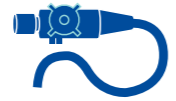


# Process Filtration & Water Treatment Solutions for Hospitals



# CONTENTS



## ENDOSCOPY

Pages 12-17

Related departments;

- Gastroenterology
- Day Surgery
- Ambulatory Services



## INFECTION CONTROL

Pages 18-23

Related departments;

- Haematology
- Oncology
- Intensive Care Unit (ICU)
- Burns Unit
- Maternity



## RENAL DIALYSIS

Pages 24-29

## WARD

Pages 26-27

## HOME PATIENT

Pages 28-29



## INCOMING WATER

Pages 06-11

## MAINS

Pages 8-9

## BOREHOLE

Pages 10-11



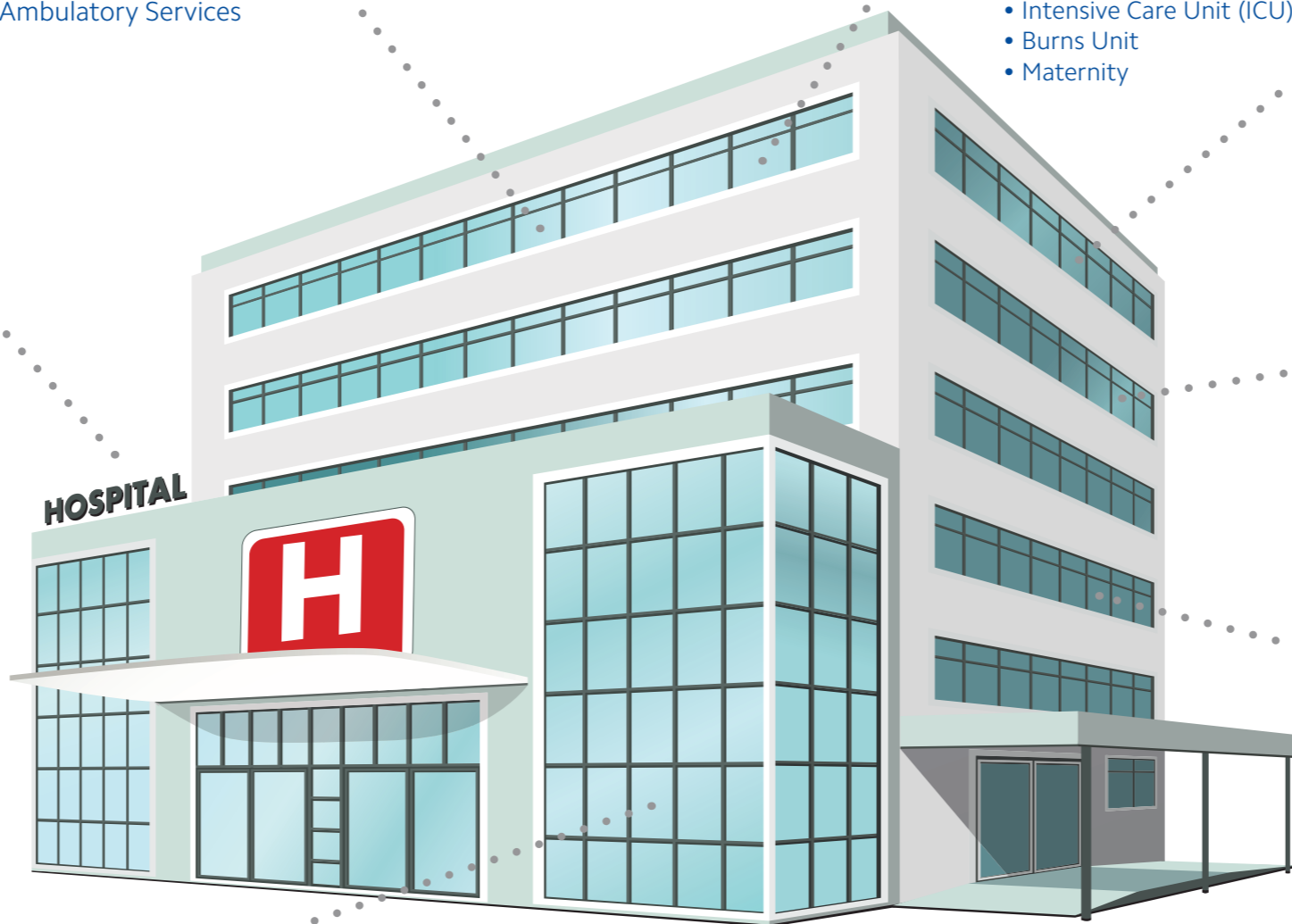
## WATER A CLOSER LOOK

Pages 04-05



## FILEDER

Pages 02-03



## STERILE SERVICES

Pages 30-33

Related departments;

- CSSD
- HSDU



## DENTAL

Pages 34-37



## CERTIFICATION

Pages 48-49



## FACILITIES and SERVICES

Pages 38-47



## BOILER FEED

Pages 40-41



## HVAC

Pages 42-43



## KITCHEN

Page 44



## LAUNDRY

Page 45



## DRINKING

Pages 46-47

easy to  
deal with



# Filtration and Water Treatment for 40 years

Fileder has provided hospitals with filtration and water treatment solutions for 4 decades, helping to produce safe, pure water to meet stringent standards.

Hospitals benefit from Fileder's 'easy to deal with' philosophy, supplying direct from their extensive stock, helping to reduce supplier base and purchasing costs, providing high quality product solutions for use in each department.

Typical challenges include the removal of bacteria, parasites and other microorganisms from water that may cause infection or contamination of critical medical processes.

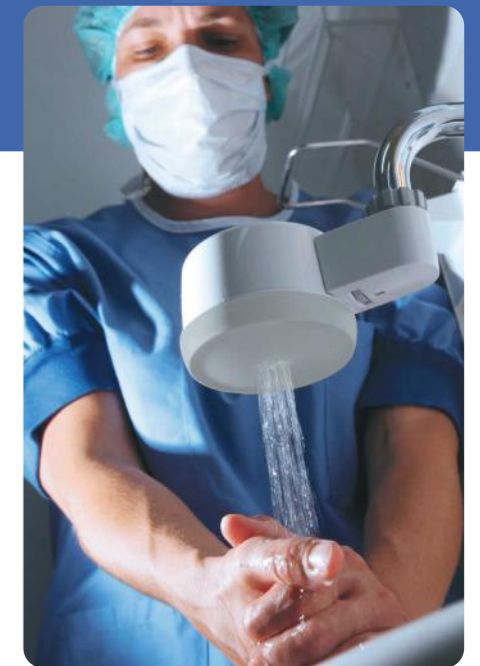


Fileder stock over

**£5m**  
of product

... available for next day delivery. You can trust Fileder to get the goods to you when you require them.

Our team of experts work with hospital and healthcare professionals to provide solutions to water compliance challenges.



## Compliant

Certified and compliant products tested to the high standards required by our clients, form part of Fileder's extensive product portfolio. Approvals from WRAS, NSF, CE and DWI amongst others, puts Fileder at the forefront of high quality filtration supply.



Supplying the quality filtration brands you can trust...







# WATER: A CLOSER LOOK

The following contaminants found in water can cause problems:

Contaminants	Particulate	Disinfectant	Organics	Bacteria	Scale	Parasites	Pesticides	Colour	High Salts (Alkali)	Low Salts (Acidic)
<b>Examples</b>	Dirt, sediment	Chlorine, chloramine	Leaves, mould, animal waste	<i>Legionella, pseudomonas</i>	Calcium, magnesium	<i>Cryptosporidium, giardia</i>	Nitrates, phosphates	Iron, tannins, algae	Potassium, sodium, chlorides	Purified water
<b>Effects</b>	Blocks pipework, equipment damage and bacterial growth	Poor taste, attacks RO membranes	Bio-film growth, poor taste	Illnesses including Legionnaires disease	Blocked pipes, higher energy costs	Diarrhoea and vomiting	Gastric issues, blue baby syndrome	Staining, dehydration	Mineral build-up, high blood pressure	Dissolves metal pipes and valves
<b>Treatment</b>	<p>Bag Filter</p>	<p>Carbon Cartridge</p>	<p>Carbon Cartridge</p>	<p>Ultraviolet Disinfection System</p>	<p>Ion Exchange Resin (Softening)</p>	<p>Absolute Pleated Cartridge for Parasites and Cysts</p>	<p>Reverse Osmosis</p>	<p>Carbon Cartridge</p>	<p>Ion Removal Resin</p>	<p>pH Correction</p>
	<p>Spun-Bonded Cartridge</p>			<p>Hollow Fibre Cartridge</p>				<p>Ion Removal Resin</p>		
	<p>Pleated Cartridge</p>			<p>Absolute Pleated Cartridge for Bacteria</p>						
	<p>Absolute Pleated Cartridge</p>			<p>Absolute Pleated Cartridge for Endotoxins</p>						



## INCOMING WATER

---



Hospitals store large volumes of water to distribute through long and complicated pipework. Cleaning the water at this initial stage has benefits for an entire hospital's water network.

---

- Clean water storage tanks
- Minimised maintenance on pipework and equipment
- Reduced bacteria growth





# INCOMING WATER: MAINS

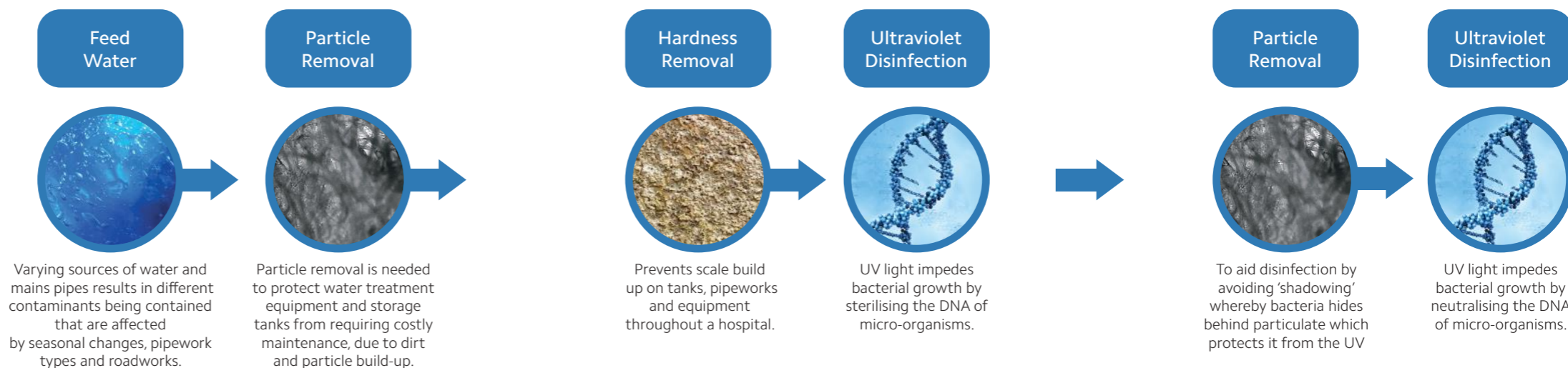
## The Challenges

- Sediment build-up in storage tanks results in the need for regular cleaning
- Particulate in pipes encourages bio-film and bacterial growth resulting in higher usage of disinfection chemicals
- Scale and dirt build-up in pipes results in pumps requiring more energy to operate
- Dirt in machinery around a hospital causes breakdowns and higher maintenance expense
- Bacteria growth in storage tanks causes hospital-wide issues
- Sediments in water treatment equipment and resins increase maintenance and salt usage



