

BOQ of RO Plant 1000 Ltr/Hr							
Location		Basti Rawan UC Kallarwali, Jatoi					
Total cost	(inclusive of: Supply, Onsite Assembling/Installation, Operationalization, Transportation, training of O&M committee operators and Taxes)						
	3 Months operation and maintainance (excluding electricity charges)						
	Traning session of operators and an operating manual (5x3 ft panaflex)						
	One year warranty of Plant items						
Required size of the plant	Height	4-5 ft					
	Length	5-7 ft					
	Width	2-3 ft					
Sr No	Items	Description	Model/Make	Qty.	Unit Rate	Total Amount (PKR)	
1	Frame	The RO Plant shall be mounted on Stainless Steel 304 frame (Skid), 50mmx 50 mmx 3mm, 8.0 g/cm3 (complete chrome plated on joints with stopers on each end)			1		
2	Feed Pump	2.1 m ³ /hr. 4 bar Vertical Multistage Centrifugal Pump, Single Phase motor 50Hz.		CNP Brand. Imported and Brand/waranteed New. Made in China Model: CDLF	1		
3	Multimedia Rapid Sand Filter (Automatic backwash and resetting)	Vessel Size: 13"x54", Flow capacity 2.1 m ³ /hr, 4 bar operating pressure, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. Inbuilt with rechargeable battery. Media: Silica Sand & Gravel. Total Media Height: 36", Gravel Bed Height: 10", Gravel Size: 10-12mm, Quartz Sand Bed Height: 32", Quartz sand Size: 6-8mm, 4-6mm, 2-4mm, 0.5-2mm, Total media weight: upto 120kg		Pentair/Pall	1		
4	Activated Carbon Filter (Automatic backwash and resetting)	Vessel Size: 13"x54", Flow capacity 2.1 m ³ /hr, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. Inbuilt with rechargeable battery. Media per tank: 3 cft Activated carbon media, Media weight: upto 50kg		Pentair/Pall Media: Deno Germany	1		
5	Housing plus PPF Cartridge filter 5M (Jumbo)	5 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m ³ /hr, Rating: 5 micron		Taiwan/USA	1		
6	Housing plus PPF Cartridge filter 1M (Jumbo)	1 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m ³ /hr, Rating: 1 micron		Taiwan/USA	1		
7	Blending: Anti scalant dosing pump System	Anti scalant dosing pump with blending system including tank of capacity 20 Liters and complete in all specification : Capacity: 0.25 m ³ /hr		Eiatron	1		
8	High Pressure Pump (adjusted for the removal of TDS upto 6000 ppm)	2.1 m ³ /hr, 12 bar Vertical Multistage Centrifugal Pump - 01 Phase motor 50Hz, Max revolving speed: 2900 rpm		CNP Brand. Imported and Brand/Waranteed. Unboxing and assembling on site New. Made in China Model: CDLF Series.	1		
9	Reverse Osmosis membranes (Automatic Backwash with Auto Resetting) adjusted for the removal of TDS upto 6000 ppm	Reverse Osmosis Anti-fouling membranes. Membrane type: Thin film Polyamide-urea composite, No. of vessels: 1, Design output: 1000 ltr/hr , Operating pressure: 10-11.5 bar, Operating temperature: 25-45 degree celcius, Maximum feed turbidity: 1NTU, Max SDI: <5, Maximum Chlorination valve: <0.1ppm, Maximum applied pressure: 4.14 MPa Size: L:40", Dia 8"		Hydranautics / Filmtech	1		
10	RO membrane casing	R/O Fiber Glass FRP pressure vessel for 1 element, Seal type: O-ring, Maximum operating pressure: 30 bar. Test pressure: 40 bar		Eurotec/Pall/Hitec	1		
11	Pressure Gauges	Low pressure Stainless steel gauges; glycerine filled. Stainless Steel		Wika China / Equivalent	3		
12	Pressure Gauges	High pressure Stainless steel gauges; glycerine filled. Stainless Steel		Wika China / Equivalent	2		
13	Digital Flow meter	Digital Flowmeter for product water		Taiwan	1		
14	Digital Flow meter	Digital Flowmeter for reject water		Taiwan	1		
15	UV Light Filter with control box	Capacity: 1.2 m ³ /hr, Material of construction: SS, Length: 24"-36", Dia: 3", Inlet/outlet Dia: 1", Average useful life: 8000hr, UV Energy: 30000 micro watt second/sq.cm, Operating temperature: 25-40 degree celcius		Lamp & Quartz sleeve: Atlantic US / First Life / Equilent	1		
16	Fittings	UPVC 80 schedule		Approved brand	1		
Blending Line							
1	Filtration system	Capacity 0.25 m ³ /hr		EU/USA	1		
Instrumentation and Controls							
1	Control box	Control box with contactor and overload safety circuits		Approved brand	1		
2	Control switches	Single Phase power safety cut-off control circuit		Approved brand	2		
3	Switches	On / Off switches; On and Trip indicator lights		Approved brand	1		
4	Float switch	On raw water tak for submercible pump		Approved brand	1		
5	Low level switch	Trip on low level of product water tank		Approved	1		
6	TDS meter	TDS probe for TDS monitoring of Product Water		Approved brand	1		
7	Solenoid Valve	Inlet & Flush solenoid valve		Approved brand	2		
8	Safety control switch	To protect high pressure pump and membranes from over pressurization		Approved brand	1		
9	Safety switches	Feed Water / Product Water / Water Tanks Low / High Level Switch Safeties to avoid dry pump run		Approved brand	2		
10	Voltage stabilizer	10000 V capacity voltage stabilizer, input voltage 100-265 V, fixed on the wall with angle iron frame		General	1		
11	Tool kit	6"Rigid full floating froged hook jaw pipe wrench with ductile plasti housing, 1 roll of flew rubberized water proof tape, pipe scrapper, 500 ml UPVC adhesive solution			1		
