

FILTRATION SOLUTIONS

WATER TREATMENT PROCESSES



AMAZON

The Amazon logo is positioned in the bottom left corner of the page. It consists of the word "AMAZON" in a bold, red, sans-serif font, with a horizontal line above the letters. The logo is enclosed within a thin black circular border. The background of the page features a decorative graphic of overlapping, wavy lines in shades of blue, yellow, and red.

Delivering quality filtration products...

As one of Europe's leading manufacturers of process filtration systems, Amazon Filters is able to offer a solution to meet all your filtration needs.

Amazon Filters' understanding and knowledge of the wide range of Water Treatment processes is our strength. We have significant experience in supplying filtration systems for the production of purified and process water, for desalination plants and for municipal water supply. This expertise enables us to provide you with optimum filtration solutions for your particular process. Our process cartridges offer longer life and greater throughputs or enable the use of smaller systems lowering operating costs and for new installations can also provide savings on capital costs.

We design and manufacture an extensive range of liquid filtration systems, providing one of the widest selections of filtration vessels, depth filters and pleated cartridges available today. Amazon's filters are manufactured in clean room conditions and all products come with detailed Product Validation Guides and Technical Support documentation.

Customer Commitment

Delivering quality filtration products to our customers is only one of the major factors in Amazon Filters' success. Another is in providing a level of customer service that few, if any, competitors can match. Recognised as a reliable and trustworthy supplier, Amazon targets first class service performance in terms of on-time deliveries, same-day dispatch and quick response to enquiries. These are some of the factors that make Amazon stand out from the rest.

Quality Approval

Amazon Filters is accredited to ISO 9001:2008 by one of the world's most prestigious and respected accreditation bodies, the British Standards Institute. Our certificate number is FM 39584. To support and complement the Company's quality systems, Amazon Filters is also actively engaged in gaining approvals for its products in specific industries. For example, **SupaSpun II** filters have gained accreditation for use in public water supplies under Regulation 31 of the UK Water Supply (Water Quality) Regulations 2000, one of very few products to achieve this high standard of approval. A selection of our products have been independently tested and verified for the effective removal of *Cryptosporidium*. These filters are also WRAS Approved and supported by WRAS Approved housings. We also have the ability to carry out in-house testing on products and processes to provide a complete service for all clients.



Purified Water Systems

Purified water systems are used by a diverse range of industries. The design of the system and the purification equipment used will depend on the users' operation. For instance the needs of a hospital renal unit will be very different to a microchip manufacturer. Whether it is a softener, EDI system, RO membrane, UV tube or storage tank, Amazon Filters has products to help ensure the equipment operates reliably, and the required water quality is achieved.

Raw Water Treatment

Raw water is likely to contain a diverse range of organic and inorganic material. Removal of the particulate contaminants is important to ensure the effectiveness and life of the resin beds used in Water Softeners. Amazon Filters recommends the use of **DuoLine** bags or **SupaGard** meltblown depth filters rated between 10-100 µm for raw water filtration and protection of softening and other pretreatment systems.

Chlorine Removal

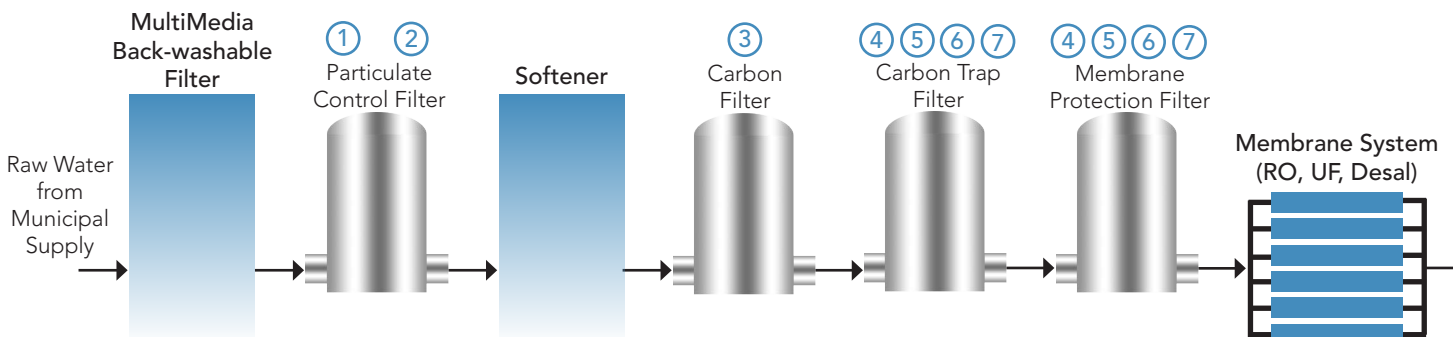
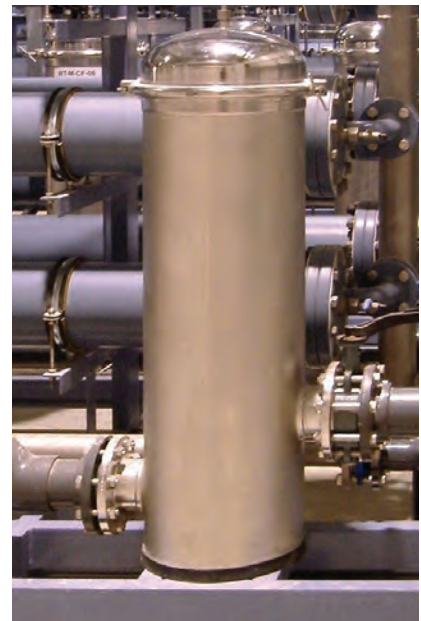
Typical towns mains water will contain a high level of chlorine and other organic contamination which will need removing



