

CLEANING SYSTEMS FOR THE RAILROAD

MAKING GREEN WORK.



Bio-Circle Surface Technology GmbH • Railroad AL02 2025 EN
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www.bio-circle.com

VISION

WE FOR YOU



STRAIGHT AHEAD WITH SUSTAINABILITY

Think holistically. Act sustainably.

Bio-Circle Surface Technology GmbH – your reliable partner for industrial products for cleaning, welding, protecting, and lubricating.

Environmentally friendly and user-friendly. For manual and automatic parts cleaning. With 40 years of know-how and experience in research, product development, process optimization, sales, and service.

With a global network and with production sites and partners.
With around 190 employees, the Gütersloh site is the Bio-Circle headquarters.
All products are developed and manufactured here for Germany, Europe and beyond.
Made in Germany.



AT A GLANCE

Your page overview

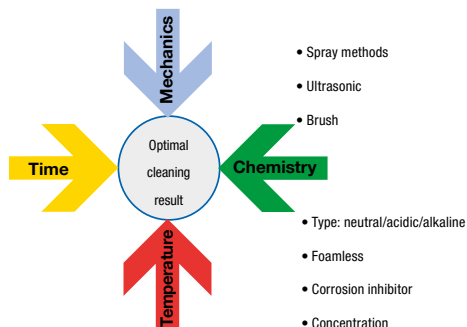
This table gives you an overview of the application possibilities of various cleaners and the associated data and product information. For on-site consultation and demonstration, we will of course come to your company.






	pH value* – Values from MSDS	VOC content in %	Flashpoint in °C	BIO-CIRCLE GT-i	BIO-CIRCLE HP, HP Vigo	PROLAQ	Parts washer	Ultrasonic	RWR	Steel/Stainless steel	Aluminium	Non-ferrous metals	Plastics	Painted surfaces	Zinc-coated surface	Hazardous substance symbol	VOC-free	VOC-reduced	NSF	Label-free
AF Clean	9,6	10,4	53													-	-		-	
ALUSTAR 500	7	-	-															-	-	-
BIO-CIRCLE L	8,5	-	-													-		-		
BIO-CIRCLE L Evo	8	-	-													-		-		
BIO-CIRCLE L Ultra	8,5 – 9,5	-	-													-		-		
CB 100	10,8	-	-													-		-		
Power Cleaner DB	<1	2,6	-														-			-
PROLAQ L 400	-	45	63													-	-	-	-	
PROLAQ L 500	-	20	61														-		-	-
Smoke Resin Remover DB	14	-	-													 		-	-	-
UNO AV	13,4	-	-															-	-	-
UNO X	14	1,5	-													 	-		-	-
Air Force																				
CLEAN BOX Max																				
Stainless-Steel Foam Sprayer 24 L																				
Foam Injector																				

 recommended
  limited use
  not usable



CLEANING SYSTEMS FOR THE RAILROAD

sustainable – innovative

Safe and convenient cleaning

Bio-Circle cleaning systems offer a wide range of cleaning devices with water-based cleaners for safe and convenient cleaning and degreasing. The areas of application could not be any more varied. Whether components or machines, with these cleaning systems you can solve your tasks efficiently. Take advantage of our regular maintenance of the cleaning system and the cleaning agent by our service technicians.

MANUAL

 BIO-CIRCLE parts washer Systems for powerful, biological parts cleaning	 BIO-CIRCLE HP The parts washer with flow brush yet the cleaning power of high-pressure cleaning	 HP Vigo Manual high-pressure cleaning for all needs
 CLEAN BOX The mobile solution for parts cleaning	 PROLAQ Compact Cleaning of painting tools and spray guns	 Foam Injector Manual foam application for large surfaces.

AUTOMATIC

 BIO-CIRCLE Turbo 2 in 1 – automatic and manual cleaning	 HTW Robust, fully automatic hot water parts washers	 PROLAQ Auto Manual and automatic cleaning of all painting tools and spray guns
 RWR Multichannel Cleaning of brake line systems	 RWR Cleaning system for pipes and containers in the fresh- and wastewater system of trains	 RWR 80 Cleaning system for heat exchangers, coolers and other pipes

Bio-Circle PARTS WASHER

Pleasure in cleaning



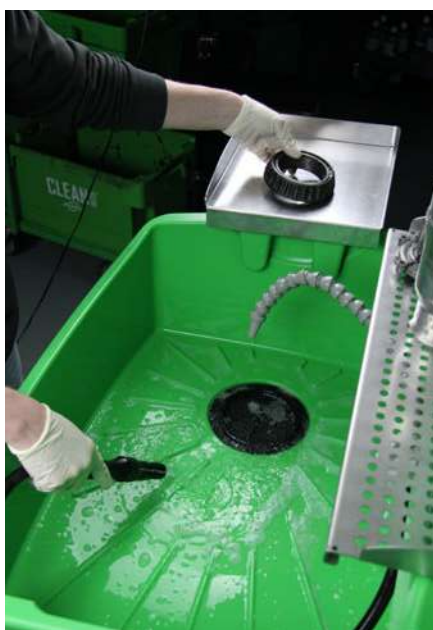
The acclaimed BIO-CIRCLE parts washers are true specialists. They clean without solvents and cold cleaners, thus protecting both the employee and the environment from highly volatile vapours. With its comfortable and easy to operate design details and the huge variety of accessories the BIO-CIRCLE provides you with a long-term solution for convincing parts cleaning on a natural basis.



