

Neutralisation unit

for decentralised treatment of waste-water



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FRIDURIT neutralisation unit

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Introduction

Safety and protection of the environment

- neutralisation of acid and alkaline waste-water on the spot
- helps meet legal environmental requirements
- high rate of neutralisation up to 200 l/h
- user level adjustment of neutralisation control to suit local requirements
- reliable and fully automatic
- injection of acid and alkaline directly, without hose, tube and pumps
- test run and 100% testing before delivery

User friendliness and convenience

- easy to install, compact and space-saving
- simple operation
- multilingual display
- hard-wearing film keyboard
- easy calibration of pH-probe
- safe and easy filling of integrated chemical tanks
- service-friendly construction
- delivered ready for use, thus easy to install
- connection to fume scrubbers and cup sinks possible
- optional: error message signal to facility management
- extensive accessories

Experience and competence

- supplier of fume scrubbers and neutraliser units for many years
- many diverse projects supplied
- service organisation in Germany and abroad for many years
- quick and reliable delivery of spare parts
- certified according to ISO 9001 and ISO 14001
- EMC tested

Our technical specifications are based on the current DIN, EN and ISO norms.



Figure 2
FRIDURIT neutralisation unit and fume scrubber

Technical data

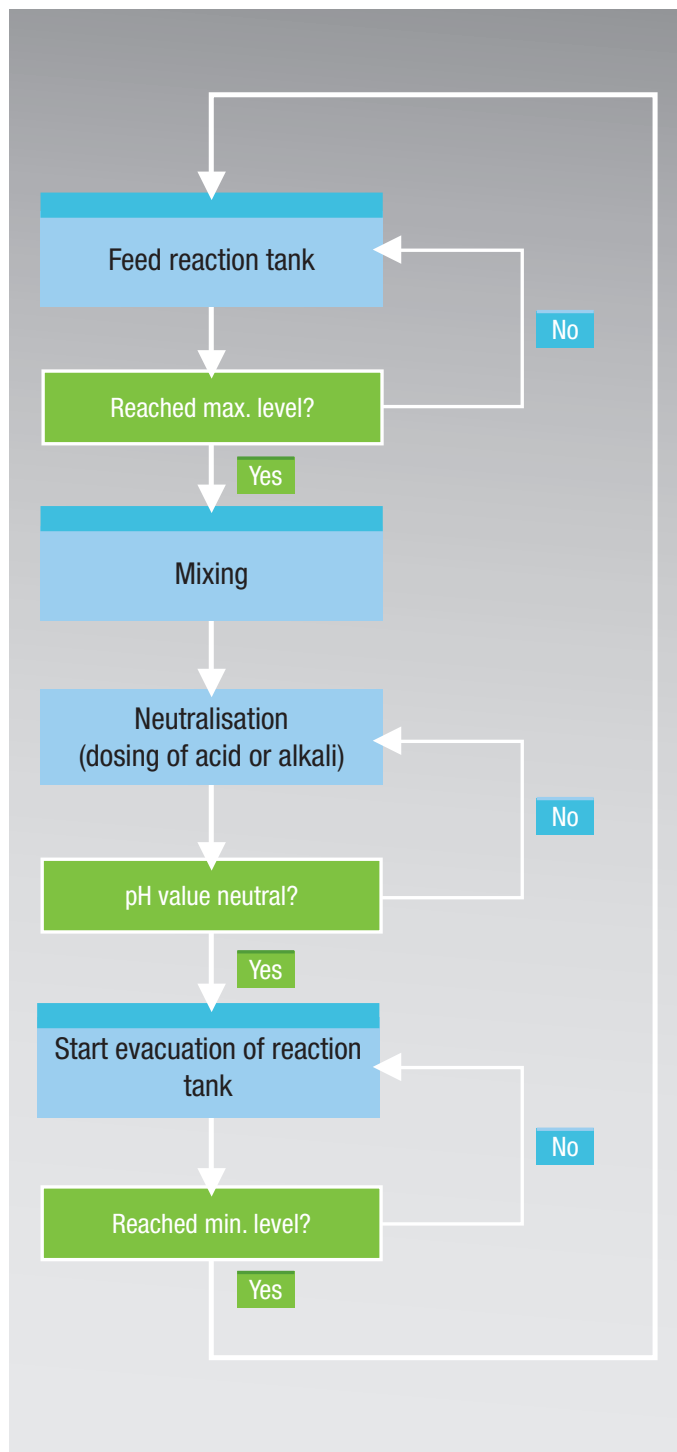


Figure 3
Mode of operation

The material

The FRIDURIT neutralisation unit is made from finished polypropylene (PP). PP has several advantages:

- it remains rigid and has a high and predictable firmness
- it is very resistant to chemical attack
- it is durable and resistant to ageing

The system

The FRIDURIT neutralisation unit C100 with its electronic controller and specially designed mixer/pump unit is fully automatic, self regulating and quickly and reliably neutralises acidic and alkaline effluent. It is compact, easy to assemble and service and extremely robust.

