

1 Wastewater treatment equipment

1-1. Elepon E.C.A.P. Corporation - pH Control Unit -

I. Basic type -----

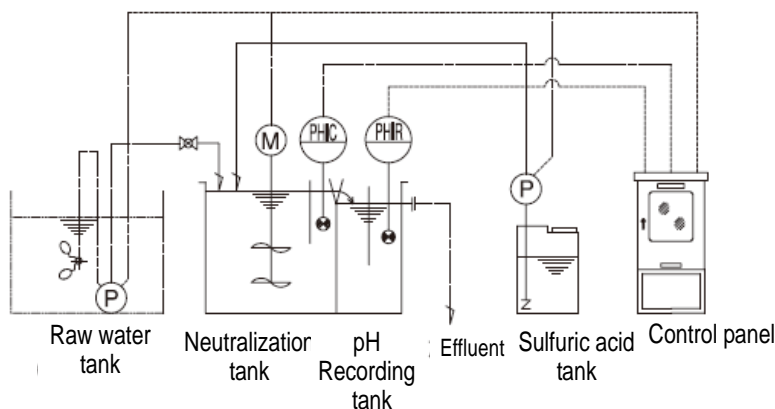
■ Features

- Easy installation or movement by unitization
- Saving installation cost and economy
- Easy maintenance by compacting equipment
- Supporting neutralization treatment of acid wastewater
- Grasping flow rate in terms of triangle sluice



■ Overview

- pH Control Unit of PB type is developed for site of construction and engineering works and can be continuously neutralized with stable pH control by addition on-site strong alkali wastewater to sulfuric acid, hydrochloric acid, etc., furthermore installed or moved easy by compacting equipment.
- The Unit treats within 5.8 - 8.6 as pH to various industrial wastewater contained acid/alkali, and has the function of continuous record on pH value after neutralization in record tank.



Flow diagram of treatment system

■ Performance/Specifications

- Specifications of PB series

Type (Standard treatment capacity)	PB-01	PB-03	PB-05	PB-10	PB-15	PB-20	PB-30
	(1m ³ /hr)	(3m ³ /hr)	(5m ³ /hr)	(10m ³ /hr)	(15m ³ /hr)	(20m ³ /hr)	(30m ³ /hr)
Neutralization tank volume (SS400+Inside:epotal with chemical pump, pH electrode)	0.25m ³	0.72 m ³	1.1 m ³	2.4 m ³	3.5 m ³	4.8 m ³	7.0 m ³
Recording tank volume (SS400+ Inside:epotal pH electrode)	0.2 m ³	0.3 m ³	0.48 m ³	1.1 m ³	1.5 m ³	2.1 m ³	3.0 m ³
Sulfuric acid tank (PE tank)	50L (Square tank)		200 L (Round tank)				
Control panel (pH controller with indication, pH recorder)	EPM-96(Digital) EPR-6S(1S)type						
pH detector (pH electrode + holder)	(Electrode+PK-50US)×2set						
Mixer MODEL of neutralization tank (Material: SUS 304)	MFG-10H 0.1kW	MFG-20H 0.2kW	MFG-40H 0.4kW	MFG-75H 0.75kW	MFP-150H 1.5kW		
Sulfuric acid pump (Diaphragm pump PVC)	CRM-12 25W	CR-2N 0.1kW	CR-2-2N 0.1kW		CR-3N 0.1kW	CR-3-2N 0.1kW	
Raw water pump(Submerge pump)	40A × 0.25kW		50A × 0.4KW	50A × 0.75kW	50A × 1.5kW	65A × 2.2kW	80A × 2.2kW

- Handle PB-D type adapted to both acid and alkali, unit treated in capacity over 30 m³/hr

■ Applications/Experience

[Wastewater contained alkali]

- Ready-mixed concrete factory, second product factory from concrete, grindstone factory
- Site of construction and engineering works, washing bottle factory, washing factory, Cleaning factory, dyeing and fiber factory
- Other various industrial wastewater contained alkali
- Pretreatment/after treatment of wastewater treatment equipment

[Wastewater contained acid]

- Plating factory, metal surface treatment and electronics parts factory, etching factory, printing factory, acid cleaning factory
- Laboratory, hospital, steel/metal factory
- Wastewater from scrubber, battery factory
- Other various industrial wastewater contained acid

- Pretreatment/after treatment of wastewater treatment equipment

■ Others

- Inquire below E-mail for information on PB-R of rack type (see right photo)