to protect sensitive downstream systems such as RO membranes. Using products from the **SupaCarb** range is an efficient and cost effective method for removing chlorine from water.

RO/UF Membrane Protection

Cartridge filters are used to prevent fouling of RO and UF membrane systems by fine particulates and organic material. Manufacturers of membrane products will set a specification for feed water quality and Amazon Filters supplies a range of filters rated at 5 -30 µm to help ensure the water meets these requirements. Typical filters used are **SupaSpun II** depth and **SupaPleat II** pleated filters in standard cartridge format and **Contour** and **SupaPleat FFC** large diameter cartridges for higher flow systems.



Deionisation System Trap Filters

Twin bed, mixed bed and EDI systems rely on effective filtration upstream and downstream. Prefiltration is required to protect the resin beds from particulates that could reduce efficiency and life. Filters are also used as 'traps' on the effluent to capture any shed resin that will contaminate downstream plant. **SupaSpun II**, **SupaPleat II**, **Contour** or **SupaPleat FFC** filters rated at 5 - 10 µm are commonly used upstream and 1 - 5 µm rated filters downstream.

Pre and Post Ultraviolet Treatment

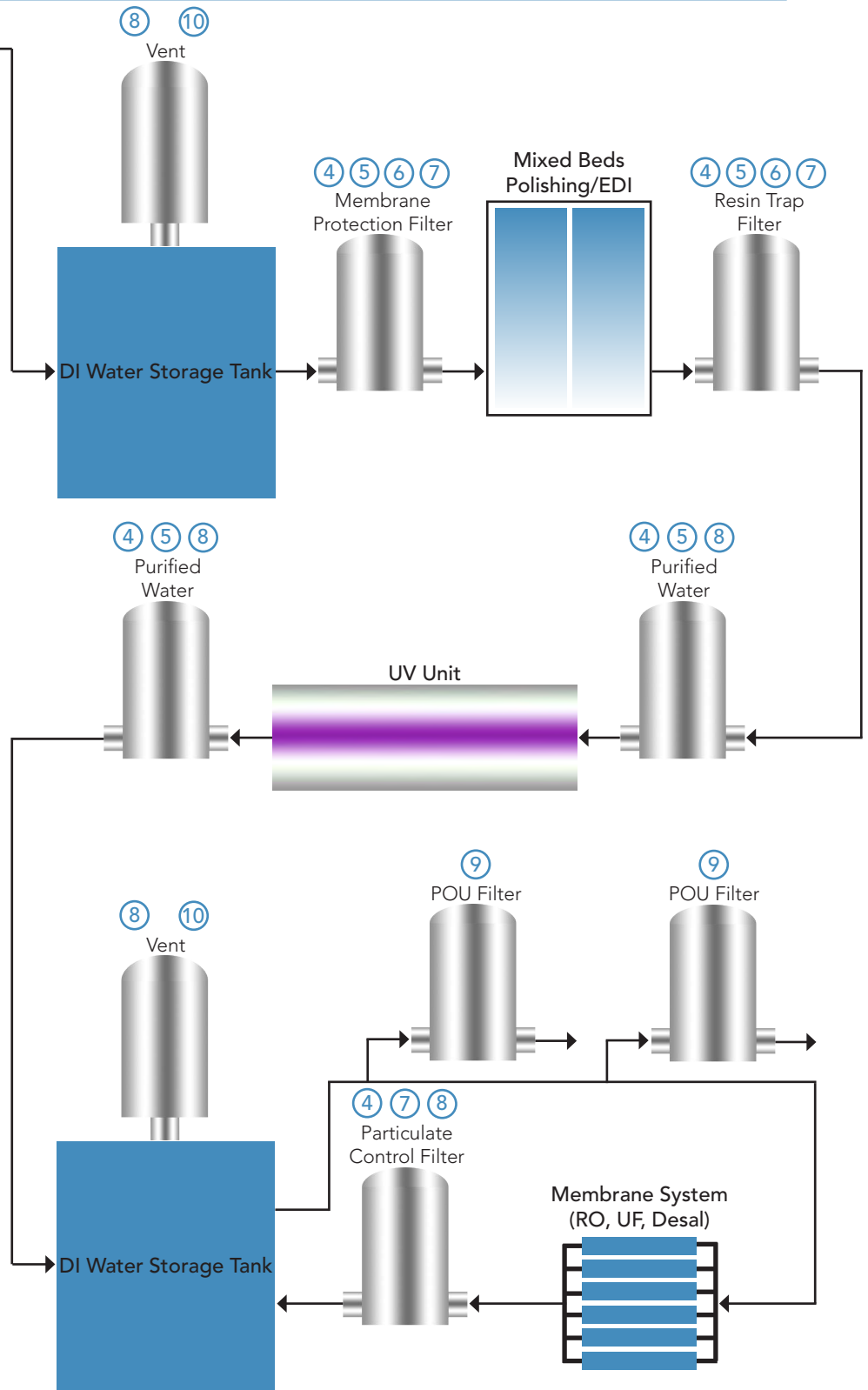
To ensure effective control of bioburden, UV units rely on filtration of the feed water to remove particulates that will produce 'shadowing' and regions where full UV penetration is not achieved. This will reduce the efficiency of the UV treatment. Typically **SupaSpun II**, **SupaPore PPG** or **SupaPleat FFC** filters are used for this application. Filters are also used downstream to capture any treated biomass.

