

Cost Reduction and Process Optimisation In Beverage Production



Key Capabilities

Amazon Filter's is able to offer specific products designed for the following beer, wine, water and soft drinks applications :-

- Product stabilisation and sterilisation
- Yeast and cyst removal
- Product clarification and general bioburden reduction
- Air and CO₂ filtration
- Process water filtration



Some of the companies we deal with :

Britvic, Carlsberg, Heineken, Inbev, Nestle, Coca-Cola



Key Filtration Products

Our beverage filters are designed to improve process economics by providing high flow rates, long life and compatibility with most regeneration processes

- **SupaPore VPW** and **VPWA** for critical product stabilisation/ sterilisation applications
- **SupaPore FPW** for fine clarification, product polishing and bioburden reduction
- **SupaSpun II** and **SupaPore PPG** for general clarification, particulate removal and cryptosporidium control
- **SupaPore TP** for air and CO₂ filtration
- A full range of housing designed and manufactured to meet your application requirements



Performance Standards for Beverage Products

- Materials of construction meet EU and US requirements for food contact and filters are adhesive free
- Wide chemical compatibility allows regeneration and extended service life
- Robust construction allows sanitisation with steam or hot water
- Products fully supported with a comprehensive validation guide



SupaPore PES Filters – Key Features and Benefits

- **SupaPore VPW** PES membrane provides high flow rates minimising process time
- **SupaPore VPWA** has integral prefiltration layer providing longer life to minimise production costs
- Both contain low adsorption PES membrane preserving colour and flavour components in beverage
- High compatibility filter allows repeated sanitisation further reducing filtration costs



Key Application Areas

- 'Sterile' Beer Filtration (0.45/0.65 μ m)
 - Used to remove yeast and spoilage organisms before kegging & bottling
- 'Sterile' Bottling of Wine (0.45/0.65 μ m)
 - Used to remove yeast and spoilage organisms from wine prior to bottling
- Bottled Water (0.2 μ m)
 - Used to sterilise water prior to bottling
- Bioburden control for process water

