

Gas Turbine Systems

Engineered Solutions for Outstanding Performance



ADVANCING GLOBAL POWER AND PRODUCTIVITY

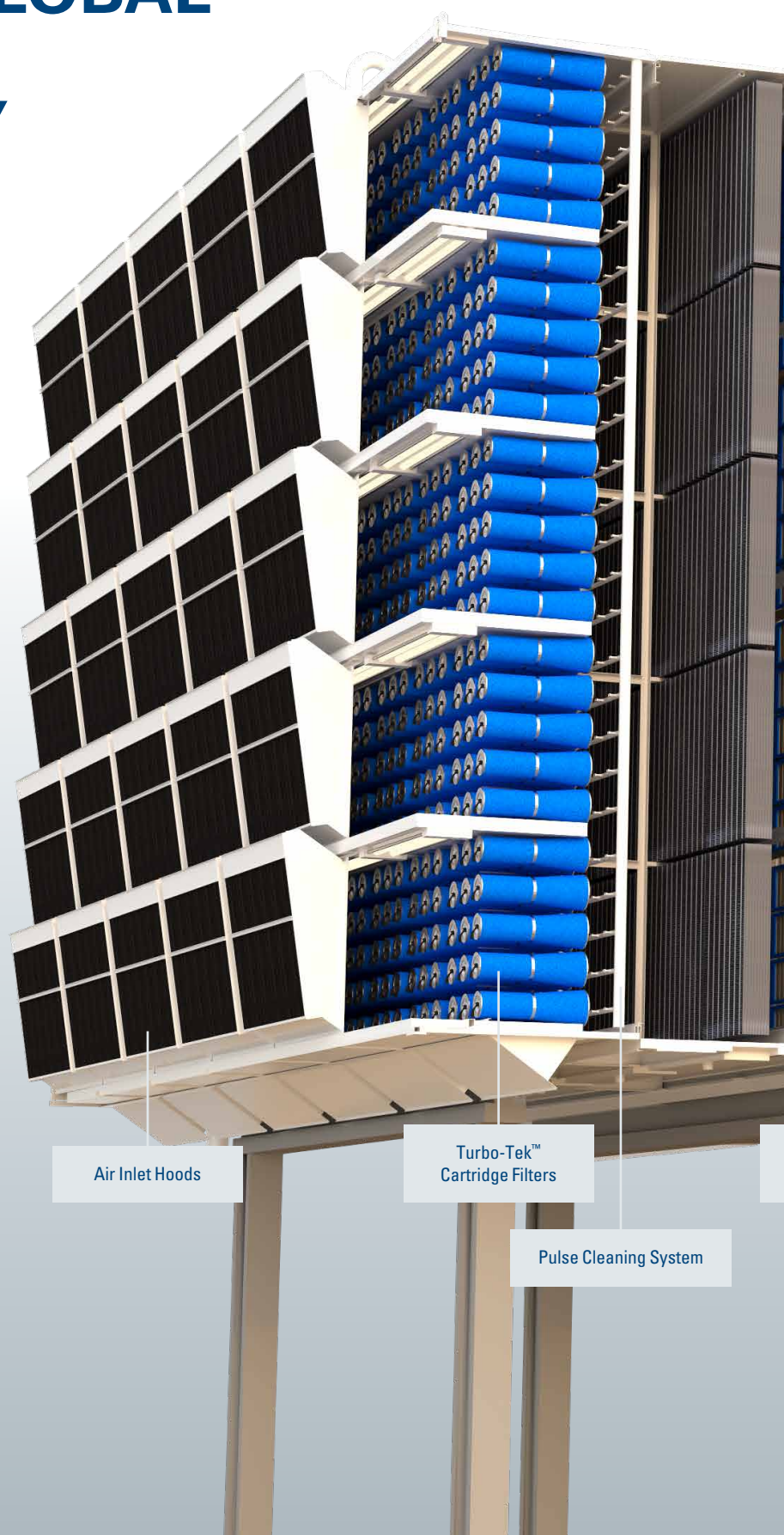
There's little room for downtime when your equipment is being pushed to meet base and peak power generation demands. Your gas turbine systems and industrial compressors need to operate at maximum efficiency.

As the world's demand for energy continues to grow, you need a partner who understands what it takes to help keep your systems operating efficiently and reliably – and why it's so important.

Donaldson has spent more than 50 years working side-by-side with turbine manufacturers and system managers to design and engineer advanced air inlet and filtration solutions for any environment.

From initial system design and installation to timely service, upgrades, and retrofits, Donaldson's people and solutions impact energy production around the globe.

While organizations continue to invest in more sustainable energy sources like hydrogen gas, Donaldson engineers are developing filtration solutions designed to help drive efficiencies, keep emissions low, and extend the life of valuable equipment.



