FOEVAIR

FOEVAIR | MULTI-BRAND AFTERMARKET FILTRATION

MULTI-BRAND AIR COMPRESSOR AFTERMARKET FILTRATION SPECIALIST

Air Filters | Oil Filters | Air/Oil Separators | OEM Spare Parts | Private Label

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Shanghai Foevair Technology Co., Ltd.

Providing Professional Air Purification Solutions for High-end Compressor Customers



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ENGINEERED FOR THE COMPRESSED AIR AFTERMARKET

Foevair is a professional manufacturer and supplier specializing in air compressor aftermarket filtration products and replacement parts.

We develop and manufacture filtration solutions for a wide range of compressor brands and applications, helping distributors, service companies and industrial customers simplify sourcing while maintaining reliable equipment performance.


CERTIFICATE OF CONFORMITY OF QUALITY MANAGEMENT SYSTEM CERTIFICATION

NO: 00025Q1810R0S

This Is To Certify That The Quality Management System Of

XINXIANG FOEVAIR TECHNOLOGY CO.,LTD.

No.18, West Of Qiaolige Village, Mengzhuang Town, Huixian City, Xinxiang City, Henan Province

Unified Social Credit Code: 91410782MAE4XXGF00

Quality Management System Complies With:

GB/T 19001-2016/ISO 9001:2015 Standard

Scope of Certification:

Manufacturing And Selling Of Air Compressor Filters, Filter Elements (Except For Licensing Requirements)

Date of issue: 2025-7-30
Change date:2025-12-19
Expiry date: 2028-7-29

Our Vision

To become a trusted global aftermarket filtration partner for compressed-air systems.



BUILT FOR THE GLOBAL AFTERMARKET

01 MULTI-BRAND COVERAGE

One supplier for multiple compressor brands.

02 AFTERMARKET FOCUS

Products developed around real replacement requirements.

03 ENGINEERING SUPPORT

Support for part-number, drawing and sample-based development.

04 FLEXIBLE MANUFACTURING

Standard, customized and private-label production.

05 COMPETITIVE VALUE

Reliable products with competitive total cost.

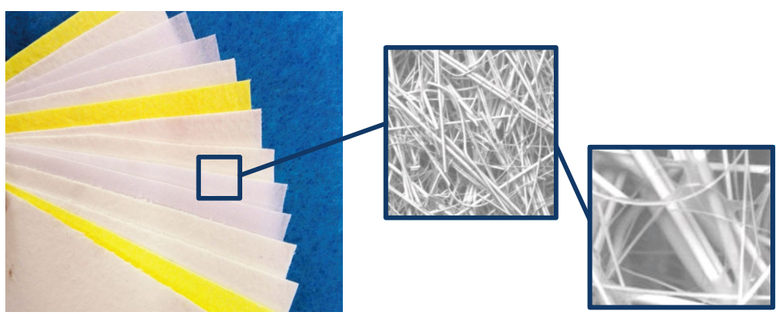
OEM SPARE PARTS & REPLACEMENT SOLUTIONS

Foevair continues to increase its investment in technology and R&D, establishing a mature industry - academia - research integrated system. The company develops complementary products in sync with its main compressor manufacturer, collaborates with renowned universities through university- enterprise partnerships, and engages with global premium raw material suppliers for customized R&D initiatives. The company possesses comprehensive process monitoring and control capabilities covering the entire lifecycle—from raw materials and production processes to final product delivery—and leverages its specialized R&D, process engineering, and testing teams to provide customers with more reliable and tailored system-level filtration solutions through simulation analysis and experimental validation.

Tailored to the specific characteristics of Industry-Specific | **Different industries Customized development services** | **Customization**

In our approach to product quality control, we embrace the spirit of craftsmanship by assembling dedicated technical teams to conduct customized development tailored to the unique characteristics of various industries, as well as to the diverse operating conditions and complex environments in which air compressor equipment is deployed. This ensures optimal fulfillment of specialized requirements and demonstrates the stability of our composite cores through rigorous data analysis.

