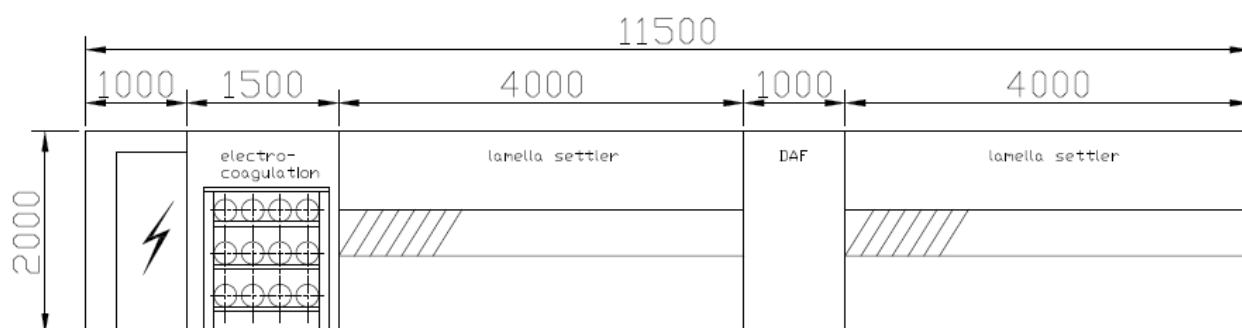


electro coagulation package waster water treatment plant for Battery wastewater

Technical specification



electrocoagulation package vertical view



electrocoagulation package Top view

KHN water treatment Co., Ltd.

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1. General principles:

1.1 This technical specification is applicable to the electro-flocculation lamella settler unit of Battery wastewater treatment. It puts forward the technical requirements for the functional design, structure, performance, installation and test of the system.

1.2 The aim of this project is the electro-flocculation and lamella settler unit in the wastewater treatment system of Battery wastewater. The electro-flocculation and lamella settler unit includes reactor, power supply, flotation chamber, water tank and control system, and adopts a complete supply mode. The company's scope of work includes the design of the reactor itself, power supply and control system, supply and final delivery of completed data, including participation in commissioning, commissioning, elimination, operation and maintenance training of the electroflocculation lamella settler unit, and participation in the performance acceptance test organized by Party A.

1.3 The technical specifications are jointly confirmed by the buyers and sellers, and the unresolved issues shall be settled through consultation between the two parties.

1.4 The Company is fully responsible for the design and supply of the flocculation and lamella settler unit of the wastewater treatment system, i.e. products subcontracted (or purchased).

1.5 The electric discharge, installation, construction, electricity consumption

and water consumption of the electrocoagulation air floatation device shall be provided by Party A.

2. Norms and standards:

The design, manufacture, inspection and test of wastewater treatment systems in Battery wastewaters meet the requirements of relevant national standards and standards, mainly including the following parts (but not limited to):

Comprehensive discharge standard for sewage

"Outdoor drainage design standard

Technical specification for sewage lamella settler treatment

Technical specification for sewage treatment engineering

Technical conditions for the manufacture of water treatment equipment

Inspection of raw materials for water treatment equipment

Technical specification for design of lining steel shells

Technical specification for rubber lined equipment

Technical specification for painting and packaging of water treatment equipment Product label "

General principles of performance test for water treatment equipment

Water treatment equipment performance test equipment

General technical requirements for product inspection

Standard for general purpose pipe flange connection

Two series of power system control, series of basic dimensions of protective screens and cabinets.

Color of conductors in electrical installations.

The color of indicator lights and buttons in electrical installations.

Technical requirements for power system two loop control and electromechanical protection screen (cabinet / platform)

Electrical control equipment second part: electrical control equipment equipped with electronic devices.

Low voltage electrical appliance enclosure protection

Electrical control equipment for low voltage electrical appliances

The above-mentioned specifications and standards are in the latest edition. If there is a major principled conflict between the above-mentioned specifications and standards or between them and this Technical Conditions, the Company shall promptly submit to Party A in written form proposals for a solution, which shall be handled by both parties through consultation.

The company shall execute the standards listed in this technical specification. In case of inconsistency, the higher standards are applied. The company puts forward the standard list of equipment design, manufacture, inspection/test, assembly, installation, commissioning, commissioning, acceptance, testing, operation and maintenance to Party A for confirmation (within 10 days after the contract is signed).

