



Donaldson[®]
Filtration Solutions

GDX Self-Cleaning Filter System

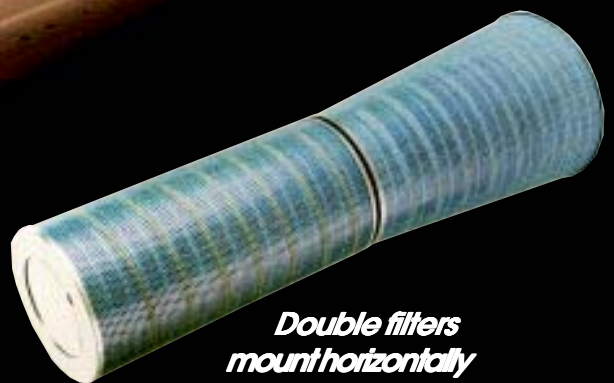


☑ *Low Maintenance in Remote Areas!
Pulsing Action Cleans Filters Regularly*

☑ *Modular Design Yields Various
Configurations.... custom designs
at standard prices*

☑ *Designed for Desert, Frosty, Urban,
Industrial or Any Challenging Environment*

☑ *With Choice of Filter Media:
Synthetic or Duratek[™], with or without
Donaldson Spider-Web[®]*



*Double filters
mount horizontally
within filter house*

GTS-101
rev 10/00

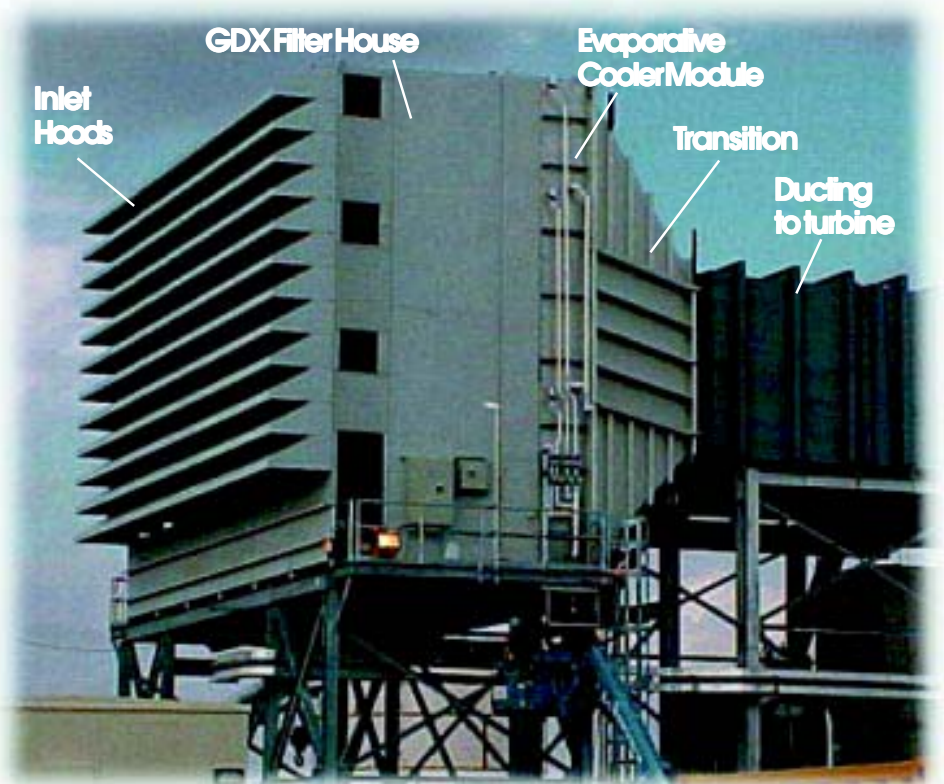
Donaldson's GDX Air Inlet Filtration System is the 'next generation' pulse-clean filter after the original self-cleaning TTD *Huff 'n Puff*. The system has a 50% smaller footprint and weighs significantly less, while the GDX filter elements -- the heart of the system -- provide higher efficiency. The GDX downflow design, combined with Spider-Web® filter media treatment, enhances the pulse cleaning performance.