Difference between the two devices: size and payload

- **BRAND NEW: BIO-CIRCLE-i technology**, installed as a powerful chip in the control box of the **BIO-CIRCLE GT-i** and **BIO-CIRCLE ForU** parts washer
- **Easy transport** by means of a pallet truck
- **Optimal depth of the basin** for good splash protection
- **Filter system** in the drain of the basin (coarse, fine and bag filters and magnet)
- **Drainage system**
- **To be booked separately:**
 - **Filter housing with various filter inserts**
 - **Rail system with castors for mobility**
 - **and much more**

	BIO-CIRCLE For U	BIO-CIRCLE GT-i Maxi
Dimensions (W x H x D)	840 x 1030 x 560 mm	980 x 1110 x 705 mm
Work surface (W x D)	720 x 510 mm	810 x 520 mm
Payload	100 kg	250 kg
Working height	800 mm	860 mm
Operating temperature	up to 41 °C	up to 41 °C
Heating	650 W	650 W
Pump	40 W	40 W
Optimum filling quantity	100 l	120 l
Material	LDPE	LDPE
Empty weight	45 kg	60 kg
Power supply	230 V, 50 Hz	230 V, 50 Hz



COST EFFICIENT

- Closed-loop system
- Consistent cleaning performance

ECO-FRIENDLY

- VOC-free
- Biodegradable

EMPLOYEE-FRIENDLY

- Label-free
- Special dimensions available
- Fast and easy

CLEANING SYSTEMS MADE OF STAINLESS STEEL

BIO-CIRCLE Turbo

2 in 1 – combination of manual and automatic cleaning

- ▶ With access for manual cleaning when the lid is closed
- ▶ Precise manual cleaning with flow brush or nozzle
- ▶ 6 bar max. compressed air gun in cleaning chamber
- ▶ Automatic cleaning pressure: 4 bar
- ▶ Insulation of the entire housing
- ▶ Long service life of the cleaner due to micro-organisms: integrated oxygen supply via compressor/oxygen pump



BIO-CIRCLE HP

Manual cleaning with the lid open or closed

- ▶ Manual cleaning using a flow brush, with the lid open or closed
- ▶ Cleaning temperature 45 °C
- ▶ The insulated tank prevents heat loss
- ▶ Working pressure of 20 – 60 bar, optimal handling by means of a high-pressure pistol
- ▶ Pull-out step
- ▶ Payload up to 350 kg
- ▶ Facilitates crane loading
- ▶ Significantly longer bath service life thanks to microorganisms



HP Vigo

Manual cleaning with the lid closed

- ▶ Adjustable cleaning temperature of up to 45 °C
- ▶ Adjustable working pressure of up to 80 bar, optimal handling by means of a high-pressure nozzle
- ▶ Compressed air pistol for parts drying
- ▶ Payload up to 150 kg
- ▶ Significantly longer bath service life thanks to microorganisms
- ▶ Automatic switch-off via float switch if the level is too low (to protect the heating and the pump)



	BC Turbo 800	BIO-CIRCLE HP	HP Vigo
Dimensions (W x D x H)	1170 x 1075 x 1585 / 2035	1150 x 1229 x 1800 / 2430	1443 x 855 x 1574/1927
Work surface (W x D)	Ø 775	860 x 580 x 480 mm	1157 x 768 x 520
Payload	350 kg	350 kg	150 kg
Working height	900 mm	950 mm / 1210 mm	950 mm / 1050 mm
Operating temperature	variable 40 – 60 °C	45 °C	45 °C
Heating	4.5 kW	0.65 kW	3 kW
Pump	automatic 220 W / manual 55 W	1.6 kW, AD = up to 60 bar	1.85 kW, AD = 80 bar
Optimum filling quantity	160 L	100 L	125 L
Material	Stainless steel	Stainless steel	Stainless steel
Empty weight	350 kg	235 kg	125 kg
Power supply	400 V, 50 Hz	230 V, 50 Hz	230 V, 50 Hz

BIO-CIRCLE Liquids

Cleaning at a high level: easy – fast – safe.



The water-based, alkaline BIO-CIRCLE Liquids are solvent-free and non-labelled and feature a fantastic cleaning power. They are a user-friendly and environmentally compatible alternative to solvents. Using them means more occupational health and safety and reduced operating costs; a win-win situation for users and entrepreneurs. The BIO-CIRCLE Liquids, which are used in combination with the BIO-CIRCLE parts washers, contain microorganisms* that degrade the removed oil, thus guaranteeing long bath lives. Cleaning results remain at a constantly high level, even with increased dirt ingress.

The BIO-CIRCLE Liquids are ready for use and provide temporary corrosion protection; the ideal cleaning temperature is 41 °C.

BIO-CIRCLE L Evo



Supplied in containers of 20 L, 200 L and 1000 L.

- The versatile one among the BIO-CIRCLE Liquids
- For moderate to heavy soiling
- Environmentally friendly and safe
- For manual and automatic use:
 - in BIO-CIRCLE parts washers, parts washing systems and high-pressure parts washers
- VOC- and label-free according to the CLP Regulation
- Cleans materials such as:
 - aluminium, zinc-coated surfaces, non-ferrous metals as well as steel/stainless steel and plastic

Cleaning with BIO-CIRCLE L Evo



Manual use

	Everyday soiling*	TOP SELLER The right choice for your applications.		Persistent soiling*
	BIO-CIRCLE L	BIO-CIRCLE L EVO	BIO-CIRCLE L Ultra	
Mechanics	parts washer with flow brush	parts washer with flow brush, parts washing machine, high-pressure parts washer	parts washer with flow brush	
Operating temperature	41 °C	41 – 45 °C	41 °C	
Residues	virtually residue-free	virtually residue-free	forms a light protective film	
Aluminium protection	-	ALU	-	
Food areas	NSF	NSF	NSF	
Corrosion protection	temporary	temporary	temporary	
Environmental aspect of raw material	Surfactants based on renewable raw materials; label-free according to the CLP Regulation, VOC-free according to 2010/75/EU			
Labelling				

* Everyday soiling: oils, greases

* Persistent soiling: bitumen, anti-corrosion wax, burnt-in grease and oil, oil carbon, paint

*The microorganisms used are non-pathogenic bacteria of risk group 1 (classified according to BioStoffV 2000/54/EC, TRBA 466).

