



Member of the Hengst Group

Gas Turbine Air Inlet Filtration

We take the dust out of industry™



SOLUTIONS FOR ALL ENVIRONMENTS



NORDIC AIR FILTRATION
Member of the Hengst Group





Specializing in Gas Turbine Air Inlet Filtration



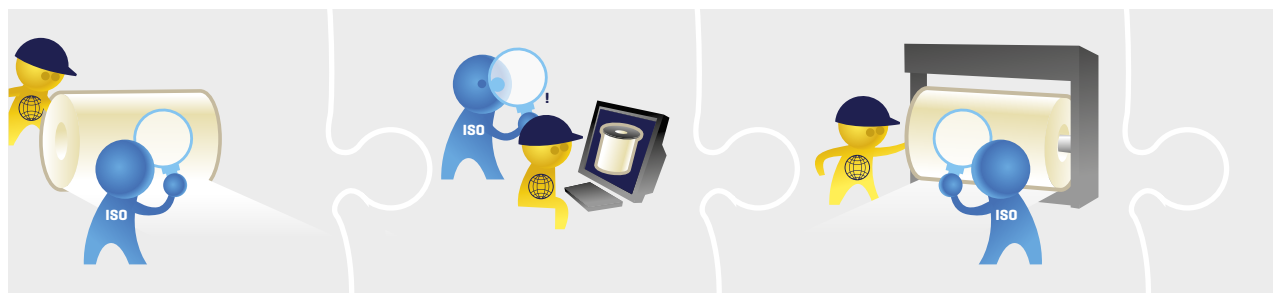
Nordic Air Filtration – member of Hengst Group, we provide high technology air filtration solutions for all operating environments in all parts of the world. Our cartridges are installed in air inlet houses for GE, Siemens, Alstom, Turbomach, Solar and many other gas turbines around the world. Each one of our filters is manufactured in Europe, Middle East and Asia using only documented and certified materials and manufacturing methods.

With our vast gas turbine filtration experience and our wide range of high quality filter media and material, we offer custom solutions for your specific air inlet filtration needs, replacement filter elements as well as on-site technical field support. We have solutions for all environments.

Our highly skilled R&D departments in Münster, Germany, and Nakskov, Denmark work closely together to ensure our global customers certified high quality products. In everything we do, we strive to exceed customer expectations by continuously developing innovative filtration solutions that increase performance and reduce cost for our customers.

Nordic Air Filtration is a member of the Hengst Group. Hengst - www.hengst.com - is an international recognized manufacturer and supplier for the automotive and engines industry as well as a producer of a wide variety of filtration applications in the industrial- and consumer goods sectors.

A GLOBAL FILTER MANUFACTURER DELIVERING HIGH QUALITY ON TIME



Material sourcing

- > Global sourcing of raw material
- > Vendor and material quality approved before sourcing
- > Quality inspection upon arrival

R&D

- > High performing products
- > Filter life expectancy evaluation
- > Mobile test rig

Manufacturing

- > In-house air filter production
- > Lean manufacturing and continuous process improvement
- > Highly trained workers

= ISO9001 program guarantees optimized and standardized manufacturing processes.
Nordic Air Filtration is ISO9001 certified





Solutions for All Environments



DESERT

Hot and dry with heavy concentration of blowing sand



OFFSHORE

Salty corrosive moisture, high humidity and occasional heavy fog



COASTAL

Corrosive moisture and high humidity



ARCTIC

Dry air, snow and frost can block filters



TROPICAL

High temperature and humidity



URBAN

Polluted air and high levels of hydrocarbons and particles



COOLING TOWER

Moisture drift, contains water treatment chemicals



Quality

- > Final inspection of the filters
- > Our products are tested according to EN779, EN1822, ARAMCO or ASHRAE 52.2



Quality on time

- > 95% on-time deliveries.
- > Focused on continuous improvement



Satisfied customer



High Quality Filters for Every Application



Cylindrical Cartridges

- > Open/close & open/open
- > Expanded metal outer mesh
- > Expanded or helix inner mesh



