



Water Treatment

Carbon and Media Cartridges

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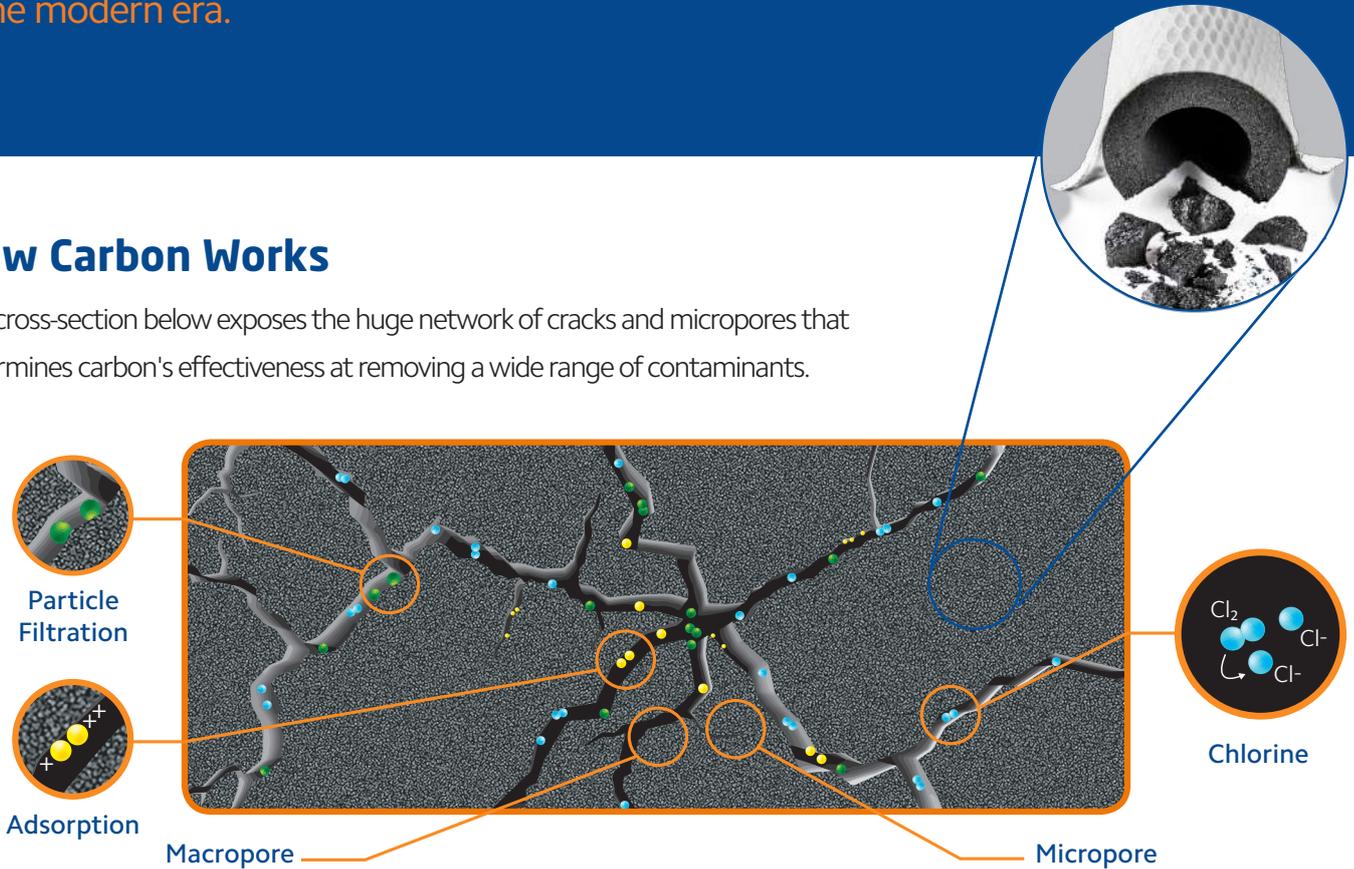