Risk group 1: Substances that are unlikely to cause disease in humans.



BIO-CIRCLE L

Supplied in containers of 20 L, 200 L and 1000 L.

- The versatile one among the BIO-CIRCLE Liquids
- Suitable for the food industry



BIO-CIRCLE L Ultra

Supplied in containers of 20 L, 200 L and 1000 L.

- Removes persistent contaminations
- Suitable for the food industry



The BIO-CIRCLE Liquids remove a variety of contaminations, depending on requirements and the cleaning system: grease, oil, separating agents, smoke residues, soot, wear particles, and swarf. To some extent also burnt-in organic contaminations, rust, oxidation and heat tinting, bitumen, and corrosion protection waxes.

Material: stainless steel, steel, tiles, plastics, varnished and zinc-coated surfaces. To some extent also aluminium and non-ferrous metals.

FIELD OF USE: Maintenance of components, work pieces and motors.

Across all industries: automotive, foodstuffs, metal processing/CNC, railways, skilled crafts and trades.

You already have a cleaning system and would like to use our innovative products?
Please contact us, we'll be glad to advise you!
www.bio-circle.com

HTW Hot-water parts washers

**Sturdy, fully automatic cleaning device
for single-stage cleaning and degreasing of small parts**

Powerful, simple, and safe to operate: the hot-water parts washers are robust and ideal for single-stage cleaning and degreasing. Due to the driven rotating basket and the spraying pressure, the Bio-Circle cleaners in the hot water parts washer have an optimum effect on the items to be cleaned.

- ▶ Tank with sloping bottom for quick emptying
- ▶ Digitally adjustable thermostat (up to 90 °C),
digital timer to control the duration of the cleaning process
- ▶ Machine body, rack insert, spray system and control box made of V2A
- ▶ Electric rotary basket drive



	HTW-II 800	HTW-II 1000	HTW-II 1200	HTW-II 1500
Overall width x overall depth (mm)	1180 x 1145	1370 x 1210	1580 x 1505	2080 x 1681
Height with lid closed/open with angled exhaust duct (mm)	1361 / 1790	1524 / 2005	1580 / 2200	1840 / 2700
Inner diameter of rack, approx. (mm)	775	975	1175	1500
Useful height max. (mm)	400	450	650	700
Payload max. (kg)	350	350	350	350
Washing tank capacity (L)	150	300	485	770
Total weight of the cleaning device (kg) excl. tank filling, payload and supplementary equipment	280	350	350	550
Power supply – 3-phase current (V)/ frequency (Hz)	6/ 4.5	8.5/ 6	11.5/ 9	21.5/ 2 x 9
Pump – automatic cleaning: flow rate (m³/h / bar)	4.8/3.8	12.0/3.8	12.0/3.8	14.5/4.5



ALUSTAR 500



ALUSTAR 500 is a water-based, low-foaming neutral cleaning agent designed for use in fully automatic equipment for spray cleaning. It removes inorganic soiling such as brake dust and biomass of any kind, as well as very heavy grease and oil soiling. Depending on the contamination, ALUSTAR 500 can be diluted with water. Due to its neutral pH value, not only components made of steel and iron can be cleaned fully automatically, but also those made of aluminium, non-ferrous metals, or composite materials.

Supplied in containers of 20 L, 200 L and 1000 L.

- ▶ **Biodegradable as per EU Directive**
- ▶ **VOC-free**
- ▶ **Best cleaning performance at 53 °C saves energy**

FIELD OF USE: Automatic cleaning of bogie components on freight wagons and passenger vehicles that are heavily contaminated with brake dust and grease

EMPLOYEE-FRIENDLY

- ▶ pH-neutral
- ▶ odourless

COST-EFFICIENT

- ▶ very long bath life
- ▶ easy disposal

ENVIRONMENTALLY FRIENDLY

- ▶ VOC-free
- ▶ biodegradable as per EU directive



CB 100



This water-based cleaning agent works on the basis of natural ingredients that give the product its strong dissolving properties. Carbonizations, soot, sealants and adhesives, oil carbon, bitumen, and protective waxes are removed.

CB 100 is gentle on materials and does not attack metal surfaces.

Supplied in a user-friendly 500 ml spray bottle, refillable from 20 L, 200 L and 1000 L containers.

- FIELD OF USE:**
- Universally applicable in manual and automatic removal of the most stubborn contaminations in the entire industry
 - Cleaning of roller- and ball bearings
 - Maintenance of motors
 - Substitute for petroleum in cleaning
 - Can be used in ultrasonic cleaning systems
 - Can be used in HTW and BIO-CIRCLE Turbo
 - Degreasing before painting



EFFICIENT

- ▶ Extreme cleaning power
- ▶ Can be used cold and warm

ENVIRONMENTALLY FRIENDLY

- ▶ VOC-free
- ▶ Label-free
- ▶ Free of hazardous substances

SUSTAINABLE

- ▶ Very long service life
- ▶ Based on renewable raw materials



Smoke Resin Remover DB



Phosphate- and solvent-free intensive cleaner **with germ-reducing effect** for cleaning and degreasing (highly concentrated, can be diluted up to 1:100 with water). For removing the most stubborn dirt, such as resinified and cracked greases and oils, ball- and roller-bearing greases. Increasing the cleaning temperature to optimum 60 °C shortens the cleaning time. The cleaning agent contains a corrosion inhibitor for corrosion-sensitive components.

