

SUHDNER[®]
ABRASIVE

BRUSHmax 3.0

Professional cleaning
of weld seams



BRUSHmax 3.0

Electrolytic cleaning of weld seams and polishing of stainless steel.

Newest inverter technology

- Device suitable for 24 h constant operation
- No forced breaks caused by overheating
- Less consumption of electricity compared to usual devices with transformer

Low weight and compact size

Ideal for portable use on construction sites and during assembly

Protection class: IP 23

Comprehensive range of functions, yet easy to use:

- Cleaning
- Polishing
- Marking

Continuous power regulation

- Precise adjustment to the degree of staining and the material
- Optional electricity supply means less need for new brushes
- High performance

Each component can be individually ordered

Constant high cleaning performance
for cable lengths up to 20m

Robust and tearproof cables
Long service life, low follow-up costs



A single electrolyte for both applications

Cleaning and polishing

NSF-certified

Specially designed for food & pharmaceuticals

Direct passivation after cleaning or polishing

Instant 100% protection of your workpieces against corrosion (rust)



All in one:

complete set in a practical transport box, includes high-quality, robust accessories



The milled slot on the upper side protects both the operator and the thread from contact with liquids

Ergonomically shaped handle made of Teflon

Heat-proof, no burning or melting

Long-lived brushes

Minimized wear of brushes, and therefore less costs

Easy-to-use sliding sleeve system

Quick and easy exchange and cleaning of brushes



BRUSHmax 3.0 – one for all

BRUSHmax 3.0 – the ultimate solution for effortless, efficient cleaning.

Innovative technology (inverter) which involves a brush carrying a live current across the workpiece makes the cumbersome removal of iron oxide stains (tarnish), rust or other blemishes easy as pie.

It takes no effort at all to apply a special cleaning fluid with the brush, and within seconds your weld seams and surfaces will be clean and sparkling – without any time-consuming mechanical tooling or the use of hazardous chemicals.

BRUSHmax 3.0 sets a new standard as it not only makes the work faster, but also reduces cost and effort to an absolute minimum. Thanks to an effective cleaning method, you save precious time and resources to invest in other, more important tasks.

The result? A finish that is both flawless and impressive.

BRUSHmax 3.0 is used in a large number of different industries. Some of the main industries in which this versatile device is applied are:

- Metal working and welding
- Aerospace industry
- Machine building
- Pharmaceutical industry
- Food industry
- Energy production

Four functions

- Cleans small and large surfaces without damaging the surface structure. Removes tarnish, rust and white stains, edges and streaks.
- Polishes subsequently formed weld seams on electropolished material of different components and removes residue, burns or small scratches.
- Marks proprietary labels like logos, serial numbers, graphics and writing such as product names, part numbers or QR codes on your products or manufactured goods.
- Passivates for instant 100% protection from corrosion (rust). Guarantees higher quality and greater customer satisfaction.

BRUSHmax 3.0 – at a glance

- Four functions: Cleaning, polishing, passivating or marking
- Powerful thanks to the newest inverter technology.
- Output current: max. 65 A
- Mains voltage: 1 × 120/230/240 V (50/60Hz)
- Weight: 7.5kg
- Protection class: IP 23
- Housing (L × W × H): 350 × 133 × 213mm

In summary

BRUSHmax 3.0 is a safe and efficient device for cleaning the surface of stainless steel, especially after welding. It quickly and easily removes the blue and brown iron oxide stains without changing the surface properties of the metal.

BRUSHmax 3.0 also passivates the metal in the same work step, so that the complete desired result is achieved in even less time. The liquids utilized by the BRUSHmax only become reactive at high temperatures.

Under normal ambient conditions, they are relatively harmless for the operator and the environment.



BRUSHmax 3.0 SE-70 liquid

The special composition makes this the quickest working fluid for working with TIG, GTAW and MAG weld seams. It is also suited for heavy discoloration.

It is also especially suited for electrolytic polishing.

- ▶ No toxic ingredients!

