

Is it magic?

No. It's **Electrochemistry!**



The AkkuCleanox:
Fully portable power for ≥ 90 min.

The first battery-powered weld cleaner in the world

see Page 10

Electrochemical

Cleaning, Polishing, Marking







Electrochemical Cleaning, Polishing,

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Subject to price revisions.
Version: October 2016

The welding dilemma

Stainless steels are corrosion resistant due to a thin passive coating of chromium oxide. Heat during welding destroys this layer; the surface is then susceptible to corrosion.

Tarnish colours and oxidation layers must therefore be removed after welding and the surface must be repassivated.



This is done either chemically or mechanically. Chemical cleaning by pickling is poisonous, requires long exposure times and leaves unsightly pickling edges. Mechanical methods by brushing or grinding are not poisonous – but mostly leave ferrite or iron oxides on the surface that cause new rust. Blasting methods, on the other hand, are associated with high vibrations.

All methods have a major common disadvantage: The surfaces must be passivated in a further work step. This can be done either by storage under controlled air humidity and oxygen supply conditions, or with the aid of a passivation agent that will again affect health and the environment.

Magic? No - electrochemistry!

Our newly developed method cleans and passivates metal surfaces electrochemically using high-current electric arcs — in one work step! The user wets the work piece with non-poisonous electrolyte fluid and passes a carbon fibre brush over it — millions of electric arcs do the rest.

A similar principle has already been applied for two decades with the tampon method, which is based on moving a piece of electrolyte-soaked felt on a carbon electrode. However, this method never grew beyond a niche market, due to the low electrical output and the small contact area of the electrode.



Old method: Welding seam cleaning with tampon

Only our newly developed carbon fibre brush in combination with new, high-power device technology have made this intelligent electrochemical method with all its advantages suitable for industrial applications.



Marking

Cleaning with carbon fibres

Carbon fibres are excellent conductors. Our carbon fibre brush contains up to 1.5 million of them; they conduct high current to the work piece with a current density of up to 250 A per cm². Electric arcs form at the tips of the carbon fibres — similar to the process in TIG welding. These millions of small electrical charges are electronically limited to a length of 5 µm. They remove tarnish colours, oxidation layers and even minor scaling at lightning speed without damaging the surface.

The electrolyte liquid is used to increase electrical conductivity and provide cooling. Evaporation generates a protective gas atmosphere that protects against new corrosion. The split-off oxygen forms chromium dioxide during the cleaning process — which restores the protective passivation layer! This effect was confirmed for us by the IGOS Institute in Solingen after standardised tests with salt spray.

The cleaning effect is not achieved by etching or pickling — as is the case with the devices made by our competitors — but almost exclusively through the extremely high energy density. Our cleaning electrolyte is the non-poisonous E338 food additive — which is also used in cool drinks.



Carbon fibre brush in action

The fibres of the carbon fibre brush hug the shape of the work piece during the cleaning process; different brush sizes, shapes and types make any cleaning task easier. Flexible extension of fibres from a Teflon sliding sheath can be used to reach corners and gaps. And our patented in-pipe brushes allow pipes and holes to be cleaned from the inside.









Mirror-smooth polish

Our switchable AC/DC devices also facilitate direct current (DC) mode for high-gloss polishing. Strong discolouration can be removed or evened out and dull areas in the heat-impact zone can be treated to the desired level of gloss.

Forgery-proof marking

A writing template or label printer can be used to produce individual signatures on your work pieces. Dark marking applies an oxidation layer to the surface; bright marking removes parts of the surface - like engraving, but does not look dark. Both methods are permanent and resistant against chemicals and abrasion — and are therefore often used for surgical instruments, tools, sanitary fittings, etc.



The SuperCleanox family:

Power for the industry



The SuperCleanox range has been designed for heavy-duty industrial use and has proven itself after years of use in multi-shift operation by reputable customers. Capability and reliability were the top priorities during the development phase. The devices are designed for a 100% duty cycle; they reach peak currents of up to 400 A during cleaning and polishing – the highest performance level on the market.



Our SuperCleanox devices are sold as complete kits; giving you everything you need to get started straight away.

The illustration shows everything included with the SuperCleanox VI.

Devices by competitors only reach a maximum of 60 A and are then switched off or throttled. The SuperCleanox series achieves a significantly higher output, facilitating faster and interruption-free work. An additional benefit: The cable length to the work piece can be drastically increased, which is particularly advantageous on building sites.

The SuperCleanox series are AC/DC devices — in other words, they take both alternating and direct current to clean, polish and create both light and dark marking patterns.

SuperCleanox VI HD

 Item No.:
 EP-01-017 HD

 Power output:
 3,450 VA

 Weight (set):
 32 kg

Dimensions: 190x200x450 mm Mains voltage: 230 V / 50 Hz / 16 A Secondary voltage: 6-21 V AC/DC

Protection class: IP23

Heavy duty!

At 3,450 VA, this is currently the most powerful welding seam cleaning device in the world. Three power levels cover all requirements: from gentle cleaning of thin, TIG-welded metal sheets to polishing strongly tarnished or scaled MAG welding seams. The power electronics were adapted to provide the high output. Thermal fuses only switch off above 140 A permanent current (100% duty cycle) or 400 A pulse current. Brush and mass cables with a cross-section of 16 mm² provide power to the work piece without electrical and thermal losses and without interruption during permanent operation, using cables with a length up to 100 m.

SuperCleanox VI

Item No.:EP-01-017Power output:2,500 VAWeight (set):28 kg

Dimensions: 190x200x450 mm Mains voltage: 230 V / 50 Hz / 10A Secondary voltage: 9-32 V AC/DC

Protection class: IP23

The pioneer

The SuperCleanox VI has set the standards in the market for a long time: its output of 2,500 VA provides 80 A continuous current (100 % duty cycle) or 200 A pulse current to the work piece. Three power levels each for cleaning and polishing solve almost any cleaning task: all welding seams, from TIG-welded thin metal sheets to MAG-welded beams, can be cleaned and polished in heavy-duty industrial applications.

You can continue to use cleaning and polishing handles with rigid carbon electrodes and felts — but you can also work at top efficiency with a large-surface cleaner or a 4-fold brush.

