

wine capability



Parker



domnick hunter

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- Complete Process Product Filtration Range
- Process Filter Datasheets
- Full Range of Process Housings
- Integrity Testing Equipment



- domnick hunter Technologies Complete Product Range
- Process Filter Datasheets
- Full Range of Process Housings
- Integrity Testing Equipment



- Full TSG Capability
- Dedicated Support Team
- Contract Support
- Technical Analysis

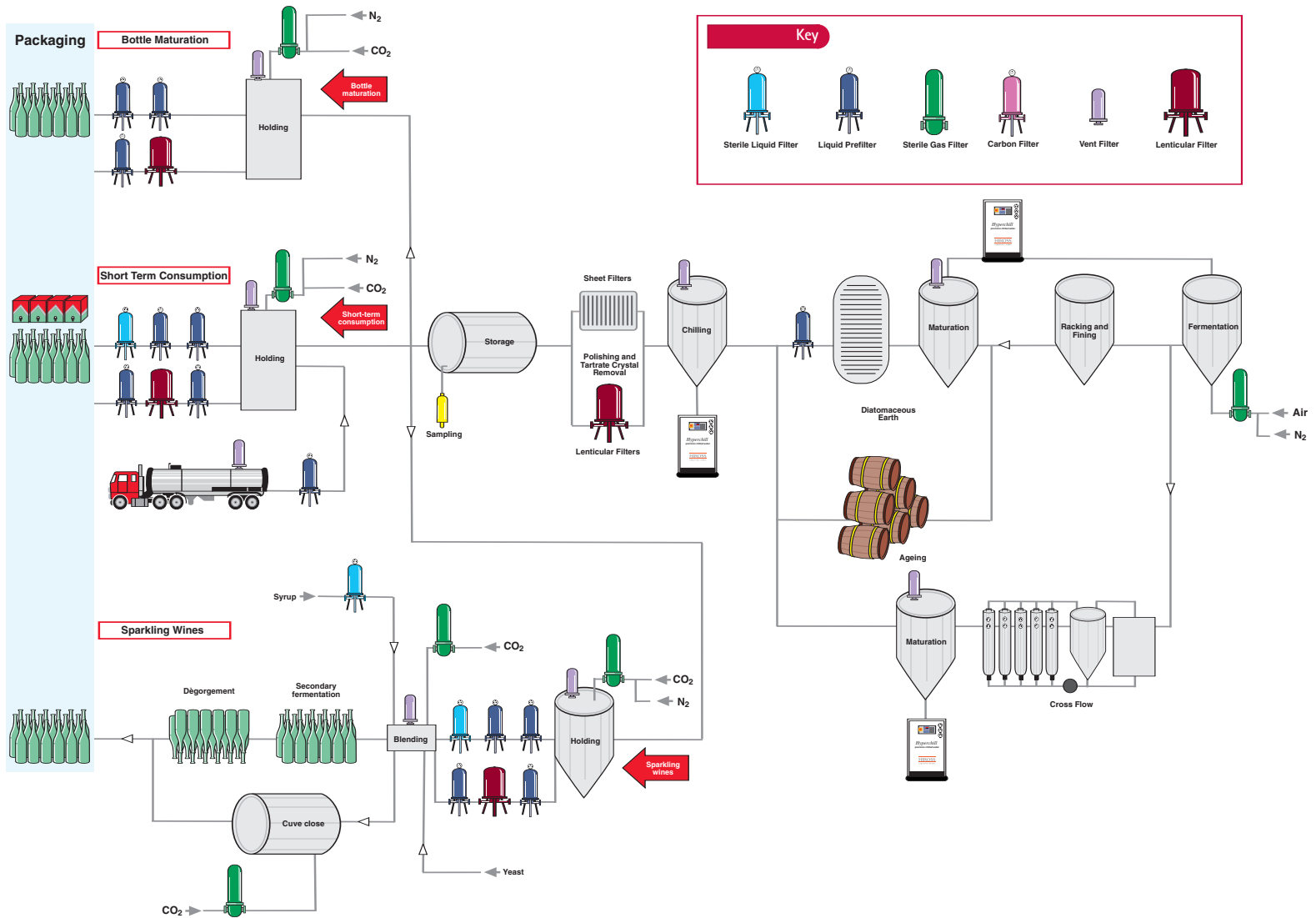
For more information please contact:

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www.domnickhunter.com

Wine Process



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Process Operations

....providing complete filtration solutions

domnick hunter specialises in the manufacture and supply of high quality products for the clarification, stabilisation and sterilisation of liquids and gases, providing full scalability from membrane flat stock discs to multi-element filter systems. Each filter range has been specifically developed for industry requirements.

We have a vast range of filtration experience enabling us to provide innovative and cost effective solutions for all your filtration requirements.

domnick hunter's commitment to service is reflected in our comprehensive before and after sales service.

Our worldwide assistance extends to on-site evaluations, design, manufacture, validation, quality control and ongoing support long after the filters are installed.

We supply the best products for you, when and where you need them.

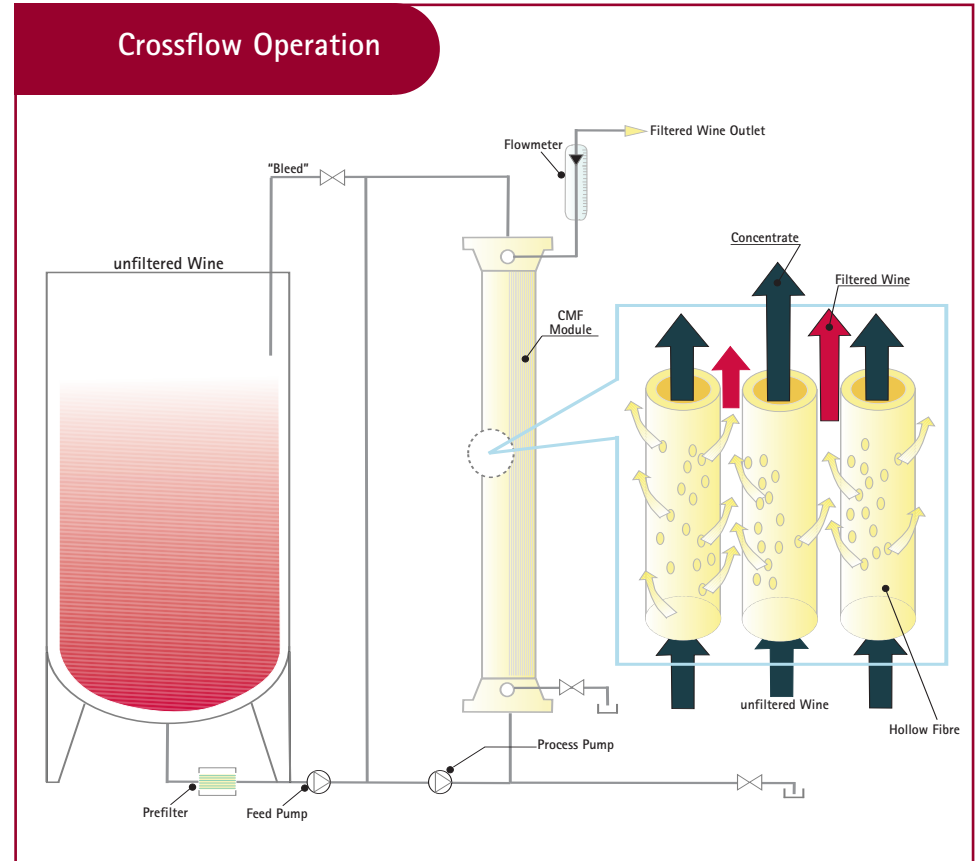
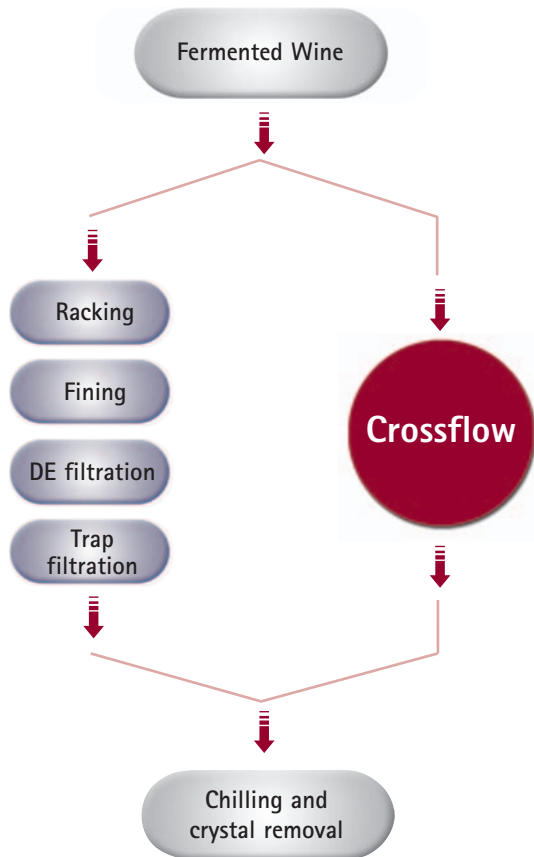
In 2005 **domnick hunter**, became part of the Parker Hannifin Corporation, with annual sales exceeding \$9 billion, Parker Hannifin is the world's leading diversified manufacturer of motion and control technologies and systems.

We have a vast range of filtration experience enabling us to provide cost effective solutions for all your filtration requirements. We have the capability to work across application areas including:

- Biopharmaceutical
- Beverage
- Chemical
- Electronics
- Fermentation
- Food and Dairy
- Healthcare and Cosmetics
- Hospitals
- Paints and Inks
- Petrochemical



Single Stage Clarification



Single Stage Clarification

cleaner, faster, reduced losses, lower waste

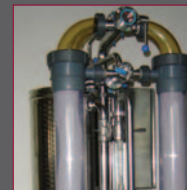
Clarification after fermentation may require a combination of racking, fining, centrifugation and filtration. Filtration alone is not usually suitable as the high level of suspended solids cannot be handled using dead-end filtration methodology, where all of the wine is passed through the filter and a proportion of the suspended contaminants is retained.

Crossflow filtration differs from traditional cartridge filtration in that the wine flows across rather than directly through the filter. This has the effect of cleaning the filter surface as contaminants are prevented from building up and blocking the filter.

