

AUGMENTATION OF EXISTING STP TO LATEST TECHNOLOGY FOR SMOOTH OPERATION INCLUDING WALL MOUNTED / FREE STANDING DUAL OPERATION RO SYSTEMS FOR SITE MS.



Sl.No	Description of Items	Unit	Qty.
1	SS Body 100 LPH capacity dual operation type RO system specially designed & suitable for treatment of raw water quality TDS up to 1000 PPM. The RO system complete with rechargeable fine filter pre-treatment , Micro pore sedimentation, Catylic charged coco-carbon treatment, RO Modules with water feed pumps, complete with required post treatment of water for drinking purposes. The system shall be incorporated for online quality check of water through TDS meter and dry run protection with low- high pressure control complete with pre progrsmmed auto / manual / emergency by pass seletion mode for smooth operation as required for the satisfaction of Engineer In Charge. Make :Kay-Ions/ Kon-Tech/ RSVL/Aenj or Equivalent for the following parameters or as per direction of Engineer-in-Charge.	Each	1
2	200 LPH RO capacity MIMIC based latest technology dual operation type Reverse Osmosis Plant specially designed & suitable for treatment of raw water quality at site. The system shall be complete with feed pump, DMF, Membrane Module system, Online pressure indicators, Ro Antiscallant and Post water disinfection system, TDS Meter, flow indicators for onsite quality control and check. The system shall also be incorporated for low - high pressure control and on board display of treatment scheme for water level Controls complete with pre-programmed auto/ manual selection based operation. The entire system shall be comprised for ready to install at site for smooth operation as per the direction of Engineer In-Charge. Make : Kon-Tech/Hydranautics/ RSRV /Aenj or equevalent for the following parameters or as per direction of Engineer-in-Charge.	Each	1
3	UPVC pipe of pressure 15 Kg /cm2 including necessary fittings, excavation laying and backfilling in under ground of following sizes : For Pumping RO water to the Buildings.		
(a)	25 NB	RM	6.15
(b)	12 .5 NB	RM	9.7
4	Unplasticized Polyvinyl Chloride (UPVC) ball mounted quarter turn internally EPDM/Viton lined tricentric UPVC BALL VALVES having the high quality EPDM shaft with inbuilt taper pin,plug &, silicon/viton/neoprin O-rings complete as required for smooth operation of high pressure water treatment plant line, Make : Bluzac/B&W/Kon-Tech/Prince or Equiv. of following sizes:-		
(a)	25 NB	Each	1
(b)	12 .5 NB	Each	1
5	Copper conductor multi strand unarmored PVC insulated multi core cables with end terminations for control supply laid in GI Trey or as per direction of Engineer-In-Charge.		
(a)	4C x 4.0 Sqmm including GI cable tray	RM	10
(b)	3C x 2.5 Sqmm	RM	6
6	brass glands and lugs etc. complete for the following cables.		
(a)	4C x 3.5 Sqmm	Nos.	2

Sl.No	Description of Items	Unit	Qty.
(b)	3C x 2.5 Sqmm	Nos.	2
(c)	WLCS with cord (Float Switch)	Nos.	1
7	dosing pump mechanically actuated , Driven by a Solenoid Coil through an electronic circuit which Runs on 220 V, Single Phase , 50 Hz. AC current, complete with foot valve, anti syphon valve, necessary tubing along with HDPE tank for Sodium Hypo dosing system capacity –2 to 6 LPH to be provided for one working and one standby operation. The dosing Systems shall be mounted on MSEC structure for lifting of Sodium Hypochlorite from 1 No. of 120 Ltr Capacity KON-TECH Make FRP Chemical Holding Tank. Make – Kon-Tech, Milton Roy (Asia LMI) / Aenj / RSRV or equivalent (for Sodium Hypochlorite Dosing)-complete with provision of one working and one standby. complete in all respect.	Each	2
8	Supply, installation, testing and commissioning of other fittings for fixing of ro system at site complete as per direction of Engineer - In - Charge		
(a)	UPVC Reducer 1"x1/2"	Each	3
(b)	UPVC Union 1"	Each	1
(c)	GI Tee 1/2"	Each	1
9	Supply, installation, testing and commissioning of Routine Consumables for commissioning of RO Systems.		
(a)	Antiscallant - On Line refill type	Kg	10
(b)	Fine Sediment Filter- KT-NR-20SP5 of 200 LPH capacity system	Each	6
(c)	Fine Sediment Filter- KT-NR-20SP1 of 200 LPH capacity system	Each	6
10	Testing of water samples after treatment for the chemical essential test as per BIS-10500:1991. (For Domestic & Drinking)	Each	2
11	Connection of RO system with water cooler, all necessary accessories/fittings and making charges etc all complete to make functional the water cooler with RO system as directed by Engineer-In-Charge.	Job	1
12	twin lobe type rotary low pressure air blower to support aeration complete with driver through V belt and belt guard or coupled through flexible coupling to a TEFC induction motor of suitable HP of M-450 blower,3Phase,415 +-10%volts,50 Hazen, base frame, foundation bolts, suction silencer, suction air filter, pressure relief valve, motor pulley, blower pulley and other accessories as required for smooth operation. Make : Everest/Kay or Equivelant	No.	1
13	Fludized Bio media to be installed in aeration tank to increase the surface area of aeration tank, increase of bacterial growth and stable bio degration for smooth operation of the system. Make : Monter/Kay-Ions/AESL or equivelant.	Each	1

