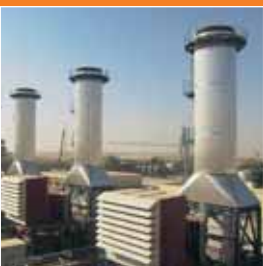


GDX™

There is no substitute  
for your challenging  
environment



Donaldson®  
*Filtration Solutions*

# GDX™ Self-cleaning pulse

Donaldson's GDX Air Inlet Filtration System is currently the defacto standard self-cleaning filter for gas turbines around the world.



## Self-cleaning filter

The GDX downflow airflow design, combined with patented Spider-Web® filter media technology, enhance the pulse cleaning performance:

- Minimum filter service requirements.
- Low filter operating pressure drop over the life of the filter.
- Featuring Spider-Web or Spider-Web XP filter media for high performance and long life.

## Versatile

GDX, now used on thousands of turbines and generators around the world, is ideally suited for protecting turbines from a wide variety of harsh environments:

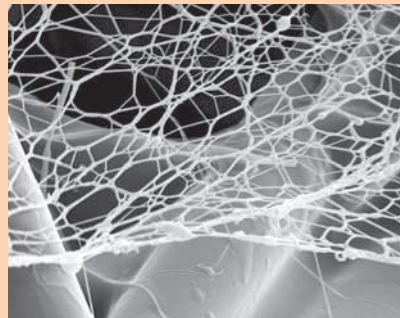
- Remote locations that need long filter service life.
- Environments with high dust concentrations that need a self-cleaning filter.

- Desert and arctic climates — Pulse system performs perfectly on both sand and frost.
- In cold and arctic climate conditions there is no need for anti-icing systems.

## Air inlet filter enhancements

- Inlet silencing systems and attenuation hoods — especially useful in urban areas where noise must be muted.
- Evaporative coolers — to optimize air inlet temperatures so as to increase power output from gas turbines operating in high temperature environments.
- Chiller coils — chiller coils can provide additional power output from gas turbines operating in humid environments where evaporative cooling systems may be less effective.
- Downstream/inlet heating — For control of icing and NOx emissions when used with advanced turbine control systems.
- Transition and ducting — Lined or unlined ducting, angled or straight.

High efficiency, long-life filters — made with Spider-Web or Spider-Web XP



Spider-Web is Donaldson's proprietary filter media treatment, a fine, even web of nanofibers bonded to a filter media substrate (either purely synthetic or a natural/synthetic blend). This nanofiber web increases filter efficiency, especially on very small corrosive particulate that cause compressor fouling, and enhances particle release during pulse cleaning.

*In this photo from the scanning electron microscope @ 2500X magnification you can see the larger fibers of the substrate under the web of fine fibers.*



Donaldson often provides the ducting to the turbine along with the filter house for all type of filters.



Donaldson designs and manufactures a full line of replacement filter elements, for Donaldson systems, as well as for other brands.

# filter system



## How it works

Air is drawn into the GDX system through inlet hoods that protect the filters from the effects of rain, snow and sun. These inlet hoods contain deflectors that direct the incoming air downward. The incoming air is cleaned by pairs of filters installed horizontally against a tube sheet, using an outside-to-inside airflow path. Cleaned air then passes to the turbine.

A walkway behind the inlet hoods provides easy service access to the filters and inlet treatment accessories, such as moisture eliminators, bird/trash screens, and inlet heaters.

When the pressure drop across the filters reaches a certain point, monitoring devices trigger a strong, brief reverse blast of air, which knocks much of the accumulated dust off the filters surface. The operator can set this point to fit the conditions of the environment.

## Designed for low $\Delta P$ and low maintenance

Thanks to the automatic pulse cleaning design, the GDX operates almost maintenance free, making GDX the best choice even for remote or difficult-to-access locations. And, because the pulse cleaning operation keeps system pressure drop ( $\Delta P$ ) low, the turbine can run at peak efficiency to maximize power output.

