



Water Treatment

Carbon and Media Cartridges

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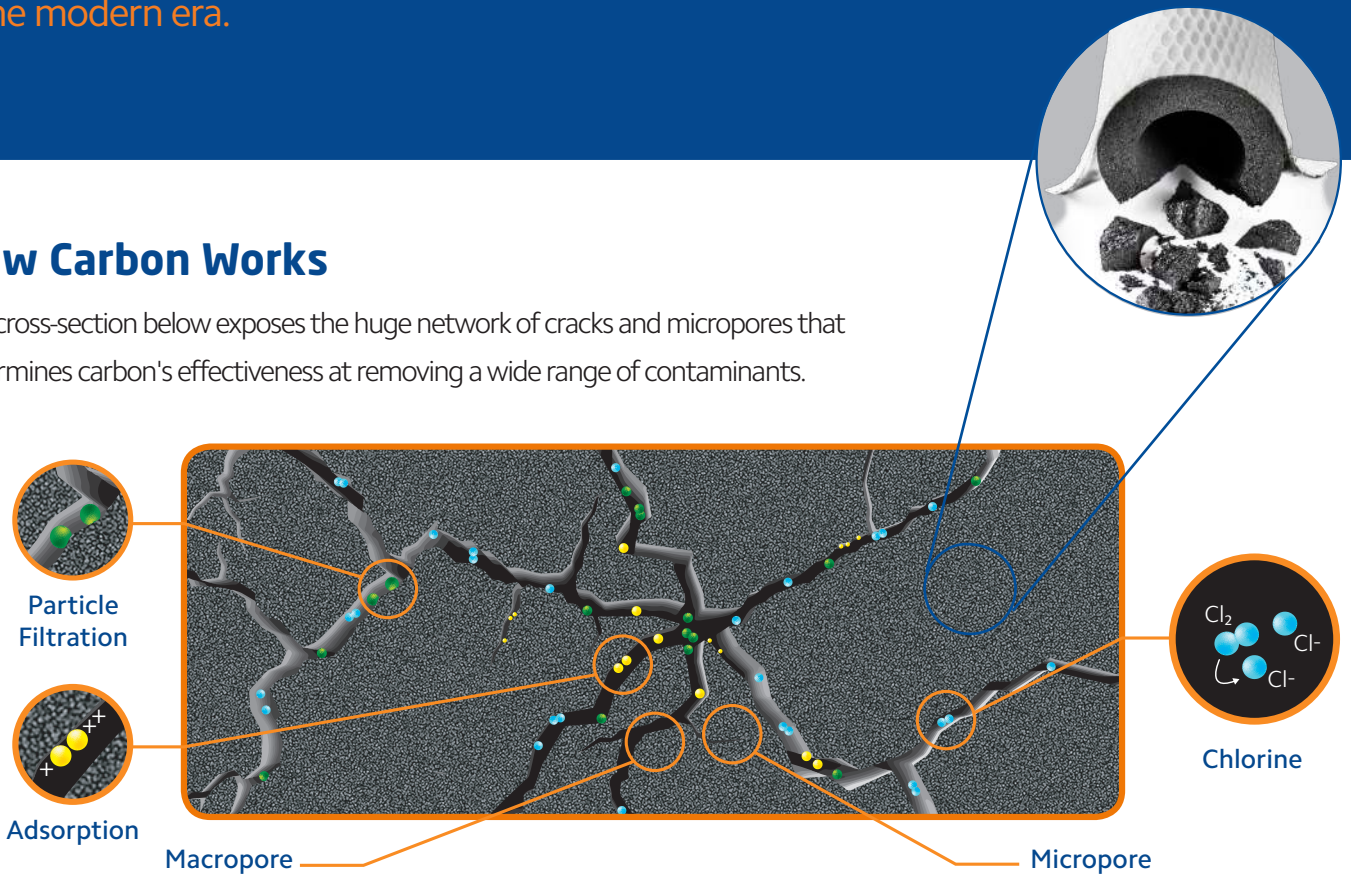


Carbon Technology

Utilised for several hundred years, carbon is considered one of the oldest means of water purification. Although impossible to trace the exact date and time, there is evidence of its usage and importance throughout history, from the ancient world to the modern era.

How Carbon Works

The cross-section below exposes the huge network of cracks and micropores that determines carbon's effectiveness at removing a wide range of contaminants.



Particle Filtration Sediment and Suspended Solids

Every carbon block cartridge has a given micron rating to indicate the physical size of suspended particulate that can be removed by the cartridge. To prevent premature sediment blockage before the chlorine capacity of the carbon has been exhausted, pre-filtration, such as the SPECTRUM SSP or PSP, is recommended to prolong the life of the cartridge.

Adsorption Organics and Heavy Metals

Carbon is a naturally adsorptive media, removing dissolved contaminants from a solution. When heated to 870°C, during the activation process, millions of tiny micropores are created throughout the structure of the cartridge, attracting large organic molecules and heavy metals to the surface.

