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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, USA and China and have an extensive network of sales offices and distribution channels throughout the world. Our expertise is wide and varied, with products used in markets such as:

- Aerospace and Defence
- Food and Beverage
- Gasification
- Life Sciences and Scientific
- 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 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 that they face.

Aerospace and Defence

Porvair designs and manufactures specialist filtration equipment to meet the exceptional technical challenges of the aerospace and defence industry, for contamination control and condition monitoring in hydraulic, fuel, lubrication, coolant and air systems.

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

Food and Beverage

Porvair’s range of filters is installed to effectively remove particulates, yeast, mould spores and bacteria for use in applications such as: wineries, breweries, cider, mineral water, soft drinks, food and dairy, culinary steam sterilisation and sanitisation, powder handling and sparging.

Our products are manufactured under strict quality process controls and are fully validated and technically supported by our qualified scientists and laboratory services. Our polymeric filter cartridges, manufactured from FDA-approved media under clean room conditions, include a wide range of end adaptors to enable easy retrofitting into new or existing competitor housings and all membrane filter cartridges are 100% integrity tested during production.

Gasification

Porvair is active in a number of areas concerning the generation and safeguarding of energy production. We are leading innovations in gasification technologies to enable the production of synthetic natural gas (syngas or biogas) as part of alternative clean energy techniques.

Life Sciences and Scientific

Porvair manufactures a range of BioVyon™ sintered porous plastic materials and products for the bioscience and scientific industries. Manufactured to current good manufacturing practices (cGMP), the BioVyon™ range is made to demanding regulatory standards as required by the WRAS, FDA and USP.
Microelectronics

Porvair offers a range of high purity gas filtration products to the semiconductor market, as well as to OEM suppliers in the microelectronics industry. Applications for this product range include gas safety management, exhaust venting systems, flow control, mass flow control, needle valve replacement, laminar flow diffusing, pressure snubbing and flame arresting.

Nuclear

Porvair has over 35 years’ experience supplying high quality filtration solutions to the nuclear industry. Working across the fuel cycle, we offer solutions to the power generation, fuel production, reprocessing, decontamination, decommissioning and waste packaging sectors.

Pharmaceutical

The manufacturing of our high performance cost-effective products is underpinned by our quality assurance programme, cGMP practices and cleanroom environment to ensure products meet the stringent requirements of the pharmaceutical, generics and veterinary medicine industries. Applications for these products include sterile filtration for LVP and IVs, sterile air for fermenter feeds, sterile vent filters, solvent extraction, veterinary products, ophthalmic solutions, sterile growth media and sera products.

Porous Media and OEM Materials

Porvair manufactures an extensive range of porous materials to provide optimum solutions for a wide variety of applications. These materials can be purchased for OEM products or integrated and packaged into finished products.

Printing

Inprinta is the Inkjet sales division of Porvair Filtration Group. Inprinta designs and manufactures a wide range of in-line and last chance filters to offer solutions for inkjet filtration throughout the body of the printer. These self-contained filter assemblies are provided for varied types of inkjet applications including CIJ coding, textile, ceramics and graphics.

Process

Porvair supplies the process industries with innovative and performance driven filtration equipment (elements, cartridges and vessels). We provide highly specialised filtration solutions for use throughout the manufacturing process, offering proven filtration solutions for the production of a vast range of chemicals including: nitric acid, maleic anhydride, ether, sulphuric acid, phosphoric acid, sodium chlorate, solvents as well as HDPE and LLDPE.

Transportation

Porvair’s experience and comprehensive product offerings cover everything from some of the world’s largest internal combustion engines to intricate inline hydraulic filters used for the protection of actuators and valves.

Water

Porvair supplies a range of diffused aeration products for the treatment of both industrial and municipal effluent. We also manufacture products to eliminate organic, chemical and other debris to meet stringent regulations for drinking water, as well as for the chemical, industrial, pharmaceutical and science markets.
Our Locations

Segensworth, Hampshire, UK
Porvair Filtration Group’s head office is located in Segensworth, UK. The following business units also operate out of Segensworth:
• Aerospace and Defence
• Energy
• Nuclear

New Milton, Hampshire, UK
Our New Milton Division is home to our process departments, which include:
• Food and Beverage
• Pharmaceutical
• Polymer
• Printing
• Process

Wrexham, UK
Our Wrexham Division is the manufacturing site for our sintered porous plastic and metal materials. These materials are used to make our filters, primarily for the chemical processing, gasification and nuclear industries, as well as a wide range of other applications.
• Biosciences and Scientific
• Porous Media and OEM Materials
• Water
Ashland, Virginia, USA

Ashland Division in Virginia is our USA head office, as well as the USA manufacturer for many of the industries we are involved with.

This includes Aerospace and Defence, Biosciences and Scientific, Energy, Food and Beverage, Pharmaceutical, Porous Media and OEM Materials, Printing, Process, Nuclear and Water.


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

Caribou, Maine, USA

Caribou, Maine, focuses on the manufacture of custom engineered porous sintered metal powder components and assemblies for use in a wide range of filtration and flow applications:

- Process and Analytical Instruments.
- Porous Media and OEM Materials.


Porvair Filtration Group Inc., Caribou Division
15 Armco Avenue
Caribou, Maine 04736
USA
Tel: +1 207 493 3027
Email: infoUS@porvairfiltration.com

Boise, Idaho, USA

Boise, Idaho, focuses on the manufacture of custom metal filtration components and assemblies with porous sintered metal and PTFE media for use in a range of applications within:

- Semiconductor, Solar/Photovoltaic, HBLED, and Wafer Manufacturing.
- Flat Panel Display and Hard Disk Drive Manufacturing.

Porvair Filtration Group Inc., Boise Division
1226 Caldwell Boulevard
Nampa, Idaho 83651
USA
Tel: +1 208 461 2090
Email: infoUS@porvairfiltration.com

Xiaogan, Wuhan, China

Our Wuhan Division in China provides an operational base for marketing our extensive range of products within Asia.

Porvair Filtration Group, Wuhan Division
Chengdong Area
Square Industrial Park, North District
Xiaogan Economic Development Zone
Xiaogan, 432000
China
Tel: +86 (0)712 2878955
Email: infoCN@porvairfiltration.com

Mumbai, Maharashtra, India

Our Mumbai Division in India provides an operational base for marketing our extensive range of products within India.

Porvair Filtration India PVT. Ltd., Mumbai Division
Gangotri Glacier Annex, Kavesar
Opposite Vijay Nagar
Off Ghodbunder Road
Thane [W], 400607
India
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Porvair has a policy of continuous improvement in all areas of its 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 implemented various methodologies to drive out waste and process variance across the company to achieve our goal of zero defects.

Our dedicated team of scientists, engineers, production and quality professionals work towards the best possible filtration solutions for our customers. We have a fully equipped test house and laboratory, and our experienced design engineers use the latest AutoCAD® technology, with 3D solid modelling, integrated with finite element analysis to give full structural assurance capability.

Quality is at the heart of every stage of our operation and a fundamental part of our culture. We are ISO9001 approved and hold many other accreditations for the industries we serve.

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 (Vyom®) 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 and filtration systems and a range of porous materials are produced at our sites in the UK, USA and China. We manufacture for a wide variety of industrial, pharmaceutical and biomedical applications and supply filtration solutions for extreme conditions of temperature, pressure and corrosion for the aerospace and nuclear markets.

Our production capabilities include the complete element or cartridge construction, along with the build of entire tubeplate and vessel 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 manufacture and validation to in-service support, our highly experienced team of dedicated engineers work to develop the optimal filtration solution. Our team utilises the latest engineering tools of 3D AutoCAD®, Finite Element Stress Analysis, Computational Fluid Dynamics (CFD) and bespoke pressure vessel design software (PD5500, ASME VIII, EN13445). This is combined with our knowledge and strong ethos of working closely with our customers, ensuring filtration solutions that meet their market requirements.

Testing and Laboratory

Our dedicated test, development and laboratory services underpin our design and development activity; from filtration media and material characterisation, product verification testing to customer system simulation trials and in service performance evaluation. Our capabilities include filtration characterisation, environmental testing and analysis.

Technical Support Services

- Validation services:
  - Process specific validation
  - Filter compatibility
  - Retention studies
  - Microbial challenge tests
  - Endotoxin and particulate testing
  - Extractables testing
- On-site services:
  - Customer plant surveys
  - Process filter optimisation
  - Trouble-shooting
  - Pre-inspection review
- Training:
  - Integrity testing
  - SIP and CIP methods

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 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 the organisation.

Our quality management systems are regularly audited internally and by customers and regulatory bodies. We hold ISO9001 at our manufacturing sites along with, EN 9100 and EASA Part 21 Subpart G at facilities in the UK and USA. We are NQA1 capable subject to specific project requirements.
Cleanable metallic filter cartridges and elements used in the following industries:

- Aerospace and Defence
- Nuclear
- Food and Beverage
- Pharmaceutical
- Industrial Process
- Chemical Process
- Polymer

The robustness of design that is provided by a fully welded metallic element or cartridge is required to resist deterioration in harsh operating environments, including aggressive conditions, high temperatures and where operating differential pressures are high.
Manufactured from randomly laid metal fibres, sinter-bonded to form a uniform high porosity filter medium, Sinterflo® F demonstrates a significantly low pressure drop, high permeability and excellent dirt holding capacity.

Sintered metal fibre can be pleated to increase the available filtration area of a filter element, further increasing dirt holding capacity, minimising maintenance and maximising on-stream processing.

With the feasibility to formulate metal fibres to meet specific application requirements, combined with inherent durability, sintered metal fibre filters can be cleaned in situ without interrupting process flow, so providing the ultimate in process economics by reducing downtime to a minimum.

Typical Applications
- Catalyst recovery and retention
- Gasification and chemical production
- Vent filters
- Agrochemical
- Steam filtration
  - Culinary steam
  - Process steam
- Pharmaceutical powder recovery
- Polymer melt

Features and Benefits
- Resistant to high temperatures and corrosive environments.
- High void volume.
- Excellent cleanability and dirt holding capacity.
- Minimal maintenance costs.
- Available in 316L as standard with other alloys such as Inconel® 601, Hastelloy® X, NiCrMo Alloy 59 and Fecralloy® on request.
CLEANABLE FILTER ELEMENTS AND CARTRIDGES

Specifications

Materials of Manufacture
316L stainless steel standard. Inconel®, Hastelloy®, NiCrMo Alloy 59 and Fecralloy® on request or by process selection. Additional alloys are available on request.

Element Dimensions*
Diameter: 66mm [2.6”] standard
Length:
- 05: 125mm [5”]
- 10: 250mm [10”]
- 20: 498mm [20”]
- 30: 745mm [30”]
- 40: 1012mm [40”]
* Other diameters and lengths available on request.

Effective Filtration Area
0.05m² (0.55ft²) per 250mm (10”) element.

Gaskets and O-Rings*
EPDM as standard. Chemraz®, nitrile, PTFE, silicone, Viton®, FEP coated EPDM, FEP coated silicone, FEP coated Viton® available on request or by process selection.
* FDA approved seals are available.

Typical Maximum Differential Pressure* [all lengths]
Normal flow direction: 15bar [218psi]
Reverse flow direction: 3bar [44psi]
* Grade dependant.

Operating Temperature
Maximum continuous: From -195°C (-319°F) to 340°C (644°F) seal limiting.
From -269°C (-452°F) to 1000°C (1832°F) alloy limiting.

Sinterflo® F Stainless Steel Media Grades

<table>
<thead>
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<th>Micron Rating (µm)</th>
<th>Liquids (µm)*</th>
<th>Gases (µm)*</th>
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<tbody>
<tr>
<td>(micron code)</td>
<td>[99.9% efficiency]</td>
<td>[99.9% efficiency]</td>
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<tr>
<td>3 (0003)</td>
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<td>60 (0060)</td>
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* Single Pass Efficiency Test in accordance with ASTM795 ACFTD.
Manufactured from randomly laid metal fibres, sinter-bonded to form a uniform high porosity filter medium, Sinterflo® F demonstrates a significantly low pressure drop, high permeability and excellent dirt holding capacity.

Pleated sintered metal fibre increases the available filtration area of a filter element, further increasing dirt holding capacity, so minimising maintenance and maximising on-stream processing.

With the feasibility to formulate metal fibres to meet specific application requirements combined with inherent durability, sintered metal fibre filters can be cleaned in situ without interrupting process flow. This will provide the ultimate in process economics by reducing downtime to a minimum.

Typical Applications
- Catalyst recovery and retention
- Gasification and chemical production
- Vent filters
- Agrochemical
- Steam filtration
  - Culinary steam
  - Process steam
- Pharmaceutical powder recovery
- Polymer melt

Features and Benefits
- Resistant to high temperatures and corrosive environments.
- High void volume.
- Excellent cleanability and dirt holding capacity.
- Minimal maintenance costs.
- Pleatable structure, offering higher filtration area per cartridge.
- Available in 316L as standard with other alloys such as Inconel® 601, Hastelloy® X, NiCrMo Alloy 59 and Fecralloy® on request.

Sinterflo® F Pleated Sintered Metal Fibre Filter Cartridges

Cleanable Filter Elements and Cartridges

Ordering Information:  For ordering information please go to page 174.

Contact Information:  UK, New Milton Division
Tel: +44 (0)1425 612010
Email: info@porvairfiltration.com

US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
Specifications

Materials of Manufacture
316L stainless steel standard. Inconel®, Hastelloy®, NiCrMo Alloy 59 and Fecralloy® available on request or by process selection. Additional alloys are available on request.

Cartridge Dimensions*
Diameter: 66mm [2.6”] standard
Length:
- 05: 125mm [5”]
- 10: 250mm [10”]
- 20: 498mm [20”]
- 30: 745mm [30”]
- 40: 1012mm [40”]
* Other diameters and lengths available on request.

Effective Filtration Area
0.13m² (1.40ft²) per 250mm (10”) cartridge.

Gaskets and O-Rings*
EPDM as standard. Chemraz®, nitrile, PTFE, silicone, Viton®, FEP coated EPDM, FEP coated silicone, FEP coated Viton® available on request or by process selection.
* FDA approved seals are available.

Typical Maximum Differential Pressure* [all lengths]
Normal flow direction: 25bar [363psi]
Reverse flow direction: 3bar [44psi]
* Grade dependant.

Operating Temperature
Maximum continuous: From -195°C (-319°F) to 340°C (644°F) seal limiting.
From -269°C (-452°F) to 1000°C (1832°F) alloy limiting.
* Using a 10 inch cartridge, at ambient temperature.

Sinterflo® F Stainless Steel Media Grades

<table>
<thead>
<tr>
<th>Micron Rating [µm]</th>
<th>Liquids (µm)*</th>
<th>Gases (µm)*</th>
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</thead>
<tbody>
<tr>
<td>(micron code)</td>
<td>(99.9% efficiency)</td>
<td>(99.9% efficiency)</td>
</tr>
<tr>
<td>3 (0003)</td>
<td>3</td>
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<td>60 (0060)</td>
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* Single Pass Efficiency Test in accordance with ASTM795 ACFTD.

Contact Information: China, Wuhan Division
Tel: +86 (0)712 2878955
Email: infoCN@porvairfiltration.com

India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Primarily produced from 316L grade powder, however other stainless steel grades and powder alloys such as Inconel®, Hastelloy® and Monel® are available depending upon the requirements of the operating conditions.

These materials offer resistance to most chemicals and can be used in temperatures up to 1000°C (1832°F). Our isostatic pressing ensures greater media uniformity with no welds, leading to increased corrosion resistance.

Typical Applications
- Catalyst recovery and retention
- Polymer melt
- Chemical production
- Steam filtration
  - Culinary steam
  - Process steam
- Liquids and liquid backwash

Features and Benefits
- Extremely robust construction.
- Smooth surface finish preferable for backwash applications.
- Self supporting construction eliminating the need for additional hardware.
- Isostatic pressed, robust construction.
- Broad range of fixed, uniform pore sizes.
- Ability to withstand varying process conditions.
- Available in 316L stainless steel as standard with other alloys such as 304L stainless steel, 904L stainless steel, 310 stainless steel, Inconel®, Hastelloy® and Monel® on request, as well as sintered powdered bronze.
Specifications

Materials of Manufacture
316L stainless steel standard. 304L stainless steel, Inconel®, Hastelloy®, Monel® on request or by process selection. Additional alloys are available on request.

Element Dimensions*
Diameter: 66mm [2.6"] standard
Length: 05: 125mm [5"]
10: 250mm [10”]
20: 498mm [20”]
30: 745mm [30”]
40: 1012mm [40”]
* Other diameters and lengths available on request.

Effective Filtration Area
0.05m² (0.55ft²) per 250mm (10") element.

Gaskets and O-Rings*
EPDM as standard. Chemraz®, nitrile, PTFE, silicone, Viton®, FEP coated EPDM, FEP coated silicone, FEP coated Viton® available on request or by process selection.
* FDA approved seals are available.

Typical Maximum Differential Pressure* (all lengths)
Normal flow direction: 25bar [363psi]
Reverse flow direction: 10bar [145psi]
* Grade dependant.

Operating Temperature
Maximum continuous: From -195°C (-319°F) to 340°C [644°F] seal limiting.
From -269°C (-452°F) to 1000°C [1832°F] alloy limiting.

Sinterflo® P Stainless Steel Media Grades

<table>
<thead>
<tr>
<th>Stainless Steel Grades</th>
<th>Micron Rating (µm) (micron code)</th>
<th>Liquids (µm)* (99.9% efficiency)</th>
<th>Gases (µm) (99.99% efficiency)</th>
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<td>S36</td>
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<td>S41</td>
<td>40 (0040)</td>
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<tr>
<td>S50</td>
<td>60 (0060)</td>
<td>60</td>
<td>15</td>
</tr>
</tbody>
</table>

* Single Pass Efficiency Test in accordance with ASTM795 ACFTD.

Contact Information:
China, Wuhan Division
Tel: +86 (0)712 2878955
Email: infoCN@porvairfiltration.com

India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Sinterflo® M demonstrates good permeability, high tensile strength and is available from single wrap designs through to complex multi-layered structures in pleated constructions to optimise the area available. These meshes can be manufactured in diffusion bonded versions to increase performance security of pore shape and size and have the broadest range of pore sizes of any filter media type.

Sinterflo® M precision woven meshes are manufactured in various types of weaves. Plain square weave is available for simple sieving duties through various weave patterns (Reverse Plain Dutch, Broad Mesh Twill and Single Plain Weave). Dutch Twill Weave is provided for the most comprehensive selection of surface filtration duties.

**Typical Applications**
- Catalyst recovery and retention
- Gasification and chemical production
- Vent filters
- Agrochemical
- Steam filtration
  - Culinary steam
  - Process steam
- Pharmaceutical powder recovery
- Polymer melt

**Features and Benefits**
- Manufactured in various types of weaves.
- Precise aperture in size and shape.
- Good permeability.
- All welded, robust construction.
- Available from single layered designs to complex multi-layered structures.
- Available in the broadest range of pore sizes of any filter media type.
- Smooth surface variant preferable for backwash applications.
- Available in 316L stainless steel as standard with other alloys such as 304L stainless steel, Inconel®, Hastelloy® and Monel® on request.
Specifications

Materials of Manufacture
316L stainless steel standard. 304L stainless steel, Inconel®, Hastelloy® and Monel® available on request or by process selection.

Element Dimensions*
Diameter: 66mm [2.6"] standard
Length: 05: 125mm [5"]
         10: 250mm [10”]
         20: 498mm [20”]
         30: 745mm [30”]
         40: 1012mm [40”]
* Other diameters and lengths available on request.

Effective Filtration Area
0.05m² (0.55ft²) per 250mm [10”] element.

Gaskets and O-Rings*
EPDM as standard. Chemraz®, nitrile, PTFE, silicone, Viton®, FEP coated EPDM, FEP coated silicone, FEP coated Viton® available on request or by process selection.
* FDA approved seals are available.

Typical Maximum Differential Pressure* [all lengths]
Normal flow direction: 15bar [218psi]
Reverse flow direction: 3bar [44psi]
* Grade dependant.

Operating Temperature
Maximum continuous: From -195°C (-319°F) to 340°C (644°F) seal limiting.
From -269°C (-452°F) to 1000°C (1832°F) alloy limiting.

Sinterflo® M Stainless Steel Media Grades

<table>
<thead>
<tr>
<th>Micron Rating (µm) (micron code)</th>
<th>Liquids (µm)* (99.9% efficiency)</th>
<th>Gases (µm) (99.9% efficiency)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 (0003)</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>5 (0005)</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>10 (0010)</td>
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<td>15 (0015)</td>
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<td>20 (0020)</td>
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<tr>
<td>30 (0030)</td>
<td>40</td>
<td>45</td>
</tr>
<tr>
<td>35 (0035)</td>
<td>50</td>
<td>45</td>
</tr>
<tr>
<td>70 (0070)</td>
<td>75</td>
<td>60</td>
</tr>
</tbody>
</table>
* Hard spherical particle maximum passed.

* Using a 10 inch element, at ambient temperature.

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China, Wuhan Division
Tel: +86 (0)712 2878955
Email: infoCN@porvairfiltration.com

India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoNI@porvairfiltration.com
Sinterflo® M demonstrates good permeability, high tensile strength and is available from single wrap designs through to complex multi-layered structures in pleated constructions to optimise the area available. These meshes can be manufactured in diffusion bonded versions to increase performance security of pore shape and size and have the broadest range of pore sizes of any filter media type.

Sinterflo® M precision woven meshes are manufactured in various types of weaves. Plain square weave is available for simple sieving duties through various weave patterns (Reverse Plain Dutch, Broad Mesh Twill and Single Plain Weave). Dutch Twill Weave is provided for the most comprehensive selection of surface filtration duties.

Sinterflo® M is available in 316L stainless steel as standard with other alloys such as 304L stainless steel, Inconel® and Monel® on request.

**Typical Applications**

- Catalyst recovery and retention
- Gasification and chemical production
- Vent filters
- Agrochemical
- Steam filtration
- Culinary steam
- Process steam
- Pharmaceutical powder recovery
- Polymer melt

**Features and Benefits**

- Manufactured in various types of weaves.
- Precise aperture in size and shape.
- Good permeability.
- All welded, robust construction.
- Available from single layered designs to complex multi-layered structures in pleated constructions to optimise the area available.
- Available in the broadest range of pore sizes of any filter media type.
- Smooth surface variant preferable for backwash applications.
- Available in 316L stainless steel as standard with other alloys such as 304L stainless steel, Inconel®, Hastelloy® and Monel® on request.
Specifications

Materials of Manufacture
316L stainless steel standard. 304L stainless steel, Inconel®, Hastelloy® and Monel® on request or by process selection. Additional alloys are available on request.

Cartridge Dimensions*
Diameter: 66mm (2.6") standard
Length: 05: 125mm (5")
10: 250mm (10")
20: 498mm (20")
30: 745mm (30")
40: 1012mm (40")
* Other diameters and lengths available on request.

Effective Filtration Area
0.13m² (1.40ft²) per 250mm (10") cartridge.

Gaskets and O-Rings*
EPDM as standard. Chemraz®, nitrile, PTFE, silicone, Viton®, FEP coated EPDM, FEP coated silicone, FEP coated Viton® available on request or by process selection.
* FDA approved seals are available.

Typical Maximum Differential Pressure* [all lengths]
Normal flow direction: Up to 25bar (363psi)
Reverse flow direction: 3bar (44psi)
* Grade dependant.

Operating Temperature
Maximum continuous: From -195°C (-319°F) to 340°C (644°F) seal limiting.
From -269°C (-452°F) to 1000°C (1832°F) alloy limiting.

Sinterflo® M Stainless Steel Media Grades

<table>
<thead>
<tr>
<th>Micron Rating (µm)</th>
<th>Liquids (µm)* (99.9% efficiency)</th>
<th>Gases (µm) (99.9% efficiency)</th>
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<td>45</td>
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<tr>
<td>70 (0070)</td>
<td>75</td>
<td>60</td>
</tr>
</tbody>
</table>
* Hard spherical particle maximum passed.

* Using a 10 inch cartridge, at ambient temperature.

Contact Information:
China, Wuhan Division
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India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Sinterflo® MC multi-layered, diffusion-bonded stainless steel mesh is produced using a novel sintering process; it is available in both Lo Flow and Hi Flow rates, to meet your application requirements.

This material is easily custom engineered to meet the required specification of materials, strength, flow requirements, thickness, micron rating and environment.

Depending on atmospheric conditions, it can be used in temperatures up to 540°C (1004°F), with intermittent operating peaks up to 650°C (1202°F).

Primarily made from 316L stainless steel, it is also available in Inconel®, Hastelloy® and Monel® materials for use in the most aggressive environments.

Typical Applications

- Liquid applications
- Steam filtration
  - Culinary steam
  - Process steam

Features and Benefits

- A superior, mechanically strong structure.
- Fabricated shapes without expensive support structures or joining strips.
- Can be reused as the structure allows repeated cleaning, providing an economical choice.
- Non-shedding media that provides resistance to mechanical abrasion.
- Resistance to most chemicals.
Specifications

Materials of Manufacture
316L stainless steel standard. 304L stainless steel, Inconel® 600, Hastelloy® X and Monel® available on request or by process selection.

Cartridge Dimensions*
Diameter*: 66mm (2.6") standard
Length*: 05: 125mm (5")
   10: 250mm (10")
   20: 498mm (20")
   30: 745mm (30")
   40: 1012mm (40")
* Other diameters and lengths available on request.

Effective Filtration Area
0.05m² (0.55ft²) per 250mm (10") cartridge.

Gaskets and O-Rings
EPDM as standard. Chemraz®, nitrile, PTFE, silicone, Viton®, FEP coated EPDM, FEP coated silicone, FEP coated Viton® available on request or by process selection.

Stainless Steel Media Grades

<table>
<thead>
<tr>
<th>Liquids (µm)</th>
<th>Gases (µm)</th>
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</thead>
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<td>5</td>
<td>3.5</td>
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<tr>
<td>35</td>
<td>22</td>
</tr>
<tr>
<td>70</td>
<td>55</td>
</tr>
</tbody>
</table>

* Single Pass Efficiency Test in accordance with ASTM795 ACFTD.
Candle Filters for the Polymer Melt Industry

Candle filters are available in both cylindrical and pleated formats, in industry standard designs, and can be custom designed to fit any particular housing. Available in both sintered metal fibre and woven wire mesh.

Available in filtration ratings from 3 to 100 microns, our candle filters are normally supplied with an outer guard, both to protect the media and to allow reverse flow during cleaning. Our candles are readily cleanable with current technology.

All candles are provided with internal volume reducers to avoid stagnant flow regions within the candle design. Flow diverter features within the volume reducer provide good distribution over the candles as the polymer enters the housing.

Using our range of high strength, highly permeable stainless steel fibre media, results in candle filters with low initial pressure drops and long on-stream life.

Typical Applications

- Polyester bottle chip
- Polyester fibre
- Cellulose acetate fibre
- Nylon 6 and 66 fibre

Features and Benefits

- Proven robustness for cleaning and repeat use.
- Long filter life.
- Operate in high temperature environments.
- High carbon resistance.
- High filtration area for pleated candle version.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.

Ordering Information: For ordering information please contact a member of the Sales Team.

Contact Information:

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US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
Rempak™ Candle Filters
for the Polymer Melt Industry

Rempak™ candle filters are manufactured with removable hardware fittings and replaceable media, resulting in lower operating costs.

Available in both cylindrical and pleated formats, in industry standard designs, and can be custom designed to fit any particular housing. These are available in both sintered metal fibre and woven wire mesh.

All candles are provided with internal volume reducers to avoid stagnant flow regions within the candle design. Flow diverter features within the volume reducer provide good distribution over the candles as the polymer enters the housing.

Typical Applications
- Polyester bottle chip
- Polyester fibre
- Cellulose acetate fibre
- Nylon 6 and 66 fibre

Features and Benefits
- Proven robustness for cleaning and repeat use.
- Long filter life.
- Operate in high temperature environments.
- High carbon resistance.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.
A range of pleated filter elements for the aerospace and defence industries, used for critical contamination control in a variety of aircraft systems.

The filter media for pleated elements can be polymeric, glass fibre or sintered metal fibre used in combination with a variety of support and drain meshes to optimise cost and performance. Typical absolute filtration ratings are 5, 10, 15 and 25 micron with a Beta ratio greater than 200.

**Sinterflo® M Sintered Metal Mesh**

Our Sinterflo® M metal mesh pleated filters demonstrate good permeability, high tensile strength and are available in complex multi-layered structures.

These filters are cleanable under specific conditions, which can be defined by a member of our Sales Team.

We also supply a range of sintered metal fibre, glass fibre, polymeric or resin-impregnated cellulose pleated elements, for more information please refer to page 37.

**Typical Applications**

- Hydraulic
- Lubricant
- Coolant
- Fuel
- Air
- Environmental control

**Features and Benefits**

- High filtration efficiency.
- Lightweight.
- Enhanced operating life.

**Filter Assemblies**

Filter assemblies for hydraulic, fuel, lubrication and air systems. Applications include:

- Hydraulic pressure, return and case drain.
- Thrust reverser actuation systems.
- Fuel supply for both main engine and APU’s.
- Fuel inerting systems.
- Gearbox lubrication.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.
Leaf disc and solid plate filters are designed for critical hot melt polymer filtration applications such as the manufacture of PET packaging film, PEEK chip and film.

These filters are designed to achieve greater gel control by providing smoother flow and therefore greater gel retention on the filter.

In addition to offering a wide range of filter media, our leaf disc filters offer the latest design features, ensuring lower pressure drops leading to longer on-stream life. The robust construction allows for many cleaning cycles, reducing whole life costs.

With our wide experience and broad range of filter media, our application and design engineers can custom design optimum filtration products for each product and process; this includes support during the design process in order to achieve on-line performance.

Our technical laboratory services have facilities to characterise our media and elements’ performance using flow tests, porosimetry, microscopy, chemical analysis, tensile testing, metallography and the quantification of polymer contaminant with image analysis.
A range of stainless steel fibre and powder leaf disc filters for use within the polymer melt industry.

Stacked disc capsules are preferred when low residence time and uniform flow are important, and where degradation is a concern. Capsules also produce a singular downstream flow path which eliminates the need for mixers to prevent flow lines in finished film.

Capsules are available with diameters of 178mm (7”), 254mm (10”) and 305mm (12”), all industry standard hub designs and dimensions, with optional loose or welded spiders. A wide range of efficiencies are available including 3 to 40 microns in sintered steel fibre media and 10 to 40 microns in sintered steel powder media using stainless or speciality steels.

These stainless steel fibre media filters have the following features and benefits:

- **Photo etched plate support**
  The non-perforated edge improves welding strength at the edge of the disc, increasing the strength and rigidity of the filter.
- **Mesh separator**
  Precision 316L alloy stainless steel mesh increases the overall strength and rigidity of the filter.
- **Advanced hard hub**
  Maximum strength and 35% more open area, reducing pressure drop without compromising disc strength.

**Features and Benefits**

- Optimum strength and performance.
- Readily cleanable.
- Long on-stream life.
- Constant pore size distribution during manufacture.

**Specifications**

**Materials of Manufacture**
304L / 316L stainless steel standard.

**Method of Construction**
Fusion welded.

**Method of Sealing**
Metal fibre gasket.

**Dimensions**
- 305mm (12”) x 63.5mm (2.5”)
- 305mm (12”) x 85.1mm (3.35”)
- 178mm (7”) x 47.75mm (1.88”)

**Minimum Differential Pressure**
300bar (4351psi) at 350°C (662°F)

**Operating Temperature**
Maximum continuous: up to 400°C (752°F)

**Disc Stack Sealing Load**
8 tonne maximum.

Typical Applications:

- Polyester film
- PEEK material

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.
Solid plate leaf disc filters for use within the polymer melt industry.

