

## 250 LPH/500 LPH/1000 LPH/2000 LPH

RO Systems for industrial use.



## 500 LPH

### Basics of Design & Water Treatment

#### PLANT INTRODUCTION

This produces quality water at the flow rate of 500 litres per hour. It can work continuously for 8 to 9 hours per day besides 0.5 hour to 1 hour for back-washing of the filtration system.

#### RAW WATER ANALYSIS

This water treatment system is based on the following water analysis:

Sl. No.	Parameter	Analysis Value
1.	Total Dissolved Solids (TDS)	2000 ppm
2.	Turbidity	1 NTU
3.	SDI	4
4.	Heavy Metals	nil
5.	Organics And Bacteria	nil
6.	Oil And Grease	nil

7.	Residual Chlorine	nil
8.	Temperature	< 40°C
9.	Color	Colorless
10.	Odour	Very Less Odour
11.	BOD & COD	nil
12.	Total Hardness	850 PPM

#### **END WATER QUALITY**

<b>Sl. No.</b>	<b>Parameter</b>	<b>Analysis Value</b>
1.	Total Dissolved Solids (TDS)	< 100 ppm
2.	PH	7.0 ± 0.2
3.	Turbidity	nil
4.	Color	nil
5.	Hardness	< 50 ppm

#### **RO PLANT OPERATING CONDITION**

<b>Sl. No.</b>	<b>Parameter</b>	<b>Analysis Value</b>
1.	Feed Flow Rate	– Ltr
2.	Product Flow Rate	500 LPH
3.	Rejest Flow Rate	– LPH
4.	Recovery	35 % to 40 %

#### **TREATMENT SCHEME**

<b>Sl. No.</b>	<b>Description</b>
	Raw Water Storage Taken (By Client)
1.	Raw Water Transfer Pump
2.	Multi–Grade Filter
3.	Activated Carbon Filter
4.	Antiscalant Dosing System
5.	Micron Filter ( 20 micron & 5 micron )
6.	High Pressure Pump
7.	RO Module (Membrane & Membrane Housing)
8.	Flushing/Cleaning System

## Products (Pure) Water Storage Tank (By Client)

### The end water quality is achieved subject to:

- Feed quality should be same as required. In case of any change in the quality of raw water, the same may have an implication on the operating parameters and End-Water quality of the system.
- Feed limiting an implication on the operating Parameter and end water quality of the system
- Feed limiting condition is to be strictly maintained and operation of the water treatment plant should be strictly followed in totality as per the operating manual and instructions.

### TECHNICAL SPECIFICATION

#### 1. Raw Water Transfer Pump:

Quantity required	One
Material of construction	CI
Make of material	Kirloskar/c.g.

#### 2. Multi-Grade Filter:

Quantity required	One
Size of unit Dia × Ht	13" × 54"
Material of Construction	FRP
Max. pressure drop	0.5Kg/cm <sup>2</sup>
Flow control	Top mounted multi port valve
Media	Graded silex anthracite & sand
Vessel make	Water life / Aventura / roosh

#### 3. Activated Carbon Filter:

Quantity required	One
Size of unit Dia × Ht	13" × 54"
Material of Construction	FRP
Max. pressure drop	0.5Kg/cm <sup>2</sup>
Flow control	Top mounted multi port valve
Media	Activated carbon
Vessel make	Water life / Aventura / roosh

**4. Antiscalming Dosing System:**

Tank	One
Capacity of tank	100 Ltr
MoC of tank	HDPE

**5. Dosing Pump:**

Quantity required	One
Type	Diaphragm type electronic pump
Capacity	0.5 LPH
Make	E-dose/Kemflo-faq

**6. Micron Filter:**

Quantity required	2
Type	Disposable cartridge
Operation rate	1.0m <sup>3</sup> /hr
Operation pressure	2.5Kg/cm <sup>2</sup>
Micron rating	5 micron
Type of cartridge	PP wound
MoC	PP

**7. High Pressure Pump:**

Quantity required	One
Operating flow rate	7.5m <sup>3</sup> /hr
Operating pressure	10 – 12 Kg/cm <sup>2</sup>
Make of pump	Sumo/cr./roosh
Type of drive	single phase

**8. RO Membrane Housing:**

Quantity required	One
Material of pressure tube	4" × 40"
Element capacity	2 nos.
Max.Working pressure	250 psi
Make	Waterlife/roosh/aventura

**9. RO Membrane:**

Quantity required	2 nos.
Dimension	Dia 4", Length 40"
Working Pressure	180 psi
Element	Spiral Wound Membrane
Make	Filmtech Dow (USA), super flow (USA)

#### **9. Electrical Control Panel:**

Quantity required	One
Material of construction	MS skid mount
Electrical components make	L&T/Siemens/Havell's./CAURAM

#### **10. Flushing Cleaning System: Connected from feed pump**

Quantity required	One
MoC of pump	1 HP
Capacity	1.5m <sup>3</sup> /hr at 2.5Kg/cm <sup>2</sup>
UPVC Fitting	1 Lot

#### **INSTRUMENTS**

1. Pressure Gauges .2 (PIC)
2. Flow meters: 2 Nos. (One reject & one permeate)
3. Pressure limiting switches: 02 Nos. Line mounted adjustable.

**PIPE FITTING:** UPVC/CPVC

**SKID:** M.S. duly painted/powder coated/SS

#### **PRICE INCLUDES**

Supply and Assembling the complete reverse osmosis plant 500 LPH – One

**Packing** – Included

**Tax and Freight** – Excluded

**Erection and commissioning** – Included

**Warranty** – One Year service free .. if spare parts need to be replace that will not be charged except membranes.

**Delivery** – Within 7 days from the date of purchase order with 50% advance payment.

**Payment** – 50% Advance; 45% at the time of delivery; balance 5% after installation.

**VAT** – 12.5% extra. Octroi and freight extra as applicable.

#### **EXCLUSIONS**

The following are specifically excluded from our scope of work:

- All process inputs, utilities such as tube well for water, power supply and distribution system, inlet-outlet piping etc.
- Fire fighting equipment's.
- All civil work including building, shed, foundation, roads, ramps, storage tanks etc.
- Warehousing, storage and safe custody of equipment and other plants item received at site.
- Temporary power supply during construction and erection of plant.
- Effluent treatment.
- Any other services/equipment not specifically mentioned.
- Model of the plant.