Air Inlet Hoods

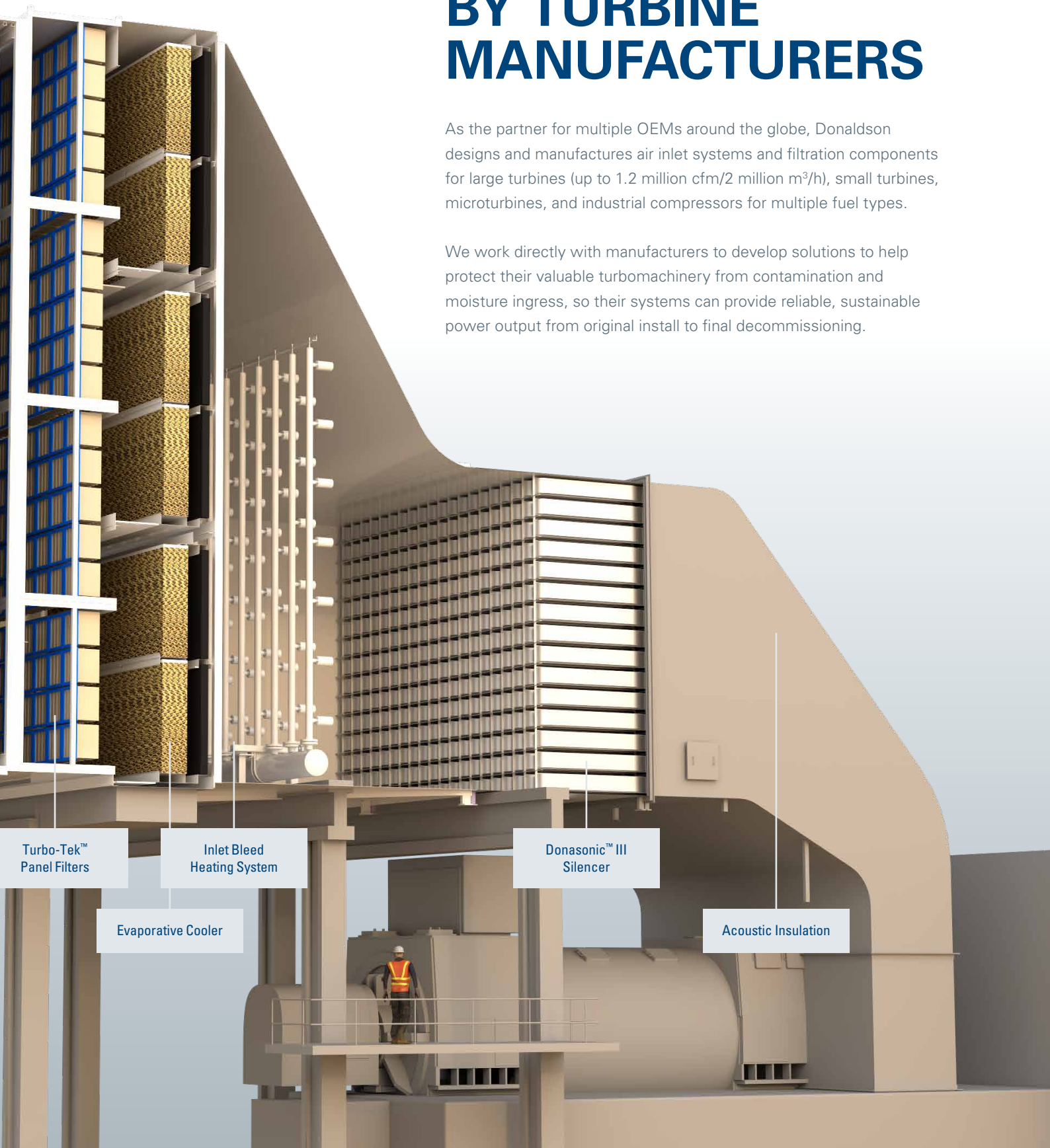
Turbo-Tek™
Cartridge Filters

Pulse Cleaning System

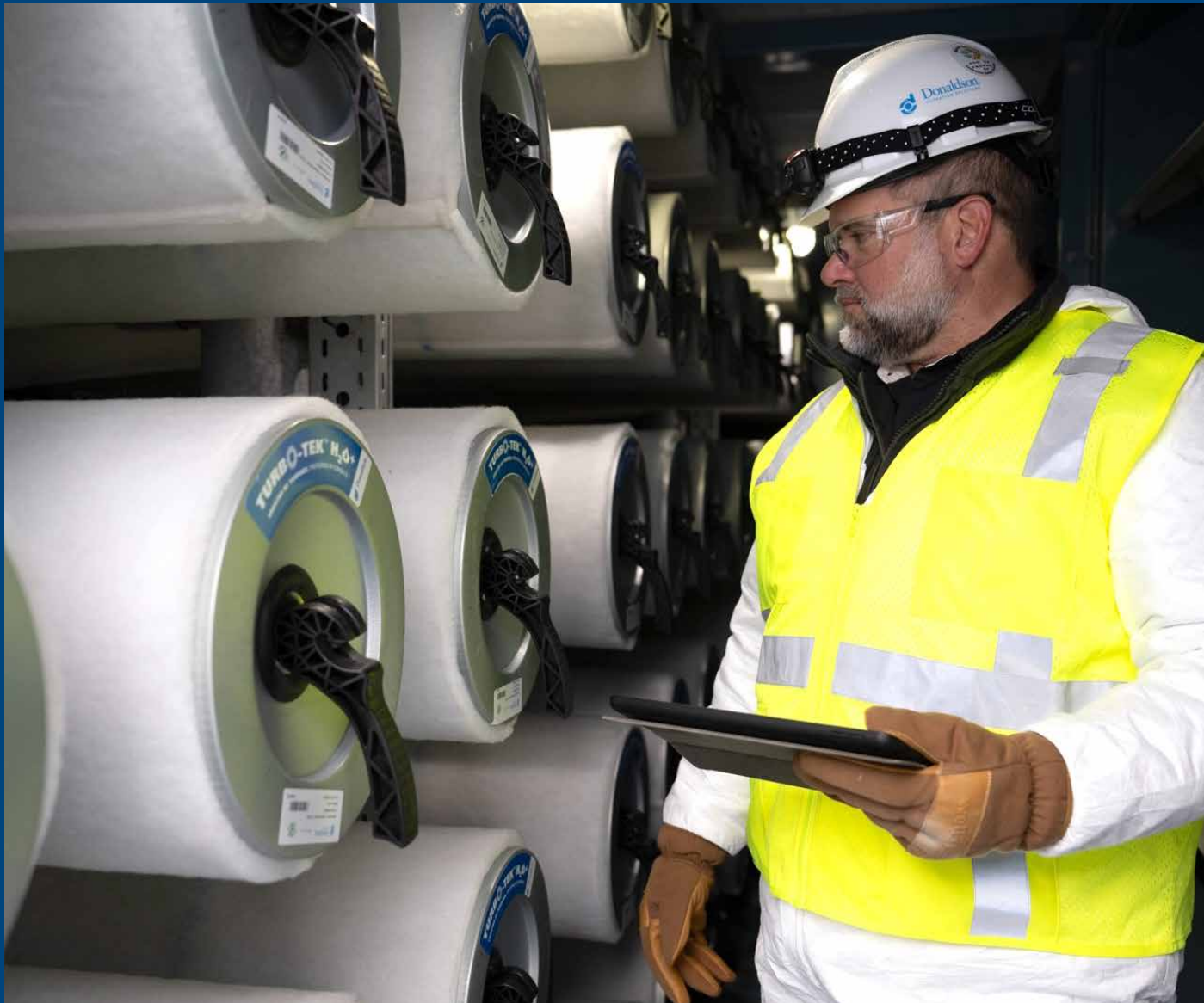
TRUSTED BY TURBINE MANUFACTURERS

As the partner for multiple OEMs around the globe, Donaldson designs and manufactures air inlet systems and filtration components for large turbines (up to 1.2 million cfm/2 million m³/h), small turbines, microturbines, and industrial compressors for multiple fuel types.

We work directly with manufacturers to develop solutions to help protect their valuable turbomachinery from contamination and moisture ingress, so their systems can provide reliable, sustainable power output from original install to final decommissioning.



DELIVERING WHAT YOU NEED TO MEET OUTPUT DEMANDS



Every gas turbine system works under its own unique conditions, so operators need reliable access to an extensive portfolio of air intake components, filters, and replacement parts engineered for specific environments and requirements.

To help your system deliver maximum output, Donaldson delivers OEM-grade products designed to drive performance, address maintenance challenges, and help keep your total cost of ownership low:

- + **Cartridge, Panel and Compact Filters**
- + **Evaporative Coolers and Chiller Coils**
- + **Pulse Cleaning Systems**
- + **Air Inlet System Components**
- + **Filter Retention Hardware**
- + **Turbine Lubricating Oil and Hydraulics**
- + **Compressor Air Filtration**

NEW LIFE FOR OLDER EQUIPMENT

Increased energy demand – driven in part by the rapid growth of data and technology centers – is putting additional strain on an aging infrastructure. Providers need to be able to get more power from their current systems.

