AXIS INDUSTRIAL ETHYLENE OXIDE GAS SCRUBBERS

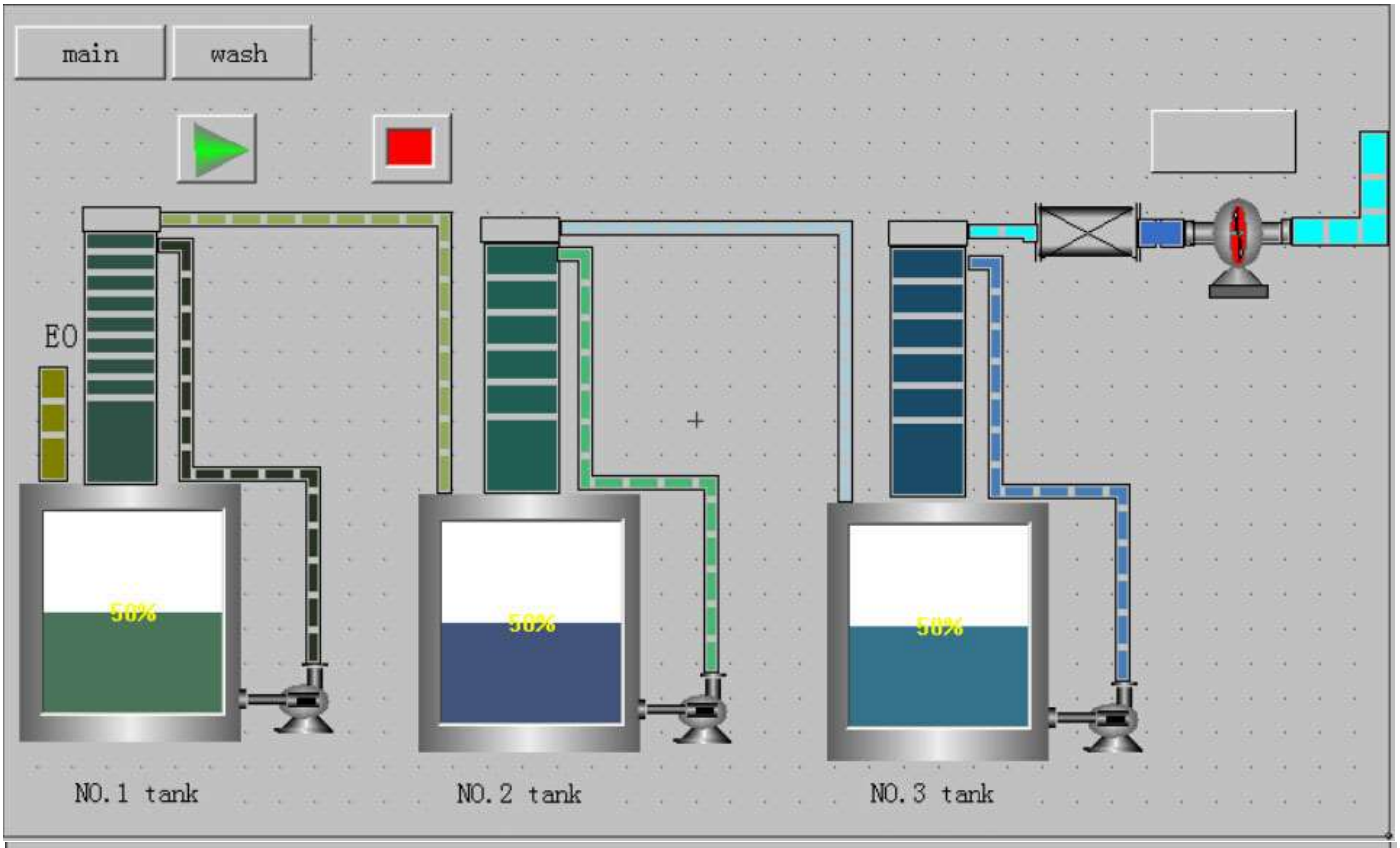
Main Parts

