

Chlorine Neutralizing Scrubber - Series NS100



Configuration

AQUS chlorine neutralizing scrubbers are versatile, reliable systems that are specially designed as emergency chlorine gas neutralization or scrubbing units.

The gas neutralization system comprises of

- Control panel
- Pumps
- Discharge pipes
- Fan
- Reagent storage tank
- Scrubber tower (single or two storage)
- Interconnecting ducting from tower to fan and fan outlet ducting

We can of course customize our units to the customer requirements and specifications.

Units are supplied in complete knock-down components (CKD) to enable economical transportation and handing to the installation site where they are easily re-assembled. Units can be supplied as a fully assembled unit upon special request.

Pumps

We uses corrosive proof plastic centrifugal pumps for our system. Horizontal re-circulation pumps are standard and

Specification	
Capacity	1000kg/hr
Consist of	(1) tank&(2)scrubbers
	(1) NaoH pump
	(1) Turbo blow
	(1) Piping(20A)
	(1) Nozzle Tank
Tank	
Dimension	14800*2300*H1500
Material	Mild Steel +Rubber lining(3t)
Thickness	6t
Consisting of	Spray nozzle, pp polling, inspection glass etc.
NaoH pump	
Type	Horizontal centrifugal
Consisting of	Spray nozzle, pp polling, inspection glass etc.
Material	SS316, SS304
Power	3.7Kw, 3 Phase, 380 VAC, 60 Hz
Head	15Mh
Water Flow	0.6m³/min
Turbo blower	
Type	Turbo fan
Material	FRP(Fiber-reinforced plastic)
Power	5.5Kw, 3 Phase, 380 VAC, 60Hz
Head	200mmAq
Water Flow	60m³/min

vertical sump centrifugal pump are available on request. Horizontal mounted suction fans with vertical top discharge are standard with other configurations available.

Options

- Electrical Damper
- Local Control Panel
- Extra Caustic Soda Pumps
- Heaters

Installation

Neutralization installation room should be completely separated

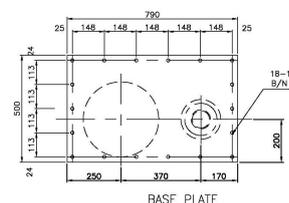
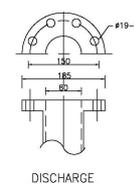
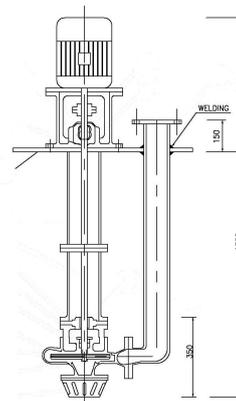
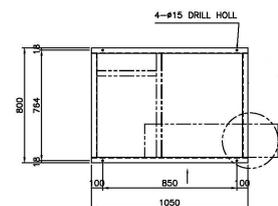
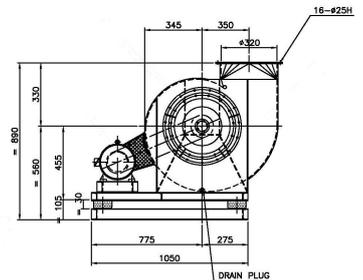
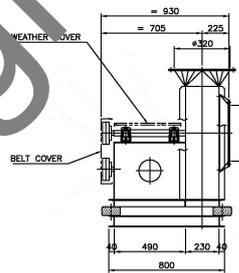
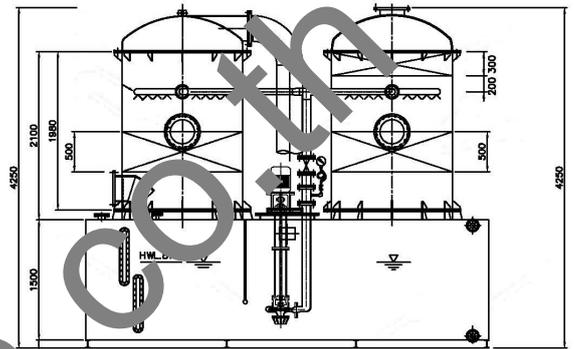
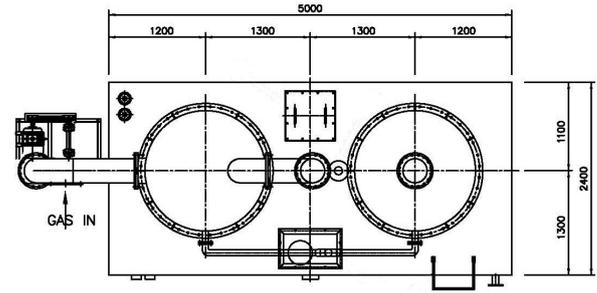
with chlorine container or injection room and it can also be applied room for preparation in case of emergency situation equipped safety facilities. Neutralization tank should be installed horizontally after installing basic pad, and should be easy to access for installation or maintenance.