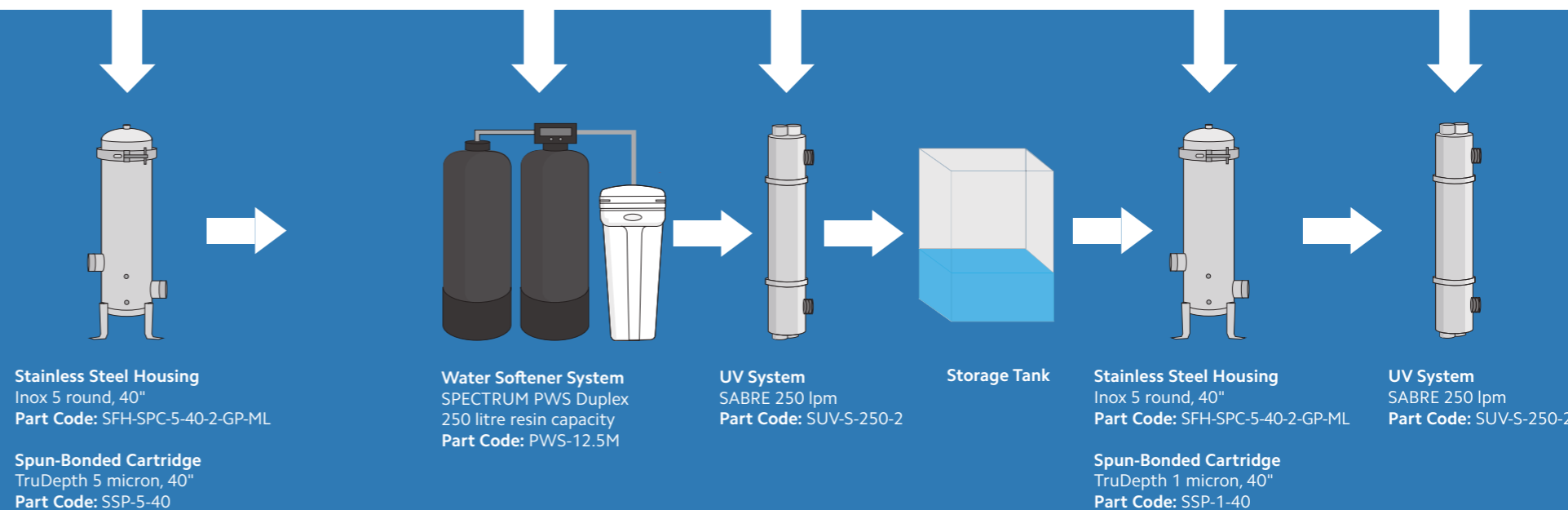
## The Solution

- Remove all visible particulate before a softener and storage tank by using depth filtration
- Remove the hardness using an ion exchange resin process
- Disinfect the water prior to distribution using UV light to suppress bacteria growth in downstream pipework



## Fileder Recommends

- High dirt holding SPECTRUM polypropylene spun cartridges in a durable 316 stainless steel housings
- Continuous supply SPECTRUM PWS Duplex softener to remove hardness from water
- High dosage SABRE UV disinfection systems
- To suit flow rates to 7m<sup>3</sup>/hr





# INCOMING WATER: BOREHOLE

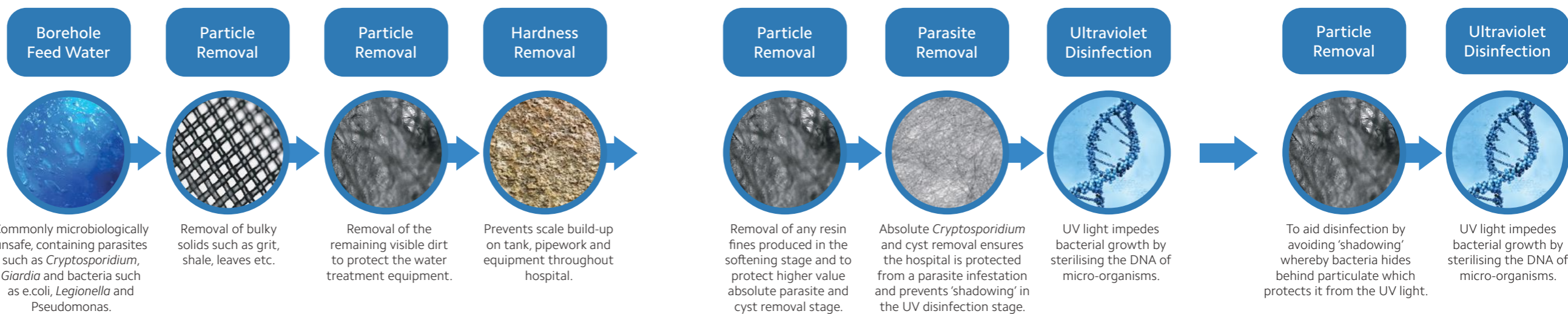
## The Challenges

- Parasites, such as *Cryptosporidium* and *Giardia*, infest water causing sickness in the young and elderly
- Bacteria in microbiologically unsafe water can cause hospital-wide issues across many departments
- Sediment build-up in storage tanks results in the need for regular cleaning
- Particulate in pipes encourages bio-film and bacterial growth, resulting in a higher usage of disinfection chemicals
- Scale and dirt build-up in pipes results in pumps requiring more energy to operate
- Dirt in machinery around a hospital causes breakdowns and higher maintenance expense



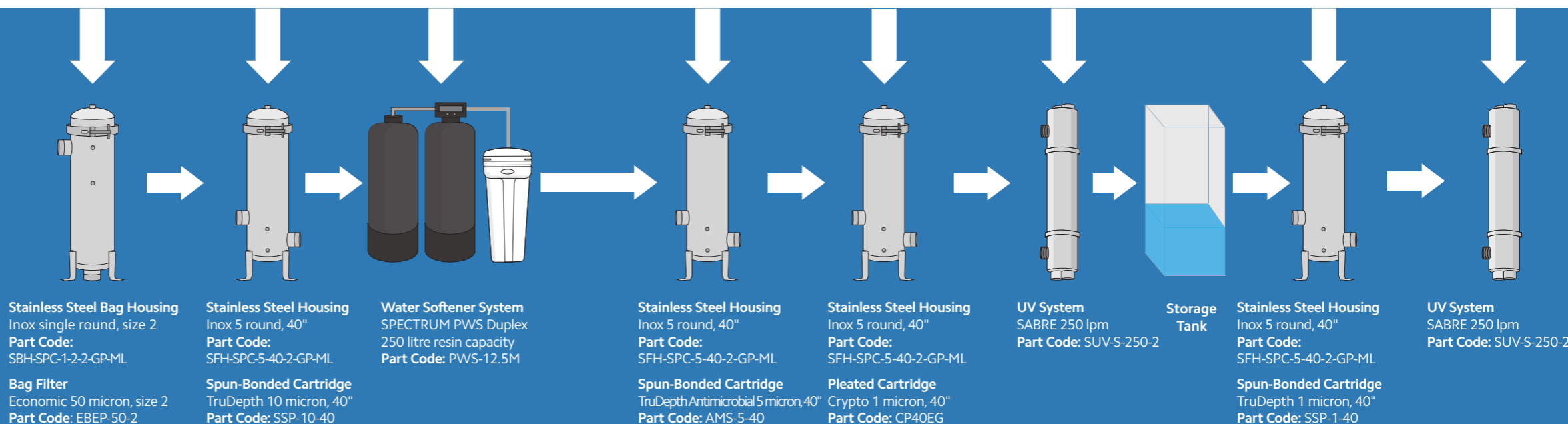
## The Solution

- Remove particulate using a combination of bags and depth cartridges.
- Remove the hardness using ion exchange resin process
- Increase parasite removal protection with antimicrobial depth cartridges
- Guard against parasites with certified pleated cartridges
- Disinfect water before storage with ultraviolet light and again prior to distribution to suppress bacteria growth downstream



## Fileder Recommends

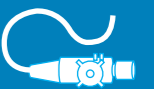
- Economic, high dirt holding SPECTRUM polypropylene bags and spun cartridges, in durable 316 stainless steel housing
- Continuous supply SPECTRUM PWS Duplex softener to remove hardness from water
- SPECTRUM AMS cartridges developed to inhibit the growth of trapped bacteria and microbes within a filter
- Certified absolute SPECTRUM Crypto glass fibre pleated cartridges - *Cryptosporidium* removal at 1 micron absolute - in a durable 316 stainless steel housing high dosage SABRE UV disinfection systems
- To suit flow rates to 7m<sup>3</sup>/hr







## ENDOSCOPY



The quality of the water used in the Automated Endoscope Reprocessors (AER) is paramount for the cleanliness of endoscopes. This is particularly important at the final rinse stage where the disinfectant chemicals are washed off and bacteria is not introduced from this water. It is therefore critical that high purity water is used.

- Bacteria-free endoscopes
- Low TVC readings for AER ensures continuous system usage
- Particle free water minimises maintenance requirements





# ENDOSCOPY: MAINS FEED

## MAINS FEED TO AUTOMATED ENDOSCOPE REPROCESSOR (AER)

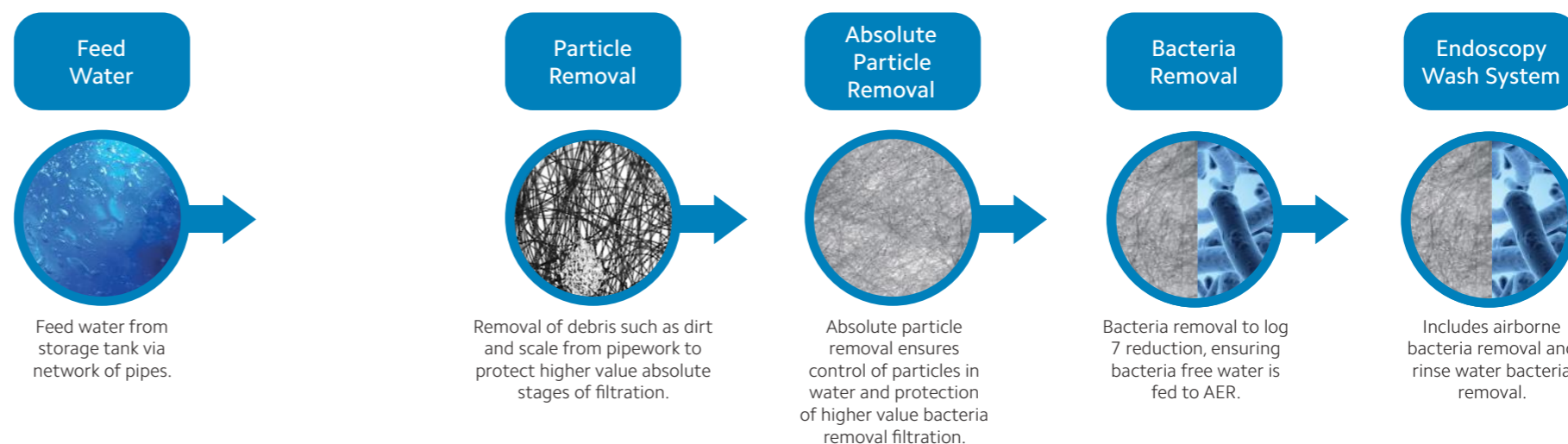
### The Challenges

- Feeding the AER with high purity water
- Bacteria in the rinse water can contaminate the endoscope
- Residue left on the endoscope after disinfection
- Maintaining good water quality in preparation of detergents and disinfectants
- Consistent TVC levels out of specification, as per BS EN ISO 15883-4
- Compliant with HTM 01-06 parts A to E



