

Sector : Water & Sanitation
 Subsector : BAGHDAD MAYORALTY REQUIREMENTS FOR WATER AND SEWAGE WORK
 Project or Title :

CODE	DESCRIPTION	QTY	UNIT
03-01-00001	<p>Water Treatment Plant: Plant Capacity 100 Mgd (450 Mld). General Plan As Shown In Diagram 1. The Plant Included All The Following Equipment</p> <p>Main Pumping Station: 14 Horizontal Splitcase Pumps Complete With Motors (Each Of Capacity 2000 M3/ H , Head 30 M , Npsh 2.5 M), With All Necessary Equipment Such As Foot Valve , None Return Valves , Suction Valves , Discharge Valves , Suction And Discharge Pipes , Manifold Pipes , Dismantling Joints , Electrical Overhead Cranes , Manometers , Vacuum System , Throttling Valves , Ectn .</p> <p>Presser Filters Station: Will Include 100 Filters Dividing In Four Streams Each Stream 25 Filters, The Specification As Follow: Flow Rate 8 M/ H . Plate Thickness 16 M M. Dish End Thickness 18 Mm. Meadia Sand Size (0.8 - 1.2 Mm). Two Layers Of Gravel. Firstlayer (3.15 - 5.6 Mm) High 100 Mm. Second Layer (2 - 3.15 M M) High 150 Mm. Included 2 Air Relief Valves. 4 Manholes For Maintenance 2 In Upper Side, 2 In Lower Side. - All Inlet And Outlet Valves, Drainage Valves, Main Outlet Collection Pipes For Each Stream, Bypass, Flow Meters For Each Stream, Electrical Equipment. Filter Testing Presser 10 Bar. Filter Operating Presser 5 Bar, Filter Pump Suction Pipe Diameter 700 Mm Aproxi - Length 50M, Filter Pump Discharge Pipe Diameter 600 Mm Approx. - Length 10 M, Diameter Of The Collector Pipe For Each Stream 1500 Mm Length 700 M (Total Length = 1400 M), Diameter Of The Collector Pipe For The Back Washing, 900 Mm Length 500 M. - Operation And Back Washing Of The Pressure Filters To Be Fully Atomized And It Can Be Operated Manually. Each Back Washing Pump Should Be Used For Washing 2 Filters So Four Filters Can Be Washed At The Same Time.</p> <p>Back Washing System: 4 Air Blowers 2 Duty + 2 Stand Bye With Flow Rate 60 M3/ M2/ H For Each Filter (Q = 3000 M3/ H , H = 0.8 Bar) . 4 Backwash Pumps, 2 Duty + 2 Stand Bye With Flow Rate 25 M3/ M2/ H Pump Head 10 M (Q = 1500 M3/H). - The Above Items Included All Valves And Fittings. - Back Wash Pumps Take Water From The Main Service Line (Filtered Water). - Back Wash And Drainage Lines To Be Connected To The Existing Drainage System Of Length Approximately 500 M. - The Distance Between Pumping Station And Filters Is Approximately 700M Length Including All Adaptations And Accessories.</p> <p>Aluminum Suiphate Station: Including The Following:- 4 Saturation Tanks Of Capacity Of 120 M3 Each. Made From Special Material Suitable For Aluminum Suiphate Solution Including Service Water System, Float Valves, Drainage Valves, Electrical Crane Of 500 Kg, Ladders, Walking Way Around Tanks Air Blower For Mixing, Alum Sulphate. - 10 Alum Sulphate Dosing Pumps Capacity 3000 L/H Each Head 50 M Included Pulsation Dampers. - 2 Lines With Manometers And Flow Meter With All Pipes, Valves, Fittings To Operate The Station Properly. - 1 Electrical Board.</p>	1	

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	<p>Chlorine Station: Included Following :- 8 Chlorinators Of Capacity 40 Kg/ H, 8 Injectors, 2 Presser Reducing Valves Electrically Operated, 2 Headers, 5 Changeover Switches, 2 Leak Detectors, 1 Electrical Overhead Crane Of 2 Ton Capacity, 4 Booster Pumps Q = 80 M3/ H Each, H = 70 M With Pipes, Valves, Accessories . 1 Ventilation System. Chlorine Injection Points Should Be In Both Inlet And Outlet Of The Filters, 1 Electrical Board, 2 Evaporators 200 K/H Complete With Accessories. All Pipes And Fittings To Erect Chlorine Station.</p> <p>Electrical Equipment: 11 Kv Switch Board Consist Of: 2 In Comer Circuit Breakers 630A . 2 Generator Circuit Breakers 630A . 1 Bus - Compler C.B 630A . 4 Out - Going C.B 630A. All Cb.S Are Sf6 Type (Motorized Charging, Electrically And Mechanically). The Board Include All Protection Relays, Such As Sh.Ct, Over Load, Under Voltage, Earth Leakage Reverse Power. Inter Locks, Measurement And Control Relay With Display. Spare Parts For 2 Years.</p> <p>Transformers: 4 Transformers Of 2 Mva. Rated Frequency 50 Hz. Connection Dynll. Rated H.V 11000. Rated L.V 416. 3 Phase. 2000 Kva. Type Of Cooling Onan.</p> <p>Generator Station: 2 Stand Bye Generators 11 Kv, 750 Rpm, 50 Hz. Each Generator Of 2 Mva (Prime). Include All Accessories, Water Cooling System Radiators, Oil Lubrication Pumps, Fuel Tanks For 48 Hours Duty, Ups Charger And Batteries. With Its Electrical Switch Board Consist Of Circuits. Breakers, And Services Switch Board.</p> <p>L.T Switch Board Consist Of : 4 Incomer Circuit Breakers 4000A . 2 Bus Coupler Cct. Breakers 4000A . 16 Pump Circuit Breaker 800A. 8 Distribution Circuit Breakers 400A. All Breakers Consist Of Protections, Reverse Power, Short Circuit, Earth Failier, Over Current, According To Iec 947-2 Standard.</p> <p>Electrical And Mechanical Inter Lock : Automatic Controller Stored Energy Operating Mechanism - Measuring Equipment.</p> <p>Motor Starters: 14 Pumps Motor Starters. Type = Soft Start, Soft Stop, Units, Severe Duty, Applications. Range = 800A, 3 Ph, 50 Hz, 400V. With Protection And Display, Adjustment Ambient Temp = 55 C.</p> <p>Power Factor Correction Units: - Suitable Power Factor Correction Unit Up To 0.94.</p> <p>Services Electrical Switch Boards: 1 Electrical Switch For Alum Sulphate Station Consist Of Circuit Breaker And Starters For 10 Pump Of 5 Kw. 1 Electrical Switch Board For Chlorination Station. 1 Suitable Switch Board For Illumination And Other Small Power. Electrical Switch Board For Boosting And Submersible Pumps. Switch Board For Air Blowers And Back Wash Pumps. Consist Of Circuit Breakers And Starters For 4 Pumps Of 70 Kw, 4 Air Blowers Of 50 Kw.</p>		
03-01-00002	The Above Mentioned Wtp Will Be Feeded Raw Water From The Existing Qadissigah Raw Water Pumping Station Which Contains 10 Pumps (10 X 1000 M3/H Divided In Two Streams So It Is Required To Replace 5 Pumps With New Pumps Capacity Of Each One Will Be (2000 M3/H, H = 20 M). The Plant Includes The Following :-		

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	<p>1- Raw Water Pumping Station Includes :- 5 Raw Pumps Horizontal Spilt Case Type : Q = 2000 M3/H For Each, H = 20M, Npsh = 2.0M, Impeller Material Gcusn10Zn, Shaft Stainless-Steel, The Pump Includes , Pump , Motor , Coupling , Base Plate , Anchor Blots , Manometers , It Is Required From The Supplier To Supply 5 Pumps Complete And Replace The Existing Pumps For One Stream . - Supply And Replace The Existing Pipes , Foot Valves , NON-Return , Butter Fly Electrical Discharge , Venting Valves , Fittings , Main Collector Pipe , Suction And Discharge Pipes . - Electrical Board With Main Circuit Breakers . - Soft Start – Stop Startes Capacity 250 Kw . . All The Cables , Fitting , According To The Attached Drawings.</p> <p>2- Lamella Clarifier Tank (Pressed Steel Type) :-Maximum Surface Load 1.2 M/H . Automatically Dislodging Valves . Mechanical Rapid Mexers For The Coaqlant , And Hydraulic Flocculation . Over Flow Pipe . Mechanical Float Valves .</p> <p>3- Storage Tank (Pressed Steel Type) : Capacity Of The Tank 400 M3 Which Includes :-Main Valves Between The Clarifier And The S.Tank And Between The S.Tank And The Filter Pumps , Over Flow Pipe. Drainage Valves. Low And High Level Float Switches. Level Indicator. The Tank Is Divided In Two Parts For Maintenance Case</p> <p>4- Filters Pump Station: This Station Contains :-(6) Pumps (4 Duty + 2 Standby) Capacity Of Each Pump Is 1000 M3/H H = 50 M , Horizontal , Spilt Case Type , All These Pumps Connected To The Storage Tank By Suction Pipe Its Diameter Depends On The Specification Of The Pump . Suction Valve And Pipes For Each Pump . Delivery Non – Return , Venting Valves , Fittings And Pipes . Manometer For Each Pump . Two Delivery Collector Pipes Connected Through By Pass Valve . Two Main Butter Fly Electrical Valves . All The Equipment For The Filter Pumps . Over Head Electrical Crane Capacity 5 Ton With I Beams , Bridge , And All The Accessories . 9- Electrical Board With Main Circuit Breakers , Soft Start – Stop Starters Capacity 250 Kw According To The Attached Drawings .</p> <p>5- Pressure Filters Station :-This Station Will Includes The Following :- Capacity Of Each Unit 200 M3/H , Flow Rate 8 M3/M2/H , Operating Pressure 5 Bar , Testing Dishend Thickness 18 M M . Media Of The Filter 3 Layers As Below :- First Layer 10 Cm Height Size 3.15 Mm – 5.6 Mm. Second Layer 15 Cm Height Size 2 Mm - 3.15 Mm. Third Layer Approximately 75 Cm Size 0.8 – 1.25 Mm. Filter Unit Will Be Included The Following Valves , Inlet , Outlet , Drainage , Relief , Outlet Of Back Washing , Inlet Of Back Washing For Both Water And Air . Inlet And Outlet Manometer . Maintenance Manuales Two In The Upper Part And Two In The Lower Part Of The Filter . The Filter Will Be Skid Mounted . Painting Of The Internal And External Surfaces Will Be According To The World Standard Specification . The Total Number Of The Pressure Filters To Be 20 Filters Divided In Two Rows There Are Two Main Valves For Each Row One For The Inlet And The Other For The Out Let . Filtered Water For Both Groups Connected In One Main Collector Pipe . Main Butterfly Electrically Operated Valve .</p>		

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	<p>6- Aluminum Sulphate System: This System Includes The Following :-Preparation And Saturation Tanks :-3 – Tanks With Capacity 30 M3/Per Tank , Material Of The Tank Anticorrosive For Aluminum – Sulphate . The Tanks Will Be Supplied With Service Water From The Outlet Filtered Water Line . Ladder And Walk Way Around The Tank . Electrical Over Head Crane With Capacity 500 Kg . Electrical Mixer For Each Tank Manufactured From Stainless – Steel And S – Steel Basket Capacity 1000 Kg At The Upper Part Of The Tank . Aluminum Sulphate Tanks Include All The Following :- Inlet , Outlet , Drainage , Over Flow Valves . Level Indicators . Metallic Structure With Cover . Lighting . Aluminum Sulphate Dosing Pumps As Below : Number Of The Pumps Three Pumps With Capacity 3000 L/H Head 50 M For Each Pump . C- Aluminum Sulphate System Includes All The Upvc Pipes , Valves , Fittings , Pulsater Dampner , Manometers , Two Adjustable Flow Meter , Two Main Discharge Pipes Which Must Be Connected To The Injection Points Before The Flocculation Tank .</p> <p>7- CHLORINATION STATION: CHLORINE GAS WILL BE USED FOR THE DISINFECTION SO IT SHALL BE INJECTED AT THE STORAGE TANK AND THE INLET OF THE LAMELLA TANK AS PRE – CHLORINATION AND ALSO WILL BE INJECTED AT THE OUTLET THE PRESSURE FILTERS AS POST – CHLORINATION , THIS STATION INCLUDES THE FOLLOWING :-</p> <ul style="list-style-type: none"> - 3 CHLORINATORS CAPACITY 15 Kg/h FOR EACH UNIT . - 3 INJECTERS . - 3 CHANGE OVER DEVICE . - 3 LEAK DETECTOR . - 2 HEADERS WITH ALL THE INLET AND OUTLET VALVES . - 50 FLEXIBLE PIPE BETWEEN THE CYLINDERS AND THE HEADERS (5 DUTY + 45 SPARES) . - 50 FLEXIBLE PIPE BETWEEN THE CHLORINATES AND THE HEADERS (5 DUTY + 45 SPARES) . - 3 PRV . - 3 CATCH POT . - WATER AND GAS MANOMETERS . - 3 BOOSTING PUMPS CAPACITY 25 m3/h , H = 80 m FOR EACH WITH ALL THE PIPES , VALVES , NON – RETURN VALVES , FITTINGS . - ALL THE FITTINGS , PIPES , VALVES , INJECTION POINTS. <p>8- Air Blower System : The System Includes The Following :-3 – Air Blowers . The Required Flow Rate Will Be 60 M3/ M2 /H During The Sequence Of Back Washing The Filter With Air Blower . All The Valves For The Inlet , Outlet , Non – Return , Inlet For Each Filter , Pipes , Manometers , Fittings.</p> <p>9- Back Washing Water : The Required Flow Rate For The Back Washing With Water Must Be 30 M3/ M2 /H This Can Be Created Mainly Through Branch From The Main Filtered Water Or By Using Horizontal Pumps (As Option) .</p>		

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	<p>10- Generator Station: 1 Stand Bye Generator 11 Kv , 750 Rpm , 50 Hz . Each Generator Of 1250 Kva (Prime) . Include All Accessories , Water Cooling System Radiators , Oil Lubrication Pumps , Fuel Tanks For 48 Hours Duty , Ups Charger And Batteries . With Its Electrical Switch Board Consist Of Circuits Breakers , And Services Switch Board .</p> <p>11-Electricity Power: Specifications Of The Equipments Which Required For Karrada Wtp Will Be As Below :- One- High Tension Board. 2 Incoming Feeders + One Bus – Couplers (11 Kv , 630 A) . 2 Out Going (11 Kv , 630 A) To The Transformers . 1 Cb For Generating Diesel (1250 Kva). Two- 2 Transformers (11 Kv/0.4 Kv) Capacity Of Each One 2 Mva . Three- Low Tension Board (400 V , 50 C/S) Includes The Following :- 2 Main Circuit Breakers (400 V , 3000 A , 50 C/H) . 2 Main Circuit Breakers (400 V , 1600 A , 50 C/H) . 1 Bus – Couplers (400 V , 3000 A , 50 C/H) . 12 Circuit Breaker (630A). 7 Circuit Breaker (100A). 3 Circuit Breaker (50A). D- Soft Starters , Boards. 6 Soft Start – Stop Starters (250 Kw) . 6 Soft Start – Stop Starters (215 Kw) . 1 Board Involves Three Starters For The Air Blowers According To The Blowers Specifications . 1 Board For All The Auxiliary Equipments Like Over Head Crane , Flocculators , Electrical Valves , Lightings , Mixers , Ventilators , Air Conditioners , Flow Meters . 1 Board For The Chlorination Station Which Involves 3-Starters For The</p>		
03-01-00003	<p>THIS W.T.P. WILL BE SUPPLIED RAW WATER FROM THE EXISTING RAW WATER NET WORK SO IT INCLUDES THE FOLLOWING PROCESSES:</p> <p>1- Lamella Sedimentation Tank Which Involves Rapid Mixer Flocculation Tank, Hydraulic Flocculation Part And Lamella Sedimentation Tank , The Surfaceload For The Lamella Tank To Be Not More Than 1.2 M/H , Desludging Will Be Automatically By Electrical Valves For Each Hooper , Includes :- Ladders , Walk Way , All The Accessories (Pressed Steel Type) .</p> <p>2- 3 Storage Tanks With Capacity 150 M3 For Each To Be Connected Between The Lamella Tank And Filter Pumps , Includes All The Fittings , Valves , Ladders , Drainage Valves , Float Switches , Mechanical Float Valves Inter Connection Pipes , Valves .</p>	3	

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	<p>3- Filter Pump Station :- The Station Will Contains The Following :- A- 8 Pumps (5 Duty + 3 Stand By) With Capacity Of 1000 M3/H , H = 50M For Each Pump Type Of The Pump , Horizontal , Spilt Case , Stainless – Steel Shaft , Bronze Gcuso10Zn Impeller , Npsh 2.6 M , Fan Cooled Induction Motor 380 V 50 C/S , Gland Stuffing Box Sealing . B- Suction Strainers , Valves , Pipes , Fittings , Discharge Non-Return Valves , Butter Fly Electrical With Gear Box Valves , And All The Pipes , Fitting , Accessories , Manometers Flow Meter For Each Branch . C- The Main Delivery Collector Pipe With Diameter Aprox. 1200 Mm With Main Manual And Electrical Valve Divided In Two Branches Each One 800 Mm Which Supplies Settled Water To 13 Pressure Filters . D- By Pass Butter Fly Electrical Valve Will Be Connected Between The Two Streams. E- Over Head Electrical Crane Capacity 5 Ton With I Beams , Bridge , And All The Accessories . F- Ventilation Fans , Air Coolers 2 X 5000 F3 /H And Air – Conditioners Window Type 3 X 24000 Btuh .</p> <p>4- Pressure Filters: The Pressure Filters Will Be According To The Following Specification :- Capacity Of Each Unit 200 M3/H , Operating Pressure 5 Bar , Testing Pressure 10 Bar , Thickness Of The Plate 16 Mm , Dishend Thickness 18 Mm , Flow Rate For The Filter 8 M3/ M2/H . Media Of The Filter 3 Layers As Below :- Fist Layer 10 Cm Height Size 3.15 Mm – 5.6 Mm Second Layer 15 Cm Height , 2 – 3.15 Mm Third Layer Approximately 75 Cm Size 0.8 – 1.25 Mm. Each Filter Includes The Following Inlet , Outlet , Drainage , Relief , Outlet Of Back Washing Water , Inlet Of Back Washing By Air Valves , Inlet And Outlet Manometers , 2-Maintenance Manuales In The Upper Part And 2-Manuals In The Lower Part Of The Filter . The Filter Will Be Mounted On Skid . Painting Of The Internal And External Surfaces Will Be According To The World Standard Specification . Total Number Of The Pressure Filters Is 26 Filters Divided In Two Groups There Are Two Main Valves For Each Group One For The Inlet And The Other For The Outlet . Finally The Filtered Water For Both Groups Will Be Connected In One Main Pipe Which Includes Main Butter Fly Valve</p> <p>5- Aluminum Sulphate System: This System Includes The Following :- Preparation And Saturation Tanks :- 4 – Tanks With Capacity 40 M3/Per Tank , Material Of The Tank Anticorrosive For Aluminum – Sulphate . The Tanks Will Be Supplied With Service Water From The Outlet Flitted Water Line . Ladder And Walk Way Around The Tank . Electrical Over Head Crane With Capacity 500 Kg . Electrical Mixer For Each Tank Manufactured From Stainless – Steel . Aluminum Sulphate Tanks Include All The Following :- Inlet , Outlet , Drainage , Over Flow Valves . Level Indicators . Metallic Structure With Cover . Lighting . Aluminum Sulphate Dosing Pumps As Below : Number Of The Pumps Five Pumps With Capacity 3000 L/H Head 50 M For Each Pump . C- Aluminum Sulphate System Includes All The Upvc Pipes , Valves , Fittings , Pulsater Dampner , Manometers , Two Adjustable Flow Meter , Two Main Discharge Pipes Which Must Be Connected To The Injection Points Before The Flocculation Tank .</p>		

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	<p>6- CHLORINATION STATION: CHLORINE GAS WILL BE USED FOR THE DISINFECTION SO IT SHALL BE INJECTED AT THE STORAGE TANK AND THE INLET OF THE LAMELLA TANK AS PRE – CHLORINATION AND ALSO WILL BE INJECTED AT THE OUTLET OF THE PRESSURE FILTERS AS POST – CHLORINATION , THIS STATION INCLUDES THE FOLLOWING :- 5 CHLORINATORS CAPACITY 15 Kg/h FOR EACH UNIT . - 5 INJECTORS . - 5 CHANGE OVER DEVICE . - 5 LEAK DETECTOR . - 2 HEADERS WITH ALL THE INLET AND OUTLET VALVES . - 50 FLEXIBLE PIPE BETWEEN THE CYLINDERS AND THE HEADERS (5 DUTY + 45 SPARES) . - 50 FLEXIBLE PIPE BETWEEN THE CHLORINATORS AND THE HEADERS (5 DUTY + 45 SPARES) . - 2 PRV . - 5 CATCH POT . - WATER AND GAS MANOMETERS . - 5 BOOSTING PUMPS CAPACITY 25 m3/h , H = 80 m FOR EACH WITH ALL THE PIPES , VALVES , NON – RETURN VALVES , FITTINGS . - ALL THE FITTINGS , PIPES , VALVES , INJECTION POINTS</p> <p>7- AIR BLOWER SYSTEM: THE SYSTEM INCLUDES THE FOLLOWING :- 4 – AIR BLOWERS . THE REQUIRED FLOW RATE WILL BE 60 m3/ m2 /H DURING THE SEQUENCE OF BACK WASHING THE FILTER WITH AIR BLOWER . ALL THE VALVES FOR THE INLET , OUTLET</p> <p>8- BACK WASHING WATER: THE REQUIRED FLOW RATE FOR THE BACK WASHING WITH WATER MUST BE 30 m3/ m2 /h THIS CAN BE CREATED MAINLY THROUGH BRANCH FROM THE MAIN FILTERED WATER OR BY USING HORIZONTAL PUMPS (AS OPTION) .</p> <p>9- GENERATOR STATION: 2 STAND BYE GENERATOR 11 KV , 750 RPM , 50 HZ . EACH GENERATOR OF 1250 KVA (PRIME) . INCLUDE ALL ACCESSORIES , WATER COOLING SYSTEM RADIATORS , OIL LUBRICATION PUMPS , FUEL TANKS FOR 48 HOURS DUTY , UPS CHARGER AND BATTERIES . WITH ITS ELECTRICAL SWITCH BOARD CONSIST OF CHANGE OVER SWITCHES , AND SERVICES SWITCH BOARD .</p>		

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	<p>10- ELECTRICITY POWER: SPECIFICATIONS OF THE EQUIPMENT WHICH REQUIRED FOR 25 WTPS WILL BE AS BELOW :- ONE:- HIGH TENSION BOARD . 3 INCOMING FEEDERS + ONE BUS – COUPLERS (11 KV , 630 A) . 3 OUT GOING (11 KV , 630 A) TO THE TRANSFORMERS . 2 CB FOR GENERATING DIESEL (2 x 1000 KW). TWO:- 3 TRANSFORMERS (11 KV/0.4 KV) CAPACITY OF EACH ONE 2 MVA . LOW TENSION BOARD (400 V , 50 c/s) INCLUDES THE FOLLOWING :-3 MAIN CIRCUIT BREAKERS (400 V , 3000 A , 50 c/h) . 2 BUS – COUPLERS (400 V , 3000 A , 50 c/h) . 11 CIRCUIT BREAKER (630A). 2 CIRCUIT BREAKER (100A). . CIRCUIT BREAKER (160A). 2 CIRCUIT BREAKER (80A) . d- SOFT STARTERS , BOARDS. 8 SOFT START – STOP STARTERS (250 KW) 1 BOARD INVOLVES FIVE SOFT START – STOP STARTERS FOR THE AIR BLOWERS ACCORDING TO THE BLOWERS SPECIFICATIONS . 1 BOARD FOR ALL THE AUXILIARY EQUIPMENT LIKE OVER HEAD CRANE , FLOCCULATORS , ELECTRICAL VALVES , LIGHTING , MIXERS , VENTILATORS , AIR CONDITIONERS , FLOW METERS . 1 BOARD FOR THE CHLORINATION STATION WHICH INVOLVES . 5-STARTERS FOR THE BOOSTING PUMPS , AND ALL OTHER</p>		
03-01-00004	<p>WATER TREATMENT PLANT WITH CAPACITY OF 15 MGD (66500 M³ /d) . THE ABOVE MENTIONED PLANT HAS EXISTING RECTANGULAR SEDIMENTATION TANKS WHICH REQUEST TO BE MODIFIED TO LAMELLA TANKS SO IT IS REQUIRED FROM THE SUPPLIER TO VISIT THE SITE BEFORE SUBMITTING THE COTATION . SO THE REQUIRED EQUIPMENT ARE AS BELOW</p> <p>1- PRESSURE FILTER (HORIZONTAL TYPE) WITH FOLLOWING SPECIFICATIONS : -CAPACITY OF EACH FILTER 200M³ /h . - FLOW RATE OF THE FILTER 8 m³ /m³ /h . - THICKNESS OF THE SHELL 10 mm . - THICKNESS OF THE DISHED END 12.0 mm . - BACK WASHING FLOW RATE 30m³/m³/h . - NO. OF THE FILTERS 16. - THE FILTERS EQUIPPED WITH ALL INLET, OUTLET , BACK WASHING , DRAIN , AIR RELIEF VALVES , FLOW METER FOR EACH ONE , INLET , OUTLET MANOMETERS , AND ALSO CONTAINS SAND, GRAVEL. - ALL THE FILTERS INSTALLED IN TWO ROWS ONE FACE TO THE OTHER:- 1- SUPPLY AND INSTALL THE MAIN INLET SEDIMENTED PIPE (LENGTH APPROXIMATELY 60m NOMINAL DIAMETER 800 mm). 2-THE MAIN OUTLET FILTERED PIPE WITH ITS FITTINGS AND ACCESSORIES . 3-MAIN PIPE FOR THE OUTLET OF THE BACK WASHINGS DRAINAGE , DESLUDGING , CONNECTED TO APIT. 4-MAIN FLOW METER AND PRESSURE METER FOR THE OUTLET OF THE PLANT :- THE FILTERS TO BE ON SKID. -THE DISTANCE BETWEEN EACH TWO FILTER TO BE 70 cm FOR ONE ROW.</p>	1	

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	<p>2- ALUMINUM SULPHATE SOLUTION PREPARING AND DOSING SYSTEM INCLUDES : - TANK FOR PREPARATION THE SOLUTION TWO TANKS CAPACITY OF EACH ONE 40 m3. - ONE MIXER FOR EACH TANK . - THREE DOSING PUMPS CAPACITY OF EACH 1000 L/h , HEAD 50 m WITH ALL THE PVC FITTINGS BETWEEN THE TANKS AND THE PUMPS , BETWEEN THE PUMPS AND THE EJECTION POINT AND ALSO INCLUDES FLOW METER (0 - 3000 L/h) AND PRESSURE METER. - LIFTING CRANE CAPACITIES 500 Kg SUPPORTED BETWEEN THE TANKS . - LADDER AND WALK WAY AROUND THE TANKS. - THE TANKS COVERED WITH ROOF</p> <p>3- DISINFECTION SYSTEM INVOLVES THE FOLLOWING :- THREE CHLORINATORS CAPACITY OF EACH ONE 10 Kg/h INCLUDES ALL THE FITTINGS AND THE ACCESSORIES LIKE PRESSURE , VACUUM REGULATORS , INJECTORS , WATER PRESSURE METER , CHLORINE GAS PRESSURE METER . FLEXIBLE PIPES WITH VALVES BETWEEN THE GAS CYLINDER , AND THE COLLECTOR PIPE , AND BETWEEN THE COLLECTOR PIPE AND THE CHLORINATORS .- GAS LEAK DETECTOR AND ALARM . CHANGE OVER SWITCH . TWO BOOSTER PUMPS WITH TWO STARTERS FIXED IN ONE ELECTRICAL BOARD ONE STAND BY AND THE OTHER UNDER OPERATION CAPACITY OF EACH ONE 6 m3/h , H = 80 m . THERE ARE TWO LOCATIONS FOR THE DISINFECTION :- AT THE MAIN INLET SEDIMENTED WATER PIPE (PRE - CHLORINATION) . AT THE MAIN OUTLET FILTERED WATER PIPE (POST - CHLORINATION) . THE SYSTEM INCLUDES BOTH INJECTION POINTS AND ALL THE PVC PIPES AND THE CONNECTIONS .</p> <p>4- AIR BLOWERS: THIS SYSTEM TO BE USED IN THE BACK WASHING OF THE FILTERS .TWO AIR BLOWERS ONE STAND BY THE OTHER UNDER OPERATION CAPACITY OF EACH ONE 1000 m 3 /h , H = 8 m . ELECTRICAL PANEL INCLUDES MAIN CIRCUIT BREAKER AND TWO STARTS WITH ALL PROTECTION UNITS , CABLES , AND THE FITTINGS BETWEEN THE AIR BLOWERS AND THE STARTERS . AIR BLOWER SYSTEM MUST BE COUNECTED TO ALL THE FILTERS SO MUST BE INCLUDES NON-RETURN VALVES , VALVE FOR EACH FILTER , ALL THE PIPES AND THE FITTINGS</p>		

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	SUPPLY AND INSTALL 4 FILTER LOADING PUMPS IN ONE ROOM WITH CAPACITY Q = 950M3/H H =50 M FOR EACH PUMP . 3 PUMPS UNDER OPERATION THE FOURTH STAND BY THE PUMPS TO BE INSTALLED IN LOCATION CLOSE TO THE SEDIMENTATION TANK .SUCTION OF THE PUMPS TO BE ONE COLLECTED PIPE DIAMETER () LINED ALONG THE CHANNEL INCLUDES :-BRANCH WITH GATE VALVE . FOR EACH PUMP . SCREEN FOR EACH BRANCH ALL THE FITTINGS . BUTTER FLY VALVE FOR EACH . NON-RETURN VALVE FOR EACH . MAIN COLLECTOR PIPE FOR ALL THE DISCHARGES OF THE PUMPS . MAIN FLOW METER AND PRESSURE METER . PRESSURE METER FOR EACH PUMP .		
03-01-00005	Horizontal , Spilt Case Pumps (Bare Pump Only). Q = 950 M3/H , H = 50 M , Nps Hr = 2.2 M . Provided That To Be According To The Existing Pumps In Dimensions , Material Of The Impeller , Wear Ring , Shaft , Shaft Sleeve , ANTI – CORROSIVE AGAINST CHLORINE SOLUTION (5PPM) . NOTS :- ANTI - CLOCK WISE ROTATION (6 PUMPS) - CLOCK WISE ROTATION (10 PUMPS), - SPARE PARTS FOR EACH PUMP IMPELLER , SHAFT SLEEVE BEARINGS , CASE RINGS , PACKING 100 m , MANOMETERS , SHUT – OFF , VALVE.	16	
03-01-00006	Horizontal Pumps : Horizontal , Spilt Case Pumps (Bare Pump Only) . Q = 1060 M3/H , H = 20 M , Nps Hr = 2.2 M. Provided That To Be According To The Existing Pumps In Dimensions , Material Of The Impeller , Wear Ring , Shaft , Shaft Sleeve , Anti - Corrosive Against Chlorine Solution (5Ppm) . Spare Parts For Each Pump Impeller , Shaft Sleeve Bearings , Case Rings , Packing 100 M , Manometers , Shut - Off , Valve . Notes :- Anti - Clock Wise Rotation (5 Pumps) . - Clock Wise Rotation (5 Pumps)	10	
03-01-00007	The Required Pumps Must Be On - Line Type With Following Specifications :- Q = 175 Mld (175000 M3/D) , H = 30 M , Quantity (2) . The Pump Installs One On Apipe With Diameter 1600 Mm , The Second One On Apipe With Diameter 1400 Mm . The Pumps Include The Followings :- 1- All The Electrical Panels And Starters , Transformers From 11 Kv/3.3Kv , Or To The 0.4 Kv . 2- Valves , Accessories , Adaptations , Fittings , Flow Meters , Pressure Meters For Each Line . 3- Over Head Travelling Crane With Capacity Suitable To The Total Weight Of The Pump .4- Spare Parts For Five Years Operation. 5- Cables , Cable Trays , Between The Electrical Panels And The Motors And All Others.		

