porvair
filtration group

Filtration Solutions
Aeropace and Defence

Hydraulic, Fuel, Lubrication, Power Control,
Coolant and Environmental Systems

World Class Filtration Solutions

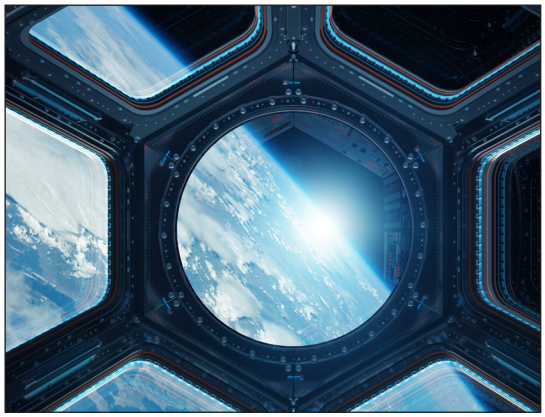
Porvair Filtration Group

Porvair Filtration Group is an international leader in the development and supply of materials and products for applications in filtration and separation.

Porvair manufactures in the UK and USA and has an extensive network of sales offices and distribution channels throughout the world. Our expertise is broad and deep, with products used in markets such as:

- Aerospace and Defence
- Food and Beverage
- Gasification
- Microelectronics
- Nuclear
- Pharmaceutical
- Porous Media and OEM Materials
- Printing
- Process
- Transportation
- Water

Our ongoing success is based on a dedication to technical excellence and superior customer service. Our future will continue to be built on our investment in research and development to provide innovative new products that exceed the expectations of our customers in solving the challenges they face.



Porvair designs and manufactures specialist filtration components and assemblies to meet demands of the aerospace and defence industry for contamination control.

Our filters protect vital sub-systems such as flight controls, fuel management, coolant, environmental, power control and fuel inerting systems, thrust reversers, braking and steering, power generation and air intakes in aircraft, helicopters, military vehicles, missiles and spacecraft.

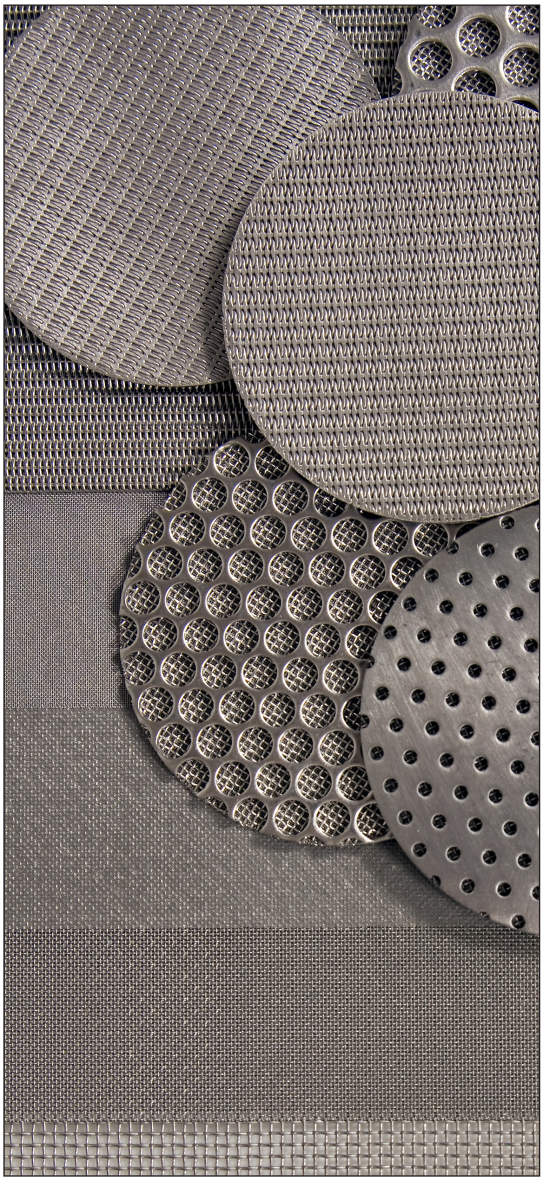
Porvair has purpose built design, manufacturing and test facilities in the UK and USA for its aerospace products.