SuperCleanox IV+

 Item No.:
 EP-01-021

 Power output:
 1,500 VA

 Weight (set):
 25 kg

Dimensions: 190x200x450 mm
Mains voltage: 230 V / 50 Hz / 8A
Secondary voltage: 9-18 V AC/DC

Protection class: IP23

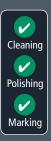
Enter the professional league!

The SuperCleanox IV+ has been designed for heavy-duty, long-term use in 3-shift industrial applications. An output power of 1,500 VA facilitates cleaning and polishing at two power levels and provides up to 80 A continuous current (100% duty cycle) or 140 A pulse current. This output power is completely sufficient for most cleaning tasks.

However, the 4-fold brush and large surface cleaner can only be used to a limited extent and the use of rigid carbon electrodes is also restricted.

Like all SuperCleanox devices, the IV+ is also suitable for marking.

Item No.	Description	Quantity	Set VI HD	Set VI	Set IV+
EP-01-017-HD	Set SuperCleanox VI HD – weight 38 kg	1 set	V		
EP-01-017	Set SuperCleanox VI – weight 36 kg	1 set		V	
EP-01-021	Set SuperCleanox IV+ – weight 32 kg	1 set			V
	Device set: The accessories				
EP-07-600	Teflon handle with 4m cable 10 mm ²	1 unit		V	V
EP-07-693	Teflon handle with 10m cable 16mm ²	1 unit	v		
EP-07-605	Earthing cable, 10 mm ² , 4 m, with 850 A clamp	1 unit		V	V
EP-07-691	Earthing cable, 16mm ² , 10m, with 850 A clamp	1 unit	v		
EP-02-912	Carbon fibre brush XL	1 unit	v	V	V
EP-02-033	Marking handle with 90° carbon electrode	1 unit	✓		V
EP-02-018	Cleaning handle with 60° carbon electrode	1 unit		V	
	Cleaning and polishing felts made of Kevlar, yellow	5 unit		V	
EP-02-003	90° carbon electrode for marking	1 unit		V	
	Marking felts, white	5 unit	v	V	V
	O-rings	5 unit	V	V	V
EP-07-005	Connection cable 1.5 mm ² , marking handle	1 unit	v	V	V
	Cleaning and polishing electrolyte	2x 0.5 kg	V	V	V
	Marking electrolyte, universal	50 ml	V	V	V
	Protective goggles, gloves, PVC apron	1 unit each	V	V	V
EP-07-019	Plastic box	1 unit	V	V	V
EP-07-100	Wide-mouth container	1 unit	V	V	V
EP-07-002	Spray bottle for water	1 unit	✓	V	V



The Cleanox series:

Flexibility for workshop and assembly



Compact & light, reliable and powerful: These are the characteristics of our new Cleanox device series. It was made for metal construction companies that want to use their cleaning devices in a flexible manner – either in the workshop or on a construction site.



The three models of the Cleanox series differ in their functional scope to provide for individual needs. All of them are among the most powerful devices in the market. 70 A continuous current at 100% duty cycle and pulse currents of up to 140 A – achieved with very light and transportable devices – make our competitors take note.

The weight was significantly reduced compared to the previous series by using plastic and aluminium. The front and rear are made of acid-resistant and food-safe polypropylene, and are very rugged.

Our Cleanox devices are sold as complete kits, giving you everything you need to get started straight away.

Cleanox 4.2



Item No.:EP-01-042Power output:1,000 VAWeight:15 kg

Dimensions: 250x150x300 mm

Mains voltage: 115/230 V / 50 Hz / 6 A

Secondary voltage: 10.5–18 V AC/DC

Protection class: IP21

The globetrotter

Cleaning and polishing of TIG and MAG seams at two power levels and bright or dark marking, 115 or 230 V: The power levels also enable the Cleanox 4.2 to perform intensive cleaning and polishing. Another feature: The input voltage can be switched between 115 and 230 V, so the device can be used all over the world.

The Cleanox 4.2 in combination with an optionally available marking set, can also be used for bright or dark marking.

Cleanox 4.0

 Item No.:
 EP-01-040

 Power output:
 1,000 VA

 Weight:
 14 kg

Dimensions: 250x150x300 mm
Mains voltage: 230 V / 50 Hz / 6A
Secondary voltage: 10.5-12.5V AC/DC

Protection class: IP21

The multi-talent

Cleaning and polishing of TIG seams, bright or dark marking: The Cleanox 4.0 is the entry device into the AC/DC class. It cleans speedily, using our XL carbon fibre brushes. It can also be used in direct current (DC) mode for polishing to create a mirror-like surface. Work pieces can be marked with bright or dark patterns using the optionally available marking set.

Cleanox 2.0

 Item No.:
 EP-01-020

 Power output:
 1,000 VA

 Weight:
 13 kg

Dimensions: 250x150x300 mm Mains voltage: 230 V / 50 Hz / 6A

Secondary voltage: 10.5V AC Protection class: IP21

The specialist

Cleaning of TIG seams, dark marking:

The Cleanox 2.0 is a pure AC device and only intended for cleaning of welding seams using the carbon fibre brush. It can do this just as well as its bigger brother. Simple operation makes the device ideal for building sites and pipe installations.

The optional marking set can be used to apply dark labelling, e.g. batch numbers or name plates.

Item No.	Description	Quantity	Set Cleanox 4.2	Set Cleanox 4.0	Set Cleanox 2.0
EP-01-042	Set Cleanox 4.2 – weight 20 kg	1 set	V		
EP-01-040	Set Cleanox 4.0 – weight 19 kg	1 set		V	
EP-01-020	Set Cleanox 2.0 – weight 18 kg	1 set			V
	Device set: The accessories				
EP-07-600	Teflon handle with 4m cable 10 mm ²	1 unit	V	V	~
EP-07-606	Earthing cable, 10 mm ² , 4 m, with 200 A clamp	1 unit	V	V	~
EP-02-912	Carbon fibre brush XL	1 unit	~	V	V
	Cleaning and polishing electrolyte	2x 0.5 kg	V	V	V
EP-07-100	Wide-mouth container	1 unit	V	V	V
EP-07-002	Spray bottle for water	1 unit	V	V	V
EP-07-017	Plastic box	1 unit	V	V	V
	Optional accessories *				
EP-02-050	Marking set in plastic case	1 unit			
EP-04-021	Cleaner electrolyte	2 kg			
EP-04-012	Super-cleaner electrolyte	2 kg		* F11+5	
EP-04-013	Polisher electrolyte	2 kg			her accessories be found from
EP-04-909	Neutralyte in canister with spray bottle	51		page	12 onwards
EP-06-004	Gloves, acid-resistant CAT III, Size 8	1 pair			
EP-06-004-11	Gloves, acid-resistant CAT III, Size 11	1 pair			
EP-06-005	Apron, acid-resistant, rugged version	1 unit			
EP-06-003	Protective goggles, closed at the side	1 unit			
EP-07-024	Pressure spray bottle, 2 litres	1 unit			









Cleanox Travel Edition

The Cleanox for around the world



Exceptionally powerful, low weight and compact design:
These are the characteristics of our new Cleanox device series.