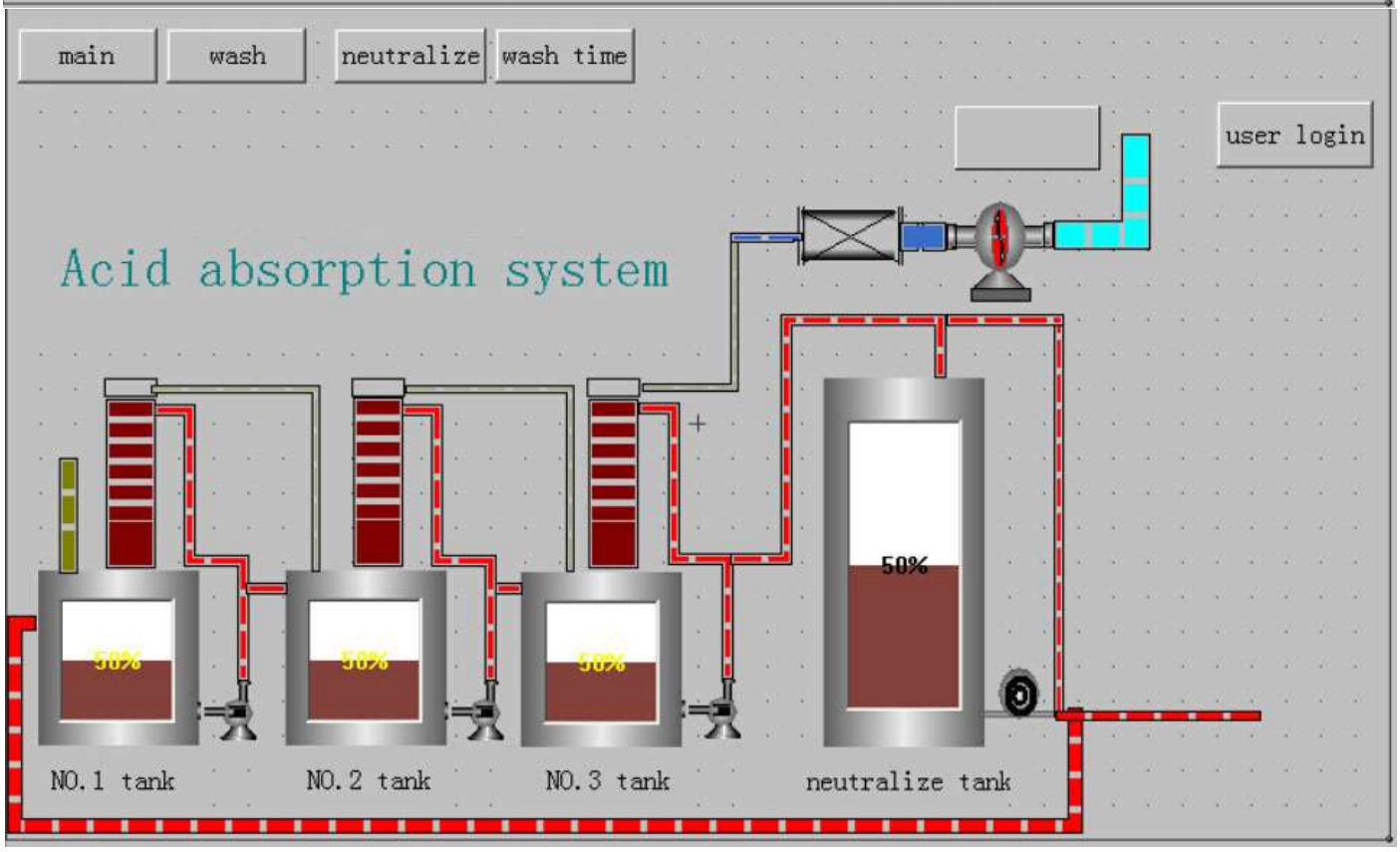
EO exhausted gas scrubber system is composed by below parts