Our solid plate capsule filter is designed for high performance film and fibre production, with a rugged construction offering increased strength and durability and minimal residence time.

The solid plate greatly improves the appearance and performance of thin film products and limits the creation of gels and degraded polymer at high temperatures.

With Prolog tracking, each filter is uniquely identified and certified by weight and bubble point at manufacture to allow for precise verification of the cleaning process.

Typical Applications

• Polycarbonate films

Features and Benefits

• Easy to clean.
• Inherent strength.
• Low interference drainage channels.
• No filter support material required.
• Can be re-clothed.
• Low residence time.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.

Ordering Information: For ordering information please contact a member of the Sales Team.

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India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
A range of disposable polymeric filters for use within the following industries:

**Biopharmaceutical**
Our disposable polymeric cartridge filters are constructed from FDA approved materials carrying the CFR 21 number for biological safety and our materials of construction meet USP Class VI-121°C plastics. Designed and manufactured for robustness, these sterilising grade polymeric membrane filters are fully validated providing retention of >107 colony forming units per square centimetre of effective filtration area as stipulated by PDA Technical Reports 26 and 40.

**Food and Beverage**
Our range of filters are installed to effectively remove particulates, yeast, mould spores and bacteria for use in wineries, breweries, cider, mineral water, soft drinks, food and dairy products, culinary steam, powder handling and sparging applications.

**Industrial and Chemical Process**
Our filter range can be used in process applications such as specialist inks, UV curable inks, laminates, coatings and lacquers, electronics grade chemicals, water treatment, carbon fibre precursor, paint, parts washing, powder handling and transmission, cosmetics and toiletries.

**Printing**
Inprinta’s extended range of filters offers solutions for inkjet requirements including capsule, in-line, last chance, and bulk ink filtration.
A range of pleated filter elements for the aerospace and defence industries. These are used for critical contamination control in a variety of aircraft systems. The filter media for disposable pleated elements can be polymeric, glass fibre or sintered metal fibre, used in combination with a variety of support and drain meshes to optimise cost and performance. Typical absolute filtration ratings are 5, 10, 15 and 25 micron with a Beta ratio greater than 200.

Polymeric or Resin-Impregnated Cellulose
Moderate dirt-holding capacity and lightweight. Offer a cost-effective solution for low pressure and temperature fuel filtration.

Glass Fibre
Reduced pressure drop, increased dirt-holding capacity and can withstand greater pressures and temperatures than cellulose filters.

Sinterflo® F Sintered Metal Fibre
Sinterflo® F sintered metal fibre filters offer unparalleled performance and can withstand extremes of temperature and pressure. Studies indicate a superior resistance to the downstream deposit of contamination and maintaining integrity during dynamic flow conditions.

We also supply a range of sintered metal mesh pleated elements, for more information please refer to page 28.

Typical Applications
- Hydraulic
- Lubricant
- Coolant
- Fuel
- Air
- Environmental control

Features and Benefits
- High filtration efficiency.
- Lightweight.
- Enhanced operating life.

Filter Assemblies
Filter assemblies for hydraulic, fuel, lubrication and air systems. Applications include:
- Hydraulic pressure, return and case drain.
- Thrust reverser actuation systems.
- Fuel supply for both main engine and APU’s.
- Fuel inerting systems.
- Gearbox lubrication.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.

Ordering Information:
For ordering information please contact a member of the Sales Team.

Contact Information:
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Email: infoCN@porvairfiltration.com

India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Activated Carbon, a porous substance with strong physical adsorption properties, has the highest volume of adsorbing porosity of any material known.

By carbonisation and activation, activated carbon can be made from many substances containing high carbon content such as coal, wood, bamboo and coconut shells.

Activated carbon filters are widely applied in industrial process and civil use as the most efficient method of removing odours, chlorine, volatile organic compounds (VOC), colours, tastes and other contaminants from fluids.

The Carbofil™ series is the new generation of carbon cartridges produced by the extrusion process. They provide long service life and superior adsorption performance compared to conventional granular activated carbon cartridges together with minimum fines. With a high mechanical strength and low ash content, the carbon block structure prevents channelling, bypassing, fluidizing or unloading of carbon fines.

To prevent premature blocking of the activated carbon layer, Carbofil™ filters incorporate an effective pre-filtration layer designed to intercept gels and large particles.

The Carbofil™ series activated carbon filter cartridges use premium grade coconut shell extruded carbon blocks and can be supplied in any length and end cap configuration, to meet the requirements of the process application.

Typical Applications
- PCB solutions
- Plating and coating solutions
- Industrial water treatment
- Drinking water treatment
- Chlorine and VOC removal
- Tastes, odours and organic pigments
- Chlorinated compounds reduction
- Oils and aromatic compounds removal

Features and Benefits
- Safe handling without any loose powder.
- Sanitary installation and removal.
- Fits into a variety of standard filter housings.
- Rapid and high capacity adsorption of contaminants.
Specifications

Materials of Manufacture
Filter media: PAC impregnated cellulose
Netting: Polyethylene
Reinforcement backing: Cellulose polyester
Core: Polypropylene
Outer support: Polypropylene
End caps: Polypropylene

Cartridge Dimensions (Nominal)
Outside diameter: 70mm (2.8”)
Inside diameter: 27mm (1.1”)
Length:
- 254mm (10”)
- 508mm (20”)
- 762mm (30”)
- 1016mm (40”)

Gaskets and O-Rings
Ethylene Propylene.

Operating Temperature
From 40°F (4°C) to 125°F (52°C)

Cartridge Performance

<table>
<thead>
<tr>
<th>Filter Code</th>
<th>Cartridge Length (mm)</th>
<th>Micron Rating (µm)</th>
<th>Initial ΔP (psi) @ flow rate lpm</th>
<th>Chlorine Reduction @ flow rate lpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR05-N1</td>
<td>250mm (10”)</td>
<td>5</td>
<td>1.4psi @ 4 lpm</td>
<td>&gt;23,000 litres @ 4 lpm</td>
</tr>
<tr>
<td>CR05-N2</td>
<td>508mm (20”)</td>
<td>5</td>
<td>1.5psi @ 8 lpm</td>
<td>&gt;46,000 litres @ 8 lpm</td>
</tr>
<tr>
<td>CR05-N3</td>
<td>762mm (30”)</td>
<td>5</td>
<td>1.5psi @ 15 lpm</td>
<td>&gt;69,000 litres @ 15 lpm</td>
</tr>
<tr>
<td>CR05-N4</td>
<td>1016mm (40”)</td>
<td>5</td>
<td>1.5psi @ 20 lpm</td>
<td>&gt;92,000 litres @ 20 lpm</td>
</tr>
</tbody>
</table>

Additional Information

The Carbofill™ cartridge contains a very small amount of carbon fines (very fine black powder) - a new cartridge after installation should be flushed with sufficient water to remove traces of the fines from your water system before using the water. It is recommended that you flush (flush) for at least 20 seconds prior to using water.

Estimated capacity tested at given flow rate using 2ppm free available chlorine at continuous flow to with greater than 90% reduction. Increased flow rates may result in less effective chlorine reduction.

Micron ratings are based on 85% removal of given particle size.

WARNING
For drinking water applications, do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

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Tel: +86 (0)712 2878955
Email: infoCN@porvairfiltration.com

India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Cryptofil™ filter cartridges are used for the control of Cryptosporidium oocysts in water used in the food, beverage and ultrapure water industries.

The Cryptofil™ cartridge has been developed following extensive research and has resulted in filter media with continuously graded fibre density; this yields progressively finer oocyst retention through the depth of the media.

This graded density depth filtration mechanism, combined with optimised pleated pack configuration and resultant high surface area, affords high flow capability and exceptional oocyst retention capacity.

Cryptosporidium oocysts removed from the water flow are captured within the media and are not subject to release by system fluctuations. The voids volume of Cryptofil™ combined with advanced cartridge construction results in a filter capable of retaining high concentrations of oocysts ensuring extended service life and reduced filtration costs.

Typical Applications
- Mineral water
- Food processing
- Embarkation water supply
- Leisure

Features and Benefits
- Graded multi-layer media.
- Guaranteed removal ratings.
- High filtration area.
- Cartridge integrity and low TOC levels.
- Suitable for steam and hot water sanitisation.
- Environmentally friendly.
- Full traceability.
- Controlled manufacturing environment.
Specifications

Materials of Manufacture
Filter media: Polypropylene
Support layers: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Support ring: Stainless steel

Cartridge Dimensions (Nominal)
Diameter: 70mm (2.8")
Length: 1 module: 254mm (10")
2 modules: 762mm (30")
1016mm (40")

Effective Filtration Area
Up to 0.6m² per 250mm module.

Cartridge Treatment
Standard: Cleaned without further treatment.
Flushed: Rinsed with pyrogen free water.
Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Gaskets and O-Rings
Ethylene Propylene, FEP encapsulated, Silicone, Viton®, Nitrile or Polypropylene felt.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 6.0 bar [87psi]
80°C (176°F): 4.0 bar [58psi]
100°C (212°F): 3.0 bar [44psi]
120°C (248°F): 2.0 bar [29psi]
125°C (257°F): 1.5 bar [22psi]
Reverse flow direction at:
20°C (68°F): 2.1 bar [30psi]
80°C (176°F): 1.0 bar [15psi]
100°C (212°F): 0.5 bar [7psi]

Operating Temperature
Maximum continuous: 80°C (176°F)

Sterilisation
In situ steam 60 x 30 minute cycles at 130°C (266°F). Hot water 200 x 20 minute cycles at 80°C (176°F).

Extractables
Minimum total extractables. Please refer to the Cryptofil™ Validation Guide.

Integrity Testing
Each Cryptofil™ module of every cartridge is individually integrity tested using the Bubble Point Test. Procedural details are available from Porvair.

Clean Water Flow Rates
- Typical clean water flow rate:
  A 254mm [10"] Cryptofil™ single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

Contact Information:
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India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
A range of absolute rated cartridge filters, featuring the latest developments in meltblown polypropylene filter media technology. Klearfil™ cartridges are based on a robust all polypropylene construction, offering removal ratings from 0.5 to 75 micron absolute.

The combination of up to eight separate filtration layers provides true depth filtration, within a pleated cartridge construction. This design reduces fouling of the filter surface area caused by a broad spectrum of contaminants.

Klearfil™ cartridges are ideally suited for the filtration of process fluids, that contain contaminants with a wide range of particle sizes.

The graded multi-layer polypropylene media provides pre-filtration of the process fluid prior to the absolute rated final layer. The unique design of the Klearfil™ cartridges helps to achieve lower running costs and a smaller process footprint.

Klearfil™ are highly resistant to integrity failure caused by steam sterilisation and have excellent chemical compatibility characteristics.

They are suitable for applications ranging from bioburden reduction to the clarification of a wide range of process liquids and end products.

**Typical Applications**

- Pharmaceuticals and bioprocessing
- Foods and beverages
- Process water systems
- Fine chemicals
- Cosmetics

Klearfil™ cartridges can also be used as pre-filters or final filters in bulk inkjet filtration; suitable for manufacture with all major ink types:

- Aqueous
- UV
- Solvent
- Dye
- Pigment

**Features and Benefits**

- Graded multi-layer media.
- Guaranteed removal ratings.
- Suitable for steam and hot water sanitisation.
- Environmentally friendly.
- Full traceability.
- Controlled manufacturing environment.
Specifications

Materials of Manufacture
Filter media: Polypropylene
Support layers: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Support ring: Stainless steel

Cartridge Dimensions (Nominal)
Diameter: 70mm (2.8")
Length: 1 module (short): 125mm (5")
1 module: 254mm (10")
508mm (20")
2 modules: 762mm (30")
1016mm (40")

Cartridge Treatment
Standard: Cleaned without further treatment.
Flushed: Flushed with pyrogen-free water.
Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Gaskets and O-Rings
Ethylene Propylene, FEP encapsulated, Silicone, Viton®, Nitrile or Polypropylene felt.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 6.0 bar (87psi)
80°C (176°F): 4.0 bar (58psi)
100°C (212°F): 3.0 bar (44psi)
120°C (248°F): 2.0 bar (29psi)
125°C (257°F): 1.5 bar (22psi)
Reverse flow direction at:
20°C (68°F): 2.1 bar (30psi)
80°C (176°F): 1.0 bar (15psi)
100°C (212°F): 0.5 bar (7psi)

Operating Temperature
Maximum continuous: 80°C (176°F)

Sterilisation
In situ steam 80 x 30 minute cycles at 135°C (275°F).
Hot water 200 x 20 minute cycles at 85-90°C (185-194°F).

Extractables
Minimum total extractables. Please refer to the Klearfil™ Validation Guide.

Integrity Testing
Klearfil™ filter cartridges are batch tested for integrity using the Bubble Point Test. Procedural details are available from Porvair.

Clean Water Flow Rates
• Typical clean water flow rate:
A 254mm (10") Klearfil™ single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
• Other solutions:
For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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Microfil™
Absolute Rated Pleated Glass Fibre Cartridge Filters

A range of absolute rated cartridge filters, featuring the latest developments in borosilicate glass fibre filter media technology. Microfil™ cartridges are constructed from robust glass fibre and polypropylene filtration layers, offering removal ratings from 0.5 to 5 micron absolute.

Microfil™ cartridges are suitable for absolute removal of unwanted particulates and for pre-filtration to membrane filters.

Microfil™ cartridges incorporate a polypropylene pre-filtration layer, combined with a high dirt capacity glass fibre media. This has the effect of longer service life, improved operating costs and smaller process footprint.

Microfil™ filter cartridges are highly resistant to integrity failure caused by steam sterilisation and have excellent chemical compatibility characteristics.

They are suitable for applications ranging from bioburden reduction to the clarification of a wide range of process liquids and end products.

Typical Applications
- Foods and beverages
- Process water systems
- Pharmaceuticals and bioprocessing
- Fine chemicals
- Cosmetics

Features and Benefits
- Zeta potential.
- High filtration area.
- Guaranteed removal ratings.
- Suitable for steam and hot water sanitisation.
- Resistance to Cleaning-In-Place (CIP) regimes.
- Full traceability.
- Controlled manufacturing environment.
Specifications

Materials of Manufacture
- Filter media: Glass fibre
- Pre-filtration layer: Polypropylene
- Support layers: Polypropylene
- Inner core: Polypropylene
- Outer support: Polypropylene
- End fittings: Polypropylene
- Support ring: Stainless steel

Cartridge Dimensions (Nominal)
- Diameter: 70mm [2.8”]
- Length:
  - 1 module (short): 125mm [5”]
  - 1 module: 254mm [10”], 508mm [20”]
  - 2 modules: 762mm [30”], 1016mm [40”]

Effective Filtration Area
- Absolute Removal Rating
  - 0.5, 0.8, 1.0, 2.0 and 5.0μm
- Effective Filtration Area (each 254mm [10”] module)
  - 0.4m² [4.4ft²]

Cartridge Treatment
- Standard: Cleaned without further treatment.
- Flushed: Rinsed with pyrogen-free water.

Gaskets and O-Rings
- Ethylene Propylene, FEP encapsulated, Silicone, Viton®, Nitrile or Polypropylene felt.

Maximum Differential Pressure
- Normal flow direction at:
  - 20°C [68°F]: 6.0 bar [87psi]
  - 80°C [176°F]: 4.0 bar [58psi]
  - 100°C [212°F]: 3.0 bar [44psi]
  - 120°C [248°F]: 2.0 bar [29psi]
- Reverse flow direction at:
  - 20°C [68°F]: 2.1 bar [30psi]
  - 80°C [176°F]: 1.0 bar [15psi]
  - 100°C [212°F]: 0.5 bar [7psi]

Operating Temperature
- Maximum continuous: 80°C [176°F]

Sterilisation
- In situ steam 20 x 30 minute cycles at 130°C [266°F].
- Hot water 200 x 20 minute cycles at 85-90°C [185-194°F].

Extractables
- Minimum total extractables. Please refer to the Microfi™ Validation Guide.

Integrity Testing
- Microfi™ filter cartridges are batch tested for integrity using the Bubble Point Test. Procedural details are available from Porvair.

Clean Water Flow Rates
- Typical clean water flow rate:
  - A 254mm [10”] Microfi™ single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  - For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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Polyfil™ II
Absolute Rated Pleated Polypropylene Cartridge Filters

A range of absolute rated cartridge filters, featuring the latest developments in meltblown polypropylene filter media technology. Polyfil™ II cartridges are based on a robust all polypropylene construction, offering removal ratings from 0.5 to 105 micron absolute.

Polyfil™ II cartridges are suitable for absolute removal of unwanted particulates and for pre-filtration to membrane filters.

The graded multi-layer polypropylene media provide pre-filtration of the process fluid prior to the absolute rated final layer. The unique design of the Polyfil™ II cartridges helps to achieve lower running costs and a smaller process footprint.

Polyfil™ II are also highly resistant to integrity failure caused by steam sterilisation and have excellent chemical compatibility characteristics.

They are suitable for applications ranging from bioburden reduction to the clarification of a wide range of process liquids and end products.

Typical Applications
- Pharmaceuticals and bioprocessing
- Foods and beverages
- Inks and coatings
- Fine chemicals
- Cosmetics
- Process water systems

Features and Benefits
- Graded multi-layer media.
- High filtration area.
- Guaranteed removal ratings.
- Suitable for steam and hot water sanitisation.
- Environmentally friendly.
- Full traceability.
- Controlled manufacturing environment.
Specifications

Materials of Manufacture
Filter media: Polypropylene
Support layers: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Support ring: Stainless steel

Cartridge Dimensions (Nominal)
Diameter: 70mm (2.8”)
Length:
1 module (short): 125mm (5”)
1 module: 254mm [10”], 508mm [20”]
2 modules: 762mm [30”], 1016mm [40”]

Effective Filtration Area
Up to 0.6m² per 250mm module (depending on pore rating).

Cartridge Treatment
Standard: Cleaned without further treatment.
Flushed: Flushed with pyrogen-free water.
Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Gaskets and O-Rings
Ethylene Propylene, FEP encapsulated, Silicone, Viton®, Nitrile or Polypropylene felt.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 6.0 bar [87psi]
80°C (176°F): 4.0 bar [58psi]
100°C (212°F): 3.0 bar [44psi]
120°C (248°F): 2.0 bar [29psi]
125°C (257°F): 1.5 bar [22psi]
Reverse flow direction at:
20°C (68°F): 2.1 bar [30lb/in²]
80°C (176°F): 1.0 bar [15lb/in²]
100°C (212°F): 0.5 bar [7lb/in²]

Operating Temperature
Maximum continuous: 80°C (176°F)

Extractables
Minimum total extractables. Please refer to the Polyfil™ II Validation Guide.

Integrity Testing
Polyfil™ II filter cartridges are batch tested for integrity using the Bubble Point Test. Procedural details are available from Porvair.

Clean Water Flow Rates
• Typical clean water flow rate:
  A 254mm [10"] Polyfil™ II single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
• Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Tekfil™ is a high flow, graded depth filter with high contaminant capacity for long life. Constructed from FDA approved polypropylene with excellent performance characteristics, it is an economic choice for a wide range of applications.

Tekfil™ is available in a range of industrial standard lengths as either absolute or nominal rated cartridges. Also available in Nylon construction for solvent filtration.

Typical Applications
- Foods and beverages
- Pharmaceuticals
- Fine chemicals and solvents
- Coatings
- Photographic chemicals
- Metal finishing electroplating
- Water treatment prior to reverse osmosis
- Cosmetics product filling

Tekfil™ cartridges can also be used as pre-filters or final filters in bulk inkjet filtration; suitable for manufacture with all major ink types:
- Aqueous
- UV
- Solvent
- Dye
- Pigment

Features and Benefits
- Graded depth media.
- High degree of chemical compatibility.
- Absolute and nominal removal ratings.
- Suitable for steam and hot water sanitisation.
- Environmentally friendly.
Specifications

Materials of Manufacture
Filter media: Polypropylene/nylon
End fittings: Polypropylene

Cartridge Dimensions (Nominal)
Diameter: 63mm (2.5”)
Length: 254mm (10”), 508mm (20”), 762mm (30”), 1016mm (40”)

Gaskets and O-Rings
Ethylene Propylene, FEP encapsulated, Silicone, Viton®, Nitrile or Polypropylene felt available for non-crush-fit end adapters.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 3.5 bar [51psi]
60°C (140°F): 1.0 bar [15psi]
80°C (176°F): 0.5 bar [7psi]

Operating Temperature
Maximum continuous: 80°C (176°F)

Extractables
Minimum total extractables.

Clean Water Flow Rates
- Typical clean water flow rate:
  A 254mm (10”) Tekfil™ single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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Tekfil™ GV
Filter Cartridge for the Filtration of Gels and Viscous Fluids

Tekfil™ GV meltblown filter cartridges are designed specifically for the filtration of high viscosity fluids, such as paints, inks and resins. The graded density of depth filters is highly suited for the retention of gels and other deformable particles.

Tekfil™ GV filters are manufactured by controlling the fibre diameters which maintain high tensile strength, high void volume and higher differential pressure than conventional meltblown filters.

Tekfil™ GV cartridges provide absolute and nominal filtration where the retention of deformable particles is critical at cost effective prices. Suitable for the filtration of either viscous inorganic and organic liquids. Tekfil™ cartridges can be used as prefiltrers or final filters.

Extensive research and selection of the latest and most advanced polypropylene meltblown filter media, results in improved performance, leading to extended filter life at a given efficiency.

The all-polypropylene construction of the filters are free from silicone and binders and ensures zero fibre mitigation during the recommended process conditions.

Tekfil™ GV filters are available with a wide range of thermally welded endcaps.

Typical Applications
- High viscosity fluids
- Paints
- Inks
- Coatings
- Resins

Features and Benefits
- Graded depth media
  The graded structure of the media provides prefiltration of the process fluid prior to the absolute rated final layer. This combination provides economy of use and a smaller process footprint.

- High degree of chemical compatibility
  Constructed entirely of polypropylene offering broad chemical compatibility.

- High dirt holding capacity
  Four layer graded density, providing true depth filtration and high dirt holding capacity for a longer service life.

- Absolute and nominal removal ratings
  Tekfil™ GV cartridges are validated using recognised industry standard test methods.

- Environmentally friendly
  Tekfil™ GV filters are environmentally friendly, all spent cartridges can be readily incinerated to trace ash.

- Silicone Free
  Tekfil™ GV filters are manufactured from silicone free materials, therefore ensuring no contamination of the filtered product, which could lead to the rejection of the final product.
Specifications

Materials of Manufacture
Filter media: Polypropylene
End fittings: Polypropylene

Cartridge Dimensions (Nominal)
Diameter: 63mm (2.5”)
Length: 254mm (10’), 508mm (20’), 762mm (30’), 1016mm (40’)

Gaskets and O-Rings
Ethylene Propylene, FEP encapsulated, Silicone, Viton®,
Nitrile or Polypropylene felt available for non-crush-fit end adapters.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 5 bar (73psi)

Recommended Changeout Pressure
2.5 bar (36psi)

Operating Temperature
Maximum continuous: 80°C (176°F)

Extractables
Minimum total extractables.
The Trapfil™ filter has been specifically developed for the retention of diatomite and polyvinylpolypyrrolidone (PVPP) particles. It is manufactured from materials which are 100% FDA (Food and Drug Administration) approved and fully welded for strength and integrity.

The all polypropylene construction enables the Trapfil™ filter to be resistant to hot caustic solution and standard CIP practices. It is also compatible with steam and hot water sanitising procedures.

Designed to be backflushed in situ to remove diatomite and PVPP particles, it has been industry proven to withstand up to 100 backflush cycles with hot caustic solution at 70-80°C (158-176°F). This backflushing process regenerates the Trapfil™ filter providing improved economics.

The Trapfil™ filter is available in a variety of lengths and industry standard adaptors. Trapfil™ cartridges are available in 5, 10 and 15 micron ratings, validated at Beta 5000.

Each Trapfil™ filter carries a unique serial number to enable full traceability of material components.

### Typical Applications
- Stabilisation
- Clarification

### Features and Benefits
- Backflushing.
- Chemical regeneration.
- Suitable for steam and hot water sanitisation.
- Guaranteed removal ratings.
- Full traceability.
- Controlled manufacturing environment.

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**Trapfil™**
Polypropylene Guard Filters for Clear, Bright Beverages

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**Ordering Information:** For ordering information please go to page 180.

**Contact Information:**

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**US, Ashland Division**
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Email: infoUS@porvairfiltration.com
Specifications

Materials of Manufacture
Filter media: Polypropylene
Support layers: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Support ring: Stainless steel

Cartridge Dimensions (Nominal)
Diameter: 70mm (2.8”)
Length:
1 module: 254mm (10”), 508mm (20”)
2 modules: 762mm (30”), 1016mm (40”)

Effective Filtration Area

<table>
<thead>
<tr>
<th>Absolute Removal Rating</th>
<th>Effective Filtration Area (each 254mm (10”) module)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5, 10 and 15μm</td>
<td>0.53m² (5.71ft²)</td>
</tr>
</tbody>
</table>

Cartridge Treatment
Standard: Cleaned and flushed with pyrogen-free water.

Gaskets and O-Rings
FDA approved Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile.

Maximum Differential Pressure
Normal flow direction at:
- 20°C (68°F): 6.0bar (87psi)
- 80°C (176°F): 4.0bar (58psi)
- 100°C (212°F): 3.0bar (44psi)
Reverse flow direction at:
- 20°C (68°F): 2.1bar (30psi)
- 80°C (176°F): 1.0bar (15psi)
- 100°C (212°F): 0.5bar (7psi)

Operating Temperature
Maximum continuous: 80°C (176°F)

Sterilisation
In situ steam 100 x 30 minute cycles at 125°C (257°F), Hot water 250 x 20 minute cycles at 85-90°C (185-194°F).

Extractables
Minimum total extractables. Please refer to the Trapfil™ Validation Guide.

Integrity Testing
Trapfil™ filter cartridges are batch tested for integrity using the Bubble Point Test. Procedural details are available from Porvair.

Clean Water Flow Rates
- Typical clean water flow rate:
  A 254mm (10”) Trapfil™ single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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A range of cartridge filters featuring the latest developments in membrane technology. Aquafil™ cartridges are based on a naturally hydrophilic polyethersulphone membrane with a mirrored asymmetric pore structure. When combined with quality all-polypropylene cartridge components and high integrity manufacturing techniques common to all Porvair cartridge filters, the polyethersulphone membrane provides a high strength, long life cartridge.

Aquafil™ cartridges exploit the narrow pore size distribution and high void volume of the media to provide a choice of cartridges capable of meeting the requirements of most applications. Careful media selection ensures that Aquafil™ cartridges are suited to retention down to 0.2 micron ratings. Aquafil™ cartridges offer high flux rates and low differential pressures, a feature common to polyethersulphone membranes.

Aquafil™ cartridges benefit from the low non-specific protein binding characteristics of polyethersulphone membranes. They are resistant to steam sterilisation and have excellent chemical compatibility characteristics. They do not hydrolyse, making them ideal for use in ultra pure water supply systems [18MΩ/cm].

Aquafil™ cartridges provide a combination of features and benefits until now unavailable from cartridges based on PVDF, nylon, mixed esters of cellulose or polysulphone membranes. They are suitable for applications ranging from bioburden reduction and the clarification of a wide range of process liquids and end products.

Typical Applications
- Pure water supply
- Biopharmaceuticals
- Ophthalmic solutions
- Electronics and semiconductors
- Fine chemicals
- Beverages

Features and Benefits
- Removal ratings
- Low protein binding.
- Will not hydrolyse.
- Excellent chemical compatibility.
- Suitable for steam sterilising.
- Full traceability.
- Controlled manufacturing environment.
Specifications

Materials of Manufacture
Filter membrane: Polyethersulphone
Membrane support: Polypropylene
Irrigation mesh (support): Polypropylene
Drainage layer: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Support ring: Stainless steel

Cartridge Dimensions (Nominal)
Diameter: 70mm (2.8”)
Length: 1 module: 254mm (10”)
2 modules: 508mm (20”)
3 modules: 762mm (30”)
4 modules: 1016mm (40”)

Effective Filtration Area

<table>
<thead>
<tr>
<th>Pore Size Rating</th>
<th>Effective Filtration Area (each 254mm [10”] module)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2, 0.45, 0.65 and 1.2μm</td>
<td>0.69m² (7.4ft²)</td>
</tr>
</tbody>
</table>

Gaskets and O-Rings
FDA approved Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 6.0bar (87psi)
80°C (176°F): 4.0bar (58psi)
100°C (212°F): 3.0bar (44psi)
120°C (248°F): 2.0bar (29psi)
Reverse flow direction at:
20°C (68°F): 2.1bar (30psi)
80°C (176°F): 1.0bar (15psi)
100°C (212°F): 0.5bar (7psi)

Operating Temperature
Maximum continuous: 60°C (140°F)

Sterilisation
In situ steam 80 x 20 minute cycles at 125°C (257°F).
Hot water 100 x 20 minute cycles at 85-90°C (185-194°F).

Extractables
Minimum total extractables.

Clean Water Flow Rates
- Typical clean water flow rate:
  A 254mm (10”) Aquafil™ single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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Biofil™ II
Polyethersulphone Membrane Cartridge Filters

A range of microbially rated cartridge filters featuring the latest developments in membrane technology. Biofil™ II cartridges are based on a naturally hydrophilic polyethersulphone (PES) membrane with a mirrored asymmetric pore structure. When combined with quality all-polypropylene cartridge components and high integrity manufacturing techniques, the polyethersulphone membrane provides a high strength, long life cartridge of consistently precise microbial retention.

Biofil™ II cartridges exploit the narrow pore size distribution and high void volume of the media to provide a choice of cartridges capable of meeting the requirements of most applications. Careful media selection ensures these cartridges are suited to critical particle control down to 0.04 micron ratings. Biofil™ II cartridges offer high flux rates and low differential pressures, a feature common to polyethersulphone membranes.

Biofil™ II cartridges benefit from the low non-specific protein binding characteristics of polyethersulphone membranes. They are highly resistant to integrity failure caused by steam sterilisation and have excellent chemical compatibility characteristics. As they will not hydrolyse, Biofil™ II cartridges are ideal for use in ultra pure water supply systems (18MΩ.cm).

Biofil™ II cartridges provide a combination of features and benefits previously unavailable from cartridges based on PVDF, nylon, mixed esters of cellulose or polysulphone membranes. They are suitable for applications ranging from sterile filtration, bioburden reduction and the clarification of a wide range of process liquids and end products.

Typical Applications
- Biopharmaceuticals
- Ophthalmic solutions
- Electronics and semiconductors
- Fine chemicals
- Beverages
- Pure water supply

Features and Benefits
- Guaranteed microbial ratings.
- Low protein binding.
- Will not hydrolyse.
- Excellent chemical compatibility.
- Cartridge integrity and low TOC levels.
- Suitable for steam sterilising.
- Full traceability.
- Controlled manufacturing environment.

Ordering Information: For ordering information please go to page 181.

