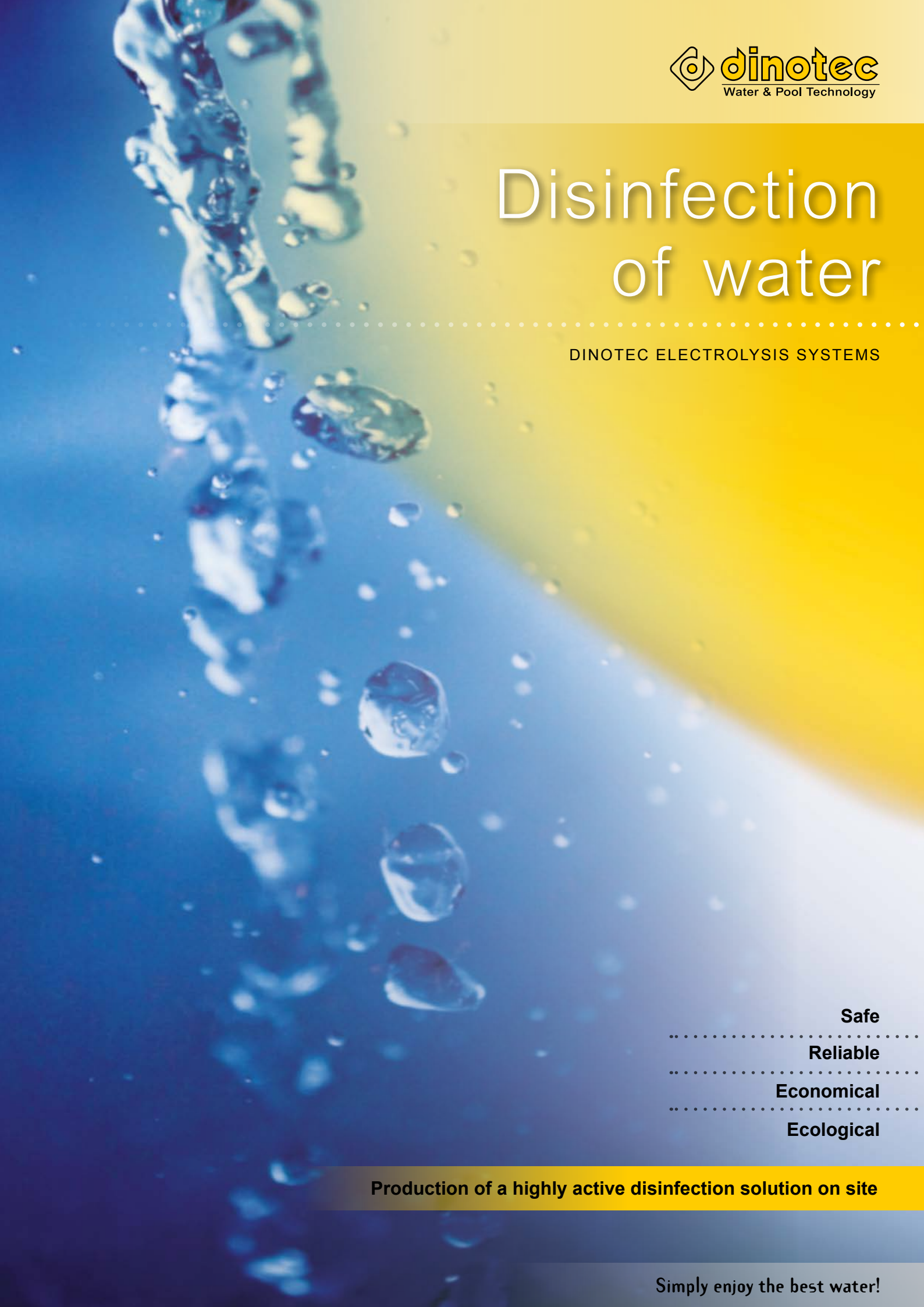

dinotec
Water & Pool Technology

Disinfection of water

DINOTEC ELECTROLYSIS SYSTEMS

Safe

Reliable

Economical

Ecological

Production of a highly active disinfection solution on site

Simply enjoy the best water!

Limassol
Cyprus

Drinking water treatment,
VoDes 10000,
total 20 kg Cl_2/h

Holiday region, town with about 160,000 inhabitants

Simply brilliant...

dinotec electrolysis systems use salt, water and electricity for an on-site production of fresh, highly active chlorine used for an effective disinfection of water.

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Continuous operation with 3-fold safety

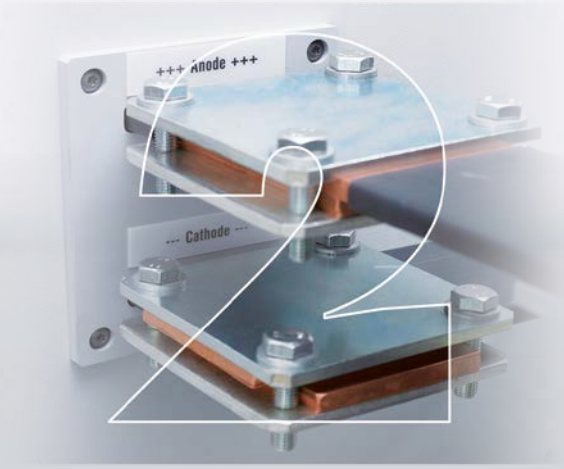
Absolutely reliable

Fresh, ultrapure, highly active - these are the properties of chlorine produced with dinotec electrolysis systems:

Fresh = Production on site, no age-related loss of effectiveness

Ultrapure = Without impurities and supplemental additives

Highly active = High efficiency, high stability, high disinfection effect. This is referred to, amongst others, as multi-disinfection effect of the produced oxidants, which support the disinfection process in a positive way.