The Cleanox devices are extremely powerful and low in weight. The front and back are made from lightweight and extremely durable polypropylene. The body is made of aluminium.

The Travel Edition allows you to be fully mobile: it provides everything you need for your work, securely packed in a high-quality plastic trolley with a maximum overall weight of 26 kg (depending on model).

Admittedly, the case won't pass for carry-on luggage. But it does allow you to get to workquickly, wherever you are. Brush, electrolytes, cable — even a spray bottle and wide-mouth container are conveniently to hand. And a complete marking kit too!

Choose your personal Travel Edition – optionally with the Cleanox 2.0, the Cleanox 4.0 or the Cleanox 4.2. (see page 7).

Cleanox Travel Edition

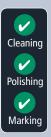
Your extra value:

- Fully portable
- Everything always at hand: The complete Cleanox set securely packed in a high-quality case with trolley
- including marking accessories

Cleaning, Polishing, Marking wherever you happen to be



Item No.	Description	Quantity	Cleanox 4.2 TE	Cleanox 4.0 TE	Cleanox 2.0 TE
EP-01-042-TE	Set Cleanox 4.2 Travel Edition – 26 kg	1 set	V		
EP-01-040-TE	Set Cleanox 4.0 Travel Edition – 25 kg	1 set		V	
EP-01-020-TE	Set Cleanox 2.0 Travel Edition – 24 kg	1 set			V
	Charger included:				
EP-07-600	Teflon handle with 4m cable 10 mm ²	1 unit	✓	V	V
EP-07-606	Earthing cable, 4 m, with 200 A clamp	1 unit	✓	V	V
EP-02-912	Carbon fibre brush XL	1 unit	✓	V	V
	Cleaning and polishing electrolyte	2x 0.5 kg	V	V	V
EP-07-100	Wide-mouth container	1 unit	V	V	V
EP-07-002	Spray bottle for water	1 unit	V	V	✓
EP-07-069	"Travel Edition" case – 575x470x205mm	1 unit	V	V	V
EP-07-071	Trolley for "Travel Edition" case	1 unit	V	V	V
EP-02-033	Marking handle with 90° carbon electrode	1 unit	V	V	V
EP-03-111	Marking felts, white	10 unit	V	V	V
EP-03-000	O-rings	10 unit	V	V	V
EP-07-005	Connection cable 1.5 m ² , marking handle	1 unit	V	V	V
EP-04-004	Marking electrolyte, universal	100 ml	V	V	V
EP-04-009	Highly concentrated neutralyte	100 ml	V	V	V
	Optional accessories *				
EP-04-021	Cleaner electrolyte	2 kg			
EP-04-012	Super-cleaner electrolyte	2 kg			
EP-04-013	Polisher electrolyte	2 kg			
EP-04-909	Neutralyte in canister with spray bottle	51		* Further accesso	ries
EP-06-004-11	Gloves, acid-resistant CAT III, Size 11	1 pair		can be found fro	
EP-06-005	Apron, acid-resistant, rugged version	1 unit			3
EP-06-003	Protective goggles, closed at the side	1 unit			
EP-07-024	Pressure spray bottle, 2 litres	1 unit			



The AkkuCleanox

Fully portable power for \geq 90 min.



The first battery-powered weld cleaner in the world

High up on a wind turbine, right in the middle of a stainless steel silo, somewhere up on the scaffolding: what do you do when your extension cable just isn't long enough? With the AkkuCleanox you can go anywhere. Weighing just 7 kg, it is one of the lightest devices on the market – and is extremely powerful, with up to 100 A continuous current. In standard mode, the batteries last for up to two hours.

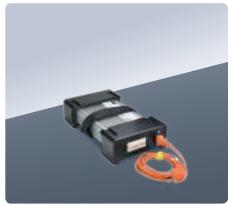
This is made possible by combining the latest battery innovations with high-performance inverter technology. Packed into an ultra-light-weight carbon sandwich housing, featuring a large colour screen and user-friendly menu controls — it's the perfect device for outdoor, offshore and offline.

Our charge booster recharges empty batteries to 95% in just 30 minutes. Alternatively, you can also use it for mains operation: coupled with the charge booster, the AkkuCleanox runs at 100% indefinitely without draining the battery. This lets you use the portable device in the workshop without any restrictions.

AkkuCleanox



Charge booster



 Item No.:
 EP-01-050

 Power output:
 1,250 VA

 Weight:
 7.0 kg

Dimensions: 250 x 150 x 300 mm Battery: 16 V LiFePo, 320 Wh

Efficiency: 95%

Battery life: min. 1 hour

Housing: Hybrid carbon fibre aluminium PP material

Charger supplied:

Mains voltage: 115–240 V/50 Hz, 3A Secondary voltage: 6-12 V AC/DC Charging time: 8 hours

Protection class: IP23

 Item No.:
 EP-01-151

 Power output:
 600 VA

 Weight:
 2.5 kg

 Dimensions:
 325x180x75 mm

 Mains voltage:
 100-240V, 7 A 50/60Hz

Protection class: IP67

The charge booster recharges the battery in just 30 minutes. Alternatively, it assists the battery and transforms the AkkuCleanox into a stationary workshop unit.

Buy the charge booster separately or together with the AkkuCleanox in a great value kit.



Combine the AkkuCleanox and charge booster into one unit with the Quickbelt — and use it as a portable unit while connected to the mains.

On the reverse side of the AkkuCleanox there are two additional USB charging sockets.

