



# BIOBALANCE

COOLING LUBRICANT TECHNOLOGY



■ [WWW.HAMMA-UWT.DE](http://WWW.HAMMA-UWT.DE) ■

**Founded in Tuttlingen in 2002,  
Armin Hamma Umwelttechnik  
now stands for modern  
cooling lubricant technology  
and a wide range of applications.**

**Rely on us for performance and  
sustainability in your production.**

**Produced in Germany,  
the home of the most  
successful companies  
in the world.**



**As a system supplier, we offer you ...**



## **BIOBALANCE**

**04-07**

Cooling lubricant technology that inspires you. Mix and care for your cooling lubricant with the products of the market leader. POWER YOUR FLUID.



## **MIX AND FILL**

**08-21**

With the MISCEO 3, CONTAINER TROLLEY and FILL LEVEL MONITORING, you can fill your machinery quickly and easily.



## **FIXED CARE**

**22-35**

With the MAINTENANCE CONSOLE you keep your cooling lubricant quality stable and powerful. MIKRO & RAPID - proven and popular in use.



## **MOBILE CARE**

**36-39**

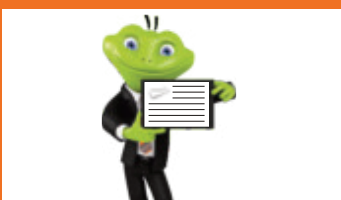
With the CLEAN-TOWER you set new standards in your production. Maximum care and flexibility.



## **POWERFUL HELPER**

**40-51**

TEST KIT, CHIP STICK, MAGNETIC BROOM and the KEYS FOR THE CONTAINER complete the easy handling of your cooling lubricant.



## **SPACE FOR YOUR NOTES**

**52-55**

Write down your questions, information, order requests or whatever is important to you.

# WELCOME

**My name is "Ceo" and I will accompany you into the world of cooling lubricant technology**

The world of coolant technology is extremely exciting and offers incredible potential for your production.

With me you will experience how you can increase your production output, reduce your process costs and set new standards in terms of quality and production hygiene.

On the next few pages you will discover the products that make your production faster, better and more efficient.

Care technology is cheap today and acts as a real source of resources and cost brakes in companies.

*Your Ceo*



# SOMETHING NEW FOR EVERYONE WHO ALREADY KNOWS US BETTER!!!





## BIOBALANCE

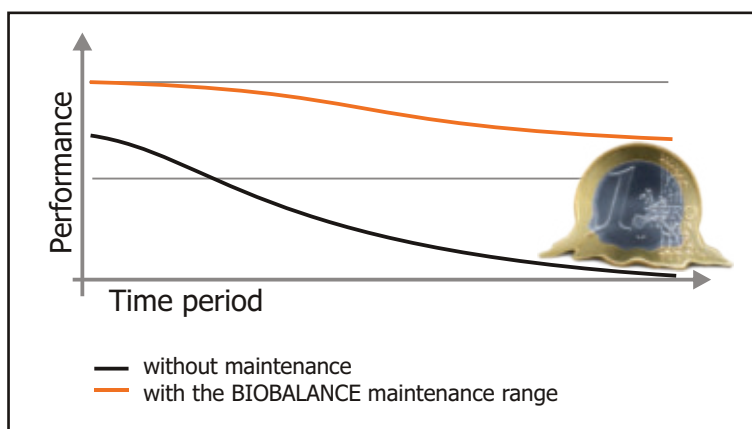
Biobalance is the prevention of undesirable and excessive breeding of germs, bacteria, fungi and yeasts. It maintains the natural biological equilibrium.

A healthy and efficient cooling lubricant is of huge importance for modern production with an eye on the future. Cooling lubricant which is hygienic, sparing in terms of resources and adapted to the production process is the key to further success.

In order to start correctly, an efficient and durable cooling lubricant is mixed with the fully electronic **MISCEO** mixing unit. This allows the desired product characteristics of your cooling lubricant to be developed to the maximum.

During the maintenance phase for your cooling lubricant the **MIKRO** provides your cooling lubricant with sufficient oxygen and floats the impurities up to the surface via very finely defined air bubbles. The flotation of the air bubbles guides the impurities towards the **RAPID** oil skimmer. This removes undesirable tramp oils in order to protect against excess lubrication during the production process. Suspended matter which is bound in the oil is also removed and the abrasiveness in the cooling lubricant is reduced. This will extend the lifespan of your machines and tools considerably. The **RAPID** oil skimmer and the **MIKRO** micro ventilator jointly maintain the quality of your cooling lubricant over a considerably longer period. The hygiene of the medium is improved markedly. You live more healthily and you are spared from unpleasant odours.

The mobile **CLEAN-TOWER** maintenance system combines cleaning and ventilation in one unit. The principle of dissolved air flotation increases the efficiency of the maintenance to an absolute maximum. You keep your cooling lubricant at the highest level.



Well-maintained cooling lubricant can lead to companies enjoying considerable increases in performance, better quality and cost reductions. Odour should no longer be used as an indicator for change these days. This is linked to health risks and drops in performance and quality. Maintenance products enable you to keep your cooling lubricant hygienic while maintaining a high level of performance. You also save money!

# MISCEO 3

The professional solution for mixing water-miscible cooling lubricants



## YOUR BENEFITS

- perfectly mixed cooling lubricant
  - exact mixing result
  - easy handling
  - detects empty containers
  - flexible hose lengths
  - lockable
  - automatic shutdown
  - automatic machine filling
- fill up like at the gas station



## The MISCEO offers you ...

... what you expect from a modern mixer.

The MISCEO can simply be used on a barrel, mounted on the wall, flexibly driven through the production facility with the BARREL TROLLEY or automatically fill your production facility using piping.

Use the MISCEO as best suits your production or combine the options to create your own individual solution.

The MISCEO always writes a success story in small companies up to large corporations.

Increase your manufacturing quality, manufacturing performance and sustainability now.



### **MISCEO - MIXING DEVICE**

**08-13**

With the MISCEO you can fill your machines quickly, easily and reliably.  
Fully electronic and with rotation initiation.



### **MOBILE AND FLEXIBLE**

**14-15**

The CONTAINER TROLLEY makes your MISCEO mobile and highly flexible in use.  
With E-DRIVE, handling becomes child's play.



### **AUTOMATIC AND SAFE**

**16-19**

Fill your machines fully automatically, safely and reliably.  
Sophisticated technology keeps the fill level of your machine at the top level.

# MISCEO 3 - mixing device

The Misceo 3 makes it possible for you to mix cooling lubricant very precisely, quickly and reliably. It indulges you with its straightforward operation, fill level detection, automatic cut-out on reaching the fill level plus the latest mixing, measurement and control technology.

The new "rotation initiation" mixing process allows you to achieve the best cooling lubricant quality with the Misceo 3 in the blink of an eye. Benefit from the highest production quality, production speed and production stability. Also reduce your production costs. The basis of stable, efficient cooling lubricant is the correct mixing.

The Misceo 3 offers you an easy mixing from 0.5% to 15% in 0.1% increments. Its unique rotation initiation mixing process allows it to attain the best mixing result, which guarantees you the best possible lifespan for both tool and machine. The Misceo 3 warns you before your cooling lubricant concentrate starts to decline and it detects empty concentrate containers.

## STANDARD



The "STANDARD" variant is ideally suited for simple digital filling with the best mixing quality.

**Highlights**  
quantity shutdown

These features are included:

- Operation counter

## EXCLUSIVE



The "EXCLUSIVE" variant is ideal for automation of several tanks and the upscale needs.