Our company utilizes filtration materials from U.S. manufacturers such as HV, LANDY, and AHLSTROM KOREA to develop low- resistance, high-efficiency separation materials suitable for a wide range of operating conditions. We develop customized design solutions tailored to variations in flow rate, concentration, and temperature during operation, ensuring compliance with our clients' requirements for stability, long-term reliability, and environmental sustainability.



AIR Oil separator design boundary conditions

01 Performance Boundary Conditions

- Model type (grid-frequency, variable-frequency, two-stage compression, vacuum);
- Equipment intake airflow rate, exhaust pressure, temperature;
- Pipeline dimensions for oil and gas cylinder design;
- Standards met in the design of air compressors;
- Filter element maintenance and service interval;

02 Dimensional Boundary Conditions

- Oil storage tank design dimensions and tolerances;
- Oil return pipe design structure and dimensional tolerances;

03 Special Requirements

- Objectionable substance;
- Specified materials;
- Specify process requirements;

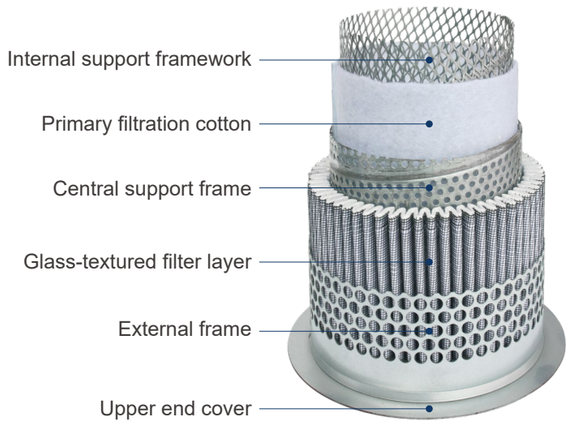
04 Functional Boundary Conditions

- Maintainability requirements;

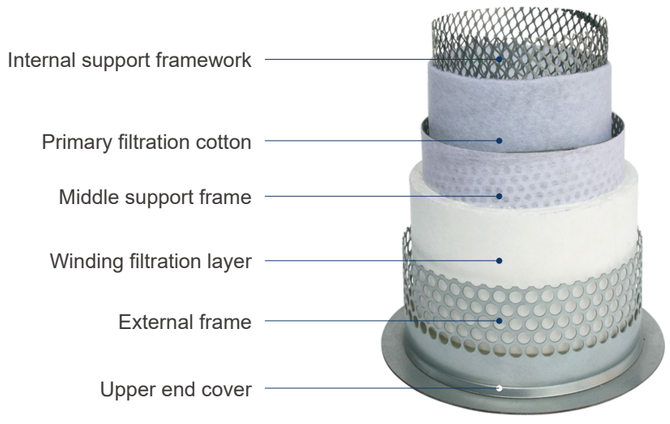
Air oil seperartor Filter Element

Project	Ask	Security Measures	Inspection and Control Measures	Yes/No – Satisfaction
Separation efficiency	The oil separation core shall be capable of separating an oil-gas mixture with an inlet oil concentration of 3000 PPM into an oil-gas mixture with an oil concentration of les than 1–3 PPM at a standard flow rate of 16³ m³/min (7 bar).	Perform rapid prototype validation through calculations and by drawing on the experience of similar products.	After the structural design is finalized, conduct a random inspection once per year.	Yes
Flow resistance	The pressure drop of the new oil-filled core under normal operating conditions is 4000 exceed 0.2 bar.	Perform rapid prototype validation through calculations and by drawing on the experience of similar products.	After the structural form is finalized, Random inspections every six months or annually	Yes
Filter element strength	Axial and radial pressure ≥ 8.8 bar	Perform rapid prototype validation through calculation.	During structural shaping	Yes
Life span	The minimum service life of the oil-filled core under normal operating conditions is 4000 hours.	Draw on the experience of similar products and participate in the installation and testing process alongside the users.	During structural shaping	Yes
Electrical conductivity	Resistance ≤ 10Ω	Draw upon the experience of similar products and install conductive sheets for connection.	100% online detection	Yes
Temperature resistance	149 °C × 5 hours; sealing component tensile strength ≥ 9 MPa	Use a sealing gasket that complies with GB/T 539.	After the structural design is finalized, conduct batch-based random sampling.	Yes