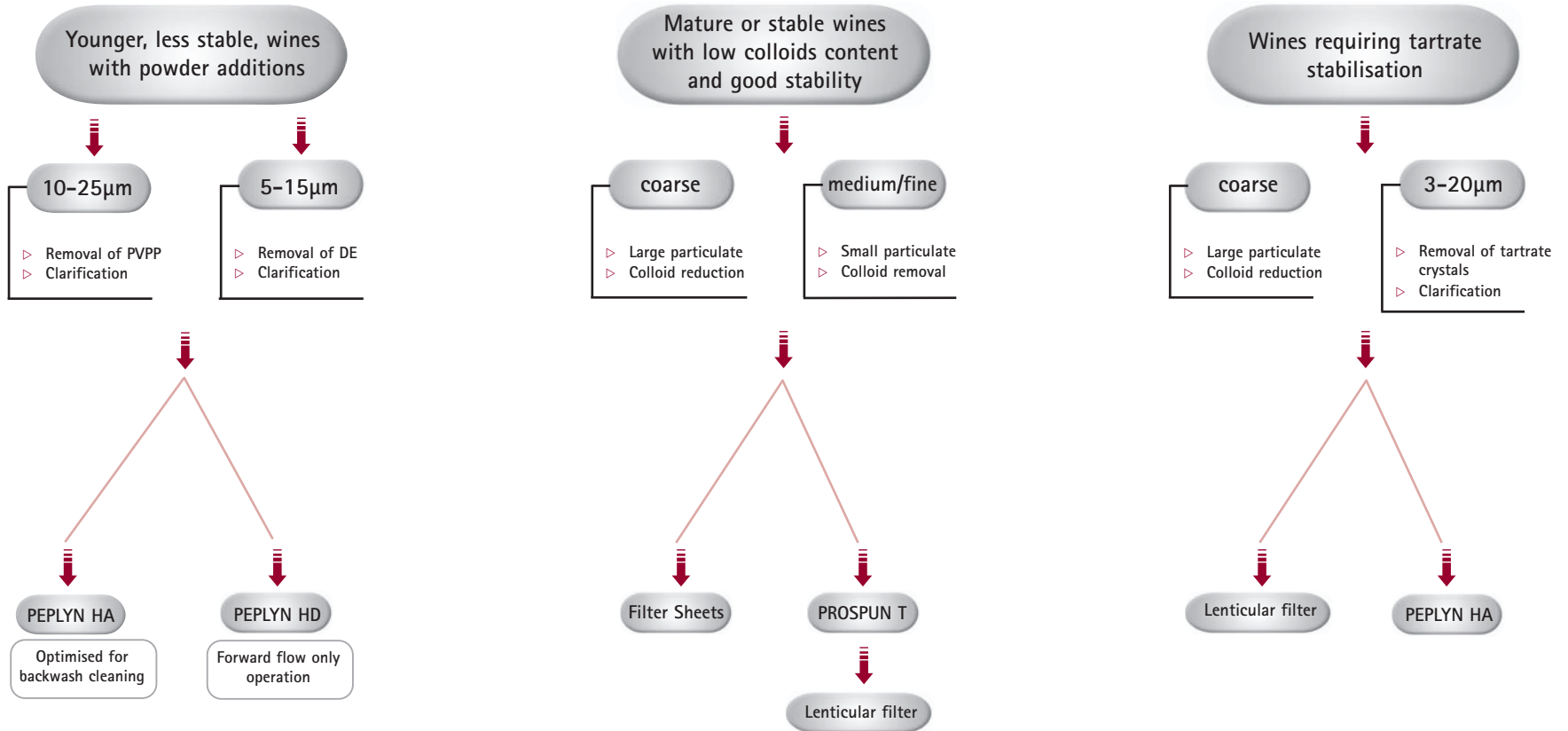
Crossflow filtration is not suited to all applications. It relies on the contamination having a wide particle size distribution, the larger particles helping to prevent the membrane from fouling. It is therefore very well suited to the clarification of wine almost immediately after fermentation when there is still a high level of suspended solids.

The technique used results in clarity and microbiological quality similar to that achieved using a combination of finings, diatomaceous earth and fine grades of clarifying sheet filters. Because the clarification process can be achieved in a single stage processing time, product loss, fining agents and waste are all reduced.

- Filtration of the wine can be carried out immediately after fermentation, improving processing times.
- Fining agents used to accelerate sedimentation during racking of cloudy wine are not required.
- Wine losses in lees, diatomaceous earth and filter sheets are eliminated.
- Energy, water and disposal costs are reduced.
- There are no risks associated with the handling and disposal of fine powders.



Physical Stabilisation



Physical Stabilisation

ensuring longer lasting fresh and bright wine

Stabilisation of wine is not a discrete operation. It is a gradual progression of procedures aimed at optimising the removal of contaminant content at each stage of production. In dealing with physical, chemical and microbiological stability, the selection of raw materials and the design of the winery processes play a large role in ensuring final product quality.

Physical stabilisation is the process of preventing hazes and deposits from forming after the wine has been packaged. This can be achieved by removing constituents that will eventually lead to haze formation, such as certain proteins and polyphenols, or by accelerating the formation of hazes and deposits so that they can be removed prior to packaging.

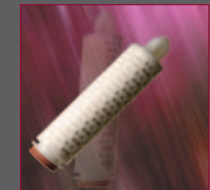
Typical methods of removing haze precursors are the addition of fining agents, the use of adsorptive powders such as diatomaceous earth (DE) or polyvinylpolypyrrolidone (PVPP). The porous screens, sheets or candles that are used to support the powder will always allow some powder through, and trap filters should be positioned downstream to prevent this powder from reaching final storage and packaging. Alternatively, the DE and PVPP may be incorporated into a cellulose fibre matrix that is then cut into preformed sheets or assembled into stacked disc, (or lenticular), cartridges. This may be a more convenient method of stabilisation and produces a higher degree of clarity to the wine.

Potassium bitartrate and calcium tartrate crystal are naturally occurring precipitates. These form non-hazardous glass-like crystals in the wine. Their presence in wine for short-term consumption is not desirable, and during production, the wine can be chilled and 'seeded' with a smaller quantity of crystals to accelerate the process.

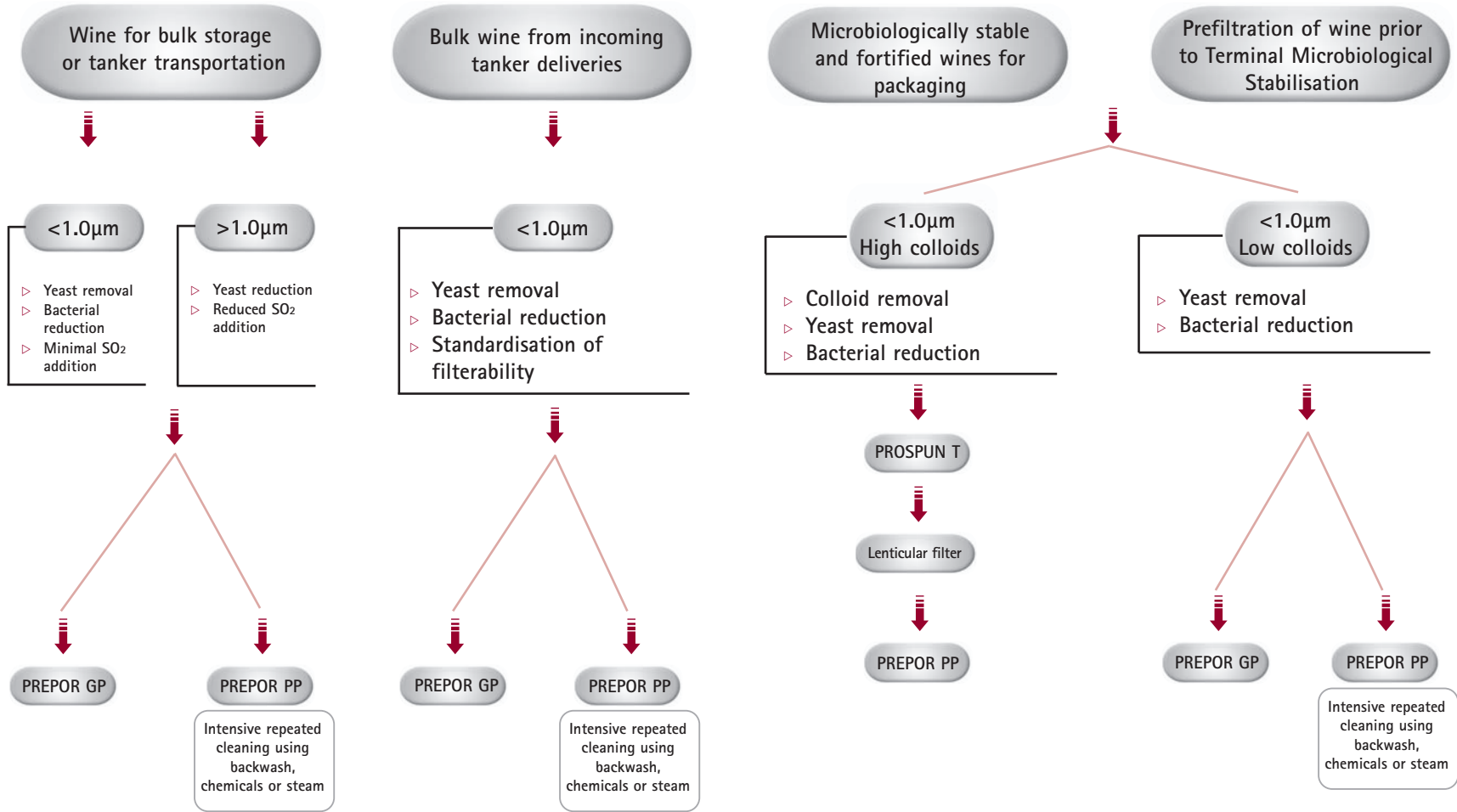
The crystals can then be removed using a combination of centrifugation and filtration, or filtration only. Trap filtration and crystal removal is usually achieved using clarification filters with retention ratings between 5 µm and 15 µm. Medium and fine grades of sheet and lenticular filters will provide high product clarity and good physical stability.

Once the wine has been physically stabilised, further treatment usually involves assuring microbiological stability and polishing to provide bright clarity.

- **Trap filters remove small quantities of powder released from upstream processing and protect the process in the event of major bed collapse.**
- **Cleanable filter cartridges are used repeatedly for the removal of tartrate crystals.**



Standardisation and Intermediate Stabilisation



Standardisation and Intermediate Stabilisation

protection during storage and transport

Whilst alcohol and tannin content help in providing stability to the wine, during short-term storage or transport it may be susceptible to further microbiological activity. This may be due to continued fermentation by residual wine yeast; yeast autolysis; ingress of wild yeasts or the activity of malolactic, acetic and many other bacteria.