Carbon Technology

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

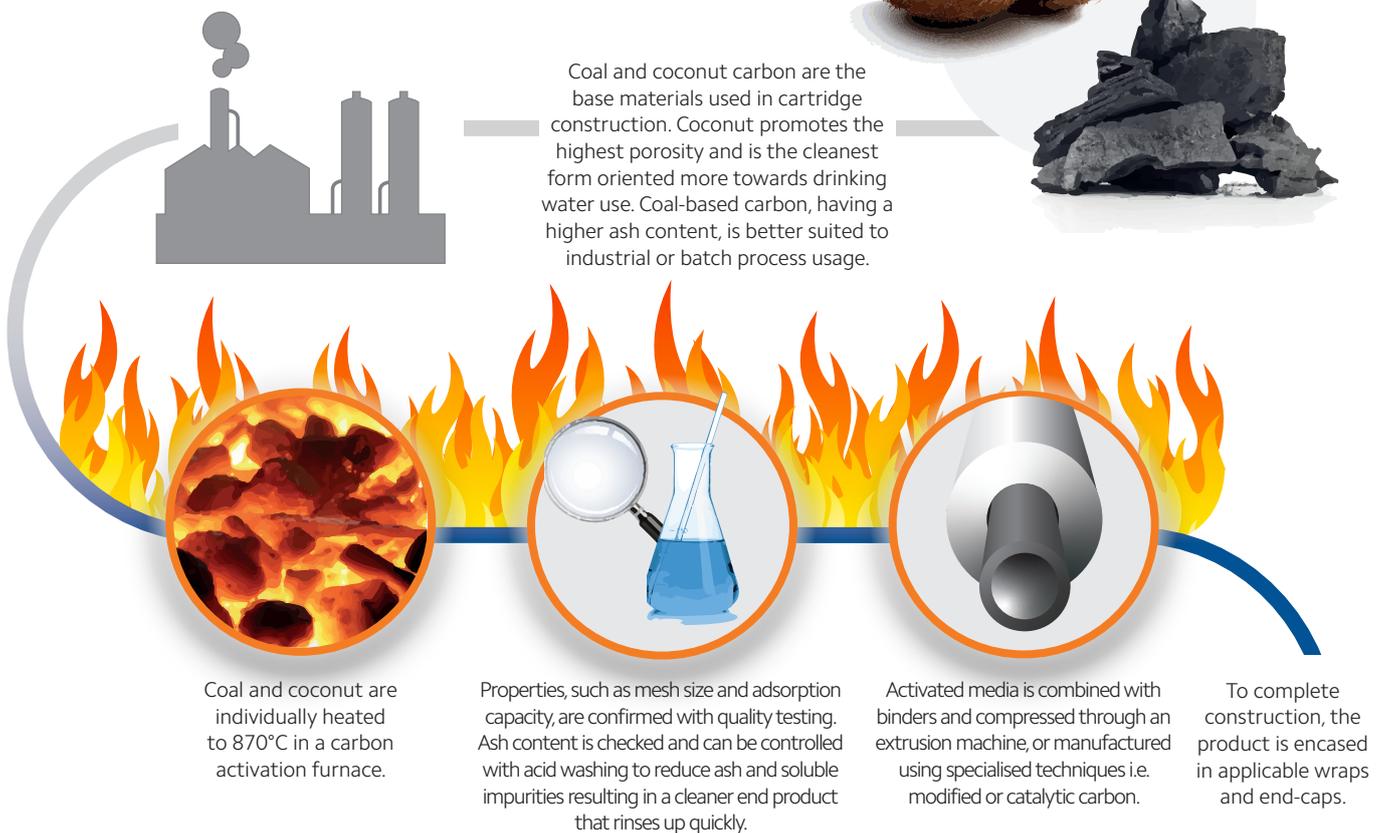
- Organic Acids
- Organic Salts
- Potassium Permanganate
- Solvents
- Sulphonated Oils
- Tannins

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 **Chlorine**
and **Organics**

Chlorine Reduction
Start - End of Life (%)
95-75

Total Chlorine
Capacity (mg)
22,750

Typical Life in UK
Water (L)*
113,750

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

870 Carbon Block - Standard

The Go-To Carbon Block

Widely used and favoured for drinking water treatment and beverage production where chloramines are not present; the SCB is formulated from low ash content, microporous coconut carbon that targets VOCs and THMs. Acid wash during the production process and low fine content give

excellent rinse-up times as well as regulating pH and taste. The SCB also gives improved flowrate and lower pressure drop than the PCB, reducing the size of the housing required, making it a firm favourite for drinking water, pre-RO and applications where end product consumption is a consideration.

Key Features

- Extruded under high pressure, eliminating the need for overuse of binders, increasing flow and dirt holding capabilities
- Highly porous, lightweight, clean and tight microporous structure effective at reducing chlorine, taste and odour contaminants
- Pre-washed, eliminating carbon fines
- 75% minimum free chlorine reduction ensures the SCB's superiority over the ECB

Typical Applications

- Drinking water
- VOC and THM reduction
- RO protection

Configurations

Micron (µm)

5

Length (")

9¾

20

Diameter

Standard

Large = BB

Compliance

WRAS Approved

Materials of Construction

Carbon Type
Catalytic Activated
coconut carbon

Netting
Polyethylene

End-cap
Polypropylene

Gasket
EPDM

Wrap
Polypropylene

Specification

Max. Operating Temperature
52°C

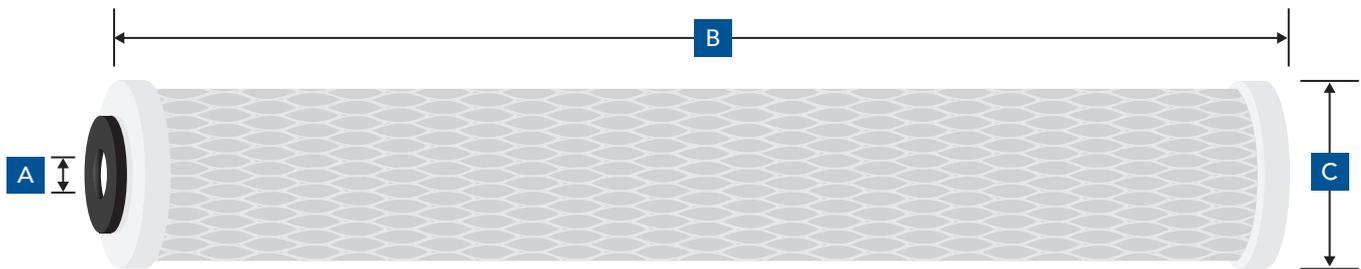
Max. Operating Pressure Differential
2.5 bar

SCB Properties

Length (")	Chlorine Reduction (L) @ 2mg/l *	Chlorine Reduction (L) @ 0.2mg/l **	Pressure Drop (Bar) @	Flow Rate (LPM)
9¾	13,000	113,750	0.3	3.8
20	26,000	227,500	0.3	7.6
9¾BB	59,500	520,625	0.4	7.6
20BB	119,000	1,041,250	0.4	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



Length (")	Dimensions (mm)		
	A	B	C
9¾	28	248	71
20	28	508	71
9¾BB	28	248	115
20BB	28	508	115

Packaging	
Box Qty	Box Weight (kg)
15	8
15	16
4	7
4	14

Part Number

Code	Micron	Length
SCB	5	9¾, 20
		9¾BB, 20BB

e.g. SCB-5-20