

# (H)EPA Air Filters

GT Minipleat Compact Filters

 **EMW**  
filtertechnik

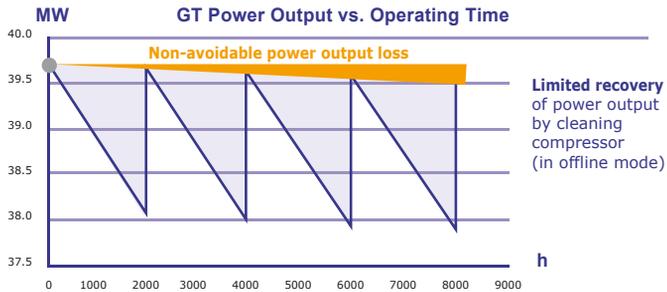
*Excellence in filtration*

# (H)EPA-The Next Level



## Between 70 and 85 % of power output loss in gas turbine engines is due to compressor fouling.

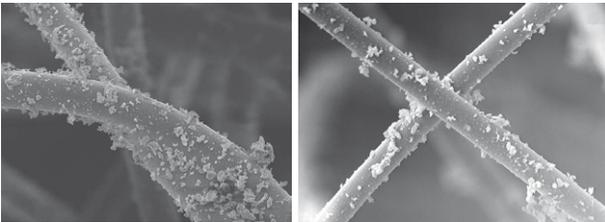
The good news: compressor fouling is avoidable, as are the resultant decreases in power output and fuel efficiency. Cleaning of the compressor, whether online or offline, is not required. All you need is efficient inlet air filtration!



Power output drop can be held in check by efficient inlet air filtration without need for compressor cleaning, even in long-term operation.

## What makes efficient filtration so important?

Ambient air contains particles in a wide spectrum of sizes. Most of these particles are so small that they are invisible to the human eye. These microscopic particles are the main source of compressor fouling. Only (H)EPA-class air filters are capable of removing nearly 100 % of these particles.



Microscopic particles, the main cause of compressor fouling, are not removed by conventional pre-filter classes.



Compressor fouling reduces energy efficiency of gas turbine engines, increasing fuel consumption and CO<sub>2</sub> emissions.



(H)EPA class air filters effectively prevent compressor fouling. The unit shown above, protected by E12 class EMW® (H)EPA filters, was operated over 48,000 hours without need for cleaning online or offline.

# EMW® GT Minipleat Compact Filters

## Ambitious. Flexible. Highly Reliable.



EMW® GT Minipleat compact filters incorporate an impressive range of features which add up to high filtration efficiency and low pressure drop.

**1. Highly efficient filter media:** The filter media are selected as required to ensure efficient removal of the encountered particulates even at high volume throughputs.

**2. Enormous filter area:** Minipleat technology provides maximum filter surface area in a compact, space-saving configuration while still permitting smooth aerodynamic flow.

**3. Heavy-duty frame:** The frame's material of construction and design are decisive for realizing ease of installation as well as streamlined flow for minimum pressure drop. The plastic frames of EMW® GT Minipleat compact filters are aerodynamically optimized for flow conditions in gas turbine inlet air filtration. Simple to install, the filters are also fully incinerable, permitting convenient disposal after use.

**4. Leak-proof:** If the filter media are not reliably bonded to the frame, leakage can result, particularly at high air flow rates. These leaks permit free passage of air particles around the filter. To prevent problems of this nature, EMW® Minipleat filter media are bonded to the frame by a cast airtight joint. The reliable full-perimeter bond prevents leakage even at highest flow rates. In addition, all EMW® filters are available with a continuous foamed-in-place seal located on the air inlet or outlet side as desired.

**5. Superb strength:** All EMW® GT Minipleat compact filters incorporate a fully synthetic nonwoven reinforcing mat on the air outlet side. This heavy-duty configuration withstands pressure drops of over 5000 Pa for many filter designs.

**Your wish is our command!** The EMW® product portfolio includes standard air filters available in a wide range of dimensions. We can also provide custom-made products designed and dimensioned for your specific needs.

# EMW<sup>®</sup> (H)EPA GT Air Filters



**EMW<sup>®</sup>  
MPK 4X 31 GT**

This (H)EPA GT filter, 592 x 592 x 400 mm in size, is available in filter classes EPA E10 - E12. Its innovative mini pleat technology maximizes filter media area, 31 m<sup>2</sup> in this version, while taking up minimum space. EMW<sup>®</sup> MPK 4X 31 GT filters provide highly efficient filtration with minimal pressure drop increase over long-term service. They are ideal for use as final filters in gas turbine inlet air filtration systems.

e.g. in Filter Class E11

Dimensions	592 x 592 x 400 mm (23.31" x 23.31" x 15.75")
Fractional efficiency at MPPS*	≥ 95 %
Initial pressure drop @3400 m <sup>3</sup> /h (@2000 cfm)	155 Pa (0.62" w.g.)



**EMW<sup>®</sup>  
MPK 4X 32 GT**

This special Mini pleat compact cassette filter – available in classes (H)EPA E10-E12 – provides a high filter surface area of 32 m<sup>2</sup> and very low pressure drop. The cassette dimensions are 595 x 595 x 400 mm.

e.g. in Filter Class E11

Dimensions	595 x 595 x 400 mm (23.43" x 23.43" x 15.75")
Fractional efficiency at MPPS*	≥ 95 %
Initial pressure drop @3400 m <sup>3</sup> /h (@2000 cfm)	125 Pa (0.50" w.g.)