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	Notice :- 1- The Supplier Responsible For Installing The System Mentioned Above . 2- The Offer Should Include All Equipment And Accessories Sufficient To Operate The Plant Properly . 3- Give Us Options (Alternatives) If There Are Better Or Modern Equipment Suitable For The Plant . 4- Re Check Calculations And Specifications According To High Standards And Give Us Your Comments . 5- The Offer Should Include Installation And Erection Of All Buildings . 6- Spare Parts For 2 Years Of Operation For All Equipment . 7- In Order To Have Additional Information , Visit , The Site Is Possible . 8- The Offer Include All The Cables Between Electrical Equipments . 9- Re Calculate The Load For Better Design .		
03-01-00008	On – Line Pump : 11Kv Sf6 Drawout Breakers For 7 Nissan Treatment Plant : Rated Voltage 11 Kv . Rated Impulse With Stand Voltage 75 Kv. Rated Frequency 50/60 Hz. Rated Normal Current 630 A. Rated Short Circuit Break Current 20 Ka . Rated Duration Of Short Circuit 3 Sec , Serial No. YS/N/86/003	4	
03-01-00009	Closing Coil	10	
03-01-00010	Tripping Coil	10	
03-01-00011	Charging Motor	10	
03-01-00012	Voltage Transformer, Type Bs 3941 , Ration 11000/110 Freq. 50 Hz, Va 100 Class 1.0, Ruf 1.5/30 Sec It 28/75 Kv	10	
03-01-00013	SF6 Circuit Breaker , Rating Voltage 7.2 Kv , Breaking Capacity 12 Ka , Making Capacity 30 Ka , Rated Current 630 A Dimensions : 720 X 710 X 1760 (Mm), Electrically Matching Is Necessary With Existing	7	
03-01-00014	SF6 Contactor , Rated Voltage 7.2 Kv , Rated Current 300 A , Effec. 6.6 Ka , Cr 16.5 Ka , Main Relay 240 V (A.C) , Auxiliary Relay 240 V (A.C) , Auxiliary Contacts 16 Nos. Dimensions : S60 X 400 X 560 (Mm)	10	
03-01-00015	Brush Gear Spindle	12	
03-01-00016	Brush Gear Bracket	9	
03-01-00017	Brush	180	
03-01-00018	Brush Holder	90	
03-01-00019	Slip Ring Fan	2	
03-01-00020	Slip Ring	6	
03-01-00021	Brush Housing Sleeve	2	
03-01-00022	Insulation Bush	12	
03-01-00023	Thrust Brg	6	
03-01-00024	Inner Spacer	2	
03-01-00025	Ball Brg	3	
03-01-00026	Slip Ring Clamp (Halve)	2	
03-01-00027	Booms : For Protection Water Take - Off From Rivers:.Manufactured Form Bright Orange Pvc / Nitrile Rubber Coated Woven Polyester , Durable Material Resistant To Oil And Sun Light .The Construction Is Strengthened By Sewn In Reinforcement Strips .Required In 30 Meters Length Or 15 Meters .	67 Pieces	
03-01-00028	SF6 1250 A 11 Kv Circuit Breakers. (2 X Incomers + 1 Buscoupler) For Rps3	3	
03-01-00029	SF6 1250 A 11 Kv Circuit Breakers. (2 X Incomers + 1 Buscoupler) For Rps4	3	

CODE	DESCRIPTION	QTY	UNIT
03-01-00030	SF6 630 A 11 Kv Circuit Breakers. For (6) Pumps & (2) Transformers For Rps3	8	
03-01-00031	SF6 630 A 11 Kv Circuit Breakers. For (6) Pumps & (2) Transformers For Rps4	10	
03-01-00032	Sepam Protection Relay & Monitoring System With The Suitable Software & Hardware Super Vision Of Installation For Rps3	LUMP	
03-01-00033	Sepam Protection Relay & Monitoring System With The Suitable Software & Hardware Super Vision Of Installation For Rps4	LUMP	
03-01-00034	630 A 11 KV	2	
03-01-00034	1250 A 11 KV	1	
03-01-00035	Sepam Monitoring System With The Suitable Software & Hardware For Rps1 Switch Board	LUMP	
03-01-00036	Indicating Lamps	30	
03-01-00037	Selector Switch	10	
03-01-00038	Suitable Equipment To Replace The Pb - 600 Equipment With Detailed Drawings & Programs In Kps1 , Rps1 , Kps3 , Rps4	4	
03-01-00039	Software Requirement & Necessary Equipment To Read The Flow & Pressure In Kps1 , Rps1 , Rps3 System	LUMP	
03-01-00040	Nickel Cadmium Cells: Alcad, Type : Mps0 , Cap : 49 Ah , 1.25 V 3Ph .	90	
03-01-00041	Nickel Cadmium Cells: Tungstone , Type : Txp200 , Cap : 200 Ah , 1.25 V 3Ph .	200	
03-01-00042	Nickel Cadmium Cells: Alcad , Type : Mp80 , Cap : 80 Ah , 1.25 V 3Ph .	90	
03-01-00043	11 Kv Switch Board, 630 A , 11Kv Incoming 1,2	2	
03-01-00044	11 Kv Switch Board, 630 A , 11Kv Emergency 1,2	2	
03-01-00045	11 Kv Switch Board, 630 A , 11Kv Out Going To Transformers 1, 2 , 3	3	
03-01-00046	11 Kv Switch Board, 630 A , 11Kv Out Going To Projects 1,2	2	
03-01-00047	Diesel Generators : - O/P Voltage 11 Kv, O/P Power 1500 Kva , Cos ? = 0.9, Suitable For Outdoor Installation. All The Necessary Electrical Switch Board Capacity Of Storage Tank To Cover Operation For 72 Hours. - Compressed Air Stating By Two Compressors One Diesel Operated & One Electrical Operated Engine Speed 1000 R.P.M.	2	
03-01-00048	Block Contactor Siemens Type : 3TB40 - 17 - OAMA	36	
03-01-00049	Block Contactor Siemens Type : 3TB42 - 17 - OAMA	12	
03-01-00050	Block Contactor Siemens Type : 3TB43 - 17 - OAMA	12	
03-01-00051	Block Contactor Siemens Type : 3TB44 - 17 - OAMA	8	
03-01-00052	Block Contactor Siemens Type : 3TB48 - 17 - OAMA	8	
03-01-00053	Block Contactor Siemens Type : 3TB50 - 17 - OAMA	12	
03-01-00054	Block Contactor Siemens Type : 3TB54 - 17 - OAMA	18	
03-01-00055	Block Contactor Siemens Type : 3TB56 - 17 - OAMA	18	
03-01-00056	Spare Parts for Clarifiers : Type : R65 - 1023 - 400 - 4FR		
03-01-00057	Spare Parts For Clarifiers : Driving Gear , Part No. = G-M 160- Hfz90	6	
03-01-00058	Spare Parts For Clarifiers : Coupling , Part No. = Xw 1-110	6	
03-01-00059	Spare Parts For Clarifiers : Driving Rollers , Part No. = P-0114/15	10	
03-01-00060	Spare Parts For Clarifiers : Guide Rollers , Part No. = P-0114/09	10	
03-01-00061	Spare Parts For Clarifiers : Limit Switch , Part No. = Bc 1W	6	

CODE	DESCRIPTION	QTY	UNIT
03-01-00062	Spare Parts For Clarifiers : Est Of Rubber Ledges , Part No. = P-0114/10 , Pos 41-44	12	
03-01-00063	Spare Parts For Clarifiers : Est Of Rubber Ledges , Part No. = P-0114/10 , Pos 45-47	12	
03-01-00064	Spare Parts For Clarifiers : Slip Ring Body , Part No. = Ksk 90-8	8	
03-01-00065	Spare Parts For Clarifiers : Disc For Mixing , Part No. = 2 La 7135/12	4	
03-01-00066	Spare Parts For Clarifiers : Set Of Friction Wheel , Part No. = 2 La 7169/16	4	
03-01-00067	Spare Parts For Clarifiers : Bearing , Part No. = Ucp 216 Asahisejko - Japan	24	
03-01-00068	Spare Parts For Clarifiers : Stars For Electric Couplings , Part No. = 0 LA 7169/6	12	
03-01-00069	Spare Parts For Clarifiers : Worm Gear Driving Motor , Part No. = 0 LA 7162/2,3	2	
03-01-00070	Spare Parts For Clarifiers : Sets Of Radial Gaskets , Part No. = 0 LA 7169/7	12	
03-01-00071	Spare Parts For Clarifiers : Bearings , Part No. = 0 LA 7169/13	12	
03-01-00072	Spare Parts For Clarifiers : Driving Rollers , Part No. = 2 LA 7162/2,3	6	
03-01-00073	Spare Parts For Clarifiers : Guide Roller , Part No. = 2 LA 7135/4,6,11	2	
03-01-00074	Spare Parts For Clarifiers : Bandage For The Rollers , Part No. = 2 LA 7135/6	6	
03-01-00075	Spare Parts For Clarifiers : Discs , Part No. = 2 LA 7135/12	24	
03-01-00076	Spare Parts For Clarifiers : Bearing Bushed , Part No. = 2 LA 7135/11	48	
03-01-00077	Spare Parts For Clarifiers : Servo Gear Motor , Part No. = 0 LA 7169/16	2	
03-01-00078	Spare Parts For Clarifiers : Set Of Radial Gaskets , Part No. = 0 LA 7169/16	4	
03-01-00079	Spare Parts For Clarifiers : Set Of Friction Wheels , Part No. = 0 LA 7169/16	2	
03-01-00080	Spare Parts For Clarifiers : Bearing Bush , Part No. = 1 LA 7100/8	2	
03-01-00081	Spare Parts For Clarifiers : Rubber Ledges , Part No. = 1 LA 7140/15-23	EFM 160	
03-01-00082	Spare Parts For Clarifiers : Slip Ring	2	
03-01-00083	Spare Parts For Clarifiers : Holders With Bronze Brushes , Part No. = 0 LA 7169/19	18	
03-01-00084	Spare Parts For Clarifiers : Limit Switch , Part No. = 0 LA 7169/21	2	
03-01-00085	Spare Parts For Chlorine System : Fisher & Porter Angle Shut - Off Valve For Chlorine Lines With Coupling Nut Adapter Nipple And Gasket Inlet Dimet 1 1/4" W , Out Dimet 1" .	1,000	
03-01-00086	Spare Parts For Chlorine System : Auxiliary Cylinder Valve Serie 125A1C33 Inlet Dim 1" , Out Dim 1" , Din 11 .	500	
03-01-00087	Spare Parts For Chlorine System : Ball Valve With Welding Ends Carbon Steel Body Ball 1.44045 Seat Ptfe With Fiberglass Serie 125 A 1091 .	200	
03-01-00088	Spare Parts For Chlorine System : Connector , Flexible , Cadmium Plated Connection 1" Coupling Nut Length 2.0 M Serie 628A 1008 .	1,000	

CODE	DESCRIPTION	QTY	UNIT
03-01-00089	Spare Parts For Chlorine System : Main Fold 1" Din 11	200 m to pipe length 2.0m	
03-01-00090	Spare Parts For Chlorine System : Plastic Reinforced Hoses Included Quick Coupling. Dim : 2" , 3" , 4" , 6" (25 M Each Size)	25 pec for size 2",3",4" 5 pec for size 6"	
03-01-00091	Spare Parts For Chlorine System : Plastic Hoses. Dim : 2" , 3" , 4" , 6" (25 M Each Size)	25 pec for size 2",3",4" 5 pec for size 6"	
03-01-00092	Spare Parts For Chlorinators. Type : 6 Drum Sequencer Panel , Ref. No. : Ce14567-8 . Operating Voltage : 230 V/1Ph/50 Hz . System Contents : Control Panel Containing All Necessary Equipment For Manual Or Automatic Sequential Selection Of Chlorine Drums By Operation Of Motorized Valve , Also Including On Indication Of Each Drum State And Pressure Lost Alarm Condition . Specification : The Control Panel Contains The Necessary Equipment To Sequentially Select Drum Change Over When Allow Pressure Closed Contact Condition Appears From The In Line Pressure Switch And Remains For More Than The Pre Set Number Of Seconds . The Panel Has Indication For The Following : 1- Change Over Selection (A- Auto , B- Manual , C- Select) . 2- Pressure 10 St . 3- Change Over Failure . 4- Power On . 5- Drum Condition (a- Full, b- Selected, c- Duty, d- Empty)	4	
03-01-00093	Spare Parts For Chlorinators. Type : Series 200B Control Panel , Ref. No. : Ce14569Cp To Ce14572Cp . Operating Voltage : 230 V/1Ph/50 Hz , Fused Are 5A . System Contents : Control And Monitor The Operation Of Chlorine Evaporator , It Also Includes Alarm And Indication Facilities . Specification : The Evaporator Control Panel Is Circuitary To Per From The Following Functions : 1- Inhibit Alarm On Starting Up . 2- Inhibit Alarm On Power Failure And Low Temperature . 3- Shut Off Gas Valve On : One - Low Alarm. Two - External Fault Condition. Three- Power Failure. 4- Allow Manual Control Of Gas Valve .	4	
03-01-00094	Chlorine Gas Cylinders Valves According To Bs. Specifications .	8000 valves	
03-01-00095	Chlorine Gas Cylinders Net Weight Capacity 65 Kg (Empty Cylinder) .	500 cylinders	
03-01-00096	Pressure Gage Suitable For Clear Water With 5 Ppm Residual Chlorine : Range 0-10 Bar S.Steel , Connection 1/2" Bsp (B.S.2779) , Width Across Flats 22 Mm .	250	
03-01-00097	Connection 1/2" Bsp (Bs 2779) At Both Side .	250	
03-01-00098	Merkel Stuffing Box Packing Size For 3/8"	1000 m	
03-01-00099	Merkel Stuffing Box Packing Size For 5/8"	1000 m	
03-01-00100	Merkel Stuffing Box Packing Size For 1/2"	1000 m	
03-01-00101	Merkel Stuffing Box Packing Size For 3/4"	1000 m	
03-01-00102	Merkel Stuffing Box Packing Size For 1"	500 m	
03-01-00103	Coupling Type Flendet Type N - EVPEX 180 A	10	
03-01-00104	Coupling Type Flendet Type N - EVPEX 225 A	10	
03-01-00105	Coupling Type Flendet Type N - EVPEX 200 A	10	
03-01-00106	Coupling Type Flendet Type N - EVPEX Suitable For :		

CODE	DESCRIPTION	QTY	UNIT
03-01-00107	Coupling Type Flendet Type N - EVPEX Suitable For : 75 KW Motor	30	
03-01-00108	Coupling Type Flendet Type N - EVPEX Suitable For : 45 KW Motor	10	
03-01-00109	Coupling Type Flendet Type N - EVPEX Suitable For : 90 KW Motor	4	
03-01-00110	Coupling Type Flendet Type N - EVPEX Suitable For : 200 KW Motor	10	
03-01-00111	Coupling Type Flendet Type N - EVPEX Suitable For : 250 KW Motor	10	
03-01-00112	Coupling Type Flendet Type N - EVPEX Suitable For : 480 KW Motor	10	
03-01-00113	Reinforced Rubber Pipe , Double Flange. Nd = 445Mm , Np = 30 Bar , Length = 1 M , No. Of Flange Holes = 20	50 PIECE	
03-01-00114	Reinforced Rubber Pipe , Double Flange , No. Of Flange Holes = 20. Nd = 445Mm , Np = 30 Bar , Length = 2 M	50 PIECE	
03-01-00115	Shaft	4	
03-01-00116	Impeller	4	
03-01-00117	Impeller Ring	5 ST	
03-01-00118	Casing Gasket	2	
03-01-00119	Set Of Bearing (Line \$ Thrust)	5 ST	
03-01-00120	Shaft Sleeve O - No. 79	6 ST	
03-01-00121	Complete Rotating Assembly Includes. (Shaft + Impeller + Wear Rings + Bearings + Shaft Sleeve)	4	
03-01-00122	Shaft	3	
03-01-00123	Impeller	3	
03-01-00124	Impeller Ring	5 ST	
03-01-00125	Casing Gasket	6	
03-01-00126	Set Of Bearing (Line \$ Thrust)	10 ST	
03-01-00127	Shaft Sleeve O - No. 79	4 ST	
03-01-00128	Complete Rotating Assembly Includes. (Shaft + Impeller + Wear Rings + Bearings + Shaft Sleeve)	3	
03-01-00129	Shaft	3	
03-01-00130	Shaft Sleeves	6 ST	
03-01-00131	Impeller	2	
03-01-00132	Impeller Ring	6 ST	
03-01-00133	Casing Gasket	3	
03-01-00134	Set Of Bearing (Line \$ Thrust)	10	
03-01-00135	Complete Rotating Assembly Includes: (Shaft + Impeller + Wear Rings + Bearings + Shaft Sleeve)	2	
03-01-00136	Type 900/800/1024 Desc / 2B Station C5/62722. Complete Rotating Assembly	3	
03-01-00137	Rotating Element	2	
03-01-00138	Gland Packing 3St	5	
03-01-00139	Casing Spacer Ring 2St	3	
03-01-00140	Roller Bearing	5	
03-01-00141	Induction Motor D315 L 57D Frame.	1	
03-01-00142	Rotating Element	1	
03-01-00143	Gland Packing 3St	4	
03-01-00144	Casing Spacer Ring 2St	1	
03-01-00145	Roller Bearing	4	
03-01-00146	Induction Motor D315 Sd Frame.	2	
03-01-00147	Rotating Element	2	
03-01-00148	Gland Packing 3St	10	

CODE	DESCRIPTION	QTY	UNIT
03-01-00149	Casing Spacer Ring 2St	3	
03-01-00150	Roller Bearing 23028 C/W33	5	
03-01-00151	Bearing Housing Cap	1	
03-01-00152	Induction Motor Serial No. : 32428A 1 - 5 M	1	
03-01-00153	Rotating Element	2	
03-01-00154	Gland Packing St	12	
03-01-00155	Casing Spacer Ring St	10	
03-01-00156	Roller Bearing 24026	40	
03-01-00157	Impeller	2	
03-01-00158	Shaft Sleeves	4	
03-01-00159	Induction Motor Serial No. : 32426A 1-8M	1	
03-01-00160	Rotating Element	2	
03-01-00161	Gland Packing St	5	
03-01-00162	Casing Spacer Ring St	2	
03-01-00163	Roller Bearing	4	
03-01-00164	Induction Motor Serial No. : 32427A 3M	1	
03-01-00165	Rotating Element	2	
03-01-00166	Gland Packing St	5	
03-01-00167	Casing Spacer Ring St	2	
03-01-00168	Roller Bearing	5	
03-01-00169	Induction Motor Serial No. : 32429A 1M	1	
03-01-00170	Rotating Element	2	
03-01-00171	Gland Packing 3St	4	
03-01-00172	Casing Spacer Ring 2St	1	
03-01-00173	Roller Bearing	2	
03-01-00174	Pump Rotating Assembly	4	
03-01-00175	Impeller : Material = Gun Metal B.S 1400 , Drg. No. = P-2002819 , Remark = Patt No A/21758	4	
03-01-00176	Impeller Exerting : Material = Aluminum Bronze B.S 1400 , Drg. No. = Px.2101729 , Remark = Patt No 81761	4	
03-01-00177	Shaft Sleeve : S. No. = Ma , Material = Pltos Bronre , Drg. No. = Pm2057949	4	
03-01-00178	Head Land V Ring (VI) : S. No. = A , Material = Rubber	4	
03-01-00179	Head Land V Ring : S. No. = A	4	
03-01-00180	Casing Eye Ring : Material = Gun Metal	4	
03-01-00181	Isphirical Roller Bearing : Remark = Skf 180 I-D X 280 Odx 100 Wide 24036 C/W33	4	
03-01-00182	Spilt Gland	4	
03-01-00183	O Ring For Item63	4	
03-01-00184	Bottom Bearing	4	
03-01-00185	Nick Bush	4	
03-01-00186	Motor Half Coupling : S. No. = Empm205 , Material = Es 1452 Er140 Order No. = Here	4	
03-01-00187	Induction Motor Serial No. : 32423A -1-5M	1	
03-01-00188	D.E Brg Housing	8	
03-01-00189	Insulating Gasget	16	
03-01-00190	Insulating Bush	4	
03-01-00191	Bearing Cap	4	
03-01-00192	D.E Grease Thrower	8	
03-01-00193	Ball Bearing	8	
03-01-00194	Nde Grease Thrower	4	
03-01-00195	Nde Bearing Housing	4	
03-01-00196	Angular Contact Ball Bearing	16	
03-01-00197	Rotating Assembly	4	

CODE	DESCRIPTION	QTY	UNIT
03-01-00198	Impeller	4	
03-01-00199	Intermediate Shaft	4	
03-01-00200	Top Shaft	4	
03-01-00201	Pump Bearing Sleeve	4	
03-01-00202	Intermediate Bearing Sleeve	4	
03-01-00203	140 Bore Coupling (Sleeve Type)	16	
03-01-00204	Thrust Bearing Collar	8	
03-01-00205	Bowl Casing	8	
03-01-00206	Tader Roller Thrust Bearing 170 Bore	2	
03-01-00207	Pump Bearing Cutless	8	
03-01-00208	Spider & Intermediate Bearing Cutless	16	
03-01-00209	Bearing Housing (Pump)	4	
03-01-00210	Lantern Ring	8	
03-01-00211	Dial Indication Thermometer	8	
03-01-00212	Tunnel Tube Reducing Assly	4	
03-01-00213	Tunnel Tube	4	
03-01-00214	Pump Half Coupling	4	
03-01-00215	Motor Half Coupling	2	
03-01-00216	Induction Motor Serial No. : 32421A - 1 - 6M	1	
03-01-00217	Cummins Ta 3067G Water Pump .	2	
03-01-00218	Earthing Relay: D-2600 , 90A (A.C) , 600 V , 60 Hz , 3 Ph , Coil Voltage 110 V 50 Hz , Voltage (Volts) 220 440 600 , Power (Hp) 32 64 78 , Complies With As 1029 Ratings For Iec , Sk 415021 - G .	4	
03-01-00219	Comming Kta 3067G Fuel Pump Type = Mma 524 Tf Bs1F , Power = 250W , Speed = 1425 Rev/Min , Voltage = 380/220 Volts , Star Connection , Current = 0.9/106 Amp, Insclf Amb + Max , B5500011 .	2	
03-01-00220	Three Phase Exciter Comprising Stationary D.C Field And Rotating Armature , Which Supplies The Main Rotor Field System By Rotating Rectifiers , Pmg Exciter & Main Exciter & Avr Of Cummines Kta 3067G Elec. Motor Type = Brf 500/33 , Gen. No. = 21475 A/Z , Speed = 1500 Rer/Min , O/P Voltage = 400 Volts 50 Hz , 3Ph Power = 740 Kw/925 Kva , Bs = 5000 , Power Factor = 0.8 , Rating = Mcr , Current = 1337 A .	2	
03-01-00221	Contactor : Class 8501 , Type = Ph22E , Ith2 = 20 A Vi 660 V 3Ph , Vde 0660 Ac 11 , Iec 337 , Bs 4794 .	50	
03-01-00222	Contactor : Asea , 355 A , 380 V	15	
03-01-00223	Contactor : Class 8502 , Type = Pd2.10E , Ith2 = 20 A (Ac1), Vi 660 V 3Ph , Vde 0660 Ac 11 , Iec 158-1, Bs 5424 , Ac3 : 220V 2.2 Kw , 380 V-660V 4 Kw	30	
03-01-00224	Contactor : Class 9999 , Type = P40 , 12 A , Vi 660 V 3Ph , Vde 0660 Ac 11 , Iec 337 , Bs 4794 .	30	
03-01-00225	Contactor : Asea , Eg 80-1 , Iec 158-1 , Ac3 380V , I Th 110A	15	
03-01-00226	Contactor : Asea , Eg 630-2 , Iec 158-1 , Ac3 380V , I Th 630A	15	
03-01-00227	Electronic Timer, Type = Do/Sm - 05 , 110 V (Ac) , Range = 0 – 60 Seccends , 11 Pins .	40	
03-01-00228	Electronic Timer, Type = Do/Sm - 02 , 110 V (Ac) , Range = 0 – 3 Minutes , 8 Pins .	40	
03-01-00229	Electronic Timer, Type = Do/Sm - 02 , 110 V (Ac) , Range = 0 – 1 Minutes , 8 Pins .	30	
03-01-00230	Electronic Timer, Type = M For/Sm - 02 , 110 V (Ac) , Range = 0 – 3 Minutes , 11 Pins .	30	

CODE	DESCRIPTION	QTY	UNIT
03-01-00231	Electronic Timer, Type = M For/- 02 , 110 V (Ac) , Range = 0 – 3 Minutes , 8 Pins .	30	
03-01-00232	Electronic Timer, Type = C5/64 , 110 V (Ac) , Range = 0 – 60 Seccends , 8 Pins .	30	
03-01-00233	Unit : Compressor Air Cooled , Type : 06-Ed265 , Cap. : 17.7 Tan , 1450 Rpm , Cylinder : 6 , In Put : 27.0 Kw , Refrigerant : R.22 .	3	
03-01-00234	Unit : Compressor Air Cooled , Type : 06-Qd1515 , Cap. : 10.2 Tan , 1450 Rpm , Cylinder : 6 , In Put : 15.2 Kw , Refrigerant : R.22 .	10	
03-01-00235	Unit : Compressor Air Cooled , Type : 06-Da824 , Cap. : 5.84 Tan , 1450 Rpm , Cylinder : 6 , In Put : 10.8 Kw , Refrigerant : R.22 .	3	
03-01-00236	Hand Wheel 2Pp Gear Operator - Limitorgus, 1400 Mm , 390 M , W.P 65 , Holes-M 32-33	3	
03-01-00237	Limitorgus Actuator Hand Wheel With Extension Length (4.2 M), 1200 Mm , 350 M , W.P 65 , Holes-M 28-30	4	
03-01-00238	Hand Weel Gear Operator - Limitorgus, 1000 Mm , 300 M , W.P 65 , Holes-M 24-27	4	
03-01-00239	Hand Wheel Gear Operator - Limitorgus, 900 Mm , 250 M , W.P 65 , Holes-M 20-27	6	
03-01-00240	Hand Wheel Actuator With Extension Length (4.5 M), 900 Mm , 250 M , W.P 65 , Holes-M 20-27	6	
03-01-00241	Limitorgus Gear Operator Actuator Extension Length (4.5 M), 800 Mm , 230 M , W.P 65 , Holes-M 20-27	6	
03-01-00242	Limitorgus Gear Operator, 800 Mm , 230 M , W.P 65 , Holes-M 20-27	6	
03-01-00243	Limitorgus Actuator, 600 Mm , 195 M , W.P 65 , Holes-M 14-24	6	
03-01-00244	Limitorgus Actuator With Extension Length (4.5 M), 500 Mm , 174 M , W.P 60 , Holes-M 14-20	6	
03-01-00245	Hand Wheel Gear Operator With Extension Length (4.5 M), 500 Mm , 174 M , W.P 60 , Holes-M 14-20	6	
03-01-00246	Limitorgus Actuator With Extension Length (3.7 M), 400 Mm , 174 M , W.P 60 , Holes-M 14-20	6	
03-01-00247	Valves, - Type : Slide Valve 400 Mm , Function : Clarifiers Water Drain . Operated : Hand Wheel . Flange Rating : Np10 (515) Mm. Body Material : Cast Iron . Valve Plate : Stainless Steel . Spindle Material : Chrome Steel . Bore Nw : 400 Mm . No. Of Bolts : 16 Bolts Size M24 . - Length : 1615.5 Mm . - Widthe : 565 Mm . - Thickness : 90 Mm . - Max O.P. Press : 4 Bar	6	
03-01-00248	Valves, - Type : Fig. 3097 100 Mm. Operation : Ball Float . Function : Water Inlet To Satarater . Man Ufature Supplier : Blake Boraugh .	4	
03-01-00249	Valves, - Type : Fig. 3097 80 Mm. Operation : Ball Float . Function : Water Inlet To Service Tanks . Manufacture Supplier : Blake Boraugh .	4	
03-01-00250	Valves, - Type : Fig. 3097 50 Mm. Operation : Ball Float . Function : Water Inlet To Balance Tanks . Manufacture Suppleer : Blake Boraugh .	6	
03-01-00251	Valves, - Type : Mf 80 Mm. Operation : Hand Wheel With Loking Device . Function : Pump Suction Pre – Chlorination . Manufacture Supplier : Blake Boraugh .	9	

CODE	DESCRIPTION	QTY	UNIT
03-01-00252	Valves, - Type : Mf 50 Mm. Operation : Hand Wheel With Loking Device . Function : Pump Suction Post – Chlorination . Manufacture Supplier : Blake Boraugh .	9	
03-01-00253	Valves, - Type : 71 P , 1143 A , $\frac{3}{4}$ " Npt. Operation : With Electric Shut Off , Supply :110V/1Ph/50Hz , Cap. : 240 Kg/H , Range : 10 To 2.5 Bar .. Function : Pressure Reducing Valve $\frac{3}{4}$ " , To Reduce Chlorine Cas Pressure .	8	
03-01-00254	Timer, Type : Mfor-02 , Range : 0-1 Min , 110 V Ac	15	
03-01-00255	Timer, Type : Do-02 , Range : 0-3 Min , 110 V Ac	25	
03-01-00256	Timer, Type : Do--05 , Range : 0-1 Min , 110 V Ac	20	
03-01-00257	Timer, Type : Mfdr-02 , Range : 0-3 Min , 110 V Ac	15	
03-01-00258	Timer, Type : Lc4A , Range : 0-1 Min , 110 V Ac	15	
03-01-00259	Contactor Mc80 , Type : Iec 158-1 , 660V 1Ph 130A	15	
03-01-00260	Contactor M125 , Type : Iec 158-1 , 600V 1Ph 260A	25	
03-01-00261	Contactor Mc45 , Type : Iec 158-1 , 600V 1Ph 80A	20	
03-01-00262	Contactor Eg40-1 , Type : Iec 158-1 , 600V 1Ph 45A 60 Hz	15	
03-01-00263	Contactor Eg315-1 , Type : Iec 315-1 , 600V 1Ph 355A 60 Hz	15	
03-01-00264	Surface Turbidity Meter For Clear Water And Raw Water (Complete) , Max Range 10000 N.T.U , Lower Range 0.1 N.T.	4	
03-01-00265	Surface Turbidity Meter For Clear Water And Raw Water (Complete) , Model 1720A Max Range 30 N.T.U , Lower Range 0.1 N.T.U		
03-01-00266	Shaft	13	
03-01-00267	Impeller	7	
03-01-00268	Shaft Sleeve	3	
03-01-00269	Rotating Ring	9	
03-01-00270	Mechanical Seal Sleeve	3	
03-01-00271	Stationary Ring	9	
03-01-00272	Set Of Coupling Pads	11	
03-01-00273	Set Of Bearing	5SET	
03-01-00274	Hoisting Rope 08, Length 67 M	5	
03-01-00275	Rope Guide Pitch 9,5	10	
03-01-00276	Set Of Cross Bar, (Stainless Steel). 2 Per Set	10	
03-01-00277	Limit Switch Spindle, (Stainless Steel)	10	
03-01-00278	R.S Hoisting Motor 3 Kw	2	
03-01-00279	L.S Hoisting Motor 0.55 Kw	2	
03-01-00280	Hoisting Rope Q 13, Length 38,20 Mm	5	
03-01-00281	Rope Guide Pitch (14)	10	
03-01-00282	Set Of Cross Bars, (Stainless Steel), 2 Per Set	5	
03-01-00283	Limit Switch Spindle, (Stainless Steel)	5	
03-01-00284	H.S Hoisting Motor 5.5 Kw	2	
03-01-00285	Remot Control Box With Electric Cable, (Complete Set)	5	
03-01-00286	L.S Hoisting Motor 0.75 Kw	2	
03-01-00287	Impeller Shaft	5	
03-01-00288	Intermediate Shaft	5	
03-01-00289	Top Shaft	5	
03-01-00290	Impeller	20	
03-01-00291	Casing Wear Ring	20	
03-01-00292	Inter Stage Sleeve Of Impeller	20	
03-01-00293	Intermediate Socket	20	
03-01-00294	Interstage Sleeve	15	
03-01-00295	Impeller Bearing	20	
03-01-00296	Intermediate Bearing Sleeve	20	
03-01-00297	Bearing Bush	20	

