EPDM foam-rubber with closed pores and surface skin

Hepatex JG, JK and JP High Efficiency Cylindrical Air Filters



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INDUSTRIAL

The JG, JK and JP are cylindrical filters designed to filter particles such as bacteria, viruses or general contaminants suspended in air, compressed air or gases. The JP is a fine dust filter and the JG and JK are HEPA filters.

A wide variety of sizes and casing types are available, making these filters usable in a vast field of applications such as medical technique, research and industry.

The media, casings, sealing compounds and gaskets are manufactured under close supervision. The filtration media are tested for separation efficiency, pressure drop, tensile strength, weight and water repellancy. Each completed JK and JG high efficiency filter must pass the DIN 24184 oil mist test after manufacture. JP fine dust filters are subjected to visual inspection after manufacture.

KEY FACTS

- Compact space-saving design:
Simple to install
- Low pressure drop: Reduces
energy consumption and lower
operating costs
- Available in a wide variety of
sizes and casing types: Suitable
for a vast array of applications
- Large filter medium area:
Provides a long life service
- Individually tested and leak-free:
For assured performance
- Corrosion resistant (JK) with synthetic
material casing (JKG-W): Ideal for
use in demanding applications