Total							0

BOQ of RO Plant 1000 Ltr/Hr						
Location		Basti Namurdi UC Rampur, Jatoi				
Total cost		(inclusive of: Supply, Onsite Assembling/Installation, Operationalization, Transportation, training of O&M committee operators and 3 Months operation and maintainance (excluding electricity charges) Training session of operators and an operating manual (5x3 ft panaflex) One year warranty of Plant items				
Required size of the plant		Height	4-5 ft			
		Length	5-7 ft			
		Width	2-3 ft			
Sr No	Items	Description	Model/Make	Qty.	Unit Rate	Total Amount (PKR)
1	Frame	The RO Plant shall be mounted on Stainless Steel 304 frame (Skid), 50mmx 50 mmx 3mm, 8.0 g/cm3 (complete chrome plated on joints with stopers on each end)		1		
2	Feed Pump	2.1 m ³ /hr. 4 bar Vertical Multistage Centrifugal Pump, Single Phase motor 50Hz.	CNP Brand. Imported and Brand/warranteed New. Made in China Model: CDLF	1		
3	Multimedia Rapid Sand Filter (Automatic backwash and resetting)	Vessel Size: 13"x54", Flow capacity 2.1 m ³ /hr, 4 bar operating pressure, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. Inbuilt with rechargeable battery. Media: Silica Sand & Gravel. Total Media Height: 36", Gravel Bed Height: 10", Gravel Size: 10-12mm, Quartz Sand Bed Height: 32", Quartz sand Size: 6-8mm, 4-6mm, 2-4mm, 0.5-2mm, Total media weight: upto 120kg	Pentair/Pall	1		
4	Activated Carbon Filter (Automatic backwash and resetting)	Vessel Size: 13"x54", Flow capacity 2.1 m ³ /hr, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. Inbuilt with rechargeable battery. Media per tank: 3 cft Activated carbon media, Media weight: upto 50kg	Pentair/Pall Media: Deno Germany	1		
5	Housing plus PPF Cartridge filter 5M (Jumbo)	5 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m ³ /hr, Rating: 5 micron	Taiwan/USA	1		
6	Housing plus PPF Cartridge filter 1M (Jumbo)	1 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m ³ /hr, Rating: 1 micron	Taiwan/USA	1		
7	Blending: Anti scalant dosing pump System	Anti scalant dosing pump with blending system including tank of capacity 20 Liters and complete in all specification : Capacity: 0.25 m ³ /hr	Etatron	1		
8	High Pressure Pump (adjusted for the removal of TDS upto 6000 ppm)	2.1 m ³ /hr, 12 bar Vertical Multistage Centrifugal Pump - 01 Phase motor 50Hz, Max revolving speed: 2900 rpm	CNP Brand. Imported and Brand/Waranteed. Unboxing and assembling on site New. Made in China Model: CDLF Series.	1		
9	Reverse Osmosis membranes (Automatic Backwash with Auto Resetting) adjusted for the removal of TDS upto 6000 ppm	Reverse Osmosis Anti-fouling membranes. Membrane type: Thin film Polyamide-urea composite, No. of vessels: 1, Design output: 1000 ltr/hr, Operating pressure: 10-11.5 bar, Operating temperature: 25-45 degree celcius, Maximum feed turbidity: 1NTU, Max SDI: <5, Maximum Chlorination valve: <0.1ppm, Maximum applied pressure: 4.14 MPa Size: L:40", Dia 8"	Hydranautics / Filmtech	1		
10	RO membrane casing	R/O Fiber Glass FRP pressure vessel for 1 element, Seal type: O-ring, Maximum operating pressure: 30 bar, Test pressure: 40 bar	Eurotec/Pall/Hitec	1		
11	Pressure Gauges	Low pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	3		
12	Pressure Gauges	High pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	2		
13	Digital Flow meter	Digital Flowmeter for product water	Taiwan	1		
14	Digital Flow meter	Digital Flowmeter for reject water	Taiwan	1		
15	UV Light Filter with control box	Capacity: 1.2 m ³ /hr, Material of construction: SS, Length: 24"-36", Dia: 3", Inlet/outlet Dia: 1", Average useful life: 8000hr, UV Energy: 30000 micro watt second/sq.cm, Operating temperature: 25-40 degree celcius	Lamp & Quartz sleeve: Atlantic US / First Life / Equilent	1		
16	Fittings	UPVC 80 schedule	Approved brand	1		
Blending Line						
1	Filtration system	Capacity 0.25 m ³ /hr	EU/USA	1		
Instrumentation and Controls						
1	Control box	Control box with contactor and overload safety circuits	Approved brand	1		
2	Control switches	Single Phase power safety cut-off control circuit	Approved brand	2		
3	Switches	On / Off switches; On and Trip indicator lights	Approved brand	1		
4	Float switch	On raw water tak for submercible pump	Approved brand	1		
5	Low level switch	Trip on low level of product water tank	Approved	1		
6	TDS meter	TDS probe for TDS monitoring of Product Water	Approved brand	1		
7	Solenoid Valve	Inlet & Flush solenoid valve	Approved brand	2		
8	Safety control switch	To protect high pressure pump and membranes from over pressurization	Approved brand	1		
9	Safety switches	Feed Water / Product Water / Water Tanks Low / High Level Switch Safeties to avoid dry pump run	Approved brand	2		
10	Voltage stabilizer	10000 V capacity voltage stabilizer, input voltage 100-265 V, fixed on the wall with angle iron frame	General	1		
11	Tool kit	6"Rigid full floating frogged hook jaw pipe wrench with ductile plasti housing, 1 roll of flew rubberized water proof tape, pipe scraper, 500 ml UPVC adhesive solution		1		
Total						0

