

Dear Sir/Madam

Date: 16/03/2022

Kind Attn.: Mr. DM DOGRA

Sub. – RO System Capacity 6000 LPH

Dear Sir,

With reference to our discussion regarding above mentioned subject matter we are glad to quote you our most reasonable and competitive rate. Kindly find our most elaborate offer on above subject matter for your kind perusal.

We render our service to industries and have executed various prestigious orders of reputed companies due to quality Products and excellent after Sales Service. With our dedicated Efforts, we fulfill commitment & give customer satisfaction by providing technical solution. To ensure that our customers are satisfied & we succeed in getting better performance.

We assume that proposal is in line of your requirement and you will honor us your valuable order.

For NETSOL WATER SOLUTIONS PVT. LTD.

Thanks & Regards Yogesh Kumar

Netsol Water Solutions Pvt. Ltd.

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1. BRIEF ABOUT PROJECT

1.1

Design Criterion

| Parameter | Limits | Parameter | Limits | |
|------------------------------|-----------------------|------------------|-------------|--|
| Total Dissolved Solids (TDS) | Upto 3500ppm(mg/L) | Turbidity | <1NTU | |
| Temperature | 40-100F(4-38Degree C) | Iron(Fe) | <0.1mg/L | |
| рН | 4-11 | SDI | < 2.5 | |
| Hardness | <280mg/L | Hydrogen Sulfide | Not Allowed | |
| Free Chlorine | <1mg/L | Organics | <1mg/L | |

2. PROCESS DESCRIPTION

2.1 REVERSE OSMOSIS

Pressurized Sand Filter

It is the most popular, conventional and easy method for removal of turbidity and suspended particle from water. Sand filter consist of multiple layer of sand viz. Pebble, gravel, coarse sand and fine sand.

Activated Carbon Filter

Activated carbon filtration is used to reduce or eliminate bad tastes and odors, chlorine, and many organic contaminants. It is used as a pre-treatment as part of a reverse osmosis system to reduce many organic contaminants, chlorine, and other items that could foul the reverse osmosis membrane. Organic compounds are removed by adsorption and residual disinfectants such as chlorine and chloramines are removed by catalytic reduction.

Cartridge Filter

Cartridge filters are preferable for systems with contaminations lower than 100 ppm that is to say with contamination levels lower than 0.01% in weight. Cartridge filter can be surface or depth-type filter: depth-type filters capture particles and contaminant through the total thickness of the medium, while in surface filters particles are blocked on the surface of the filter. It can be generally stated that if the size of filter surface is increased, higher flows are possible, the filter last longer, and the dirt holding capacity increases. Cartridge filters are normally designed disposable: this means that they have to be replaced when the filter is clogged.



RO Membrane

Reverse Osmosis (RO) is a water purification technology that uses a semi permeable membrane. In RO, an applied pressure is used to overcome osmotic pressure, a colligative property that is driven by chemical potential, a thermodynamic parameter. RO can remove many types of molecules and ions from solutions and is used in both industrial processes and in producing potable water. The result is that the solute is retained on the pressurized side of the membrane and the pure solvent is allowed to pass to the other side. To be "selective", this membrane should not allow large molecules or ions through the pores (holes), but should allow smaller components of the solution (such as solvent) to pass freely. Reverse osmosis, often abbreviated to RO is a technique employing a membrane which is "semi permeable" that is; under the influence of pressure a larger proportion of water (the solvent) passes through the membrane than do the dissolved salts or organic molecules (the solutes).

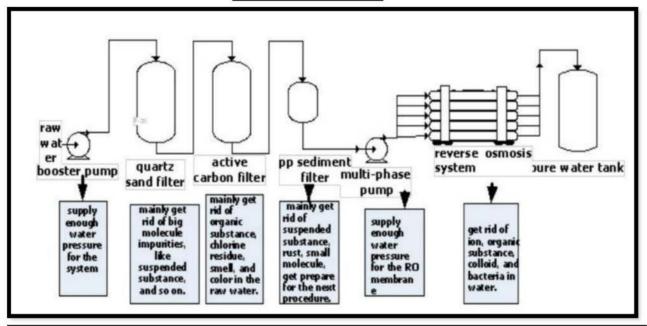
Membranes can be of various thicknesses, with homogeneous or heterogeneous structure. Membrane can also be classified according to their pore diameter. Membranes can be neutral or charged, and particles transport can be active or passive. The latter can be facilitated by pressure, concentration, chemical or electrical gradients of the membrane process. Membranes can be generally classified into synthetic membranes and biological membranes.

Features of membrane

- Excellent product water quality having less TDS
- Low membrane replacement cost due to longer life.
- Consistent & reliable performance avoids any accidental shut down of the system hence eliminates probable production losses.
- Resistant to bacteria / biological attack
- Low operating pressure reduces power cost
- Excellent silica rejection.



Treatment Scheme



3 Scope of Work

Client Scope

- 1) Raw Water Tank
- 2) Treated Water Tank
- 3) Access road for approach to site.
- 4) Power cable to plant.
- 5) Bringing raw water to plant.
- 6) Chemicals and consumables for operating the plant.
- 7) Peripheral drain, chain-link fence etc.
- 8) Rain protection shed for all equipment.
- 9) Drain point for waste water.