Item No.	Description	Quantity	AkkuCleanox	AkkuCleanox and charge booster	Charge booster
EP-01-050	Set AkkuCleanox – 19 kg	1 set	V		
EP-01-050-B	Set AkkuCleanox with charge booster – 23 kg	1 set		V	
EP-01-151	Charge booster – 4 kg	1 set			V
	Charger included:				
EP-07-600	Teflon handle with 4m cable 10 mm ²	1 unit	V	✓	
EP-07-605	Earthing cable, 4 m, with 850A clamp	1 unit	V	✓	
EP-02-912	Carbon fibre brush XL (M10)	1 unit	V	✓	
EP-02-908	Carbon fibre brush M (M6)	1 unit	V	✓	
EP-02-915	Carbon bottle brush DN10-50	1 unit	V	✓	
EP-02-917	Carbon bottle brush DN8-20	1 unit	V	✓	
EP-02-902	An M6-to-M10 adapter	1 unit	V	✓	
EP-02-904	Elbow piece 40° M10	1 unit	V	✓	
EP-02-901	PTFE Teflon sliding sheath	1 unit	✓	✓	
EP-07-002	Mounting pins for brush	2 unit	V	✓	
EP-02-050	Marking kit in plastic box	1 unit	V	✓	
EP-01-151	30 A charge booster and plastic case	1 unit		✓	V
EP-01-152	Charger and 230V adapter plug D	1 unit	V		
	Cleaning and polishing electrolyte	2x 0.5 kg	V	✓	
EP-07-100	Wide-mouth container	1 unit	V	✓	
EP-07-002	Spray bottle for water	1 unit	V	✓	
EP-07-068	Travel case, large – 575x470x270mm	1 unit	V	✓	
EP-07-071	Trolley for case	1 unit	V	✓	
EP-07-049	Small grey plastic case for charge booster	1 unit		✓	✓
	Optional accessories: *				
EP-01-151-UK	Adapter plug for charger, UK	1 unit			
EP-01-151-EU	Adapter plug for charger, EU 2-pin	1 unit		* Further accesso	
EP-01-151-USA	Adapter plug for charger, USA/Taiwan	1 unit			
EP-01-151-CH	Adapter plug for charger, Switzerland	1 unit		page 12 onward	s
EP-01-153	Vehicle charger 12 V	1 unit			



Carbon fibre brush: The quality makes the difference



Electrochemical cleaning with carbon fibres - who invented this? Correct: Reuter! We have been producing this innovative solution at our site in Erkrath since 2012. We have also invented the sliding sleeves made of Teflon. Numerous utility models and patents secure our advantage over our competitors.



We ensure the use of high-quality materials and careful processing during production.

This is the only way to achieve permanent acid resistance, rugged durability and maximum performance. It is the reason why up to 1.5 million carbon fibres fit the work piece so snugly.

We have, for example, made brush holders out of 1.4571 material and bonded them with hydraulic tools developed in-house at 700 bar. The handles and sliding sleeves consist of PTFE (Teflon) - and easily withstand the process temperatures of approx. 200°C.

Our brushes are available in a variety of shapes and sizes - for large areas, narrow spaces, for cleaning holes or the insides of pipes.









Carbon fibre brush

Item No.	Description	
EP-02-912	XL brushes, 60 mm usable length, approx. 1.5 million fibres	
EP-02-908	M brushes, 60 mm usable length, approx. 0.8 million fibres	
EP-02-902	An M6-to-M10 adapter is required for M-brush type EP-02-908 and the bottle brush	
EP-02-901	Teflon sliding sleeve – without brush – turned from solid PTFE, with M22 clamping nut, 50x20 mm, as replacement for XL brush standard sliding sleeve that is too thin for the increased thermal stress during continuous operation	
EP-02-901-F	Teflon sliding sleeve, flat shaped mouth	
EP-02-901-K	Teflon sliding sleeve, conical shaped mouth	=
EP-02-901-M	Union nut M22	
EP-02-916	Carbon bottle brush DN10-50 with bristles	-8-4
EP-02-915	Carbon bottle brush Type DN10-50	
EP-02-917	Carbon bottle brush Type DN8-20	
	All 3 bottle brushes require adapter EP-02-902	
EP-02-909	4-fold brush incl. 4 units M-brush, mounted	
EP-02-905	2-fold brushincl. 2 units M-brush, mounted	
EP-02-903	Extension for brush / handle M10x75mm	
EP-02-904	Angle piece 40° M10 for brush / handle	

Price/performance ratio, using the example of the carbon fibre brush XL, compared to that of our competitors

Fibre length: 40% more Cross-section: 30% more Total carbon fibre: 70% more

The 70% higher proportion of carbon fibre, together with robust processing, is responsible for the faster and more effective cleaning. In direct comparison, Reuter carbon fibre brushes are clearly the price/performance winners!





RESTUR 100 000

SuperCleanox VI HD

Surface cleaner

For cleaning, rust removal and passivating of large stainless steel surfaces such as tanks, silos, facades etc. For efficient cleaning, the surface cleaner requires the highest energy performance; it can therefore only be used together with the VI SuperCleanox HD. Welds should first be cleaned with a carbon fibre brush.

Item No.	Description	
EP-02-913	Surface cleaner, 35 cm width, with telescopic handle up to 180 cm (optional 250 cm), Stainless steel electrode 350 mm, Cleaning pad with Velcro fastening, 10 mm ² / 10 m connection cable with 200 A high current socket, bucket	
EP-02-914	Cleaning pad for surface cleaner for cleaning and passivating, 350 x 60 mm, white	
EP-02-919	Cleaning pad for surface cleaner for cleaning and passivating, longer service life 400 x 60 mm, white	
EP-02-920	Cleaning pad for surface cleaner for cleaning, passivating and polishing, longer service life 400 x 60 mm, brown/blue	











Electrolytes for marking can be found on page 25

Electrolytes for cleaning & polishing

Item No.	Description
	CLEANER — electrolyte for cleaning slightly oxidised TIG weld seams
EP-04-021	2 kg container¹ (net 1.71 l)
EP-04-211	4 x 2 kg container¹ in carton ≈ approx. 10% discount (net 6.84 l)
EP-04-041	5 kg bottle ² with handle (net 4.22 l)
EP-04-355	4 x 5 kg bottle ² with handle in carton ≈ approx. 10% discount (net 21.1 l)
EP-04-351	30 kg³ canister (net 26.34 l)
	NEUTRAL CLEANER PH 5,5 – skin neutral electrolyte – exclusively for cleaning TIG VA welds
EP-04-801	1 kg bottle ⁴ (net 0.9 l)
EP-04-802	6 x 1 kg bottle ⁴ in carton ≈ approx. 10% discount (net 5.4 l)