BOQ of RO Plant 1000 Ltr/Hr						
Location		Basti Khutu UC Bairband, Jatoi				
Total cost		(inclusive of: Supply, Onsite Assembling/Installation, Operationalization, Transportation, training of O&M committee operators and 3 Months operation and maintainance (excluding electricity charges) Traning session of operators and an operating manual (5x3 ft panaflex) One year warranty of Plant items				
Required size of the plant		Height	4-5 ft			
		Length	5-7 ft			
		Width	2-3 ft			
Sr No	Items	Description	Model/Make	Qty.	Unit Rate	Total Amount (PKR)
1	Frame	The RO Plant shall be mounted on Stainless Steel 304 frame (Skid), 50mmx 50 mmx 3mm, 8.0 g/cm3 (complete chrome plated on joints with stopers on each end)		1		
2	Feed Pump	2.1 m ³ /hr. 4 bar Vertical Multistage Centrifugal Pump, Single Phase motor 50Hz.	CNP Brand. Imported and Brand/warranteed New. Made in China Model: CDLF	1		
3	Multimedia Rapid Sand Filter (Automatic backwash and resetting)	Vessel Size: 13"x54". Flow capacity 2.1 m ³ /hr, 4 bar operating pressure, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. Inbuilt with rechargeable battery. Media: Silica Sand & Gravel. Total Media Height: 36", Gravel Bed Height: 10", Gravel Size: 10-12mm, Quartz Sand Bed Height: 32", Quartz sand Size: 6-8mm, 4-6mm, 2-4mm, 0.5-2mm, Total media weight: upto 120kg	Pentair/Pall	1		
4	Activated Carbon Filter (Automatic backwash and resetting)	Vessel Size: 13"x54", Flow capacity 2.1 m ³ /hr, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. Inbuilt with rechargeable battery. Media per tank: 3 cft Activated carbon media, Media weight: upto 50kg	Pentair/Pall Media: Deno Germany	1		
5	Housing plus PPF Cartridge filter 5M (Jumbo)	5 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m ³ /hr, Rating: 5 micron	Taiwan/USA	1		
6	Housing plus PPF Cartridge filter 1M (Jumbo)	1 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m ³ /hr, Rating: 1 micron	Taiwan/USA	1		
7	Blending: Anti scalant dosing pump System	Anti scalant dosing pump with blending system including tank of capacity 20 Liters and complete in all specification : Capacity: 0.25 m ³ /hr	Etatron	1		
8	High Pressure Pump (adjusted for the removal of TDS upto 6000 ppm)	2.1 m ³ /hr, 12 bar Vertical Multistage Centrifugal Pump - 01 Phase motor 50Hz, Max revolving speed: 2900 rpm	CNP Brand. Imported and Brand/Waranteed. Unboxing and assembling on site New. Made in China Model: CDLF Series.	1		
9	Reverse Osmosis membranes (Automatic Backwash with Auto Resetting) adjusted for the removal of TDS upto 6000 ppm	Reverse Osmosis Anti-fouling membranes. Membrane type: Thin film Polyamide-urea composite, No. of vessels: 1, Design output: 1000 ltr/hr , Operating pressure: 10-11.5 bar, Operating temperature: 25-45 degree celcius, Maximum feed turbidity: 1NTU, Max SDI: <5, Maximum Chlorination valve: <0.1ppm, Maximum applied pressure: 4.14 MPa Size: L:40", Dia 8"	Hydranautics / Filmtech	1		
10	RO membrane casing	R/O Fiber Glass FRP pressure vessel for 1 element, Seal type: O-ring, Maximum operating pressure: 30 bar, Test pressure: 40 bar	Eurotec/Pall/Hitec	1		
11	Pressure Gauges	Low pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	3		
12	Pressure Gauges	High pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	2		
13	Digital Flow meter	Digital Flowmeter for product water	Taiwan	1		
14	Digital Flow meter	Digital Flowmeter for reject water	Taiwan	1		
15	UV Light Filter with control box	Capacity: 1.2 m ³ /hr, Material of construction: SS, Length: 24"-36", Dia: 3", Inlet/outlet Dia: 1", Average useful life: 8000hr, UV Energy: 30000 micro watt second/sq.cm, Operating temperature: 25-40 degree celcius	Lamp & Quartz sleeve: Atlantic US / First Life / Equilent	1		
16	Fittings	UPVC 80 schedule	Approved brand	1		
Blending Line						
1	Filtration system	Capacity 0.25 m ³ /hr	EU/USA	1		
Instrumentation and Controls						
1	Control box	Control box with contactor and overload safety circuits	Approved brand	1		
2	Control switches	Single Phase power safety cut-off control circuit	Approved brand	2		
3	Switches	On / Off switches; On and Trip indicator lights	Approved brand	1		
4	Float switch	On raw water tak for submercible pump	Approved brand	1		
5	Low level switch	Trip on low level of product water tank	Approved	1		
6	TDS meter	TDS probe for TDS monitoring of Product Water	Approved brand	1		
7	Solenoid Valve	Inlet & Flush solenoid valve	Approved brand	2		
8	Safety control switch	To protect high pressure pump and membranes from over pressurization	Approved brand	1		
9	Safety switches	Feed Water / Product Water / Water Tanks Low / High Level Switch Safeties to avoid dry pump run	Approved brand	2		
10	Voltage stabilizer	10000 V capacity voltage stabilizer, input voltage 100-265 V, fixed on the wall with angle iron frame	General	1		
11	Tool kit	6"Rigid full floating froged hook jaw pipe wrench with ductile plasti housing, 1 roll of flew rubberized water proof tape, pipe scrapper, 500 ml UPVC adhesive solution		1		
Total						0

BOQ of RO Plant 1000 Ltr/Hr						
Location		Basti Kharoos UC Rampur, Jatoi				
