



TECHNOSTAR

Product information

Flow-trough chlorine electrolysis system

Flow-electrolytic chlorination for swimming pools

As part of water treatment, the need to disinfect swimming and bathing pool water is beyond question and is required by DIN 19643. With the TECHNOSTAR, the operator of a public swimming pool has a high-quality and innovative method of disinfection using electrolysis..

The TECHNOSTAR disinfects the pool water without the use and storage of the hazardous substances chlorine gas and chlorine bleach. The chlorine required for disinfection is obtained on site from ordinary NaCl salt in the pool water - completely safe and with a pleasant side effect: salty water.

Salt water has a revitalising effect and is both skin-friendly and relaxing. It promises a quality of life that you can enjoy every day with the flow-through chlorine electrolysis systems from Lutz-Jesco.

Versatile and environmentally-friendly

The process of flow-through chlorine electrolysis systems requires saline bathing pool water with a salt content of at least 0.35 %. This corresponds to 3.5 g per litre or 3.5 kg per m³ of pool water. In comparison: Sea water almost has an average ten times higher salt content of ~3.6 %. In addition to producing the disinfectant 'hypochlorous acid' (HClO), the system breaks down other chemical compounds in the water. This significantly reduces the contamination of the swimming pool water. A programmable logic controller in the control unit monitors and controls the electrolysis process in the electrolysis cells.

The TECHNOSTAR is operated via any measurement and control technology according to the constantly measured water values (chlorine, pH, redox, temperature) in the pool water and controlled via an analogue current output (4 - 20 mA). When the setpoint value for free chlorine in the water is reached, the system and thus the production of hypochlorous acid is stopped. An external release, a temperature and a flow monitor provide additional safety features.

safety is our concern

Technical data

Functions

- Pool water disinfection without hazardous substances
- Salt as an operating agent, no use of chlorine chemicals
- Economical, environmentally friendly and safe
- Tried and tested, proven many times over
- Conforms to DIN 19643
- No chlorine gas room and its safety requirements
- Simple installation
- Control via measurement and control technology
- Simple operation via graphic display
- Low maintenance, self-cleaning function
- High-quality electrode material (titanium)
- No reddened eyes, no irritation of the mucosa
- Disinfectant capacity externally and locally controllable

Safe and reliable

The system consists of a control unit and one or more electrolysis cells, which are installed directly in the water circuit of the swimming pool. It can be used in any swimming pool whose components are corrosion-resistant and therefore designed for use with salty water. Algae, germs and bacteria are a thing of the past. Flow-through chlorine electrolysis systems are easy to handle and reliable in their operation. The control unit's current output, which can be infinitely adjusted from 0 to 100 %, allows the disinfection performance to be adapted to changing loads in the pool water.

The maintenance effort is extremely low. The time interval for the self-cleaning function of the electrolytic cell can be adapted to the composition of the water. The electrolytic cell is a wearing part with a service life of 1 to 3 years. The systems are available in the capacity range from 30 to 500 g Cl/h. The electrolytic cell can be replaced on site in just a few simple steps.

TECHNOSTAR control cabinet		2000 ST-30	2000 ST-80	2000 ST-120	2000 ST-160	2000 AT-250	2000 AT-2x250
Power supply		230 V AC, 50/60 Hz					400 V AC 50 Hz
Power supply fuse	A	1 x 16					3 x 16
Supply current	A	~0.8	1.5	2.0	2.4	5.8	2 x 5.8
Control signal		0 – 10 V 4 – 20 mA	4 – 20 mA				2 x 4 – 20 mA
Max. output voltage	V DC	30	28				
Max. output current	A	4	12	16	20	40	2 x 40
Protection class		IP54					
Ambient temperature	°C	10 – 35					
Dimensions (H x W x D)	mm	380 x 600 x 210	825 x 630 x 250				1200 x 1200 x 400
Weight	kg	20.5	60				100

Electrolysis cell for TECHNOSTAR		2000 ST-30	2000 ST-80	2000 ST-120	2000 ST-160	2000 AT-250	2000 AT-2x250	
Disinfectant capacity		g Cl/h	1 x 30	2 x 40	3 x 40	4 x 40	1 x 250	2 x 250
Temperature in the electrolytic cell		°C	10 – 35					
Material	Housing		PVC-U					
	Electrolytic plates		Coated titanium					
Required salt content*		%	0.4 – 1	0.35 – 1				
Flow speed		m/s	max. 1.5					
Connection of pipework			Union nut DN50 / Ø63 mm			Union nut or flange DN100 / Ø110mm		
Suction connection			4 m, 2 x 4 mm²	2 m, 2 x 4 mm²		5 m, 4 x 10 mm²		
Connection type			Gold contact plug	Ring cable lug				
Dimensions (length)		mm	335			555		
Weight		kg	~2			~6		

* Other salt contents may be possible following consultation and approval.

