

	SECTION 1: SEWAGE WORK REQUIREMNTS		
	SECTION1-1: SEWAGE WORK REQUIREMNTS FOR RUSTMIYA SEWAGE TREATMENT PLANT (1,2,3)		
	SECTION : 1-1-1 : 12 -3.3 KW sub-stations		
CODE NO.	DESCRIPTION	QTY	
03-01-00001	12 k.v. sub-station consist of:	1	
	a-1250A isolater (vacuum type) with inter lock and automateg change over 2-no		
	b-1250A circuit breaker (vacuum) drawable with full protaction(over current-earth full	2-no	
) for cable feeder .		
	c-bus-tie for current tranformer (c-t)(b-t) metaring	1-no	
	note:with out using charger.		
03-01-00002	12 k.v. sub-station consist of :	4	
	a-630A incoming c.b. (vacuum) drawable with full cable feeder protaction	2-no	
	b-630A transformer feeder (1600kva) drawable (vacuum) -full protaction	2-no	
	c-bus-tie (C-T)(B-T)(metaring)	1-no	
	d-alkaline battary with charger .	1-no	
	note:all C.B.s motarized		
03-01-00003	12 k.v. sub-station consist of :	1	
	a- 630A transformer feeder C.B. (vacuum) motorized drawable(3500kva) with inter-lock and full protaction .	2-no	
03-01-00004	3.3 k.v. sub-station consist of :	1	
	a-3.3 k.v. 1250A incoming drawable (vacuum) C.B. with inter lock , motorized, and full protection for bus-bar feeder .	2-no	
	b-3.3 k.v. 1250A bus-section drawable (vacuum) motorized C.B . With inter lock	2-no	
	c-3.3 k.v. 630A C.B. cable feeder (vacuum) drawable motorized with full protection (C.T),(B.T), and metering	5-no	
	d-3.3 k.v. power factor improving compact unit C.B 630A with 5-stage complet control from(0--1000kvr)..protaction ,metering	1-no	1
	e-alkaline battry charging unit .	1-no	1
	note:all C.B.s and coupliers are motorized with full protaction,and use gas proof meters and relaies.		
	SECTION : 1-1-2: 3.3 kv sub-station		
code no	description	q y t	unit pr.
code no	description	QTY	
03-01-00005	a-400A 3.3kv (vacuum) C.B. drawable with full protaction for transformer feeder (400kva)	5	
	b 400 A , 3.3KV. = = isolator = motorized for incoming and out going	2-no	2
	SECTION : 1-1-3: 3.3 kv sub-station consist of:		
code no	description	QTY	
03-01-00006	a-630A C.B. (vacuum),motorized,full protaction for incoming drawable	2-no	2
.	b-= = = for bus-section with inter-lock =	2-no	2
.	c-400A = = = ,full protaction for cable feeder =	7-no	7
.	d-400A = = = = = generator = =with inter-koc	2-no	2
.	e-alcalin battries with charger	1-no	1
	SECTION : 1-1-4: 3.3 kv sub-station consist of:		
code no	description of 3.3 kv sub-station consist of:	q y t	
03-01-00007	a-400A C.B. (vacuum),motorized,full protaction for incoming fixed.	2-no	1
	b-= = = for bus-section with inter-lock =	2-no	
	c-100A = = = ,full protaction for transforme feeder (100kva)	1-no	
	d-400A-380v-MCCB-with contactor+over lode+gas proof metering+push potums	1-no	
	e-using C.T ,B.T s for control and protaction .		
	SECTION : 1-1-5: low voltage control penal		
code no	description	q y t	
03-01-00008	15kw motor starters (control penal) consist of:	1	

	a-control penal (2mm)with epoxy coated ,with drawables(70) starter ,the penal have tow air-circuit breakers(2500A-3-P-380V) drawabile type with full protection ,gas proof meters.		
	b-each drawables starter have(manual starter + contactor (220v-ac3-80A)+solid state over-lode coated with epoxy+currnt CT + gas proof amper meter + selector switch with 3-mode(0-A-M).+ push putomes), each cubical have front isolater & lambs. the penal have bus-bar zoon & bus-bar coated with epoxy with cable zoon each cubical have space not less (50-30-30)cm		
	c-the control of the starters in automatic position don by mecanical cam switch work to operated the starters from 50% up to 100% ,on pirode with 12 hour .		
	d-using isolating transformer for controll 380-----220v. note:the penal have side & back slots to coolent . using isolater for each 7 starters ,using multi-function protection relay the penal digsin to work in 55c ,		
03-01-00009	b-400A isolater C.B with inter lock	2-no	2
03-01-00010	c-100A C.B fixed motorized,full protection for transformer (100kva).	1-no	1
03-01-00011	d-400A 380V MCCB with cotactor - over lode ,metaring for low voltage	1-no	1
	e-using (BT,CT)protection with out charger		
	SECTION : 1-1-6: 3.3 kv motor starters		
code no	description		q y t
03-010012	3.3kv motor control penal consist of:		2
	a-starter to start four 3.3kv motors (250-160-160-90)kw,(slip-ring type),using vacuum contactor (400A-110VDC for coil) to feed the staters with full protection(isolater fuse +h.r.c fuses+over current + under voltage +phase lag.+earth fult+C.T&B.T)		
	b-four air - resistant units with complite 4-stages contactors&timers(off delay-p.v.c.) type, to be connected with rotor of slip-ring motor,& p.t.c protection. note:using 2 mm plate,& nema size,no need to use charger using BT&CT		
03-01-0013	b-400A transformer feeder (400kva) & cable feeder drawables (vacuum) -full protection with (C.T)&(B.T) ,gas proof metering.	7-no	
	c-400A C.B for generator with full protection inter lock with incoming	2-no	
	d-630A = = bus section with inter-lock	2-no	
	e-alkaline battry charger	1-no	
03-01-0014	3.3 k.v. sub-station consist of :		1
	a-400A cable feeder C.B. (vacuum) motorized fixed with inter-lock and full protection .	2-no	
	b-400A isolater C.B with inter lock	2-no	
	c-100A C.B fixed motorized,full protection for transformer (100kva).	1-no	
	d-400A 380V MCCB with cotactor - over lode ,metaring for low voltage	1-no	
	e-using (BT,CT)protection with out charger		
	SECTION :1-1-7: low voltage control penal		
code no	description		q y t
03-01-0015	7.5kw motor starters (control penal) consist of:		1
	a-control penal (2mm)with epoxy coated ,with drawables(70) starter ,the penal have tow air-circuit breakers(2500A-3-P-380V) drawabile type with full protection ,gas proof meters.		
	b-each drawables starter have(manual starter + contactor (220v-ac3-32A)+solid state over-lode coated with epoxy+currnt CT + gas proof amper meter + selector switch with 3-mode(0-A-M).+ push putomes), each cubical have front isolater & lambs. the penal have bus-bar zoon & bus-bar coated with epoxy with cable zoon each cubical have space not less (50-25-20)cm		
	c-the control of the starters in automatic position don by mecanical cam switch work to operated the starters from 50% up to 100% ,on pirode with 12 hour .		

	d-using isolating transformer for control 380-----220v.		
	note:the penal have side & back slots to coolent .		
	using isolater for each 7 starters ,using multi-function protection relay		
	the penal digsin to work in 55c ,		
	with inter-lock and full protraction .		
	b-400A isolater C.B with inter lock	2-no	
	c-100A C.B fixed motorized,full protection for transformer (100kva).	1-no	
	d-400A 380V MCCB with cotactor - over lode ,metaring for low voltage	1-no	
	e-using (BT,CT)protection with out charger		
code no	description		q y t
03-01-0016	37kw motor starters (control penal) consist of:		1
	a-control penal (2mm)with epoxy coated ,with drawables(20) starter ,the penal have tow air-circuit breakers(2500A-3-P-380V) drawabile type with full protection ,gas proof meters.		
	b-auto-transformer starter with 3-stages using 3-no 180A contactor+electronic over-lode coated with epoxy+currnt CT + gas proof amper meter + selecter switch with 3-mode(0-A-M).+ push putomes), each cubical have front isolater & lambs. the penal have bus-bar zoon & bus-bar coated with epoxy with cable zoon each cubical have space not less (70-50-40)cm with thermel protection sensor in TR		
	c-the control of the starters in automatic position don by mecanical cam switch work to operated the starters from 50% up to 100% ,on pirode with 12 hour .		
	d-using isolating transformer for control 380-----220v.		
	note:the penal have side & back slots to coolent .		
	using isolater for each 2 starters ,using multi-function protection relay		
	the penal digsin to work in 55c ,		
	with inter-lock and full protraction .		
	b-400A isolater C.B with inter lock	2-no	
	c-100A C.B fixed motorized,full protection for transformer (100kva).	1-no	
	d-400A 380V MCCB with cotactor - over lode ,metaring for low voltage	1-no	
	e-using (BT,CT)protection with out charger		
	SECTION :1-1-8: different electrical materials		
code no.	description of		q t y
	1- liquid for rotor startor in slip-ring motors (vectrohnm type) with solution ,catloges		
03-01-0017	R-25		15
03-01-0018	R-65		10
03-01-0019	R-120		10
03-01-0020	R-200		15
03-01-0021	R-200P		5
	note:with spare solution .		
03-01-0022	2-off-delay timer punumatic type (cuttler hamer) 0-30sec. +control contactor 220v or equevlint set.		100
03-01-0023	3-off-delay electronic timers 0---30 min.		50
03-01-0024	4-on- = = = = =		50
03-01-0025	5-thermel over-lode relay 0.6-----1A		50
03-01-0026	6- = = = = = 1 -----1.6A		50
03-01-0027	7- = = = = = 1.6-----2.5A		50
03-01-0028	8- = = = = = 2.5-----4A		30
03-01-0029	9- = = = = = 4-----6A		50
03-01-0030	10- ===== 6-----13A		30
03-01-0031	11- ===== 13-----18A		60
03-01-0032	12- ===== 18-----25A		30
03-01-0033	13- ===== 25-----32A		60
03-01-0034	14- ===== 32-----50A		30
03-01-0035	15- ===== 50-----80A		30

03-01-0036	16- ===== 65-----100A	30	
03-01-0037	17- ===== 90-----150A	30	
03-01-0038	18- ===== 130-----220A	20	
03-01-0039	19- ===== 200-----320A	20	
03-01-0040	20- ===== 300-----500A	20	
03-01-0041	21- ===== 400-----600A	20	
03-01-0042	22- thermistor short - circuit detection 220v - 50hz - with (p.t.c) sensors (90-110c)	50	
	23- 3-p reversing contactor breakers with thermel-magnatic protaction		
03-01-0043	4-KW	20	
03-01-0044	9-KW	50	
03-01-0045	15-KW	50	
03-01-0046	30-KW	30	
03-01-0047	0.25KW	50	
03-01-0048	0.37KW	50	
03-01-0049	0.55KW	50	
03-01-0050	0.75KW	50	
03-01-0051	1.1KW	50	
03-01-0052	1.5KW	30	
03-01-0053	2.2KW	30	
03-01-0054	24-spring return push buttons (different colors)	300	
03-01-0055	25-start--stop = =	100	
03-01-0056	26-voltage tester cam-switch	30	
03-01-0057	27-selector switch 3-mode (0-1-2)	200	
03-01-0058	28-graphit coper prushes with alamnum wire & termenels,(30*45*60)mm	250	
03-01-0059	29-puls timer electronic 220v 50hz on time 1s--10h,off time 1s--10h	50	
	SECTION1-1-9 :REQUIREMENTS FOR f-1 pumping station		
code no.	description	qty	
03-01-0060	1-center fugure pumps q=5400m3/h,h=15.65M,585rpm, type spyv700-750as or equivlent with complet set of virthal shaft from drive motor to pumps & brackets	3	
03-01-0061	2-slip-ring motor 3-ph,380v,50hz,295kw,585rpm,class f ,the slip ring are saperated from stater ,ip=23,with p.t.c.,the coleent fan fixed on rotor shaft,brush left divce	3	
03-01-0062	3-10--stages rotory oil - resistant starter for rotor starting ,with full protection	3	
03-01-0063	4-control penal with two incoming air circuit breaker 3p,380v&n, 2500A,(one for gen- rator the second for incoming) with spicfication: a-have bus-bar zoon&cable zoon. b-using MCCB for motor (s.c) protaction. c-using AC3 contactor 1000A for stater feeding d-using electronic over-lode coated with epoxy(55c) e- = analog gas-proof meter (A,V....) f- = (0.6m3)valum for each stater starter. g- = (light+sockets+servic) cubicals. h- = sump-pump starter = I- = altra sonic level control system&all wiring. j- = power factor improving units up to 90kvr*3 k- =service sockits 3*100A& 2*50A. l- supply 25-no gas proof florcent fitings +5no 400w sodium m- three spare cubicals	1	
03-01-0064	5-geat valve with acuatures(800mm)(380v,50hz)with all acsseries.	3	
03-01-0065	6-non-return valves (800mm) with water hamer damper.	3	
03-01-0066	7-greas pumps work automaticly with all acsseries	3	
03-01-0067	8-using mimic control system (voltag,current,hz,levels,inducation lamps 9-the supplier responsible on the phisical dimantions,taken from rustamya project	1	
	SECTION:1-1-10 :CABLES		
code no.	description	qty	
03-01-0068	P.V.C cables 4-core flex, 1000v,double insulation 4*1.5mm2	4000m	

03-01-0069	=	4*2.5mm2	3000m	
03-01-0070	=	4*4 mm2	2000m	
03-01-0071	=	4*6 mm2	2000m	
03-01-0072	=	4*10mm2	2000m	
03-01-0073	=	4*16mm2	2000m	
03-01-0074	=	4*25mm2	1500m	
03-01-0075	=	4*50mm2	2000m	
03-01-0076	=	4*75mm2	2000m	
03-01-0077	=	4*125mm2	2000m	
03-01-0078	=	4*175mm2	2000m	
03-01-0079	=	4*240mm2	1000m	
	SECTION:1-1-11 :AIR CONDITION			
code no.	description		qty	
03-01-0080	air-condition unit 24000 b.t.u. (cool-heat) 3-speed fan 3-ph, with stenlessteel pips		20	
	SECTION:1-1-12 : of different testers&elctrical - mechanical mat			
code no.	description		qty	
03-01-0081	1-A.V.O meter anloge (fluck) germany,0-2M ohm-0-10A-0-1000v		10	
03-01-0082	2- = = digital = =====		10	
03-01-0083	3-clamp = anloge = 0---800A		10	
03-01-0084	4-Ohm- = = = 0---1ohm,0---10ohm,o---100ohm		2	
03-01-0085	5-set of wirnch germany up to 36mm		5	
03-01-0086	6- = = box spaner up to 36 mm		10	
	7-end cables terminals (coper coated with anti-corasive)			
03-01-0087	2.5mm2		2000	
03-01-0088	4mm2		2000	
03-01-0089	6mm2		2000	
03-01-0090	10mm2		2000	
03-01-0091	16mm2		2000	
03-01-0092	25mm2		1500	
03-01-0093	50mm2		1500	
03-01-0094	75mm2		1500	
03-01-0095	100mm2		1500	
03-01-0096	125mm2		1500	
03-01-0097	150mm2		1500	
03-01-0098	175mm2		1500	
03-01-0099	240mm2		1500	
03-01-0100	8-electrical mager tester 0-----5000v,up to 2000Mohm, hand charging		5	
03-01-0101	9-electrical welding mechine up to 500A ,220v,50hz,with mask&holder,carge type		3	
03-01-0102	10- = partible welding mechine 160A,220v,50hz,with mask&holder		3	
03-01-0103	11-tab wrench set up to 22mm		5	
03-01-0104	12-clamp - on vise up to 4 inch germany made		10	
03-01-0105	13-table vise = = 8 = = =		3	
03-01-0106	14-spot welding mechine 220v,50hz,up to 10mm,wetar coolent		2	
03-01-0107	15-drill-hamer germany made 220v 50hz 800w up to 13mm two speed &set of ponte		3	
03-01-0108	16- = ===== 1500w, up to 22mm = = =====		3	
03-01-0109	17- hydraulic jack (germeny made) 5 tone		5	
03-01-0110	18- ===== 10 =		3	
03-01-0111	19- universal swivel mechine vise (4--inch) with dgree reselution		1	
03-01-0112	20-table grinding mechime ,220v,50hz,two disc,three speed,700w,		10	
03-01-0113	21-hydraulic puller set up to 20 tone , (12 inch)		5	
03-01-0114	22- pull -- lift 2-tone ,with stenlessteel chane ,length of 15M		9	
03-01-0115	23- ===== 5-tone, ===== 20M		6	
03-01-0116	24----- 10-tone,===== 25M		6	
	SECTION: 1-1-13: screen for rustamya(orgenal phase)			

code no	description				qty
03-01-0117	1-. Ames-crosta screen or equivalent as in fig(sc) the mash width of one set				4
	the new screen must be working on at least two meter higher than the old one and the mash level .				
	2- the supplier must supply conveyor system to lift the screening outside of screen house automatically .				
	3-supply crane ,control panel,automatic control system (ultra-sonic)				
	4- = all the metal equipment made from stainless steel .				
	5- = = the roller used in conveyor made from stainless steel & bolts				
	6- the supplier responsible on the physical dimension to supply new screen with 2-M high from the old one.				
	SECTION:1-1-14: of gate-valves -- non return valves				
code no	description				qty
	supply valves with the general note:				
	a-the spindle made from stainless steel.				
	b-the frame = = cast iron with hand wheel.				
	c-the sleeve = = stainless steel.with bolt sets.				
03-01-0118	1-pn-4	200mm	length 225mm	gate valve	20
03-01-0119	2- =	150mm	= 205mm	gate valve	10
03-01-0120	3- =	100mm	= 185mm	= =	10
03-01-0121	4- =	100mm	= 175mm	= =	10
03-01-0122	5- =	150mm	= 210mm	====	10
03-01-0123	6- =	150mm	= 260mm	= =	20
03-01-0124	7-pn16	150mm	= 350mm	non-return valve	15
03-01-0125	8- =	400mm		=====	5
03-01-0126	9- =	250mm	= 600mm	=====	10
03-01-0127	10- =	150mm	= 395mm	=====	10
03-01-0128	11- =	100mm		=====	5
	SECTION:1-1-15 : different material				
code no	description				qty
03-01-0129	1-wade root blower or equivalent type sr091.7113 with motor 20kw 380v,delta,1480rpm				2
	2-bearing :				
03-01-0130	7216				20
03-01-0131	7219				20
03-01-0132	1320k				20
03-01-0133	1317k				20
03-01-0134	32221				20
03-01-0135	33122				20
03-01-0136	32234				20
03-01-0137	32236				20
03-01-0138	7224				20
03-01-0139	3-automatic grease pump with motor & control panel & 5kg container				10
03-01-0140	4-gas sensor device with digital screen & sonic alarm to detect h2s gas in sewage plant with catloges				10
	SECTION: 1-1-16: steel structures&pumps				
code no	description				qty
03-01-0141	1-detritor (scraper&classifier)				5
	a-scraper type dorr-oliver type w.a (fig 1-a)				
	b-classifier = = = = 1 w a - s (fig 1-b)				
	with gear box type : machine fabric a w g. bierens & zonen n.v/ holland				
	type w b v - 26 ,ratio 60-1 , 2.2 kw,with motor 750rpm				
	with control panel (pulse timer working)				
03-01-0142	2-detritor (scraper&classifier)				2
	scraper type :dorr - oliver (fig 1-c) type"A" size (0-4)				
	deep collection tank (915dia*183deep)mm				