Total cost		(inclusive of: Supply, Onsite Assembling/Installation, Operationalization, Transportation, training of O&M committee operators and 3 Months operation and maintainance (excluding electricity charges) Traning session of operators and an operating manual (5x3 ft panaflex) One year warranty of Plant items				
Required size of the plant		Height	4-5 ft			
		Length	5-7 ft			
		Width	2-3 ft			
Sr No	Items	Description	Model/Make	Qty.	Unit Rate	Total Amount (PKR)
1	Frame	The RO Plant shall be mounted on Stainless Steel 304 frame (Skid), 50mmx 50 mmx 3mm, 8.0 g/cm3 (complete chrome plated on joints with stopers on each end)		1		
2	Feed Pump	2.1 m ³ /hr. 4 bar Vertical Multistage Centrifugal Pump, Single Phase motor 50Hz.	CNP Brand. Imported and Brand/warranteed New. Made in China Model: CDLF	1		
3	Multimedia Rapid Sand Filter (Automatic backwash and resetting)	Vessel Size: 13"x54". Flow capacity 2.1 m ³ /hr, 4 bar operating pressure, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. Inbuilt with rechargeable battery. Media: Silica Sand & Gravel. Total Media Height: 36", Gravel Bed Height: 10", Gravel Size: 10-12mm, Quartz Sand Bed Height: 32", Quartz sand Size: 6-8mm, 4-6mm, 2-4mm, 0.5-2mm, Total media weight: upto 120kg	Pentair/Pall	1		
4	Activated Carbon Filter (Automatic backwash and resetting)	Vessel Size: 13"x54", Flow capacity 2.1 m ³ /hr, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. Inbuilt with rechargeable battery. Media per tank: 3 cft Activated carbon media, Media weight: upto 50kg	Pentair/Pall Media: Deno Germany	1		
5	Housing plus PPF Cartridge filter 5M (Jumbo)	5 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m ³ /hr, Rating: 5 micron	Taiwan/USA	1		
6	Housing plus PPF Cartridge filter 1M (Jumbo)	1 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m ³ /hr, Rating: 1 micron	Taiwan/USA	1		
7	Blending: Anti scalant dosing pump System	Anti scalant dosing pump with blending system including tank of capacity 20 Liters and complete in all specification : Capacity: 0.25 m ³ /hr	Etatron	1		
8	High Pressure Pump (adjusted for the removal of TDS upto 6000 ppm)	2.1 m ³ /hr, 12 bar Vertical Multistage Centrifugal Pump - 01 Phase motor 50Hz, Max revolving speed: 2900 rpm	CNP Brand. Imported and Brand/Waranteed. Unboxing and assembling on site New. Made in China Model: CDLF Series.	1		
9	Reverse Osmosis membranes (Automatic Backwash with Auto Resetting) adjusted for the removal of TDS upto 6000 ppm	Reverse Osmosis Anti-fouling membranes. Membrane type: Thin film Polyamide-urea composite, No. of vessels: 1, Design output: 1000 ltr/hr, Operating pressure: 10-11.5 bar, Operating temperature: 25-45 degree celcius, Maximum feed turbidity: 1NTU, Max SDI: <5, Maximum Chlorination valve: <0.1ppm, Maximum applied pressure: 4.14 MPa Size: L:40", Dia 8"	Hydranautics / Filmtech	1		
10	RO membrane casing	R/O Fiber Glass FRP pressure vessel for 1 element, Seal type: O-ring, Maximum operating pressure: 30 bar, Test pressure: 40 bar	Eurotec/Pall/Hitec	1		
11	Pressure Gauges	Low pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	3		
12	Pressure Gauges	High pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	2		
13	Digital Flow meter	Digital Flowmeter for product water	Taiwan	1		
14	Digital Flow meter	Digital Flowmeter for reject water	Taiwan	1		
15	UV Light Filter with control box	Capacity: 1.2 m ³ /hr, Material of construction: SS, Length: 24"-36", Dia: 3", Inlet/outlet Dia: 1", Average useful life: 8000hr, UV Energy: 30000 micro watt second/sq.cm, Operating temperature: 25-40 degree celcius	Lamp & Quartz sleeve: Atlantic US / First Life / Equilent	1		
16	Fittings	UPVC 80 schedule	Approved brand	1		
Blending Line						
1	Filtration system	Capacity 0.25 m ³ /hr	EU/USA	1		
Instrumentation and Controls						
1	Control box	Control box with contactor and overload safety circuits	Approved brand	1		
2	Control switches	Single Phase power safety cut-off control circuit	Approved brand	2		
3	Switches	On / Off switches; On and Trip indicator lights	Approved brand	1		
4	Float switch	On raw water tak for submercible pump	Approved brand	1		
5	Low level switch	Trip on low level of product water tank	Approved	1		
6	TDS meter	TDS probe for TDS monitoring of Product Water	Approved brand	1		
7	Solenoid Valve	Inlet & Flush solenoid valve	Approved brand	2		
8	Safety control switch	To protect high pressure pump and membranes from over pressurization	Approved brand	1		
9	Safety switches	Feed Water / Product Water / Water Tanks Low / High Level Switch Safeties to avoid dry pump run	Approved brand	2		
10	Voltage stabilizer	10000 V capacity voltage stabilizer, input voltage 100-265 V, fixed on the wall with angle iron frame	General	1		
11	Tool kit	6"Rigid full floating froged hook jaw pipe wrench with ductile plasti housing, 1 roll of flew rubberized water proof tape, pipe scrapper, 500 ml UPVC adhesive solution		1		
Total						0

BOQ of RO Plant 1000 Ltr/Hr							
Replacement of the existing UF+Arsenic media plant with RO plant of 1000 Ltr/Hr capacity							