	30		
			N T e
	STATE OF		
30 l canister³		5 l bottle² v	with handle

Item No. Description **SUPERCLEANER** – to clean severely tarnished or oxidised weld seams EP-04-012 2 kg container¹ (net 1.48 l) EP-04-212 4 x 2 kg container¹ in carton ≈ approx. 10% discount (net 5.92 l) EP-04-042 6 kg bottle² with handle (net 4.51 l) EP-04-356 4 x 6 kg bottle² with handle in carton ≈ approx. 10% discount (net 18.04 l) 35 kg canister (net 26.84 l) EP-04-220 POLISHER – for polishing stainless steel surfaces; also very suitable for cleaning EP-04-013 2 kg container¹ (net 1.18 l) EP-04-330 4 x 2 kg container¹ in carton ≈ approx. 10% discount (net 4.72 l) EP-04-043 7 kg bottle² with handle (net 4.21 l) EP-04-357 4 x 7 kg bottle² with handle in carton ≈ approx. 10% discount (net 16.84 l) EP-04-353 35 kg canister³ (net 21.32 l) EP-07-503 Tap for 30 I canister³

Note: Weight information for electrolytes always relates to the gross weight. The filling height of the containers varies due to the different density of the electrolytes and the filling process.

1 l bottle⁴ 1.5 l container³

Surface finishing treatment



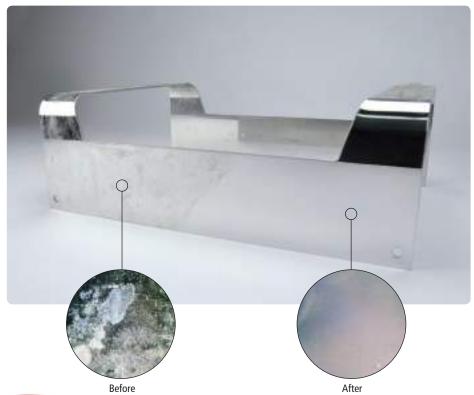
Have electrolyte residues dried on after cleaning or polishing?

Are white streaks, clouding or scaling visible? With our SFC cleaner, you can easily wipe it off.

Item No.	Description
EP-04-800	SFC STAINLESS FINISHING CLEANER — 2 kg container — SFC removes grease and cleans stainless steel and other metal surfaces gently and reliably. Used on stainless steel, it renews and reinforces the passive layer at the same time.
EP-04-901	FPR STAINLESS STEEL CARE PRODUCT – 1.5 kg container – for finishing treatment of cleaned steel surfaces (fingerprint remover)
EP-04-909 EP-04-990	NEUTRALYT SOFT for removing electrolyte residues directly after cleaning 5 kg canister with integrated 350 ml spray bottle 30 kg in canister

Does your stainless steel surface still look rather dull after cleaning, polishing or marking?

Take advantage of our stainless steel care product FPR. It brings out the contrast in your marking and leaves a waxy film as protection against fingerprints.





Do you still have stains on your surface after rinsing?

Is your tap water too hard? Use our Neutralyt-Soft!

Accessories and consumables for cleaning & polishing

Item No.	Description	
EP-02-001	Carbon electrode 60°, M10 x 1.5 thread	:2A:
EP-02-001-By	Version with M10 x 1.0 fine thread (BYMAT)	
EP-02-002	Carbon electrode 30°, M10 x1.5 thread more pointed electrode for thin fillet welds for cleaning and polishing with cleaning handle	
EP-03-222 EP-03-002 EP-03-022	Kevlar felts, yellow, 40 x 60 x 2 mm suitable for 60 ° carbon electrode/cleaning handle for cleaning and polishing at stage III with the SuperCleanox VI 10 pieces 20 pieces	
EP-03-220	Kevlar felts, yellow, 40 x 100 x 2 mm suitable for 30° carbon electrode/cleaning handle for cleaning and polishing at stage III with the SuperCleanox VI 100 pieces	
EP-03-000	O-rings for fixing the felts to the carbon electrode O-rings, black, PU 10 pieces	((((())))))
EP-03-000-g	High temperature O-rings, green, PU 10 pieces	
EP-03-003	Polishing felt roll 60 x 25,000 x 2.0 mm Durable aramid for cleaning and polishing Caution: Aramid shrinks at higher temperatures and hardens! For extreme cleaning and polishing we recommend Kevlar felts.	
EP-02-018	Cleaning handle with 60° carbon electrode for 1.5 mm² cable, 4 mm power socket Note: Only for stage III with Cleanox IV, SuperCleanox VI	
	Teflon handle with highly flexible cable Handle air cooled inside – will not get hot in your hand; incl. 200 A insulated high-current plug with gold-plated laminated contacts	
EP-07-600	with 4 m / 10 mm² cable	.:==
EP-07-601	with 6 m / 10 mm² cable	
EP-07-603 EP-07-693	with 10m / 10 mm² cable with 10 m / 16 mm² cable	
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Accessories for marking can be found from page 26 onwards

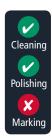






Item No.	Description	
EP-02-999	Teflon handle solo with integrated 200 A high-current socket for 10 mm ² cable	
EP-07-607	Teflon handle with high-current socket with 4 m / 10 mm² cable Handle is air cooled inside and will not get hot in your hand; incl. 200 A insulated high-current plug/socket with gold-plated laminated contacts	
EP-07-618	Connection cable with 2 high-current sockets 4 m	: =3
EP-07-619	Connection cable with 2 high-current sockets 10m	
EP-07-309	Teflonhandle without inner parts	
EP-07-059	Inner part for electrode handle complete 10 mm ²	
EP-07-059-16	Inner part for electrode handle complete 16 mm ² CAUTION! The inner part cables must be connected by crimping with a pneumatic crimping tool!	
EP-07-608 EP-07-609 EP-07-699	Extension cable with high-current socket and high-current plug 4 m / 10 mm ² 10m / 10 mm ² 10m / 16 mm ²	
EP-07-605 EP-07-602 EP-07-604 EP-07-691	Earthing cable, highly flexible 10 mm², with 850 A clamp, incl. 200 A high-current plug with gold-plated laminated contacts 4 m / 10 mm² 6m / 10 mm² 10m / 10 mm² 10m / 16 mm²	
EP-07-606 EP-07-610	Earthing cable, highly flexible 10 mm², with 200 A clamp, incl. 200 A high-current plug with gold-plated laminated contacts 4 m / 10 mm² 10 m / 10 mm²	
EP-07-301	200 A earthing clamp made of cast brass with large opening angle 80 mm, especially for pipes	
EP-07-300	850 A earthing clamp made of cast brass Opening angle 40 mm, plastic coating red, fully insulated	
EP-07-222	Mounting kit for 200A high-current socket comprising socket spanner and special nose spanner	
EP-07-206 EP-07-207 EP-07-106 EP-07-107 EP-07-106-16 EP-07-107-16	Power sockets and power plugs High current socket black with lock nut High current socket red with lock nut Power socket / plug for brush handle cable, 10 mm², black Power socket / plug for brush handle cable, 10 mm², red Power socket / plug for brush handle cable, 16mm², black Power socket / plug for brush handle cable, 16mm², red	6

