Working Together for a Cleaner World



















#### SEMICONDUCTOR

Chemical and particulate filtration solutions for semiconductor manufacturing and other highly sensitive processes.

#### CONSTRUCTION

Donaldson is the world's leading first fit supplier of air filtration, exhaust and hydraulic systems for construction and mining markets, requiring heavy-duty protection.

#### AGRICULTURE

For hardworking agriculture equipment engines, Donaldson provides that extra measure of engine protection and supplies compact, stylish and performant air intake and exhaust systems.

#### MANUFACTURING

Donaldson dust, fume and oil mist collectors reduce environmental health-hazards and provide energy savings. Our compressed air filters guarantee economic filtration, reliable achievement and quality of your compressed air and gas. Donaldson hydraulic filters help safeguard critical components in machinery.

#### **AEROSPACE & DEFENCE**

Donaldson has developed a wide range of state-of-the-art filters for airplanes and helicopters and is the prime supplier for defence industries worldwide – land, sea or air.

#### **TRANSPORTATION**

Leading truck, refuse vehicle and bus manufacturers around the globe rely on Donaldson for quality engine protection and emission control products. Superior design features optimize performance and efficiency while reducing maintenance costs.

#### **POWER GENERATION**

Since the early 1970's, Donaldson's self cleaning air filtration systems have been cleaning combustion air on gas turbines, generators and compressors providing blade protection and boosting power output.

#### **CHEMICAL**

Donaldson provides dust collection equipment that improves the air quality in the work environment, even under difficult conditions.

# Filtration Solutions for Global Customers

Donaldson Company, Inc., headquartered in Minneapolis, Minnesota (USA), is a global organization of over 13000 professionals who are dedicated to providing filtration systems that improve people's lives, enhance equipment performance and protect our environment.

Since 1915, Donaldson has differentiated itself by innovating new technologies – delivering the best filtration products in the markets it serves, offering superior customer support and providing a vast network of locations around the world.

Donaldson Europe was established in Belgium in 1966. Today, with approximately 3000 employees in Europe, Donaldson is serving its customers through an extensive network of legal entities, sales offices, distribution centers and manufacturing facilities located in excess of 18 countries.

As one of the largest and consistently growing filtration manufacturers in the world, Donaldson creates a broad spectrum of filtration products and services to meet the evolving needs of its diverse customers. These filtration solutions span the entire life cycle of a customer's application, from initial system design through replacement products.



# Engine Systems & Technologies

### For long engine life and reduced maintenance

Applying innovative technology, Donaldson products maximize engine performance and reduce maintenance costs for customers all over the world.

The Engine product range includes superior filtration and exhaust & emissions systems that meet the needs of tomorrow's engines.

#### **Intake Air Filtration Systems and Accessories**



Donaldson provides total air intake systems and a full range of one stage, two-stage and scavenging air cleaners for heavy, medium and light-duty vehicles and equipment. The accessory line offers pre-cleaners, clamps, rubber elbows, stack extensions, vacuator valves, mounting bands, indicators and rain caps. Innovative vehicle designs call for new engineering solutions. Our latest innovation - PowerCore® G2 filtration technology - offers you peak performance in less than half the space of a conventional air filter.

#### **Hydraulic Filtration Systems and Accessories**



When you need high-, medium- or low pressure filters, filter housings, filter heads, replacement cartridges, spin-ons, transmission filters or hydraulic accessories, turn to Donaldson. With our extensive stock program, you can also mix'n'match filters with head assemblies to design a custom filtration system. Over the years, Donaldson has pioneered many of the major advancements in hydraulic filtration, such as new and unique filter media technologies, including Synteq<sup>TM</sup> XP media and our next generation Duramax® midpressure spin-on filters.

#### Lube, Fuel and Coolant Filtration



Donaldson has the unique capability to design and integrate your entire lube, fuel and coolant filtration system, all with local availability. We deliver innovative designs. The revolutionary Twist&Drain $^{TM}$  valve turns the messy and complicated task of draining water away from the fuel filter into the easy process it should be. Donaldson Endurance $^{TM}$  - extended service lube filters - offers you high efficiency filtration.

