

Your Partner in Wine Filtration

Adding value to your business

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



ENGINEERING YOUR SUCCESS.

Clear thinking, clear results

No matter where in the world you operate or which wines you produce, Parker Hannifin understands the challenges faced by wine producers. We are dedicated to providing solutions that not only reduce processing costs but also control water and energy use. Our proven product range has been specially designed to ensure the quality of your final product while protecting the unique characteristics of your wine.



Focused on adding value to your **business**

The foundations of process improvement

Supported by innovative products, state of the art technical facilities and a specialized international team, Parker's capability is based on understanding the specific needs of your business.

Global support with a local perspective

With multiple laboratory and manufacturing facilities and a network of customer support centres operating in more than 50 countries worldwide, we can offer you a truly global support service.

World class facilities

Global investment and a strong commitment to technology have 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 current ISO 9001 as a key business management system
- Compliance with current environmental systems ISO14001
- Conformance to current EC 1935 food contact directives



This collaboration has led to a

producers.



Winovation™, Parker's class leading product development programme, has delivered a dedicated application based product range. Customers are an integral part of our development process and our multi-disciplinary present and future business needs.

comprehensive range of filter formats to satisfy all the requirements of wine

Dedicated technical support services

Tailored to your individual needs

Our global network of technical support personnel are specially trained to help improve your productivity and process control, while ensuring your wine quality is protected. This support is delivered through our range of unique Purecare packages which can be customized to your requirements.





Delivering quality throughout your process

From clarification to complete microbial control

Parker's products and services have been designed to complement every aspect of the wine making process. From clarification applications to final microbial stabilization, our innovative solutions ensure quality and protect the unique sensory characteristics of your wine.

Assured performance

The Parker domnick hunter BEVPOR range of filter cartridges has been specifically developed to excel in final stabilization applications. Our team of Scientists have validated the microbial retention of the BEVPOR range along with the PREPOR range of pre-stabilization filters against typical organisms that could cause spoilage in wine.

Protecting the wine's unique character

Your choice of filtration membrane can have a major impact on the quality of your final product and the efficiency of your process. While some membranes can adsorb desirable components during processing, the Parker domnick hunter BEVPOR range incorporates a polyethersulphone (PES) membrane with ultra low adsorption properties to preserve the wine's taste and appearance.



Assuring quality

As well as guaranteeing the production of microbial stable wine, incorporating integrity testing as part of a Hazard Analysis of Critical Control Points (HACCP) framework demonstrates Good Manufacturing Practice (GMP) to your customers. Integrity testing can be performed on final stabilization filters using the Parker domnick hunter BEVCHECK PLUS instrument.

Total plant solutions

Process gas (sterile air)

Compressed air, carbon dioxide and nitrogen are used throughout the winery for clearing, blanketing, packaging and carbonation. Wherever gas comes into contact with the product or process lines, there is a possibility of microbiological and particulate contamination. The Parker domnick hunter HIGH FLOW BIO-X and TETPOR AIR ranges of sterilizing gas filters can guarantee sterile gas quality.

Crystal removal (clarification)

Potassium bitartrate and calcium tartrate are naturally occurring precipitates in wine and can form undesirable, non-hazardous crystals. Graded density, all polypropylene filters such as PEPLYN HA or PARMAX (high flow capacity) can remove these crystals from the wine while providing extended filter life within the application.

Wine polishing (clarification)

Clarification filtration is performed to ensure brightness and clarity of wines with low microbial loading. These applications typically use absolute rated PEPLYN HD elements with PROPLEAT or PROSPUN prefiltration if required.

Trap filtration (clarification)

Filtration mechanisms using powder filter aids such as diatomaceous earth (DE) can shed powders into the wine and downstream processes. The PEPLYN HA has been specifically designed to retain this powder on the media surface which can then be removed through regular backwashing.

Tank vents

Tank vent filtration provides sterile air into tanks when emptied, preventing the ingress of airborne organisms and yeasts. The HIGH FLOW BIO-X PTFE impregnated borosilicate microfibre cartridges are ideal for low pressure tank vent applications.