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14	Sand Filter having the dia of 350 mm & HOS : 1500 mm charged with layers of Charge media, M.O.C. : MSEC, designed at tested pressure, with frontal pipe work, operating butterfly valve, Top & Bottom dished ends, nut bolts, packing gaskets, air release line, on line pressure indicators complete as for smooth operation as required by Engineer In-Charge. Make : Kay-Ions/ Kon- Tech/ TES/Aeni/RSRV or Equiv.	Each	1
15	Carbon Filter having the dia of 650 mm & HOS : 1500 mm charged with activated coco carbon, M.O.C. : MSEC, designed at tested pressure, with frontal pipe work, operating butterfly valves, top and bottom dished ends, nut bolts, packing gaskets, air release line, on line pressure indicators complete as required for smooth operation as per Engineer In-Charge. Make : Kay-Ions/Kon-Tech/ TES/Aenj/RSRV or Equiv.	Each	1
16	(PVC) pipes , having thermal stability for hot & cold water supply including of jointing of pipes and fittings with one step PVC solvent cement, excavation of raw soil/pedastal support to pipe lines, bends/ refilling of soil / trenches in raw soil and testing of joints complete as per direction of Engineer in Charge. Make : Kon-Tech / Prince / supreme or equiv.		
(a)	50 NB	RM	22.1
(b)	40 NB	RM	347
(c)	25 NB	RM	5.8
(d)	12 .5 NB	RM	258
17	UPVC Flanges , complete with nut bolts, rubber gaskets and fittings for online operation of the flanges for water line as per direction of engineer In-Charge :		
(a)	40 NB	Each	6
(b)	25 NB	Each	2
18	UPVC FLANGE FIT BALL VALVES having the high quality EPDM shaft with inbuilt taper pin, plug &, silicon/viton/neoprin O-rings complete as required for smooth operation of RO Water line, Make : Bluzac/B&W/Kon-Tech/Prince or Equiv. of following sizes:-		
(a)	40 NB	Each	2
(b)	25 NB	Each	2
19	GM gate valves complete with fixing tape,string etc. for smooth operation of system as per direction of Engineer In-Charge. Make : Zoloto, Sant, Vison, Kay-Ions or Equiv.		
(a)	50 mm dia GM Gate Valve	Nos	2
(b)	40 mm dia GM Gate Valve	Nos	2
(c)	25 mm dia GM Gate Valve	Nos	2

