

UNICEF WATER & SANITATION PHASE XII

Subproject 1: Urban Household Water Security

3- Water Quality and Pollution Prevention

Code	Description	Quantity	Unit of measurement
03-05-00001	Calcium hypo chlorite in granular form having minimum 65-70 % chlorine packed in 45 or 50 Kg plastic container/ drums of export quality. (Hypocal = Registered brand (HTH) of OLIN.	81,000	Kg
03-05-00002	Chlorine gas (purity 99.7%) in one ton cylinder (empty cylinders will be provided by the Iraqi government) including repairing of old chlorine cylinders before refilling.	220	Ton
03-05-00003	Chlorine gas (purity 99.7%) in 65 Kg cylinder (empty cylinders will be provided by the Iraqi government) including repairing of old chlorine cylinders before refilling.	120	Ton
03-05-00004	Aluminum sulfate for purifying water, $Al_2O_3 = 16.5\%$ Min, $Fe_2O_3 = 0.02\%$ Max, PB=Nil, AS=1ppm Max, insoluble in water = 0.3% Max, pH (1% solution) = 1.7, solubility in water = 70 gm in 100 cc at 100 degree centigrade, granule size less than 1.19 mm = 3%, packed in export quality polyethylene bags of 50 Kg each.	500	Ton
03-05-00005	Slow dissolving chlorine tablets of each 200 gm for disinfecting water (used also for swimming pool), packed in 2 Kg plastic container (or any suitable size).	150	Kg
03-05-00006	Chlorine solution dosing pump, type ALLDOS, KM 220-1 or equivalent, capacity 24Lit/hr, Back pressure = 10 Bar, Strokes (No Load) = 120, single phase, 240 V, 50 Hz, 1,500 RPM. With O&M manuals and spare parts catalogue in Arabic/English, and spare parts for two years operation to be included as well as section line with none return valve including cleaning system for flushing.	150	Set
03-05-00007	V-notch, full vacuum chlorinator, wall mounted, single cylinder operation for open application, including 10 M of 6.5mm vacuum tube, 16 M of 19 mm solution hose, hose clips, bottle of leach detector, instruction manual and spare parts for two years operation. Capacity = 250 g/hr, water gauge = 150 psi, gas gauge = 200 psi, operating pressure 15M, back pressure = 0 with injector set. With O&M manuals and spare parts catalogue in Arabic/English HOSE/PIPE TO BE SUPPLIED SEPARATELY FOR EACH UNIT.	12	Set
03-05-00008	Ditto as above but, capacity = 500 g/hr	12	Set
03-05-00009	Ditto as above but, capacity = 1,000 g/hr	6	Set
03-05-00010	Same as above, floor mounted, capacity = 2,000 g/hr	3	Set