Safe operation

dinotec electrolysis systems are used worldwide, even under extreme conditions. A reliable, continuous operation of the systems is a basic requirement, especially in remote areas. Sit back and relax. dinotec guarantees a reliable operation of its systems and offers various warranty packages up to a lifetime warranty (15 years*).

Safe for the environment

No risks for nature and for operating rooms

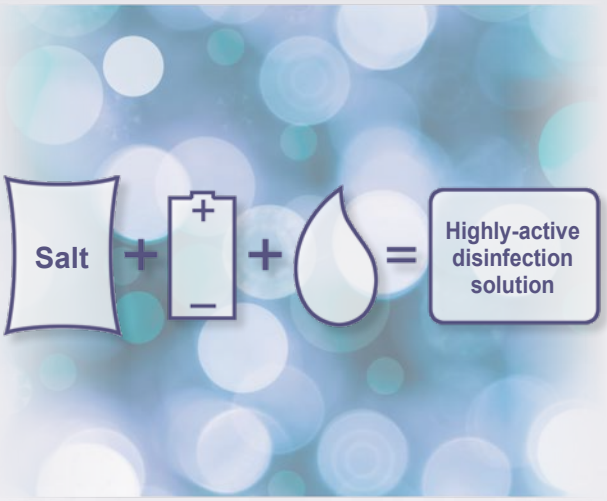
No special security measures required

Operating hazards, such as with chlorine gas systems, do not exist

No transport of hazardous materials/chemicals

No regular handling of chemicals on site

* According to dinotec terms of guarantee

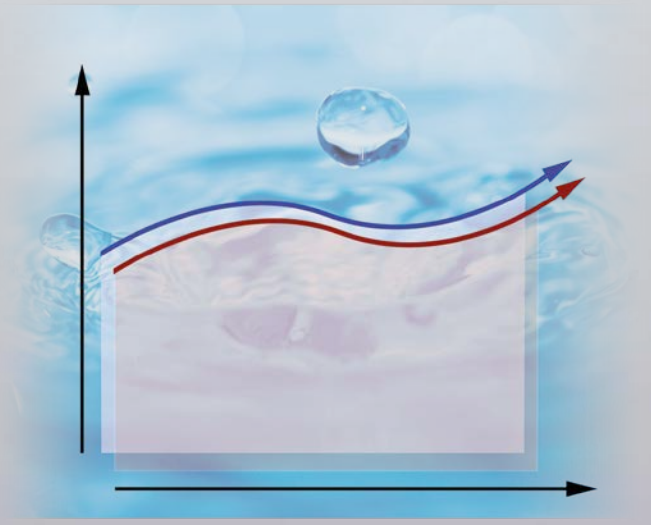


Simple and straightforward

- No special storage facilities required
- Reduces operating costs

Common salt: an ecological means of production

- Low energy input for the production (hardly any contribution to greenhouse effect)
- Use of powder salt possible
- EU Biocidal Product Regulation: Via Chemoform AG, dinotec has been listed on ECHA's Article 95 list under "Active chlorine generated from sodium chloride by electrolysis" for product types 1-5.



Demand-based, highly effective disinfection

- Production of the disinfection solution on site
- Safe
- Cost-cutting, since demand-driven
- Highly effective

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Top safety due to remote maintenance via dinoRemote

- Increased operational safety with dinotec remote monitoring
- Protection of your investment

Dangers excluded

- No transport of hazardous materials
- No special safety equipment needed

Low storage and transport costs

- Easy handling
- Low storage area requirements
- Reduced handling and logistics costs
- No hazardous materials
- Low acquisition price

Overview of dinotec systems

VoDes BlueWave

Undivided cell electrolysis systems 150 / 200 / 300 g Cl_2/h

- Particularly robust
- Reliable operation, even under extreme conditions
- Easy to install (comparable to a washing machine)
- Low space requirements
- Peak demand periods are covered by a product storage tank
- Easy operation
- Easy maintenance by trained personnel
- Economically priced entry-level electrolysis technology
- Use of powder salt possible
- Integrated control engineering Extension to full measurement, control and dosing metering system possible
- Interface Modbus/RS 485
- 3-year warranty*

Examples of use

- Drinking water disinfection up to approx. 90 m^3/h
- Drinking water disinfection in domestic installations
- Swimming pool water disinfection (private, hotels, fitness centers, etc.)

* According to dinotec terms of guarantee

VoDes

Undivided cell electrolysis systems 500 - 20,000 g Cl_2/h

- Particularly robust
- Reliable operation, even under extreme conditions
- Peak demand periods are covered by a product storage tank
- Easy operation
- Maintenance by factory service staff / contractors
- Top value for money
- Remote maintenance via dinoRemote
- Use of powder salt possible

Examples of use

- Drinking water disinfection for water supply companies
- Drinking water disinfection in domestic installations
- Swimming pool water disinfection (communal pools, water parks etc.)
- Food / beverage industry

dinotec
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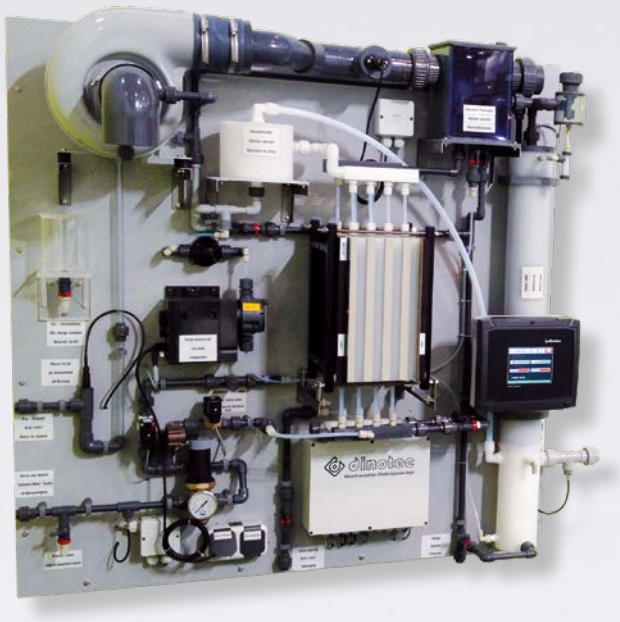