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US, Ashland Division
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Specifications

Materials of Manufacture
Filter membrane: Polyethersulphone
Membrane support: Polypropylene
Irrigation mesh (support): Polypropylene
Drainage layer: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Support ring: Stainless steel

Cartridge Dimensions (Nominal)
Diameter: 70mm (2.8”)
Length: 1 module: Biofil™ II Junior
2 modules: 508mm (20”)
3 modules: 762mm (30”)
4 modules: 1016mm (40”)

Effective Filtration Area

<table>
<thead>
<tr>
<th>Absolute Microbial Rating</th>
<th>Effective Filtration Area (each 254mm (10”) module)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.04, 0.1, 0.2, 0.45, 0.65 and 1.2μm</td>
<td>0.69m² (7.4ft²)</td>
</tr>
</tbody>
</table>

Cartridge Treatment
Standard: Cleaned and flushed with pyrogen-free water.
Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Gaskets and O-Rings
FDA approved Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile.

Maximum Differential Pressure
Normal flow direction at:
- 20°C (68°F): 6.0bar (87psi)
- 80°C (176°F): 4.0bar (58psi)
- 100°C (212°F): 3.0bar (44psi)
- 120°C (248°F): 2.0bar (29psi)
Reverse flow direction at:
- 20°C (68°F): 2.1bar (30psi)
- 80°C (176°F): 1.0bar (15psi)
- 100°C (212°F): 0.5bar (7psi)

Operating Temperature
Maximum continuous: 85-90°C (185-194°F)

Sterilisation
In situ steam 80 x 20 minute cycles at 125°C (257°F).
Hot water 100 x 20 minute cycles at 90°C (194°F).

Extractables
Minimum total extractables. Please refer to the Biofil™ II Validation Guide.

Integrity Testing
Each Biofil™ II module of every cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-05 bacterial challenge tests. Non-destructive integrity tests, such as Pressure Hold, Diffusive Flow and Bubble Point, can be performed by customers. Procedural details are available from Porvair.

Clean Water Flow Rates
- Typical clean water flow rate: A 254mm (10”) Biofil™ II single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions: For solutions with a viscosity greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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India, Mumbai Division
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Biofil™ Plus
Double Layer Polyethersulphone Membrane Cartridge Filters

Biofil™ Plus microbial rated cartridge has been developed and manufactured for the filtration of liquids within pharmaceutical, biotechnology and other critical applications.

Biofil™ Plus utilises a naturally hydrophilic polyethersulphone (PES) membrane with a mirrored asymmetric pore structure. The cartridge’s unique built in pre-filtration membrane layer provides longer life and higher throughput.

When combined with quality all-polypropylene components and high integrity manufacturing techniques, the Biofil™ Plus filter cartridge is ideally suited to the most demanding process conditions.

Biofil™ Plus cartridges are constructed in a cleanroom under tightly controlled conditions using advanced, highly specialised machinery. Quality and consistency of product is assured by the quality control and manufacturing procedures which are in place throughout all stages of manufacture.

Biofil™ Plus membrane cartridges are 100% integrity tested during manufacture by the forward flow diffusion test method.

Typical Applications
- Biopharmaceuticals
- Fermentation
- Ophthalmic solutions
- API’s
- LVP’s
- Beverages
- Pure water supply

Features and Benefits
- Guaranteed microbial ratings.
- Low protein binding.
- Will not hydrolyse.
- Excellent chemical compatibility.
- Cartridge integrity and low TOC levels.
- Suitable for steam sterilising.
- Full traceability.
- Controlled manufacturing environment.
Specifications

Materials of Manufacture
Pre-filter membrane: Polyethersulphone
Final membrane: Polyethersulphone
Membrane support: Polypropylene
Irrigation mesh (support): Polypropylene
Drainage layer: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Support ring: Stainless steel

Cartridge Dimensions (Nominal)
Diameter: 70mm (2.8”)
Length:
1 module: Biofil™ Plus Junior
1 module: 254mm (10”)
2 modules: 508mm (20”)
3 modules: 762mm (30”)
4 modules: 1016mm (40”)

Effective Filtration Area
<table>
<thead>
<tr>
<th>Absolute Microbial Rating</th>
<th>Effective Filtration Area (each 254mm (10”) module)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2, 0.45 and 0.65μm</td>
<td>0.48m² (5.2ft²)</td>
</tr>
</tbody>
</table>

Cartridge Treatment
Standard: Cleaned and flushed with pyrogen-free water.
Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Gaskets and O-Rings
FDA approved Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 6.0bar (87psi)
80°C (176°F): 4.0bar (58psi)
100°C (212°F): 3.0bar (44psi)
120°C (248°F): 2.0bar (29psi)
Reverse flow direction at:
20°C (68°F): 2.1bar (30psi)
80°C (176°F): 1.0bar (15psi)
100°C (212°F): 0.5bar (7psi)

Operating Temperature
Maximum continuous: 85-90°C (185-194°F)

Sterilisation
In situ steam 80 x 20 minute cycles at 125°C (257°F).
Hot water 100 x 20 minute cycles at 85-90°C (185-194°F).

Extractables
Minimum total extractables. Please refer to the Biofil™ Plus Validation Guide.

Integrity Testing
Each Biofil™ Plus module of every cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-05 bacterial challenge tests. Non-destructive integrity tests, such as Pressure Hold, Diffusive Flow and Bubble Point, can be performed by customers. Procedural details are available from Porvair.

Clean Water Flow Rates
- Typical clean water flow rate:
  A 254mm (10”) Biofil™ Plus single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Chemifil™ cartridges are manufactured using a polypropylene membrane of uniform thickness and high voids, with a homogeneous structure and controlled pore size.

Designed for the removal of sub-micron organic and inorganic particulate matter, the inherent structural stability of the membrane eliminates any risk of media migration and minimises the release of particles.

For solvent and aggressive chemical filtration applications, Chemifil™ cartridges offer a wide range of chemical compatibility. Suitable for the most demanding microfiltration applications, the cartridges can be used for the filtration of aggressive chemical solutions including acids, alkalis, solvents and etchants.

Chemifil™ cartridges can also be used for a wide range of sterile venting and gas filtration applications.

**Typical Applications**
- Fine chemicals and solvents
- Photoresists and developers
- Pure water supply systems
- Sterile process gases
- Sterile vents

**Features and Benefits**
- Guaranteed microbial ratings.
- Flow ΔP characteristics.
- Steam sterilisation.
- Cartridge integrity and low TOC levels.
- Solvents and aggressive chemicals.
- Full traceability.
- Controlled manufacturing environment.
Specifications

Materials of Manufacture
Filter membrane: Polypropylene
Membrane support: Polypropylene
Irrigation mesh (support): Polypropylene
Drainage layer: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Sealing: Fusion bonding

Cartridge Dimensions (Nominal)
Diameter: 70mm (2.8")
Length:
1 module: Chemifil™ Junior
1 module: 254mm (10")
2 modules: 508mm (20")
3 modules: 762mm (30")
4 modules: 1016mm (40")

Effective Filtration Area
<table>
<thead>
<tr>
<th>Absolute Microbial Rating</th>
<th>Effective Filtration Area (each 254mm (10&quot;) module)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 and 0.2μm</td>
<td>0.66m² (7.1ft²)</td>
</tr>
</tbody>
</table>

Cartridge Treatment
Standard: Cleaned and flushed with pyrogen-free water.
Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Gaskets and O-Rings
Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 6.0bar (87psi)
80°C (176°F): 4.0bar (58psi)
100°C (212°F): 3.0bar (44psi)
120°C (248°F): 2.0bar (29psi)
125°C (257°F): 1.5bar (22psi)
Reverse flow direction at:
20°C (68°F): 2.1bar (30psi)
80°C (176°F): 1.0bar (15psi)
100°C (212°F): 0.5bar (7psi)

Operating Temperature
Maximum continuous: 80°C (176°F)

Sterilisation
In situ steam 100 x 30 minute cycles at 125°C (257°F)

Extractables
Minimum total extractables. Please refer to the Chemifil™ Validation Guide.

Integrity Testing
Each Chemifil™ module of every cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-05 bacterial challenge tests. Non-destructive integrity tests, such as Diffusive Flow, Water Intrusion, Pressure Hold and Bubble Point, can be performed by customers. Procedural details are available from Porvair.

Clean Water Flow Rates
- Typical clean water flow rate:
  A 254mm (10") Chemifil™ single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

Gas Flow Rates
- Typical clean air flow rate:
  A 254mm (10") Chemifil™ single cartridge exhibits the flow-ΔP characteristics indicated below.
Fluorofil™

ePTFE Membrane Cartridge Filters

Fluorofil™ cartridges are manufactured using a highly hydrophobic ePTFE membrane offering exceptionally high gas flow rates at low pressure differentials.

Fluorofil™ cartridges are recommended for sterile gas filtration and venting applications. The hydrophobic characteristics of the ePTFE membrane makes the Fluorofil™ filter cartridge particularly suitable for wet gas sterilising applications, such as fermenter air feed.

For solvent and aggressive chemical filtration applications, these cartridges offer a wide range of chemical compatibility with high thermal stability. Suitable for the most demanding microfiltration applications, the cartridges can be used for the filtration of aggressive chemical solutions including acids, alkalis, solvents and etchants.

Typical Applications
- Sterile process gases
- Sterile vents
- Fine chemicals and solvents
- Photoresists and developers
- Pure water supply systems

Features and Benefits
- Guaranteed microbial ratings.
- Bacterial spores and viruses.
- Flow ΔP characteristics.
- Steam sterilisation.
- Cartridge integrity and low TOC levels.
- Solvents and aggressive chemicals.
- Full traceability.
- Controlled manufacturing environment.

Ordering Information: For ordering information please go to page 181.

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US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
Specifications

Materials of Manufacture
- Filter membrane: ePTFE
- Membrane support: Polypropylene
- Irrigation mesh (support): Polypropylene
- Drainage layer: Polypropylene
- Inner core: Polypropylene
- Outer support: Polypropylene
- End fittings: Polypropylene
- Sealing: Fusion bonding

Cartridge Dimensions (Nominal)
- Diameter: 70mm (2.8”)
- Length:
  - 1 module: Fluorofil™ Junior
  - 1 module: 254mm (10”)
  - 2 modules: 508mm (20”)
  - 3 modules: 762mm (30”)
  - 4 modules: 1016mm (40”)

Effective Filtration Area
<table>
<thead>
<tr>
<th>Absolute Microbial Rating (in liquids)</th>
<th>Effective Filtration Area (each 254mm (10”) module)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.02, 0.1, 0.2 and 0.45μm</td>
<td>0.73m² (7.8ft²)</td>
</tr>
</tbody>
</table>

Cartridge Treatment
- Standard: Cleaned and flushed, without further treatment.
- Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Gaskets and O-Rings
Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile.

Maximum Differential Pressure
- Normal flow direction at:
  - 20°C (68°F): 6.0bar (87psi)
  - 80°C (176°F): 4.0bar (58psi)
  - 100°C (212°F): 3.0bar (44 psi)
  - 120°C (248°F): 2.0bar (29 psi)
  - 125°C (257°F): 1.8bar (25 psi)
- Reverse flow direction at:
  - 20°C (68°F): 2.1bar (30psi)
  - 80°C (176°F): 1.0bar (15psi)
  - 100°C (212°F): 0.5bar (7psi)

Operating Temperature
- Maximum continuous: 80°C (176°F)

Sterilisation
- In situ steam 80 x 20 minute cycles at 125°C (257°F).
- Hot water 100 x 20 minute cycles at 90°C (194°F).

Extractables
Minimum total extractables. Please refer to the Fluorofil™ Validation Guide.

Integrity Testing
Each Fluorofil™ module of every cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-05 bacterial challenge tests. Non-destructive integrity tests, such as Diffusive Flow, Water Intrusion, Pressure Hold and Bubble Point, can be performed by customers. Procedural details are available from Porvair.

Gas Flow Rates
- Typical clean air flow rate:
  A 254mm (10”) Fluorofil™ single cartridge exhibits the flow-ΔP characteristics indicated below.

Clean Water Flow Rates
- Typical clean water flow rate:
  A 254mm (10”) Fluorofil™ single cartridge with 0.2µm microbial rating exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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  Email: infoIN@porvairfiltration.com
Fluorofil™ Plus cartridges are manufactured using a highly hydrophobic ePTFE membrane. The enhanced ePTFE membrane offers exceptionally high gas flow rates at low pressure differentials.

Fluorofil™ Plus cartridges are recommended for sterile gas filtration and venting applications. The hydrophobic characteristics of the ePTFE membrane makes the Fluorofil™ Plus filter cartridge particularly suitable for wet gas sterilising applications, such as fermenter air feed.

The construction of the Fluorofil™ Plus cartridge has design features that allow higher membrane surface area, lower pressure drops and incorporates a stainless steel core for greater mechanical strength when operated at higher temperatures.

Typical Applications
• Sterile process gases
• Sterile vents
• Biotechnology
• Powder handling and tabletting

Features and Benefits
• Guaranteed microbial ratings.
• Bacterial spores and viruses.
• Flow ΔP characteristics.
• Mechanical strength.
• Steam sterlisation.
• Cartridge integrity and low TOC levels.
• Full traceability.
• Controlled manufacturing environment.
Specifications

Materials of Manufacture
- Filter membrane: ePTFE
- Membrane support: Polypropylene
- Irrigation mesh (support): Polypropylene
- Drainage layer: Polypropylene
- Inner core: 316L stainless steel
- Outer support: Polypropylene
- End fittings: Polypropylene
- Sealing: Fusion bonding

Cartridge Dimensions (Nominal)
- Diameter: 70mm (2.8”)
- Length:
  - 1 module: 127mm (5”)
  - 2 modules: 254mm (10”)
  - 3 modules: 508mm (20”)
  - 4 modules: 762mm (30”)
  - 508mm (20”)
  - 762mm (30”)
  - 1016mm (40”)

Effective Filtration Area

<table>
<thead>
<tr>
<th>Absolute Microbial Rating</th>
<th>Effective Filtration Area (each 254mm (10”) module)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2μm</td>
<td>0.8m² (8.6ft²)</td>
</tr>
</tbody>
</table>

Cartridge Treatment
- Standard: Cleaned and flushed, without further treatment.

Gaskets and O-Rings
- Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile.

Maximum Differential Pressure
- Normal flow direction at:
  - 20°C (68°F): 6.0bar (87psi)
  - 80°C (176°F): 4.0bar (58psi)
  - 100°C (212°F): 3.0bar (44psi)
  - 120°C (248°F): 2.0bar (29psi)
  - 125°C (257°F): 1.5bar (22psi)
- Reverse flow direction at:
  - 20°C (68°F): 2.1bar (30psi)
  - 80°C (176°F): 1.0bar (15psi)
  - 100°C (212°F): 0.5bar (7psi)

Operating Temperature
- Maximum continuous: 80°C (176°F)

Sterilisation
- In situ steam 500 x 30 minute cycles at 135°C (275°F).
- In situ steam cycles for 200 hours at 142°C (286°F).

Extractables
- Minimum total extractables. Please refer to the Fluorofil™ Plus Validation Guide.

Integrity Testing
- Each Fluorofil™ Plus module of every cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-05 bacterial challenge tests. Non-destructive integrity tests, such as Diffusive Flow, Water Intrusion, Pressure Hold and Bubble Point, can be performed by customers. Procedural details are available from Porvair.

Gas Flow Rates
- Typical clean air flow rate:
  - A 254mm (10”) Fluorofil™ Plus single cartridge exhibits the flow-ΔP characteristics indicated below.
Fluorofil™ F100 Cartridges for Solvent Filtration

Fluorofil™ F100 cartridges are manufactured using a highly hydrophobic 1 micron PTFE membrane. The enhanced PTFE membrane offers exceptionally high liquid flow rates at low pressure differentials, making Fluorofil™ F100 cartridges ideally suited to solvent filtration.

For solvent and aggressive chemical filtration applications, Fluorofil™ F100 cartridges offer a wide range of chemical compatibility with high thermal stability. Suitable for the most demanding microfiltration applications, the cartridges can be used for the filtration of aggressive chemical solutions including acids, alkalis, solvents and etchants.

Typical Applications
- Carbon fines removal
- Fine chemical and solvents
- Photoresists and developers

Features and Benefits
- Guaranteed particle retention in a liquid challenge.
- Flow ΔP characteristics.
- Cartridge integrity and low TOC levels.
- Solvents and aggressive chemicals.
- Full traceability.
- Controlled manufacturing environment.
Specifications

Materials of Manufacture
Filter membrane: PTFE
Membrane support: Polypropylene
Irrigation mesh (support): Polypropylene
Drainage layer: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Sealing: Fusion bonding

Cartridge Dimensions (Nominal)
Diameter: 70mm (2.8"
Length:
1 module: 254mm (10")
2 modules: 508mm (20")
3 modules: 762mm (30")
4 modules: 1016mm (40"

Effective Filtration Area

<table>
<thead>
<tr>
<th>Absolute Micron Rating (in water)</th>
<th>Effective Filtration Area (each 254mm (10&quot;) module)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0μm (β5000, 99.98%)</td>
<td>0.68m² (7.3fl')</td>
</tr>
</tbody>
</table>

Cartridge Treatment
Standard: Cleaned and flushed, without further treatment.
Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Gaskets and O-Rings
FEP encapsulated, Viton®, Ethylene Propylene, Nitrile or Silicone.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 6.0bar (87psi)
80°C (176°F): 4.0bar (58psi)
100°C (212°F): 3.0bar (44psi)
Reverse flow direction at:
20°C (68°F): 2.1bar (30psi)
80°C (176°F): 1.0bar (15psi)
100°C (212°F): 0.5bar (7psi)

Operating Temperature (in water)
Maximum continuous: 80°C (176°F)

Extractables
Minimum total extractables. Please refer to the Fluorofil™ F100 Validation Guide.

Integrity Testing
Each Fluorofil™ F100 module of every cartridge is individually integrity tested using the Reverse Bubble Point Test, which correlates to the particle retention rating determined by the modified OSU F-2 Single Pass Challenge Test. Non-destructive integrity testing, using the Reverse Bubble Point Test, can be performed by the end user. Procedural details are available from Porvair.

Clean Water Flow Rates
- Typical clean water flow rate:
  A 254mm (10") Fluorofil™ F100 single cartridge with 1.0μm particle retention rating exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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A range of microbially rated cartridge filters featuring the latest developments in membrane technology, Hydrofil™ HT cartridges are based on a naturally hydrophilic nylon membrane. When combined with quality all-polypropylene cartridge components and high integrity manufacturing techniques, the nylon membrane provides a high strength, long life cartridge of consistently precise particle retention across a wide range of particle sizes.

Hydrofil™ cartridges exploit the narrow pore size distribution and high void volume of the media to provide a choice of cartridges capable of meeting the requirements of most applications. Careful media selection ensures that Hydrofil™ cartridges are very suited to critical particle control down to 0.03 micron ratings. These cartridges offer high flux rates and low differential pressures, a feature common to nylon membranes.

Hydrofil™ cartridges benefit from high protein binding characteristics of nylon membranes. They are highly resistant to integrity failure caused by steam sterilisation and have excellent chemical compatibility characteristics.

Hydrofil™ cartridges are ideal for use in ultra pure water supply systems (18MΩ.cm).

Hydrofil™ cartridges provide a combination of features and benefits previously unavailable from cartridges based on PVDF, mixed esters of cellulose or polysulphone membranes. They are suitable for a range of applications including sterile filtration, bioburden reduction and the clarification of a wide range of process liquids and end products.

**Typical Applications**
- Biopharmaceuticals
- Electronics and semiconductors
- Fine chemicals
- Beverages
- Pure water supply

**Features and Benefits**
- Guaranteed microbial ratings.
- Excellent chemical compatibility.
- Cartridge integrity and low TOC levels.
- Suitable for steam sterilising.
- Full traceability.
- Controlled manufacturing environment.

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**Ordering Information:**
For ordering information please go to page 181.

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**US, Ashland Division**
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
Specifications

Materials of Manufacture
Filter membrane: Nylon 6.6
Membrane support: Polypropylene
Irrigation mesh (support): Polypropylene
Drainage layer: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Support ring: Stainless steel

Cartridge Dimensions (Nominal)
Diameter: 70mm (2.8")
Length:
- 1 module: 254mm (10")
- 2 modules: 508mm (20")
- 3 modules: 762mm (30")
- 4 modules: 1016mm (40")

Effective Filtration Area

<table>
<thead>
<tr>
<th>Absolute Microbial Rating</th>
<th>Effective Filtration Area (each 254mm (10&quot;) module)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.03, 0.1, 0.2 and 0.45μm</td>
<td>0.69m² (7.4ft²)</td>
</tr>
</tbody>
</table>

Cartridge Treatment
Standard: Cleaned and flushed with pyrogen-free water.
Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Gaskets and O-Rings
FDA approved Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile.

Maximum Differential Pressure
Normal flow direction at:
- 20°C (68°F): 6.0bar (87psi)
- 80°C (176°F): 4.0bar (58psi)
- 100°C (212°F): 3.0bar (44psi)
- 120°C (248°F): 2.0bar (29psi)
Reverse flow direction at:
- 20°C (68°F): 2.1bar (30psi)
- 80°C (176°F): 1.0bar (15psi)
- 100°C (212°F): 0.5bar (7psi)

Operating Temperature
Maximum continuous: 60°C (140°F)

Sterilisation
In situ steam 30 x 25 minute cycles at 125°C (257°F).

Extractables
Minimum total extractables. Please refer to the Hydrofil™ Validation Guide.

Integrity Testing
Each Hydrofil™ module of every cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-05 bacterial challenge tests. Non-destructive integrity tests, such as Pressure Hold, Diffusive Flow and Bubble Point, can be performed by customers. Procedural details are available from Porvair.

Clean Water Flow Rates
- Typical clean water flow rate:
  A 254mm (10") Hydrofil™ single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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Hydrofil™ Plus

Dual Nylon 6.6 Layer Membrane Cartridge Filters

Hydrofil™ Plus microbial rated cartridges have been developed and manufactured for the filtration of liquids in the pharmaceutical, biotechnology and other critical applications. Hydrofil™ Plus utilises a naturally hydrophilic Nylon 6.6 membrane with a mirrored asymmetric pore structure. The cartridge’s unique built in pre-filtration membrane layer provides longer life and higher throughput.

When combined with quality all-polypropylene components and high integrity manufacturing techniques, the Hydrofil™ Plus filter cartridge is ideally suited to the most demanding process conditions.

Hydrofil™ Plus cartridges are constructed in a clean room under tightly controlled conditions using advanced, highly specialised machinery. Quality and consistency of product is assured by the quality control and manufacturing procedures, which are in place throughout all stages of manufacture.

Hydrofil™ Plus membrane cartridges are 100% integrity tested during manufacture by the forward flow diffusion test method.

Typical Applications

- Biopharmaceuticals
- Fermentation
- API’s
- LVP’s
- Beverages
- Pure water supply

Features and Benefits

- Guaranteed microbial ratings.
- Excellent chemical compatibility.
- Cartridge integrity and low TOC levels.
- Suitable for steam sterilising.
- Full traceability.
- Controlled manufacturing environment.
Sterilisation

Materials of Manufacture
Pre-filter membrane: Nylon
Final membrane: Nylon
Filter membrane: Nylon
Membrane support: Polypropylene
Irrigation mesh (support): Polypropylene
Drainage layer: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Support ring: Stainless steel

Cartridge Dimensions (Nominal)
Diameter: 70mm (2.8”)
Length: 1 module: 254mm (10”)
2 modules: 508mm (20”)
3 modules: 762mm (30”)
4 modules: 1016mm (40”)

Effective Filtration Area
<table>
<thead>
<tr>
<th>Absolute Microbial Rating</th>
<th>Effective Filtration Area (each 254mm (10”) module)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2μm</td>
<td>0.5m² (5.38ft²)</td>
</tr>
</tbody>
</table>

Cartridge Treatment
Standard: Cleaned and flushed with pyrogen-free water.
Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Gaskets and O-Rings
FDA approved Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 6.0bar (87psi)
80°C (176°F): 4.0bar (58psi)
100°C (212°F): 3.0bar (44psi)
120°C (248°F): 2.0bar (29psi)
Reverse flow direction at:
20°C (68°F): 2.1bar (30psi)
80°C (176°F): 1.0bar (15psi)
100°C (212°F): 0.5bar (7psi)

Operating Temperature
Maximum continuous: 60°C (140°F)

Sterilisation
In situ steam 30 x 25 minute cycles at 125°C (257°F).

Extractables
Minimum total extractables. Please refer to the Hydrofil™ Validation Guide.

Integrity Testing
Each Hydrofil™ Plus module of every cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-05 bacterial challenge tests. Non-destructive integrity tests, such as Pressure Hold, Diffusive Flow and Bubble Point, can be performed by customers. Procedural details are available from Porvair.

Clean Water Flow Rates
- Typical clean water flow rate:
  A 254mm [10"] Hydrofil™ Plus single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

Contact Information:
China, Wuhan Division
Tel: +86 (0)712 2878955
Email: infoCN@porvairfiltration.com
India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Vinofil™ membrane cartridges have been specifically designed for wine and beer filtration as a final filter for cold biological stabilisation. Vinofil™ cartridges utilise a double layer of naturally hydrophilic polyethersulphone (PES) membrane with a mirrored asymmetric pore structure, providing graded filtration throughout its depth, resulting in higher throughputs and long service life. When combined with quality all-polypropylene components and high integrity manufacturing techniques, the Vinofil™ filter cartridge is ideally suited to the most demanding process conditions.

Vinofil™ cartridges exploit the narrow pore size distribution and high void volume of the media to provide a choice of cartridges capable of meeting the requirements of most applications. Careful media selection ensures that Vinofil™ cartridges are suited to critical particle control down to 0.2 micron ratings. These cartridges offer high flux rates and low differential pressures, a feature common to polyethersulphone membranes.

Vinofil™ cartridges benefit from the low binding characteristics of polyethersulphone membranes. They are highly resistant to integrity failure caused by steam sterilisation and have excellent compatibility with CIP sterilising agents.

As a consequence Vinofil™ cartridges provide a combination of features and benefits previously unavailable from cartridges based on PVDF, nylon, mixed esters of cellulose or polysulphone membranes. They are suitable for a range of applications including sterile filtration, stabilisation and the clarification of a wide range of beverages.

Typical Applications
- Wine and sparkling wine
- Beer
- Mineral water and soft drinks
- Process water supply

Features and Benefits
- Guaranteed microbial ratings.
- Low binding and fouling.
- Will not hydrolyse.
- Excellent chemical compatibility.
- Cartridge integrity and low TOC levels.
- Suitable for steam sterilising.
- Full traceability.
- Controlled manufacturing environment.

Ordering Information: For ordering information please go to page 181.

Contact Information:
UK, New Milton Division
Tel: +44 (0)1425 612010
Email: info@porvairfiltration.com

US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
Specifications

Materials of Manufacture
Filter membranes: Dual Polyethersulphone
Membrane support: Polypropylene
Irrigation mesh (support): Polypropylene
Drainage layer: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Support ring: Stainless steel

Cartridge Dimensions (Nominal)
Diameter: 70mm (2.8")
Length:
1 module (short): 125mm (5")
1 module: 254mm (10")
2 modules: 508mm (20")
3 modules: 762mm (30")
4 modules: 1016mm (40")

Effective Filtration Area

<table>
<thead>
<tr>
<th>Absolute Microbial Rating</th>
<th>Effective Filtration Area</th>
<th>(each 254mm (10&quot;) module)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2, 0.45 and 0.65μm</td>
<td>0.48m² (5.2ft²)</td>
<td></td>
</tr>
</tbody>
</table>

Cartridge Treatment
Standard: Cleaned and flushed with pyrogen-free water.

Gaskets and O-Rings
FDA approved Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 6.0bar (87psi)
80°C (176°F): 4.0bar (58psi)
100°C (212°F): 3.0bar (44psi)
120°C (248°F): 2.0bar (29psi)
Reverse flow direction at:
20°C (68°F): 2.1bar (30psi)
80°C (176°F): 1.0bar (15psi)
100°C (212°F): 0.5bar (7psi)

Operating Temperature
Maximum continuous: 85-90°C (185-194°F)

Sterilisation
In situ steam 80 x 20 minute cycles at 125°C (257°F).
Hot water 100 x 20 minute cycles at 85-90°C (185-194°F).

Extractables
Minimum total extractables. Please refer to the Vinofilt™ Validation Guide.

Integrity Testing
Each Vinofilt™ module of every cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-05 bacterial challenge tests. Non-destructive integrity tests, such as Pressure Hold, Diffusive Flow and Bubble Point, can be performed by customers. Procedural details are available from Porvair.

Clean Water Flow Rates
- Typical clean water flow rate:
  A 254mm (10") Vinofilt™ single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Microfil™ Junior
Absolute Rated Pleated Glass Fibre Cartridge Filters for Small-Scale Applications

A range of absolute rated cartridge filters, designed for retrofitting into existing junior-style housings. Featuring the latest developments in borosilicate glass fibre filter media technology, Microfil™ Junior cartridges are constructed from robust glass fibre and polypropylene filtration layers, offering removal ratings from 0.5 to 5 micron absolute.

Microfil™ Junior cartridges are suitable for absolute removal of unwanted particulates and for pre-filtration to membrane filters.

Microfil™ Junior cartridges incorporate a polypropylene pre-filtration layer, combined with a high dirt capacity glass fibre media, resulting in longer service life, improved operating costs and smaller process footprint.

The Microfil™ Junior filter cartridges are highly resistant to integrity failure caused by steam sterilisation and have excellent chemical compatibility characteristics.

They are suitable for applications ranging from bioburden reduction to the clarification of a wide range of process liquids and end products.

Typical Applications
- Small-scale pharmaceuticals and bioprocessing
- Pilot-scale studies
- Batch processing

Features and Benefits
- Zeta potential.
- High filtration area.
- Guaranteed removal ratings.
- Suitable for steam and hot water sanitisation.
- Full traceability.
- Controlled manufacturing environment.

Ordering Information: For ordering information please go to page 182.
Contact Information: UK, New Milton Division
Tel: +44 (0) 1425 612010
Email: info@porvairfiltration.com

US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
Specifications

Materials of Manufacture
Filter media: Glass fibre
Pre-filtration layer: Polypropylene
Support layers: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Support ring: Stainless steel

Cartridge Dimensions (Nominal)
Diameter: 56mm (2.2”)
Length: 77.5mm (2.5”)
136mm (5”)

Effective Filtration Area

<table>
<thead>
<tr>
<th>Absolute Removal Rating</th>
<th>Effective Filtration Area (for 5” cartridge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5, 0.8, 1.0, 2.0 and 5.0μm</td>
<td>0.15m² (1.6ft²)</td>
</tr>
</tbody>
</table>

Cartridge Treatment
Standard: Cleaned without further treatment.
Flushed: Flushed with pyrogen-free water.

Gaskets and O-Rings
J-style: Silicone (other materials are available on request).
S-style: Not supplied.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 6.0 bar (87psi)
80°C (176°F): 4.0 bar (58psi)
100°C (212°F): 3.0 bar (44psi)
120°C (248°F): 2.0 bar (29psi)

Reverse flow direction at:
20°C (68°F): 2.1 bar (30psi)
80°C (176°F): 1.0 bar (15psi)
100°C (212°F): 0.5 bar (7psi)

Operating Temperature
Maximum continuous: 80°C (176°F)

Sterilisation
J-style: In situ steam 70 x 25 minute cycles at 130°C (266°F).
S-style: Autoclave 100 x 25 minute cycles at 125°C (257°F).

Extractables
Minimum total extractables. Please refer to the Microfil Validation Guide.

Integrity Testing
Microfil Junior filter cartridges are batch tested for integrity using the Bubble Point Test. Procedural details are available from Porvair.

Clean Water Flow Rates
- Typical clean water flow rate:
  A 136mm (5”) Microfil Junior cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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Email: infoIN@porvairfiltration.com
Polyfil™ Junior
Absolute Rated Pleated Polypropylene Cartridge Filters Small-Scale Applications

A range of absolute rated cartridge filters, designed for retrofitting into existing junior-style housings. Featuring the latest developments in meltblown polypropylene filter media technology, Polyfil™ Junior cartridges are based on a robust all polypropylene construction, offering removal ratings from 0.5 to 5 micron absolute.