The FRIDURIT neutralisation unit C100 has been specially designed to be fitted to laboratory fume cupboards and bench tops, but it can also be used as a free-standing unit for automatic neutralisation of both acid and alkaline waste water. The unit neutralises this waste water on the spot and is thus a great help in reducing environmental pollution. The FRIDURIT neutralisation unit C100 meets the most recent environmental requirements.

How it works

The acid and alkaline waste water formed in the laboratory is collected in the mixing tank of the FRIDURIT neutralisation unit C100. When the maximum level is reached (approx. 90 litres), the neutralisation process is started and the unit operates as depicted in Figure 3.

Instrumentation / Control

The pH-value of the acid and alkaline waste water is established by a measuring electrode and shown on a display. Acid or alkaline is dispensed proportionally to the pH-value measured.

Equipment supplied

The FRIDURIT neutralisation unit is supplied ready for use after connection to the electrical supply and plumbing.

Sanitary connections

- 1 inlet
- 2 overflow
- 3 evacuation



Figure 4
Sanitary connections

Accessories

Storage tank

Sintered tank made of polyethylene (PE-HD), working volume approx. 300, 500, 1,000 or 2,000 litres, complete with piping connections, each with electronic alarm signal for maximum filling level, optical and acoustic alarm signals.

	V300	V500	V1000	V2000
Dimensions (mm):				
D	675	885	1100	1310
H	1300	1400	2020	2220
hst	1090	1180	1780	2050
approx. dead weight (kg):	28	40	90	110

Figure 5
Table: Technical data storage tank

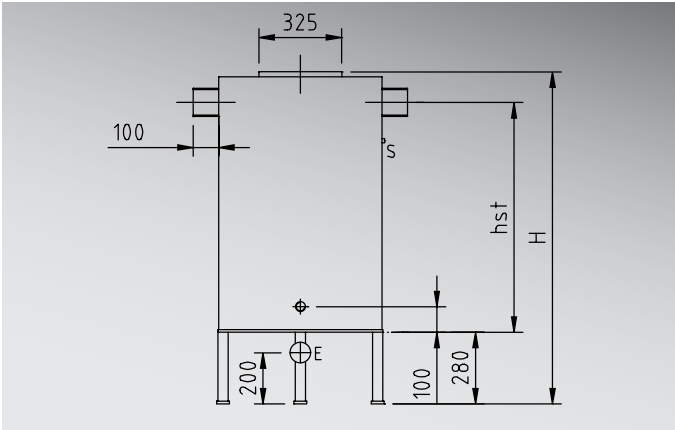


Figure 6
Front view storage tank

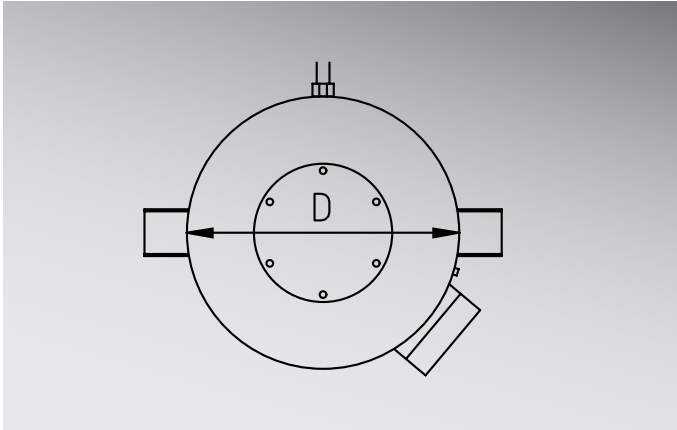


Figure 7
Top view storage tank

Technical data at a glance

FRIDURIT Neutralisation unit C100		
General:	neutralises acid and alkaline laboratory effluent	
Placement:	to be fitted in laboratory fume cupboards, under tables or as free-standing unit	
Materials used Parts in contact with media:	casing polypropylene, polyvinylchloride (PVC) and ethylene-propylene-caoutchouc (EPDM)	
Performance:	Maximum 200 l/h (depending on the level of contamination of the waste water)	
Capacity:		
Mixing tank:	approx. 90 l	
Acid tank:	approx. 25 l	
Alkali tank:	approx. 25 l	
Electrical data:		
Operating voltage:	three phase current 400 V, 50 Hz, max. performance 0.55 kWh	
Weights and dimensions:		
Width:	850 mm	
Depth:	570 mm	
Height:	620 mm (height required = 640 mm)	
Dead weight:	55 kg	
Connections:		
Inlet size / inlet height:	G 1 ½" interior thread / 180 mm	
Outlet size / outlet height:	Hose connector AvDia 15 / 440 mm	
Overflow / overflow height:	G 1 ½" interior thread / 250 mm	
Ventilation / ventilation height:	G ¾" interior thread / 340 mm	
Optional accessories:	feed installation set AvDia 40, sedimentation tank, storage tank, lifting pump, pen- or paperless re-corder for documentation of the neutralisation process	