3 in 1 solution

- ▶ Maximum cleaning power
- ▶ Maximum polishing power
- ▶ Maximum passivating power



Application

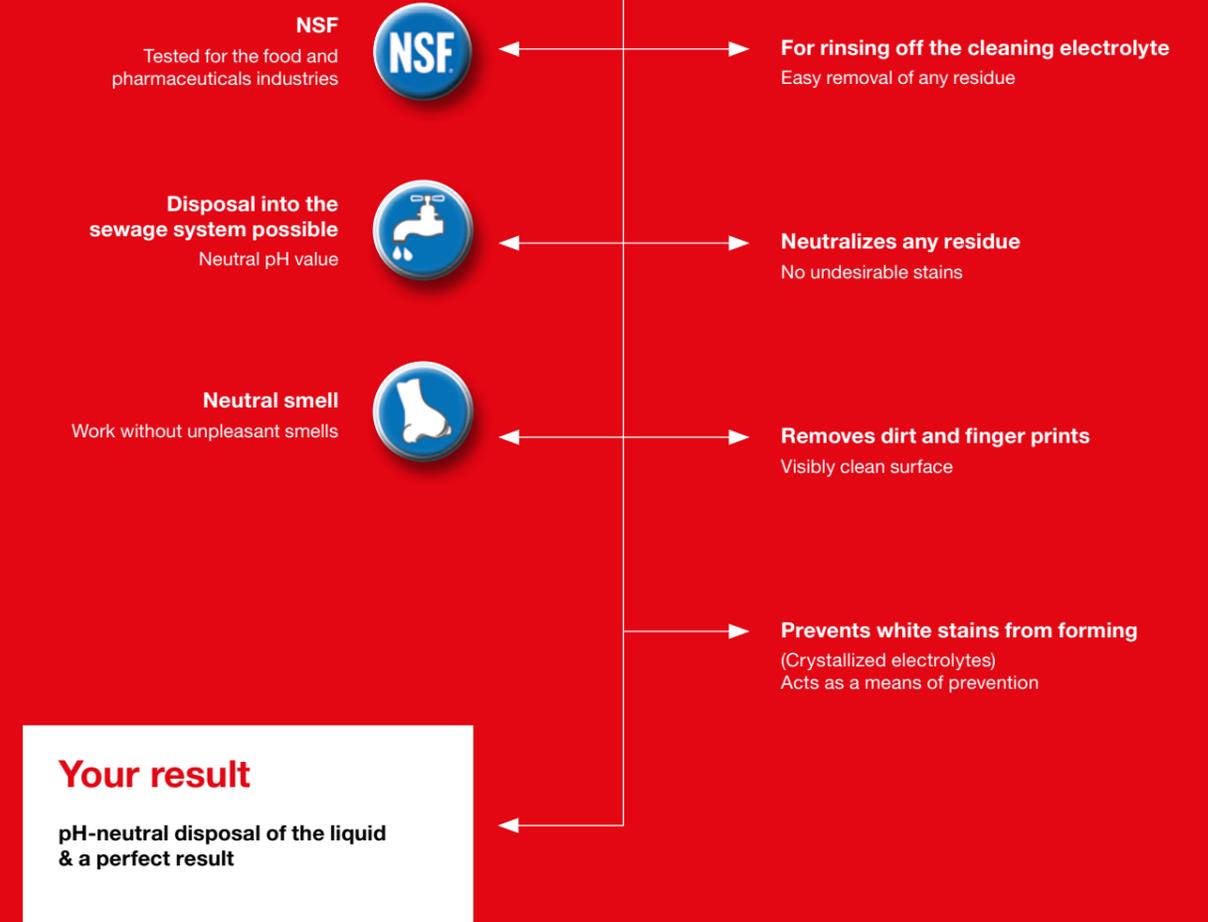
- STEP 1 ▶**
Pour the SE-70 cleaning & polishing electrolyte into a container for liquids.
- STEP 2 ▶**
Set the device to Clean.
- STEP 3 ▶**
Dip the carbon fiber cleaning brush of the BRUSHmax 3.0 into the SE-70 cleaning and polishing electrolyte.

- STEP 4 ▶**
Extend the BRUSHmax sliding insulation sleeve forward.
- STEP 5 ▶**
Move the BRUSHmax carbon fiber cleaning brush over the weld seam in slow, circular motions.

- STEP 6 ▶**
Immediately spray the workpiece with SN-10 neutralizer.
- STEP 7 ▶**
Rinse the workpiece with plenty of water.

BRUSHmax 3.0 SN-10 neutralizer

For rinsing and neutralizing the SE-70 cleaning and polishing liquid.



Application

- STEP 1 ▶**
Pour the SN-10 neutralizer into a spray bottle.
- STEP 2 ▶**
Clean your workpiece with the SE-70 cleaning & polishing electrolyte.