Fan should be installed near the neutralization tank and should be strongly fixed on the floor. Induction pipe for induction of leaked chlorine gas is made of hard PVC and inlet should be installed lower part to consider induction of leaked gas so that you should decided numbers of hole or size of inlet. In case of laying induction pipe or installing pipe inside of trench, you should install pipe facility to prevent malfunction of induction pipe for the flooding of pipe.

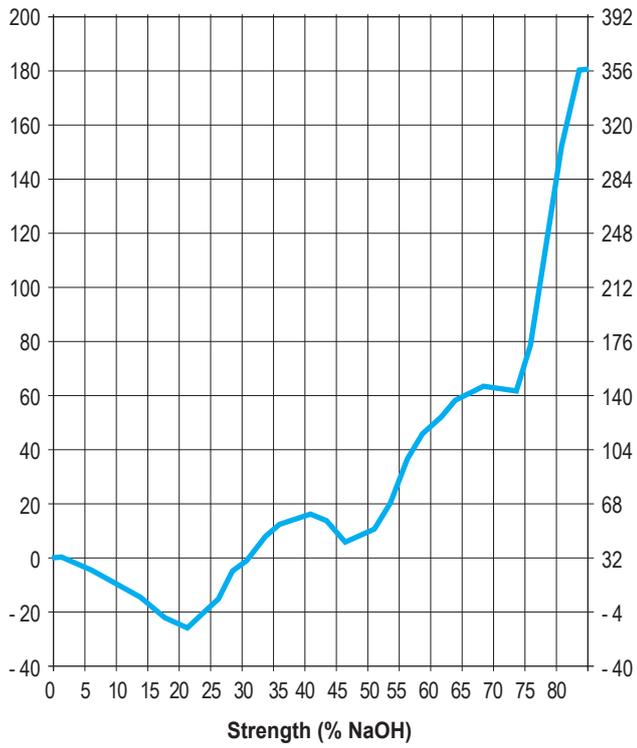
Operation

Neutralization systems are crucial in chlorination plants. In case of an emergency leak of chlorine within the drum room and/or equipment room, chlorine neutralization system is a must for safety insurance. AQUUS neutralization system consists of a packed column mounted above a caustic soda holding tank forming one integral unit together with a re-circulation caustic soda pump, a ventilation fan and a Cl2 leak detector. Under normal conditions, the neutralization system will be in a standby mode. The system will hold caustic soda of 20# concentration (NaOH), with a suitable capacity enough to neutralize the leaked chlorine contained in the largest container in the drums room. (I.e. if the drums are ton-containers, the system should be capable to neutralize one complete drum). When the system is activated, the caustic soda is pumped from the holding tank and sprayed over the top of the packed column. As the extracted air, contaminated with chlorine gas, is blown up through the column the caustic soda reacts with the chlorine to produce sodium hypochlorite and sodium chloride solution. The pump shall continue to recycle the caustic soda until the leak condition has stopped. Washing liquid (Caustic Soda) is sprayed and uniformly distributed by means of distributors or sprayers of solid cone, big passages, easily detachable for revision or change. Drops retention, caused by the spraying system, is made within the packed column itself by means of a vertical flow demister, of high efficiency and low loss of head. This device avoids the dragging and projection of drops into the atmosphere as well as losses of neutralizing solution. Re-circulation of caustic soda shall be done -preferably- by means of a vertical seal less centrifugal pump, in order to avoid the problems of damage of seal and damages that can happen when the pumped liquid has solids or is prone to crystallization. As an alternative, a horizontal pump with a double external flushed mechanical seal can be used. A mixer can be incorporated in the system if required depending on the surrounding temperatures. AQUUS is providing turnkey solutions including sizing, supply of the equipment and installation of the systems if required.

Dimensions



FREEZING POINT OF SODIUM HYDROXIDE
SOLUTION AT ATMOSPHERIC PRESSURE



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