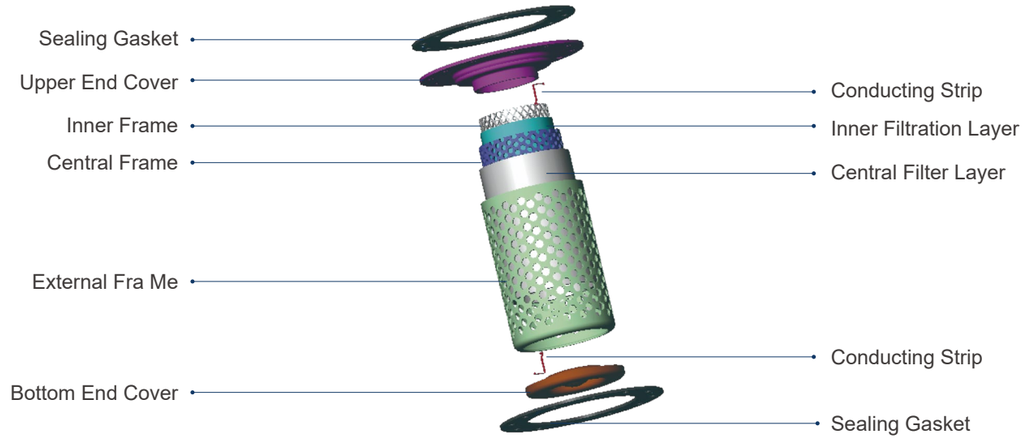
Glass-textured air oil separator / filter element structural diagram



Winding type air oil separator / filter element structural diagram



Design Concept – 3D Exterior



Design Concept – Product Component Assembly

Built-in Air Oil Seperartor					
Sealing gasket	Asbestos board	Off-white asbestos board	Inner frame	Punched-plate	Weld
		Graphite asbestos board		Diamond mesh	Weld
		Imported Iron Red			Corkscrew spin
		Imported Coffee Brown	Central Filter Layer	Winding type	Glass fibre
	Omolding ring	Nitrile rubber		Folding	
		Fluoroplastic rubber		Fold + Wrap	
Upper end cover	With steps	Non-fluor inated galvanized steel sheet	Inner filtration layer	Blue	Primary-effect felt
	Without steps			White	
External frame	/		Static electricity shield	65Mn	
Central Frame	Punched-plate	Weld	Bottom end cover	Non-fluorinated galvanized steel sheet	
		Corkscrew spin			



Upper cover — with step



Upper cover — without steps

QUALITY BUILT INTO EVERY FILTER

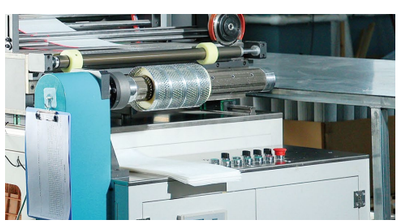
Laser Cleaning Process

Laser cleaning removes residual lubricants from end-cap stamping and optimizes workpiece surface roughness for more reliable adhesive bonding.



Automatic Winding Machine

Automatic adjustment of winding tension ensures uniform compaction across the entire filter layer, delivering excellent coalescingseparation performance.



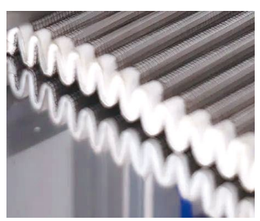
Adhesive Potting Process

Precise control over adhesive temperature and dispensing volume during the potting process ensures superior product stability.