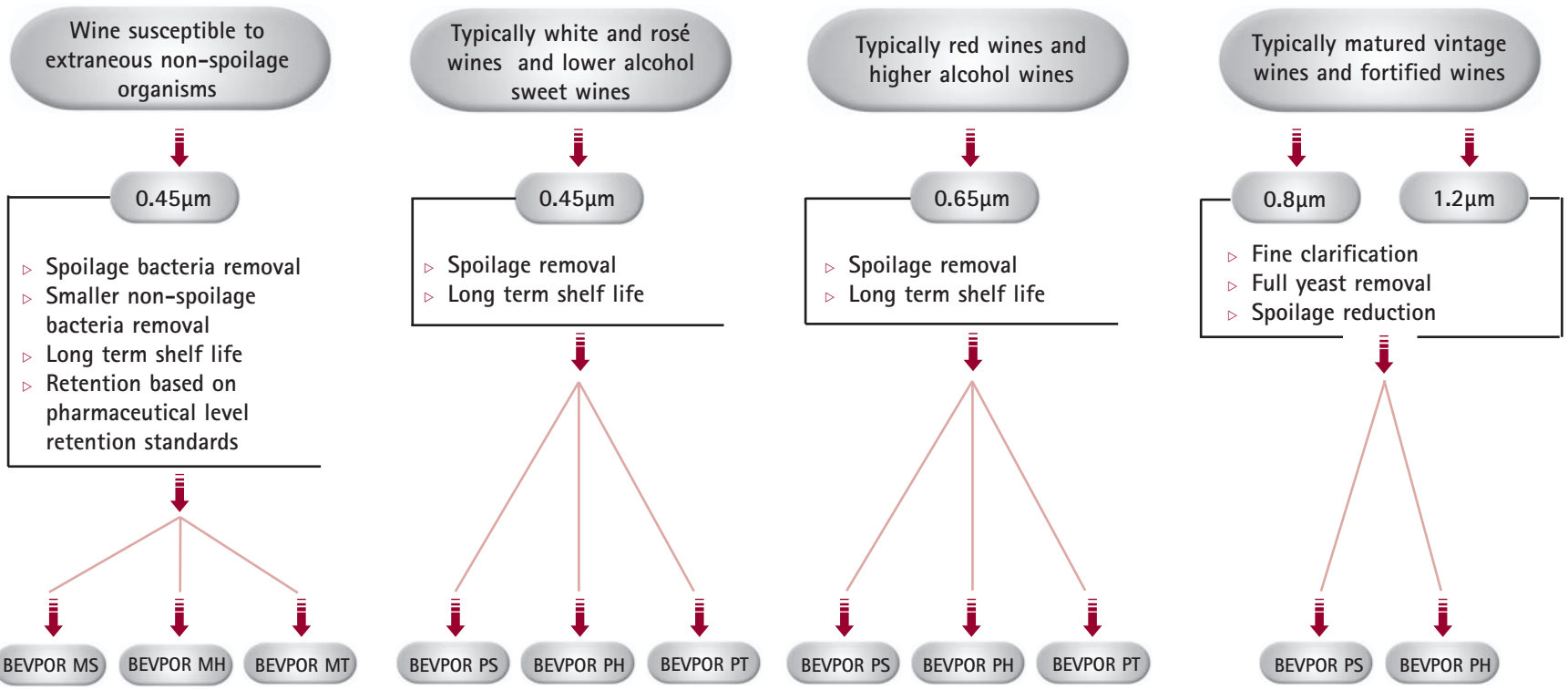
Preventing the ingress of extraneous organisms can be achieved by minimising the head space in storage vats and transport tanks and by ensuring that sterilising filters from the **BIO-X** and **TETPOR** families are fitted to tank vents and compressed gas inlets. Blanketing the head-space with an inert gas (usually carbon dioxide, but also nitrogen is used) minimises the risk of aerobic microorganisms propagation.

Sulphur dioxide is commonly used to microbiologically stabilise the wine during storage and packaging. It also acts as an oxygen scavenger. However, even at low levels, sulphur dioxide may result in flavour taints. Filtration using **PREPOR PP** or **PREPOR GP** filter cartridges reduces the risk of microbiological spoilage of the wine. This can mean that the use of sulphur dioxide could be reduced or even eliminated. The high removal efficiency of the cartridges provides removal of yeast and significant reduction of bacteria. For very stable wines, particularly fortified wines, these stabilising filters can provide a bright, yeast-free product. For wines that are more susceptible to microbiological spoilage, the filters can be used to remove most of the microbiological loading prior to terminal microbiological stabilisation using a microporous membrane.

Due to their microporous depth characteristics, they also improve the filterability index of the wine, protecting downstream membranes from premature blockage due to low levels of colloidal content. In particular, **PREPOR PP** which can be repeatedly regenerated with hot water, steam sterilised and chemically cleaned can be used as an alternative to sheet filters and provides an effective means of standardising filterability.

- **Removal of yeast and reduction of bacteria prior to wine bulk storage or tanker transportation.**
- **Filterability adjustment and standardisation of incoming wine deliveries.**
- **Colloid reduction or removal.**
- **Yeast removal and reduction of bacteria prior to microporous membrane filtration.**

Terminal Microbiological Stabilisation



BEVPOR PS
 BEVPOR MS

- ▷ Clean wines
- ▷ Lifetime to blockage not a concern
- ▷ Filter acts as an insurance policy
- ▷ P option validated for wine
- ▷ M option based on pharmaceutical microbial retention standards (ASTM F838-83)

BEVPOR PH
 BEVPOR MH

- ▷ High surface area
- ▷ Integral prefilter
- ▷ Maximised life to blockage
- ▷ P option validated for wine
- ▷ M option based on pharmaceutical microbial retention standards (ASTM F838-83)

BEVPOR PT
 BEVPOR MT

- ▷ Integral membrane prefilter
- ▷ Enhanced colloid handling
- ▷ Young, sweet and difficult to filter wines
- ▷ P option validated for wine
- ▷ M option based on pharmaceutical microbial retention standards (ASTM F838-83)

Terminal Microbiological Stabilisation

maximising the packaged microbiological shelf life

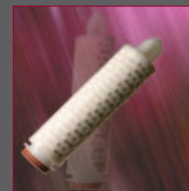
Preparation of wines prior to packaging should be aimed at preserving or enhancing the unique sensory qualities of each wine which has been developed during vinification and maturation. For fine wines that have spent long periods in maturation, and are microbiologically very stable, terminal filtration prior to packaging need only consist of yeast removal and fine clarification (see Standardisation and Intermediate Stabilisation). However, for younger wines that are produced for short-term consumption, the removal of even small numbers of potential spoilage organisms is essential.

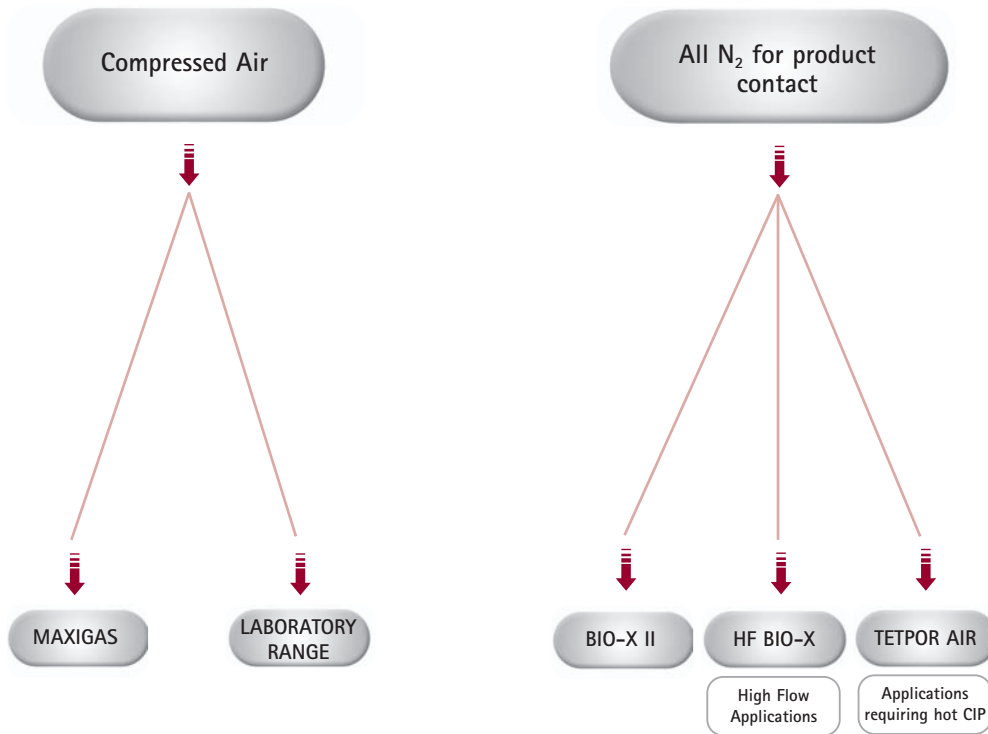
Terminal microbiological stabilisation using membrane microfiltration cartridge filters is carried out immediately prior to packaging. Unlike heat or chemical stabilisation, properly selected microfiltration will not impair the organoleptic qualities of the wine.

Membrane retention ratings of 0.65 μm or 0.45 μm are sufficient to remove common wine spoilage organisms. The BEVPOR range of polyethersulphone (PES) microfiltration membrane cartridges is ideal for this application. The range also includes options for larger pore sizes where yeast content is the only issue, for example in fortified wines, and smaller pore sizes where specific non-spoilage bacteria may be present.

All components of the products, especially the PES membrane, have been designed to ensure that their effect on characteristics such as colour and palate are minimal. This avoids the need for additional conditioning that may be required if nylon or cellulose acetate filters are used. There are also a number of constructional options to suit a wide range of operational requirements, wine qualities and process conditions.

- Choice of constructional options to cater for various operational requirements and wine quality requirements.
- Minimal adsorption of wine components ensures that desirable characteristics are not affected.
- High loading asymmetrical pore structure with integral prefilter options to maximise service life.
- Wide chemical resistance enables chemical and enzymatic regeneration to extend service life.
- Repeatedly testable enabling easy monitoring for quality assurance and HACCP records.





NITROGEN GENERATORS

Compared to bulk liquid and cylinder nitrogen

- No long term contracts
- Fast payback
- Low space requirements
- No waste
- 24 hour operation
- Modular design allows expansion

YOU CONTROL YOUR SUPPLY

Nitrogen

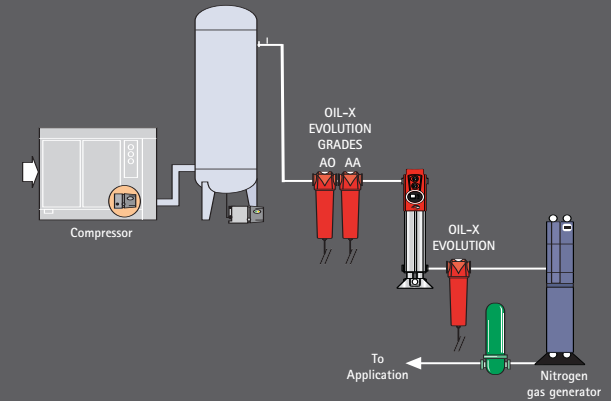
flexible options for minimising dissolved oxygen

Use of nitrogen in the winery is increasing. It can be used in many of the applications that carbon dioxide has traditionally been used but has the advantage that it is less soluble and, now, is more readily available than carbon dioxide.