VoDes Sea

Undivided cell electrolysis systems 500 - 10,000 g Cl_2/h

- Use of natural brine for electrolysis
- Use of freely available resources (e.g. sea salt)
- Low costs of operating resources
- Peak demand periods are covered by a product storage tank
- Particularly robust
- Reliable operation, even under extreme conditions
- Easy operation
- Maintenance by factory service staff / contractors
- Top value for money
- Remote maintenance via dinoRemote

Examples of use

- Drinking water disinfection for water supply companies
- Swimming pool water disinfection (communal pools, water parks etc.)

MZE

Divided cell electrolysis systems 250 - 5,000 g Cl_2/h

- High efficiency
- Low operating costs (electricity, water, salt)
- No carryover of salt
- Robust process technology
- Peak demand periods are covered by a product storage tank
- Maintenance by factory service staff / contractors
- Remote maintenance via dinoRemote
- Reduced energy costs due to Marathon technology
- 5-year guarantee*

Examples of use

- Drinking water disinfection for water supply companies
- Swimming pool water disinfection (hotels, communal pools, water parks, etc.; particularly suitable for stainless steel pools)
- Food / beverage industry

Technical data

VoDes BlueWave

(Undivided-cell electrolysis)

	VoDes BlueWave 30	VoDes BlueWave 60	VoDes BlueWave 90	VoDes BlueWave 150	VoDes BlueWave 200	VoDes BlueWave 300
Chlorine production up to Cl_2/h	30	60	90	150	200	300
ø | max. daily output Cl_2/day, approx.	660 | 720	1320 | 1440	1980 | 2160	3300 | 3600	4400 | 4800	6600 | 7200
Chlorine concentration Cl_2/l, approx.	6-7	6-7	6-7	6-7	6-7	6-7
Water consumption l/h, approx.	8	11	18	29	37	48
Salt consumption g/h, approx.	108	216	324	540	720	1080
Energy demand kWh operation	0.135	0.27	0.405	0.7	0.9	1.35
Flow monitoring	yes	yes	yes	yes	yes	yes
Monitoring of backflow in hydrogen line	yes	yes	yes	yes	yes	yes
Refill control in softener	yes	yes	yes	yes	yes	yes
Operation mode	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone
Softening plant	integrated	integrated	integrated	integrated	integrated	integrated
Product tank	yes	yes	yes	yes	yes	yes
Required space (approx.)	h x w x d (mm) 1212 x 772 x 195	h x w x d (mm) 1212 x 772 x 195	h x w x d (mm) 1212 x 772 x 195	h x w x d (mm) 1212 x 772 x 195	h x w x d (mm) 1212 x 772 x 195	h x w x d (mm) 1212 x 772 x 195
Min./max. room temperature	10 °C - 40 °C	10 °C - 40 °C	10 °C - 40 °C	10 °C - 40 °C	10 °C - 40 °C	10 °C - 40 °C
Ventilation of installation room	yes	yes	yes	yes	yes	yes
Process water inlet temperature	max. 25 °C	max. 25 °C	max. 25 °C	max. 25 °C	max. 25 °C	max. 25 °C
Closed hydrogen discharge to the outside	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising
Special measures for storage	none	none	none	none	none	none
Handling of hazardous materials	no	no	no	no	no	no
Separate technical room	no	no	no	no	no	no
Recommendations for use						
Pool water disinfection private, approx.	up to 40 m³	40 m³ - 200 m³	60 m³ - 300 m³	up to approx. 500 m³	up to approx. 670 m³	up to approx. 900 m³
Pool water disinfection public, approx.	up to 40 m³	40 m³ - 100 m³	40 m³ - 200 m³	up to approx. 250 m³	up to approx. 330 m³	up to approx. 450 m³
Drinking water supply municipal, communal (TVO, § 11 UBA)	yes	yes	yes	yes	yes	yes
Drinking water supply on ships or the like (TVO, § 11 UBA)	yes	yes	yes	yes	yes	yes
Water treatment: beverage industry	yes	yes	yes	yes	yes	yes
Water treatment: circulation water	yes	yes	yes	yes	yes	yes
Water treatment: waste water	yes	yes	yes	yes	yes	yes
Water treatment: aquaria, fish farming	yes	yes	yes	yes	yes	yes
Water treatment: livestock breeding sector	yes	yes	yes	yes	yes	yes
Water treatment: nuclear power plants	no	no	no	no	no	no
Water treatment: others	yes	yes	yes	yes	yes	yes

Other system sizes on request.

dinotec
Water & Pool Technology

VoDes

(Undivided-cell electrolysis)