Basti Allahyar UC Ghairywahin, Muzaffargarh							
Total cost	(inclusive of: Supply, Onsite Assembling/Installation, Operationalization, Transportation, training of O&M committee operators and Taxes)						
	3 Months operation and maintainance (excluding electricity charges)						
	Traning session of operators and an operating manual (5x3 ft panaflex)						
	One year warranty of Plant items						
Required size of the plant	Height	4-5 ft					
	Length	5 ft					
	Width	2-3 ft					
Sr No	Items	Description	Model/Make	Qty.	Requirement	Unit Rate	Total Amount (PKR)
1	Frame	Reassembling of alreading existing frame. Stainless Steel 304 frame, 50mmx 50mmx 3mm, 8.0 g/cm3, Total assembly should not occupy space more than 5ftx3ft		1	Reassebling to adjust RO parts of the plant		
2	Cartridge filter 5M (Jumbo)	5 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m3/hr, Rating: 5 micron	Taiwan/USA	1	Replacement		
3	Cartridge filter 1M (Jumbo)	1 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m3/hr, Rating: 1 micron	Taiwan/USA	1	Replacement		
4	High Pressure Pump	2.1 m ³ /hr, 12 bar Vertical Multistage Centrifugal Pump - 01 Phase motor 50Hz, Max revolving speed: 2900 rpm for	CNP Brand. Imported and Brand/Waranteed. Unboxing and assembling on site New. Made in China Model: CDLF Series.	1	Required		
5	Reverse Osmosis membranes (Automatic Backwash with Auto Resetting)	Reverse Osmosis Anti-fouling membranes. Membrane type: Thin film Polyamide-urea composite, No, of vessels: 1, Design output: 1000 ltr/hr, Operating pressure: 10-11.5 bar, Operating temperature: 25-45 degree celcius, Maximum feed turbidity: 1NTU, Max SDI: <5, Maximum Chlorination valve: <0.1ppm, Maximum applied pressure: 4.14 MPa	Hydranautics / Filmtech	1	Required		
6	RO membrane casing	R/O Fiber Glass FRP pressure vessel for 1 element, Seal type: O-ring, Maximum operating pressure: 30 bar, Test pressure: 40 bar	Eurotec/Pall/Hitec	1	Required		
7	Pressure Gauges	Low pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	3	Required		
8	Pressure Gauges	High pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	2	Required		
9	Flow meter	Flowmeter for product water	Taiwan	1	Required		
10	Flow meter	Flowmeter for reject water	Taiwan	1	Required		
11	Fittings	UPVC 80 schedule	Approved brand	1	New fittings required		
Blending Line							
1	Blending: Anti scalant dosing pump System	Anti scalant dosing pump with blending system including tank of capacity 20 Liters and complete in all specification : Capacity: 0.25 m ³ /hr	Etatron	1	Required		
Cleaning of the plant							
1	Overall cleaning of the plant	Cleaning of plant including water tanks and water supply pipes		1	Required		
Instrumentation and Controls							
1	Control box	Control box with contactor and overload safety circuits	Approved brand	1	Required readjustment for RO		
2	Control switches	Single Phase power safety cut-off control circuit	Approved brand	2	Required readjustment for RO		
3	Switches	On / Off switches; On and Trip indicator lights	Approved brand	1	Required readjustment for RO		
4	Float switch	On raw water tak for submercible pump	Approved brand	1	Required		
6	TDS meter	TDS probe for TDS monitoring of Product Water	Approved brand	1	Required		
8	Safety control switch	To protect high pressure pump and membranes from over pressurization	Approved brand	1	Required		
9	Voltage stabilizer	10000 V capacity voltage stabilizer, input voltage 100-265 V, fixed on the wall with angle iron frame	General	1	Required		
10	Safety switches	Feed Water / Product Water / Water Tanks Low / High Level Switch Safeties to avoid dry pump run	Approved brand	2	Required readjustment for RO		
Total							0

BOQ of RO Plant 1000 Ltr/Hr							
Descaling and cleaning of RO membrane							
Basti Bhattiyan UC Nohan wala, Muzaffargarh							
Total cost	(inclusive of: Supply, Onsite Assembling/Installation, Operationalization, Transportation, training of O&M committee operators and Taxes)						
	3 Months operation and maintainance (excluding electricity charges)						
	Traning session of operators and an operating manual (5x3 ft panaflex)						
	One year warranty of Plant items						
Required size of the plant	Height	4-5 ft					
	Length	5 ft					
	Width	2-3 ft					
Sr No	Items	Description	Model/Make	Qty.	Requirement	Unit Rate	Total Amount (PKR)
1	Reverse Osmosis membranes (Automatic Backwash with Auto Resetting)	Reverse Osmosis Anti-fouling membranes. Membrane type: Thin film Polyamide-urea composite, No, of vessels: 1, Design output: 1000ltr/hr, Operating pressure: 10-11.5 bar, Operating temperature: 25-45 degree celcius, Maximum feed turbidity: 1NTU, Max SDI: <5, Maximum Chlorination valve: <0.1ppm, Maximum applied pressure: 4.14 MPa	Hydranautics / Filmtech	1	RO membrane cleaning with chemicals (total descaling)		
Total							0

BOQ of RO Plant 180 Ltr/Hr						
GBES Jhalareen UC Beelywala, Jatoi						
Total cost	(inclusive of: Supply, Onsite Assembling/Installation, Operationalization, Transportation, training of O&M committee operators and 3 Months operation and maintainance (excluding electricity charges)					
