Iron Removal Plant

Remove dissolved iron from borewell and groundwater

Overview

Many borewells give water with dissolved iron. It looks clear at first, then turns brown on standing, stains clothes, taps and tanks, and gives a metallic taste. An iron removal plant oxidises the iron and filters it out.

Arukal supplies iron removal plants with aeration or chemical oxidation, contact time and filters with special media. We also supply filter media for existing iron removal filters and advise on backwash.

< 0.3 mg/L	0.5 – 100 m³/h	Aerate + filter	Iron removal media
Outlet iron	Capacity	Method	Media

Key features

Removes iron and stains Clear water without rust stains or metallic taste.	**Automatic backwash** Timer or flow-based backwash valves.
Chemical-free option Aeration alone suits many borewell waters.	**Sized to your water** Designed from iron, pH and flow.
Special media Catalytic media oxidise and filter iron in one bed.	**Support and media** Replacement media and servicing.

Applications

Borewell water • Hostels and hotels • Housing societies • Industries • Pre-treatment before RO • Drinking water plants

How it works

1. Oxidation	2. Contact	3. Filtration	4. Backwash
Aeration or a dose of chlorine or permanganate converts dissolved iron into solid particles.	A short contact time lets the iron particles grow.	A media filter traps the iron, giving clear water.	Regular backwash flushes the iron from the bed to drain.

Care and handling

Aerate. Keep the aerator clean and the air supply working so oxidation stays effective.
Backwash. Backwash on time. Low backwash lets iron build up and the media cake.
Test. Test outlet iron weekly. A rise means the media needs attention.

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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.

Plant (typical)

Feed iron	up to 10 – 20 mg/L (higher on request)
Outlet iron	< 0.3 mg/L (typical, to drinking water norms)
Feed pH	6.5 – 8.5 (higher pH helps oxidation)
Filtration velocity	approx. 8 – 12 m/h
Backwash rate	approx. 25 – 30 m/h, 10 – 15 minutes
Capacity	0.5 – 100 m³/h

Construction

Aerator	Spray, cascade or air-injection (venturi / blower)
Vessel	MS epoxy-coated, rubber lined, or FRP
Media	Iron removal media on gravel support
Valves	Multiport or diaphragm valves, manual or automatic

Typical plant sizes

Model	Capacity	Vessel	Typical use
IR 1	1 m³/h	18 – 24 in	Home, small shop
IR 5	5 m³/h	36 in	Hotel, school, small industry
IR 10	10 m³/h	48 in	Industry, society
IR 25	25 m³/h	72 in	Municipal and industrial

Capacity and media volume depend on feed iron and pH. Ask us for a design.

To receive a recommendation, send us:

- Water analysis (iron, manganese, pH, alkalinity, hardness, turbidity)
- Required flow (m³/h) and daily demand
- Whether chemicals can be used
- Existing tank and pump arrangement