Item No.	Description	
EP-07-100	Wide-mouth container, 500 ml Working container, to be filled with electrolyte Note: maximum fill level 2 cm! Note: immerse brush often and long enough to cool!	
EP-07-102	Safety brush holder made from VA sheet metal for wide-mouth container 500 ml with glue clamp black/green	N. Contraction
EP-07-002	Spray bottle for water 500 ml For filling with tap water or demineralised water if the water hardness exceeds 10 dH	
EP-07-024	Pressure spray bottle, 2 litres For filling with tap water or demineralised water if the water hardness exceeds 10 dH	A
EP-06-003	Protective glasses closed design with elasticated band	
EP-06-004 EP-06-004-11	Gloves, acid-resistant Cat III velour coated on the inside, reusable gloves, to protect your skin from drying out due to the electrolyte acids Size 8 Size 11	
EP-06-005	Acid-resistant apron, robust design, black, reusable	
EP-06-002	Stainless steel bath approx. 300 x 200 x 20 mm integrated drip tray made of stainless steel ideal for cleaning and marking small parts	
EP-06-006	Barrier cream (liquid glove), 500 ml to protect your skin from drying out due to the electrolyte acids, apply before working	
EP-07-019 EP-07-017	Plastic box, orange with REUTER logo, sturdy design, suitable for: - SuperCleanox IV+/VI/VI HD; 600x400x320 mm - Cleanox 2.0/4.0/4.2; 300x400x320 mm	
EP-07-023	Trolley for one large or two small plastic boxes, orange with robust PVC rollers	6
EP-06-101 EP-06-001 EP-06-111	Equipment trolley made of acid-resistant plastic with integrated drip tray and storage compartments for electrolytes, wide-mouth containers and handles; 4 rollers with brake — 99 x 45 x 85 cm — 115 x 66 x 85 cm Optional: stainless steel sink with drain, hose and canister	



Accessories for marking can be found from page 26 onwards







The Signox series: Marking for eternity







Nameplates, logos, bar codes,...: Initially, the application of markings with our cleaning devices was just an additional benefit.

It has, however, generated huge demand. We have therefore developed the Signox device series - specifically focused on forge-proof and permanent marking on all electrically conductive objects.

Electrolytic marking is a very cost-effective and economical method. After only 3–4 seconds you obtain high-contrast, permanent marking: corrosion free, seawater, abrasion, acid and sterilisation resistant. It is therefore often used for surgical instruments, tools, sanitary fittings, etc.

The patented AkkuSignox is a network-independent, mobile device; it creates oxidation patterns on the metal surface that result in dark markings - dark brown to deep black.

The Signox II is an AC/DC device and can also provide bright marking; it looks similar to laser engraving, i.e. is a bright marking that is slightly recessed in the work piece surface. Metals without ferrite or plastic can also be labelled, e.g. aluminium, brass or copper.

We have securely packed three complete sets of equipment into one practical case, so that everything you need for marking is always at hand, wherever you are.

AkkuSignox I

Set with battery WLAN printer

 Item No.:
 EP-01-025

 Power output:
 50 VA

 Weight:
 3.5 kg

Dimensions, case: 380x300x150 mm

Mains voltage: Lithium/ion batteries
Charger: 115-240 V / 50 Hz

Protection class: IP64

Completely independent

Maximum flexibility without a power socket, USB or network cable: Transfer the logos by wireless link from your smart phone to your printer - the iPrint&Scan software, including smart phone app, makes this possible. Easily create labelling on your keyboard. Simply print the marking templates with 360 dpi on site. The battery of our AkkuSignox manages up to 250 dark markings before it has to be recharged.

AkkuSignox I

Set with battery-powered USB printer

 Item No.:
 EP-01-026

 Power output:
 50 VA

 Weight:
 3.0 kg

Dimensions, case: 380x300x150 mm Charger: 115-240 V / 50 Hz

Protection class: IP64

The mobile marker

Design markings on site and apply them directly: This battery-powered printer can also communicate with a PC via a USB interface and create and print labels right away with the P-touch editor and printer keyboard. The AkkuSignox will then transfer your design up to 250 times onto work pieces. We pack and deliver all you need safely in one case.