Until recently, nitrogen was only available in delivered form, in bulk or cylinder. Now, a more flexible and economic option is available. **MAXIGAS** is a modular range of nitrogen generators that produces the nitrogen from compressed atmospheric air. MAXIGAS is able to produce a range of purities up to 99.999%, and can be selected to provide nitrogen requirements for a range of applications in the winery and packaging facilities.

Nitrogen is used to prevent contact of the wine with air, thereby reducing the potential for oxygen uptake. During bulk storage, the use of sealed vats means that positive nitrogen pressure can be used, ensuring that volume changes due to temperature fluctuations do not lead to the ingress of air. Nitrogen blanketing of unsealed vats is also possible, a small continuous flow will ensure that air cannot diffuse into the headspace through vents and will also compensate for volume changes. During emptying, the flow of nitrogen can be increased to fill the head-space and in sealed systems can be used to aid the propulsion of the wine during vat to vat transfer or during packaging. Ensuring that oxygen levels are kept below 0.5% will also prevent the growth of aerobic microorganisms.

Use of filters from the **BIO-X** and **TETPOR** families on tank vents and nitrogen inlets will ensure that particulate and microorganisms are removed from the gas streams.

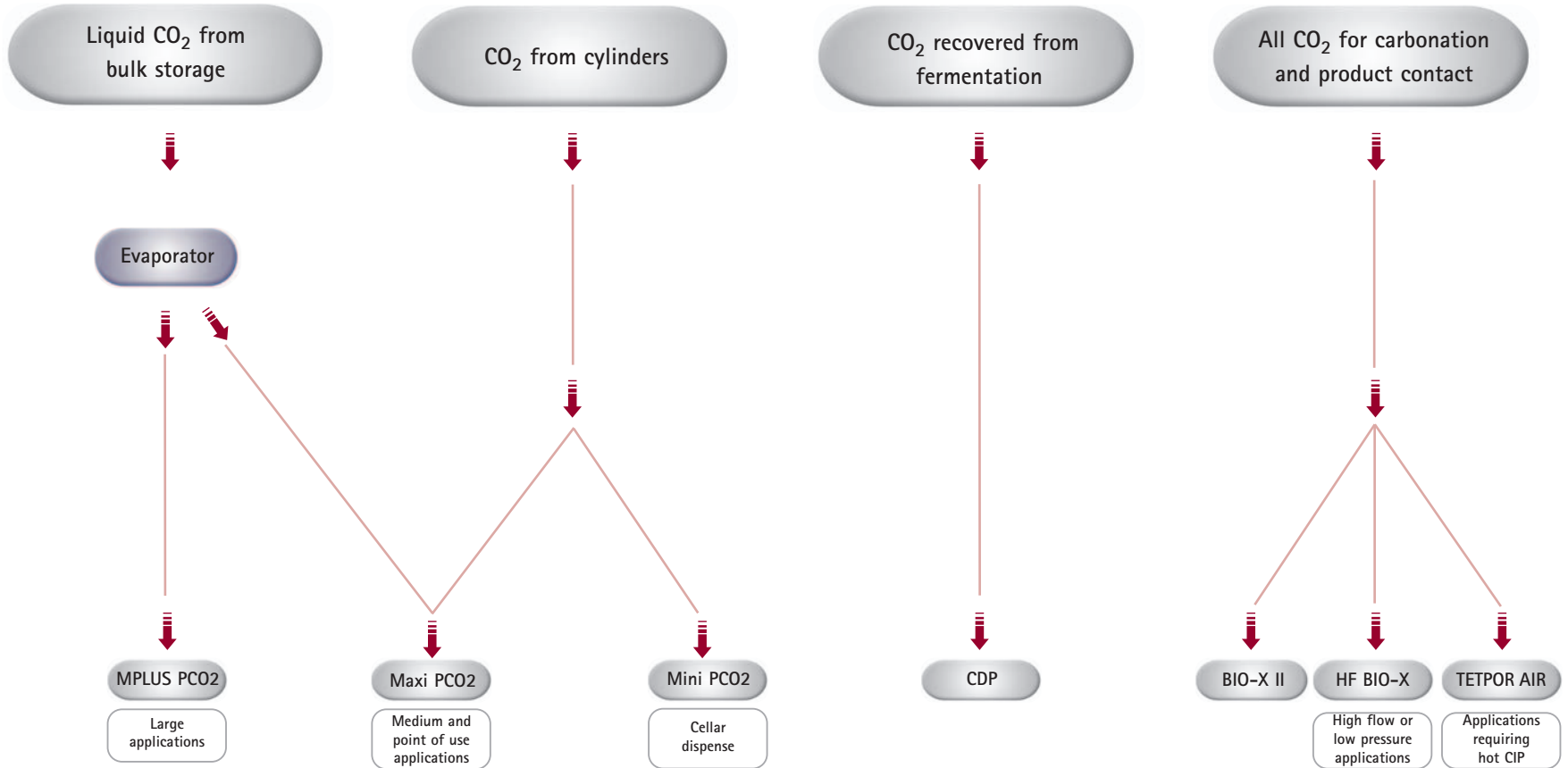


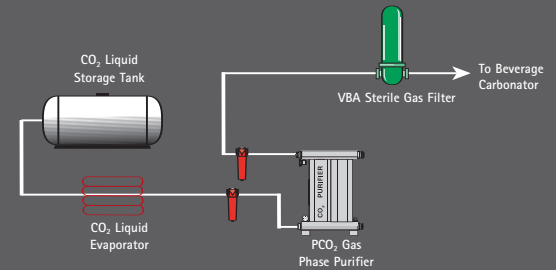
During bottling, the use of nitrogen as an alternative to water for bottle flushing is possible. Water is often an expensive commodity, especially where extensive treatment prior to use is required. Use of a dry flushing technique also improves the hygiene in the bottling area, as condensation and splashes provide opportunity for microorganisms to flourish. Flushing the bottles with nitrogen immediately prior to filling ensures that minimal air is trapped in the head-space of the bottle.

Plastic bottles and cartons benefit from a small drop of liquid nitrogen being dropped onto the wine just before closure. When the nitrogen evaporates, the small additional pressure improves the crush resistance of the package.

- On-demand nitrogen up to 99.999% purity.
- Modular, space-saving design that can be expanded as requirements increase.
- Low maintenance.
- Removal of particles, aerosols and bacteria from nitrogen distribution lines and tank vents.
- Potential reduction in water use in bottle flushing.

Carbon Dioxide





Carbon Dioxide

ensuring freshness from bulk storage to uncorking the bottle

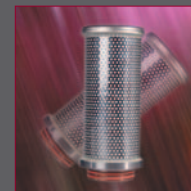
Carbon dioxide is widely used throughout the winery and packaging areas. It is present naturally in the wine, residual from bulk fermentation. Its presence can be enhanced using secondary fermentation methods in tank or bottle, or by carbonation using recovered or delivered gas. If recovered carbon dioxide is used, some treatment may be necessary to remove undesirable flavour components from fermentation. Delivered carbon dioxide should conform to recognised beverage specifications, but there is still a risk associated with cylinder and line contamination or from the petrochemical source of the gas.

PCO₂ and CDP carbon dioxide polishers are designed to give Quality Incident Protection against out of specification CO₂. Utilising a multiple-barrier approach both systems are proven to offer effective protection from a wide range of potential contaminants commonly found in gas supplies.

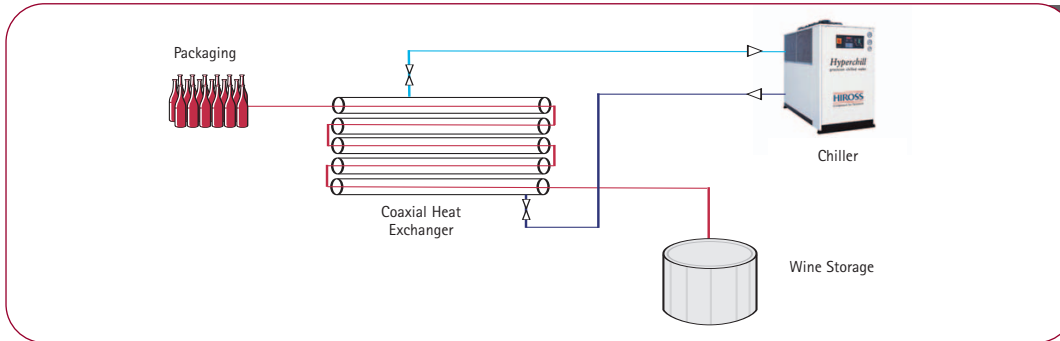
As well as gaseous contamination, preventing the ingress of extraneous particulate and microorganisms during storage and transportation can be achieved by using filters from the BIO-X and TETPOR product ranges.

Secondary sources of carbon dioxide used for carbonating the wine, enhancing the wines' spritzig or petillant character or for freshening the wine using oxygen displacement should also be treated to protect against microbiological contamination.

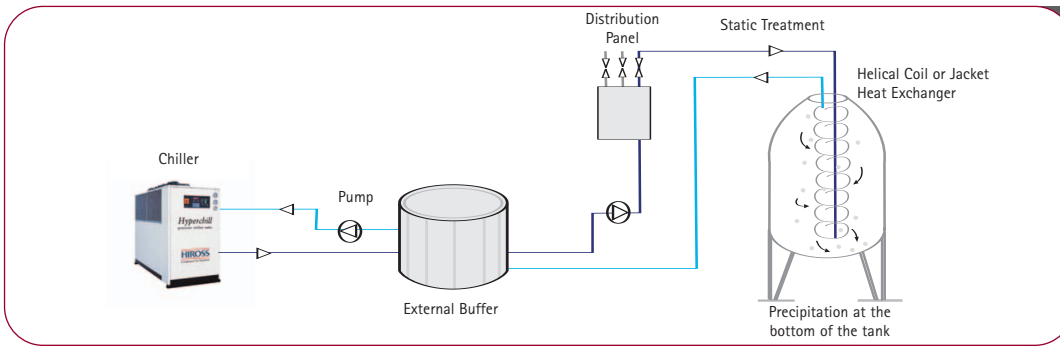
- Added security of CO₂ quality.
- Protection against impurities known to result in flavour defects.
- Effective at removing a combination of potential contaminants.
- Easy maintenance, disposable cartridge design.