- STEP 3 ▶**
Immediately spray the workpiece with SN-10 Neutralizer.
- STEP 4 ▶**
Rinse the workpiece with plenty of water.

Note:
In order to best prevent white stains/clouding, all surfaces must be properly degreased, cleaned and neutralized before welding or cleaning.

BRUSHmax 3.0 – the process

The BRUSHmax 3.0 is a powerful electrochemical cleaning device that offers four different functions. The BRUSHmax 3.0 utilizes a brush that conducts an electric current. The brush is used to absorb cleaning liquid and apply this to the area that needs to be cleaned.

The liquid serves to remove the iron oxide stains (tarnish) caused by welding as well as rust and other surface stains. Especially at the tips of the bristles, the brush converts the electric current into high temperatures.

The liquid, relatively harmless at room temperature, is heated by the brush until it reaches temperatures at which it is noticeably more reactive, causing an accelerated chemical effect on the stainless steel surface. Other than pastes used for etching, the active ingredients of the cleaning liquid do not present an inherent health hazard.

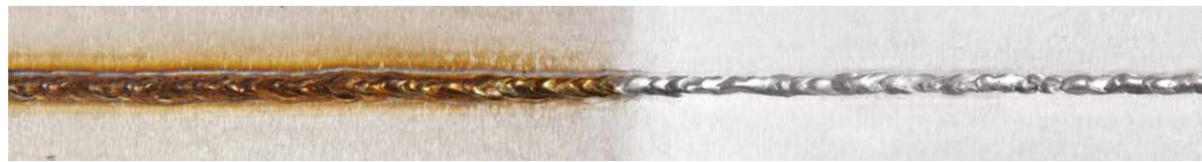
If used correctly, the liquids are not toxic to the environment.

The BRUSHmax 3.0. effect

MIG welding



TIG welding in two steps



TIG welding



Point welding



Mutual staining



Heat penetration



What happens during stainless steel welding?

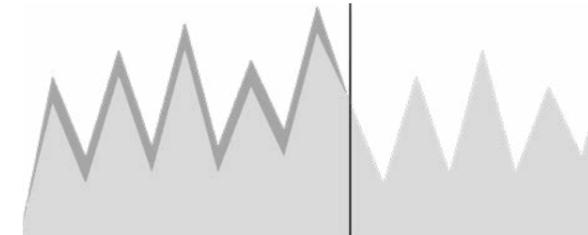
The intense heat generated by welding stainless steel reduces the amount of chromium surrounding the weld seam and leaves an iron-rich zone behind. The high concentration of iron at the surface, together with the high welding temperatures, immediately causes the iron to oxidize.

This leads to the characteristic blue coloring and brown stain surrounding the weld seam. The stained area is vulnerable to corrosion, as the low concentration of chromium cannot protect the metal.

The BRUSHmax 3.0 quickly removes the stained oxides and passivates the underlying surface without changing the look or the surface properties of the metal. How the BRUSHmax 3.0 manages to do this so quickly and safely is explained below.

Chemical effect: Cleaning

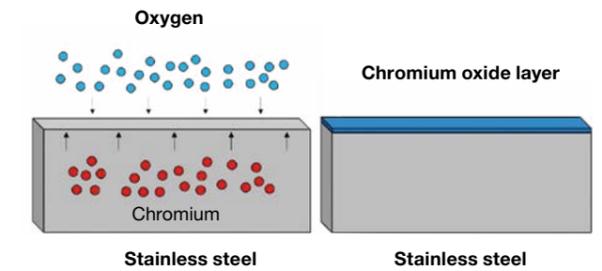
Tarnish



The blue and brown stains that occur during welding are iron and iron-containing oxides. These layers of iron oxides are relatively weak and easily broken up at the working temperature of the BRUSHmax.

The released iron ions are suspended in the solution and discharged (i.e., they are put into a state where they can no longer form oxides). Once the BRUSHmax is lifted off and the liquid has been wiped away, the remaining stainless steel surface is free of iron ions and iron oxides.

Chemical effect: Passivation



Iron oxides provide poor protection against staining on the metal surface. For this reason, stained areas start rusting soon after welding, even if they were cleaned.

In order to stop this corrosion, the metal surface must be "passivated". Once the BRUSHmax has removed the layer of iron oxides, the metal underneath, which is rich in chromium, is exposed.

The high temperature of the BRUSHmax now causes quick oxidation of the chromium, resulting in the formation of a layer of chromium oxide instead of iron oxide. This process, the formation of a layer of chromium oxide, is also known as "passivation".