**Highlights**  
quantity and level cut-off

These features are included:

- Operation counter
- Key switch
- Overflow monitoring/ emergency stop
- External information output
- Intelligent pressure control

**IDEAL FOR FILLING NOZZLE**

## PREMIUM



The "PREMIUM" variant is ideal for automation from a tank or a central system

**Highlights**  
Quantity shutdown and level monitoring

These features are included:

- Operation counter
- Key switch
- Overflow monitoring/ emergency stop
- External information output
- Intelligent pressure control
- Automatic

### Technical specifications

Mixing performance	von 600 bis 2000l/h
Mixing ratio	0,5 - 15% (Increments 0,1%)
Dimensions (l/w/h)	365mm x 274mm x 150mm
Weight	ca. 8,5kg
Connection voltage	100-240V / 50-60Hz
Operating voltage	24VDC
Performance	60-65W
Pressure resistance	bis 6 bar

### Equipment of each mixer

- MISCEO 3 base unit
- Barrel screw connection
- Concentrate suction hose (2m)
- Mixture outlet hose (2m)
- Water inlet hose (2m)
- Water tap connection (3/4"i)
- Plug-in power supply (1.8m)
- Instructions and Quick Start Guide

## The functions - MISCEO 3

The following functions make the MISCEO 3 an indispensable helper in your production.



### OPERATING COUNTER

Operating counter for MISCEO for detecting the flow rates

- Cycle counter for water, concentrate
- Total operation counters for water, concentrate and time
- including warning function for concentrate after set amount



### KEY SWITCH

Key switch including 2 keys and key fob

The key switch allows you to protect your MISCEO from unauthorized use.

- Spare key (available separately, item no.: 2001169)



### OVERFLOW MONITORING / EMERGENCY STOP

Output for overflow monitoring, level float, Level monitoring and emergency shutdowns.

The monitoring support will help you overcrowding the prevent container. Including jumper plug

- Extension cable in any length (available separately, item no.: 2001125)



### EXTERNAL INFORMATION OUTPUT

Automatic for MISCEO for automatic filling

The automatic uses the potential-free min, max and emergency stop switches of your machine to fill them automatically.

Including 3 connection plugs (min., max., emergency stop), 3 jumper plugs (min., max., emergency stop), connection diagram, without connection cable (available separately, item no.: 72001311)



### INTELLIGENT PRESSURE CONTROL

Intelligent pressure control for MISCEO with fixed piping to use a filling gun, a shut-off valve or an outlet tap.

Using a ring line, it is possible to fill several machines.

Function: If the pressure in a line drops, the MISCEO starts the mixing process and fills the machine until the pressure rises again, e.g. by closing a shut-off valve.



### AUTOMATIK

Automatic for MISCEO for automatic filling






The automatic uses the potential-free min, max and emergency stop switches of your machine to fill them automatically.














Including 3 connection plugs (min., max., emergency stop), 3 jumper plugs (min., max., emergency stop), connection diagram, without connection cable (available separately, item no.: 72001311)













# Product overview




## MISCEO 3 fully electronic mixing device

### Devices and accessories

Picture	Article-No.	Designation
	2001010	<p>MISCEO 3 Mixing device - <b>STANDARD</b> Mixing device for mixing cooling lubricants, including operation counter. Operating requirement: system separator DIN EN 1717</p> <p><b>Included options</b> Operation counter</p>
	2001011	<p>MISCEO 3 Mixing device - <b>EXCLUSIVE</b> Mixing device for mixing cooling lubricants, including operation counter and equipment package for the demanding use (suitable for level monitoring monitoring FÜ-1). Operating requirement: system separator DIN EN 1717</p> <p><b>Included options</b> Operation counter, key switch, overflow monitoring, external information output, intelligent pressure control</p>
	2001012	<p>MISCEO 3 Mixing device - <b>PREMIUM</b> Mixing device for mixing cooling lubricants, including operation counter and equipment package for the demanding and automated use. Operating requirement: system separator DIN EN 1717</p> <p><b>Included options</b> Operation counter, key switch, overflow monitoring, external information output, intelligent pressure control, Automatic</p>
 	2010000	<p>Akku for mixing device MISCEO 3 Output voltage: 24VDC, max. 3Ah</p> <p>The battery makes your MISCEO 3 even more flexible. The height Performance allows you to use the MISCEO 3 for approximately 8 hours to operate without connecting it to the power supply to have to. Charging time 4 hours. The clear display always keeps you informed of the filling level of the battery up to date. With the on/off button you can Battery can be switched on and off at any time. You can mount the battery directly on the MISCEO 3 or place on the barrel behind the MISCEO 3.</p> <p>The battery can also be used for other 24VDC devices as more powerful Energy storage serves. Dimensions (LxBxH): 352 x 130 x 165mm</p>

Picture	Article-No.	Designation
	82001120	Wall console for MISCEO 3 including mounting material  The wall console makes the handling easier for you The MISCEO 3 makes barrel changes even easier happen for you in no time.
	2001112	Level float for overflow monitoring MISCEO 3
	2001212	Signal lamp for the external information output
	2001211	Horn for external information output
	71001003	Filling gun with automatic switch-off for MISCEO 3, including 2m hose, - Connection thread on the filling gun -> 3/4"i - Connection thread on the hose -> 1/2"i * Requirement: Intelligent pressure control
	1101039	Universal screw-on angle small for filling gun for attachment with magnet or for screwing on
	72001520	Analogue level indicator for 200l and 60l drums
	71001002	System separator DIN EN 1717  Protect your drinking water from contamination of the cooling lubricant. Mixing devices and hoses in particular pose an immediate danger in companies. According to the drinking water regulation DIN EN 1717, every company is obliged to protect its drinking water system from contamination. With this system separator you guarantee this protection with cooling lubricants and other chemicals Substances up to hazard class 4.
	71001010	Replacement unit for System separator (Recommended replacement: 6-12 months)
	72030530 72030531 72030532	Collection trays black, very light design:  Collection tray for a 200l barrel Collection tray for two 200l barrels Collection tray for an IBC container
	81102001	BARREL-KEY with barrel seal opener 307x52mm
	1102010	IBC-KEY for cover 150mm incl. hanger - NOW NEW IMPROVED VERSION -
	1102020	IBC-KEY for cover 225mm incl. hanger - NOW NEW IMPROVED VERSION -

Picture	Article-No.	Designation
	2001116	Concentrate suction hose PU for Misceo 3, 2 meters including suction base
	82001115	Barrel screw connection 2" for the concentrate barrel, suitable for concentrate suction hose HF for MISCEO 3
	2001106	Water inlet hose for MISCEO 3, 2 meters Includes tap connection 3/4" internal thread
	2001105	Outlet hose mixture for MISCEO 3, 2 meters Includes quick coupling, spout and fastening hook
	2001135	Plug-in power supply for MISCEO 3 Output voltage 2.5A - 24V DC
		Quick coupling, nickel-plated brass
	72001430	13mm for 1/2" hose
	72001431	19mm for 3/4" hose
		Faucet connection
	72001450	G 1/2"i, stainless steel
	72001441	G 3/4"i, nickel-plated brass
	72001442	G 1"i, nickel-plated brass
	72001435	G 1/2"a, nickel-plated brass
	72001436	G 3/4"a, nickel-plated brass
	72001224	Hose MISCEO 3 (per meter) 1/2", fluorescent orange
	72001418	Suction-pressure hose MISCEO 3 with steel spiral (per meter)
	72001225	Concentrate suction hose, black (per meter) flexible, easy to use
	2001169	Key with fob (Key-No.: 901)

Picture	Article-No.	Designation
	2002030	Maintenance set "BIG" for MISCEO 3 for self-maintenance
	2002040	Maintenance "BIG" for MISCEO 3
	2002050	Maintenance "BIG" for MISCEO 3 including rental device
	2002031	Maintenance set "SMALL" for MISCEO 3 for self-maintenance
	2002041	Maintenance "SMALL" for MISCEO 3
	2002051	Maintenance "SMALL" for MISCEO 3 including rental device
	2002000	MISCEO 3 loan device for the maintenance period - The rental device comes in the equipment variant Delivered „Exclusively“.

## CONTAINER TROLLEY - suitable for MISCEO 3

The CONTAINER TROLLEY organizes the filling of your machines in a quickly, easily and flexible way.

Move your cooling lubricant drum, as well as the mixing technology in no time directly to the machine in order to fill it in a comfortable way.

The CONTAINER TROLLEY offers you the opportunity to accommodate the following components:

- MISCEO 3 including battery
- two hose reels
- a cable drum
- E-Drive system

Every CONTAINER TROLLEY offers you a smooth-running roll, a secure barrel holder and a Capacity of 220l so that the route to the machine is easy and safe to design.