	Traning session of operators and an operating manual (5x3 ft panaflex)					
	One year warranty of Plant items					
Required size of the plant	Height	4-5 ft (as compact as possible)				
	Length	4 ft (as compact as possible)				
	Width	4 ft (as compact as possible)				
Sr No	Items	Description	Model/Make	Qty.	Unit Rate	Total Rate
1	Frame	The RO Plant shall be mounted on box iron frame, 50mmx 50 mmx 3mm, 8.0 g/cm ³ covered with carugated steel sheet of gauge 20 mounted on the frame on all sides and openable from front (joints sealed for water proofing and protection against rain). Total dimintions of the frame should not exceed length:4', width:4' and height:5'	Approved	1		
2	Feed Pump	0.5 m ³ /hr. 4 bar Vertical Multistage Centrifugal Pump, Single Phase motor 50Hz.	CNP Brand. Imported and Brand/waranteed New. Made in China Model: CDLF	1		
3	Multimedia Rapid Sand Filter (Automatic backwash and resetting)	Vessel Size: 10"x54", Flow capacity 2.1 m ³ /hr, 4 bar operating pressure, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. (equiped with a manual liver) Media: Silica Sand & Gravel. Total Media Height: 36", Gravel Bed Height: 10", Gravel Size: 10-12mm, Quartz Sand Bed Height: 32", Quartz sand Size: 6-8mm, 4-6mm, 2-4mm, 0.5-2mm, Total media weight: upto 120kg	Pentair/Pall	1		
4	Activated Carbon Filter (Automatic backwash and resetting)	Vessel Size: 10"x54", Flow capacity 2.1 m ³ /hr, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. (equiped with a manual liver) Media per tank: 3 cft Activated carbon media, Media weight: upto 50kg	Pentair/Pall Media: Deno Germany	1		
5	Housing plus PPF Cartridge filter 5M (Jumbo)	5 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m ³ /hr, Rating: 5 micron	Taiwan/USA	1		
6	Housing plus PPF Cartridge filter 1M (Jumbo)	1 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m ³ /hr, Rating: 1 micron	Taiwan/USA	1		
7	Blending: Anti scalant dosing pump System	Anti scalant dosing pump with blending system including tank of capacity 20 Liters and complete in all specification : Capacity: 0.25 m ³ /hr	Etatron	1		
8	High Pressure Pump (adjusted for the removal of TDS upto 6000 ppm)	0.5 m ³ /hr, 12 bar Vertical Multistage Centrifugal Pump - 01 Phase motor 50Hz, Max revolving speed: 2900 rpm	CNP Brand. Imported and Brand/Waranteed. Unboxing and assembling on site New. Made in China Model: CDLF Series.	1		
9	Reverse Osmosis membranes (Automatic Backwash with Auto Resetting) adjusted for the removal of TDS upto 6000 ppm	Reverse Osmosis Anti-fouling membranes, Membrane type: Thin film Polyamide-urea composite, No. of vessels: 1, Design output: 180 ltr/hr, Operating temperature: 25-45 degree celcius, Maximum feed turbidity: 1NTU, Max SDI: <5, Maximum Chlorination valve: <0.1ppm Size: L:40", Dia 8"	Toray, Japan	1		
10	RO membrane casing	R/O Fiber Glass FRP pressure vessel casing for 1 element, Seal type: O-ring, Maximum operating pressure: 30 bar, Test pressure: 40 bar	Eurotec/Pall/Hitec	1		
11	Pressure Gauges	Low pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	3		
12	Pressure Gauges	High pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	2		
13	Digital Flow meter	Digital Flowmeter for product water	Taiwan	1		
14	Digital Flow meter	Digital Flowmeter for reject water	Taiwan	1		
15	UV Light Filter with control box	Capacity: 1.2 m ³ /hr, Material of construction: SS, Length: 24"-36", Dia: 3", Inlet/Outlet Dia: 1", Average useful life: 8000hr, UV Energy: 30000 micro watt second/sq.cm, Operating temperature: 25-40 degree celcius	Lamp & Quartz sleeve: Atlantic US / First Life / Equilent	1		
16	Fittings	UPVC 80 schedule	Approved brand	1		
Blending Line						
1	Filtration system	Capacity 0.25 m ³ /hr	EU/USA	1		
Instrumentation and Controls						
1	Control box	Control box with contactor and overload safety circuits	Approved brand	1		
2	Control switches	Single Phase power safety cut-off control circuit	Approved brand	2		
3	Switches	On / Off switches; On and Trip indicator lights	Approved brand	1		
4	Float switch	On raw water tak for submercible pump	Approved brand	1		
5	Low level switch	Trip on low level of product water tank	Approved	1		
6	TDS meter	TDS probe for TDS monitoring of Product Water	Approved brand	1		
7	Solenoid Valve	Inlet & Flush solenoid valve	Approved brand	2		
8	Safety control switch	To protect high pressure pump and membranes from over pressurization	Approved brand	1		
9	Safety switches	Feed Water / Product Water / Water Tanks Low / High Level Switch Safeties to avoid dry pump run	Approved brand	2		
10	Lights	3 Led lights fixed inside the frame of plant	Approved brand	3		
10	Voltage stabilizer	10000 V capacity voltage stabilizer, input voltage 100-265 V, fixed inside the frame of plant	General	1		
Total price inclusive of taxes and transportation of 180 ltr/hr RO Plant						0

BOQ of RO Plant 180 Ltr/Hr						
GGES Ali shah UC Kotla Ial shah, Jatoi						
(inclusive of: Supply, Onsite Assembling/Installation, Operationalization, Transportation, training of O&M committee operators and 3 Months operation and maintenance (excluding electricity charges)						