3. Design and operation conditions:

3.1 system overview and related equipment

The treated water is lifted to the electro-flocculation and lamella settler unit by water pump, and the main suspended substances and metal ion are removed by electro-flocculation and lamella settler.

Design Requirements: The power control cabinet and power box (new electrical room, meet the requirements of the code) are installed on the high platform with rain-proof roof outdoors, and the power control cabinet adopts explosion-proof design. The electrocoagulation reactor, the flotation tank, the lamella settler and the water pump fan are installed on the outdoor high platform. The design wastewater into the electro-flocculation lamella settler using pump lifting, the wastewater from the electro-flocculation lamella settler tank to the water tank designed for gravity flow. Clear water box to filter for pump lift.

3.2 power supply conditions:

The AC voltage system is 380V, three-phase five wire and 50Hz, and the rated value is 60kW.

4. Technical requirements:

The company provides a complete set of Battery wastewater electro-flocculation lamella settler unit treatment equipment, including electro-flocculation lamella settler reactor body (with plate), flotation tank,

water tank, pump fan, one-year shelf life of electro-flocculation lamella settler plate spare parts and electro-flocculation lamella settler unit control cabinet, while the company on the electro-flocculation lamella settler unit control cabinet. The unit is responsible for its performance after commissioning.

The technical parameters of the 1.5.1 equipment are as follows:

(1) Electro coagulation air floatation unit:

Equipment type EC-50-001

Equipment handling capacity 25m³/h

Quantity 1 sets

The operation mode is fully automatic and remote controlled, and it can also be operated locally.

(2) Electro coagulation lamella settler power supply:

The electric flocculation lamella settler power supply receives a 380V three-phase five-wire, 50Hz total power supply from the owner's MCC cabinet through the inlet circuit breaker, and other power supply distribution in the electric flocculation lamella settler unit is designed by our company. The electro-flocculation lamella settler control system meets the load requirement and has the function of automatically adjusting the current and voltage of electro-flocculation lamella settler due to turbidity change (turbidity signal: 4-20mA), so as to achieve the best effect of energy saving and electro-flocculation lamella settler.

Quantity: 1 sets

Outline size: 800 x 700 x 1800

Total power: 18kW

Input voltage: 380V

Frequency: 50Hz

Reversal time: adjustable (0 ~ 999min)

Power component form: IGBT

Explosion-proof protection

Installation location: indoor and dry

Protection function: over voltage, under voltage, phase loss, over current, over temperature protection and isolation device.

(3) Electro coagulation lamella settler main body:

Quantity: 2 set

Installation: installed on high platform.

Outline size: 4000 x 2000 x 2000mm

Material: Q2535

Corrosion protection: inner epoxy resin, outer rust preventive paint, electric flocculation reaction room for insulation treatment.

Equipment weight: 21.5t

Operating weight: 35t

Reflux ratio of dissolved air to water: 30%

Residence time of electrocoagulation reactor: 5min

Separation area residence time: 1.3h

Intake pump: 35m³/h (a supply)

Dissolved air pump: Q=5m³/h

Equipment inlet caliber: DN75

Equipment outlet caliber: DN75

Cathode material: high conductivity aluminum plate

Plate connection: quick connector for easy assembly and disassembly.

Operation mode: automatic switching of polarity of plates

Sludge discharge mode: automatic

Mud control measures: intermittent timing

The electrocoagulation lamella settler tank is provided with a washing interface and connected with an industrial water pipe.

An lamella plate device is installed in the electrocoagulation lamella settler tank.

All equipment interfaces are equipped with flanges, and import and export flanges are: GB9119-2000 PN1.0, sealing surface RF.

6. Scope of supply

The company guarantees to provide system equipment for new, advanced, mature, complete and safe and reliable, and equipment technical and economic performance in line with the "Equipment Technical Specifications".

The company ensures that the scope of supply is complete, to meet the

requirements of Party A for installation, commissioning, operation and equipment performance, and to provide equipment installation, commissioning and commissioning related technical services and cooperation.

The supply requirement involved in the technical specification is also a supplement to the scope of this supply.