CODE	DESCRIPTION	QTY	UNIT
03-01-00298	Non Return Valve	8	
03-01-00299	Set Of Coupling Pads	120	
03-01-00300	Complete Raw Water Pumps, Type : Vertical, Pumps : (Idp) , Q = 1M3/Sec - 3600 M3/H, H = 63 M , Motor Power 840 Kw	8	
03-01-00301	Complete Spare Part For The Pumps Mentioned Above .	FOR 8 PUMPS	
03-01-00302	Pressure Control Valve (Liezier) 700 Mm	4	
03-01-00303	Butter Fly Valve 700 Mm	4	
03-01-00304	Booster Pumps (Complete With Motor) (Vertical Pump). Q = 20 M3/H , H = 60 M , R.P.M : 2950 , 5.5 Kw , 400 V	4	
03-01-00305	Complete Cooling Pump (Idp) , Q = 60 M3/H , H = 20 M , Motor : 5.5 Kw , 400 V	6	
03-01-00306	Intermediate Shaft	18	
03-01-00307	Top Shaft	7	
03-01-00308	Shaft Sleeve	26	
03-01-00309	Bearing Bush	60	
03-01-00310	Impeller Bearing Sleeve	20	
03-01-00311	Adjusting Nut	2	
03-01-00312	Washers (2 Per Set)	14	
03-01-00313	Washer For Bearing Nut	14	
03-01-00314	Complete Muff Coupling With Screws (2 Per Set)	50	
03-01-00315	Impeller (1St - 2Nd)	32	
03-01-00316	1St Stage Pump Bowel	6	
03-01-00317	2Nd Stage Pump Bowl	6	
03-01-00318	Set Of Radial And Thrust Bearings	20SET	
03-01-00319	Impeller Shaft	6	
03-01-00320	Thrust Bearing Carrier	5	
03-01-00321	Bearing Cover	2	
03-01-00322	Impeller Bearing Sleeve	24	
03-01-00323	Intermediate Shaft	6	
03-01-00324	Top Shaft	3	
03-01-00325	Impeller Shaft	4	
03-01-00326	1st Stage Impeller	5	
03-01-00327	2nd Stage Impeller	5	
03-01-00328	1st Stage Pump Bowel	4	
03-01-00329	2nd Stage Pump Bowel	4	
03-01-00330	Adjusting Nut	2	
03-01-00331	Intermediate Bearing Sleeve	9	
03-01-00332	Impeller Bearing Sleeve	9	
03-01-00333	Set Of Radial & Thrust Bearings. (2 Per Set)	16 SET	
03-01-00334	Thrust Bearing Carrier	1	
03-01-00335	Bearing Cover	1	
03-01-00336	Bearing Bush	34	
03-01-00337	Complete Muff Coupling With Screws (2Pfr Set)	20	
03-01-00338	Printer (Epson Dfx - 8000)	4	
03-01-00339	Printer (Epson Lq-2170)	4	
03-01-00340	Uint Power Supply (U.P.S A.P.C) Model 1250)	4	
03-01-00341	Ribbons For Printer (Dfx-8000)	500	
03-01-00342	Ribbons For Printer (Lq-2170)	500	
03-01-00343	Ribbons For Printer (Oki 591)	200	
03-01-00344	Report Paper One Copy (11"X14,5") (60 Gm/M2)	500 box	
03-01-00345	Bill Paper (11"X12") (80 Gm/M2)	1000 box	
03-01-00346	Machine Of Cutting Bills Paper (High Detacher 710)	2	
03-01-00347	Bearings, Type 080675-ZZ00A	30	

CODE	DESCRIPTION	QTY	UNIT
03-01-00348	Bearings, Type 7307	10	
03-01-00349	Bearings, Type 6208	10	
03-01-00350	Bearings, Type 6404	10	
03-01-00351	Bearings, Type NV 311	10	
03-01-00352	Bearings, Type 6311	10	
03-01-00353	Bearings, Type NV322	10	
03-01-00354	Bearings, Type 6214	10	
03-01-00355	Bearings, Type 6312	40	
03-01-00356	Bearings, Type 6416	12	
03-01-00357	Bearings, Type 6416	6	
03-01-00358	Bearings, Type 22313	12	
03-01-00359	Bearings, Type 22318	16	
03-01-00360	Bearings, Type 6322	12	
03-01-00361	Bearings, Type 6320	36	
03-01-00362	Bearings, Type 6317	12	
03-01-00363	Bearings, Type 7411	15	
03-01-00364	Bearings, Type 6320	16	
03-01-00365	Bearings, Type 6230	16	
03-01-00366	Bearings, Type 29434	8	
03-01-00367	Bearings, Type 6238	40	
03-01-00368	Bearings, Type 29430	16	
03-01-00369	Bearings, Type 6244	16	
03-01-00370	Bearings, Type 24036 C/W33	4	
03-01-00371	Bearings, Type 6208	48	
03-01-00372	Bearings, Type 6215	56	
03-01-00373	Bearings, Type 31305	30	
03-01-00374	Bearings, Type 2315NU	8	
03-01-00375	Bearings, Type 3013	8	
03-01-00376	Bearings, Type 752NTN	10	
03-01-00377	Bearings, Type 9321NTN	10	
03-01-00378	Bearings, Type 31320	8	
03-01-00379	Bearings, Type 30216	12	
03-01-00380	Bearings, Type N316	10	
03-01-00381	Bearings, Type 319NU	10	
03-01-00382	Bearings, Type 6209	20	
03-01-00383	Bearings, Type 6218	25	
03-01-00384	Bearings, Type 6219	20	
03-01-00385	Bearings, Type 6311	25	
03-01-00386	Bearings, Type 6313	25	
03-01-00387	Bearings, Type 6314	35	
03-01-00388	Bearings, Type 6316	36	
03-01-00389	Bearings, Type 6214	24	
03-01-00390	Bearings, Type 7318B	12	
03-01-00391	Bearings, Type 6319	10	
03-01-00392	Bearings, Type 1209	10	
03-01-00393	Bearings, Type 23218C	10	
03-01-00394	Bearings, Type 22216C	14	
03-01-00395	Bearings, Type 3306	8	
03-01-00396	Bearings, Type 6205	10	
03-01-00397	Bearings, Type 6304	10	
03-01-00398	Bearings, Type 320	10	
03-01-00399	Bearings, Type 7214	10	
03-01-00400	Bearings, Type 6212	10	
03-01-00401	Bearings, Type 3205	10	

CODE	DESCRIPTION	QTY	UNIT
03-01-00402	Bearings, Type 6208	8	
03-01-00403	Bearings, Type 36440	15	
03-01-00404	Bearings, Type 318094	20	
03-01-00405	Bearings, Type 7319	10	
03-01-00406	Bearings, Type 7318	47	
03-01-00407	Bearings, Type 6317	20	
03-01-00408	Bearings, Type 6307	34	
03-01-00409	Bearings, Type 1216	10	
03-01-00410	Bearings, Type 1213	26	
03-01-00411	Bearings, Type 7326	10	
03-01-00412	Bearings, Type 6328	10	
03-01-00413	Bearings, Type 7422	6	
03-01-00414	Bearings, Type 6322	10	
03-01-00415	Bearings, Type 6324	10	
03-01-00416	Bearings, Type 1029	4	
03-01-00417	Bearings, Type 23J/4	4	
03-01-00418	Bearings, Type 26440	10	
03-01-00419	Bearings, Type 6202 ZZ	4	
03-01-00420	Bearings, Type 6206	66	
03-01-00421	Bearings, Type 6306	46	
03-01-00422	Bearings, Type 6309	97	
03-01-00423	Bearings, Type 6310	88	
03-01-00424	Bearings, Type 6312	104	
03-01-00425	Bearings, Type 6213	55	
03-01-00426	Bearings, Type 6211	40	
03-01-00427	Bearings, Type 6216	10	
03-01-00428	Bearings, Type 6305	47	
03-01-00429	Bearings, Type 6308	70	
03-01-00430	Bearings, Type 6207	35	
03-01-00431	Bearings, Type 6318	65	
03-01-00432	Bearings, Type 513	25	
03-01-00433	Bearings, Type N306	10	
03-01-00434	Bearings, Type N305	10	
03-01-00435	Bearings, Type 24026	30	
03-01-00436	Bearings, Type 22219	20	
03-01-00437	Bearings, Type 23028	10	
03-01-00438	Bearings, Type 6217	20	
03-01-00439	Bearings, Type UCP216	25	
03-01-00440	Bearings, Type 6203	10	
03-01-00441	Bearings, Type 205	10	
03-01-00442	Bearings, Type 6416	20	
03-01-00443	Bearings, Type 30312	20	
03-01-00444	Bearings, Type 7222B	20	
03-01-00445	Bearings, Type 6322	10	
03-01-00446	Bearings, Type 7322	52	
03-01-00447	Bearings, Type 6315	26	
03-01-00448	Rear Bearing (19Dh11-1109)	2	
03-01-00449	Bearing Assembly (19D31-244)	2	
03-01-00450	Labyrinth (19Da31-334)	2	
03-01-00451	Gear Package (19Da31-181)	2	
03-01-00452	Oil Heater Thermostat (Hh16Na-019)	2	
03-01-00453	Oil Heater (Ht32Zz -121)	2	
03-01-00454	Thrust Bearing & Shaft (19Dh33 - 161)	2	
03-01-00455	Pinion Bearing (19D31 - 464)	2	

CODE	DESCRIPTION	QTY	UNIT
03-01-00456	Labyrinth (19Dh31 - 102)	2	
03-01-00457	Mechanical Seal For Guide Vane (19C35 - 014)	2	
03-01-00458	Pump Of Oil Pump (19D36 - 841)	2	
03-01-00459	Filter Oil (Kh - 0992 - 002)	6	
03-01-00460	Filter Freon (Kh - 19Yz - 140)	8	
03-01-00461	Motor Actuator (Hf - 26Bb - 061)	2	
03-01-00462	Carrier Oil No: Pp49-5 Or Shell Oil 68 Tellus In Small Containers	400 L	
03-01-00463	Impeller For Hermetic Centrifugal Compressor (Model: 19Dh3175Cm Carrier Serial No: 31575)	2	
03-01-00464	3Ph Contactor Continuos Current (I+H2) = 125 A , Coil Voltage = 220 V , Aut Contacts = 2 No , 2 Nc .	18	
03-01-00465	Over Load Relay With Manual Reset External And Internal Reset Range = (60-100A) .	18	
03-01-00466	Molded Case Circuit Breakers With Auxiliary Contacts And Under Voltage Trip For :		
03-01-00467	100 A	16	
03-01-00468	400 A	10	
03-01-00469	Phase Failure Relay For Low Voltage	10	
03-01-00470	Automatic Correction Power Factor System Up To 0.94 For 50 Kw Load .	10	
03-01-00471	Manual Change Over Switches 400 A .	5	
03-01-00472	Timer Aux Contact : 6 No , 2 Nc .	6	
03-01-00473	Double Timer In Hour .	10	
03-01-00474	Selector Switches (1-0-2)	14	
03-01-00475	Start Push Button With Light .	20	
03-01-00476	Stop Push Button With Light .	20	
03-01-00477	Phase Squeezes Relay .	10	
03-01-00478	Over Head Travelling Electrical Crane For 4 Ton , Capacity : 5.5 Ton. Diminution For Station : 14.85 X 6.4 M	1	
03-01-00479	Over Head Travelling Electrical Crane For 4 Ton , Capacity : 1.5 Ton. Diminution For Station : 5.65 X 3.25 M	1	
03-01-00480	Over Head Travelling Electrical Crane For 4 Ton , Capacity : 5.0 Ton. Dimintion For Station : 7.0 X 5.8 M	1	
03-01-00481	Over Head Travelling Electrical Crane For 4 Ton , Capacity : 0.5 Ton. Dimintion For Station : 10.8 X 3.85 M	1	
03-01-00482	Over Head Travelling Electrical Crane For 4 Ton , Capacity : 5.0 Ton. Dimention For Station : 65.8 X 3.85 M	1	
03-01-00483	Over Head Travelling Electrical Crane For 4 Ton , Capacity : 5.0 Ton. Dimention For Station : 26 X 8 M	1	
03-01-00484	Over Head Travelling Electrical Crane For 4 Ton , Capacity : 5.0 Ton. Dimention For Station : 20.65 X 6.33 M	1	
03-01-00485	Over Head Travelling Electrical Crane For 4 Ton , Capacity : 5.0 Ton. Dimention For Station : 12.7 X 6.5 M	1	

CODE	DESCRIPTION	QTY	UNIT
03-01-00486	Control Of Water Losses In The Water System Of Baghdad, 1. Documentation – Collection Of Detailed Maps Of Trunks And Distributor Network Containing Diameters, Lengths, Valves, Pumping Stations And Other Installations In The Network., 2. Calculations Structure Plan-Based On The Documentation Of The Network. A Digitized Mode Of The Network Should Be Implemented On The Computer. This Calculation Structure Plan Contains Hydraulic Network Nodes And Pipe Connecting These Nodes As A Basis For Further Processing., 3. Hydraulic Simulation – Based On Hydraulic Model And The Allocated Consumption And Production Figures., 4. Optimization Of Hydraulic Operation Based On The Improved Hydraulic Model., 5. Leak Detection., 6. Training Of Bwa-Staff		
03-01-00487	A. Workstation: Quality Hardware With Minimum Requirement Of:, - Pentium, Latest Version, - 4 Gb Ram, - 100 Gb Internal Memory, - Dvd Cd-Rom, - Cd-Writer, - 21/0.26 Svga Monitor, - Modem With 56 Kbps Speed, - Ethernet Network Card, - Window Network 4.0 Server Operation System, - X-Architecture Features Such As Light Path Diagnostics, Predictive Failures Analysis, Advised System Management Processor.	2	
03-01-00488	B. Stand Alone Server: Quality Hardware With Minimum Requirement Of:, - Pentium 111-500 Processor, - 256 Mb RAM, - 20 Gb Internal Storage (Hard Disc), - Dvd CD-Rom, - Model Speed Of 56 KBps, - 17/0.28 Svga Monitor, - Window Network 4.0 Speed Server Operation System With Antivirus Package.	12	
03-01-00489	C. Laser Printer: Rate Speed : 16 Ppm. Installed Ram : 8 Mb . .Support Post Script And Ethernet. True Resolution : 1200 X 1200 Dpi	8	
03-01-00490	D. Plotter, Ao Plotter, Cooler Inkjet, Hpgl Compatible	2	
03-01-00491	E. Scanning Device. A1 Scanner With Required Software'S 400 Dp	10	
03-01-00492	Plotter Paper, Ao Rolls (10M Per Roll)	100	
03-01-00493	Diskettes (Box Of 10)	100	
03-01-00494	CD-RW Compact Disk Recordable	1,000	
03-01-00495	Plotter Ink Cartridges	1,000	
03-01-00496	Cartridge For Laser Printer	2,000	
03-01-00497	A4 Paper For Printer (500 Sheets Pack)	1,000	
03-01-00498	Network Cables	20	
03-01-00499	A. Software Product To Manage The Network Data Base To Be Customized To Meet Bwa'S Needs.	3	
03-01-00500	B. Data Server For The Work Station	2	
03-01-00501	C. Relation Data Base Management System (Rdbms) Including 1 Server License And 4 Users License		
03-01-00502	D. Software Program To Computer Pressure And Flow Valves	1	
03-01-00503	E. Scanning		
03-01-00504	Faster Data Manipulation And Management Software Compatible With The Scanning Device Proposed.	1	
03-01-00505	A. Supply Of Instruments		
03-01-00506	Pipe Locator		
03-01-00507	Digital Pipe Locator For Locating All Cables And Buried Pipes With Multiple Frequency Dsp	5	
03-01-00508	Format For All Application, Large Lcd Display ,Capable Of Defining The Location And Depth Of Pipeline And Cables.	10	
03-01-00509	B. Pressure Meter With Transmitter	100	
03-01-00510	C. Level Meter With Transmitter	20	

CODE	DESCRIPTION	QTY	UNIT
03-01-00511	D. Ultra Sonic Flow Meter With Transmitter	100	
03-01-00512	E. Gas Detector (Co, H2S, Ch4, O2)	10	
03-01-00513	F. Radio/Modems With Data Collector	40	
03-01-00514	G. Over Head Projector Connected To Monitor	4	
03-01-00515	H. Leak Location System. Each System Includes: - Correlation Processor. - Dual Radio Transmitter. - Accelerometers Sensor (X2). - Headphones. - Battery Charger. - Transport Case. - PC Software And Printer. - Correlator And Reference Unit:	10	
03-01-00516	I. Data Logging System - Held Data Collection. For Programming And Data Collection For The Flow And Pressure Meters The System Includes Hard Disk Computer And Software.	10	
03-01-00517	J. Ground Penetrating Radar For Locating Underground Services Including:	3	
03-01-00518	A. Acquisition Unit Consists Of The Following Items:	3	
03-01-00519	Control Cable (15 Mts.)	3	
03-01-00520	Distribution Box	3	
03-01-00521	Remote Control	3	
03-01-00522	A-2 Mf Array		
03-01-00523	Antenna Tr 200 Mhz	3	
03-01-00524	Antenna Tr Cp 600 Mhz	3	
03-01-00525	Antenna Tr Mf Rx 200-600 Mhz	3	
03-01-00526	Antenna Tr Mf Tx 200-600 Mhz	3	
03-01-00527	Distribution Cable	18	
03-01-00528	Tx Cable	3	
03-01-00529	Metric Survey Wheel Kit (F 17 Cm)	3	
03-01-00530	Main Antenna Trolley (Steering Handle Main Antenna Frame, Survey Wheel Support & Cable A/P) For Mf Tr 200, Tr 400	3	
03-01-00531	Side Antenna Frame (Metro_Mf/200/400 Option) For Mf Tr 200, Tr 400, Freight	9	
03-01-00532	Idsgred Data Elaboration Substation, Oracle (Ued)	3	
03-01-00533	Control System For Supervision Of Treatment Plant And Network :- Provision Of Computer System To Replace The Existing 6 (Pdp 11/73) Computers With All The Necessary Prepherals And Hardware .Provision Of Software Suitable For The New Computer System To Mange The Received Information From The Radio System And Transform Them To Reports , Graphs , Pictures .. Etc .Provision Of Radio Transmitters To Send The Measured Valve To The Command Center With All The Necessary Power Supplies & Auxiliaries .The Offer May Include The Using Of The Existing Equipment. The Offer Should Include Site Supervision Of Installation & Training Of Bwa Staff .. Recommended Spare Parts Should Be Included . Further Information To Be Supplied By Bwsa,		
03-01-00534	1-1600Mm Diameter Pipe With Rubber Joint.	19600m	
03-01-00535	2-1400Mm Diameter Pipe With Rubber Joint.	6000 m	
03-01-00536	3-1200Mm Diameter Pipe With Rubber Joint.	6000 m	
03-01-00537	1- Flange Socket 1600Mm	No. 50	
03-01-00538	2- Flange Socket 1400Mm	No. 25	
03-01-00539	3- Flange Socket 1200Mm	No. 25	
03-01-00540	4- Flange Spigot 1600Mm.	No. 10	
03-01-00541	5- Flange Spigot 1400Mm.	No. 10	
03-01-00542	6- Flange Spigot 1200Mm.	No. 10	
03-01-00543	7- All Flange Tee 1600*1600Mm	No. 2	
03-01-00544	8- All Flange Tee 1600*400Mm.	No. 20	

CODE	DESCRIPTION	QTY	UNIT
03-01-00545	9-Double Socket Tee With Flange Branch 1600*400	No. 20	
03-01-00546	10-Double Flange Reducer 1600*1400Mm.	No. 2	
03-01-00547	11- Double Flange Reducer 400*200Mm.	No. 20	
03-01-00548	12-Isolating Buttfly Valve 200Mm.	No. 20	
03-01-00549	13-Double Orifice Air Valve 200Mm.	No. 20	
03-01-00550	14-Collar 1600Mm.	No. 10	
03-01-00551	15- Collar 1400Mm.	No. 10	
03-01-00552	16- Collar 1200Mm.	No. 10	
03-01-00553	17- Collar 1000Mm.	No. 10	
03-01-00554	18- Collar 900Mm.	No. 10	
03-01-00555	19- Collar 800Mm.	No. 10	
03-01-00556	20- Collar 700Mm.	No. 25	
03-01-00557	21- Collar 600Mm.	No. 50	
03-01-00558	22-Double Socket Bend 90,45,22.5,111/4 Deg, 1600Mm.	No. 16	
03-01-00559	23- Double Socket Bend 90,45,22.5,111/4 Deg, 1400Mm.	No. 16	
03-01-00560	24- Double Socket Bend 90,45,22.5,111/4 Deg, 1200Mm.	No. 16	
03-01-00561	25- Double Socket Bend 90,45,22.5,111/4 Deg, 1000Mm.	No. 40	
03-01-00562	26- Double Socket Bend 90,45,22.5,111/4 Deg, 900 Mm.	No. 40	
03-01-00563	27- Double Socket Bend 90,45,22.5,111/4 Deg, 800Mm.	No. 40	
03-01-00564	28- Double Socket Bend 90,45,22.5,111/4 Deg, 700Mm.	No. 40	
03-01-00565	29- Double Socket Bend 90,45,22.5,111/4 Deg, 600Mm.	No. 40	
03-01-00566	30-Double Flange Pipe 1M Length,1600Mm.	No. 5	
03-01-00567	31- Double Flange Pipe 1M Length ,1400Mm.	No. 5	
03-01-00568	32- Double Flange Pipe 1M Length, 1200Mm.	No. 5	
03-01-00569	33- Double Flange Pipe 1M Length, 1000Mm.	No. 5	
03-01-00570	34- Double Flange Pipe 1M Length ,900Mm,	No. 5	
03-01-00571	35- Double Flange Pipe 1M Length ,800Mm.	No. 5	
03-01-00572	36- Double Flange Pipe 1M Length ,700Mm.	No. 6	
03-01-00573	37- Double Flange Pipe 1M Length ,600Mm.	No. 8	
03-01-00574	38-Double Flange Pipe With Peddle 1 M Length ,1600Mm.	No. 5	
03-01-00575	39- Double Flange Pipe With Peddle 1 M Length ,1400Mm.	No. 5	
03-01-00576	40- Double Flange Pipe With Peddle 1 M Length ,1200Mm.	No. 5	
03-01-00577	41- Double Flange Pipe With Peddle 1 M Length ,1000Mm.	No. 5	
03-01-00578	42- Double Flange Pipe With Peddle 1 M Length ,900Mm.	No. 5	
03-01-00579	43- Double Flange Pipe With Peddle 1 M Length ,800Mm.	No. 5	
03-01-00580	44- Double Flange Pipe With Peddle 1 M Length, 700Mm.	No. 6	
03-01-00581	45- Double Flange Pipe With Peddle 1 M Length ,600Mm.	No. 8	
03-01-00582	46-Dismantling Joint, 1600Mm.	No. 5	
03-01-00583	47- Dismantling Joint, 1400Mm.	No. 5	
03-01-00584	48- Dismantling Joint, 1200Mm.	No. 5	
03-01-00585	49- Dismantling Joint, 1000Mm.	No. 5	
03-01-00586	50- Dismantling Joint, 900Mm.	No. 5	
03-01-00587	51- Dismantling Joint, 800Mm.	No. 5	
03-01-00588	52- Dismantling Joint, 700Mm.	No. 5	
03-01-00589	53- Dismantling Joint, 600Mm.	No. 5	
03-01-00590	A-1000Mm	No. 10	
03-01-00591	B-900Mm.	No. 10	
03-01-00592	C-800Mm.	No. 10	
03-01-00593	D-700Mm.	No. 10	
03-01-00594	E-600Mm.	No. 10	
03-01-00595	55-Socket Flange &Flange Spigot 1000Mm.	No. 10	
03-01-00596	56- Socket Flange &Flange Spigot 900Mm.	No. 10	
03-01-00597	57- Socket Flange &Flange Spigot 800Mm.	No. 10	
03-01-00598	58- Socket Flange &Flange Spigot 700Mm.	No. 10	

CODE	DESCRIPTION	QTY	UNIT
03-01-00599	59- Socket Flange &Flange Spigot 600Mm.	No. 10	
03-01-00600	1-Butterfly Valves Diam.1600Mm	No. 3	
03-01-00601	2- Butterfly Valves Diam 1400Mm.	No. 2	
03-01-00602	3- Butterfly Valves Diam 1200Mm	No. 2	
03-01-00603	4- Butterfly Valves Diam 1000Mm.	No. 4	
03-01-00604	5- Butterfly Valves Diam 900Mm.	No. 4	
03-01-00605	6- Butterfly Valves Diam 800Mm.	No. 4	
03-01-00606	7- Butterfly Valves Diam 700Mm.	No. 6	
03-01-00607	8- Butterfly Valves Diam 600Mm.	No. 8	
03-01-00608	1-200Mm Diameter Pipe With Rubber Joint.	50000m	
03-01-00609	2-150Mm Diameter Pipe With Rubber Joint.	1000000m	
03-01-00610	3-100Mm Diameter Pipe With Rubber Joint..	200000m	
03-01-00611	1-Flange Socket 250Mm	No. 50	
03-01-00612	2- Flange Socket 300Mm	No. 25	
03-01-00613	3- Flange Socket 400Mm	No. 25	
03-01-00614	4-Flange Spigote 250Mm.	No. 50	
03-01-00615	5- Flange Spigote 300Mm.	No. 25	
03-01-00616	6- Flange Spigote 400Mm.	No. 25	
03-01-00617	7-Double Flange Bend 90,45,22.5,111/4 Deg ,400Mm(Ea)	No 100	
03-01-00618	8- Double Flange Bend 90,45,22.5,111/4 Deg, 300Mm. (Ea)	No 100	
03-01-00619	9- Double Flange Bend 90,45,22.5,111/4 Deg, 250Mm. (Ea)	No 100	
03-01-00620	10- Double Flange Bend 90,45,22.5,111/4 Deg, 200Mm. (Ea)	No 200	
03-01-00621	11- Double Flange Bend 90,45,22.5,111/4 Deg, 150 Mm. (Ea)	No 400	
03-01-00622	12- Double Flange Bend 90,45,22.5,111/4 Deg, 100Mm. (Ea)	No 600	
03-01-00623	13-Double Socket Bend 90 Deg, 400Mm.	No 25	
03-01-00624	14- Double Socket Bend 90 Deg, 300Mm	No 25	
03-01-00625	15- Double Socket Bend 90 Deg, 250Mm	No 25	
03-01-00626	16- Double Socket Bend 90 Deg, 200Mm	No 100	
03-01-00627	17- Double Socket Bend 90 Deg, 150Mm	No 200	
03-01-00628	18- Double Socket Bend 90 Deg, 100Mm	No 400	
03-01-00629	Socket Flange Tee off 100 mm, A-100MM	No.500	
03-01-00630	Socket Flange Tee off 100 mm, B-150MM.	No 250	
03-01-00631	Socket Flange Tee off 100 mm, C-200MM.	No 100	
03-01-00632	Socket Flange Tee off 100 mm, D-250MM.	No 50	
03-01-00633	Socket Flange Tee off 100 mm, E-300MM.	No 25	
03-01-00634	20- Socket Flange &Flange Spigot 100Mm.(For Each)	No 200	
03-01-00635	21- Socket Flange &Flange Spigot 150Mm. (For Each)	No 100	
03-01-00636	22- Socket Flange &Flange Spigot 200Mm. (For Each)	No 50	
03-01-00637	23- Socket Flange &Flange Spigot 250Mm. (For Each)	No 25	
03-01-00638	24- Socket Flange &Flange Spigot 300Mm. (For Each)	No 15	
03-01-00639	Water Distillation Automatic Unit , Cap. 8L/Hr. Reservoir Type Bench Mounted 220V.(Steel)	6	
03-01-00640	Colony Counter, Dark Field, Principle, 40 Watt Bulb And Annular Reflector , Adapted For Round Dishes Up To 100 Mm Diameter Or 100X100Mm Square Plate . 1.5X Lens Rotating 360 ° Automatic Activated Digital Counter Complete With Accessories.	6	
03-01-00641	Terbidity Meter , Lab. Nephelometer, 3 Operating Ranges 0-2000 Ntu, Digital Motor, Complete With Calibration Standard , 15 General Purpose Sample Vials 25X95 Mm With Screw Caps , 6 Span Lamps , Fuses And Catalogue	3	
03-01-00642	Analytical Balance , Sensitive , Range 0-250 Gram Readability 0.1 Mg/0.0001 Mg Electronic 220V. Complete With Stainless Steel Calibration Weights And Weight Set And Accessories .	4	

CODE	DESCRIPTION	QTY	UNIT
03-01-00643	Portable Turbidimeter , Three Ranges 0-1000 Ntu. Sensitive 0.01 Ntu. Rechargeable 220V, 12V Automobile Adapter With Carrying Case And All Accessories .	2	
03-01-00644	Benchtop Conductivity Meter Suitable To Read Conductivity , Salinity, Tds, And Temperature, Automatic Three Mode , Electric Requirements 220V, Range 0-3000 μ S/Cm. Complete With Case And Accessories	5	
03-01-00645	Portable Conductivity Meter , Lcd Display Measuring Conductivity Tds And Temp. Complete With 2Mr. Cable, Probes, Batteries And Case.	6	
03-01-00646	Portable Conductivity Meter , Lcd Display Measuring Conductivity Tds And Temp. Complete With 2 M Cable, Probes, Batteries And Case .	6	
03-01-00647	Portable Ph Meter 0-14 With Electrodes And 2 Meter Cord	2	
03-01-00648	Sieve Shaker, Laboratory Use, Incorporating Analog Timer 3 Dimensional Oscillator, Quite Electromagnetic Drive Technology Together With Complete Sieve Mesh 10-200	1	
03-01-00649	Automatic Burette , Automatic Chow Back Of Over Flow Into Reservoir Capable Of Multiple Use . Reservoir 2000 MI. Complete With Tubes, Stoppers And Valves , Range (0-25) MI.	20	
03-01-00650	Bench Top Centrifuge Operation Speed Up To 8500 Rpm, Accommodated Loads Up To 1000MI. Equipped With Timer , Variable Speed Control , Capable Of Handling Tube Size From 1.5MI. To 50 MI. Complete With Motors And Buckets.	4	
03-01-00651	Volumetric Titrator 0-20MI. High Precision Cylinder Together With Magnetic Stirrer, Dosing With U.V. Protection Sleeve Fills It Selfautomatically And Digital Burette . Complete With Regent Bottle Set Titrant And Accessories .	6	
03-01-00652	Bench Top Dissolved Oxygen Meter Measuring D.O. And B.O.D. Complete With B.O.D Analysis Software , Range 0-60 Mgle . Barometric Pressure Compensation Together With Batteries And 220V. Power Supply Adapter .	4	
03-01-00653	General Water Test Kits With Ph Tester And Regents For Testing Alk. Hardness, Iron + Sulfite In Carrying Case	3	
03-01-00654	Ecology Test Kit With Plt Tester Complete With Standard Reagent To Test Acidity ,Alk. Carbon Dioxide, D.O. Hardness All In Carrying Case .	3	
03-01-00655	Chlorine Testing Equipment Range 0-2.5 Mgle , Portable , Microprocessor Based Complete With Battery And Glass Covets.	5	
03-01-00656	Portable Analysis Meter For Lab Testing Of Ph, Total End Free Chlorine Bromine, Iodine And Iron Complete With Measuring Covets And Cap. Capable Of Logging And Retrieving Up To 25 Samples	3	
03-01-00657	Standard Lab Incubator 5-70 °C Floor Type With Microprocessor , About 10 Cubic Foot Capacity , Displaying Actual Temp. Indicator, On/Off Switch , Temp. Setting Switch Together With Extra Shelves, Elec. Requirements 220V. See Through Glass Door	3	
03-01-00658	Bod Bottles , 300 MI, With Robotie Glass, Stopper Unnumbered	72	
03-01-00659	Bod Bottles 60 MI With Robotie Glass , Stopper, Unnumbered	36	
03-01-00660	Burettes For Titration , Capacity 100 Cc With Stop Lock And Cap. And Stand With Clamps	20	

CODE	DESCRIPTION	QTY	UNIT
03-01-00661	Burettes For Titration , Capacity 50 Cc With Stop Lock And Cap. And Stand With Clamps	20	
03-01-00662	Burettes For Titration , Capacity 10 Cc With Stop Lock And Cap. And Stand With Clamps	20	
03-01-00663	Glass Erlenmeyer Graduated With Reinforced Beaded Top With Stopper And Forcaps 1000 Cc	24	
03-01-00664	Glass Erlenmeyer Graduated With Reinforced Beaded Top With Stopper And Forcaps 500 Cc	24	
03-01-00665	Glass Erlenmeyer Graduated With Reinforced Beaded Top With Stopper And Forcaps 300 Cc	24	
03-01-00666	Glass Erlenmeyer Graduated With Reinforced Beaded Top With Stopper And Forcaps 50 Cc	24	
03-01-00667	Beakers Heavy Duty Double Graduated Metric Scale 50 Cc	240	
03-01-00668	Beakers Heavy Duty Double Graduated Metric Scale 150 Cc	240	
03-01-00669	Beakers Heavy Duty Double Graduated Metric Scale 250 Cc	240	
03-01-00670	Beakers Heavy Duty Double Graduated Metric Scale 400 Cc	240	
03-01-00671	Beakers Heavy Duty Double Graduated Metric Scale 600 Cc	240	
03-01-00672	Beakers Heavy Duty Double Graduated Metric Scale 1000 Cc	240	
03-01-00673	Pipels , Standard Glass A3 Volumetric Glass Pipets Calibrated To Deliver Volume Accuracy Marked On The Pipet 10 MI	120	
03-01-00674	Pipels , Standard Glass A3 Volumetric Glass Pipets Calibrated To Deliver Volume Accuracy Marked On The Pipet 5 MI	120	
03-01-00675	Pipels , Standard Glass A3 Volumetric Glass Pipets Calibrated To Deliver Volume Accuracy Marked On The Pipet 25 MI	120	
03-01-00676	Funnels , Fire Polished Edges, Stem Length 25 Cm Minimum Top Diameter 80 Cm	24	
03-01-00677	Funnels , Fire Polished Edges, Stem Length 25 Cm Minimum Top Diameter 80 Cm	24	
03-01-00678	Funnels , Fire Polished Edges, Stem Length 25 Cm Minimum Top Diameter 80 Cm	24	
03-01-00679	Wash Bottles 1000 MI Polyethylene , One Piece Cap & Nozzle, Wide Mouth , For Distilled Water	240	
03-01-00680	Wash Bottles 1000 MI Polyethylene , One Piece Cap & Nozzle, Wide Mouth , For Water	240	
03-01-00681	Wash Bottles 1000 MI Polyethylene , One Piece Cap & Nozzle, Wide Mouth , For Soap.	240	
03-01-00682	Hotplate And Stirrer Top Area Not Less Than 400 Sq Cm Stirring Rate 100 - 1200 Rpm Heating Range 100-400 °C Electric Requirements 220V.	6	
03-01-00683	Bunsen Burner, Flame Control And On/Off Platform, Complete With Nozzles	12	
03-01-00684	Natural Gas Stainless Steel Burners	12	
03-01-00685	Cylinder Graduated Glass With Single Metric Scale , Detectable Plastic Base And Bumper Guards 25 MI.	100	
03-01-00686	Cylinder Graduated Glass With Single Metric Scale , Detectable Plastic Base And Bumper Guards 50 MI.	100	
03-01-00687	Cylinder Graduated Glass With Single Metric Scale , Detectable Plastic Base And Bumper Guards 100 MI.	100	
03-01-00688	Basket Stainless Steel For Hot Application. 10 X 12 X 15 Cm	20	
03-01-00689	Brushes , Nylon Tufted Test Tube Brush 25 Mm Galvanized Wire Handle , Chemical Resistance	100	
03-01-00690	Brushes Double Tufted Bristle Portion 8X14 Cm , Wooden Handle , 30 Cm Long .	100	
03-01-00691	Dispenser , Standard 1-10 MI.	50	