Filter Material Folding Process

The filter layer is equipped with both a support layer and a protective layer on its inner and outer surfaces, ensuring that the core filter material is not damaged. The folded filter layer features a large filtration surface area, thereby extending the product's service life.



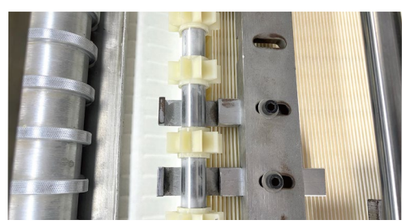
Outer Metal Cage Bonding Process

The frame structure features no welds, eliminating the need for secondary galvanizing and resulting in a more aesthetically pleasing product.



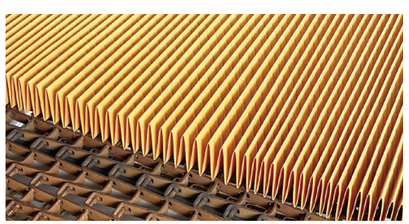
Paper Folding Technique

By adjusting equipment components, different pleat heights of the filter media can be achieved to improve pleat stiffness, while preventing filter failure caused by crushing of the filter media.



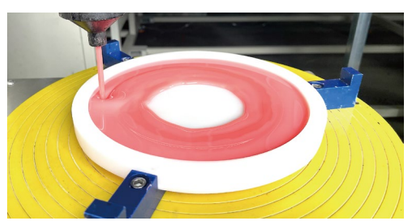
Solid Filter Paper Drying Process

A tough curing layer that enhances the filter paper' s resistance to high temperatures, oils, and moisture.



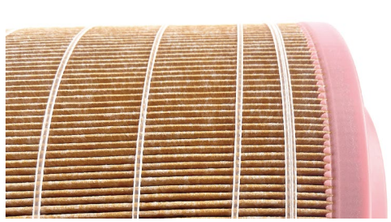
Pu Foaming Process

The adhesive dispensing equipment precisely regulates the adhesive mixture ratio under controlled parameters such as temperature and humidity, ensuring compliance with the various application requirements for plastic end caps.



Adhesive Strapping Fixing Process

By adjusting the equipment temperature, rotational speed, and nozzle diameter, the adhesion between the rubber hose and the filter layer is enhanced, and the structural strength of the product is increased, thereby preventing failures such as increased pressure differential or shortened service life caused by folding or deformation of the filter layer.



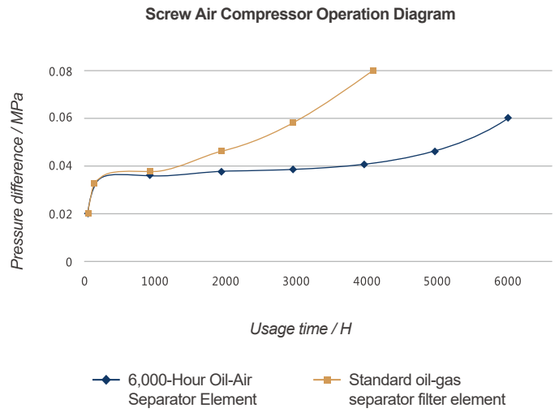
Air Oil Separator



Composite Air Oil Separator

Under normal work pressure：At operating pressures between 0.7 MPa and 1.3 MPa, the initial pressure differential of the oil-air separator ranges from 0.15 bar to 0.25 bar. The oil content in the compressed air can be controlled to below 3 ppm, and oil mist particles can be kept below 0.1 μm.

The function of the oil-air separator is to separate oil mist particles from the oil-air mixture, thereby producing cleaner compressed air; once separated, the oil mist particles are returned to the compressor for recirculation via the oil return line.



Technical requirements for Air Oil Separator

Separation efficiency

The oil separation element shall be capable of separating an oil-air mixture with an inlet oil content of 3000 ppm into a mixture with an oil content of less than 1–3 ppm at a standard flow rate and a pressure of 7 bar.