#### **Aerospace and Defence**



Donaldson focuses on critical applications requiring a high degree of cleanliness and that can resist to difficult environments. We develop a wide range of state-of-the-art filters for commercial or military applications, for land or airborne applications like airplanes or helicopters. Cabin air HEPA and odor filters, electronic equipment filters, air intake, fuel filters or hydraulic filters operate at the highest efficiency, providing comfort to passengers and crew as well as protecting equipment.

#### **Replacement Elements for Engines**

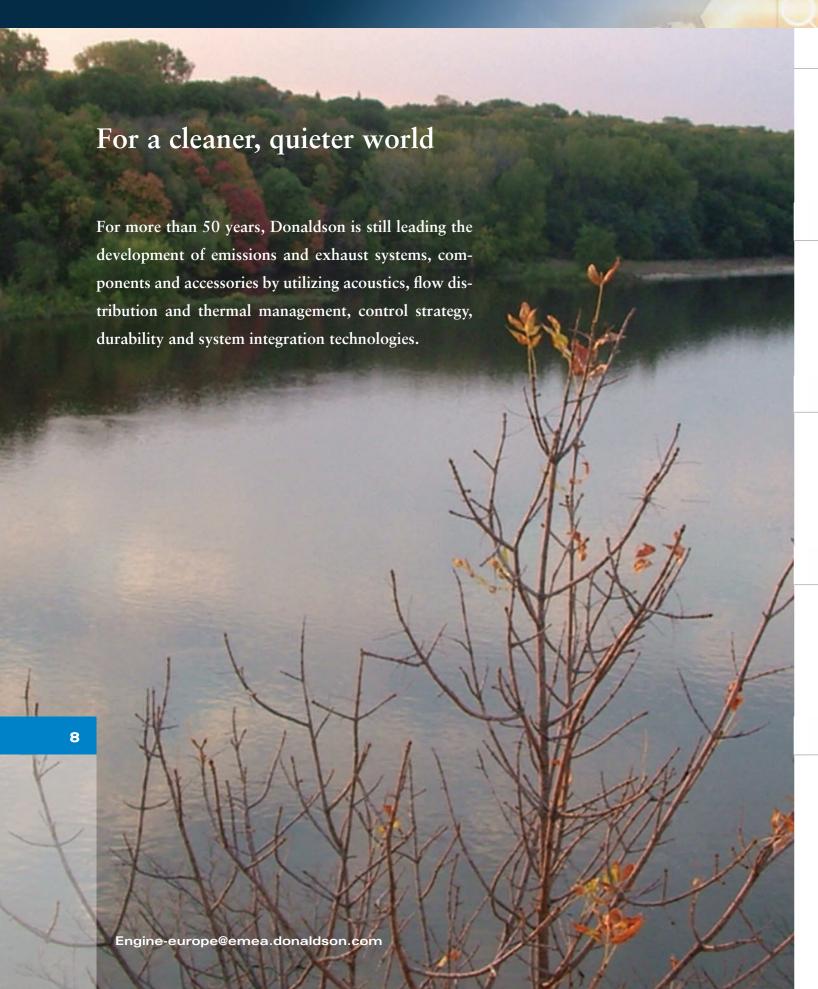


Donaldson replacement products meet the same quality standards as the products we supply to equipment and vehicle manufacturers. They are durable, reliable and built to withstand the intended operating condition. We offer a full line of replacement air, lube, fuel, coolant and hydraulic filter elements for the heavy-duty mobile equipment market. Our products carry the Donaldson brand or that of our OEM partners and are available through an international dealer/distributor network.

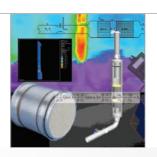
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Engine-europe@emea.donaldson.com

# **Exhaust and Emission Control Systems**



#### **Design Capabilities Exhaust Aftertreatment**



Donaldson leads the development and supply of exhaust and emissions systems for mediumand heavy-duty diesel-powered vehicles and equipment. By applying our on-site technologies in flow distribution and thermal management, control strategy, durability, system integration and acoustics, we design efficient and cost-effective solutions.

#### **Diesel Emission Reduction Systems**



Donaldson has produced over 900.000 emissions reduction systems since the 90's. We work with our OE customers to design and apply the best available reduction technologies both for tailpipe and crankcase emissions.