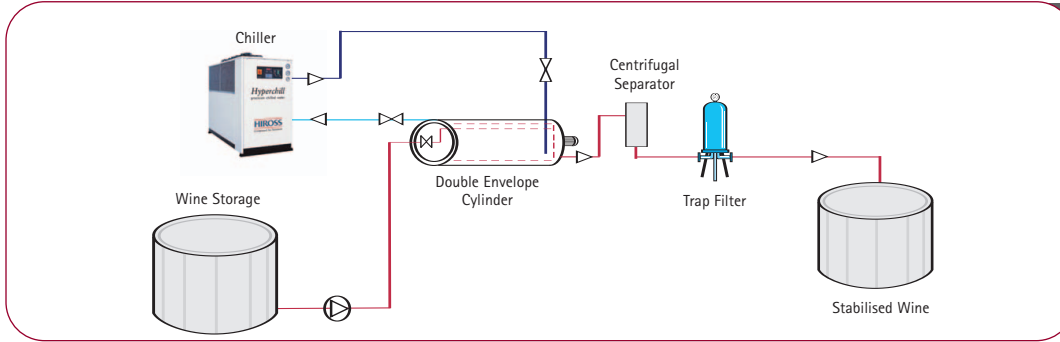
Chilling



In-Line Chilling



Tank Chilling



Tartrate Precipitation

Chilling

creating the right environment

Process cooling is regularly used in the processing of wine:

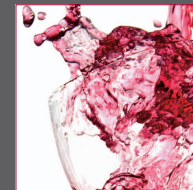
- To regulate temperature during fermentation.
- During accelerated precipitation of tartrate crystals.
- To stabilise the wine during storage.

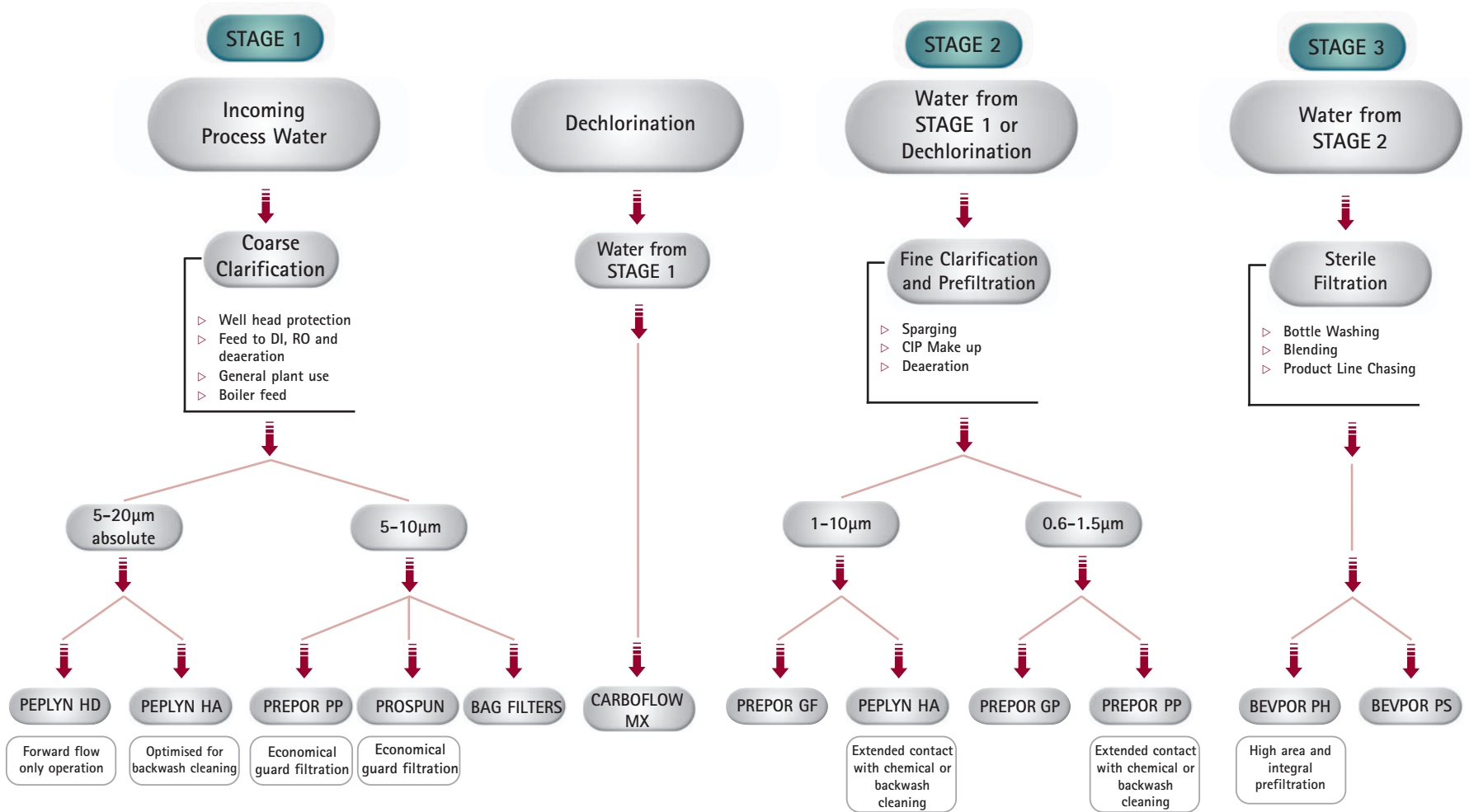
domnick hunter Hiross has more than 30 years experience in the manufacture of industrial cooling systems. In recent years a wide range of chillers for the production of chilled water has been introduced. Coupled with a sales and engineering team capable of providing customised solutions to meet individual needs, this provides a dedicated approach to the requirements of winery applications.

The technology is characterised by a high refrigeration yield for low electrical consumption. Combined with a small footprint this leads to a compact, space-saving and energy efficient solution.

Chillers are available for internal and external installation and are equipped with microprocessor intelligence providing precise control and automatic function.

- Standard and custom designed options provide unrivalled choice.
- Wide range of cooling capacities.
- Minimal space-saving footprint.
- Low energy consumption.





Water

clear options, clear results

Water is an essential but expensive commodity. It has many uses in the winery and the level of treatment required differs according to the source and quality of the incoming water, as well as the application that it is to be used for.

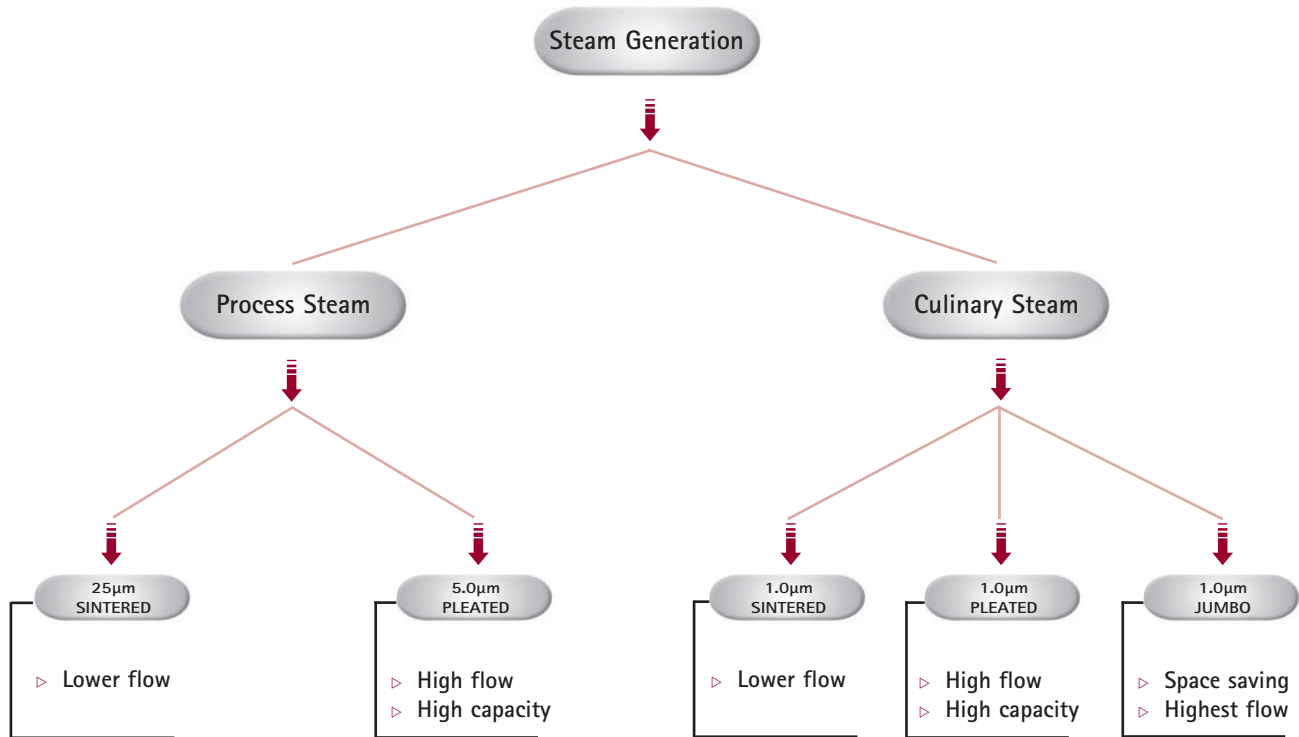
Water for general use will require coarse clarification to remove larger particles. This can be economically achieved using general clarification filters from the PROSPUN or PROPLEAT ranges. The other extreme is that water used for bottle washing or for blending should be sterile to ensure that no extraneous microorganisms are introduced to the wine. The same BEVPOR range of polyethersulphone (PES) membrane filters that is used for wine can also be used for water sterilisation. For intermediate production stages and make-up of CIP solutions, where the water is used to clean and sanitise pipework, bottling equipment and process filters, fine clarification offered by PREPOR GF and PEPLYN range filters are ideal.

Multiple-barrier techniques may be used, for example where water for blending requires softening or deionisation to prevent dissolved salts from causing sensory defects or precipitates in the wine. In this case filter selection is based on the combined performance of the overall treatment process.

In the cellar and during packaging, water that is used for washing and comes into contact with corks requires dechlorination to prevent the formation of chloroanisoles (the most prominent being trichloroanisole - TCA), the chemical associated with 'corked' wines. Treatment using the CARBOFLOW range of activated carbon cartridges offers this protection.

- Wide range of retention ratings provides coarse and fine clarification and sterilising options.
- Options to suit filtration-only and multiple-barrier treatment.
- Dechlorination to prevent formation of TCA causing 'corked' taints.
- High mechanical strength and chemical resistance enable washing and regeneration of the filters to increase service life.
- Direct impact on quality assurance and HACCP frameworks.