Drawings

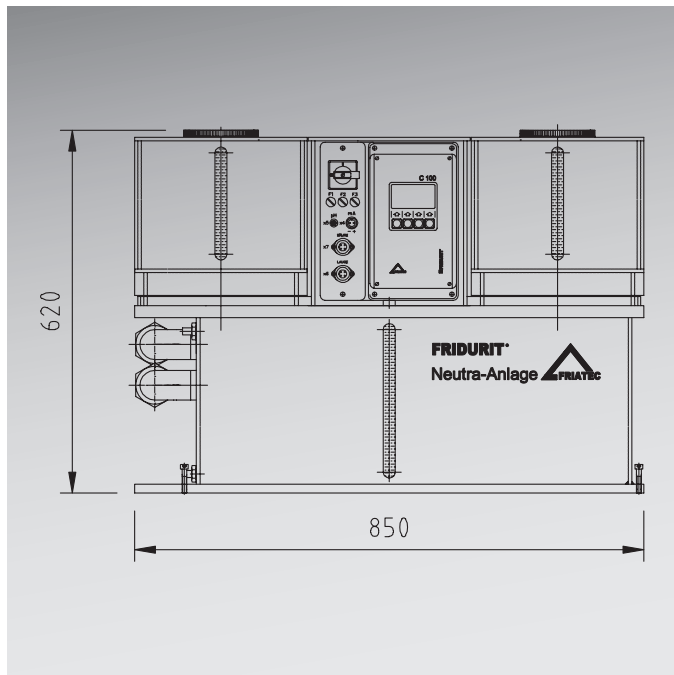


Figure 8
Front view

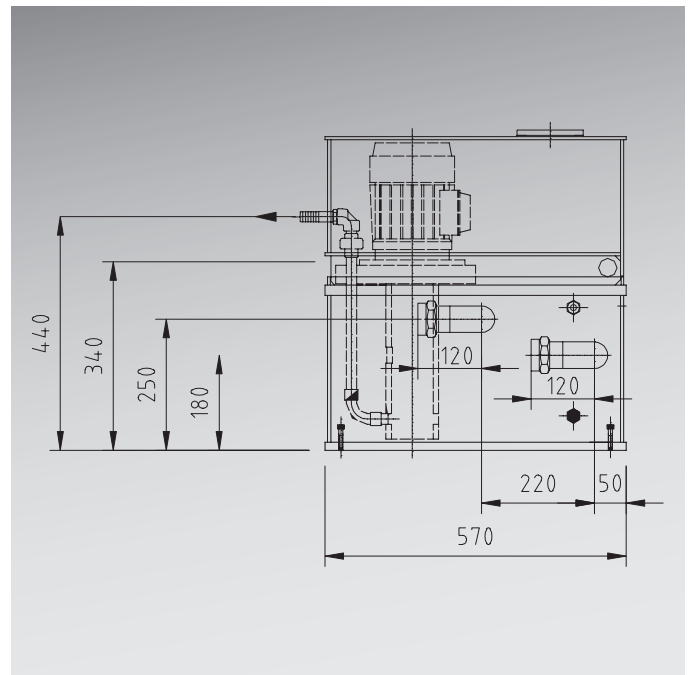


Figure 9
Side view

Quality assurance

Every FRIDURIT neutralisation unit C100 is set for optimum performance before it leaves our plant. This is ensured by a test run and by checking electrical and control functions.

Declaration of conformity

We, FRIATEC Aktiengesellschaft, FRIDURIT Labortechnik, Steinzeugstraße 50, 68229 Mannheim, Germany, declare under our sole responsibility that the product FRIDURIT neutralisation unit to which this declaration relates is in conformity with the directive 2006/42/EG.

CE-Conformity

Applicable standards:

- DIN EN 61000-6-1:2007-10
Generic emission standard
- DIN EN 61000-6-3:2007-09
Generic immunity standard
- DIN EN 60204-1:2007-06
Safety of machinery - Electrical equipment of machines - Part 1: General requirements

Mannheim, June 2013


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