- Minimum filter service requirements
- Low filter operating pressure drop -- over the life of the filter
- Smaller, compact system size
- Featuring Spider-Web® filter media for high performance and long life.

GDX, now used on more than 1000 turbines & 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 & arctic climates -- the pulse action works well on both sand and frost.

GDX is designed to accommodate Donaldson inlet treatment accessories such as chiller coils or an evaporative cooler.



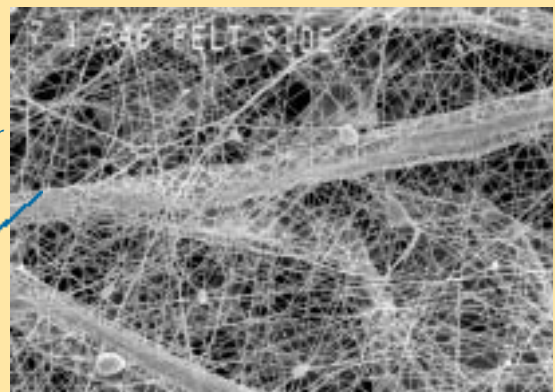
Air Inlet Filter Enhancements

- **Inlet Silencing** -- 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 hot climates.
- **Chiller Coils** -- When placed in front or behind the air inlet filters, chiller coils can provide additional power output from gas turbines operating in humid climates where evaporative cooling systems may be less effective.
- **Anti-Icing Systems/Inlet Heating** -- For control of icing and NO_x emissions when used with advanced turbine control systems.
- **Transition & Ducting** -- Lined or unlined ducting, angled or straight.

High Efficiency, Long-Life Filters -- made with Spider-Web®

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

In this photo from the scanning electron microscope @ 600X magnification you can see the larger fibers of the substrate under the web of fine fibers.



Donaldson
SPIDER-WEB
FILTRATION TECHNOLOGY

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 tubesheet, 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.

Monitoring devices trigger a reverse blast of air when the pressure drop across the filters reaches a certain point. The operator can set this point to fit the conditions of the environment.

Designed for Low ΔP , Low Maintenance

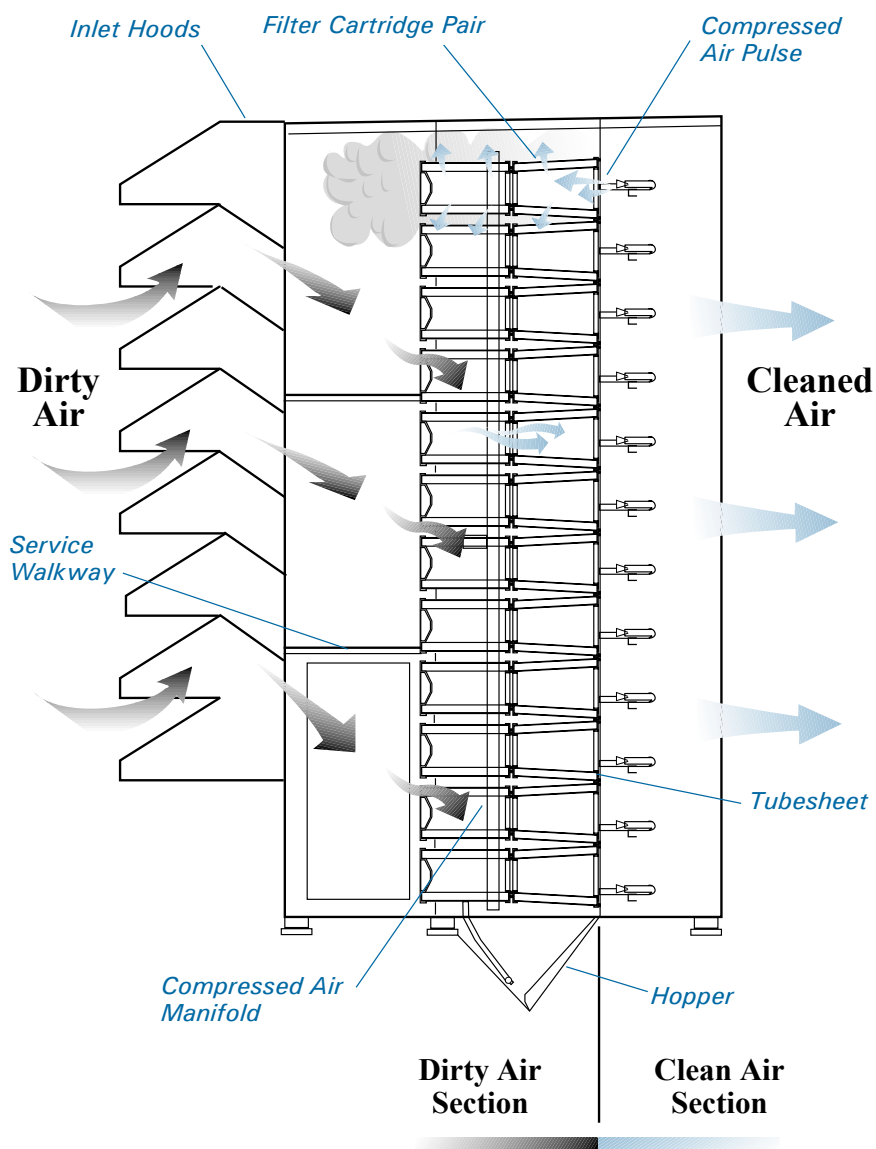
Thanks to automatic pulse cleaning design, the GDX operates almost maintenance free, making GDX the best choice for remote or difficult-to-access locations. And, because the pulse cleaning operation keeps system pressure drop (ΔP) low, the turbine can run at peak efficiency to maximize power output.