Irrespective of the natural salt content of the chlorides in the water for swimming and wading pools, a minimum of 1.7 kg of salt (sodium chloride) must be added to the water used for the "in situ" production of the biocidal active agent "hypochlorous acid" for every kg of chlorine to be produced as a precursor. In accordance with the biocide ordinance, as of 01.09.2015, the member states of the European Union may only use precursor for biocidal active agents produced "in situ" and which are used as disinfectants. These precursors must satisfy the quality requirements made of these substances by DIN EN and be sourced from a manufacturer or supplier

which is listed in accordance with article 95 of the biocide ordinance. Please ask your salt supplier to confirm conformity with the biocide ordinance (certificate). The quantity of sodium chloride (NaCl) added, in accordance with the biocide ordinance is calculated from the actual chlorine production, which can be determined either via the measuring and control technology (free chlorine; Y value) or via the service life of the electrodes, or via an ampere-hour counter of the system. The salt can be added to the bathing water well in advance.
Biocidal active agent:

Technical data

active chlorine generated from sodium chloride by electrolysis: EC no. mix;
CAS no. not applicable

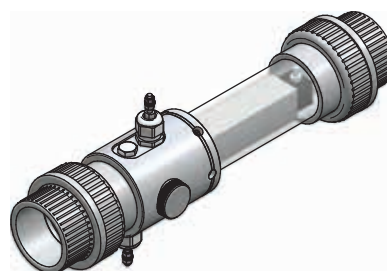
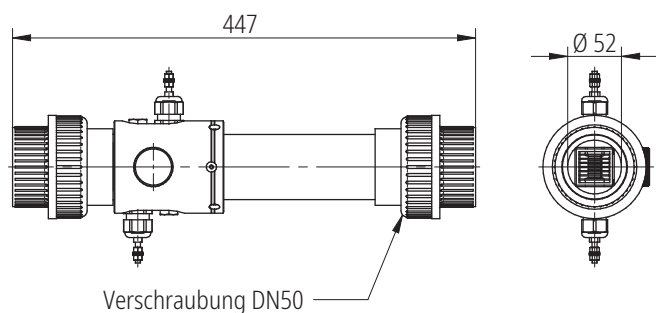
Precursors:

Sodium chlorite:

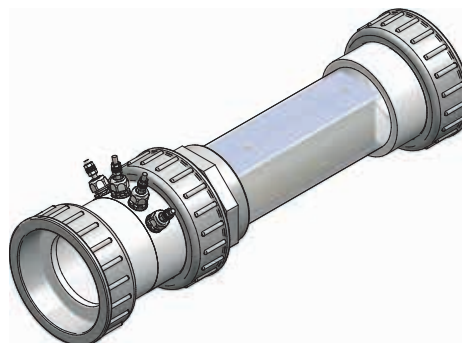
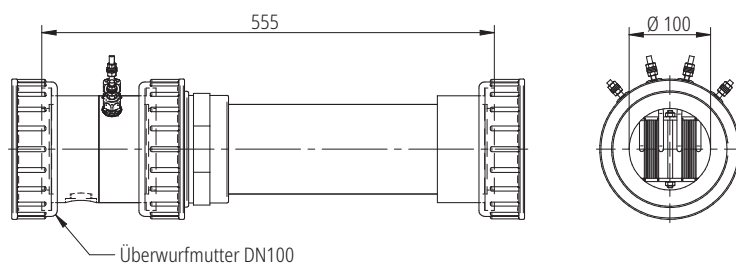
EC no. 231-598-3;
CAS no. 7647-15-5;
Special salt for electrolytic cells
DIN EN 16401 and 14805