Flow resistance

The pressure drop of a new oil separator element at standard flow conditions should not exceed 0.2 bar.

Filter element strength

Axial and radial pressure ≥ 8.8 bar

longevity

The minimum service life of the oil separator element under normal operating conditions is 6,000 to 8,000 hours.

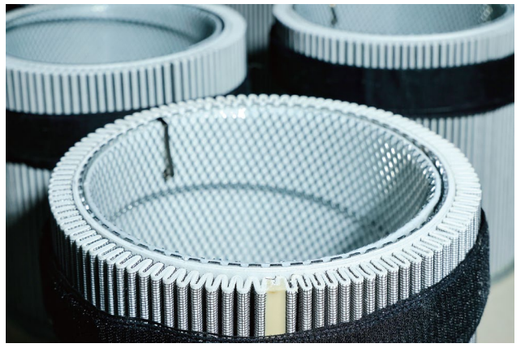
Electrical conductivity

Resistance ≤ 10 ohms

Temperature resistance

149°C × 5 hours,
Seal tensile strength ≥ 9 MPa

Pleated Air Oil Separator



Specifications

- **Under normal work pressure**：At pressures between 0.2 MPa and 1.3 MPa, the initial pressure differential of the oil-air separator ranges from 0.15 bar to 0.25 bar.
- The oil content of the compressed air can be controlled to below 3 ppm, and oil mist particles can be controlled to below 0.1 μm.

Features

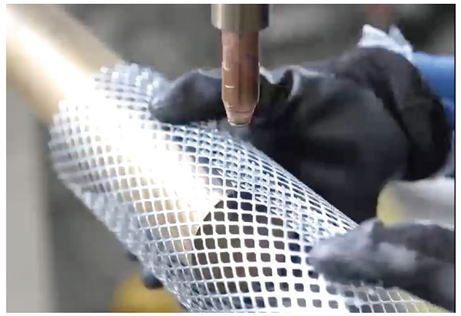
- Large frontal area
- low initial resistance
- long service life

Wound-type Air Oil Separator



Features

- The product offers high stability; the company's quality system ensures that standards for monitoring, measurement, and control are met across all stages—from initial sample development to pilot runs and mass production.
- The filter media for the oil-air separator elements utilize ultra-fine glass fibers sourced from US-based companies HV, Lydall, and Johns Manville.
- Featuring proprietary design, the product delivers lower oil carryover (≤3 ppm), lower pressure drop (≤0.2 bar), and extended service life.



The micron-scale glass fiber layer within the oil-air separation element separates oil droplets from the compressed air; these droplets then coalesce into larger ones and return to the compressor's oil circuit. This separation process operates at the sub-micron level, thereby minimizing both the compressor's oil consumption and the amount of oil entering the compressed air piping. Oil-air separation is achieved through a three-step process:

Step 1 Oil Droplet Separation

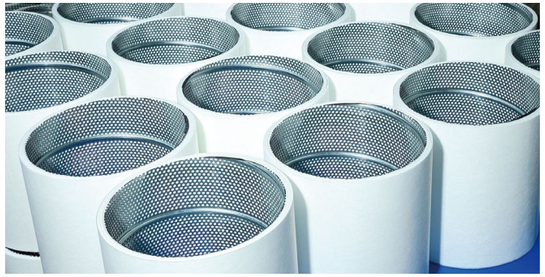
Fiber quantity, diameter, and oil-gas flow velocity are the determining factors for separation efficiency. (Filtration fiber diameter: 3 μm). (Figure 1)

Step 2 Separation of Fine Oil Droplets

During the first separation stage, fine oil droplets coalesce into larger ones; these droplets pass through the glass fiber layer and settle to the bottom of the clean-air side under the influence of gravity. Any remaining trace oil droplets in the air are separated out during the second stage. (Figure 2)