#### **Diesel Emissions Control**



Donaldson is your single supplier and business resource for global diesel emissions control solutions. We have experience with both tailpipe and crankcase filtration and can offer a "total emissions" solution. Our emissions solutions span a wide range - from original equipment manufacturer's requiring integrated systems to retrofit solutions for in-use vehicles and equipment. Our products and services include complete Active Regen PM and SCR systems, packaging, system integration, and components such as dosing systems.

#### **Crankcase Filtration Systems**



Donaldson's Spiracle filtration system eliminates harmful and unwanted crankcase emissions and allows the crankcase to be closed without degrading performance. Our Spiracle filtration system also reduces engine oil consumption, underhood odor/fumes and road drops. The elements in Spiracle are made with Synteq® media which guarantees you a higher level of protection and prolonged service life.

#### Exhaust Mufflers, Clamps, Flex Tubing and More



We offer a complete line of replacement exhaust products for on- and off-highway vehicles through our extensive distribution system.

### Gas Turbine Air Intake Filtration

### For optimal performance in all environments

Donaldson is the leading supplier of custom-engineered complete air intake systems for gas turbines and industrial compressors, for new and retrofit applications.

The on-going development efforts in gas turbine air treatment are supported by the most advanced engineering tools in the industry, including structural analysis, fluid dynamic analysis and filter modeling.



#### Self Cleaning Pulse Jet Filter Systems



The industry standard Donaldson GDX<sup>TM</sup> self-cleaning filter, is now followed by the advanced XLR next generation pulse clean filter system. Both systems use Donaldson's patented Spider-Web® filter media technology. The XLR<sup>TM</sup> provides for more compact design, thus minimizing transportation and installation cost. Key to these features is Donaldson high density PowerCore® filter media. Both GDX and XLR are ideal for applications in remote, desert, arctic and other complex environments.

#### **GDS™** Static Filter Systems



The GDS is a high performance, long life, multi-stage filter for gas turbines that operate in urban and industrial environments, offshore and marine climates. Along with our patented Spider-Web technology, a large number of air treatment accessories are available.

#### **GTM™ Off-Shore Filter Systems**



The Donaldson high-velocity GTM inlet air filtration system is especially designed for gas turbine combustion and ventilation intake applications on FPSO's, offshore platforms, light duty and other marine applications. The GTM fits industry-standard skid systems, meeting today's requirements for a small envelope and light weight.

#### **Air Inlet Silencers and Cooling Equipment**



Donaldson designs and produces customized inlet cooling systems, such as evaporative coolers and chiller coils. These systems provide additional power output from gas turbines operating in warm climates. In addition, our patented silencers provide advanced acoustical attenuation of the noise generated by the gas turbines.

#### **Replacement Filters**



For all types of gas turbine houses, Donaldson provides upgraded filter elements that help improve the protection of gas turbines and compressors. We offer genuine replacement parts, full service contracts and maintenance overhaul of air intake filters. We also provide a full retrofit and upgrading service for improved gas turbine performance.

### Industrial Filtration Solutions

# Your partner for industrial filtration solutions and service from one source

Donaldson Industrial Filtration Solutions is committed to providing superior filtration solutions that enable users of industrial filtration to obtain a comprehensive portfolio of safe, reliable and highly cost effective filtration products and services.

We uniquely ensure consistent improvement of filtration processes through the technological expertise of our individual field specialist application engineers in each area of industrial filtration.



#### **Compressed Air Purification**



Donaldson delivers a complete system of filtration and separation products for compressed air systems. Our technology in the field of compressed air, gas, and fluid separation extends from the compressor room to all points of use in the factory. Components are designed and matched for optimal performance - our engineering service leads new products from concept to reality. The product portfolio covers industrial filters, refrigeration and adsorption dryers, water chillers and condensate treatment.

#### **Adsorption Dryer and System Solutions**



Processing concepts consisting of filtration and drying are an integral part of various compressed air applications. Donaldson designs, projects and manufactures complete solutions that are tailor-made to individual customer requirements. This guarantees high reliability and simultaneously efficient operation.

#### **Process Filtration**



Where quality requirements are exceptionally high Donaldson has a selection of process filters which will enable you to reach maximum purity standards. For these purposes Donaldson supplies pre and sub-micro filters for liquids, sterile filters for compressed air, gases and liquids and sterile air systems.