Supplied in containers of 20 L, 200 L and 1000 L.

- FIELD OF USE:**
- Cleaning of air filters, antifriction bearings, gearbox shells
 - Removal of caked-on grease and oil from steel and castings
 - Professional
 - For the mechanical removal of the heaviest contamination such as anti-friction and roller bearing greases – Approved by Deutsche Bahn AG

COST-EFFICIENT

- ▶ High cleaning performance
- ▶ Dilutability

ENVIRONMENTALLY FRIENDLY

- ▶ VOC-free
- ▶ Biodegradable as per EU directives

PROFESSIONAL

- ▶ Approval by DB AG
- ▶ System application



STAINLESS-STEEL FOAM SPRAYER

Air-powered foam sprayer with 3 m of pneumatic hose. Easy handling and safe working due to stainless-steel housing, safety valve and air pressure control.

For the application of water-based, foaming cleaners, pH 2 – 12, such as FOR CLEAN V, CB 100.



Applying cleaner with compressed-air foam lance



- ▶ Compressed air: adjustable up to 8 bar
- ▶ With handle and castors
- ▶ Spray efficiency: 7.3 m² per minute

FOAM INJECTOR

The Foam Injector is easy to use, almost maintenance-free, with 10 m hose and foam lance – the perfect tool for cleaning large areas. The firm and long-lasting foam dissolves persistent soiling, even on vertical surfaces, depending on how the cleaner works.



- ▶ Compressed air: 5 bar
- ▶ Efficiency: 3.1 m² per minute
- ▶ With air-operated diaphragm pump
- ▶ incl. adapter for mounting on IBC or 200-litre drum
- ▶ Suitable for foaming cleaners, pH 0 to 14, e.g. UNO AV, UNO X, UNO SV, For Clean V

Extremely stable foam with UNO X



UNO AV



UNO AV is a water-based, phosphate- and solvent-free cleaning agent for removing oil-, grease- and soot contaminations. The product is applied in high concentration or diluted up to 1:10 with water before it is removed with a high-pressure cleaner after a short exposure time. The cleaning agent is slightly viscous to allow it to adhere to vertical surfaces. The viscosity prevents the cleaner from drying out or running off the components. **Supplied in containers of 20 L, 200 L and 1000 L.**

- ▶ Biodegradable as per EU Directive
- ▶ VOC-free
- ▶ Non-flammable, can be used up to 90 °C
- ▶ Viscous, adheres to vertical surfaces

FIELD OF USE: The cleaner is used in the area of bogies, locomotive cleaning, maintenance and all oily and greasy large components, freight wagons and passenger vehicles.



UNO X



UNO X is a gel-like, foaming, water-based, solvent-free cleaner for removing environmental influences, oil, grease and soot from bogies and similarly contaminated steel parts. Highly concentrated or diluted up to 1:10 with water, the cleaning agent is applied by means of the Foam Injector. All other application systems are unsuitable. As the cleaner is viscous and foaming, it adheres very well to vertical surfaces. Due to the very low aerosol formation, this product does not irritate the respiratory tract. **Supplied in containers of 20 L, 200 L and 1000 L.**

- ▶ Biodegradable as per EU Directive
- ▶ VOC-free
- ▶ Non-flammable, can be used up to 90 °C
- ▶ Viscous and foaming, adheres to vertical surfaces
- ▶ Very low aerosol formation – Employee protection

FIELD OF USE:

- Bogie cleaning
- Underfloor cleaning (carcass pit)
- Brake dust and environmental contaminants are easily removed
- Oils, greases, and soot are no problem for the cleaning agent

EMPLOYEE-FRIENDLY

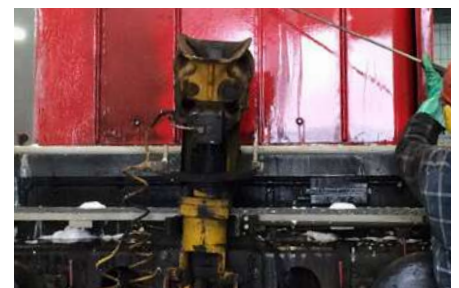
- ▶ No aerosol formation due to foam
- ▶ Viscous – does not run off like liquid cleaner

COST-EFFICIENT

- ▶ Gel-like foam, adheres to the component
- ▶ Easy disposal

ENVIRONMENTALLY FRIENDLY

- ▶ VOC-reduced
- ▶ Biodegradable as per EU directive



AF Clean



The perfect combo with Air Force

AF Clean is the best buddy of the refillable Air Force aluminium spray bottle! The alkaline, non-labelled cleaner is a must-have for your manual surface cleaning because it **has a strong cleaning power and is still low in residues.**

- ▶ **REMOVES** oils, greases, abrasion, swarf, release agents and adhesive residues
- ▶ **CLEANS** steel, stainless steel, aluminium, plastic, and painted surfaces
- ▶ **Safe:** non-labelled, VOC-reduced according to the CLP Regulation
- ▶ **Foamless**
- ▶ **Pleasant menthol smell**

FIELD OF USE: metalworking/CNC, automotive, plastics processing, skilled crafts and trades, maintenance

APPLICATION: spray on – leave to act – wipe off



AIR FORCE

Sustainability with the refillable spray bottle

From jerry can to spray can – this is the new way of thinking in manual surface cleaning. No more spray can waste, application as usual at the touch of a button.