	cleaing chanal (1250long*69wide)mm with control penal (puls timer working)		
03-01-0143	3-screw pump with lower bearing and greas pump capacity 600 m 3/h rateau/france (fig 2).	3	
03-01-0144	3-screw pump with lower bearing and greas pump capacity 960m3/h,54.9rpm hubart sneek,length of screw with out brackets 9516mm,with lower 10569mm length of winding 8586mm ,outer dia 1100mm,inner dia 660mm	4	
03-01-0145	4- vritical pump q=350l/s h=15m 45kw 375rpm for activated sludge lifting with slip-ring motor 380v,50hz,375rpm,ip23,p.t.c.,with complet set of virtecal shaft,greas pump,control penal with spesfication: a-using bus-bar - cable-zoon,power factor units. b=- AC3 for stater feeding 250A&electronic over lode c- = three stage air-resistant rotor starting. d- = MCCB for motor protaction e- = altra-sonic level control system with wiring f- = starters for sump-pump & lights& sockets& servic. g- supply non-retun , gate-valves ,the supplier is responsible on the phisical dimantions taken from rustamya project. h-supply gas proof florcent fittings (20no&400w sodium)&wiring	4	
	SECTION: 1-1-17: of supply accessories to set of genrators		
code no	description	qty	
03-01-0146	supply all the accessories systems for two bobinindus generators sets the gen. 2830kva,11kv ,m w m disel d- 6800 mannh eng. Type tbd 510-lo8 engen no 510.08.01033,2940kw,750rpm a v k d6078 nev - isenburg type/didb 160618 11kv ,2830kva,the work include supply and the instulation to start the set in sincronysing : a-fule system b-hydraulic = c-coolent = d-starting generator 175kva e-control penal (HV,LV)with wiring. f-change over switch(automatic) g-labrecated system h-all wiring,lighting,sincronysing system,stanlessteel radater I-air starting system , with one year gearinty	1	
	SECTION :1-2 : karkh pumps sets		
code no	description	qty	
03-01-0147	1-virtecal pump q= 3000gpm,h=15.9m,965rpm,size350/350,55kw,	4	
03-01-0148	2-slip-ring motor 55kw,970rpm,	2	
03-01-0149	3-virtecal drive shaft set (3-pices)with all bracket	2	
03-01-0150	4-virtecal pump q=6000gpm,980rpm,110kw,h=14.9m,size350/400	2	
03-01-0151	5-slip-ring motors 110kw,980rpm,380v	2	
03-01-0152	6-virtecal drive shaft set (3-pices)with all bracket	2	
03-01-0153	7-virtecal pump q=500gpm,1430rpm,h=21.1m,size150/200	30	
03-01-0154	8-slip ring motor 30kw,1430rpm,v1	30	
	SECTION: 1-3 : REQUIREMENTS OF RUSTAMIYA TREATMENT PLANT , EXTENSION 3		
	SECTION :1-3-1: LOWER BERING		
CODE NO	DESCRIPTION	QTY	
03-01-0155	lower bearing for screw pump type :OL180 Oil seal ring :BA 180x210x15(with s.s spring) .	12	

SECTION : 1-3-2: WHEEL OF SETTLING TANK			
CODE NO	DESCRIPTION	QTY	
03-01-0156	Type of solid rubber and vulkolln tires; (Cylindrical .st.and DG. tires) diemension; vorwerk-445/335-75mm. out dia;445mm. inner dia;335mm. thickness;75mm.	500	
SECTION : 1-3-3: HIGH VOLTAGE CIRCUET BREAKER			
CODE NO	DESCRIPTION	QTY	
	complete high voltage 11 kv circuet breaker., 4 groups in 4 power stations, includes (ups) system, chargers with batterey,s ,all protections,vacuum type are request,motorized and mechanically charging, deatails and drawings,all accessories, internal dies- tribution bus-bars,spare parts for 3 years. Group 1		
03-01-0157	Incoming feeder c.b Voltage; 12kv Current;1250A Short time current 3 sec/ 25KA Making current 70 KA	2	
03-01-0158	Bus section c.b Voltage; 12kv Current;1250A Short time current 3 sec/ 25KA Making current 70 KA	1	
03-01-0159	Measuring section cubature with fuses set.	1	
03-01-0160	Cable feeder c.b Voltage; 12kv Current;800A Short time current 3 sec/ 25KA Making current 70 KA	3	
03-01-0161	Transformer feeder c.b Voltage; 12kv Current;800A Short time current 3 sec/ 25KA Making current 70 KA GROUP 2 and 3 are resembly	5	
03-01-0162	Incoming feeder c.b Voltage; 12kv Current;800A Short time current 3 sec/ 25KA Making current 70 KA	4	
03-01-0163	Measuring section cubature with fuses set.	2	
03-01-0164	Transformer feeder c.b Voltage; 12kv Current;800A Short time current 3 sec/ 25KA Making current 70 KA GROUP 4	8	
03-01-0165	Incoming feeder c.b Voltage; 12kv Current;800A Short time current 3 sec/ 25KA Making current 70 KA	2	
03-01-0166	Measuring section cubature with fuses set.	1	

03-01-0167	Transformer feeder c.b	3	
	Voltage; 12kv		
	Current;800A		
	Short time current 3 sec/ 25KA		
	Making current 70 KA		
	SECTION: 1-3-4: MOTORS		
CODE NO	DESCRIPTION	QTY	
	ALL MOTORS MUST BE INDUCTION TYPE/ AEG, OR EQUIVALENT.		
03-01-0168	Type; AM 315 MQ4 (B3)	10	
	Power;200 KW		
	Speed; 1485 rpm.		
	Voltage; 400 v delta/ 50 HZ		
	Protection;IP54		
03-01-0169	Type; AM 160 LR4 (B3)	15	
	Power;15 KW		
	Speed; 1460 rpm.		
	Voltage; 400 v delta/ 50 HZ		
	Protection;IP54		
03-01-0170	Type; (B3).	10	
	Power; 18.5 KW		
	Speed; 1460 rpm.		
	Voltage; 400 v delta/ 50 HZ		
	SECTION: 1-3-5: POWER FACTOR CORRECTION UNITS,		
CODE NO	DESCRIPTION	QTY	
03-01-0171	EACH UNIT HAS A FOLLOWING:---	4	
	Dry type are request.		
	KVAR = 3 x 600		
	HZ = 50		
	Voltage = 3 x 400 v		
	Ampper = 3 x 866		
	Man. and Auto.		
	SECTION 2 : WATER TREATMENTS PLANT AND NETWORKS REQUIREMENTS		
	SECTION 2-1: SPARE PARTS FOR KARKH RESERVOIRS		
	ABU GHRAIB RES. REQUIREMENTS		
CODE NO.	DESCRIPTION	QTY	
	SPARES FOR 400/400/410 D.E.SC. PUMP WORKING NO. C5/56450/51 DROWING NO. P.2003142		
03-01-0172	COMPLET ROTATING ELEMENT	2	
03-01-0173	INDUCTION MOTOR	2	
03-01-0174	IMPELLER	1	
03-01-0175	CASING EYE RING	2 set	
03-01-0176	IMPELLER EYE RING	2 set	
03-01-0177	THRUST WASHER	6	
03-01-0178	BEARING HOUSING	1	
03-01-0179	LANTERN RING (IN HALVES)	2	
03-01-01710	SPACER RING	2	
03-01-01711	ROLLER THRUST BEARING	5	
03-01-01712	MOTOR HALF COUPLING	5	
03-01-01713	PUMP HALF COUPLING	5	
03-01-01714	SHAFT SELVES	3	
03-01-01715	PRESSURE SWITCH TYPE 107	7	
03-01-01716	DIFFERENTIAL PRESSURE SWITCH TYPE 217	7	
03-01-01717	500mm BUTTER FLY VALVE WITH ELECTRIC ACTUATOR NEWTON CHAMBER LIMITORQ	2	

03-01-01718	ACTUATOR WITH GEAR LIMITOR FOR 500mm VALVES	5	
03-01-01719	BALL BEARING SKF 6318	10	
03-01-01720	800mm BUTTER FLY VALVES WITH ELECTRIC ACTUATOR NEWTON CHAMBER LIMITORQ	1	
03-01-01721	ACTUATOR WITH GEAR LIMITOR FOR 800mm BUTTER FLY VALVES	4	
03-01-01722	GLAND PACKING	3set	
03-01-01723	COMPLETE DRIVE SHAFTING	2	
	SPARES FOR 350/300/429 D.E.SC. PUMP WORKING NO. C5/56454 DROWING NO. P.2003140 (AUB GHRAIB RES.)		
03-01-01724	ROTATING ELEMENT	2	
03-01-01725	INDUCTION MOTOR	1	
03-01-01726	IMPELER	2	
03-01-01727	CASING EYERING	1set	
03-01-01728	IMPELER EYE RING	1set	
03-01-01729	LANTERN RING (IN HALVES)	2	
03-01-01730	SPACER RING	4	
03-01-01731	ROLLER THRUST BEARING	4	
03-01-01732	BOTTOM BEARING BUSH	2	
03-01-01733	MOTOR HALF COUPLING	2	
03-01-01734	PUMP HALF COUPLING	2	
03-01-01735	PLUMMER BLOCK ITEM (22 , 23 , 24)	2	
03-01-01736	THRUST WASHER	6	
03-01-01737	PRESSURE SWITCH TYPE 107	2	
03-01-01738	DIFFERENTIAL PRESSURE SWITCH TYPE 217	2	
03-01-01739	400mm BUTTER FLY VALVES WITH ELECTRIC ACTUATOR NEWTON CHAMBER LIMITORQ	2	
03-01-01740	ACTUATOR WITH GEAR LIMITOR FOR 400mm VALVE	2	
03-01-01741	ANGULAR CONTACT BEARING SKF 7318B	10	
03-01-01742	BALL BEARING SKF 6315	6	
03-01-01743	THRUST BEARING NTN 51205	20	
03-01-01744	GLAND BACKING	4set	
03-01-01745	COMPLET DRIVE SHAFTING	1	
CODE	DESCRIPTION	QTY	
03-01-01746	DRAINAGE PUMP HEAD 10m , POWER 0.75 Kw OUT PUT PIPE 1"	4	
03-01-01747	BASEMENT FLOODED ALARM PANEL , SERIAL NO. C1880/47 FO2 , INCOMING SUPPLY 230 V , CONTROL SUPPLY 110V , MODULAR CONTROL L.T.D	1	
03-01-01748	COMPLETE GENERATOR NEATRAL EAR THING , N.E.L REYROLLE BELMOS , SUPLY 400V , 50Hz , BUSBAR RATING 1000A REFERENC NO. 13/543/27	1	
03-01-01749	ERTHING RELAY , D-2600 , 90A A.C , 600V , 60Hz , 3PH , COIL VOLTAGE 110V , 50 Hz , VOLTAGE = 220 , 440 , 600 , POWER(hp) = 32 , 64 , 78 , COMPLETE WITH AS 1029 , RATING FOR IEC , SK415021 - G	8	
CODE	DESCRIPTION	QTY	
	CONTACTOR ASEA :		
03-01-01750	EG 315-1 , IEC 158-1 , Ith 355A	3	
03-01-01751	EG 80-1 , Ith 110A	10	
03-01-01752	EG 630-2 , IEC 158-1 , Ith 630A	10	
03-01-01753	EG 10 , SK 412 , 0112 , Ith 16A	10	
	ELECTRONIC TIMER :		
03-01-01754	TYPE : D 0/5M-05 , RANGE : 0-1 MIN , VOLT = 110 V A.C , 8-PINS	10	
03-01-01755	TYPE : D 0/5M-02 , RANGE : 0-3 MIN , VOLT = 110 V A.C , 8-PINS , MANUFACTURES = CHROMALOCK LIMITED	10	
CODE	DESCRIPTION	QTY	
03-01-01756	PUMP STATION 400/400/410 D.E.SC. PUMP , SERIAL NO. C5/56450/51 DROWING NO. P.2003142	3	
	1- COMPLETE PUMP WITH MOTOR AND SHAFT INCLUDING .		

	2- MOTOR COOLER PIPE WORK & PRESSURE SWITCHES .		
	3- MANUAL VALVES WITH HANDLE .		
	4- ELECTRIC VALVES WITH HANDLE .		
	5- ELECTRIC CONTROL BOARD WITH INSTRUMENT AND CABLES .		
	6- MANUAL VALVE (FOR MAINTEN ANCE)		
	7- PIPE & VIKING JOHRSON AND ALL CONNECTION AND ADAPTORS.		
	8- REFLUX VALVES / NON RETURN VALVES		
	9- ACTUATORS		
	10- POWER FACTOR CORRE CTION CAPACITOR		
	NORTH & SOUTH RES		
CODE	DESCRIPTION		QTY
	SPARE PARTS FOR ALLEN DESIEL TYPE 16V+B196 512 FX-B		
	GENERATING STATION		
03-01-01757	TACHO WITH SPRING DRIVE PART NO. KS 22407		4
03-01-01758	GOVERNOR JOINT PART NO. KS 24237		4
03-01-01759	INLET VALVE PART NO. SD 52533		32
03-01-01760	EXHAUST VALVE CSTEELITE SEAT PART NO. SD 52534		32
03-01-01761	OUTER VALVE SPRING PART NO. SD 88383		64
03-01-01762	INLET VALVE GUIDE PART NO. SD 86044		32
03-01-01763	EXHAUST VALVE GUIDI PART NO. SD 86045		32
03-01-01764	FUEL OIL FILTER PART NO. SD 55583		40
03-01-01765	ELEMENT PART NO. SD 89576		12
03-01-01766	LUBRICANT OIL FILTER PART NO. SD 54685		64
03-01-01767	JOINT WASHER FOR INJECTOR PART NO. SD 17985		16
03-01-01768	FUEL INJECTOR NOZZLE PART NO. S 94307		64
03-01-01769	NOZZLE HOLDER ASSEMBLY PART NO. SD 95077		32
03-01-01770	WASHER PART NO. KS 17262		32
03-01-01771	WASHER - INLET CONNECTOR PART NO. SD 48595		32
03-01-01772	GUIDED SPINDLE PART NO. D 52057		32
03-01-01773	GUIDED THRUST SPINDLE PART NO. D 52058		32
03-01-01774	NOZZLE HOLDER BODY PART NO. SD 094320		32
03-01-01775	FUEL INJECTION PUMP ASSEMBLY PART NO. SD 95078		32
03-01-01776	PLUNGER SPRING PART NO. SD 46774		16
03-01-01777	SPRING WASHER PART NO. SD 46778		16
03-01-01778	WASHER FOR BINKING PLUG PART NO. SD 46780		16
03-01-01779	AIR VENT SCREW WASHER PART NO. SD 88857		16
03-01-01780	DELIVERY VALVE AND SEAT ASSEMBLY PART NO. SD 94495		16
03-01-01781	LOW PRESSURE SEAL (VITON) PART NO. D 94353		16
03-01-01782	DELIVERY VALVE HOLDER (DISCHARGE UNION) PART NO. SD 94251		4
03-01-01783	JOINT FOR GLACIER FILTER (GLACIER) G.F.2 FILTER PART NO. SD 94252		4
03-01-01784	25 NB VALVE PART NO. SD 94477		4
03-01-01785	(AMOT) TYPE 414 OF PRESSURE SWITCH PART NO. D 1005065		4
03-01-01786	(AMOT) STARTING AIR PESSURE SWITCH PART NO. D 1005068		2
03-01-01787	1-1/2" 3WAY VALVE T-PORT PART NO. D 1007464/330		2
03-01-01788	T.A.V FLOAT SWITCH TYPE 70/270 PART NO. D1007464/369		2
03-01-01789	WOOD WARD BOOSTER SERVO - MOTOR PART NO. D 1007464/393		2
03-01-01790	6KW IMMERSION HEATER PART NO. D 1007464/454		2
03-01-01791	THERMOSTAT FOR IMMERSION HEATER PART NO. D 1007464/455		2
03-01-01792	TEMPERATURE SENSOR PART NO. D1007464/677		12
03-01-01793	40 NB GATE VALVE PART NO. SD 94457		4
03-01-01794	(AMOT)THERMOSTATIC TEMPERATURE CONTROL VALVE PARTNO.SD94692		2
03-01-01795	PYROPRESS SOLENOID AIR VALVE BORE PART NO. D 1007464/607		4
03-01-01796	JOINT FOR EXHAUST PIPE FLANGE PART NO. SD 58907		36
03-01-01797	JOINT FOR PULSE CONVERTER OUTLET PART NO. SD 59386		4
03-01-01798	JOINT FOR EXHAUST BEND INLET TO TURBO CHARGER PART NO. SD59387		8
03-01-01799	JOINT FOR CYLINDER HEAD FLANGE PART NO. SD 4323		16

03-01-01800	JOINT FOR COVER PLATE PART NO. SD 49698	2	
03-01-01801	JOINT FOR AIR MANIFOLD PLATE PART NO. SD 51158	1	
03-01-01802	JOINT FOR BLOWER EXHAUST OUTLET PLATE PART NO. SD 88280	4	
03-01-01803	JOINT FOR CHARGE AIR COOLER PART NO. SD 87322	2	
03-01-01804	JOINT FOR CHARGE AIR COOLER OUTLET BAND PART NO. SD 87324	4	
03-01-01805	2-1/2" PRESSURE GAUGE (0-7)bar PART NO. SD 87568	8	
03-01-01806	2-1/2" PRESSURE GAUGE (0-4)bar PART NO. SD 87571	2	
03-01-01807	JOINT FOR AIR INLET BENDMANIFOLLD END PART NO. SD 48331	2	
03-01-01808	AIR RECEIVER ANCONTROL VALVES CPMPLET	4	
03-01-01809	WATER PUMPE DRIVE BEARING PART NO. SD 86055	2	
CODE	DESCRIPTION	QTY	
	PORTCELL EQUIPMENTS		
	ANGLE VALVE		
03-01-01810	TYPE VA23 12mm BSP , CLORINE DRAM CONNECTION HAND WHEEL	15	
03-01-01811	TYPE VC35-25mm , HEADER ISOLOTION	10	
03-01-01812	PLUG VALVE - 2WAY		
03-01-01813	TYPE 067-25mm , ELETRIC ACTVOTER WITH MANUAL OVER RID SUPPLY 110V , 1ph , 50Hz	5	
03-01-01814	TYPE 062 - 25mm , LEVER WITH LOCKING DEVICE	8	
03-01-01815	TYPE 066 - 12 mm , LEVER WITH LOCKING DEVICE	13	
03-01-01816	NON - RETURN VALVE , TYPE : A2/4821 ,25mm , 1 1/2" BSP , FOR LIQEEL CLOMETER	10	
	CLORINATOR		
03-01-01817	TYPE :31AE , 27Kg/hr MAX MANUAL SET DOSE WITH OUTOMATIC PROPERTIONING TO FLOW	2	
03-01-01818	TYPE :21AE , 14Kg/hr MAX MANUAL SET DOSE WITH OUTOMATIC PROPERTIONING TO FLOW	6	
03-01-01819	AUTOMATIC CHLORINE DRUM CHANGE OVER PANEL : FOR FIVE DRUM SEQUENCE CONTROL	1	
03-01-01820	ANALYSER TYPE : SERISE 66 , RESIDUL ANALYSER PORTACAL CO.	10	
03-01-01821	CHLORINE LEAK DETECTORS	5	
	BBC. KENT INDUSTRIAL MESUREMENTS		
CODE	DESCRIPTION	QTY	
03-01-01822	ELECTRANIC TRANSMITTER	4	
	1- VERSION : STANDARD WITH BADY BOLTS AND NUTS IN HIGH TENSILE CARBON STEEL .		
	2- BODY : CARBON STEEL		
	3- MEASURING ELEMENT 0.1 - A151 316 SILICONE OIL CAPSUULE IN SPAN 500 TO 5200 (20-205)		
	4- SEALS PTFE SILICONE RUBBER		
	OUT PUT 4-20 Ma		
	FOR / LEVEL :		
03-01-01823	SPARE / ELECTRONIC UNIT	6	
03-01-01824	CAPILLARY TUBE 1/2" OD	20	
03-01-01825	NYLON TYPE 30m REEL 1/8"	15	
03-01-01826	BRASS COVPLING TO SUIT 1/8"	500	
03-01-01827	BRASS FERRULE	200	
	600/600/600 D.E.S.C PUMP SECTION DROWING NO. P2003177 SER.NO. C5/56429/30		
CODE	DESCRIPTION	QTY	
03-01-01828	ROTATING ELEMENT	6	
03-01-01829	INDUCTION MOTOR	2	
03-01-01830	CASING SPACER RING ST	6	

