



GDS™



**Maintenance free
protection for your
gas turbine**



Donaldson®
Filtration Solutions

GDS™ Filter System

The Donaldson GDS Inlet Air Filtration System for gas turbines delivers high efficiency and high dust holding capacity in a compact, modular package.

The GDS system is ideal for

- replacing existing systems
- onshore, offshore and marine climates
- all sizes of gas turbine applications
- continuous duty and standby gas turbine applications

Multi-stage filtration

Donaldson's GDS provides at least two stages of air filtration:

1st stage

Incoming air is first cleaned of larger particulate by a high-loft pre-filter wrap that covers the primary filter pairs. This captures most of the larger particulate, such as seeds, ash, sticks, and many seasonal or situational types of debris. The pre-filters are economical, so are typically changed more often than the primary filters — thereby saving downtime and replacement cost.

2nd stage

The conical filters are available with a choice for filter media:

- our high performance cellulose media, satisfactory for most applications, or
- our exclusive, patented Spider-Web® media, for maximum performance in applications that encounter very small particulate. Donaldson's patented nanofiber Spider-Web consists of a fine, even web of submicron diameter fibers applied to the surface of the filter media substrate.

This fine web enhances the surface loading capabilities of the media, thereby increasing filter efficiency. Bottom line, Spider-Web delivers cleaner air to the turbine than any other filter media currently available.

Air intake conditioning stages

Depending on the site environment, further stages of filtration may be useful. This could include moisture coalescers, water removal panels, anti-icing or inlet heating units or eventually a safety filter stage for zero downtime maintenance.

Handles high airflows with low initial pressure drop

The GDS conical filter pairs are specially designed to handle high airflows with low initial pressure drop. This allows turbine users to achieve significant energy savings from the time new filters are installed. The low filter media velocity permits gradual straight line loading, thus eliminating the need for blow-in (bypass) door.

Long filter life, reduced maintenance

GDS System design provides longer filter service life, higher turbine availability, and lower maintenance costs. Here are some of the reasons:

- GDS filter pairs have a conical design that allows more filter media to be packed into a small package, and therefore more dust-holding capacity. More capacity means longer intervals between filter change-outs.
- The pairs are designed to ensure positive gasket sealing, eliminating the leakage and corrosion concerns commonly associated with panel filter systems.
- With prefilters in place, much of the dust is trapped before it reaches the primary filters. These simple wraps are easy, quick and inexpensive to change, and allow you to get longer life from the primary filters.
- Prefilter change-out can be done while the turbine operates.



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Air inlet treatment

Air inlet treatment accessories can be used to overcome specific problems in any unique environment:

- Remove mist with either moisture eliminator panels in the inlet hoods or marine louvers. These double as bird/trash screens, ensuring that large objects are kept away from the filters.
- Inlet heating systems will prevent ice from forming and blocking the inlet system.