II. Hexavalent chromium reduction treatment type -----

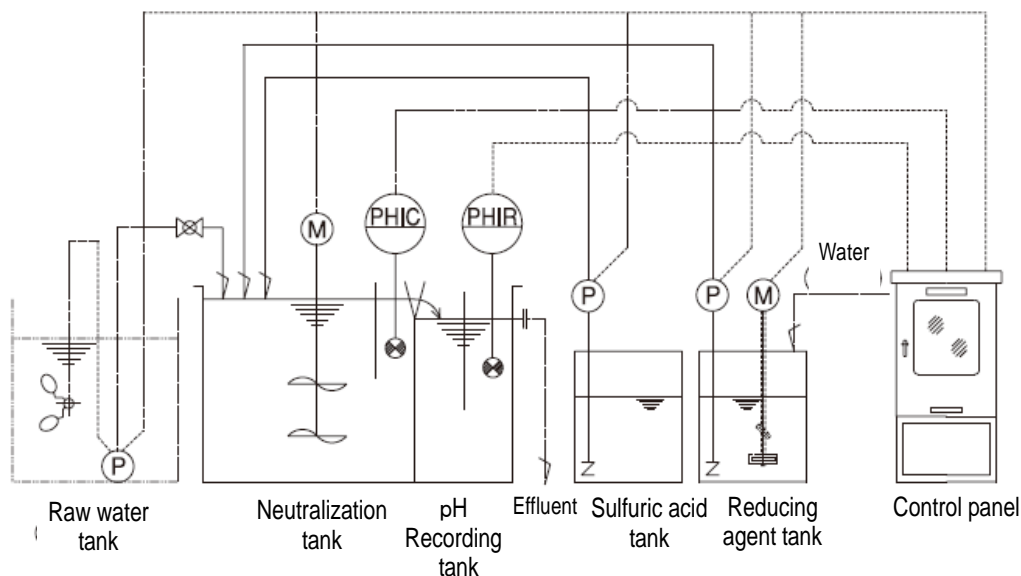
■ Features

- Reduction treatment function of hexavalent chromium
- Easy installation or movement.by unitization
- Saving installation cost and economy
- Easy maintenance by compacting equipment
- Grasping flow rate in terms of triangle sluice



■ Overview

- pH Control Unit of PB-Cr type can be continuously neutralized with stable pH control because the unit, not only neutralize alkali wastewater by sulfuric acid, hydrochloric acid, etc., also conduct reduction treatment of hexavalent chromium by reduction solvent(ferrous sulfate etc.)
- The Unit treats within 5.8 - 8.6 as pH and has the function of continuous record on pH value after neutralization in record tank, and can be easily installed or moved in terms of compactification.



Flow diagram of treatment system

■ Performance/Specifications

- Specifications of PB-Cr series

Type (Standard treatment capacity)	PB-01Cr (1m ³ /hr)	PB-03Cr (3m ³ /hr)	PB-05Cr (5m ³ /hr)	PB-10Cr (10m ³ /hr)	PB-15 Cr (15m ³ /hr)	PB-20 Cr (20m ³ /hr)	PB-30 Cr (30m ³ /hr)
Neutralization tank volume (SS400+Inside:epotal with chemical pump, pH electrode)	0.25m ³	0.72 m ³	1.1 m ³	2.4 m ³	3.5 m ³	4.8 m ³	7.0 m ³
pH recording tank volume (SS400+Inside epotal, pH electrode)	0.2 m ³	0.3 m ³	0.48 m ³	1.1 m ³	1.5 m ³	2.1 m ³	3.0 m ³
Sulfuric acid tank (PE tank)	50L (Square tank)		200 L (Round tank)				
Control panel (pH controller with indication, recorder)	EPM-96(Digital) EPR-6S(1S)type						
pH detector (pH electrode + holder)	(Electrode+PK-50US) × 2set						
Mixer MODEL of neutralization tank (Material: SUS 304)	MFG-10H 0.1kW	MFG-20H 0.2kW	MFG-40H 0.4kW	MFG-75H 0.75kW	MFP-150H 1.5kW		

Sulfuric acid pump (Diaphragm pump PVC)	CRM-12 25W	CR-2N 0.1kW	CR-2-2N 0.1kW		CR-3 N 0.1kW	CR-3-2N 0.1kW
Raw water pump(Submerge pump)	40A × 0.25kW	50A × 0.4KW	50A × 0.75kW	50A × 1.5kW	65A × 2.2kW	80A × 2.2kW

- Handle unit treated in capacity over 30 m³/hr
- No removal for total chromium

■ Applications/Experience

[Wastewater contained alkali]