Conical and Cylindrical Cartridges



Plastic ABS Cartridge

- > Non-corrosive inner liner
- > 100% incinerable
- > Exclusively made by Nordic Air Filtration



Twist-Lock Cartridges





Composite Filter System (CFS) Cartridge



V-Pack Mini Pleat



Single Panel Filter Pulsing Panel filter



Square Flange Cartridges



TURBOWRAP™ protects what's inside
As the first line of defense in turbine protection, Turbowrap™ offers advanced protection against high dust loading and moisture



Pre-Filter
> Panel
> Wraps




- > CERTIFIED PRODUCTS: OUR PRODUCTS ARE TESTED ACCORDING TO EN779, EN1822 OR ASHRAE 52.2
- > ALL FILTERS CAN BE EQUIPPED WITH NORDIC AIR FILTRATION'S MEDIA SELECTION TO SUIT EVERY APPLICATION
- > CUSTOMIZED DESIGNS TO MEET YOUR SPECIFIC REQUIREMENTS



Filter Media Solutions

Filter Media Solutions for Increased Performance

MEDIA TYPE	SOLUTIONS FOR	MERV RATING / EN779 RATING
<p>Base Media</p> <ul style="list-style-type: none"> > Blended cellulose with synthetic fibers > Acceptable filter life and filtration efficiency > Pulsable media 		<p>MERV 11-12 F6</p>
<p>Synthetic Media</p> <ul style="list-style-type: none"> > High durability > Improved dust cake release > Excellent moisture tolerance > Abrasion resistance > Pulsable media 		<p>MERV 11-12 F6-F9</p>
<p>Nano Treated Media</p> <ul style="list-style-type: none"> > Increased initial efficiency > Reduce DP > Excellent dust cake release > Pulsable media 		<p>MERV 13-16 F9</p>
<p>TurboWeb®-High Efficiency</p> <ul style="list-style-type: none"> > Water/Salt repellent and moisture resistant > A cost effective alternative to HEPA filter media > Exceptional initial filtration efficiency greater than 94% for 0.3-0.4 microns > Pulsable and static media available 		<p>MERV 16 F9</p> 
<p>TurboWeb Ultra High Efficiency</p> <ul style="list-style-type: none"> > Membrane treated media > HEPA / EPA efficiency > Resistance to water and salt carry over > Higher power output > Increase turbine availability > Eliminate online-offline water wash* > Pulsable and static media available <p>* Up to 2 years, depending on operating conditions.</p>		<p>H12 (HEPA) / E12 (EPA)</p> 



EPA/HEPA Filter Media for Optimum Performance

TurboWeb® Benefits of using High Efficiency Media

Solves problems such as

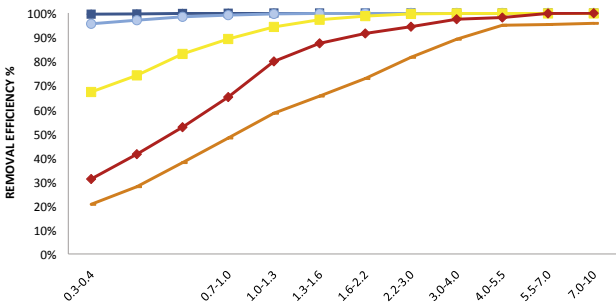
- > Harsh Environments
 - Salt/water
 - Cooling Tower Drifting
 - Frost
- > Reduced Power Output
- > Frequent Water Wash
- > Frequent Shut Downs

Benefits

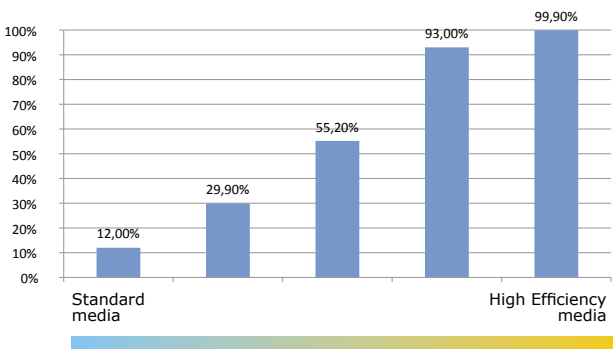
- > Lower Operating Cost
- > Increased Power Output
- > Reduced Downtime due to minimal / no Water Wash
- > Reduced Compressor Fouling
- > Increased Filter Life