CODE	DESCRIPTION	QTY	UNIT
03-01-00692	Petri Dish Reusable With Reinforced Beaded Edges, Different Mark On Top And Bottom 100 X 15 Mm Glass	200	
03-01-00693	Petri Dish Reusable With Reinforced Beaded Edges, Different Mark On Top And Bottom 100 X 15 Mm Polystyrene	200	
03-01-00694	Spare Parts For Thermocouple Pressure Gauges And Vacuum Gauges 2 Sets Of Each	2 SETS OF EACH	
03-01-00695	Test Tube , Round Bottom With Fire Polished Beaded Rim Without Marking Spot 16 X 150 Mm	600	
03-01-00696	Test Tube , Round Bottom With Fire Polished Beaded Rim Without Marking Spot 19 X 150 Mm	600	
03-01-00697	Double Buret Clamp, Research Grade, Micro To 100 MI, Size Complete With Road And Hook Clamps	24	
03-01-00698	Fume Hood, Bench Type For Lab, Needs , Constant Volume By-Pass , For Handling Acids And Radioactive Isotopes , Non Metallic Complete With Blower And Accessories .	2	
03-01-00699	Dishes , Glazed Except For Rim , Round Bottom With Poor-Out Spout, Silica Dish	100	
03-01-00700	Dishes , Glazed Except For Rim , Round Bottom With Poor-Out Spout, Porcelain Dish 100 Mm	100	
03-01-00701	Dishes , Glazed Except For Rim , Round Bottom With Poor-Out Spout, Porcelain Dish 250 Mm	100	
03-01-00702	Glass Narrow Mouth Bottles For Culture Media With Stoppers , 100 MI Capacity	200	
03-01-00703	Glass Narrow Mouth Bottles For Culture Media With Stoppers , 250 MI Capacity	200	
03-01-00704	Amber Glass Dropping Bottles , Stopper With Grove Ceramic Label Size 50 MI.	50	
03-01-00705	Glass Stop Cock , Three Way With Joints	50	
03-01-00706	Iron Triangles With Ceramic Tube Covering 38 Mm	24	
03-01-00707	Glass Bottle Aspirator With Glass Stopper , Bottom Glass , Hose Connection Outlet With Interchangeable Stopcock , 1.0 Liter Capacity .	10	
03-01-00708	Glass Bottle Aspirator With Glass Stopper , Bottom Glass , Hose Connection Outlet With Interchangeable Stopcock ,2.0 Liter Capacity .	10	
03-01-00709	Acetone , Analar 99.5%	5	
03-01-00710	Acetone , Acid Analar 99.5%	10	
03-01-00711	Ethanol , 99.-100%	10	
03-01-00712	Sulfuric Acid 98.5%	50	
03-01-00713	DPD Tables	1,000	
03-01-00714	Sulfanilamide 98%	1,200	gm
03-01-00715	Potassium Iodide Granular , Free Flowing	1	kg
03-01-00716	Sodium Acetate Antiydrous Ch3Coona 82.03	1	kg
03-01-00717	Hydrogen Florid	4X250	ml
03-01-00718	Silver Nitrate	1	kg
03-01-00719	Manganese Sulfate	2	kg
03-01-00720	Formic Acid	10	l
03-01-00721	Sodium Thio Sulfate	1	kg
03-01-00722	Ferrion Indicator	3	l
03-01-00723	Ferrous Ammonium Sulfate	1	kg
03-01-00724	Potassium Dichromate	5	kg
03-01-00725	Mercury Sulfate	1	kg
03-01-00726	Phosphate Capsule Indicator	20	boxes
03-01-00727	Nitrite Capsule Indicator	20	boxes

CODE	DESCRIPTION	QTY	UNIT
03-01-00728	Phosphate Capsule Indicator	20	boxes
03-01-00729	Hanna , C100 Bench Colorimeter , With 2 Cuvetters Battery And Power Lead . Test Over 35 Parameter Inone Metter With Three Reagent Sets For Use With C100 Coorimeter And It Is :- Aluminum (0.00 To 1.00 Mg/L). Ammonia (0.00 To 3.00 Mg/L) (Law Range). Bromine (0.00 To 8.00 Mg/L) D.P.D. Cr V1 L.R (0.00 To 300 Mg/L), Cr V1 H.R (0.00 To 1000 Mg/L), Cu Hr And Lr (0.00 To 5 Mg/L) (0.00 To 990 Mg/L). Cyanide (0.00 To 0.2 Mg/L). Flurried (0.00 To 2.00 Mg/L). Ca Hardness (0.00 To 2.7 Mg/L). Mg Hardness (0.00 To 2.00 Mg/L). Hydrazine (0 To 400 Mg/L). Iron (Lr + Hr). Mn (Lr + Hr). Nickel (Hr). Nitrate (0.00 To 3.0 Mg/L) . Nitrite (Lr) (0.00 To 0.35 Mg/L). Dissolved Oxygen (0.00 To 10 Mg/L). Ph (6-8.5). Phosphate (Lr). Phosphorous (0.00 To 15 Mg/L). Silica (SiO ₂). Silver (Ag). Zinc (0.00 To 3.00 Mg/L)	4	
03-01-00730	Potassium Thio Cyanate Ar , KSCN , Assay 99% , M.W = 97.18	2	kg
03-01-00731	Flocculators Sw1. Accepts 6 Samples. Electrical Supply (220 – 230 V) , 50 Hz , 200 W. Built In Illumination For Easy Viewing With 6 Beakers. Speed R – 240 Rpm	2	
03-01-00732	Furnaces : Stuart Scientific : Mode : 51202Pid/D. Maximum Temperature = 1200 C. Automatic Switch Off When Door Is Opened. Wear Resistant , Dust Free , Ceramic Muffle. Choice Of Temp. Controller. Electrical Supply 220-230V , 50 Hz Single Phase , Current Rating , Heater Power 1.5 Kw. Chamber Dimensions 125X140.100 Mm	2	
03-01-00733	Water Stills (GFL) Double Distillation 8 L/H Made Of Stainless Steel , (220-230)V. Heating Element Made Of Stainless Steel With All Accessories	3	
03-01-00734	Em- Burette Digital Eyes Titration 50 ML	3	
03-01-00735	Em-Dispenser With Unrivalled Ceramic Piston Volume (0-2)ML	8	
03-01-00736	Spectrophotometer Model 6305 . UV/Visible (Jenway). 198-1000Nm Wavelength Range With All Accessories	2	
03-01-00737	Lab. Refrigerator Temp. Range -5 To + 15 °C With Metallic Door , Double Glass Anti Mist Door	3	
03-01-00738	Spectro-Photo Meter	2	
03-01-00739	Incubator	2	
03-01-00740	Ph-Meter	2	
03-01-00741	Cod-Reactir	2	
03-01-00742	Ion-Selective Meter	2	
03-01-00743	Oven (220)C	2	
03-01-00744	Manful Frnenns(1400)C	2	
03-01-00745	Electronic Balance (0-120)Gm	2	
03-01-00746	Distilling Water Element 1.5 L/H	2	

CODE	DESCRIPTION	QTY	UNIT
03-01-00747	Semiautomatic Spectrophotometer (Uv - 2005) Optic Ivymen System For Research , Chemistry And Quality Control: Wave Length Range : 200 - 900 NM , Band Width : 2 NM , Absorbance Range : 0.3 - 3.5 O.D. , Transmittance : 0 - 100 % T, Light Source : Tungsten Halogen Lamp And Deuterium Lamp, Sample Compartment : For 4 Cuvettes Of 10 MM, Min Sample Volume : 1 ML, Memory : 50 Method Stored . Main Function : T % , Abs , Conc . By Factor Or Standard , Conc . By Calibration Polynomial Curve . Power : 120 W, Voltage : 220 V/50 Hz. Accessories Are Included With The Instrument : Quartz Cuvettes With Lids. Path Length 10 MM Dimensions Usx 12.5 MM Internal Depth 10 MM . Glass Cuvettes With Lids , Path Length 10MM , Internal Depth 10MM , External Dimensions . UV - 2005 Manual . Tungsten Halogen And Deuterium Lamps .	1	
03-01-00748	Digital Filter Photometer (Nanocolor 300D) Macherey - Nagel (MN) . Wave Length : 340 - 80 NM . Tungsten Lamp . Continuous Cuvette Slot For 10, 20 And Some Rectangular Cuvette And 14 MM ID Round Glass Tubes . Power Supply Av , 1A From Built In Batteries Can Be Recharged Using Adaptor . Photometric Accuracy ± 1% . Long Term Stability < 0.002 E/H . The Nanocolor 300 D Should Be Provided With The Following Test Kits (Tube - Test Method) . 1- Nanocolor Reagent Set Ammonia 3 , Range : 0.04 - 2.3 MG/L (NH4-N) . 2- Nanocolor Reagent Set Chloride 200 , Range : 5 - 200 MG/L . 3- Nanocolor Reagent Set Chlorine /Ozone , Range : 0.05 - 2.5 MG/L (Cl2) 0.05 - 2.5 MG/L (O2) . 4- Nanocolor Reagent Set Chromate , Range : 0.03 - 2.00 0.05 MG/L Cr . 5- Nanocolor Reagent Set Total Chromium , Range : 0.1 - 4.0 MG/L Cr. 6- Nanocolor Reagent Set COD 300 , Range : 15 - 300 MG/L O2 .. 7- Nanocolor Reagent Set Org. Complexing Agents 10, Range : 0.5 - 10 MG/L I Bic .. 8- Nanocolor Reagent Set Copper 7 , Range : 0.1 - 7.0 MG/L Cu2+ .. 9- Nanocolor Reagent Set Cyanide 04 , Range : 0.01 - 0.4 MG/L Cu- . 10- Nanocolor Reagent Set Fluoride 2 , Range : 0.1 - 2.0 MG/L F- .. 11- Nanocolor Reagent Set Iron 3 , Range : 0.1 - 3.0 MG/L Fe . 12- Nanocolor Reagent Set Lead 5 , Range : 0.1 - 5.0 MG/L Pb2+ .. 13- Nanocolor Reagent Set Nickel 7 , Range : 0.1 - 7 MG/L Ni2+ .. 14- Nanocolor Reagent Set Nitrate 50 , Range : 0.3 - 16.0 MG/L .. 15- Nanocolor Reagent Set Nitrite 2 , Range : 0.003 - 0.46 MG/L . 16- Accessories For Nanocolor 300 D :.Nanocolor 300 D Manual ..Two Glass Cells , 5 MM. Optical Path . Two Glass Cells , 10 MM. Optical Path . Lids For 10 MM Glass Cell . One Glass Cell , 50 MM Glass Cell . Lids For 50 MM Glass Cell. One Semi - Micro Cell 50 MM For Sensitive Phosphate Measurement . Disposable Plastic Cells , 10 MM . Optical Path . Tungsten Lamp For Nanocolor 300 D.. Main Adapter For Nanocolor 300 D.. Printer For Nanocolor 300 D.	1	
03-01-00749	Stirrer (Jenway) ,230 V - 50Hz . Power , 50 W , Stirrer Speed (Rpm) : 100- 1200 .	4	

CODE	DESCRIPTION	QTY	UNIT
03-01-00750	Autoclave Autester - E Dry J . P. Selecter . Autorratic Dry , Purge Vacuum Cycle Prevacuum , 140 L Capacity , Aisi 30U Stainless Steel Exterior , Control Pannel , Fill Valve , Water Reservoir , Thermal Protective Coven . Air Filter , Safty Valve , Safty Thermostate . With Filter Pt 100 Temp Probe And Printer For : Temp Pressure , Time And Operation Mode . Accessories : 3 Baskets Aisi 316 Sanless Steel .	3	
03-01-00751	Digital PH Meter (Macherey - Nagel Mu) For Precise Ph - Mv - 0C Measurment . Measuring Range 0.00 - 14.00 ± 1999 Mv . Automatic Temp. Compensation From 0.0 To 100 0C .	3	
03-01-00752	Digital Conductometer For Conductioity Measurement (Macherey - Nagel Mn) With Automatic Temp. Compensatior , Four Measuring Ranges 0 - 199900 Ms/Cm (Precision ± 1%) , Automatic Temp. Compensation Up To 40 0C .	3	
03-01-00753	Water Still For Double Distillation (Gfl) Capacity 4L/H , Cooling Water Required Opprex 120 L/H , Voltage 230 V , 50 Hz. Accessories :Dechlorite Filter. Spare Filling. Phosphate Cartridge. Separate Water Supply	3	
03-01-00754	Polycarbonate Holder For 47 Mm Diameter Membrane Filters (Sartorius) , With 250 MI Capacity Funnel And Tight - Fitting Liol But With Out Receiver Flask .Filtration Area 12.5 Cm3 Flow Rate : At 90% Vacuum = 600 M , Min With 0 - 45 Mm Filters , Funnel Capacity = 30 MI .50 Or 47 Mm Diameter Membrane Filter Is Required Sterilization By Autoclaving (121 Or 134 C) .	3	
03-01-00755	Place Stoinless Steel Main Feld (Sartorius) 3 Polycarbonate Holders Auocloved At 121 0C .	2	
03-01-00756	Rubber Vacuum Hose Thick Walled Rubber Hose For Connecting Suction Flasks And Vacuum Pumps .	2	
03-01-00757	Water Trap , Vacusart (Sartorius) .	4	
03-01-00758	Vacuum Pump (Sartorius) , 220V , 50 Hz , With Low Noise Level , Oil - Free Membrare Type, Max Vacuum 90% : 100 Mbar , 76 Torr, Max Suction : 20 L/ Min, Waltage : 80 W, Weight : 4.5 Kg. Size : 203 X 145 X 187 cm. Max Ambient Temp. : 40 C. With Replacement Parts. :Set Of Neoprene Membrane , Valve Springs And Neoprene Head Seal .	4	
03-01-00759	Polycarbonate Holder For 47Mm Diameter Membrane Filter (Sartorius) 250 MI Capacity Funnel And Receiver Flask , Each With Tight - Fitting Lid , For Vacuum Or Low Pressure Filtration .	5	
03-01-00760	Hand Vacuum Pump With Gauge (Sartorius) Body Of Pvc , Supplied With Gauhe , Vacuum Release Lever And Alength Of Clear Plashc Conneching Tabing (50 Cm) .	5	
03-01-00761	Suction Flask (Sartorius) 2L Capacity With 9 Mm , O.D. Plastic Hose Ripple For Safe Connection Of Vacuum Hose .	4	
03-01-00762	Gridded Membranes (Sartorius) , Sterile And Individually Packed For Colony Counts , 47 Mm Diameter Dises .	5	
03-01-00763	Colony Counter (Sartorius) Battery Operateal Used As A Ball - Point Pen , With Four Digit Lcd Display , Supplied With Marker Refill .	5	
03-01-00764	Laboratory Incubator (Sartorius) 230V , 50 Hz , For Incubating Membrane Filters , Room Of 6 Petr Dishes , With Cover To Avoid Light Pentyation , Temp Range 20 - 50 C .	2	
03-01-00765	Steriliser Container For Pipeltes , Made Of Aisi 304 Stainless Steel , Hight 400 Mm , Working Q = 72 Mm And 130 Mm .	4	

CODE	DESCRIPTION	QTY	UNIT
03-01-00766	Petri Dishes Stenliser Container Made Of Aisi 304 Stainless Steel , Complete With Petri Dish Rack For Up To 120 Mm , Q = Hight 400 Mm , Working Q = 130 Mm , No. Of Dishes 18 .	6	
03-01-00767	Safty Barne (Apt) , Butone Gas , Safe Flame Push Button Ignition .	10	
03-01-00768	Water Jet Vacuum Pump. Material = Pvc , Flow Rate = 8 L/Min , Vacuum = 2.6 L/Min .	8	
03-01-00769	Loop End For Kolle Handles , Longe Handles 43 Mm , Loop Q = 3 Mm , Mode Of Iridio Platinum .	100 for each size	
03-01-00770	Stirrer Bar Retriever . Flexible Cooled In Teflon Length 280 Mm .	50	
03-01-00771	Concentric Stir - Bar With Beaker Cover. Stirrer Bars With Conical Lid For Beakers 100 - 500 MI , Stirrer Bar Size 32 Mm. Stirrer Bars Suitable For Beakers 500 - 1000 MI , Stirrer Bar Size 55Mm .	30 for each	
03-01-00772	Laboratory Dissection Forcep .Made Of Elector Polished Aisi 304 Stainless Steel. Blunt End Dissecting Forcep. Curved Blunl - End Dissecting Forcep .	3	
03-01-00773	- Heat And Spills Protection Pad Gloves , Made Of Flexible Silicon That Fit All Hands .	20 Pairs	
03-01-00774	- Grooved Spotula , Flat Spoon Made Of Aisf 304 Stainless Steel , Total Length 190 Mm .	20	
03-01-00775	- Flat Spoon End Spatula , Made Of Aisi 304 Stainless Steel , Length 210 Mm .	20	
03-01-00776	Caps For Biological Culture Tubes (Sero - Tap) Made Of Anodised Aluminium With Internal Aisi 304 Stainless Steel Spring Inside The Cap , Not Bermetically Sealed , Autoclaved At 1 Bar. Caps For Tabes Q = 24 - 26Mm , Color Gold And Silver. Caps For Tabes Q = 15 - 16 Mm , Color Ganet And Blue .	100 for each size	
03-01-00777	(Disper -Var) Variable Dispensing Pipette (Comecla) Volume Range 1000 - 5000 MI .	10	
03-01-00778	Pipette Tips Range : (5 - 200) MI, Pipette Tips Range (101 - 1000) MI, Pipette Tips Range (1000 - 5000) MI	200 for each size	
03-01-00779	- Em - Dispensev (Hirschmann Laborgerate) Boltle Top Dispenser With Drgital Volume Setting , Thread A 32 Mm , 3 Thread Adaptors (A 28 , Suo And Aus) One Suction Tube With Screw , One Discharge Tube Unit , Volume : 2.0 - 10.0 MI .	10	
03-01-00780	- Em - Dispensev (Hirschmann Laborgerate) Fix , Boltle Top Dispenser With Fixed Volume , Thread A 32 Mm , 3 Thread Adaptors (A 28 , Suo , Aus) One Suction Tube With Screw , One Discharge Tube Unit , Volume : 5 MI - 10 MI .	10 for each size	
03-01-00781	- Em - Burelte Digital (Hirschmann Laborgerate) , Thread A 38 Mm , 3 Different Adaptors (A 32/33 , A 38 And Aus Mm) Suction Tube , Discharge Tube , Baltyery , Volume : 30 MI .	4	
03-01-00782	Titration Apparatus Acc. To Dr. Schilling Fast , Volume : 30 MI	4	
03-01-00783	Balance Analytical Electronic - Meter. Bfe 610 L- Capacity 100Gn - Readability 0.1 Mg, 220 -240 V 50 Hz Single Phase	2	
03-01-00784	Cooled Incubator - Gallenkamp. Inf - 600 - O10R 200-240 V 50 Hz Single Phase	4	
03-01-00785	Oven , Bs Gallenkamp 250C, 220-240V/ 50Hz Size 2 Ovh-220- Llom	3	
03-01-00786	Muffle Furnace - Gallenkamp 1100 C. Fse _ 620 - 110 Muffle Furnace 1100 C Size 2	2	

CODE	DESCRIPTION	QTY	UNIT
03-01-00787	Spectro Photo Meter - Bausch And Lomb Spectrome 710 Digital Reading - Spr - 610 Wave Length 200 To 1000 Nm - 010 B 220 - 240 V 50 Hz - Multiple Sample Compartment	2	
03-01-00788	Spare Parts. Tungsten Lamp Assembly 33-33-23	4	
03-01-00789	Deuteriam Lamp 34-34-24	4	
03-01-00790	Distillation Apparatus Out Put 5 Litter\H, 220 - 240 V 50Hz	4	
03-01-00791	Ph _ Meter Apparatus Digital 220 - 240 V 50Hz	3	
03-01-00792	Spare Parts. Glass Electrode	6	
03-01-00793	Reference Electrode	6	
03-01-00794	Temp . Compensator	2	
03-01-00795	Buffer Powder	50	kg
03-01-00796	Water Bath - 220-240 V 50Hz. 50 L Capacity With 8 Sample Place	3	
03-01-00797	Vacuum Pump , Edwards Pyb _ 920 - 010 V Single Phase	3	
03-01-00798	Cod Reactor -220-240 V 50 Hz -12 Place	3	
03-01-00799	Special Tube For Above - Cod Reactor	48	
03-01-00800	Burette Automatic Zero Capacity 50 x 0.1 MI Reservoir Capacity 2000 MI	8	
03-01-00801	Burette Ordinary 50x 0.1MI	6	
03-01-00802	Pipette - One Mark,100 MI	6	
03-01-00803	Pipette - One Mark,50 MI	8	
03-01-00804	Pipette - One Mark,25MI	6	
03-01-00805	Pipette - One Mark,10MI	8	
03-01-00806	Pipette - One Mark,5MI	8	
03-01-00807	Graduated Pipette 25x 0.2 MI	9	
03-01-00808	Graduated Pipette ,10x 0.1 MI	9	
03-01-00809	Graduated Pipette 5 X 0.05 MI	9	
03-01-00810	Pipette Filler	9	
03-01-00811	Conical Flask, 500 MI	24	
03-01-00812	Conical Flask, 250 MI	24	
03-01-00813	Conical Flask, 100 MI	12	
03-01-00814	Conical Flask, 50 MI	12	
03-01-00815	Beaker , Pyrex Glass Graduated , 100 0 MI	24	
03-01-00816	Beaker , Pyrex Glass Graduated ,500 MI	24	
03-01-00817	Beaker , Pyrex Glass Graduated , 250 MI	12	
03-01-00818	Beaker , Pyrex Glass Graduated ,100 MI	24	
03-01-00819	Beaker , Pyrex Glass Graduated , 50 MI	12	
03-01-00820	Buchner Filter Flask , 500 MI	4	
03-01-00821	Volumetric Flask, 1000 MI	12	
03-01-00822	Volumetric Flask, 500 MI	12	
03-01-00823	Volumetric Flask, 250 MI	12	
03-01-00824	Volumetric Flask,, 100 MI	12	
03-01-00825	Conical Funnels _Soga Lim Glass 55Mm Dia	8	
03-01-00826	Conical Funnels _Soga Lim Glass 70 Mm Dia	8	
03-01-00827	Disiccator , Pyrex Glass With Plate 219 Mm Dia	3	
03-01-00828	Sparating Funnel _ Conical, 1000 MI	4	
03-01-00829	Sparating Funnel _ Conical,500 MI	10	
03-01-00830	Sparating Funnel _ Conical , 250 MI	4	
03-01-00831	Glass Cylinder ,1000 MI	12	
03-01-00832	Glass Cylinder ,500 MI	16	
03-01-00833	Glass Cylinder ,250 MI	12	
03-01-00834	Glass Cylinder ,100 MI	12	
03-01-00835	Glass Cylinder ,50 MI	12	
03-01-00836	Glass Cylinder ,25 MI	12	

CODE	DESCRIPTION	QTY	UNIT
03-01-00837	Glass Cylinder ,10 MI	12	
03-01-00838	Glass Cylinder , 5 MI	12	
03-01-00839	Gooch Filter Crucible , 25 MI x38 x40 Mm	48	
03-01-00840	Gooch Funnel , 33 Mm	4	
03-01-00841	Gooch Funnel, 43 Mm	4	
03-01-00842	Flask Adapter , 25 Mm	6	
03-01-00843	Flask Adapter , 33 Mm	6	
03-01-00844	Flask Adapter ,43 Mm	6	
03-01-00845	Flat Bottom Flask , Pyrex Glass, 1000 MI	16	
03-01-00846	Flat Bottom Flask , Pyrex Glass, 500 MI	16	
03-01-00847	Flat Bottom Flask , Pyrex Glass, 250 MI	16	
03-01-00848	Poly Thene Wash Bottle, 600 MI	12	
03-01-00849	Poly Thene Wash Bottle, 250 MI	16	
03-01-00850	Bod Bottle, 250 MI	144	
03-01-00851	Dishes Porcelaein Basin 100 MI	24	
03-01-00852	Dishes Porcelaein Basin 125 MI	24	
03-01-00853	Thermometer -20 To 250C	6	
03-01-00854	Filter Paper , No 1	8	boxes
03-01-00855	Filter Paper , No 40	8	boxes
03-01-00856	Sulphuric Acid - Analer	50	l
03-01-00857	Asbestos	10	kg
03-01-00858	Disodium Hydrogen Phosphate	1	kg
03-01-00859	Calisum Chloride	1	kg
03-01-00860	Ferric Chloride	1	kg
03-01-00861	Buffer Solution (Phosphate)(K2Hpo4)	1	kg
03-01-00862	Benzen	5	l
03-01-00863	Silver Nierate	500	g
03-01-00864	Potassium Dichromate	4	kg
03-01-00865	Tri Chlоро Ethylen	20	l
03-01-00866	Potassium Iodate	200	gm
03-01-00867	Manganaus Sulphate	20	kg
03-01-00868	Sodium Thiosulphate , Na2S2O3, 5H2O	10	kg
03-01-00869	Ferrion Indicator	1	l
03-01-00870	Ferriopn Ammonium Sulphate	10	kg
03-01-00871	Potassium Iodide	5	kg
03-01-00872	Mercuric Sulphate- Hgs04	2	kg
03-01-00873	Mercuric Chlaried Hg D2	2	kg
03-01-00874	Hydrochloride Acid	20	l
03-01-00875	Phosphate _ Powder Hellow (Capsul)	2,000	capsul
03-01-00876	Hitro Ver 5 Powder Pellow (Capsul)	2,000	capsul
03-01-00877	Nitri Ver Powder Pellow (Capsul)	2,000	capsul
03-01-00878	Sodium Hydroxide	20	kg
03-01-00879	Potassium Hydroxide	10	kg
03-01-00880	Electro - Socket Welding Machine Pvc Welding Machine Fusion Welding Machine Size 16 - 75 Mm .	40	
03-01-00881	Pipe Cutter Size 16 - 75 Mm .	40	

CODE	DESCRIPTION	QTY	UNIT
03-01-00882	Engine Driven Welder Khm 350 Ys-Cc/Cv, D.C Welding Constant Current (Cc), Current Range , Continuous 20 - 350 A,Open Circuit Voltage 65 V, Duty Cycle (Intermittent) 2 - 6 Mm, D.C Welding Constant Voltage (Cv), Current 270 A - 100%, Constant Voltage 15 - 35 V, Wire Diameter 0.8 - 2 Mm, D.C Welding Constant Voltage (Cv) , Three - Phase Generation, Single- Phase Generation, Single-Phase Generation (Option), Duty Cycle, Insulating Glass. Engine Type : Yanmar 3Tne 74 , Out Put : 16.6Kw (22.3 H.P) , Speed : 3000 R.P.M , Displacement : 1006 Cm3 , Cylinders : 3 , Fuel Consumption : 275G/Kwh Tank Capacity : 32 Liters , Protection : Ip23 , Weight : 475 Kg .The Engine Welder Must Loaded On Two Tires And Hoks .Spare Part For Engine For 3 Years	5	
03-01-00883	Welding Cables , Part No. 2626136-06. 50 Mm2 (17Mm Diameter)	400	m
03-01-00884	Electrode Holders	30	
03-01-00885	Earth Lead Clamp Eg 600	10	
03-01-00886	Welding Shield , Part No. 160248-881. Easb Type `B` , Made Of Fiber - Glass , Glass Dimension 60 X 110 Mm , With Spare Glass (6) Pieces For Each	10	
03-01-00887	Prest - O - Lite Cw - 250 Cutting Attachment , Part No. 21190	10	
03-01-00888	Prest - O - Lite W - 250 Torch , Part No. 21189	10	
03-01-00889	Purox 4200 Groop Nozzles , Part No. 16K10	20	
03-01-00890	Acetylene Nozzles 4202 Series , Part No. 16K11	20	
03-01-00891	Purox 4200 Groop Nozzles , Part No. 16K70	20	
03-01-00892	4213 Series Fuel Gas Nozzles Part No. 16K71	20	
03-01-00893	Purox 4200 Groop Nozzles , Part No. 19487	4	
03-01-00894	For Fuel Gas Nozzles , Part No. 19488	4	
03-01-00895	4217 Series , Part No. 19489	4	
03-01-00896	Single Stage Regulator Suitable For (Oxy - Acet) , Part No. Oxygen	5	
03-01-00897	Single Stage O - Lite Cw 250 , Part No. Acetylene	5	
03-01-00898	Single Stage Acetylene Regulator	5	
03-01-00899	Twin Fitted Hose Assemblies (Type Vd , Grade Rm) Oxygen And Acetylene Only With Connection Size B-B (50 Feet) Suitable For Olite Cw 250	20	
03-01-00900	High Pressure Acetylene Generator Tank For Above	5	
03-01-00901	Tool For External Turning. T - Max P Ptgnr/L 2020K16	5	
03-01-00902	Insert Tnmm 160408-0R	500	
03-01-00903	Tool For External Turning T - Max P Pssnr/L 2020K12	5	
03-01-00904	Insert Snmm 120408-0R	500	
03-01-00905	Tool For External Turning T - Max U Ssbc/L 1616Ho9	5	
03-01-00906	Insert Scmt 09T3 08-53	500	
03-01-00907	Tool Holders For Cutting. Q - Cut Bt 151.2	5	
03-01-00908	Inserts Suitable For Above	500	
03-01-00909	Polypropylene Connectors For Polyethylene Pipes , Both End Female To Fit Pipe Of 32 Mm Outside Diameter , Full Fill The Requirements Of Polyethylene Pipes According To B .S. 1972	50,000	
03-01-00910	Polypropylene Connectors For Polyethylene Pipes , Both End Female To Fit Pipe Of 25 Mm Outside Diameter, Full Fill The Requirements Of Polyethylene Pipes According To B .S . 1972	10,000	
03-01-00911	Polypropylene Connectors For Polyethylene Pipes , Both End Female To Fit Pipe Of 20 Mm Outside Diameter, Full Fill The Requirements Of Polyethylene Pipes According To B. S . 1972	50,000	