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20	Copper conductor multi strand unarmored PVC insulated multi core cables with end terminations for control supply laid in existing PVC conduit or as per direction of Engineer-In-Charge.		
(a)	4 C x 6 sq.mm	RM	37.7
(b)	3C x 2.5 Sqmm	RM	322.4
21	Provision of end termination with brass glands and lugs etc. complete for the following cables.		
(a)	4 C x 6 sq.mm	Nos.	6
(b)	3C x 2.5 Sqmm	Nos.	6
22	Non-Corrosive Type Non Return valves should be of star guided integral body of non-magnetic steel construction and with EPDM/silicon/viton seat, spring loaded circlip disc, as required for smooth operation on high pressure line of said plant by following sizes :-		
(a)	40 NB	Each	2
23	PVC flexible Hose pipe having the adequate tensile string re-inforced for pressure line application of following sizes :		
(a)	12.5 NB	RM	6.5
24	Float Control Switches for synchronise the water level for auto On-Off control and operation of Treated water transfer pumps.	Each	3
25	treated water transfer pumps complete with CI volute, SS impeller, mechanical seal TEFC induction motor direct coupled to the pump, base frame with suitable vibration eliminator pads, Pressure gauges etc. complete as programmed for sequential manners for emergency & non stop operation. The Pumps shall be mounted on 80 x 40 mm channel based frame with water cover properly painted with anti-corrosive paint for smooth operation and as directed by engineer In – charge. Duty point 2500 LPH at 35 mtr. Head (Make : Grundfos / Kirloskar / Johnson / wilo / Kon-Tech)	Each	2
26	MIMIC based Dual operation controller system comprised With reputed switch gear system operative on a self speaking Programmed MCC Panel- Control Panel suitable for operation of entire Plant runs on 415 volts, 3 phase, multiwires, 50 Hz, Power distribution & control system. The Panel shall be of free Standing/wall mounting type, made of 16 gauge CRC sheet, Dust and vermin proof with incoming & out going feeder shall be accommodated in a modular arrangement. Adequate size cable alley shall be provide for each cable bending & termination. the MCC shall be of self speaking complete control & indications, MIMIC show, fault alarm with acceptance & correction switch for Automatic, Manual and Emergency supply for smooth operation of Treated Sewage water transfer for aurboriculture and Low-High Level controler terminals. Make Kon-Tech / L & T / Delta / ABB or equivalent.	Each	1
27	High class pressure hold check nut type GI Tank Nipple suitable for water connection from 10000 Ltr. capacity HDPE Tanks complete for smooth operation of water supply from said tanks for the satisfaction of Engineer in-charge (Make : UNIK/TATA/Jindal or Equivalent) for the following Sizes :		

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(a)	50 NB	Each	2
28	HDPE Tanks of following Capacities make Syntex or equip		
(a)	5000 LTR	Each	1
29	Supply and installation of Filter Bed Media for existing 3 Nos. of sludge drying bed including the multi sizes of gravels, pebbles and fine sand with the top cover of gunny cloth etc. all complete.	Job	1
30	dosing pump mechanically actuated , Driven by a Solenoid Coil through an electronic circuit which Runs on 220 V, Single Phase , 50 Hz. AC current, complete with foot valve, anti syphon valve, necessary tubing along with HDPE tank for Sodium Hypo dosing system capacity –2 to 6 LPH to be provided for one working and one standby operation. The dosing Systems shall be mounted on MSEC structure for lifting of Sodium Hypochlorite from 1 No. of 120 Ltr Capacity KON-TECH Make FRP Chemical Holding Tank. Make – Kon-Tech, Milton Roy (Asia LMI) / Aenj / RSRV or equivalent (for Sodium Hypochlorite Dosing)	Each	2
31	Providing Ms supports in angles/iron plates / channels/ beams etc. as per drawings / instructions at site including 2 coats of synthetic enamel paint over a coat of primer	Kg	0
32	Providing and lying of cement concrete 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) graded hard granite stone aggregate including compaction, finishing top surface to level, curinf etc. complete for pumps and water treatment equipment foundations.	Cum	0
33	Providing and lying of cement concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 20 mm nominal size) graded hard granite stone aggregate including compaction, finishing top surface to level, curinf etc. complete for pumps and water treatment equipment foundations.	Cum	4.702
34	Providing and fixing anchor blocks of concrete 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) for underground piping / bends, complete for pumps and water treatment equipment foundations	Cum	0
35	Providing, fabricating, fixing in position steel reinforcement for RCC items including decoiling, bending, binding etc, as directed complete for pumps and water storage tanks / equipment foundations.	Kg	0
36	Providing, and Fixing of First quality Brick work with bricks of class designation 75 in cement mortar 1:6 (1 cement : 6 coarse sand) in super-structure including attached or isolated pillers at all height.	Cum	0.3582
37	Provision of fencing around the Water storage tanks with 2.5 mtr height chain link fencing with angle supports on RCC pedestal @ every two meters, top continous MS angle runner & epoxy painting for MS portion and MS gate of two shutters etc complete.	Rmt	0
38	Excavation and Road cutting work at hardstanding area for Pipe line work.	Cum	27.530

Sl.No	Description of Items	Unit	Qty.
39	Removal / Shifting of Soil or other waste material like concrete waste, brick waste, plaster waste etc. including loading and unloading from site to other place as per direction of engineer incharge.	Cum	0
40	Providing and lying 18mm thick plaster on external walls in cement mortar 1:4:1 (1 cement : 4 fine sand : 1 coarse sand) including making grooves o size 12 mm * 18mm. As per design and pattern complete.	Sq.mtr.	2.85
41	Supply of following operating chemicals for recommissioning of STP plant		
(a)	Biocid / Bionit	Kg	60
(b)	Floc / Amalgazol	Kg	10
(c)	Sodium Hypo-Chlorite	Kg	120