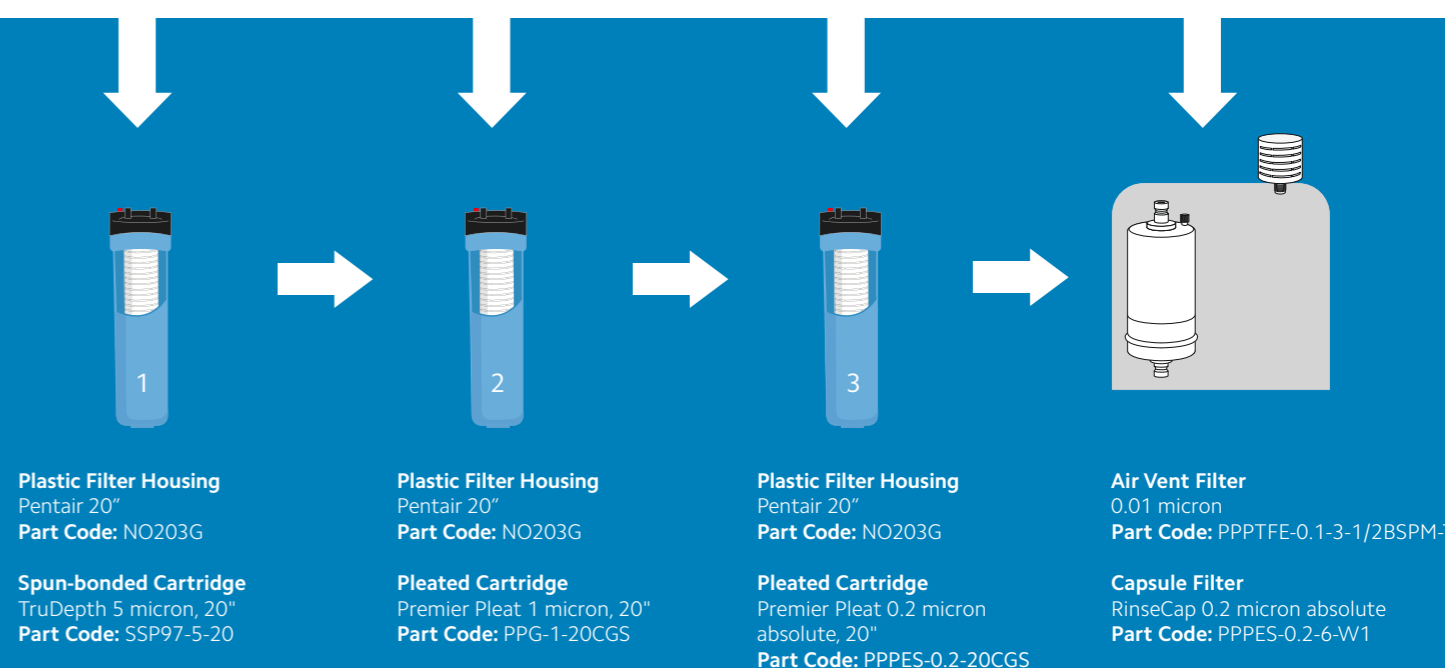
### The Solution

- Install high efficiency, high capacity spun-bonded filters to remove particulate from the water and protect the higher value absolute cartridges
- Remove bacteria and particulate from the water to protect the AER and ensure bacteria-free water for final rinse
- Remove bacteria from final rinse water with pleated capsule, where appropriate
- Remove bacteria from air exposed to water in the AER water storage tank, where appropriate



### Fileder Recommends

- Housing 1: High efficiency SPECTRUM polypropylene spun-bonded depth cartridge
- Housing 2: Certified absolute rated SPECTRUM glass fibre layered pleated cartridge
- Housing 3: Certified absolute bacteria filtration with SPECTRUM polyethersulfone layered pleated cartridge
- SPECTRUM absolute rated 0.01 micron PTFE air vent bacteria filtration on AER
- Repeatedly autoclavable SPECTRUM RinseCap, 0.2 micron polyethersulfone membrane capsule, final guard filter for rinse water
- To suit flow rates to 20 lpm feed to AER







# ENDOSCOPY: RO FEED

## RO FEED TO AUTOMATED ENDOSCOPE REPROCESSOR (AER)

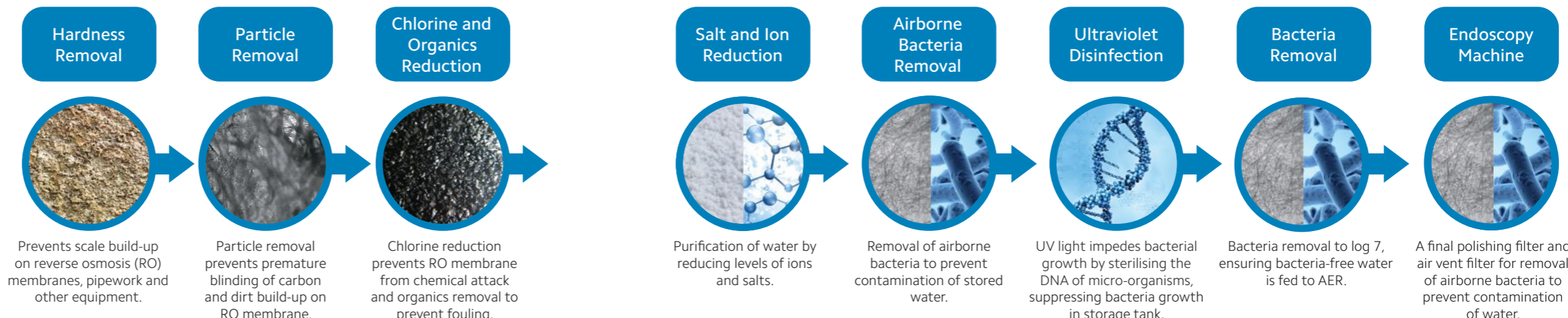
### The Challenges

- Feeding the AER with bacteria-free water
- Reducing bacteria growth in the AER
- Bacteria in the rinse water can infect the endoscope
- Consistent TVC levels out of specification as per BS EN ISO 15883
- Protecting the high value reverse osmosis membrane
- Residue left on endoscope after disinfection
- Maintaining good water quality in preparation of detergents and disinfectants
- Compliant with HTM 01-06 parts A to E



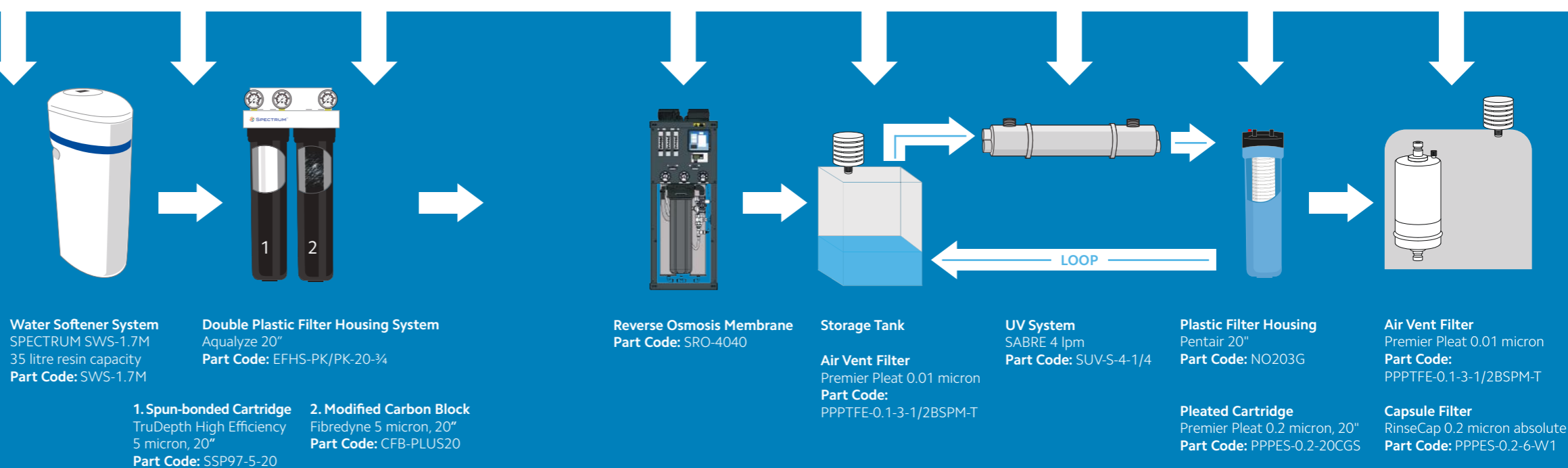
### The Solution

- Remove hardness using ion exchange resin
- Remove particulate using depth filtration
- Remove organics and chlorine using a carbon block
- Purify the water to ionic level using a reverse osmosis system
- Disinfect the stored water with UV light
- Remove bacteria from air using an air vent filter
- Remove bacteria from re-circulated water



### Fileder Recommends

- Volumetric, digital, SPECTRUM SWS Cabinet softener system
- Housing 1: High efficiency SPECTRUM polypropylene depth filtration with large surface area  
Housing 2: Extended service life Pentair Fibredyne modified carbon
- High specification SPECTRUM reverse osmosis membranes in the reverse osmosis system
- SPECTRUM absolute rated 0.01 micron PTFE air vent bacteria filtration on water storage tank and AER
- High dosage SABRE UV disinfection system
- Certified absolute bacteria filtration with SPECTRUM polyethersulfone layered pleated cartridge
- Repeatedly autoclavable SPECTRUM RinseCap, 0.2 micron polyethersulfone membrane capsule, final guard filter for rinse water
- To suit flow rates to 20 lpm feed to RO system







## INFECTION CONTROL

---



Water delivered at point-of-use (POU) throughout the hospital should be safe for cleaning, washing and drinking as outlined in L8 and HTM 04-01. Bacteria, such as *Legionella* and *Pseudomonas*, can cause a serious threat to patient's health and if not properly controlled, can cause potentially lethal infections and diseases.