03-01-01831	GLAND PACKING ST	3	
03-01-01832	800mm BATTER FLY NEWTON CHAMBER VALVES WITH ELECTRIC LIMITORG ACTUATER	4	
03-01-01833	ACTUATER WITH GEAR LIMITION	20	
03-01-01834	900mm BATTER FLY NEWTON CHAMBER VALVES WITH ELECTRIC LIMITORG B289ACTUATER	4	
03-01-01835	500mm BATTER FLY NEWTON CHAMBER VALVES WITH ELECTRIC LIMITORG ACTUATER	4	
03-01-01836	WORM SHAFT H020-05-1L	10	
03-01-01837	WORM SHAFT H018-06-1L	20	
03-01-01838	THRUST BEARING NTN 5/205	40	
03-01-01839	THRUST BEARING NTN 5/306	40	
03-01-01840	TAPER PIN 6x60mm	20	
03-01-01841	SOCKET SET SCR M12x16mm	20	
03-01-01842	BEARING BUSH 35x45x15	20	
03-01-01843	BEARING BUSH 25x35x25	20	
03-01-01844	DRIVE SHAFTING	1	
03-01-01845	COMPLETE PUMP WITH MOTOR AND SHAFT INCLUDING :-	3	
	1- NON RETURN VALVES/REFLUX VALVES		
	2- MANUAL VALVES WIT HANDLE		
	3- ELECTRIC VALVE WITH HANDLE		
	4- ELECTRIC CONTROL BOARD WITH INSTRUMENT		
	5- MANUAL VALVES (FOR MAINTENCE)		
	6- PIPES & VIKING JOHNSON AND ALL NECESSARY CONNECTIONS & ADAPTORS		
	7- MOTOR COOLER PIPE & PRESSURE SWITCHES		
CODE	DESCRIPTION	QTY	
	PORTECEL CHLORINATOR B701PUMPS		
03-01-01846	PUMP R 32 - 250 CHEMICAL , FUGEL PUMP : DUTY 1.389 L/S , H : 76m , 2950 rpm , MOTOR 8.1 KW , 400V , 3ph , 50 Hz	3	
03-01-01847	PUMP R 32 - 250 CHEMICAL CENTER FUGEL PUMPS : DUTY 2.5 L/S , H :91m , 2950 rpm , MOTOR 12.6 KW , 400V , 3ph , 50 Hz	1	
03-01-01848	PUMP R 32 - 250 CHEMICAL CENTER FUGEL PUMPS : DUTY 1.389 L/S , H :87m , 2950 rpm , MOTOR 12.1 KW , 400V , 3ph , 50 Hz	1	
03-01-01849	COMPLETE ROTATING ELEMENT FOR THE PUMP	6	
03-01-01850	COMPLETE ROTATING ELEMENT FOR THE MOTOR	2	
03-01-01851	STATAR MOTOR 8.1 KW	4	
03-01-01852	STATAR MOTOR 12.6 KW	2	
03-01-01853	STATAR MOTOR 12.1 KW	1	
03-01-01854	SET OF GLAND PACKING	20seT	
03-01-01855	BOLL BEARING	20	
03-01-01856	BEARING NO. 6207	10	
03-01-01857	BEARING NO. 6310	10	
03-01-01858	OILER FILLING	2	
	FUSE & BULB		
CODE	DESCRIPTION	QTY	
03-01-01859	BULB 12V (SCREW CAP ETO)	200	
03-01-01860	MAIN FUSE TBC10	500	
03-01-01861	MAIN FUSE TBC16	500	
03-01-01862	MAIN FUSE TBC20	500	
03-01-01863	MAIN FUSE TBC25	500	
03-01-01864	MAIN FUSE TBC32	500	
03-01-01865	MAIN FUSE TBC40	500	
03-01-01866	MAIN FUSE TBC50	200	
03-01-01867	MAIN FUSE TBC63	200	
03-01-01868	MAIN FUSE TC100	200	

03-01-01869	MAIN FUSE TF125	200	
03-01-01870	MAIN FUSE TF160	200	
03-01-01871	MAIN FUSE TF200	200	
03-01-01872	MAIN FUSE TIA4	200	
03-01-01873	MAIN FUSE TIA6	200	
03-01-01874	MAIN FUSE TIA10	500	
03-01-01875	MAIN FUSE TIA20	500	
03-01-01876	MAIN FUSE TIA25	500	
03-01-01877	MAIN FUSE TIA32M40	500	
03-01-01878	MAIN FUSE TIS35	500	
03-01-01879	MAIN FUSE TIS63M80	500	
03-01-01880	MAIN FUSE TM355	500	
03-01-01881	MAIN FUSE TM400	500	
03-01-01882	MAIN FUSE TKF250	500	
03-01-01883	MAIN FUSE TKF315	100	
03-01-01884	MAIN FUSE TKF355	100	
03-01-01885	MAIN FUSE TTM636	100	
03-01-01886	CONTROL FUSE NIT4A	500	
03-01-01887	CONTROL FUSE NIT6A	500	
03-01-01888	CONTROL FUSE NIT26A	500	
03-01-01889	RESISTOR - 100K (PKT OF 10)	3	
03-01-01890	RESISTOR - 11K (PKT OF 10)	3	
03-01-01891	RESISTOR - 150 ohm (PKT OF 10)	3	
03-01-01892	RESISTOR - 120K (PKT OF 10)	3	
03-01-01893	RESISTOR - 150K (PKT OF 10)	3	
03-01-01894	RESISTOR - 200 ohm (PKT OF 10)	3	
03-01-01895	RESISTOR - 6.2K (PKT OF 10)	3	
03-01-01896	RESISTOR - 51K (PKT OF 10)	3	
03-01-01897	RESISTOR - 33K (PKT OF 10)	3	
03-01-01898	RESISTOR - 1M (PKT OF 10)	3	
03-01-01899	RESISTOR - 15K (PKT OF 10)	3	
03-01-01900	QUAD Op-Amps	10	
03-01-01901	TRANSISTOR 12VA	15	
03-01-01902	REGULATOR , 12V	6	
03-01-01903	RELAY 24V D.C	6	
03-01-01904	TIMER , TYPE 2240	6	
03-01-01905	556 TIMER	6	
03-01-01906	TRANSISTOR	15	
	SECTION 2-2: DESINFECTATION SYSTEM		
CODE	DESCRIPTION	QTY	
03-01-01907	CHLORINATOR WITH CAPACITY 1000g/h CONSISTS THE FOLLOWING	20	
	1- WALL MOUNTED CONTROL UNIT		
	2- INJECTOR		
	3- VACCUM AND PRESSURE CONTROL UNITS		
	4- MANUUAL CONTROL SWITCHOVER VALVE		
	5- FLEXIBLE CONNECTIONS BETWEEN THE UNITS		
	6- ALL THE VALVES AND FITTINGS		
	7- LEAD WASHER 1000 PEC. FOR EACH .		
	8- SPARE PARTS FOR ALL A/ M ITEMS		
	THE PREFERABLE TYPES WALLACE&TIRNANE AND THE CAPETAL ONTRO		
03-01-01908	THE SYSTEM INCLUDES THE FOLLOWING :	20	
	1- CHLORINATORS :		
	CAPACITY OF EACH ONE 2 Kg /h CONSISTING ALL THE CONNECTING PIPES AND FITTINGS , INJECTORS ,MANOMETERS FOR THE GAS AND THE WATER .		

	2- a- FLEXIBLE PIPES AND VALVES SUPPLIED TO BE CONNECTED BETWEEN THE CHLORINEATORS AND THE GAS CYLINDERS .		
	b- FLEXIBLE HOSE (REINFORCED HOSE) SIZE 1.5" OR 2" WITH ALL THE FITTING TO BE COUNECTED BETWEEN THE INJECTORS AND THE INJECTION POINT (LENGTH 25 m) .		
	C- ITEMIZED SPARE PARTS FOR ALL THE EQUIPMENTS MOUNTED INSIDE THE CONTAINER .		
03-01-0909	1- CHLORINATORS	20	
	CAPACITY OF EACH ONE 5 Kg /h CONSISTING ALL THE CONNECTING PIPES AND FITTINGS , INJECTORS ,MANOMETERS FOR THE GAS AND THE WATER .		
	2- a- FLEXIBLE PIPES AND VALVES SUPPLIED TO BE CONNECTED BETWEEN THE CHLORINEATORS AND THE GAS CYLINDERS .		
	b- FLEXIBLE HOSE (REINFORCED HOSE) SIZE 1.5" OR 2" WITH ALL THE FITTING TO BE COUNECTED BETWEEN THE INJECTORS AND THE INJECTION POINT (LENGTH 25 m) .		
	C- ITEMIZED SPARE PARTS FOR ALL THE EQUIPMENTS		
03-01-0910	THE SYSTEM INCLUDES THE FOLLOWING :	30	
	1- CHLORINATORS		
	CAPACITY OF EACH ONE 10 Kg /h CONSISTING ALL THE CONNECTING PIPES AND FITTINGS , INJECTORS ,MANOMETERS FOR THE GAS AND THE WATER .		
	2- a- FLEXIBLE PIPES AND VALVES SUPPLIED TO BE CONNECTED BETWEEN THE CHLORINEATORS AND THE GAS CYLINDERS .		
	b- FLEXIBLE HOSE (REINFORCED HOSE) SIZE 1.5" OR 2" WITH ALL THE FITTING TO BE COUNECTED BETWEEN THE INJECTORS AND THE INJECTION POINT (LENGTH 25 m) .		
	C- ITEMIZED SPARE PARTS FOR ALL THE EQUIPMENTS .		
03-01-0911	1- CHLORINATORS	20	
	CAPACITY OF EACH ONE 20 Kg /h CONSISTING ALL THE CONNECTING PIPES AND FITTINGS , INJECTORS ,MANOMETERS FOR THE GAS AND THE WATER .		
	2- a- FLEXIBLE PIPES AND VALVES SUPPLIED TO BE CONNECTED BETWEEN THE CHLORINEATORS AND THE GAS CYLINDERS .		
	b- FLEXIBLE HOSE (REINFORCED HOSE) SIZE 1.5" OR 2" WITH ALL THE FITTING TO BE COUNECTED BETWEEN THE INJECTORS AND THE INJECTION POINT (LENGTH 25 m) .		
	C- ITEMIZED SPARE PARTS FOR ALL THE EQUIPMENTS .		
	SECTION 2-3: SPARE PARTS LIST FOR DEISEL ENGINE		
	DAIHATSU DIESEL MFG. CO, LTD.		
	OSAKA , JAPAN		
	ENGINE MODEL (8DV-26) ENG. SPEED 750 rpm		
	ENG NO. D826024V BORE 260 mm STROKE 320mm		
CODE	DESCRIPTION	QTY	
03-01-0912	CRANK SHAFT ASSEMBLY FIG NO.9	1set	
03-01-0913	CAM SHAFT ASSEMBLY FIG NO. 11	1set	
03-01-0914	PISTON & CONNECTING ROD ASSEMBLY FIG NO. 24	16set	
03-01-0915	CYLINDER HEAD ASSEMBLY FIG NO. 25	16set	
03-01-0916	VALVE OPERATING DEVICE FIG NO. 28	16set	
03-01-0917	EXHAUST VALVE ASSEMBLY FIG NO. 27	16set	
03-01-0918	INTAKE VALVE ASSEMBLY FIG NO. 26	16set	
	SECTION 2-4: SPAR PART FOR CHLORINE GAS SYSTEM FROM FISCHER & PORTER TO KARAMAH B676		
CODE	DESCRIPTION	QTY	
03-01-0919	SET CONTAINER ROLLER TRUNNIONS CAPACITY FOR CONTAINER UP TO 1000 Kg .	16	

03-01-0920	ANCHOR BOLT M16 x 160 Mu , DIN 529 .	96	
03-01-0921	WASHER 17 , DIN 125 .	96	
03-01-0922	MANIFOLD 1" WITH 2 CONNECTIONS 1" DIN 11 , LENGTH 1000mm	4	
	SER. NO. 628 A 1089		
03-01-0923	MANIFOLD 1" WITH 1 CONNECTIONS 1" DIN 11 , LENGTH 1000mm	4	
	SER. NO. 628 A 1090		
03-01-0924	AUX. VALVE 1" - 1" DIN 11 , SER. NO. 125 A 1053 .	24	
03-01-0925	SISC 1" , SER. NO. 374 B 1022 .	4	
03-01-0926	GASKET 18/11mm , SER. NO. 377 N 1001 .	200	
03-01-0927	BALL VALVE DN 25 FOR WELDING , SER. NO. 125A 1091	4	
03-01-0928	COPPER CONNECTOR 1.0 m , SER. NO. 628 A 1008 .	16	
03-01-0929	AUTOM GAS CHANGE OVER PANEL MEDIUM : CHLORIN ,	2	
	CAPACITY : 60 Kg CL2/h , CONNECTION : 1" DIN 11 , SER. NO.806A1032 .		
03-01-0930	CONTACT PRESSURE GANGE WITH CONNECTOR , RANGE : 0 - 10 bar	2	
	PART NO. 131 C 1019 , SER. NO. ANL 1000 L04 , ANL 1000 KO1		
03-01-0931	CHLORINE FILTER WITH FLANGES , DN 25 WITH GROOVE AND	2	
	TONGUE acc. DIN 2512 , SER. NO. 666A1031		
	FLANGE PAIR FOR WELDING DN 25 , DIN 2635 WITH GROOVE AND		
03-01-0932	TONGUE acc. DIN 2512 WITH SCREWS , HEX NUTS AND GASKETS ,	2	
	SER. NO. 614 L 1166		
03-01-0933	HEATER 220 V , 50 Hz , 48 w , SER. NO. 677 N 1042 .	2	
03-01-0934	CHLORINE GAS REGULATOR , CAPACITY : max. 200 Kg CL2/h FOR	6	
	WALL MOUNTING WITH GAS PRESSURE GANGE ,SER. NO. 806D190U06		
03-01-0935	CONTACT PRESSURE GANGE WITH CONSISTING OF EACH	4	
	1 CONTACT PRESSURE GANGE 0 - 10 bar		
	1 WALL MOUNTING BRACKET		
	1 COPPER CONNECTOR , SER. NO. 630 B 1006 .		
03-01-0936	STEEL PIPE 1" , 33.7 x 2.6 mm , DIN 2448 .	24 m	
03-01-0937	WELDING ELBOW 90 , 1" , 33.7 x 2.6 mm , DIN 2605	6	
03-01-0938	ANGLE SEAT VALVE DN 25 , PVC , PTFE , SER. NO. 161 . 300 . 449	12	
03-01-0939	CHLORINE GAS DISPENSER:	16	
	MODEL N 70 C 4400 , TYPE 70 C 4494 ABXX IX2X UXCKD WITHOUT		
	VACUUM REGULATOR CAPPACITY:max.20 Kg CL2/h WITH INTEGRATED		
	CHLOROMATIC VALVE OPERATED FROM SINGAL OF WATER FLOW		
	POWER SUPPLIY : 220 V , 50 Hz , INPUT SIGNAL : 4 - 20 m A		
	METERING RANGE : 1- 20 Kg B64 WITH EJECTOR 806 E 063 U 06 FOR		
	WATER PRESSURE 4.6 bar , BACK PRESSARE 2 bar , WATER FLOW		
	2.96 L/S , CA. 10.7 m3/h , WIRING DIAGRAM acc. ANL 1000 E 07 .		
03-01-0940	STRAINER DN 80 , PVC , EPDM WITH SCREEM , ORIFICE 2.2 mm ,	2	
	SER. NO. 161 . 305 . 650		
03-01-0941	BALL VALVE DN 80 , PVC , EPDM , WITH FLANGES , SER. NO. 161.370.013	2	
03-01-0942	ANGLE SEAT VALVE DN 25 , PVC , PE , SER. NO. 161 . 300 . 550	12	
03-01-0943	ANGLE CHECK VALVE DN 80 , PVC , EPDM , SER. NO. 161 . 303 . 013	2	
03-01-0944	FLANGE ADOPTOR DN 80 , PVC , SER. NO. 721 . 700 . 013	12	
03-01-0945	FLANGE DN 80 , PVC SER. NO. 721 . 700 . 013	12	
03-01-0946	FLAT GASKET DN 80 , CR , SER. NO. 748 . 400 . 022	12	
03-01-0947	UNION DN 50 , PVC SER. NO. 721 . 510 . 110 .	24	
03-01-0948	ANGLE SEAT VALVE DN50 , PVC , PTFE , SER. NO. 161 . 300 . 599 .	12	
03-01-0949	BALL CHECK VALVE DN 50 , PVC , FPM , SER. NO. 161 . 360 . 036 .	6	
03-01-0950	UNION DN 50 , PVC , RITON , SER. NO. 721 . 510 . 110 .	6	
03-01-0951	SOLUTION WATER DIFFUSOR DN 50 , PVC , WITH ANGLE SEAT VALVE	6	
	SER. NO. 806F1023		
03-01-0952	RESIDUAL CHLORINE ANALGZER , CHLORTROL 2" , MODEL D17 K2121CA	2	
	CONSISTING OF : PRIMARY UNIT , SECUNDARY UNIT AND		
	CONNECTION CABLE , POWER SUPPLY : 220 V , 50 Hz , OUTPUT		
	SIGNAL : 4 - 20 m A , METERING RANGE : 0 - 2 mg CL2/L+B630		
03-01-0953	CONNECTION ACCESSORIES WITH PRESSURE READUONG VALVE	2	
	SER. NO. 614 L 1422		