Chemical Reaction Chlorine and Chloramine

Through chemical interactions with the activated carbon, reactive chlorine molecules are converted to less reactive chloride ions. Chloramine can also be removed through this process although the reaction occurs at a much slower rate. Speciality cartridges such as the SPECTRUM PCB have been specifically designed to effectively target chloramine.

Carbon Flow Rate

The longer water comes into contact with carbon, generally the more effective the treatment process will be, whether removing organics, heavy metals, chlorine or chloramine. Even a small increase over the recommended flowrate can cause dramatic decreases in carbon treatment's effectiveness. Therefore it is imperative to size a carbon treatment system properly, ensuring that the flowrate allows enough contact time to remove the undesired contaminants. The recommended flowrate for each cartridge is shown on the product page (as illustrated, right).

		@ Flow Rate (LPM)	
		3.8	7.6
Max. Operating Temp. 52°C		7.6	7.6
Max. Operating Pressure 2.5 bar		7.6	7.6
SCB Properties			
Capacity (L)	Chlorine Reduction (L) @ 0.2ppm	Pressure Drop (Bar) @	Flow Rate (LPM)
113,750		0.3	3.8
227,500		0.3	7.6
356,850		0.4	7.6
713,700		0.4	15.1
Chlorine capacity using 2mg/l free available chlorine at 0.5mg/l breakthrough			

Carbon's Effectiveness at Removing...

Excellent

Chloramine
Chlorine
Dyes
Glycols
Herbicides
Hydrogen Peroxide
Insecticides
Iodine

Odours
Oil-dissolved
PCBs
Pesticides
Sodium Hypochlorite
Taste
THMs

Good

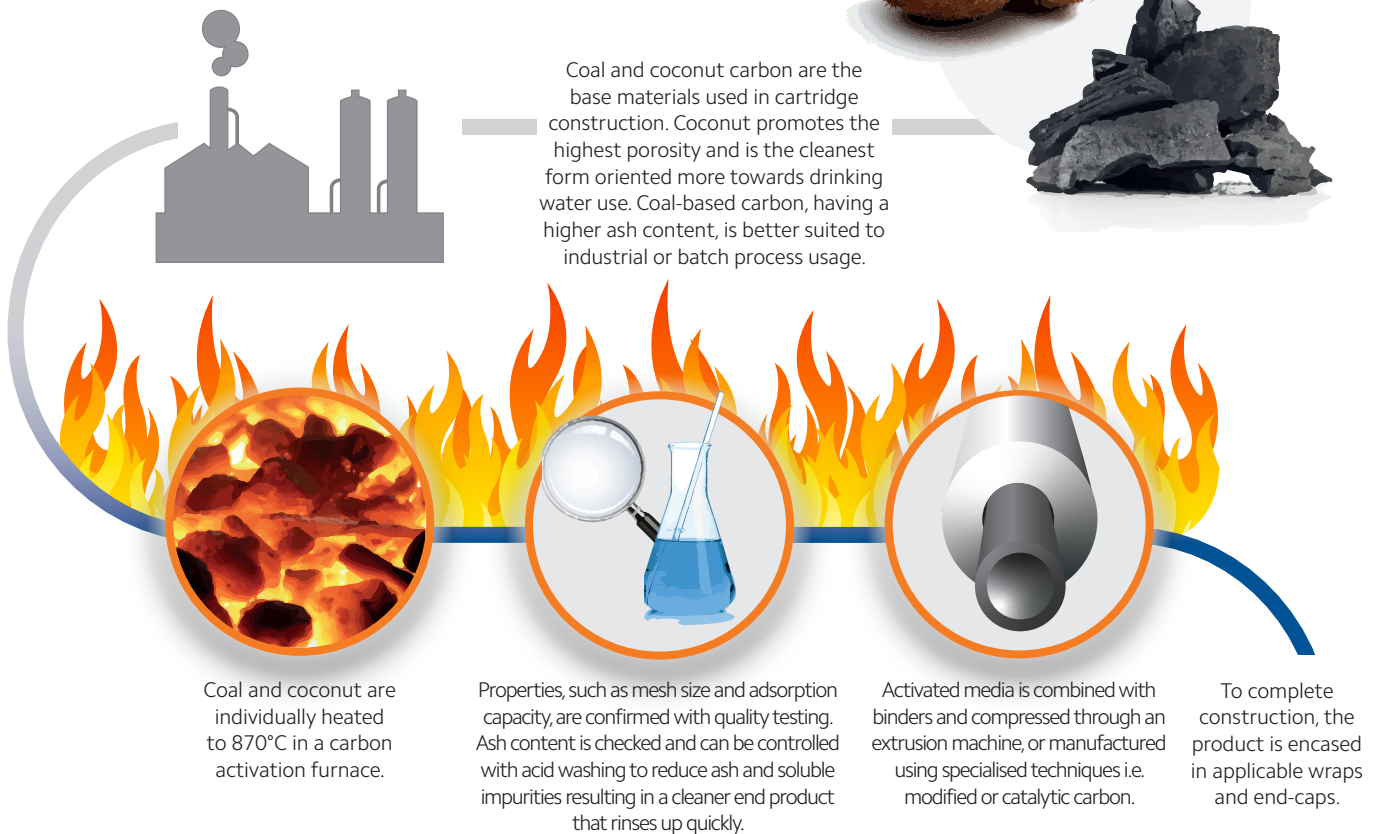
Organic Acids
Organic Salts
Potassium Permanganate
Solvents
Sulphonated Oils
Tannins

Fair

Acetic Acid
Detergents
Heavy Metals
Hydrogen Sulfide
Plating Wastes
Soap

Carbon Cartridge Construction

From raw material, through to activation and end product.



