

**TECHNICAL SPECIFICATION OF OF NIV, WATER PURIFICATION SET, QUANTITY- 10 NUMBERS
(DP-5)**

Ser	Description	Specification Specified	Must be Filled up by the Manufacturer
1.	Name of the Equipment	Water Purification Set	
2.	Name and complete Address of Local Agent	To be mentioned.	
3.	Name of complete Address of the Principal	To be mentioned.	
4.	Name of complete Address of the Manufacturer	To be mentioned.	
5.	Type	Reverse Osmosis water purification Unit (ROWPU) or equivalent.	
6.	Make & Model	To be mentioned.	
7.	Country of Origin	Australia, Austria, Belgium,	
8.	Country of Manufacturer	Brazil, Canada, Denmark, Finland, France, Germany, Indonesia, Ireland, Italy, Japan, Luxemburg, Netherlands, Norway, Singapore, South Korea, Spain, Sweden, Switzerland, Turkey, UK and USA.	
9.	Country of Assembly	Bangladesh, Australia, Austria, Belgium, Brazil, Canada, Denmark, Finland, France, Germany, Indonesia, Ireland, Italy, Japan, Luxemburg, Netherlands, Norway, Singapore, South Korea, Spain, Sweden, Switzerland, Turkey, UK and USA.	
10.	Year of Production	Not before the year of contract.	
11.	Dimension(In mm) With Trailer:		
	(a) Length	Minimum 2600 mm	
	(b) Width	Minimum 1100 mm	
	(c) Height	Minimum 2000 mm	
12.	Capacity (Liter/hour)	Minimum 2000 liter per hour.	
13.	Power Source.		
	a. Generator (Diesel type).		
	(1) Make & Model	To be mentioned.	
	(2) Country of Origin,	Group A countries	
	(3) Overall output of Generator	Minimum 16 KW	
	b. Engine		
	(1) Make & Model	To be mentioned.	
	(2) Country of Origin	Group A countries	
	(3) Country of Manufacturer		
	(4) Country of Assembly		
	(5) Output HP with RPM	Minimum 20 HP with rpm to be mentioned.	
	(6) Minimum torque at rated rpm	To be mentioned.	
	(7) Year of production	Not before the year contract.	



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Ser	Description	Specification Specified	Must be Filled up by the Manufacturer
	(8) Engine test bench Certificate	Engine test bench Report which was prepared by manufacturer during production of engine at manufacturing factory must be produced and submitted to the PSI team for each model. Other engines (mentioning engine number) of the same model must be certified confirming the engine Test Bench Report by the manufacturer (duly signed and stamped).	
	c. Facilities should be available to run the plant from main power supply where main electricity available.	To be provided with conventional local use.	
	d. Plant should have integrated power distribution facilities from generator to support the system	To be provided.	
14.	Floating Feed Pump (Inbuilt Motor)		
	a. Output Power (Kw)	To be mentioned.	
	b. Suction head	Minimum 10 m	
	c. Delivery head	Minimum 15 m	
15.	Weight of equipment including Trailer	Maximum 3.8 Ton or (Must be able to towed by 3 Ton Lorry used in BD Army)	
16.	Mode of Transport	Trailer mounted	
17.	Consumable and chemicals for Pre-filtration	To be mentioned (Required for min 12 hrs per day operation for 360 days) are as under:	
	a. Membrane Cleaning	a. Membrane cleaning (Alkaline)	
	b. Post Chlorination	-	
	c. Disinfections of purification Unit	Minimum 25 kg	
	d. Preservation (Storage)	b. Membrane cleaning (Acidic) – Minimum 25 kg	
	e. Fouling Remover, Iron Remover	c. Disinfections of Purification Unit – Minimum 1set	
	f. Pre-sterilization, Anticipant	d. Preservation Chemical (storage) -Minimum 10 kg	
	g. Post sterilization and cleaning	e. Post Chlorine Liquid – Minimum 25 kg	
		f. De- Chlorination Chemical – Minimum 25 kg	
		g. Anti-scalant- Minimum 25 kg	
18.	Operating System	Reverse Osmosis (Auto Control System)	
19.	Stainless Steel Vessel/Coupling etc-		
	Following item to be mentioned		
	a. Bag Filter		
	(1) Filter height	Minimum 20 inch	
	(2) Filter Dia	4-6 Inch	
	(3) Quantity	01 (One) set	
	(4) Material of Construction (MOC) of housing Grade	Grade SS304	
	b. Active Multi-Media Filter (AMMF)		
	(1) Brand	To be mentioned	
	(2) Country of Origin	Group A countries	
	(3) Vessel Diameter	Minimum 21 inch	
	(4) Vessel Height	Minimum 52 inch	