03-01-0954	SAMPLE LINE COMPLETE FOR LINE > DN 300 ,SER. NO.614 L 1153	2	
03-01-0955	CHLORINE COMPARATOR LOVIBOND 1000 METERING RANGE :	10	
	0.1 - 5 mg CL ₂ /h ,SER. NO. 142B1021		
03-01-0956	BREATHING PROTECTION MASK WITH FILTER B IN CARRYING BOX	20	
	SER. NO.NOVA R A		
03-01-0957	CHLORINE LEAK DETECTOR , MODEL "CHLORALERT" , POWER	2	
	SUPPLY : 220 V , 50 Hz , SER. NO. 17 CA1020		
03-01-0958	SET ACCESSORIES , SER. NO. 614 L 1192	2	
03-01-0959	SET SPARE PARTS , SER. NO. 614 L 1193	2	
03-01-0960	ALARM HORN 220V , 50 Hz , SER. NO. 151E1001	2	
03-01-0961	ALARM RESET COMBINATION , SER. NO. 151 E 1002	2	
03-01-0962	TEC DN 20 , PVC , SER. NO. 112 A 1049	2	
03-01-0963	PVC - CEMENT 500 cm ³ , SER. NO. 141 B 1043	2	
03-01-0964	TANK LIFTING BEAM FOR CHLORINE CONTAINER VOLUME	2	
	800 L = 1000 Kg CL ₂ , SER. NO. 623 A 1058		
03-01-0965	SPRAY NOZZLE DN 15 , PVC , SER. NO. 130 F 1002	20	
03-01-0966	PVC - PIPE 32 x 1.8 , DN 25 , DIN 8061/62	60m	
03-01-0967	SHUT - OFF VALVE R 1" WITH LONGER SPINDLE,SER.NO.668A1063	4	
03-01-0968	ELBOW DN 25 , PVC , SER. NO. 721.100.108	20	
03-01-0969	SOCKET DN 25 , PVC , SER. NO. 721.910.108	12	
03-01-0970	TEC , REDUCING DN 25 - 15 - 25 , PVC , SER. NO. 721.200.141	16	
03-01-0971	REDUCING BUSH DN 25-15 , PVC , SER. NO. 721.900.342	4	
03-01-0972	UNION DN 25 , PVC , SER. NO. 721.510.108	4	
03-01-0973	PE - PIPE CLAMP d = 32 mm , SER. NO. 108 A 6004	60	
03-01-0974	SCREW 4.5 x 40 , DIN 96	60	
03-01-0975	PLASTIC DOWEL S6 , SER. NO. 117 F 6002	60	
03-01-0976	FAN , TYPE DZQ 25/4D,CAPACITY:1100 m ³ /h, MOTOR:400V,3PH, 50Hz	10	
03-01-0977	POWER : 55 w , SPEED : 1425 min ⁻¹ WITH TROPICAL ISOLATING	10	
03-01-0978	DURO - VERS B768CHLUPKLAPPE AP25	4	
03-01-0979	INSPECTION OF ALL PARTS FROM THE UNIT	2	
CODE	DESCRIPTION	QTY	
03-01-0980	RESIDUAL CHLORINE ANALYZER , CHLORTROL 2" ,	2	
	CONSISTING OF : PRIMARY UNIT , SECONDARY UNIT AND		
	CONNECTION CABLE , POWER SUPPLY : 220 V , 50 Hz, OUTPUT		
	SIGNAL : 4 - 20 m A , METERING RANGE : 0 - 2 mg CL ₂ /L		
03-01-0981	CONNECTION ACCESSORIES WITH PRESSURE READUCING VALVE	2	
03-01-0982	SAMPLE LINE COMPLETE FOR LINE > DN 300 ,	2	
03-01-0983	CHLORINE COMPARATOR LOVIBOND 1000 METERING RANGE :	10	
	0.1 - 5 mg CL ₂ /h ,		
03-01-0984	BREATHING PROTECTION MASK WITH FILTER B IN CARRYING BOX	20	
03-01-0985	CHLORINE LEAK DETECTOR POWER SUPPLY : 220 V , 50 Hz ,	2	
03-01-0986	SET ACCESSORIES ,	2	
03-01-0987	SET SPARE PARTS ,	2	
03-01-0988	ALARM HORN 220V , 50 Hz ,	2	
03-01-0989	ALARM RESET COMBINATION ,	2	
03-01-0990	PVC - CEMENT 500 cm ³ ,	2	
03-01-0991	SPRAY NOZZLE DN 15 , PVC ,	20	
03-01-0992	PVC - PIPE 32 x 1.8 , DN 25 , DIN 8061/62	60m	
03-01-0993	SHUT - OFF VALVE R 1" WITH LONGER SPINDLE	4	
03-01-0994	ELBOW DN 25 , PVC	20	
03-01-0995	SOCKET DN 25 , PVC	12	
03-01-0996	TEC , REDUCING DN 25 - 15 - 25 , PVC ,	16	
03-01-0997	REDUCING BUSH DN 25-15 , PVC	4	
03-01-0998	UNION DN 25 , PVC	4	
03-01-0999	PE - PIPE CLAMP d = 32 mm ,	60	
03-01-01000	SCREW 4.5 x 40 , DIN 96	60	
03-01-01001	PLASTIC DOWEL S6 ,	60	

03-01-01002	FAN , TYPE DZQ 25/4D,CAPACITY:1100 m3/h, MOTOR:400V,3PH, 50Hz	4	
	POWER : 55 w , SPEED : 1425 min-1 WITH TROPICAL ISOLATING		
	FROM CL2		
	SECTION 2-5: MEDIUM VOLTAGE SWITCH BOARD FOR KARAMA PROJECT		
CODE	DESCRIPTION	QTY	
	11 KV DISTRIBUTION BOARD FOR PROJECT NO.3 KARAMA TREATMENT PLANT CONTAINS THE FOLLOWING :		
03-01-01003	630 A , 11KV INCOMMING 1,2	2	
03-01-01004	630 A , 11KV EMMERGINCY 1,2	2	
03-01-01005	630 A , 11KV OUT GOING TO TRANSFORMERS 1, 2 , 3	3	
03-01-01006	630 A , 11KV OUT GOING TO PROJECTS 1,2	2	
03-01-01007	NOTE :-		
	- THE SWITCH BOARD SHOULD INCLUDES ALL THE D.C SYSTEM		
	REQUIPMENT (CHARGER & BATTERIS) & ALL THE PROTECTION RELAYS		
	- SUPERVISION OF ERECTION THE SWITCH BOARD .		
	SECTION 2-6: SPARE PART FOR CLARIFIERS IN KARAMA & DOURA PROJECT		
CODE	DESCRIPTION	QTY	
	TYPE : R65 – 1023 – 400 – 4FR		
03-01-01008	DRIVING GEAR , PART NO. = G-M 160-HFZ90	6	
03-01-01009	COUPLING , PART NO. = XW 1-110	6	
03-01-01010	DRIVING ROLLERS , PART NO. = P-0114/15	10	
03-01-01011	GUIDE ROLLERS , PART NO. = P-0114/09	10	
03-01-01012	LIMIT SWITCH , PART NO. = BC 1W	6	
03-01-01013	EST OF RUBBER LEDGES , PART NO. = P-0114/10 , POS 41-44	12	
03-01-01014	EST OF RUBBER LEDGES , PART NO. = P-0114/10 , POS 45-47	12	
03-01-01015	SLIP RING BODY , PART NO. = KSK 90-8	8	
03-01-01016	DISC FOR MIXING , PART NO. = 2 LA 7135/12	4	
03-01-01017	SET OF FRICTION WHEEL , PART NO. = 2 LA 7169/16	4	
03-01-01018	BEARING , PART NO. = UCP 216 ASAHISEJKO - JAPAN	24	
03-01-01019	STARS FOR ELECTRIC COUPLINGS , PART NO. = 0 LA 7169/6	12	
03-01-01020	WORM GEAR DRIVING MOTOR , PART NO. = 0 LA 7162/2,3	2	
03-01-01021	SETS OF RADIAL GASKETS , PART NO. = 0 LA 7169/7	12	
03-01-01022	BEARINGS , PART NO. = 0 LA 7169/13	12	
03-01-01023	DRIVING ROLLERS , PART NO. = 2 LA 7162/2,3	6	
03-01-01024	GUIDE ROLLER , PART NO. = 2 LA 7135/4,6,11	2	
03-01-01025	BANDAGE FOR THE ROLLERS , PART NO. = 2 LA 7135/6	6	
03-01-01026	DISCS , PART NO. = 2 LA 7135/12	24	
03-01-01027	BEARING BUSHED , PART NO. = 2 LA 7135/11	48	
03-01-01028	SERVO GEAR MOTOR , PART NO. = 0 LA 7169/16	2	
03-01-01029	SET OF RADIAL GASKETS , PART NO. = 0 LA 7169/16	4	
03-01-01030	SET OF FRICTION WHEELS , PART NO. = 0 LA 7169/16	2	
03-01-01031	BEARING BUSH , PART NO. = 1 LA 7100/8	2	
03-01-01032	RUBBER LEDGES , PART NO. = 1 LA 7140/15-23	EFM 160	
03-01-01033	SLIP RING	2	
03-01-01034	HOLDERS WITH BRONZE BRUSHES , PART NO. = 0 LA 7169/19	18	
03-01-01035	LIMIT SWITCH , PART NO. = 0 LA 7169/21	2	
	SECTION 2-7:DIESEL GENERATORS FOR KARAMA PROJECT		
CODE	DESCRIPTION	QTY	
03-01-01036	- O/P VOLTAGE 11 KV	2	
	- O/P POWER 1500 KVA , COS ? = 0.9		
	- SUITABLE FOR OUTDOOR INSTALLATION		
	- ALL THE NECECCARY ELECTRICAL SWITCH BOARD		
	- CAPACITY OF STORAGE TANK TO COVER OPERTION FOR 72 HOURS		

	- COMPRESSED AIR STAETING BY TWO COMPRESSORS ONE DIESEL OPREATED & ONE ELECTRICAL OPRATED		
	- ENGIN SPEED 1000 R.P.M		
	SECTION 2-8: SPARE PART FOR KARKH PROJECT		
CODE	DESCRIPTION	QTY	
	TREATED WATER PUMPING STATION , SERIAL NO. C5/56383 , DWG NO. P2003107		
03-01-01037	GELLENK WELLENBAV SERIES G.W.B 190.75 MODEL 01 , FLANG DRIVE BHAFT	1	
03-01-01038	ELECTRIC ACTVATOR , MOTOR DATA : TYPE 15LBR1 , TIME 15 min , HP 0.6 INS B , 40A , FREQ 50 , 1500 rpm , 400V , FR 42 , CODE 03	20	
03-01-01039	BALL BEARING BLL 150 SKF 6230 FOR DWG.NO A0 1432401 ITEM 20	10	
03-01-01040	BALL BEARING SKF 7322B FOR DWG.NO A0 1432401 ITEM 53	20	
03-01-01041	BALL BEARING 6318 FOR D315LD MOTOR (C1327939)	10	
CODE	DESCRIPTION	QTY	
	RAW WATER PUMPING STATION ,		
03-01-01042	INTER LOCK RELAY	20	
03-01-01043	ALARM RELAY	20	
03-01-01044	DIFFERENTIAL PESSURE AUXICIRY RELAY	20	
03-01-01045	DIFFERENTIAL PESSURE TIMER RELAY	20	
03-01-01046	BEARING WATER FLOW TIMER	20	
03-01-01047	BEARING WATER FLOW AUX REALY	20	
03-01-01048	PUMP BEARING ALARM RELAY	20	
03-01-01049	PUMP BEARING TRIP	20	
03-01-01050	BOOSTER MOTOR TIMER AUXILARY RELAY	25	
03-01-01051	SUMP LEVEL SLAVE RELAY	25	
03-01-01052	BOOSTER TEST RELAY	25	
03-01-01053	PUMP CONTROL PANAL COMPLET	22	
03-01-01054	TAPER ROLLER THRUST BTING	15	
03-01-01055	BEARING SPIDER	4	
03-01-01056	DIAL INDICATOR THERMOMETER	14	
03-01-01057	INTER MEDIATE SHAFT	2	
03-01-01058	TOP SHAFT	2	
03-01-01059	OIL LEVEL GAVGE	8	
03-01-01060	SPLIT GLAND	8	
03-01-01061	HEX H.D BOLTS ITEM 63 TO 86-85	60	
03-01-01062	HEX H.D BOLTS ITEM 29 TO 83	60	
03-01-01063	HEX H.D BOLTS ITEM 62 TO 83,84,64 TO 84 , 87	60	
03-01-01064	500mm PUMP , SERIAL NO. C5/56366/7	4	
03-01-01065	IMPELLER	2	
03-01-01066	PUMP SHAFT	2	
03-01-01067	WTER MEDIATE SHAFT	2	
03-01-01068	INTER MEDIATE SHAFT	2	
03-01-01069	TOP SHAFT	2	
03-01-01070	PUMP BEARING SLEEVE	4	
03-01-01071	INTER MEDIAT BEARING SLEEV	10	
03-01-01072	60 BORE COUPLING (SLEEVE TYPE)	6	
03-01-01073	BEL ZONA (1111)	20 kg	
03-01-01074	BEL ZONA (1321)	60 kg	
	FUSE TKF		
CODE	DESCRIPTION	QTY	
03-01-01075	335 A , 80 K ohm , 660 V	20	
03-01-01076	315 A , 80 K ohm , 660 V	20	
03-01-01077	250 A , 80 K ohm , 660 V	20	
03-01-01078	CONTACTOR ASED		
03-01-01079	380 V , 355A , EG-315-1	10	

03-01-01080	380 V , 180A , EG-160-1	10	
03-01-01081	380 V , 110A , EG-80-1	10	
03-01-01082	380 V , 45A , EG-40-1	10	
03-01-01083	110 V , 32A , EG-20	10	
03-01-01084	110 V , 16A , EG-10	10	
CODE	DESCRIPTION	QTY	
	VALVES		
03-01-01085	FANCTION : CLARIFIER WATER DRAIN , OPERATED : HAND WHEEL NP/0 FLANG RATING , BODY MATEREAL : CAST IRON , VALVE PLATE : STAINLESS STEEL , SPINDLE MATEREAL : CHROM STEEL , BORE NW : 400mm , NO. OF BOLTE 16 BOLTE SIZE 24 LENGTH WITH SPINDEL = 1615mm WIDTH , 565mm , MAX PRESSURE = 4 bar .	10	
CODE	DESCRIPTION	QTY	
	MOTOR FOR CLARIFIER SCRAPER		
03-01-01086	POWER = 3.5 KW , 400V , 1000 rpm , 50 Hz , 3PH , FROM SIZE D132M , FLANGE MOUNTING BOLTE SIZE MR POLES 8 , SHAFT DIA = 38mm , KEY WAY WIDTH 10mm , KEY WAY DEPTH 4mm .	10	
CODE	DESCRIPTION	QTY	
	CHLORINE RESIDUAL ANALYSER SERLIES66 COMPLETE WITH BUFFER PUMP		
	M-RANGE 0-10 mg/L , RESOLUTION 0-10 mg/L , RESPONSETIME 30 sec , FLOW THROUGH ELL 500 mL/m , MAX - PRESSURE 2.0 bar , 115/230V , 50/60 HZ , OUT PUT CUYRENT 0.10 mA OR 4-20 mA .		
	SECTION 2-9 : SPARE PART FOR QADISSYA PROJECT.		
CODE	DESCRIPTION	QTY	
03-01-01087	LOW VOLTAGE ELECTRICAL SWITCH BOARD AS DESCRIBED BELOW	1	
	1- GENERAL CHARACTERISTICS		
	A- MATERIAL :		
	SHEET STEEL ,ANTI-CORROSION		
	B- SURFACE TREATMENT		
	ANTI CORROSION COATING THERMAL POLYMERISED POLYSTER		
	EPOXY POWDER , COLOUR PEIGE		
	C- BUSBAR INSULATIONS SUPORRTS :		
	ALL PLASTC PANT WITH STAND FIRE OR ACCESSIVE HEAT CAUSED		
	CAUSED BY INTERNAL ELEETRIC PHENAENA, AS PER		
	IEC 695 -201:960, 305/305 FOR SUPPORTS FOR LIVE METAL PARTS		
	D- BUILDING UP INSTALLATIONS :		
	THE COMPONENT CAN BE USED TO BUILD SWITCHGEAR ASSEMB-		
	-LIES IN COMPLAINCE WITH STANDARDS, IEC60439-1, EN60439-1		
	* RATED INSULATION VOLTAGE FOR BUSBARS 1000V		
	* RATED CONTINIIONS CURRENT 2000A		
	* PEAK WITHSTAND CURRENT =1PK =187KA		
	*SHORT TIME WITHSTAND CURRENT =85KA FOR ONE SECOND		
	*FREQUENCY 50 HZ		
	E- MAIN BUSBAR SYSTEM: RATED CURRNET=2000 A, CONSISTS OF		
	THREE PHASES L,1 L,2 L,3, AND N, PE		

	F- DIMENSIONS :		
	TOTAL LENGTH SHOULD NOT EXCEED 7.8m , HIGHT SHOULD NOT EXCEED 2.4m WIDTH = 1M		
	2- COMPONENTS OF THE BOARD :		
03-01-01088	1- 3 POLE 50 Hz DRAWABLE WITH CHASSIS INCOME FEADER CIRCUIT BREAKER AND BUS COUPLER WITH SPECIFICATION :	5+1spare	
	* RATED CONTINIONS CURRENT 2000A at 50 C		
	* RATED INSULATION VOLTAGE 1000V		
	* RATED OPERATION VOLTAGE 660V		
	* MANUAL AND MOTOR CHARGED SPRING STORAGE MECHANISM MOTOR CONTROL VOLTAGE 220V		
	CLOSING RELEASE CONTROL VOLTAGE 220V		
	UNDER VOLTAGE TRIP CONTROL VOLTAGE 220V		
	EACH CB EQUIPED WITH ELECTRONIC PROTECTION UNIT IT HAS THE FOLLOWING FUNCTIONS :		
	FAULT INDICATION OVER LOAD/ SHORT CIRCUIT , EARTH FAULT , INSTANTINEOUS SHORT CIRCUIT , DIGITAL DISPLAY FOR CURRENT , VOLTAGE ,POWER FACTOR ,FREQUENCY AND POWER.		
03-01-01089	2- 3 POLE 50 Hz MCCB WITH SPECIFICATIONS :	6+2spare	
	* RATED CURRENT 630A AT 50 C		
	* BREAKING CAPACITY 65 KV		
	* RATED INSULATION VOLTAGE 750V		
	* RATED OPERATED VOLTAGE 690V		
	EACH CB EQUIPED WITH ELECTRONIC PROTECTION UNIT IT HAS THE FOLLOWING FUNCTIONS :		
	* LONG TIME OVERLOAD PROTECTION WITH INDICATION.		
	* SHORT TIME SHORT CIRCUIT PROTECTION.		
	* INSTANTIOUS SHORT CIRCUIT PROTECTION.		
	* DIGITAL DISPLAY INDICATES THE CURRENT OF THE PHASES .		
03-01-01090	3- 3 POLE 50 Hz MCCB WITH SPECIFICATIONS :	2+1spare	
	* RATED CURRENT 400A at 50 C		
	* BREAKING CAPACITY 65 KV		
	* RATED INSULATION VOLTAGE 750V		
	* RATED OPERATED VOLTAGE 690V		
	EACH CB EQUIPED WITH ELECTRONIC PROTECTION UNIT IT HAS THE FOLLOWING FUNCTIONS :		
	* LONG TIME OVERLOAD PROTECTION WITH INDICATION.		
	* SHORT TIME SHORT CIRCUIT PROTECTION.		
	* INSTANTIOUS SHORT CIRCUIT PROTECTION.		
	* DIGITAL DISPLAY INDICATES THE CURRENT OF THE PHASES .		
03-01-01091	4- 3 POLE 50 Hz MCCB WITH SPECIFICATIONS :	2	
	* RATED CURRENT 250A at 50 C		
	* BREAKING CAPACITY 65 KV		
	* RATED INSULATION VOLTAGE 750V		
	* RATED OPERATED VOLTAGE 690V		
	* RATED CURRENT 250A		
	EACH CB EQUIPED WITH ELECTRONIC PROTECTION UNIT IT HAS THE FOLLOWING FUNCTIONS :		
	* LONG TIME OVERLOAD PROTECTION WITH INDICATION.		
	* SHORT TIME SHORT CIRCUIT PROTECTION.		
	* INSTANTIOUS SHORT CIRCUIT PROTECTION.		