Chromium oxide offers excellent protection against staining for the underlying metal and is able to efficiently counter corrosion and rust. As the layer of chromium oxide is invisible, the surface properties and the look of the metal remain unchanged.



BRUSHmax 3.0

All in one



Inverter

- Cleans**
- Polishes**
- Passivates**
- Marks**

BRUSHmax 3.0 and accessories

stainless steel cleaning device

BRUSHmax 3.0 – complete set		
1 x stainless steel cleaning device	2 x "SuperClean" microfiber cloths	1 x chemical gloves
1 x complete cable set with ergonomically shaped handle (3 m)	1 x container for liquids	1 x "mini" sized wire brush
1 x ground cable (3 m)	1 x spray bottle with pressure pump (1.2 L)	1 x SUHNER transport box
3 x carbon fiber brushes	1 x protective goggles	1 x operating instructions
1 x SE-70 cleaning & polishing electrolyte (1 L)	1 x face mask	1 x quick start instructions
1 x SN-10 neutralizer (1 L)		

Technical data							
Type	Voltage	Plug	Weight	Protection class	Output current	Technology	Mat. no.
	V		kg		A		
BRUSHmax 3.0 SET VDE (230V)	230	Type F	7.5	IP23	65	Inverter	101 003 042
BRUSHmax 3.0 SET SEV (230V)	230	Type J (T12)	7.5	IP23	65	Inverter	101 003 044
BRUSHmax 3.0 SET AUS (240V)	240	Type I	7.5	IP23	65	Inverter	101 003 045
BRUSHmax 3.0 SET USA (120V)	120	Type B	7.5	IP23	65	Inverter	101 003 046

BRUSHmax accessories				
	Type	Mat.-No.		
	BRUSHmax SE-70 1L	101 003 130	1	
	BRUSHmax SE-70 5L	101 003 131	1	
	BRUSHmax SN-10 1L	101 003 132	1	
	BRUSHmax SN-10 5L	101 003 136	1	
	BRUSHmax extension cable for handle (3 m)	101 003 444	1	
	BRUSHmax extension cable for handle (6 m)	101 003 445	1	
	BRUSHmax extension cable for handle (10 m)	101 003 446	1	
	BRUSHmax extension for ground cable (3 m)	101 003 449	1	
	BRUSHmax extension for grounding cable (6 m)	101 003 441	1	
	BRUSHmax 3.0 shaped handle, pin, sliding sleeve	BRUSHmax 3.0 shaped handle, pin, sliding sleeve	101 003 440	1
	BRUSHmax pin, 45° inclination	BRUSHmax pin, 45° inclination	101 003 434	1
	BRUSHmax pin, 90° inclination	BRUSHmax pin, 90° inclination	101 003 432	1
	BRUSHmax 3.0 pin + insulating sliding sleeve	BRUSHmax 3.0 pin + insulating sliding sleeve	101 003 431	1
	BRUSHmax 3.0 carbon fiber brush (1 pc.)	BRUSHmax 3.0 carbon fiber brush (1 pc.)	101 003 410	1
	BRUSHmax 3.0 carbon fiber brush (10 pcs.)	BRUSHmax 3.0 carbon fiber brush (10 pcs.)	101 003 409	1
	BRUSHmax carbon fiber brush INOX (1 pc.)	BRUSHmax carbon fiber brush INOX (1 pc.)	101 003 407	1
	BRUSHmax carbon fiber brush INOX (10 pcs.)	BRUSHmax carbon fiber brush INOX (10 pcs.)	101 003 406	1
	BRUSHmax carbon fiber flat brush M	BRUSHmax carbon fiber flat brush M (1 pc.)	101 003 404	1
	Carbon fiber brush M10 brass (1 pc.)	Carbon fiber brush M10 brass (1 pc.)	101 003 403	1
	Carbon fiber brush M10 brass (10 pcs.)	Carbon fiber brush M10 brass (10 pcs.)	101 003 402	1
	BRUSHmax double brush adapter	BRUSHmax double brush adapter	101 003 396	1
	BRUSHmax quad brush adapter	BRUSHmax quad brush adapter	101 003 395	1
	BRUSHmax cleaning table	BRUSHmax cleaning table	101 003 394	1
	BRUSHmax transport trolley	BRUSHmax transport trolley	101 003 392	1

Marking / signing / labeling: ADVERTISING

Ensure quick and precise marking on all conductive materials, e.g., on your products or manufactured goods. Print your individual marking stencils (single-use stencil!) quickly and easily with our professional thermal stencil printer.

