Multi Media Filter

Layered filters for heavier loads and finer filtration

Overview

A multi media filter uses several layers: coarse light media on top and fine heavy media below. Dirt is caught throughout the whole depth of the bed, not just at the surface. This gives longer runs, higher flow and finer filtration than a single sand bed.

Arukal supplies multi media filters with MS or FRP vessels, internals, media layers and valves, for river water, tank water, RO pre-treatment and reuse water.

10 – 15 m/h	Down to 10 – 15 µm	3 – 4	0.5 – 100 m³/h
Filtration velocity	Removes	Media layers	Capacity

Key features

Depth filtration Dirt is held through the whole bed, so runs last longer.	**Self-sorting layers** Backwash keeps the layers in order by density.
Higher flow Higher filtration velocity than a sand filter for the same size.	**Rugged** MS or FRP vessels with proper internals.
Finer filtration Lower SDI and turbidity ahead of RO and UF.	**Media and service** Media top-up and servicing from Arukal.

Applications

River and canal water • RO and UF pre-treatment • Cooling water • Reuse water polishing • Industrial process water • Swimming pools

How it works

1. Coarse layer	2. Medium layer	3. Fine layer	4. Backwash
Light anthracite on top traps the larger particles.	Sand below catches the medium particles.	Dense garnet at the bottom catches the finest particles.	Reverse flow re-sorts the layers by density and cleans them.

Care and handling

Commission. Layer the media in the right order, backwash gently and run to waste until clear.
Backwash. Backwash on pressure drop. Air scour helps heavy loads.
Inspect. Look for mud balls and media loss each year.

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	10 – 15 m/h
Backwash velocity	approx. 35 – 45 m/h, 10 – 15 min plus air scour if fitted
Media	Gravel support, garnet, sand, anthracite
Bed depth	approx. 800 – 1,200 mm total
Particle removal	approx. 10 – 15 µm
Design pressure	up to 6 bar

Media layers (top to bottom)

Anthracite	0.8 – 1.6 mm, 300 – 400 mm
Filter sand	0.4 – 0.8 mm, 300 – 400 mm
Garnet	0.2 – 0.4 mm, 100 – 150 mm
Gravel support	3 – 40 mm, 200 – 300 mm

Typical filter sizes

Vessel (dia × height)	Flow at 12 m/h	Total media	Typical use
24 × 72 in	approx. 3.5 m³/h	approx. 250 L	Commercial
36 × 72 in	approx. 8 m³/h	approx. 550 L	Small industry
48 × 72 in	approx. 14 m³/h	approx. 1,000 L	Industry, RO feed
72 × 72 in	approx. 31 m³/h	approx. 2,400 L	Large plants
96 × 72 in	approx. 55 m³/h	approx. 4,300 L	Large plants

Flow shown at a typical filtration velocity of 12 m/h. Custom sizes on request.

To receive a recommendation, send us:

- Flow rate (m³/h) and hours of operation
- Raw water turbidity, TSS and source
- Manual or automatic backwash, and air scour
- Vessel material and pressure