\* MPPS = Most Penetrating Particle Size



**EMW<sup>®</sup>  
MPK 4X 28 GT**

Standard (H)EPA filter versions available from EMW<sup>®</sup>, i.e. with 400 mm cassette length, are too long to fit in some filter houses. Responding to the need for (H)EPA filters – with high efficiency and low pressure drop – in filter houses with limited space availability, EMW<sup>®</sup> now offers a new (H)EPA version in filter classes E10-E12. Compact in size at 592 x 592 x 298 mm, the new design has surprisingly high filter surface area, 28 m<sup>2</sup>, and is therefore ideal for use as a (H)EPA final filter. So – if space problems have prevented use of (H)EPA filters in your filter house facility up to now, here is the solution!

e.g. in Filter Class E10

Dimensions	592 x 592 x 298 mm (23.31" x 23.31" x 11.73")
Fractional efficiency at MPPS*	≥ 85 %
Initial pressure drop @3400 m <sup>3</sup> /h (@2000 cfm)	150 Pa (0.60" w.g.)



**New!  
EMW<sup>®</sup>  
MPK 4X 38 GT**

The newest EMW<sup>®</sup> (H)EPA filter offers enlarged filter media area combined with low pressure differential and high filter efficiency. Available in (H)EPA filter classes E10-E12.

e.g. in Filter Class E12

Dimensions	592 x 592 x 400 mm (23.31" x 23.31" x 15.75")
Fractional efficiency at MPPS*	≥ 99.5 %
Initial pressure drop @3400 m <sup>3</sup> /h (@2000 cfm)	220 Pa (0.88" w.g.)

## EMW® GT Pre-Filters

The service life of an (H)EPA filter can be extended significantly by use of a suitable pre-filter to remove larger-sized particulates.

## EMW® GT Minipleat Fine Filters

EMW® offers Minipleat fine filters in filter classes F7 - F9 as compatible pre-filter solutions directly upstream of (H)EPA filters.

**For further filter classes and latest updates, please visit us at**



[www.emw.de](http://www.emw.de)



**EMW®  
MPK 4X 20 GT**

This fine filter version is highly popular for use in filtration of gas turbine inlet air. Compact in size at 592 x 592 x 296 mm, it is big in filter surface area at 20 m<sup>2</sup>. It excels with convincing benefits such as heavy-duty strength, highest efficiency and low pressure drop.

e.g. in Filter Class F8

Dimensions	592 x 592 x 296 mm (23.31" x 23.31" x 11.65")
Average efficiency (0.4µm)	≥ 90 %
Initial pressure drop @3400 m <sup>3</sup> /h (@2000 cfm)	100 Pa (0.40" w.g.)



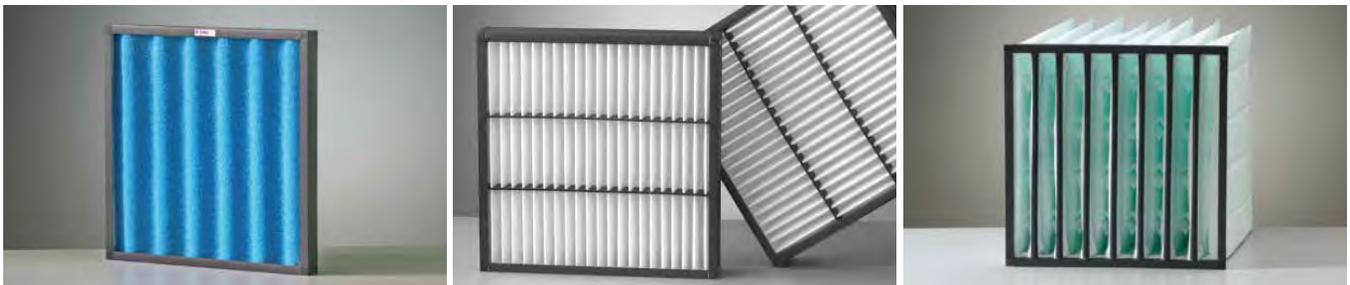
**EMW®  
MPK 3X 23 GT**

Do you need lowest pressure drop in fine filter applications? Not a problem! MPK 3X 23 GT fine filters, available from EMW® in filter classes F7 - F9, provide significantly decreased pressure drop. MPK 3X 23 GT filters pack a filter surface area of 23 m<sup>2</sup> into a 592 x 592 x 400 mm cassette housing. Reduced pressure drop, high efficiency and other benefits make them ideal for use as pre-filters for downstream (H)EPA filters.

e.g. in Filter Class F8

Dimensions	592 x 592 x 400 mm (23.31" x 23.31" x 15.75")
Average efficiency (0.4µm)	≥ 90 %
Initial pressure drop @3400 m <sup>3</sup> /h (@2000 cfm)	90 Pa (0.36" w.g.)

EMW® offers additional upstream separator units as well including coalescers, filter media, filter cells and pocket filters. For further information, please visit our website at [www.emw.de](http://www.emw.de)





**EMW**

filtertechnik

*Excellence in filtration*

Werner-von-Siemens-Str. 9

D-65582 Diez · Germany

Tel.: +49 (0) 64 32 / 9181-0

Fax: +49 (0) 64 32 / 9181-81

mail@emw.de

[www.emw.de](http://www.emw.de)