		VoDes 1000	VoDes 2000	VoDes 3000	VoDes 4000	VoDes 5000	VoDes 6000	VoDes 7000	VoDes 8000	VoDes 10000	VoDes 15000	VoDes 20000
Capacity	g Cl_2/h	approx. 1000	approx. 2000	approx. 3000	approx. 4000	approx. 5000	approx. 6000	approx. 7000	approx. 8000	approx. 10000	approx. 15000	approx. 20000
Effective output [1]	kg Cl_2/d	approx. 24	approx. 48	approx. 72	approx. 96	approx. 120	approx. 144	approx. 168	approx. 192	approx. 240	approx. 360	approx. 480
Energy demand	kWh	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	50.0	75.0	100.0
Consumption of fresh water [2]		approx. 170 l/h	approx. 340 l/h	approx. 500 l/h	approx. 670 l/h	approx. 850 l/h	approx. 1000 l/h	approx. 1200 l/h	approx. 1350 l/h	approx. 1700 l/h	approx. 2500 l/h	approx. 3400 l/h
Consumption of fresh water for cooling		No	no	no	no	no	no	no	no	no	no	no
Required operating pressure of fresh water		3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar
Process water inlet temperature		max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C
Operating resource dinosolit salt tablets or equivalent		recommended	recommended	recommended	recommended	recommended	recommended	recommended	recommended	recommended	recommended	recommended
Consumption of (tablet) salt per operating hour		approx. 4.2 kg/h of NaCl	approx. 8.4 kg/h of NaCl	approx. 12.6 kg/h of NaCl	approx. 16.8 kg/h of NaCl	approx. 21.0 kg/h of NaCl	approx. 25.2 kg/h of NaCl	approx. 29.4 kg/h of NaCl	approx. 33.6 kg/h of NaCl	approx. 42.2 kg/h of NaCl	approx. 63.0 kg/h of NaCl	approx. 84.0 kg/h of NaCl
Hydrogen discharge to the outside		yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising
Supply air port for installation room		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Concentration of hypochlorite solution		approx. 6-7 g/l NaOCl	approx. 6-7 g/l NaOCl	approx. 6-7 g/l NaOCl	approx. 6-7 g/l NaOCl	approx. 6-7 g/l NaOCl	approx. 6-7 g/l NaOCl	approx. 6-7 g/l NaOCl	approx. 6-7 g/l NaOCl	approx. 6-7 g/l NaOCl	approx. 6-7 g/l NaOCl	approx. 6-7 g/l NaOCl
Mains connection		400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz
Connected load		9 kVA	17 kVA	26 kVA	32 kVA	39 kVA	45 kVA	51 kVA	58 kVA	75 kVA	118 kVA	147 kVA
Dimensions w x h x d (electrolyser unit) mm		1600 x 2200 x 700	1600 x 2200 x 700	1600 x 2200 x 700	1600 x 2200 x 700	1600 x 2200 x 700	1600 x 2200 x 700	1700 x 2200 x 700	2000 x 2200 x 700	2200 x 2200 x 700	2000 x 2200 x 1000	2200 x 2200 x 1000
Dimensions l x w x h (control cabinet) mm		600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	800 x 2000 x 800	1400 x 2200 x 800	1400 x 2200 x 800	1400 x 2200 x 800	1400 x 2200 x 800	1400 x 2200 x 800	1400 x 2200 x 800	1400 x 2200 x 800
Min./max. room temperature		+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C
Operation mode		stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone
Networking with the dinotecNet+ control		optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional
Softening plant with hardness sensor		integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated
Frame of the electrolysis system coated in stainless steel		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Air flow sensor		integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated
Level control brine and product tank		integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated
Remote monitoring		optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional

1 = The actual output can deviate from the effective rated output by +/- 5%.
[2] = Fresh water quality according to prevailing drinking water regulations.

Other system sizes on request.

Ruanda
Drinking water treatment

VoDes 5000 and 1500, total 29 kg Cl_2/h

ⓘ Drinking water for about 4 million residents

VoDes UD Twin

(Undivided-cell electrolysis)

		VoDes UD 2000 Twin	VoDes UD 4000 Twin	VoDes UD 6000 Twin	VoDes UD 8000 Twin	VoDes UD 10000 Twin	VoDes UD 12000 Twin	VoDes UD 15000 Twin	VoDes UD 20000 Twin
Capacity	g Cl_2/h	approx. 2000	approx. 4000	approx. 6000	approx. 8000	approx. 10000	approx. 12000	approx. 15000	approx. 20000
Effective output [1]	kg Cl_2/d	approx. 44	approx. 88	approx. 132	approx. 176	approx. 220	approx. 264	approx. 330	approx. 440
Energy demand	kWh	10.0	20.0	30.0	40.0	50.0	60.0	75.0	100.0
Fresh water consumption [2]		no	approx. 340 l/hno		no	no	no	no	no
Consumption of fresh water for cooling		No	no	no	no	no	no	no	no
Required operating pressure of seawater		3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar
Process water inlet temperature		max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C
Resources		Seawater, natural brine or the like	Seawater, natural brine or the like	Seawater, natural brine or the like	Seawater, natural brine or the like	Seawater, natural brine or the like	Seawater, natural brine or the like	Seawater, natural brine or the like	Seawater, natural brine or the like
Consumption of (tablet) salt per operating hour [3]		no	no	no	no	no	no	no	no
Sample water flow		approx. 350 l/h	approx. 500 l/h	approx. 700 l/h	approx. 840 l/h	approx. 1050 l/h	approx. 1400 l/h	approx. 1750 l/h	approx. 2100 l/h
Hydrogen discharge to the outside		yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising
Supply air port for installation room		yes	yes	yes	yes	yes	yes	yes	yes
Concentration of hypochlorite solution		approx. 1.5 g/l NaOCl	approx. 1.5 g/l NaOCl	approx. 1.5 g/l NaOCl	approx. 1.5 g/l NaOCl	approx. 1.5 g/l NaOCl	approx. 1.5 g/l NaOCl	approx. 1.5 g/l NaOCl	approx. 1.5 g/l NaOCl
Mains connection		400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz
Connected load		6 kVA	7 kVA	9 kVA	11 kVA	13 kVA	17 kVA	21 kVA	26 kVA
Dimensions w x h x d (electrolyser unit) mm		1310 x 2200 x 700	1310 x 2200 x 700	1310 x 2200 x 700	1310 x 2200 x 700	1310 x 2200 x 700	1700 x 2200 x 700	1700 x 2200 x 700	1700 x 2200 x 700
Dimensions l x w x h (control cabinet) mm		600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	1200 x 2200 x 800	1200 x 2200 x 800
Min./max. room temperature		+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C
Operation mode		stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone
Softening plant with hardness sensor		not required	not required	not required	not required	not required	not required	not required	not required
Frame of the electrolysis system coated in stainless steel		yes	yes	yes	yes	yes	yes	yes	yes
Air flow sensor		integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated
Level control brine and product tank		integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated
Automatic acid flushing of cell		integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated
Remote monitoring		optional	optional	optional	optional	optional	optional	optional	optional

Other system sizes on request.