#### **On-Compressor Filters**



Development and customised design of your filtration systems improves compressor performance. Donaldson has a complete range of filtration and separation products for compressors and can provide the most advanced filtration and media technologies including air oil separators, air intake filters, liquid filters, exhaust systems and system design.

#### Service



A European-wide service network provides filtration solutions that help protect people's lives, enhance equipment performance and protect the environment. Our range of services is especially designed to keep your production at peak performance and at the lowest cost of ownership.

### Industrial Filtration Solutions

### To keep work areas clean and productive

Donaldson products are a reflection of our commitment to research and development. For the very latest in advancements to time-tested filtration technologies, our products are reliable and built for efficiency.

Continually we set the standard for industrial air filtration technology with the most extensive engineered filtration solutions that help manufacturers explore new realms of productivity and performance.

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**Dust and Fume Collection** 



Donaldson provides the most reliable dust and fume collectors, from compact collectors to portable and to specially designed collectors for silo-venting for various applications. There is no better source to keep the air cleaner.

#### **Oil Mist Extraction**



Uncollected coolant and machining oil mist can cause slippery floors and collect on machines, walls and ceilings, creating an unpleasant, high-maintenance working environment. That's why Donaldson developed a broad range of mist collection products that remove sub micron contaminants from the plant atmosphere.

#### **Industrial Hydraulics**



Our company develops, manufactures and markets a full line of industrial hydraulic filters for the protection of machinery and components in hundreds of applications. We offer housings, filter heads, replacement cartridges, spin-ons and hydraulic accessories.

#### **Replacement Filters and Bags**



The efficiency and performance of a filtration system depends significantly on the choice of the filter media from which cartridges or bag filters are made. As a manufacturer of complete filter systems offering a broad spectrum of filter media, Donaldson fulfils all conditions to provide a filter medium chosen exactly to meet the requirements of the user and the properties of the dust, fume, compressed air, technical gases, process liquids or hydraulic fluids.

#### **Non-Donaldson Replacement Filters**



Donaldson now offers this know-how to users of dust collectors from other manufacturers. The filter elements for both Donaldson brands (Donaldson Ultrafilter and Donaldson Torit DCE) are manufactured in the specific dimensions according to Donaldson quality criteria and using Donaldson filter media. The range of products encompasses high-performance filter media for the most diverse fields of application.

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### Advanced Filtration

#### Performance under pressure

Donaldson focuses on critical applications that require a high degree of filtration, cleanliness and protection for processes and equipment.

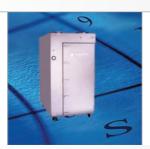
Our products are designed to remove particulate, odours and gaseous contaminants from air streams in highly sensitive environments, such as semiconductor processing, electronic sensors and photocopiers. We are a leading worldwide manufacturer of expanded microporous PTFE membranes, films and laminates. Tetratex® ePTFE membranes are used in a wide range of applications, including industrial filtration, microfiltration, healthcare, wet filtration, laboratory equipment and venting.

#### **Dust Collection and Air Pollution**



Tetratex® ePTFE filter media is the technology of choice in many industries. The benefits of Tetratex ePTFE membrane technology (increased throughput, lower pressure differential, increased life time, near zero particle emissions and reduced energy consumption) exceed the demands of modern plant operations.

#### **Filtration for Semiconductors**



Targeted at Airborne Molecular Contamination (AMC) as well as particulate, Donaldson's range of filters and LITHOGUARD® cabinets are designed to protect critical processes, tools and environments in semiconductor and flat panel display applications.

#### **Venting Solutions**



Tetratex ePTFE membrane media, filters and assemblies with optional carbon or desiccant layers protect electronic equipment, highly sensitive sensors, hearing aids, disk drives and medical devices against particles, water, oils and other liquids.

#### Microfiltration



Tetratex ePTFE membrane technology can satisfy the increasingly stringent requirements and demands of the microfiltration market. The unique microstructure of the Tetratex membranes, along with its chemical and thermal properties, make it ideally suited for a wide variety of gas and liquid microfiltration applications.