Spray over a large area – flood with pinpoint accuracy



The perfect combo: AF Clean & Air Force

With compressed air + cleaner you eliminate the need for flammable propellants!

- ▶ **Unscrew spray can – fill with cleaner – screw shut – fill with compressed air – done!**
- ▶ **At the touch of a button**
 - Fine spray mist for large areas
 - Flush and rinse with precision capillary tube
- ▶ **Precise, accurate, overhead, ideal for blind holes**
- ▶ **AF Clean: No labelling required, spray on with low residue - leave to take effect - wipe off**
- ▶ **For all label-free products from Bio-Circle**



FIELD OF USE: automotive, metal/CNC, everywhere in maintenance; pre-treatment and final cleaning, cleaning of large surfaces, components such as engine blocks with narrow gaps, overhead work and much more.

APPLICATION: To top up with compressed air, a tyre inflator with adapter (for passenger cars) is necessary. Recommended pressure: up to 6.3 bar

CLEAN BOX

Your washing station

The **CLEAN BOX Max** and **Flex** are the perfect washing station for large parts and extremely bulky workpieces. This makes them applicable in many factory- and production areas, such as maintenance, machine- or industrial construction. The CLEAN BOXes are characterized by their easy handling and the use of low-temperature cleaners.

Due to built-in pump only suitable for water-based alkaline cleaners:

CLEAN BOX Max

- ▶ For large, bulky workpieces
- ▶ Flow gun with integrated washing brush
- ▶ Grid on the working platform
- ▶ Available in two sizes (Max 1 und Max 2)
- ▶ Feed pump for the cleaner
- ▶ Electro-pneumatic foot switch to switch the pump on and off

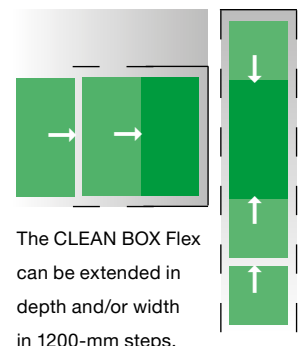


CLEAN BOX Flex

- ▶ Extendable modular design
- ▶ Can be ordered in prefab sizes, with a feed pump for the cleaner
- ▶ Integrated WHG [Water Resources Act]-approved collecting tray with a leakage inspection hole and a storage tank with lid



	CLEAN BOX Max 1	CLEAN BOX Max 2	CLEAN BOX Flex
Overall dimensions W x D x H (mm)	1420 x 1420 x 520	2400 x 1420 x 740	Standard 2725 x 1505 x 390 variable working surface can be extended in 1200-mm steps only when ordering
Useful work surface W x D (mm)	1220 x 1220	2250 x 1220	variable
Material	PE	PE	PE-HD
Payload	1000 kg	1000 kg	1000 kg
Useful volume min./max.	200 L / 300 L	700 L / 1000 L	250 L / 350 L
Total useful volume	590 l	1400 l	355 L
Working pressure	0.2 bar	0.2 bar	0.2 bar
Weight	100 kg	160 kg	250 kg
pH-value working range	4.5–12	4.5–12	4.5–12
Rated input voltage	230 V/1.3 A / 50 Hz	230 V/1.3 A / 50 Hz	230 V/1.3 A / 50 Hz
Power input	330 W	330 W	330 W
Operating temperature	Ambient temperature	Ambient temperature	Ambient temperature
Operating pressure max.	2 bar	2 bar	2 bar
IP protection class	68	68	68



RWR pipe and tank cleaning device

Cleaning system for pipes, heat exchangers and temperature control units

Completely made of stainless steel, the BIO-CIRCLE pipe and tank cleaning device has been designed especially for the cleaning and flushing of contaminated pipes, wastewater tanks, freshwater pipes and tanks, heat exchangers and coolers. With the bio-chem Power Cleaner DB cleaning fluid contaminations such as urine scale, limescale and corrosion can be removed efficiently, benefiting from a simultaneous antibacterial effect.

The CB 100 Alu cleaning fluids can be relied on to remove greases, oils and carbonized oil.

- ▶ **Cold and hot operation (thermostat adjustable up to 90 °C – factory-set to optimum 60 °C)**
- ▶ **Easy handling**
- ▶ **Stainless steel filter protects the pump from solids**
- ▶ **Collecting tray for hoses with drain for easy emptying**
- ▶ **Mobile – the device is mounted on a trolley and can thus be brought directly to the application – for all systems also by means of a guide rail via fork-lift truck or with our RWR mover**
- ▶ **Available in useful volume sizes of 500 litres and 1000 litres**



	RWR-Multichannel	RWR-500 DB-A SPS	RWR-500 DB-F SPS
Dimensions	2410 x 1200 x 1335 mm (WxDxH)	2495 x 1100 mm (WxD)	2495 x 1100 mm (WxD)
Fluid tank capacity	300 L	500 L with drain for easy emptying	1000 L with drain for easy emptying
Feed pump	Up to max. 12 m³/h	Up to 12 m³/h max.	Up to 12 m³/h max.
Return flow pump	-	Vogelsang-pump, Up to 12 m³/h max.	Up to 12 m³/h max.
Power supply	400V, 16A, 16 kW/heating 2 x 6kW	400V, 32A, 17 kW/heating 2 x 7,5kW	400V, 32A, 17 kW/heating 2 x 7,5kW
Stainless steel heating	Factory-set to optimal 60 °C	Factory-set to optimal 60 °C	Factory-set to optimal 60 °C
Hose connections	Inlet: 8 x ½' Escape: 8 x ½'	Inlet: 1' Escape: 1½'	Inlet: 1' Escape: 1'
Total weight	160 kg	440 kg	350 kg



Power Cleaner DB



Powerful, water-based acidic cleaner

Phosphate- and hydrochloric acid-free water-based intensive cleaner (highly concentrated, can be diluted with water to 1:40). Dissolves limescale residues, urine scale, moss and algae, rust as well as films from brass and copper, water stains and black fungus stains, with simultaneous germ reduction and disinfection. It is approved by Deutsche Bahn AG, toilet manufacturers and train operators worldwide.