Polyfil™ Junior cartridges are suitable for absolute removal of unwanted particulates and for pre-filtration to membrane filters.

The graded multi-layer polypropylene media provide pre-filtration of the process fluid prior to the absolute rated final layer. The unique design of the Polyfil™ Junior cartridges helps to achieve lower running costs and a smaller process footprint.

Polyfil™ Junior cartridges are resistant to integrity failure caused by steam sterilisation and have excellent chemical compatibility characteristics.

They are suitable for applications ranging from bioburden reduction to the clarification of a wide range of process liquids and end products.

Typical Applications
- Small-scale pharmaceuticals
- Ophthalmic solutions
- Electronics and semiconductors
- Small-scale fine chemicals
- Pilot-scale studies
- Inks and coatings

Features and Benefits
- Graded multi-layer media.
- High filtration area.
- Guaranteed removal ratings.
- Suitable for steam and hot water sanitisation.
- Environmentally friendly.
- Full traceability.
- Controlled manufacturing environment.
**Specifications**

**Materials of Manufacture**
- Filter media: Polypropylene
- Support layers: Polypropylene
- Inner core: Polypropylene
- Outer support: Polypropylene
- End fittings: Polypropylene
- Support ring: Stainless steel

**Cartridge Dimensions (Nominal)**
- Diameter: 56mm (2.2”)
- Length: 77.5mm (2.5”)
- 136mm (5”)

**Effective Filtration Area**
Up to 0.15m² (1.6 ft²) per 136mm module (depending on pore rating).

**Cartridge Treatment**
- Standard: Cleaned without further treatment.
- Flushed: Flushed with pyrogen-free water.
- Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

**Gaskets and O-Rings**
- J-style: Silicone (other materials are available on request).
- S-style: Not supplied.

**Maximum Differential Pressure**
Normal flow direction at:
- 20°C (68°F): 6.0 bar [87psi]
- 80°C (176°F): 4.0 bar [58psi]
- 100°C (212°F): 3.0 bar [44psi]
- 120°C (248°F): 2.0 bar [29psi]
- 125°C (257°F): 1.5 bar [22psi]

Reverse flow direction at:
- 20°C (68°F): 2.1 bar [30psi]
- 80°C (176°F): 1.0 bar [15psi]
- 100°C (212°F): 0.5 bar [7psi]

**Operating Temperature**
- Maximum continuous: 80°C (176°F)

**Sterilisation**
- J-style: In situ steam 70 x 25 minute cycles at 125°C (257°F).
- S-style: Autoclave 100 x 25 minute cycles at 125°C (257°F).

**Extractables**
Minimum total extractables. Please refer to the Polyfil™ II Validation Guide.

**Integrity Testing**
Polyfil™ Junior filter cartridges are batch tested for integrity using the Bubble Point Test. Procedural details are available from Porvair.

**Clean Water Flow Rates**
- Typical clean water flow rate:
  A 136mm (5”) Polyfil™ Junior cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.

- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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Biofil™ Junior
Polyethersulphone Membrane Cartridge Filters for Small-Scale Applications

A range of microbially rated cartridge filters, designed for retrofitting into existing junior-style housings. Biofil™ Junior cartridges are based on a naturally hydrophilic polyethersulphone membrane with a mirrored asymmetric pore structure. When combined with quality all-polypropylene cartridge components and high integrity manufacturing techniques, the polyethersulphone membrane provides a high strength, long life cartridge of consistently precise microbial retention.

Biofil™ Junior cartridges exploit the narrow pore size distribution and high void volume of the media to provide a choice of cartridges capable of meeting the requirements of most applications. Careful media selection ensures that Biofil™ Junior cartridges are suited to critical particle control down to 0.04 micron ratings. These cartridges offer high flux rates and low differential pressures, a feature common to polyethersulphone membranes.

Biofil™ Junior cartridges benefit from the low non-specific protein binding characteristics of polyethersulphone membranes. They are highly resistant to integrity failure caused by steam sterilisation and have excellent chemical compatibility characteristics. As they will not hydrolyse, Biofil™ Junior cartridges are ideal for use in ultra pure water supply systems (18MΩ.cm).

Biofil™ Junior cartridges provide a combination of features and benefits previously unavailable from cartridges based on PVDF, nylon, mixed esters of cellulose or polysulphone membranes. They are suitable for applications ranging from sterile filtration, bioburden reduction to the clarification of process liquids and end products.

Typical Applications
- Small-scale biopharmaceuticals
- Ophthalmic solutions
- Electronics and semiconductors
- Small-scale fine chemicals
- Pilot-scale studies
- Point-of-use water supply

Features and Benefits
- Guaranteed removal ratings.
- Low protein binding.
- Will not hydrolyse.
- Excellent chemical compatibility.
- Cartridge integrity and low TOC levels.
- Suitable for steam sterilising.
- Full traceability.
- Controlled manufacturing environment.
Specifications

Materials of Manufacture
Filter membrane: Polyethersulphone
Membrane support: Polypropylene
Irrigation mesh (support): Polypropylene
Drainage layer: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Support ring: Stainless steel

Cartridge Dimensions (Nominal)
Diameter: 56mm (2.2")
Length: 77.5mm (2.5")
136mm (5")

Effective Filtration Area

<table>
<thead>
<tr>
<th>Absolute Microbial Rating</th>
<th>Effective Filtration Area (for each 5&quot; cartridge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.04, 0.1, 0.2, 0.45, 0.65 and 1.2μm</td>
<td>0.19m² (2.05ft²)</td>
</tr>
</tbody>
</table>

Cartridge Treatment
Standard: Cleaned and flushed with pyrogen-free water.
Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Gaskets and O-Rings
J-style: Silicone (other materials are available on request).
S-style: Not supplied.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 6.0bar (87psi)
80°C (176°F): 4.0bar (58psi)
100°C (212°F): 3.0bar (44psi)
120°C (248°F): 2.0bar (29psi)
Reverse flow direction at:
20°C (68°F): 2.1bar (30psi)
80°C (176°F): 1.0bar (15psi)
100°C (212°F): 0.5bar (7psi)

Operating Temperature
Maximum continuous: 85-90°C (185-194°F)

Sterilisation
J-style: In situ steam 70 x 25 minute cycles at 125°C (257°F).
S-style: Autoclave 100 x 25 minute cycles at 125°C (257°F).

Extractables
Minimum total extractables. Please refer to the Biofil™ II Validation Guide.

Integrity Testing
Each Biofil™ Junior module of every cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-05 bacterial challenge tests. Non-destructive integrity tests, such as Pressure Hold, Diffusive Flow and Bubble Point, can be performed by customers. Procedural details are available from Porvair.

Gas Flow Rates
- Typical clean water flow rate:
  A 136mm (5") Biofil™ Junior cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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India, Mumbai Division
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Email: infoIN@porvairfiltration.com
Fluorofil™ Junior
ePTFE Membrane Cartridge Filters for Small-Scale Applications

Fluorofil™ Junior cartridges are manufactured using a highly hydrophobic ePTFE membrane and are designed for retrofitting into existing Junior-style housings. The enhanced ePTFE membrane offers exceptionally high gas flow rates at low pressure differentials (see graph).

The Junior range are available in two formats: J-style, a single open-ended element with a single internal o-ring seal on the downstream end cap and S-style, a single open-ended element incorporating an integral flange on the downstream end cap.

Fluorofil™ Junior cartridges are recommended for small-scale sterile gas filtration and venting applications. The hydrophobic characteristics of the ePTFE membrane makes the Fluorofil™ Junior filter cartridge particularly suitable for wet gas sterilising applications, such as small-scale fermenter air feed.

For small-scale solvent and aggressive chemical filtration applications, Fluorofil™ Junior cartridges offer a wide range of chemical compatibility with high thermal stability. Suitable for the most demanding microfiltration applications, the cartridges can be used for the small-scale filtration of aggressive chemical solutions including acids, alkalis, solvents and etchants.

Fluorofil™ Juniors can be used in scale-up bench-top experiments and pilot plant evaluations to confirm suitability in new process applications.

Typical Applications
- Sterile vents
- Small-scale sterile process gases
- Small-scale fine chemicals and solvents
- Small-scale photoresists and developers

Features and Benefits
- Zeta potential.
- High filtration area.
- Guaranteed removal ratings.
- Suitable for steam and hot water sanitisation.
- Full traceability.
- Controlled manufacturing environment.
Specifications

Materials of Manufacture
Filter membrane: ePTFE
Membrane support: Polypropylene
Irrigation mesh (support): Polypropylene
Drainage layer: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Sealing: Fusion bonding
Internal adaptor support ring: Stainless steel

Cartridge Dimensions (Nominal)
Diameter: 56mm (2.2")
Lengths: 77.5mm (2.5")
136mm (5")

Effective Filtration Area

<table>
<thead>
<tr>
<th>Absolute Microbial Rating (in liquids)</th>
<th>Effective Filtration Area (for 5&quot; cartridge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2μm</td>
<td>0.19m² (2.05ft²)</td>
</tr>
</tbody>
</table>

Cartridge Treatment
Standard: Cleaned and flushed, without further treatment.
Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Gaskets and O-Rings
J-style: Silicone (other materials are available on request).
S-style: Not supplied.

Maximum Differential Pressure
Normal flow direction at:
20°C (68°F): 6.0bar (87psi)
80°C (176°F): 4.0bar (58psi)
100°C (212°F): 3.0bar (44psi)
120°C (248°F): 2.0bar (29psi)
125°C (257°F): 1.5bar (22psi)

Operating Temperature
Maximum continuous: 80°C (176°F)

Sterilisation
Autoclave 70 x 25 minute cycles at 135°C (275°F).

Extractables
Minimum total extractables. Please refer to the Fluorofil™ Validation Guide.

Integrity Testing
Each Fluorofil™ Junior cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HITMA and ASTM F838-05 bacterial challenge tests. Non-destructive integrity tests, such as Diffusive Flow, Water Intrusion, Pressure Hold and Bubble Point, can be performed by customers. Procedural details are available from Porvair.

Gas Flow Rates
- Typical clean air flow rate:
  A 136mm (5") Fluorofil™ Junior cartridge exhibits the flow-ΔP characteristics indicated below.

Clean Water Flow Rates
- Typical clean water flow rate:
  A 136mm (5") Fluorofil™ Junior cartridge (J-style) with 0.2μm microbial rating exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

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India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Ventafil™ cartridges are manufactured using a highly hydrophobic ePTFE membrane and are designed for autoclave venting. The enhanced ePTFE membrane offers exceptionally high gas flow rates at low pressure differentials.

Ventafil™ cartridges are designed with a ½” BSP male thread for autoclave and small tank venting applications. The hydrophobic characteristics of the ePTFE membrane makes the Ventafil™ filter cartridge particularly suitable for rapid vacuum break in autoclaves.

**Typical Applications**
- Autoclave vents
- Sterile product storage vessels

**Features and Benefits**
- Guaranteed microbial ratings in a liquid challenge.
- Bacterial spores and viruses.
- Flow ΔP characteristics.
- Steam sterilisation.
- Cartridge integrity and low TOC levels.
- Full traceability.
- Controlled manufacturing environment.

Ordering Information:  For ordering information please go to page 182.

Contact Information:  UK, New Milton Division
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US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
Specifications

Materials of Manufacture

Filter membrane: ePTFE
Membrane support: Polypropylene
Irrigation mesh [support]: Polypropylene
Drainage layer: Polypropylene
Inner core: Polypropylene
Outer support: Polypropylene
End fittings: Polypropylene
Sealing: Fusion bonding

Cartridge Dimensions (Nominal)

Diameter: 70mm (2.8”)
Length: 64mm (2.5”)
136mm (5”)

Effective Filtration Area

<table>
<thead>
<tr>
<th>Absolute Microbial Rating (in liquids)</th>
<th>Effective Filtration Area (for 5” cartridge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2μm</td>
<td>0.37m² (4.0ft²)</td>
</tr>
</tbody>
</table>

Cartridge Treatment

Standard: Cleaned and flushed, without further treatment.
Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm.

Adaptor and O-Ring

Silicone (other materials are available on request).
1/2” BSP male thread.

Maximum Differential Pressure

Normal flow direction at:
20°C (68°F): 6.0bar (87psi)
80°C (176°F): 4.0bar (58psi)
100°C (212°F): 3.0bar (44psi)
120°C (248°F): 2.0bar (29psi)
125°C (257°F): 1.5bar (22psi)

Sterilisation

In situ steam 70 x 25 minute cycles at 135°C (275°F).

Integrity Testing

Each Ventafil™ cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-05 bacterial challenge tests. Non-destructive integrity tests, such as Diffusive Flow, Water Intrusion, Pressure Hold and Bubble Point, can be performed by customers. Procedural details are available from Porvair.

Clean Air Flow Rates

- Typical clean air flow rate:
  A 136mm (5”) Ventafil™ cartridge exhibits the flow-ΔP characteristics indicated below.

Clean Air Flow Rates

- Vacuum break application:
  If the initial vacuum is at -980 mbarg, the time required before the vacuum break conditions required to safely open the autoclave door (at -20mbarg) are achieved, is indicated below.

Extractables

Minimum total extractables. Please refer to the Fluorofil™ Validation Guide.
Filter Element and Cartridge Housings

A full range of stainless steel industrial and sanitary housings, available from 10 to 20 bar (145-290 psi), with both single and multi-element housings to suit every application. The housings have in-line BSP port connections for ease of installation. Tri-clover and weld connections are available.

A special range of high-pressure 350 bar (5,076 psi) rated housings are also available on request. Housings manufactured from other alloys and made to other design codes are also available on request, please contact us for further details.
Filter Housings
Stainless Steel Industrial and Sanitary Housings

A full range of stainless steel industrial and sanitary housings, available from 10 to 20 bar (145-290 psi), with both single and multi-element housings to suit every application. The housings have in-line BSP port connections for ease of installation. Tri-clover and weld connections are available.

Current range of filter housings are available in rounds from 1-30.

A special range of high-pressure 350 bar (5,076 psi) rated housings are available on request.

Housings manufactured from other alloys and made to other design codes are available on request, please contact us for further details.

Typical Applications
- Metal filter elements
- Disposable filter cartridges

Features and Benefits
- Resistant to high temperatures and corrosive environments.
- Suitable for aggressive air and liquid filtration applications.
- Inherent strength for long service life in arduous applications.
- Controlled pore size, ensures optimum repeat performance.
Optional Material and Surface Treatments

- Stainless steel 316L
- Hastelloy®
- Internal welds ground flush and smooth
- Electro polished
- Mirror finished
- Surface finish 240 grit
- Various coatings

Control Systems

Some of the control options available are:

- Solenoid operated valve
- Control timer

Coded Vessels

Vessels can be supplied to BS5500, ASME VIII U’Stamp, ADM-TÜV. Other standards are available upon request.

The systems are designed and built to individual customer’s specifications and needs. A tailored pulsed jet supply system is vital to a good performance of the filter assembly.
High-Pressure Filter Housings
Polished Stainless Steel Housings

Designed for high efficiency filtration of gases and liquids in critical applications.

Available in alternative materials such as Monel® or Hastelloy® for applications that require a higher level of resistance to aggressive gases and liquids. BSPP pipe connections as standard, other connections are available. Manufactured from solid steel bar stock, in accordance with NACE MR-01-75 specification, they can be used in the pressure range from full vacuum to 350barg (5000psig).

These stainless steel high pressure filter housings can be ordered on their own or supplied with filter inserts as a complete assembly. These are available in Sinterflo® F Fibre, Sinterflo® M Mesh or Sinterflo® P Powder stainless steel. A variety of filtration ratings are available, please contact us for details.

Typical Applications
- High purity bottled gas.
- Liquid or gas samples to process analysers
- Liquid or gas samples with minimum response time
- High pressure or vacuum filtration
- Sterile gas
- Precision in-line valves and equipment protection

Features and Benefits
- Resistant to high temperatures and corrosive environments.
- Robust and durable construction.
- Cleanable and reusable.
- Suitable for use in acidic gases.
- Ideal for stack sampling.
- Low cost, long life unit.
- Can be installed in permanent analysis equipment.

Specifications

Maximum pressure drop
50bar (725psi)

Maximum pressure loss
25bar (360psi)

Temperature range
-250°C to 500°C (-425°F to 930°F)
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In-Line and Last Chance Filters

Last chance filters perform a complimentary role to main system filters. These are designed to remove and retain contamination such as machining chips, burrs, wear debris and fluid breakdown products induced during operation or built in downstream of the main system filters.

This range of filters, all designed to specific performance and installation requirements, are available in the following media configurations:

- Sinterflo® F sintered metal fibre
- Sinterflo® P sintered metal powder
- Sinterflo® M metal mesh
- Sinterflo® MC sintered metal mesh composite
- Laser drilled
- Polymers: polypropylene, acetal, peek, nylon, PTFE.

Inprinta is the Inkjet sales division of Porvair Filtration Group. Inprinta designs and manufactures a wide range of in-line and last chance filters to offer solutions for inkjet filtration throughout the body of the printer.

These self-contained filter assemblies are provided for varied types of inkjet applications including CIJ coding, textile, ceramics and graphics.
A comprehensive range of filters for complete system protection. These include metal mesh filter discs, available in both pleated and flat versions, to suit specific application requirements.

The metal mesh filter discs are designed and manufactured to provide filtration protection in liquid and gas flow systems.

These cost-effective mesh filter discs provide a significant increase in filtration area for a similar installation.

These lightweight stainless steel filter discs are capable of operating with a variety of fluids at temperatures from -270 to 450°C (-454 to 842°F), and with differential pressures up to 3 bar (43 psi).

Metal mesh filters are available in two distinct types, rimmed and unrimmed.

Typical applications include spin pack filters used in the manufacture of man-made polymer fibre materials for textile products.

Typical Applications

- Liquid filtration
- Air filtration
- Hydraulics
- Spin pack filters

Features and Benefits

- Low pressure drop.
- Easily cleanable.
- High operating temperatures.
A comprehensive range of fibre disc filters for complete system protection in both gaseous and liquid applications. These can be supplied in either flat or pleated versions to suit requirements.

Inexpensive flat discs are suited to applications where space is a premium, and where limited contaminant is expected.

For systems where a larger filtration area or lower pressure drop is required, but still within a limited footprint, we offer a pleated disc. Both designs are available with or without a sealing rim and in a comprehensive range of filtration ratings to suit a variety of operating conditions.

Typical applications include spin pack filters used in the manufacture of man made polymer fibre materials for textile products.

Typical Applications
• Liquid filtration
• Air filtration
• Hydraulics
• Spin pack filters

Features and Benefits
• Low pressure drop.
• Easily cleanable.
• Wide range of operating temperatures.
• Variety of filtration ratings available.
• Lightweight and robust construction.
• Suitable for gaseous and liquid applications.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.

Ordering Information: For ordering information please contact a member of the Sales Team.

Contact Information: China, Wuhan Division
Tel: +86 (0)712 2878955
Email: infoCN@porvairfiltration.com

India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
A wide range of metal powder filter discs, available in diameters from 0.5mm (0.02") to over 203mm (8") with a wide range of thicknesses.

Powder metallurgy techniques are used to produce porous discs with interconnected porosity and densities ranging from 35% to 75%. The porosity of the disc consists of a wide pore size distribution centred around a mean pore size.

Porous sintered metal discs are available in 15 different standard micron grades with pore sizes ranging from a 0.003 to 200 micrometers.

Disc sizes and tolerances are dependent on the material, micron grade and the density requirements.

Typical Applications
- Liquid and gas filtration
- Frits
- Pressure snubbers
- Aerators
- Support for chromatography columns
- Base components or assemblies

Features and Benefits
- Low pressure drop.
- Easily cleanable.
- High operating temperatures.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.
To enhance performance capabilities, we produce a vast range of tubular last chance filters and screens.

Designed to be fully integrated into customer systems, these filters are manufactured using a number of techniques including micro resistance welding, fusion welding, laser drilling and injection moulding.

These elements are designed for long on-stream life and can be designed and constructed to withstand full system pressure.

**Materials of construction**
- Stainless steel or nickel-based alloys
- Sinterflo® F sintered metal fibre
- Sinterflo® P sintered metal powder
- Sinterflo® M metal mesh

**Typical Applications**
- Hydraulics
- Pneumatics
- Oil and lubrication systems
- Fuel systems
- Printing inks

**Features and Benefits**
- Available in pleated or cylindrical element designs.
- Variety of filtration ratings available to suit a wide range of applications.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.

**Ordering Information:** For ordering information please contact a member of the Sales Team.

**Contact Information:**
- China, Wuhan Division
  - Tel: +86 (0)172 878955
  - Email: infoCN@porvairfiltration.com
- India, Mumbai Division
  - Tel: +91 82 25 976464 / +91 82 25 976465
  - Email: infoIN@porvairfiltration.com
In applications where the filter assembly is to be fitted for life or when it is not practical to handle the filter after use, we can supply fully welded assemblies for direct installation into various systems. These are available in both metallic and polymeric forms, depending upon the system requirement.

In many applications the filter discs or tubular inserts are supplied fully integrated into a miniature housing which forms part of the customer’s system, allowing easy replacement of the filter.

Filters can be integrated within a variety of standard industry fittings.

Housings can be made from a variety of materials including aluminium alloy, stainless steel, titanium and engineering thermoplastics.

Typical Applications

- Hydraulics
- Pneumatics
- Oil and lubrication systems
- Fuel systems
- Printing inks

Features and Benefits

- Available in pleated or cylindrical element designs.
- Variety of filtration ratings available to suit a wide range of applications.
- Variety of end fittings available including threaded and push-fit barbed connectors.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.
A range of in-line filter housing assemblies for highly contaminated systems.
These filters feature a removable pleated or cylindrical filter cartridge with an increased filter area and, therefore, operational life. Additional optional features include bypass devices and system condition monitors.

**Materials of construction**
- Stainless steel or nickel-based alloys.
- Variety of polymeric materials.

**Typical Applications**
- Hydraulics
- Pneumatics
- Oil and lubrication systems
- Fuel systems
- Printing inks

**Features and Benefits**
- Variety of filtration ratings available to suit a wide range of applications.
- Variety of end fittings available including threaded and push-fit barbed connectors.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue's ordering guides. For further information, please contact a member of the Sales Team.

**Ordering Information:**
For ordering information please contact a member of the Sales Team.

**Contact Information:**
China, Wuhan Division  
Tel: +86 (0)712 2878955  
Email: infoCN@porvairfiltration.com

India, Mumbai Division  
Tel: +91 22 25 976464 / +91 22 25 976465  
Email: infoIN@porvairfiltration.com
Final Ink Filters

A final, or last chance, filter manufactured from stainless steel and is 100% chemically compatible to volatile inkjet materials.

This fully welded filter gives excellent structural integrity for the filter mesh and effective removal of any remaining contaminants before they reach the printhead.

Specifications

Filter Code
8069

Materials of Manufacture
Filter media: Stainless steel mesh
Housing material: Stainless steel

Micron Rating
5µm, 15µm, 25µm, 40µm

Dimensions
Filter length: 50mm (1.98”)
Filter width: 12mm (0.47”)

Filter Area
1.9cm² (0.29in²)

Maximum Operating Pressure
6bar (87psi)

Operating Temperature
From 0°C to 50°C (32°F to 122°F)
In-Line Filters
Stainless Steel

A small in-line filter manufactured for digital inkjet printers.

The stainless steel construction provides a filter with low extractables and 100% compatibility with all inkjet fluids to ensure an extended life span.

Specifications

Filter Code
8073

Materials of Manufacture
Filter media: Stainless steel mesh
Housing material: Stainless steel

Micron Rating
10µm

Dimensions
Filter length: 35mm (1.38”)
Filter width: 8mm (0.31”)

Filter Area
7cm² (1.08in²)

Connectors
2.6mm O/D barb

Maximum Operating Pressure
6bar (87psi)

Operating Temperature
From 0°C to 50°C (32°F to 122°F)
Pleated Unrimmed Disc Filters

A small unrimmed stainless steel disc filter designed for use on inkjet printers.

A fully welded self contained filter with an integrated mesh media in a range of micron ratings. Complete chemical compatibility gives the filter an extended life span.

Specifications

Filter Code
8071

Materials of Manufacture
Filter media: Stainless steel mesh
Housing material: Stainless steel

Micron Rating
2µm, 5µm, 10µm, 20µm

Dimensions
Disc diameter: 9.5mm (0.37")
Disc width: 2.2mm (0.08")

Filter Area
1.1cm² (0.17in²)

Maximum Operating Pressure
6bar (87psi)

Operating Temperature
From 0°C to 50°C (32°F to 122°F)

Ordering Information:
For ordering information please go to page 186.

Contact Information:
UK, New Milton Division
Tel: +44 (0)1425 612010
Email: info@porvairfiltration.com

US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
A stainless steel in-line filter designed to meet all digital inkjet requirements.

Superior filtration integrity is achieved through a fully welded housing incorporating a stainless steel mesh filter. Full chemical compatibility gives the filter an extended lifespan.

Specifications

**Filter Code**
8067

**Materials of Manufacture**
- Filter media: Stainless steel mesh
- Housing material: Stainless steel

**Micron Rating**
- 5µm, 10µm, 20µm

**Dimensions**
- Disc diameter: 30mm (1.18”)
- Disc width: 22mm (0.87”)

**Filter Area**
- 5cm² (0.76in²)

**Connectors**
- Barb: 2.6mm O/D barb
- 4.9mm O/D barb

**Maximum Operating Pressure**
- 6.5bar (94psi)

**Operating Temperature**
- From 0°C to 50°C (32°F to 122°F)
A stainless steel in-line filter, designed for graphics printers, fully welded for complete filtration integrity. With excellent flow rates this filter is 100% chemically compatible with all inkjet fluids giving an extended life span and reduced printer service requirements.

**Specifications**

**Filter Code**
8077

**Materials of Manufacture**
- Filter media: Stainless steel mesh
- Housing material: Stainless steel

**Micron Rating**
- 5µm, 10µm, 20µm

**Dimensions**
- Disc diameter: 47mm (1.85”)
- Disc width: 30mm (1.18”)

**Filter Area**
13cm² (2.01in²)

**Connectors**
- Barb: 2.6mm O/D barb, 4.9mm O/D barb, 6.5mm O/D barb
- Jaco®: 3mm
- NPT: ¼” NPT

**Maximum Operating Pressure**
6bar (87psi)

**Operating Temperature**
From 0°C to 50°C (32°F to 122°F)
Grid Filters and O-Rings

A small pre-head filter manufactured from stainless steel mesh.

The filter comes complete with a compatible o-ring and is designed as a last chance filter giving excellent protection to the printhead.

Specifications

**Filter Code**
8156

**Materials of Manufacture**
Filter media: Stainless steel mesh

**Micron Rating**
14µm

**Dimensions**
- Disc diameter: 23mm (0.9”)
- Disc width: 2mm (0.08”)

**Filter Area**
4.2cm² (0.65in²)

**Maximum Operating Pressure**
5bar (72.5psi)

**Operating Temperature**
From 0°C to 50°C (32°F to 122°F)
High purity gas filtration products are optimised for the protection of critical valves, pressure regulators, mass flow controllers and other gas panel components used in microelectronics gas delivery equipment.

GasPro™ cleanroom-packaged compact filters are suitable for operation in harsh environments, including high pressure (up to 100psid@68°F (20°C)) and high temperature (850°F (455°C)), safeguarding critical components against particle damage.

These install into ¼”, ⅜” and ½” face vacuum seal (VCR®) fittings.

The GasPro™ range of products are manufactured in a state of the art cleanroom using ISO 9001 Certified Quality System.

GasPro™ Gasket Filters are precision welded in a specially designed glove box with atmosphere purification, pressure flushed with 0.003µm filtered nitrogen, no particle shedding, handled and packaged in Class 100 Cleanroom.

**Typical Applications**
- Microelectronics gas delivery equipment
- Protection of critical valves
- Protection of pressure regulators
- Protection of gas panel components

**Features and Benefits**
- **Compact, in-line design**
  Designed with minimal surface area, suitable for retrofitting into gas panels while maintaining the overall gas panel footprint.
- **Economical**
  No filter housing is required.
- **Removal ratings**
  High particle retention efficiency at 0.003µm and 0.3µm.
- **Robust construction**
  Gaskets have a 10Ra surface finish. Porous sintered powder metal filters are available in 316L stainless steel, Hastelloy® C22 and nickel with 0.003µm filter removal rating.
- **Service in severe environments**
  Excellent corrosion resistance and compatible with a wide range of processing gases. Superior mechanical strength for high pressure (100psid@68°F (20°C)) and elevated temperature resistance (850°F (455°C)) for inert gas applications.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team. Visit us online for current and comprehensive Gasket filter information.
Specifications

Surface Finish
All GasPro™ gaskets have a 10Ra, or better, surface finish and are electropolished.

Gasket Clip Retainer
Gasket clip retainers are available for some of our products, please contact a Porvair Filtration Group representative for further information.

Product Selection

<table>
<thead>
<tr>
<th>GasPro™ Part Number</th>
<th>Flow Rating (slpm @90psig Inlet/2psid)</th>
<th>Filter Rating</th>
<th>Gasket and Filter Material</th>
<th>Connects Into</th>
<th>Filter Outside Diameter</th>
<th>Filter Overall Length</th>
<th>Gasket Outside Diameter</th>
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</thead>
<tbody>
<tr>
<td>9101</td>
<td>1 slpm</td>
<td>0.003µm</td>
<td>316L Stainless Steel</td>
<td>¼&quot; Tube</td>
<td>0.16&quot; (4mm)</td>
<td>1.03&quot; (26.1mm)</td>
<td>0.47&quot; (11.9mm)</td>
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<td>9101-R</td>
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<td>316L Stainless Steel</td>
<td>¼&quot; Tube</td>
<td>0.16&quot; (4mm)</td>
<td>1.03&quot; (26.1mm)</td>
<td>0.47&quot; (11.9mm)</td>
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<tr>
<td>9201</td>
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<td>0.003µm</td>
<td>Hastelloy® C22</td>
<td>¼&quot; Tube</td>
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<td>1.03&quot; (26.1mm)</td>
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<td>9103</td>
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<td>316L Stainless Steel</td>
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<td>3.03&quot; (77mm)</td>
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<tr>
<td>9120</td>
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<td>316L Stainless Steel</td>
<td>¼&quot; Tube</td>
<td>0.27&quot; (7mm)</td>
<td>1.03&quot; (26.1mm)</td>
<td>0.78&quot; (19.8mm)</td>
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<tr>
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<td>316L Stainless Steel</td>
<td>½&quot; Tube</td>
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<td>1.03&quot; (26.1mm)</td>
<td>0.78&quot; (19.8mm)</td>
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<td>9150-R</td>
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<td>316L Stainless Steel</td>
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<td>0.47&quot; (11.9mm)</td>
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<td>Nickel</td>
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<td>0.47&quot; (11.9mm)</td>
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<td>9350</td>
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<td>Nickel</td>
<td>½&quot; Tube</td>
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<td>0.78&quot; (19.8mm)</td>
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<td>9430*</td>
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<td>316L Stainless Steel</td>
<td>¼&quot; Tube</td>
<td>0.16&quot; (4mm)</td>
<td>1.03&quot; (26.1mm)</td>
<td>0.47&quot; (11.9mm)</td>
</tr>
</tbody>
</table>

* Filter element is made from laminated sintered wire mesh.
Standard product combinations are shown in the table above, please contact a Porvair Filtration Group representative for our full product range.
GasPro™
High Purity Sinterflo® P Metal Powder Filters

High purity Sinterflo® P sintered powder metal media for OEM filters and purifiers is used in critical Semiconductor and Microelectronics gas handling applications.