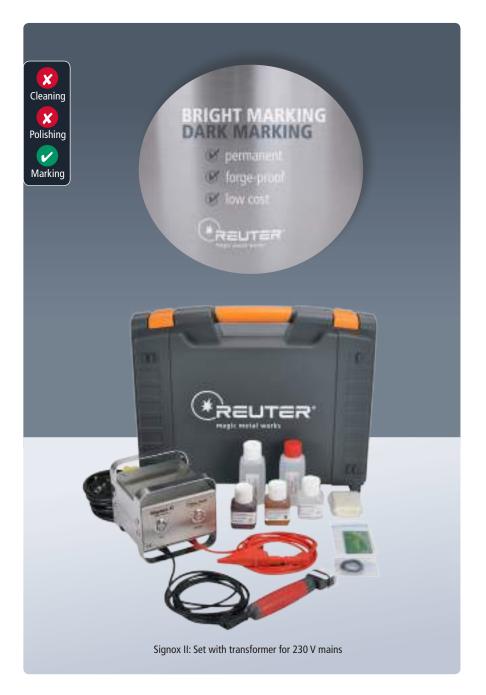


Item No.	Description	Quantity	Set battery	Set battery
EP-01-025	AkkuSignox with battery WLAN printer	1 set	V	
EP-01-026	AkkuSignox I with battery USB printer	1 set		V
	AkkuSignox I device set: The accessories			
EP-05-220	Printer E550WVP, WLAN, USB, Li-Ion battery	1 unit	V	
EP-05-221	Printer H500, USB, battery	1 unit		V
EP-05-229	Lithium/ion battery for printer	1 unit	~	
EP-05-228	Printer charger	1 unit	~	
EP-07-066	Lithium/ion battery for Signox	2 unit	✓	V
EP-07-065	Charger for Signox batteries	1 unit	V	V
EP-07-064	Earthing cable with stainless steel crocodile clamp	1 unit	V	V
EP-02-060	Carbon electrode, semi-circular	1 unit	~	V
EP-07-045	Case with foam insert	1 unit	~	V
EP-05-211	24 mm template marking band	1 unit	V	V
EP-03-010-1	O-rings, small 15x1.8	5 unit	V	V
EP-03-001-2	Marking felts, white	5 unit	V	V
	Marking electrolyte 50ml and neutralyte 50ml	2x 50 ml	V	V
	Optional accessories			
EP-05-202	Label printer, 9700PC, USB, 18–36 mm	1 unit	* 5	
EP-05-222	Label printer, 9800PCN, USB, 18–36 mm	1 unit	" Furthe	r accessories
EP-05-210	Labelling band, 18mm	3 m		faccessories found from 3 onwards
EP-05-212	Labelling band, 36mm	3 m		walus









Signox II

Set with transformer-powered device for 230 V network

 Item No.:
 EP-01-024

 Power output:
 120 VA

 Weight:
 5 kg

Dimensions, case: 300x400x320 mm
Mains voltage: 230 V / 50 Hz / 1A
Secondary voltage: 12V AC/DC
Protection class: IP23

The heavyweight

This workshop device is intended for bright and dark marking: The Signox II is connected to the mains and is provided without a printer – but sports a powerful transformer and a large rectifier with considerably higher output. It facilitates the use of large templates with up to 2,400 dpi as well as fast and powerful marking of large areas.

The Signox II can handle dark marking as well as bright marking – which looks stylish, similar to laser engraving.



Item No.	Description	Quantity	Set Signox II
EP-01-024	Signox II without printer	1 set	V
	The accessories		
EP-07-044	Connection cable, red, 2 m, 1.5 mm ²	1 unit	V
EP-02-055	Connection cable, black, 2 m, 1,5 mm ²	1 unit	V
EP-07-003	Crocodile clip, red, plastic-coated	1 unit	V
EP-02-033	Marking handle with 90° carbon electrode	1 unit	V
EP-07-045	Case with foam insert	1 unit	V
EP-03-000-1	O-rings, large, 26x2	5 unit	V
EP-03-001-1	Marking felts, white	5 unit	V
EP-04-004	Marking elektrolyte for stainless steel dark / aluminium bright	100 ml	V
EP-04-009	Neutralyte highly concentrated	100 ml	V
	Elektrolyte samples	3 units	V
		Further printer accessories can be four from page 23 onwards	dd .



From a single source

We supply everything you need for marking: Equipment, templates, electrolytes, accessories. This means you can be sure that everything will work perfectly.

Long-term templates

Long-term templates can be used up to 5000 times. Due to the high resolution of 2400 dpi, even small 4-point fonts can be marked on the work piece.

A plastic frame is available as an option, to give the film more stability and facilitate alignment on the work piece.

The maximum template size is 80x50 cm (4000 cm^2) .

Price calculation: To create a long-term template, we charge an order fee of 15.00 (reproduction / photosetting costs and proofs - not charged for reorder). In addition, a price per cm² will be charged according to the template size (see table). When calculating the size of the template, please note that your subject requires a margin of 2 cm on each side - for aligning and fixing on your work piece.

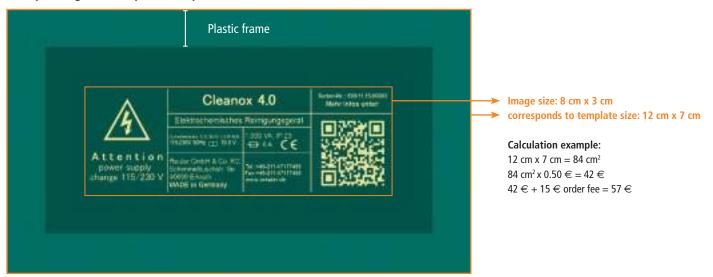


Item No.	Template size	€ / cm²
	Template <u>with</u> plastic frame	
EP-05-003	up to 100 cm ²	0.50
EP-05-004	101 to 200 cm ²	0.45
EP-05-005	201 to 500 cm ²	0.35
EP-05-006	501 to 4000 cm ²	*

Item No.	Template size	€ / cm²
	Template <u>without</u> plastic frame	
EP-05-007	up to 100 cm ²	0.40
EP-05-008	101 to 200 cm ²	0.35
EP-05-009	201 to 500 cm ²	0.30
EP-05-010	501 to 4000 cm ²	*

For templates over 500 cm² we recommend: for curved surfaces, unframed templates, for flat surfaces, an aluminium frame we are happy to calculate this for you on request.

Example: long-term template with plastic frame



Cleaning X Polishing Marking

Print your own marking templates

With the help of a labelling machine, you can create your own single-use marking templates – the ideal solution for marking your products with individual product numbers.

On the display printers, you can create text and numbers on the spot and print them directly. By connecting the printer to the PC, you can embed logos, frames, or bar codes in the label layout.