If you want to increase comfort, choose the CONTAINER TROLLEY with E-Drive, capable of traveling long distances in an easy way.



### YOUR BENEFITS

- easy to move thanks to smooth-running wheels
- ergonomic moving with E-Drive
- high-quality and robust design
- integrated drip tray
- easy to clean
- ideally tailored to your MISCEO
- many practical options

### CONTAINER TROLLEY



The CONTAINER TROLLEY offers you a simple and secure platform for flexible filling of your machines directly on site. Optimized for use with your MISCEO 3.

### CONTAINER TROLLEY with E-DRIVE



The "E-DRIVE" variant is even more convenient and more ergonomic to use. Use the simplifications for your production and set new standards.



# Product overview

## CONTAINER TROLLEY suitable for MISCEO 3

### Trolley and accessories

Picture	Article-No.	Designation
	2040001	CONTAINER TROLLEY black with collecting tray, barrel securing strap and console for MISCEO 3  - Collection volume: 220L - Size: 1200x800x1200mm - Weight: approx. 120kg - NEW: with forklift pockets
	2040050	CONTAINER TROLLEY with E-Drive, black with collecting tray, barrel securing strap and console for MISCEO 3  - Collection volume: 220L - Size: 1200x800x1200mm - Weight: approx. 140kg - Travel time: approx. 8 hours - Speed: approx. 5 km/h - NEW: with forklift pockets
	72030003	Recommended for mixer output side Automatic hose reel, 20m hose 1/2", Right outlet, stainless steel
	72030005	Recommended for mixer input side Automatic hose reel, 20m hose 1/2", Left outlet, stainless steel
	72030004	Swivel holder stainless steel, swivel range: 165°
	82040060 82040065 82040061 82040062 82040063 72040072	Suitable for CONTAINER TROLLEY with and without E-Drive:  Holder for documents, DIN A4, narrow/tall Holder for documents, DIN A4, deep/half-height Barrel key holder, stainless steel Holder for filling gun, stainless steel Holder for signal light, black Cable drum
	72040080	Retrofit kit for E-Drive:  The retrofit kit contains all the required parts to upgrade your HAMMA CONTAINER TROLLEY with E-Drive.  Please provide the product details when ordering Specify CONTAINER TROLLEY, see product label.

## FILL LEVEL MONITORING FÜ-1 - suitable for MISCEO 3

The FÜ-1 fill level monitor is a ready-to-connect set that automatically fills your machine quickly, easily and reliably in combination with the MISCEO 3. With a well-filled machine you can achieve perfect manufacturing properties.

### You benefit from::

- **Ready-made complete solution**  
Easy to install by maintainers, installers and trained personnel.
- **Automatic cooling lubricant filling**  
Saves manpower in your production.
- **Uniform cooling lubricant temperature**  
The cooling performance is kept constant and tolerances are reduced.
- **Stable cooling lubricant concentration**  
The manufacturing properties such as quality, performance and process reliability are improved.
- **Improved cooling lubricant service life**  
Increases hygiene, sustainability and saves money

### Level monitoring FÜ-1



## Example of automatic filling

The mixing station for your automatic cooling lubricant supply, is tailored specifically to your future needs.

### MIXING STATION



The mixing station is the heart of the automatic cooling lubricant filling.

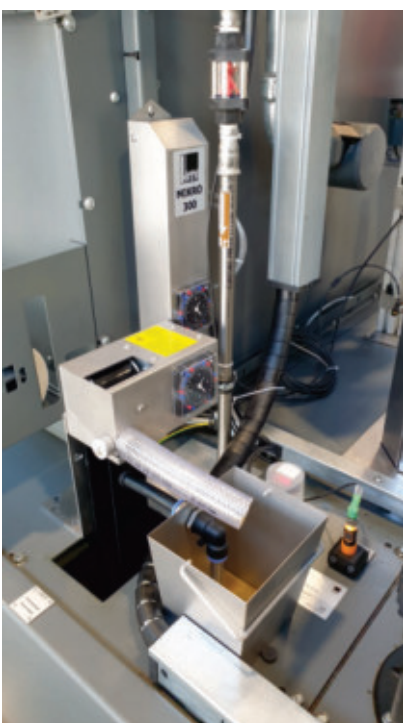
We would be happy to provide an installation suggestion or work out an individual solution for you.

A line length of over 500m, a height of over 10m and more than one cooling lubricant are no problem.

Even one machine can be filled automatically.

Every machine that is to be filled automatically is equipped with a level monitor, which regulates the cooling lubricant filling safely and reliably.

### MACHINE CONNECTION



Automatic filling with the Für-1 level monitor and machine maintenance with Mikro, Rapid and Rubi go hand in hand, even in tight spaces.






Benefit now from an even cooling lubricant level that ensures you a constant concentration and the best cooling properties.












Process reliability you don't want to miss.

# Product overview

## FÜ-1 Level monitoring

### Devices and accessories

Picture	Article-No.	Designation
 	2020001	<p>Fill level monitoring FÜ-1-24D complete set, Mains voltage 230V50Hz, with solenoid valve voltage 24VDC, Probe length min/max 240mm</p> <p>The FÜ-1 fill level monitor is a fully electronically controlled monitor for controlling the automatic filling of a container. The monitor uses sensors to detect the fill level of a container and opens and closes a valve as required. The high-quality components (e.g. emergency stop according to WHG) enable safe, reliable and automatic filling.</p> <p>The complete level monitoring set includes:</p> <ul style="list-style-type: none"><li>- Control cabinet with warning light and connection cables</li><li>- Emergency stop sensor</li><li>- Min/Max sensor with two freely programmable switching points</li><li>- Magnetic valve</li><li>- Emergency exit loop</li><li>- Wall mounting brackets</li></ul> <p>Individual components on request.</p>
	72020332 72020333 72020334 72020336 72020338	<p>Probe rod for level sensor FS-1 minimum / maximum</p> <p>72020332 = length 240mm 72020333 = length 300mm 72020334 = length 450mm 72020336 = length 700mm 72020338 = length 1000mm</p>
	72020342 72020343 72020344 72020346 72020348	<p>Probe protection for level sensor FS-1 minimum / maximum</p> <p>Length 240mm Length 300mm Length 450mm Length 700mm Length 1000mm</p>
	72020030	Holder for FÜ-1 level monitoring

Picture	Article-No.	Designation
	72030501	Stainless steel ball valve, 2-way, G 3/4", PN 63,
	72030502	Stainless steel ball valve, 3-way, G 3/4", PN 63,
	72030503	Shut-off valve with inclined seat, 2-way, G 3/4", stainless steel
	72030507	Pressure reducer for drinking water 3/4", 1.5 - 6 bar, DVGW
	72030508	Check valve with inclined seat, G 3/4", stainless steel, PN 40
	72030510	Water pressure compensation tank, 18l, G3/4", flows through
	72030513	Wall bracket for pressure compensation tank 18l, G3/4"
	72030514	Flow fitting for pressure compensation tank. 18l, G3/4"
	72030511	Pressure compensation tank cooling lubricant, 25l, G3/4"
	72030512	Wall bracket for pressure compensation tank 25l, G3/4"
	72030518	Flow indicator with rotor, G 1/2", length 92mm
	72030520	Separable coupling 1/2", IT/AG, flat sealing
	72030521	Replacement seal for separable coupling 1/2", IT/AG,
	72001311	Connection cable, endless, 2-wire (brown/white) for monitoring port / emergency exit loop (per meter)
	72001318	2x 0,25mm <sup>2</sup> 2x 0,50mm <sup>2</sup>
	72030550	Mounting wall for automatic filling Incl. preparation for collecting tray 2 barrels
	72030531	Collection trays black, very light design: Collection tray for two 200l barrels
		Suitable for mounting wall for automatic filling Art.-Nr. 72030550

# CONSOLE, MIKRO & RAPID

for easy and reliable care of your  
cooling lubricant



## YOUR BENEFITS

- reduces operating costs
- Extension of tool life,  
Machine and cooling lubricant
- improves manufacturing quality
- increases production speed
- prevents unpleasant odors
- clear view into the machine
- increases biobalance, hygiene and  
Employee satisfaction

## RAPID & MIKRO Stationary care

With the care console you can maintain the quality of your cooling lubricant inexpensively, easily and reliably. A good cooling lubricant offers you the highest manufacturing properties and hygiene. You work to save resources and save money.