PROFESSIONAL

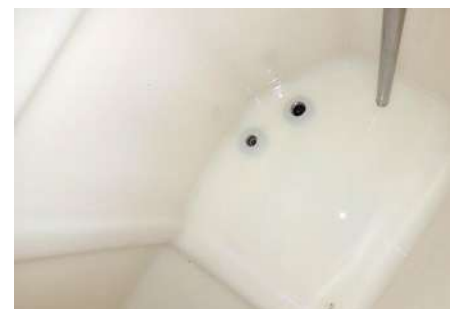
- ▶ Developed for railway-specific applications
- ▶ System applications around the WC module

COST-EFFICIENT

- ▶ Cleaning tasks can be repeated many times
- ▶ One cleaning agent for many applications

EMPLOYEE-FRIENDLY

- ▶ Hazard-free handling according to work instructions



- Fields of use**
- Cleaning of vacuum toilets and tanks
 - Cleaning of toilet pipes
 - Cleaning of wastewater tanks
 - Cleaning of freshwater pipes and tanks
 - Cleaning of coolers and heat exchangers
 - Perfectly suited for use in spray parts washers, immersion baths, pipe- and tank cleaning devices



Vacuum toilet cleaning with Power Cleaner DB

Put the toilet to be cleaned into the cleaning device. The toilet parts washer is a system that has been geared to the requirements in vacuum toilet cleaning. Just give us a call if you require any further information. At a concentration of 5–10 % and at a cleaning temperature of 50–60 °C the cleaning time is approx. 10 minutes. Turning the toilets after 5 minutes will have a positive effect on the cleaning result. Spray undiluted Power Cleaner DB on extremely contaminated spots. After dismantling soak the interior toilets parts in undiluted Power Cleaner DB or clean them in the cleaning system.

Your benefit: Power Cleaner DB is very versatile in use. You will save water- and energy costs by means of its well-thought-out recirculation system.

PROLAQ Auto

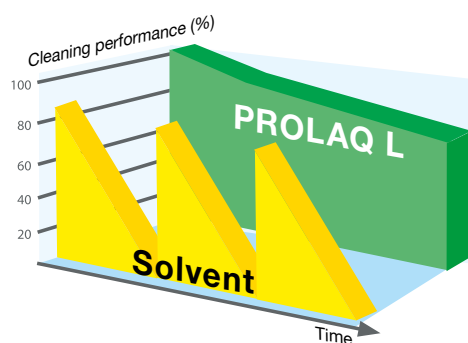
Manual and automatic cleaning for all varnish application and processing tools

PROLAQ Auto is a compact cleaning station for paint spray guns and tools. Cleaning in EX-protected areas is possible manually and automatically. The cleaning of flow cups and suction cups is possible automatically. Afterwards, the cleaned components can be dried by means of an air shower. The integrated extraction and the hood effectively minimize odours and ensure a clean workplace.

- Manual and automatic cleaning also in EX-protected areas
- Automatic cleaning of 2 guns at the same time
- For suction and flow cup guns
- Subsequent air rinsing
- Manual cleaning with flow-through brush also possible
- Can be closed by means of a hood
- Sedimentation- and filter unit included



CLEANING CONSISTENCY



	PROLAQ Auto
Dimensions (W x H x D)	857 x 1554 x 508 mm
Manual work surface (W x D)	415 x 415 mm
Working height	1040 mm
Pump	Pneumatic diaphragm pump (AODD) PTFE diaphragm
Output (pump)	12 l/min
Air consumption (pump)	58 l/min
Capacity	60 L
Material	Steel/stainless steel
Empty weight	94 kg
Air pressure	5 – 6 bar
Automatic cleaning	14 nozzles; cleans 2 spray guns
Noise level	<70 dB
Diameter exhaust pipe	76 mm
ATEX	Zone 1 and 2



PROLAQ Compact

Manual cleaning system for all varnish application and processing tools

The mobile PROLAQ Compact offers the user a high degree of flexibility. A wide range of painting tools such as nozzles, squeegees, printing plates or hose-guided airless systems can be cleaned. The robust cleaning unit made of plastic (PE) is operated with compressed air. It is operated via a foot switch. A high-quality continuous brush ensures an optimal cleaning result. A compressed air pistol on the side offers a quick way to dry the cleaned parts.

- ▶ Operated with compressed air
- ▶ Integrated funnel
- ▶ Mobile kit
- ▶ High-quality flow-through brush, available in different degrees of hardness (optional)
- ▶ Lid with splash protection function (optional)
- ▶ Accessory box (optional)
- ▶ Holder for accessory box (optional)



Gefördert durch:
 Bundesministerium für Wirtschaft und Energie
 aufgrund eines Beschlusses des Deutschen Bundestages

	PROLAQ Compact
Dimensions (W x H x D)	840 x 1060 x 600 mm
Work surface (W x D)	740 x 450 mm
Payload	100 kg
Working height	980/840 mm
Pump	Pneumatic diaphragm pump (AODD) PTFE diaphragm
Optimum filling quantity	40 – 60 L
Material	LDPE
Empty weight	50 kg
Air pressure	6 bar max.

PROLAQ-L-Familie

Rethink your decision!