---

- POU bacteria removal ensures patient and staff safety
- Simple, fast installation and maintenance
- Chemical resistant
- Best available POU systems for flow, effectiveness, longevity and ease of use



# INFECTION CONTROL: STERILISED

# LEGIONELLA & BACTERIA

## The Challenges

- Unauthorised removal of filters by patients and staff causing exposure to *Legionella*
- Protection of patients and staff from waterborne pathogens such as *Legionella*
- Sterile protection for high risk areas, such as haematology, oncology, burn units, intensive care units and neonatal
- Growth and transfer of bacteria, such as *Pseudomonas*, on filter surface from handling
- Air-locking of shower filters
- Reduced effect of disinfectant on bacteria at POU
- Compliance with L8 and HTM 04-01
- Requirements for extended service life to aid maintenance schedules with no compromise on validation

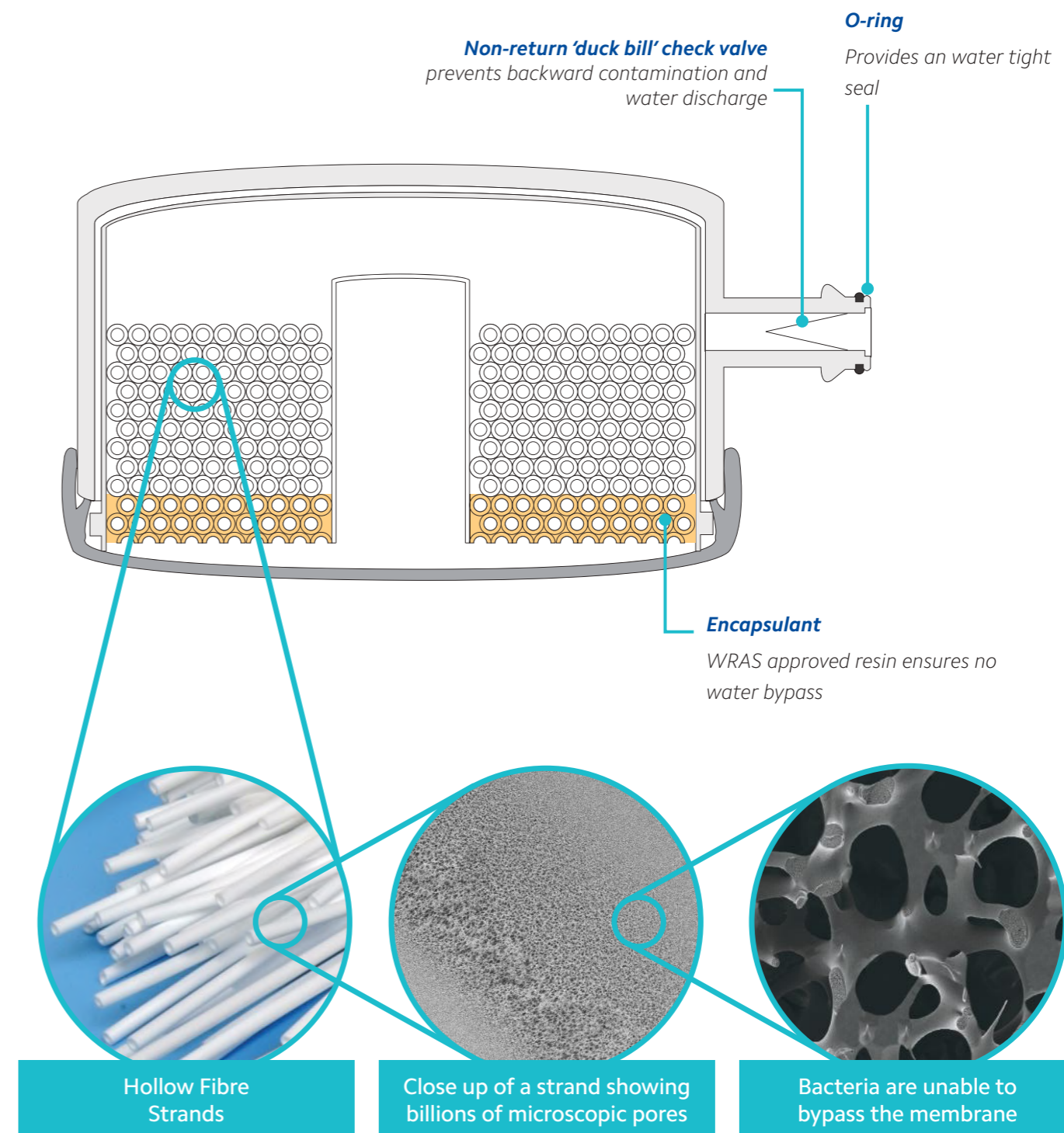
## The Solution

- Pentair shower and tap filters protect from risk of waterborne infection; 92 days *Legionella*, 6 months *Pseudomonas*
- Reliable and easy protection at the last possible moment before patient and staff contact
- Pentair's unique design utilises a special key to facilitate the removal of the tap or shower cap (head) when replacement is required, ensuring only authorised personnel can carry out this procedure
- 0.2 micron absolute rated hollow fibre filtration technology retains bacteria, fungi and particulate
- The range is sterile packed using gamma radiation
- The filters suppress bacteria growth on the surface of the filter due to a bacteriostatic active ingredient Biomaster, added to the filter housing material
- Up to 50% less waste when compared with other solutions on the market



## A Closer Look

The cartridges in the Pentair tap and shower ranges contain hollow fibre microfiltration with billions of microscopic pores. The pores form an ultra-fine filter, which retains any bacteria or fungi present in the water resulting in clean and safe water for patients and staff.



## Technology Comparison Table

Feature	Pentair	Other Leading Manufacturers
Extended service life of 92 days for <i>Legionella</i> control	✓	✗
Log 6 <i>Pseudomonas</i> retention for 6 months	✓	✗
0.2 absolute micron rating	✓	✓
>log 7 reduction of bacteria	✓	✓
>log 4 reduction of fungi	✓	✓
CE Medical Class I (s) marked	✓	✓
Tracking and tracing label	✓	✓
Sterile Classification	✓	✓
Special key prevents unwanted removal and change outs	✓	✗
No air locking shower	✓	✗
Extensive surface area	✓	✗
Less waste, more environmentally friendly	✓	✗
High contaminant holding	✓	✗
Ergonomical design	✓	✗
Independently tested	✓	✓
Gamma radiated packaging	✓	✓



## Pentair Shower & Tap Range

For further technical information, product validation and test results on the Pentair shower & tap range click here

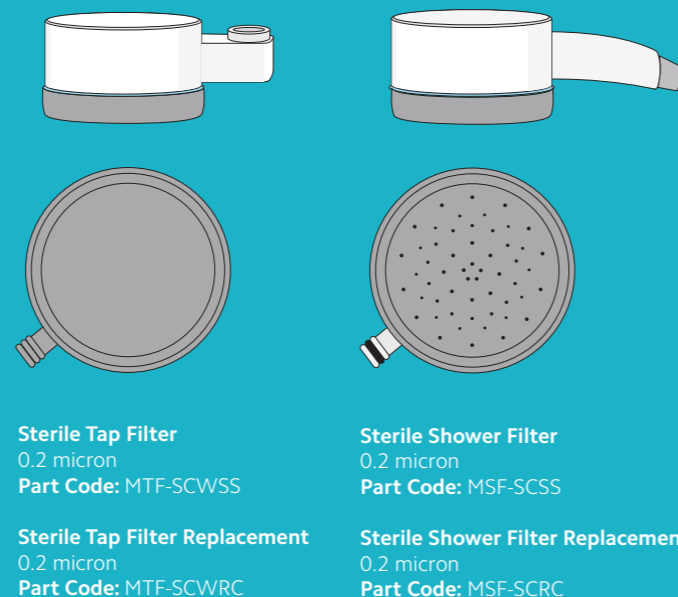
## Tap Adaptors

Using the best filter in the world would offer only limited success if any water bypassed the tap-to-filter adaptor. This connection is critical for healthcare taps, as a sub-standard adaptor will enable water bypass, encouraging bacteria growth in the area. Filerder overcame this common issue by designing adaptors specifically to seal the filter to the wide variety of tap manufacturers' products and created a Medical Tap Filter system. The adaptor replaces the diffuser (supplied with each tap) and is made from durable 316L stainless steel, which can be autoclaved for sterility and re-used after the O-rings are replaced.



## Filerder Recommends

- Pentair medical water filters have been extensively tested in accordance with all the relevant microbiological test protocols both in independent laboratories as well as clinically in hospitals providing >log 7 reduction of bacteria and >log 4 reduction of fungi
- Validated service life of 92 days, in the majority of cases this is much longer than the market standard. This is due to the extensive area of filtration media, giving higher contaminant holding capacity leading to a longer product life, lower pressure drops, higher flow rates and better flow patterns
- No air-locking issues with shower filters when used at a lower level
- Fittings available to suit most tap brands
- Flow rate with restrictor of 6 lpm



**Sterile Tap Filter**  
0.2 micron  
Part Code: MTF-SCWSS

**Sterile Tap Filter Replacement**  
0.2 micron  
Part Code: MTF-SCWRC

**Sterile Shower Filter**  
0.2 micron  
Part Code: MSF-SCSS

**Sterile Shower Filter Replacement**  
0.2 micron  
Part Code: MSF-SCRC

## Baths and Anti Ligature Showers

Sometimes it is not appropriate to use Pentair medical filters at the point-of-use and, in these circumstances, other options are available. Filerder recommends a 10" housing with a 0.2 micron absolute pleated cartridge with secure fittings.



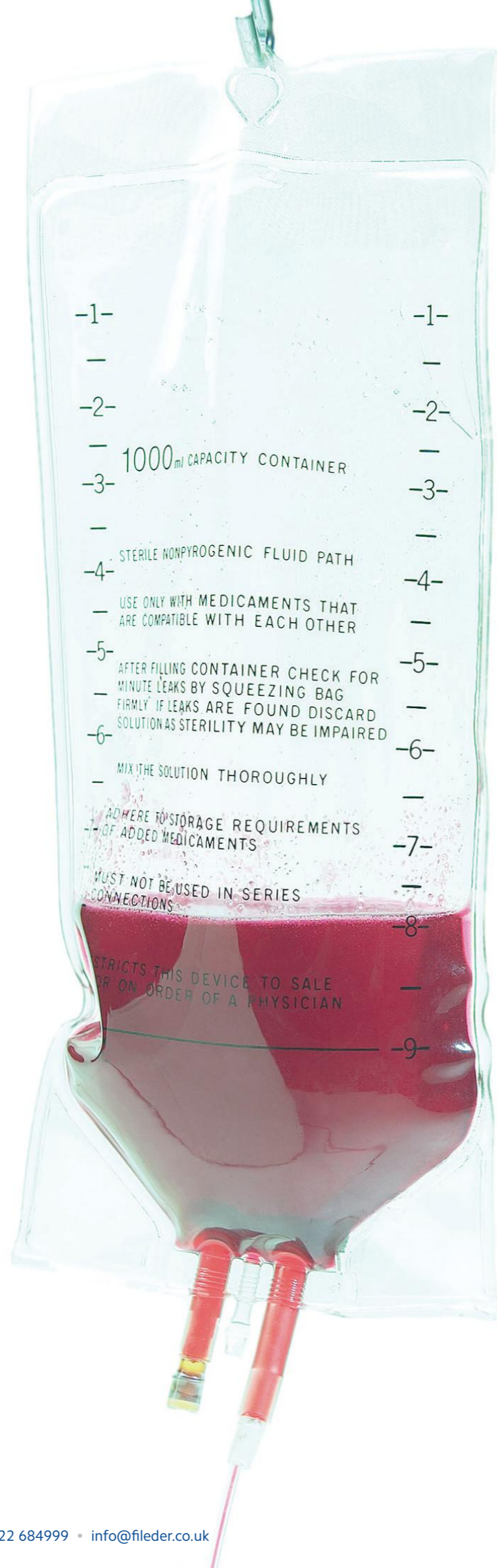
**Plastic Filter Housing**  
Aqualyze 10" Regular  
Part Code: EFH-PK-1-10

**Pleated Cartridge**  
Premier Pleat 0.2 micron, 10"  
Part Code: PPPES-0.2-10CGS

**Anti Ligature Shower**

**Wide Mouth Bath Tap**





## RENAL DIALYSIS



The purity of the water used in dialysis is critical in order to effectively and efficiently clean the blood of patients. Impurities, chlorine and chloramines in the water and system can cause health problems with the patient, subsequently this can require an increase in medicines used for treatment.

