ADVANCED SOLUTIONS FOR OIL-FREE COMPRESSED AIR AND GAS

OIL-FREE PURIFICATION & DRYING

Donaldson
FILTRATION SOLUTIONS

YOUR PROCESS DEMANDS OIL-FREE. WE DELIVER.

In critical processes like packaging, spraying, conveying, pneumatics, and instrumentation, oil-free compressed air and gas aren't preferences - they are requirements.

Contamination like liquid oil, vapor, or odors can disrupt production, damage equipment, or compromise compliance.

Donaldson offers a complete range of oil-free purification technologies, including advanced filters, dryers, and activated carbon adsorbers.

Engineered for high-stakes applications, our solutions provide the purity your process demands - and the reliability you expect.

Filter Elements for Oil-Free Compressed Air and Gas

Clean Air Starts with the Right Elements.

Donaldson's filter elements help protect sensitive downstream processes. They are compatible with Donaldson housings for both centralized and point-of-use installations.

DF-T Elements

DF-T (Three) Filter Elements combine three filtration stages in one compact unit: a coalescing layer removes liquid aerosols, an activated carbon layer adsorbs oil vapors, hydrocarbons, and odors, and a final particle filter captures fine solids - ideal for space-constrained systems.

An additional broad **range of activated carbon filter elements** offers two-stage purification: activated carbon adsorption removes oil vapors, hydrocarbons, and odors, followed by depth particle filtration to capture residual solids.

Oilfreepac™ Compressed Air Purification Packages

Four Stages. One Seamless System.

The Oilfreepac™ Smart OFP and Oilfreepac™ HL-OFP oil-free air purification packages combine advanced filtration and adsorption technologies in compact, modular systems.

1. Pre-Filtration with UltraPleat™ Media Technology – Removes coarse and fine solid particles, oil aerosols, and moisture to protect downstream components.
2. Drying Stage – Utilizes adsorption technology to reduce water vapor and achieve a low pressure dew point.Reduces the levels of carbon dioxide, sulfur dioxide, and nitrogen oxides.
3. Activated Carbon Adsorption – Removes oil vapor, hydrocarbons, and odors.
4. After-Filtration with UltraPleat™ Media Technology – Captures any remaining particles released from previous stages, providing purified air at the point of use.

Oilfreepac™ HL-OFP systems are designed to consistently provide purified breathing air in a flow range from 100 to 1,000 m³/h / 60 to 600 scfm at 7 bar g / 100 psig.

The Oilfreepac Smart OFP oil-free air systems, with a flow range from 5 to 100 m³/h / 3 to 60 scfm at 7 bar g / 100 psig.

Dedicated Activated Carbon Adsorbers

Oil-Free Air from Small-Scale to High-Flow Demands

Our single-stage Ultrasorp AKC and Ultrasorp AKC Smart adsorbers provide efficient removal of oil vapors, hydrocarbons, and odors in compressed air systems.

The high-capacity Ultrasorp AKC adsorber unit handles flows up to 8,750 m³/h (5,150 scfm) for large-scale operations, while the modular Ultrasorp AKC Smart adsorber covers 5 to 100 m³/h (3 to 59 scfm), ideal for point-of-use or compact installations.

Both use highly effective activated carbon technology to support clean, oil-free air in critical processes.

ISO CLASS 1 PURITY MADE POSSIBLE

Donaldson offers a comprehensive range of filtration and purification technologies designed to meet the high standards for oil-free compressed air. Our solutions support critical applications across a variety of industries, helping protect sensitive processes and provide reliable system performance With our filters, dryer packages and activated carbon adsorbers, a residual oil vapor content of <0.003 mg/m³ (Class 1 acc. to ISO8573-1:2010) is achievable at appropriate sizing and operating conditions. Designed for seamless downstream installation after any type of compressor, our technologies provide the flexibility needed for integration with a wide range of setups.

Backed by decades of expertise, Donaldson systems deliver clean, dry, and dependable air - where and when it matters most.

Proven in the field. Trusted across industries.

Where Clean Air Means Business

Donaldson oil-free air and gas purification solutions support a wide range of demanding applications, including:

+ Automotive Paint & Finish Operations – Pure, oil-free air for consistent spray patterns and surface quality
+ Electronics & Semiconductor Manufacturing – Ultra-clean air helping to protect sensitive components from contamination
+ Food & Beverage Production – Oil-free air for direct product contact, packaging lines, and pneumatic control
+ Industrial Robotics & Pneumatics – Contamination-free air helping to prevent valve clogging and wear in automated systems
+ Precision Optics & Glass Fabrication – Spotless compressed air for delicate handling and coating processes
+ Chemical Processing – Purified gases and air minimizing reaction interference and protecting downstream equipment
+ Energy & Power Generation – Oil-free air and gas for instrumentation, turbines, and emissions-sensitive systems
+ Plastic Injection Molding – Clean air for mold venting, drying, and pneumatic valve control
+ Metal & Steel Fabrication – Clean compressed air for CNC machinery, laser cutting, and forming operations

For more information on our oil-free solutions, or for help identifying the right solution for your application, contact your local Donaldson representative.

donaldson.com

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