Step 3 Oil Return Collection

Based on the design principle of the oil-gas separation element—where the oil-gas mixture flows from the outside inward—the screw compressor's oil-gas separator utilizes a scavenge line positioned at the center of the element (extending slightly above the bottom) to extract the oil accumulated at the element's base. (Figure 3)



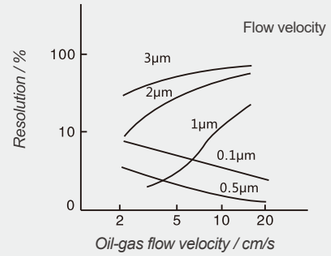


Figure 1 **Oil droplet separation visualization (filter element fiber diameter: 3 μm)**

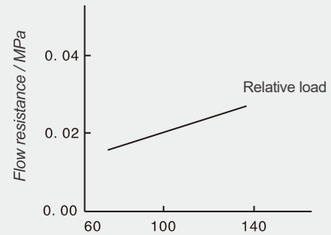


Figure 2 **Relationship between relative load and flow resistance**

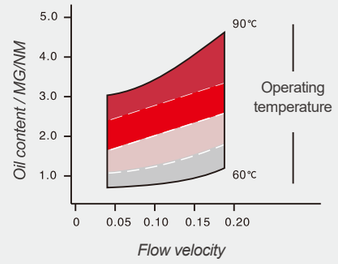


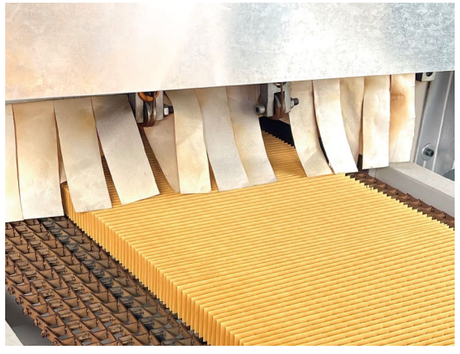
Figure 3 **Relationship among oil content, flow rate, and temperature**

Air Filter Element



Features

- The air filter media is made of wood pulp filter paper from HV (USA) and Ahlstrom (South Korea), designed to remove impurities such as dust, sand particles, moisture, and oil mist suspended in the ambient air.
- **Filtration rating:** 5 μm; filtration efficiency: 99.8%.
- The service life of the air filter is approximately 2,000 hours, though it is significantly affected by the operating environment.





Plastic End Cap Air Filter / Filter Element

- **Plastic End-Cap Air Filters:** We manufacture single-port and dual-port configurations to suit different installation methods.
- **Plastic colors:** Black, pink, bright red, and blue.
- **Plastic hardness (Shore A):** 20, 26, 30, 60, and 90.
- **Filtration rating:** 5 μm; filtration efficiency: 99.8%.

Air Filter/Filter Element with Iron End Caps

Air filters with steel end caps are available in single-pass, dual-pass, and custom non-standard configurations. We select filter media with varying filtration ratings based on specific product requirements, enabling us to offer users products that combine lower pressure drop with higher filtration efficiency.