- Chlorine and chloramine free water
- Bacteria and endotoxin removal
- Reduction in drug usage



# RENAL DIALYSIS: WARD

## The Challenges

- Chlorine and chloramine levels can have a detrimental effect on patient's health, increasing drug usage, such as EPO
- Chlorine and chloramine attacks the membranes in the reverse osmosis system
- Minerals and ions in the water can affect the health of patients
- Bacteria and endotoxins in water can create health issues for patients
- Compliance with BS-ISO 23500 for water and BS-ISO 26722-2014 for equipment



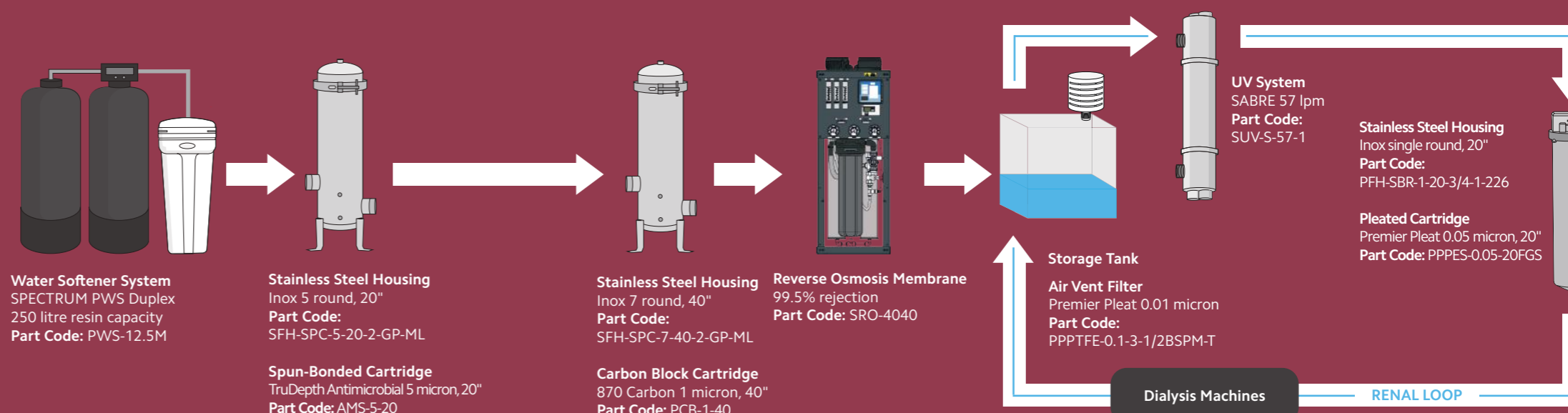
## The Solution

- Remove hardness using ion exchange resin process
- Remove particulate to protect carbon cartridges and reverse osmosis membranes
- Chlorine, chloramine and organics removal, using specially formulated carbon cartridges
- Use reverse osmosis system for water purification to reduce ionic levels
- Physically remove endotoxins from renal loop
- Guard against airborne bacteria in pure water storage tank
- Suppress bacteria growth in renal loop and pure water storage tank with UV disinfection system, followed by antibacterial spun-bonded filter to inhibit growth of any trapped bacteria



## Fieder Recommends

- Continuous supply SPECTRUM PWS Duplex softener to remove hardness from water
- SPECTRUM AMS cartridges developed to inhibit the growth of trapped bacteria and microbes within a filter
- SPECTRUM PCB range for long life, chlorine and chloramine removal along with reduced change-outs and EPO consumption
- High rejection SPECTRUM reverse osmosis membranes
- SPECTRUM absolute rated 0.01 micron PTFE air vent bacteria filtration on water storage tank
- High dosage SPECTRUM SABRE UV disinfection system
- Absolute 0.05 filtration with SPECTRUM polyethersulfone layered pleated cartridge to reduce endotoxin levels
- To suit flow rates to 7m<sup>3</sup>/hr feed



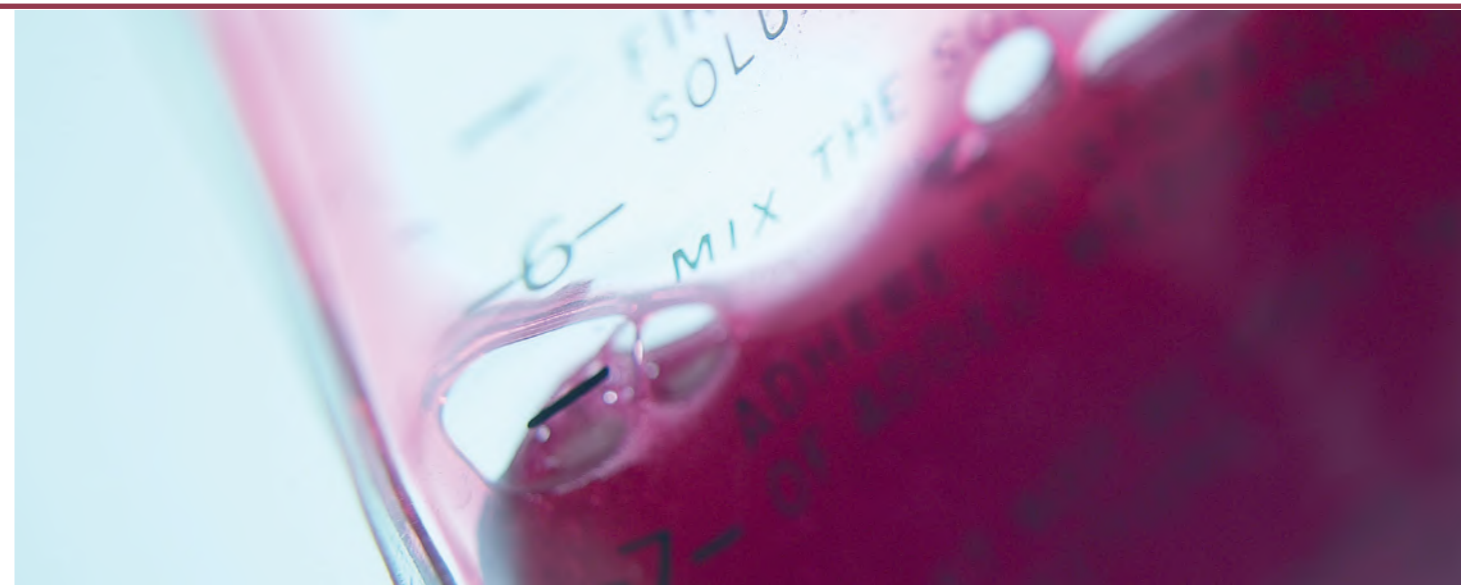




# RENAL DIALYSIS: HOME PATIENT

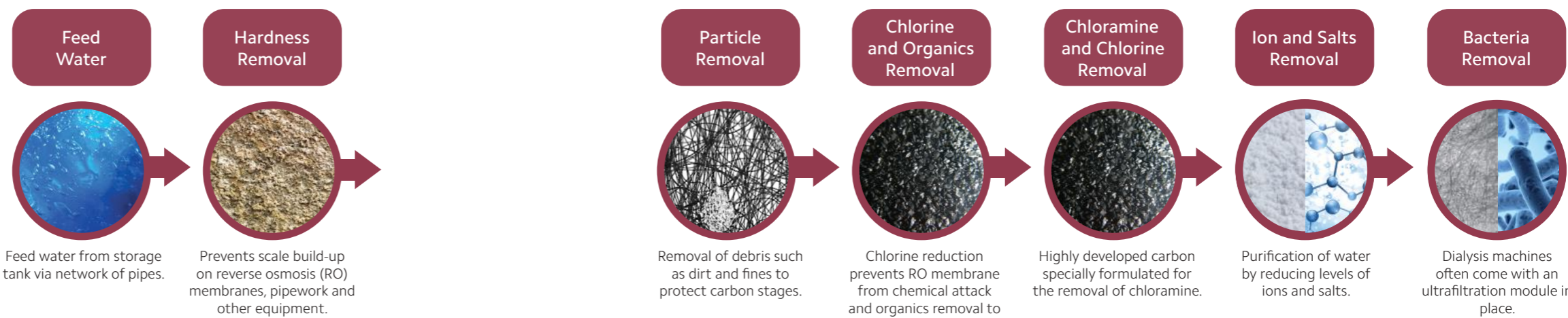
## The Challenges

- Chlorine and chloramine in water can cause health issues for the patient
- Hardness and scale formation can cause issues with pipework, fittings and reverse osmosis membranes
- Bacteria in the water and pipework system can have a detrimental effect on a patient's health
- Low flow from reverse osmosis at low temperatures
- Compliance with BS-ISO 23500 and ART guidelines for haemodialysis



## The Solution

- Remove hardness using ion exchange process to prevent scaling of reverse osmosis membrane
- Remove particulate to prevent fouling of reverse osmosis membrane
- Reduce chlorine and chloramine to protect reverse osmosis membrane from chemical attack
- Use reverse osmosis system for water purification to ionic levels
- Polish water to remove bacteria post reverse osmosis membrane

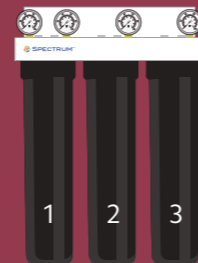


## Fileder Recommends

- SPECTRUM softener system for optimised salt usage
- Install a space-saving pre-assembled Aqualyze triple filter housing system which includes: inlet/outlet gauges, bracket and housing spanner. For useful monitoring, easy installation and reduced labour costs
- Low pressure drop SPECTRUM polyester pleated cartridge
- Extended service life Pentair Fibredyne modified carbon cartridge
- High chloramine and chlorine capacity SPECTRUM carbon block cartridge
- High performing SPECTRUM reverse osmosis renal membrane with consistent flow rates even at low temperature
- To suit flow rate of 4 lpm



**Water Softener System**  
SPECTRUM SWS Simplex System  
10 litre resin capacity  
Part Code: SWS-0.5M



**Plastic Filter Housing System**  
Aqualyze EFHS Triple  
Part Code: EFHS-PK/PK/PK-20-3/4



**Pleat<sup>2</sup> 20"**  
Pleat 1 micron, 20"  
Part Code: SPE-1-20"



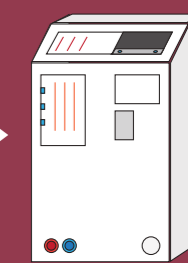
**Modified Carbon Block**  
Fibredyne 5 micron, 20"  
Part Code: CFB-PLUS20



**Carbon Block Cartridge**  
870 Carbon 1 micron, 20"  
Part Code: PCB-1-20



**Reverse Osmosis Membrane**  
Part Code: SRO-4611



**Renal Dialysis Machine + Ultrafiltration Module**





## STERILE SERVICES



One of the most important areas for water quality in a hospital. Water is used to clean instruments and critical components of systems used during operations and procedures on patients. Water for the water disinfectors should be softened. Water used in the production of clean steam or treated steam for the autoclaves, must be of very high purity.