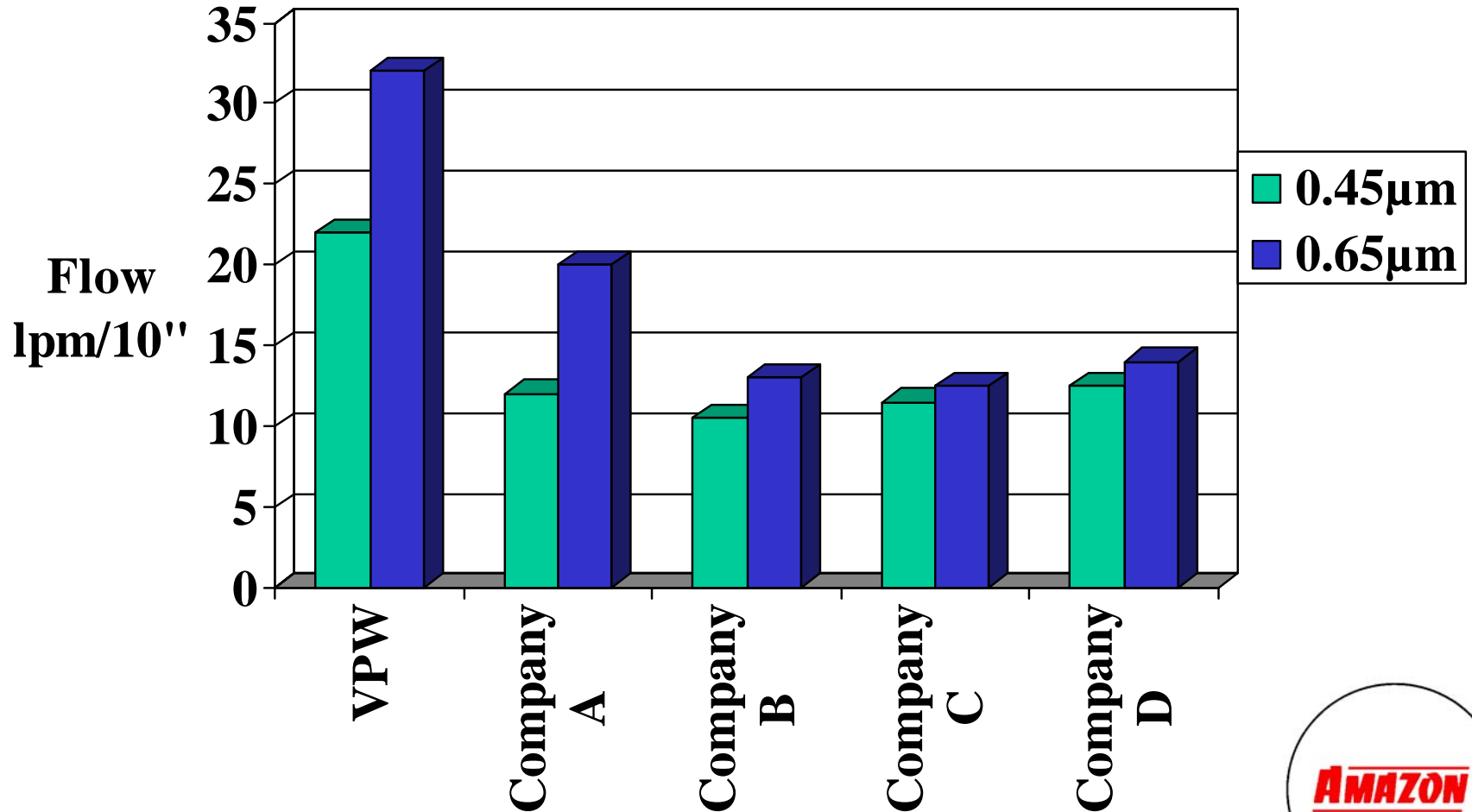


SupaPore VPW/VPWA Technical Data

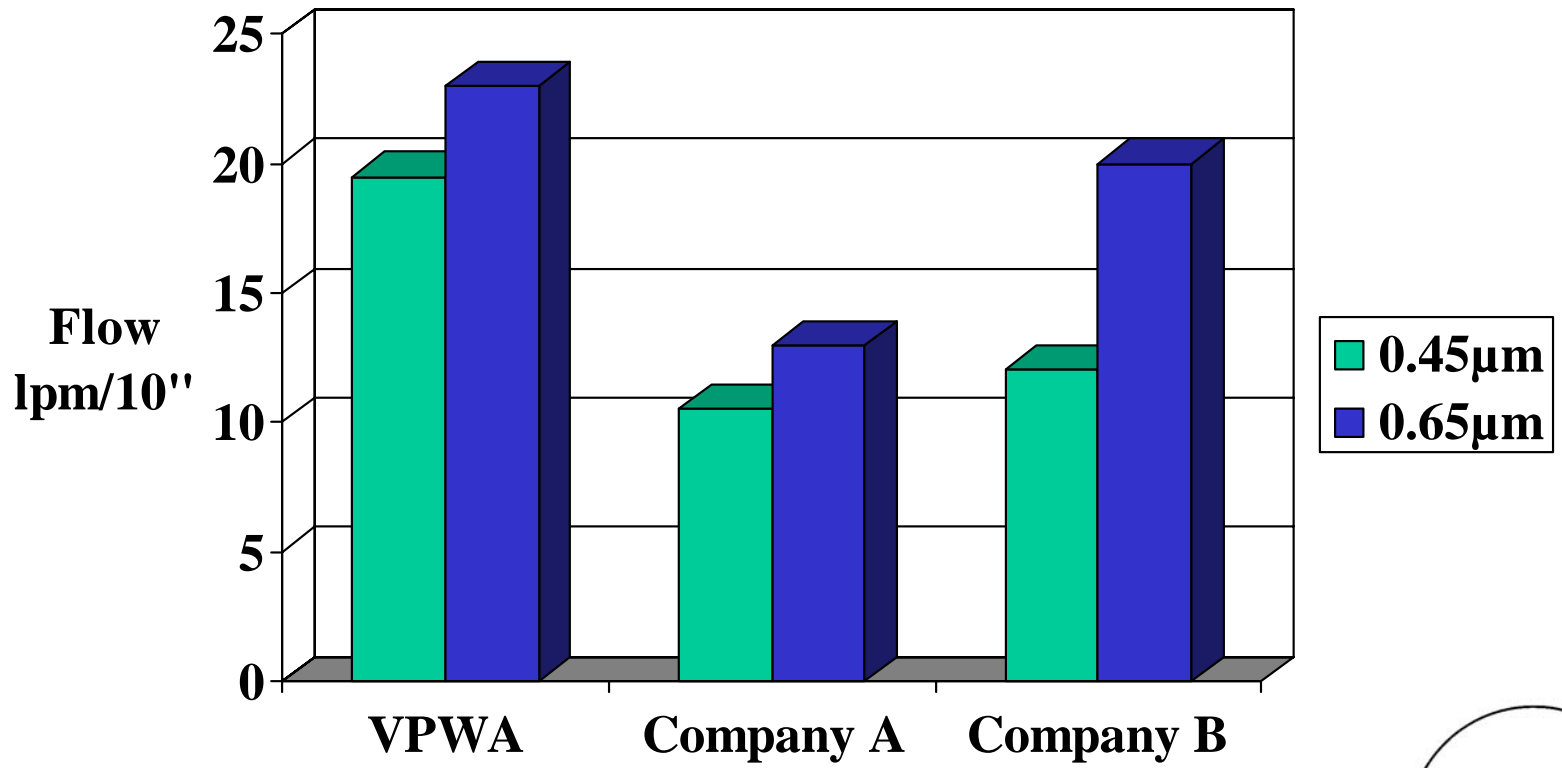
- Filters available with 0.2, 0.45, 0.65, 0.8 and 1 μ m ratings
- Integrity testable by diffusional flow and bubble point
- Filters can be sanitised by hot water and a range of chemicals
- Chemical agents :
 - Peroxyacetic acid, Hydrogen peroxide, Sodium hypochlorite, Peracetic acid