Oil Filter

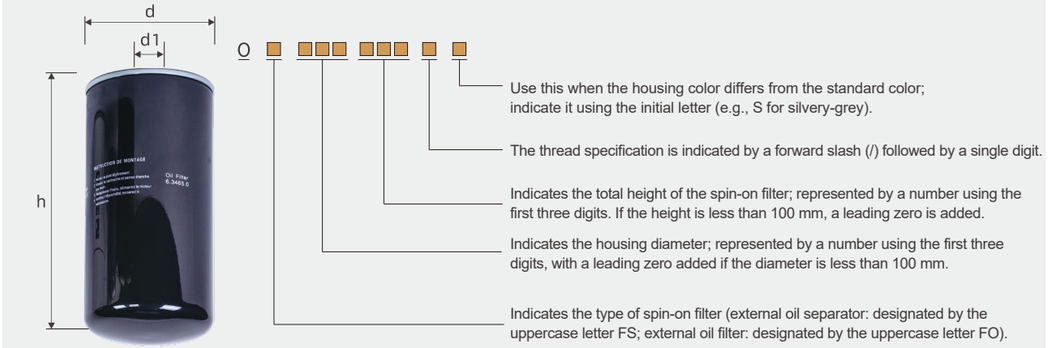


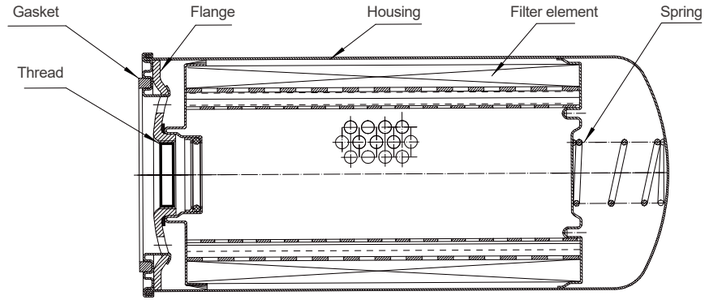
Features

- The lubricating oil filter element is constructed using composite ultra-fine glass fiber media and wood pulp filter paper from Ahlstrom (Korea); it filters out solid particles, impurities, and oil degradation products, thereby protecting the main unit and other operating components.
- **Filtration rating:** 10–15 μm.
- The service life of the lubricating oil filter element is approximately 2,000 hours, though this is significantly influenced by oil quality and operating conditions.



Technical Specifications for Lubricating Oil Filter Elements





Important Notes

- Apply lubricating oil to the surface of the gasket during installation.
- Using inferior lubricating oil or mixing oils of incompatible grades accelerates carbon deposit formation, thereby shortening the service life of the oil filter element.

OUR MARKET
ONE GLOBAL MARKET. MULTIPLE CUSTOMER NEEDS.

FOEVAIR serves the professional compressed-air aftermarket through multiple customer channels.

COMPRESSOR DISTRIBUTORS

Reliable replacement products for daily aftermarket sales.

COMPRESSOR SERVICE COMPANIES

Filtration products for maintenance and overhaul applications.

INDUSTRIAL DISTRIBUTORS

Compressed-air filtration products for MRO and industrial customers.

AFTERMARKET BRANDS

Manufacturing support for established filtration brands.

OEM / ODM CUSTOMERS

Customized products based on drawings, samples and specifications.

PRIVATE LABEL PARTNERS

Your brand. Our manufacturing capability.

PRODUCT PORTFOLIO
COMPLETE FILTRATION SOLUTIONS

FOEVAIR provides a comprehensive portfolio of compressor filtration products.

Product	Primary Function
Air Filters	Protect compressor intake systems
Oil Filters	Remove contaminants from compressor oil
Air/Oil Separators	Separate oil from compressed air
Replacement Parts	Support compressor maintenance
Custom Products	Meet specific customer requirements

Our Product Philosophy

Protection
Protect critical compressor components.

Efficiency
Support stable airflow and pressure characteristics.

Performance
Maintain reliable filtration performance.

Durability
Designed for demanding industrial environments.

START WITH A PART NUMBER.

FOEVAIR is seeking long-term partners including authorized distributors, compressor service companies, industrial distributors, aftermarket brands and OEM/ODM or private-label customers.

SEND US

Part Number

Compressor Model

Product Sample

Drawing

Specification

Annual Demand

Build a product program.



FOEVAIR

CROSS-REFERENCE FIND THE RIGHT REPLACEMENT

From OEM Part Number to FOEVAIR Replacement.

SEARCH

Looking for a filter, Brand, Dimensions?

Reference, name, brand..

Abac	Compair	Kaeser
Atlas Copco	Donaldson	Kobelco
Alup	Elgi	Kaishan
Airman	Fini	Mann
Boge	Fusheng	Quincy
Ceccato	Ingersoll Rand	Sullair