- Bacteria removal avoids contamination of instruments and autoclaves
- Softened water prevents scaling of equipment and instruments
- Clean autoclaves reduces maintenance





# STERILE SERVICES

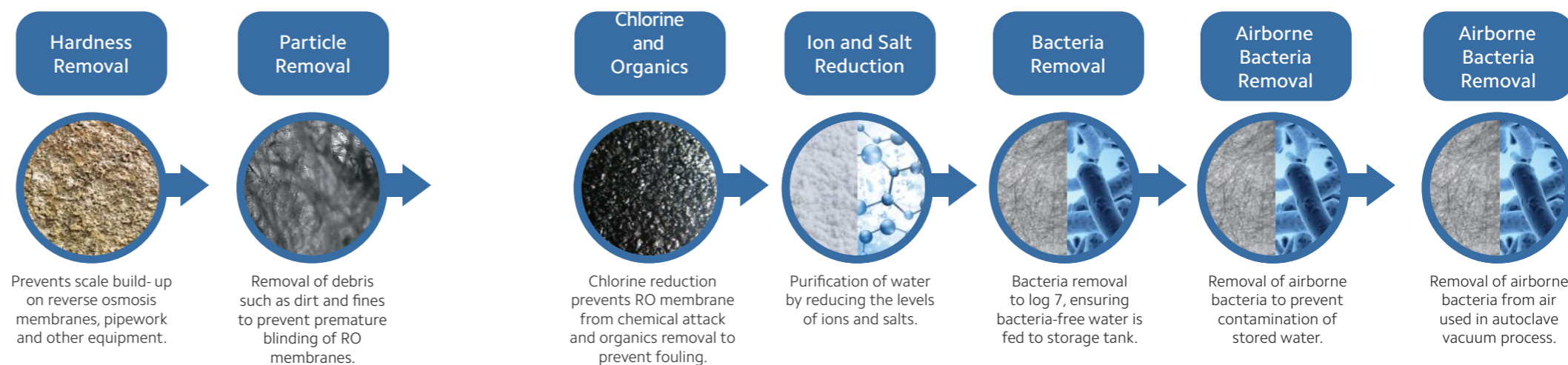
## The Challenges

- Hardness in water causes scale build-up on pipework and components
- Bacteria in water and air creates contamination of instruments and system
- Compliance with HTM01-01
- Efficiency of steam production systems



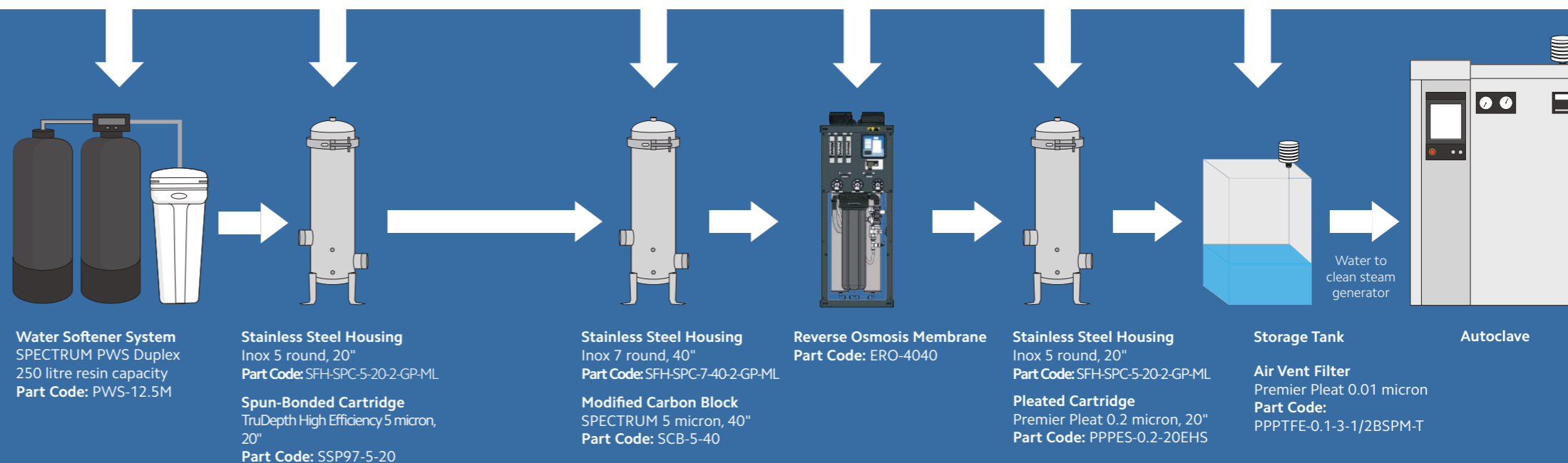
## The Solution

- Remove hardness to prevent the reverse osmosis membrane from scaling
- Remove particulate which can cover the membrane surface
- Remove organics and chlorine which can contaminate and attack the reverse osmosis membrane
- Polish water to ionic levels using reverse osmosis membrane
- Guard against bacteria presence in water
- Prevent airborne bacteria from contaminating the water in the storage tank



## Fileder Recommends

- Continuous supply SPECTRUM PWS Duplex softener to remove hardness from water
- High efficiency, high dirt holding SPECTRUM polypropylene spun cartridges in a durable 316 stainless steel housing
- Extended service life SPECTRUM carbon cartridges in a durable 316 stainless steel housing
- High rejection SPECTRUM reverse osmosis membrane
- Certified absolute bacteria filtration with SPECTRUM polyethersulfone layered pleated cartridge in durable 316 stainless steel housing
- SPECTRUM absolute 0.01 micron rated PTFE air vent bacteria filtration on water storage tank and autoclave vacuum chamber
- To suit flow rates to 7m<sup>3</sup>/hr pre and 6m<sup>3</sup>/hr post reverse osmosis





## DENTAL

---



Water used by patients for mouth rinsing should be bacteria free. Bench-top sterilisers are fed with water which must be free of impurities, as this can affect the instruments and cause scale build-up on expensive equipment. Water must also be bacteria free to prevent cross contamination of instruments. This area is considered critical as it falls under the guidance given in HTM 01-05.

---

- Reduced bench top steriliser issues
- Removal of bacteria introduced to patient
- Simple and effective maintenance

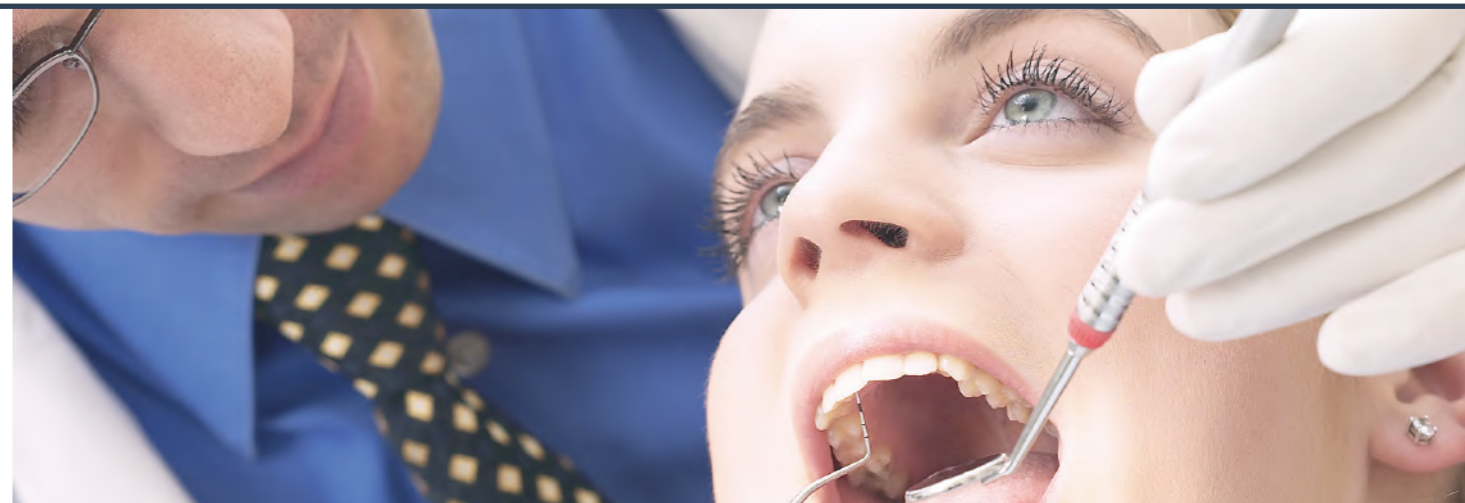




# DENTAL

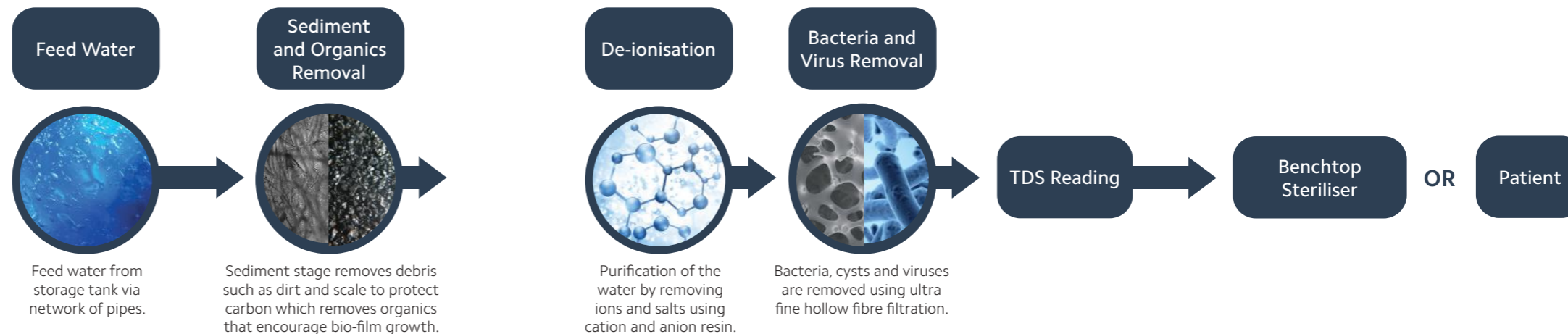
## The Challenges

- Mineral deposits in tank, pipework and steriliser
- Reverse osmosis systems are commonly used to feed the sterilisers. These systems create waste water, requiring regular maintenance and cleaning
- Steriliser alarming and out-of-service due to poor quality water
- Potential source of *Legionella* and bacteria in aerosol water used by patients
- Compliance with HTM 01-05



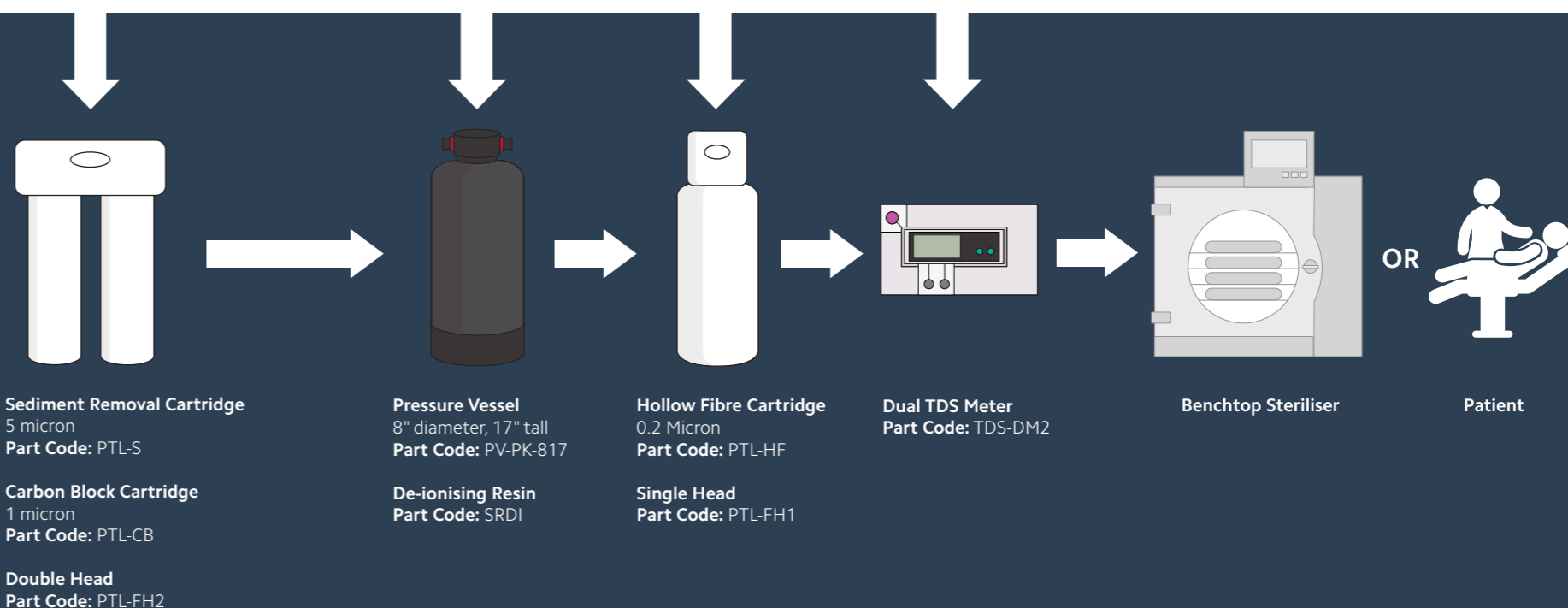
## The Solution

- Remove particulate to protect the carbon block
- Remove organics to protect the DI resin and hollow fibre cartridge
- Remove ions to prevent mineral build-up on the steriliser
- Remove bacteria to protect the steriliser, staff and patients



## Fileder Recommends

- Space saving SPECTRUM double Twist-Lock head to secure various cartridge models
- High dirt holding encapsulated SPECTRUM polypropylene depth cartridge to remove sediment
- High capacity SPECTRUM carbon block cartridge to remove organics
- Charged mix of SPECTRUM anionic and cationic resins housed in SPECTRUM polypropylene vessel
- SPECTRUM absolute rated 0.2 micron high capacity bacteria removal hollow fibre filtration technology with Twist-Lock change out
- Waterproof meter device from HM Digital to measure TDS of incoming and pure water
- To suit flow rates to 4 lpm







## FACILITIES & SERVICES



Facilities and services make up a large part of a hospital and require filtration equipment to ensure that they function as expected. Such facilities include: kitchens, air handling units, laundry and boilers.