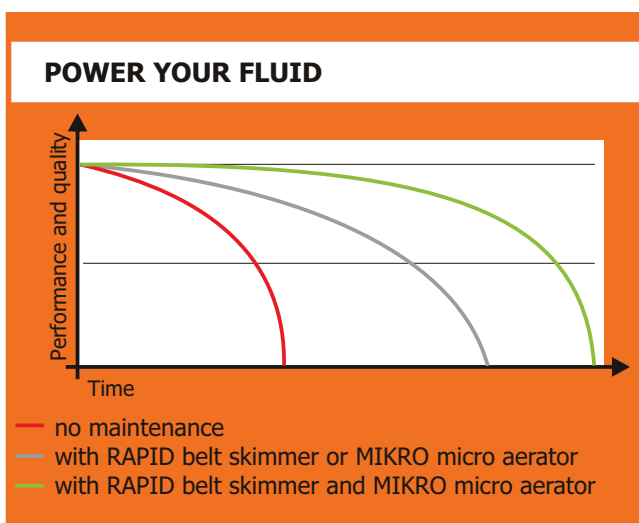
### The principle:

During the life of your cooling lubricant, the MIKRO micro-aerator ensures a sufficient supply of oxygen through the smallest air bubbles. The hygiene properties of the medium are drastically improved. Suspended solids are transported to the surface and can be removed by the RAPID oil skimmer.

During the care phase of your cooling lubricant, the RAPID oil skimmer removes unwanted floating oils, lime soap and suspended matter. The performance of your cooling lubricant increases and you produce safer, faster and better.

RAPID oil skimmers and MIKRO micro aerators maintain the quality of your cooling lubricant over a significantly extended period of time. The result is higher cutting speeds and a longer service life for your tools and machines.

You live healthier and are spared unpleasant smells.



The care console fits effortlessly into almost any machine thanks to its compact design.

The easy assembly, high sustainability and performance stabilization, make the care console a MUST in every modern and future-oriented production.

## RAPID & MIKRO Stationary care

The console makes caring for your machine, attach it to your machine quickly and easily. The most popular care devices for cooling lubricants (RAPID and MIKRO) make it easy for you. You too can rely on the market leader in the future. Care with products from HAMMA.

### CONSOLE



The CARE CONSOLE combines the devices and advantages of MIKRO, RAPID and RUBI. The care unit can be quickly and easily attached to the machine thanks to its functional design. Adapter plates make installation even easier.

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### MIKRO



The MIKRO micro aerator offers you the highest quality of your cooling lubricant by introducing atmospheric oxygen. The floating air bubbles supply the cooling lubricant with oxygen and carry the impurities to the surface.

**PAGE 28+29**

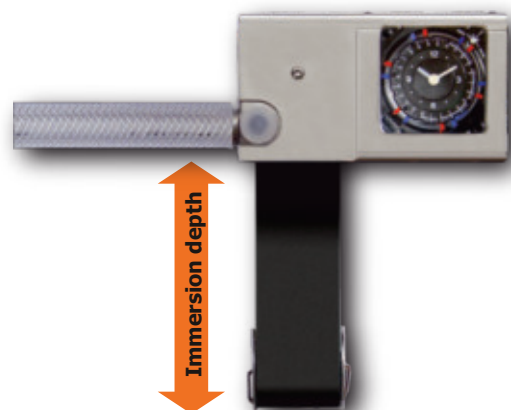
### RAPID 1.1



With the RAPID 1.1 belt skimmer, removing foreign oil from machines with a surface area of up to 6m<sup>2</sup> is quick and easy.

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### RAPID 2.1



With the TOP-SELLER RAPID 2.1 belt skimmer, removing foreign oil from machines with a surface area of up to 2m<sup>2</sup> is quick and easy.

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## RAPID 3.1



With the RAPID 3.1 hose skimmer, removing foreign oil from machines with a surface area of up to 15m<sup>2</sup> is quick and easy. With its floating hose, it is particularly suitable for large and/or narrow containers.

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## RAPID 4



With the RAPID 4 disc skimmer, removing foreign oil from machines with a surface area of upto 2m<sup>2</sup> is quick and easy. It is a flexible device for small machines with open tanks.

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## RAPID 5



The RAPID 5 is a belt skimmer with an adjustable arm and magnetic holder, making it powerful, flexible and easy to use, even with containers that are difficult to access. It is suitable for surfaces of up to 2m<sup>2</sup>.

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## RUBI



Schnittmodell:  
RUBI mit Überlaufschutz  
(Dekanterfunktion)

The RUBI collecting container for foreign oil is a high-quality collecting container made of stainless steel with a capacity of 1.8 l. The integrated overflow protection prevents overflow.

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## RAPID & MIKRO Stationary care

Technical data	MIKRO 200	MIKRO 300	MIKRO 1000
Pool size	up to 300l	up to 500l	up to 1000l
Immersion depth	up to 750mm	up to 1250mm	up to 1250mm
Working temperature	55°C	55°C	55°C
Workspace	pH 4-12	pH 4-12	pH 4-12
Ceramic ventilation body	1 piece	2 pieces	4 pieces
Air line to the ventilation body	3m	3m	2x 3m
Distances between ventilation bodies	-	1m	2x 1m
Voltage selectable	230V/50Hz/5W 24VDC/5W	230V/50Hz/5W 24VDC/5W	230V/50Hz/10W 24VDC/10W
Dimensions approx. (lxwxh)	310x83x62mm	310x83x62mm	550x83x62mm
Weight	2,4kg	3,0kg	4,7kg





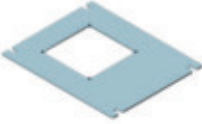

Technical data	RAPID 1.1	RAPID 2.1	RAPID 5
Discharge performance	10-20l/h	3-12l/h	1-6l/h
Bandwidth	100mm	60mm	25mm
Band length	ab 600mm	ab 600mm	800/1000/1200mm
Immersion depth	ab 185mm	ab 185mm	285/385/485mm
Standard band temperature	bis 40°C	bis 40°C	bis 40°C
Standard band workspace	pH 7-11	pH 7-11	pH 7-11
Special band temperature	bis 70°C	bis 70°C	bis 70°C
Special belt work area	pH 4-13	pH 4-13	pH 4-13
Swivel range forward/backward			approx. 60°/45°
Voltage selectable	230V/50Hz/35W 24VDC/6W	230V/50Hz/35W 24VDC/6W	24VDC/6W (Netzgerät 230V/50Hz)
Dimensions approx. (lxwxh)	250x120x100mm	210x120x100mm	180x100xca.400-600mm
Weight	5,9kg	4,7kg	2,5kg

Technical data	RAPID 3.1	RAPID 4	RUBI
Discharge performance	3-12l/h	3-12l/h	
Hose diameter	12mm		
Hose length	1-20m		
Disc diameter		250mm	
Immersion depth		bis 40mm	
temperature	bis 70°C	bis 40°C	
Workspace	pH 6-13	pH 7-11	
Voltage selectable	230V/50Hz/35W 24VDC/6W	230V/50Hz/35W (über Netzgerät)	
Dimensions approx. (lxwxh)	210x120x150	290x225x250mm	150x130x165mm
Weight	3,1kg	2,5kg	1,0kg
capacity			1,8l