Modified Carbon Block
e.g. CFB-Plus

An advanced technology, Fibredyne combines dissolved contaminant removal with excellent sediment reduction. Uses powdered carbon for effective chlorine reduction.



Powder Carbon Block
e.g. SCB & PCB

Finer carbon mesh size increases surface area, ensuring highly effective removal of small contaminants such as chlorine. Perfect for drinking water applications.



Granular Carbon Block
e.g. CB & ECB

Traditional carbon technology, more effective at removing large molecules such as odours. Suitable for commercial and industrial applications.



For **Multi-Round Housings**



Chlorine Reduction Start - End of Life (%)	95-75
Total Chlorine Capacity (mg)	21,000
Typical Life in UK Water (L)*	105,000

870 Carbon Block SCB-S

222/Fin End-Capped for Multi-Round Housings

The narrow diameter SCB-S with its secure 222 double O-ring connection has been designed for multi-round housings and specific use in beverage and drinking water applications where a more positive seal is required. Constructed from the same carbon formulation as the SCB, this microporous coconut

carbon targets VOCs and THMs. Acid washed during the production process and low fine content gives excellent rinse-up times as well as regulating pH and taste. Designed to seal securely into the Standard (SFH) and Premier (PFH) Inox multi-round housings, available in 3 to 36 round configurations.

Performance based on 10" cartridge.
*Life in UK water based on free chlorine concentration of 0.2mg/l.

Key Features

- Simple installation with a 222 double O-ring connection for greater security
- Highly porous, lightweight, clean and tight microporous structure effective at reducing chlorine, taste and odour contaminants
- Pre-washed, reducing carbon fines
- At a minimum 75% chlorine efficiency, the SCB-S is designed for effective chlorine reduction in high flow applications

Typical Applications

- Drinking water
- VOC and THM reduction

Configurations

Micron (µm)

5

Length (")

10 20 30 40

Diameter

66 mm

Compliance

WRAS Approved

Materials of Construction

Carbon Type
Powder activated coconut carbon

Netting
Polyethylene

End-cap
Polypropylene

O-Rings
EPDM

Specification

Max. Operating Temperature
52°C

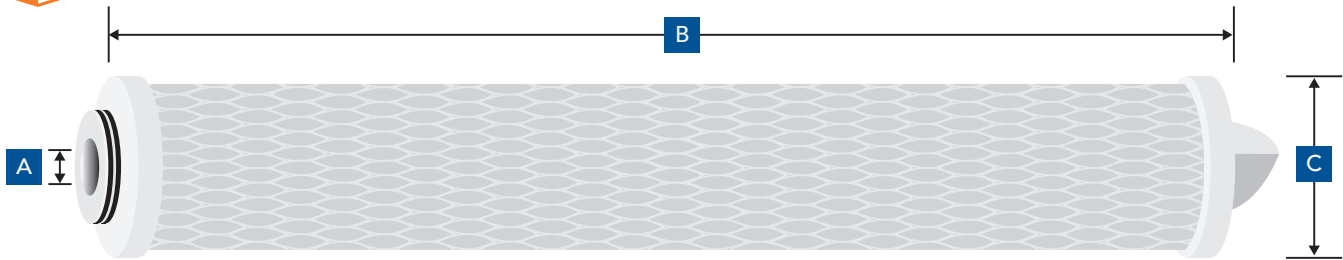
Max. Operating Pressure Differential
2.5 bar

SCB-S Properties

Length (")	Chlorine Reduction (L) @ 2mg/l *	Chlorine Reduction (L) @ 0.2mg/l **	Pressure Drop (Bar) @	Flow Rate (LPM)
10	12,000	105,000	0.3	3.8
20	24,000	210,000	0.3	7.6
30	36,000	315,000	0.3	7.6
40	48,000	420,000	0.3	15.1

*Chlorine capacity using 2mg/l free available chlorine at 0.5mg/l breakthrough
**Calculated chlorine capacity using 0.2mg/l free available chlorine at 0.05mg/l breakthrough

Dimensions & Packaging



Dimensions (mm)			
Length (")	A	B	C
10	28	310	66
20	28	560	66
30	28	810	66
40	28	1,060	66

Packaging	
Box Qty	Box Weight (kg)
9	4
9	8
9	12
9	16

Part Number

Code	Micron	Length	End-cap Seal
SCB-S	5	10, 20, 30, 40	EHE

e.g. SCB-S-5-EHE