CODE	DESCRIPTION	QTY	UNIT
03-01-00912	Polypropylene Connectors For Polyethylene Pipes , One End Push Fit And The Other Threaded To Fit Pipe Of 32 Mm Outside Diameter ,Full Fill The Requirements Of Polyethylene Pipes According To B .S. 1972	50,000	
03-01-00913	Polypropylene Connectors For Polyethylene Pipes , One End Push Fit And The Other Threaded To Fit Pipe Of 32 Mm Outside Diameter ,Full Fill The Requirements Of Polyethylene Pipes According To B .S. 1972	10,000	
03-01-00914	Polypropylene Connectors For Polyethylene Pipes , One End Push Fit And The Other Threaded To Fit Pipe Of 32 Mm Outside Diameter ,Full Fill The Requirements Of Polyethylene Pipes According To B .S. 1972	50,000	
03-01-00915	Stainless Steel Repair Clamp Type Rs-1, Range Mm(115-125)	7,000	
03-01-00916	Stainless Steel Repair Clamp Type Rs-1, Range Mm(112-121)	3,000	
03-01-00917	Stainless Steel Repair Clamp Type Rs-1, Range Mm(166-178)	2,000	
03-01-00918	Stainless Steel Repair Clamp Type Rs-1, Range Mm(178-190)	5,000	
03-01-00919	Stainless Steel Repair Clamp Type Rs-1, Range Mm(215-227)	1,000	
03-01-00920	Stainless Steel Repair Clamp Type Rs-1, Range Mm(233-246)	3,000	
03-01-00921	Stainless Steel Repair Clamp Type Rs-1, Range Mm(271-293)	1,000	
03-01-00922	Stainless Steel Repair Clamp Type Rs-1, Range Mm(346-368)	800	
03-01-00923	Stainless Steel Repair Clamp Type Rs-1, Range Mm(369-392)	200	
03-01-00924	½ Inch X 20 Mm Standard Ferrules With A Gun Metal Stem , An Inner Plug , Push Fit And Top Cap(Complete Set)	50,000	
03-01-00925	¾ Inch X 25 Mm Standard Ferrules With A Gun Metal Stem , An Inner Plug , Push Fit And Top Cap(Complete Set)	10,000	
03-01-00926	One Inch X 32 Mm Standard Ferrules With A Gun Metal Stem , An Inner Plug , Push Fit And Top Cap(Complete Set)	25,000	
03-01-00927	Supply Of Conditioning Equipment For Improving The Efficiency Of Sewage Treatment Plants To Fulfill The Requirement Of The Standers Of Who Organization For Effluent Sewage Water Discharged To The River And Should Be As Follows : S.S < 5P.Pm B.O.D < 10 P.Pm Po4 < As Minimum As Possible And In Addition A Complete Unit Of Disinfecting ,And All The Chemical . Dozing Materials Needed To Fulfill The Above Needs Knowing That The Design Capacities Of Treatment Plants As Follows: Rustimyah Phase 0/1/2 : 200 000 M3 /Day Karkh :210000 M3/Day, Rustimyah Phase 3 :300000 M3/Day, And All These Treatment Plants Work According To The Traditional (Activated Sludge) And Physical Separation Only. Note: All The Equipment Should Be Installed With Minimum Civil Works.	3	
03-01-00928	High Voltage Sub- Station Of Length 348 Cm And Width 145 Cm Consist Of 6 Cubicles With The Following Lengths And Contains (From Right To Left) See H.V-1. -Cubicle 1 66 Cm For 11 Kv Outgoing Feeder With Motorized C-B. Cubicle 2 66 Cm For 11 Kv Outgoing Feeder With Motorized C-B. Cubicle 3 66 Cm , 11Kv Cables Pass Room (Cables Connect Room 6 & Room 1 , Room 5& Room 2). Cubicle 4 50Cm,Metering Instruments. Cubicle 5 50 Cm , For 11 Kv Incoming Feeder With Isolator. Cubicle 6 50 Cm , For 11 Kv Incoming Feeder With Isolator	1	

CODE	DESCRIPTION	QTY	UNIT
03-01-00929	High Voltage Sub - Station Of Length 408 Cm And Width 80 Cm Consist Of 4- Cubicles With The Following Length And Contains (From Right To Left) See H.V - 2 A & B. Cubicle 1 (102 Cm). 11 Kv , 400A Generator Feeder With Motorized C.B The Generator Cable In Cubicle From The Side At Height 166 Cm. Cubical 2 (102 Cm). 11Kv , 630 A Feeder With Isolator And Change Over Which Connect This Feeder With The Gen . Feeder In Cubicle 1. -Cubicle 3 (102 Cm). 11Kv , 630 A Feeder With Isolator And Change Over Which Connect This Feeder With The Gen . Feeder In Cubicle 4.- Cubicle 4 (102 Cm) 11Kv , 400A Generator Feeder With Motorized C.B. The Generator Cable In The Cubicle From The Side At Height 166 Cm	1	
03-01-00930	High Voltage Sub- Station Of Length 183 Cm And Width 66 Cm Consist Of 3- Cubicles With The Following Length And Contains (From Right To Left) See H.V- 3A & B. -Cubicle 1 (61 Cm). 11Kv , 400A Incoming Feeder (Which In The Cubicle From The Rear At Height 140 Cm) With Motorized C.B. Cubicle 2 (61 Cm), 11 Kv , 400A Outgoing Feeder (Which Out The Cubicle From Rear At Height 140 Cm) With Motorized C.B. Cubicle 3 (61 Cm). 11 Kv , 400A Outgoing Feeder (Which Out The Cubic From Rear At Height 140Cm) With Motorized C.B .	1	
03-01-00931	High Voltage Sub - Station Of Length 210 Cm And Width 69 Cm Consist Of 6- Cubicles With The Following Length And Contains (From Right To Left) Seeh.V- 5B Cubicle 1 30 Cm , 11Kv , 630A , 2Mva Transformer Feeder With Motorized C.B..Cubicle 2 30 Cm , 11Kv , 630A , 2Mva Transformer Feeder With Motorized C.B.. Note :- Feeders In Cubicle 1& 2 Are Connected Together At The Top Of C.B.S .Cubicle 3 30 Cm , 11Kv, Bus Coupler With Isolator. Cubicle 4 60 Cm At Half Height Of The Rest Cubicles. 11Kv, 630A Bus Metering.Cubicle 5 30 Cm, 11 Kv, 630A Outgoing Feeder With Motorized C.B. Cubicle 6 30 Cm , 11 Kv , 630 A Incoming Feeder With Motorized C.B. Note :- Feeders In Cubicles 5 & 6 Are Connected Together At The Top Of C.B'S And Connected With Feeders In Cubicle 1 & 2 Through Cubicle 3 & 4.	1	
03-01-00932	Medium Voltage Sub-Station Of Length 120 Cm And Width 69 Cm Consist Of 3- Cubicles With The Following Length And Contains (From Right To Left) See HV-5C .Cubicle 1 30 Cm , 3.3 Kv, 630A, 750 Kva Transformer Feeder With Motorized Cb.Cubicle 2 60 Cm At Half High Of The Rest Cubicles, 3.3 Kv , 630A Bus Metering (C. T) Cubicle 3 30 Cm , 3.3 Kv , 630A Incoming Feeder With Motorized CB.	2	
03-01-00933	High Voltage Sub- Station Of Length 180 Cm And Width 64 Cm Consist Of 6- Cubicles With The Following Length And Contains (From Right To Left) See Hv - 6 & 7 .Cubicle 1 30 Cm , 11Kv/400V , 2Mva , Trans. Feeder With Motorized C.B .Cubicle 2 30Cm 11Kv/400V, 2Mva , Trans . Feeder With Motorized C.B. Note :- Feeders In Cubicle 1& 2 Are Connected Together At The Top Of C.B'S.Cubicle 3 30Cm ,11 Kv Bus Coupler With Isolator .Cubicle 4 30 Cm , At Half Height Of The Rest Cubicles , 11Kv Bus Metering (C.T) .Cubicle 5 30 Cm 11Kv , Outgoing Feeder With Motorized C.B. Cubicle 6 30 Cm , 11 Kv, Incoming Feeder With Motorized C.B.	2	

CODE	DESCRIPTION	QTY	UNIT
03-01-00934	Medium Voltage Sub-Station Of Length 174 Cm And Width 90 Cm Consist Of 3-Cubicles With The Following Length And Contains(From Right To Left)See H.V 8 & 9.-Cubicle 1 With 58 Cm,3.3Kv Outgoing Feeder With Motorized C.B.-Cubicle 2 With 58Cm, 3.3Kv/400V , 400Kva Transformer Feeder With Motorized C.B. Cubicle 3 With 58 Cm 3.3Kv Incoming Feeder With Motorized C.B.	2	
03-01-00935	Medium Voltage Sub-Station Of Length 232 Cm And Width 90 Cm Consist Of 4-Cubicles With The Following Length And Contains(From Right To Left)See H.V 10. -Cubicle 1 With 58 Cm,3.3Kv/400V , 1 Mva Transformer Feeder With Motorized C.B. - Cubicle 2 With 58Cm, 3.3Kv , Outgoing Feeder With Motorized C.B. Cubicle 3 With 58 Cm 3.3Kv/400V Trans. Feeder With Motorized C.B. Cubicle 4 With 58 Cm 3.3 Kv , Incoming Feeder With Motorized C.B.	1	
03-01-00936	High Voltage Sub- Station Of Length 324 Cm And Width 160 Cm Consist Of 5- Cubicles With The Following Length And Contains (From Right To Left):See HV-11.- Cubicle 1 58 Cm , 11Kv /400V, 1 Mva Trans . Feeder With Motorized C.B. Cubicle 2 58 Cm, 11Kv/400V, 1Mva Trans. Feeder With Motorized C.B. -Cubicle 3 58 Cm , 11Kv Bus (C.T). - Cubicle 4 75 Cm , 11Kv Outgoing Feeder With Motorized C.B . - Cubicle 5 75 Cm , 11Kv Incoming Feeder With Motorized C.B.	1	
03-01-00937	Medium Voltage Sub-Station Of Length 580 Cm With 160 Cm , Cables In (Out) From Rear At Height 32 Cm Consist Of 10 Cubicles With The Following Length And Contains (From Right To Left) See Hv-12A: - Cubicles 1 With 58 Cm Empty For Future. Cubicles 2 , 3 , 4 , 6 , 8 , 9 & 10 With 58 Cm Each , 3.3Kv Feeders With Motorized C.B - Cubicle 5 & 7 With 58 Cm Each , 3.3Kv Bus Coupler	1	
03-01-00938	High Voltage Sub - Station Of Length 118 Cm And Width 160 Cm Cables In From Rear At Height 23 Cm And Out From Sides At Height 81 Cm . Consist Of 2- Cubicles With The Following Length And Contains (From Right To Left) See Hv- 12B: Cubicles 1& 2 , 59 Cm For Each , 11Kv/3.3 Kv , 630A Transformers Feeders With Motorized C.B.S	1	
03-01-00939	Medium Voltage Sub- Station Of Length 244 Cm And Width 160 Cm Consist Of 4- Cubicles With The Following Length And Contains (From Right To Left) See Hv-12C. Cubicles 1& 4. 61 Cm For Each At Half Height Of Rest Cubicles And Fixed In The Middle Side Of Other Cubicles . Contains 3.3 Kv Power Factor Correction. -Cubicles 2 & 3. 61CM For Each , 3.3 Kv Feeder With Motorized C-B'S.	1	
03-01-00940	Medium Voltage Sub - Station Of Length 800Cm And Width 140 Cm Consist Of 10-Cubicles With The Following Length And Contains(From Right To Left)See Hv-13: Cubicles 2,3,5,8,9 80Cm Each , 3.3 Kv Outgoing Feeders With Motorized C.B'S And Change Over Between Two Incoming Feeders.Cubicles 1 & 10 80 Cm Each 3.3Kv Incoming Feeders With Motorized C.B. Cubicles 4 & 7 80 Cm Each , 3.3 Kv/400V , 600Kva Trans . Feeders With Motorized C.B.'S And C.O'S Between Two Inc . Feeders. - Cubicle 6 80Cm , 3.3 Kv , 2Mva Generator Feeder With Motorized C.B And Change Over With Each Incoming Feeder	1	

CODE	DESCRIPTION	QTY	UNIT
03-01-00941	Medium Voltage Sub- Station Of Length 186 Cm And Width 70 Cm , Consist Of 3- Cubicles With The Following Length And Contains (From Right To Left) See Hv- 14& 15: Cubicle 1 62 Cm , 3.3 Kv Feeder With Motorized C.B. Cubicle 2 62 Cm , 3.3Kv/400 V, 500Kva Trans . Feeder With Motorized C.B. Cubicle 3 62 Cm , 3.3 Kv Outgoing Feeder With Motorized C.B..	2	
03-01-00942	Medium Voltage Sub-Station Of Length 575 Cm With 106 Cm , Consist Of 5 Cubicles With The Following Length And Contains (From Right To Left) See HV-16: - Cubicles 1 & 5 With 115 Cm Each, 3.3 Kv Incoming Feeder With Motorized C.B. - Cubicles 2 & 4 With 115 Cm Each, 3.3 Kv Outgoing Feeders With Motorized C.B And C.O. Between Two Incoming Feeders - Cubicle 3 With 115Cm ,3.3Kv/400V 100Kva Trans. Feeder With Motorized C.B And C.O. Between Two Incoming Feeders	1	
03-01-00943	Medium Voltage (3.3 Kv) Penal Of Length 680 Cm And Width 76 Cm Consist Of 4- Cubicles With The Following Contains And Length (From Right To Left) See Xne 10 -300.: Cubicles 1,2,3&4 Length 170 Cm / Cubicle Each Consist Of 2- Parts . The Right One Contain 3- Sets Of Resistance (3 Resistance/ Set) Connected To The Rotor Winding Of 220,150,150,90 Kw I.M Respectively With Vacuum Contractors . The Left Parts Contains Motorized C.B And Isolator Connected To The Stators Of The Above Motors ..	1	
03-01-00944	H.V Sub-Station Of Length 4Mand Width Of 1.5 M, Consists Of 5 Cubicles With The Following Length And Contains(From Right To Left; Kar). -Cubicle 1-80Cm,11Kv,1Mva Transformer Feeder With Motorized C.B And Protection.- Cubicle 2-80Cm,11Kv,1Mva Transformer Feeder With Motorized C.B And Protection. -Cubicle 3-80 Cm,11 Kv,Bus-Bar,Measuring. Cubicle 4-80 Cm ,11Kv,Incoming Feeder With Motorized C.B And Protection.Cubicle 5-80 Cm ,11Kv,Outgoingg Feeder With Motorized C.B And Protection.-The Control Voltage Is 110V Dc	5	
03-01-00945	L.T Control Panel Of Length 800 Cm And Width 30 Cm Consist Of 18- Cubicles With The Following Dimensions And Contains (From Right To Left) The Panel Operate 80 Motors. Cubicles 1- 8 & 11 - 18 Have Length 40 Cm / Cubicles, Each Cubicle Is Divided Into 5 Sections Isolated From Each Other With Dimensions (40 Cm X 30 Cm X 30 Cm), The Top One Contains An Isolator And The Others Contain D.O.L Starters Of Type Le1-D325 Or Equivalent , And Electronic O.L Each To Start 7.5 Kw Motor.Cubicles 9 & 10 Of Length 80 Cm / Cubicles Each Cubicle Is Divided Into 3 Sections Isolated From Each Other , The Top Contains C.B , The Middle Contains Metering Instruments (C.T & B.T)And The Bottom Contains Control Circuit (Plc) To Auto.Start 10% , 20% , 50% And 100% Of The Motors As Needed	1	

CODE	DESCRIPTION	QTY	UNIT
03-01-00946	L.T Control Panel Of Length 600 Cm And Width 60 Cm Consist Of 6- Cubicles With The Following Dimensions And Contains (From Right To Left)The Panel Operate 20 Motors.Cubicles 1, 2 , 5 , 6 Have Length 100 Cm / Cubicles, Each Cubicle Is Divided Into 6 Sections Isolated From Each Other With Dimensions (100 Cm X 60 Cm X 65 Cm), The Top One Contains An Isolator And The Others Contain Autotransformer Starters And Electronic O.L With Thermostat To Start 37 Kw Motor.Cubicles 3 & 4 Of Length 100 Cm / Cubicles Each Cubicle Is Divided Into 3 Sections Isolated From Each Other , The Top Contains C.B , The Middle Contains Metering Instruments (C.T & B.T)And The Bottom Contains Control Circuit (Plc) To Auto.Start 10% , 20% , 50% And 100% Of The Motors As Needed	1	
03-01-00947	L.T Control Panel Of Length 585 Cm And Width 40 Cm And Height 225 Cm Consist Of 10- Cubicles With The Following Length And Contains (From Right To Left), Cubicles 1 Have Length 48 Cm For Cables House Cubicle 2 Have Length 60 Cm And Divided Into 6 Sections , The Top 4 Sections Contain C.Breakers (125/100), The 5Th Section Contains Miniatures (4X6A , 1X16A , 2X32A).Cubicle 3 Have Length 60 Cm , 400 V Feeder With Isolator And Metering Instrument (C.T).Cubicle 4 Have Length 60 Cm Cable Pass .Cubicle 5 Have Length 72 Cm, Power Factors Correction Units.Cubicle 6 Have Length 48 Cm , Cable Pass With Isolator.Cubicle 7 Have Length 60 Cm, 400 V Feeder With 1250 A Isolator And Metering Instrument(C.T).Cubicle 8 Have Length 48 Cm, Cable Pass With Isolator.Cubicle 9&10 Have Length 60 Cm /Cubicle,11Kv/400V,1Mva Transformers Feeders With 1600A Isolators And Phase Failure.	1	
03-01-00948	L.T Control Panel Of Length 800 Cm And Width 40 Cm And Height 225 Cm Consist Of 13- Cubicles With The Following Length And Contains (From Right To Left). See Xne10-101:.Cubicles 1 Have Length 48 Cm For Cables House. Cubicle 2 Have Length 60 Cm And Divided Into 4 Sections , The Top 2 Sections Contain C.Breakers (125/100), The 3Rd Section Contains Miniatures (1X50A 2X52A , 2X16A,4X6A).Cubicle 3 Have Length 48 Cm , Cables House.Cubicle 4 Have Length 60 Cm ,Divided Into 5- Sections, The Top 4-Sections Have Hight 40Cm And Contain C.B(125/100)., Cubicle 5 Have Length 60,400V Feeder With Isolator And Metering Instrument (C.T).Cubicle 6 Have Length 60 Cm , Cable Pass .Cubicle 7 Have Length 60 Cm, Contains P.F Correction Units Cubicle 8 And 11 Have Length 48 Cm, Cable Pass With Isolator.Cubicle 9&10 Have Length 60 Cm/Cubicle 400V Feeder With 1600A Isolator. Cubicles 12 & 13 Have Length 60Cm/Cubicle , 11Kv/400V 2Mva , Transformer Feeder With 3200 A Isolator And Metering Instruments (C.T) And Phase Failure	1	

CODE	DESCRIPTION	QTY	UNIT
03-01-00949	L.T Control Panel Of Length 888 Cm And Width 40 Cm And Height 225 Cm Consist Of 16- Cubicles With The Following Length And Contains (From Right To Left). See Xne1070Aa.: Cubicles 1 , 3 & 5 Have Length 48 Cm For Cables House. Cubicles 2 & 6 Have Length 60 Cm/Cubicle And Divided Into 6 Sections , The Top 5 Sections Contain C.Breakers (125/100), Cubicle 4 Have Length 60 Cm, Divided Into 5-Sections, The Top 3-Sections Contain C.B(400/100). The 4Th Section Contains Miniature (2X82A, 2X16A , 4X6A). Cubicle 7 , 9 & 14 Have Length 48 Cm/Cubicle Cable Pass With Isolator. Cubicle 8 Have Length 60 Cm , 400V Feeder With Isolator And Metering Instrument (C.T) Cubicle 10 Have Length 60 Cm, Cable Pass . Cubicle 11 Have Length 60 Cm, Contains P.F Correction Units.Cubicles 12 & 13 Have Length 60Cm/Cubicle , 400V Feeder With Metering Instruments And 1600 A Isolator .	1	
03-01-00950	L.T Control Panel Of Length 880Cm And Width 70Cm (110V Dc,Kar)Consist Of The Following Length And Contains (From Right To Left)The Panel Work In Two Modes(Auto-Man).Cubicle 1 ,Control Relays To Control 12 Starters To Work Sequentially. Cubicle 2 Service. Cubicles(3,4,5,6,7,8)Each(60,60,80)Cm,Have Two Starter Area(Auto-Trans Starter)For Operating 12 Motors Each 18.5 Kw. Cubicle 9 ,Incoming 1&2 With Measuring &630Amccb 2-No.	6	
03-01-00951	L.V Cables Are For Submersible Pumps (Rubber Type), 11Kv- 3 X 150Mm2	1500m	
03-01-00952	L.V Cables Are For Submersible Pumps (Rubber Type), 3.3Kv- 3X150 Mm2	500 m	
03-01-00953	L.V Cables Are For Submersible Pumps (Rubber Type), 1000V- 4X50 Mm2(Flax.)	1500 m	
03-01-00954	L.V Cables Are For Submersible Pumps (Rubber Type), L.V-4X25 Mm2(Flax.)	1750 m	
03-01-00955	L.V Cables Are For Submersible Pumps (Rubber Type), L.V-4X16 Mm2(Flax.)	1750 m	
03-01-00956	L.V Cables Are For Submersible Pumps (Rubber Type), L.V-4X10 Mm2(Flax.)	1000 m	
03-01-00957	L.V Cables Are For Submersible Pumps (Rubber Type), L.V-4X6 Mm2(Flax.)	1000 m	
03-01-00958	End Terminals Made From Copper Coated By Zinc, 2.5 Mm2	5,001	
03-01-00959	End Terminals Made From Copper Coated By Zinc, 6 Mm2	1,750	
03-01-00960	End Terminals Made From Copper Coated By Zinc, 4 Mm2	1,000	
03-01-00961	End Terminals Made From Copper Coated By Zinc, 10 Mm2	1,000	
03-01-00962	End Terminals Made From Copper Coated By Zinc, 16 Mm2	1,500	
03-01-00963	End Terminals Made From Copper Coated By Zinc, 25 Mm2	1,500	
03-01-00964	End Terminals Made From Copper Coated By Zinc, 35 Mm2	1,500	
03-01-00965	End Terminals Made From Copper Coated By Zinc, 50 Mm2	1,000	
03-01-00966	End Terminals Made From Copper Coated By Zinc, 75 Mm2	2,000	
03-01-00967	End Terminals Made From Copper Coated By Zinc, 125 Mm2	1,000	
03-01-00968	End Terminals Made From Copper Coated By Zinc, 180 Mm2	1,000	
03-01-00969	End Terminals Made From Copper Coated By Zinc, 240 Mm2	500	
03-01-00970	Middle Terminals Made From Copper Coated By Zinc, 2.5 Mm2	1,500	
03-01-00971	Middle Terminals Made From Copper Coated By Zinc, 6 Mm2	1,750	
03-01-00972	Middle Terminals Made From Copper Coated By Zinc, 4 Mm2	1,000	
03-01-00973	Middle Terminals Made From Copper Coated By Zinc, 10 Mm2	1,000	
03-01-00974	Middle Terminals Made From Copper Coated By Zinc, 16 Mm2	1,500	

CODE	DESCRIPTION	QTY	UNIT
03-01-00975	Middle Terminals Made From Copper Coated By Zinc, 25 Mm2	1,500	
03-01-00976	Middle Terminals Made From Copper Coated By Zinc, 35 Mm2	1,500	
03-01-00977	Middle Terminals Made From Copper Coated By Zinc, 50 Mm2	1,000	
03-01-00978	Middle Terminals Made From Copper Coated By Zinc, 75 Mm2	2,000	
03-01-00979	Middle Terminals Made From Copper Coated By Zinc, 125 Mm2	1,000	
03-01-00980	Middle Terminals Made From Copper Coated By Zinc, 180 Mm2	1,000	
03-01-00981	Middle Terminals Made From Copper Coated By Zinc, 240 Mm2	500	
03-01-00982	Circuit Breakers, Type Mcb (Manager C.B), It Should Be Screw Type And The Height Of Screw At Least 3 Cm From The Base, 25A-3P-400V	250	
03-01-00983	Circuit Breakers, Type Mcb (Manager C.B), It Should Be Screw Type And The Height Of Screw At Least 3 Cm From The Base, 2A-2P-400V	500	
03-01-00984	Circuit Breakers, Type Mcb (Manager C.B), It Should Be Screw Type And The Height Of Screw At Least 3 Cm From The Base, 6A-2P-400V	500	
03-01-00985	Circuit Breakers, Type Mcb (Manager C.B), It Should Be Screw Type And The Height Of Screw At Least 3 Cm From The Base, 32A-3P-400V	250	
03-01-00986	Circuit Breakers, Type Mcb (Manager C.B), It Should Be Screw Type And The Height Of Screw At Least 3 Cm From The Base, 50A-3P-400V	200	
03-01-00987	Circuit Breakers, Type Mcb (Manager C.B), It Should Be Screw Type And The Height Of Screw At Least 3 Cm From The Base, 100A-3P-400V	200	
03-01-00988	Circuit Breakers, Type Mcb (Manager C.B), It Should Be Screw Type And The Height Of Screw At Least 3 Cm From The Base, 150A-3P-400V	150	
03-01-00989	Circuit Breakers, Type Mcb (Manager C.B), It Should Be Screw Type And The Height Of Screw At Least 3 Cm From The Base, 0.5A-2P-400V	150	
03-01-00990	Circuit Breakers, Type Mccb. All Items Have Thermal And Magnetic Setting. All Items Poles Have Height Of 6 Cm From Base, 100A-3P	150	
03-01-00991	Circuit Breakers, Type Mccb. All Items Have Thermal And Magnetic Setting. All Items Poles Have Height Of 6 Cm From Base, 125A-3P	125	
03-01-00992	Circuit Breakers, Type Mccb. All Items Have Thermal And Magnetic Setting. All Items Poles Have Height Of 6 Cm From Base, 200A-3P	125	
03-01-00993	Circuit Breakers, Type Mccb. All Items Have Thermal And Magnetic Setting. All Items Poles Have Height Of 6 Cm From Base, 250A-3P	125	
03-01-00994	Circuit Breakers, Type Mccb. All Items Have Thermal And Magnetic Setting. All Items Poles Have Height Of 6 Cm From Base, 400A-3P	125	
03-01-00995	Circuit Breakers, Type Mccb. All Items Have Thermal And Magnetic Setting. All Items Poles Have Height Of 6 Cm From Base, 630A-3P Motorized	100	
03-01-00996	Circuit Breakers, Type Mccb. All Items Have Thermal And Magnetic Setting. All Items Poles Have Height Of 6 Cm From Base, 800A-3P Motorized	75	

CODE	DESCRIPTION	QTY	UNIT
03-01-00997	Circuit Breakers, Type Mccb. All Items Have Thermal And Magnetic Setting. All Items Poles Have Height Of 6 Cm From Base, 1250A-3P Motorized	50	
03-01-00998	Circuit Breakers, Type Mccb. All Items Have Thermal And Magnetic Setting. All Items Poles Have Height Of 6 Cm From Base, 1600A-3P Motorized	50	
03-01-00999	Drawable Circuit Breakers, All Items Have Thermal + Magnetic Setting, 1600A-3P	25	
03-01-01000	Drawable Circuit Breakers, All Items Have Thermal + Magnetic Setting, 2000A-3P	15	
03-01-01001	Drawable Circuit Breakers, All Items Have Thermal + Magnetic Setting, 2500A-3P	15	
03-01-01002	Drawable Circuit Breakers, All Items Have Thermal + Magnetic Setting, 3200A-3P	16	
03-01-01003	High Voltage Circuit Breaker (Caloremag) (Austria). Type: Ob 3M 12012 P 500 (3Poles). Rated Fruq: 50/60 Hz. Rated Voltag:12Lv. Rated Breaking: Capacity :1250 A. Rated Sym. Breaking Currant :25Ka. Rated Making Currant :70 Ka. Rated Short - Timcurrant:3Sec 23A	3	
03-01-01004	High Voltage Circuit Breaker (Calor Emag) (Austria). Type: Od 3M 1008 P 500 (3Poles). Rated Fruq: 50/60 Hz. Rated Voltag:12Lv. Rated Breaking: Capacity :500 Mv A. Rated Currant :800A. Rated Sym. Breaking Currant :25Ka. Rated Making Currant :70 Ka. Rated Short - Timcurrant:3Sec 23A	10	
03-01-01005	Low Voltage 110 (V) (D.C) Motories Circute Breaker. (Calor Emag.)3Poles). Type: 7Aa5-3153. Ie: 3150A. Ue: 500V. Vde: 0660. Type Of Release: R:M5 ,A:3153. T: Thermal- Release:0.6 - 1*Ith2. M:Magnetic- Release : 4- 12I Th2. Iec: 157-1. U: 1000V . (Tpm) Release. Sip:1	1	
03-01-01006	Manual Starters With 1 N.O. And N.C. Contact 6A (Control), 1- 5A(Th)400V-3P	140	
03-01-01007	Manual Starters With 1 N.O. And N.C. Contact 6A (Control), 5- 10A(Th) 400V-3P	140	
03-01-01008	Manual Starters With 1 N.O. And N.C. Contact 6A (Control), 30- 50A(Th) 400V-3P	140	
03-01-01009	Manual Starters With 1 N.O. And N.C. Contact 6A (Control), 50- 80A(Th) 400V-3P	130	
03-01-01010	Manual Starters With 1 N.O. And N.C. Contact 6A (Control), 80- 100A(Th) 400V-3P	120	
03-01-01011	Bottle Fuse 2A-400V (H.R.C)	1,500	
03-01-01012	Bottlefuse 6A-400V(H.R.C)	1,250	
03-01-01013	Cylinder Fuse 2A-400V(H.R.C)	1,250	
03-01-01014	Cylinder Fuse 6A-400V(H.R.C)	1,150	
03-01-01015	Cylinder Fuse 32A-400V(H.R.C)	1,200	
03-01-01016	Cylinder Fuse 50A-400V(H.R.C)	1,250	
03-01-01017	Bottle Fuse 32A-400V (H.R.C)	1,250	
03-01-01018	Bottle Fuse 50A-400V (H.R.C)	1,250	
03-01-01019	Knife Fuse 32A-400V(H.R.C)	1,150	
03-01-01020	Knife Fuse50A-400V(H.R.C)	1,150	
03-01-01021	Knife Fuse 100A-400V(H.R.C)	1,150	
03-01-01022	Knife Fuse 125A-400V(H.R.C)	1,150	
03-01-01023	Knife Fuse 250A-400V(H.R.C)	100	
03-01-01024	High Voltage Fuse 40A-11 Kv	115	
03-01-01025	High Voltage Fuse 60A-11Kv	130	

CODE	DESCRIPTION	QTY	UNIT
03-01-01026	High Voltage Fuse 80A-11Kv	130	
03-01-01027	High Voltage Fuse 100A-11Kv	150	
03-01-01028	High Voltage Fuse 160A-11Kv	150	
03-01-01029	High Voltage Fuse 630A-11Kv	150	
03-01-01030	Contactor Have A Coil 220V A.C, Type Cuttler- Hammer Or Equivalent, Type Ith 20A	160	
03-01-01031	Contactor Have A Coil 220V A.C, Type Cuttler- Hammer Or Equivalent, Type Ith50A	160	
03-01-01032	Contactor Have A Coil 220V A.C, Type Cuttler- Hammer Or Equivalent, Type Ith100A	140	
03-01-01033	Contactor Have A Coil 220V A.C, Type Cuttler- Hammer Or Equivalent, Type Ith250A	120	
03-01-01034	Contactor Have A Coil 220V A.C, Type Cuttler- Hammer Or Equivalent, Type Ith355A	120	
03-01-01035	Contactor Have A Coil 220V A.C, Type Cuttler- Hammer Or Equivalent, Type Ith400A	50	
03-01-01036	Contactor Have A Coil 220V A.C, Type Cuttler- Hammer Or Equivalent, Type Ith630A	50	
03-01-01037	Contactor Have A Coil 220V A.C, Type Cuttler- Hammer Or Equivalent, Type Ith180A	90	
03-01-01038	Isolator Fuse Type Cuttler – Hammer Or Equivalent With Fuses Type 1108K 2300	40	
03-01-01039	Contactors Have A Coil 110 V DC Type ABB Or Equivalent, 3B (Kar), Type Ith 20A	100	
03-01-01040	Contactors Have A Coil 110 V DC Type ABB Or Equivalent, 3B (Kar), Type Ith45A	200	
03-01-01041	Contactors Have A Coil 110 V DC Type ABB Or Equivalent, 3B (Kar), Type Ith55A	150	
03-01-01042	Contactors Have A Coil 110 V DC Type ABB Or Equivalent, 3B (Kar), Type Ith75A	150	
03-01-01043	Contactors Have A Coil 110 V DC Type ABB Or Equivalent, 3B (Kar), Type Ith100A	100	
03-01-01044	Contactors Have A Coil 110 V DC Type ABB Or Equivalent, 3B (Kar), Type Ith125A	100	
03-01-01045	Contactors Have A Coil 110 V DC Type ABB Or Equivalent, 3B (Kar), Type Ith250A	75	
03-01-01046	Contactors Have A Coil 110 V DC Type ABB Or Equivalent, 3B (Kar), Type Ith355A	50	
03-01-01047	Contactors Have A Coil 110 V DC Type ABB Or Equivalent, 3B (Kar), Type Ith400A	25	
03-01-01048	Contactors Have A Coil 110 V DC Type ABB Or Equivalent, 3B (Kar), Type Ith630A	25	
03-01-01049	Electronic Overload Relays, Motor Protection Type Mn S.E- Rated Current 5A. P.B Eng. Co. Ltd Craw Ley. 3P 50Hz	4	
03-01-01050	Electronic Overload Relays, Electronic Over Load Itm 7630 France lee 48V	4	
03-01-01051	Electronic Overload Relays, Electronic Over Load Ttg 7123 France lee 48V	4	
03-01-01052	Electronic Overload Relays, 0.8-1.5A(1 N.O.-1 N.C Screw Type Electronic Epoxy Coated)	200	
03-01-01053	Electronic Overload Relays, 1.5-2.5A(1 N.O-1 N.C Screw Type Electronic Epoxy Coated	50	
03-01-01054	Electronic Overload Relays, 2.5-4A(1 N.O-1 N.C Screw Type Electronic Epoxy Coated	30	

