



# FILTRATION SOLUTIONS

## WATER TREATMENT PROCESSES



FILTRATION SPECIALISTS

## Delivering quality filtration products...



As one of Europe's leading manufacturers of 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 water, for desalination plants and for municipal water supply. This expertise enables us to provide you with optimum filtration solutions for your particular process.

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; quick response to enquiries and answering 95% of telephone calls within two rings. 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 worlds 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. 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

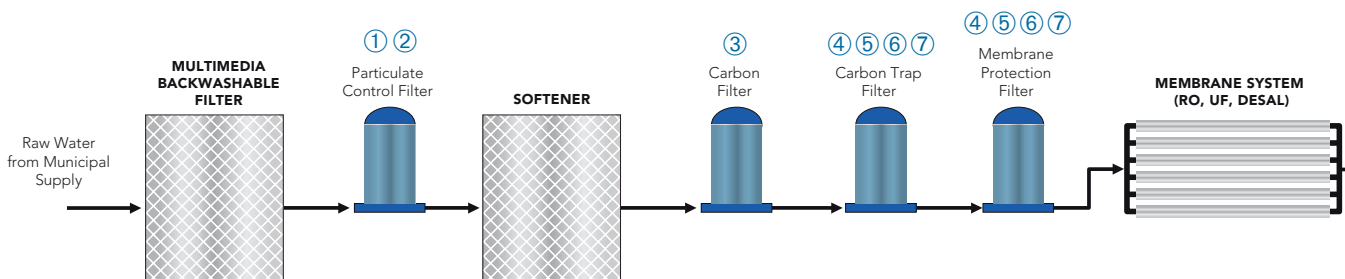
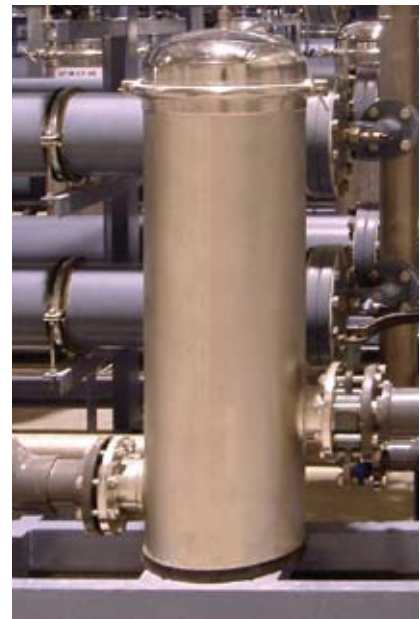
Typical towns mains water will contain a high level of chlorine and other organic contamination which will need removing



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 HFC** 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 HFC** filters rated at 5 - 10 µm are commonly used upstream and 1 - 5 µm rated filters downstream.

**Pre and Post Ultraviolet Treatment**

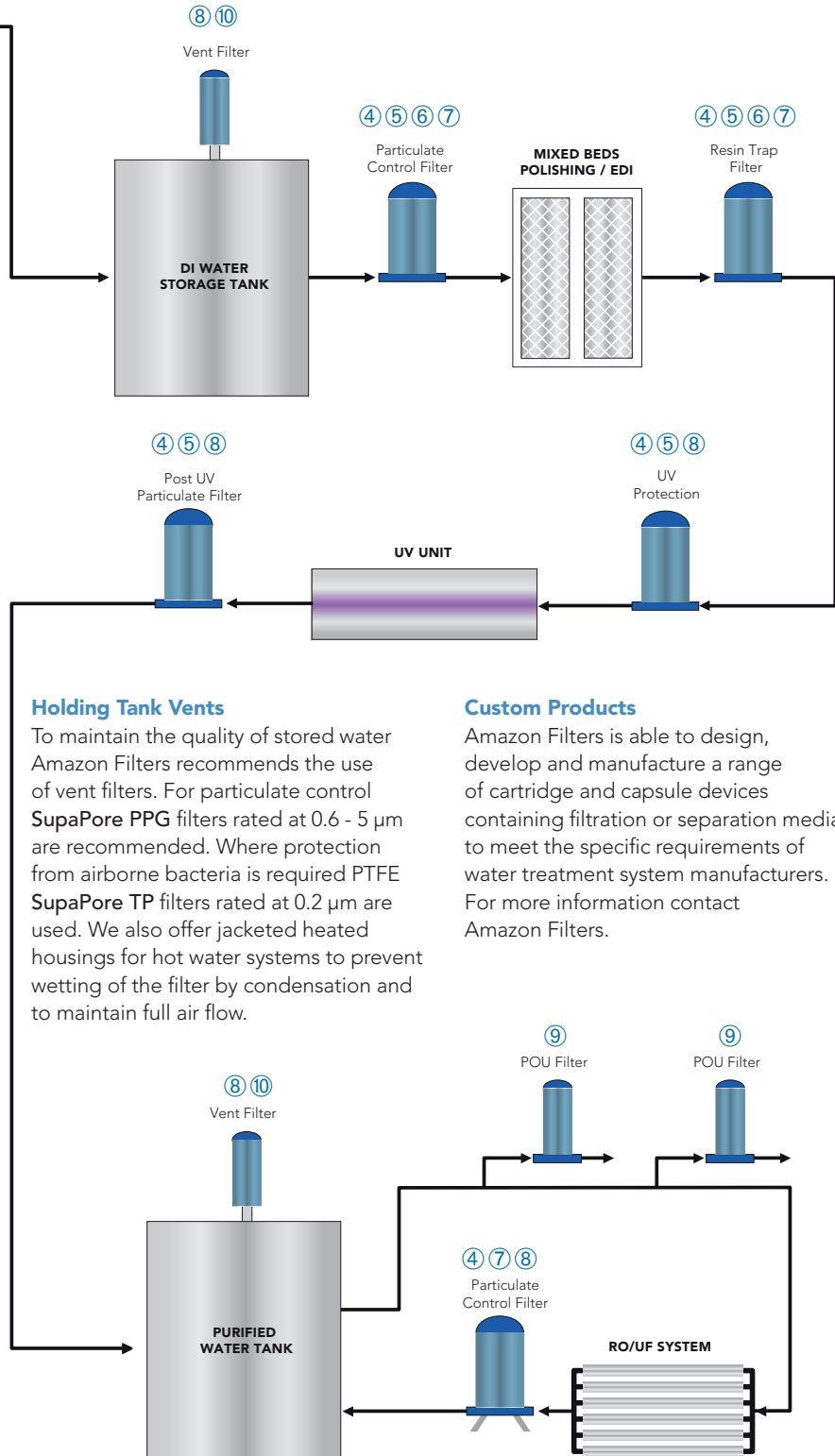
To ensure effective control of bioburden, UV units rely on filtration of the feed water to remove particulates that will produce ‘shadowing’ and regions where full UV penetration is not achieved. This will reduce the efficiency of the UV treatment. Typically **SupaSpun II, SupaPore PPG** or **SupaPleat HFC** 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 for water supply companies and 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 HFC** version for higher flow systems.