The GasPro™ porous Sinterflo® P sintered powder metal filter media consists of a rigid, 3 dimensional network of extremely fine pores. These high efficiency filters are offered in 316L stainless steel, nickel or Hastelloy® C22 media.

The filter media will withstand a pressure differential of 68bar (1000psi). The mechanical strength of the 316L stainless steel filter housings will provide reliable service for over 100,000 cycles in high pressure service (258bar [3750psig]@ 20°C (68°F)).

GasPro™ high-purity filter welding is performed in an ultra-high purity inert atmosphere to ensure the best weld quality. All filters are 100% integrity tested, 100% helium leak checked, cleaned and dried, then double-bagged in a Class 100 Cleanroom to ensure the highest out-of-box quality and cleanliness.

Typical Applications
- Semiconductor and microelectronics gas handling applications.
- OEM filters
- Purifiers

Features and Benefits
- Superior filter efficiency
  Porous sintered powder metal point of use filters are proven to provide greater than 9 LRV (99.9999999%) particle retention efficiency at 0.003µm (3 nanometers) and at the most penetrating particle size of 0.08µm per SEMI F38-0699 in gas filtration applications.
- Service in severe environments
  Porous Sinterflo® P sintered powder metal media provides excellent mechanical strength, enhanced corrosion resistance and elevated temperature service in severe environments.
- Temperature resistance
  The all 316L stainless steel or nickel construction provides elevated temperature service up to 500°C (930°F) and an all Hastelloy® C22 construction is rated for 700°C (1290°F) in reducing or inert gas applications.
- Corrosion resistance
  Our GasPro™ point of use filter hardware features 5Ra, electro polished surfaces to prevent corrosion and particle formation for years of reliable service. Robust construction and excellent corrosion resistance allow for service in a wide range of etching and CVD processing gases.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team. Visit us online for current and comprehensive Sinterflo® P filter information.

Ordering Information:  For ordering information please contact a member of the Sales Team.

Contact Information:  UK, New Milton Division  Tel: +44 (0)1425 612010  Email: info@porvairfiltration.com
                    US, Ashland Division  Tel: +1 804 550 1600  Email: infoUS@porvairfiltration.com
Specifications

Materials of Construction

9100 series: 316L media and 316L VAR hardware
9200 series: Hastelloy® C22 media and Hastelloy® hardware
9300 series: Nickel media and 316L VAR hardware

Removal Rating

3 nm

Filter Efficiency

Greater than 9 LRV (99.9999999%) Tested to most penetrating particle size of 0.08 µm per SEMI F38-0699 by independent laboratory.

Internal Surface Finish

-5Ra electropolish

Operating Conditions

Maximum temperature: Hastelloy® C22 rated to 700°C (1290°F)
Maximum service pressure: 256 bar (3750 psig) @ 20°C (68°F)
Maximum forward/reverse differential pressure: 68 bar (1000 psi)

Downstream Cleanliness

Volatile* (moisture, oxygen and THC's each): <10 ppb
Particles: No particle contribution

Quality Assurance

Class 100 Cleanroom manufactured in ISO 9001 Certified Quality System facility. 100% integrity tested. 100% helium leak tested to >1 x 10⁻⁹ atm cc/second.

Product Selection

<table>
<thead>
<tr>
<th>Series</th>
<th>Part Number</th>
<th>Rated Flow</th>
<th>Description</th>
<th>Filter Housing (Outside Diameter)</th>
<th>Filter Length (inch [mm])</th>
<th>Filter Media</th>
<th>Filter Housing</th>
<th>Removal Rating (µm)</th>
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</thead>
<tbody>
<tr>
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<td>GP-9110-15-4</td>
<td>10 slpm</td>
<td>¼” M/M face seal</td>
<td>1” (25.4mm)</td>
<td>3.31” (84.1mm)</td>
<td>316L Stainless Steel</td>
<td>316L VAR</td>
<td>0.003µm</td>
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<td>30 slpm</td>
<td>¼” M/M face seal</td>
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<td>60 slpm</td>
<td>¼” M/M face seal</td>
<td>2” (50.8mm)</td>
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<td>Hastelloy® C-22</td>
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<td>GP-91150-45-8</td>
<td>150 slpm</td>
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<td>300 slpm</td>
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<td>GP-9208-15-4</td>
<td>8 slpm</td>
<td>¼” M/M face seal</td>
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<td>100 slpm</td>
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<td></td>
<td>GP-93100-45-8</td>
<td>100 slpm</td>
<td>½” face seal male</td>
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<td>11.22” (285mm)</td>
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</tbody>
</table>

* For additional fitting types and sizes, please contact a Porvair Filtration Group distributor or representative.
High purity Sinterflo® F sintered fibre metal media is used in critical Semiconductor, Photovoltaic and other Microelectronics gas handling applications.

This includes gas distribution and delivery systems that are used within the thin film deposition process used to make Photovoltaic (PV) devices. PV1 series filters remove solid contaminants from process gases such as argon, ammonia, nitrogen and silane used in Plasma Enhanced Chemical Vapor Deposition (PECVD) systems during the manufacturing of front glass and solar cell panels.

GasPro™ high-purity filter welding is performed in an ultra-high purity inert atmosphere to ensure the best weld quality. All filters are 100% helium leak checked, 100% integrity tested, cleaned and dried, then bagged in a Class 100 Cleanroom to ensure the highest out-of-box quality and cleanliness.

PV1 filters are also available with more relaxed, wetted hardware surface specifications for additional cost savings depending on the application and the service environment.

Typical Applications
- Semiconductor and microelectronics gas handling applications.
- OEM filters
- Purifiers

Features and Benefits
- Superior filter efficiency
  Porous sintered fibre metal in-line filters are proven to provide 9 LRV (99.9999999%) particle retention efficiency at 0.003µm (3 nanometers) and at the most penetrating particle size of 0.08µm.
- Service in severe environments
  Porous Sinterflo® F sintered fibre metal media provides excellent mechanical strength, enhanced corrosion resistance and elevated temperature service operation.
- Corrosion resistance
  Our GasPro™ point of use filter hardware features 7Ra, electro polished surfaces to prevent corrosion and particle formation for years of reliable service. Robust construction and excellent corrosion resistance allow for service in a wide range of etching and CVD processing gases.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team. Visit us online for current and comprehensive GasPro™ series and PV1 Sinterflo® F filter information.
## Specifications

### Materials of Construction

<table>
<thead>
<tr>
<th>Series</th>
<th>Part Number</th>
<th>Rated Flow</th>
<th>Fitting(s)*</th>
<th>Filter Housing (Outside Diameter)</th>
<th>Filter Length** (inch [mm])</th>
<th>Filter Media</th>
<th>Filter Housing</th>
<th>Removal Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1700</td>
<td>TEM-1770</td>
<td>30 slpm</td>
<td>⅛&quot;, ¼&quot;, CMP, VCR®, BWT</td>
<td>1&quot; (25.4mm)</td>
<td>3.3&quot;-4.68&quot; (84-119mm)</td>
<td>316L Stainless Steel</td>
<td>316L Stainless Steel</td>
<td>0.003µm</td>
</tr>
<tr>
<td></td>
<td>TEM-1700</td>
<td>100 slpm</td>
<td>⅛&quot;, ¼&quot;, CMP, VCR®, BWT</td>
<td>1.5&quot; (38.1mm)</td>
<td>3.3&quot;-4.68&quot; (84-119mm)</td>
<td>316L Stainless Steel</td>
<td>316L Stainless Steel</td>
<td>0.003µm</td>
</tr>
<tr>
<td></td>
<td>TEM-1740</td>
<td>150 slpm</td>
<td>⅛&quot;, ¼&quot;, ⅜&quot;, CMP, VCR®, BWT</td>
<td>2&quot; (50.8mm)</td>
<td>3.3&quot;-4.68&quot; (84-119mm)</td>
<td>316L Stainless Steel</td>
<td>316L Stainless Steel</td>
<td>0.003µm</td>
</tr>
<tr>
<td></td>
<td>TEM-1790</td>
<td>340 slpm</td>
<td>⅛&quot;, ¼&quot;, ⅜&quot;, ⅓&quot; CMP, VCR®, BWT</td>
<td>3&quot; (76.2mm)</td>
<td>3.3&quot;-4.68&quot; (84-119mm)</td>
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<td>316L Stainless Steel</td>
<td>0.003µm</td>
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<tr>
<td></td>
<td>TEM-1780</td>
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<td>⅛&quot;, ¼&quot;, ⅜&quot;, ⅓&quot; CMP, VCR®, BWT</td>
<td>4&quot; (101.6mm)</td>
<td>3.3&quot;-4.68&quot; (84-119mm)</td>
<td>316L Stainless Steel</td>
<td>316L Stainless Steel</td>
<td>0.003µm</td>
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<tr>
<td></td>
<td>TEM-1760</td>
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<td>6&quot; (152.4mm)</td>
<td>3.3&quot;-4.68&quot; (84-119mm)</td>
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<td>316L Stainless Steel</td>
<td>0.003µm</td>
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<td>3700</td>
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<td>3.3&quot;-4.68&quot; (84-119mm)</td>
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<td>316L Stainless Steel</td>
<td>0.003µm</td>
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<tr>
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<td>TEM-1700</td>
<td>100 slpm</td>
<td>⅛&quot;, ¼&quot;, CMP, VCR®, BWT</td>
<td>1.5&quot; (38.1mm)</td>
<td>3.3&quot;-4.68&quot; (84-119mm)</td>
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<td>316L Stainless Steel</td>
<td>0.003µm</td>
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<tr>
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<td>TEM-1740</td>
<td>150 slpm</td>
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<td>2&quot; (50.8mm)</td>
<td>3.3&quot;-4.68&quot; (84-119mm)</td>
<td>316L Stainless Steel</td>
<td>316L Stainless Steel</td>
<td>0.003µm</td>
</tr>
<tr>
<td></td>
<td>TEM-1790</td>
<td>340 slpm</td>
<td>⅛&quot;, ¼&quot;, ⅜&quot;, ⅓&quot; CMP, VCR®, BWT</td>
<td>3&quot; (76.2mm)</td>
<td>3.3&quot;-4.68&quot; (84-119mm)</td>
<td>316L Stainless Steel</td>
<td>316L Stainless Steel</td>
<td>0.003µm</td>
</tr>
<tr>
<td></td>
<td>TEM-1780</td>
<td>708 slpm</td>
<td>⅛&quot;, ¼&quot;, ⅜&quot;, ⅓&quot; CMP, VCR®, BWT</td>
<td>4&quot; (101.6mm)</td>
<td>3.3&quot;-4.68&quot; (84-119mm)</td>
<td>316L Stainless Steel</td>
<td>316L Stainless Steel</td>
<td>0.003µm</td>
</tr>
<tr>
<td></td>
<td>TEM-1760</td>
<td>2125 slpm</td>
<td>⅛&quot;, ¼&quot;, ⅜&quot;, ⅓&quot;, ½&quot; CMP, VCR®, BWT</td>
<td>6&quot; (152.4mm)</td>
<td>3.3&quot;-4.68&quot; (84-119mm)</td>
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<td>0.003µm</td>
</tr>
<tr>
<td>PVI</td>
<td>PV1-1100</td>
<td>75 slpm</td>
<td>⅛&quot;, ¼&quot;, ⅜&quot;, ⅓&quot;, CMP, VCR®, BWT</td>
<td>1&quot; (25.4mm)</td>
<td>3.3&quot;-4.68&quot; (84-119mm)</td>
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<td>316L Stainless Steel</td>
<td>1µm</td>
</tr>
<tr>
<td></td>
<td>PV1-1200</td>
<td>200 slpm</td>
<td>⅛&quot;, ¼&quot;, ⅜&quot;, ⅓&quot;, CMP, VCR®, BWT</td>
<td>1.5&quot; (38.1mm)</td>
<td>1.7&quot;-2.1&quot; (43.2-53.3mm)</td>
<td>316L Stainless Steel</td>
<td>316L Stainless Steel</td>
<td>1µm</td>
</tr>
</tbody>
</table>

* Fitting options are CMP (compression seal for tubing), VCR® (VCR® gasket face seal) and BWT (butt weld tube stubbs).
** Overall housing length is dependent on the fitting(s) selected.

### Operating Conditions

- Maximum temperature: 454°C (850°F)
- Maximum service pressure: 3,000psi @ 121°C (250°F)

### Downstream Cleanliness

- Volatiles (preconditioned option)
  - (moisture, oxygen and THC’s each): <10ppb
- Particles: <1 particle/ft³

### Quality Assurance

- Class 100 Clean room manufactured in ISO 9001 Certified Quality System facility.
- 100% integrity tested.
- 100% helium leak tested to >1 x 10⁻⁹ atm cc/second.

## Product Selection

### Contact Information:

- China, Wuhan Division
  - Tel: +86 (0)712 2878955
  - Email: infoCN@porvairfiltration.com

- India, Mumbai Division
  - Tel: +91 22 25 976464 / +91 22 25 976465
  - Email: infoIN@porvairfiltration.com
High purity PTFE filters are used in critical Semiconductor and Microelectronics gas handling applications.

GasPro™ TEM filters, with a hydrophobic PTFE membrane, are ideal for applications that require the highest gas compatibility. PTFE membrane supports provide the highest degree of cleanliness while polypropylene supported PTFE is available for less critical high purity applications.

These filters offer an outstanding cost-flux rate value compared to all-metal filters, maintaining high 3nm particle removal efficiency.

Manufactured in a state of the art cleanroom using ISO 9001 Certified Quality System. A DI water flush, followed by a high pressure, 0.003µm filtered nitrogen flush removes particles and prevents particle shedding. They are vacuum dried to less than 10ppm moisture as needed and the organics are less than 10ppm THC.

All filters are 100% helium leak checked, 100% integrity tested, cleaned and dried, then bagged in a Class 100 Cleanroom to ensure the highest out-of-box quality and cleanliness.

Typical Applications
- Semiconductor, microelectronics and photovoltaic gas handling applications

Features and Benefits
- **Superior filter efficiency**
  Proven to provide particle retention efficiency at 0.003µm (3 nanometers) in gas filtration applications.

- **Service environment**
  Media provides excellent permeability and chemical resistance. The assemblies have a 316L stainless steel housing and a temperature resistance up to 100°C (212°F) in reducing or inert gas applications.

- **Corrosion resistance**
  Point of use filter hardware features 10Ra, electro polished surfaces to prevent corrosion and particle formation for years of reliable service. Robust construction and excellent corrosion resistance allow for service in a wide range of etching gas distribution applications.

- **Cleanliness**
  Point of use filters are manufactured in a Class 100 Cleanroom to insure particle free, chemically clean, organic free handling and bagging, maximizing the out-of-package cleanliness.

- **Best in class quality**
  100% integrity tested and helium leak checked to 1 x 10⁻⁹ atm cc/sec.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue's ordering guides. For further information, please contact a member of the Sales Team. Visit us online for current and comprehensive GasPro™ Teflon filter information.
Specifications
Materials of Construction
PTFE or Polypropylene (Viton®) media and 316L stainless steel hardware

Removal Rating
3nm

Internal Surface Finish
10Ra

Operating Conditions
For maximum temperature and maximum service pressure please see the table below.

Product Selection

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Filter Flow Rating (@90psig)</th>
<th>Porous Filter Media Material</th>
<th>Other Support Material</th>
<th>Housing Hardware Material</th>
<th>Porous Filter Area</th>
<th>Filter Housing OD</th>
<th>Filter Housing Length</th>
<th>Maximum Housing Pressure at 250°F</th>
<th>Maximum Service Temp</th>
<th>Fitting Options**</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEM-000</td>
<td>400 scfm (11327 lpm)</td>
<td>PTFE</td>
<td>Polypro/Viton®</td>
<td>316L SS</td>
<td>28ft²</td>
<td>3”</td>
<td>45”</td>
<td>250psig</td>
<td>200°F</td>
<td>1”, 1.5”, CMP, VCR®, BWT</td>
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<tr>
<td>TEM-100</td>
<td>300 scfm (8495 lpm)</td>
<td>PTFE</td>
<td>Polypro/Viton®</td>
<td>316L SS</td>
<td>16.5ft²</td>
<td>3”</td>
<td>35”</td>
<td>250psig</td>
<td>200°F</td>
<td>1”, 1.5”, CMP, VCR®, BWT</td>
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<tr>
<td>TEM-200</td>
<td>200 scfm (5663 lpm)</td>
<td>PTFE</td>
<td>Polypro/Viton®</td>
<td>316L SS</td>
<td>11ft²</td>
<td>3”</td>
<td>25”</td>
<td>250psig</td>
<td>200°F</td>
<td>1”, 1.5”, CMP, VCR®, BWT</td>
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<tr>
<td>TEM-300</td>
<td>120 scfm (3998 lpm)</td>
<td>PTFE</td>
<td>Polypro/Viton®</td>
<td>316L SS</td>
<td>6ft²</td>
<td>3”</td>
<td>15”</td>
<td>250psig</td>
<td>200°F</td>
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<tr>
<td>TEM-400</td>
<td>75 scfm (2124 lpm)</td>
<td>PTFE</td>
<td>Polypro/Viton®</td>
<td>316L SS</td>
<td>2ft²</td>
<td>2.5”</td>
<td>7.5-8.6”</td>
<td>250psig</td>
<td>200°F</td>
<td>1”, 1.5”, CMP, VCR®, BWT</td>
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<td>TEM-500</td>
<td>25 scfm (708 lpm)</td>
<td>PTFE</td>
<td>Polypro/Viton®</td>
<td>316L SS</td>
<td>1.2ft²</td>
<td>2.5”</td>
<td>5.0-6.2”</td>
<td>750psig</td>
<td>200°F</td>
<td>1”, 1.5”, CMP, VCR®, BWT</td>
</tr>
<tr>
<td>TEM-800</td>
<td>10.6 scfm (300 lpm)</td>
<td>PTFE</td>
<td>Polypro/Viton®</td>
<td>316L SS</td>
<td>0.5ft²</td>
<td>2”</td>
<td>3.8-5.8”</td>
<td>750psig</td>
<td>200°F</td>
<td>1”, 1.5”, CMP, VCR®, BWT</td>
</tr>
<tr>
<td>TEM-900</td>
<td>1.1 scfm (30 lpm)</td>
<td>PTFE</td>
<td>Polypro/Viton®</td>
<td>316L SS</td>
<td>0.31in²</td>
<td>1.0”</td>
<td>2.8-3.3”</td>
<td>3000psig</td>
<td>200°F</td>
<td>1”, 1.5”, CMP, VCR®, BWT</td>
</tr>
<tr>
<td>TEM-1100</td>
<td>300 scfm (8495 lpm)</td>
<td>PTFE</td>
<td>Polypro/Viton®</td>
<td>316L SS</td>
<td>16.5ft²</td>
<td>3”</td>
<td>35”</td>
<td>250psig</td>
<td>350°F</td>
<td>1”, 1.5”, CMP, VCR®, BWT</td>
</tr>
<tr>
<td>TEM-1200</td>
<td>200 scfm (5663 lpm)</td>
<td>PTFE</td>
<td>Polypro/Viton®</td>
<td>316L SS</td>
<td>11ft²</td>
<td>3”</td>
<td>25”</td>
<td>250psig</td>
<td>350°F</td>
<td>1”, 1.5”, CMP, VCR®, BWT</td>
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<td>TEM-1300</td>
<td>125 scfm (3540 lpm)</td>
<td>PTFE</td>
<td>Polypro/Viton®</td>
<td>316L SS</td>
<td>6ft²</td>
<td>3”</td>
<td>15”</td>
<td>250psig</td>
<td>350°F</td>
<td>1”, 1.5”, CMP, VCR®, BWT</td>
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<td>TEM-1400</td>
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<td>3”</td>
<td>8.8-10.1”</td>
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<td>350°F</td>
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<td>TEM-1500</td>
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<td>Polypro/Viton®</td>
<td>316L SS</td>
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<td>6.7-7.8”</td>
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<td>350°F</td>
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<td>TEM-1600</td>
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<td>0.5ft²</td>
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<td>5.0-6.2”</td>
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<td>350°F</td>
<td>1”, 1.5”, CMP, VCR®, BWT</td>
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<tr>
<td>TEM-1700</td>
<td>3.5 scfm (100 lpm)</td>
<td>PTFE</td>
<td>Polypro/Viton®</td>
<td>316L SS</td>
<td>0.31in²</td>
<td>1.0”</td>
<td>4.8-5.3”</td>
<td>3000psig</td>
<td>350°F</td>
<td>1”, 1.5”, CMP, VCR®, BWT</td>
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</tbody>
</table>

* Overall housing length is dependant on fitting selected.

** Fitting options: CMP: compression seal for tubing; NPT: national pipe thread - tapered; VCR®, VCR® gasket face seal; VCO: VCO O-ring seal; BWT: butt weld tube stubs.
Microdisc™ 1PA
15mm S-Vent Disc Filters

Air filter with a hydrophobic filter membrane to act as a barrier to all contaminants.

Specifications

Filter Code
8163

Materials of Manufacture
Filter media: PTFE
Housing material: Polypropylene

Micron Rating
0.2µm

Dimensions
Disc diameter: 15mm (0.59”)
Disc width: 16mm (0.62”)

Connectors
Female luer / male syringe

Maximum Operating Pressure
5bar (72.5psi)

Operating Temperature
From 0°C to 50°C (32°F to 122°F)
Air filter with a hydrophobic filter membrane to act as a barrier to all contaminants.

Microdisc™ 2PA
25mm S-Vent Disc Filters

Specifications

Filter Code
8164

Materials of Manufacture
Filter media: PTFE
Housing material: Polypropylene

Micron Rating
0.2µm

Dimensions
Disc diameter: 25mm (0.98”)
Disc width: 19mm (0.74”)

Connectors
Female luer / male syringe

Maximum Operating Pressure
5bar (72.5psi)

Operating Temperature
From 0°C to 50°C (32°F to 122°F)
A filter of superior quality and design, the 33mm in-line disc filter is manufactured to the highest specifications for the super-wide format graphics market.

This inkjet specific self-contained unit is designed around an all Acetal or construction and is available in standard white housing, or black housing for UV applications.

Ultrasonically welded with no binding agents for low extractables, the filter ensures complete compatibility with inkjet solvents. The inner mesh ensures precise filter specification to the required absolute micron rating.

### Specifications

**Filter Code**
8159

**Materials of Manufacture**
- Filter media: Stainless steel mesh
- Housing material: Acetal
- Housing colour: White or black

**Micron Rating**
5µm, 10µm, 20µm, 50µm

**Dimensions**
- Disc diameter: 33mm (1.3”)
- Disc width: 8mm (0.31”)
- Overall width: Connector dependant

**Filter Area**
12.5cm² (1.94in²)

**Connectors**
- Jaco®: 3mm Jaco®
- Luer: Female luer

**Maximum Operating Pressure**
5bar (72.5psi)

**Operating Temperature**
From 0°C to 50°C (32°F to 122°F)
A filter of superior quality and design, the 45mm in-line disc filter is manufactured to the highest specifications for the super-wide format graphics market.

Ultrasonically welded with no binding agents for low extractables, the filter ensures complete compatibility with inkjet solvents. The inner mesh ensures precise filter specification to the required absolute micron rating.

Specifications

<table>
<thead>
<tr>
<th>Filter Code</th>
<th>8111</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials of Manufacture</td>
<td></td>
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<tr>
<td>Filter media:</td>
<td>Stainless steel mesh</td>
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<tr>
<td>Housing material:</td>
<td>Acetal</td>
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<tr>
<td>Housing colour:</td>
<td>White or black</td>
</tr>
<tr>
<td>Micron Rating</td>
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<tr>
<td>5µm, 10µm, 20µm, 50µm</td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
</tr>
<tr>
<td>Disc diameter:</td>
<td>45mm (1.77&quot;)</td>
</tr>
<tr>
<td>Disc width:</td>
<td>9mm (0.35&quot;)</td>
</tr>
<tr>
<td>Overall width:</td>
<td>Connector dependant</td>
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<tr>
<td>Filter Area</td>
<td></td>
</tr>
<tr>
<td>12.5cm² (1.94in²)</td>
<td></td>
</tr>
<tr>
<td>Connectors</td>
<td></td>
</tr>
<tr>
<td>Luer and CPC</td>
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<tr>
<td>Maximum Operating Pressure</td>
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</tr>
<tr>
<td>5bar (72.5psi)</td>
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<tr>
<td>Operating Temperature</td>
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</tr>
<tr>
<td>From 0°C to 50°C (32°F to 122°F)</td>
<td></td>
</tr>
</tbody>
</table>

Ordering Information: For ordering information please go to page 188.

Contact Information: China, Wuhan Division
Tel: +86 (0)712 2878955
Email: infoCN@porvairfiltration.com

India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Inprinta’s black acetal pre-pump filter is manufactured specifically for use with Digital Inkjet equipment. The high grade materials give good flow rates and complete chemical compatibility under all required conditions for extended life span.

**Specifications**

**Filter Code**
8074

**Materials of Manufacture**
Filter media: Stainless steel mesh
Housing material: Acetal

**Micron Rating**
5µm, 10µm, 15µm, 20µm, 50µm.

**Dimensions**
Disc diameter: 45mm (1.77”)
Disc width: 37mm (1.46”)

**Filter Area**
12.5cm² (1.94in²)

**Connectors**
1/4” Jaco® and 6mm Jaco®

**Maximum Operating Pressure**
5bar (72.5psi)

**Operating Temperature**
From 0°C to 50°C (32°F to 122°F)
**Microdisc™ 7PS**
74mm Polymeric Disc Filters

Inprinta’s Microdisc™ 7PS is a large over-moulded polypropylene disc filter that gives excellent flow rates. The Microdisc™ 7PS also ensures complete chemical compatibility for all UV and solvent inkjet applications.

**Specifications**

**Filter Code**
8169

**Materials of Manufacture**
- Filter media: Polypropylene
- Housing material: Polypropylene
- Housing colour: Opaque black and natural.

**Micron Rating**
- 5µm, 10µm, 20µm, 50µm

**Dimensions**
- Disc diameter: 74mm (2.91”)
- Disc width: 47mm (1.85”)

**Filter Area**
- 19cm² (2.95in²)

**Connectors**
- ¼” Jaco® and 6mm Jaco®

**Maximum Operating Pressure**
- 6bar (87psi)

**Operating Temperature**
- From 0°C to 50°C (32°F to 122°F)

**Ordering Information:** For ordering information please go to page 189.

**Contact Information:**
- China, Wuhan Division
  - Tel: +86 (0)712 2878955
  - Email: infoCN@porvairfiltration.com
- India, Mumbai Division
  - Tel: +91 22 25 976464 / +91 22 25 976465
  - Email: infoIN@porvairfiltration.com
A fully integrated polypropylene filter media precision manufactured into a polypropylene housing.

This in-line filter has excellent chemical compatibility to inkjet fluids. The high efficiency filters give long service life and are bonded for minimal extractables.

**Specifications**

**Filter Code**
8166 / 8065

**Materials of Manufacture**
Filter media: Polypropylene
Housing material: Polypropylene

**Micron Rating**
5µm, 10µm

**Dimensions**
Filter length: 61mm (2.4”)
Filter width: 11mm (0.43”)

**Connectors**
Barb

**Maximum Operating Pressure**
6bar (87psi)

**Operating Temperature**
From 0°C to 50°C (32°F to 122°F)
In-Line Filters

PEEK

This filter is an inkjet in-line filter manufactured from PEEK material and a stainless steel mesh. These materials make it a superior product with extended life in your inkjet printer.

Specifications

Filter Code
8098

Materials of Manufacture
Filter media: Stainless steel mesh
Housing material: PEEK
Housing Colour: Opaque black or natural

Micron Rating
3µm, 5µm

Dimensions
Filter length: 44mm (1.73")
Filter width: 15mm (0.59")

Filter Area
3.5cm² (0.54in²)

Connectors
3mm Jaco®

Maximum Operating Pressure
6bar (87psi)

Operating Temperature
From 0°C to 50°C (32°F to 122°F)
In-Line UV Filters
PEEK

Inprinta’s in-line UV filter is designed to meet all inkjet requirements. Manufactured in PEEK, this filter gives excellent filter integrity and is 100% compatible with inkjet fluids.

Specifications

Filter Code
8091

Materials of Manufacture
Filter media: Stainless steel
Housing material: PEEK

Micron Rating
3µm, 5µm, 10µm

Dimensions
Filter length: 47mm (1.85“)
Filter width: 15mm (0.59“)

Filter Area
3.5cm² (0.54in²)

Connectors
3mm Jaco®

Maximum Operating Pressure
3bar (43.5psi)

Operating Temperature
From 0°C to 50°C (32°F to 122°F)

Ordering Information:
For ordering information please go to page 189.

Contact Information:
UK, New Milton Division
Tel: +44 (0)1425 612010
Email: info@porvairfiltration.com

US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
IN-LINE AND LAST CHANCE FILTERS

Last Chance Inkjet Filters

This filter is manufactured in black acetal and designed to be used on inkjet equipment in conjunction with an Inprinta main (capsule) filter.

Situated close to the printhead, this filter is designed to capture any particles before damage can be caused to the printhead. This filter is 100% chemically compatible to all inkjet fluids giving an extended life span.

Specifications

Filter Code
8087

Materials of Manufacture
Filter media: Stainless steel mesh
Housing material: Acetal

Micron Rating
3µm, 5µm, 50µm

Dimensions
Filter length: 21mm (0.83")
Filter width: 8mm (0.31")

Filter Area
12cm² (1.86in²)

Connectors
2.6mm barb

Maximum Operating Pressure
1bar (14.5psi)

Operating Temperature
From 0°C to 50°C (32°F to 122°F)

Ordering Information: For ordering information please go to page 189.

Contact Information: China, Wuhan Division
Tel: +86 (0)712 2878955
Email: infoCN@porvairfiltration.com

India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Inprinta is the Inkjet sales division of Porvair Filtration Group, supplying quality inkjet filtration assemblies. Inprinta’s filters are designed and manufactured in the UK for the digital printing market, with specialist applications in capsule filters.

This main system filter is specifically designed for the requirement of digital inkjet printer filtration. The self-contained unit is designed around an all-polypropylene construction with no binding agents, to give low extractables and ensure 100% compatibility with inkjet fluids. All capsule filters are available for standard solvent, aqueous and UV ink systems.

- Capsule filters are pressure tested to guarantee capsule integrity.
- All filter housing is high grade Polypropylene.
- An integrated Vyon® core gives added security.
- Operating temperature from 0°C to 50°C (32°F to 122°F).
- 6bar (87psi) operating pressure.

Inprinta capsules are self-contained, ready to use, disposable devices. The filter body is constructed with natural or opaque black housing and available with a wide range of connector configurations to suit different systems. All capsules will provide consistent, reliable printing performance with maximised print head protection.
Microcap™
Main System Capsule Filters

Main system filter, specifically designed for the requirement of graphics printer filtration.

The inkjet specific, self-contained unit is designed around an all polypropylene construction with no binding agents, to give low extractables and ensure 100% compatibility with inkjet fluids.

Available for standard or UV inks, this unit also has a wide range of connectors and filter ratings.