Training session of operators and an operating manual (5x3 ft panaflex)						
One year warranty of Plant items						
Required size of the plant		Height	4-5 ft (as compact as possible)			
		Length	4 ft (as compact as possible)			
		Width	4 ft (as compact as possible)			
Sr No	Items	Description	Model/Make	Qty.	Unit Price	Total Amount PKR
1	Frame	The RO Plant shall be mounted on box iron frame), 50mmx 50 mmx 3mm, 8.0 g/cm ³ covered with carugated steel sheet of gauge 20 mounted on the frame on all sides and openable from front (joints sealed for water proofing and protection against rain). Total dimintions of the frame should not exceed length:4', width:4' and height:5'	Approved	1		
2	Feed Pump	0.5 m ³ /hr. 4 bar Vertical Multistage Centrifugal Pump, Single Phase motor 50Hz.	CNP Brand. Imported and Brand/warranteed New. Made in China Model: CDLF	1		
3	Multimedia Rapid Sand Filter (Automatic backwash and resetting)	Vessel Size: 10"x54", Flow capacity 2.1 m ³ /hr, 4 bar operating pressure, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. (equiped with a manual liver) Media: Silica Sand & Gravel. Total Media Height: 36", Gravel Bed Height: 10", Gravel Size: 10-12mm, Quartz Sand Bed Height: 32", Quartz sand Size: 6-8mm, 4-6mm, 2-4mm, 0.5-2mm, Total media weight: upto 120kg	Pentair/Pall	1		
4	Activated Carbon Filter (Automatic backwash and resetting)	Vessel Size: 10"x54", Flow capacity 2.1 m ³ /hr, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. (equiped with a manual liver) Media per tank: 3 cft Activated carbon media, Media weight: upto 50kg	Pentair/Pall Media: Deno Germany	1		
5	Housing plus PPF Cartridge filter 5M (Jumbo)	5 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m ³ /hr, Rating: 5 micron	Taiwan/USA	1		
6	Housing plus PPF Cartridge filter 1M (Jumbo)	1 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m ³ /hr, Rating: 1 micron	Taiwan/USA	1		
7	Blending: Anti scalant dosing pump System	Anti scalant dosing pump with blending system including tank of capacity 20 Liters and complete in all specification : Capacity: 0.25 m ³ /hr	Etatron	1		
8	High Pressure Pump (adjusted for the removal of TDS upto 6000 ppm)	0.5 m ³ /hr, 12 bar Vertical Multistage Centrifugal Pump - 01 Phase motor 50Hz, Max revolving speed: 2900 rpm	CNP Brand. Imported and Brand/Waranteed. Unboxing and assembling on site New. Made in China Model: CDLF Series.	1		
9	Reverse Osmosis membranes (Automatic Backwash with Auto Resetting) adjusted for the removal of TDS upto 6000 ppm	Reverse Osmosis Anti-fouling membranes, Membrane type: Thin film Polyamide-urea composite, No. of vessels: 1, Design output: 180 ltr/hr, Operating temperature: 25-45 degree celcius, Maximum feed turbidity: 1NTU, Max SDI: <5, Maximum Chlorination valve: <0.1ppm Size: L:40", Dia 8"	Toray, Japan	1		
10	RO membrane casing	R/O Fiber Glass FRP pressure vessel casing for 1 element, Seal type: O-ring, Maximum operating pressure: 30 bar, Test pressure: 40 bar	Eurotec/Pall/Hitec	1		
11	Pressure Gauges	Low pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	3		
12	Pressure Gauges	High pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	2		
13	Digital Flow meter	Digital Flowmeter for product water	Taiwan	1		
14	Digital Flow meter	Digital Flowmeter for reject water	Taiwan	1		
15	UV Light Filter with control box	Capacity: 1.2 m ³ /hr, Material of construction: SS, Length: 24"-36", Dia: 3", Inlet/outlet Dia: 1", Average useful life: 8000hr, UV Energy: 30000 micro watt second/sq.cm, Operating temperature: 25-40 degree celcius	Lamp & Quartz sleeve: Atlantic US / First Life / Equilent	1		
16	Fittings	UPVC 80 schedule	Approved brand	1		
Blending Line						
1	Filtration system	Capacity 0.25 m ³ /hr	EU/USA	1		
Instrumentation and Controls						
1	Control box	Control box with contactor and overload safety circuits	Approved brand	1		
2	Control switches	Single Phase power safety cut-off control circuit	Approved brand	2		
3	Switches	On / Off switches; On and Trip indicator lights	Approved brand	1		
4	Floot switch	On raw water tak for submercible pump	Approved brand	1		
5	Low level switch	Trip on low level of product water tank	Approved	1		
6	TDS meter	TDS probe for TDS monitoring of Product Water	Approved brand	1		
7	Solenoid Valve	Inlet & Flush solenoid valve	Approved brand	2		
8	Safety control switch	To protect high pressure pump and membranes from over pressurization	Approved brand	1		
9	Safety switches	Feed Water / Product Water / Water Tanks Low / High Level Switch Safeties to avoid dry pump run	Approved brand	2		
10	Lights	3 Led lights fixed inside the frame of plant	Approved brand	3		
10	Voltage stabilizer	10000 V capacity voltage stabilizer, input voltage 100-265 V, fixed inside the frame of plant	General	1		
Total price inclusive of taxes and transportation of 180 ltr/hr RO Plant						0

BOQ of RO Plant 180 Ltr/Hr GGES Basti Jhangle , Jatoi						
Total cost						
(inclusive of: Supply, Onsite Assembling/Installation, Operationalization, Transportation, training of O&M committee operators and 3 Months operation and maintainance (excluding electricity charges)						