No.	Item	Model	Quantity	Unit	Unit Price	Amount	Remark
1	power box	380V,50HZ,40A,N=18KW	1	no.	857	857	KHN
2	SMR switch	t=0.25ms	1	no.	86	86	KHN
3	filter circuit	RCTT	1	no.	643	643	KHN
4	pridge converter	pwm	1	no.	571	571	KHN
5	high frequency transformer	30kHz	1	no.	4571	4571	KHN
6	rectifier circuit	GTR	1	no.	1857	1857	KHN
7	high frequency generator	2.4GS	1	no.	3714	3714	KHN
8	cooling fan	Matching	1	no.	86	86	KHN
9	leakage circuit breaker	E9	1	no.	21	21	KHN
10	voltage stabilizing capacitor	PET	1	no.	123	123	KHN
11	thermal protector	KKS9700	1	no.	103	103	KHN
12	monitor	digital display	1	no.	43	43	KHN
13	regulating switch	Matching	1	no.	29	29	KHN
14	electric pulse generator	IGBT	1	no.	3714	3714	KHN
15	water circulating pump	Q=10m ³ /h	1	no.	286	286	South
16	graphite guide electrode	W=50mm	24	no.	114	2743	
17	insulating strip	W=20mm	24	no.	43	1029	rubber
18	water distribution pipe	φ75	1	set	171	171	UPVC
19	reaction shell	φ110	12	no.	357	4286	UPVC

20	sealing ring	φ110	24	no.	21	514	rubber
21	main body support	SUS304	1	set	2143	2143	SUS304
22	fixed package	φ110	24	set	17	411	
23	electrode	Q235	6	set	857	5143	
25	exhaust valve	φ15	6	no.	11	69	UPVC
26	main body of DAF	2000*1000mm	1	no.	2571	2571	Q235
27	water level adjustment ring	300*300mm	1	no.	214	214	Q235
28	water distributor	DN75	1	no.	129	129	Q235
29	rotating mechanism	N=0.75kw	1	no.	1229	1229	
30	header pipe	DN100	1	set	86	86	Q235
31	walking mechanism	N=0.35kw	1	no.	1114	1114	
32	skimming mechanism	W=900mm	1	no.	214	214	rubber
33	auto-Control	PLC	1	no.	2571	2571	CHINT
34	travel switch	KB5104	2	no.	50	100	
35	dissolved air pump	Q=2m ³ /h ,N=1.5kw	1	no.	300	300	SUS304
36	horizontal air tank	φ150*400	1	no.	171	171	Q235
37	dissolved air releaser	TV-1	2	no.	86	171	SUS304
38	internal pipe valve parts	DN75	1	set	286	286	PVC
39	cable and wire tube	VV-2.5	1	set	286	286	
40	operating platform	Matching	1	no.	429	429	Q235
41	agitating device	N=0.55kw	3	no.	500	1500	
42	solution box	V=2m ³	3	no.	100	300	PE
43	metering pump	Q=100L/hr N=0.05kw	4	no.	771	3086	SEKO
44	sedimentation tank main body	4000*2000	2	no.	6857	13714	Q235
45	inclined tube	φ50	16	m ³	86	1371	PE
46	inclined pipe support	5# angle steel	16	m ²	21	343	Q235

47	sludge discharge pipe	DN150	4	set	50	200	Q235
48	water collecting weir	300*200	12	m ³	57	686	Q235
49	Freight	FOB 上海	1		929	929	
50	Customs clearance fee		1		857	857	
	Total (USD)					66070	

Note: All equipment flange interface standard GB9119-2000 Flat welded steel pipe flanges with flat and protruding panel, PN1.0MPa, RF sealing surface.

The company provides spare parts for all of the above equipment during installation, commissioning and warranty period.

The Company notifies Party A before terminating the production of spare parts, so that Party A can increase the quantity of spare parts ordered in time according to needs.

During the execution of the contract, if there is any change in the standard parts used in the equipment of the company, the corresponding change in the spare parts model provided.

7. Technical service

7.1 Installation and commissioning of complete sets of equipment: the buyer is responsible for the installation, if necessary, the supplier should arrange personnel for technical guidance, on-site commissioning, until the equipment is put into normal operation.

7.2 The company provides detailed operation and maintenance manuals for

the goods supplied.

7.3 The Company trains Party A's personnel in the assembly, start-up, operation, maintenance and repair of the supplied goods in its residential and/or project sites.

7.4 The company handles the quality problems of the equipment provided in a timely manner, giving a written reply within 24 hours, and arriving at the site within 48 hours.

7.5 The above technical services are not incurred separately.

8. Annex

8.1 Electro coagulation lamella settler outline size installation diagram

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