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	(5) Material	Fiver reinforce plastic (FRP) with height bonding PE liner or grade SS304	
	(6) Control system	Auto control/Multi control	
	(7) Quantity	01 x Unit with Stillness still coupling with FRP media filter with high bonding PE inner liner	
	c. Active Carbon Filter (ACF)		
	(1) Brand	To be mentioned	
	(2) Country of Origin	Group A countries	
	(3) Vessel Diameter	Minimum 21 inch	
	(4) Vessel Height	Minimum 52 inch	
	(5) Material	Fiver reinforce plastic (FRP) with height bonding PE liner or grade SS304	
	(6) Control system	Auto control/Multi control	
	(7) Quantity	01 x Unit with Stillness still coupling with FRP media filter with high bonding PE inner liner	
20.	01x Bacterial Test Kit (In line water quality monitoring)	To be provided. a. Minimum 10 unit bacteria test kit. b. Hardness Test Kit. c. Ph Test Kit d. TDS test Meter. e. Salinity Test Meter.	
21.	Testing Devices/Kit(portable)	To be mentioned (Facility for field test with accuracy to be mentioned).	
22.	In line water quality monitoring system	a. 02 x conductivity monitor with sensor (1 for inlet water and 1 for pure water) b. 02 x Ph monitor with sensor (1 for inlet water and 1 for pure water) inbuilt with the water purification set.	
23.	Membrane Installation and opening Tools	Minimum 1 set portable membrane installation and opening tools will be provided.	
24.	Type, Capacity & No of Storage Tank	Type: Easy portable, quick of folding/unfolding tank system. High resistance food grade materials. Capacity: 5,000 liters (Min) each No of storages Tank: 02 Nos (Folding type) (Minimum).	



Ser	Description	Specification Specified	Must be Filled up by the Manufacturer
25	Degree of Quality of Input Raw Water and Output Purified Water (Approved by Board of officer)	<p>a. River, pond, stream, canal, sea, lake & able to saline water (Any available surface water and well include any sub surface water source) with TDS value (Min 30000 ppm)</p> <p>b. Test result of out put water as drinking water of WHO standard (Test report from any authorized agency to be attached which will be verified from ICDDR (International Center for Diarrhea Diesses Resource Institute of Bangladesh)/BUET/MIST/Armed Forces Food & Drugs Lab) test report and certificate must be submitted.</p> <p>c. Removal of arsenic compounds : To be mentioned.</p> <p>d. Degree of quality of output purified water as per WHO guide line: Test report to be mentioned and certificate to be submitted.</p>	
26	Stages of Filtration (Minimum 10 Stage- MMF, ACF, Bag Filter, Antiscallant Dosing, De-chlorination Dosing, Safety Filter, RO, UV, Chlorine, Dosing/Ozone)		
	a. Feed Water System:		
	(1) TDS of Feed	Minimum 30,000 ppm	
	(2) Water pressure of feed water	To be mentioned.	
	(3) Temperature of feed water	To be mentioned.	
	(4) PH of the feed water	Minimum 5	
	(5) <u>Booster pump requirement</u>		
	(a) Make and Model:	To be mentioned.	
	(b) Country of Origin	Group A countries	
	(c) Suction Head	Minimum 20 m	
	(d) Power	To be mentioned.	
	b. <u>Details of Reverse Osmosis Membranes.</u>		
	(1) Membranes	To be mentioned.	
	(2) Brand and Model	To be mentioned.	
	(3) Country of origin of RO Membrane	Group A countries.	
	(4) <u>Membranes characteristics</u>		
	(a) Element Type	To be mentioned.	
	(b) Housing Type	To be mentioned.	
	(c) Operating pressure	Minimum 12,00 psi	
	(d) Working Pressure	Minimum 800 psi	
	(e) Housing Brand	To be mentioned.	



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Ser	Description	Specification Specified	Must be Filled up by the Manufacturer
	(f) Housing Quantity	Minimum 2	
	(g) Housing size	To be mentioned.	
	(5) PH tolerance of Membrane	To be mentioned.	
	(6) Rejection ability of Contaminants/ Dissolved Particles	To be mentioned.	
	(7) Temperature Stability	To be mentioned.	
	(8) Oxidant Tolerance (free of chlorine)	To be mentioned.	
	(9) Maintenance Schedule of Membrane	Details to be mentioned.	
	(10) Cross Flow Filtration /Safety Filter		
	(a) Filter Quantity	To be mentioned.	
	(b) Capacity	To be mentioned.	
	(c) Material of housing stainless steel	Grade to be mentioned	
	(d) Cartridge rate	To be mentioned.	
	(e) Any Other	To be mentioned.	
	(11) Flow meter	Minimum 2 (20 Gallon per minute)	
	(12) Pressure meter	Minimum 4	
	(13) Solenoid valve	Minimum 1	
	c. Chlorine Dosing system	To be mentioned.	
	d. UV System		
	(1) Brand and Model	To be mentioned.	
	(2) Country of origin	Group A countries	
	(3) web Length	To be mentioned.	
	(4) Connection Pin	Each side 2 Pin	
	(5) Lamp Length	To be mentioned.	
	(6) UV Power Supply	Details to be mentioned	
	(7) UV Housing Material	Grade SS304.	
	(8) Watt	36-55 Watt	
	e. Desalination Plant	Desalination facility must be available and details to be mentioned.	
27.	High pressure Motor and Pump (Vertical Multistage)		
	(a) Make & Model	To be mentioned.	
	(b) Country of origin	Group A countries	
	(c) Function	Details to be mentioned.	
28.	Dosing Pumps		
	(a) Make & Model	To be mentioned.	
	(b) Country of origin	Group A countries	
	(c) Country of Manufacturer		
	(d) Country of Assembly		
	(e) Capacity	3-6 LPH	
	(f) Pressure	3-7 bar	
	(c) Function	Details to be mentioned.	