Steam

for general plant and culinary applications

Steam used to sterilise product contact surfaces should be of culinary quality to ensure that it does not contaminate the product with particles or chemicals that could be damaging to the quality of the product or hazardous to the consumer. The water quality used for culinary steam generation is addressed in The Food and Drugs Administration's Code of Federal Regulations. The quality of the water and permitted boiler additives are addressed specifically in the following Code of Federal Regulations:

Water Quality: CFR Title 40 Parts 141, 142 and 143

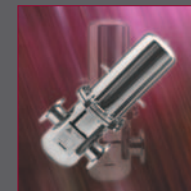
and

Boiler Additives: CFR Title 21 Chapter 1, Section 173.310

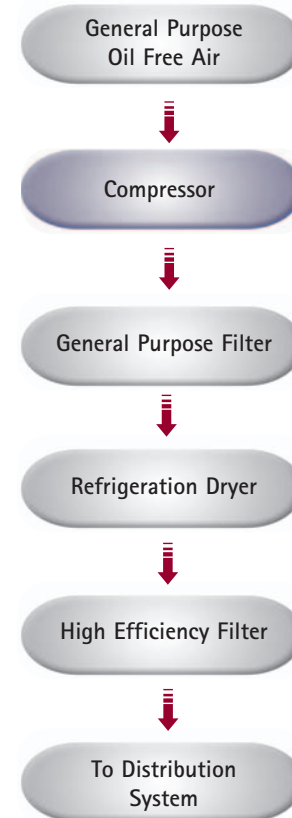
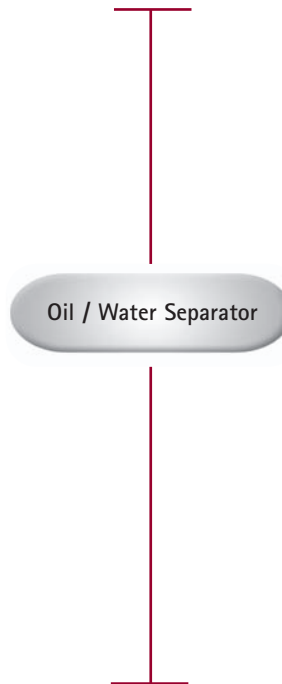
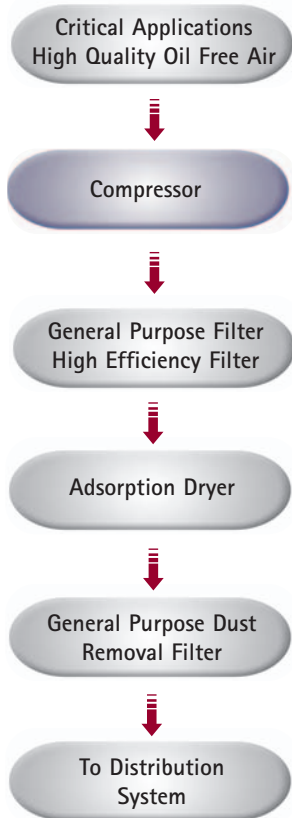
Other aspects to its treatment are provided in 3-A standard 609-03. This states that pipework and associated equipment should be constructed from 300-series stainless steel and that filters used for particulate removal should be capable of retaining >95% of particles of size 2 micron or larger.

domnick hunter provides a number of steam filtration options for general and culinary use together with a comprehensive guide to their selection.

- **Stainless steel housing and filter cartridges for general or culinary use.**
- **Sintered and pleated fibre filters options provide wide sizing options.**
- **Jumbo range for high volume applications.**
- **Comprehensive guide to steam quality guidelines, filter section and sizing.**



Compressor House



Compressed Air

selecting the ideal management system for your needs

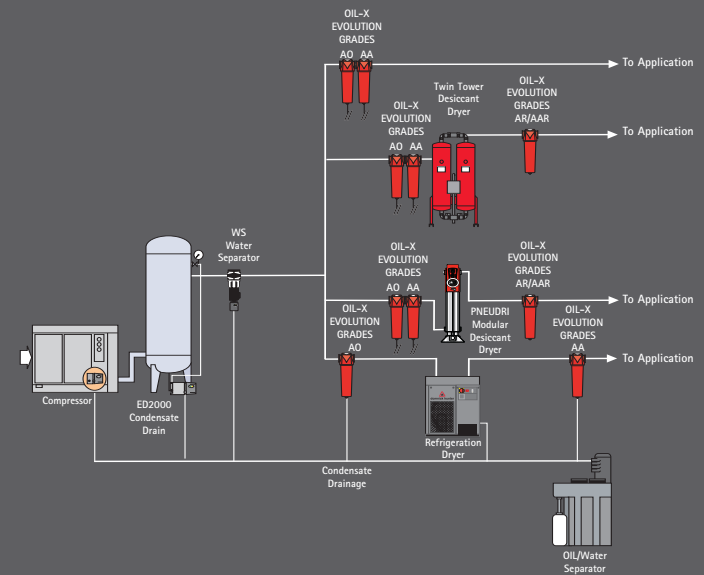
The quality of air required throughout a typical compressed air system can vary. The extensive range of purification equipment available from **domnick hunter** is ideal for both centralised and decentralised compressed air systems. This allows the user to tailor the quality of air for each specific application, from general purpose ring main protection, through to critical clean dry air (CDA) point of use.

domnick hunter can tailor its range of purification equipment to exactly match system requirements, ensuring both capital and operational costs are kept to a minimum.

To achieve the levels of cleanliness specified by ISO 8573.1 2001 a careful approach to system design, commissioning and operation must be employed.

It is highly recommended that the compressed air is treated prior to entry into the distribution system as well as at each usage point or application.

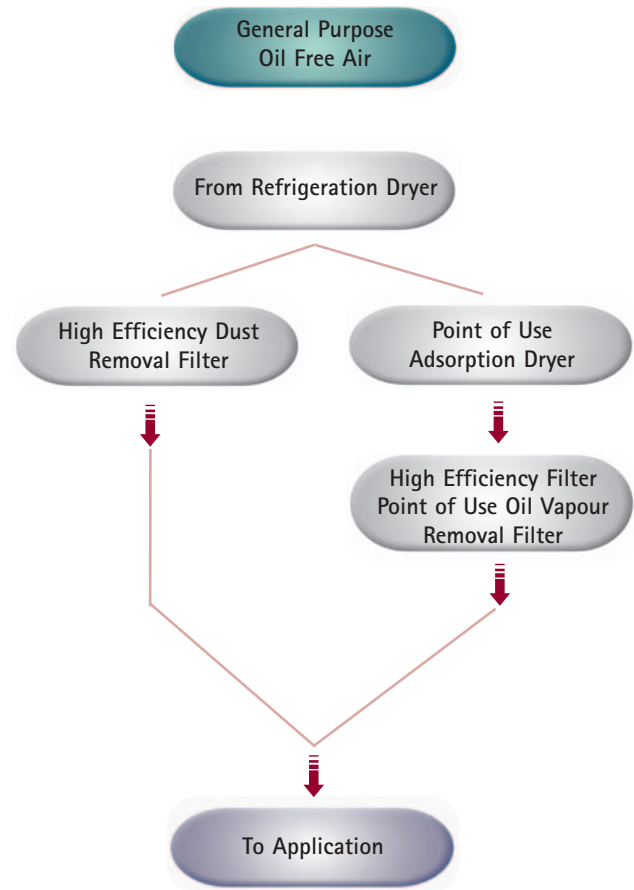
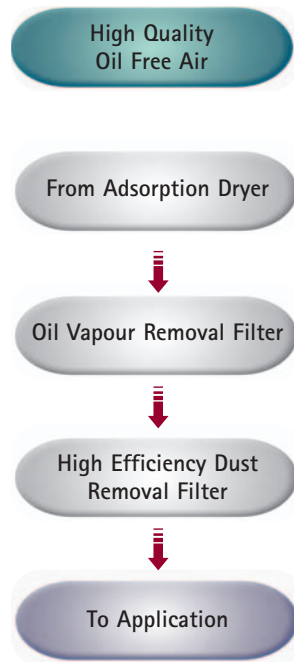
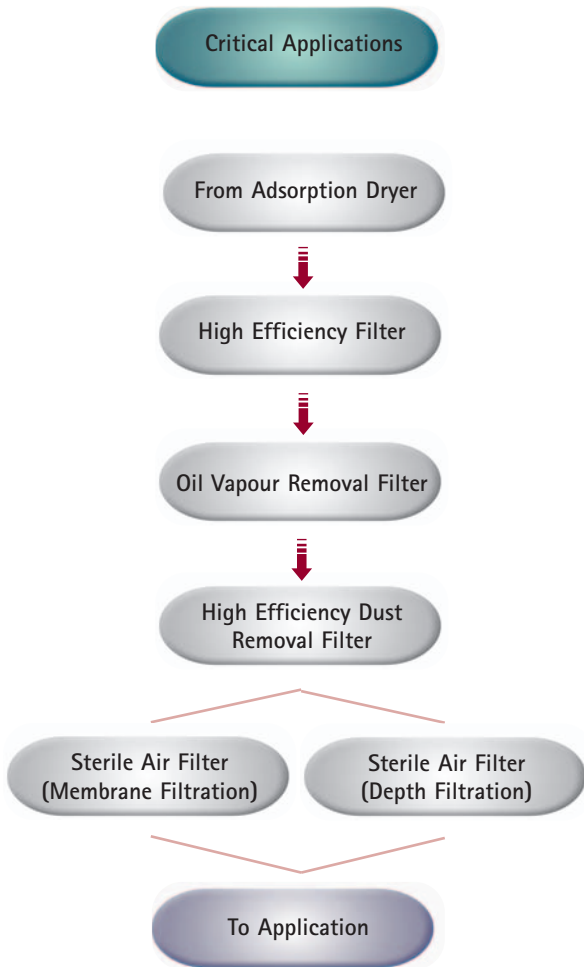
This approach to system design provides the most cost effective solution to system purification as it not only removes the contamination already in the distribution system, it ensures that only the most critical areas's receive air treated to the highest level.



- International system of air quality classification.
- From compressor house to point of application.
- best criteria for selecting the correct air treatment products.
- See publication 17 400 4765 for detailed information.



Compressed Air Applications



Compressed Air Applications

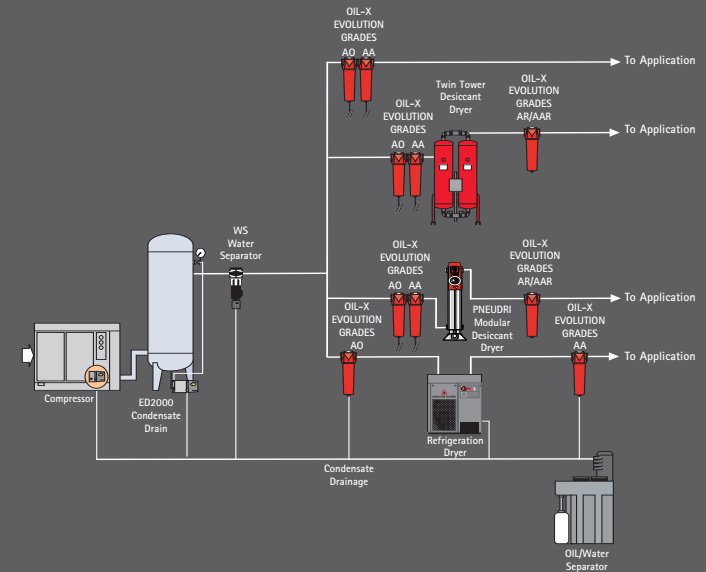
high quality compressed air from generation to application

Compressed air can be an expensive commodity if not efficiently managed. As well as the primary costs associated with the production of compressed air and losses from leaking distribution systems, poor management of compressed air can lead to rapid deterioration of the distribution system, failure of equipment due to oil, water and particulate carry-over, and bacterial traps sensory taints in the final product.