Filter integrity testing

Integrity testing of sterilizing grade filters is a fundamental requirement

Nitrogen

Nitrogen is used increasingly throughout the winery for pressure transfer, blanketing, purging, sparging and filling applications. Parker domnick hunter nitrogen generation systems can generate a consistent supply of nitrogen improving safety, increasing efficiency and providing a cost saving of up to 90%.

solutions and can provide a complete range that will remove a potential 10 contaminants from up to 4 different SOURCES

- Water separators
- Coalescing filters
- Adsorption filters Refrigeration dryers
- Dust removal filters

Final filtration (final stabilization)

The BEVPOR range of final stabilization filters provides full removal of yeast and typical spoilage organisms while protecting the wine's unique sensory characteristics through the use of a low adsorption PES membrane. Products in the BEVPOR range are robust enough to be repeatedly cleaned and sterilized in place by hot water, chemicals and steam.

Membrane protection (pre-stabilization)

Pre-stabilization filtration reduces colloids, yeast and microbiological loading prior to final filtration. This is typically performed using the PREPOR GP which combines the high dirt holding capacity of borosilicate microfibre and the robustness of polypropylene filter media for increased volume throughput and better resistance to cleaning and regeneration cycles.

Dechlorination

Water coming in direct contact with corks should be dechlorinated using a CARBOFLOW MX element to prevent the formation of trichloroanisole (TCA), the chemical associated with corked wine.

Carbon dioxide polishing

Under HACCP principles, the quality of CO₂ used at the point of carbonation is defined as a critical control point (CCP). The PCO₂ system is designed as a quality incident protection unit acting as a point of use vapour "polisher" and is proven to be effective at removing a wide range of potential CO₂ impurities such as benzene, acetaldehyde and hydrogen sulphide.

Protecting the finished product

By maximizing water quality

The quality of the water used throughout the wine making process has a major impact on that of the finished product and should not be overlooked. Parker has a selection of products for the removal of specific waterborne contaminants found in the wine making process.

Utilities water

High particulate loading and seasonal variation at the water source can lead to early blockage of downstream filtration stages, which can be prevented by effective clarification of utilities water. The all polypropylene design and graded density filter media make the PROSPUN and PROPLEAT ranges an excellent choice for economical clarification of water while PARMAX large diameter formats are ideal for high flow rate requirements.

Process water

BEVPOR filters provide control of yeast and microbial content in water used to pump, rinse or clean tanks, limiting the development of new bacteria during maturation or storage. Water coming into contact with corks should be dechlorinated using CARBOFLOW MX to prevent the formation of trichloroanisole (TCA), the chemical associated with corked wine.







Production water

Water used for bottle rinsing, product chasing or blending is a potential source of microbial contamination in the finished wine and therefore, filtration through a sub-micron membrane is required. Parker recommends a 0.2 micron BEVPOR filter to provide the required water quality.

Water footprint

Parker is dedicated to providing solutions that reduce water consumption where possible. System optimization and procedural audits are designed to maximize efficiency of production processes as part of the Purecare range of after sales support packages.

Advanced process gas solutions

Creating the right environment

Incorrect management of process gases can be the beginning of quality problems within production. Parker domnick hunter is market leader in air and gas purification and can provide a range of high quality and cost-effective solutions for process gas purification.

Compressed air treatment

Parker can provide a comprehensive range of solutions to guarantee the efficient and trouble free operation of your compressed air system. Our qualified team can certify your system to the relevant quality class for your process in accordance with current ISO 8573.1 compressed air standards.

Nitrogen generation

Nitrogen use in the winery is increasing and can be used for a variety of applications including blanketing, sparging, and packaging. Parker can offer tailored nitrogen generation solutions providing a consistent, safe and efficient source of nitrogen gas.

Carbon dioxide polishing

The Parker domnick hunter PCO₂ system offers a comprehensive solution to preserve and guarantee the quality of gaseous carbon dioxide used for sparkling wines as well as other applications in the winery.