Dimensions

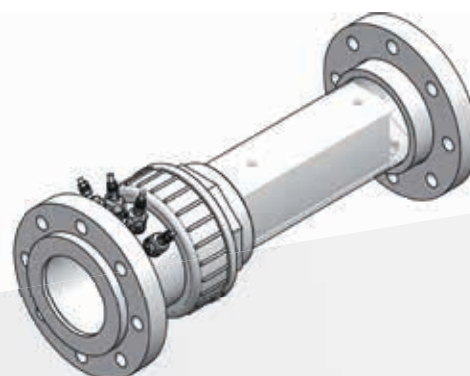
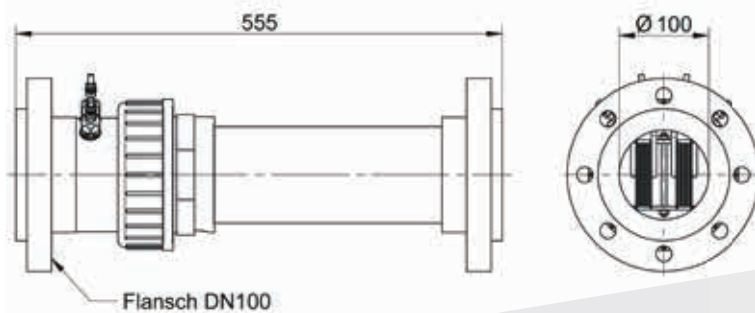
TECHNOSTAR 2000 ST flow-through chlorine electrolysis cell
All dimensions in mm



TECHNOSTAR 2000 AT flow-through chlorine electrolysis cell
All dimensions in mm

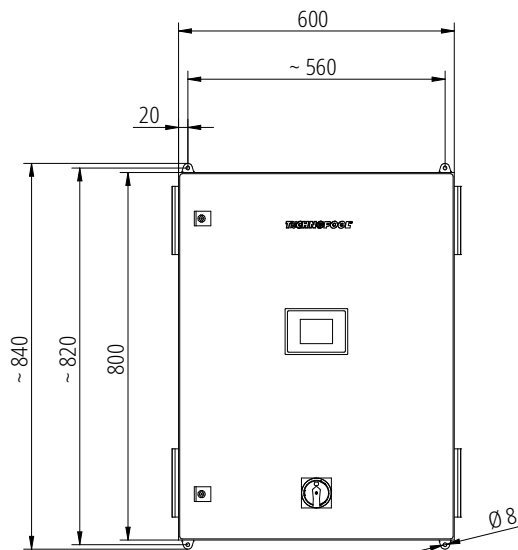


TECHNOSTAR 2000 AT flow-through chlorine electrolysis cell with flange
All dimensions in mm

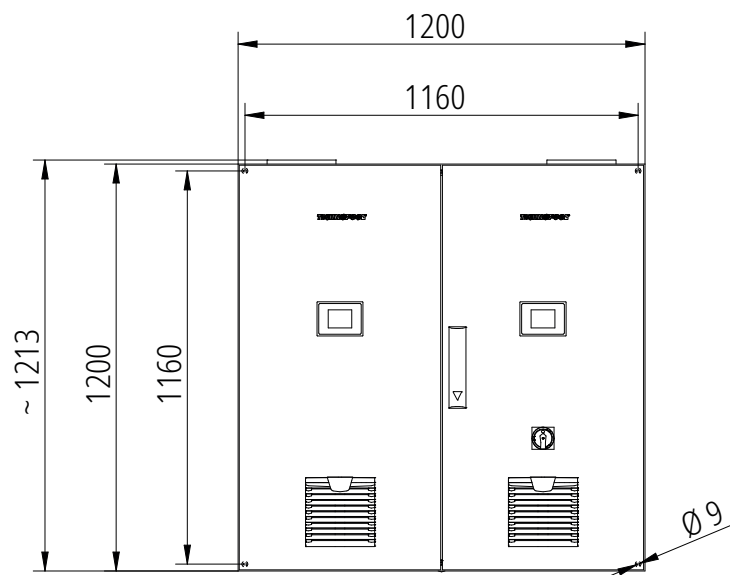


Dimensions

Control cabinet TECHNOSTAR AT/AX-250
All dimensions in mm



Control cabinet TECHNOSTAR AT/AX-2x250
All dimensions in mm



TECHNOSTAR standard accessories

- Flow control
- Temperature monitoring