Flow Comparisons – Single Layer Filters



Flow Comparisons - Double Layer Filters



VPWA/VPW – Which One to Use

- **SupaPore VPWA** has built-in prefiltration so offers longer life and is more suited to
 - Larger scale multi-batch operations
 - For solutions with greater dirt loading
 - Processes with less effective prefiltration
 - To replace existing dual layer product
- **SupaPore VPW** is more suited to
 - Single batch operations
 - Beverages with lower dirt loading e.g. water
 - Processes with more effective prefiltration
 - To replace existing single layer filter



SupaPore FPW – Key Features and Benefits

- **SupaPore FPW** contains an advanced borosilicate glass microfibre media
- Media is pleated but has enhanced depth characteristics for high flows and longer life
- Excellent for fine clarification, product polishing and bioburden reduction in all beverage applications
- Available in 2 grades to allow tailoring to application



SupaPore FPW - Technical Data

- Performance ratings
 - X grade : protects 0.2 – 0.45 μm membranes
 - V grade : protects 0.65 – 1.0 μm membranes
 - >11 LRV for *Oenococcus oeni*
- Flow rate at 100mbar ΔP per 10"filter
 - V grade : 42 l/min
 - X grade : 34 l/min
- Filters can be sanitised by hot water and a range of chemicals
- Chemical agents :
 - Peroxyacetic acid, Hydrogen peroxide, Sodium hypochlorite, Peracetic acid



SupaSpun II– Key Features and Benefits

- Precision graded density depth filter providing high 'dirt capacity' in the most demanding beverage applications
- Thermally bonded polypropylene fibre matrix provides absolute filter for reproducible performance under process conditions
- **SupaSpun II** is available in a range of pore sizes from 0.3 μm to 180 μm so suitable for a wide range of beverage clarification and membrane protection applications
- 1 μm independently tested and complies with requirements for Cryptosporidium removal



SupaSpun II - Technical Data

- Available as double open-ended and plug-in cartridge styles with a range of adaptors
- Plug-in style cartridges can be repeatedly steam sterilised
- Filters can be sanitised by hot water and a range of chemicals
- Chemical agents :
 - Peroxyacetic acid, Hydrogen peroxide, Sodium hypochlorite, Peracetic acid



SupaPore TP – Key Features and Benefits

- **SupaPore TP** utilises a naturally hydrophobic PTFE membrane
- Retains high flow characteristics throughout the range of process conditions seen in beverage plants
- Fully validated as a sterilising grade filter so the ideal choice for systems requiring sterile air, CO₂ and Nitrogen
- Can be repeatedly steamed to minimise production costs



Filter Housings

Filter housings are designed to International pressure vessel design codes (ASME VIII Div 1 and PD5500)
ATEX and Pressure Equipment Directive (PED)
97/23/EC compliant



- Third party verification and full document control procedures
- Excellent finish specifications
- Well established & reliable safety record
- Wide selection of stainless steels and exotic alloys



Example Applications

Trap Filtration in breweries - **SupaPore PPG** cartridges rated at 10 μm absolute

Cold Stabilisation of beer - **SupaPore VPWA** cartridges rated at 0.45 μm absolute

Fine filtration of wine to remove residual yeast and particulates – **SupaSpun II** cartridges rated at 1 μm absolute

Sterile filtration of wine prior to bottling - **SupaPore VPWA** cartridges rated at 0.65 μm absolute

Removal of cysts from soft drinks - Crypto (CRY) grade **SupaPleat II** cartridges



Summary

- Amazon Filters supplies a range of filters and housings to meet the specific needs of beverage manufacturers
- We provide high performance filters for product clarification, stabilisation and sterilisation and for filtration of water, air and CO₂
- Filters improve process economics by providing high flow rates, long life and compatibility with most regeneration processes