03-01-01092	5- 3 POLE 50 HZ 200A MCCB	2	
03-01-01093	6- 3 POLE 50 HZ 160A MCCB	1	
03-01-01094	7- 3 POLE 50 HZ 100A MCCB	2	
03-01-01095	8- 3 POLE 50 HZ 63A MCCB	4	
03-01-01096	9- 3 POLE 50 HZ 50A MCCB	2	
03-01-01097	10- 3 POLE 50 HZ 25A MCCB	4	
03-01-01098	11- PUMP MOTOR SOFT STARTER - SOFT STOP ELECTRONIC STARTER WITH ALL ACCESSORIES SUCH AS FAULT INDICATIONS , METERING , ...etc , CAPABLE OF COMMUNITION WITH COMPUTER ,FOR PUMP MOTOR RATING 250 KW ,3 PHASE ,400V , 50 Hz 1500 RPM	6+2spare	
03-01-01099	11- BLOWER SOFT START - SOFT STOP ELECTRONIC STARTER WITH ALL ACCESSORIES SUCH AS FAULT INDICATIONS , METERING , ...etc , CAPABLE OF COMMUNITION WITH COMPUTER ,FOR BLOWER MOTOR RATING 75 KW ,3 PHASE ,400V , 50 Hz 1500 RPM	2+1spare	
	NOTE :- SPARE MEANS ADDITIONAL NOT INSTALLED IN THE BOARD		
03-01-01100	ULTRA SONIC FLOWMETER FOR UP WASH FLOW AND FILTERED WATER FLOW DIAMETER 100-300 mm CLAMP ON TYPE .	14	
03-01-01101	MONITORING PANEL WITH THE METERS AND INDICATIONS AS BELOW	1	
	a- 25 FLOW MEASURED VALUES 4-20mA		
	b- 4 LEVEL MEASURED VALUES 4-20mA		
	c- 4 PRESSURE MEASURED VALUES 4-20mA		
	d- 6 INDICATORS FOR HIGH LIFT OLD PUMPING ST. PUMPS		
	e- 3 INDICATORS FOR HIGH LIFT NEW PUMPING ST. PUMPS		
	f- 10 INDICATORS FOR LOW LIFT OLD PUMPING ST. PUMPS FOR (d-e-f)		
	PUMP INDICATION RUN OR STOP		
	g- 10 INDICATORS FOR HT CBs		
	h- 14 INDICATORS FOR LT CBs IN OLD PUMPING ST.		
	I- 6 INDICATORS FOR LT CBs IN NEW PUMPING ST.		
	j- 15 INDICATORS FOR LT CBs IN ROW PUMPING ST. FOR (g-h-I-j)		
	CB INDICATION CLOSE OR OPEN		
	THE PANEL INCLUDES POWER SUPPLIES TO SUPPLY 24V TO THE INDICATION BULBS ,RELAYS AND INTERNAL CONNECTIONS .		
03-01-01102	k -SPARE BULB FOR ABOVE	500	
03-01-01103	SUBMERSIBLE PUMP 8KW , 400V , 3PH , 50 Hz , Q= 30L/S , H= 12m , DISCHARGE AND WATER PROOF CABLE ENTRY GLAND , WITH STARTER	4	
CODE	DESCRIPTION	QTY	
03-01-01104	UP WASH PUMP Q= 1500 m3/hr , H = 10m WITH STARTERS , CABLES , FLOWMETERS AND NON RETURN VALVES	2	
03-01-01105	UP WASH PUMP Q= 1800 m3/hr , H = 10m WITH STARTERS , CABLES , FLOWMETERS AND NON RETURN VALVES	2	
03-01-01106	OVER HEAD ELECTRIC CRANE TO REPLACE THE EXISTING HIGH LIFT PS NEW PLANT LOAD =4 TON , LIFTING HEAD = 7m , HOISTING SPEED = 3m/min , MICRO HOISTING SPEED = 0.5m/min	1	
03-01-01107	MONO ELECTRIC/MANUAL CRANE LOAD=2 TOP, LIFTING HEAD =3m , HOISTING SPEED = 2m/min , MICRO HOISTING SPEED = 0.5m/min COMPRESSOR	1	
	MEDIUM VOLTAGE SWITCH BOARD		
CODE	DESCRIPTION	QTY	
	11 KV DISTRIBUTION BOARD FOR PROJECT NO. 3 QADISSYA TREATMENT PLANT CONTAINS THE FOLLOWING :		
03-01-01108	630 A , 11KV INCOMMING 1 (FEEDER)	1	

03-01-01109	630 A , 11KV EMMERGINCY 1 (GEN.)	1	
03-01-01110	630 A , 11KV OUT GOING TO TRANSFORMERS 1, 2 , 3	3	
03-01-01111	630 A , 11KV OUT GOING SPARE	1	
	NOTE :-		
	- THE SWITCH BOARD SHOULD INCLUDES ALL THE D.C SYSTEM REQUIPMENT (CHARGER & BATTERIS) & ALL THE PROTECTION RELAYS		
	- SUPERVISION OF ERECTION THE SWITCH BOARD .		
	SECTION 2-10: SPARE PARTS FOR TAJI RESER: Serial No. C5/56475		
	Sectional drawing No. P2002552		
	Taji res. Pumps 250/225 D.E.S.C		
CODE	DESCRIPTION	QTY	
03-01-01112	Complete rotating element with motor	1	
03-01-01113	Gland packing	4 set	
03-01-01114	Casing spacer ring	2 set	
03-01-01115	Ball baring	2 set	
03-01-01116	Half coupling of pump	2	
03-01-01117	Valve complete with actuators 300 mm	2	
	Sectional drawing No. SMC 04/3		
03-01-01118	MANUAL VALVE WITH HANDAL / NEWTON CHAMBER LIMITORQ	2	
03-01-01119	Pressure switch	6	
03-01-01120	Differential pressure switch	6	
03-01-01121	Contractors type ABB 355 Amp voltage coil 110V	8	
03-01-01122	Contractors type ABB 110 Amp voltage coil 110V	4	
03-01-01123	Electronic timer type Do/5m-05	12	
	Range 0-1 min.		
	Operating voltage 110Vac, 8 pins		
03-01-01124	Electronic timer type Do/5m-02	12	
	Range 0-3 min.		
	Operating voltage 110Vac, 8 pins		
	Serial No. C5/56471		
	Sectional drawing No. P223140		
	Taji res. Pumps 350/300/429 D.E.S.C		
CODE	DESCRIPTION	QTY	
03-01-01125	Complete rotating element with motor	2	
03-01-01126	Gland packing	3 set	
03-01-01127	Casing spacer ring	2 set	
03-01-01128	Roll baring	4	
03-01-01129	Roller baring 7318	4	
03-01-01130	Roller baring 6315	4	
03-01-01131	Roller baring 1209	4	
03-01-01132	Roller baring 23/4LJ	4	
03-01-01133	Roller baring 1213	6	
03-01-01134	Half coupling of pump	6	
03-01-01135	Valve complete with actuators 400 mm	6	
	Sectional drawing No. SMC 04/3		
03-01-01136	MANUAL VALVE WITH HANDAL / NEWTON CHAMBER LIMITORQ	3	
03-01-01137	Plummer block item(22,23,24)	6	
03-01-01138	1 inch Drainage submersible pump	4	
03-01-01139	H=10m,power=0.75 kW	1	
	Basement flooded alarm panel		
	Serial no.C1880/47 F02		
	Supply voltage 230Vac		
	Control supply 110Vac		
	Modular control L.T.D		

03-01-01140	Complete generator neutral earthing Supply 400 Vac (N.E.I. REYROLLE BELMOS) Bus bar rating 400 amp.	1	
03-01-01141	Earthing relay TYPE 2M6 400Vac,50Hz,3Ph coil voltage 110 V BONAR BRAY LTD SER.NO. 025107-2	6	
	SECTION 2-11: EQUIPMENTS FOR FOR . (NORTH , SOUTH , AUB GR. , TAJ.) RES		
	LIGHTING		
03-01-01142	6 Feet fluorescent light tube 75/85 watt fitting	300	
03-01-01143	Mercury lamp 400 watt	150	
03-01-01144	Mercury lamp 125 watt	300	
03-01-01145	Complete Emergency light with tube 8 watt	150	
03-01-01146	6 Feet fluorescent light tube 75/85 watt	500	
03-01-01147	4 Feet fluorescent light tube 40 watt	400	
	AIR COOLED IN RES.		
CODE	DESCRIPTION	QTY	
	CARRIER EQUIPMENT		
03-01-01148	UNIT : COMPRESSOR AIR COOLED , TYPE : 06 : ED265 , CAP : 17.7 TAN, 1450 rpm , CYLINDER :6 , INPUT :27KW , REFRIGERANT : R22	3	
03-01-01149	UNIT : COMPRESSOR AIR COOLED , TYPE : 06 : D/515 , CAP : 10.4 TA - 9.75TAN, 1450 rpm , CYLINDER :6 , INPUT :15.2 KW , REFRIGERANT : R22	10	
03-01-01150	UNIT : COMPRESSOR AIR COOLED , TYPE : 06 -DA824 , CAP : 5.84 TAN, 1450 rpm , CYLINDER :6 , INPUT :10.8KW , REFRIGERANT : R22	3	
03-01-01151	REFRIGERANT R22 , CYLINDER CAPACITY 13 Kg	30	
	AUTOMATIC CYLINDER CHANGE OVER UNIT		
CODE	DESCRIPTION	QTY	
03-01-01152	AUTOMATIC CYLINDER CHANGE OVER UNIT - 240 V AC SUPPLY , 1 PH , 50 Hz - EACH CHLORINE CYLINDER IS 1000 Kg - AUTOMATIC & MANUAL OPERATION - INDICATING LAMPS FOR THE STATE OF EACH CONNECTED CYLINDER (EMPTY , FULL , STANDBY , IN OPERATION .. ETC) - ALARM UNIT :- 1- GIVES AUDIABLE ALARM FOR 5 SEC (ADJUSTABLE) IN CASE OF CHANGING CYLINDERS . 2- GIVES AUDIABLE ALARM FOR 30 SEC (ADJUSTABLE) IN CASE OF INSUFFICIENT PRESSURE .	30	
	CHLORINE ANALYZER		
CODE	DESCRIPTION	QTY	
03-01-01153	RANGE : 0.00 TO 5.00 mg/L TOTAL RESDUAL CHLORINE WALL MOUNTED , 230V AC , 50Hz , ALARMS : ADJUSTABLE LOW & HIGH ALARM SELTINGS SAMPLING TEMP. RANGE : 5 TO 40 C0 , RECORDER O/P : 4-20mA , DISPLAY : LARGE LED WITH SELF-DIAGNOSTIC MESSAGES , CASE : NEMA-4x MOLDED RIBERGLASS POLYESTER WITH TRAM PARENT LEXAN WINDOW , ACCESSORIES : ALL THE REQUIRED ACCESSORIES TO OPERATE THE EQUIPMENT (REGENTS , PIPES , FCTTINGS FOR SAMPLING & DRAIN ... ETC)	20	
	SECTION 2-12: SPARE PARTS FOR AL- RASHED PLANT		
CODE	DESCRIPTION	QTY	
	THE SWITCH BOARD FOR LOW LIFT PUMPING STATION :		

03-01-01154	INCOMING CIRCUIT BREAKER AND BUS COUPER GENERAL TECHIRCAL DATA :	3	
	3-POLE WITH DRAUABLE TYPE ,		
	* RATED CONTINUOUS CURRENT : 1500A		
	* RATED OPERATIONAL VOLTAGE : 660V		
	* MANUAL & MOTOR HARGED SPRING STORAGE MECHANISM : 220V		
	* GLOSING RELEASE : 220 V		
	* UNDER VOLTAGE TRIP : 220 V		
	* OVER LOAD / SHORT CIRCUIT		
	* INSTANTANEOUS SHORT CET.		
	* EARTH FANLT		
03-01-01155	PUMP STATER CIRCUIT BREAKER	6	
	GENERAL TECHINCAL DATA :		
	3-POLE WITH DRAUABLE TYPE ,		
	* RATED CONTINUOUS CURRENT : 400A		
	* ALL OTHER TECHNICAL DATA PARA 1		
03-01-01156	PUMP STATER DRAING PUMP	2	
	GENERAL TECHINCAL DATA :		
	3-POLE WITH DRAUABLE TYPE ,		
	* RATED CURRENT : 60A		
	* ALL OTHER TECHNICAL DATA PARA 1		
03-01-01157	MCCB FOR FLOCUHARS STORTERS (MAIN)	2	
	GENERAL TECHINCAL DATA :		
	3-POLE WITH DRAUABLE TYPE ,		
	* RATED CURRENT :150A		
	* ALL OTHER TECHNICAL DATA PARA 1		
	MCCB FOR SMALL POWER DISTRIBUTION		
03-01-01158	2 x 30 A	2	
03-01-01159	2 x 15 A	2	
	SPARE PART FOR PUMPS		
CODE	DESCRIPTION	QTY	
	PUMP TYPE : 10LR-18A IDP , REF : 172000 06 , STAGE :1 , S/N : 1306316 , FLOW : 1000 m3/h , HEAD : 60m+B1303 , LIQUED : CLEAR WATER		
03-01-01160	SHAFT	3	
03-01-01161	IMPELLER	3	
03-01-01162	BEARING 6213 ZZ	20	
03-01-01163	PACKING	100m	
03-01-01164	CASING GASKAT	5	
03-01-01165	SHAFT SLEEVE W(0) RING NO.79	10set	
03-01-01166	IMPELLER RING W/SET SCREW NO.8	10set	
03-01-01167	COMPLETE ROTATING ASSEMBLY CONTIAN (SHAFT , IMPELLER , SHAFT SLEEV , BEARING , IMPELLER RING , PACKING)	2	
03-01-01168	BEARING 6320	6	
03-01-01169	BEARING 6317	4	
03-01-01170	SHAFT NUT	10	
03-01-01171	BEARING LOCK NUT	10	
03-01-01172	O-RING	10	
CODE	DESCRIPTION	QTY	
	PUMP TYPE : 300LNN-475 IDP , REF : 17000 06 , STAGE :1 , S/N : 1306326 , FLOW : 1060 m3/h , HEAD : 20m , LIQUED : RAW+B1279 WATER		
03-01-01173	SHAFT	3	
03-01-01174	IMPELLER	3	
03-01-01175	CASING GASKAT	20	
03-01-01176	SHAFT SLEEVE WIL	20set	
03-01-01177	IMPELLER WEARRINGS	20set	

03-01-01178	COMPLETE ROTATING ASSEMBLY CONTIAN (SHAFT , IMPELLER , SHAFT SLEEV , BEARING , IMPELLER RING , PACKING)	3	
03-01-01179	SHAFT NUT	10	
03-01-01180	BEARING LOCK NUT	10	
03-01-01181	O-RING	20	
03-01-01182	SHAFTING BOX PACKING	10	
03-01-01183	BEARING 6214	20	
03-01-01184	BEARING 6322	20	
03-01-01185	BEARING 6319	20	
03-01-01186	GLAND WITH	10	
03-01-01187	CLAND RING	10	
CODE	DESCRIPTION	QTY	
	PUMP TYPE : PDH 1350-45 H.EP : 13/696 PUMP NO. : 2605 , ORDER : 59/602 , FLOW RATE : 960 m3/h , HEAD : 20m , 980 rpm		
03-01-01188	SHAFT	5	
03-01-01189	IMPELLER	5	
03-01-01190	SHAFT SLEEVE WIL	20set	
03-01-01191	IMPELLER WEAR RINGS	10	
03-01-01192	COMPLETE ROTATING ASSEMBLY CONTIAN (SHAFT , IMPELLER , SHAFT SLEEV , BEARING , IMPELLER RING , PACKING)	3	
03-01-01193	SHAFT NUT	10	
03-01-01194	BEARING LOCK NUT	20	
03-01-01195	O-RING	20	
03-01-01196	SHAFTING BOX PACKING	50	
03-01-01197	BEARING 6313 C3	30	
03-01-01198	BEARING 6218	30	
03-01-01199	BEARING 22318	20	
03-01-01200	GLAND	10	
CODE	DESCRIPTION	QTY	
03-01-01201	MIXER FOR AULAM TANK (DIMENSION OF TANK (3.0x2.5x2.5)m)	8	
03-01-01202	LENGTH OF SHAFT : 2.20m (STAILENNESS STEEL)	8	
03-01-01203	DIMETER OF MIXER : 30 cm (STAILENNESS STEEL)	8	
03-01-01204	MOTOR WITH GEAR BOX WITH CABLE (SPEED 1500/125 rpm)	8	
03-01-01205	ELECTRICAL CONTROL PANEL CONTAIN :	10	
	* MAIN CIRCUIT BREAKER		
	* MAIN CONTACTOR (COIL 220V)		
	* THERMAL OVER LOAD		
	* WITH PROTECTION (PHASE-FALER + SHORT CCT)		
	* CIRCUIT BREAKER FOR CONTRAL LINE		
	* PUSH - BOTTOM		
	* BULBS		
	SECTION 2-13: SPARE PARTS FOR AL- RASHED & AL-WAHDA PLANT		
CODE	DESCRIPTION	QTY	
	CIRCUIT BREAKER WITH : 3-POLE , MANUAL & MOTOR CHARGED SPRING 220V , UNDER VOLTAGE TRP 220V , OVER LOAD/SHORT CCT , MARTH FAULT		
03-01-01206	2500A	3	
03-01-01207	2000A	2	
03-01-01208	1500A	2	
03-01-01209	1250A	4	
03-01-01210	630A	10	
03-01-01211	400A	5	
03-01-01212		300	
03-01-01213	100A	10	
	CONTACTOR		

