Dual Media Filter

Anthracite and sand filters for higher flow and longer runs

Overview

A dual media filter has a layer of light, coarse anthracite on top of fine, heavy sand. The coarse layer catches the larger particles and the sand catches the rest, so dirt is stored deeper in the bed and filter runs are longer than with sand alone.

Arukal supplies dual media filters with MS or FRP vessels, internals, anthracite, sand, gravel and valves, for pre-treatment of RO, DM and process water.

Anthracite + sand	10 – 12 m/h	Down to 15 – 25 µm	0.5 – 100 m³/h
Media	Filtration velocity	Removes	Capacity

Key features

Deeper filtration Dirt is stored through the bed, so runs are longer.	**Simple and rugged** Two media, standard vessel and valves.
Higher flow than sand More water per filter area for the same turbidity.	**Sized to flow** Vessel sized for a safe filtration velocity.
Lower backwash use Fewer backwashes mean less wasted water.	**Media supply** Top-up and replacement media from Arukal.

Applications

RO and DM pre-treatment • Tank and canal water • Cooling water • Process water • Swimming pools • Reuse water

How it works

1. Coarse layer Anthracite on top holds the larger particles.	**2. Fine layer** Sand below catches the finer particles.	**3. Clean water out** Filtered water leaves through the lower collector.	**4. Backwash** Backwash re-sorts the two layers and flushes the dirt.

Care and handling

Commission. Layer media in order, backwash gently and run to waste until clear.
Backwash. Backwash on pressure drop or by timer.
Inspect. Check for mud balls, channelling and lost anthracite.

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 – 12 m/h
Backwash velocity	approx. 35 – 40 m/h for 10 – 15 min
Media	Anthracite over silica sand on gravel support
Bed depth	approx. 700 – 1,000 mm
Particle removal	approx. 15 – 25 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
Gravel support	3 – 40 mm, 200 – 300 mm

Typical filter sizes

Vessel (dia × height)	Flow at 11 m/h	Total media	Typical use
24 × 72 in	approx. 3.2 m³/h	approx. 230 L	Commercial
36 × 72 in	approx. 7.5 m³/h	approx. 520 L	Small industry
48 × 72 in	approx. 13 m³/h	approx. 950 L	Industry, RO feed
72 × 72 in	approx. 29 m³/h	approx. 2,200 L	Large plants

Flow shown at a typical filtration velocity of 11 m/h. Custom sizes on request.

To receive a recommendation, send us:

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