**KERALA MEDICAL SERVICES CORPORATION LTD**
(A Government of Kerala Undertaking)
Thycaud P.O, Thiruvananthapuram - 14, Kerala.
Tel: 0471 - 2945600, 2337353, Fax: 0471 - 2945647
Email :engg_ep@kmscl.kerala.gov.in
CIN: U24233KL200TSGC021616, PAN : AADCK4029M, GSTIN : 32AADCK4029M1ZK

| Running Contract Details | |
|---|---|
| Equipment Name | RO Plant 3000 Litre |
| Running Contract Valid Till | 13-03-2021 |
| Tender Ref No | KMSCL/EP/T307/284B/2019(R) |
| Tendered Quantity | 16 |
| Supplier Name | M/s Meditech Corporations |
| GST No | 32AWKPP1213A1Z9 |
| Installation & Delivery Period | 8 Week(s) |
| Up-time / PM vist | 95% & 4 Visits per year |
| Warranty period | 3 Years |

| Supplier`s Details | | |
|---|---|---|
| **Address** | **Contact Details** | |
| Door No49/56b<br>Masjid Bi Lane2<br>Elamakkara Po<br>682026 | Contact Person | Abdul Rahim |
| | Phone | |
| | Mobile No | 7356829721 |
| | Email | enquiry@meditechcorp.com |

| Item-wise Price Details | | | | |
|---|---|---|---|---|
| # | Item Details | Unit Rate<br>(Incl.all taxes & charges) | Service Charges<br>(Through KMSCL) | Grand Total |
| 1 | **RO Plant 3000 Litre**<br>*Model & Make : Dia Pure / MEDITECH CORPORATIONS* | 843700<br>Incl.GST :18% | 59059 | 902759 |
| 2 | **Automated 3 cycle multiple valve**<br>40NB 1.5" | 15770.7<br>Incl.GST :18% | 1103.95 | 16874.65 |
| 3 | **RO controller for auto valve** | 5256.9<br>Incl.GST :18% | 367.98 | 5624.88 |
| | | **864727.6** | **60530.93** | **925258.53** |

| Annual / Comprehensive Maintenance Charges (Exl.Tax) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Rate** | **4th Year** | **5th Year** | **6th Year** | **7th Year** | **8th Year** | **9th Year** | **10th Year** |
| **RO Plant 3000 Litre** | | | | | | | |
| **Labour** | 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 | 1,000.00 |
| **Comprehensive** | 12,000.00 | 12,000.00 | 12,000.00 | 13,000.00 | 13,000.00 | 12,000.00 | 12,000.00 |

## Other terms & conditions

1. The supplier shall execute an agreement with the purchaser as per tender conditions (agreement format is given in the tender document).

2. The supplier shall submit performance security amounting to 5% of the value of the supply order.

3. The labour & comprehensive charges of equipment after the completion of warranty period is finalized by KMSCL as mentioned above.

4. Since discount rate is not applicable for equipment under Running Contract of KMSCL, purchase/supply order can be issued directly to supplier at the given rate with tax & other charges (exclusive of KMSCL service charges).

5. If purchase/supply order is issued directly to the supplier, KMSCL service charge need not be paid. But the copy of the said order may be forwarded to KMSCL for information.

## Technical Specification

**Equipment :RO Plant 3000 Litre**

I. Design Philosophy

The raw bore well water will be fed to the dual media filter (DMF) for the removal of turbidity. Before feeding to the DMF, liquid chlorine will be dosed to reduce the biological load. Before micro filtration the water will be treated with SMBS, NaOH, and antiscalant to remove excess chlorine, to increase the pH and to prevent scaling in the downstream RO membranes. This chemically treated filtered water will be fed to the Micron filter followed by Single pass RO plants for the removal of total dissolved at the required level. The RO treated water will be treated with ozone in the final permeate water storage tank for killing the micro -organism. Ozonator should be of 2 gm capacity. Then water will be provided with UV sterilization for complete disinfection and residual ozone breaking. The double sterilized water is suitable for particular usage. Chlorine dosing system and de-chlorine dosing system is required. RO circulation pump of 1 hp SS pump of make CRI/Lubi.

Design Raw Water Analysis:

We are basing our design from the raw water analysis assumed by us. We are reproducing the same as below:

Parameters Values

pH Specify

Turbidity < 5.0 NTU

Total Dissolved Solids Specify

Iron as Fe Specify

Silica as SiO2 Specify

Total Hardness as CaCO3 Specify

Na as Na Specify

Alkalinity to Methyl Orange as CaCO3 Specify

Calcium as Ca Specify

Magnesium as Mg Specify

Sulphate as SO4 Specify

Chlorides as Cl Specify

Fluoride as F Specify

Treated Water Quality at the outlet of second stage RO: Conductivity < 20 ppm.

II. NOTE:

The treated water quality is subject to the following conditions:

1. The raw water quality being not worse than the quality indicated in the offer and should be free from iron.

2. The plant is being operated and maintained strictly in accordance with our operational procedures

III. FILTER FEED PUMP

1 No. off 2

2 Capacity 10.0 $m^3$/hr at 30 MWC

3 Motor rating (HP) 3.0

4 Material of construction Cast Iron

IV. DUAL MEDIA FILTER

1 No off 2

2 Diameter 21”

3 Height on straight 62”

4 Normal flow rate 10.00 $m^3$/hr

5 MOC FRP

6 Filter media Green sand, Ordinary sand, Activated Carbon iv 900

V. ANTISCALANT DOSING SYSTEM

1 No off 1

2 Capacity of the tank 100L

3 MOC of the tank HDPE

4 No. of dosing pump 1

5 Hold up period 24 hrs

6 Dosing pump capacity 1-4 LPH

7 Type of dosing pump Electronic Diaphragm with manual

8 Material of construction of pump PP

9 Inter connecting piping/ valves PVC/ PP

10 Make of pump Asia – LMI / UKL

VI. RO UNIT – stage -1

1 Normal permeate flow 3000 LPH

2 No of elements/ Model 3/ BW-80-40

3 Type of membranes TFC/GE

4 %Permeate recovery 60%

5 Salt rejection, element 99%

6 No of pressure tubes 1

7 MOC of pressure tubes FRP

8 No of High Pressure pumps 1

9 Capacity 10.0 $m^3$/hr at 12.5 $Kg/cm^2$

10 Motor rating HP 7.5

11 Make Grundfos/ CRI

12 No of Micron Filters 2

13 Capacity 2.0 $m^3$/hr

14 Size of catridge 20” X 4” dia

15 MOC of the housing PP

16 Porosity of the catridge 5-micron catridge

VII. UV STERLIZER

1 No off 1

2 Capacity 5000 LPH

3 No. of Quartz tubes & Lamps 1

4 Power 36 Watts X 2 Nos

5 Distribution Pumps Two 1.5 HP SS head

VIII. LIST OF INSTRUMENTS

1. Flow meter- 2 Nos

2. Conductivity indicator-1 No

3. Control Panel -1

4. Hand held TDS Meter

IX. Water softner should be available in the pre filter system.

X. OTHERS

a. Raw water tank-4000L

b. Pre treated water -3000L

c. Product  Water tank-3000 L

XI. Should be provided with UF filter.

XII. Should be provided with Pyrogen filter.