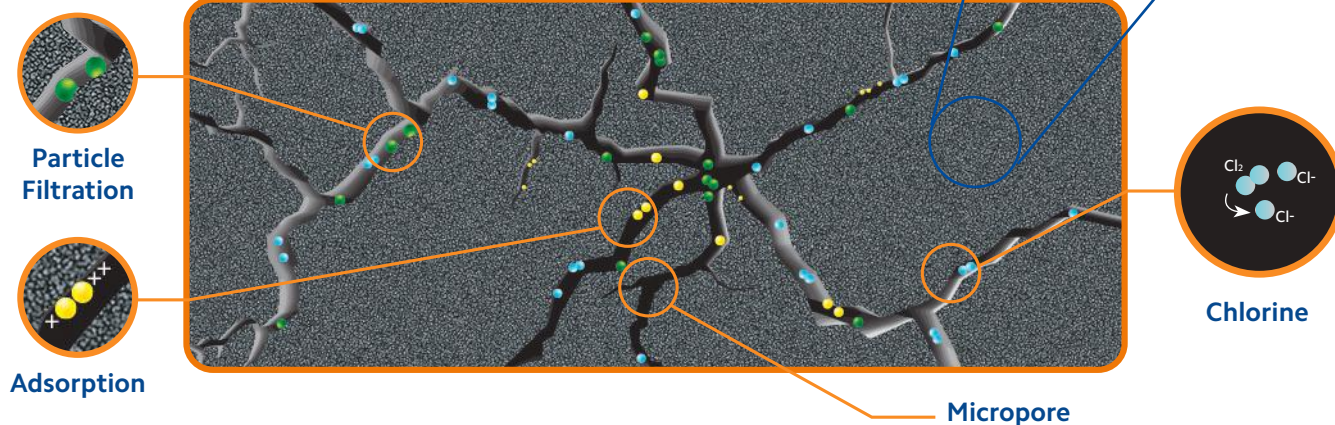


Carbon Technology

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. Specialty 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 flow rate can cause dramatic decreases in carbon treatment's effectiveness. Therefore it is imperative to size a carbon treatment system properly, ensuring that the flow rate allows enough contact time to remove the undesired contaminants. The recommended flow rate for each cartridge is shown on the product page (as illustrated, right).

@ Flow Rate (LPM)			
Specifications Max. Operating Temp. 52°C Max. Operating Pressure 2.5 bar			
SCB Properties			
Flow Rate (LPM)	Chlorine Reduction (L) @ 0.2ppm	Pressure Drop (Bar) @	Flow Rate (LPM)
3.8	113,750	0.3	3.8
7.6	227,500	0.3	7.6
7.6	356,850	0.4	7.6
15.1	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	Odours
Chlorine	Oil-dissolved
Dyes	PCBs
Glycols	Pesticides
Herbicides	Sodium Hypochlorite
Hydrogen Peroxide	Taste
Insecticides	THMs
Iodine	

Good

Organic Acids
Organic Salts
Potassium
Permanganate
Solvents
Sulphonated Oils
Tannins