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Code	Description	Quantity	Unit of measurement
03-05-00011	Spare parts are for G20 Chlorine Dosing Pump serial No: X15593 Valve Body - Part No.JPXN 83388	52	Each
03-05-00012	Spare parts are for G20 Chlorine Dosing Pump serial No: X15593 Valve Cover RPVC - Part No: JPXN 82822	52	Each
03-05-00013	Spare parts are for G20 Chlorine Dosing Pump serial No: X15593 Valve Seat RPVC - Part No: JPNX 82821	52	Each
03-05-00014	Spare parts are for G20 Chlorine Dosing Pump serial No: X15593 Ball, Pyrex - Part No. NPXA 150	52	Each
03-05-00015	Spare parts are for KM 220-1 Chlorine Dosing Pump, Serial No: CO13977 Diaphragm - Part No. 10-2257-401	12	Each
03-05-00016	Spare parts are for KM 220-1 Chlorine Dosing Pump, Serial No: CO13977 Oil Gauge Window - Part No. 10.147	22	Each
03-05-00017	Spare parts are for KM 220-1 Chlorine Dosing Pump, Serial No: CO13977 Double Ball Valve - Part No. 10.137-41	12	Each
03-05-00018	Spare parts are for KM 220-1 Chlorine Dosing Pump, Serial No: CO13977 Ball Cage Part No. 10.786-41	12	Each
03-05-00019	Spare parts are for KM 220-1 Chlorine Dosing Pump, Serial No: CO13977 Ball - Par No. 10.139	12	Each
03-05-00020	Spare parts are for KM 220-1 Chlorine Dosing Pump, Serial No: CO13977 cover for discharge (Non-return) Valve	12	Each
03-05-00021	Spare parts are for KM 220-1 Chlorine Dosing Pump, Serial No: CO13977 Pressure Spring, Part No. 10.890	12	Each
03-05-00022	Spare parts are for KM 220-1 Chlorine Dosing Pump, Serial No: CO13977 Adjusting Spindle, Part No 10.2081-4	12	Each
03-05-00023	Spare parts are for KM 220-1 Chlorine Dosing Pump, Serial No: CO13977 Cup Nut, Part No. 50.208	12	Each
03-05-00024	Aluminum Sulfate Diaphragm dosing pump with variable manual stroke control mechanism with 2.5 meter suction hose and 3.5 meter discharge hose and relief valve for pump protection against over pressure Q=500 l/hr, H=2 bar 240v, 50 HZ, single phase with all accessories required for installation and spare parts for 2 years operation and O&M manual in English/ Arabic with parts catalogue.	8	Set
03-05-00025	Vertical Multistage booster pump for chlorination purpose. Q=4 cum/hr, H=120 m with electrical drive motor and control panel, 380V, 50Hz, 3 phase with spare parts for two years of operation.	10	Set
03-05-00026	HDPE flexible pipe, heavy duty for chlorination purpose, diameter 1 inch, with joints, (12-16)	200	ML
03-05-00027	HDPE flexible pipe, heavy duty for chlorination purpose, diameter 3/4 inch, with joints, (12-16) bar	200	ML

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Code	Description	Quantity	Unit of measurement
03-05-00028	Base for mounting 65 Kg chlorine gas cylinders vertically with a (0-150) kg balance for monitoring of chlorine weight.	2	Each
03-05-00029	Spare parts for powder chlorinator type G020 from Dosapro Milton Roy - Pump Series GTM Model A Filter for foot valve. See Instruction Manual, page I-4, Fig 1.4a, A.	12	Each
03-05-00030	Valve Seat for foot valve. See Instruction Manual, page I-4, Fig 1.4a, A.	12	Each
03-05-00031	Valve Housing for foot valve. See Instruction Manual, page I-4, Fig 1.4a, A.	12	Each
03-05-00032	Ball for foot valve. See Instruction Manual, page I-4, Fig 1.4a, A.	20	Each
03-05-00033	Ball Seat for foot valve. See Instruction Manual, page I-4, Fig 1.4a, A.	10	Each
03-05-00034	4-Function Valve. See Instruction Manual, page I-4, Fig 1.4a, B.	14	Each
03-05-00035	Valve Housing for Injection Nozzle. See Instruction Manual, page I-4, Fig 1.4a, C.	14	Each
03-05-00036	Spring for Injection Nozzle. See Instruction Manual, page I-4, Fig 1.4a, C.	14	Each
03-05-00037	Ball for Injection Nozzle. See Instruction Manual, page I-4, Fig 1.4a, C.	16	Each
03-05-00038	Ball Seat for Injection Nozzle. See Instruction Manual, page I-4, Fig 1.4a, C.	16	Each
03-05-00039	Valve Body Seat for Injection Nozzle. See Instruction Manual, page I-4, Fig 1.4a, C.	16	Each
03-05-00040	Stroke Adjustment Knob for Mechanical assembly. See Dosapro Instruction Manual, page I-1, Fig 1.2a	14	Each
03-05-00041	O-Ring for Mechanical assembly. See Instruction Manual, page I-1, Fig 1.2a	20	Each
03-05-00042	Stroke Adjustment Screw for Mechanical assembly. See Instruction Manual, page I-1, Fig 1.2a	20	Each
03-05-00043	Crosshead for Mechanical assembly. See Instruction Manual, page I-1, Fig 1.2a	20	Each
03-05-00044	Male Eccentric Piece for Mechanical assembly. See Instruction Manual, page I-1, Fig 1.2a	14	Each
03-05-00045	Stroke Locking Device for Mechanical assembly. See Instruction Manual, page I-1, Fig 1.2a	14	Each
03-05-00046	Half stop ring for Mechanical assembly. See Instruction Manual, page I-1, Fig 1.2a	14	Each
03-05-00047	Tangential Wheel for Mechanical assembly. See Instruction Manual, page I-1, Fig 1.2a	14	Each
03-05-00048	Stop Bearing for Mechanical assembly. See Instruction Manual, page I-1, Fig 1.2a	14	Each