CODE	DESCRIPTION	QTY	UNIT
03-01-01055	Electronic Overload Relays, 4-8A (1 N.O-1 N.C Screw Type Electronic Epoxy Coated	20	
03-01-01056	Electronic Overload Relays, 8-13A(1 N.O-1 N.C Screw Type Electronic Epoxy Coated	25	
03-01-01057	Electronic Overload Relays, 13--18A(1 N.O-1 N.C Screw Type Electronic Epoxy Coated	90	
03-01-01058	Electronic Overload Relays, 18-25A(1 N.O-1 N.C Screw Type Electronic Epoxy Coated	50	
03-01-01059	Electronic Overload Relays, 25-32A(1 N.O-1 N.C Screw Type Electronic Epoxy Coated	90	
03-01-01060	Electronic Overload Relays, 32-50A(1 N.O-1 N.C Screw Type Electronic Epoxy Coated	35	
03-01-01061	Electronic Overload Relays, 50-80A(1 N.O-1 N.C Screw Type Electronic Epoxy Coated	40	
03-01-01062	Electronic Overload Relays, 80-125A(1 N.O-1 N.C Sc Type Electronic Epoxy Coated	15	
03-01-01063	Electronic Overload Relays, 125- 160A(1.N.C Screw Type Electronic C.T Epoxycoated	15	
03-01-01064	Electronic Overload Relays, 160-200A(1.N.O, I.N.C Screw Type Electronic C.T Epoxy Coated	15	
03-01-01065	Electronic Overload Relays, 200-320A(1.N.C Screw Type Electronic C.T Epoxy Coated	15	
03-01-01066	Electronic Overload Relays, 320-450A(1.N.C Screw Type Electronic C.T Epoxy Coated	15	
03-01-01067	Timers, Block Timer Cuttler – Hammer Mc 320Tf 0.1-30S (On – Delay) Or Equivalent (Same Shape)	100	
03-01-01068	Timers, Block Timer Telemecqunic(No- Off Delay) 0-30 S , Pvc	50	
03-01-01069	Timers, Electronic Timer 220V On-Delay 0-3 Min , P.V.C	140	
03-01-01070	Timers, Electronic Timer 220V Off-Delay 0-3 Min , P.V.C	140	
03-01-01071	Timers, Pulse Timer 220V (On Time O- 1 Day Off Time O- 1 Day) , P.V. C	175	
03-01-01072	Timers, Block Timer Peter-Cen Or Equivalent. P.V.C(Kar)	250	
03-01-01073	Digital Ammeters 3015-400V Set	160	
03-01-01074	Digital Ammeters 10015-400V Set	130	
03-01-01075	Digital Ammeters 250/5-400V Set	150	
03-01-01076	Digital Ammeters 1000/5-400V Set	100	
03-01-01077	C.T 3-3Kv 40/5 With Digital Ammeter (Set)	6	
03-01-01078	C.T 3-3Kv 80/5 With Digital Ammeter (Set)	4	
03-01-01079	Power Factor Improving Units, Weather Proof , Oil Type , 600Kvar , 3-P , 50Hz, 3.3Kv, Scaling 100 Kvar With Units Input Controller And All Necessary Operation Relays With Cable Of Length 25 M	2	
03-01-01080	Power Factor Improving Units, Weather Proof , Oil Type, 500 Kvar , 50Hz, 400V, With All Relays And Controllers , Distribution 50Kvar , With Cable Of Length 25 M	7	
03-01-01081	Power Factor Improving Units, Weather Proof , Oil Type, 400 Kvar , 50Hz, 400V, With All Relays And Controllers , Distribution 50Kvar , With Cable Of Length 50 M(Kar)	10	
03-01-01082	Power Factor Correction Instrument . (Kapsch). Type:-0.4 /600/10/12.(Rtz). Consist Of 12 Cases:-One For Control Devise.One For Wires Connections. Then For Capacities And Contractors ,lth2 Of The Contractors: 160A.Capaciter:3 3978,9, Current: 3 866A. Voltage : 3 400V. Kvar : 3 600 Kvar. Freq: 50 Hz	10	

CODE	DESCRIPTION	QTY	UNIT
03-01-01083	400W Mercury Bulb Screw Type 220V 50Hz Chock	1,000	
03-01-01084	400W Mercury Fitting Indoor Type With Chock	500	
03-01-01085	250W Mercury Bulb With Fitting (Weather Proof) Chock 200V 50Hz	300	
03-01-01086	400W Mercury Fitting Out - Door (Weather Proof) Chock .	400	
03-01-01087	Emergency Rechargeable Light 220V, 50Hz, 20W	100	
03-01-01088	100W Fitting (Water Proof) 220V 50Hz With Bulb	250	
03-01-01089	Portable Torch Rechargeable 5W With Spare Bulb	100	
03-01-01090	Tank Starters	35	
03-01-01091	Voltage Control Starting, Type 22Kw, 400V,50Hz	3	
03-01-01092	Voltage Control Starting, Type 11Kw, 400V, 50Hz	7	
03-01-01093	Voltage Control Starting, Type 15Kw, 400V,50Hz	4	
03-01-01094	Voltage Control Starting, Type 30Kw, 400V,50Hz(Kar)	15	
03-01-01095	Voltage Control Starting, Type 100Kw, 400V,50Hz(Kar)	4	
03-01-01096	Voltage Control Starting, Type 250Kw, 400V,50Hz(Kar)	5	
03-01-01097	Frequency Control & Variable Resistance, Type 11Kw,400V,50Hz	4	
03-01-01098	Frequency Control & Variable Resistance, Type 7.5Kw, 400V,50Hz	3	
03-01-01099	Frequency Control & Variable Resistance, Type 30Kw,400V,50Hz	6	
03-01-01100	Frequency Control & Variable Resistance, Type 30Kw,400V,50Hz	4	
03-01-01101	Frequency Control & Variable Resistance, Type 220Kw,400V,50Hz	1	
03-01-01102	Frequency Control & Variable Resistance, Type 160Kw,400V,50Hz	2	
03-01-01103	Copper – Graphite Brushes With Flexible Wire Coated By Anticorrosive Metal (60x30Mm)	1,500	
03-01-01104	Shrinkable Joint, Type 400V, 4x150mm2,Ruber	500	
03-01-01105	Shrinkable Joint, Type 400V, 4x125mm2,Ruber	1,000	
03-01-01106	Shrinkable Joint, Type 400V, 4x950mm2,Ruber	500	
03-01-01107	Shrinkable Joint, Type 400V, 4x75mm2,Ruber	500	
03-01-01108	Shrinkable Joint, Type 400V, 4x50mm2,Ruber	1,000	
03-01-01109	Shrinkable Joint, Type 400V, 4x35mm2,Ruber	1,000	
03-01-01110	Shrinkable Joint, Type 400V, 4x25mm2,Ruber	1,350	
03-01-01111	Shrinkable Joint, Type 400V, 4x16mm2,Ruber	1,500	
03-01-01112	Shrinkable Joint, Type 400V, 4x10mm2,Ruber	1,500	
03-01-01113	Shrinkable Joint, Type 400V, 4x6 mm2,Ruber	1,500	
03-01-01114	Shrinkable Joint, Type 400V, 4x4mm2,Ruber	1,500	
03-01-01115	Ohmmeter O® 100(±0.001W)	10	
03-01-01116	Inductance Meter (Motortester)	5	
03-01-01117	Mager (Electronic) 5Kv	10	
03-01-01118	Mager (Handle)5Kv	10	
03-01-01119	Mager 50 Kv	2	
03-01-01120	Clamp Meter , 0 to 400A, 11Kv, Digital	3	
03-01-01121	Clamp Meter , 0 to 600A, 3.3V Digital .	2	
03-01-01122	Clamp Meter , 0 to 600A, 400V Digital .	15	
03-01-01123	Clamp Meter , 0 to 600A, 400V Analogue .	10	
03-01-01124	A.V.O Meter Digital [= 0 to 20A(D-C-A-C)	50	
03-01-01125	A.V.O Meter Analogue I= 0 to 20A(D-C-A-C)	50	
03-01-01126	Voltage Tester (Probe) 0--- 1000 V.	100	
03-01-01127	M.V Test Stick 0 to 3.3 K.V	5	
03-01-01128	H.V Test Stick 0 to 25 K.V	10	

CODE	DESCRIPTION	QTY	UNIT
03-01-01129	Hour - Meter , 220V, 50 Hz	100	
03-01-01130	Hertz Meter , 220V, 380 V, 0 to 100Hz	100	
03-01-01131	Power Factor Meter 380 V, 50 Hz	5	
03-01-01132	Hour- Meter-110V Dc.	100	
03-01-01133	Drill - 220 V, 500 W , 3- Speed	10	
03-01-01134	Set Of Wrench Isolated 8 to 32mm2	10	
03-01-01135	Set Of Alen - Key 0.5 to 18mm2	20	
03-01-01136	Set Of Star Alen - Key 0.5 to 18mm2	10	
03-01-01137	Vice (3-Sizes)	16	
03-01-01138	Fixed Grinder Machine	10	
03-01-01139	Fixed Drill -220V, 6-Speed , 600W	5	
03-01-01140	Spot Welding 1000W Up To 3mm2	3	
03-01-01141	Terminal Press 0 to 50 mm2	6	
03-01-01142	Terminal Press 50 to 240 mm2 (Hydrolic)	3	
03-01-01143	Blower For Shrinkable Join Up To 100C	3	
03-01-01144	Float Switch (Swage 20 M, 1 N.O , 1N.C, 6A, 220V)	100	
03-01-01145	Extension Wire Roller (3x4 mm2- 50m)	10	
03-01-01146	Pillars 1000V	20	
03-01-01147	Set Of Screw Driver (Electrical)	50	
03-01-01148	Wire Cutter Up To 18 Mm2 (Set)	10	
03-01-01149	Set Of Disc Up To 20 Mm2	10	
03-01-01150	Set Tapes Up To 20mm2	10	
03-01-01151	Portable Grinder Machine 500W, 220V, 50Hz	5	
03-01-01152	Ultra- Sonic Level Control (Water Lever) With Catalogue And Operation Information	30	
03-01-01153	Starter Resistance, Type 250 Kw ,500V,252A Ohms - Rating 65 Ph	5	
03-01-01154	Starter Resistance, Type 142 Kw Bb588 W1 Cuttler - Hamer	4	
03-01-01155	Electrical Motors, Type Squirrel - Cage Induction Motor , 7.5 Kw, 380V, 17.6A, 975R.P.M, V1, Delta Connection , Classf , Ip55	60	
03-01-01156	Electrical Motors, Type Squirrel - Cage - 15Kw, 380V, V1. 31A, 1440Rpm , Delta, Classf, Ip55	60	
03-01-01157	Electrical Motors, Type Squirrel - Cage - 2.2Kw, 380V, V1. 31A, 710Rpm V1, Classf, Ip55 With Oil Seal .	4	
03-01-01158	Electrical Motors, Type Squirrel - Cage - 1.1Kw, 380V1440Rpm ,V1,Classf, Ip55With Oil Seal .	6	
03-01-01159	Electrical Motors, Type Squirrel - Cage - 0.25Kw, 380V 1400 Rpm ,0.85A ,Classf,V1, Ip55 With Oil Seal .	15	
03-01-01160	Electrical Motors, Type Squirrel - Cage - 0.55Kw, 380V,50Hz ,V1,Classf, Ip55, Rpm, With Oil Seal .	12	
03-01-01161	Electrical Motors, Type Squirrel - Cage - 1.1 Kw, 380V,1440Rpm,Classf, Ip55,B1 .	6	
03-01-01162	Electrical Motors, Type Slip-Ring, 7.5Kzw,380V,1420Rpm , 16.5A,V1,Classf,Ip23	3	
03-01-01163	Electrical Motors, Type Squirrel - Cage - 11 Kw, 380V1450Rpm ,V1,Classf, Ip55.	6	
03-01-01164	Electrical Motors, Type Squirrel - Cage - 22Kw, 380V1440Rpm ,Ip55,42A, Class F ,B1.	3	
03-01-01165	Electrical Motors, Type Squirrel - Cage - 15Kw, 380V1460Rpm , Class F, Ip55, B1.	4	
03-01-01166	Electrical Motors, Type Slip-Ring, ,105Hp,3.3Kv ,585Rpm, Ip23V1,Vrot= 400 V ,Irot= 119A, Class F- H	1	

CODE	DESCRIPTION	QTY	UNIT
03-01-01167	Electrical Motors, Type Slip-Ring, 303Kv,220Kw,Ip23,422Rpm Class F-H, Vrot = 500, Irot= 252A	1	
03-01-01168	Electrical Motors, Type Slip-Ring, 303Kv,160Kw,492Rpm, Class F V1.	2	
03-01-01169	Electrical Motors, Type Slip-Ring, 400V,297Kw, 585Rpm, Ip23 Class F, V1	1	
03-01-01170	Electrical Motors, Type Slip-Ring, 160Kw,3.3Kv,720 Rpm Ip23, Class F ,V1	1	
03-01-01171	Electrical Motors, Type Slip-Ring, 90Kw,3.3Kv,720Rpm Ip23, Class F , V1	1	
03-01-01172	Electrical Motors, Type Slip-Ring, Flange Abb Or Equivalent Type Vbpp315 Sr6,0.85 Cosj,110Kw/Rotor 180V/363A/S1,Ip23(Kar),960 Rpm.	4	
03-01-01173	Electrical Motors, Type Slip-Ring,Flange, Brook-Crompton,Cw250 Md Flam H414E-4,55Kw,380V,960 Rpm,Rotor337V-100A.	4	
03-01-01174	Electrical Motors, Type Squirrel - Cage - (Kar)Flange Type Bbc Or Equivalent Type Mejc 9058,0.37Kw,690 Rpm,Ip55.,Classf.	50	
03-01-01175	Electrical Motors, Type Squirrel - Cage - (Kar)Flange Type Bbc Vjul 180 L4/18.5 Kw,1455 Rpm,Delta 380V,Classf.	50	
03-01-01176	Electrical Motors, Type Induction Motor (AEG): Type: Am 315 Mm (Horizontal Type). Speed: 1480 R.P.M, Power : 160 Kw, Voltage: 380 V (Delta) (3 Poles), Freq: 50 Hz.	4	
03-01-01177	Induction Motor (AEG). Type: Am 315 Mm (Horizontal Type), Speed: 1480 R.P.M, Power : 132 Kw, Voltage: 380 V (Delta) (3 Poles), Freq: 50 H Z	4	
03-01-01178	Vertical Motor Coupling Mounted BBC. Power: 18.5 Kw, Speed: 1455 R.P.M, ^ 380V, 36A	10	
03-01-01179	Vertical Motor Coupling Mounted BBC. Type: Mjulj 180 L4, Power: 22 Kw, Speed: 1455 R.P.M 380 V 36 A^ 380V 36A	4	
03-01-01180	Induction Motor (AEG)(Germany). Type: Am 315 Mm 416 Flang Speeds). Speed: 1488/990 R.P.M (Tow Speeds). Power : 110/75Kw. Voltage: 380 V (Delta) (3 Poles). Freq: 50 Hz. 50 H Z.	8	
03-01-01181	Induction Motor (3Poles) (Leroy - Somer) (France). Type: Ls 6312, (Flange Type), Speed: 1480 R.P.M), Power : 0.37 Kw, Voltage : 380 V (Delta) (3Poles), Freq: 50 Hz.	40	
03-01-01182	1.5Kw, 3000R.R.P.M , 380V,Ip55, O50Cm (Tube)	10	
03-01-01183	1.5Kw, 3000.R.P.M , 380V,Ip55, O255Cm (Tube)	2	
03-01-01184	0.7Kw,3000R.P.M, 220V,Ip55,O30 Cm (Tube), 2-Direction, Fixedhouse(15M)	4	
03-01-01185	Air Blowers : Air Blowers Hibon 70, Type Snh 70, With Motor Type : Meul G315 S4, Power : 110 Kw, Speed : 14.80 H.P.M 380 V, 210A	4	
03-01-01186	Air Blowers : Hebon 11, Type : Sivh 11, With Motor Type : Meul G200 L4, Power : 30Kw, Speed : 1460 R.P.M , 380 88A	4	
03-01-01187	Hybon-11-30Kw,1455 Rpm.	6	
03-01-01188	Pumps : Manufactured By Spp-England Q=350 G/Min, H= 9 M , With Motor 380V, 7.5 Kw, 910 Rpm (R.S.Ro)	3	
03-01-01189	Pumps : Name Of Manful. Sulzer Delta Pump Type : Fn 125-315-40A Horizontal. Q=137 M3/Hr , H= 6M Pressure= 4 Bar (R.S.R1)	2	

CODE	DESCRIPTION	QTY	UNIT
03-01-01190	Pumps : Name Of Manful. Sulzer Delta Pump Type : Fn 125-315-40A. Qmin : 50 M3/Hr H=7.5M. Qmax : 137 M3/Hr H=6M. Horizontal , 1450 Rpm, Pressure 10 Bar (R.S.R2)	10	
03-01-01191	Pumps : Spp- England. Q = 350 Gal/ Min H = 18 M. 11 Kw 1450 Rpm (M.S.Ro)	8	
03-01-01192	Pumps : Sulzer Delta: Type : Fna 125-315-40Dx. Qmin : 50 M3/Hr H=23M. Qmax : 136 M3/Hr H=21M. 1450 Rpm Pressure 10 Bar. (M.S.R2)	8	
03-01-01193	Pumps : Spp- England: Q = 15000 G/ Min H = 12.5 M. 422 Rpm (M.S.Ro)	1	
03-01-01194	Pumps : Sulzer Delta Pump Type : Spa 55-60X,Q= 15000 G/Min,Qmin : 3200 M3/Hr H=16M,Qmax : 4087 M3/Hr H=13M. Pressure 205 Bar (M.L.R2)	2	
03-01-01195	Pumps : Sulzer Delta: Pump Type : Rd 24. Qmin : 1250 M3/Hr H=14M. Qmax : 3269 M3/Hr H=7.75M. Pressure : 10 Bar. Slip-Ring Motor. 380V , 730 Rpm , 102 Kw. With Control Panel (F.R2)	4	
03-01-01196	Pumps : Sulzer Delta: Pump Type : Rd 20. Qmin : 500 M3/Hr H=10M. Qmax : 1635 M3/Hr H=6.5M. Pressure = 10 Bar. Slip-Ring Motor 380V , 733 Rpm 40.5 Kw With Control Panel (F.R2)	2	
03-01-01197	Pumps : Ksb , Type Stz 600/1. Capacity 13000 Egpm. H = 20.3 Ft , Slip-Ring Motor , 81 Kw , 380V 730 Rpm With Control Panel And Grease Pump. (F.R1)	4	
03-01-01198	Pumps : Ksb , Type Sez500. Capacity : 6500 Egpm. H = 17.1 Ft. Slip-Ring Motor 380V , 3.7 Kw , 730 Rpm. With Control Panel And Grease Pump . (F. R1)	2	
03-01-01199	Pumps : Q= 15000 G/Min, H=12.5M. 730 Rpm Alstom/France (M.L.R1)	1	
03-01-01200	Pumps : Ksb, Type Kwvd 350-60. Q= 955 M3/Hr H=7.6M. 730 Rpm (R.Ro)	2	
03-01-01201	Pumps : Ksb, Type Kwvz 250-44 Q= 478 M3/Hr H=8.2M 730 Rpm (R.Ro)	2	
03-01-01202	Pumps : Centrifugel Pump For Service Water . Manuf:- Sih-Halberg Type :-Tkha 12304 Bn135.01.2. Q:-95M\Hr Rpm=1450. Suction Flange:-Dn150 ,Pn16. Discharge Flange:-Dn 125 Pn16. Suction Height 4M . Delivery Height 60M Wc .	2	
03-01-01203	Pumps : Centrifugal Pump : For Row Sludge. Manuf :- Hdrostal Type:- E5K- H. Capacity:- 130 M\Hr. Delivery Height:-35M. Speed :- 1450 R.P.M. Suction Flange :- Dn 150. Discharge Flange :- Dn 125	4	
03-01-01204	Pumps : Centrifugal Pump With Motor :- For Ground Storage Tank. Manu :- Sih - Halberg . Type :- Nowc 6532 Bno 41.02.2 . Capacity :- 65 M\Hr. Speed :- 1450 R.P.M. Suction Flange :- Dn 80,Pn10. Discharge Flange :- Dn 65,Pn10. Delivery Height :- 33,5 Mwc. Power For Motor:- 15Kw,380V,1450Rpm	2	
03-01-01205	Vertical Pumps & Motors, Power (KW) 37, Speed (RPM) 720, Voltage (V) 380, Discharge (Q=L/S) 250, Head (H) 8, Motor Type Slip-Ring	9	
03-01-01206	Vertical Pumps & Motors, Power (KW) 22, Speed (RPM) 700, Voltage (V) 380, Discharge (Q=L/S) 125, Head (H) 8, Motor Type Slip-Ring	3	
03-01-01207	Vertical Pumps & Motors, Power (KW) 18.5, Speed (RPM) 710, Voltage (V) 380, Discharge (Q=L/S) 125, Head (H) 8, Motor Type Slip-Ring	1	

CODE	DESCRIPTION	QTY	UNIT
03-01-01208	Vertical Pumps & Motors, Power (KW) 15, Speed (RPM) 720, Voltage (V) 380, Discharge (Q=L/S) 75, Head (H) 7, Motor Type Slip-Ring	6	
03-01-01209	Vertical Pumps & Motors, Power (KW) 10, Speed (RPM) 720, Voltage (V) 380, Discharge (Q=L/S) 70, Head (H) 7, Motor Type Slip-Ring	1	
03-01-01210	Vertical Pumps & Motors, Power (KW) 7.5, Speed (RPM) 720, Voltage (V) 380, Discharge (Q=L/S) 40, Head (H) 7, Motor Type Slip-Ring	1	
03-01-01211	Vertical Pumps & Motors, Power (KW) 22, Speed (RPM) 960, Voltage (V) 380, Discharge (Q=L/S) 200, Head (H) 10, Motor Type Slip-Ring	3	
03-01-01212	Vertical Pumps & Motors, Power (KW) 300, Speed (RPM) 415, Voltage (V) 3300, Discharge (Q=L/S) 2100, Head (H) 12, Motor Type Sequarel - Cage	2	
03-01-01213	Vertical Pumps & Motors, Power (KW) 45, Speed (RPM) 725, Voltage (V) 380, Discharge (Q=L/S) 250, Head (H) 12, Motor Type Sequarel - Cage	6	
03-01-01214	Vertical Pumps & Motors, Power (KW) 75, Speed (RPM) 585, Voltage (V) 380, Discharge (Q=L/S) 500, Head (H) 12, Motor Type Sequarel - Cage	5	
03-01-01215	Vertical Pumps & Motors, Power (KW) 132, Speed (RPM) 725, Voltage (V) 380, Discharge (Q=L/S) 1000, Head (H) 12, Motor Type Sequarel - Cage	3	
03-01-01216	Vertical Pumps & Motors, Power (KW) 35, Speed (RPM) 960, Voltage (V) 380, Discharge (Q=L/S) 200, Head (H) 12, Motor Type Sequarel - Cage	2	
03-01-01217	Vertical Pumps & Motors, Power (KW) 75, Speed (RPM) 720, Voltage (V) 380, Discharge (Q=L/S) 500, Head (H) 14, Motor Type Sequarel - Cage	2	
03-01-01218	Vertical Pumps & Motors, Power (KW) 75, Speed (RPM) 925, Voltage (V) 380, Discharge (Q=L/S) 400, Head (H) 12, Motor Type Sequarel - Cage	2	
03-01-01219	Vertical Pumps & Motors, Power (KW) 150, Speed (RPM) 730, Voltage (V) 380, Discharge (Q=L/S) 900, Head (H) 14, Motor Type Sequarel - Cage	2	
03-01-01220	Packing, Type 0.25 Inch	3,000	m
03-01-01221	Packing, Type 0.5 Inch	7,500	m
03-01-01222	Packing, Type 0.75 Inch	6,000	m
03-01-01223	Packing, Type 1.0 Inch	4,500	m
03-01-01224	Valves, Guest And Chrimes Type 74 Aw Edge Valve To Bs 516 3, Type 200	60	
03-01-01225	Valves, Guest And Chrimes Type 74 Aw Edge Valve To Bs 516 3, Type 250	60	
03-01-01226	Valves, Guest And Chrimes Type 74 Aw Edge Valve To Bs 516 3, Type 300	60	
03-01-01227	Valves, Guest And Chrimes Type 74 Aw Edge Valve To Bs 516 3, Type 350	60	
03-01-01228	Valves, Guest And Chrimes Type 74 Aw Edge Valve To Bs 516 3, Type 400	60	
03-01-01229	Valves, Guest And Chrimes Type 74 Aw Edge Valve To Bs 516 3, Type 450	60	
03-01-01230	Valves, Guest And Chrimes Type 74 Aw Edge Valve To Bs 516 3, Type 500	60	

CODE	DESCRIPTION	QTY	UNIT
03-01-01231	Valves, Guest And Chrimes Type 74 Aw Edge Valve To Bs 516 3, Type 550	60	
03-01-01232	Valves, Guest And Chrimes Type 74 Aw Edge Valve To Bs 516 3, Type 600	60	
03-01-01233	Gear Box, David Brown-England-Helicon Ser.4. Size:Mht-3, Order:H131 576, Rating:1.5 Kw, Output:46 Rpm, Ratio:31.48/1, With Motor (D.Ro).	4	
03-01-01234	Gear Box, David Brown-England-Helicon Ser.4. Size:Mht-2, Order:H113 162, Rating:1.5 Kw, Output:71.3 Rpm, Ratio:20.34/1, With Motor (D.Ro).	4	
03-01-01235	Gear Box, David Brown-England-Helicon Ser.4. Size:Mht-3, Order:H113 157 612, Rating:0.55 Kw, Output:16.5 Rpm, Ratio:58.17/1, With Motor (P.T.Ro).	8	
03-01-01236	Gear Box, Paul Durand,Nanterre-France. Machine Type:1254, Ser.No.F24964, With Motor (P.T.R1)	6	
03-01-01237	Gear Box, Paul Durand,Nanterre-France. Machine Type:250F, Ser.No.F24965, With Motor (P.T.R1)	6	
03-01-01238	Gear Box, Paul Durand,Nanterre-France. Machine Type:1254, Ser.No.F24964, With Motor (P.T.R1)	6	
03-01-01239	Gear Box, Paul Durand,Nanterre-France. Machine Type:250F, Ser.No.F24965, With Motor (P.T.R1)	6	
03-01-01240	Gear Box, Drive Unit;Manu:Sew. Type:Sa 120.R70.D80.N4, 0.75 Kw,0.16 Rpm, With Motor (P.T.R2)	8	
03-01-01241	Gear Box, David Brown-England-Helicon Ser.4. Size:Mht-2, Order:H113 162 612, Rating:0.35 Kw, Output:20.9 Rpm, Ratio:45.86/1, With Motor (F.T.Ro).	4	
03-01-01242	Gear Box, Drive Unit;Manu:Sew. Type:Sa 100.R70.D71.N4, 0.37 Kw,0.16 Rpm, With Motor (F.T.R2)	8	
03-01-01243	Gear Box, Brook Hansen-Hansen Flotax. Type:Fa 714A 9Lit., Vg 100? -10 C ?15 C, Ep Gear Oil: Vg 220 ;0?30C, With Motor &Grease Pump, (S.R1)	6	
03-01-01244	Gear Box, Bair & Koppel,.Type:Fvam., I :900:1, With Motor (S.R1)	6	
03-01-01245	Gear Box, With Coupling For Aeration Tanks. Type : Nc 36 An, No. C11 288, Power : 18.5 Kw, Speed : 1455/74/19.595 Rpm.	10	
03-01-01246	Gear Box For Aygt Archamedias Screw . Pump Citroen ,Redu Type : 2M26, Speed : 1230/40 Rpm, Out Put: 3500 G.P.M, Head: 4.6 Meter	2	
03-01-01247	Bearing, Type 6206	100	
03-01-01248	Bearing, Type 6207	100	
03-01-01249	Bearing, Type 6208	100	
03-01-01250	Bearing, Type 6210	100	
03-01-01251	Bearing, Type 6214	100	
03-01-01252	Bearing, Type 6302	100	
03-01-01253	Bearing, Type 6308	100	
03-01-01254	Bearing, Type 6310	100	
03-01-01255	Bearing, Type 6315	100	
03-01-01256	Bearing, Type 6317	100	
03-01-01257	Bearing, Type 6318	100	
03-01-01258	Bearing, Type 6408	100	
03-01-01259	Bearing, Type 6410	100	
03-01-01260	Bearing, Type 6415	100	
03-01-01261	Bearing, Type 6416	100	
03-01-01262	Bearing, Type 8311	50	

CODE	DESCRIPTION	QTY	UNIT
03-01-01263	Bearing, Type 8320	50	
03-01-01264	Bearing, Type 1207K	30	
03-01-01265	Bearing, Type 1209K	30	
03-01-01266	Bearing, Type 1216	30	
03-01-01267	Bearing, Type 1313K	20	
03-01-01268	Bearing, Type 1316K	20	
03-01-01269	Bearing, Type 1320K	20	
03-01-01270	Bearing, Type 1219	25	
03-01-01271	Bearing, Type 1309	25	
03-01-01272	Bearing, Type Nu316	30	
03-01-01273	Bearing, Type Nu206E	20	
03-01-01274	Bearing, Type Qj324	5	
03-01-01275	Bearing, Type N324	5	
03-01-01276	Bearing, Type 2212	30	
03-01-01277	Bearing, Type 23122	50	
03-01-01278	Bearing, Type Rms21 V3M	50	
03-01-01279	Bearing, Type Mcd21	30	
03-01-01280	Bearing, Type Rms 22 V3M	30	
03-01-01281	Bearing, Type Mcd 22	30	
03-01-01282	Bearing, Type 6215	50	
03-01-01283	Win Flex Coupling Flexaeier: No Of Seq: 2, Lenth Of Seq : 155.9 Mm, Thickness: 4.06 Mm, Width : 91.3 Mm, Pith No: 1048	60	
03-01-01284	Screw Pupm: Inclination : 30, Geometric Head: 4064 M, Delivery Head:4.66M, Screw Diameter: 1200/60 9Mm, Secrw Length :9.32M, Capacity: 305 L/S, Reduction Geartype:2H26, Motor Type Mjul 180 L4 1500 T/Mu 22Km	12	
03-01-01285	Air Condition, 380V,50Hz,24000Btu,With Aluminum Pipes (Heavy Duty)	25	
03-01-01286	Transformers, 3 Mva-11 Kv-3.46 Kv Industrial	1	
03-01-01287	Transformers, 600 Kva-3.3 Kv- 400V Industrial	1	
03-01-01288	Transformers, 100 Kva- 3.3 Kv -400 V Industrial	1	
03-01-01289	Transformers, 2 Mva -11 Kv - 400 V Industrial	3	
03-01-01290	Transformers, 750 Kva- 3.3 Kv - 400V Industrial	1	
03-01-01291	Transformers, 1Mva - !!Kv-400V Industrial	7	
03-01-01292	Transformers, 250 Kva-3.3 Kv - 400V Industrial	3	
03-01-01293	Transformers, 500Kva- 3.3 Kv- 400V Industrial	2	
03-01-01294	Transformers, 1Mva - 3.3 Kv - 400V Industrial	1	
03-01-01295	Submersible Pumps , Type 4 Inch Diameter (Dn100 Mm): H: 10-12 M, Q:15-20 L/Sec, Power: 4-6 Kw, Rated Voltage: 380	100	
03-01-01296	Submersible Pumps , Type 6 Inch Diameter (Dn150 Mm): H: 10-15 M, Q:20-30 L/Sec, Power-6 Kw	70	
03-01-01297	Submersible Pumps , Type 8 Inch Diameter(Dn200 Mm): H: 10-15 M, Q:40-60 L/Sec, Power: 10-14 Kw	50	
03-01-01298	Submersible Pumps , Type 10 Inch Diameter(Dn250 Mm): H: 10-15 M, Q:50-80 L/Sec, Power: 20-24 Kw	20	
03-01-01299	Submersible Pumps , Type 12 Inch Diameter(Dn300 Mm): H: 10-15 M, Q:100-150 L/Sec, Power: 34 Kw	10	
03-01-01300	Submersible Pumps , Type 14 Inch Diameter(Dn350 Mm): H: 10-20 M, Q:300-500 L/Sec, Power: 160-210 Kw	8	