		VoDes 4000 Sea	VoDes 5000 Sea	VoDes 6000 Sea	VoDes 8000 Sea	VoDes 10000 Sea
Capacity	g Cl_2/h	approx. 4000	approx. 5000	approx. 6000	approx. 8000	approx. 10000
Effective output [1]	kg Cl_2/d	approx. 80	approx. 100	approx. 120	approx. 160	approx. 200
Energy demand	kWh	20.0	25.0	30.0	40.0	50.0
Fresh water consumption [2]		no	no	no	no	no
Consumption of fresh water for cooling		No	no	no	no	no
Required operating pressure of seawater		3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar
Process water inlet temperature		max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C	max. 20 °C
Resources		Seawater, natural brine or the like	Seawater, natural brine or the like	Seawater, natural brine or the like	Seawater, natural brine or the like	Seawater, natural brine or the like
Consumption of (tablet) salt per operating hour [3]		no	no	no	no	no
Sample water flow		approx. 2800 l/h	approx. 3500 l/h	approx. 4200 l/h	approx. 5600 l/h	approx. 7000 l/h
Hydrogen discharge to the outside		yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising
Supply air port for installation room		yes	yes	yes	yes	yes
Concentration of hypochlorite solution		approx. 1.5 g/l NaOCl	approx. 1.5 g/l NaOCl	approx. 1.5 g/l NaOCl	approx. 1.5 g/l NaOCl	approx. 1.5 g/l NaOCl
Mains connection		400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz
Connected load		32 kVA	39 kVA	45 kVA	58 kVA	72 kVA
Dimensions w x h x d (electrolyser unit) mm		1700 x 2200 x 700	1700 x 2200 x 700	1700 x 2200 x 700	1600 x 2400 x 1200	1600 x 2400 x 1200
Dimensions l x w x h (control cabinet) mm		1200 x 2200 x 800	1200 x 2200 x 800	1200 x 2200 x 800	1200 x 2200 x 800	1200 x 2200 x 800
Min./max. room temperature		+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C	+ 10 - 40 °C
Operation mode		stand-alone	stand-alone	stand-alone	stand-alone	stand-alone
Softening plant with hardness sensor		not required	not required	not required	not required	not required
Frame of the electrolysis system coated in stainless steel		yes	yes	yes	yes	yes
Air flow sensor		integrated	integrated	integrated	integrated	integrated
Level control brine and product tank		integrated	integrated	integrated	integrated	integrated
Automatic acid flushing of cell		integrated	integrated	integrated	integrated	integrated
Remote monitoring		optional	optional	optional	optional	optional

Other system sizes on request.

1 = The actual output can deviate from the effective rated output by +/- 5%.

2 = Fresh water quality according to prevailing drinking water regulations. The consumption is dependent on the salt concentration in the seawater.

3 = The concentration must be adjusted depending on the salt concentration in the seawater.

aquaWyk
Wyk auf Föhr, Germany

Swimming pool water treatment,
VoDes Sea 1200 g Cl_2/h

Salt from North Sea water, only operating costs: electricity

Technical data

Aquapark Olesnica
Oleśnica, Poland

Swimming pool water treatment,
MZE 2500 g Cl_2/h

ⓘ System upgraded:
savings per month about 2500 €

MZE

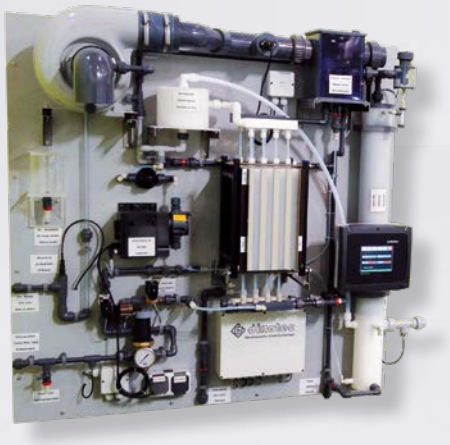
(Divided cell electrolysis)