**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 rated at 0.2 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.

**FILTER KEY**

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

# Municipal Water

## FILTERS DESIGNED AND APPROVED FOR MUNICIPAL WATER

DWI Regulation 31 requires that only filtration products approved by the Secretary of State can be used in the supply of drinking water. To help water supply companies meet this legal requirement Amazon has introduced **SupaSpun II R31** filters, which are specifically designed and qualified for use in the purification and supply of public water. These high performance depth cartridges have a precision graded structure that provides absolute ratings, high dirt holding capacity and excellent flow rates. They are available in a wide choice of removal ratings and therefore can be used in a range of applications from removal of *Cryptosporidium* oocysts to reduction of turbidity.

### Regulation 31 of the Water Supply (Water Quality) Regulations

**SupaSpun II R31** filters are approved in the UK, Scotland and Wales for use in public water supplies and are included in the UK Secretary of State's List of Approved Products for use in connection with the Supply of water for Drinking, Washing, Cooking and Food Product Production. Details can be found on the DWI's List of Approved Products for use in Public Water Supply in the United Kingdom under reference number DWI 56/4/702.

### Water Regulations Advisory Scheme (WRAS)

**SupaSpun II R31** Filters have passed the UK Water Bylaws /WRC 'Full Test of Effect on Water Quality (BS6920: Part 3) – Cold Water Use' and are approved for use in potable water (Approval No. 0610504)

### Cryptosporidium Removal

**SupaSpun II R31** filters rated at 1 µm have been tested by a DWI approved independent laboratory and typically exhibit >99.998% retention of *Cryptosporidium* oocysts.

### Filter Housings

Amazon designs and manufactures housings to support the use of filter cartridges. These can be supplied as ready to install skids fitted with pipe work, valves, pumps etc, so can easily and quickly be connected to the water



treatment system. Filter housings are also compliant as per Regulation 31 and details can be found on the DWI's List of Approved Products for use in Public Water Supply in the United Kingdom under reference number DWI 56/4/879.

### Key Applications

Using modular filter cartridges and housings provides a contamination control system that offers enormous flexibility and one which can be supplied at short notice. In addition to being an important part of projects to upgrade the water purification systems, they are the perfect solution where unexpected problems occur or mobile units are required. Therefore Amazon Filters' municipal water filtration systems have been adopted by many of the major water supply companies.

Key applications include :-

- Removal of particulates to improve the clarity of the water and meet DWI and OFWAT specifications. Contamination by natural suspended solids such as organic material, silt and sand will increase the turbidity of the water. Cartridge filter systems are an effective method of reducing turbidity levels.
- Control of *Cryptosporidium* infection as part of risk management strategy or as a solution to an unexpected breakout.
- Protection of membranes used for purification or in desalination plant. The use of **SupaSpun II R31** filters can help prevent premature fouling and extend the life of membrane systems.
- Point-of-Entry (boundary box)filtration for where the water quality deteriorates between the pumping station and consumer property



## 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 idea partner.

For further information on our product ranges for Water Treatment Systems please contact us at [sales@amazonfilters.co.uk](mailto:sales@amazonfilters.co.uk)



Distributed by:

**AMAZON FILTERS LTD.**  
**ALBANY PARK ESTATE, FRIMLEY ROAD**  
**CAMBERLEY, SURREY, GU16 7PG ENGLAND**

**Tel.** +44 (0) 1276 670600

**Fax.** +44 (0) 1276 670101

**Email.** [sales@amazonfilters.co.uk](mailto:sales@amazonfilters.co.uk)

**Web.** [www.amazonfilters.co.uk](http://www.amazonfilters.co.uk)