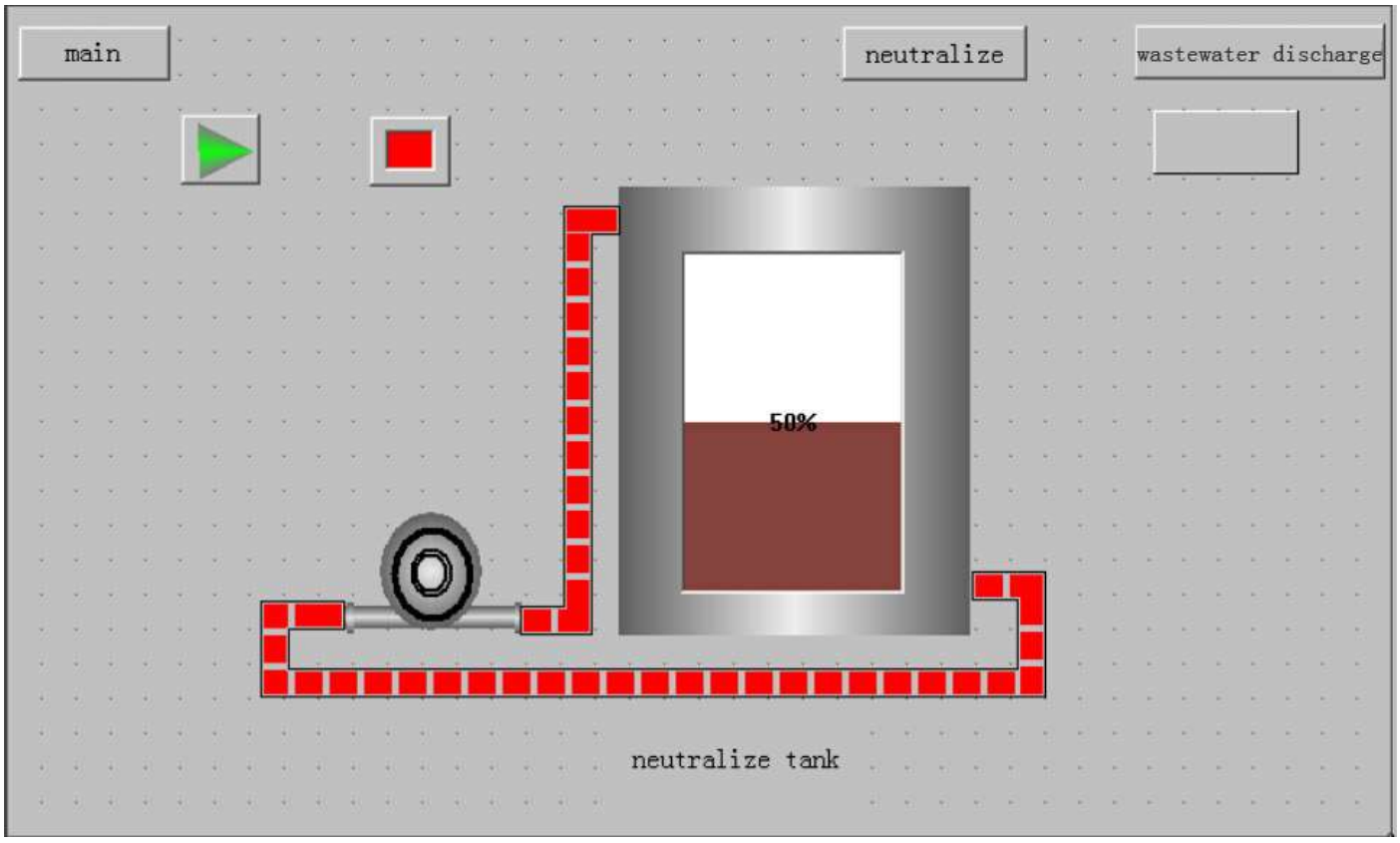
- EO gas-water separator
- Level I, Level II & Level III acid washing tower
- Gas Filter Unit
- Alkali Neutralization tank
- Acid Liquid Match Tank, etc.