# Product overview

## CONSOLE Stationary care

### Accessories




Picture	Article-No.	Designation
	2503012	<p>BIOBALANCE CARE CONSOLE COMPACT including RAPID 2.1, RUBI and MIKRO 300. Connection voltage 2x 230V 50Hz, cable length 3m</p> <p>In the package:</p> <ul style="list-style-type: none"> <li>- RAPID 2.1 with timer, special wiper and Conveyor belt 1400mm with immersion depth 365mm</li> <li>- RUBI with a capacity of 1.8l</li> <li>- MIKRO 300 with timer and two ventilation panels</li> <li>- Biobalance console with base plate and Angles for RAPID, RUBI and MIKRO</li> </ul>
	2503011 2503014	<p>BIOBALANCE CARE CONSOLE COMPACT including RAPID 2.1 and RUBI. Connection voltage 230V 50Hz, cable length 3m Connection voltage 24VDC, power supply 1.8m</p> <p>In the package:</p> <ul style="list-style-type: none"> <li>- RAPID 2.1 with timer, special wiper and Conveyor belt 1400mm with immersion depth 365mm</li> <li>- RUBI with a capacity of 1.8l</li> <li>- Biobalance console with base plate and Angle for RAPID and RUBI</li> </ul>
	2502011	<p>Biobalance console compact for recording from RAPID 2.1, RUBI and MIKRO 200/300</p> <p>For easy installation and retrofitting of care products.</p>
	2502010	<p>Biobalance console compact for recording of RAPID 2.1 and RUBI</p> <p>For easy installation and retrofitting of care products.</p>
	82504110	<p>Adapter plate for console compact:</p> <p>Dimensions of holes to the corner 270x220x3mm 10x20mm</p> <p>additional adapter plates</p>
	2501000 2501100	<p>Biobalance care system without console</p> <p>2501000 for containers with a surface area of up to 2m<sup>2</sup> and a volume of up to 500l, Band skimmer Rapid 2.1 with timer and 3 skimmer bands (immersion depths of 185mm, 285mm and 385mm), Universal screw-on angle, Rubi collecting container, micro aerator Mikro 300</p> <p>2501100 for containers with a surface area of up to 6m<sup>2</sup> and a volume of up to 1000l, Band skimmer Rapid 1.1 with timer and 3 skimmer bands (immersion depths of 185mm, 285mm and 385mm), Universal screw-on angle, Rubi collecting container, Micro aerator Mikro 1000</p>

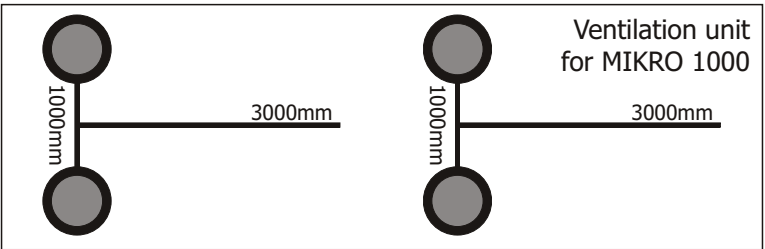
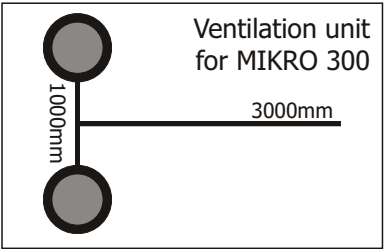
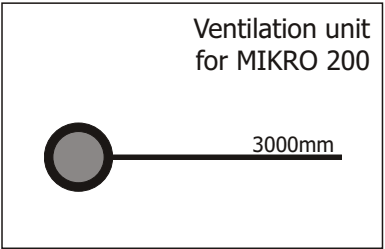
Article 2501000













# Product overview

## MIKRO Micro aerator

### Aerator

Picture	Article-No.	Designation
 <p><b>Ideal for Container up to 300 Liter</b></p>	2101000	<p>MIKRO 200 including ventilation unit with 1 ventilation panel</p> <ul style="list-style-type: none"> <li>- ventilates containers up to 300 liters</li> </ul> <p>Standard equipment:</p> <ul style="list-style-type: none"> <li>- Basic device with 3 meter connection cable</li> <li>- Timer</li> <li>- Ventilation unit with a ventilation plate and a 3 meter air pipe</li> </ul>
 <p><b>Ideal for Container up to 500 Liter</b></p>	2102000	<p>MIKRO 300 including ventilation unit with 2 ventilation panels</p> <ul style="list-style-type: none"> <li>- ventilates containers up to 500 liters</li> </ul> <p>Standard equipment:</p> <ul style="list-style-type: none"> <li>- Basic device with 3 meter connection cable</li> <li>- Timer</li> <li>- Ventilation unit with two ventilation panels and a 3 meter air pipe, (Distance between the ventilation panels 1 meter)</li> </ul>
 <p><b>Ideal for Container up to 1000 Liter</b></p>	2103000	<p>MIKRO 1000 including ventilation unit with 4 ventilation panels</p> <ul style="list-style-type: none"> <li>- ventilates containers up to 1000 liters</li> </ul> <p>Standard equipment:</p> <ul style="list-style-type: none"> <li>- Basic device with 3 meter connection cable</li> <li>- Timer</li> <li>- two ventilation units with two ventilation panels each and 3 meters of air pipe each, (Distance between the ventilation panels 1 meter each)</li> </ul>

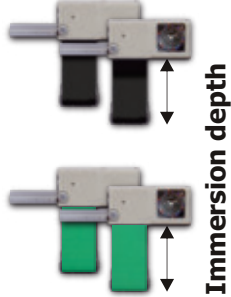






Picture	Article-No.	Designation
	2101002	Ventilation unit for MIKRO 200 including 1 ventilation plate
	2102002	Ventilation unit for MIKRO 300/1000 including 2 ventilation plates  Attention: Is required twice for MIKRO 1000
	72110007 72110017 72110016	Round ventilation plate, Standard Ø 132mm Special Ø 107mm Special Ø 60mm
	72110015	Round ventilation plate, Specially coated Ø 132mm, for greater chemical resistance
	71210015	Hose for MIKRO 200/300/1000 per meter
	72110012	Black hose clamp for MICRO hose
	72110002	T-hose connection piece
	72110011	Y-hose connection piece
	72130001	Angled hose connection piece
	72110018	Cross hose connection piece
	72110022	Plastic check valve for backflow protection for MIKRO
	72110020 72110021	Control valve for air regulation for MIKRO:  Stainless steel version Plastic

# Product overview

## RAPID 1.1 Oil skimmer

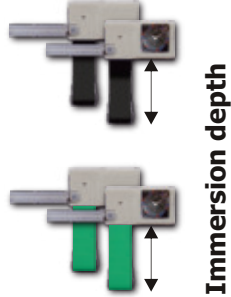





### Belt skimmer

Picture	Article-No.	Designation																								
 <p>Immersion depth</p> <p>Skimmer tape not included in the basic device!</p>		RAPID 1.1 belt skimmer for surfaces up to 6m <sup>2</sup> , without skimmer belt																								
	0712050	Devices for cooling lubricants RAPID 1.1 with timer - 24VDC																								
	0712051	RAPID 1.1 without timer - 24VDC																								
	0712108	RAPID 1.1 with timer - 230V/50Hz																								
	0712107	RAPID 1.1 without timer - 230V/50Hz																								
	0712052	Devices for hot applications RAPID 1.1 with timer and stainless steel rollers - 24VDC																								
	0712053	RAPID 1.1 without timer with stainless steel rollers - 24VDC																								
	0712102	RAPID 1.1 with timer and stainless steel rollers - 230V/50Hz																								
	0712100	RAPID 1.1 without timer with stainless steel rollers - 230V/50Hz																								
		Many other variants on request																								
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1101039	Universal screw-on angle, small for attachment with magnet (only 24VDC) or for screwing on																									
	80710105	Special wiper for RAPID 1.1																								
	80710005	Transport roller for RAPID 1.1																								
	80710007	Transport roller in stainless steel for RAPID 1.1																								
	80710006	Weight roller for RAPID 1.1																								
	80710015	Weight roller in stainless steel for RAPID 1.1																								
0700110	RUBI - collecting container for foreign oil Capacity 1.8l																									
																										