Management of compressed air falls into three main categories:

- Effective removal of all contamination in the form of dirt, oil, water and microorganisms.
- Minimising pressure losses between the compressor and the point of application.
- Eliminating losses from the system due to leaks, uneconomical regeneration of drying plant and inefficient condensate drains.

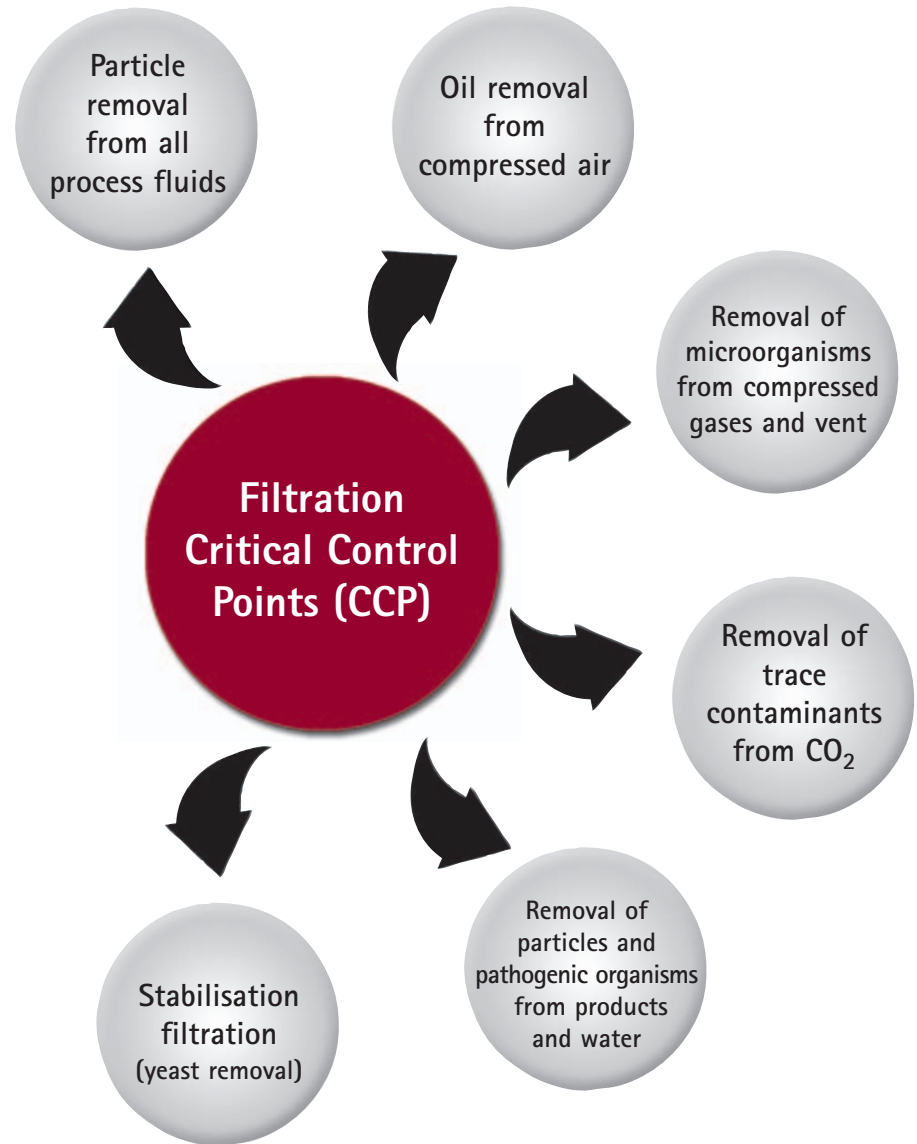
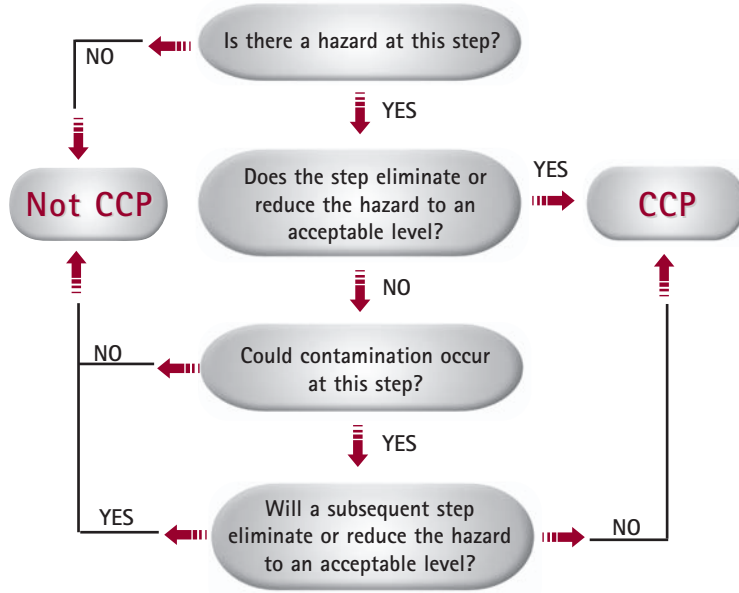
domnick hunter offers unrivalled expertise in the purification of compressed air and works in partnership with many of the world's leading compressor manufacturers. In order to explain the various forms of compressed air treatments **domnick hunter** has published a guide to ISO 8573.1:2001 Air Quality Classes. This provides an in-depth guide to identifying the air quality that best suits the needs of different applications.



- Easy to understand guide to air quality classes.
- Filters for coalescing aerosols oil from the compressed air stream.
- Range of desiccant and refrigeration dryers to suit varied needs.
- Sterilising filters for high pressure (compressor) lines.
- Sterilising filters for low pressure (blower) applications.



Codex Decision Tree



HACCP and Integrity Testing

monitoring critical control points

HACCP

If precautionary measures are not in place during production, products may be contaminated biologically, chemically or physically. "Hazard Analysis of Critical Control Points" (HACCP) is a food safety management system acknowledged by governments, regulatory control bodies and the food industry as a system that identifies and monitors specific food safety hazards and risks.

The HACCP programme should be applied from the production, supply and handling of unprocessed material, to the processing, distribution and consumption of the final product. Global markets are demanding more than ever that potential food safety risks are managed.

ASSURED PERFORMANCE

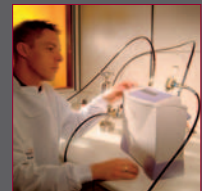
The ability to test the integrity of a filter provides a valuable quality assurance tool. A properly conducted integrity test provides assurance that the filter will fulfil the role that it was designed for, ensuring that it is fit for purpose BEFORE a process run is initiated. As well as instilling confidence in the filter, recording integrity test results demonstrates sound process quality monitoring and provides a test protocol that fits well into a HACCP framework.

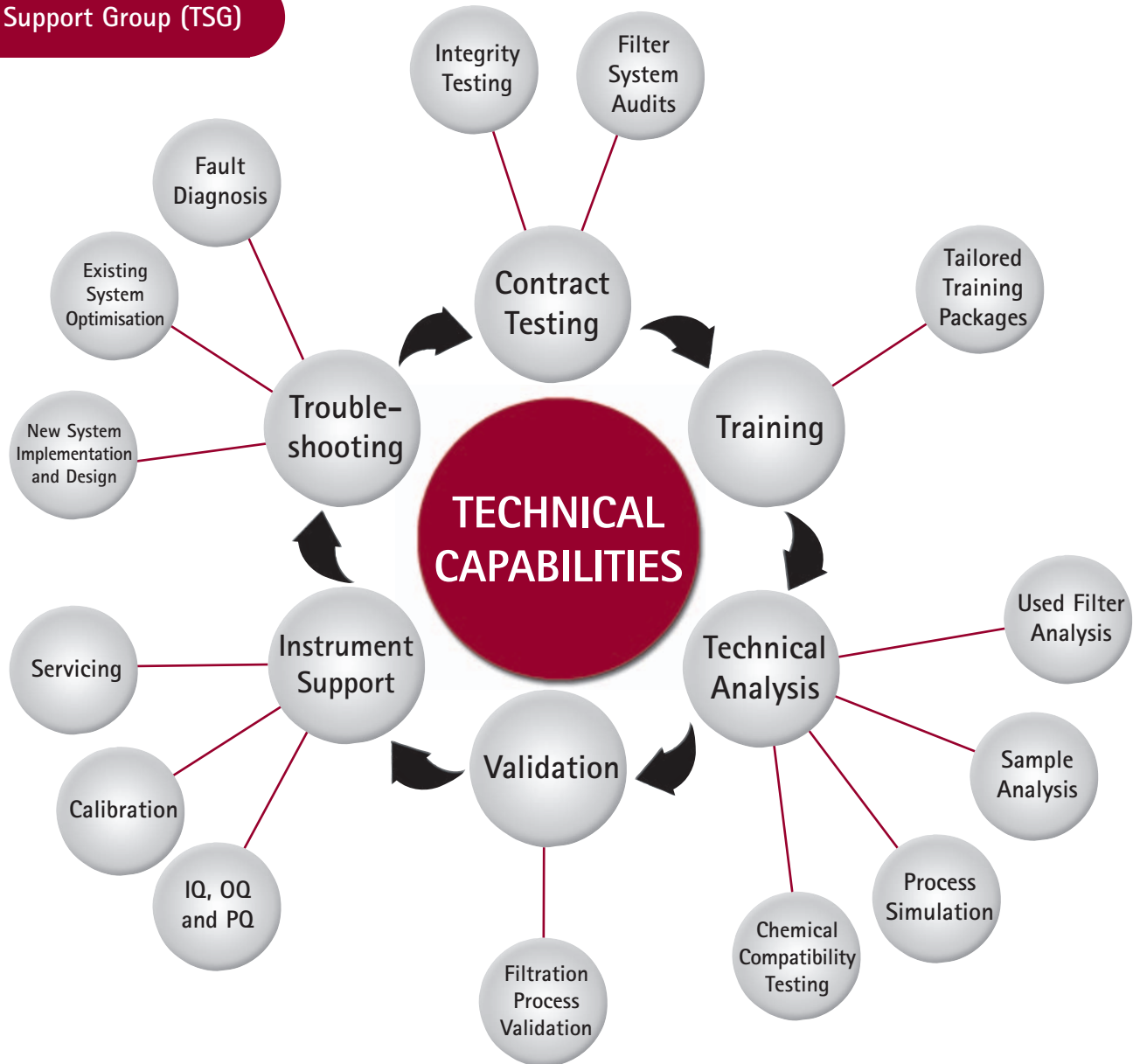
VALA//DATA II

VALA//DATA II is based on an aerosol integrity test, making it the most effective and practical integrity test for sterile gas filters.

BEVCHECK

BEVCHECK is a hand-held instrument that provides a convenient and easy means of carrying out pressure decay and diffusional flow integrity tests, on liquid filters or sterile gas filters.