- Efficient boiler and HVAC systems save money
- Scale-free ovens reduce maintenance and improves food quality
- Sterile clothing reduces infections



# BOILER FEED



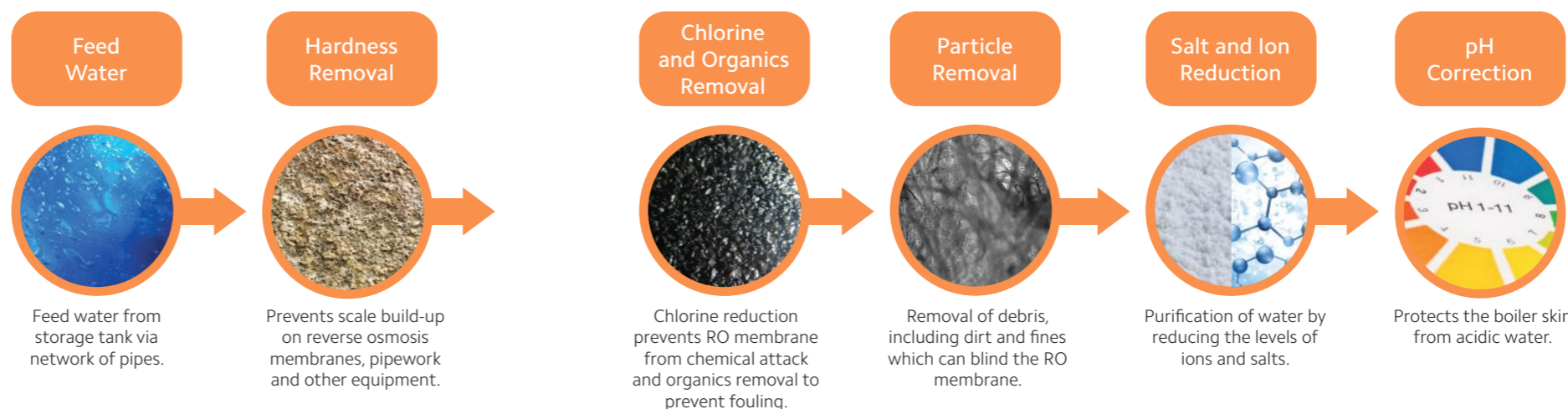
## The Challenges

- A high number of 'blow downs' waste heated water and increase running costs
- Chemical usage is high and costly
- Chemical storage requires management of REACH regulations
- Boiler maintenance and cleaning to remove scale build-up
- Compliance with BS 2486 : 1997



## The Solution

- Soften the water to prevent scale build-up on reverse osmosis membrane and pipework
- Remove organics to prevent fouling of the reverse osmosis membrane
- Remove particulate to protect the reverse osmosis membrane
- Remove ions and bacteria using a reverse osmosis system
- Adjust the pH of the pure water to protect the boiler

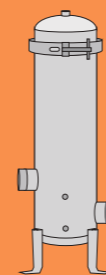


## Fileder Recommends

- Continuous supply SPECTRUM PWS Duplex softener to remove hardness from water
- Extended service life Pentair Fibredyne modified carbon cartridges in a durable 316 stainless steel housing are the perfect solution when high volumes of water require chlorine treatment
- High efficiency SPECTRUM polypropylene depth filtration with large surface area
- High production rate SPECTRUM reverse osmosis system
- To suit flow rate to 2m<sup>3</sup>/hr

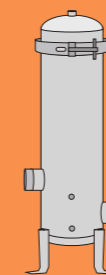


**Water Softener System**  
SPECTRUM PWS Duplex  
100 litre resin capacity  
Part Code: PWS-5.0M



**Stainless Steel Housing**  
Inox 5 round, 20"  
Part Code: SFH-SPC-5-20-2-GP-ML

**Modified Carbon Block**  
Fibredyne, 5 micron, 20"  
Part Code: CFB-PLUS20



**Stainless Steel Housing**  
Inox 3 round, 20"  
Part Code: SFH-SPC-3-20-2-GP-ML

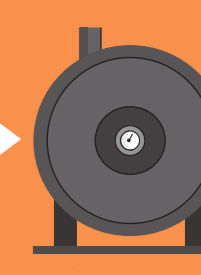
**Spun-Bonded Cartridge**  
TruDepth, High Efficiency 5 micron, 20"  
Part Code: SSP97-5-20



**Reverse Osmosis System**  
99% rejection, 75% recovery  
Part Code: SRO-SYS-21



**Pressure Vessel**  
13" diameter, 54" tall  
Part Code: SV-FK-1354-C



**Boiler**



# Heating Ventilation & Air Conditioning (HVAC)

## The Challenges

- Mineral build-up in pipework
- Scale deposits on nozzles, causing damage and blockages
- Mineral build-up on heating elements
- Bacteria in misting systems e.g. *Legionella*



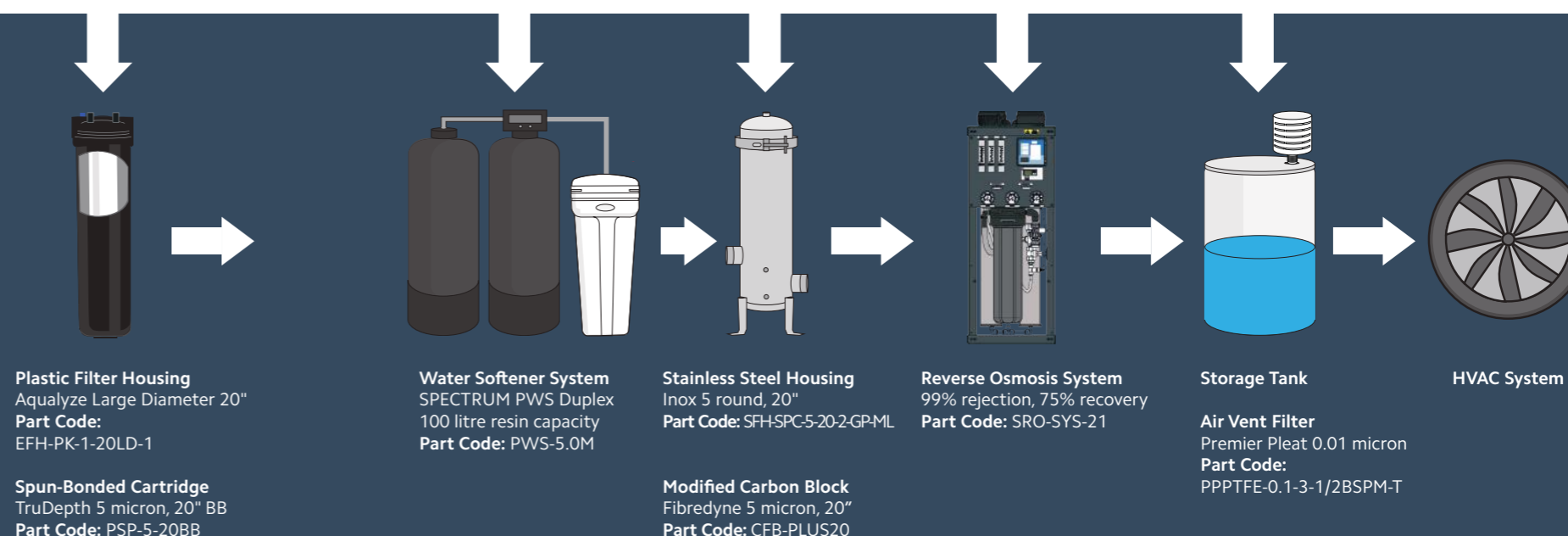
## The Solution

- Remove particulate to protect the softening resin, reverse osmosis membrane and pipework
- Soften the water to prevent scale build-up on reverse osmosis membrane and pipework
- Remove organics to prevent contamination of the membrane
- Remove ions and bacteria using a reverse osmosis system
- Prevent airborne bacteria contaminating the pure water in a storage tank



## Fileder Recommends

- High dirt holding, large diameter SPECTRUM polypropylene depth cartridge
- Continuous supply SPECTRUM PWS Duplex softener to remove hardness from water
- Extended service life Pentair Fibredyne modified carbon cartridges in a durable 316 stainless steel housing are the perfect solution when high volumes of water require chlorine treatment and organic removal for membrane protection
- High output, durable, simple to maintain SPECTRUM reverse osmosis system
- SPECTRUM absolute 0.01 micron PTFE air vent filters on storage tank
- To suit flow rate to 2m<sup>3</sup>/hr





# KITCHEN



## The Challenges

- Scale build-up on nozzles, causing blockages and poor spray pattern
- Mineral build-up on pipework, heating rods and oven chambers create higher energy and maintenance costs

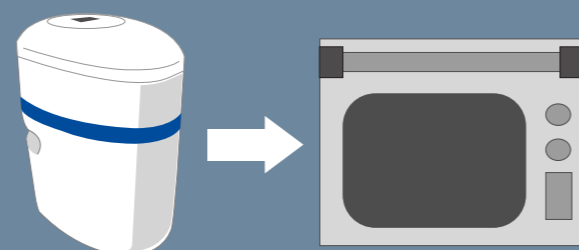
## The Solution

- Remove the scale forming minerals of calcium and magnesium by using commercial water softening system



## Fileder Recommends

- Compact SPECTRUM self-regenerating water softening system
- To suit flow rate to 13 lpm



**Water Softener System**  
SPECTRUM SWS Simplex  
10 litre resin capacity  
Part Code: SWS-0.5M

Steam Oven

# LAUNDRY



## The Challenges

- High detergent usage and cost
- Scale build-up in machinery causes breakdowns and increased maintenance cost
- Scale build-up in pipework increases energy usage to maintain flow
- Soap scum build-up on machines reduces cleaning results

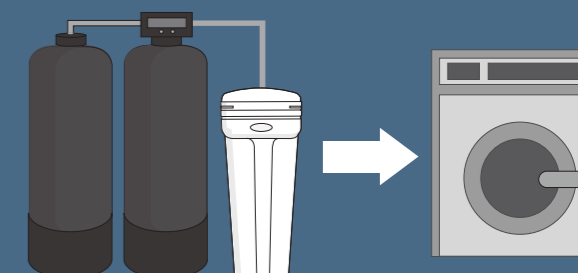
## The Solution

- Remove the scale forming minerals of calcium and magnesium by using commercial water softening system
- Removal of these ions prevents formation of scale and reduces levels of detergent required