- Ready-mixed concrete factory, second product factory from concrete, grindstone factory
- Site of construction and engineering works, washing bottle factory, washing factory, Cleaning factory, dyeing and fiber factory
- Other various industrial wastewater contained alkali
- Pretreatment/after treatment of wastewater treatment equipment

III. Touch panel type -----

■ Features

- Adoption of touch panel method for all process of operation, setting, adjustment, record
- No chart and cost saving by paperless
- Typical equipping from conventional function to proportional control function
- Same price as conventional product in spite of high function specifications



■ Overview

- The unit typically equips high function such as touch panel method and proportional control.in addition to the PB series

■ Performance/Specifications

- Specifications of PB-T series

Type (Standard treatment capacity)	PBT-01 (1m ³ /hr)	PBT-03 (3m ³ /hr)	PBT-05 (5m ³ /hr)
Specifications			
Neutralization tank volume (SS400+Inside:epotal with chemical pump, pH electrode)	0.2m ³	0.65 m ³	1.0 m ³
pH recording tank volume (SS400+Inside epotal, pH electrode)	0.1 m ³	0.35 m ³	0.5 m ³
Sulfuric acid tank (PE tank)	50L (Square tank)	100L (Square tank)	200L (Square tank)
Control panel (pH controller with indication, recorder)	Touch panel method Paperless record		
pH detector (pH electrode + holder)	(Electrode+PK-50US) × 2set		
Mixer of neutralization tank (Material: SUS 304)	KVS-1008 0.1kW	MFG-20H 0.2kW	
Sulfuric acid pump (Fixed pump)	SPY-W60 18W	SPY-W300 30W	
Raw water pump(Submerge pump)	40A×0.25kW		50A×0.4kW

- The unit can deal with various industrial wastewater (acid, alkyl etc.) , and treat within 5.8 - 8.6 as pH and has the function of continuous record on pH value after neutralization in record tank

■ Applications/Experiance

[Wastewater contained alkali]

- Ready-mixed concrete factory, second product factory from concrete, grindstone factory
- Site of construction and engineering works, washing bottle factory, washing factory, Cleaning factory, dyeing and fiber factory
- Other various industrial wastewater contained alkali
- Pretreatment/after treatment of wastewater treatment equipment

IV. Touch panel and hexavalent chromium reduction treatment type -----

■ Features

- Adoption of touch panel method for all process of operation, setting, adjustment, record
- No chart and cost saving by paperless
- Typical equipping from conventional function to proportional control function
- Same price as conventional product in spite of high function specifications



■ Overview

- The unit typically equips high function such as touch panel method and proportional control.in addition to the PB-Cr series

■ Performance/Specifications

- Specifications of PBT-Cr series

Type (Standard treatment capacity)	PBT-01Cr (1m ³ /hr)	PBT-03 Cr (3m ³ /hr)	PBT-05 Cr (5m ³ /hr)
Neutralization tank volume (SS400+Inside:epotal with chemical pump, pH electrode)	0.2m ³	0.65 m ³	1.0 m ³
pH recording tank volume (SS400+Inside epotal, pH electrode)	0.1 m ³	0.35 m ³	0.5 m ³
Sulfuric acid tank (PE tank)	50L (Square tank)	100L (Square tank)	200L (Square tank)
Reduction solvent tank (PE tank)	50L (Square tank)	100L (Square tank)	100L (Square tank)
Control panel (pH controller with indication, recorder)	Touch panel method Paperless record		
pH detector (pH electrode + holder)	(Electrode+PK-50US) × 2set		
Mixer MODEL of neutralization tank (Material: SUS 304)	KVS-1008 0.1kW	MFG-20H 0.2kW	
Mixer MODEL of reduction solvent tank (Material: SUS 304 + rubber lining)	KVS-0408 40W	KVS-0608 60W	
Sulfuric acid pump MODEL (Solenoid pump)	SPY-W60 18W	SPY-V300 30W	
Reduction solvent pump MODEL (Solrenoid pump)	SPY-W60 15W	SPY-W60 18W	
Raw water pump(Submerge pump)	40A×0.25kW		50A×0.4kW

- The unit can be easily installed or moved in terms of compactification, and record on pH value after neutralization in record tank

■ Applications/Experience

[Wastewater contained alkali]

- Ready-mixed concrete factory, second product factory from concrete, grindstone factory
- Site of construction and engineering works, washing bottle factory, washing factory, Cleaning factory, dyeing and fiber factory
- Other various industrial wastewater contained alkali
- Pretreatment/after treatment of wastewater treatment equipment



■ - Reference

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