CODE	DESCRIPTION	QTY	UNIT
03-01-01301	Generators : Generators Accessories : - All Accessories For Generator With G.O.S(Automatic). Bobindus - Belgium, Engine Type - Tbd 510 L08. Engine No. - 510.08 - 01033. Speed 750 Rpm 2940Kw. Avk 11Kv D2830 Kva. 148A 0.8 P.F 50Hz. Using Aluminum Radiator . The Provider Is Responsible For All Spare Parts Needed To Operate The Generator	2	
03-01-01302	Generators : 3.3 Kv, 1.5 Mva, 50Hz, Mechanical Governor , No-Need Canopy (Indoor) 12 Hours Gas Tank , With G.O.S Automatic , With Air Starter (Air Compressor Starting) , Skid Mounted , With 15 % Spare Parts Especially The Control Penal , Complete Set Of Diagrams , 25 M Exhausted Tube , Protection (Over Speed - Over Heat Oil Pressure).With Aluminum Radiator.	1	
03-01-01303	Generators : 400V,1Mva, 50Hz,(Kar) Mechanical Governor , Canopy (Out Door) 12 Hours Gas Tank , With G.O.S Automatic , With Air Starter (Air Compressor Starting) , Skid Mounted , With 15 % Spare Parts Especially The Control Penal , Complete Set Of Diagrams , 100 M Feed Cables With Aluminum Radiator.	4	
03-01-01304	Trailer Tipping Truck : Truck Specifications: Chassis Cab : 6X4, Gcmr: Not Less Than 50 Ton., Engine: Diesel Engine , 6 Cylinder In Line , 4 Stroke. Turbocharger, Water Cool , Tropical , Direct Injection Pump, Power: Not Less Than 320 Hp., Clutch : Press Type , (Hydraulic + Air) , Servo , Gear Box : Manual , (9+1) Or (8+1) , (Fifth Wheel):3.5 Inch , Tier Size : 1200 X 24. Body Specification : Capacity : About 24 M3, Hydraulically Tipping Via P.T.O Plate Thickness: Body Sides : 6Mm , Floor : 8Mm Supported From All Sides , Supplied With, Rare Door With Front Cover To Protect. The Cabin, Two Jukes Manually Operated Suitable For Loads Not Less Than 50 Ton .Place For Two Spare Wheel . Tier Size : 1200 X 24. No. Of Axle : 2, With Spare Parts For Two Years Operation	40	
03-01-01305	Bitumen Tankers : Chassis Cab : 6X4. Gcmr: Not Less Than 50 Ton. Engine: Diesel Engine , 6 Cylinder In Line , 4 Stroke. Turbocharger, Water Cool , Tropical , Direct Injection Pump . Power: Not Less Than 320 Hp. Clutch : Press Type , (Hydraulic + Air) , Servo Gear Box : Manual , (9+1) Or (8+1) . Fifth Wheel :3.5 Inch Tier Size : 1200 X 24, Centrifugal. Tank Specification : Capacity : 40000 Liter., The Tank Shall Be Closed And Thermally Isolated, Tier Size : 1200 X 24. No. Of Axle : 2 Provided With : - Two Jukes Manually Operated Suitable For Loads, Not Less Than 50 Ton With King Pin 3.5 Inch Size, Place For Two Spare Wheel . Centrifugal And Suction Pump Manually Operation Via P.T.O. With Piping 4 Inch Diameter . Complete Bitumen Heating System . Complete Fire Protection System . With Spare Parts For Two Years Operation	4	

CODE	DESCRIPTION	QTY	UNIT
03-01-01306	Bitumen Spraying Tanker : Chassis Cab : 4X2. Engine: Diesel Engine , 6 Cylinder In Line , 4 Stroke. Turbocharger, Water Cool , Tropical , Direct Injection Pump . Clutch : Dry Single Plate . Gear Box : (8+1) . Tier Size : 1200 X 20 G.V.W: 19 Ton . Pay Load : (10-11) Ton Centrifugal. Tank Specification : Capacity 8000 -9000 Liter. The Tank Shall Be Closed And Thermally Isolated Provided With : Place For Two Spare Wheel . Centrifugal And Suction Pump Manually Operation Via P.T.O. Complete Bitumen Heating System . Complete Fire Protection System . Spraying Bar 10Cm Diameter , 2M Long With Extension Of 1M. On Each Side To Make Total Length Equal To 4M. And To Be Fixed In The Rear Side Of The Tank . With Spare Parts For Two Years Operation	2	
03-01-01307	Cement And Filler Tankers : Truck Specifications: Chassis Cab : 6X4. Gcmr: Not Less Than 50 Ton. Engine: Diesel Engine , 6 Cylinder In Line , 4 Stroke. Turbocharger, Water Cool , Tropical , Direct Injection Pump . Power: Not Less Than 300 Hp. Clutch : Press Type , (Hydraulic + Air) , Servo. Gear Box : Manual , (9+1) Or (8+1) , (Fifth Wheel):3.5 Inch, Tier Size : 1200 X 24. Tank Specification : Capacity : About 35 Ton , Straight Type (Not V Type) With Complete Unloading System, Tier Size : 1200 X 24. No. Of Axle : 2, Supplied With : Two Jukes Manually Operated Suitable For Loads Not Less Than 50 Ton . Place For Two Spare Wheel . Complete Fire Protection System . With Spare Parts For Two Years Operation	4	
03-01-01308	Road Sweepers : Chassis Cab : 4X2 (Left And Right Steering) : G.V.W= 14-16 Ton . Pay Load: 6-7 Ton. Front Engine: Diesel , Water Cooled , 6 Cylinders , Direct Injection Pump . Power: Not Less Than 135 Hp. Body Capacity : 6-7 M3. Water Tank: 1-1.2 M3. Suction Pipe : 250 Mm Diameter. Side Brush : 750 Mm Diameter . Center Brush : 400 Mm X 1500 Mm . Sweep End Band : 2400 - 2500 Mm Sweep Speed : 2-20 Km/H. Sweep End Performance : 40000-50000 M3/H. Auxiliary Engine : Diesel , 4 Cylinder Water Cooled. Direct Injection Pump . Engine Power : 90-100 Hp, Tier Size : 900X20 . Equipped With Rear Suction Hose, Place For Two Spare Wheel . Complete Fire Protection System . With Spare Parts For Two Years Operation	10	
03-01-01309	Tree Spade (Tree Planting Vehicle). For Up Rooting And Transporting And Replanting Trees And Palm Trees With 2-10 M. Height , 15-70 Mm Diameter Complete Maounted On Truck Chassis 3 Axle. Diesel Engine , 6 Cylinder In Line , 4 Stroke. Turbocharger, Water Cool , Tropical , Direct Injection Pump. Power: Not Less Than 240 Hp. Clutch : Press Type , (Hydraulic + Air) , Servo . Gear Box : Manual , (9+1) Or (8+1) . Tier Size : 1200 X 24. Supplied With Cap Protector , Rack And Hydraulic Stabilizer With Spare Parts For Two Years Operation	6	
03-01-01310	Spare Parts For 2 Dredges (Dredging River Bed At The Location Of Water Treatment Plant Intakes)	LUMP	
03-01-01311	Garbage Treatment Plant With Capacity Of Treating, And Recycling 500 Tons Of Garbage Per Day , Final Out Come Of Treatment Process (Organic Trash (To Be Used As Fertilizer	4	

CODE	DESCRIPTION	QTY	UNIT
ANNEX SECTION .1 : BAGHDAD MAYORALTY REQUIREMENTS FOR WATER TREATMENT PLANTS .			
CODE NO	DESCRIPTION	QTY.	
03-01-01312			
03-01-01313	HOT ROLLED COIL 1800 X 10.3 X 60	4,000 ton	
03-01-01314	HOT ROLLED COIL 1200 X 8.74 X 42	3,500 ton	
03-01-01315	HOT ROLLED COIL 800 X 7.92 X 42	2,500 ton	
ALUM DOSING EQUIPMENT:			
THE CHEMICAL INJECTION PUMP SHALL BE OF THE MECHANICALLY OPERATING DIAPHRAGM TYPE , THE PUMP SHALL BE CONSTRUCTED SO THAT THERE IS NO DANGER OF CONTAMINATION TO THE ALUM. SOLUTION WHEN THE DIAPHRAGM IS RUPTURED AND NO LEAKAGE FROM THE PUMP WHEN THIS OCCURS. THE FLOW RATE SHALL BE MANUALLY ADJUSTABLE BETWEEN ZERO AND THE MAXIMUM FLOW RATE REQUIRED , THE PUMP SHALL HAVE AN ACCURACY OF AT LEAST (+2%) OF THE MAXIMUM FLOW RATE , THE PUMP SHALL BE SUPPLIED WITH DIAPHRAGM RUPTURE SENSOR AND RELIEF VALVE . ALL OF THE APPARATUS AND EQUIPMENT IN CONTACT WITH THE ALUM SOLUTION SHALL BE RESISTANT TO THE CORROSIVE ATTACK OF THE CHEMICAL .			
ALUM DOSING EQUIPMENTS			
<ul style="list-style-type: none"> - METERING ALUM SOLUTION DOSE COMPLETE WITH - MOTOR - PISTON TYPE :STAINLESS STEEL 316 - POWER SUPPLY : 380 V/ 3PH / 50HZ - SPEED: 0-1400 RPM - DRIVE: REDUCTION GEAR BOX - WITH SPARE PARTS FOR 3 YEARS OPERATION . 			
03-01-01316	800 L/H.	8	
03-01-01317	600 L/H	20	
03-01-01318	400 L/H	20	
03-01-01319	200 L/H	20	
03-01-01320	100 L/H	20	
CHLORINE EQUIPMENT: THE CHLORENATION SHALL OF V NOTCH , SOLUTION FEED VACUUM OPERATED TYPE , WITH MANUAL CONTROL AND SHALL BE OPERATED BY PRESSURIZED WATER .			
THE CHLORENATOR SHALL BE WALL MOUNTED AND SUPPLIED WITH CONNECTION FOR CHLORINE GAS SUPPLY , CHLORINE PRESSURE GAUGE , CHLORINE FLOW METER , VENTILATION CONNECTION , INJECTOR AND ALL OTHER NECESSARY EQUIPMENT AND MATERIALS .			
CHLORINATORS:			
WALL MOUNTED VACUUM FEED DOSER, MANUAL CONTROL WITH REGULATOR , GAS AND VENT RELIEF, COMPLETE WITH:			
<ul style="list-style-type: none"> - STANDARD INJECTOR - AUXILIARY CYLINDER VALVE - FLEXIBLE CONNECTOR TUBE(2M) - LEAD WASHERS(100 PER UNIT) - FIXED TYPE CHLORINE INJECTION FITTINGS 			

CODE	DESCRIPTION	QTY	UNIT
	<ul style="list-style-type: none"> - BRASS SOLENOID VALVE - 1 INCH Y STRAINER - ONE EXTERNAL HEATER - SERVICE KITS FOR 2 YEARS OPERATION (FOR CHLORINATOR AND INJECTOR) 		
03-01-01321	0-20 L/H	20	Nos
03-01-01322	CAPACITY : 4000 GM/HR.	10	
03-01-01323	CAPACITY : 2700 GM/HR.	10	
03-01-01324	CAPACITY : 1800 GM/HR.	15	
03-01-01325	CAPACITY : 1000 GM/HR.	15	
03-01-01326	CAPACITY : 500 GM/HR.	15	
03-01-01327	CAPACITY :200 GM/HR.	20	
03-01-01328	CHLORINE CYLINDER WITH CHLORINE GAS CHLORINE CYLINDER WITH CHLORINE GAS <ul style="list-style-type: none"> - PURITY OF CHLORINE GAS : 99.9% - CYLINDER CAPACITY :65KG(NET) - WALL THICKNESS : 6 MM - LENGTH: 1400 M - THREAD : V THREAD - DESIGN PRESSURE: 45 BAR - TEST PRESSURE (LEAKAGE) 15 BAR - VALVE: ACCORDING TO DIN STANDARD 477 	2,000	TON
	WATER METER VENTURE TYPE WITH ALL ACCESSORIES REQUIRED FOR (RAW AND POTABLE WATER)		
03-01-01329	UP TO 450 M3/H	20	
03-01-01330	UP TO 650 M3/H	8	
03-01-01331	ALUMINUM SULPHATE <ul style="list-style-type: none"> - INSOLUBLE : 0.5 MAX. - CONTENT OF ALUMINUM AS AL₂O₃ :16.5% MIN - FREE ACIDITY : NIL - HEAVY METALS AS ((PB): SHALL NOT EXCEED (0.02%) - IN WEIGHT - IRON (FE) SHALL NOT EXCEED (0.01%) IN WEIGHT - AMMONIUM AS(NH₃) : (0.03%) IN WEIGHT (MAX) - SIZE: GROUND ALUMINUM SULPHATE FOR USE IN DRY FEEDING MACHINES SHALL BE OF SUCH SIZE THAT NOT LESS THAN (90%) SHALL PASS AT NO. 10 SIEVE 1.7 MM AND 100% SIEVE NO 4MM - PACKING : IN 50 KGS SACKS . 	2,000	ton
03-01-01332	High lift multistage pump/ motor unit, complete with:pumps with high voltage motors type HPL 42-22 1/2 -Z - 30 - Stage with squirrel cage, induction motor 50HZ/4 pole / 6.6 KV/IP 54/780 KW, switch board 6.6 KV, incomer main switchboard, 4 pump starters, 4 control panels and spare parts <ul style="list-style-type: none"> - PUMP TYPE : SULZER HPL 37-20 (STAGE CASING - PUMP) - LIQUID PUMPED : POTABLE WATER - PUMP DISCHARGE: 460 M3/H - H: 420 M - NO OF STAGES: 8 - BRANCH POSITIONS: PASTINO , ROTATION IS CLOCK - WISE LOCKING ON THE PUMP COUPLING FACE 	1	unit

CODE	DESCRIPTION	QTY	UNIT
	<ul style="list-style-type: none"> - SPEED : 1450 RPM - POWER: 750 KW - MOTOR VOLTAGE: 6600 VOLTS/50 HZ - MOTOR TYPE: INDUCTION MOTOR - PROTECTION: IP 23 - INSULATION CLASS : F - AMBIENT TEMP. 50 °C - PUMP SHALL BE CONNECTED TO THE MOTOR BY COMBINED BASE PLATE VIA FLEXIBLE COUPLING . - ACCESSORIES : OIL LEVEL GAUGES , DRAIN PLUGS, - AIR COCK , PACKING FOR STUFFING BOX, ONE SET - OF SPECIAL TOOLS FOR EACH PUMP /. - AXIAL HYDRAULIC THRUST TO ACCOMMODATED AUTOMATICALLY BY SELF ADJUSTING HYDRAULIC - BALANCING DEVICE WHICH OPERATES FROM THE LIQUID PUMPED . - PUMP MATERIAL: IMPELLERS: ALUMINUM BRONZE - BS 1400 AB1 , SHAFT: HIGH TENSILE STEEL BS 970 150 - M36 , SHAFT SLEEVES: PHOSPHOR BRONZE BS 1400 - PB2 - EACH PUMPING SET SHALL BE EQUIPPED WITH STARTER AND ELECTRICAL SWITCH BOAR . - THE OFFER SHALL INCLUDE RECOMMENDED SPARE - PARTS . 		
	HORIZONTAL SPLIT CASE PUMPS : PUMPS SHALL BE HORIZONTAL SPLIT CASE , SINGLE OR MULTISTAGE DOUBLE ENTRY , HORIZONTAL SHAFT TYPE , IMPELLER SHALL BE ZINC FREE BRONZE , DOUBLE ENTRY TYPE AND SHALL BE KEYED TO A STAINLESS STEEL SHAFT IN STATIC AND DYNAMIC BALANCE , AND THE SHAFT SHALL BE FITTED WITH RENEWABLE EYE RING , NECK BUSHES SHAFT SLEEVES .AND ALL INTERNAL BUSHES SECURED , THE GLANDS SHALL BE FITTED WITH SPLIT BRONZE LANTERN RINGS AND FILTERED WATER LUBRICATION WITH SEALING DEVICE TO PRECLUDE THE ADMISSION OF AIR . THE BEARING SHALL BE ROLLER JOURNAL BEARING AT THE COUPLING END OF THE PUMP AND A BALL THRUST BEARING AT THE OPPOSITE END . DUST AND MOISTURE ENTRY SHALL BE PREVENTED BY THE CORRECT DESIGN OF BEARING HOUSING AND FITTING OF WATER THROWERS ON THE PUMP SHAFT . THE PUMP SHALL BE DRIVEN BY AN ELECTRIC MOTOR , SQUIRREL CAGE TYPE , 1450 RPM, 380 VOLTS, 3 PHASE , 50HZ, INSULATION CLASS F , PROTECTION CLASS IP55 PUMP SHALL BE CAPABLE TO HANDLE RIVER RAW WATER . PUMP AND MOTOR SHALL BE MOUNTED ON A STEEL FRAME PLATE AND COUPLED TOGETHER BY A FLEXIBLE COUPLING .		
CODE NO.	Q=M3/H; POWER=KW; HEAD=M; USE		
03-01-01333	400; 54; 30; DRINKING WATER	3	
03-01-01334	265; 84; 70; =	6	

CODE	DESCRIPTION	QTY	UNIT
03-01-01335	255; 30; 25; =	10	
03-01-01336	250;78; 70; =	10	
03-01-01337	200; 63; 70;=	12	
03-01-01338	150; 48; 70;=	20	
03-01-01339	100; 45; 70;=	20	
03-01-01340	50; 15; 70;=	20	
03-01-01341	420; 48; 25; Raw water	3	
03-01-01342	300; 250; 160; =	3	
03-01-01343	230; 200; 140; =	4	
03-01-01344	275; 25; 20; =	6	
03-01-01345	200; 23; ;25; =	10	
03-01-01346	150; 17; 25; =	20	
03-01-01347	108; 090; 175; =	10	
03-01-01348	198; 22; 22; =	10	
03-01-01349	80; 75; 190; =	10	
03-01-01350	500; 225; 100; =	3	
ELECTRICAL MOTOR (LOW VOLTAGE)			
- SHALL BE SQUIRREL CAGE TYPE , 380VOLT, 3 PHASE, 50 HZ, SPEED SHALL NOT EXCEED 1500 RPM,			
- INSULATION CLASS F , THE DEGREE OF PROTECTION (IP 55)			
- MOUNTING OF MOTOR SHALL BE (B3) TWO END SHIELDS, ONE SHAFT EXTENSION , FRAME WITH MOUNTING FEET .			
- MOTOR SHALL BE SUITABLE FOR WORKING WITH AMBIENT AIR TEMP. IS 55 °C MAX.			
- STARTING: STAR-DELTA (Y – Ä)			

CODE NO.	POWER(KW)	QTY
03-01-01351	10	20
03-01-01352	15	20
03-01-01353	20	20
03-01-01354	25	20
03-01-01355	30	20
03-01-01356	40	20
03-01-01357	75	15
03-01-01358	110	15
03-01-01359	132	15
03-01-01360	160	10
03-01-01361	200	10
03-01-01362	250	10

COMPACT WATER TREATMENT PLANT
 EACH TREATMENT PLANT COMPOSED OF MODULES IN PRE-MOUNTED AND READY TO OPERATE CONDITION, BEING MOUNTED WITHIN A FRAME (CONTAINER)
 THE CONTAINER DIMENSIONS SHALL COMPLY WITH THE INTERNATIONAL TRANSPORT STANDARDS, THUS , IT IS POSSIBLE TO HANDLE THEM BY ANY CONVENTIONAL MEANS OF TRANSPORTATION .
 LOADING AND OFF-LOADING MAY BE DONE USING THE USUAL HANDLING EQUIPMENT. FOR INSTALLATION AND ERECTION OF THE PLANT , THE PRE-FABRICATED INDIVIDUAL COMPONENTS JUST HAVE TO BE INTER CONNECTED BY MEANS OF PIPES
 PROCESS DESCRIPTIONS:

CODE	DESCRIPTION	QTY	UNIT
	<p>THE FOLLOWING PROCESS SHALL BE PROVIDED TO TREAT RIVER WATER OR SURFACE WATER AND TO REMOVE SUSPENDED MATTER , BACTERIA, AND OTHER IMPURITIES , TO PRODUCE DRINKING WATER IN ACCORDANCE WITH WHO-STANDARDS:</p> <ul style="list-style-type: none"> - RAW WATER PUMPS - PRE-CHLORENNATION (USING CHLORINE GAS) - FLOCCULENT FEED SYSTEM (USING ALUM.) - FLOCCULATION WITH AGITATOR. . - CLEAR WATER WELL - HIGH LIFT PUMPING SETS (PRESSURE 7 BARS) - PRESSURE TYPE SAND FILTRATION SYSTEM , USING SPECIAL FILTER MATERIALS FOR REDUCING THE HARDNESS (SUPPLIES SPERATLY) - POST CHLORENNATION (DISINFECTION) FOR PRODUCT WATER (USING CHLORINE GAS) <p>THE FOLLOWING MODIFICATIONS SHALL BE ADDED TO THE PLANT :</p> <ul style="list-style-type: none"> - AIR CONDITIONER IN COMBINATION WITH INSULATED SIDE WALL AND ROOF . - ELECTRIC POWER PLANT CONSISTING OF DIESEL GENERATING SETS WITH THE NECESSARY ELECTRICAL EQUIPMENT AS EMERGENCY UNIT .(OPTION) - LABORATORY EQUIPMENT . - TWO SETS OF MANUALS OF OPERATION AND MAINTAINANCE OF THE PLANT , WIRING DIAGRAM OF ELECTRICAL SWITCH BOARD SHALL BE PROVIDED . - ELECTRICAL EQUIPMENT SHALL BE SUITABLE FOR 380 VOLTS, 3PHASE , 50 HZ , AC. - PUMPS SHALL BE HORIZONTAL SPLIT CASE , SPEED NOT EXCEED 1500 RPM, ELECTRIC MOTOR SHALL BE SQUIRREL CAGE TYPE, INSULATION CLASS(F) , DEGREE OF PROTECTION(IP55). 		
03-01-01363	COMPACT WATER TREATMENT PLANT WITH CAPACITY OF 50 M3/H.	10	
03-01-01364	COMPACT WATER TREATMENT PLANT WITH CAPACITY OF 200 M3/H.	6	
	<p>PRESSED STEEL TANKS</p> <p>PRESSED STEEL GALVANIZED TANKS WITH EXTERNAL FLANGES , PLATE SIZE SHALL BE 1000 MM² , AND THE TANK DEPTH SHALL BE NOT LESS THAN (3M) .</p> <p>THE PLATE THICKNESS SHALL BE NOT LESS THAN (4MM) FOR THE SIDE AND BOTTOM PLATES (5MM) , AND (2.5)MM FOR THE COVER .</p> <p>EACH TANK SHALL INCLUDE ALL NECESSARY MATERIALS SUCH AS (FLOAT VALVE, BELL MOUTH OVER FLOW PIPE, STRAINER, WASH OUT PIPE , INLET PIPE, OUTLET PIPE , SLUICE VALVE ANGLE SECTION STAYS, CLEATS , JOINT COVER , BOLTS, JOINTING STRIPS, ANGLE BEARERS, VENTILATOR , GABLE END , LAB JOINTS BOLTS , WATER LEVEL INDICATOR) ..ETC.</p> <p>A COMPLETE SET OF DRAWINGS FOR INSTALLATION AND ERECTION SHALL BE SUPPLIED WITH EACH TANK .</p>		
03-01-01365	WATER TANK WITH CAPACITY OF 50 M3	10	

CODE	DESCRIPTION	QTY	UNIT
03-01-01366	WATER TANK WITH CAPACITY OF 100 M3	25	
	ELECTRICAL TRANSFORMER		
	- VOLTAGE: 11/0.4 KV (3 PHASE)		
	- OUT DOOR (H-POLE)		
	- OIL IMMERSED		
	- VECTOR GROUP : DYN 11		
	- FREQUENCY: 50 HZ		
	- AMBIENT TEPM. : 55 °C		
03-01-01367	CAPACITY OF 250 KVA	30	
03-01-01368	CAPACITY OF 400 KVA	30	
03-01-01369	CAPACITY OF 630 KVA	30	
03-01-01370	CAPACITY OF 1000 KVA	5	
	COMPACT TRANSFORMER SUBSTATION		
	- PACKAGE DESIGN TO BE INSTALLED WITH EXTERNAL		
	- METAL HOUSING WHICH IS MADE OF GALVANIZED		
	- STEEL .		
	- MEDIUM VOLTAGE EQUIPMENT UP TO 24 KV USING		
	- SF6 – BREAK AND INSTALLATION RING MAIN UNIT		
	- WITH A COVER		
	LOW VOLTAGE EQUIPMENT FITTED IN AN EXTERNAL		
	CUBICLE		
03-01-01371	CAPACITY OF 250 KVA	40	
03-01-01372	CAPACITY OF 400 KVA	30	
03-01-01373	CAPACITY OF 630 KVA	30	
	ELECTRICAL CONDUCTORS	5,000 ml	
	1. HARD – DRAWN COPPER STANDARD CONDUCTORS FOR		
	OVER HEAD POWER TRANSMISSION UP TO 12 KV		
	ACCORDING TO DIN 48201 (OR EQUIVALENT SPECIFICATION)		
	:		
	– THE CONDUCTORS SHALL BE DELIVERED ON WOODEN		
	DRUM .		
	– NOMINAL AREA 50MM ²		
	– NUMBER OF DIAMETER OF WIRES MM=7/3.00		
	– APROXIMATE OVER ALL DIAMETER = 9.0MM		
	– BREAKING LOAD= 2020 KPA		
	– RESISTANCE AT 20 °C = 0.364 OHM/KM		
	2. HARD – DRAWN ALUMINUM STANDARD CONDUCTORS	5,000 ml	
	FOR OVER HEAD POWER TRANSMISSION UP TO 12 KV		
	ACCORDING TO DIN 48201 (OR EQUIVALENT SPECIFICATION)		
	:		
	– THE CONDUCTORS SHALL BE DELIVERED ON WOODEN		
	DRUM .		
	– NOMINAL AREA 50MM ²		
	– NUMBER AND DIAMETER OF WIRES MM=7/3.00		
	– BREAKING LOAD KN = 7.94		
	– RESISTANCE AT 20 °C = 0.579 OHM/KM		
03-01-01376	3. HARD – DRAWN ALUMINUM STANDARD CONDUCTORS	5,000 ml	
	FOR OVER HEAD POWER TRANSMISSION UP TO 12 KV		
	ACCORDING TO DIN 48201 (OR EQUIVALENT SPECIFICATION)		
	:		
	– THE CONDUCTORS SHALL BE DELIVERED ON WOODEN		
	DRUM .		
	– NOMINAL AREA 70MM ²		
	– NUMBER AND DIAMETER OF WIRES MM=19/2.1		

CODE	DESCRIPTION	QTY	UNIT
	<ul style="list-style-type: none"> – BREAKING LOAD KN = 11.32 – RESISTANCE AT 20 °C = 0.437 OHM/KM 		
ANNEX SECTION .2 : BAGHDAD MAYORALTY			
REQUIREMENTS FOR SEWAGE PUMPING STATIONS :			
SUBMERSIBLE PUMPS			
SUBMERSIBLE PUMPS			
<ul style="list-style-type: none"> - SUBMERSIBLE PUMPS SHALL BE OF THE CLOSED - COUPLED CENTRIFUGAL TYPE WITH OIL FILLED PRE - CHAMBER - PUMPS SHALL BE CAPABLE OF HANDLING SEWAGE - WATER - THE IMPELLER SHALL BE CAPABLE OF PASSING - SOLIDS OF SIZE UP TO 100 MM WITH OUT RISK OF - CLOGGING - THE MATERIAL OF PUMP HOUSING AND IMPELLER SHALL BE OF HIGH QUALITY DUCTILE IRON HAVING GOOD CORROSION AND ABRASION RESISTANCE . - THE PUMP SHALL BE CAPABLE FOR RUNNING DRY FOR PROLONGED PERIODS. - MECHANICAL SEAL OF HIGH GRADE METAL CARBIDE SHALL BE EMPLOYED BETWEEN THE PUMP AND OIL CHAMBER. - SHAFTING SHALL BE OF HIGH QUALITY STAINLESS STEEL - THE MOTOR SHALL HAVE CLASS F INSULATION AND SHALL BE PROVIDED WITH THERMAL TRIP CONTACT /IP 68 - THE PUMP AND ROOTER SHALL BE SUPPORTED ON MAINTENANCE ANTI FRICTION BEARINGS , GREASE LUBRICATED FOR LIFE . - THE ELECTRIC MOTOR SHALL BE 3 PHASE , 380 V./50 HZ - THE PUMP SHALL BE SUPPLIED WITH AUTOMATIC CONNECTION TO THE DISCHARGE LINE AND STEEL CHAIN. - THE PUMP ARE STATIONARY , INTENDED TO OPERATE COMPLETELY OR PARTIALLY SUBMERGED IN THE WASTE WATER , THEY ARE RAISED OR LOWERED ALONG TWO GUIDE BARS AND IT CONNECTS AUTOMATICALLY TO THE DISCHARGE CONNECTION UNDER ITS OWN WEIGHT 			
CODE NO.	DIAMETER MM; DISCHARGE Q=L/S; HEAD (M); POWER KW		
03-01-01377	80; 6; 8; 1.8	25	
03-01-01378	80; 8; 8; 2.6	15	
03-01-01379	80; 13; 9; 3.5	10	
03-01-01380	80; 8; 10; 4.6	10	
03-01-01381	100; 25; 8; 5	20	
03-01-01382	100; 30; 8; 5	40	
03-01-01383	150; 40; 7; 5	20	
03-01-01384	80; 18; 12; 6.5;	10	
03-01-01385	100; 50; 5; 7	20	
03-01-01386	150; 45; 7; 7	10	
03-01-01387	80; 9; 36; 9.2	10	
03-01-01388	150; 44; 10; 11.6	20	
03-01-01389	80; 30; 20; 13.4	10	
03-01-01390	80; 26; 18; 13.4	10	
03-01-01391	80; 64; 8; 13.5	10	
03-01-01392	250; 135; 9; 20	10	

CODE	DESCRIPTION	QTY	UNIT
03-01-01393	250; 104; 15; 25	6	
03-01-01394	250; 95; 15; 25	6	
03-01-01395	250; 200; 8; 28	15DRAIN WITH STRAINER	
03-01-01396	75; 9; 25; 1	15	
03-01-01397	75; 14; 20; 4.25	20	
03-01-01398	100; 56; 20; 18	8	
DIESEL POWER GENERATORS			
1. THE ENGINE SHALL BE OF AIR COOLED RADIATOR WATER COOLED CONTINUOUSLY RATED TYPE , THEY SHALL BE THE COMPRESSION IGNITION (DIESEL) PRESSURE CHARGED INTER COOLED FOUR STROKE TYPE HAVING MULTI CYLINDERS DESIGNED TO DELIVER THE SPECIFIED OUT PUT WHEN RUNNING AT SPEED OF NOT MORE THAN 1000 RPM , EACH ENGINE SHALL BE EQUIPPED WITH FLY WHEEL , A GOVERNOR , AND THE ENGINE SHALL BE SUITABLE FOR RUNNING ON COMMERCIAL DIESEL OIL .			
2. EACH ALTERNATOR SHALL PROVIDES THE OUT PUT SPECIFIED AND SHALL BE WOND FOR 400/230V DTS, 3 PHASE, 4 WIRE,50 HZ.			
3. ALTERNATOR SHALL BE OF THE BRUSH LESS TYPE WITH SALIENT POLE REVOLVING FIELD SYSTEMS WITH AN AC SELF EXCITER AND A THREE PHASE FULL WAVE DIODE RECTIFIER , INSULATION SHALL BE CLASS F FOR ROTOR WINDINGS AND CLASS B FOR ALL OTHER WINDINGS.			
4. ALL UNITS SHALL BE OF PACKAGE TYPE WITH THE ENGINE GENERATOR, RADIATOR, CONTROL PANEL AND ALL PIPING AND ACCESSORIES MOUNTED ON A COMMON BASE PLATE			
5. THE PANEL SHALL BE PROVIDED COMPLETE WITH ALL PROTECTIVE DEVICES WHICH ARE NECESSARY			
6. AMBIENT TEMP. 55 °C .			
7. ALL UNITS SHALL BE PROVIDED WITH WHETHER PROVE ENCLOSURE (CANOPY)			
03-01-01399	GENERATOR WITH CAPACITY : 10 KVA	20	
03-01-01400	GENERATOR WITH CAPACITY :50 KVA	30	
03-01-01401	GENERATOR WITH CAPACITY :150 K.V.A	50	
03-01-01402	GENERATOR WITH CAPACITY :250KVA	9	
03-01-01403	GENERATOR WITH CAPACITY :500KVA	15	
03-01-01404	GENERATOR WITH CAPACITY :1000KVA	10	
UPVC PIPES AND FITTINGS			
UPVC PIPES AND FITTINGS FOR SEWERS AND SHALL COMPLY WITH THE REQUIREMENTS OF (DIN 8061 – 8062) - WALL THICKENS TO COMPLY WITH DIN 8062 ./6BAR . ALL PIPES AND FITTINGS SHALL HAVE RUBBER RING JOINTS + 10% ADDITIONAL QUANTITY OF RUBBER RING JOINTS :			
03-01-01405	DIAMETER 250 MM	24,000 m	
03-01-01406	315 MM	24,000 m	
03-01-01407	400 MM	12,000 m	
03-01-01408	500 MM	6,000 m	
03-01-01409	630MM	6,000 m	

