

**TENDER DOCUMENT FOR PROCUREMENT AND INSTALLATION OF RO WATER  
PURIFICATION SYSTEM 500 LPH AT ARMY PUBLIC SCHOOL DHAR ROAD PRE-  
PRIMARY WING**

1. The Army Public School Dhar Road, a centrally funded Autonomous Body, is a Society registered under Societies' Registration Act, 1860.
2. Sealed competitive Bids are invited by the undersigned from the reputed/registered firm/ Vendor for '**PROCUREMENT AND INSTALLATION OF RO WATER PURIFICATION SYSTEM 500 LPH**' as per specifications and details attached as Appendix 'A' to this Tender document:
3. Quoted Price:
  - (a) The Bidder shall quote unit rate for each item including GST. Transportation cost for supply of items should also be included.
  - (b) The rate quoted shall be fixed can not be changed at later stage.
  - (c) Correction if any shall be made by crossing out, initialing, dating and rewriting.
  - (d) The Bidder shall deposit earnest money @ 3% of the value of contract with the bid in the form of a Demand Draft drawn in favour of, Army Public School Dhar Road, payable at Udhampur. The earnest money shall be returned to the unsuccessful bidders.
  - (e) Telex or Facsimile Bids are not acceptable.
  - (f) Last date for submission of bids by 1600 hr on **10 Sep 2024**. The sealed bids should be deposited/reach by the due date and time. The responsibility to ensure this lies with the bidder. Bids received beyond the time and date given above shall be rejected.
4. Sealed bids should be sent by registered post at the address given below so as to reach by the due date and time. No responsibility will be taken for postal delay or non-delivery/non receipt of bid documents.
5. Location of the tender Box: Army Public School, Dhar Road.
6. Address of the School is as under:-

Army Public School, Dhar Road  
PO-Sattani, Pin -182101  
Jammu & Kashmir (UT)
7. Each bidder must submit only one bid.
8. Validity of Bid:

The Bid shall remain valid for a period not less than 90 days after the deadline fixed for submission of Bids.
9. Terms and Conditions:
  - (a) The Indenter will issue supply order to the bidder whose Bid has been determined to be substantially responsive and who has offered the lowest price.
  - (b) Bidder has to quote warranty period of each item supplied.

(c) Notwithstanding the above, the Indenter reserves the right to accept or reject all Bids and to cancel the bidding process and reject all Bids at any time prior to issue of supply order.

10. You are requested to submit the Sealed Bids super scribed on the envelope as **PROCUREMENT AND INSTALLATION OF RO WATER PURIFICATION SYSTEM 500 LPH** ". The Indenter looks forward to receive the Bid in the format of Bid attached only and appreciate the interest of the service provider in the school.

11. This school reserves the right to change or vary any part thereof at any stage and also reserves the right to withdraw the project, should it become necessary at any stage/reject the quotations on Technical Grounds/Incomplete Specification

12. TDS/Taxes will be deducted from the final payment as per prevailing rules.

Sdxxx  
Principal  
APS Dhar Road

**Technical Details:**

**ASSUMPTIONS**

FEED WATER TDS	10000ppm
Fluorides	<1ppm
Iron	<0.1ppm
Turbidity	<5
PH	<7.5 &> 6.5

**Scheme:**

Raw Water Pump → Sand Filter → Carbon Filter → Anti Scalent Dosing System → Micro Filtration → High Pressure Pump → Membrane → Product Water Storage Tank (Client Scope)

<b>FEED WATER</b>	<b>1000LPH</b>
<b>FEED WATER TDS</b>	<b>3000PPM</b>
<b>PRODUCT WATER</b>	<b>500LPH</b>
<b>RECOVERY</b>	<b>40%</b>
<b>SALT REJECTION</b>	<b>95%</b>

**Technical Specs:**

Raw Water Tank (Client Scope)

This tank ensures a constant supply of the raw water to the machine.

**Feed Water Pump**

The system would require an Inlet Pressure of 1.5 Kg/cm<sup>2</sup> minimum for smooth operation. To provide the same the Raw Water Pump is being incorporated in the system.

**Description**

Make	:	Crompton/Kirloskar/Usha
Power	:	1 Hp
230 Volts		
Phase	:	Single
Type	:	Mono Block

**PRESSURE SAND FILTER & ACTIVE CARBON FILTER (ACF)**

The system is required to be feed with "0" turbidity water. The **Pressure Sand Filter** is incorporated in the system to ensure the same. The **Pressure Sand Filter** offers a filtration up to 30 microns.