Sterile gas

With over 40 years' experience in the provision of sterile gas to wineries, Parker has an extensive range of solutions encompassing filters, integrity test methodologies and system designs to ensure the quality of your final product.



The ISBT has developed the quality guide and analytical procedure bibliography to provide guidance to manufacturers of carbonated beverages and suppliers of carbon dioxide to the carbonated beverage industries on key characteristics for the quality and purity of carbon dioxide as used as a direct food additive in beverages.



Precision fabrication

High quality housings and systems

With a range of stainless steel hardware, from single filtration housings through to complex automated filtration skids, Parker offers a range of fabrication solutions designed to meet international industry standards as well as specific customer requirements.

Dedicated fabrication facility

Parker's state-of-the-art fabrication facility manufactures a wide range of housing and system designs available in a variety of materials and surface finishes. Our standard range of stainless steel housings can be adapted to meet the specific needs of your process.

Manufacturing best practice

- IS09001
- IS013485
- IS014001

Built in accordance with best sanitary design and manufacturing practice and the following industry standards:

- EC Pressure equipment directive
- ASME VIII BPVC (ASME IX)
- BS EN 287-1 (Welder approvals)
- BS EN 15614-1 (Weld Procedures)





• ASME 'U' stamp marking and

national board registration • EC PED CE marking and

Stamp of approval availability

declaration of conformity

The Parker design philosophy

In situ quality assurance time after time

Parker offers a wide range of high quality filtration, purification and separation solutions which are essential to all modern production facilities. We have an unrivalled reputation for delivering high quality products which are developed using the Parker design philosophy.



reducing the energy consumption

Performance validation

Validating filters that exceed specifications

Parker domnick hunter products are often critical components of your process so we have ensured our solutions for wine production are designed and manufactured specifically for the food & beverage industry in accordance with all current standards and regulatory frameworks across the globe.

International Organisation for Standardization ISO 9001 ISO 14001 ISO 10993

Code of Federal Regulations in accordance with the Food and Drug Administration (FDA) 21CFR Part 177 USP Plastics Class VI – 121C

European Community Food Contact Regulations EC1935/2004 EC2002/72 EC975/2009 EC82/711 EC2023/2006

Bs en 1186-15







Products

Liquid filtration - clarification

PROPLEAT



3 - 20 micron absolute

· Continuous length rigid sleeve and core provide high strength during normal and reverse flow operations • Retention ratings to suit a wide range of clarification applications

PROPLEAT cartridges have been developed to bridge the gap between meltblown depth filters and absolute rated pleated media filters. Their continuous length and all-polypropylene construction results in a robust yet economical design that maximizes the effective filtration area and provides wide chemical compatibility, coupled with low extractable levels.

PEPLYN HD



Polvpropylene

3 - 35 micron absolute

• Graded density and increased depth resulting in high dirt holding capacity • Ideally suited to high volume, forward flow processes

PEPLYN HD has been developed using graded pore density depth polypropylene media for clarification of wine from source. The PEPLYN HD has outstanding particulate holding capacity through its multi-layer depth construction providing optimized filtration for wine sources with high particulate loading and size distribution.



0.5 - 75 micron

- High dirt holding capacity
- · Consistent absolute retention under a wide range of operating conditions • Ideal for primary stage filtration
- PROSPUN is the most economical solution for delivering general liquid clarification and particle retention. It can be used as a guard filter to protect the process against high variable levels of particulate

PARMAX



5 - 20 micron absolute

- Large diameter yields much higher flow rates compared to traditional filters
- · Absolute retention ratings for critical filtration

PARMAX has been developed for pre-clarification and clarification of bottled water from source, using a depth polypropylene media with optimised pleat geometry. PARMAX with its wide format diameter offers high flow rates and an inside to outside flow configuration that offers high particulate holding capacities and better retention of contaminants.