With Marathon technology

		MZE 250	MZE 500	MZE 750	MZE 1000	MZE 1250	MZE 1500	MZE 2000	MZE 2500	MZE 3000	MZE 4000	MZE 5000
Capacity	g Cl_2/h	approx. 250	approx. 500	approx. 750	approx. 1000	approx. 1250	approx. 1500	approx. 2000	approx. 2500	approx. 3000	approx. 4000	approx. 5000
Effective output [1]	kg Cl_2/d	approx. 5	approx. 10	approx. 15	approx. 20	approx. 25	approx. 30	approx. 40	approx. 50	approx. 60	approx. 80	approx. 100
Energy demand	kWh	0.9	1.8	2.7	3.6	4.5	5.4	7.2	9.0	10.8	14.4	18.0
Fresh water consumption [2]		approx. 0.9 l/h	approx. 15 l/h	approx. 23 l/h	approx. 30 l/h	approx. 38 l/h	approx. 45 l/h	approx. 60 l/h	approx. 75 l/h	approx. 90 l/h	approx. 120 l/h	approx. 150 l/h
Consumption of fresh water for cooling		approx. 8 l/h	approx. 15 l/h	approx. 23 l/h	approx. 30 l/h	approx. 38 l/h	approx. 45 l/h	approx. 60 l/h	approx. 75 l/h	approx. 90 l/h	approx. 120 l/h	approx. 150 l/h
Required operating pressure of fresh water		3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar
Process water inlet temperature		max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C
Operating resource dinosolit salt tablets or equivalent		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Consumption of (tablet) salt per operating hour		approx. 0.4 kg/h of NaCl	approx. 0.9 kg/h of NaCl	approx. 1.28 kg/h of NaCl	approx. 1.7 kg/h of NaCl	approx. 2.2 kg/h of NaCl	approx. 2.5 kg/h of NaCl	approx. 3.4 kg/h of NaCl	approx. 4.2 kg/h of NaCl	approx. 5.1 kg/h of NaCl	approx. 6.8 kg/h of NaCl	approx. 8.5 kg/h of NaCl
Hydrogen discharge to the outside		yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising
Supply air port for installation room		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Concentration of hypochlorite solution		approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl
Mains connection		400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz
Connected load		2.5 kVA	5 kVA	6.5 kVA	7.5 kVA	10 kVA	12.5 kVA	15 kVA	20 kVA	25 kVA	30 kVA	35 kVA
Dimensions w x h x d (electrolyser unit) mm		1300 x 1300 x 400	1300 x 1300 x 400	1300 x 1300 x 400	960 x 2200 x 1330	960 x 2200 x 1600	960 x 2200 x 1600	960 x 2200 x 2070	960 x 2400 x 2440	960 x 2500 x 1700	1300 x 2500 x 2070	1300 x 2500 x 2440
Dimensions l x w x h (control cabinet) mm		600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	800 x 1300 x 400	800 x 1300 x 400	800 x 1300 x 400	800 x 1300 x 400
Min./max. room temperature		+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C
Operation mode		stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone
Softening plant with hardness sensor		optional	optional	optional	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated
Frame of the electrolysis system coated in stainless steel		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Chlorine gas monitoring		integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated
Brine and product tank		integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated
Remote monitoring		optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional

1 = The actual output can deviate from the effective rated output by +/- 5%.
[2] = Fresh water quality according to prevailing drinking water regulations.

Other system sizes on request.



Higher efficiency with dinotec operating resources

Maximum efficiency and extended service life of the system with dinosolit (type A salt quality*).

* Salt specifications for type A salt: NaCl min. 99.90 % / Hardness components (sum of Ca and Mg) max. 50 ppm / Sulphate (SO_4) < 400 ppm / Bromide (Br) < 75 ppm / Manganese (Mn) < 1 ppm / Iron (Fe) < 2ppm / Water-insoluble components < 0.1 %

dinotec Water & Pool Technology

MZE OS

(Divided cell electrolysis without brine return)

With Marathon technology

		MZE 250 OS	MZE 500 OS	MZE 750 OS	MZE 1000 OS	MZE 1250 OS	MZE 1500 OS	MZE 2000 OS	MZE 2500 OS	MZE 3000 OS	MZE 4000 OS	MZE 5000 OS
Capacity	g Cl_2/h	approx. 250	approx. 500	approx. 750	approx. 1000	approx. 1250	approx. 1500	approx. 2000	approx. 2500	approx. 3000	approx. 4000	approx. 5000
Effective output [1]	kg Cl_2/d	approx. 5	approx. 10	approx. 15	approx. 20	approx. 25	approx. 30	approx. 40	approx. 50	approx. 60	approx. 80	approx. 100
Energy demand	kWh	0.9	1.8	2.7	3.6	4.5	5.4	7.2	9.0	10.8	14.4	18.0
Fresh water consumption [2]		approx. 0.9 l/h	approx. 15 l/h	approx. 23 l/h	approx. 30 l/h	approx. 38 l/h	approx. 45 l/h	approx. 60 l/h	approx. 75 l/h	approx. 90 l/h	approx. 120 l/h	approx. 150 l/h
Consumption of fresh water for cooling		approx. 8 l/h	approx. 15 l/h	approx. 23 l/h	approx. 30 l/h	approx. 38 l/h	approx. 45 l/h	approx. 60 l/h	approx. 75 l/h	approx. 90 l/h	approx. 120 l/h	approx. 150 l/h
Required operating pressure of fresh water		3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar	3 - 5 bar
Process water inlet temperature		max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C	max. 15 °C
Operating resource dinosolit salt tablets or equivalent		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Consumption of (tablet) salt per operating hour		approx. 0.55 kg/h of NaCl	approx. 1.1 kg/h of NaCl	approx. 1.65 kg/h of NaCl	approx. 2.2 kg/h of NaCl	approx. 2.8 kg/h of NaCl	approx. 3.3 kg/h of NaCl	approx. 4.4 kg/h of NaCl	approx. 5.5 kg/h of NaCl	approx. 6.6 kg/h of NaCl	approx. 8.8 kg/h of NaCl	approx. 11.0 kg/h of NaCl
Hydrogen discharge to the outside		yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising	yes, continuously rising
Supply air port for installation room		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Concentration of hypochlorite solution		approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl	approx. 30 g/l NaOCl
Mains connection		400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz	400V / 50Hz
Connected load		2.5 kVA	5 kVA	6.5 kVA	7.5 kVA	10 kVA	12.5 kVA	15 kVA	20 kVA	25 kVA	30 kVA	35 kVA
Dimensions w x h x d (electrolyser unit) mm		1300 x 1300 x 400	1300 x 1300 x 400	1300 x 1300 x 400	960 x 2200 x 1330	960 x 2200 x 1600	960 x 2200 x 1600	960 x 2200 x 2070	960 x 2400 x 2440	1300 x 2500 x 1700	1300 x 2500 x 2070	1300 x 2500 x 2440
Dimensions l x w x h (control cabinet) mm		600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	600 x 1300 x 400	800 x 1300 x 400	800 x 1300 x 400	800 x 1300 x 400	800 x 1300 x 400
Min./max. room temperature		+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C	+ 10 - 30 °C
Operation mode		stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone	stand-alone
Softening plant with hardness sensor		optional	optional	optional	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated
Frame of the electrolysis system coated in stainless steel		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Chlorine gas monitoring		integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated
Brine and product tank		integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated	integrated
Remote monitoring		optional	optional	optional	optional	optional	optional	optional	optional	optional	optional	optional

1 = The actual output can deviate from the effective rated output by +/- 5%.
[2] = Fresh water quality according to prevailing drinking water regulations.