Timely system modifications and upgrades can bring new life to aging baseload, peaking, and load-following equipment.

Our engineers and technicians will work with you to conduct a thorough analysis of your current system, operating

environment, and output goals to configure a solution to help you meet your requirements.

Elevate your gas turbine's performance through:

- + Industry-leading filtration efficiency**
- + Added turbine protection**
- + Advanced moisture control**
- + Low operating intake pressure drop**
- + Noise attenuation**

Our solutions can help restore – even enhance – your system's performance and output capabilities, prolong maintenance intervals, and extend hours of service.



URBAN/INDUSTRIAL



ARID/SEMI-ARID



ARCTIC



DESERT/ARID



COASTAL/TROPICAL

SERVICE AND SUPPORT WHEN AND WHERE YOU NEED IT

Regardless of your system, location, or operating conditions, maintaining the performance of your equipment requires ongoing support and industry expertise.

Donaldson certified technicians can assist you with your operational needs including outage planning, component repairs, and scheduled or emergency services.

Count on Donaldson's regional professionals for:

- + **System inspections**
- + **Filter changeouts and hardware upgrades**
- + **Inlet housing evaluations**
- + **Evaporative cooler installation and maintenance**
- + **Turbine lubrication and filtration systems**

Our engineers can also provide your organization with lab-based filter testing and analysis, as well as on-site technical training for your service teams.



CASE STUDY: CLIMATE-SMART FILTERS KEEP TROPICAL TURBINES CLEAN AND DRY

A liquid natural gas plant off the northern coast of Australia uses six GE LM2500+G4 aeroderivative gas turbines in their operation. Two turbines are for propane refrigeration, two are for ethylene refrigeration, and the remaining two are for methane refrigeration. Collectively, the turbines require a total of 720 filter element pairs to remove contaminants and provide clean intake air. The tropical climate of this coastal location has posed serious performance challenges for the system from the start.

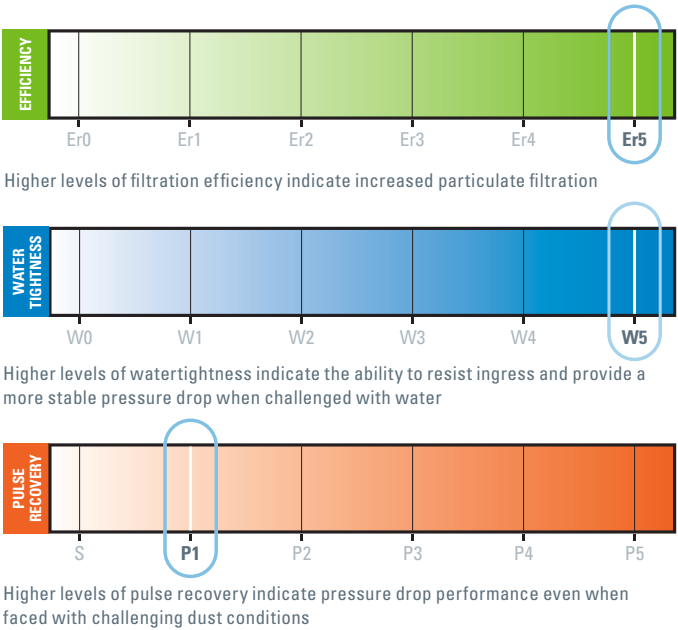


Problem

In the summer months, there is 80% relative humidity in the region, frequent tropical rains, and a constant influx of salt-laden air. In the dry winter season, heavy smoke and ash from area brush fires constantly contaminate the air. The carry over of moisture tends to bring particulates that can quickly cause blade fouling and premature equipment wear, resulting in 3-5% compressor efficiency losses and regular power losses of 15-20%.

Solution

Install Donaldson Turbo-Tek™ HEPA Er5 | W5 | P1 watertight filters.



Results



**Filter life increased
from 18 to 48 months**



**No moisture bypass
from humidity or rains**



**No loss in compressor
efficiency or power**

MORE POWER TO YOU

With over a century of filtration experience and industry expertise, Donaldson can help enhance your system's power generation, hydraulic filtration, and compressed air filtration performance.

Our engineers will collaborate with you to develop energy-efficient and cost-effective solutions that support your equipment and compliance efforts throughout its entire lifecycle.



As a trusted partner, you can count on Donaldson to provide expert solutions and service for your operation:



Review your existing gas turbine system architecture and operating environment



Analyze your efficiency requirements and output demands



Recommend and install solutions that optimize protection and performance



Provide post-installation service and support including a full portfolio of replacement filters and parts

Contact your local Donaldson representative to help identify the ideal solutions for your gas turbine and industrial compressor challenges.



donaldson.com

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Donaldson
FILTRATION SOLUTIONS

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