Traning session of operators and an operating manual (5x3 ft panaflex)						
One year warranty of Plant items						
Required size of the plant		Height	4-5 ft (as compact as possible)			
		Length	4 ft (as compact as possible)			
		Width	4 ft (as compact as possible)			
Sr No	Items	Description	Model/Make	Qty.	Unit Rate	Total Rate
1	Frame	The RO Plant shall be mounted on box iron frame), 50mmx 50 mmx 3mm, 8.0 g/cm3 covered with carugated steel sheet of gauge 20 mounted on the frame on all sides and openable from front (joints sealed for water proofing and protection against rain). Total dimintions of the frame should not exceed length:4', width:4' and height:5'	Approved	1		
2	Feed Pump	0.5 m ³ /hr. 4 bar Vertical Multistage Centrifugal Pump, Single Phase motor 50Hz.	CNP Brand. Imported and Brand/warranteed New. Made in China Model: CDF	1		
3	Multimedia Rapid Sand Filter (Automatic backwash and resetting)	Vessel Size: 10"×54", Flow capacity 2.1 m3/hr, 4 bar operating pressure, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. (equiped with a manual liver) Media: Silica Sand & Gravel. Total Media Height: 36", Gravel Bed Height: 10", Gravel Size: 10-12mm, Quartz Sand Bed Height: 32", Quartz sand Size: 6-8mm, 4-6mm, 2-4mm, 0.5-2mm, Total media weight: upto 120kg	Pentair/Pall	1		
4	Activated Carbon Filter (Automatic backwash and resetting)	Vessel Size: 10"×54", Flow capacity 2.1 m3/hr, Rated Test Pressure: 10 Bar, Material: FRP Vessel Automatic multiport valve with planar and corrosion resistant gasket for opening and closing. Service, backwash, and fast rinse functions. (equiped with a manual liver) Media per tank: 3 cft Activated carbon media, Media weight: upto 50kg	Pentair/Pall Media: Deno Germany	1		
5	Housing plus PPF Cartridge filter 5M (Jumbo)	5 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m3/hr, Rating: 5 micron	Taiwan/USA	1		
6	Housing plus PPF Cartridge filter 1M (Jumbo)	1 Microns; 20" x 1 core filter. PE Housing, Flow Capacity 4.1 m3/hr, Rating: 1 micron	Taiwan/USA	1		
7	Blending: Anti scalant dosing pump System	Anti scalant dosing pump with blending system including tank of capacity 20 Liters and complete in all specification : Capacity: 0.25 m ³ /hr	Elatron	1		
8	High Pressure Pump (adjusted for the removal of TDS upto 6000 ppm)	0.5 m ³ /hr, 12 bar Vertical Multistage Centrifugal Pump - 01 Phase motor 50Hz, Max revolving speed: 2900 rpm	CNP Brand. Imported and Brand/Waranteed. Unboxing and assembling on site New. Made in China Model: CDFL Series.	1		
9	Reverse Osmosis membranes (Automatic Backwash with Auto Resetting) adjusted for the removal of TDS upto	Reverse Osmosis Anti-fouling membranes, Membrane type: Thin film Polyamide-urea composite, No. of vessels: 1, Design output: 180 ltr/hr, Operating temperature: 25-45 degree celcius, Maximum feed turbidity: 1NTU, Max SDI: <5, Maximum Chlorination valve: <0.1ppm Size: L:40", Dia 8"	Toray, Japan	1		
10	RO membrane casing	R/O Fiber Glass FRP pressure vessel casing for 1 element, Seal type: O-ring. Maximum operating pressure: 30 bar, Test pressure: 40 bar	Eurotec/Pall/Hitec	1		
11	Pressure Gauges	Low pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	3		
12	Pressure Gauges	High pressure Stainless steel gauges; glycerine filled. Stainless Steel	Wika China / Equivalent	2		
13	Digital Flow meter	Digital Flowmeter for product water	Taiwan	1		
14	Digital Flow meter	Digital Flowmeter for reject water	Taiwan	1		
15	UV Light Filter with control box	Capacity: 1.2 m3/hr, Material of construction: SS, Length: 24"-36", Dia: 3", Inlet/outlet Dia: 1", Average useful life: 8000hr, UV Energy: 30000 micro watt second/sq.cm, Operating temperature: 25-40 degree celcius	Lamp & Quartz sleeve: Atlantic US / First Life / Equilent	1		
16	Fittings	UPVC 80 schedule	Approved brand	1		
Blending Line						
1	Filtration system	Capacity 0.25 m3/hr	EU/USA	1		
Instrumentation and Controls						
1	Control box	Control box with contactor and overload safety circuits	Approved brand	1		
2	Control switches	Single Phase power safety cut-off control circuit	Approved brand	2		
3	Switches	On / Off switches; On and Trip indicator lights	Approved brand	1		
4	Float switch	On raw water tak for submercible pump	Approved brand	1		
5	Low level switch	Trip on low level of product water tank	Approved	1		
6	TDS meter	TDS probe for TDS monitoring of Product Water	Approved brand	1		
7	Solenoid Valve	Inlet & Flush solenoid valve	Approved brand	2		
8	Safety control switch	To protect high pressure pump and membranes from over pressurization	Approved brand	1		
9	Safety switches	Feed Water / Product Water / Water Tanks Low / High Level Switch Safeties to avoid dry pump run	Approved brand	2		
10	Lights	3 Led lights fixed inside the frame of plant	Approved brand	3		
10	Voltage stabilizer	10000 V capacity voltage stabilizer, input voltage 100-265 V, fixed inside the frame of plant	General	1		
Total price inclusive of taxes and transportation of 180 ltr/hr RO Plant						0