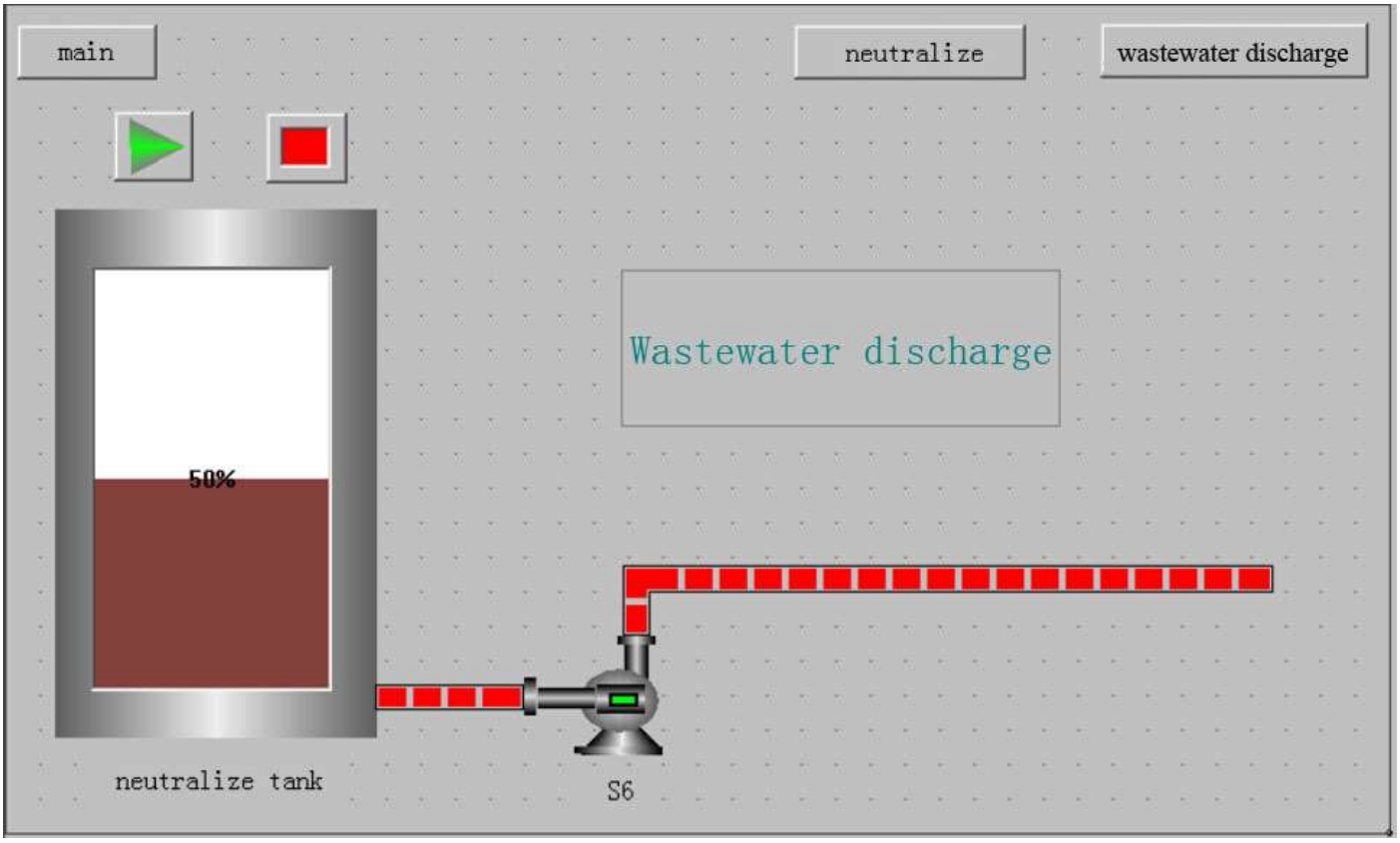
.The system allocated kinds functions anti-acid(anti alkali) pump,valve,tube,fan,air channel and controller system. To finish the acid liquid spraying and washing,acid-alkali neutralization,exhausted gas emission, liquor transfer functions.This system is linkage with EO Sterilizer washing process. That is when the gas exposure stage is finished,the sterilizer is in washing process, the sterilizer must send a single(standard single,such as switch single,coded single,etc),the residual gas treatment will start after received this single.