# Product overview

## RAPID 2.1 Oil skimmer


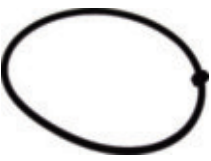



### Belt skimmer

Picture	Article-No.	Designation																								
 <p>Immersion depth</p> <p>Skimmer tape not included in the basic device!</p>		RAPID 2.1 belt skimmer for surfaces up to 2m <sup>2</sup> , without skimmer belt																								
	0702050	Devices for cooling lubricants RAPID 2.1 with timer - 24VDC																								
	0702051	RAPID 2.1 without timer - 24VDC																								
	0702108	RAPID 2.1 with timer - 230V/50Hz																								
	0702107	RAPID 2.1 without timer - 230V/50Hz																								
	0702052	Devices for hot applications RAPID 2.1 with timer and stainless steel rollers - 24VDC																								
	0702053	RAPID 2.1 without timer with stainless steel rollers - 24VDC																								
	0702102	RAPID 2.1 with timer and stainless steel rollers - 230V/50Hz																								
	0702100	RAPID 2.1 without timer with stainless steel rollers - 230V/50Hz																								
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	1101039	Universal screw-on angle, small for attachment with magnet (only 24VDC) or for screwing on																								
	80701107	Special wiper for RAPID 2.1																								
	80701005	Transport roller for RAPID 2.1																								
	80701008	Stainless steel transport roller for RAPID 2.1																								
	80701006	Weight roller for RAPID 2.1																								
	80701015	Weight roller in stainless steel for RAPID 2.1																								
	0700110	RUBI - collecting container for foreign oil Capacity 1.8l																								

# Product overview

## RAPID 3.1 Oil skimmer

### Hose skimmer




Picture	Article-No.	Designation
		RAPID 3.1 hose skimmer for surfaces up to 15m <sup>2</sup> , without skimmer hose
	0722050	Devices for cooling lubricants and hot applications RAPID 3.1 with timer - 24VDC
	0722051	RAPID 3.1 without timer - 24VDC
	0722108	RAPID 3.1 with timer - 230V/50Hz
	0722107	RAPID 3.1 without timer - 230V/50Hz
<p><b>Skimmer hose not included in the basic device!</b></p>		Many other variants on request.
	Skimmer hose 3.1 for temperatures up to 70°C, pH 6-13:	
		<u>Hose length</u>
	0720006	1m
	0720007	2m
	0720008	3m
	0720009	4m
	0720010	5m
	0720011	6m
any further	1m	
	0700106	Universal screw bracket for attaching the RAPID
	1101039	Universal screw-on angle, small for attachment with magnet (only 24VDC) or for screwing on
	0700109	Spout extension for RAPID 3.1 (0.5m)
	0700110	RUBI - collecting container for foreign oil Capacity 1.8l



# Product overview

## RAPID 4 Oil skimmer

### Disc skimmer

Picture	Article-No.	Designation
	0730107	RAPID 4 disc skimmer for surfaces up to 2m <sup>2</sup> , Includes skimmer disc and mounting magnet  Connection voltage: 230V 50Hz Operating voltage: 12VAC
	0730008	Skimmer disc RAPID 4, Ø 250mm
	0700110	RUBI - collecting container for foreign oil Capacity 1.8l

# Product overview

## RAPID 5 Oil skimmer

### NEW - Belt skimmer with swivel arm



\* With automatic switch function:  
I: ON / O: OFF / II: Interval (1 hour ON - 3 hours OFF)

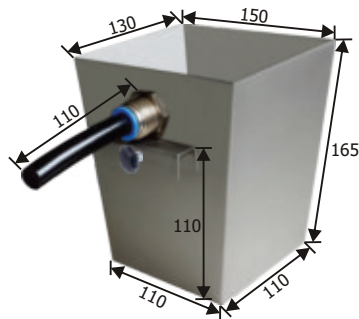
Picture	Article-No.	Designation								
		RAPID 5 belt skimmer for surfaces up to 2m <sup>2</sup> , <b>including skimmer bands</b>								
	0750001	<u>Devices for cooling lubricants</u> RAPID 5 with stainless steel rollers and automatic switch*, Plug-in power supply 24VDC, 3x skimmer bands up to 40°C with a bandwidth of 25mm (Lengths 800, 1000, 1200mm)								
	0750050	SET - RAPID 5 (item no. 0750001) with universal holder Premium (item no. 0750951)								
	0750051	SET - RAPID 5 (item no. 0750001) with universal round rod holder (item no. 0750961)								
	0750052	SET - RAPID 5 (item no. 0750001) with screw bracket with magnet (item no. 0750189)								
	0750002	<u>Devices for hot applications</u> RAPID 5 H with stainless steel rollers and automatic switch, Plug-in power supply 24VDC, 3x skimmer bands up to 70°C with a bandwidth of 25mm (Lengths 800, 1000, 1200mm)								
0750060	SET - RAPID 5 H (item no. 0750002) with universal holder Premium (item no. 0750951)									
0750061	SET - RAPID 5 H (item no. 0750002) with universal round rod holder (item no. 0750961)									
0750062	SET - RAPID 5 H (item no. 0750002) with screw bracket with magnet (item no. 0750189)									
		Replacement skimmer belt 5 for cooling lubricants up to 40°C, pH 7-11:								
		<table border="1"> <thead> <tr> <th>Dimensions</th> <th>Immersion depth (ID)</th> </tr> </thead> <tbody> <tr> <td>800 x 25mm</td> <td>285mm</td> </tr> <tr> <td>1000 x 25mm</td> <td>385mm</td> </tr> <tr> <td>1200 x 25mm</td> <td>485mm</td> </tr> </tbody> </table>	Dimensions	Immersion depth (ID)	800 x 25mm	285mm	1000 x 25mm	385mm	1200 x 25mm	485mm
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0750551	1000 x 25mm	385mm								
0750552	1200 x 25mm	485mm								
		Replacement skimmer belt 5 for hot applications up to 70°C, pH 4-13:								
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	800 x 25mm	285mm								
1000 x 25mm	385mm									
1200 x 25mm	485mm									
0750560	800 x 25mm	285mm								
0750561	1000 x 25mm	385mm								
0750562	1200 x 25mm	485mm								
	0750951	Universal holder premium for RAPID 5 with 3 holding modules, 2 holding rods and 2 magnets (other modules on request)								
	0750961	Universal round rod holder for RAPID 5 with a bracket, 2 holding rods with clamping handles and a magnet								
	0750189	Screw-on bracket with magnet for RAPID 5, two-part								
	0750190	Screw-on bracket for RAPID 5, two-part								
	80750792	Micro angle 300 for RAPID 5								
	80750170	Stainless steel transport roller for RAPID 5								
	80750175	Deflection roller in stainless steel for RAPID 5								
	80750150	Bolt swivel arm for RAPID 5								
	70701095	Plug-in power supply for RAPID 1.1, 2.1, 3.1, 5 including Euro plug adapter								
	0700110	RUBI - collecting container for foreign oil Capacity 1.8l								
										

# Product overview

## RUBI Collection container

### Oil skimmer accessories

Pictures	Article-No.	Designation
	0700110	RUBI - collecting container for foreign oil Capacity 1.8l
		The RUBI collecting container for foreign oil is a high-quality collecting container made of stainless steel with a capacity of 1.8l.  The integrated overflow protection prevents the container from overflowing. If the RUBI is not emptied, the excess is returned to the machine via its decanter function.
section model: RUBI with overflow protection (decanter function)		Emptying the RUBI is very quick and easy thanks to its ingenious design. Simple and quick attachment is possible by hanging it on the machine.



# CLEAN-TOWER

Mobile unit for maintaining and cleaning your cooling lubricant



## YOUR BENEFITS

- reduction in operating costs
- extended service life for tool, machine and cooling lubricant
- improves production quality
- increases production speed
- prevents odour pollution
- clear view into the machine
- increases levels of hygiene and employee satisfaction

# CLEAN-TOWER mobile care device

The Clean Tower offers you complete care for your cooling lubricant. By using pressure release flotation, foreign oils, suspended matter and oxygen deficits are a thing of the past. From now on, work with the highly productive and healthier cooling lubricant.

The mobile Clean Tower can be moved from machine to machine. There are two suction systems available for efficiently removing top-floating contamination.