Ser	Description	Specification Specified	Must be Filled up by the Manufacturer
29.	PLC/Multi Control System		
	a. Manual Changeover	Details to be mentioned.	
	b. Circuit bracer		
	c. Magnetic contract		
	d. Thermal overload relay		
	e. Timer & relay with base		
	f. Volt meter set		
	g. Ampere meter		
	h. Conductivity monitor		
	j. Indicator lamp		
	k. Selector switch		
30.	Trailer.		
	a. Make and Model	To be mentioned.	
	b. Load Capacity	Minimum 4 Ton	
	c. Towing vehicle	Existing Truck 3 Ton used in Bangladesh Army	
	d. Country of origin	Group A countries	
	e. No of axle	Single/Double axle trailer with front caster wheel (Foldable type)	
	f. Suspension	Details to be mentioned.	
	g. Tyre.		
	(1) Size	To be mentioned.	
	(2) Brand	Bridgestone/Dunlop/Goodyear/Yokohama/Toyo/Uniroyal/Continental/Michelin/Foldal/Firestone/Armstrong/AMTEL/Pirelli/Hankook/Kumho or OEM	
	(3) Country of Origin	USA, Japan, EU Countries, Russia, Brazil, Indonesia, Malaysia, Philippines, Singapore, Thailand and South Korea or OEM	
	(4) Spare wheel	01 (One) number for single axle and 02 (Two) numbers for double axle.	
	(5) Rim size	To be mentioned	
	h. Brake systems.		
	(1) Service Brake	Pneumatic Type	
	(2) Parking Brake	Details to be mentioned.	
	j. Traffic Lights	Details to be mentioned (Indicator, Side, Tails Stop, Marker etc).	
	h. Lunette Eye specification.		
	(1) Outer Dia	160 mm (approx)	
	(2) Inner Dia	76 mm (approx)	
	(3) Ring Dia	42 mm (approx)	
	(4) Height from ground	864 mm (approx)	
31.	Inter Vehicular Connection.		
	a. Two line Air Coupling NATO Standard	To be provided.	
	b. 12 Pin plug NATO type for Electric Connection	To be provided.	
32.	Consumable item to be included with the set	Must be provided. Regular supply consumable to be ensured. Quantity require for 1 year (12 months operations per day). as under: a. Safety Filter-Minimum 100 pcs b. Bag Filter-Minimum 100 pcs c. UV Lamp-Minimum 1 pc.	



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33.	Colour	Duco paint (Nitro cellulous based MB green)	
34.	Standard tools & accessories (For Water Purification Set & Trailer)	List to be submitted	
35.	Performance to ISO or similar rating	Certificate must be submitted by the manufacturer.	
36.	Operational temperature	-5°C to +55°C	
37.	Maintenance	Details to be mentioned.	
38.	Drawing and design of Water Purification set provide with tender document as A3 color print (Approved by board of officer)	Following drawing and design of water purification set to be provided with the offer: a. P & I Diagram b. Electric Drawing c. Lay out Drawing d. Design of trolley (Plat from, Side and top view) e. Process Flow Diagram	
39.	CIP (Cleaning Integrated Process) System	Details to be mentioned.	
40.	Generator,Pump,RO Membrane, Chlorination Dosing system,UV System, Desalinization Plant, Trailer etc need to be inspected by Inspectorate before assembly	To be confirmed	
41.	In case of assembly in Bangladesh the local agent/principal/manufacturer to be submitted experience certificate of successfully supplied Trailer Mounted Water Purification Set in any organization of Bangladesh with satisfactory report minimum 05 years.	Certificate to be provided	
42.	Certificate on Spare Parts available in Bangladesh	Certificate to be submitted from manufacturer	
43.	List and certificate on usage of the equipment by other organization or agencies in Bangladesh	List and certificate to be submitted from manufacturer	
44.	List and certificate of local after-sales-service workshop in Bangladesh who can provided spares of the equipment readily	To be confirmed by manufacturer as the technical requirement	
45.	Detailed address of after-sales-services workshop in Bangladesh	Details address to be mentioned	
46.	Location of stage Inspection/Pre-Shipment Inspection	Stage inspection/Pre-Shipment Inspection with address of respect of major components (manufacturing plant/assembly plant or in both).	

