Activated Carbon Filter

Remove chlorine, colour, odour and organics

Overview

An activated carbon filter passes water through a bed of porous carbon granules. The carbon adsorbs chlorine, organic matter, colour, taste and odour. It is used ahead of RO, DM and softener plants and to improve drinking water.

Arukal supplies carbon filters with MS or FRP vessels, internals, activated carbon and valves, and the replacement carbon when the bed is spent.

Chlorine, colour, odour	8 – 12 m/h	Coconut or coal	0.5 – 100 m³/h
Removes	Filtration velocity	Carbon	Capacity

Key features

Protects RO membranes Removes chlorine that would damage polyamide membranes.	**Backwashable** Valve-operated backwash keeps the bed open.
Better taste and smell Removes odour, colour and many organics.	**Sized for contact time** Vessel sized for the contact time you need.
Coconut or coal Carbon type chosen for the duty.	**Carbon supply** Fresh carbon and servicing from Arukal.

Applications

RO pre-treatment (dechlorination) • Municipal water polishing • Drinking water • Beverage and food lines • Colour and odour removal • Process water

How it works

1. Water enters	2. Adsorption	3. Clean water out	4. Backwash
Pre-filtered water flows down through the carbon bed.	Chlorine and organics stick to the huge internal surface of the carbon.	Dechlorinated, clear, odour-free water leaves from the bottom.	Regular backwash loosens the bed and removes fines.

Care and handling

Wet the carbon. Soak and backwash new carbon until the water runs clear of fines.
Backwash gently. Use a gentler backwash than sand to avoid losing carbon.
Test chlorine. Check outlet chlorine often. A rise means the carbon is spent.

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Technical specifications

Typical values. Values are typical for the product family and given for guidance. Exact figures depend on the make and model supplied; ask us for the data sheet of the specific model.

Filter (typical)

Filtration velocity	8 – 12 m/h
Empty bed contact time	approx. 5 – 10 minutes
Carbon	Granular activated carbon (coconut shell or coal)
Iodine number	approx. 800 – 1,000 mg/g
Bed depth	600 – 1,000 mm
Chlorine removal	Free chlorine below 0.1 mg/L at outlet (typical)

Construction

Vessel	MS rubber lined, epoxy-coated, SS, or FRP
Internals	Upper distributor, lower collector with fine strainers
Valves	Multiport or butterfly / diaphragm valves
Backwash	approx. 20 – 25 m/h for 10 min (gentle)

Typical filter sizes

Vessel (dia × height)	Flow at 10 m/h	Carbon volume	Typical use
18 × 65 in	approx. 1.6 m³/h	approx. 110 L	Domestic, small commercial
24 × 72 in	approx. 3 m³/h	approx. 200 L	Commercial
36 × 72 in	approx. 7 m³/h	approx. 450 L	Small industry
48 × 72 in	approx. 12 m³/h	approx. 850 L	Industry, RO feed
72 × 72 in	approx. 27 m³/h	approx. 2,000 L	Large plants

Carbon life depends on chlorine and organic load. Ask us to size the bed for your duty.

To receive a recommendation, send us:

- Flow rate (m³/h) and hours of operation
- Chlorine level and what you want removed (colour, odour, organics)
- Manual or automatic backwash
- Vessel material and pressure