

MEMBRANE ASSISTED WATER PURIFICATION UNIT FOR REMOVAL OF IRON CONTAMINATION

The developed technology demonstrates Ultrafiltration (UF) membrane assisted oxidation process for removal of iron from ground/surface water to make it safe for drinking purposes (below WHO limit of 0.3 ppm). UF filtered product water is free from biological and colloidal contaminants as well.



Domestic Water Purification Unit for Iron Removal



Community Level Water Purification Unit for Iron Removal

Salient features of the technology

- Soluble iron (Fe^{+2}) is converted to colloidal Fe^{+3} by oxidation and separated by UF unit.
- The oxidation reaction depends upon feed iron concentration, oxygen concentration and pH.
- For a low (<10.0 ppm) feed iron concentration, feed aeration followed by UF is sufficient. For a higher feed concentration of iron (>10 ppm and upto 20 ppm), pH needs to be maintained at >8.0.
- Available both for domestic and community scale with or without electric power requirements.

Purified water quality	Applicability		Capacity	Installation Requirements		Maintenance requirements	Unit Cost (Rs) Typical	Running cost Typical
				Power	Space			
< 0.3 ppm Iron as per WHO	Domestic level	With/ Without Electricity	40-100 LPD	3 m water head	Wall mounted	Candle cleaning only	3,000 to 10,000/-	Less than 1 paise/lit
	Community level	With Electricity	5-10 KLD	About 0.1 kW for 5KLD	~2-3 m ²	Backwashing of spiral UF elements	5,000 to 15,000/-	Less than 1 paise/lit

For further details contact :

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