Other system sizes on request.

Rocco Forte Hotel
Hotel Villa Kennedy
Frankfurt am Main, Germany

Swimming pool water treatment
VoDes BlueWave 90 g Cl_2/h

ⓘ 5 star luxury hotel

Using smart technology to reduce operating costs

Electrolysis with Marathon technology

The future has started!

With the new Marathon technology, divided-cell systems become even more efficient and provide a considerably longer service life of the cell packages.

The new technology can also be described with the term “continuous self-optimization”. Thanks to the integrated dinotecNET+ control technology, major system operating parameters are recorded and controlled. In this way, the system is operated continuously at the optimal operating point.
A comparison with a motor vehicle explains the principle quite well: Conventional electrolysis technology is like starting a car with a cold engine, which then is driven at full throttle and subsequently switched off until the next drive. This mode of operation affects the service life considerably. With Marathon technology, the situation is quite different. In this case, the system is always operated at an optimal operating point, i.e. at reduced system performance and continuously at the "most effective speed".

This results in a longer service life of the system, and up to 15% savings in energy, since not only the electrolysis current is reduced, but also the electrolysis voltage, as well as start-up and shutdown processes.

In connection with a standard maintenance contract*, dinotec offers a five-year guarantee for all systems with Marathon technology. Existing systems equipped with intelligent dinotecNET+ control technology can be upgraded.

dinotec
Water & Pool Technology

No-worries-package

dinotec service contract

All financing offers include an accompanying dinotec service contract - tailored to your requirements if desired. This ensures a continuous operation of the system during the duration of the contract. Your input of time and effort for the operation of the system is reduced to a minimum.

A good feeling

All maintenance and service works are carried out by the dinotec factory service or experienced contractors. Our service hotline is available 24/7, and the possibility of remote access to systems ensures a fast troubleshooting. If the worst should come to the worst, the service team will be quickly on site.

More safety

We offer different guarantee schemes for all dinotec electrolysis systems, whether 5, 10 or 15 years, for individual components only or for the entire system. What are your requirements?

dinotec
LIFETIME
GUARANTEE

Sibu
Borneo

Drinking water treatment
VoDes 6500, VoDes 4000,
21 kg Cl_2/h

Reliable operation under extreme climatic conditions

dinotec – Experts for electrolysers for more than 20 years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Simply enjoy the best water!

NEW

dinotec
Water & Pool Technology

Membrane cell electrolysis MZE SMART with Marathon technology

- 5-year warranty*
- Easy installation
- Ecological
- Efficient
- Made in Germany