Our cellular production layout covers key operations in the manufacture of our products, including:

- assembly and test
- filter cartridge assembly
- machining
- welding.

We manufacture to customers' designs and specifications. Our key areas of expertise include:

- supply chain management of parts
- component assembly
- testing to customer specifications
- products include: screens, filter elements, assemblies, differential pressure indicators, valves and manifolds.



Last Chance Filters and Screens

Designed to provide critical protection these filters and screens come in a multitude of forms. They can be built into a variety of fittings and valves or supplied as material.

Materials of construction

- Sintered woven wire
- Sintered metal powder
- Sintered metal fibre
- Stainless steel or nickel-based alloys

Methods of construction

- Resistance welding
- Fusion welding
- Electron beam/laser welding lab
- Vacuum brazing

Filter Elements

To provide system level cleanliness and clean up Porvair offers a variety of filter element types with performance and construction tailored to specific operating conditions. Typical absolute filtration ratings are 5, 10, 15 and 25 micron.

Polymeric or resin-impregnated cellulose

Moderate dirt-holding capacity and light-weight. Offer a cost-effective solution for low pressure and temperature lubrication and fuel filtration.

Glass fibre

Reduced pressure drop, increased dirt-holding capacity (life) and can withstand greater pressures and temperatures than cellulose filters.

Sinterflo® F - Sintered metal fibre

Unparalleled performance with extreme of temperature and pressure. Studies indicate a superior resistance to release of captured contamination increasing component life and reducing through life operating costs.

Sinterflo® M - Sintered metal mesh

Elements can also be constructed from sintered metal mesh.

Differential Pressure Indicators (DPI's)

'On condition' maintenance is a feature of modern fluid power technology. Our DPI's provide a signal to show the extent of filter blockage, thus reducing maintenance time and costs by eliminating unnecessary filter element change.

We can provide DPIs with many special features, including:

- Visual and/or electrical indication
- Thermal inhibiting
- Flow surge suppression
- Non-reset function.

Filtration Accessories

- **Anti-drain valves** prevent loss of system fluid or ingress of air during element change. A special feature can also prevent fluid flow should the element not be fitted.
- **By-pass and by-pass indicating valves** allow fluid flow should the element block during service.
- **Pressure relief valves** protect sensitive equipment by relieving over-pressure conditions.
- **Differential pressure switches** provide an indication of low pressure or flow.
- **Water drain valves** for use on fuel system filters.
- **Water separators** to extract free water from system air supply.
- **Check valves**.
- **Self-seal coupling** for rapid connection to service equipment.

Filter Kits

For customers wishing to integrate filtration accessories into their valve body or manifold, we supply kits of parts, which can include:

- filter elements and bowls
- element condition indicators
- valves
  - anti-drain
  - bypass
  - pressure relief
  - shut-off.

Filter Manifolds and Assemblies

Filter Manifolds

Designed to integrate a variety of filtration components within a single manifold, including:

- filter elements
- impending and actual blockage indicators
- anti-drain valves
- by-pass, check and pressure relief valves
- pressure transducers
- temperature sensors
- water separators (air systems)
- inlet strainers
- system integration features

Filter Assemblies and Housings

Porvair manufactures filter assemblies for hydraulic, fuel, lubrication and air systems. Applications include:

- hydraulic pressure, return and case drain
  - pressures up to 10,000psi.
- thrust reverser actuation systems
- fuel supply for both main engine and APUs
- fuel inerting systems
- gearbox lubrication.