The whole scrubber system is automatically controlled by PLC, and dynamic displayed on the touch screen.






main
neutralize
wastewater discharge
50%
neutralize tank


main
neutralize
wastewater discharge
Wastewater discharge
50%
neutralize tank
S6

Main working process

When the sterilizer begin washing,this system is started.The input EO must be through the gas-water separator,then into the Level I washing tower, EO contact fully with the acid,and react with the water,EO gas is absorbed.

After the Level I process, the residual EO enter into the Level II washing tower, to be absorbed by second time .After twice absorption,then enter into Level III washing tower.Then the final gas go through the filter unit and fan system and enter into the atmosphere.

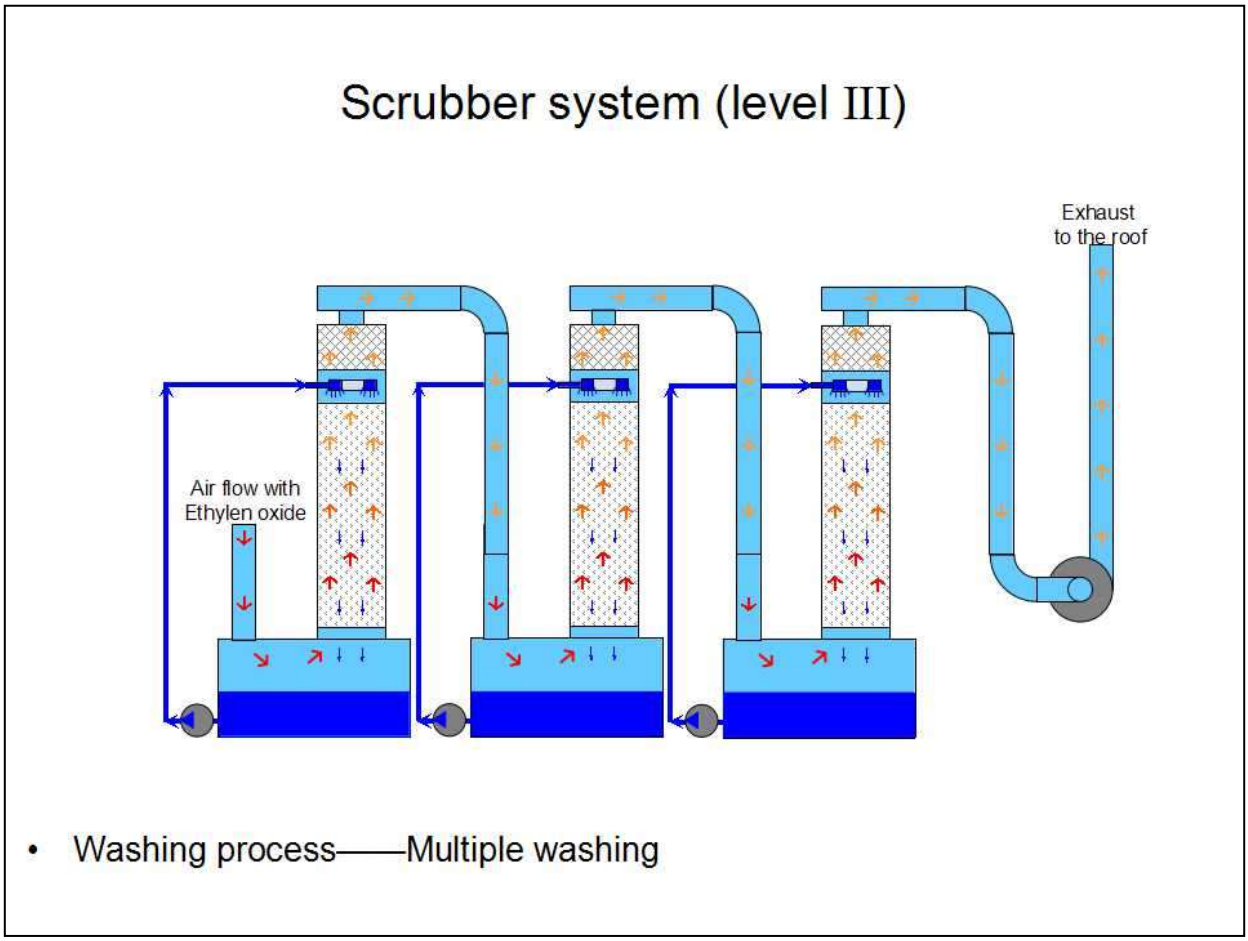
When the product of the washing tower ethylene glycol is saturated, the acid liquid is to be pumped in the neutralization tank,add the NAOH into the acid tank,when the PH is 7 in the neutralization tank,pump the liquor into the spend liquor tank and manage it.

