Inkjet Filtration
About Inprinta

Inprinta offer a complete filtration solution for the digital inkjet market. Our holistic approach means that we can offer filtration for all applications; ranging from end users, system integrators and print-head manufacturers. Inprinta provides full access and technical support to OEM partners in the design, engineering and manufacturing of new and bespoke filtration devices, for all inkjet printer and printhead applications. Our Inkjet filters are manufactured in our ISO accredited site in the United Kingdom.

Inprinta Market Sectors

- Marking and labelling
- Textiles
- Ceramics
- Security printing
- OLED, LED & solar panels
- Packaging
- Office and home printing
- Food and pharmaceutical
- Decorative and wallpaper
- Glass and flooring laminates
- Conductive and e-inks

Inprinta is the inkjet sales division of Porvair Filtration Group, a world class filtration company delivering global solutions in Nuclear, Aerospace, Bioscience, Energy, Food, Beverage, and Industrial Process.
**Capabilities**

Filtration is a critical process within the digital inkjet fluid delivery system. The concept of a clean environment within the inkjet systems is significant and the correct configuration of filtration is paramount. To ensure and maintain optimised printer performance, the print-head nozzles and systems architecture must be protected from environmental and system debris, fibres, gels, ink agglomerates and contamination from degradation of by-products.

Alongside our range of inkjet filters, we are able to provide full technical support to OEM partners for the conception, engineering and manufacture of custom designed filtration solutions for all inkjet systems architectures.

Inprinta’s philosophy of building strong relationships with our partners enables us to better understand business needs and to supply the optimum custom design product in this challenging market sector.

**Development**

Development plays a fundamental part in our operations and, as a result, we have developed a number of new bespoke products based on our established porous polymeric materials (Vyon®) and sintered metal media (Sinterflo®).

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.

**Engineering**

From initial concept design 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, and Computational Fluid Dynamics (CFD).

This is combined with our knowledge and strong ethos of working closely with our customers, ensuring filtration solutions that meet customers’ requirements.

**Manufacturing**

Our ‘clean room’ production facility ensures that our inkjet filters are made under controlled conditions to minimise contamination from the environment. The manufacturing capabilities include the development of inkjet capsule filters, last chance and in-line filters, ink sump filters and filters for bulk ink manufacturing using spin and ultrasonic welding, infrared end capping and hot plate welding. The ability to develop and modify multi-impression tooling and our in-house moulding capabilities enables us to offer custom engineered filtration products that can be over-moulded with the media that best suits the customers’ application.
Filtration Technology

Filters are manufactured using different material, designs and layers of media. Pleated polymeric membranes are engineered as the principal barrier to any foreign bodies or aggregates. All filters are validated using the recognised industry standard modified OSU-F2 single pass test to Beta 5000 (99.98% efficiency). An integrated secondary level of protection is added through the use of Vyon®, a co-sintered material, acting as a filter and ensuring no fibres are released downstream of the capsule filters.

Our in-line and last chance filters (LCF) are designed as self-contained assemblies and are made from high grade inert plastics to ensure that no extractables leak into the printer ink fluid system, offering critical printhead protection. Designed to be compact, the LCF and in-line filters will fit within the systems architecture of all printers. All our filters are manufactured in the UK and exhibit superior flow characteristics with minimum pressure drop levels and absolute protection from ink agglomerates, fibres, environmental and systems contamination.

Capsule Filters

The 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 and UV ink systems.

Features and benefits
- High throughput
- Multiple connectors
- UV and solvent ink compatible
- Large active filter area
- Low pressure drop
- Excellent particle retention
- General information

In-Line Filters

We design and manufacture 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 as solutions for all types of inkjet applications; from CIJ coding to superwide graphics.

Our filter assemblies are produced from a list of inert materials with minimal extractables to ensure ink will not be contaminated. They are compact to allow fitting in the smallest of printer housing, and are available with a range of connectors.

Features and benefits
- Wide range of filtration options
- High flow differential strength
- Wide operating temperature range
Bulk Filters

We offer a range of cartridge filters for the manufacture of digital bulk inks. The cartridge filters are available in membrane, depth and melt-blown formats in polypropylene, polyethersulphone (PES) and nylon media.

Available from 0.2um to 100um, the filters are compatible with dye or pigmented aqueous, solvent or MEK (UV) based inks. All our filters are manufactured within an ISO standard cleanroom and are free from surfactants and bonding agents to eliminate extractables leaking out.

Features and benefits

• High degree of chemical compatibility
• Fusion bonded construction ensures cartridge integrity
• Environmentally friendly - can be readily incinerated to trace ash
Support

Technical support

Our experienced support team is available to assist with all your filtration requirements. As well as our belief in a flexible and efficient service, Inprinta’s philosophy of building strong relationships with our partners enables us to better understand business needs and react to supply the correct technical product in this challenging market sector.

The technical team at our primary facility in the UK is positioned to offer total engineering support to our customer base through design, manufacturing and education in filtration. This is strongly backed up by our US facility in Ashland, Virginia, serving the American Continent.

Customer support

- Work direct with our engineers to create original filtration devices
- Production Part Approval Process (PPAP) support
- Internal test facilities
- Fast ramp-up times
- Full traceability quality systems
- Large range of back-catalogue filters for immediate availability
- Tailored 4 colour graphics/laser etching for product labelling
- Low start up quantities
- Lead times start at 8 weeks from drawing approval to first samples

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 systems simulation trials and in-service performance evaluation.

Our capabilities include filtration characterisation, testing and analysis of filter media inks and solvents within the inkjet fluid management system.

- Validation services
  - Systems filters specific validation
  - Filter compatibility
  -Retention studies and filterability index tests
  - Upstream and downstream ink cleanliness testing
  - Contamination characterisation using SEM and FTIR
  - Microbial challenge tests for food and pharmaceutical based inkjet applications

- On-site services for bulk ink manufacturing
  - Customer plant surveys
  - Process filter optimisation
  - Trouble-shooting
  - Pre-inspection review
Contact us
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