## Downward airflow design

A performance advantage

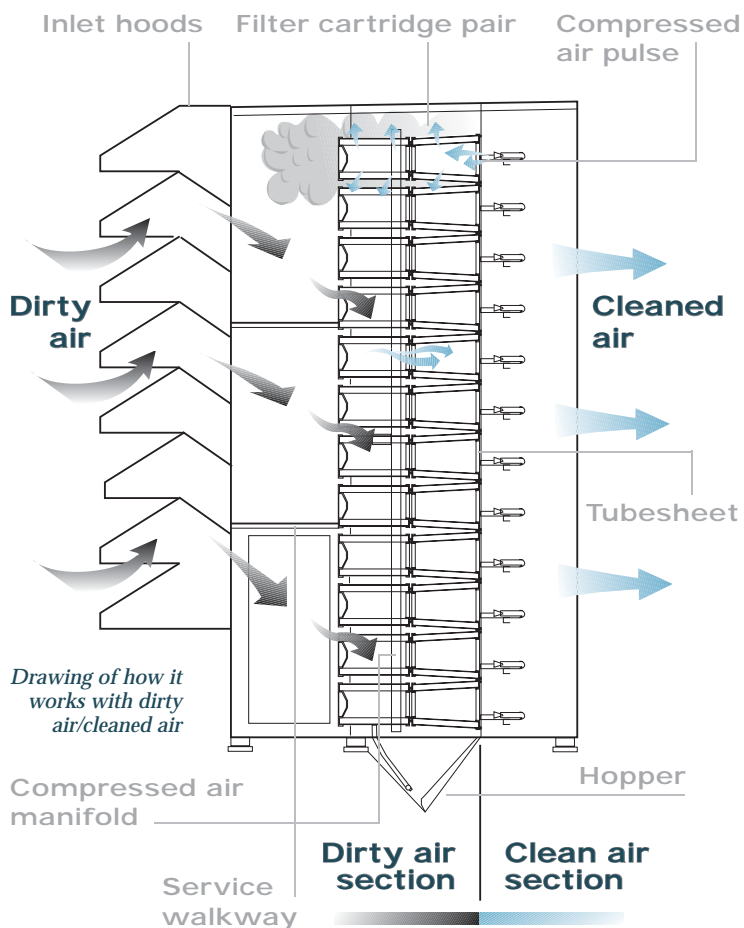
If a gas turbine is operating in applications with high concentrations of very fine dust particles, GDX performance is highly desired. The GDX has a layered downward airflow design, which offers performance advantages over traditional pulse-cleaning systems that pull air in an upward direction. The downward airflow design forces dust that has been dislodged during the cleaning process down into the hopper below and minimizes dust migration back into the filters.

## Modular construction

Modules are 4 filters wide and range in height from 8 to 25 filters high. These are the building blocks used to create GDX self-cleaning filter systems to suit your specific requirements.

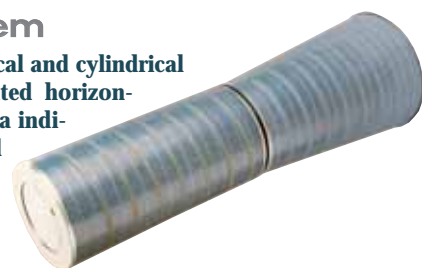
### The modular design of the GDX system provides

- Custom designs to fit any site, as well as specifications at prices and lead times that can normally be found only on 'standard' product.
- Efficient on-site erection.



## Heart of the system

To maximize filtering area, conical and cylindrical elements are paired and mounted horizontally. The blue color of the media indicates Spider-Web, our patented nanofiber technology that yields best protection for turbines.



## Global capability

Donaldson Gas Turbine Systems has developed a network of qualified vendors to complement Donaldson's worldwide production and engineering capabilities.

Donaldson has the ability to meet local content requirements through the combination of the vendor network and own facilities located throughout the world.



Donaldson's modular approach to system design makes on-site erection simpler and faster anywhere in the world.



**Donaldson**  
Filtration Solutions

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**Regional Headquarters  
Europe, Middle East and Africa  
Donaldson Europe b.v.b.a.**

**Research Park Zone 1  
Interleuvenlaan 1  
B-3001 Leuven  
Belgium**

**Tel. + 32 16 38 39 40**

**Fax + 32 16 38 39 39**

**Email: GTS-europe@emea.donaldson.com**

**Regional Headquarters-Asia Pacific  
Donaldson Filtration Pte. Ltd.**

**No.3, Changi Business Park Vista #02-00  
Singapore 486051**

**Tel. + 65 6311 7373**

**Fax + 65 6311 7398**

**Email:GTS-asiapacific@donaldson.com.sg**

**Worldwide Headquarters  
Donaldson Company Inc.**

**1400 W. 94th Street  
PO Box 1299  
Minneapolis**

**Minnesota 55440**

**USA**

**Tel. + 1 952 887 3131**

**Fax + 1 952 887 3843**

**Email: filterinfo@mail.donaldson.com**

**[www.donaldson.com](http://www.donaldson.com)**