The process

1. Working Principle

The EO gas is pumped into the pickling tower ,and be absorbed,massive contact and reacted with the acid liquid,then formed glycol.It react as below.

$$C_2H_4O + H_2O \longrightarrow C_2H_4(OH)_2$$



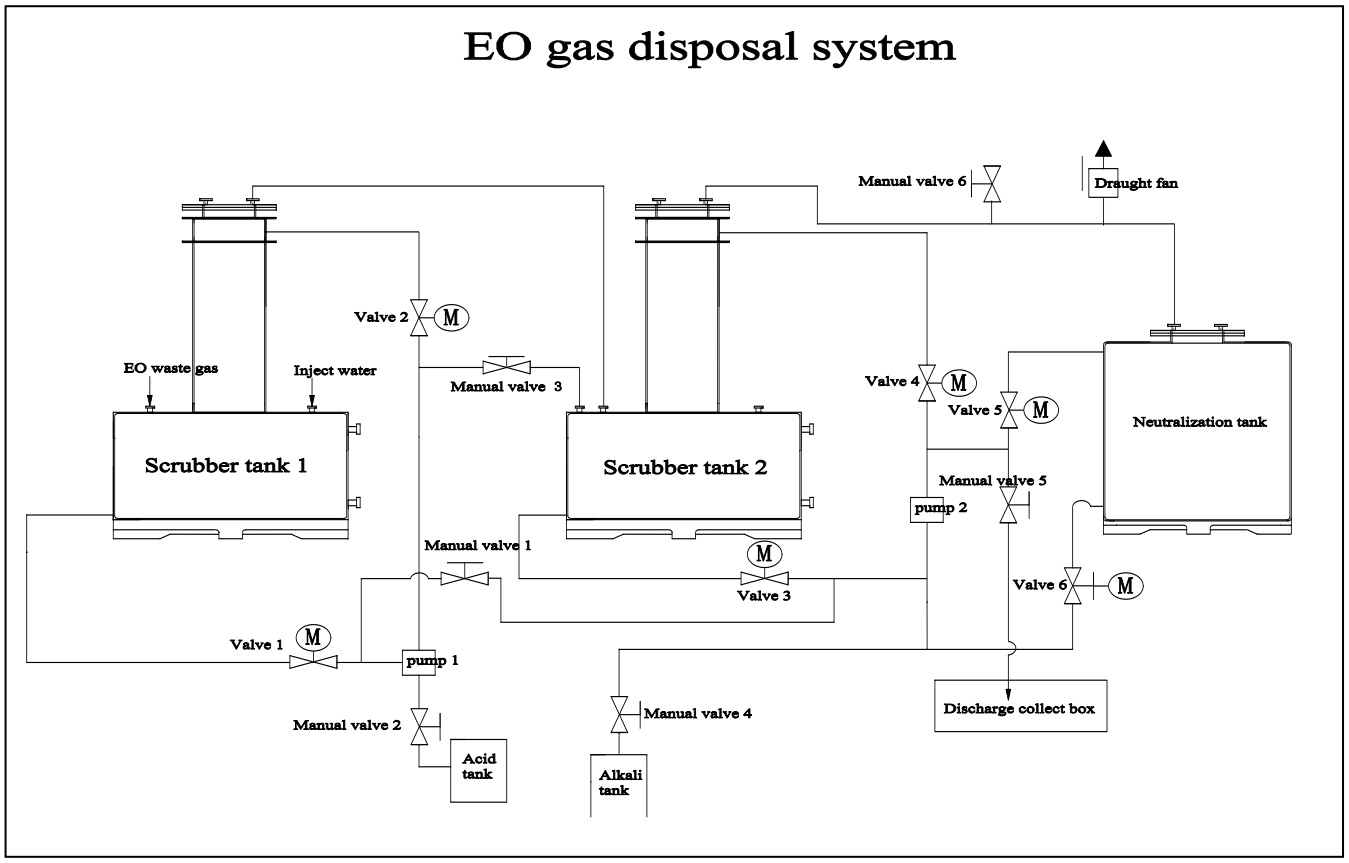
2. There are two main factors must be controlled:The PH of the acid liquid and the degree of the saturation for the glycol.