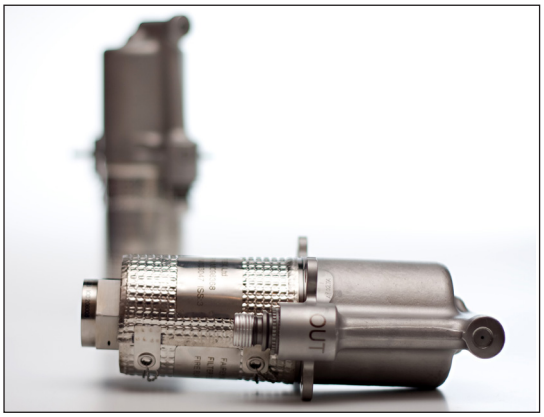
Air Filtration

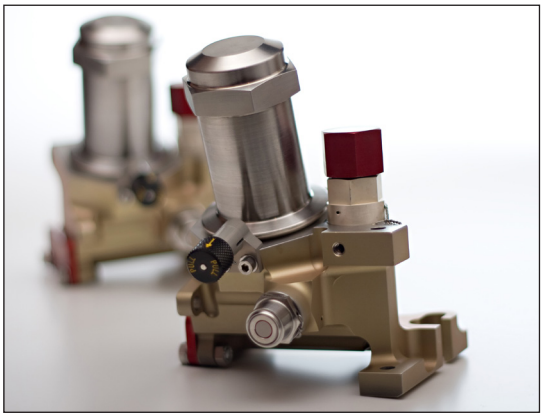
We supply a range of equipment to condition air for systems, including engine air intake, crew comfort and protection of sensitive electronic equipment.

- Air Particle Separators provide high efficiency air/particle separation in highly contaminated environments.
- Air conditioning panels are designed to remove moisture, odour and particulate contamination from air flows.

Fuel Inerting Filters

The elimination of flammable fuel vapours in commercial aircraft fuel tanks is a top airworthiness priority. Lightweight onboard aircraft fuel tank inerting systems address this issue and can easily be fitted within existing aircraft designs. The systems reduce oxygen from its source of engine bleed air, delivering nitrogen-enriched air into the aircraft fuel tanks reducing the risk of fuel tank flammability. Our filtration system ensures that the source of engine bleed air delivered to the sensitive air separation modules in the inerting system is free from both liquid and particulate contamination.





We have a policy of continuous improvement in all areas of our business. Listening to customers' present and future requirements is a vital part of our operations and a key part of driving change. We understand that product development involves building multidisciplinary teams, both within our company, and in partnership with our customers.

This continuous development of products and materials is vital to enable us to offer new and better solutions.

We have a fully equipped test house and laboratory, and our experienced design engineers use the latest technologies to give full structural assurance capability.

Research and Development

Development plays a fundamental part in our operations and has resulted in us developing a number of custom designed products based on our established porous polymeric materials (Vyon®) and sintered metal media (Sinterflo®), as well as developing a range of filters for fuel tank inerting applications.

We operate across many filtration and separation markets and there is significant interaction between each division in terms of product research and development.

Our new product development team is drawn from scientists and engineers from across all divisions, encouraging new ideas and new solutions. The success of this approach has been in the interaction of chemists and engineers working together to find practical solutions to some extremely complex scientific challenges identified in the chosen market areas.

Manufacturing

Our filters, filtration systems and a range of porous materials are produced at our sites worldwide. Our production capabilities include the complete element or cartridge construction, along with the build of entire housings and assemblies.

We boast specialist fabrication skills and techniques in all of our manufacturing sites around the world and extensive ISO cleanroom facilities.

Engineering

From initial design concept through to manufacture and validation to in-service support, our highly experienced team of dedicated engineers work to develop the optimal filtration solution. Our knowledge and strong ethos of working closely with our customers, ensures that we supply filtration solutions that meet specific market requirements.

Quality

Our policy is to provide products and services that consistently satisfy the commitments made to our customers by complying with their requirements, working together as a team and achieving continual improvement in our skills, systems, processes and performance.

We have a dedicated team of quality professionals with many years' experience in the definition, implementation and maintenance of quality management systems meeting multiple industry requirements. This extends across the workforce through a strong quality culture and a philosophy of 'getting it right first time' driven from the top of our organisation.

porvair
filtration group

Porvair Filtration Group Ltd.
1 Concorde Close
Segensworth, Fareham
Hampshire, PO15 5RT, UK
Tel: +44 (0)1489 864330
Email: info@porvairfiltration.com

Porvair Filtration Group Inc.
301 Business Lane
Ashland, Virginia 23005, USA
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com

Porvair Filtration India PVT. Ltd.
401, 4th floor, Plot No C-3, Centrum
IT Park, Wagle Estate, Near Mulund
Checknaka, S.G. Barve Road, Thane
West, Maharashtra, 400604
Tel: +91 22 2081 1148
Email: infoIN@porvairfiltration.com

www.porvairfiltration.com

PFG100 / Jan 2009 / Rev7: Dec21