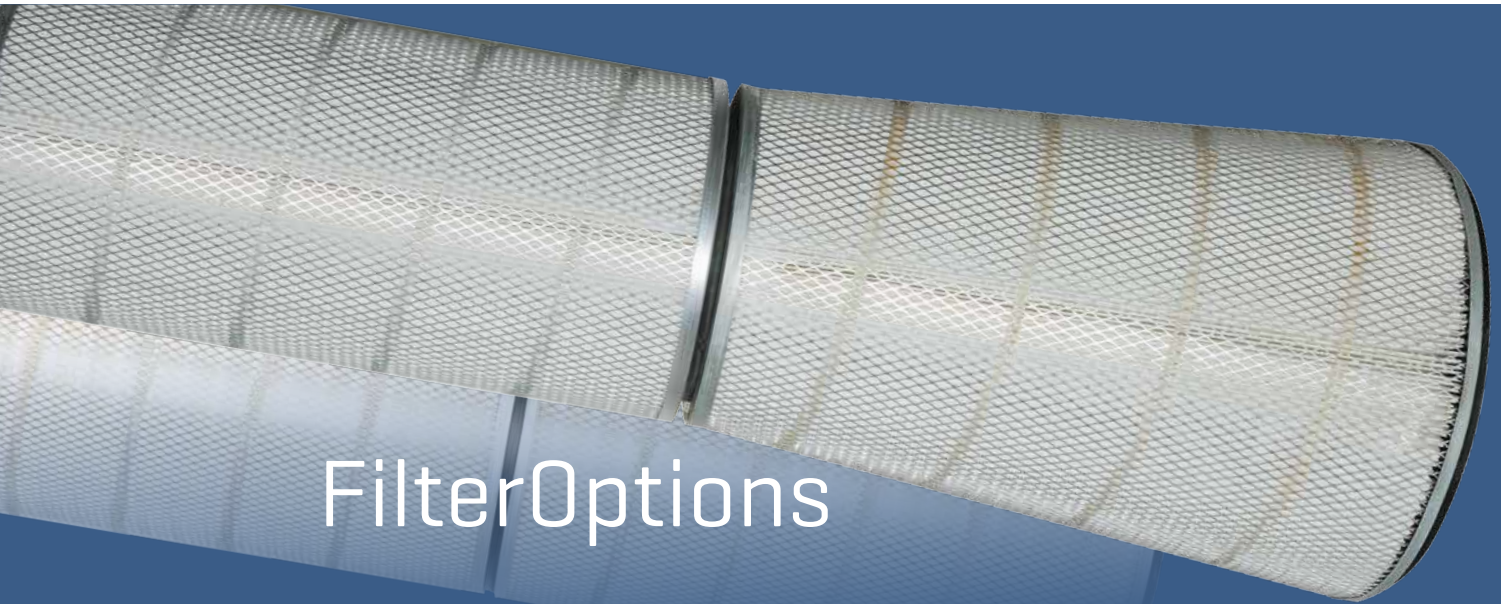


Efficiency Comparison



Efficiency % at 0.4µm





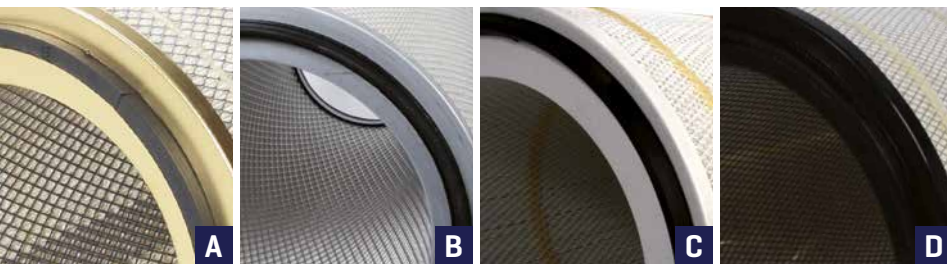
FilterOptions

MESH/CORE



- A** Plastic inner core (non corrosive)
- B** Expanded welded metal inner core/outer mesh
 - > Galvanized
 - > Stainless steel
 - > Powder coated steel
- C** Expanded metal helical inner core
 - > Stronger design & no welding

END CAPS



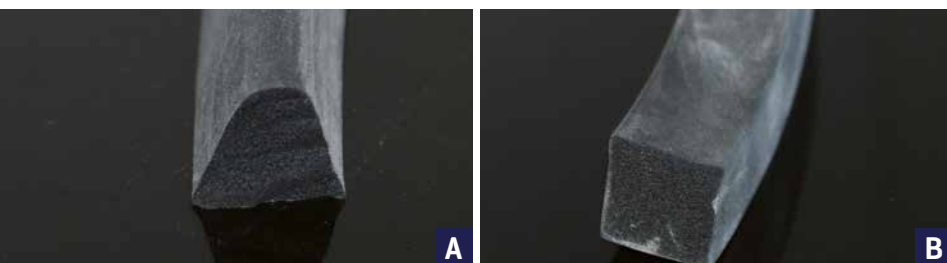
- A** Galvanized steel
- B** Stainless steel
- C** Powder coated
- D** Plastic ABS (non corrosive)

STRAPS



- A** Strap branded with your logo
 - > Glued strap
- B** WelTech strap - Ultrasonic welded
 - > No glue
 - > Secures consistent pleat spacing
 - > Minimizes trapping of dust behind strap

GASKET



- A** Seamless polyurethane gasket
- B** EPDM



PLEATER

A variety of pleating machines enabling

- > A wide range of filter options
- > High production capacity



INNER AND OUTER CORE

- > No welding
- > Customized solutions
- > Greater crush resistance compared to exp. metal



HOTMELT

- > Effective down to -60° Celsius/ -76° Fahrenheit
- > Automated application
- > Accurate high quality adhesion of media to inner and outer mesh



MEDIA OPTIMIZATION

In-house production of anti-collapse PleatLocks, with or without hotmelt glue between pleats

- > Optimum performance
- > Low pressure drop
- > Better air flow





Laboratory Testing

Low Total Cost of Ownership

With our strong technical team and our laboratory facilities in Denmark and at Hengst in Germany, we partner with our customers to advise them about the optimum filter solution for their specific environment with the aim to ensure a lower total cost of ownership.

In our Lab, we Examine our Customers' Current Filters and Establish:

- > Residual filter life
- > Filter suitability for specific operational environment
- > Suggest alternative media and design to improve filter performance

25+ Years in the Business

Our know-how and expertise derives from 25+ years in the business and from developing new products in close collaboration with large original manufacturers of gas turbine air inlet houses. Our collaboration with OEMs guarantees that our filtration solutions are in line with the latest technologies and optimized for the actual operating environments.

All products are certified in accordance with regulatory requirements [EN779, EN1822 or ASHRAE 52.2]

Field Support and Field Test

We provide field support and guidance by:

- > Being present during installation of new filters to ensure correct installation
- > Providing counseling about the most efficient use and cleaning of filters over their operating life
- > Offering on-site testing of filter cartridges by way of our Mobile Test Rig

Our new Mobile Test Rig enables test of 2 different filter cartridges simultaneously in the actual operating environments of our customers in all parts of the world.

By simulating a complete working Gas Turbine Air Inlet House with pulse cleaning, the Mobile Test Rig offers a unique opportunity to compare the efficiency of existing filter cartridges with new types of cartridges and filter media on-site.





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A GLOBAL PROVIDER OF AIR FILTRATION SOLUTIONS



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