The acid liquid is generally 1%~5% dilute sulphuric acid,the PH is less than 1.5,if bigger than this,there needs add the acid.Generally 1m³ water can absorb a determined value EO,when the EO consume is bigger than this,there need change the acid liquid in the acid tank.

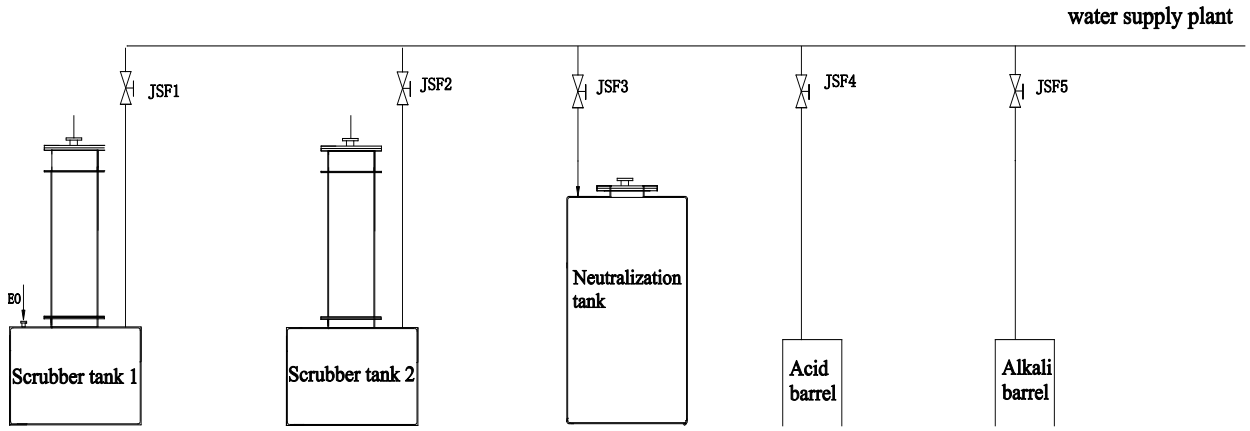
3. After the treatment system,the clarify rate for the EO is more than 99.9% IV.
The treatment system is customized according to customers' requirements and the local governments' standard.Different requirements with different projects.About the consume of the ACID LIQUID,ALKALI LIQUID,WATER AND OTHER CHARGES are prefer to the real project.

It has 3 models based on different processing capacity and purifying rate,the details as below,

Model no.	Processing capacity (per day)	Purifying rate (%)
Level I	about 20kgs EO gas	90%
Level II	about 40kgs EO gas	96%
Level III	about 60kgs EO gas	99,9%



Water supply system/cleaning system structure diagram



KORDON
Tıp Sağlık Araç ve Gereçleri

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