Technical Support Group

dedicated support team

domnick hunter has a multi-disciplined team of scientists and engineers dedicated to the technical support of our products. Situated at facilities around the globe including centres of excellence in Birtley, UK and Oxnard, USA.

Through the Technical Support Group (TSG) and Laboratory Service Group (LSG), our teams assist clients in the selection and design of filtration systems coupled with ongoing support including: validation services, instrument servicing and calibration, contract testing, delivery of training programmes, on-site support (system optimisation, trouble shooting) and an advisory service.

The commitment of our people is backed up by state-of-the-art facilities. Our Birtley site has been the subject of a major investment programme to extend existing laboratory, manufacturing and training capabilities. This supports our commitment to provide world-class products and support services.

- Filtration process validation.
- Industry tailored training.
- Process optimisation.
- Instrument support.



Products



Also available for sampling and small scale applications.

Liquid Prefilters

Clarification

Filtration Media

Retention Rating

Key Benefits

	PEPLYN HD	PEPLYN HA	PREPOR GF	PROPLEAT	PROSPUN	BAG FILTERS
	Polypropylene	Polypropylene	Glass microfibre	Polypropylene	Polypropylene	Various
	5 – 35 microns absolute	3 – 100 microns absolute	2 – 10 microns absolute	1 – 75 microns	0.5 – 75 microns	Medium to coarse
	<ul style="list-style-type: none"> Graded density and increased depth resulting in high dirt holding capacity Ideally suited to high volume, forward flow processes 	<ul style="list-style-type: none"> Graded density results in high dirt holding capacity Optimised pleat configuration maximises backwash efficiency Wide range of chemical resistance improves chemical regeneration 	<ul style="list-style-type: none"> High voids volume glass microfibre media provides high dirt holding capacity Higher flow than polypropylene media results in low pressure drop even in viscous liquids 	<ul style="list-style-type: none"> Economical general clarification Higher area than spun products provides longer life to blockage 	<ul style="list-style-type: none"> Economical general clarification Excellent first-stage protection of downstream processes 	<ul style="list-style-type: none"> Economical general clarification in non-critical applications

Liquid Prefilters

Stabilisation

Filtration Media




Retention Rating

Key Benefits



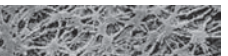
	PREPOR GP	PREPOR PP	FILTER SHEETS	LENTICULAR FILTER	CARBOFLOW MX
	Glass microfibre Polypropylene	Polypropylene	Cellulose / diatomaceous earth	Cellulose / diatomaceous earth	Extruded activated carbon
	0.6 – 1.5 microns stabilising	0.6 – 1.5 microns stabilising	Stabilising – coarse and powder support grades	Stabilising – coarse	Adsorptive colour, odor and taste removal
	<ul style="list-style-type: none"> Composite media provides high strength and dirt holding capacity High efficiency removal of spoilage organisms and yeast Improves filterability which increase the life to blockage of downstream membrane filters 	<ul style="list-style-type: none"> Maximised chemical and mechanical resistance for repeated regeneration Yeast removal and spoilage organism reduction Improves filterability which increase the life to blockage of downstream membrane filters 	<ul style="list-style-type: none"> Adsorptive and mechanical filtration provides high clarity and physical stability Stabilising grades to remove yeast and spoilage organisms 	<ul style="list-style-type: none"> Adsorptive and mechanical filtration provides high clarity and physical stability Stabilising grades to remove yeast and spoilage organisms Convenient fully enclosed design 	<ul style="list-style-type: none"> High capacity, long life Extruded media provides particulate reduction as well as adsorption

Products

Sterile Liquid Filters

	BEVPOR PS	BEVPOR PH	BEVPOR PT
			
Filtration Media	Polyethersulphone	Polyethersulphone	Polyethersulphone
Retention Rating	0.2 – 1.2 microns sterilising	0.2 – 1.2 microns sterilising	0.2 – 0.65 microns sterilising
Key Benefits	<ul style="list-style-type: none"> Can be sanitised and regenerated for extended life Low adsorption of protein colours and flavours 	<ul style="list-style-type: none"> Integral prefilter layer maximises service life Can be sanitised and regenerated for extended life Higher surface area extends service life 	<ul style="list-style-type: none"> Prefilter layer removes colloids extending service life Low adsorption of protein, colours and flavours

Sterile Gas and Vent Filters

	HIGH FLOW BIO-X	BIO-X	TETPOR AIR
			
Filtration Media	PTFE Impregnated Glass Fibre	Glass Microfibre	Expanded PTFE
Retention Rating	0.01 microns sterilising	0.01 microns sterilising	0.01 microns sterilising
Key Benefits	<ul style="list-style-type: none"> 94% voids volume PTFE impregnated GF Exceptional flow rates with low pressure drops Integrity testable by aerosol challenge 	<ul style="list-style-type: none"> High Temperature operation 200°C (329°F) Robust construction Full range of retrofits Integrity testable by aerosol challenge 	<ul style="list-style-type: none"> Assured biosecurity with absolute rated filtration High voids volume PTFE membrane Unique prefilter layer Steam sterilisable to 142°C (287°F)





For full range of Custom and Industry Specific Housings and Skids, please contact domnick hunter





Also available for sampling and small scale applications.

Steam Filters

	SINTERED	PLEATED
		
Filtration Media	316L	316L
Retention Rating	1.0 – 25 microns	1.0 – 5.0 microns
Key Benefits	<ul style="list-style-type: none"> Ideally suited for lower flow rate applications Available in culinary grade 1 micron Low pressure drops 	<ul style="list-style-type: none"> Re-cleanable metal fibre 316L Stainless Steel Exceptionally high flow rates Available in culinary grade 1 micron

Integrity Test

	VALA/RDATA II	BEVCHECK
		
Tests	<ul style="list-style-type: none"> Aerosol challenge 	<ul style="list-style-type: none"> Pressure decay Diffusional flow
Key Benefits	<ul style="list-style-type: none"> 30 second test for single 10" cartridge, filter back in use immediately after test Increased sensitivity compared to liquid based test Easily applied to multi-cartridge systems Test results download to PC 	<ul style="list-style-type: none"> Portable – lightweight, hand held unit Simple to use – pre-programmed operation Flexible – wide range of test parameters Robust – IP53 protection and wipe-clean surfaces Stores up to 100 test reports

MAXIGAS

nitrogen generators



- On-demand, Secure Supply
- The Safest Supply
- Generate The Right Purity
- Space Saving
- Easy to increase supply as required

You can now generate your own nitrogen gas at the press of a button - as much or as little as you need, at a fraction of the cost of your existing supply and at the purity your process requires. The generators are virtually maintenance free. Simply switch on and let your domnick hunter nitrogen generator do the rest.

For more information publication number: 174004791

ES2000

oil / water separators



- Help to protect and maintain the environment
- Efficiently separate oil and water on-site and return up to 99.9% of the condensate to foul sewers
- Meet trade effluent discharge regulations
- Rapid payback over conventional disposal methods

Discharging oil contaminated condensate from compressed air systems is not only harmful to the environment, it is invariably illegal.

Oil spillages from industry do not have to be big to be serious. One litre of oil can cover 3500m² of water surface. One gallon of oil can cover 4 acres of water surface.

For more information publication number: 174004429

OIL-X EVOLUTION

compressed air filters



- High quality ISO 8573.1 : 2001 compressed air
- Running costs that start low and stay low

OIL-X EVOLUTION has been designed from the outset with the key design focus concentrated in critical areas such as air flow management, filtration media selection and construction and the efficient removal of coalesced liquid. OIL-X EVOLUTION has also been designed to be fully compliant with the latest ISO8573.1 : 2001 air quality standards as well as the forthcoming ISO12500 standard for filter testing.

For more information publication number: 174004402

ED2000

series condensate drains



- Removes liquid condensate efficiently
- Saves valuable compressed air
- Protects downstream equipment and processes from condensate damage
- Help protect the environment

Consider the compressed air and energy losses associated with the common types of drain. What appears to be a good purchase could actually turn out to be the most expensive option. For example, a system using a single timed drain, could lose approximately 0.062m³/min (2.18cfm) of air.

Over a full year of continuous operation that equates to approximately 32,798m³ (1,142,669 ft³) of air lost! In energy terms that single drain would use 3,581 KW (4,804 hp) energy per year! Now multiply by every drain of that type in the system.

For more information publication number: 174004423

PNEUDRI

desiccant dryers



- Highest Quality Air
- Totally stops corrosion and damage
- Low installation costs
- Energy efficient

PNEUDRI cleans and dries compressed air down to -40°C (-40°F) PDP as standard and for critical applications, PNEUDRI can be supplied with a dewpoint of -70°C (-100°F) PDP.

Our award-winning modular design utilises **domnick hunter** patented technology to provide the ultimate in uncompromising performance, security and reliability for your compressed air system.

For more information publication number: 174004759

CRD

refrigeration dryers



- Environmentally friendly R407C refrigerant
- Energy efficient, low running costs
- Suitable for high ambient operating conditions up to 50°C (122°F) and inlet temperatures up to 60°C (140°F)

Remove water from any compressed system economically. Well proven refrigeration principles are at the heart of this reliable and complete product range.

Avoid corrosion, machinery failure and product spoilage. Reduce energy costs and improve productivity by installing a **domnick hunter** refrigeration dryer with OIL-X EVOLUTION filtration.

Modern features include the latest technology ultra-compact modular aluminum cross flow heat exchangers with low differential pressure and energy efficient scroll compressors (most models).

For more information publication number: 174004566

PCO2

carbon dioxide polishing filter



- Ensures compliance with quality guidelines published by the International Society for Beverage Technologists (ISBT)
- Protects drinks manufacturing processes from vapour impurities

The **domnick hunter** PCO2 range of carbon dioxide purifiers will remove harmful contaminants from CO_2 used in the manufacture of beverages.

The PCO2 cartridge incorporates a mix of adsorbents that effectively remove the contaminants. The addition of a particulate retention filter, providing protection down to 0.01 micron, completes a package that will ensure CO_2 conforms to the quality guidelines for carbon dioxide (published 1999) by the International Society for Beverage Technologists. (ISBT)

The **domnick hunter** PCO2 Carbon Dioxide Polishing Filter, model: MF-5 is designed to give point of use protection in draught dispense applications.

For more information publication number: 174004462

HYPERCHILL

precision chilled water



- Standard custom designed options provide unrivalled choice
- Wide range of cooling capacities
- Minimal space-saving footprint
- Low energy consumption

Hyperchill is the new range of precision water chillers by **domnick hunter** Hiross. The range covers cooling capacities from 2 to 360 kW. Each model is designed for safe and reliable operation, whatever the working conditions.

Flexibility and an extensive range of options ensure that Hyperchill operates continuously and efficiently whatever the conditions. All models accept water inlet temperatures up to 30°C and water outlet temperatures down to 0°C . Custom-designed alternatives for tower temperature glycol solutions are also available.

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