Modular Construction

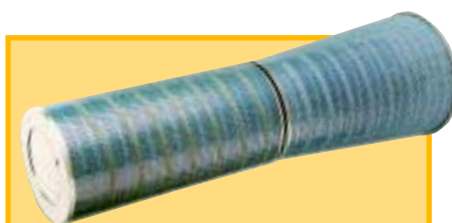
Modules are 4 filters wide and range in height from 8 to 25 filters high. These are the building blocks used to create GDX self-cleaning filter systems to suit your specific requirements.

The modular design of the GDX system provides

- custom designs to fit your site and specifications at prices and lead times that can normally be found only on 'standard' product;
- efficient on-site erection.



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



FILTERS, the 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 proprietary fine fiber technology that yields best protection for turbines.

Global Capability

Donaldson Gas Turbine Systems has developed a network of qualified vendors to complement Donaldson Company's worldwide production and engineering capabilities. We have the ability to meet local content requirements through the combination of the vendor network and our own facilities located throughout the world.

World Class Quality

Air filter systems and filter elements are produced in Donaldson's own facilities in Europe, India, Japan, and the U.S. Metal fabrication and/or filter element production is also performed in more than 10 other countries worldwide.



FM28249



Donaldson quality control systems and quality engineering staff ensure that our products meet world class quality levels. Donaldson operations in Europe, India and the U.S. have been qualified to ISO 9000 standards.

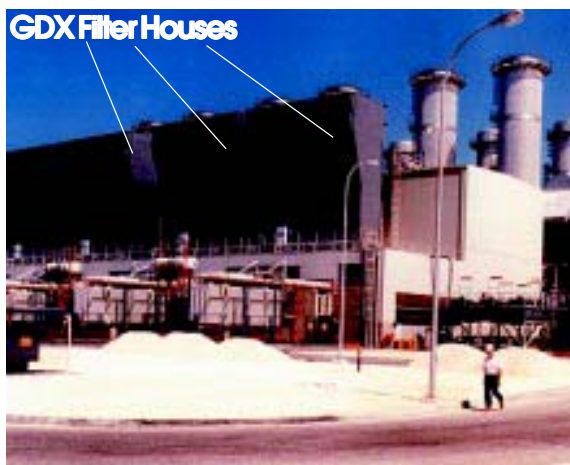


Donaldson often provides the ducting to the turbine along with the filter, as shown in this photo of the GDX at San Antonio, Texas USA



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

GDX Filter Houses



This bank of GDX filters protects turbines from the harsh desert environment in Bahrain.

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