

Annexure I

Technical Specifications

Scheme of existing DM plant:

DM plant of M/s Komal Industries, Thane is installed at BHEL Jhansi. Following is the flow of water in the DM plant:

Wire Mesh Filter----> ORD ---> SAC----> SBA ---> pH Correction Doser

ORD: Oxygen Removal Doser

SAC: Strong acid cation

SBA: Strong base anion

1) Dimensions & details of SAC & SBA vessels:

Unit	Vessel dia(mm)	Vessel height	Resin used currently	Resin qty. (Its)
SAC	900	1800	225H (Indion make)	800
SBA	1000	1800	NIP (Indion make)	1350

Note: All the tanks and pipeline of DM plant are made of FRP & chemical resistant PVC piping.

Acceptable Make of Resins: Indion/ Thermax/ Lanexess/ Dow Chemicals/ Purolite

2) Chemicals used for regeneration

a) **For Cation:** Hydrochloric acid as per IS 265 / 1993, Boiler water grade (BW Grade) with 30% concentration.

b) **For anion:** Caustic soda lye as per IS 252/1991, Reaffirmed 2003, Pure grade with 46% concentration by mass.

3) Output Between regenerations (OBR) required: 330m³ (Minimum)

4) Operating flow rate required: 15m³/hr (Minimum)

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5) Parameters of Domestic water at Inlet of Mechanical filter:

SI No.	Parameter description	Maximum value
1	Total Hardness (as CaCO ₃), ppm	125
2	Alkalinity (P) (as CaCO ₃), ppm	NIL
3	Alkalinity (M) (as CaCO ₃), ppm	125
4	Total Chloride (as CaCO ₃), ppm	50 Max
5	Conductivity (Micro S/cm)	300
6	pH	8

6) Output desired parameters:

SI No.	Parameter description	Maximum value
1	Total Chloride ,ppm	Traces
2	Conductivity (Micro S/cm)	Less than 10
3	pH	6.5 to 9.3
4	Total Hardness (as CaCO ₃), mg/lit	0

7) Maximum quantity of HCl (Kg) used for each regeneration of cation: 240Kg

8) Maximum quantity of NaOH (Kg) used for each regeneration of anion: 135Kg

9) Please note that all the cation resins should be compatible for regeneration with HCl of 30% concentration within above mentioned quantity (SI No. 7) and similarly all the anion resins should be compatible for regeneration with caustic soda lye (NaOH) of 46% concentration within above mentioned quantity (SI No. 8).

10) If required, for any technical clarifications, supplier may first visit our DM plant before submitting their quotations.

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