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Code	Description	Quantity	Unit of measurement
03-05-00049	Cover Seal for Mechanical assembly. See Instruction Manual, page I-1, Fig 1.2a	16	Each
03-05-00050	Liquid End Mounting Assembly. See Instruction Manual, page I-1, Fig 1.2a	16	Each
03-05-00051	Liquid End. See Instruction Manual, page I-1, Fig 1.2a	16	Each
03-05-00052	Ball bearings for powder chlorinator, size SKF 6200	14	Each
03-05-00053	Ball bearings for powder chlorinator, size SKF 6201	64	Each
03-05-00054	Ball bearings for powder chlorinator, size SKF 6202	64	Each
03-05-00055	Ball bearings for powder chlorinator, size SKF 6203	64	Each
03-05-00056	Gas masks/breathing apparatus for protection from chlorine gas used in water treatment facilities	110	Each
03-05-00057	Glass tube special for OZONE Generator type G250 from company (SHOTT GERATE) or equivalent. Glass thickness 1mm and diameter 4 cm and length 136 cm.	15	Each
03-05-00058	Fuse 0.5A, V 10KV, thickness 1mm, internal diameter 5mm and length 15cm part number Lr 7004310	20	Each
03-05-00059	Spare parts for V-notch chlorinator type V-50 BM25-164	20	Each
03-05-00060	Spare parts for V-notch chlorinator type V-50 BM25-164: flexible connection part	40	Each
03-05-00061	Ditto but Hose clamp, part number U. 553 (19.5MM)	40	Each
03-05-00062	Ditto but Hose clamp, part number U.553 (25 MM)	40	Each
03-05-00063	Ditto but Hose adapter, part number P. 40112	40	Each
03-05-00064	Ditto but Auxiliary cylinder valve, part number U. 12 43 B	40	Each
03-05-00065	Ditto but Lead gasket, part number P.2476 B	40	Each
03-05-00066	Ditto but Lead gasket, part number P.2619	40	Each
03-05-00067	Ditto but Solution discharge line, part number RK811-4305	70	Each
03-05-00068	Ditto but Strainer 3/4inch, part number U. 810	70	Each
03-05-00069	Ditto but Wreck, part number P.5822	70	Each
03-05-00070	Aluminum Sulfate Diaphragm dosing pump with variable manual stroke control mechanism with 2.5 meter suction hose and 3.5 meter discharge hose and relief valve for pump protection against over pressure Q=100 l/hr, H=2 bar 240v, 50 HZ, single phase with all accessories required for installation and spare parts for 2 years operation and O&M manual in English/ Arabic with parts catalogue.	2	Set
03-05-00071	Same as item above but: Q=500/hr, H= 2 bar	6	

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Code	Description	Quantity	Unit of measurement
03-05-00072	Pipes and fittings for vacuum gas chlorinator type ALLDOS, capacity 4000 g/hr: Ref: ALLDOS Quotation Nr. 39529 for Erbil plant (44 items).		1 Set
03-05-00073	Same as item above but: Quotation Nr. 39531 for Ifraz plant (19) items:		1 Set