Technical Specifications for Reverse Osmosis System-6000 LPH

| S.No. | Item | Specification | Unit | Qty | Make |
|-------|----------------------------|-------------------|------|-----|-------------|
| 1. | Raw Water Pump | SS304 | No. | 01 | CRI/SHAKTI |
| | 1.5 HP | 3 PHASE | | | |
| 2. | Pressure Sand Filter | | | | |
| | Vessel | 24" X 72" | No. | 01 | Pentair |
| | Sand Media | Pebble, Gravel | | | Netsol |
| | | Coarse, fine sand | | | Netsol |
| | MOC | FRP | No. | 01 | Pentair |
| | Control Valve | | | | |
| | Frontal Pipe | 1.5" UPVC | | | |
| 3. | Activated Carbon Filter | | No. | 01 | Netsol / |
| | Vessel | 24"x72" | | | Pentair |
| | Activated Carbon | 800ID | | | Netsol |
| | Control Valve | | | | |
| | Frontal Pipe | 1.5" UPVC | | | |
| | MOC | FRP | No. | 01 | Pentair |
| 4. | Cartridge Housing | | No. | 1 | BB / Goapni |
| | Dia | 5" | | | |
| | HDPE | 20" | | | |
| 5. | Cartridge Filter Spun | | No. | 2 | BIG BLUE |
| | Dia | 5" | | | |
| | Height | 20" | | | |

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| | Micron | 5 | | | |
|-----|---------------------------|-----------------------|-----|----|---------------------|
| | MOC | PP | | | |
| 6. | High Pressure Pump | | No. | 01 | CRI |
| | Туре | Vertical multi-stage | | | |
| | Volt | 440 | | | |
| | 7.5HP | Phase III | | | |
| | Hz | 50 | | | |
| 7. | Membrane Housing | | No. | 02 | ROH / UKL |
| | Dia | 8" | | | |
| | Length | 210" | | | |
| | Element | 5 | | | |
| | Pressure | 21 bar | | | |
| 8. | Membrane | | No. | 6 | CSM/LG |
| | Dia | 8" | | | |
| | Length | 40" | | | _ |
| | Recovery/Membrane | 15-19% | | | |
| | Salt rejection | 98-99% | | | |
| | | | | | |
| 10. | Dosing Pump | | No. | 03 | Infinity / Positive |
| | Capacity | 0-10 LPH | | | |
| | Dosing tank | 100 lit. | | | |
| 11. | Control Panel | | No. | 01 | NETSOL |
| | Туре | Electrical | | | |
| | | Non- Compartmental | | | |

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| | Working | Auto/Manual | | | |
|-----|----------------------------------|---------------------------|------|----|------------------|
| 12. | Instrumentation | | | | |
| | Rota meter | | | | 1 |
| | Low Pressure Switch | | No. | 01 | Inflow / Danfoss |
| | High Pressure Switch | | No. | 01 | Inflow / Danfoss |
| | Pressure gauge | Online & Panel Mounted | No. | 06 | |
| 13. | RO Skid | | Set. | 01 | NETSOL |
| | MOC | SS 202 (Square Pipe) | | | |
| 14. | Interconnecting Pipes & Fittings | SS304 | Lot. | 01 | |

4. PRICE & PAYMENT TERMS

| S.NO. | Equipment | Specification | Quantity | Rate |
|-------|---------------------------|---------------|-------------|------------|
| 1. | Reverse Osmosis System | 6000 LPH | 1 unit | 8,50,000/- |
| 2. | Ozonator | 6 Gram/Hr | 1 unit | 35000/- |
| 2. | Erection & Commissioning | | 1 Job | Included |
| | | • | Grand Total | 8,85,000/- |
| | | | Granu 10tai | 0,00,0 |

Treated water and waste water ratio will be 60% and 40% respectively.

Price term : Ex-Works;
GST @ 18% : Extra;
Transportation : Extra;

Transit Insurance : At the rate of 0.3% of Order Value, Or, By Client;

NOTE: Unloading and transfer of Plant and Machinery at site is in the Client's Scope. Similarly safe storage at site is also in client's scope

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Payment Term

- 60% of the price quoted as advance against the order.
- 40 % of the payment to be made against PI before material dispatch.



Delivery:

- We expect to complete the supply within 6-7 days after approval from client.
- We need 3-5 days time for Installation of Plant.

Validity:

• 30 days from the date of this offer.

POWER REOUIREMENT:

• Supply: 3 Phase,440 Volts

Please note(for Outside India):

The above price(s) of equipment only and exclude(s) all the charges as follows:

- Clearance of the consignment in your country and charges relating to that.
- Charges for installation, electrification, cabling and any other costs to be incurred at your site.
- Price for the start up of the plant with required chemicals and other inputs.
- Any other liabilities, statutory or otherwise are expressly excluded.

WARRANTY:

- Membrane and pumps are under company warranty from the date of installation for manufacturing fault and not for wrong handling and motor burning.
- Pumps and electrical instruments are warranted as per company.
- Service Warranty for system and other operation is for **12 months** from the date of installation.
- Consumables are not covered under warranty such as cartridge filter, membrane, media, and anti-scalent and other chemicals.

THANKING YOU