Specifications

**Filter Code**
8089

**Materials of Manufacture**
Filter media: Polypropylene
Housing material: Polypropylene
Housing colour: Opaque black and natural

**Micron Rating**
0.5μm, 1μm, 3μm, 5μm, 10μm, 20μm, 40μm and 60μm (additional ratings are available on request).

**Dimensions**
Filter diameter: 65mm (2.56”)
Filter height: 88mm (3.46”) (plus connectors)

**Filter Area**
500cm² (77.5in²)

**Connectors**
Barb: ¼” barb
NPT: ¼” NPT male
Jaco®: ¼” Jaco®
  6mm Jaco® 90°
  6mm Jaco®
CPC: CPC
Luer: Luer
Luer 90°

**Maximum Operating Pressure**
6bar (87psi)

**Operating Temperature**
From 0°C to 50°C (32°F to 122°F)

**Flow Rate**

Ordering Information:
For ordering information please go to page 190.

Contact Information:
UK, New Milton Division
Tel: +44 (0)1425 612010
Email: info@porvairfiltration.com

US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
Main system filter, specifically designed for the requirement of printer filtration.

This inkjet specific self-contained unit is designed around an all polypropylene construction with no binding agents, to give low extractables and ensure complete compatibility with volatile inkjet based solvents.

Ease of fitting and extended filter life span allow for maximum up-time.

Specifications

Filter Code
8096

Materials of Manufacture
Filter media: Polypropylene
Housing material: Polypropylene
Housing colour: Opaque black and natural

Micron Rating
0.5μm, 1μm, 3μm, 5μm, 10μm, 20μm, 40μm and 60μm
(additional ratings available on request)

Dimensions
Filter diameter: 77mm (3.02”)
Filter height: 47mm (1.85”) (plus connectors)

Filter Area
500cm² (77.5in²)

Connectors
Jaco: ¼” Jaco®
6mm Jaco®
CPC: CPC

Maximum Operating Pressure
<6.5bar (94psi)

Operating Temperature
From 0°C to 50°C (32°F to 122°F)

Flow Rate
Main system filter, specifically designed for the requirement of the wide and superwide format graphics printer market.

The inkjet specific self-contained unit is designed around an all polypropylene construction, with no binding agents, to give low extractables and ensure 100% compatibility with inkjet fluids. These filters are suitable for solvent or UV ink systems.

Specifications

Filter Code
8131

Materials of Manufacture
Filter media: Polypropylene
Housing material: Polypropylene
Housing colour: Opaque black and natural

Micron Rating
5μm, 10μm

Dimensions
Filter length: 100mm (3.94") (plus connectors)
Filter width: 27mm (1.06")

Filter Area
500cm² (77.5in²)

Connectors
Luer / hose barb

Maximum Operating Pressure
6bar (87psi)

Operating Temperature
From 0°C to 50°C (32°F to 122°F)
Contact Information:
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India, Mumbai Division
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a range of media and materials for fluidisation and powder handling units.

The three types of materials that are ideal for these applications are Sinterflo® P sintered metal powder, Sinterflo® M porous sintered mesh and Vyon® sintered porous plastic.

These materials are extremely strong and free standing and can be fabricated into shapes as complex as fluidising cones for use in silos, for example.

The material technologies that Porvair can bring to powder handling represents one of the largest selections currently available from any single manufacturer.
For applications requiring localised fluidisation and aeration or for retrofitting into existing silos or hoppers, the Sinterflo® P aeration units can offer a simple ready-made solution to powder handling problems.

Fluidisation is the introduction of a compressed gas, via porous media, into a bulk powder, to enable the powder to behave like a liquid for ease of movement.

In general, the smaller the powder particle size, the more cohesive it becomes and the more difficult it is to move. With our extensive range of fluidising media, we can tailor optimal solutions to solve most fluidisation challenges.

Available in various sizes, Sinterflo® units introduce low pressure fluidising air into the material at or before its point of exit or movement.

Typical Applications

Sinterflo® P sintered metal powder aeration pads can be used where tolerance of high operating temperatures of up to 600°C (1,112°F) and high corrosion resistance is required.

- Localised fluidisation
- Silo construction
- Gypsum and fly ash aeration or drying

Features and Benefits

- High operating temperatures
  Up to 600°C (1,112°F).
- High corrosion resistance
- Easy installation
  Aeration pads complete with compressed air supply adapter with BSP thread.
- Multiple sizes available
  Ideal for retrofitting into existing hoppers or silos that have failed to perform effectively.
Sinterflo® P Stainless Steel Aeration Unit

Stainless steel Sinterflo® units have been specifically designed for use in the food and pharmaceutical industries and where resistance to chemical attack or high temperature (up to 600°C (1,112°F)) is required.

Sinterflo® P Bronze Aeration Unit

Available as sheets up to 600mm (23.62”) long and 350mm (13.78”) wide or as a finished unit as illustrated below, the Sinterflo® Bronze sheet and aeration unit exhibits excellent strength and rigidity, and can be used in higher temperature applications (up to 300°C (572°F)) such as conveyors and air slides for hot fly ash and gypsum powders.
Multi-layered, diffusion-bonded stainless steel mesh, available in 316L and other alloys. This precision fluidising media is available in both Lo Flow and Hi Flow rates to suit your application requirements.

Usually available in stock, for immediate delivery, the media is supplied as flat-panels, up to a seamless size of 100cm x 150cm (40” x 60”) and in an unlimited size in butt-welded sheets.

We provide complete fabrication services for this material, including custom sizes, shapes, mounting holes and welding to end fittings or rings. We can also fabricate into tubes or fluidisation cones for hopper bottoms.

For fluidising applications where a tightly controlled efficiency rating is required, a precision fine filter mesh (down to 2 microns nominal) sintered to the fluidising media is available; effective in reducing particulate bypass, clogging and when fluidising gas is not flowing constantly.

Sinterflo® MC fluidising media is particularly suited to demanding applications where high operating temperatures of up to 540°C (1,000°F), increased chemical or high abrasion resistance is essential, such as silo discharge cones, fluidised reactors and fluidised dryers.

This material is easily custom engineered to meet required specifications of materials, strength, flow requirements, thickness, micron rating and environment.

Typical Applications
• Fluidising beds
• Fluidised gravity conveyors
• Fluidised hoppers
• Gas spargers

Features and Benefits
• High operating temperatures
• Robust and self supporting
  Fabricated shapes do not require complex and expensive support structures or joining strips.
• Application and material versatility
• Enhanced chemical resistance
  Can be constructed from a wide range of materials including 304 and 316L stainless steel, Hastelloy®, Inconel® and Monel®.
• Cleanability
  A wide range of cleaning methods can be used meaning the media can be sterilized for use in the food and pharmaceutical industries.
• Abrasion resistance
  Non-shedding media, highly resistant to mechanical abrasion.
• Design and engineering versatility
  Easily custom engineered to meet required specifications of materials, strength, flow requirements, thickness, micron rating and environment.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.

Ordering Information: For ordering information please contact a member of the Sales Team.

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US, Ashland Division
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Email: infoUS@porvairfiltration.com
**Typical Applications**

**Fluidised Beds**
air is pumped through a horizontal or inclined section of Sinterflo®
MC media, levitating a wide range of materials such as flour, cement, or paint particles. The air in this application can also be used for drying the product, and in some cases imparting additives.

**Fluidised Gravity Conveyors**
a second flow of air is introduced at a 90 degree angle to the fluidising media to move the product forward for secondary processing (ie roasting) or transportation.

**Fluidised Hoppers**
formed in to conical shapes, Sinterflo® MC media will prevent ‘bridging’ of particles/powders and increase the speed of discharge. This is especially critical in the unloading of railcars.

**Gas Spargers**
submerged in a liquid environment, the air passed through Sinterflo® MC media creates a fine bubble field that increases oxygenation efficiency. This process is used in the electroplatting, fermentation and water treatment industries.

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**Specifications**

**FSLA Standard Lo Flow Fluidising Media Grades**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Airflow (SCFM/ft²@2 in of H₂O)</th>
<th>Nominal Thickness (mm/in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSLA-0005</td>
<td>5</td>
<td>1.37mm (0.054&quot;)</td>
</tr>
<tr>
<td>FSLA-0010</td>
<td>10</td>
<td>1.47mm (0.058&quot;)</td>
</tr>
<tr>
<td>FSLA-0025</td>
<td>25</td>
<td>1.57mm (0.062&quot;)</td>
</tr>
<tr>
<td>FSLA-0050</td>
<td>50</td>
<td>1.65mm (0.065&quot;)</td>
</tr>
</tbody>
</table>

**FSHA Standard Hi Flow Fluidising Media Grades**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Airflow (SCFM/ft²@6 in of H₂O)</th>
<th>Nominal Thickness (mm/in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSHA-0200</td>
<td>200</td>
<td>1.02mm (0.040&quot;)</td>
</tr>
<tr>
<td>FSHA-0400</td>
<td>400</td>
<td>1.19mm (0.047&quot;)</td>
</tr>
<tr>
<td>FSHA-0600</td>
<td>600</td>
<td>1.32mm (0.052&quot;)</td>
</tr>
<tr>
<td>FSHA-1000</td>
<td>1000</td>
<td>1.63mm (0.064&quot;)</td>
</tr>
</tbody>
</table>

---

**Contact Information:**

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Tel: +86 (0)712 2878955  
Email: infoCN@porvairfiltration.com

India, Mumbai Division  
Tel: +91 22 25 976464 / +91 22 25 976465  
Email: infoIN@porvairfiltration.com
Manufactured from USP Class VI approved HDPE or PP materials, this is particularly suitable for both food and pharmaceutical applications. It has a uniform pore structure giving an even total area fluidisation. It is self-supporting due to its semi-rigid nature, reducing the need for the external support structures that are required with canvas and felt media.

This material can be supplied as a ready fabricated fluidising cone liner or in flat sheet form, 1000mm x 750mm (40” x 30”), for use as a tank liner or in an end user secondary fabrication.

Vyon® porous polymers are the most economical choice where temperatures are in the range of -70°C to 80°C (-94°F to 176°F).

Vyon® is fully cleanable for multiple re-uses, however, its affordability compared to stainless steel will aid more frequent replacement where a disposal fabrication is preferred to cleaning.

Typical Applications

Food and pharmaceutical
- Sugar
- Flour
- Milk powder
- Paracetamol
- Vitamins

Industrial and construction
- Cement
- Gypsum
- Soda/fly ash
- Coal dust

Chemical and plastics
- Titanium dioxide
- Carbon black
- Calcium carbonate
- Polyethylene powder
- Epoxy and polyester paint powders

Features and Benefits
- Light weight and self supporting.
- Even air flow.
- Non fibre shedding.
- Low extractables.
- Naturally hydrophobic.
- Chemically inert.
- Material versatility.
- Easy to clean.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.
Specifications

Mean Pore Size
12-16µm

Air Flow at 10mbar
2-3m³/min/m² (71ft³/min/ft²)

Removal Efficiency (Air)
6µm

Elongation at Break
10%

Tensile Strength
70 kgf/cm² (12.8lb-ft)

Temperature Range*
-70°C to 110°C* (-92°F to 230°F)
* Depending on material type

Typical Applications

Gravity discharge

Anti-bridging and aeration pads

Air assisted gravity conveying

Dip coating

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a range of flow and sound control units for the process industries. Using both metallic and polymeric materials, Porvair’s flow and sound control units are suitable for air, gas, liquid and silencing applications.

Many specialised applications have been developed to take advantage of the unique characteristics of porous materials. Applications such as filtration, flow control, flame arrestors and self-lubricating bearings are some of the largest commercial applications.

Porvair’s porous technology offers a cost-effective solution to diverse engineering challenges in the industrial marketplace.

Porvair’s range of flow control units present the application with multiple benefits, including: high corrosion resistance, application and material versatility, abrasion resistance and design and engineering flexibility.
Multi-layered, diffusion-bonded, stainless steel mesh, available in 316L and other alloys. This precision filter mesh, also known as a porous plate, is available in a range of different pore sizes ranging from 2 to 100 micron in diameter.

Fabricated Sinterflo® MC sintered mesh is available in a standard flat plate format, up to a seamless size of 1,000mm x 1,500mm (40” x 60”) and an unlimited size in butt-welded sheets.

This material is easily custom engineered for non-standard applications and can be formed into tubes and small discs or large scale circular plates.

Particularly well suited to demanding applications where high operating temperatures up to 540°C (1,000°F), increased chemical resistance and/or high abrasion resistance is essential. These applications include flame arrestors, nutsche filter plates and polymer melt filters.

Typical Applications
- Well water filtration for crop irrigation
- Sand filtration in offshore oil and gas recovery
- Sea water filtration in desalination plants
- Marine life filtration from ballast water

Features and Benefits
- High operating temperatures.
- Robust and self supporting.
- Application and material versatility.
- Enhanced chemical resistance.
- Cleanability.
- Abrasion resistance.
- Design and engineering versatility.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.

Ordering Information: For ordering information please contact a member of the Sales Team.

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Email: info@porvairfiltration.com

US, Ashland Division  
Tel: +1 804 550 1600  
Email: infoUS@porvairfiltration.com
Specifications

Standard Filter Plate Grades

<table>
<thead>
<tr>
<th>Grade</th>
<th>Nominal Rating (microns)</th>
<th>Partical Control Mesh (wires per inch)</th>
<th>Nominal Thickness (inch (mm))</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSA-0005</td>
<td>5</td>
<td>325 x 2300</td>
<td>0.066” (1.68mm)</td>
</tr>
<tr>
<td>PSA-0010</td>
<td>10</td>
<td>200 x 1400</td>
<td>0.066” (1.68mm)</td>
</tr>
<tr>
<td>PSA-0015</td>
<td>15</td>
<td>165 x 1400</td>
<td>0.066” (1.68mm)</td>
</tr>
<tr>
<td>PSA-0020</td>
<td>20</td>
<td>165 x 800</td>
<td>0.069” (1.75mm)</td>
</tr>
<tr>
<td>PSA-0040</td>
<td>40</td>
<td>325 x 325</td>
<td>0.073” (1.85mm)</td>
</tr>
<tr>
<td>PSA-0075</td>
<td>75</td>
<td>250 x 250</td>
<td>0.074” (1.88mm)</td>
</tr>
<tr>
<td>PSA-0100</td>
<td>100</td>
<td>150 x 150</td>
<td>0.074” (1.88mm)</td>
</tr>
</tbody>
</table>

Flow Versus Pressure Drop

Sinterflo® MC Filter Plate Configuration

1. Protective Guard Layer
2. Filtration Layer
3. Distribution Layer
4. Support Layer
5. Support Layer
GasPro™
Restrictive Flow Products and Sintered Metal Flow Restrictors

Restrictive flow orifices with a single opening or sintered metal flow restrictors with hundreds of small, micron sized passageways. These are flow limiting devices used to prevent an uncontrolled flow of high purity semiconductor process gases.

Installed into compressed gas supply systems, or in gas distribution manifolds, to control a high gas flow spike. Unintentional high gas flow may be caused by the rupture of a gas supply line, a malfunctioning valve or the failure of a pressure regulator.

These restrictors are highly reliable, low cost, flow control parts that will provide a quick return.

Typical Applications

- **Improved gas safety management**
  RFPs are in-line devices that precisely limit the gas flow in case of catastrophic failure of a valve, pressure regulator, distribution manifold or gas supply line. For use in a wide range of inert, highly toxic and pyrophoric gases to reduce the handling risk.

- **Cost reduction of exhaust venting systems**
  Toxic gas delivery systems with RFPs installed can be designed with smaller, lower flow exhaust systems therefore saving significant capital investment.

- **Tamper proof flow control**
  For providing fixed flow without the requirement of adjustments, moving parts or power. With hundreds of small flow channels, these restrictors will resist clogging from particles in the gas supply.

- **Replacement of needle valves and mass flow controllers**
  For fixed pressure, steady flow gas delivery and flow splitting applications.

- **Laminar flow diffusers**
  For low velocity gas pressurization or venting of vacuum chambers.

- **Pressure snubbers**
  For the prevention of pressure surges and pressure shock.

- **Flame arrestors**
  For creating a barrier to flames travelling in a combustible gas service. Can be certified by independent lab testing.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team. Visit us online for current and comprehensive GasPro™ Restrictive Flow Products and Sinterflo® P Sintered Metal Powder Flow Restrictors information.

Ordering Information:
For ordering information please contact a member of the Sales Team.

Contact Information:
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Tel: +44 (0)1425 612010
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US, Ashland Division
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Features and Benefits

• Semiconductor industry, building and fire code compliance
  RFPs can assist in complying with SEMI SS-0310 Safety Guidelines for sizing and identifying flow limiting devices for gas cylinder valves, NFPA 318 Standard for Protection of Semiconductor Fabrication Facilities, CGA G-13 Storage and Handling of Silane and other gas safety standards.

• Porous materials of construction
  316L stainless steel, nickel, Hastelloy® C22, Hastelloy® C276 and other temperature and corrosion resistant materials.

• Fitting connections
  10Ra or better, electropolished hardware made from 316L stainless steel VAR, nickel, Hastelloy® C22, Hastelloy® C276 and other temperature and corrosion resistant materials.

• Flow range
  1 to 60,000scm N2 @ 30psig equivalent, calibrated to +/-7.5% flow tolerance typically, but can be offered as low as +/-1% on request. Standard products can be used in a full vacuum and in pressures up to 150psig. Custom designed products can be manufactured to withstand pressures up to 3000psig.

Product Selection

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Fitting Type</th>
<th>Porous Outside Diameter*</th>
<th>Porous Thickness*</th>
<th>Main Fitting*</th>
<th>OAL or Thickness*</th>
<th>Porous Material</th>
<th>VCR® Fitting or Gasket Material</th>
<th>Flow Rate (scm)</th>
<th>Flow Tolerance</th>
<th>Gas Type</th>
<th>Gas Inlet Pressure (psig)</th>
<th>Gas Outlet Pressure (psig)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7110G-N2-30</td>
<td>¼” Gasket</td>
<td>0.217”</td>
<td>0.060”</td>
<td>0.470” OD</td>
<td>0.022”</td>
<td>316L SS</td>
<td>316L SS</td>
<td>10</td>
<td>+/-20%</td>
<td>Nitrogen</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>7150G-HE-30</td>
<td>¼” Gasket</td>
<td>0.217”</td>
<td>0.060”</td>
<td>0.470” OD</td>
<td>0.022”</td>
<td>316L SS</td>
<td>316L SS</td>
<td>500</td>
<td>+/-2%</td>
<td>Helium</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>71100GG-N2-30</td>
<td>¼” Gasket</td>
<td>0.217”</td>
<td>0.060”</td>
<td>0.470” OD</td>
<td>0.022”</td>
<td>316L SS</td>
<td>316L SS</td>
<td>500</td>
<td>+/-7.5%</td>
<td>Helium</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>7110-N2-30</td>
<td>In-line ¼” VCR®</td>
<td>0.180”</td>
<td>0.18”</td>
<td>0.625” Hex</td>
<td>1.5”</td>
<td>316L SS</td>
<td>316L SS</td>
<td>3000</td>
<td>+/-7.5%</td>
<td>Nitrogen</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>7125-AR-20</td>
<td>In-line ¼” VCR®</td>
<td>0.180”</td>
<td>0.18”</td>
<td>0.625” Hex</td>
<td>1.5”</td>
<td>316L SS</td>
<td>316L SS</td>
<td>25</td>
<td>+/-20%</td>
<td>Argon</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>7150-N2-30</td>
<td>In-line ¼” VCR®</td>
<td>0.180”</td>
<td>0.18”</td>
<td>0.625” Hex</td>
<td>1.5”</td>
<td>316L SS</td>
<td>316L SS</td>
<td>50</td>
<td>+/-7.5%</td>
<td>Nitrogen</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>71200-N2-30</td>
<td>In-line ¼” VCR®</td>
<td>0.180”</td>
<td>0.18”</td>
<td>0.625” Hex</td>
<td>1.5”</td>
<td>316L SS</td>
<td>316L SS</td>
<td>500</td>
<td>+/-7.5%</td>
<td>Argon</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>71100-N2-30</td>
<td>In-line ¼” VCR®</td>
<td>0.180”</td>
<td>0.18”</td>
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<td>316L SS</td>
<td>316L SS</td>
<td>100</td>
<td>+/-7.5%</td>
<td>Nitrogen</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>71200-N2-30</td>
<td>In-line ¼” VCR®</td>
<td>0.180”</td>
<td>0.18”</td>
<td>0.625” Hex</td>
<td>1.5”</td>
<td>316L SS</td>
<td>316L SS</td>
<td>500</td>
<td>+/-7.5%</td>
<td>Nitrogen</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>71100-N2-30</td>
<td>In-line ¼” VCR®</td>
<td>0.180”</td>
<td>0.18”</td>
<td>0.625” Hex</td>
<td>1.5”</td>
<td>316L SS</td>
<td>316L SS</td>
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<td>Vacuum</td>
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<td>1.5”</td>
<td>316L SS</td>
<td>316L SS</td>
<td>5000</td>
<td>+/-7.5%</td>
<td>Nitrogen</td>
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<td>0</td>
</tr>
<tr>
<td>71000-N2-30</td>
<td>In-line ¼” VCR®</td>
<td>0.180”</td>
<td>0.18”</td>
<td>0.625” Hex</td>
<td>1.5”</td>
<td>316L SS</td>
<td>316L SS</td>
<td>10000</td>
<td>+/-7.5%</td>
<td>Nitrogen</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>72100SC-N2-30</td>
<td>Surface ‘C’</td>
<td>0.187”</td>
<td>0.125”</td>
<td>1.5” Sq</td>
<td>0.25”</td>
<td>HC22</td>
<td>HC22</td>
<td>100</td>
<td>+/-7.5%</td>
<td>Nitrogen</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>71500SC-AR-30</td>
<td>Surface ‘C’</td>
<td>0.187”</td>
<td>0.125”</td>
<td>1.5” Sq</td>
<td>0.25”</td>
<td>316L SS</td>
<td>316L SS</td>
<td>5000</td>
<td>+/-7.5%</td>
<td>Argon</td>
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<td>0</td>
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<tr>
<td>71300SC-N2-30</td>
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<td>0.125”</td>
<td>1.5” Sq</td>
<td>0.25”</td>
<td>316L SS</td>
<td>316L SS</td>
<td>30000</td>
<td>+/-7.5%</td>
<td>Nitrogen</td>
<td>30</td>
<td>0</td>
</tr>
</tbody>
</table>

* Measurements are +/-0.005”.

Note: The wetted surfaces of the VCR® type face seal gaskets, the VCR® fittings and surface mount adaptors are 10Ra minimum with an electropolished finish.

Contact Information:
China, Wuhan Division
Tel: +86 (0)712 2878955
Email: infoCN@porvairfiltration.com

India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
High purity gas diffuser and filter products for controlled, reduced turbulence, laminar gas flow when purging or venting load lock, transfer, cooling and vacuum chambers used in Microelectronics processing equipment.

Allow large volumes of gas to be purged into vacuum environments, whilst minimising disturbance to particles within the chamber.

These diffuser filters can be retrofitted into vacuum chambers, transfer chambers, cooling chambers, process chambers and load lock chambers.

Manufactured in a state of the art cleanroom using ISO 9001 Certified Quality System. A DI water flush, followed by a high pressure, 0.003µm filtered nitrogen flush removes particles and prevents particle shedding. They are vacuum dried to less than 10ppb moisture as needed and the organics are less than 10ppb THC.

All filters are 100% helium leak checked, 100% integrity tested, cleaned and dried, then bagged in a Class 100 Cleanroom to ensure the highest out-of-box quality and cleanliness.

Features and Benefits

- **Faster venting and cost saving**
  Reduces purging and pressurisation time without disrupting particles, also acts as a point-of-use filter.

- **Easy connection**
  Uses standard vacuum flanges, centering rings or face seal VCR® fittings to connect to load lock interfaces and vacuum chambers. A separate housing is not required.

- **Wide range of filtration efficiency removal ratings**
  9 Log (99.9999999%) particle retention efficiency at 0.003, 0.08, 0.2, 0.5, 1, 2, 5, 10 or 20 micrometers.

- **Dryness**
  Vacuum oven dried to ppt levels as needed.

- **Service in severe environments**
  Excellent mechanical strength for 100,000 cycles in high pressure service (4 bar/60psi@68°F (20°C)), superior corrosion resistance and compatibility with a wide range of processing gases. All metal construction for elevated temperature resistance for inert gas applications. Diffusers with Viton® o-rings rated for service at up to 212°F (100°C).

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue's ordering guides. For further information, please contact a member of the Sales Team. Visit us online for current and comprehensive GasPro™ Restrictive Flow Products and Sinterflo® P Sintered Metal Powder Flow Restrictors information.
Specifications

Materials of Construction
Diffuser filter: 316L stainless steel, Hastelloy® C22 or nickel sintered powder metal
O-ring material: Viton®

Removal Rating
0.003µm, 0.2µm, 0.5µm, 2µm and 10µm

Downstream Cleanliness
Volatile (preconditioned option) (moisture, oxygen and THC’s each): <10ppb

Quality Assurance
Class 100 Clean room manufactured in ISO 9001 Certified Quality System facility.
100% integrity tested.
100% helium leak tested to >1 x 10⁻⁹ atm cc/second.

Product Selection

<table>
<thead>
<tr>
<th>GasPro™ Face Seal Filter Diffusers</th>
<th>Flow Rating Filter Rating</th>
<th>Filter Material</th>
<th>Connection</th>
<th>Diffuser Outside Diameter</th>
<th>Diffuser Length</th>
<th>Diffuser Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>8110-FS4-003</td>
<td>10 slpm</td>
<td>0.003µm</td>
<td>316L Stainless Steel</td>
<td>¼” VCR®</td>
<td>0.50’’ (12.7mm)</td>
<td>1.50’’ (38.1mm)</td>
</tr>
<tr>
<td>8320-FS4-003</td>
<td>20 slpm</td>
<td>0.003µm</td>
<td>Nickel</td>
<td>¼” VCR®</td>
<td>0.50’’ (12.7mm)</td>
<td>0.75’’ (19.1mm)</td>
</tr>
<tr>
<td>8340-FS4-003</td>
<td>40 slpm</td>
<td>0.003µm</td>
<td>Nickel</td>
<td>¼” VCR®</td>
<td>0.50’’ (12.7mm)</td>
<td>1.50’’ (38.1mm)</td>
</tr>
<tr>
<td>8375-FS8-003</td>
<td>75 slpm</td>
<td>0.003µm</td>
<td>Nickel</td>
<td>½” VCR®</td>
<td>0.50’’ (12.7mm)</td>
<td>3.00’’ (76.2mm)</td>
</tr>
<tr>
<td>83250-FS8-003</td>
<td>250 slpm</td>
<td>0.003µm</td>
<td>Nickel</td>
<td>½” VCR®</td>
<td>1.00’’ (25.4mm)</td>
<td>3.00’’ (76.2mm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GasPro™ Vacuum Flange Filter Diffusers</th>
<th>Flow Rating Filter Rating</th>
<th>Filter Material</th>
<th>Connection</th>
<th>Diffuser Outside Diameter</th>
<th>Diffuser Length</th>
<th>Diffuser Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>8360-VF16-003</td>
<td>60 slpm</td>
<td>0.003µm</td>
<td>Nickel</td>
<td>NW16 / ¼” VCR®</td>
<td>0.64’’ (16.2mm)</td>
<td>1.75’’ (44.4mm)</td>
</tr>
<tr>
<td>8360-VF25-003</td>
<td>60 slpm</td>
<td>0.003µm</td>
<td>Nickel</td>
<td>NW25 / ¼” VCR®</td>
<td>0.64’’ (16.2mm)</td>
<td>2.64’’ (67.1mm)</td>
</tr>
<tr>
<td>8390-VF25-003</td>
<td>90 slpm</td>
<td>0.003µm</td>
<td>Nickel</td>
<td>NW25 / ¼” VCR®</td>
<td>0.64’’ (16.2mm)</td>
<td>2.64’’ (67.1mm)</td>
</tr>
<tr>
<td>83250-VF40-003</td>
<td>250 slpm</td>
<td>0.003µm</td>
<td>Nickel</td>
<td>NW40 / ¼” VCR®</td>
<td>1.00’’ (25.4mm)</td>
<td>3.00’’ (76.2mm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GasPro™ Centering Ring Diffusers</th>
<th>Flow Rating Filter Rating</th>
<th>Filter Material</th>
<th>Connection</th>
<th>Diffuser Outside Diameter</th>
<th>Diffuser Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>8102-CR16-02</td>
<td>2 slpm</td>
<td>0.2µm</td>
<td>316L Stainless Steel</td>
<td>NW16</td>
<td>0.67’’ (16.0mm)</td>
</tr>
<tr>
<td>8112-CR25-05</td>
<td>12 slpm</td>
<td>0.5µm</td>
<td>316L Stainless Steel</td>
<td>NW25</td>
<td>1.02’’ (25.9mm)</td>
</tr>
<tr>
<td>8175-CR25-2</td>
<td>75 slpm</td>
<td>2µm</td>
<td>316L Stainless Steel</td>
<td>NW25</td>
<td>1.02’’ (25.9mm)</td>
</tr>
<tr>
<td>81190-CR40-2</td>
<td>190 slpm</td>
<td>2µm</td>
<td>316L Stainless Steel</td>
<td>NW40</td>
<td>1.61’’ (40.9mm)</td>
</tr>
<tr>
<td>81300-CR50-10</td>
<td>300 slpm</td>
<td>10µm</td>
<td>316L Stainless Steel</td>
<td>NW50</td>
<td>2.05’’ (52.1mm)</td>
</tr>
</tbody>
</table>

* 9 Log filtration efficiency removal rating for 0.003µm particles at rated flow, verified by independent lab testing at the most penetrating particle size of 0.08µm.
Filter is made from porous Sinterflo® P sintered metal powder.
Standard product combinations are shown in the tables above, please contact a Porvair Filtration Group representative for our full product range.

Contact Information:
China, Wuhan Division
Tel: +86 (0)712 2878955
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India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Battery Vents and Flame Arrestors
for Process and Analytical Instrument Applications

A wide range of flame arrestors from sintered metal powder and porous plastics.

Used in many process and analytical instrument applications as safety devices for handling combustible gases for gas analysers.

The high thermal conductivity of these flame arrestor cools the flame front or combustion wave by absorbing and dissipating the heat of the flame.

Sintered Metal Flame Arrestors
Comply with the ATEX Directive and the associated International Standards Organization (ISO) testing guidelines:

- ISO 4003: Determination of Bubble Point Pore Size in Porous Sintered Metal.
- ISO 4022: Determination of Permeability.

Porous Plastic Battery Vents
Manufactured from Vyon®, in either polyethylene or polypropylene, they can be used for; flame arresting, separation and optimum venting.

Flame arrestors can be made into the following formats:

- Cut shapes, mouldings, moulded discs or plugs.
- Moulded cylinders with or without housings, end caps or threads.
- Moulded discs or plugs sintered directly into stainless steel sensor housings.
- Complex shapes containing both threads and end caps.

Typical Applications

- Flame arresting
- Ignition prevention in flue gas stacks
- Explosion proof enclosure venting
- Flashback prevention for welding torches
- Battery vents
- Sensor protection

Features and Benefits

- Excellent flame-arresting properties due to tortuous path within the sintered porous materials.
- Optimum flow of gases. The controlled pore size and uniform density ensure an even flow of gas to the sensor device.
- For sound systems such as loudspeakers, the stainless steel mesh has excellent flame-arresting properties, but with reduced sound attenuation.
- Robust and easy to assemble.
- Our products undergo SPC inspection and conform to all the leading test authorities such as EECS, UL, FM, CAS and BASEEFA.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.

Ordering Information: For ordering information please contact a member of the Sales Team.