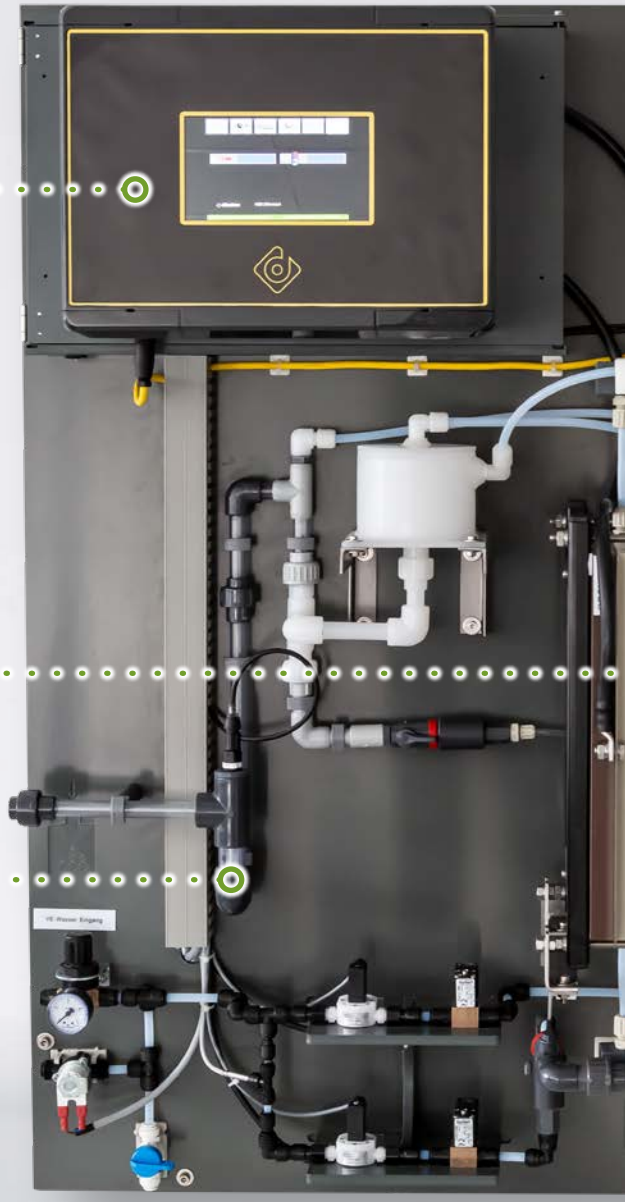
MZE SMART

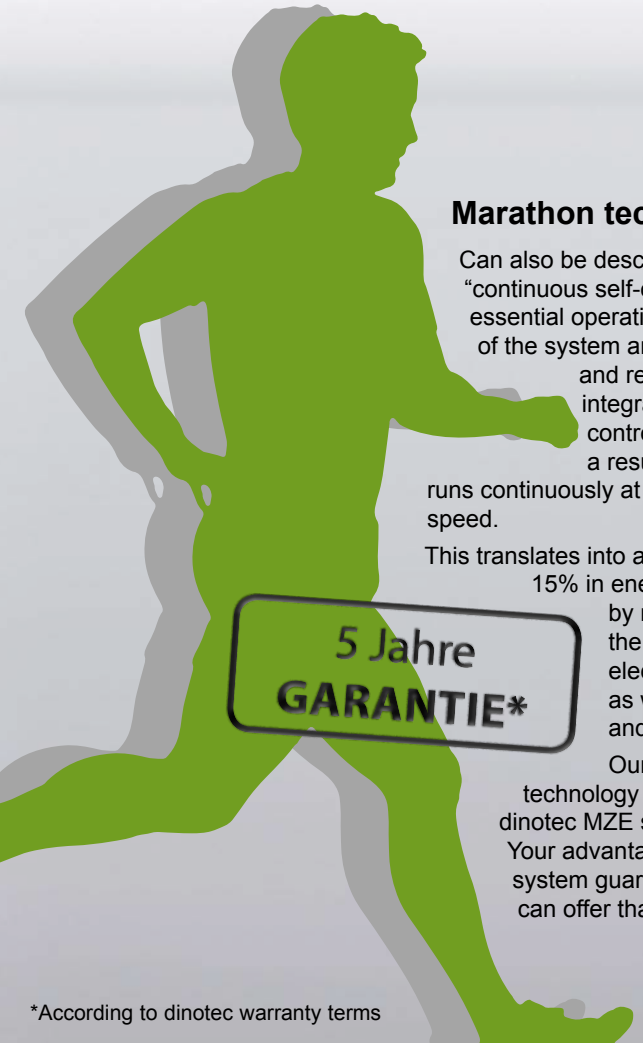
Simply enjoy the best water!

Intelligent dinotecNET+ process technology with dinoRemote remote control and maintenance

Unlimited application options thanks to smart membrane cell technology

Proven principle ensures nearly 100% conversion of the used salt





Marathon technology

Can also be described as "continuous self-optimization". All essential operating parameters of the system are recorded and regulated by the integrated dinotecNET+ control technology. As a result, the system runs continuously at its optimum speed.

This translates into a reduction of up to 15% in energy consumption by reducing both the current and the electrolysis voltage, as well as start-up and shutdown cycles.

Our Marathon technology has been used in dinotec MZE systems for years. Your advantage: a 5-year full system guarantee*! Who else can offer that?

Cost-effective installation and maintenance

With the MZE SMART, you save money right from the start: Thanks to the compact wall mounting system without a control cabinet, installation is quick and easy. Low space requirements. Time-saving and cost-effective maintenance and servicing.

*According to dinotec warranty terms

With the MZE SMART, dinotec intelligently extends its range of membrane cell electrolysis (MZE) product family downwards. The sophisticated system design in combination with the dinotecNET+ intelligent control offers a wide range of applications:
Hotel pools, small indoor swimming pools, training pools, drinking water disinfection, etc. are ideal areas to use this clever system. An attractive price and simple wall mounting (without control cabinet!) are the icing on the cake.

There are two models available

The MZE SMART 125 produces approx. 125 g active chlorine/h, daily output approx. 3.0 kg active chlorine
The MZE SMART 250 produces approx. 249 g active chlorine/h, daily output approx. 6.0 kg active chlorine

Both systems deliver a product concentration of approx. 13g NaOCl/l.

Membrane cell technology as an advantage

MZE systems are popular, because there are almost no disinfection by-products. The systems offer a high degree of efficiency, and the sodium hypochlorite is produced without salt transfer into the pool water. This means that MZE systems can also be used in indoor swimming pools and pools with integrated stainless steel basins/components without any problems.

Safety for guests and staff

A highly active disinfection solution is produced from salt, water and electricity via an electrolytic process. High potential hazards such as those associated with disinfection with chlorine gas or the handling of chlorine in canisters are eliminated.

High operational safety due to dinoRemote

dinoRemote is a cloud-based solution for remote control and maintenance of dinotec systems. Remote control of the MZE SMART is like standing directly in front of the system, even though it takes place "via the line". All relevant system parameters can be queried and controlled remotely. This means increased operational safety and savings when servicing is required.

Speaking of safety: Of course, dinoRemote is secured by modern VPN technology.

dinotec
Water & Pool Technology

Technical data:

	MZE SMART 125	MZE SMART 250
System-specific connections:		
Connected power:	1.0 kVA, 1 x 230V/50Hz	2.0 kVA, 1 x 230V/50Hz
Fresh water consumption:	approx. 20 l/h	approx. 30 l/h,
Fresh water supply pressure:	mind. 2.8 bar, max. 6 bar	
Fresh water temperature:	10°C to 23 °C	
Process technology		
Production output: (depending on local operating conditions)	approx. 125 g active chlorine/h, approx. 3.0 kg/day	approx. 249 g active chlorine/h, approx. 6.0 kg/day
Product concentration:	approx. 13 g Cl2/l - corresponds to water hazard class 1	
Energy demand:	approx. 3.3 kg/1 kg chlorine	
Salt demand:	approx. 1.7 kg/1 kg chlorine	
Hydrogen pipe:	min. d50 x 4.3 – continuously rising	
Wall mounting frame:	high-alloy stainless steel 1.4301 additional special passivation of profile surface	
Length of pipe to product tank:	< 5 m	
Dimensions (WxHxD):	1100 x 1150 x 400 mm	
Softening plant:	separate	
Transport weight electrolysis:	approx. 70 kg	approx. 80 kg
Power module (integrated on electrolysis part)		
Dimensions (wxhxd) approx.:	500 x 300 x 50 mm	
Specifications for installation room (ventilated)		
Permissible room temperature:	+10 to +30 °C	
Ceiling height:	min. 2.3 m	

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Simply enjoy the best water!