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## Technical Specification

### 1. Raw Water Quality

R.O. plant is 1500 TDS  
designed based On :  
Hardness : 300

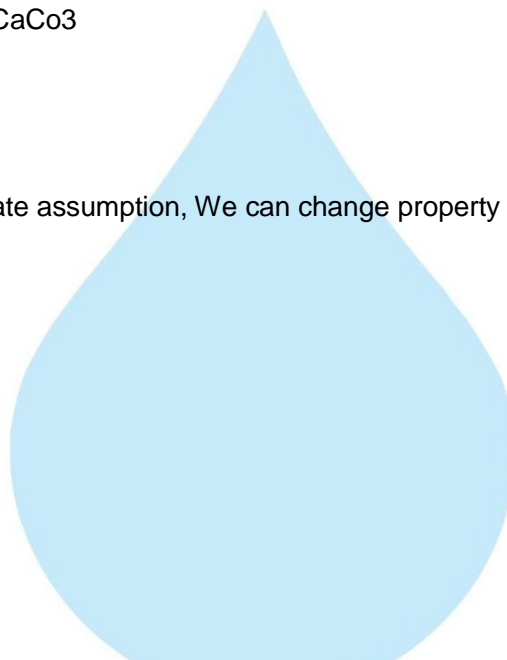
#### Application :-

### 2. Treated Water Quality

Suspended Solids : Nill  
Turbidity : Nill  
PH : 7.0 To 7.5  
T D S : Less than 40 ppm  
Total Hardness : 30 ppm as CaCo3  
Bacteria Coliform : Nill

#### Application :-

The above water quality is approximate assumption, We can change property of minerals/ions in water by editing the raw water in R.O. treated water



### 3. Raw Water Feeding Pump

Type :	Centrifugal
Max. Flow :	3.5 m <sup>3</sup> /HR
Working Flow :	2.0 m <sup>3</sup> /HR
Working Pressure :	2 Kg. / Cm <sup>2</sup>
M.O.C. :	C.I.
Power :	1 HP
Manufacturer :	Kirloskar / EQI
Nos. Offered :	1 Nos.



#### **Application :-**

To Pump Raw Water at Required Pressure so as to enable Transfer Through The RO Pre-Treatment Stage.

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### 4. Pressure Sand Filter (SS)

Type :	Down Flow Graded Sand Type
Model :	1268/RW/MFG
M.O.C. :	SS 304
Size Dia X Height :	300 mm Dia X 1700 mm
Pipe Line Size :	25 mm.
Sand Qty. :	120 Kgs.
Valves :	SS Valve
Max. Flow :	3.5 m <sup>3</sup> /HR
Working Flow :	2.0 m <sup>3</sup> /HR



#### **Application :-**

By means of Multi size Graded sand filled in the Vessel of stainless steel material, which is natural process of filtration adopted by the nature Raw Water is first filtered by filtration unit in series prior feeding RO Plant. Pressure Sand Filter Unit is provided for removal of suspended matters & turbidity from raw water. PSF Unit is a SS vertical Pressure Vessel. Internally, it is fitted with bottom collecting system. Uniform grades silica quartz sand is charged on the supporting media of pebbles and gravels.

## 5. Activated Carbon Filter (SS)

Type :	Down Flow Graded Sand Type
Model :	1268/RW/MFG
M.O.C. :	SS 304
Size Dia X Height :	300 mm X 1700 mm
Pipe Line Size :	25 mm
Carbon Qty. :	50Kgs.
Valves :	SS Valve
Max. Flow :	3.5 m3/HR
Working Flow :	2.00 m3/HR



### Application :-

To Remove taste, odour, chlorine, colour and. It can absorb contaminated particles of Oil & Grease from the raw water. It will control the BOD & COD in the raw water. Activated Carbon can remove Chlorine, Odour, & Colour other organic material from feed water prior to reverse osmosis. This Carbon granules having larger surface area and specific property to absorb organics.

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## 6. Antiscalant Dosing Pump

Type :	Ele. Diaphragm Type
Capacity :	0 to 6 LPH
M.O.C. :	PP
Dosing Chemical :	Antiscalant
Dosing Rate :	3 to 4 LPH
Manufacturer :	E Dose / I dose



### Application :-

The hardness salts of calcium & magnesium are likely to be precipitated if concentration exceeds its solubility limit & it may faults the membranes resulting into scaling which ultimately leads to poor treated water quality from R.O.System.