CODE	DESCRIPTION	QTY	UNIT
03-01-01410	P.V.C. FITTINGS T SOCKET – SPIGOT 250x 110 MM	1,600	pcs
03-01-01411	T SOCKET – SOCKET 250* 110 MM	400	pcs
03-01-01412	T SOCKET – SOCKET 315* 110 MM	150	pcs
	ANNEX TO SECTION 3 : MACHINERY AND EQUIPMENT		
03-01-01413	EXCAVATORS : WHEEL EXCAVATOR NET FLYWHEEL POWER : 120 - 130 HP OPERATING WEIGHT : 14 - 15 TON BUCKET CAPACITY : 0.5 - 1.2 m TIER : 8 TIERS , SIZE 1000X20	6	
03-01-01414	CRAWLER EXCAVATOR NET FLYWHEEL POWER : 120 - 130 HP OPERATING WEIGHT : 18 - 19 TON BUCKET CAPACITY : 0.5 - 1.2 m WITH JACK HAMMER WITH SPARE PARTS FOR TWO YEARS OPERATION	3	
03-01-01415	SHOVELS FOR NETWORKS MAINTENANCE (WHEEL LOADER) , OPERATING WEIGHT : 12 - 13 TON POWER: 140-150 HP ENGINE: 6 CYLINDER WITH TURBOCHARGER TIER SIZE : 20.5X25 BUCKET CAPACITY : 1.8- 2.3 m WITH SPARE PARTS FOR TWO YEARS OPERATION	10	
03-01-01416	AIR COMPRESSOR : ENGINE: 4 CYLINDER, DIESEL, DIRECT INJECTION WATER COOLED , TROPICAL POWER: 45 – 60 HP. RPM : 1500-2500 WORKING PRESSURE (7-10) BAR VOLUME FLOW : (200-300) M3/H AIR DELIVERY VALVE : 3 X ¾ INCH TIRE SIZE : 750X16 NO. OF TIRE: 2 WITH : - COMPLETE CABIN - JACK HAMMER AND ALL NECESSARY TOOLS AND ACCESSORIES - WITH SPARE PARTS FOR TWO YEARS OPERATION	6	
03-01-01417	CRANE EQUIPED TRUCK , CHASSIS CAB : 4 X 2 ENGINE: 6 CYLINDER, 4 STROKE. TURBOCHARGER POWER: NOT LESS THAN 240 HP. CLUTCH : SINGLE PLATE GEAR BOX : 8 SPEED G. V. W : NOT LESS THAN 19 TON PAYLOAD : NOT LESS THAN 12 TON TIER SIZE : 1200 X 20 DISK TYPE LIFTING CAPACITY : 6 TON - M WITH SPARE PARTS FOR TWO YEARS OPERATION	22	
03-01-01418	HYDRAULIC EARIAL PLATFORM, MONKING HEIGHT (17- 22) M PLATE FORM HEIGHT (15-21) M LATERAL OUTREACH TO EITHER SIDE APPROX. (8.50-10) RANGE OF ROTATION APPROX. 360º SWIVELING ANGLE OF THE RUSSELL APPROX. 105º	(17- 36	

CODE	DESCRIPTION	QTY	UNIT
03-01-01419	<p>SIZE TUBULAR STEEL WORKING CAGE1.20X1.00 CARRYING CAPACITY OF CAGE (190-200) KG ENGINE : 4 CYLINDER, DIESEL ENG. TURBOCHARGER , H.P 200 TIRE SIZE : 900X20, 4X2 GEAR : 6 SPEED CLUTCH : SINGLE-PLATE, DRY CLUTCH TREANCHER , ENGINE: TYPE OF FUEL : GASOLINE 4 CYLINDERS, FUEL SUPPLY: MECHANICAL FUEL PUMP VOLTAGE SYSTEM: 12 VOLTS THE TRENCHER SHALL BE SUPPLIED IN ADDITION TO THE STANDARD EQUIPMENT THE FOLLOWING EQUIPMENT: STANDARD CHAIN – CUPPED TEETH – HYDRA –BORER BACK HOE WITH 20 BUCKET – BACK FILL BLADE – RESTRAINT BAR WITH SPARE PARTS FOR 2 OPERATING YEARS .</p>	12	
03-01-01420	<p>ASPHALT MIXING PLANT : GENERAL SPECIFICATIONS : TYPE : BATCH PLANT PRODUCTION CAPACITY: 250 TON/H. OF ASPHALT CONCRETE MIXTURE (TEMP: 150-160°C) FROM AGGREGATE CONTAINS 4% H2O. MAIN COMPONENTS : - COLD FEEDERS : OPEN –TOP BINS WITH SIX COMPARTMENTS (MORE THAN 10 M3 EACH) - DUST COLLECTORS: CENTRIFUGAL (CYCLONE) , MECHANICAL TYPE COLLECTORS. - ASPHALT HEATING AND CIRCULATION SYSTEM HOT OIL HEATERS. - ASPHALT STORAGE TANK – HORIZONTAL (CAP. MORE THAN 40M3) , 3 TANK . - FILLER STORAGE TOWERS(F1 FOR MINERAL + F2 FOR RECOVERED) FILLER (CAP. MORE THAN 40 TON EACH) - THE DRYER : WITH GAS OIL BURNER - OIL BURNER - HOT SCREENS , 5 STAGES HOT BINS 4 AT LEAST + (FILLER 1 +FILLER 2) - AGGREGATE WEIGHT HOPPER - THE MIXER: 2-3 T. - CONTROL CABIN : REGULAR , COMPUTERIZED) - HOT ELEVATOR - FILLER ELEVATOR - ALL ELECTRICAL MOTORS 380 V THREE PHASES & 50 HZ WITH SPARE PARTS FOR TWO YEARS OPERATION</p>	2	
03-01-01421	<p>COLD MILLING MACHINE COLD MILLING MACHINE FOR THE USE OF MAIN ROADS WITH THE FOLLOWING SPECIFICATIONS : - MILLING WIDTH : 1-1.5 M - MILLING DEPTH: 0.25-3.00 M - NUMBER OF TOOLS : 100-120 TOOTH</p>	2	

CODE	DESCRIPTION	QTY	UNIT
	<ul style="list-style-type: none"> - WATER COOLED , TURBO CHARGER , DIESEL ENGINE , FLY WHEEL , POWER : 200-250 HP - CONVEYOR BELT : 500 MM (THE CONVEYOR OR BELT MOVED MORE THAN 30 ° FOR EACH SIDE) - OPERATING SPEED : 0.3-0.35 M/MIN - TRAVEL SPEED: 50 KM/H. - WATER TANK CAPACITY : 150-200 LIT. FOR COOLING THE TOOLS <p>WITH SPARE PARTS FOR TWO YEARS OPERATION</p>		
03-01-01422	WHEEL POINT SYSTEM WITH SPARE PARTS	2 set	
03-01-01423	<p>SEMI- TRAILER BITUMEN TANK:</p> <p>1. SEMI-TRAILER:</p> <ul style="list-style-type: none"> - ALL ELECTRICAL FUNCTION 240 VOLT STARTER AND DYNAMO - TRANSMISSION : MECHANICAL SYNCHRONIZING NOT LESS THAN 10 SPEEDS - CLUTCH : SELF ADJUSTING HYDRAULIC ACTUATED - TIRES: 1200 X 24 - KING PIN: 3.5 IN - DOUBLE CABIN: COMPLETE WITH ALL NECESSARY ACCESSORIES - CAPACITY OF FUEL TANK: MORE THAN 800 LITTERS <p>2. BITUMEN TANK :</p> <ul style="list-style-type: none"> - CAPACITY : 28-32 TON - HEAT INSULATED TANK - HEATING OF BITUMEN IN THE YANK BY STATIONARY BURNER , DIESEL FUEL - DISCHARGING BY GRAVITY - MATERIAL OF THE TANKER : HARD STEEL PLATE WITH THICKNESS NOT LESS THAN 4 MM , INSULATED AND COVERED WITH GALVANIZED PLATE MOUNTED ON THE INSULATOR . <p>WITH SPARE PARTS FOR TWO YEARS OPERATION</p>	4	
	CRUSHING AND SCREENING PLANT		
03-01-01424	<p>03-01-01424</p> <ul style="list-style-type: none"> - TYPE: CONTINUOS PLANT - PRODUCTION CAPACITY : 250 M3/H - ALL ELECTRICAL MOTORS 380 V & 50 HZ <p>MAIN COMPONENT :</p> <ul style="list-style-type: none"> - COLD FEEDERS OPEN BINS MORE THAN 20 M3 - PRIMARY SCREEN – TYPE HORIZONTAL DOUBLE DECK FIVE SIZES - PRIMARY CRUSHER CAPACITY MORE THAN 120 TON /HR. (FIXED HAMMER BREAKERS) - SECONDARY SCREENS – HORIZONTAL DOUBLE DECKS FIVE SIZES. - SECONDARY CRUSHER (HAMMER TYPE) MORE THAN 60 T/H. - ALL CONVEYOR BELTS SHOULD BE 50-80 CM WIDTH AND PORTABLE 35 M LENGTH. - CONTROL CABIN 		
03-01-01425	JETTING VEHICLE , ENGINE: 6 CYLINDER, 4 STROKE. TURBOCHARGER	1	

CODE	DESCRIPTION	QTY	UNIT
03-01-01426	<p>POWER: NOT LESS THAN 200 HP.</p> <p>CLUTCH : SINGLE PLATE</p> <p>GEAR BOX : 8 SPEED</p> <p>G. V. W : NOT LESS THAN 19 TON</p> <p>PAYOUTLOAD : NOT LESS THAN 12 TON</p> <p>TIER SIZE : 1200 X 20 DISK TYPE</p> <p>TANK CAPACITY : 9000 L</p> <p>PUMP PRES. NOT LESS THAN 200 BAR.</p> <p>FLOW 300 L/MIN.</p> <p>WITH SPARE PARTS FOR TWO YEARS OPERATION</p> <p>CESSPIT EMPTIER , CHASSIS CAB : 4 X 2</p> <p>ENGINE: 6 CYLINDER, 4 STROKE. TURBOCHARGER</p> <p>POWER: NOT LESS THAN 240 HP.</p> <p>CLUTCH : SINGLE PLATE</p> <p>GEAR BOX : 8 SPEED</p> <p>G. V. W : NOT LESS THAN 19 TON</p> <p>PAYOUTLOAD : NOT LESS THAN 12 TON</p> <p>TIER SIZE : 1200 X 20 DISK TYPE</p> <p>TANK CAPACITY : NOT LESS THAN 10000 L</p> <p>FLOW RATE :600 m /h</p> <p>WITH SPARE PARTS FOR TWO YEARS OPERATION</p>	4	
03-01-01427	<p>WATER TANKER, CHASSIS CAB : 6 X 4</p> <p>ENGINE : 4- STROKE , 6 CYLINDER IN LINE</p> <p>TURBOCHARGER</p> <p>POWER: NOT LESS THAN 280 HP.</p> <p>CLUTCH : SINGLE PLATE</p> <p>GEAR BOX : 9 SPEED</p> <p>G. V. W : NOT LESS THAN 30 TON</p> <p>PAYOUTLOAD : NOT LESS THAN 20 TON</p> <p>TIER SIZE : 1200 X 20 DISK TYPE</p> <p>TANK CAPACITY : Water tankers(8000 l) with spare parts (instead of "not less then 16000 l" in old description)</p> <p>WITH SPARE PARTS FOR TWO YEARS OPERATION</p>	100	
03-01-01428	<p>CITY BUS , SEAT NO :25 , WITH SPARE PARTS FOR TWO OPERATING YEARS</p>	45	
03-01-01429	<p>CITY BUS</p> <p>SEAT NO . 34+1</p> <p>RIDING CAPACITY: 60</p> <p>WHEEL BASE: 5000 MM</p> <p>DIMENSIONS: 9970 X 2490 X 3150 MM</p> <p>CURB WEIGHT: 8400 KG</p> <p>GROSS WEIGHT: 12000 KG</p> <p>MAX. OUT PUT: 160 HP</p> <p>TIRE SIZE : 900L20 TYPE WITH 6.50 – 20 RIM</p> <p>14 PLY</p> <p>WITH SPARE PARTS FOR TWO YEARS OPERATION</p>	4	
03-01-01430	<p>FIELD VEHICLE</p> <p>STATION 4 WD 4 DOORS</p> <p>ENGINE: 6 CYLINDERS , PETROL ENGINE WITH</p> <p>DISPLACEMENT 2972 CC MAX OUT PUT 16 IPS/5000 RPM MPL</p> <p>TRANSMISSION : MANUAL 5 SPEED , 4 WHEEL DRIVE +</p> <p>REVERSE</p> <p>CLUTCH : SINGLE DRY PLATE</p>	42	

CODE	DESCRIPTION	QTY	UNIT
03-01-01431	<p>BRAKE: F: DISC R: DRUM SUSPENSION : HEAVY DUTY SUSPENSION TIER SIZE : 235/75R/15 POWER STEERING .</p> <p>FIELD VEHICLE, PICK-UP , DOUBLE CABIN , WITH SEATING CAP (5 PASSENGERS)</p> <p>ENGINE : 4 CLYNDERS ,WATER COOLED ENGINE DISPLACEMENT : 2.2 LITER MAX OUT PUT : 68 KW /4600 RPM KIND OF FUEL : BENZENE CAPACITY : 1 TON (4 X 2 WD) MAX. SPEED : NOT LESS THAN 140 KM/H. TIRE SIZE: 650 /14 SPARE PARTS FOR TWO YEARS OPERATION</p> <p>FIELD VEHICLE, PICK-UP , SINGLE CABIN , WITH SEATING CAP (5 PASSENGERS)</p> <p>ENGINE : 4 CYLINDERS ,WATER COOLED ENGINE DISPLACEMENT : 2.2 LITER MAX OUT PUT : 68 KW /4600 RPM KIND OF FUEL : BENZENE CAPACITY : 1 TON (4 X 2 WD) MAX. SPEED : NOT LESS THAN 140 KM/H. TIRE SIZE: 650 /14 SPARE PARTS FOR TWO YEARS OPERATION</p> <p>PICK-UP ,SINGLE CABIN , WITH SEATING CAP (5 PASSENGERS)</p> <p>ENGINE : 4 CLYNDERS ,WATER COOLED ENGINE DISPLACEMENT : 2.2 LITER MAX OUT PUT : 68 KW /4600 RPM KIND OF FUEL : BENZENE CAPACITY : 2TON (4 X 2 WD) MAX. SPEED : NOT LESS THAN 140 KM/H. TIRE SIZE: 650 /14 SPARE PARTS FOR TWO YEARS OPERATION</p>	25	
03-01-01432	<p>LOADING TRUCK , CHASSIS CAB : 6 X 4</p> <p>ENGINE : 4- STROKE , 6 CYLINDER IN LINE TURBO CHARGED POWER : NOT LESS THAN 280 HP. CLUTCH : SINGLE PLATE GEAR BOX : 9 SPEED G. V. W : NOT LESS THAN 30 TON PAYLOAD : NOT LESS THAN 20 TON TIRE SIZE : 1200 X 20 DISK TYPE CAPACITY : 16m SPARE PARTS FOR TWO YEARS OPERATION</p> <p>SOIL INVESTIGATION EQUIPMENT</p>	1	
03-01-01434	<p>SOIL IVESTIGATION , MERCEDES TRUCK MOUNTED MULTI PURPOSE HYDRAULIC DRILLING RIG FOR SOIL INVESTIGATION REQUIREMENT WITH AIR COOLED DIESEL DRILLING DOWN TO 150M DEPTH WITH A COMPLETE DRILLING ACCESSORIES INCLUDING STANDARD PENETRATION TEST CORING USING WIRE LINE SK6L 4" , DRY DRILLING USING FLIGHT ANGERS 6 " , PERCNSSION DOWN TO 50 M DEPTH WITH TELESCOPIC CASING DIFFERENT DIAMETER .</p>	1	

CODE	DESCRIPTION	QTY	UNIT
03-01-01435	LIGHT WEIGHT ROTARY DRILLING RIG MOUNTED ON VEHICLE , 4 WHEEL DRIVE ABLE TO DRILL DOWN TO 20 M DEPTH , WITH DRILLING ACCESSORIES INCLUDING (AUGER 4" , BORING 4 " , WIRE LINE AND STANDARD PENETRATION TEST)	1	
03-01-01436	ASTM HYDROMETER 152H	10	
03-01-01437	RUBBER MEMBRANE OF 38 MM DIAMETER	100	
03-01-01438	DIRECT SHEAR APPARATUS OF 60X60 MM WITH ALL ACCESSORIES AND CELLS AND CONNECTIONS	2	
03-01-01439	LINEAR SHRINKAGE MOULD , BRASS , ASTM, 127MMLX250GM	5	
03-01-01440	COMPLETE TRIAXIAL APPARATUS CONSIST OF : - COMPUTERIZED COMPRESSION MACHINE - TRIAXIAL CELL FOR DIFFERENT SAMPLES DIAMETER - READOUT OF PORE WATER PRESSURE WITH - CONNECTIONS - TRANSDUCERS - VOLUME CHANGE APPARATUS H-ANY IMPORTANT ACCESSORIES	5	
03-01-01441	CONSOLIDATION TEST APPARATUS WITH ALL ACCESSORIES OF : A: ODOMETER CELL OF 75 MM DIA B: PORNO STONE(UPPER AND LOWER) C: LOADS(COMPLETE SET)	6	
03-01-01442	ROWE CELL OF : A: 75 MM DIAMETER B: 150 MM DIAMETER C: 250 MM DIAMETER	2	
03-01-01443	COMPRESSION MACHINE FOR TRIAXIAL TEST APPARATUS OF DIFFERENT CAPACITY (DIGITAL)	5	
03-01-01444	PROVING RING OF A: 2KN CAPACITY	4	
03-01-01445	B: 4KN CAPACITY	4	
03-01-01446	C: 5 KN CAPACITY	4	
03-01-01447	DIAL GAUGE CAPACITY A: 0.002MM	25	
03-01-01448	0.01MM	10	
03-01-01449	C: 0.01 INCH	5	
03-01-01450	TERRALOC MK6 24 CHANNEL WITH A COMPLETE ACCESSORIES WITH PRINTER AND SPARE PARTS (COMPLETE APPARATUS	2	
03-01-01451	COMPLETE SIEVE SET FROM 3INCH TO 200 ACCORDING TO ASTM	5	
03-01-01452	SIEVE NO 200 DIAMETER OF 0.074 MM	10	
03-01-01453	AUTOMATIC ELECTRIC PRESSURE APPLIED APPARATUS CAPACITY 1600 KPA WITH ALL ACCESSORIES	5	
03-01-01454	LABORATORY VANE SHEAR TEST WITH ACCESSORIES	1	
03-01-01455	LABORATORY CONE PENETRATION TEST WITH ACCESSORIES	1	
03-01-01456	COMPRESSION TESTING MACHINE , CAPACITY 5000 KN READABILITY 0.5	4	
03-01-01457	FLEXURAL TESTING MACHINE , OPEN SIDED FRAME , SUITABLE FOR TESTING KERBS AND FLAG STONES OF LENGTH 80 CM , CAPACITY 100 KN.	2	

CODE	DESCRIPTION	QTY	UNIT
03-01-01458	CONCRETE PORTABLE CORE DRILLING MACHINE , DIESEL ENGINE , SPEED 425 RPM FOR DIFFERENT ANGLES	4	
03-01-01459	CONCRETE DRAGGED CORE DRILLING MACHINE , DIESEL ENGINE , SPEED 425 RPM	4	
03-01-01460	CORE CUTTING BARRELS FOR ASPHALT AND CONCRETE WITH HEIGHT 40 CM AND DIAMETER OF 3,4&6 INCH	100 for each diameter	
03-01-01461	DIGITAL SHMIDT HAMMER ACCORDING TO ASTM C805	2	
03-01-01462	PULSE VELOCITY TESTER , MEASUREMENT OF CONCRETE UNIFORMITY , DETERMINATION OF CRACKS AND OTHER IMPERFECTIONS ACCORDING TO ASTM C597	4	
03-01-01463	COMPUTER CONTROLLED UNIVERSAL TESTING MACHINE FOR TESTING STRENGTH OF STEEL REINFORCEMENT ACCORDING TO ASTM A 615 M , CAPACITY 6000KN , READABILITY 0.1 WITH ACCESSORIES AND SPARE PARTS	2	
03-01-01464	ULTRASONIC FLOW DETECTOR FOR TESTING STEEL SECTIONS	2	
03-01-01465	PULL OUT TESTER	2	
03-01-01466	CRACK METER (ELECTRONIC	2	
03-01-01467	CORROSION RATE METER FOR STEEL IN CONCRETE , WITH WITH COMPLETE OPERATIONAL ACCESSORIES	2	
03-01-01468	AUTOMATIC COMPUTERIZED CALIFORNIA BEARING RATIO (CBR) TEST APPARATUS ACCORDING TO ASTM D 1883 , CAPACITY (50 KN) , WITH ACCESSORIES AND REPLASMENT PARTS	4	
03-01-01469	CALIFORNIA BEARING RATIO , MECHANICAL LOADING FRAME 60 KN CAPACITY , MOTORIZED WITH ACCESSORIES AND REPLACEMENT PARTS WITH PROVING RING 50 KN, CAPACITY ADJUSTABLE CBR PENETRATION PISTON, DIAL GAUGE WITH HOLDER	2	
03-01-01470	APPARATUS FOR MEASURING SOIL FIELD DENSITY BY A: SAND REPLACEMENT WITH ALL ACCESSORIES (ASTM)1559	10	
03-01-01471	B: CORE – CUTTER (ASTM D 2937)WITH ACCESSORIES AUTOMATIC PROCTOR AND CBR COMPACTION MACHINE FOR SOIL WITH DIGITAL COUNTER ACCORDING TO ASTM D 698, D 1557 INCLUDING ACCESSORIES AND REPLACEMENT PART OF STANDARD AND MODIFIED HAMMER AND MOULD	10	
03-01-01472	STANDARD AND MODIFIED MOULD AND HAMMER	10	
03-01-01473	APPARATUS FOR DETERMINING RELATIVE DENSITY FOR COHESIONLESS SOIL ACCORDING TO ASTM D 4253 WITH ALL ACCESSORIES	2	
03-01-01474	PLATE BEARING TEST AP[ARATUS ACCORDING TO ASTM 500 KN CAPACITY WITH FOUR LOADING PLATE AND COMPLETE ACCESSORIES	2	
03-01-01475	COMPUTERIZED AND DIGITAL MARSHAL STABILITY AND FLOW TESTING APPARATUS FOR BITUMINOUS MIXTURE 30 KN CAPACITY , WITH COMPLETE ACCESSORIES AND REPLACEMENT S	4	
03-01-01476	AUTOMATIC COMPACTOR FOR BITUMINOUS PAVING MATERIALS (MARSHAL SPECIMENS) (ASTM D 1559) WITH ACCESSORIES AND REPLACEMENT PARTS	2	
03-01-01477	MOULD 4 INCH DIAMETER FOR MARSHAL SPECIMENS WITH COMPLETE ACCESSORIES	50	

CODE	DESCRIPTION	QTY	UNIT
03-01-01478	APPARATUS FOR BITUMEN IN BITUMINOUS MIXTURE , CENTRIFUGE EXTRACTOR METHOD ACCORDING ASTM D 2172 WITH ACCESSORIES AND SPARE PARTS	4	
03-01-01479	APPARATUS FOR DETERMING MAXIMUM SPECIFIC GRAVITY OF BITUMINOUS PAVING MIXTURE ACCORDING TO ASTM D 2041 IN DETAILS AND INCLUDING , VACUUM PUMP , VACUUM PYCNOMETER, WITH ALL ACCESSORIES AND CONNECTIONS	4	
03-01-01480	WATER BATH, 20 LITER WITH ACCESSORIES AND REPLACEMENT	2	
03-01-01481	OIL BATH FOR SOFTENING BITUMINOUS BEFORE 2TESTS		
03-01-01482	APPARATUS FOR VISCOSITY DETERMINATION OF ASPHALT ACCORDING TO ASTM D 270 WITH ACCESSORIES	2	
03-01-01483	EXTENSION MACHINE FOR BOND TEST OF CONCRETE JOINT SEALER COLD AND HOT TYPES, ACCORDING TO ASTM D 1815 , D1191 WITH COMPLETE ACCESSORIES AND REPLACEMENTS	2	
03-01-01484	TRAVELLING BEAM DEVICE FOR PAVING SURFACE REGULARITY WITH COMPLETE ACCESSORIES AND REPLACEMENT PARTS	2	
03-01-01485	SURFACE TEXTURE DEPTH APPARATUS BY SAND PATH METHOD ACCORDING TO ASTM E 965	1	
03-01-01486	DYNALIFT FOR MEASURING DEFLECTION OF ROAD ACCORDING TO AASHTO T256	1	
03-01-01487	APPARATUS FOR MEASURING ABSOLUTE VISCOSITY OF ASPHALT MATERIAL ACCORDING ASTM D 2171 WITH ACCESSORIES AND REPLACEMENTS	1	
03-01-01488	TRAILER TYPE MOBILE LABORATORY FOR SOIL , CONCRETE AND ROADS TESTS CONSIST OF : - EQUIPMENT AND APPARATUS FOR CONCRETE TESTS - EQUIPMENT AND APPARATUS FOR ROADS TESTS - FIELD DENSITY OF SOIL AND SUB-BASE . - CHEMICAL TESTS (SO3,T.S.S, PH, ORGANIC) TESTS - 2 DIFFERENT SIZE OF SET SIEVES - OVEN - REFRIGERATOR - ACCESSORIES THE LABORATORY SHOULD BE SUPPLIED WITH SPARE WHEEL AND WATER STORAGE TANK , AIR CONDITIONING UNITS AND 5 KVA GENERATOR , WATER DISTILLING APPARATUS	2	
03-01-01489	TRAILER FOR PREVIOUS DETAILED ITEM	2	
03-01-01490	JAW CRUSHER WIT SIEVES FOR 40MM TO LESS THAN 0.5 MM ELECTRIC SUPPLY , CAPACITY 1000 KG/HR.	1	
03-01-01491	SWING-GRINDING MILL MODEL HSM100	2	
03-01-01492	BALANCES : TOP PAN BALANCE CAPACITY 5000 GM , READABILITY 0.001 GM	2	
03-01-01493	TOP PAN BALANCE , CAPACITY 50 KG (HEAVY DUTY)	2	
03-01-01494	TOP PAN BALANCE CAPACITY 100 KG (HEAVY DUTY)	1	
03-01-01495	PRECISION BALANCE CAPACITY 500 GM , READABILITY 0.001GM	2	

CODE	DESCRIPTION	QTY	UNIT
03-01-01496	PRECISION BALANCE CAPACITY 200 GM , READABILITY 0.001GM	2	
03-01-01497	DRYING OVENS MADE OF STAINLESS STEEL , SLIDING SHELVES IF NECESSARY , DIGITAL INDICATOR OF TEMPERATURE AUTOMATICALLY CUT OUT WITH FLOWING REQUIREMENT :		
03-01-01498	MEDIUM SIZE (1000*800*1200)MM , (0-500)°C	2	
03-01-01499	LARGE SIZE (1500*1000*1750) MM, (0-500) °C	2	
03-01-01500	WITH MECHANICAL BLOWER CONVECTION	2	
03-01-01501	MICRO WAVE OVEN , RANG (0-400) °C	1	
03-01-01502	MUFFLE FURRANCE , CYLINDRICAL WITH TILTING DOOR FOR TEMPERATURE UP TO 1200 °C WITH ELECTRONIC TEMPERATURE CONTROL , CHAMBER (200*80*130)MM	2	
03-01-01503	THERMOMETERS WITH :PORTABLE DIAL TYPE (0-100) C FOR CONCRETE	10	
03-01-01504	PORTABLE DIAL TYPE (0-300) °C FOR ASPHALT	10	
03-01-01505	PORTABLE GLASS TYPE (0-150) °C 0.2 DIV.	15	
03-01-01506	WATER DISTILLING APPARATUS OF STAINLESS STEEL OF CAPACITY 20 LITER/HR.	4	
03-01-01507	MICRO PROCESSOR PH/MV AND TEMPERATURE RANGE (0-14) PH	2	
03-01-01508	VACUUM WITH ALL ACCESSORIES	2	
03-01-01509	CLOSED ELEVATED TANK CONNECTED TO VACUUM FOR APPLYING PRESSURE WITH ALL ACCESSORIES AND CONNECTIONS	2	
	AIR CONDITIONING , SPLIT UNITS THE AIR CONDITIONER SHALL BE UNITARY SPLIT UNIT , ELECTRICALLY OPERATED , EQUIPPED WITH FACTORY ASSEMBLED REFRIGERATION SYSTEM WHICH SHALL BE READY FOR FULL CAPACITY OPERATION AFTER CONNECTION TO UTILITIES , THE AIR CONDITIONER SHALL CONSIST OF ONE OR MORE COMPRESSORS , FANS, MOTORS, EVAPORATORS, AIR COOLED CONDENSERS , AND ALL NECESSARY VALVES , TUBING, PIPING, SAFETY DEVICE AND ACCESSORIES FOR A COMPLETE OPERATING UNIT , EACH UNIT SHALL BE PROVIDED WITH A FACTORY OPERATING CHARGES OF REFRIGERANT AND OIL OR A HOLDING CHARGE , REFRIGERANT SHALL BE R22 , AMBIENT TEMP.: 55 °C, VOLTAGE: 380 VOLT , 3 PH , 50 HZ		
03-01-01510	SPLIT UNIT WITH COOLING CAPACITY 25 TONS REF. HEATING CAPACITY : 42 KW	10	
03-01-01511	SPLIT UNIT WITH COOLING CAPACITY 20 TONS REF. HEATING CAPACITY : 25 KW	28	
03-01-01512	SPLIT UNIT WITH COOLING CAPACITY 15 TONS REF. HEATING CAPACITY : 20 KW	25	
03-01-01513	SPLIT UNIT WITH COOLING CAPACITY 5 TONS REF. HEATING CAPACITY : 10 KW	45	
03-01-01514	SPLIT UNIT WITH COOLING CAPACITY 2 TONS REF. HEATING CAPACITY : 3.5 KW	1,000	
03-01-01515	PACKAGE UNIT , WINDOW TYPE WITH COOLING CAPACITY 2 TON REF. , HEATING CAPACITY : 3.5 KW	2,000	
03-01-01516	THREADING MACHINE , A COMPLETE MACHINE FOR THREADING BAR UP TO 2 INCH AND PIPES UP TO 4 INCH WITH ALL ACCESSORIES REQUIRED AND SPARE PARTS FOR TWO YEARS OPERATION ,POWER SUPPLY : 380 V., 3PH, 50HZ.BIENT TEMP 55 C	25	

CODE	DESCRIPTION	QTY	UNIT
03-01-01517	HYDRAULIC PRESS FOR ELECTRICAL TERMINAL	40	
03-01-01518	DRAIN PUMP , (2 INCH DIA) FOR RAW WATER (DRAIN) DRIVEN BY FOUR STROKE , BENZINE ENGINE , AIR COOLED , MANUAL STARTING WITH ALL ACCESSORIES REQUIRED SUCH AS FLEXIBLE HOSE FOR SUCTION AND DISCHARGE LINE , AND SPARE PARTS FOR TWO YEARS OPERATION	50	
03-01-01519	MOBILE ARC- WELDING MACHINE FOR MAX 400 AMPS , DRIVEN BY DIESEL ENGINE , WATER COOLED , FOUR STROKE , FUEL : GASOLINEWITH ALL ACCESSORIES REQUIRED , AND SPARE PARTS FOR TWO TEARS OPERATION	8	
03-01-01520	CABLE FAULT DETECTOR EQUIPPED TRUCK THE EQUIPMENT CONSIST OF : - DIGITAL PULSE ECHO CABLE FAULT LOCATOR , SUITABLE FOR POWER CABLE (3.3 KV, 11 KV, 1000 V) TELEPHONE CABLES ,COAXIAL CABLE AND OTHER CABLES - BURNER WITH VARIABLE VOLTAGE UP TO 40 KV. - SURGE WITH HEAD PHONE . ALL ACCESSORIES REQUIERED TO THE EQUIPMENTS. THE POWER SUPPLY SHALL BE EITHER FROM MAIN POWER SUPPLY WHICH IS 380 VOLT, 3PH , 50 HZ OR FROM A SMALL DIESEL GENERATOR WHICH MUST BE SUPPLIED WITH THE VEHICLE SHALL BE (15 STEP VAN) , AIR CONDITIONED , FUEL TYPE : BENSENE , FOUR STROKE ENGINE	10	