03-01-01214	500V , Ith : 200A , AC1 :125A , KW : 75 , Ui : 100V , 50 Hz	20	
03-01-01215	500V , Ith : 100A , AC1 :80A , KW : 45 , 50 Hz	20	
03-01-01216	500V , Ith : 400A , AC1 :380A , KW : 250 , 50 Hz	10	
03-01-01217	500V , Ith : 250A , AC1 :200A , KW : 160 , 50 Hz	20	
03-01-01218	500V , Ith : 20A ,COIL : 220V , KW : 5.5 , 50 Hz	20	
	OVER LOAD		
03-01-01219	T450 DU 220 - 310A	20	
03-01-01220	T1 35 DU 80 - 160A	20	
	SECTION 2-14: SPARE PARTS FOR 7-NISSAN PLANT		
CODE	DESCRIPTION	QTY	
03-01-01221	SCOUR AIR BLOWER	3	
	* CAPACITY 3900 m3/h , BACK PRESSURE OF 0.3 bar		
	* SQUIRREL CAGE INDUCTION MOTOR		
	* SEMI-FLEXIBLE COUPLING		
	* COMMON BEDPLATE WITH ANTIVIBRATION SUPPORTS		
	* 350mm STEEL SUCTION MAIN WITH SILENCER , AIR FILTER , 3NO. 200mm CONNECTION TO THE AIR BLOWERS WITH FLEXIBLE COUPLINGS		
	* 200mm MS DELIVERY PIPES , WITH FLAP VALVES AND FLEXIBLE COUPLINGS		
	* BLOWER DIMENTIONS SHOULD BE SUITABLE TO REPLACE THE EXISTING ONE (HIBON DV50)		
CODE	DESCRIPTION	QTY	
	SPARE PARTS FOR DOSING PUMP , TYPE : MC112T 125E5/Z (MILROYAL C) MANUFACTURE : DOSAPRO MILTON ROY		
03-01-01222	HALF COUPLING P.NO. 052	3	
03-01-01223	HALF COUPLING P.NO. 052A	3	
03-01-01224	SEREW P.NO. 435	30	
03-01-01225	SHOCK ABSORBER P.NO. 440	10set	
03-01-01226	CONNECTING ROD P.NO. 214	30	
03-01-01227	CRANK P.NO. 216	10	
03-01-01228	TRUNNION P.NO. 237	10	
03-01-01229	CROSSHEAD ASSEMBLY P.NO. P	10	
03-01-01230	CRANK SUPPORT P.NO. 08/C	5	
03-01-01231	RINSING SPACER P.NO. 006	10	
03-01-01232	GUIDE BUSHING P.NO. 007	10	
03-01-01233	PLUNGER P.NO. 012	10	
03-01-01234	LIQUID END BODY P.NO. 021	3	
03-01-01235	GLAND P.NO. 044	10	
03-01-01236	PACKING P.NO. 438	30set	
03-01-01237	NUT P.NO. A	10	
03-01-01238	MOUNTING SCREW P.NO. B	10	
03-01-01239	SCREW P.NO. F	10	
03-01-01240	VALVE ASSEMBLIES (COMPLETE) P.NO. FIG 7.2A	10	
CODE	DESCRIPTION	QTY	
	SPARE PARTS FOR DOSING PUMP , TYPE : N27DC - 1 STAGE , COMPANY : DEMPSTER		
03-01-01241	IMPELLER P.NO. 5845-02	5	
03-01-01242	WEAR RING P.NO. 5845-08	10	
03-01-01243	DISCHARGE BOWL BEARING P.NO. 5845-39B	20	
03-01-01244	THRUST RING RETAINER P.NO. 5845-82	10	
03-01-01245	THRUST RING P.NO. 5485-86	10	
03-01-01246	SUCTION BEARING P.NO. 5845-39D	10	
03-01-01247	BOWL SHAFT P.NO. 5845-06	10	

03-01-01248	SHAFT COUPLING P.NO. 438-3-0007	20	
03-01-01249	BEARING RETAINER P.NO. 431-3-0304	10	
03-01-01250	INSERT P.NO. 400-3-5119	50	
03-01-01251	LINE SHAFT P.NO. 427-3-7120	10	
03-01-01252	SHAFT SLEEVE P.NO. 429-3-0071	30	
03-01-01253	SHAFT COUPLING P.NO. 427-3-0007	20	
03-01-01254	TOP SHAFT P.NO. 428-3-7103	10	
03-01-01255	STUFFING BOX P.NO. 426-3-0206	10	
03-01-01256	BEARING P.NO. 400-3-0160	20	
03-01-01257	GLAND P.NO. 426-3-0171	20	
03-01-01258	SLINGER P.NO. 426-3-0196	20	
03-01-01259	GASKET P.NO. 435-3-0029	20	
03-01-01260	STUD P.NO. 900-0-0823	60	
03-01-01261	NUT P.NO. 900-0-5014	60	
03-01-01262	PACKING RINGS P.NO. 426-3-0079	200	
03-01-01263	THRUST BEARING (COMPLET)	5	
CODE	DESCRIPTION	QTY	
	SPARE PARTS FOR VERTICAL PUMP , TYPE : GL18C , MANUFACTURER : SPP PUMPS LIMITED , DRAWING NO. 8/508002/2		
03-01-01264	LOCKING ASSEMBLY	10	
03-01-01265	STUFFING BOX SLEEVE NO. 131	20	
03-01-01266	ROUND NUT NO. CB9	20	
03-01-01267	ROUND NUT NO. BB9	20	
03-01-01268	ROUND NUT NO. A89	20	
03-01-01269	THRUST BEARING	10	
03-01-01270	INTERMEDIATE SHAFT	10	
03-01-01271	HEAD SHAFT	5	
03-01-01272	BEARING SLEEVE	30	
03-01-01273	INTERMEDIATE BEARING (RUBBER)	30	
03-01-01274	INTERMEDIATE BEARING HOUSING NO. B170	10	
03-01-01275	INTERMEDIATE BEARING HOUSING NO. A170	10	
03-01-01276	SHAFT COUPLING	30	
03-01-01277	SPLIT GLAND	10	
03-01-01278	ROUND NUT	10	
03-01-01279	STUFFING BOX SLEEVE NO. 45	10	
03-01-01280	LOOSE STUFFING BOX	10	
03-01-01281	PUMP SHAFT	10	
03-01-01282	BEARING SLEEVE - BOWL	5	
03-01-01283	BOWL WEAR RING	5	
03-01-01284	IMPELLER WEAR RING	10	
03-01-01285	IMPELLER	5	
03-01-01286	BOWL BEARING (RUBBER)	10	
03-01-01287	ROUND NUT	10	
CODE	DESCRIPTION	QTY	
	SPARE PARTS FOR PUMP , TYPE : 300 LNN 475 , MANUFACTURER : IDP , IDP REF : SP51200011-9/10		
03-01-01288	WEAR RING	20	
03-01-01289	BEARING HOUSING	10	
03-01-01290	CASING UPPER HALF	3	
03-01-01291	BALL BEARING	10	
03-01-01292	SHAFT	10	
03-01-01293	IMPELLER (LEFT HANDED & RIGHT HANDED)	5	
03-01-01294	SLEEVE	5	
03-01-01295	SHAFT NUT	20	
03-01-01296	STUFFING BOX HOUSING	20	

03-01-01297	LANTERN RING	10	
03-01-01298	STUFFING BOX GLAND	10	
03-01-01299	GLAND RING	10	
03-01-01300	V-RING	30	
03-01-01301	O.RING	30	
03-01-01302	SCREW	20	
03-01-01303	LOCK - NUT	10	
CODE	DESCRIPTION	QTY	
	SPARE PARTS FOR HIGH LIFT PUMPING STATION FOR HORIZONTAL PUMP TYPE : IPM - 44 , MANUFACTURER : RATEAU		
03-01-01304	BALL BEARING	20	
03-01-01305	WASHER	20	
03-01-01306	ADJUSTING RING	10	
03-01-01307	SEAL	10	
03-01-01308	IMPELLER NUT	10	
03-01-01309	BEARING WEB	10	
03-01-01310	BEARING THRUST SIDE	10	
03-01-01311	LEFT HARDED IMPELLER	5	
03-01-01312	RIGHT HARDED IMPELLER	5	
03-01-01313	IMPELLER RING	10	
03-01-01314	SLEEVE	20	
03-01-01315	PACKING	20set	
03-01-01316	RAMMER	10	
03-01-01317	BEARING COUPLING SIDE	10	
03-01-01318	SHAFT	10	
03-01-01319	COUPLING	10	
CODE	DESCRIPTION	QTY	
03-01-01320	FOR LOW LIFT ELECTRICAL PUMP STARTERS	30	
	CONTACTOR TYPE STROMBERG		
	OKYM SW22		
	Ith 400A		
	COIL VOLTAGE 110V		
	* IF THE TYPE IS NOT AVAILABLE , CHANGE IT BY ANOTHER TYPE WITH THE SAME SPECIFICATIONS AND DIMENTIONS		
	SPARE PARTS FOR CLARIFIERS		
CODE	DESCRIPTION	QTY	
03-01-01321	COMPLETE TIMER , TYPE CHRONO CONTACT 6 WAY NO. 1147 , 240 V , 50 Hz , WITH SPARES FOR 2 YEARS .	10	
03-01-01322	FOR VALVE TYPE CP1,150mm DIAMETER DIAPHRAGM REF-0002021 089	120	
03-01-01323	SLUDGE BLOW-DOWN SOLENOID VALVES , TYPE V301-U-4,240V,50Hz CLASS BT (LOW VOLTAGE) , HAND CONTROLLED	30	
03-01-01324	PARTIALIZATION BOX (COMPLETE),TYPE DE40,WITH SPARES FOR 2 YEARS	30	
	SPARE PART LIST FOR GAS DOSING SYSTEM 143-040 VOL/TO2		
	Gs 143 , AS PER DRAWING NO. 125 141-000		
CODE	DESCRIPTION	QTY	
03-01-01325	MEASURING TUBE SUPPORT ITEM (1-1,1-2,1-3,1-4,1-5,1-5-2,1-5-3,1-5-4) PART NO. 12-5138-302P	20	
03-01-01326	RATE VALVE , PART NO. 12-5100-203P ,	20	
03-01-01327	ITEM (2-1,2-2,2-3,2-4,2-5,2-6,2-7,2-8,2-9,2-10,2-11,2-12,2-13,2-14,2-15,2-16, 2-17,2-18,2-19,2-20,2-21)	20	
03-01-01328	DIFFERENTIAL PRESSUR REGULATOR PART NO. 12-4258-102P, ITEM (3-1 - 3-24)	20	
03-01-01329	SERVO MOTOR , PART NO. 12-5022-401P	10	

03-01-01330	VACUM METER , PART NO. 12-5112-302P , ITEM (9-1 - 9-4)	10	
03-01-01331	CHLORINE EVAPORATOR CAP. 230 Kg/h , PRESSURE 14 bar , HEATERS 18KW , TEMPERATURE 60 - 65 0C	3	
03-01-01332	ELECTRICAL HOIST CRANE CAP. 3 TON , SPAN 7.30 m , HIGHT , 4.5m , HOIST SPEED 5m/min	1	
	FILTERS FOR 7 NISSAN		
CODE	DESCRIPTION	QTY	
	COMPANY VANNES LEFEBVRE		
03-01-01333	BUTTER FLY VALVE TYPE 310 DIAMETER 600 mm WITH PNEUMATIC ACTUATOR TYPE AP 75-250 WITH ADDITIONAL TWO FLANGES OF 600 mm .	14	
03-01-01334	BUTTER FLY VALVE TYPE 310 DIAMETER 450 mm WITH PNEUMATIC ACTUATOR TYPE AP 75-200 WITH ADDITIONAL TWO FLANGES OF 450 mm .	28	
03-01-01335	BUTTER FLY VALVE TYPE 310 DIAMETER 300 mm WITH PNEUMATIC ATNATOR TYPE AP 50-160 WITH ADDITIONAL TWO FLANGES OF 300 mm .	14	
03-01-01336	VIKING JONSON JOINT 600 m	28	
03-01-01337	VIKING JONSON JOINT 450 m	56	
03-01-01338	VIKING JONSON JOINT 300 m	28	
03-01-01339	VALVE 100 mm	14	
03-01-01340	VALVE 50 mm	14	
03-01-01341	NOZZLES TYPE D.20-CODE 60 436 WITH JOINTS Ø 28 x 40 – 2 mm THICK – CODE 60463 .	92000	
03-01-01342	PARTIALIZATION BOX TYPE DE.40 COMPLETE WITH ALL ACCESSORIES .	14	
03-01-01343	SCOUR AIR BLOWER (HIBBON) TYPE DV50 COMPLETE WITH MOTOR AND STARTER (Q = 3900 m3/h , H = 0.3 bar) .	3	
03-01-01344	DESK AND WASHING AUTOMATION CABINET CONSIST OF THE FOLLOWING :-	14	
	a- CYCLOMATIC TYPE SEM 70/2.		
	b- SOLENOID VALVE M2T301 .		
	c- HEAD LOSS METER .		
	d- ON/OFF SWITCH .		
	e- SIGNAL LAMPS .		
	f- AIR VALVES .		
	g- ALL CONTROL EQUIPMENTS FOR OPERATIONS .		
03-01-01345	GATE VALVE 450 mm	3	
03-01-01346	GATE VALVE 400 mm	3	
03-01-01347	NON – RETURN VALVE 400 m	3	
03-01-01348	NON – RETURN VALVE 200 m	3	
03-01-01349	IRON PIPE 600 mm	300 m	
03-01-01350	IRON PIPE 300 mm	200 m	
03-01-01351	IRON PIPE 350 mm	70 m	
03-01-01352	IRON PIPE 450 mm	80 m	
03-01-01353	IRON PIPE 900 mm	50 m	
03-01-01354	COPPER PIPE 8 mm	400 m	
03-01-01355	COPPER PIPE 10 mm	600 m	
03-01-01356	COPPER PIPE 12 mm	400 m	
03-01-01357	CONNECTING FITTINGS 8 mm	200	
03-01-01358	CONNECTING FITTINGS 10 mm	200	
03-01-01359	CONNECTING FITTINGS 12 mm	200	
	- COMPRESSED AIR STAETING BY TWO COMPRESSORS ONE DIESEL OPREATED & ONE ELECTRICAL OPRATED		
	- ENGIN SPEED 1000 R.P.M		
	HIGH LIFT PUMPING STATION FOR 7 NISSAN		

CODE	DESCRIPTION	QTY	
03-01-01360	HIGH LIFT PUMPING STATION	1	
	ELECTRICAL SWITCH BOARD (7.2 Kv)		
	DIMTION : L x W x H		
	323x100x224		
	THE BOARD CONTAIN 4 FOR CUBICLES WITH DRAWABLE CIRCUIT BREAKERS SF6 :-		
	2 IN COMERS 630 A		
	1 OUT GOING 630 A		
	1 BUS COUPLER 1250 A		
	WITH PROTECTION RELAYS (S.C.T. , THERMAL , UNDER VOLTAGE) AND MEASURMENTS (VOLTS , AMPS , SWITCHS , ETC)		
	THE BOARD TO BE MATCHED WITH EXISTING EQUIPMENT.		
03-01-01361	ELECTRICAL SWITCH BOARD (7.2 Kv)	1	
	DIMTION : L x W x H		
	370x100x224		
	THE BOARD CONTAIN 4 FOR CUBICLES WITH DRAWABLE CIRCUIT BREAKERS SF6 :-		
	2 IN COMERS 630 A		
	2 OUT GOING 630 A		
	1 BUS RISER		
	WITH PROTECTION RELAYS (S.C.T. , THERMAL , UNDER VOLTAGE) AND MEASURMENTS (VOLTS , AMPS , SWITCHS , ETC)		
	THE BOARD TO BE MATCHED WITH EXISTING EQUIPMENT.		
	SPARES CIRCUIT BREAKERS FOR THE ABOVE ITEM		
03-01-01362	630 A	2	
03-01-01363	1250 A	1	
CODE	DESCRIPTION	QTY	
03-01-01364	SF6 CONTACTOR 7.2 Kv , 300 A , TYPE SFC320 , FIXED TYPE , MAIN COIL VOLTAGE 110V A.C	14	
	Cr 16.5 KA , EFFECT 6.6 KA , 16 AUXILLARY CONTACTS , DIMENTIONS L x W x H 56x54x40		
	SECTION 2-15: SUBMERSIBLE PUMP		
03-01-01365	SUBMERSIBLE PUMP 1" SINGLE PHASE FOR TREATED WATER WITH STARTER	25	
03-01-01366	SUBMERSIBLE PUMP 1" SINGLE PHASE FOR RAW WATER WITH STARTER	10	
03-01-01367	SUBMERSIBLE PUMP 2" SINGLE PHASE FOR TREATED WATER WITH STARTER	25	
03-01-01368	SUBMERSIBLE PUMP 2" SINGLE PHASE FOR RAW WATER WITH STARTER	10	
03-01-01369	SUBMERSIBLE PUMP 2" FOR TREATED WATER WITH STARTER THREE PHASE	80	
03-01-01370	SUBMERSIBLE PUMP 2" FOR RAW WATER WITH STARTER THREE PHASE	20	
03-01-01371	SUBMERSIBLE PUMP 3" FOR TREATED WATER WITH STARTER THREE PHASE	60	
03-01-01372	SUBMERSIBLE PUMP 3" FOR RAW WATER WITH STARTER THREE PHASE	50	
03-01-01373	SUBMERSIBLE PUMP 4" FOR TREATED WATER WITH STARTER THREE PHASE	50	
03-01-01374	SUBMERSIBLE PUMP 4" FOR RAW WATER WITH STARTER THREE PHASE	30	
	COMPLETE SPARE PARTS FOR ALL SUBMERSIBLE PUMPS		
	SECTION 2-16: SPARE PART FOR RAW WATER STATION		
CODE	DESCRIPTION	QTY	

03-01-01375	COMPLETE COOLING PUMPS WITH MOTOR ,Q = 60m3/h H = 20m WITH MOTOR = 5.5 KW , 400V .	4	
03-01-01376	TEM P4005 A/B RPS3	4	
03-01-01377	P5005 A/B RPS4 WITH COMPLET SPARE PART FORT BOTH AS FOLLOWS	4	
03-01-01378	SHAFT	20	
03-01-01379	IMPLLER	20	
03-01-01380	SHAFT SLEEVE	40	
03-01-01381	ROTATING	40	
03-01-01382	MECHANICAL SEAL SLEEVE	40	
03-01-01383	STATIONARY RING	20	
03-01-01384	SET OF COVPLING PADS	100	
03-01-01385	SET OF BEARING	20	
	SPARE PART FOR RAW WATER PUMPING STATION , MAIN PUMPS :		
03-01-01386	TOP SHAFT	30	
03-01-01387	SHAFT SLEEVE	100	
03-01-01388	BAAVING BUSH	250	
03-01-01389	IMPELLER BEARING SLEEVE	20	
03-01-01390	ADJUSTING NUT	10	
03-01-01391	WASHERS (2PER SET)	40SET	
03-01-01392	WASHERS FOR BEARING NUT	40	
03-01-01393	COMPLETE MUFF COUPLING WITH SCREWS	100SET	
03-01-01394	IMPELLER (1ST - 2ND)	50	
03-01-01395	1ST STAGE PUMP BOWEL WITH RING & SCREW	10	
03-01-01396	2ND STAGE PUMP BOWEL WITH RING & SCREW	10	
03-01-01397	SET OF RADIAL AND THRUST BEARING	20SET	
03-01-01398	IMPELLER SHAFT	20	
03-01-01399	THRUST BEARING CARRIER (COMPLETE WITH BEARING & WASHERS AND ACCESSORY)	10	
03-01-01400	BEARING COVER	10	
03-01-01401	IMPELLER BEARING SLEEVE	100	
03-01-01402	SHAFT TUNNEL T0 BE (UPPER)	20	
03-01-01403	GREASE REGULATOR	20	
03-01-01404	THRWER	50	
03-01-01405	GLAND FLANGE	20	
03-01-01406	FOLLOWER , SPLIT	20	
03-01-01407	SHAFT TUNNEL T0 BE (MIDDLE)	25	
03-01-01408	SHAFT TUNNEL T0 BE (LOWER)	25	
03-01-01409	BEARING NUT	25	
03-01-01410	SCREW FOR ADJUSTING MLT	50	
03-01-01411	SEPARATION WASHER	50	
03-01-01412	FILTER (ISIS H) (DN 50)	5	
03-01-01413	AXIAL AND RADIAL BEARING FOR MOTOR VF 180 - 27 TYPE RNCB500 2PER SET+B1525	10 SET	
03-01-01414	AXIAL AND RADIAL BEARING FOR MOTOR VF 460 - 31 TYPE RNCB560 2PER SET	20 SET	
03-01-01415	SPACER RING FOR COUPLING PUMP SIDE	10	
03-01-01416	LOCATING COLLAR FOR BEARING	10	
03-01-01417	BEARING ADAPTER SLEEVE	10	
03-01-01418	BEARING SLEEVE	250	
CODE	DESCRIPTION	QTY	
	SPARE FOR WINFLUX COPLING INCLUDE ;		
03-01-01419	SPNING FOR COUPLING (GRID)	20	
03-01-01420	SEAD RING	20	
03-01-01421	HALF COVER	20	
03-01-01422	GASKET	20	
03-01-01423	CAP SCREW AND NUTS (COMPLETE FOR EACH)	20	
03-01-01424	GLAND PACKING	1000 m	
03-01-01425	SCREW AND MALE FEMALE UNIONS	50	