Contact Information: UK, Wrexham Division
Tel: +44 (0)1978 661144
Email: info@porvairfiltration.com

US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
A wide range of Sinterflo® P porous sintered stainless steel powder cylinders.

These cylinders are used for fabrication into filters for applications in aggressive environments. Made by isostatic pressing, these cylinders have no seam weld, leading to uniform filtration and less corrosion. Other materials such as Monel®, Hastelloy® and Inconel® are also available.

**Features and Benefits**

- Withstand a maximum differential pressure of up to 4.9bar (71psi) and an operating temperature of -51°C to 204°C (-60°F to 399°F).
- High dirt holding capacity.
- Easily re-cleanable, allowing for long filter life and reduced operating costs.

**Typical Applications**

**Gas Filtration**
- Highly aggressive gasses

**Steam Filtration**
- Breweries
- Chemicals
- Dairies
- Food and beverage
- Pharmaceuticals

**Liquid Filtration**
- Chemicals
- Food and beverage
- Pharmaceuticals and cosmetics
- Solvents

**Standard Sizes for Sinterflo® P Stainless Steel Cylinders**

<table>
<thead>
<tr>
<th>Stainless Steel Grade</th>
<th>Gas, Air, Steam OD (µm)</th>
<th>Liquid OD (µm)</th>
<th>ID (mm)</th>
<th>Length (mm)</th>
<th>Wall Thickness</th>
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<tbody>
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<td>10</td>
<td>1</td>
<td>6</td>
<td>34</td>
<td>28</td>
<td>75</td>
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<td>25</td>
<td>30</td>
<td>130</td>
<td>124</td>
<td>760</td>
</tr>
</tbody>
</table>

For size required specify: outside diameter x inside diameter x length.

* Other grades of stainless steel powders and lengths and diameters are available.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.
Porous Cups and Bushings

A wide range of cups and bushings for the process and industrial markets.

Provide additional porous surface area for longer filter service life or for increased permeability when compared to porous sintered metal discs of the same diameter.

For the best pore size uniformity and quality, porous sintered cups and bushings are recommended when the length to diameter ratio is less than 3:1.

When the length to diameter ratio of a part is more than 3:1, then a porous sintered metal tube is the preferred option for the best pore size uniformity.

Typical Applications
- Filters
- Aerators

Features and Benefits
- Large surface area.
- Increased permeability.
- High operating temperatures.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.
Spargers
for Liquid and Gas Contact Applications

A complete range of porous materials for gas/liquid contact applications across a variety of industries, including:
- Food and beverage
- Waste and water treatment
- Chemical process
- Pharmaceuticals

As a manufacturer of porous media and elements, we can specify, design and manufacture the most efficient product for a given application.

The key to efficient gas transfer is to generate very high volumes of fine bubbles. A 1mm (0.04”) bubble has 6 times the gas/liquid contact than that of a 6mm (0.24”) bubble; bubble size is essential to optimise mass transfer and reduce gas consumption and energy costs.

Elements are available in Sinterflo® sintered porous stainless steel or Vyon® sintered porous polyethylene or Polypropylene.

Stainless steel spargers are supplied in stainless 316L and higher alloys such as Inconel® and Hastelloy® for very aggressive applications. Being manufactured from such resistant materials, these spargers are cleanable and if necessary can be heat or steam sterilised.

The elements are designed and manufactured from uniform, fine, controlled pore size media to achieve excellent performance in the distribution of a large number of small gas bubbles for a higher interfacial area.

Typical Applications

Intrusive and non-intrusive tangential pipeline spargers:
- Treatment of wastewater
- Volatile stripping
- Steam injection

Tank spargers:
- Fermentation
- Agitation
- Bioremediation
- Oxygen stripping
- De-watering
- Dissolved air flotation processes used by major oil companies

Features and Benefits

- Rugged, fixed pore media.
- Bubble size can be controlled by a wide range of available media pore sizes.
- Temperature and corrosion resistant materials of construction.
- High quality, all-welded, robust construction.
- Higher diffusion rates from smaller sparging elements.
- Cleanable.
- Sparger diameter and connector designed to meet application requirements.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.
Vyon® is a porous permeable plastic material made from high density polyethylene by a modern powder sintering process.

The Vyon® silencer is a sintered polyethylene body moulded to a high density polyethylene adapter.

The silencer screws directly into the exhaust port of a control valve. The exhausting air escapes to the atmosphere by expanding through the porous body.

The noise from a single unsilenced exhaust port is reduced from about 90 decibels to between 60 and 70 decibels when fitted with a Vyon® silencer. 90 decibels corresponds to the noise produced by a heavy truck or underground train passing at a distance of a few feet and represents the acknowledged danger level to which people should not be exposed for any length of time. By comparison, 60 decibels corresponds to normal conversation at a distance of 1 metre (3 feet).

Available directly to pneumatic equipment manufacturers in our exclusive grey body/black adaptor colour combination.

Typical Applications
- Silencing
- Filtration for pneumatic equipment
- Sound attenuation

Features and Benefits
- Significant noise reduction
  Up to 30 decibels, the difference between an underground train and normal conversation.
- Easy installation
  Available with BSP thread connections, they screw directly into, and must always match the size of the exhaust port.
- Operating conditions
  For application on systems with working pressures up to 10bar (150psi).
- Minimal flow loss
  Effectively zero in a vast number of applications.
- Minimal maintenance costs
  Elements can be cleaned and reused, reducing replacement and maintenance costs.
- Maintenance free
  Unaffected by water or oil. Do not be allow to become blocked or blinded with debris.

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.

Ordering Information: For ordering information please contact a member of the Sales Team.

Contact Information: UK, Wrexham Division
Tel: +44 (0)1978 661144
Email: info@porvairfiltration.com

US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
Specifications

Materials of Manufacture
Body: Vyon® Sintered porous HDPE
Adaptor: Injection moulded solid HDPE

Fitting
BSP (British Standard Pipe)

Fitting Guide

<table>
<thead>
<tr>
<th>Fitting size (Inches)</th>
<th>Full Height (mm)</th>
<th>Body Height (mm)</th>
<th>Width (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>⅛&quot;</td>
<td>35.5 (1.36&quot;)</td>
<td>27.8 (1.09&quot;)</td>
<td>12.9 (0.51&quot;)</td>
</tr>
<tr>
<td>¼&quot;</td>
<td>42.6 (1.68&quot;)</td>
<td>35.7 (1.40&quot;)</td>
<td>16.6 (0.65&quot;)</td>
</tr>
<tr>
<td>⅜&quot;</td>
<td>67.5 (2.66&quot;)</td>
<td>57.4 (2.26&quot;)</td>
<td>24.4 (0.96&quot;)</td>
</tr>
<tr>
<td>½&quot;</td>
<td>78.5 (3.09&quot;)</td>
<td>68 (2.68&quot;)</td>
<td>24.8 (0.98&quot;)</td>
</tr>
<tr>
<td>¾&quot;</td>
<td>139.8 (5.5&quot;)</td>
<td>124.8 (4.91&quot;)</td>
<td>37.6 (1.47&quot;)</td>
</tr>
<tr>
<td>1&quot;</td>
<td>154 (6.06&quot;)</td>
<td>135.5 (5.33&quot;)</td>
<td>47.8 (1.88&quot;)</td>
</tr>
<tr>
<td>1½&quot;</td>
<td>115 (4.53&quot;)</td>
<td>95.6 (3.76&quot;)</td>
<td>47.8 (1.88&quot;)</td>
</tr>
</tbody>
</table>

Maximum Working Pressure
10bar (150psi)

Noise Reduction
Up to 30dB

Operating Temperature Range
-70°C to +80°C (-94°F to 176°F)
A range of diffused aeration products for the treatment of both industrial and municipal effluent.

Our strong research and development teams, technical expertise and capability ensures we are at the forefront of clean water filter technology, enabling delivery of cost effective, reliable clean water solutions tailored to customers’ requirements.

Aeration is an effective method for breaking down the organic components of effluents. Sewage aeration systems have two functions:

- provide oxygen to feed the oxygen breathing aerobic bacteria that decomposes organic matter.
- stir the effluent to ensure that it is homogeneous for efficient oxygenation.

Our diffused aeration products have been designed to optimise these functions and provide:

- Easy fitting into new installations.
- Easy retrofitting into existing installations.
- High oxygen transfer efficiency.
- Low operating costs.
- Low maintenance costs.

Included in the range are both BioVyon™ sintered porous polyethylene and EPDM membrane products:

- Vyon® disc diffusers
- Vyon® tubular diffusers
Vyon® Disc Diffusers
High Density Polyethylene Disc Diffusers

Used in the breaking down of pollutants in sewage and industrial waste water, by the highly efficient transfer of oxygenated air.

Porous polyethylene disc diffusers are available in a range of pore sizes and permeabilities, ensuring a correct match to exacting process requirements.

This diffuser is a direct replacement for the Degrémont™ 230mm (9.05") Ceramic Disc.

Diffusers can be supplied as disc only, with or without seal, or as a complete diffuser assembly, and are easily retrofitted into existing installations.

Typical Applications
- Water treatment

Features and Benefits
- High oxygen transfer efficiency.
- Low operating costs.
- Low back pressure.
- Resistant to chemical attack.
- Easily retrofitted to existing installations.
- Lightweight and resistant to damage.

Specifications

Materials of Manufacture
- Disc: High Density Polyethylene
- Gasket: Waste water approved EPDM
- Fixings: Stainless steel ring and Rilsan® Coated Clips

Technical Information
- Diameter: 230mm (9.05")
- Wall Thickness: 6mm (0.24")
- Weight: 0.38kg (2.2lb) nom.
- Bubble Size: 2-4mm (0.08"-0.16")
- Recommended Air Flow: 1-5m² (10.8 - 53.8ft²/hr/diffuser

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.
Vyon® Tubular Diffusers
High Density Polyethylene Tubular Diffusers

A range of thigh density polyethylene tubular diffusers, made with regulatory approved materials for potable water applications.

Can be used over a large pH range and for a variety of organic chemicals, acids and alkalis, these are highly chemical resistant.

They can be custom made in a variety of diameters and lengths. Highly robust and produce uniform bubble size and pattern to ensure effective oxygenation and long service life.

The tubular diffusers are produced over a large range of efficiencies for effective particle removal.

Typical Applications
• Water treatment
• Potable water filtration
• Ponds
• Rivers
• Fish farms

Features and Benefits
• Robust and rigid.

Specifications

Materials of Manufacture
Tube: High Density Polyethylene (HDPE)
Adapter: High Density Polyethylene (HDPE)
Gasket: EDPM

Technical Information
Approximate Weight: 0.3kg (0.7lb) per 500mm (19.67”) diffuser
Dry Permeability: 94m³ (24.832gal)/hr/500mm diffuser @ 15mbar (218psi) Δp
Diffuser surface area: 0.1175m² (1.26ft²) for 500mm (19.67”) diffuser
Design pressure: 10-90 kPa (0.1-0.9 bar)
Design temperature: 1°C to 50°C (34°F to 122°F)
Typical SOTE %/m depth: 6.8%

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.
Porvair continues to research new materials for filtration and separation. Examples are the development of metallic membranes and the use of specialist surface modification, to provide chemical or physical properties that are beneficial to the separation activity or the longevity of the filtration equipment.

We manufacture the speciality product Stabifi™ to compliment our capability in the food and beverage processing market.

This product has been developed as a unique technology that is the interface of our filtration and porous material technology.
Stabifil™
for the Stabilisation of Beverages

Developed as a unique technology that is at the interface of our filtration and porous material technology. The unique manufacturing process ensures optimal contact between the adsorbent and the beverage.

The product can be manufactured in the format of a filter cartridge and will fit into most industry standard housings used in the food and beverages industry; this provides an economic means for the stabilisation process to be integrated into the processing of beverages.

Stabifil™ is highly flexible due to the robustness of the composite material, which enables it to be easily incorporated into any process where beverage stabilisation is required.

Typical Applications
- Beer and wine stabilisation
- Spirits
- Vinegar
- Fruit juice
- Pure water supply systems

Features and Benefits
- Highly efficient.
- Easy regeneration.
- Robust characteristics.
- Clean and safe process.
- Rapid replacement.
- Flexible and dynamic stabilisation.
- Capacity is easily increased at minimal cost.
- Accurate and reproducible.
- Minimal loss of beverage in adsorbent media.
- Low capital cost and investment.
Specifications

Cartridge Construction
Constructed from materials proven to be non-toxic and that meet international legislation including EC10/2011 for food contact, USP VI and FDA CFR Title 21.

Built using technology; no glues or resins are used to bond the adsorbent, polymer or cartridge hardware.

Product Evaluation
Below chart shows tannoid reduction of a selection of beers dosed at an equivalent of 25g/hl of adsorbent.

A number of different types of beers were processed through a scaled down Stabifilm™ filter comprised of a Porvair S-type filter module. A specific flow rate of 20hl/hr/m² was used, with a contact time between the adsorbent and beer of just 12 seconds. The beer was processed within 20 minutes and rapidly regenerated in situ with caustic cleaning followed by a phosphoric acid wash.

A 17-fold regeneration of the Stabifilm™ cartridge indicated no loss of stabilisation effect; furthermore, no powder was present in any of the processed beer.
A range of auxiliary products to provide supplementary system support.

Differential pressure indicators (DPIs) provide indication of increasing differential pressure, filter blockage or bypass by both visual and electrical signal.

A DPI can be set to provide a signal of decreasing differential pressure in the system and, in some instances, signal that the system has been operated.

These are lightweight, robust and reliable for use in hydraulic, fuel and lube oil systems.
Differential Pressure Indicators
for the Aerospace Industry

A wide range of differential pressure indicators (DPIs) which help protect critical aircraft systems, providing an indication of impending or actual blockage when the filter element has become blocked and requires maintenance or replacement.

These components monitor the pressure differential between the upstream and downstream of a filter element, providing condition monitoring and an alert to potentially dangerous system conditions, such as drastic flow restrictions, filter element damage, line blockage or upstream release of contaminants.

Designed and manufactured using proven robust techniques to ensure resistance against the most severe pressure and vibration environments.

Indication can be by a visual or electrical output, or a combination of both. Visual indication is provided by a red coloured pop-up button that remains in the actuated position until manually reset. Electrical outputs can be provided by flying lead or a wide variety of standard and bespoke electrical connectors.

In addition to standard differential pressure indicators and dependent on specification requirements, we can incorporate additional design features such as:

- **Thermal lockout**
  Preventing false actuations during expected high viscosity pressure conditions such as cold system start-up.

- **Non-reset mechanisms**
  Requiring removal of the DPI and a specific orientation in order to reset, preventing a fail-safe against.

- **Surge damping**
  Providing resistance against false actuations during inadvertent system pressure spikes.

Typical Applications

- Fuel
- Lubricant
- Hydraulic
- Coolant
- Pneumatic

Features and Benefits

- Lightweight
- Robust structure

Options

- Visual
- Electrical

Please note, this product is custom made to meet specific project requirements and cannot be ordered through this catalogue’s ordering guides. For further information, please contact a member of the Sales Team.
An extensive range of porous metal and polymeric materials to provide optimum solutions for a wide variety of applications.

These materials can be purchased for OEM products or be integrated and package into finished products.

Core materials are:

- **Sinterflo® sintered porous metal materials**
  Mainly sintered porous stainless steel and bronze materials, sintered metal fibre and multi-layer stainless steel meshes.

- **Vyon® sintered porous plastic materials**
  Mainly sintered porous polyethylene and polypropylene materials.

- **BioVyon™ sintered porous plastic materials**
  Specialised Vyon® materials manufactured for applications in the life science markets.

The applications for these materials include:

- Filtration, many and diverse applications including air, water, steam and aggressive chemicals.
- Battery vents and flame arrestor plugs.
- Flame arrestors for gas sensor protection.
- Powder fluidisation and solids handling.
- Silencing.
- Vacuum tables.
- Sensor protection.
- Sparging.
- Fragrance emanation and chemical controlled release.
- Solid phase extraction and chromatography column frits.
- Medical device filtration.
Sinterflo® F
Sintered Metal Fibre

Manufactured from randomly laid metal fibres, sinter-bonded to form a uniform high porosity filter medium, Sinterflo® F demonstrates a significantly low pressure drop, high permeability and excellent dirt holding capacity.

With the feasibility to formulate metal fibres to meet specific application requirements, combined with inherent durability, sintered metal fibre filters can be cleaned in situ without interrupting process flow, this provides the ultimate in process economics by minimising downtime.

Typical Applications
- Catalyst recovery and retention
- Gasification
- Chemical production
- Vent filters
- Agrochemical applications
- Liquid and gaseous ammonia
- Pharmaceutical powder recovery
- Steam filtration
  - Culinary steam
  - Process steam

Features and Benefits
- Resistant to high temperatures and corrosive environments
  Suitable for aggressive air and liquid filtration applications.
- Can be cleaned in situ
  Reduces downtime to a minimum, providing excellent process economics.
- Pleatable structure
  Higher surface area with excellent dirt holding capacity for longer on-stream life.
- High void volume
  High permeability combined with low pressure drop.
Sinterflo® P
Sintered Metal Powder

A robust material manufactured from sinter-bonded metal powders. Primarily produced in 316L grade for use in temperatures up to 540ºC (1,004ºF) depending on process conditions, and offering resistance to most chemicals. Sinterflo® P media can also be produced in other grades of stainless steel and alloys such as Inconel®, Hastelloy® and Monel®.

Sinterflo® P powder media can be manufactured in both disc format or in cylinder format. For cylinders, our isostatic pressing ensures greater media uniformity with no welds, leading to increased corrosion resistance.

Typical Applications
- Catalyst recovery
- Polymer melt
- Gasification
- Chemical production
- Slurry oils
- Steam filtration
  - Culinary steam
  - Process steam

Features and Benefits
- Resistant to high temperatures and corrosive environments
  Suitable for aggressive air and liquid filtration applications.
- Strength and Robustness
  Ensures reliability and longer on-stream service life.
- Excellent media uniformity
  Allows consistent filtration and effective loading.
- Seamless structure
  Weld free, giving increased corrosion resistance.
Precision woven meshes in various types of weaves, from plain square mesh to Dutch (Hollander) Twill Weave, to give the most defined absolute rating. Plain square weave for simple sieving duties through various weave patterns (Reverse Plain Dutch, Broad Mesh Twill and Single Plain Weave) to Dutch Twill Weave to provide for the most comprehensive selection of surface filtration duties.

Typical Applications
- Catalyst recovery and retention
- Gasification
- Chemical production
- Vent filters
- Agrochemical applications
- Liquid and gaseous ammonia
- Steam filtration
  - Culinary steam
  - Process steam

Features and Benefits
- Good permeability.
- High tensile strength.
- Available from single wrap designs through to complex multi-layered structures in pleated constructions to optimise the area available.
- Some meshes available in a diffusion bonded versions to increased performance security of pore shape and size.
- Available in the broadest range of pore sizes of any filter media type.
- Available in 316L stainless steel as standard with other alloys such as 304L stainless steel, 904L stainless steel, Inconel®, Hastelloy®, Monel® and Fecralloy® on request.

Ordering Information: For ordering information please contact a member of the Sales Team.

Contact Information:
UK, Wrexham Division
Tel: +44 (0)1978 661144
Email: info@porvairfiltration.com

US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
Sinterflo® MC
Sintered Metal Mesh Composite

Multi-layer precision filters, produced using a novel sintering process resulting in superior mechanically strong structures.

Primarily made from 316L stainless steel, also available in Inconel®, Hastelloy® and Monel® materials for use in the most aggressive environments.

Depending on atmospheric conditions, our stainless steel option can be used in temperatures up to 540°C (1,004°F), with intermittent operating peaks up to 650°C (1,202°F), and are resistant to most chemicals.

Formats available include flat sheet, custom shapes, welded cones and welded cylinders, and the materials can be manufactured in a variety of layer combinations depending on your specific application.

Standard material combinations can include perforated plates for additional support.

Sinterflo® MC is available in a range of filtration grades from 2 micron.

Typical Applications
- Powder fluidisation
- Liquid applications
- Slurry oils
- Steam filtration
  - Culinary steam
  - Process steam

Features and Benefits
- Fabricated shapes without expensive support structures or joining strips
  Offers robust and self-supporting structures.
- Can be cleaned repeatedly
  Suitable for reuse; providing an economical choice.
- Non-shedding media
  Provides resistance to mechanical abrasion.
- Easily custom-engineered
  To meet required specifications of materials, strength, flow requirements, thickness, micron rating and environment.

Contact Information:
China, Wuhan Division
Tel: +86 (0)712 2878955
Email: infoCN@porvairfiltration.com

India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Excellent chemical compatibility, exceptional strength and resistant to most acids, bases, many organic chemicals and temperatures up to 110ºC (230ºF).

Produced in both sintered porous polyethylene and polypropylene, materials are available in:
- Roll
- Sheet
- Cut shapes
- Cones
- Moulded formats

Typical Applications
- Domestic water filters
- Activated carbon filters
- Chemical filters
- Air and dust filters
- Fluidisation and aeration of bulk solids
- Battery vents
- Pneumatic silencers
- Water and effluent aeration
- Fragrance eliminators
- Vacuum platens and cones
- Vacuum hold down table covers

Features and Benefits
- **Strong lightweight and self supporting**
  Versatile material that can be manufactured in a variety of shapes and sizes.
- **Narrow controlled pore size distribution**
  Very efficient and effective filtration material.
- **High and even porosity**
  Low pressure drop and even flow.
- **Chemically inert**
  Resistant to many chemicals making it suitable for many applications.
**Vyon® Material Range**

Through a range of proprietry techniques, our advanced BioVyon™ materials deliver enhanced performance techniques. Below are the media grades and the standard and specialist treated materials available:

**Vyon® Media Grades**

<table>
<thead>
<tr>
<th>Name</th>
<th>Liquids (µm)*</th>
<th>Gases (µm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vyon® T</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Vyon® M</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Vyon® D</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>Vyon® F</td>
<td>35</td>
<td>10</td>
</tr>
<tr>
<td>Vyon® HP</td>
<td>70</td>
<td>30</td>
</tr>
</tbody>
</table>

All Vyon® grades are available in polyethylene.
Only Vyon® D, F and HP grades are available in Polypropylene.

**Vyon™ Hydrophobic**

Our hydrophobic Vyon™ is permanently treated to prevent the material from wetting-out in many organic solvents.
Our market leading sintered porous materials, offer optimum solutions in a wide range of applications. BioVyon™ is manufactured to high cleanliness standards to meet the demands of the Bioscience market.

BioVyon™ sintered porous polypropylene or polyethylene is available in rolls and sheets, cut to size, machined to shape or fabricated to meet the exacting requirements of the diagnostic, biopharmaceutical and healthcare industry. Also available in a moulded format.

High void volumes make this ideally suited to wicking, emanation and applications requiring high flow with minimum hold-up.

Produced in both sintered porous polyethylene and polypropylene, materials are available in:
- Roll
- Sheet
- Cut shapes
- Cones
- Moulded formats

**Quality Assurance**

Tested for biocompatibility and bio-safety to USP Class VI and is approved to FDA 21 CFR and EC-directives. Manufactured in an ISO Cleanroom environment in accordance with cGMP, BioVyon™’s suitability to medical devices has been demonstrated through its Drug Master File status. Registered to ISO 9001, our procedures are subjected to high standards of quality.

**Typical Applications**

- Medical device filtration
- Personal healthcare and pharmaceutical vents
- Diagnostics
- Catheter vents
- Antibody purification products
- Porous chromatography
- Sample preparation for analytical chromatography applications
- Drug delivery products

**Features and Benefits**

Continuous material development has resulted in a unique range of BioVyon™ materials each exhibiting different properties critical to these progressive markets.

---

**BioVyon™ Sintered Porous Plastics**

Ordering Information: For ordering information please contact a member of the Sales Team.

Contact Information:  
**UK, Wrexham Division**  
Tel: +44 (0)1978 661144  
Email: info@porvairfiltration.com  
**US, Ashland Division**  
Tel: +1 804 550 1600  
Email: infoUS@porvairfiltration.com
**BioVyon™ Advanced Material Range**

Through a range of proprietary techniques, our advanced BioVyon™ materials offer enhanced performance techniques. Below are our media grades and the standard and specialist treated materials available:

**BioVyon™ Media Grades**

<table>
<thead>
<tr>
<th>Name</th>
<th>Liquids (µm)</th>
<th>Gases (µm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BioVyon™ T</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>BioVyon™ M</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>BioVyon™ D</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>BioVyon™ F</td>
<td>35</td>
<td>10</td>
</tr>
<tr>
<td>BioVyon™ HP</td>
<td>70</td>
<td>30</td>
</tr>
</tbody>
</table>

**BioVyon™ Ultraclean**

Range of standard ultraclean materials, treated to exhibit very low extractables.

**BioVyon™ Nanoclean**

Range offers a high purity material with trace extractables.

**BioVyon™ Hydrophobic and Oleophobic**

Permanently treated to prevent the material from wetting-out in many organic solvents.

**BioVyon™ Hydrophilic**

Permanently treated for instant water wettability.

**BioVyon™ Laminates**

Used as a support for membranes, this material extends the filtration range to 0.1µm for the retention of microorganisms.

**BioVyon™ Composites**

Incorporate active substances in the sintered porous material, such as chromatography resins, carbon and cellulosics.

**BioVyon™ Functionalised**

Chemically or biologically active sintered porous material, functionalised with amines, carbonyls, carboxylic acids, linker chains or ligands.
Many standard products for the process industries can be ordered using the applicable ordering guides from this section of the catalogue. Please follow the step-by-step guide on each relevant page.

Custom-made products to meet specific project requirements cannot be ordered through this catalogue.

For further information, please contact a member of the Sales Team.
Sinterflo® F
Metal Fibre Cartridge and Elements

Product Code: 250

Table 1 End Fittings

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>DOE fitting/pleated</td>
</tr>
<tr>
<td>1</td>
<td>DOE fitting/cylindrical</td>
</tr>
<tr>
<td>2</td>
<td>SOE 226 fitting/pleated</td>
</tr>
<tr>
<td>3</td>
<td>SOE 226 fitting/cylindrical</td>
</tr>
<tr>
<td>4</td>
<td>SOE 222 fitting/pleated</td>
</tr>
<tr>
<td>5</td>
<td>SOE 222 fitting/cylindrical</td>
</tr>
<tr>
<td>6</td>
<td>SOE threaded/pleated</td>
</tr>
<tr>
<td>7</td>
<td>SOE threaded/cylindrical</td>
</tr>
</tbody>
</table>

DOE: Double Open Ended fitting.
SOE: Single Open Ended fitting.

Table 2 Nominal Cartridge Length*

<table>
<thead>
<tr>
<th>Code</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>05</td>
<td>125 mm (5&quot;)</td>
</tr>
<tr>
<td>10</td>
<td>250 mm (10&quot;)</td>
</tr>
<tr>
<td>20</td>
<td>498 mm (20&quot;)</td>
</tr>
<tr>
<td>30</td>
<td>745 mm (30&quot;)</td>
</tr>
<tr>
<td>40</td>
<td>1012 mm (40&quot;)</td>
</tr>
</tbody>
</table>

* Other non-standard lengths are available on request.

Table 3 Micron Rating (liquid)

<table>
<thead>
<tr>
<th>Code</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>0040</td>
<td>40 micron</td>
</tr>
</tbody>
</table>

Sinterflo® F: 3µm to 60µm available, specify 'Absolute' rating.

Table 4 Seal Material*

<table>
<thead>
<tr>
<th>Code</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Chemraz®</td>
</tr>
<tr>
<td>E</td>
<td>EPDM</td>
</tr>
<tr>
<td>N</td>
<td>Nitrile</td>
</tr>
<tr>
<td>P</td>
<td>PTFE (DOE only)</td>
</tr>
<tr>
<td>S</td>
<td>Silicone</td>
</tr>
<tr>
<td>F</td>
<td>FEP coated Viton® (SOE only)</td>
</tr>
<tr>
<td>T</td>
<td>FEP coated silicone (SOE only)</td>
</tr>
<tr>
<td>Y</td>
<td>FEP coated EPDM (SOE only)</td>
</tr>
<tr>
<td>V</td>
<td>Viton®</td>
</tr>
<tr>
<td>X</td>
<td>No seal</td>
</tr>
</tbody>
</table>

* Omit ‘Table 4’ for the threaded option.

Table 5 Guard/Support Option

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>Guard (pleated only)</td>
</tr>
<tr>
<td>S</td>
<td>Backflush support (cylindrical only)</td>
</tr>
<tr>
<td>N</td>
<td>None</td>
</tr>
</tbody>
</table>

Table 6 Options*

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Fin</td>
</tr>
<tr>
<td>N</td>
<td>No fin</td>
</tr>
</tbody>
</table>

Fin Option (SOE 226 and SOE 222)

Threaded Option

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>1&quot; NPT</td>
</tr>
<tr>
<td>2</td>
<td>1.5&quot; NPT</td>
</tr>
<tr>
<td>3</td>
<td>1&quot; BSPT</td>
</tr>
<tr>
<td>4</td>
<td>2&quot; BSPT</td>
</tr>
<tr>
<td>5</td>
<td>1.5&quot; BSPT</td>
</tr>
<tr>
<td>6</td>
<td>2&quot; NPT</td>
</tr>
<tr>
<td>7</td>
<td>1.25&quot; BSPT</td>
</tr>
</tbody>
</table>

Cylindrical

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>1&quot; NPT</td>
</tr>
<tr>
<td>2</td>
<td>1.5&quot; NPT</td>
</tr>
<tr>
<td>3</td>
<td>1&quot; BSPP</td>
</tr>
<tr>
<td>4</td>
<td>2&quot; BSPT</td>
</tr>
<tr>
<td>5</td>
<td>1&quot; BSPT</td>
</tr>
<tr>
<td>6</td>
<td>1.5&quot; BSPT</td>
</tr>
</tbody>
</table>

* Omit ‘Table 6’ for the DOE option.

Contact Information:
UK, New Milton Division
Tel: +44 (0) 1425 612010
Email: info@porvairfiltration.com

US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
## Ordering Guide

### Sinterflo® P

**Metal Powder Cartridge and Elements**

#### Micron Rating (liquid)

<table>
<thead>
<tr>
<th>Micron Rating</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g. 0040</td>
<td>40 micron</td>
</tr>
</tbody>
</table>

#### Nominal Cartridge Length*

<table>
<thead>
<tr>
<th>Nominal Cartridge Length*</th>
<th>05</th>
<th>125 mm (5&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>250mm (10&quot;)</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>498mm (20&quot;)</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>745mm (30&quot;)</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>1012mm (40&quot;)</td>
</tr>
</tbody>
</table>

* Other non-standard lengths are available on request.

#### End Fittings

<table>
<thead>
<tr>
<th>Table 1</th>
<th>End Fittings</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>SOE 222 fitting</td>
</tr>
<tr>
<td>4</td>
<td>SOE 226 fitting</td>
</tr>
<tr>
<td>5</td>
<td>SOE threaded</td>
</tr>
<tr>
<td>6</td>
<td>DOE fitting</td>
</tr>
</tbody>
</table>

**DOE:** Double Open Ended Fitting.  
**SOE:** Single Open Ended Fitting.

#### Seal Material*

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Seal Material*</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Chemraz®</td>
</tr>
<tr>
<td>E</td>
<td>EPDM</td>
</tr>
<tr>
<td>N</td>
<td>Nitrile</td>
</tr>
<tr>
<td>P</td>
<td>PTFE (DOE only)</td>
</tr>
<tr>
<td>S</td>
<td>Silicone</td>
</tr>
<tr>
<td>F</td>
<td>FEP coated Viton® (SOE only)</td>
</tr>
<tr>
<td>T</td>
<td>FEP coated silicone (SOE only)</td>
</tr>
<tr>
<td>Y</td>
<td>FEP coated EPDM (SOE only)</td>
</tr>
<tr>
<td>V</td>
<td>Viton®</td>
</tr>
<tr>
<td>X</td>
<td>No seal</td>
</tr>
</tbody>
</table>

* Omit 'Table 4' for the threaded option.