## AS100 - Suction float



The AS100 is your effective suction float that automatically adjusts to the fill level of your machine.

## AS200 - Suction system



The AS200 is your flexible suction system that can also be used in hard-to-reach and narrow tanks.

### The principle

With the introduced air, the Clean Tower floats foreign oils and suspended matter to the surface, transfers them to the built-in dirt tank, enriches your cooling lubricant with oxygen and transfers this to the manufacturing machine again.

The future means: powerful and healthy cooling lubricant without compromise!




### Technical data

Performance	150 - 300l/h
Working temperature	50°C
Working range	pH 6 - 11
Return height	0,7m
Suction hose length	3m
Return hose length	3m
Working tank	60l / V2A
Dirt tank	60l / V2A
Mains connection	230V/50 Hz/0,15 kWh
Mains cable length	5m
Dimensions L x W x H	575 x 500 x 1300mm
Weight	68kg




# Product overview

## CLEAN-TOWER 150 mobile care system


### Care system

Picture	Article-No.	Designation
	1501000	CLEAN-TOWER 150  Standard equipment:  - 1x Clean-Tower including piping - 1x Suction float AS 100

### Accessories

Picture	Article-No.	Designation
	1550000	Suction float AS 100
	1550300	Suction system AS 200, for small and narrow openings
	81501021	Hood for CLEAN-TOWER for flotation optimization

### Service

Picture	Article-No.	Designation
	1138002	Commissioning and instruction CLEAN-TOWER within Germany
	1599100	Test run CLEAN-TOWER - basic fee
	1599000	Test run CLEAN-TOWER - lease (per week)

## Replacements

Picture	Article-No.	Designation
	1501100	Filter fleece for CLEAN-TOWER
	1552000	Pre-filter for suction pump, complete including attachments, 350 µm
	71552003	Supporting body for pre-filter
	1553000	Pre-filter insert, washable, 350 µm
	1550600	Intake hose, CLEAN-TOWER
	1550700	Return flow, CLEAN-TOWER
	1550800	Reactor hose, CLEAN-TOWER
	1550400	Suction lance, CLEAN-TOWER, for emptying the work and dirt containers
	1550500	Emptying hose, CLEAN-TOWER, for emptying the work and dirt containers
	1501027	Retention magnet, CLEAN-TOWER, fits the intake hose and emptying hose
	71505018	Geka quick coupling, length of hose 5/8" - 16mm
	71501013	Geka blind coupling
	70105007	Braided hose for CLEAN-TOWER (per meter)
	71215008	2-ear hose clamp, 23 - 27mm

# TEST KIT

to check your cooling lubricant  
according to TRGS 611



## YOUR BENEFITS

- robust, premium quality and compact
- hygienic, simple and efficient
- conforms to TRGS611
- stable, biologically balanced
- improves performance and saves you money



# TEST KIT

With this test kit, you will be best prepared for measurements on your cooling lubricants.

The data on your cooling lubricant says a lot about its quality and performance. With ongoing monitoring and proper handling, you can gain enormous performance and savings potential from your cooling lubricant. Machining and tooling costs can drop significantly. You achieve a hygienic environment and know exactly when a change becomes necessary.

The standard test kit offers you everything you need for measurement in accordance with the TRGS611 standard. Expanded versions of the kit give you still more possibilities. You can, for example, additionally determine the pH value digitally. And the digital refractometer will leave you feeling even more comfortable.

### LIGHT



### COMPACT



The TEST CASE LIGHT is delivered without a refractometer. The TEST CASE COMPACT is ready for your TRGS-611 measurement.

### STANDARD



### EXCLUSIV



### PREMIUM



The TEST CASE STANDARD, EXCLUSIVE and PREMIUM give you the opportunity to measure the TRGS 611 very easily, to be carried out quickly and precisely at the highest level.

## Contents of the TEST CASE













<b>Article-No.</b>	<b>LIGHT</b> <b>2201101</b>	<b>COMPACT</b> <b>2201102</b>	<b>STANDARD</b> <b>2201001</b>	<b>EXCLUSIV</b> <b>2201002</b>	<b>PREMIUM</b> <b>2201003</b>
Test kit small incl. insert, empty (330x265x80)	1x	1x	-	-	-
Test kit incl. insert, empty (570x300x135)	-	-	1x	1x	1x
Operating manual	1x	1x	1x	1x	1x
Maintenance schedule form (50 ea.)	1x	1x	1x	1x	1x
"Silver" ballpoint pen	1x	1x	-	-	-
"Boss" ballpoint pen with soft touch	-	-	1x	1x	1x
Analog refractometer with LED illumination, 0-18%	-	1x	1x	1x	1x
Measuring strips pH 7.0-14.0 (100 ea.)	1x	1x	1x	1x	1x
Measuring strips hardness 0-28° dH (100 ea.)	1x	1x	1x	1x	1x
Measuring strips nitrites 0-25 mg/l (100 ea.)	1x	1x	1x	1x	1x
Sample jar, 50ml	3x	3x	2x	2x	2x
Digital thermometer, -50° - +110°C	1x	1x	1x	1x	1x
Measuring beaker, plastic, 250 ml	-	-	1x	1x	1x
Edding AG marker 300, black	-	-	1x	1x	1x
LED-flashlight, titanium	-	-	1x	1x	1x
Pocket Calculator, Solar Mini	-	-	1x	1x	1x
Safety glasses, polycarbonate	-	-	1x	1x	1x
Nitrile disposable gloves, black - 5 pairs	-	-	1x	1x	1x
USB stick card, 4 GB	-	-	1x	1x	1x
Conductivity tester, 0-1999 µS/cm	-	-	-	1x	1x
pH measuring device, 0-14 pH	-	-	-	1x	1x
Buffer solution pH 4, 50ml	-	-	-	1x	1x
Buffer solution pH 7, 50ml	-	-	-	1x	1x
Digital refractometer, 0-50%	-	-	-	-	1x








# Produktübersicht

## POWERFUL HELPER

### TEST KIT

Picture	Article-No.	Designation
	2201101	TEST KIT LIGHT for measurements of cooling lubricant
	2201102	TEST KIT COMPACT for measurements of cooling lubricant
	2201001	TEST KIT STANDARD for measurements of cooling lubricant
	2201002	TEST KIT EXCLUSIV for measurements of cooling lubricant
	2201003	TEST KIT PREMIUM for measurements of cooling lubricant
	2201110	Test kit small including insert, empty (Size: 330x265x80mm)
	2201010	Test kit including insert, empty (Size: 570x300x135mm)
	H 03051	50x form: maintenance plan for your cooling lubricant
	5001001	"Boss" ballpoint pen with soft touch, writing mine blue
	5001000	"Boss II" ballpoint pen with soft touch and metal clip, writing mine blue
	5001011	Pocket calculator, Solar Mini

Picture	Article-No.	Designation
	2201011	Analog Refractometer with LED illumination, 0-18% (Increments of 0.1%)
	72201301	Replacement: Prism flap with LED lighting
	2201012	Digital refractometer 0-50% (Increments of 0.1%)
	2201020	Measuring strips, pH 6.0 - 10.0 100 pieces
	2201021	Measuring strips, hardness 0-28° dH 100 pieces
	2201022	Measuring strips, nitrite 0-25 mg/l 100 pieces
	2201013	Conductivity meter, 0-1999us/cm Color: yellow
	2201014	pH meter, 0-14 pH Color: yellow
	2201030	Buffer solution pH 4, 50ml, for calibrate the pH meter
	2201032	Buffer solution pH 4, 250ml, for calibrate the pH meter
	2201031	Buffer solution pH 7, 50ml, for calibrate the pH meter
	2201033	Buffer solution pH 7, 250ml, for calibrate the pH meter
	2201040	Sample glass (50 ml) wide mouth for sampling and cooling lubricant tests
	2201041	Measuring beaker, plastic, 250 ml Scale: 50-100-150-200-250ml
	2201015	Digital-thermometer, black, -50°C - +110°C