## Fileder Recommends

- Continuous supply SPECTRUM PWS Duplex softener to remove hardness from water
- Volumetric control valve assists water saving and salt usage by using full capacity of one tank before switching to the other
- To suit flow rates to 7m<sup>3</sup>/hr



**Water Softener System**  
SPECTRUM PWS Duplex  
250 litre resin capacity  
Part Code: PWS-12.5M

Washing Machine

# DRINKING: TAP

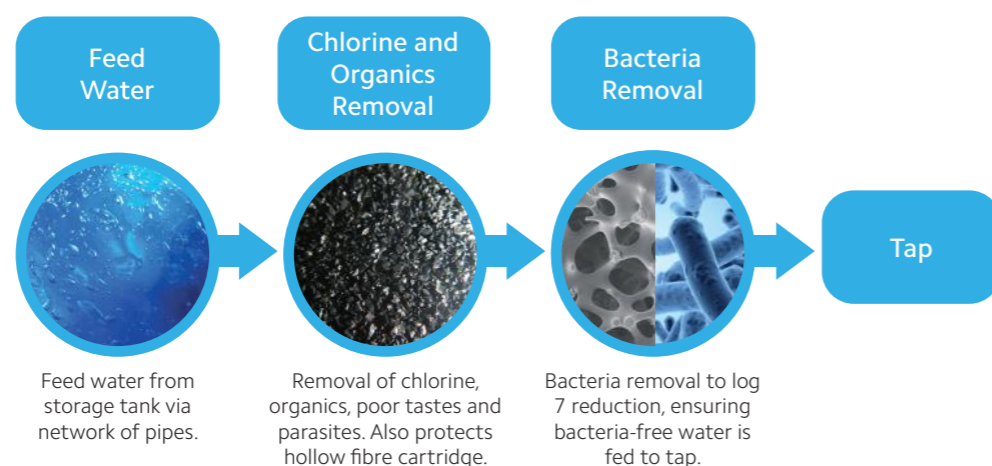


## The Challenges

- Bacteria and parasites present in water used for drinking
- Chlorine taste and odour
- Contaminants, such as organics and sediment in water, encourage bio-film and bacteria growth
- Compliance with BS EN 806-2:2005 and HTM 04-01

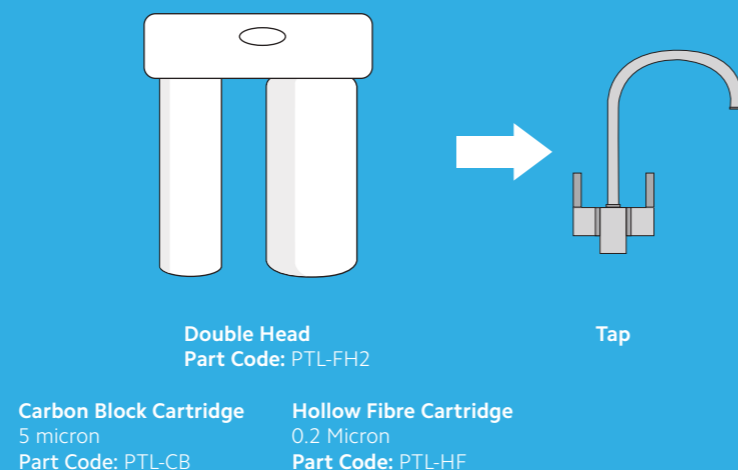
## The Solution

- Remove chlorine, organics, poor tastes and parasites using carbon block cartridge
- Remove bacteria with a hollow fibre cartridge to protect patients and staff



## Fileder Recommends

- SPECTRUM single Twist-Lock head to secure cartridge
- SPECTRUM Twist-lock carbon block cartridge for great tasting water
- SPECTRUM hollow fibre Twist-Lock cartridge for bacteria and particulate removal to 0.2 micron
- To suit flow rates to 4 lpm



# DRINKING: WATER COOLERS

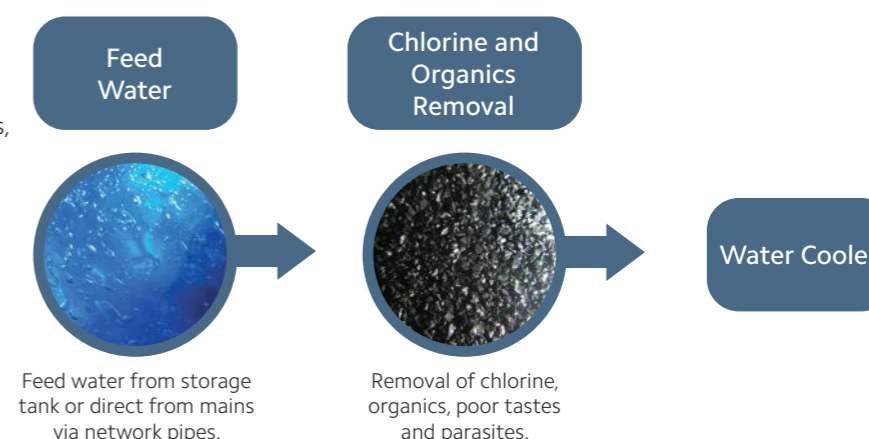


## The Challenges

- Chlorine taste and odour
- *Cryptosporidium* and *Giardia* causing sickness
- Contaminants, such as organics and sediment in water, encourage bio-film and bacterial growth

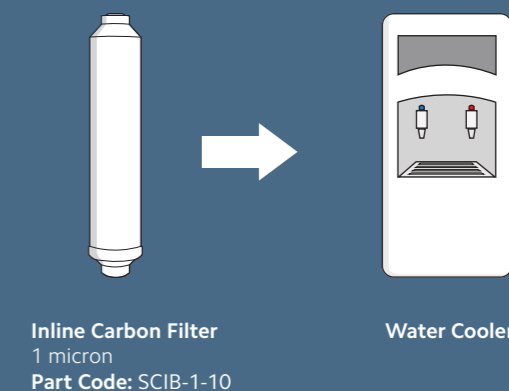
## The Solution

- Remove chlorine, organics, poor tastes and parasites using carbon block cartridge



## Fileder Recommends

- High capacity WRAS approved SPECTRUM inline carbon block for chlorine, organics, poor tastes and parasite removal
- To suit flow rates to 4 lpm





# CERTIFICATION

Fileder carry reputable branded, high quality products, many of which carry accreditations.



NSF independently tests and certifies products for the food, water, health science, sustainability and consumer product sectors to various standards. The NSF mark is your assurance that the product has been tested by one of the most respected independent certification organisations in existence today.

**Fileder can supply product certified to two main approvals for "drinking water treatment units"**

**NSF STD 42** - Aesthetic effects - designed to minimize non-health related contaminants such as chlorine, taste and odour, and particulates.

**NSF STD 53** - Health effects - expected to reduce health related contaminants that may be present in public or private drinking water including cysts.



The primary focus of WRAS is to protect public health by preventing contamination of public water supplies and encouraging the efficient use of water.



WRAS approval is given to both complete 'Products' (Inline Cartridges, Filter Housings etc) and non-metallic 'Materials' (Polypropylene, Polyethersulfone etc) to demonstrate that an item or material has undergone testing for their effects on water quality and complies with the high standards set out by water regulations promulgated in 1999 in the United Kingdom.

## BS6920

BS6920 is a set of stringent tests that are used to confirm the suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water prior to WRAS approval.



The Drinking Water Inspectorate (DWI) Regulation 31 ensures that water suppliers only use products and substances to provide water quality that is safe and acceptable to consumers.



WQA is a fully accredited independent and not for profit association that certifies water treatment products to the same ANSI standards as NSF.



The Food and Drug Administration (FDA) is a department within the US government specialising in the safety and security of most of food and water supply. Materials that are approved by the FDA are suitable to come in to contact with food and water products intended for human consumption.



The CE marking is the symbol applied to products to indicate that they conform to the relevant EU directives regarding health and safety or environmental protection.

By affixing the CE marking on a product, a manufacturer is declaring, at its sole responsibility, conformity with all of the legal requirements to achieve CE marking which allows free movement and sale of the product throughout the European Economic Area.

Directives under the CE umbrella include the Pressure Equipment Directive (PED), Medical Devices Directive and also the Low Voltage Directive.



PED sets out the standards for the design and fabrication of pressure equipment in the EU including meeting safety requirements and manufactured to sound engineering practice.

The following ranges of vessels supplied by Fileder Filter Systems Ltd are suitable at their rated parameters for the filtration of Group 2 liquids as defined within the European Pressure Equipment Directive 2014/68/EU.

They comply with the requirements of article 4, paragraph 4, of the directive in that they are manufactured using Sound Engineering Practice.

SPECTRUM Aqualyze Polypropylene Housings  
 SPECTRUM Inox Stainless Steel Filter Housings  
 SPECTRUM Inox Stainless Steel Bag Housings  
 Pentair Polypropylene Bag Housings

## REACH

REACH is a European Union regulation concerning the Registration, Evaluation, Authorisation and restriction of Chemicals. The aims of the regulation include:

- To provide a high level of protection of human health and the environment from the use of chemicals.
- To make the people who place chemicals on the market responsible for understanding and managing the risks associated with their use.
- To allow the free movement of substances on the EU market.

## RoHS

Restriction of Hazardous Substances (RoHS) is a European directive intended to restrict the use of six hazardous materials, which can be used in the manufacture of various types of electronic and electrical equipment:

- 1) Lead (pb) – 0.1%
- 2) Mercury (Hg) – 0.1%
- 3) Cadmium (Cd) – 0.01%
- 4) Hexavalent chromium (Cr6+) – 0.1%
- 5) Polybrominated biphenyls (PBB) – 0.1%
- 6) Polybrominated diphenylether (PBDE) – 0.1%









To ensure Fileder can meet the NHS Conditions of Contract conditions with regards to Public & Product Liability Insurance, our policy has been specifically increased for this purpose to the value of £10 million. Fileder has achieved Cyber Essential Certification to provide the NHS assurance with regards to our fundamental technical security controls within our organisation to help defend against the most common cyber threats as well as demonstrating our commitment to cyber security.

*Recommendations: Fileder has made recommendations throughout this brochure based upon the most common set ups seen within hospitals. These recommendations are intended for guidance only and all systems should be cross-checked with the individual facility's operating parameters, output requirements and current installation.*

For T&C's, Terms of Use and Copyright, please see [www.fileder.co.uk](http://www.fileder.co.uk)

Product Brochures



	Pleated Filtration
	Depth Filtration
	Stainless Steel Cartridges
	High Flow Filtration
	Water Treatment - Carbon & Media Cartridges
	Filter Housings
	Bag Filtration
	Pure Water Membranes
	Pressure Vessels & Media
	Water Softening & Conditioning
	UV Systems
	Food Service
	Filtration & Water Treatment Rental
	Installation & Servicing

Application Brochures



	Solutions for Surface Finishing
	Solutions for Hospitals
	Solutions for Beverage Production
	Solutions for the Coatings Industry
	Solutions for Bacteria and Parasites
	Solutions for Cosmetics and Toiletries
	Filtration for Municipal Water with DWI
	Solutions for Cryptosporidium Protection
	Solutions for Chemical Production

Contact us

**Filerder Filter Systems Ltd**  
 20/20 Business Park  
 Maidstone, Kent  
 ME16 0LS

**Phone:** 01622 691886  
**Fax:** 01622 621932  
**Email:** info@filerder.co.uk  
**Website:** www.filerder.co.uk