With the unique PROLAQ Liquids, we offer you the alternative to cellulose thinners: VOC-reduced and low-labelled varnish removers for the removal of paints, varnishes, inks and printing inks. Recyclable. Lower costs. Optimum cleaning performance. User-friendly. Environmentally friendly. Fewer protective measures, lower operating costs, and a healthier workplace. Cleaning with a system: The ready-to-use PROLAQ varnish removers are specially designed for use in the PROLAQ Compact and PROLAQ Auto cleaning systems, and in ultrasonic cleaning devices. Supplied in containers of 20 L, 200 L and 1000 L.

PROLAQ L 400

Label-free, solvent-based varnish remover

- ▶ Effectively cleans undried varnishes, paints and printing inks from spray guns, rollers, pumps, etc.
- ▶ Low residue
- ▶ No labelling required under the CLP regulation
- ▶ VOC content (EC: < 45 % VOC content; CH: 16 % VOC content)
- ▶ Can be used mechanically and manually
- ▶ Recyclable
- ▶ Non-flammable



Tube system cleaning with PROLAQ

PROLAQ L 500

VOC-reduced varnish remover

- ▶ Primarily for solvent-based lacquers and paints
- ▶ Can be used mechanically and manually
- ▶ VOC-reduced (EC: 20 % VOC content; CH: 36 % VOC content)
- ▶ Cleans brushes, rollers, and filters
- ▶ For cleaning different paint systems
- ▶ Cleans suction nozzles, filters, paint lines, paint spray guns, hoses, rollers
- ▶ Recyclable
- ▶ Non-flammable
- ▶ Removal of graffiti



Graffiti removal

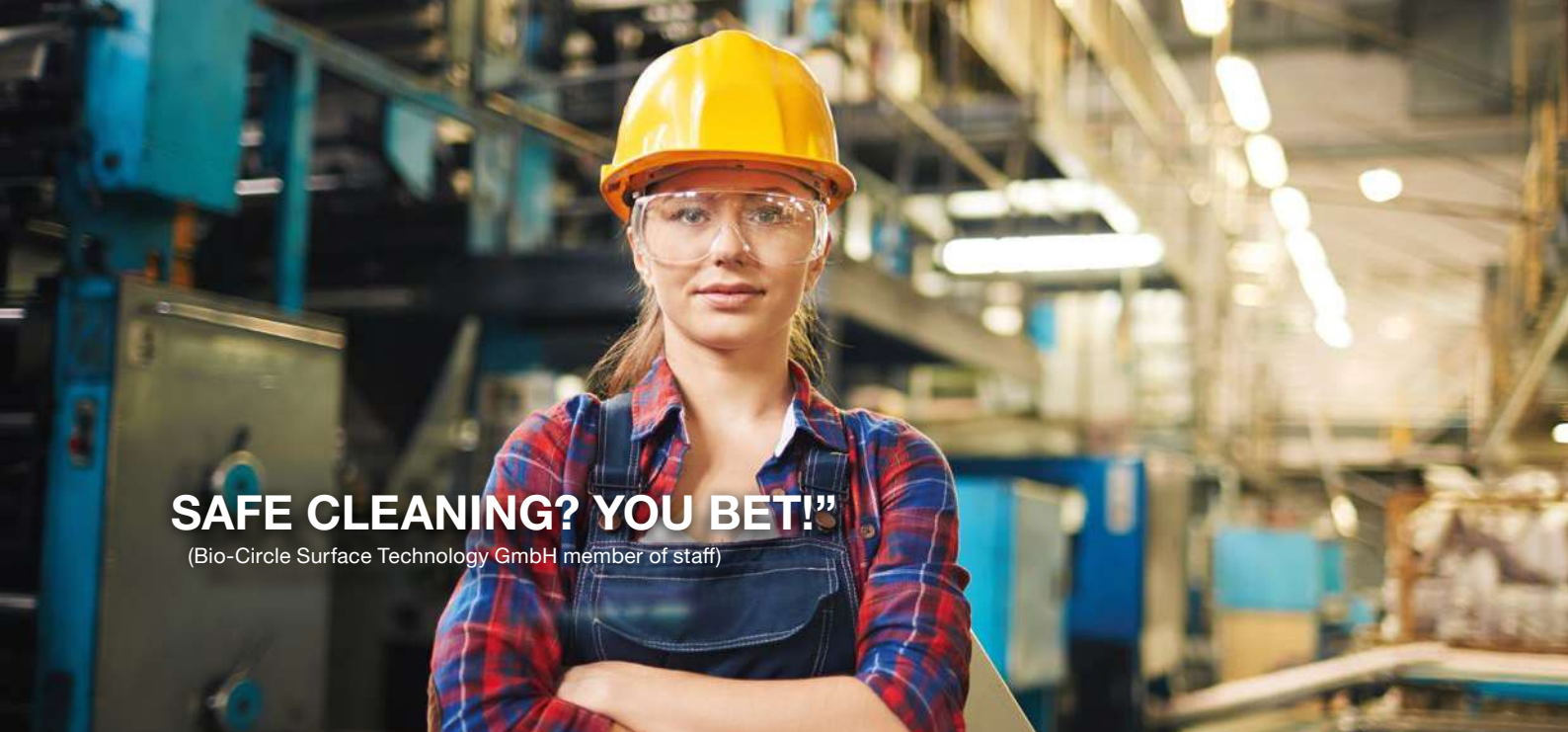
PROLAQ Liquids dissolve paints, varnishes, inks, printing inks and pigment inks.

Material: All paint application and processing tools as well as stainless steel, steel and aluminium are cleaned. To some extent also: non-ferrous metal and zinc-coated surfaces.