#### **Filters for Imaging Applications**



Our filters remove toner, ozone and other gases generated within copy machines and high speed printers. We improve the environment and safeguard the sensitive parts of the equipment



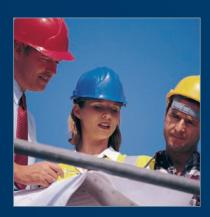
advanced-filtration@emea.donaldson.com

## Total Filtration Systems Support

#### From concept to delivery

#### **Our Customers**

By working to understand our clients' needs and providing on-going support, we've built long-term customer relationships. We've built these strong relationships, in part, through distinct routes to market. Donaldson is best known for its ability to work with OEM customers to develop filtration solutions for applications ranging from construc-



tion equipment to computer disk drives. Donaldson also has an extensive international network of distributors and dealers that provide quality Donaldson replacement parts to enduser customers. We support distributors and dealers with a complete product line, state-of-the-art distribution centers, a highly trained sales force, technical support and

informed customer service representatives.

#### Our Technology

Our super-computer-based modeling tools enable us to test our technologies at the first step of development, dramatically shortening the design cycle and reducing prototype expenses. But we don't stop there. Donaldson takes filtration technology to a higher level by combining it with other disciplines, including fluid dynamics, structural mechanics



#### Our Manufacturing

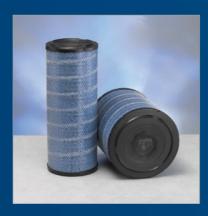
Our product diversity requires a wide array of manufacturing processes and facilities, each with a different specialisation. The foundation of our business is the ability to manufacture cylindrical, pleated-media air filtration cartridges around the world. Donaldson has state-of-the-art metal

fabrication capabilities for producing dust collection and gas turbine filtration housings. Other manufacturing plants process orders for exhaust, hydraulic and air intake filtration products for diesel engine applications. These diverse manufacturing capabilities and operations support our sales and customer service organizations and enable us to deliver a varied product mix to our customers around the world.



#### Our Ultra-Web® Nanofiber Filter Media

Our Ultra-Web® nanofiber filters are made from the smallest polymer fibers in the world. The small pores between these fibers provide large increases in filtration efficiency on small and sub-



micron contaminants. These fibers extend filter life in industrial and engine applications. When used in self-cleaning filtration applications, the nanofiber layer causes surface loading, preventing dust from entering the depth of the filter media, creating better filter cleaning and longer filter life. Donaldson's nanofiber filter products are patented and patent-pending around the world.



#### Regional Headquarters

Europe, Middle East and Africa, est. 1966

Donaldson Europe b.v.b.a.

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Belgium

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#### Worldwide Headquarters, est. 1915

Donaldson Company, Inc.

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Minneapolis, Minnesota 55440

USA

Tel. +1.952.887.3131

#### Regional Headquarters

Australia, est. 1966

Donaldson Australasia Ptv, Ltd.

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Wyong NSW 2259

Australia

Tel. +61.2.4350.2000

Regional Headquarters Greater China, est. 1970

Cremer Caman, con 25 / 0

Unit A, 21/F, CDW Building

388 Castle Peak Road

Tsuen Wan, N.T.

Hong Kong

Tel. +852.2405.8313

#### Regional Headquarters

India, est. 1992

Donaldson India Filter Systems Pvt. Ltd.

Naharpur Kasan

Manesar

Dist. Gurgaon - 122 001

Haryana, India

Tel. +91.124.2290.351

#### Regional Headquarters

Japan & Korea, est. 1964

Nippon Donaldson Ltd

1-8-/ Nishiki-cho

Tachikawa-shi

Гокуо 190-0022

Japai

Tel. +81.42.540.4111

#### Regional Headquarters

Mexico, est. 1979

Donaldson SA de CV

Angel Dorronsoro Gandara No. 106

Cd. Industrial, 20290

Aguascalientes, AGS

Mexico

Tel. +52.449.910.6150

#### Regional Headquarters

Sub-Sahara Africa, est. 1965

Donaldson Filtration Systems Pte. Ltd.

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7475 Cape Town

South Africa

Tel. +27.21.530.2900

#### Regional Headquarters

Southeast Asia, est. 1999

Donaldson (Asia Pacific) Pte. Ltd.

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