

Chlorine emergency scrubbing unit



Fig. 1 Chlorine emergency Scrubbing unit DN 200

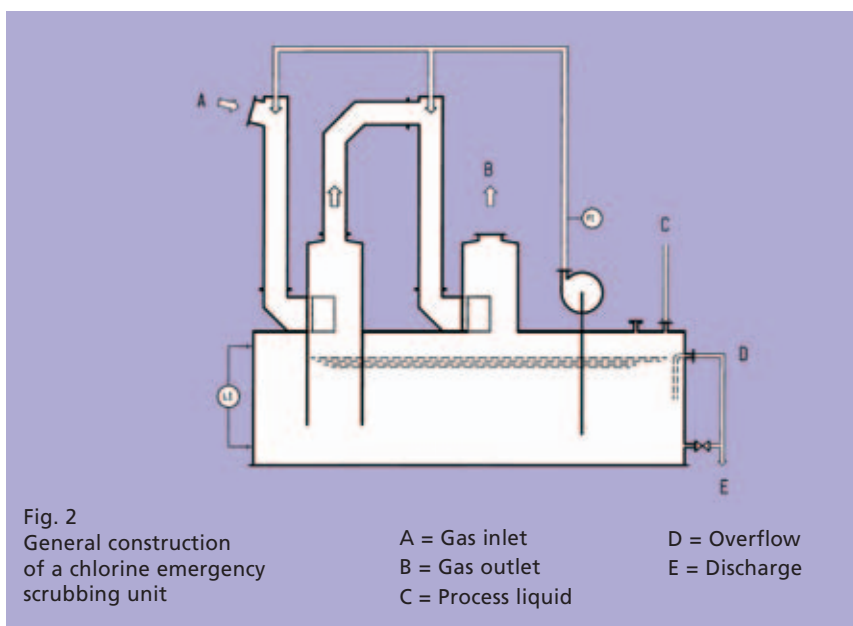


Fig. 2
General construction
of a chlorine emergency
scrubbing unit

A = Gas inlet
B = Gas outlet
C = Process liquid

D = Overflow
E = Discharge

General

GEA Wiegand has developed chlorine emergency scrubbing units for the prevention of accidents due to the escape of chlorine in the event of leakages from supply tanks or dosing plants. These function according to the principle of the jet gas scrubber. If there is an accident they are capable, without using a mechanical ventilator, of drawing off the surrounding air, binding the chlorine into the scrubbing liquid (normally caustic soda) and returning the cleaned air back into the environment. Individually suited to the size of the chlorine tank, the required quantity of scrubbing liquid is stored in the supply tank of the chlorine emergency scrubber and is readily available should an emergency arise. The used scrubbing liquid in which the chlorine is chemically bound can be disposed of once the problem has been overcome.

Design

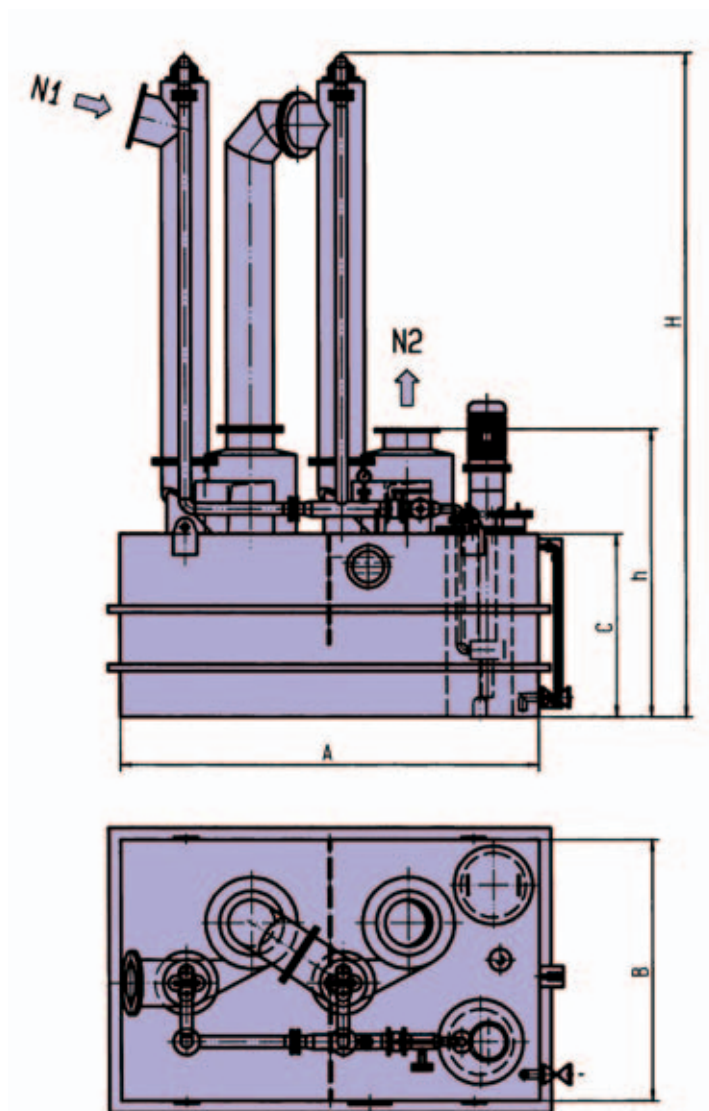
GEA Wiegand offers the chlorine emergency scrubbing unit in four standard sizes, however, the quantity of chlorine gas that has to be bound and the quantity of air that has to be conveyed determine the size of the plant. The scrubbing stage consists largely of polyethylene PE. In accordance with the media lists of the Institute for Building Technology in Berlin, PE is approved for the storage of caustic soda. It is recommended that the plant is erected in a collection tank. For dimensions and technical data, see table. For larger absorption capacities, GEA Wiegand can calculate solutions specially to suit your requirements.

Advantages

- o High operational safety and little maintenance needed
- o Immediately ready for operation on starting the circulation pump
- o Auto-suction of the gas flow and gas conveyance
- o No mechanical ventilator required
- o No fittings such as packing, droplet separator etc. which could become blocked
- o Immediate availability of the absorption medium
- o No problems with mechanical seals through use of a submersible pump
- o Compact construction

Numerous GEA Wiegand chlorine emergency scrubbing units are in operation in the chemical industry both at home and abroad. An increasing number of international and German water works are securing their chlorine tanks using GEA Wiegand chlorine emergency units.

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Material
Polyethylene (PE)

Accessories
Polypropylene (PP) bund

Fig. 3
Main dimensions for two-stage chlorine emergency scrubbing units in polyethylene

| Absorption capacity | Average suction flow | Nominal diameter | Available NaOH Volume | A | B | C | H | h |
|---------------------|----------------------|------------------|-----------------------|------|------|------|------|------|
| kg/Chlor | m ³ /hr | N1/N2 | m ³ | mm | mm | mm | mm | mm |
| 50 | 500 | 150 | 0.6 | 1300 | 1100 | 700 | 3400 | 1200 |
| 100 | 1000 | 200 | 1.0 | 2000 | 1100 | 800 | 3800 | 1250 |
| 250 | 1500 | 250 | 2.3 | 2400 | 1400 | 1000 | 4000 | 1600 |
| 500 | 2000 | 300 | 4.2 | 2600 | 1600 | 1200 | 4500 | 1950 |
| 1000 | 3000 | 350 | 7.7 | 3200 | 2000 | 1400 | 5000 | 2200 |

Larger plants on enquiry

Dimensions not binding

For all inquiries please use our questionnaire .