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Screenshot Labelling software

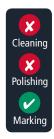


Item No.	Description	
EP-05-221 EP-05-228 EP-05-229	Label Printer Brother PT-H500 Professional labelling machine with PC connection, print resolution 180 dpi, band width 18-24 mm supplied without batteries / power cord, incl. USB cable Optional accessories: Mains adapter Lithium/ion batteries	
EP-05-220	Brother PT-E550WVP Professional labelling machine for industrial application, print resolution 180 dpi, band width 18-24 mm, WLAN, incl. Li-lon battery, mains cable / USB cable, carrying case	
EP-05-204	Brother PT-D600VP Professional labelling machine including colour display, print resolution 180 dpi, band width 18-24 mm, incl. mains cable / USB cable, carrying case	
EP-05-202	Brother PT-9700PC Professional labelling machine for the PC, print resolution 360 dpi, band width 18-36 mm, incl. mains cable / USB cable Brother PT-9800PCN Equipment as above plus network connection	
EP-05-223 EP-05-224	Brother TD-4000 Professional label printer for high print volumes, print resolution 300 dpi, for 100 mm continuous label roll, incl. mains cable / USB cable Brother TD-4100N Equipment as above plus network connection	
EP-05-210 EP-05-211 EP-05-212	Labelling bands, 3 m for Label Printer PT-H500, PT E550WVP, PT-D600VP, PT-9700PC, PT-9800PCN 18 mm band width 24 mm band width 36mm band width	
EP-05-911 EP-05-912	Template paper 100 mm for thermal template printer TD-4000 / TD-4100N 45 m continuous label roll 3 m continuous label roll other sizes on request	•

Electrolytes for marking



Dark marking applies an oxidation layer to the surface; bright marking removes parts of the surface - like engraving, but does not look dark. Both methods are permanent and resistant to chemicals and abrasion - and are therefore often used for surgical instruments, tools, sanitary fittings, etc.



em No.	Description	Item No.	Description
	Electrolyte for dark marking on stainless steel (AC) and bright marking on aluminium (DC)		Electrolyte for marking brass, bronze, copper and zinc – A

Item No.	Description
	Electrolyte for dark marking on stainless steel (AC) and bright marking on aluminium (DC)
EP-04-004	100 ml
EP-04-014	500 ml
EP-04-044	1,000 ml
	Electrolyte for marking aluminium (not anodized) - DC
EP-04-007	100 ml
EP-04-018	500 ml
EP-04-077	1,000 ml
	Electrolyte for marking corrosion-sensitive
	structural steels - AC
EP-04-006	100 ml
EP-04-016	500 ml
EP-04-066	1,000 ml
	Electrolyte for marking burnished surfaces - DC
EP-04-053	100 ml
EP-04-054	500 ml
EP-04-056	1,000 ml
	Electrolyte for marking surgical instruments and gold-plated surfaces - AC
EP-04-106	100 ml
EP-04-020	500 ml
EP-04-038	1,000 ml
	Electrolyte for bright marking on stainless steel – DC
EP-04-045	100 ml
EP-04-046	500 ml
EP-04-049	1,000 ml

EP-04-005 EP-04-015 EP-04-055	Electrolyte for marking brass, bronze, copper and zinc – AC 100 ml 500 ml 1,000 ml
EP-04-050 EP-04-051 EP-04-052	Electrolyte for marking titanium – AC 100 ml 500 ml 1,000 ml
EP-04-017 EP-04-047 EP-04-048	Electrolyte for marking chrome-plated and nickel-plated surfaces – AC 100 ml 1,000 ml
EP-04-008 EP-04-039 EP-04-088	Electrolyte for marking tool steel (hardened) – AC 100 ml 500 ml 1,000 ml
EP-04-009 EP-04-019 EP-04-099	Highly concentrated neutralyte for neutralising after marking 100 ml 500 ml 1,000 ml

Accessories and consumables for marking



Item No.	Description	
EP-03-111 EP-03-001 EP-03-011	Marking felts, white, 40 x 60 x 2 mm suitable for 90 ° carbon electrode / marking handle for marking lettering using a marking electrolyte 10 pieces 20 pieces 100 pieces	
EP-03-110	Marking felt roll 40 x 5000 x 1.70 mm	
EP-03-101	Marking felt plates 375 x 500 x 1.70 mm	
EP-03-000	O-rings, 10 pieces For attaching the felts to the carbon electrodes	
EP-02-033	Marking handle with 90° carbon electrode for 1.5 mm² cable, 4 mm power socket	
EP-02-003 EP-02-003-By	Carbon electrode 90°, M10 x1.5 thread for marking with templates and white marking felts, universally usable with marking or cleaning handle Version with M10 x 1.0 fine thread (BYMAT)	
EP-07-044 EP-07-055	Connection cables 2 m / 1.5 mm², with angled plug for Signox devices for cleaning and marking with carbon electrode and red handle. Not suitable for cleaning with carbon fibre brushes! Connection cable red Connection cable black	
EP-07-003	Crocodile clamp, red For marking small parts in connection with connection cables 1.5 mm ² Opening angle 35 mm, max 15 A continuous load Not suitable for cleaning with carbon fibre brushes!	
EP-07-006 EP-07-007 EP-07-008	Power sockets for Cleanox IV, Signox II and polishing handle, 4 mm Device socket red Device socket black Handle socket black	
EP-02-050	Marking set complete basic marking equipment in a case Contents: • red Softtouch marking handle, 90 ° marking electrode • 2 m bl, 1.5 mm" connection cable • 1 x 100 ml marking electrolyte for stainless steel (universal) • 1 x 50 ml Neutralyt • 5 white marking felts • 5 O-Rings • Sample marking template	



May we introduce ourselves?

Reuter GmbH & Co. KG manufactures state of the art technology for electrochemical cleaning, polishing and marking, in Erkarth near Düsseldorf. All the devices offered have been developed by us and are produced in series. Numerous technologies have been patented or are subject to utility model protection. Our in-house claim ,magic metal works' is the motivating power behind each device line:

- smart solutions that can replace significantly more complex technologies;
- ease of use
- scalable product range for trade and industry
- 100 % Made in Germany
- high continuous loading capability with 100% duty cycle
- outstanding price-performance ratio

Do you have questions about our products – or perhaps a special task which is proving to be difficult?

Please feel free to contact us. Send us your samples. We will work it out for you.





Mechanical engineer and welding engineer
Dipl.-Eng. Olaf Reuter, owner of Reuter GmbH & Co. KG,
stands for solid know-how in this sector.
Over 25 years of experience in arc welding technology
and voluntary engagement in DIN committees
stands for practical expertise.





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EasyCleanox

The ultralight AC/DC inverter and 1500 VA output

- Simple one-button operation
- Ultra light and sturdy carbon housing
- Low weight of only 5.9 kg
- 80 A at 100% duty cycle
- AC/DC switching
- LED segment display for voltage and power
- Wide input range power supply 100–240 V 50/60 Hz

_ follow the orange thread ...