The **Filter** consists of a **Non Corrosive Vessel** that can withstand pressure up to 6.5 Kgs/cm<sup>2</sup>, **Multi Graded Sand Filtration Media** for filtration, **Internal Distribution System** to distribute the water evenly inside the vessel for proper filtration, **Multi Port Valve (MPV)** for easier operation along with **Back Wash** and **Rinse** facilities, a **stand** to hold the **MPV** in position and **Pressure Gauges** to know the position of the sand filter.

This system is required to be feed with **NIL Chlorine** water. The **Activated Carbon Filter** is incorporated in the system to ensure the same. It also ensures that the water is **color less, odor less** and contains no dissolved gases.

The **Filter** consists of a **Non Corrosive Vessel** that can withstand pressure up to 6.5Kgs/cm<sup>2</sup>, **Multi Graded Sand and Activated Carbon Filtration Media** for filtration, **Internal Distribution System** to distribute the water evenly inside the vessel for proper filtration, Multi Port Valve (MPV) for easier operation along with **Back Wash** and **Rinse** facilities, a stand to hold the **MPV** in position and **Pressure Gauges** to know the position of the **Activated Carbon filter**.

The filter is designed for 14m/sec internal flow for proper filtration.

#### **Description:**

Vessel	:	FRP
Size	:	13"54"
Volume	:	105 Lts
Multi Port Valve Filter	:	25 Nb Top Mounted
Media	:	Silica Sand
Multi Grade		
Min Operating Pressure	:	1.5kg/Cm <sup>2</sup>
Max Operating Pressure	:	4.5kg/Cm <sup>2</sup>
Avg Operating Pressure	:	2-3kg/Cm <sup>2</sup>

#### **MICRON FILTER**

Due to the induction of the dosing chemical some of the particles may coagulate in the water. This coagulated particle cannot be allowed to enter the membrane. The Micron Filter ensures that all such particles above the size of 5 micron are being filtered out of the water so as to enhance the system life. It also ensures that even all un dissolved particles above the size of 5 Micron are being filtered out.

#### **Description:**

No. Offered	:	Two
20" Slim Housing	:	PP
Specs	:	Two
Filters Nos. Offered	:	Two
Micron Rating	:	5 Micron

#### **HIGH PRESSURE PUMP**

In the system, the membrane filtration takes place at high pressure only in the range of 8-14 KG/CM<sup>2</sup>. To provide such high pressure the Pressure Booster Pump is being induced in the system to boost the pressure to the required level for the proper filtration process.

#### **Description:**

Make	:	CRI/Nanfeng
Power	:	Single Phase

Model	:	2-150
Type	:	Horizontal Multi Stage
Pressure Rating	:	1.5 M3 At 140m Head
Max Pressure	:	17
Kgs/Cm <sup>2</sup> Normal Operating Pressures	:	8-14 Kgs/Cm <sup>2</sup>

### **MEMBRANE HOUSING**

The membrane housing provides the shell for the membranes to allow the highly pressurized water to pass through the membrane.

#### **Description:**

MOC	:	FRP
No. Offered	:	One
Specs	:	4:40 (Double Element)
Max Pressure	:	21 Kgs/ Cm <sup>2</sup>
Operating Pressure	:	9-14 Kgs/ Cm <sup>2</sup>

### **MEMBRANE**

The system consists of Thin Film Composite Membrane made out of Poly Urethane acetate that provides a filtration level up to 0.0001 micron. These operate at a pressure between 9-14 kgs/cm<sup>2</sup> this result in a dissolved salt rejection of up to 95%. The membrane separates the water into two streams. One is the permeate or the product water and the other is the rejection.

#### **Description:**

Make	:	DOW/Hydronotics
Specs	:	4040
No. Offered	:	Two
Operating Pressure	:	9-14 Kgs/ Cm <sup>2</sup>

### **ACCESSORIES**

#### **ELECTRICAL CONTROL PANEL**

MOC	:	Plastic
Power	:	Single Phase
Conductivity Meter	:	Inbuilt
LPS Adjuster	:	Inbuilt
HPS Adjuster	:	Inbuilt

#### **WET PANEL**

MOC	:	SS
Flow Meters	:	Two
Pressure Gauges	:	Two
LPS	:	One
HPS	:	One

### **SKID**

MOC : SS

**PIPING**

Raw Water Pump to Micron Filter		UPVC
Micron Filter to Flow Meters	:	UPVC
Product Line	:	UPVC (As Per FDA &NSF)
Reject Line	:	UPVC