03-01-01426	VALVE	100	
03-01-01427	UNION ELBOW 1/2"	50	
03-01-01428	UNION FITTING 1 1/2"	50	
03-01-01429	UNION FITTING 1/2"	100	
03-01-01430	REDUCED NIPPLE FOR BEARING	25	
03-01-01431	INTERMEDIATE BEARING	20	
03-01-01432	TOP BEARING	20	
03-01-01433	COUPLING RING SPLIT	20	
03-01-01434	INTER STAGE SLEEVE	15	
03-01-01435	IMPELLER NUT WITH SCREW	20	
03-01-01436	STUD	500	
03-01-01437	NUT	500	
03-01-01438	SCREW	500	
03-01-01439	LUBRICATING PIPE FOR IMPELLER	20	
03-01-01440	REDUCED NIPPLE FOR IMPELLER	20	
03-01-01441	BELL MOUTH WITH RING & SCREW	10	
03-01-01442	CASING WEAR RING	10	
03-01-01443	CONNECTING PIECE	10	
	START RAW WATER PUMPS ;		
03-01-01444	INTERMEDIATE SHAFT	5	
03-01-01445	TOP SHAFT	10	
03-01-01446	IMPELLER SHAFT	10	
03-01-01447	1ST STAGE IMPELLER	10	
03-01-01448	2ND STAGE IMPELLER	10	
03-01-01449	ADJUSTING NUT	5	
03-01-01450	INTERMEDIATE BEARING SLEEVE	20	
03-01-01451	IMPELLER BEARING SLEEVE	20	
03-01-01452	SET OF RADIAL & THRUST BEARINGS (2 PER SET)	10SET	
03-01-01453	THRUST BEARING COVER (COMPLETE WITH BEARING & WASHERS AND ACCESSORY	10	
03-01-01454	BEARING COVER	10	
03-01-01455	BEARING BUSH	50	
03-01-01456	COMPLETE MUFF COUPLING WITH SCREWS (2 PER SET)	20SET	
03-01-01457	SHAFT SLEEVE	20	
03-01-01458	WASHERS (2 PER SET)	10	
03-01-01459	WASHERS FOR BEARING NUT	5	
03-01-01460	1ST STAGE PUMP BOWEL WITH RING & SCREW	5	
03-01-01461	2ND STAGE PUMP BOWEL WITH RING & SCREW	5	
03-01-01462	SHAFT TUNNEL TO BE (UPPER)	10	
03-01-01463	SHAFT TUNNEL TO BE (MIDDLE)	10	
03-01-01464	SHAFT TUNNEL TO BE (LOWER)	10	
03-01-01465	GREASE REGULATOR	10	
03-01-01466	THROWER	10	
03-01-01467	GLAND FLANGE	10	
03-01-01468	FOLLOWER , SPLIT	10	
03-01-01469	BEARING NUT	10	
	RAW WATER PUMPING STATION		
	(KPS1 , RPS1 , RPS3 , RPS4)		
CODE	DESCRIPTION	QTY	
	SELF ACTUATED CONTROL VALVE DN 500 PN10		
	DWG NO. 3670 - 00 - 2720 - 4+B1678 - 003		
03-01-01470	O-RING R7 , PART NO. 7,12,13,15	1000 m	
03-01-01471	O-RING R71, PART NO. 10	200	
03-01-01472	O-RING R37 , PART NO.19	200	
03-01-01473	O-RING R22 , PART NO. 23	200	
03-01-01474	LIMIT SWITCH (TELEMECANIQUE) , PART NO. 27	250	
03-01-01475	PLATE , PART NO. 11	10	

03-01-01476	PISTON , PART NO. 9	2	
03-01-01477	SEAT , PART NO.8	20	
03-01-01478	CYLINDER , PART NO.17	2	
03-01-01479	NEEDLE VALVE 1/2" NPT FEMALE , PART NO. 20	200	
03-01-01480	DEGASING TRP 1/4" GAS , PART NO. 22	100	
03-01-01481	DEGASING TRP 3/8" GAS , PART NO. 28	100	
03-01-01482	BALL VALVE 1/2" NPT FEMALE , PART NO. 30	350	
03-01-01483	DISC , PART NO. 24	10	
03-01-01484	AIR TANK CHAR LATTE 2001 , PART NO. 29	2	
03-01-01485	FITTING 1/2" GAS x 1/2" NPT FEMAL , PART NO. 28	100	
03-01-01486	FITTING 1/2" GAS FEM x 1/2" NPT FEMAL , PART NO. 42	100	
03-01-01487	DOUBLE VALVE 1/2" , PART NO. 43	100	
03-01-01488	FITTING 1/2" NPT MALE , PATR NO. 36	100	
03-01-01489	TEE 1/2" NPT FEMALE , PART NO. 44	100	
03-01-01490	SCREW CHC.M20 - 55 , PART NO. 16	50	
03-01-01491	CLIPS , PART NO. 14	10	
03-01-01492	FIXING CLIPS SEGMET , PART NO. 31	20	
03-01-01493	BOLT HM 8-25 , PART NO. 32	50	
	SELF ACTUATED CONTROL VALVE DN 700 PN10 , DISCHARGE PUMPS		
	DWG NO. 3670 - 00 - 2770 - 4 - 55 - 001		
03-01-01494	SEAT , PART NO.90	50	
03-01-01495	PISTON , PART NO. 10	2	
03-01-01496	O-RING R7 , PART NO. 8,12,14,15	1000m	
03-01-01497	O-RING R83 , PART NO. 11	100	
03-01-01498	PLATE , PART NO. 13	25	
03-01-01499	CLIPS , PART NO. 16	20	
03-01-01500	SCREW M8-20 , PART NO. 17	25	
03-01-01501	FIXING CLIPS SEGMET , PART NO. 18	25	
03-01-01502	SCREW CHC.M20 - 60 , PART NO. 19	50	
03-01-01503	CYLINDER , PART NO.20	4	
03-01-01504	UNION 1/2" NPT MALE , PART NO. 21	10	
03-01-01505	O-RING R43 , PART NO. 24	50	
03-01-01506	O-RING R22 , PART NO. 26	100	
03-01-01507	DISC , PART NO. 27	25	
03-01-01508	AIR TANK CHAR LATTE 3001+B1741 , PART NO. 32	2	
	VENDOR : GUICHON SA : 73104 ALXLESBAINS :-		
03-01-01509	COMPLETE CHECK VALVE PN 16 ND500 HOUSING	4	
03-01-01510	COMPLETE CHECK VALVE PN 16 ND700 HOUSING	6	
03-01-01511	SPARE PART FOR THE VALVES ABOVE :-		
03-01-01512	COVER FOR BOTH SIDE FOR DN700	100	
03-01-01513	COVER FOR BOTH SIDE FOR DN500	40	
03-01-01514	SCREWS FOR BOTH SIDE FOR DN500	250	
03-01-01515	SCREWS FOR BOTH SIDE FOR DN700	100	
CODE	DESCRIPTION	QTY	
03-01-01516	DISC RING FOR DN500	20	
03-01-01517	DISC RING FOR DN700	100	
03-01-01518	RING RETAINING WASHER FOR DN500	50	
03-01-01519	RING RETAINING WASHER FOR DN700	100	
03-01-01520	AXLE FOR DN500	50	
03-01-01521	AXLE FOR DN700	10	
03-01-01522	FREE AXLE FOR DN500	10	
03-01-01523	FREE AXLE FOR DN700	200	
03-01-01524	O-RING FOR BOTH SIDE FOR DN500	50	
03-01-01525	O-RING FOR BOTH SIDE FOR DN700	200	
03-01-01526	OPENING INDICATOR (HANDLE) SHAFT AND LEVER OUTLET FOR DN500	10	
03-01-01527	OPENING INDICATOR (HANDLE) SHAFT AND LEVER OUTLET FOR DN700	20	

03-01-01528	SCREWS FOR DN500	100	
03-01-01529	SCREWS FOR DN700	500	
	MECAFRANCE 10/18 RUE DU LANGNE DOC. ZADES BETHUNES		
	BALL VALVES		
03-01-01530	BALL VALVE RSST FLANGED ENDS PN16 DN2"	50	
03-01-01531	BALL VALVE RSST FLANGED ENDS PN16 DN2" REDUCED BORE	25	
03-01-01532	BALL VALVE RSST FLANGED ENDS PN16 DN4" REDUCED BORE	15	
03-01-01533	BALL VALVE RSST CBB (NPT) DN1" REDUCED BORE	25	
	SONIC AIR EXHAUST VALVE (ERIKS-S.AR.L)		
03-01-01534	SONIC AIR EXHAUST VALVE	10	
03-01-01535	AIR INLET VALVE	10	
	PONT-A- MOUSSON S.A 54700 , SERVICES TECHNIQUES BP45		
	FLOAT VALVE EQUILIBRATED VALVE TYPE 1DN80 (WITH THE FLOAT)	5	
	ACTUATED GATE VALVE EURO 16DN200	5	
	ERIKS - 52 AVENUE DES FRERES LUMERE		
03-01-01536	CAST IRON BODY BJ 5156 LENGTH PN16 RF FLANGED.	5	
03-01-01537	FORGED GATE VALVE AP1 602-800/b DWG. NO. FIG 2519/610 , (1.5")	25	
03-01-01538	GLOBE VALVE PN16 DWG. FIG. 3210	5	
	FORGED GLOBE VALVE AP1 602-800/b DWG. NO. FIG 2049/650		
	SELF AETUATED CONTRAL VALVE		
03-01-01539	PRESSURE CONTROL VALVE DOWN FLOW STABILISER DN 80-PN16	5	
03-01-01540	PRESSURE CONTROL VALVE HEADUP FLOW STABILISER DN 80-PN16	5	
03-01-01541	O-RING R21	10 SET	
03-01-01542	O-RING R27	10 SET	
03-01-01543	O-RING R46	10 SET	
03-01-01544	O-RING R38	10 SET	
03-01-01545	O-RING R12	10 SET	
03-01-01546	O-RING R22	10 SET	
03-01-01547	O-RING R71	10 SET	
03-01-01548	O-RING R59	10 SET	
03-01-01549	O-RING R52	10 SET	
03-01-01550	O-RING R14	10 SET	
03-01-01551	SWING CHECK VALVE PN16 DWG.FIG.3403 CODE SB : CCOL	5	
	HERION		
03-01-01552	SOLENIOD VALVE 2/2 WAY ND 25	50	
03-01-01553	SOLENIOD VALVE ND 40 2/2 WAY	50	
	LOW VOLTAGE CIRCUIT BREAKER		
03-01-01554	MG. 630A	5	
03-01-01555	RAW WATER FLOW TO NETWORK FULL SCALL 36000 m3/h PC2000	4	
03-01-01556	RAW WATER MANIFOLD PRESSURE FULL SCALL 0-100 m.w.c PC2000	4	
03-01-01557	RESET TOTAL FLOW UNIT m3 x 100	4	
03-01-01558	TOTAL FLOW UNIT m3 x 100	4	
	SECTION 2-17: GENERATOR		
CODE	DESCRIPTION	QTY	
03-01-01559	GENERATOR 1750 KVA H.T :	1	
	POWER >= 1575 KW		
	ENG. POWER (CONTINUOUS AT 550C)		
	TYPE OF STARTING : AIR STARTING		
	TYPE OF GOVERNER MECH. / HYDRAULIC		
	AMBIENT TEMP. 550C		
	TYPE OF RADIATOR : TROPICAL		
	COOLING : WATER		
	CLASS OF INSULATION : F		
	STARTING : DIESEL COMPRESSOR + ELECTRIC COMPRESSOR		
	ELECTRIC BATTERY CHARGER 24 , 70 A		

	LO PRESSURE SHUTDOWN PROTECTION		
	HI WATER TEMP. SHUTDOWN PROTECTION		
	OVER SPEED SHUTDOWN		
	DAILY FEED TANK 48h		
	OIL DRAIN PUMP		
	SPEED : 1000 rpm		
	MEASURMENT V , A , COS , KVAR , HZ , KW , SPEED		
	AUTO. CHANGE OVER SWITCH		
	BATTERY : NI - CD BATTERIES		
	ELECTRIC PROTECTION , EARTH FAULT , PHASE REVERSE , SHORT ECT.		
	SET OF ENGINE SPARE PARTS :		
03-01-01560	INJECTOR NOZZEL	10	
03-01-01561	INJECTOR WASHER	20	
03-01-01562	AIR FILTER ELEMENT	6	
03-01-01563	RADIATOR CAP.	2	
03-01-01564	WATER PUMP KIT.	1	
03-01-01565	WATER HOSE	4	
03-01-01566	CORRUGALE HOSE	2	
03-01-01567	CRANK SHAFT BEARING	4	
03-01-01568	CONNECTING ROD	5	
CODE	DESCRIPTION	QTY	
03-01-01569	GENERATOR 750 KVA L.T :	1	
	POWER > 690 KW		
	ENG. POWER (CONTINUOUS AT 550C) >= 690 KW		
	TYPE OF STARTING : AIR STARTING		
	TYPE OF GOVERNER MECH. / HYDRAULIC		
	AMBIENT TEMP. 550C		
	TYPE OF RADIATOR : TROPICAL		
	COOLING : WATER		
	CLASS OF INSULATION : F		
	STARTING : DIESEL COMPRESSOR + ELECTRIC COMPRESSOR		
	ELECTRIC BATTERY CHARGER 24 , 70 A		
	LO PRESSURE SHUTDOWN PROTECTION		
	HI WATER TEMP. SHUTDOWN PROTECTION		
	OVER SPEED SHUTDOWN		
	DAILY FEED TANK 48h		
	OIL DRAIN PUMP		
	SPEED : 1000 rpm		
	MEASURMENT V , A , COS , KVAR , HZ , KW , SPEED		
	AUTO. CHANGE OVER SWITCH		
	BATTERY : NI - CD BATTERIES		
	ELECTRIC PROTECTION , EARTH FAULT , PHASE REVERSE , SHORT ECT.		
	SET OF ENGINE SPARE PARTS :		
03-01-01570	INJECTOR NOZZEL	10	
03-01-01571	INJECTOR WASHER	20	
03-01-01572	AIR FILTER ELEMENT	6	
03-01-01573	RADIATOR CAP.	2	
03-01-01574	WATER PUMP KIT.	1	
03-01-01575	WATER HOSE	4	
03-01-01576	CORRUGALE HOSE	2	
03-01-01577	CRANK SHAFT BEARING	4	
03-01-01578	CONNECTING ROD	5	
	SECTION 2-18: COMPACT UNIT		
03-01-01579	CONTAINERIZED PREMOUNTED WATER TREATMENT PLANT		
	NOS : 6+B1672		

	PLANT CAPACITY 200 m3/hr		
	ELECTRIC POWER 400 V+ 10% , 50 Hz , 3-PHASE A.C.		
	RAW WATER PUMPS		
	NUMBER : 2		
	CAPACITY : 260 m3/h		
	HEAD : 20m		
	HORIZONTAL , CENTRIFUGAL END - SACTION TYPE WITH SPEED 1450 rpm , GLAND TYPE		
	NPS Hr : 2.6 m		
	FILTER LOADING PUMP		
	NUMBER : 2		
	CAPACITY : 200 m3/h		
	HEAD : 50m		
	HORIZONTEL , CENTRIFUGAL END SUCTION TYPE WITH SPEED 1450 R.P.M , GLAND TYPE .		
	FLOCCULATION		
	RETENTION PERIOD NOT LESS THAN 14.5 MINUTES		
	SEDIMENTATION		
	HYDRAUTIC SURFACE LOAD : 1.0 m3/m2/h		
	THICKNESS OF THE TANK PLATE : 6 mm		
	FILTRATION		
	FILTRATION VELOCITY NOT MORE THAN : 9.0 m/hr		
	DRINKING WATER OUTLET PRESSURE : 50 - 60 METER		
	THICKNESS OF THE FILTER PLATE : 10 mm		
	THICKNESS OF THE DISHED END OF		
	FILTERS TO BE : 12 mm		
	TESTING PRESSURE : 10 bar		
	GENERAL		
	1- THE PREFABRICATED PLANT IS DESIGNED TO PRODUCE POTABLE WATER FROM RIVER , LAKE ,		
	THE PLANT IS DESIGNED FOR EXTREMELY EASY ASSEMBLY AND DISASSEMBLY IN REMOTE AREAS , I.E. ALL PROCESS EQUIPMENTS ARE SKID MOUNTED IN CONTAINER UNITS INCLUDING TANKS , PUMPS , FILTERS , HYDROPHORES , ELECTRICAL PANED AND DOSING EQUIPEMENT ARE MOUNTED IN A CONTAINERIZED CONTROL BUILDING THAT IS OPERATIVE AFTER COUNETION OF ELECTRICITY AND WATER .		
	2- THE DRINKING WATER MEETS THE REQUIREMENTS OF THE () (INTERNATIONAL STANDARDS FOR DRINKING WATER) (WORLD HEALTH ORGANISATION) .		
	DISINFECTION		
	CHLORINE GAS IS USED FOR DISINFECTION , FIRST , BY SHOCK CHLORINATION , SECOND , ACONTINUOUS CHLORINATION IS FORESEEN TO AVOID GERMINATION IN THE DISTRIBUTION NETWORK .		
03-01-01580	NUMBER OF UNITS : 2		
	CAPACITY : 2000 g/h		
	ENCLUDING : 2 CYLINDERS WITH 65 Kg ,		
	2 BOOSTING PUMPS CAPACITY 4 m3/h , HEAD : 80 METER		
	CHEMICAL DOSING SYSTEM		
	a- ALUMINIUM SULPHATE PUMPS		
	CAPACITY : 200 L/h		
	HEAD : 6 bar		
	NUMBER : 2		
	b- ALUMINIUM SULPHATE TANK		