Modular construction provides easy on-site erection

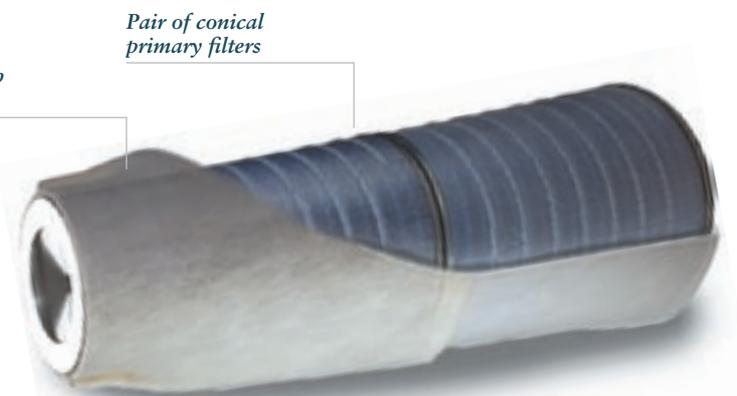
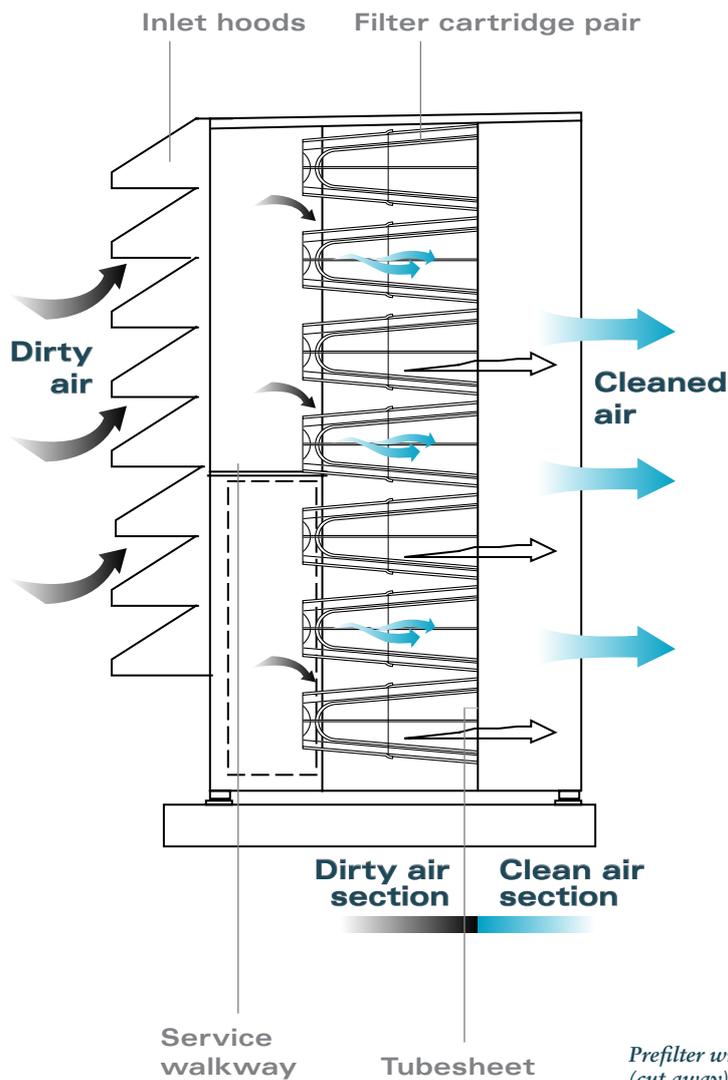
Due to its modular design, the GDS is easy and fast to erect on-site. The modules are the building blocks that create a variety of configurations to meet specific applications requirements.

Small package size

The GDS smaller footprint reduces site space requirements, minimizes filter system costs, and fits easily into standard shipping containers. There are a variety of optimized designs to fulfill specific requirements such as back-to-back designs.

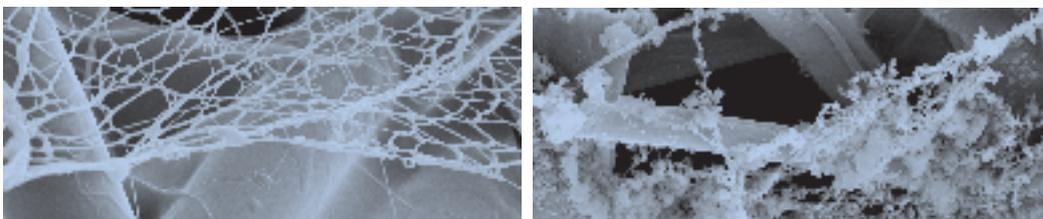
Global capability

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.



The special configuration of the GDS filters – a prefilter wrapped around a pair of primary filters – creates highly effective two-stage filtration to protect gas turbines.

Donaldson's patented Spider-Web filter media technology, shown here at 2500X magnification, uses a web of nanofibers to enhance surface loading and thereby minimize the penetration of particles into the depth of the media.





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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