## 7. Antiscaling Dosing Tank

Type :	Conical Bottom
Capacity :	100 Ltr.
M.O.C. :	HDPE
Manufacturer :	Reputed



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## 8. Micron Cartridge Filter

Model :	MCF 20/RW/SS
Size :	20" Long
Micron Rating :	5 Micron
Type of Candle :	P.P Spun/Wound
Material of Housing :	SS 304
Nos. of Candles :	1 Nos. (Jumbo)
Max. Flow :	3.5 m3/HR
Working Flow :	1.0 m3/HR



### Application :-

To protect the membrane and the high pressure pump from suspended particles by removing them up to 5 Micron.

## 9. High Pressure Pump

Type :	Vertical Centrifugal Pump
M.O.C. :	SS
Max. Pressure :	13 Kgs. / Cm 2.
Working Pressure :	10 Kgs. / Cm 2.
Max. Flow :	3.5 m3/HR
Working Flow :	2.0 m3/HR
Motor :	3HP
Manufacturer :	2900 RPM
Nos. Offered :	3 Phase
Make of Pump :	PNC/EQI



### Application :-

For Reverse Osmosis Process to take place feed pressure of water need to be raised. For this purpose a Vertical Multistage Centrifugal High Pressure Pump in S.S construction is provided R.O. System requires operating pressure of about 14-16 kg/cm<sup>2</sup> . High-pressure pump is fitted with S.S. discharge pipe work with necessary control valves. Necessary instruments like a High Pressure Switch, Pressure Gauge and recirculation valves are provided for safer operation of system

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## 10. RO Membrane

Model :	4040 Element
Type :	TFC Spiral Wound
Material :	Polymide
Size :	4" Dia X 40" Long
Manufacturer :	Toray / Hydranautics / Dow / EQI
Nos. Offered :	4 Nos.



### Application :-

To reduce Raw Water T.D.S. through the concept of Reverse Osmosis where R.O. Modules processes Raw Water and produces Purified Water having the Salt Rejection of Raw Water in the range of 90 – 95%. By using Semi permeable Membrane filter elements, where ion filtration process is carried out by applying pressure in the water. So finally we will get Low salt water with low total dissolve solids and High purity. Here will have to drain the water at one side to Wash the Membrane filter elements continuously because of filtration process there is nothing to be polluted in the system.

## 11. SS Pressure Vessels

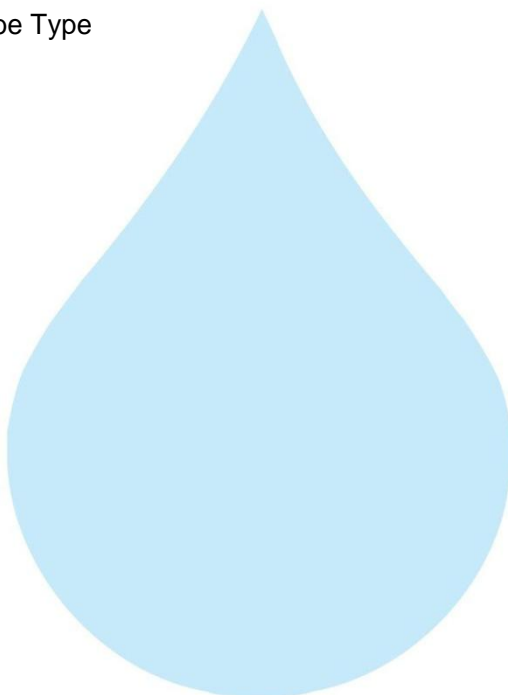
M.O.C. :	SS 304
Type :	Horizontal Tube Type
Size :	4" X 80"
Max. Pressure :	400 PSI
Working Pressure :	150 PSI
Nos. Offered :	2 Nos.



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## 12. Pressure Gauges

Pressure Gauges :	7 Nos.
Type :	Burdome Tube Type
Manufacturer :	Raj
Range :	0 - 28



### 13. Rota Meters

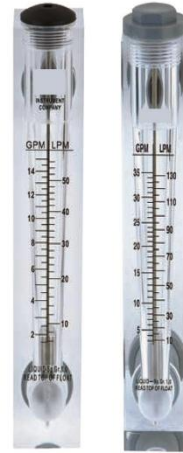
Rota Meters : 2 Nos.

Type : Float

M.O.C. : Acrylic Body

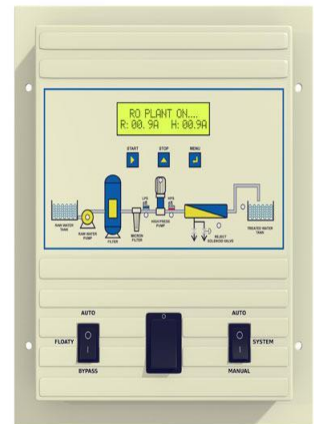
Reject Water Range : SS Float (0 - 2000 Lph.)