PEPLYN HA



- 3 100 micron absolute
- Graded density results in high dirt holding capacity · Optimized pleat configuration maximizes backwash efficiency

The PEPLYN HA has been developed using graded density polypropylene depth media for the clarification of wine. PEPLYN HA is designed to capture particles on the surface of the media where the rigid, open pleat structure ensures that the backwash cleaning provides effective removal of trapped particulate.



Composite media provides high strength and dirt holding capacity

• High efficiency removal of spoilage organisms and yeasts

BEVPOR PS utilizes an advanced polyethersulphone membrane configured to provide high flow and cost-effective performance. The membrane has an asymmetric pore structure, resulting in increased capacity to hold contaminants. Componentry has been selected to maximize mechanical strength and chemical compatibility where the flow provide accented deviced accenter and terefloations. enabling the filter to withstand repeated chemical cleaning and sterilization

BEVPOR PH

PREPOR PP

0.6 - 1 micron absolute

PREPOR GP

0.5 - 1.5 micron absolute

protection in the wine industry.

· Fine clarification to provide bright finished product

· Prefiltration duty to extend the lifetime of downstream microporous filters

PREPOR PP filter cartridges will significantly reduce numbers of yeast and spoilage

filterability of products prior to terminal stabilization by thermal or filtrative methods.

PREPOR GP with its pleated combination of borosilicate microfibre and high efficiency polypropylene media is ideally suited for polishing applications and final membrane

organisms from beverage products, to provide extremely cost effective microbial stabilization. The cartridges will also 'condition' liquids and can be used to improve the



0.2 - 1.2 micron absolute

- Integral prefilter layer maximizes service life
- Can be sanitized and regenerated for extended life
- Higher surface area extends service life

The BEVPOR PH combines a prefiltration layer with a final PES asymmetric membrane to provide a graded filtration throughout their depth that neables high flow rates, long life and improved throughputs. The hardware selected in the construction of the BEVPOR PH is able to withstand repeated chemical cleaning and steam sterilization.



Borosilicate microfibre / polypropylene



Liquid filtration - pre-stabilization

Polypropylene

PREPOR GF



2 - 10 micron absolute

Borosilicate microfibre

· Removal of low levels of bioburden, such as natural yeasts, from incoming liquids Fine clarification of products and ancillary liquids to extend the lifetime of microporous membrane filters

PREPOR GF filter cartridges have been specifically developed for fine clarification of wine, products and ancillary liquids. The higher efficiency grades also provide excellent bioburden reduction and protection to microporous membranes

BEVPOR PT

0.2 - 0.65 micron



Polypethersulphone

 Membrane prefilter layer provides extended service life in wine with colloidal loading Low adsorption of protein, colours and flavours

The BEVPOR PT has been developed using a PES membrane and an integral prefilter layer to provide high flow rates, long life and improved throughputs. Combination of the asymmetric pore prefilter and final membrane layers, provide a graded filtration throughout their depth, resulting in increased capacity to hold colloidal matter and other contaminants.

Products

Air / gas filtration



Steam filters

SINTERED

1.0 - 25 micron

- Ideally suited for low flow rate applications
- Available in culinary grade 1 micron
- Low pressure drops

Steam is an often neglected part of a process, regarded as an add on to a customer's liquid or gas filtration needs. It has however, large specific applications in its own right and should be treated with the same level of importance as air, gas and liquid systems if long filter lifetimes and system cost effectiveness are to be achieved.

PLEATED

1.0 - 5.0 micron

316L stainless steel

- Re-cleanable metal fibre 316L Stainless Steel
- Exceptionally high flow rates
 Available in culinary grade 1 micron

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316L stainless steel

Products

Housings



Integrity testing



Gas generation



Air housings

• A full range of stainless steel housings specifically designed for the beverage industry



BEVCHECK PLUS

- Pressure decay and diffusional flow testing
- Convenient built-in printer provides printed test report
- Flexible suitable for use with compressed air or nitrogen



CO₂ protection

PCO₂

Carbon dioxide polishing filter PCO_2 offers protection against carbon dioxide

contamination and impurities of up to 10 times the allowable levels detailed in the ISBT carbon dioxide quality guidelines.



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