Point Of Use (POU) Filtration

Filters are often installed at Point of Use to remove fine particulates and bacteria that may have been introduced into the water by the distribution system. These may be attached to take-off points, or located at the inlet to the equipment the purified water system is feeding. Amazon Filters supplies a range of **SupaPore VP** cartridge and capsule filters rated at 0.03 - 1.0 µm for these applications. Where endotoxin control is also required we are able to supply specialised cartridges.

Cryptosporidium Removal

Cryptosporidium contamination is a growing concern manufacturers of drinks and food products. Amazon Filters supplies a range of cartridges that have been qualified for effective removal of cryptosporidium. Both **SupaPleat II** and **SupaSpun II** filters are used in water systems for cyst control. **SupaSpun II** filters rated at 1µm absolute are available in standard format and as **SupaSpun II R31**, a special DWI Regulation 31 compliant grade. **SupaPleat CRY** grade filters are offered as standard pleated elements and as the large diameter **SupaPleat FFC** version for higher flow systems.



Filter Key

- | | | |
|---------------|-----------------|----------------|
| ① DuoLine | ⑤ SupaPleat II | ⑨ SupaPore VPB |
| ② SupaGard | ⑥ SupaPleat HFC | ⑩ SupaPore TPB |
| ③ SupaCarb | ⑦ Contour | |
| ④ SupaSpun II | ⑧ SupaPore PPG | |

Continued overleaf

Holding Tank Vents

To maintain the quality of stored water Amazon Filters recommends the use of vent filters. For particulate control **SupaPore PPG** filters rated at 0.6 - 5 µm are recommended. Where protection from airborne bacteria is required PTFE **SupaPore TP** filters or borosilicate **SupaPore FP HOP** filters rated at 0.02 µm are used. We also offer jacketed heated housings for hot water systems to prevent wetting of the filter by

condensation and to maintain full air flow .

Custom Products

Amazon Filters is able to design, develop and manufacture a range of cartridge and capsule devices containing filtration or separation media to meet the specific requirements of water treatment system manufacturers. For more information contact Amazon Filters.

Desalination Systems

The extraction and purification of brackish and seawater is common in coastal municipal water production facilities. Cartridge filters are typically used to protect membrane systems from premature fouling and short life. **SupaGard** and **SupaSpun II** have a proven track record in many plants located around the world in offering excellent membrane protection.

For new builds, the use of standard stainless steel filter housings is not always possible. The alternative options such as lined or Super-Duplex vessels can significantly increase costs. To help overcome these problems Amazon Filters has developed a filtration system comprising of 40" and 60" length **27 Series GRP** polymer based housing and the large diameter **SupaPleat FFC**

filter range. Where flow rates are high the use of a high surface area cartridge can provide a more cost effective solution than standard 65mm diameter filters. This system has been specifically designed to offer excellent protection to membrane systems and reduce the filtration costs associated with water purification.

Engineering Capabilities

Amazon Filters have particular strength in the design and manufacture of filter housings for critical applications. In addition to manufacturing in 316 stainless steels we have extensive experience in the manufacturing of vessels in Duplex (UNS S31803) and Super-Duplex (UNS S32750/60). We also supply carbon steel vessels lined with rubber, vinyl ester or glass flake.

Our design team is fully conversant in the increasing technical demands of pressure vessel design codes including ASME VIII, PD5500 and EN13445. All our products meet the demand of ATEX and conform to the latest version of the Pressure Equipment Directive (PED) 97/23/EC.

Amazon Filters designed and built systems offer water treatment plant suppliers, water companies, EPC contractors and end users the right product on time, every time, making us the ideal partner.

For further information on our product ranges for Water Treatment Systems please contact us at sales@amazonfilters.co.uk



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