	CAPACITY : 1000 L		
	NUMBER : 2		
	INCLUDED ONE FLASH MIXER FOR EACH TANK .		
	SECTION 2-19: SPARE PARTS LIST FOR (ABA ACAS) CRAINS OF ALL RES.		
CODE	DESCRIPTION	QTY	
	3 , 5 , 7.5 TONE		
03-01-01581	ROPE (SLOW , HIGH)	4	
03-01-01582	ROPE GUIDE COMPLETE	4	
03-01-01583	PRESSURE RING COMPLETE	4	
03-01-01584	BARREL ROLLER RACE	4	
03-01-01585	1st REDUCTION GEAR BALL BEARING	4	
03-01-01586	COMPLETE THARST BEARING	4	
03-01-01587	ROLLER BEARING WITHOUT INNER RING	4	
03-01-01588	FELT SEAL HOUSING (BRAKE END)	4	
03-01-01589	CIRCLIP FOR BRQKE END PLATE	4	
03-01-01590	ROLLER DISC BRAKE (COMPLETE)	4	
03-01-01591	HOOK BLOCK ASSEMBLY COMPLETE	4	
03-01-01592	BRAKE DISC AND LINING	4	
03-01-01593	FELT SEAL HOUSING (PINION END)	4	
03-01-01594	SHAFT ROLLER BEARING	4	
	SECTION 2-20: M.V. POWER FACTOR CORRECTION EQUIPMENT FOR RAW WATER PUMPING STATION		
CODE	DESCRIPTION	QTY	
03-01-01595	* SUPPLY 11KV POWER FACTOR CORRECTION EQUIPMENT TO IMPROVE THE EXCISTING P.F. TO 0.93	4 sets	
	* THE EQUIPMENT SHOULD BE SUITABLE TO BE CONNECTED IN PARALLEL WITH THE EXCISTING MOTOR AS BELOW		
	KSP1 : 8x840 KW + 2x460KW		
	RSP1 : 8x840 KW + 2x460KW		
	RSP3 : 4x840 KW + 2x460KW		
	RSP4 : 6x840 KW + 2x460KW		
	* ALL THE REQUIRED CONNECRING CABLES & ACCESSARIES		
	* SUPERVISION OF INSTALLATION		
	SECTION 2-21: MEDIUM VOLTAGE SWITCH BOARD FOR QADISSYA PROJECT		
CODE	DESCRIPTION	QTY	
	11 KV DISTRIBUTION BOARD FOR PROJECT NO. 3 QADISSYA TREATMENT PLANT CONTAINS THE FOLLOWING :		
03-01-01596	630 A , 11KV INCOMMING 1 (FEEDER)	1	
03-01-01597	630 A , 11KV EMMERGINCY 1 (GEN.)	1	
03-01-01598	630 A , 11KV OUT GOING TO TRANSFORMERS 1, 2 , 3	3	
03-01-01599	630 A , 11KV OUT GOING SPARE	1	
	NOTE :-		
	- THE SWITCH BOARD SHOULD INCLUDES ALL THE D.C SYSTEM EQUIPMENT (CHARGER & BATTERIS) & ALL THE PROTECTION RELAYS		
	- SUPERVISION OF ERECTION THE SWITCH BOARD .		
	SECTION 2-22; SPARE PARTS FOR LAB.		
CODE	DESCRIPTION	QTY	
03-01-01600	FUME HOOD BENCH TYPE FOR , NEED , CONSTANT VOLUME BY PASS, FOR HANDLING ACIDS AND RAIDOACTIVE ISOTOPES , NON METALLIC COMPLETE WITH PLOWER AND ACCESSORIES .	2	
03-01-01601	DPD TABLETS NO.1	5000tab	

03-01-01602	SULFANILAMIDE (ANALAR)	1kg	
03-01-01603	SOLOCROME CYNENE R (AR) OR ERIOCHROME CYNENE R(AR)	1kg	
03-01-01604	ERIOCHROME BLACK T	500g	
03-01-01605	RED MERCURIC IODIDE (AR)	1kg	
03-01-01606	MUREXIDE	500g	
03-01-01607	FOLOCCULATORS (FLOCUMATIC)	2	
	a. ACCEPTS 6 SAMPLES		
	b. ELECTRICAL SUPPLY (220-230V) , 50 Hz , 200W		
	c. BUILT IN ILLUMINATION FOR EASY VIEWING WITH 6 BEAKERS		
	d. SPEED (15 - 200)rpm		
03-01-01608	FURNACES : STUART SCIENTIFIC WITH SPARES FOR TWQ YEARS OPERATION	2	
	* MAXIMUM TEMPERATURE = 1200C		
	* AUTOMATIC SWITCH OFF WHEN DOOR IS OPENED		
	* WEAR RESISTANT , DUST FREE , CERAMIC MUFFLE		
	* CHOISE OF TEMP. CONTROLLER		
	* ELECTRICAL SUPPLY 220-230V , 50Hz SINGLE PHASE , CURRENT RATING , HEATER POWER 1.5 KW		
	* CHAMBER DIMENSION 125x140.100mm		
03-01-01609	WATER STILLS (GFL) DOUBLE DISTILLATION 8 L/H MADE OF STAINLESS STEEL (220-230)V	6	
	HEATING ELEMENT MADE OF STAINLESS STEEL WITH ALL ACCESSORIES WITH SPARES FOR TWO YEARS OPERATION		
03-01-01610	DIGITAL CONDUCTOMETER FOR CONDUCTIVITY MEASURMENT (MACHEREY - NAGEL MN) WITH AUTOMATIC TEMP. COMPENSATION FOUR MEASURING RANGES 0-20000 Ms/cm (PRECISION + 1%)	3	
	PURE WATE CELL 2 POLES FO DISTILLED WATER FROM 0.1 TO 100 Ms/cm		
	* EMULSION CELL 2 POLES FOR DENSE SUBSTANCE 70 -200 Ms/cm		
	STANDARD SOLUTION FOR COND.		
	50Ms/cm sol , 500Ms/cm sol , 5000Ms/cm sol , 100Ms/cm sol ,		
	TEMPERATURE PROBES		
	* PRINTER 220 V		
03-01-01611	RUBBER VACUM HOSE	2	
	THICK WALLED RUBBER HOSE FOR CONNECTING SUCTION FLASKS AND VACUM PUMPS		
03-01-01612	CAPS FOR BIOLOGICAL CULTURE TUBE (SERO - TAP) MADE OF ANODISED ALUMINIUM WITH INTERNAL AISI 304 STAINLESS STEEL SPRING INSIDE THE CAP NOT BERMETICALLY SEALED , AUTOCLAVE AT 1 bar	100	
03-01-01613	* CAPS FOR TABES Q= 24-26mm , COLOR GOLD AND SILVER	for each	
03-01-01614	* CAPS FOR TABES Q= 15-16mm , COLOR GANET AND BLUE	size	
03-01-01615	HAND VACUM PUMP WITH GAUGE (SARTORIUS) BODY OF PVC , SUPPLIED WITH GAUGE , VACUM RELEASE LEVER AND OF CLEAR PLASTIC CONNECTING TABING (50cm) .	5	
03-01-01616	COLONY COUNTER (SARTORIUS) BATTERY OPERATED USED AS ABALL-POINT PEN , WITH FOUR DIGITAL LCD DISPLAY , SUPPLIED WITH MARKER REFILL .	5	
03-01-01617	EM - DISPENSER WITH VOLUME (0-2)ml	8	
03-01-01618	LAB. REFRIGERATOR	3	
	TEMP. RANGE - 5 TO + 150C WITH METALLIC DOOR , DOUBLE GLASS ANTIMIST DOOR WITH SPARES FOR TWO YEARS OPERATION		
03-01-01619	SEMIAUTOMATIC SPECTROPHOTOMETER (UV & VIS) DOUBLE BEAM	2	
	* WAVE LENGTH RANGE : 200 - 1000 nm		
	* BAND WIDTH : 2 nm		
	* ABSOR BANCE RANGE : 0.3 - 3.5 O.D.		
	* TRANSMITANCE : 0-100% T.		
	* LIGHT SOURCE : TUNGSTEN HALOGEN LAMP AND DEUTERIUM LAMP		
	* SAMPLE COMPARTEMENT : FOR 4 CUVETTES OF 10mm		
	* MIN SAMPLE VOLUME = 1ml		

	* MEMORY : 50 METHOD STORED		
	* POWER : 120 W , 220V , 50 Hz		
	ACCESSORIES ARE INCLUDED WITH THE INSTRUMENT :		
	* QUARTZ CUVETTES WITH LIDS. PATH LENGTH 10mm DIMENTIONS WITH SPARES FOR TWO YEARS OPERATION		
	* GLASS CUVETTES WITH LIDS , PATH LENGTH 10mm , INTERNAL DEPTH 10mm , EXTERNAL DIMENTIONS		
	* UV-2005 MANUAL		
	* TUNGSTEN HALOGEN And deuterium lamps		
03-01-01620	ATOMIC ABSORPTION SPECTROMETRY AMULTI ELEMENTS ANALYSIS ALL HEAVY METAL	2	
	(Ag , Hg , Cr , Cd , As , Pb , Au , Ba , Co , Cu , Fe , Mn , Mo , Ni , Se , Ti , V , Zn , Na , K)		
	220 - 230 V		
	WITH ALL ACCESSORIES		
	* RECOMMENDED SPARES FOR TWO YEARS OPERATION		
	* SUPER LAMP POWER SUPPLY		
	* RECOMMENDED SPARES AND CONSUMABLE FOR TWO YEARS OPERATION		
	* FUME EXTRACTION SYSTEM		
	* COMPRESSOR		
	SETION 2-23: EQUIPMENTS FOR KARAMA & DOURA PROJECT		
CODE	DESCRIPTION	QTY	
03-01-01621	ROTARY AIR BLOWER	4	
	DELIVER RATE 3140 m/h DRY AIR		
	COMPRESSION 1300 m bar ABS		
	MOTOR 35 KW , 1480 rpm , 400 V , 50 Hz		
	IP - 44/F		
03-01-01622	AGITATOR FOR ALUM - TANKS	6	
	WING DIAMETER 1000mm (MATERIAL SS)		
	LENGTH OF SHAFT 2600 mm		
	RATE OF CIRCULATION 6000 m3/h		
	GEAR MOTOR : 7 KW , 1400/125 rpm , 400V , 50 Hz		
	IP - 55 TROPICALIZED		
03-01-01623	2 SPEED GEAR MOTOR (IMPELLER DRIVE)	4	
	4 KW , 144/(1.6-8)rpm , 400V , 50 Hz		
	IP - 54/F		
03-01-01624	CABINET - MOUNTED CHLORINATORS	12	
	CAPACITY 20Kg/h (1000 Lb/DAY)		
03-01-01625	WALL - MOUNTED CHLORINE GAS DETECTOR	4	
	DETECTION LEVEL 1ppm VOL.		
	POWER SUPPLY 220V AC , 50 Hz		
	RELAY CONTACTS 1 N.O + 1 N.C 10A		
	SAMPLING RATE <= 0.1 m3/min		
	RESPONSE TIME <= 2 sec		
	WITH ACCESSORIES/3.0 m PVC AIR SAMPLE PIPE		
	WITH FITTING / INSECT SCREEN/GAS TESTING FITTINGS		
03-01-01626	TUBE OF PVC CEMENT , LIQUID CHEMECAL	2	
	RESIDUAL CHLORINE ANALYZER		
	WALL - MOUNTED RESIDUAL CHLORINE ANALYZER		
	POWER SUPPLY 220V AC , 50 Hz		
	RELAY CONTACTS 1 N.O + 1 N.C FOR MIN & MAX		
	ALARM SETTING		
	INLET PRESSURE FOR DRINKING WATER 0.2 - 6 bar		
	OUT PUT SIGNAL 0 - 20 mA or 4 - 20 mA		
	SECTION 2-24: DUCTILE IRON PIPES DN 100,150,200 mm		

CODE	DESCRIPTION	QTY	
	Supply of spigot-socket ductile iron pipes according to		
	ISO 2531 STANDARD, TYPE k9 with the following specifications:		
	1- pipes of push – fit joints.		
	2- lngth of pipe should be 6 meters		
	3- pipes should have spun – cement mortar inside lining and outside bitumen coating.		
	SCOPE OF SUPPLY		
	SPUN DUCTILE IRON SPIGOT-SOCKET		
03-01-01627	1- 100mm diameter pipe with rubber joint .	10000LM	
03-01-01628	2- 150 mm diameter pipe with rubber joint.	5000LM	
03-01-01629	3- 200 mm diameter pipe with rubber joint.	2500LM	
	SUPPLY OF DUCTILE IRON FITTINGS		
	Fittings should be suitable for ductile iron pipes according to ISO 2531 STANDARDS with the following specifications.		
	1- Flanges should be of type NP16 .		
	2- All sockets joints should be mechanical		
	3- Fittings should have inside cement lining & outside b ituman coating.		
	4- The scope of supply include all nesssry rubber joint ,gaskits,washers,bolts,nuts& washers.		
	SCOPE OF SUPPLY		
03-01-01630	1- Flange socket 200 mm	250 NO.	
03-01-01631	2- Flange socket 150 mm	500NO.	
03-01-01632	3- Flange socket 100 mm	1000NO.	
03-01-01633	4- Flange spigote 200 m	250NO.	
03-01-01634	5- Flange spigote 150 m	500NO.	
03-01-01635	6- Flange spigote 100 mm	1000NO.	
03-01-01636	7- All socket tee 200 mm	150NO.	
03-01-01637	8- All socket tee , 200x150,150x100,(each)	50NO.	
03-01-01638	9- Double socket tee with flange branch 100x100	500NO.	
03-01-01639	10- Double flange reducer 200x150mm,150x100,(each)	250NO.	
03-01-01640	11- Double flange reducer 150x100mm	100NO.	
03-01-01641	12- All socket tee 100x100	1000NO.	
03-01-01642	13- All socket tee 150x150	500NO.	
03-01-01643	14- Collar 100 mm	1000NO.	
03-01-01644	15- Collar 150 mm	500NO.	
03-01-01645	16- Collar 200 mm	250NO.	
03-01-01646	17- Double socket bend 45,90 deg.(each),100mm	1000NO.	
03-01-01647	18- Double socket bend 45,90 deg.(each),150mm	500NO.	
03-01-01648	19- Double socket bend 45,90 deg.(each),200mm	250NO.	
03-01-01649	17- Double socket bend 22 1 /2, 11 1 /4 (each) 100mm	500NO.	
03-01-01650	18- Double socket bend 22 1 /2, 11 1 /4 (each) 150mm	150NO.	
03-01-01651	19- Double socket bend 22 1 /2, 11 1 /4 (each) 200mm	50NO.C62	
	General specifications		
	1- Thickness of pipe according to formula		
	$e = 5.8 + 0.003 \times DN$		
	2- Internal pressure proof test = 50 bars		
	3- Thickness of fitting according to formula		
	$e = 7 + 0.014 \times DN$, for Tees, $k=14$		
	$e = 6 + 0.012 \times DN$, for other fittings , $k=12$		
	4- Leak tieghtness test for fitting = 25 bars		
	5- Thickness of lining = 2.5 mm		
	SECTION 2-25: Supply of upvc Fittings		
CODE	DESCRIPTION	QTY(NO.)	
	Supply of fittings for UPVC pipes according to DIN 8061 & 8062 .(class 10 bars) with the following specifications,		

	1- Fittings should be manufactured from cast iron with epoxy plant externally and externally .		
	2- Flanges should be of type NP16.		
	3- The scope of supply including all necessary rubber joint,washers, bolts,nuts,gaskets.		
	Scope of supply		
03-01-01652	1- All socket tee, 110mmx110 mm	1000	
03-01-01653	2- All socket tee, 160mmx110 mm	500	
03-01-01654	3- All socket tee, 160mmx160 mm	250	
03-01-01655	4- All socket tee, 225mmx160 mm	150	
03-01-01656	5- All socket tee, 225mmx225 mm	100	
03-01-01657	6-Double socket bend 90 , 110mm	500	
03-01-01658	7- Double socket bend 90 , 160mm	300	
03-01-01659	8- Double socket bend 90 , 225mm	100	
03-01-01660	9- Double socket bend 45 , 110mm,160mm (each)	150	
03-01-01661	10- Double socket bend 45 , 225mm	50	
03-01-01662	11-Flange spigot & flange socket 110 mm each	200	
03-01-01663	12- Flange spigot & flange socket 160 mm each	150	
03-01-01664	13- Flange spigot & flange socket 225 mm each	150	
	Supply of valves		
	Specifications:		
	1- Valve should be of rubber disc seal type.		
	2- Flange should be PN16 type .		
	3- Testing pressure should be 18 bars against seal and 25 bar against body.		
	4- Ccoating should be of epoxy paint externally & externally .		
	5- All coating should be of feed stuff quality.		
	Scope of supply		
03-01-01665	1- Double spigot valve 110 mm	500	
03-01-01666	2- Double spigot valve 160 mm	250	
03-01-01667	3- Double spigot valve 225 mm	100	
	SECTION 2-26: FERRULES MOUNTED ON SADDLE FOR HDPE PIPE AND STEEL CLAMPS		
	SCOPE OF SUPPLY		
03-01-01668	1-COMPLET SET OF 110MM SADDLE WITH 12MMX12MM FERRULE.	SET	60000
03-01-01669	2- = = = = = 25MMX25MM = .	SET	2000
03-01-01670	3- = = = = = 18MMX18MM =	SET	5000
03-01-01671	4- = = 160MM = = 12MMX12MM =	SET	10000
03-01-01672	5- = = = = = 18MMX18MM =	SET	3000
03-01-01673	6- = = = = = 25MMX25MM =	SET	3000
03-01-01674	7- = = 225MM = = 12MMX12MM =.	SET	5000
03-01-01675	8- = = = = = 25MMX25MM =.	SET	1000
03-01-01676	STAINLESS STEEL REPAIR CLAMP TYPE RS-1, RANGE MM(115-125)	NO.	7000
03-01-01677	STAINLESS STEEL REPAIR CLAMP TYPE RS-1, RANGE MM(112-121)	NO.	3000
03-01-01678	STAINLESS STEEL REPAIR CLAMP TYPE RS-1, RANGE MM(166-178)	NO.	2000
03-01-01679	STAINLESS STEEL REPAIR CLAMP TYPE RS-1, RANGE MM(178-190)	NO.	5000
03-01-01680	STAINLESS STEEL REPAIR CLAMP TYPE RS-1, RANGE MM(215-227)	NO.	1000
03-01-01681	STAINLESS STEEL REPAIR CLAMP TYPE RS-1, RANGE MM(233-246)	NO.	3000
03-01-01682	STAINLESS STEEL REPAIR CLAMP TYPE RS-1, RANGE MM(271-293)	NO.	1000
03-01-01683	STAINLESS STEEL REPAIR CLAMP TYPE RS-1, RANGE MM(346-368)	NO.	800
03-01-01684	STAINLESS STEEL REPAIR CLAMP TYPE RS-1, RANGE MM(369-392)	NO.	200
	KARAMA & DOURA PROJECT		
CODE	DESCRIPTION	QTY	
03-01-01685	ROTARY AIR BLOWER	4	
	DELIVER RATE 3140 m/h DRY AIR		

	COMPRESSION 1300 m bar ABS		
	MOTOR 35 KW , 1480 rpm , 400 V , 50 Hz		
	IP - 44/F		
03-01-01686	AGITATOR FOR ALUM - TANKS	6	
	WING DIAMETER 1000mm (MATERIAL SS)		
	LENGTH OF SHAFT 2600 mm		
	RATE OF CIRCULATION 6000 m3/h		
	GEAR MOTOR : 7 KW , 1400/125 rpm , 400V , 50 Hz		
	IP - 55 TROPICALIZED		
03-01-01687	2 SPEED GEAR MOTOR (IMPELLER DRIVE)	4	
	4 KW , 144/(1.6-8)rpm , 400V , 50 Hz		
	IP - 54/F		
03-01-01688	CABINET - MOUNTED CHLORINATORS	12	
	CAPACITY 20Kg/h (1000 Lb/DAY)		
03-01-01689	WALL - MOUNTED CHLORINE GAS DETECTOR	4	
	DETECTION LEVEL 1ppm VOL.		
	POWER SUPPLY 220V AC , 50 Hz		
	RELAY CONTACTS 1 N.O + 1 N.C 10A		
	SAMPLING RATE <= 0.1 m3/min		
	RESPONSE TIME <= 2 sec		
	WITH ACCESSORIES/3.0 m PVC AIR SAMPLE PIPE		
	WITH FITTING / INSECT SCREEN/GAS TESTING FITTINGS		
03-01-01690	TUBE OF PVC CEMENT , LIQUID CHEMECAL	2	
	RESIDUAL CHLORINE ANALYZER		
	WALL - MOUNTED RESIDUAL CHLORINE ANALYZER		
	POWER SUPPLY 220V AC , 50 Hz		
	RELAY CONTACTS 1 N.O + 1 N.C FOR MIN & MAX		
	ALARM SETTING		
	INLET PRESSURE FOR DRINKING WATER 0.2 - 6 bar		
	OUT PUT SIGNAL 0 - 20 mA or 4 - 20 mA		