FIELD OF USE: Cross-industry, wherever paints and varnishes are used, cleaning of paint application tools, hoses, printing rollers, stencils, etc. Manual and machine application in the PROLAQ cleaning systems, in immersion baths and in ultrasonic cleaning devices.

YOUR BENEFITS

- ▶ High cleaning power
- ▶ Reduction of solvents
- ▶ Safe workplace
- ▶ Professional cleaning system



SAFE CLEANING? YOU BET!"

(Bio-Circle Surface Technology GmbH member of staff)



Nature Boost –

optimal performance, employee protection and reduction of environmental impacts. Successful cleaning in the industry with the power of Nature. Nature Boost cleaners are based on renewable raw materials. They stand out for their excellent dissolving powers, especially with strong greases, oils, adhesives as well as paint and inks. What makes Nature Boost even more impressive is that it stands for non-combustible, VOC-free, and non-labelled products.



VOC-free, VOC-reduced

The European VOC Solvents Directive (1999/13/EC) aims to considerably reduce the use of solvents and VOC emissions into the environment, thus protecting human health. In the development and manufacturing of our products we pay close attention to developing and manufacturing VOC-free or VOC-reduced products. In plenty of applications, the water-based Bio-Circle products can replace solvents completely.



Non-labelled

With the aid of efficient systems and non-labelled products we succeed in optimizing the processes at our customers'. The cleaning quality is maintained although the cleaning is done without labelled products. The laborious handling of hazardous substances is obsolete. HAZMAT storages, HAZMAT trainings, and the preparation of operating instructions are a thing of the past. The employees' health and the environment are protected. Even trainees and apprentices are allowed to handle the products.



NSF – Cleaning in the foodstuffs industry

The NSF-certified water-based Bio-Circle cleaners are completely miscible with water, and because of their residue-free rinsability they are suitable for applications in the foodstuffs industry according to sec. 31 LFGB (German Food, Consumer Goods and Feed Code).



Water-miscible

Many of our cleaners are concentrates. They are easy to mix with water and hence very economical. Please make sure the mixing ratio corresponds to the application and the contamination.



Clean Blue – for low-temperature cleaning only

The Bio-Circle low-temperature cleaners – Clean Blue – have been developed for mechanical and manual use. They save energy and efficiently remove strong contaminations already at ambient temperature.



Ready to use

These cleaners are applied ready for use. Depending on the cleaner, their application is manual or mechanical. The user is relieved of one work step, as calculating the mixing ratio is no longer necessary.



SMALL CO₂ FOOTPRINT

in industrial cleaning

**We'll make sure of that:
Of course!**

TRANSPORT

- Short distances
- CO₂-neutral forwarders
- Preferably regional suppliers



PRODUCTION

- Consciously sustainable selection of raw materials
- Focus of product development on recycling management
- Self-generated energy



PACKAGING

- Refill
- Recycled packaging
- Preferably regional suppliers



Cleaning process with you:

**Up to 75 % of the CO₂ footprint
of your cleaning process consists
only of the pure application!**

**We reduce the footprint
of your application through:**

Application consulting



Process optimisation



Bio-Circle products



Bio-Circle Surface Technology – the team of experts
with more than 35 years of experience.

Deutsche Bahn AG References*

Vacuum toilet cleaning

Dortmund
Hamburg
Köln
Kassel
Wittenberge
Frankfurt

Cleaning of toilet pipes

Braunschweig
Kassel
Kiel
Schöllkrippen

Cleaning of toilet pipes and tanks

Aachen	Magdeburg
Cottbus	München
Dresden	Neumünster
Hamburg	Stuttgart
Köln	Ulm
Krefeld	Wittenberge

Cleaning of freshwater pipes and containers

Cottbus	München
Frankfurt a.M.	Neumünster
Hamburg	Nürnberg
Kassel	Stuttgart

Vacuum ventricle cleaning

DB FZI Wittenberge
DB Regio München

Cleaning and protecting pneumatic components in doors

München
Stuttgart
Neumünster

BIO-CIRCLE parts washers

Braunschweig	Kassel
Cottbus	Krefeld
Dresden	Neumünster
Hannover	Nürnberg
Hamburg	

Cleaning of bogies

Cottbus
Nürnberg
Krefeld

Cleaning of roller bearings

Cottbus
Hamburg
Neumünster

Cleaning of spray guns

Cottbus
Hamburg
Krefeld

*Only a few locations are listed here.

No. SAP

AF-Clean	SAP	1451 191
Antisept S	SAP	1392 612
ALUSTAR 300	SAP	799 125
ALUSTAR 500	SAP	1358 603
BIO-CIRCLE Liquid	SAP	935 968
BIO-CIRCLE Liquid Evo		
BIO-CIRCLE Liquid Ultra	SAP	1135 664
CB 100 Alu	SAP	1125 344
Defoamer silicone-free	SAP	1438 965
FT 300	SAP	1442 115
Corrosion protection for water-based systems	SAP	699 606

Neutralizer	SAP	729 798
OMNI	SAP	687 107
Power Cleaner DB	SAP	729 794
PROLAQ L 400	SAP	1358 955
PROLAQ L 500	SAP	1215 293
Smoke Resin Remover DB	SAP	667 836
SC 100	SAP	769 393
STAR Future V	SAP	1125 212
STAR Future V Strong	SAP	1173 271
UNO W	SAP	816 650

A STRONG GLOBAL PARTNER:



- ▶ CLEANING
- ▶ PROTECTING
- ▶ LUBRICATING
- ▶ WELDING

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Present around the globe

Our products are sold and used in 63 countries.
We have a global network of own subsidiaries,
production sites, and trade partners.



www.bio-circle.com