Fair

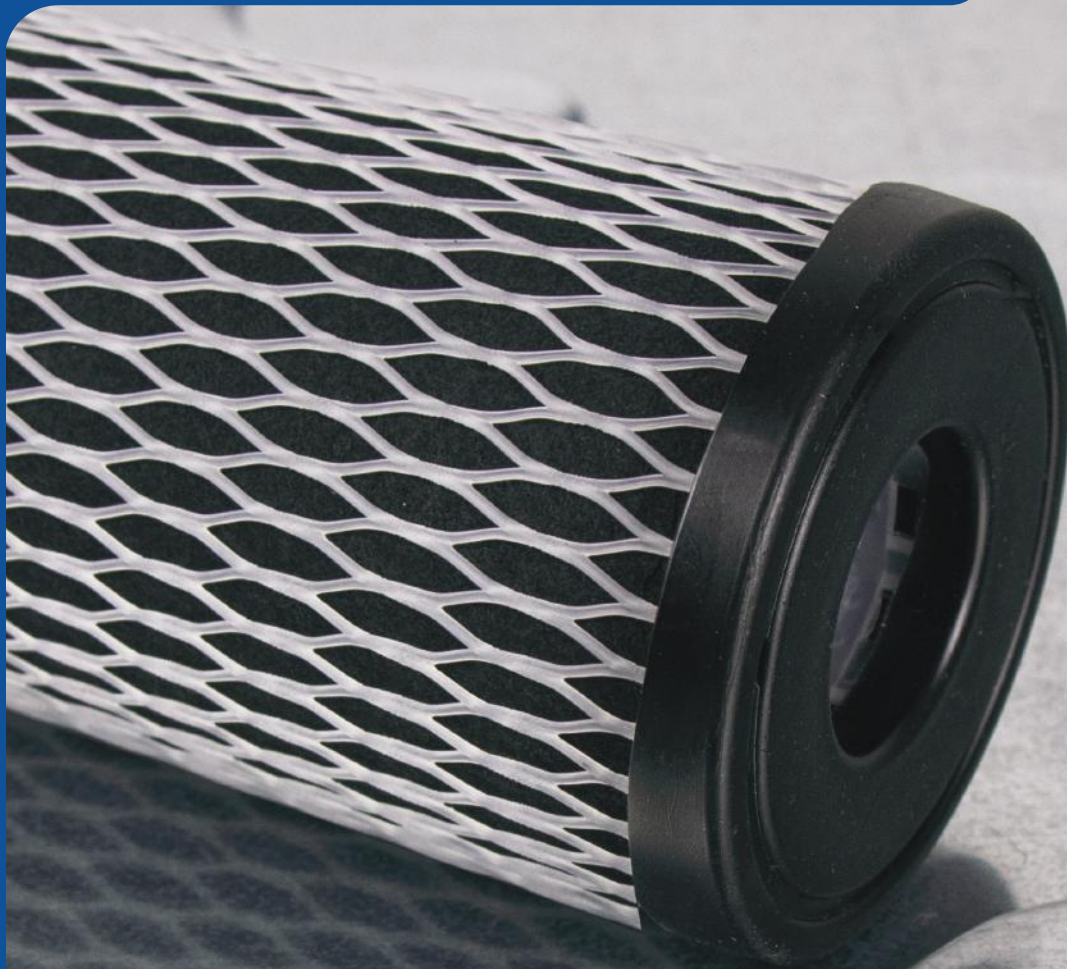
Acetic Acid
Detergents
Heavy Metals
Hydrogen Sulfide
Plating Wastes
Soap

Carbon Cartridge Construction

From raw material, through to activation and end product.



Traditional Dual-Purpose Carbon



For **Chlorine**
and **Organics**

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

Total Chlorine
Capacity (mg)
16,625

Typical Life in UK
Water (L)*
83,125

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

870 Carbon Wrap - SCW

5 micron

Developed as the direct replacement to the Pentair C1, the SPECTRUM SCW is adept at removing high levels of sediment and contaminants. Employing traditional carbon wrap technology to reduce odours, remove chlorine, water pigmentation and other volatile organic compounds, the SCW combines the advantages of a high-dirt loading depth cartridge and adsorption capabilities of granular activated carbon; an ideal combination to treat drinking water.

Key Features

- Dual sediment and chlorine reduction
- Low pressure drop
- 5µm nominal rating hence pre-filtration is generally not required

Typical Applications

- Drinking water
- General purpose chlorine taste and odour reduction

Specification

Max. Operating Temperature
60°C

Carbon Type
Carbon Impregnated Cellulose

End-cap
Vinyl Plastisol

Max. Operating Pressure Differential
2 bar

Netting Material
Polyethylene

Core
Polypropylene

SCW Properties				
Length (")	Chlorine Reduction (L) @ 2mg/l **	Chlorine Reduction (L) @ 0.2mg/l ***	Pressure Drop (Bar) @	Flow Rate (LPM)
4 7/8	4,750	41,563	0.2	1.9
9 3/4	9,500	83,125	0.2	3.8
20	19,000	166,250	0.2	7.6
9 3/4LD	17,000	148,750	0.2	7.6
20LD	34,000	297,500	0.2	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

Configurations

Micron (µm)

5

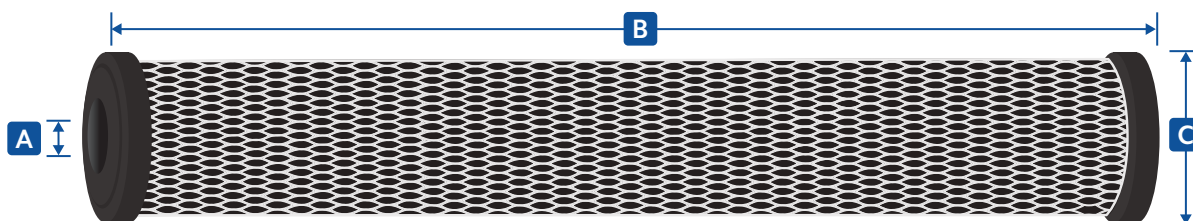
Length (")

4 7/8 9 3/4 20

Diameter

Regular Large = LD

Dimensions & Packaging



Length (")	Dimensions (mm)		
	A	B	C
4 7/8	28	124	65
9 3/4	28	248	65
20	28	508	65
9 3/4LD	28	248	115
20LD	28	508	115

Part Number

Code	Micron	Length
SCW	5	4 7/8, 9 3/4, 20
		9 3/4LD, 20LD

e.g. SCW-5-20