Let us create your individual marking stencil, which you can reuse up to 500 times.

Step 1:

Send us your layout and your desired size by email to mps@suhner.com (File formats: TIFF, SVG, JPG, BMP, PDF, Word, etc.)

Step 2:

We will send you a proof for correction and a quote.

Step 3:

You approve the proof.

Step 4:

We deliver the stencil within 10 working days.

Individual marking stencils:



Single-use stencil



Multiple-use stencil without frame



Multiple-use stencil with frame



- ▶ **Proprietary labels**
- ▶ **Graphics**
- ▶ **Written words (product name / part and serial number)**
- ▶ **QR codes**
- ▶ **Single- or multiple-use stencil**

BRUSHmax 3.0 – “Marking” stainless steel cleaning device

BRUSHmax accessories

	Type	Mat.-No.	
	Marking liquid MA-80	BRUSHmax MA-80 0.5L	101 003 133 1
		BRUSHmax MA-80 1L	101 003 134 1
	Marking set	BRUSHmax marking set	101 003 408 1
	Individual marking stencil	BRUSHmax Indiv. Marking stencil	101 003 411 1
	Marking adapter	BRUSHmax marking adapter	101 003 412 1
	Marking electrode	BRUSHmax marking electrode (34 mm)	101 003 413 1
	Marking felt tape	BRUSHmax marking felt tape (1 m)	101 003 414 1
	O-ring for marking electrode	BRUSHmax O-ring (ø25mm)	101 003 415 1
	Brother P-Touch D600VP labeler	BRUSHmax D600VP labeler	101 003 416 1
	Brother P-Touch D800W labeler	BRUSHmax D800W labeler	101 003 418 1
	Thermal stencil printer	BRUSHmax thermal stencil printer	101 003 419 1
	P-Touch stencil tapes	BRUSHmax P-Touch stencil tapes (18mm)	101 003 420 1
		BRUSHmax P-Touch stencil tapes (24mm)	101 003 421 1
		BRUSHmax P-Touch stencil tapes (36mm)	101 003 422 1
	Stencil paper	BRUSHmax stencil paper (100mm, 3m)	101 003 423 1
		BRUSHmax stencil paper (100mm, 45m)	101 003 424 1



BRUSHmax marking set

- 1 x marking adapter
- 1 x marking electrode (34 mm)
- 1 x MA-80 marking electrolyte (0.5 L)
- 1 x felt tape for marking (0.5 m)
- 5 x O-rings for the marking electrode (ø 25 mm)

Mat. no.

101 003 408

FLEETCare@Suhner and ABRACare@Suhner

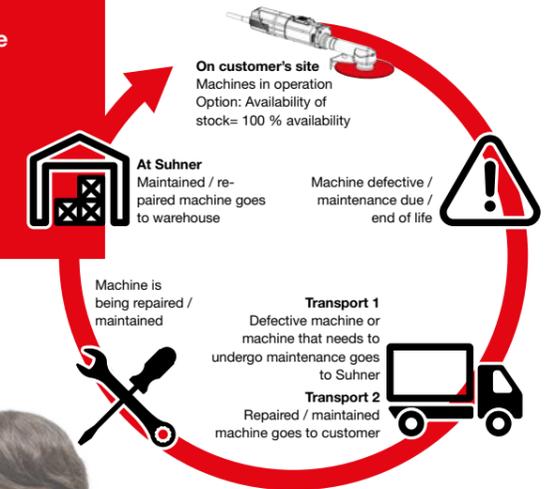
– The comprehensive Suhner rental model.



FLEETCare@Suhner

The machine package that takes care of everything for you!

- 100% availability
- Fixed costs make it easy to plan ahead
- Repair and preventive maintenance
- Expanding expertise with employee training



ABRACare@Suhner

Abrasive inventory optimization for you!

- Automatic, demand-driven order triggering
- Inventory management
- Abrasive cabinet and tools
- Consignment warehouse, no downtime and guaranteed stock availability



SUHNER@Work

The best place to try out our products is at your workplace.

Benefit from our comprehensive process expertise in grinding and abrasive technology. See what's new and discover more effective and more efficient options.

Try our products out on your current projects. Find out how ergonomic tools can boost your productivity.



SUHNER®

ADVANCED COMPONENT CREATION



ABRASIVE



MACHINING



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