Treated Water Range SS Float (0 - 1500 Lph.)  
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## 14. Control Panel - PLC Base

Manufacturer : Astral



## 15. Pressure Switch

Pressure Switch : 2 Nos.  
Type : Low / High Pr.  
Manufacturer : Denfoss  
Model : IPS 70 / 400



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## 16. Treated Water Storage Tank

Nos. Offered : 1 Nos.  
Type : Vertical Cylindrical Type  
M.O.C. : SS 304  
Capacity : 1000 Ltr.



### Application :-

To store Reverse Osmosis permeate (product) water. It can remove back pressure in R.O. Membrane elements. It is only storage of the treated Water.



## 17. Treated Water Transfer Pump

Type :	Monoblock
Manufacturer :	PNC
M.O.C. :	SS
Capacity :	0.5 HP



### Application :-

To feed water to downstream to micron filters and UV system and filling line

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## 18. Alkaline Filter (SS)

Type :	Down Flow Graded Sand Type
Model :	1268/RW/MFG
M.O.C. :	SS 304
Size Dia X Height :	300 mm Dia X 1700 mm
Pipe Line Size :	25 mm.
Media Qty. :	75 Kgs.
Valves :	SS Valve
Working Flow :	1.0 m3/HR



## 19. Post Micron Cartridge Filter-2

Model :	MCF 20/RW/SS
Size :	20" Long
Micron Rating :	1.0 Micron
Type of Candle :	P. P. Spun
Material of Housing :	SS 304
Nos. of Candles :	1 Nos
Working Flow :	4.00 m3/HR



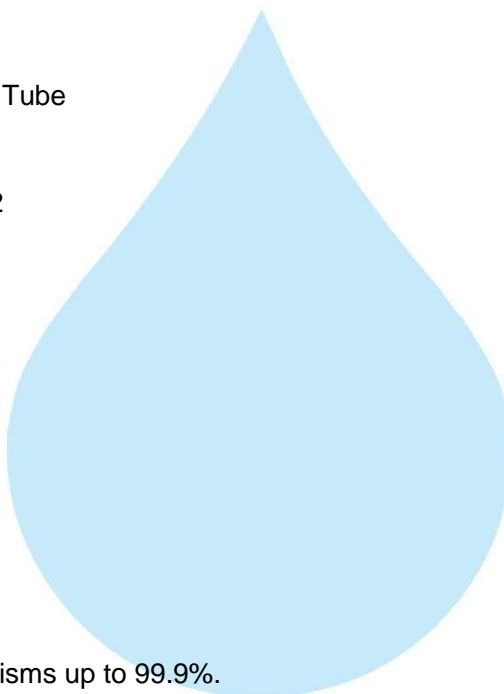
### **Application :-**

This Vessel fitted internally with P.P spun micron cartridge elements having absolute ratings of 1.0 micron & 0.2 microns which removes all bacterial impurities present in the water and make the water free of particulates.

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## 20. U. V. Disinfection System

Type :	Fluorescent Tube
Working Flow :	1000 Lph
Working Pressure :	1 Kg. / Cm 2
Material :	SS 304
Manufacturer :	Raj
Nos. Offered :	1 Nos.



### **Application :-**

For removal of micro biological organisms up to 99.9%.

## 21. Stand For Unit

Stainless Steel : SS 304



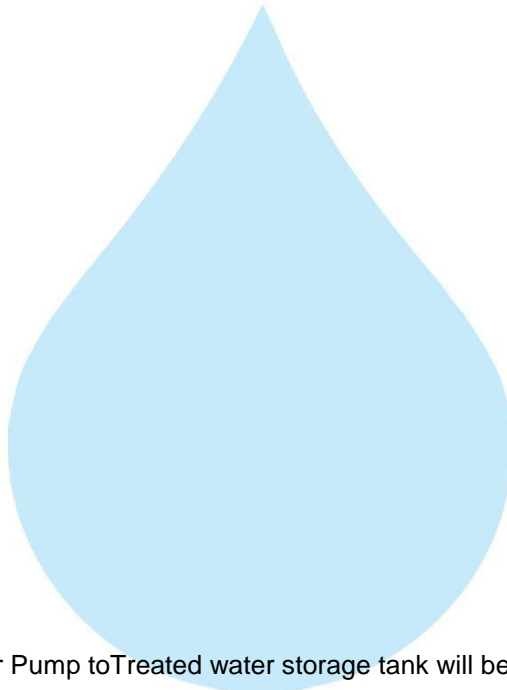
### Application :-

Complete stand for unit will be made of S.S.304

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## 22. SS Interconnecting Pipe Lines

Stainless Steel : S.S 304



### Application :-

All interconnecting pipelines Raw water Pump to Treated water storage tank will be provided of S.S 304 by us