Picture	Article-No.	Designation
	5001010	LED-flashlight, titanium, incl. 3 batteries AAA
	2201050	Safety glasses, polycarbonate, one-size-fits-all
	2201051	Nitrile disposable gloves - 5 pair free of powder and latex proteins
	2201052	Edding 300, black
	5001012	USB stick card, "BIOBALANCE", 4 GB
	2201092	Replacement battery AAA (1 Stk) for digital refractometer/LED-flashlight
	2201090	Replacement button battery LR44 ( 1Stk) for pole measuring device/Thermometer
	2201091	Replacement button battery LR41 ( 1Stk) for analog refractometer

# Highlights

**TEST KIT  
PREMIUM**



**TEST KIT  
COMPACT**



# CHIPMAXX & MAGNETIC BRUSH

for quick and easy removal  
magnetic parts



## Your Benefits

- simple and quick cleaning
- adaptable to any use
- powerful and efficient removal of chips
- ergonomic and compact

# CHIPMAXX

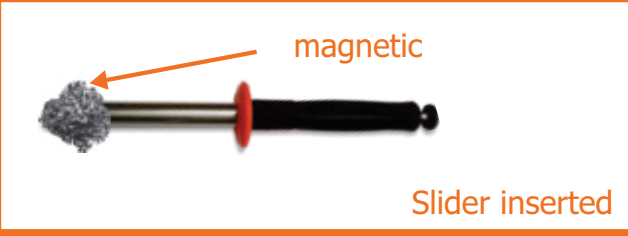
With the Chipmaxx, you can clean your cooling lubricant tank, your machines and your work area quickly, easily and reliably.

With its easy-to-grip handle, you can hold the Chipmaxx tightly in your grip and direct it safely toward the chips and attract them. By pulling on the slider, the magnetic attraction vanishes and the chips that had been attracted simply fall away.

A cleaned cooling lubricant tank is especially important in preserving the quality of your cooling lubricant. It also cuts your machine and tooling costs while keeping your work surroundings hygienically clean.

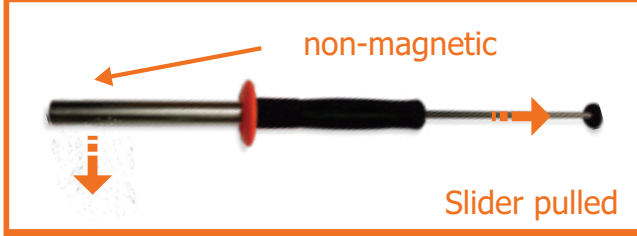
The Chipmaxx is just as helpful in enabling you to pick up small magnetic items and in separating magnetic and non-magnetic manufacturing components.

### For use



When slider is inserted, the rod is magnetised

### For cleaning




When slider is pulled, the rod is not magnetised

## Highlights

rod with powerful magnets, thus large absorption capacity

Handier and ergonomic handle for secure guidance

Slider to remove the magnetism on the Stick



Universal holder for CHIPMAXX for attachment with a magnet or for screwing



**CAUTION:**  
The CHIPMAXX should not be used by persons sensitive to magnetism, on running machinery or on objects susceptible to damage by magnetism!

# MAGNETIC BRUSH with telescopic handle

With the Magnetic brush, you can clean your work area quickly, easily and reliably.

With its easy-to-grip handle, you can hold the Magnetic brush tightly in your grip and direct it safely toward the chips and attract them. By pulling on the slider, the magnetic attraction vanishes and the chips that had been attracted simply fall away.

The magnetic brush is adjustable 800mm till 1120mm hauteur totale extend. The Magnetic brush can be adjusted to your individual requirements.

A cleaned floor area increases the quality and safety of your Company and keeps your working environment clean and hygienic.

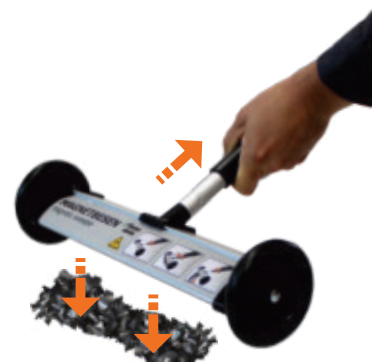
The Magnetic brush is just as helpful in enabling you to pick up small magnetic items and in separating magnetic and non-magnetic manufacturing components.

## For use



When slider is in working position, the brush is magnetised

## For cleaning



When slider is drawn, the brush is not magnetised

## Highlights

Powerful brush with a high intake capacity and a total width of 400mm



Slider to remove the magnetism on the brush

Rotatable holder for easy hanging and storage of the MAGNETIC BRUSH

Telescopic handle for adjusting the brush height from 800-1120mm






**CAUTION:**  
The **MAGNETIC BRUSH** should not be used by persons sensitive to magnetism, on running machinery or on objects susceptible to damage by magnetism!



# Product overview

## POWERFUL HELPER

### CHIPMAXX & MAGNETIC BRUSH

Picture	Article-No.	Designation
	1101040	CHIPMAXX 175 - rod length 175 mm, total length 390 mm
	1101041	CHIPMAXX 300 - rod length 300 mm, total length 515 mm
	1101042	CHIPMAXX 600 - rod length 600 mm, total length 815 mm
	1101043	CHIPMAXX 800 - rod length 800 mm, total length 1015 mm
	1101044	CHIPMAXX 1000 - rod length 1000 mm, total length 1215 mm
	1101039	Universal holder for CHIPMAXX and MAGNETIC BRUSH, to be attached by magnet or screw
	1103001	MAGNETIC BRUSH with telescopic stick Brush width 400mm, Gesamthöhe max. 1120mm

# BARREL-, IBC- & CANISTER-KEY

for quick and easy opening  
your containers

## YOUR BENEFITS

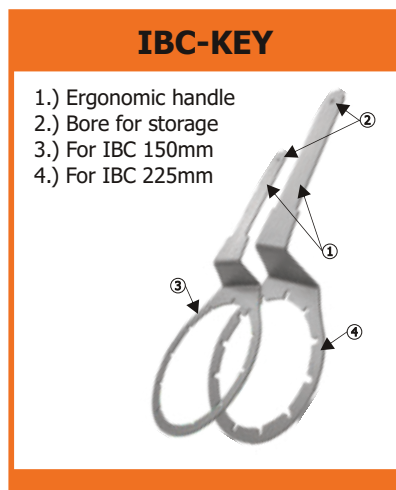
- easy opening due to optimal leverage
- premium stainless steel design
- robust and practical
- compact and ergonomic construction



## BARREL-, IBC- & CANISTER-KEY

Using this barrel key, you will be able to open and close your barrels in no time. The integrated seal remover takes the barrel seal off simply and securely. This manual barrel key provides optimal leverage to securely open steel barrels, IBC-Container and canister. Because of its optimal design out of robust and hardened stainless steel, it is very durable and simple to use. As a result of its well positioned mounting hole, this barrel key is easy to store.




All openers can be easily stored by their well-positioned mounting hole and are quick to hand when needed.



# Product overview

## POWERFUL HELPER

### KEYS FOR THE CONTAINER

Picture	Article-No.	Designation
	81102001	BARREL-KEY with barrel seal opener 307x52mm
	1102010	IBC-KEY for cover 150mm incl. hanger - NOW NEW IMPROVED VERSION -
	1102020	IBC-KEY for cover 225mm incl. hanger - NOW NEW IMPROVED VERSION -
	1102060	CANISTER-KEY-SET CANISTER KEYS 1-5 mounted as a set
	1102040	CANISTER- KEY 1 - DIN 45, inside dimension of the opening 35mm
	1102041	CANISTER- KEY 2 - DIN 51, inside dimension of the opening 43mm
	1102042	CANISTER- KEY 3 - DIN 61, inside dimension of the opening 48mm
	1102043	CANISTER- KEY 4 - DIN 71, inside dimension of the opening 58mm
	1102044	CANISTER- KEY 5 - DIN 50, inside dimension of the opening 40.7mm

(DIN and internal dimensions are only guidelines and not binding)

# NOTES

Write down your questions, information, order requests or whatever is important to you.








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# BIOBALANCE

Care your cooling lubricant successfully



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