#### Threaded Option*

<table>
<thead>
<tr>
<th>Table 5</th>
<th>Threaded Option*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1&quot; NPT</td>
</tr>
<tr>
<td>2</td>
<td>1.5&quot; NPT</td>
</tr>
<tr>
<td>3</td>
<td>1.5&quot; BSPT</td>
</tr>
<tr>
<td>4</td>
<td>1&quot; BSPT</td>
</tr>
<tr>
<td>5</td>
<td>2&quot; BSPT</td>
</tr>
</tbody>
</table>

* Omit 'Table 5' for the DOE option.

---

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Email: infoIN@porvairfiltration.com
Sinterflo® M
Metal Mesh Cartridge and Elements

Product Code: 250

Table 1: End Fitting

<table>
<thead>
<tr>
<th>#</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>DOE fitting/pleated</td>
</tr>
<tr>
<td>1</td>
<td>DOE fitting/cylindrical</td>
</tr>
<tr>
<td>2</td>
<td>SOE 226 fitting/pleated</td>
</tr>
<tr>
<td>3</td>
<td>SOE 226 fitting/cylindrical</td>
</tr>
<tr>
<td>4</td>
<td>SOE 222 fitting/pleated</td>
</tr>
<tr>
<td>5</td>
<td>SOE 222 fitting/cylindrical</td>
</tr>
<tr>
<td>6</td>
<td>SOE threaded/pleated</td>
</tr>
<tr>
<td>7</td>
<td>SOE threaded/cylindrical</td>
</tr>
</tbody>
</table>

Table 2: Nominal Cartridge Length*

<table>
<thead>
<tr>
<th>#</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>05</td>
<td>125 mm (5&quot;)</td>
</tr>
<tr>
<td>10</td>
<td>250mm (10&quot;)</td>
</tr>
<tr>
<td>20</td>
<td>498mm (20&quot;)</td>
</tr>
<tr>
<td>30</td>
<td>745mm (30&quot;)</td>
</tr>
<tr>
<td>40</td>
<td>1012mm (40&quot;)</td>
</tr>
</tbody>
</table>

* Other non-standard lengths are available on request.

Table 3: Micron Rating (liquid)

<table>
<thead>
<tr>
<th>Micron Rating</th>
<th>Example: DD40 = 40 micron</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sinterflo® M: 3µm to 1000µm available, specify 'Nominal' rating.</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Seal Material*

<table>
<thead>
<tr>
<th>Letter</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Chemraz®</td>
</tr>
<tr>
<td>E</td>
<td>EPDM</td>
</tr>
<tr>
<td>N</td>
<td>Nitrile</td>
</tr>
<tr>
<td>P</td>
<td>PTFE (DOE only)</td>
</tr>
<tr>
<td>S</td>
<td>Silicone</td>
</tr>
<tr>
<td>F</td>
<td>FEP coated Viton® (SOE only)</td>
</tr>
<tr>
<td>T</td>
<td>FEP coated silicone (SOE only)</td>
</tr>
<tr>
<td>Y</td>
<td>FEP coated EPDM (SOE only)</td>
</tr>
<tr>
<td>V</td>
<td>Viton®</td>
</tr>
<tr>
<td>X</td>
<td>No seal</td>
</tr>
</tbody>
</table>

Table 5: Guard/Support Option

<table>
<thead>
<tr>
<th>Letter</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>Guard (pleated only)</td>
</tr>
<tr>
<td>S</td>
<td>Backflush support (cylindrical only)</td>
</tr>
<tr>
<td>N</td>
<td>None</td>
</tr>
</tbody>
</table>

Table 6: Fin Option (SOE 226 and SOE 222)*

<table>
<thead>
<tr>
<th>Letter</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>Fin</td>
</tr>
<tr>
<td>N</td>
<td>No fin</td>
</tr>
</tbody>
</table>

Table 6: Threaded Option

<table>
<thead>
<tr>
<th>Letter</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/4&quot; NPT</td>
</tr>
<tr>
<td>2</td>
<td>1/4&quot; BSPT</td>
</tr>
<tr>
<td>3</td>
<td>1/2&quot; BSPT</td>
</tr>
<tr>
<td>4</td>
<td>2&quot; BSPT</td>
</tr>
<tr>
<td>5</td>
<td>1&quot; BSPT</td>
</tr>
<tr>
<td>6</td>
<td>2&quot; BSPT</td>
</tr>
<tr>
<td>7</td>
<td>1 1/4&quot; BSPT</td>
</tr>
</tbody>
</table>

* Omit 'Table 6' for the DOE option.

* Omit 'Table 4' for the threaded option.

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US, Ashland Division
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End Cap Adapters
Disposable Cartridges

<table>
<thead>
<tr>
<th>Cartridge Code</th>
<th>Description</th>
<th>End Fitting</th>
<th>Top End Seal</th>
<th>Quantity</th>
<th>End Fitting</th>
<th>Outlet End Seal</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Code 3</td>
<td>Flat</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring 222</td>
<td>2</td>
</tr>
<tr>
<td>B</td>
<td>Code 7</td>
<td>Fin</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring 226</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>Code 8</td>
<td>Fin</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring 222</td>
<td>2</td>
</tr>
<tr>
<td>F</td>
<td>N SOE</td>
<td>Recess</td>
<td>None</td>
<td></td>
<td>Flat open</td>
<td>O-ring 213</td>
<td>1</td>
</tr>
<tr>
<td>G</td>
<td>G DOE (short length)</td>
<td>Flat open</td>
<td>Flat gasket</td>
<td>1</td>
<td>Flat open</td>
<td>Flat gasket</td>
<td>1</td>
</tr>
<tr>
<td>H</td>
<td>G SOE</td>
<td>Flat</td>
<td>None</td>
<td></td>
<td>Flat open</td>
<td>O-ring BS118</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(fit into filter housing)</td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>216 (218), fin</td>
<td>Fin</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring 216</td>
<td>1</td>
</tr>
<tr>
<td>K</td>
<td>Code 2</td>
<td>Flat</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring 226</td>
<td>2</td>
</tr>
<tr>
<td>L</td>
<td>223, fin (no lugs)</td>
<td>Fin</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring 223</td>
<td>2</td>
</tr>
<tr>
<td>M</td>
<td>DOE</td>
<td>Flat open</td>
<td>Flat gasket</td>
<td>1</td>
<td>Flat open</td>
<td>Flat gasket</td>
<td>1</td>
</tr>
<tr>
<td>P</td>
<td>Code 18 (retro fit)</td>
<td>Flat</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring 222</td>
<td>2</td>
</tr>
<tr>
<td>S</td>
<td>Code 28, fin (3 lugs)</td>
<td>Fin</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring 222</td>
<td>2</td>
</tr>
<tr>
<td>T</td>
<td>223, flat (no lugs)</td>
<td>Flat</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring 223</td>
<td>2</td>
</tr>
<tr>
<td>U</td>
<td>224, fin</td>
<td>Fin</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring 224</td>
<td>2</td>
</tr>
<tr>
<td>V</td>
<td>226, fin</td>
<td>Fin</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring 226</td>
<td>2</td>
</tr>
<tr>
<td>W</td>
<td>F 20+ Code 7 (stainless steel core)</td>
<td>Fin</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring BS226</td>
<td>2</td>
</tr>
<tr>
<td>X</td>
<td>F 20+ Code 2 (stainless steel core)</td>
<td>Flat</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring BS226</td>
<td>2</td>
</tr>
<tr>
<td>Y</td>
<td>BS832, flat</td>
<td>Flat</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring BS832</td>
<td>2</td>
</tr>
<tr>
<td>Z</td>
<td>F 20+ Code Y (stainless steel core)</td>
<td>Flat</td>
<td>None</td>
<td></td>
<td>Open</td>
<td>O-ring BS832</td>
<td>2</td>
</tr>
</tbody>
</table>

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US, Ashland Division
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Email: infoUS@porvairfiltration.com
ORDERING GUIDE

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Email: infoCN@porvairfiltration.com

India, Mumbai Division  
Tel: +91 22 25 976464 / +91 22 25 976465  
Email: infoIN@porvairfiltration.com
Pre-Filters
Disposable Cartridges

Product Code: Table 1 | Table 2 | Table 3 | Table 4 | Table 5 | Table 6 | Table 7

Example part number: K 01 S 2 B P
Klearfil™: 1µm, Standard hard cage, 510mm (20”) long, Code 7, silicone seals, pharmaceutical grade.

Please refer to the individual product datasheets within this catalogue for absolute pore ratings (Table 2) and filter versions (Table 3) available for each pre-filter.

<table>
<thead>
<tr>
<th>Table 1 Pre-Filter</th>
<th>Table 3 Version</th>
<th>Table 6 Seals</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR Carbofil™</td>
<td>R Rinsed</td>
<td>A Ethylene Propylene</td>
</tr>
<tr>
<td>CP Cryptofil™</td>
<td>S Standard Hard Cage</td>
<td>B Silicone</td>
</tr>
<tr>
<td>K Klearfil™</td>
<td></td>
<td>C Viton®</td>
</tr>
<tr>
<td>M Microfil™</td>
<td></td>
<td>D Nitrile</td>
</tr>
<tr>
<td>P Polyfil™ II</td>
<td></td>
<td>E FEP Encapsulated Viton®</td>
</tr>
<tr>
<td>TA Tekfil™ Absolute</td>
<td></td>
<td>F FEP Encapsulated Silicone</td>
</tr>
<tr>
<td>TN Tekfil™ Nominal</td>
<td></td>
<td>G DOE PTFE</td>
</tr>
<tr>
<td>GV Tekfil™ GV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R Trapfil™</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 4 Length (Nominal)</th>
<th>Table 5 Adapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 250mm (10”)</td>
<td>A Code 3</td>
</tr>
<tr>
<td>2 510mm (20”)</td>
<td>B Code 7</td>
</tr>
<tr>
<td>3 760mm (30”)</td>
<td>C Code 8</td>
</tr>
<tr>
<td>4 1020mm (40”)</td>
<td>F N SOE</td>
</tr>
<tr>
<td>5 125mm (5”)</td>
<td>G G DOE (short length)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 2 Absolute Pore Rating*</th>
<th>Table 6 Seals</th>
</tr>
</thead>
<tbody>
<tr>
<td>P5 0.5µm</td>
<td>A Ethylene Propylene</td>
</tr>
<tr>
<td>P6 0.6µm</td>
<td>B Silicone</td>
</tr>
<tr>
<td>P8 0.8µm</td>
<td>C Viton®</td>
</tr>
<tr>
<td>01 1µm</td>
<td>D Nitrile</td>
</tr>
<tr>
<td>02 2µm</td>
<td>E FEP Encapsulated Viton®</td>
</tr>
<tr>
<td>03 3µm</td>
<td>F FEP Encapsulated Silicone</td>
</tr>
<tr>
<td>05 5µm</td>
<td>G DOE PTFE</td>
</tr>
<tr>
<td>07 7µm</td>
<td></td>
</tr>
<tr>
<td>10 10µm</td>
<td></td>
</tr>
<tr>
<td>15 15µm</td>
<td></td>
</tr>
<tr>
<td>20 20µm</td>
<td></td>
</tr>
<tr>
<td>30 30µm</td>
<td></td>
</tr>
<tr>
<td>40 40µm</td>
<td></td>
</tr>
<tr>
<td>60 60µm</td>
<td></td>
</tr>
<tr>
<td>75 75µm</td>
<td></td>
</tr>
<tr>
<td>90 90µm</td>
<td></td>
</tr>
<tr>
<td>105 105µm</td>
<td></td>
</tr>
</tbody>
</table>

** For the Carbofil™ filter select the 05 (5µm) option only.

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** Porvair pharmaceutical-grade filters are designed for use in cGMP manufacturing, processing or packaging facilities for injectable drug products and comply with the Federal Drug Administration’s regulations CFR Title 21, parts 211.72 ‘Filters’ and 210.3 (b) (6), and United States Pharmacopeia 788 ‘Particulate Matter in injections’. These products contain a stainless steel insert.
Membrane Filters
Disposable Cartridges

**Product Code:**

Example part number: **BT 20 5 2 8 B P**

Biofil™: 0.2µm, Standard hard cage, 510mm (20”) long. Code 7, silicone seals, pharmaceutical grade.

Please refer to the individual product datasheets within this catalogue for absolute pore ratings (Table 2) and filter versions (Table 3) available for each membrane filter.

### Table 1: Membrane Filter

<table>
<thead>
<tr>
<th>Code</th>
<th>Filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Aquafil™</td>
</tr>
<tr>
<td>BT</td>
<td>Biofil™</td>
</tr>
<tr>
<td>BTP</td>
<td>Biofil™ Plus</td>
</tr>
<tr>
<td>C</td>
<td>Chemifil™</td>
</tr>
<tr>
<td>F</td>
<td>Fluorofil™</td>
</tr>
<tr>
<td>HT</td>
<td>Hydrofil™</td>
</tr>
<tr>
<td>HTP</td>
<td>Hydrofil™ Plus</td>
</tr>
<tr>
<td>VT</td>
<td>Vinofil™</td>
</tr>
</tbody>
</table>

* Includes the Fluorofil™, Fluorofil™ Plus and Fluorofil™ F100.

### Table 2: Absolute Pore Rating

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Pore Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>0.02µm</td>
</tr>
<tr>
<td>04</td>
<td>0.04µm</td>
</tr>
<tr>
<td>10</td>
<td>0.1µm</td>
</tr>
<tr>
<td>20</td>
<td>0.2µm</td>
</tr>
<tr>
<td>45</td>
<td>0.45µm</td>
</tr>
<tr>
<td>65</td>
<td>0.65µm</td>
</tr>
<tr>
<td>100</td>
<td>1.0µm</td>
</tr>
<tr>
<td>120</td>
<td>1.2µm</td>
</tr>
</tbody>
</table>

### Table 3: Version

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>Economy*</td>
</tr>
<tr>
<td>R</td>
<td>Rinsed</td>
</tr>
<tr>
<td>S</td>
<td>Standard</td>
</tr>
<tr>
<td>W</td>
<td>Stainless Steel Core**</td>
</tr>
</tbody>
</table>

* Biofil™ only.
** Fluorofil™ Plus only.

### Table 4: Length (Nominal)

<table>
<thead>
<tr>
<th>Length</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>250mm</td>
<td>1</td>
</tr>
<tr>
<td>510mm</td>
<td>2</td>
</tr>
<tr>
<td>760mm</td>
<td>3</td>
</tr>
<tr>
<td>1020mm</td>
<td>4</td>
</tr>
<tr>
<td>125mm</td>
<td>5</td>
</tr>
</tbody>
</table>

### Table 5: Adapters

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Code 3</td>
</tr>
<tr>
<td>B</td>
<td>Code 7</td>
</tr>
<tr>
<td>C</td>
<td>Code 8</td>
</tr>
<tr>
<td>F</td>
<td>N SOE</td>
</tr>
<tr>
<td>G</td>
<td>G DOE (short length)</td>
</tr>
<tr>
<td>H</td>
<td>G SOE</td>
</tr>
<tr>
<td>J</td>
<td>216 (218), fin</td>
</tr>
<tr>
<td>K</td>
<td>Code 2</td>
</tr>
<tr>
<td>L</td>
<td>223, fin [no lugs]</td>
</tr>
<tr>
<td>M</td>
<td>DOE</td>
</tr>
<tr>
<td>S</td>
<td>Code 28, fin (3 lugs)</td>
</tr>
<tr>
<td>T</td>
<td>223, flat [no lugs]</td>
</tr>
<tr>
<td>U</td>
<td>224, fin</td>
</tr>
<tr>
<td>V</td>
<td>226, fin</td>
</tr>
<tr>
<td>W</td>
<td>F20+ Code 7 (stainless steel core)</td>
</tr>
<tr>
<td>X</td>
<td>F20+ Code 2 (stainless steel core)</td>
</tr>
<tr>
<td>Y</td>
<td>BS832, flat</td>
</tr>
<tr>
<td>Z</td>
<td>F20+ Code Y (stainless steel core)</td>
</tr>
</tbody>
</table>

SOE: Single Open Ended.
DOE: Double Open Ended.

### Table 6: Seals

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Ethylene Propylene</td>
</tr>
<tr>
<td>B</td>
<td>Silicone</td>
</tr>
<tr>
<td>C</td>
<td>Viton®</td>
</tr>
<tr>
<td>D</td>
<td>Nitrile</td>
</tr>
<tr>
<td>E</td>
<td>FEP Encapsulated Viton®</td>
</tr>
<tr>
<td>G</td>
<td>FEP Encapsulated Silicone</td>
</tr>
<tr>
<td>J</td>
<td>DOE PTFE</td>
</tr>
</tbody>
</table>

### Table 7: Additional Options

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>N+U</td>
</tr>
<tr>
<td>N</td>
<td>Non-steamable (no insert)</td>
</tr>
<tr>
<td>P</td>
<td>Pharmaceutical grade*</td>
</tr>
<tr>
<td>U</td>
<td>Unbranded</td>
</tr>
</tbody>
</table>

* Porvair pharmaceutical-grade filters are designed for use in cGMP manufacturing, processing or packaging facilities for injectable drug products and comply with the Federal Drug Administration’s regulations CFR Title 21, parts 211.72 ‘Filters’ and 210.3 (b) (6), and United States Pharmacopoeia 788 ‘Particulate Matter in Injections’. These products contain a stainless steel insert.

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Email: infoIN@porvairfiltration.com
### Junior Filters

Disposable Cartridges

#### Product Code:

**Table 1**  
**Junior Filter**

<table>
<thead>
<tr>
<th>J-Style</th>
<th>JF</th>
<th>Fluorofil™</th>
</tr>
</thead>
<tbody>
<tr>
<td>JM</td>
<td>JM</td>
<td>Microfil™</td>
</tr>
<tr>
<td>JP</td>
<td>JP</td>
<td>Polyfil™</td>
</tr>
<tr>
<td>F20VENT</td>
<td>F20VENT</td>
<td>Ventafil™</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S-Style</th>
<th>SB</th>
<th>Biofil™</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF</td>
<td>SF</td>
<td>Fluorofil™</td>
</tr>
<tr>
<td>SM</td>
<td>SM</td>
<td>Microfil™</td>
</tr>
<tr>
<td>SP</td>
<td>SP</td>
<td>Polyfil™</td>
</tr>
</tbody>
</table>

**Table 2**  
**Absolute Pore Rating**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Pore Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>0.2µm</td>
</tr>
<tr>
<td>45</td>
<td>0.45µm</td>
</tr>
<tr>
<td>5</td>
<td>0.5µm</td>
</tr>
<tr>
<td>8</td>
<td>0.8µm</td>
</tr>
<tr>
<td>1</td>
<td>1µm</td>
</tr>
<tr>
<td>2</td>
<td>2µm</td>
</tr>
<tr>
<td>5</td>
<td>5µm</td>
</tr>
</tbody>
</table>

**Table 3**  
**Length (Nominal)**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>77.5mm (3.0”)</td>
</tr>
<tr>
<td>50</td>
<td>136mm (5”)</td>
</tr>
</tbody>
</table>

**Table 4**  
**Options**

**Threaded**

<table>
<thead>
<tr>
<th>Letter</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>b</td>
<td>½” BSP</td>
</tr>
<tr>
<td>x</td>
<td>¼” BSP</td>
</tr>
</tbody>
</table>

**Seals (J-Style)**

<table>
<thead>
<tr>
<th>Letter</th>
<th>Seal Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Ethylene Propylene</td>
</tr>
<tr>
<td>b</td>
<td>Silicone</td>
</tr>
<tr>
<td>c</td>
<td>Viton®</td>
</tr>
<tr>
<td>d</td>
<td>Nitrile</td>
</tr>
<tr>
<td>e</td>
<td>FEP Encapsulated Viton®</td>
</tr>
<tr>
<td>f</td>
<td>FEP Encapsulated Silicone</td>
</tr>
</tbody>
</table>

Please refer to the individual product datasheets within this catalogue for absolute pore ratings (Table 2) available for each junior filter.
Filter Housings
Single and Multiple Round Housings

FIA 2110 Single Round Housing

Product Code: FIA2110 -

Table 1 Bowl Length

<table>
<thead>
<tr>
<th></th>
<th>Bowl Length</th>
<th>Nominal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>310mm (12.2&quot;)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>580mm (22.8&quot;)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>800mm (31.5&quot;)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>187mm (7.4&quot;)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1080mm (42.5&quot;)</td>
<td></td>
</tr>
</tbody>
</table>

* Add 45mm to the bowl length for 226 style elements

Table 2 Connection Option

<table>
<thead>
<tr>
<th></th>
<th>Connection Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1&quot; BSP female para. in/out standard</td>
</tr>
<tr>
<td>2</td>
<td>3/4&quot; BSP female para. in/out via adapter</td>
</tr>
<tr>
<td>3</td>
<td>2&quot; ASA 150lb flanges in/out</td>
</tr>
<tr>
<td>4</td>
<td>1&quot; RJT fittings in/out</td>
</tr>
<tr>
<td>5</td>
<td>1&quot; Tri-clover in/out</td>
</tr>
<tr>
<td>6</td>
<td>1/4&quot; BSP female in/out via adapter</td>
</tr>
<tr>
<td>7</td>
<td>11/2&quot; ASA 150lb flanges in/out</td>
</tr>
<tr>
<td>8</td>
<td>1&quot; NPT in/out</td>
</tr>
</tbody>
</table>

Table 3 Element Option

<table>
<thead>
<tr>
<th></th>
<th>Element Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>222</td>
</tr>
<tr>
<td>2</td>
<td>DDE</td>
</tr>
<tr>
<td>3</td>
<td>226p</td>
</tr>
</tbody>
</table>

Table 4 Indicator/Vent Fitted

<table>
<thead>
<tr>
<th></th>
<th>Indicator/Vent Fitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>None fitted</td>
</tr>
<tr>
<td>G</td>
<td>Indicator fitted</td>
</tr>
<tr>
<td>V</td>
<td>Vent fitted (2 way)</td>
</tr>
<tr>
<td>S</td>
<td>Vent fitted (3 way)</td>
</tr>
</tbody>
</table>

Table 5 Drain Tap

<table>
<thead>
<tr>
<th></th>
<th>Drain Tap</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>None fitted (plug only)</td>
</tr>
<tr>
<td>D</td>
<td>Tap fitted</td>
</tr>
</tbody>
</table>

Table 6 Bowl Seal

<table>
<thead>
<tr>
<th></th>
<th>Bowl Seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>Viton® Standard</td>
</tr>
<tr>
<td>N</td>
<td>Nitrile</td>
</tr>
<tr>
<td>S</td>
<td>Silicone</td>
</tr>
<tr>
<td>E</td>
<td>Epom</td>
</tr>
<tr>
<td>F</td>
<td>PTFE coated Viton® Standard</td>
</tr>
</tbody>
</table>

Note: Other sizes and special housings can also be accommodated on request.
FIA 2600 Multiple Round Housing

Product Code: FIA2600 -

Table 1: Number Round
Available in rounds ranging from 2-30*.
e.g: 2 round = 2, 10 round = 10.
* Excluding 6 and 8 round.

Table 2: Standard Length
10  250mm (9.8")
20  498mm (19.6")
30  745mm (29.3")
40  1012mm (39.8")

Table 3: Element Option
B  Code 7: 226 fin
C  Code 8: 222 fin
M  DOE knife edge

Table 4: Connection Option
1  2" BSPT male
2  2" ASA 150lb flanges
3  2" RJT
4  2" sch. 40 stubb pipes
5  1 1/2" ASA 150lb flanges
6  2" NPT male
7  1 1/4" BSPT male

Table 4: Seal
V  Viton®
N  Nitrile
S  Silicone
P  PTFE
E  EPDM

Note: * Excluding 6 and 8 round.
Other sizes and special housings can also be accommodated on request.

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Metallic Last Chance Filters for the Printing Industry

Minimum order quantity for each filter is 20 units.

Final Ink Filter
Product Code: 8069

<table>
<thead>
<tr>
<th>Micron Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0005B 5µm</td>
</tr>
<tr>
<td>0015B 15µm</td>
</tr>
<tr>
<td>0025B 25µm</td>
</tr>
<tr>
<td>0040B 40µm</td>
</tr>
</tbody>
</table>

In-Line Filter (30mm Stainless Steel)
Product Code: 8073 - 11 - 02 - 0010B

Pleated Unrimmed Disc Filter
Product Code: 8071 - 01 -

<table>
<thead>
<tr>
<th>Micron Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0002B 2µm</td>
</tr>
<tr>
<td>0005B 5µm</td>
</tr>
<tr>
<td>0010B 10µm</td>
</tr>
<tr>
<td>0020B 20µm</td>
</tr>
</tbody>
</table>
Microdisc™ 3SS (30mm Stainless Steel Disc Filter)

Product Code: 8067

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Connectors</th>
<th>Table 2</th>
<th>Micron Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>2.6mm O/D barb</td>
<td>0005B</td>
<td>5µm</td>
</tr>
<tr>
<td>22</td>
<td>4.9mm O/D barb</td>
<td>0010B</td>
<td>10µm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0020B</td>
<td>20µm</td>
</tr>
</tbody>
</table>

Microdisc™ 4SS (47mm Stainless Steel Disc Filter)

Product Code: 8077

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Connectors</th>
<th>Table 2</th>
<th>Micron Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>2.6mm O/D barb</td>
<td>0005B</td>
<td>5µm</td>
</tr>
<tr>
<td>22</td>
<td>4.9mm O/D barb</td>
<td>0010B</td>
<td>10µm</td>
</tr>
<tr>
<td>33</td>
<td>3mm Jaco®</td>
<td>0020B</td>
<td>20µm</td>
</tr>
<tr>
<td>44</td>
<td>6.5mm O/D barb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>¼” NPT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Grid Filter

Product Code: 8156
Disposable Air and Last Chance Filters for the Printing Industry

Minimum order quantity for each filter is 20 units.

Microdisc™ 1PA (15mm S-Vent Disc Filter)
Product Code: 8163

Microdisc™ 2PA (25mm S-Vent Disc Filter)
Product Code: 8164

Microdisc™ 3PS (33mm Disc Filter)
Product Code: 8159

Microdisc™ 4PS (45mm Standard Disc Filter)
Product Code: 8111

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Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
**Microdisc™ 4PV** (45mm Pre-Pump Disc Filter)

Product Code: 8074 - - - 23

<table>
<thead>
<tr>
<th>Connectors</th>
<th>Micron Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>221 1/4&quot; Jaco®</td>
<td>0005B 5µm</td>
</tr>
<tr>
<td>222 6mm Jaco®</td>
<td>0010B 10µm</td>
</tr>
<tr>
<td></td>
<td>0015B 15µm</td>
</tr>
<tr>
<td></td>
<td>0020B 20µm</td>
</tr>
<tr>
<td></td>
<td>0050B 50µm</td>
</tr>
</tbody>
</table>

**Microdisc™ 7PS** (74mm Disc Filter)

Product Code: 8169 - - -

<table>
<thead>
<tr>
<th>Connectors</th>
<th>Micron Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>221 1/4&quot; Jaco®</td>
<td>0005B 5µm</td>
</tr>
<tr>
<td>222 6mm Jaco®</td>
<td>0010B 10µm</td>
</tr>
<tr>
<td></td>
<td>0020B 20µm</td>
</tr>
<tr>
<td></td>
<td>0050B 50µm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connectors</th>
<th>Micron Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>23 2.6mm barb</td>
<td></td>
</tr>
</tbody>
</table>

**Bullet Filter** (5µm and 10µm)

Product Codes: 8166 (5µm) and 8065 (10µm)

**In-Line Filter** (PEEK)

Product Code: 8098 - 6 -

<table>
<thead>
<tr>
<th>Micron Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0003B 3µm</td>
</tr>
<tr>
<td>0005B 5µm</td>
</tr>
</tbody>
</table>

**In-Line UV Filter** (PEEK)

Product Code: 8091 - 2 -

<table>
<thead>
<tr>
<th>Micron Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0003B 3µm</td>
</tr>
<tr>
<td>0005B 5µm</td>
</tr>
<tr>
<td>0010B 10µm</td>
</tr>
</tbody>
</table>

**Last Chance Inkjet Filter**

Product Code: 8087 - - -

<table>
<thead>
<tr>
<th>Micron Ratings</th>
<th>Connectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>0003B 3µm</td>
<td>23 2.6mm barb</td>
</tr>
<tr>
<td>0005B 5µm</td>
<td></td>
</tr>
<tr>
<td>0050B 50µm</td>
<td></td>
</tr>
</tbody>
</table>

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Email: infoCN@porvairfiltration.com

India, Mumbai Division
Tel: +91 22 25 976464 / +91 22 25 976465
Email: infoIN@porvairfiltration.com
Capsule Filters for the Printing Industry

Minimum order quantity for each filter is 20 units.

Microcap™ (Fully Moulded)

Product Code: 8089

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Micron Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0050</td>
<td>0.5µm</td>
</tr>
<tr>
<td>0100</td>
<td>1µm</td>
</tr>
<tr>
<td>0300</td>
<td>3µm</td>
</tr>
<tr>
<td>0500</td>
<td>5µm</td>
</tr>
<tr>
<td>1000</td>
<td>10µm</td>
</tr>
<tr>
<td>2000</td>
<td>20µm</td>
</tr>
<tr>
<td>4000</td>
<td>40µm</td>
</tr>
<tr>
<td>6000</td>
<td>60µm</td>
</tr>
</tbody>
</table>

Table 2 | Filter Media
1 | Polyfil™
5 | Klearfil™

Table 3 | Connectors
AA | ¼” barb
DD | ¼” NPT (male)
FF | CPC
GG1 | ¼” Jaco® 90°
GG2 | 6mm Jaco® 90°
JJ1 | ¼” Jaco®
JJ2 | 6mm Jaco®
PP | Luer
QQ | Luer 90°

Table 4 | Housings
N | Natural
C | Opaque black

Microprint™

Product Code: 8096

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Micron Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0050</td>
<td>0.5µm</td>
</tr>
<tr>
<td>0100</td>
<td>1µm</td>
</tr>
<tr>
<td>0300</td>
<td>3µm</td>
</tr>
<tr>
<td>0500</td>
<td>5µm</td>
</tr>
<tr>
<td>1000</td>
<td>10µm</td>
</tr>
<tr>
<td>2000</td>
<td>20µm</td>
</tr>
<tr>
<td>4000</td>
<td>40µm</td>
</tr>
<tr>
<td>6000</td>
<td>60µm</td>
</tr>
</tbody>
</table>

Table 2 | Filter Media
1 | Polyfil™
2 | Klearfil™

Table 3 | Connectors
FF | CPC
JJ1 | ¼” Jaco®
JJ2 | 6mm Jaco®

Table 4 | Housings
N | Natural
C | Opaque black

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Email: info@porvairfiltration.com

US, Ashland Division
Tel: +1 804 550 1600
Email: infoUS@porvairfiltration.com
**Microjet™**

**Product Code: 8131 - Table 1 - 1 - PP - Table 2**

<table>
<thead>
<tr>
<th>Table 1 Micron Ratings</th>
<th>Table 2 Housings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0500 5µm</td>
<td>N Natural</td>
</tr>
<tr>
<td>1000 10µm</td>
<td>C Opaque black</td>
</tr>
</tbody>
</table>

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