

Your Pharmaceutical Filtration Partner

Adding Value to Your Business

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



ENGINEERING YOUR SUCCESS.

Introduction

Focused on Adding Value to Your Business Through Innovative Filtration Solutions

Global Support

Part of the \$10 billion Parker Hannifin Corporation, we have subsidiaries in 25 countries worldwide with manufacturing sites in 9, so we can offer you truly global support with a local perspective.

World Class Facilities

A major global investment programme has created first-class R & D, manufacturing and support facilities across the world. In addition, product and service quality is assured through:

- Commitment to training and education programmes
- Active use of ISO 9001:2000 as a key business management system
- Compliance with PS 9100:2002, the application of ISO 9001:2000 cGMP guide to pharmaceutical excipients and BS EN ISO 13485:2003, Medical devices.

Scaleable Solutions

Winovation™, Parker domnick hunter's class-leading product development programme, has delivered a dedicated application based product range.

Our customers are an integral part of our development process and our multidisciplinary team is focused on developing solutions to meet our customers' present and future business needs.

The ability to scale up from small area discs to process scale systems with minimal revalidation is paramount. Parker domnick hunter provides a wide range of filter formats to ensure that the transition from pilot scale through to production is as smooth as possible.

Single Use Systems

Disposable systems can eliminate cleaning validation, reduce capital costs, minimise health and safety risks and lower the risk of product contamination, as well as providing a more convenient way of processing a product.

The successful implementation of a single use system is dependent on practical assembly design, fast turnaround for bespoke designs and the availability of a wide range of pre-irradiated capsule filters.

Parker domnick hunter in partnership with sister company Parker Mitos can provide bespoke turnkey disposable systems to satisfy all of your requirements.



Dedicated Support When You Need It

Parker domnick hunter's fundamental approach is to integrate our team into yours to accelerate your business growth

Committed to Process Improvement

You gain direct access to our teams from New Product Development, Laboratory Services, Technical Support, Manufacturing and Quality to provide the right solution delivered on time, every time.

Our goal is to continually improve your productivity, reduce your process costs and ensure the safety of your final product. Our Technical Support Group (TSG) made up from a multidisciplinary team of scientists and engineers working directly with your team to define your process needs and produce optimised solutions.

A process audit is an excellent way of identifying and addressing the main risks that may compromise the quality of your production process. From utilities through to your aseptic filling line, we can help identify improvements and advise on areas such as applicable products, system layouts, steam sterilisation and integrity testing.

Complete Validation Support

Parker domnick hunter's Laboratory Support Group (LSG) can provide full validation services in support of filings with agencies responsible for the regulation of cGMP manufacturing organisations. Validation does not have to be a barrier to implement process improvements.

Adding Value Through Training

Specialists from across our business can provide training at our state-of-the-art facilities or at your own site. Typical training courses include:

- Filtration Theory and Practice
- Integrity Testing and Validation
- SIP, CIP and Compatibility Testing



Innovative Filtration to Critical Areas of Pharmaceutical Production

Utilities

Gas Filtration / Purification

The quality of the gas, whether in contact with intermediates or your final product is critical. We have a full range of products for prefiltration and sterile filtration as well as the ability to supply you with your analytical gas needs.

Liquid Filtration

Parker domnick hunter provides a comprehensive range of protection filtration solutions for pre and post RO there are also products designed for specific problems that may occur in pharmaceutical water systems.

The PROPOR LR has been specifically designed to eliminate diminutive organisms that could potentially pass through a standard sterilising grade 0.2 micron filter. Just one example of how products are designed around the requirements of your application.

Bulk Pharmaceutical Chemicals / API

Chemically synthesised products are often based around the use of aggressive solvents. Parker domnick hunter can provide a comprehensive range of chemically compatible polypropylene and

fluoropolymer based filters from prefiltration through to bioburden reduction prior to freeze drying. We can also provide design and fabrication expertise in pressure vessels for

dangerous fluids and gases covering such aspects as ATEX approval. Novel solutions for VOC reduction and powder transfer applications have also been developed.

Bulk Fermentation

Parker domnick hunter has led the field for 50 years in supplying the most cost effective and productive filtration solution available for your fermentation process. Be it the sterilisation of inlet air, antifoam

or pH adjusters we have the right product. Growing concerns over environmental issues can also be addressed with unique products such as the TURBOSEP that have helped not only to increase

fermenter yields but also ensure off-gas is conditioned correctly prior to direct release to the environment or further filtration.

Biopharmaceutical Production

Parker domnick hunter are partnered with GE Healthcare (GEHC) to provide a comprehensive range of filtration and purification solutions for all stages of pharmaceutical production. GEHC are marketing the new range of liquid biopharmaceutical filters manufactured by Parker domnick hunter under the

ULTA™ brand. This combination of excellent application and manufacturing expertise provides a powerful force in the supply of innovative solutions to this industry. In addition to this a separate technology agreement ensures that both companies will be collaborating closely on the development

of new products now and in the future. Parker domnick hunter will continue to supply all products into gas applications building on our traditional strength in this area.



Aseptic Final Fill / Finish

A comprehensive range of specially developed liquid filters is available for bioburden reduction and sterile filtration. Products such as the dual layer PES (polyethersulphone) membrane PROPOR HC can be used to significantly increase the capacity of your existing filter system and thereby reduce the cost of manufacture. Once process improvements

have been identified through new filtration products we can ensure pain free implementation of the new process from a regulatory standpoint. Our Laboratory Services Group (LSG) is invaluable in recommending and conducting the required test via approved protocols ensuring all necessary documentation is available to support a SUPAC submission.



Products

Sterile Liquid Filtration

PROPOR SG

0.2 micron

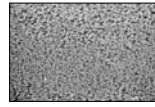


Polyethersulphone

- High Flow
- Low preservative binding

PROPOR HC

0.2 micron

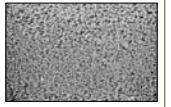


Polyethersulphone

- High capacity
- Low preservative binding

PROPOR LR

0.1 micron



Polyethersulphone

- Retentive to diminutive organisms
- High flow rates

PORECHECK IV

Integrity Testing

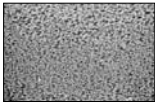


- Bubble point testing
- Diffusional flow / pressure decay testing
- Water intrusion testing

Liquid Filtration

PROPOR BR

0.2 micron

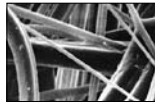


Polyethersulphone

- Bioburden reduction
- Maximum throughput

PROCLEAR PP

0.6 - 100 micron

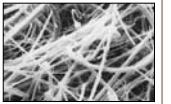


Polypropylene

- Particulate removal
- Robust to withstand aggressive chemicals

PROCLEAR GF

0.6 - 10 micron

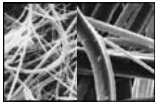


Glass Fibre

- High capacity
- Maximum throughput

PROCLEAR GP

0.5 micron



Glass Fibre / Polypropylene

- High capacity
- Maximum protection of downstream membrane

Bags



- Biosystem bags (50 ml to 1000 L)
- Tubing and hoses
- Connectors

Housings

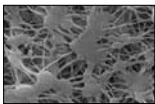


- A full range of stainless steel housings specifically designed for pharmaceutical applications

Sterile Gas Filtration

TETPOR AIR

0.2 micron

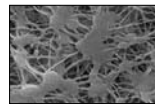


PTFE

- Validated by aerosol challenge

HIGH FLOW TETPOR II

0.2 micron

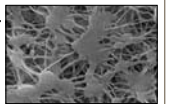


PTFE

- Unrivalled flow rates
- Validated by aerosol challenge

HIGH FLOW TETPOR HT

0.2 micron

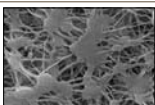


PTFE

- Continuous use at high temperatures
- Validated by aerosol challenge

TETPOR PLUS

0.2 micron



PTFE

- Resistant to chemical attack
- Ideal for venting of ozonated water tanks

VALAIRDATA II

Integrity Testing



- Aerosol challenge testing
- Integrity testing of gas filters

Housings



- A full range of stainless steel housings specifically designed for pharmaceutical applications

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