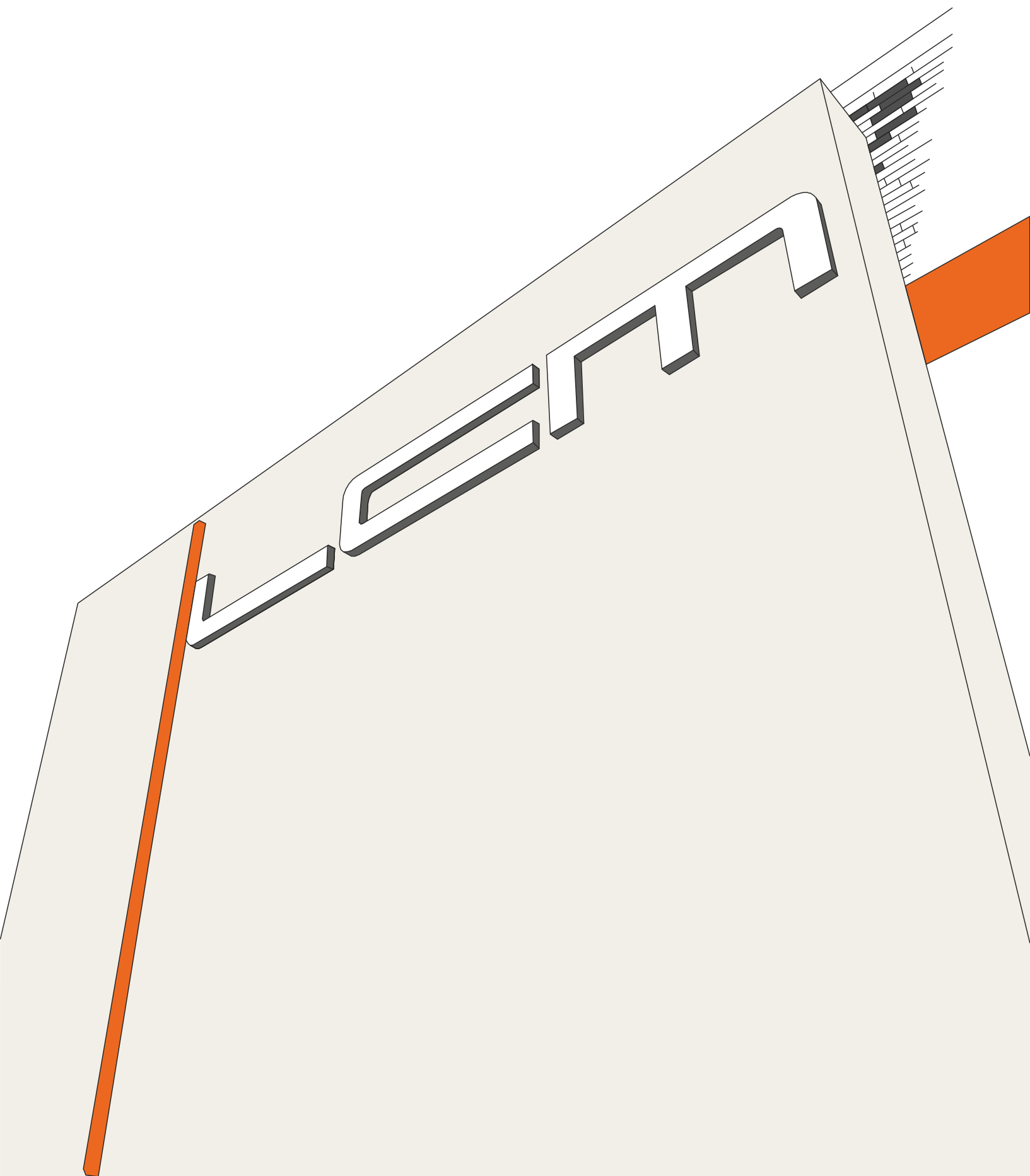




CONTENTS

ABOUT US	3
EDGE BANDING	5
AGGREGATES	17
TOOLS	25
SURFACE PROCESSING	31
FLOOR PROCESSING	37
SYSTEM TOOLS	39
MAINTENANCE WITH LOOP®	43
PRODUCTS	45



THE BEST WAY TO **CHARGE.** can be found in the visitor car park in front of our main building. Simply charge your electric car during your visit and enjoy a cup of coffee. And then you're good to go!



WHO WE ARE - LUDEWIG CHEMISCHE MITTEL

Passion, excellence and a constant eye on the future are what make LcM® products stand out. Since LcM was founded in 2007, we have been working under the motto

„THE BEST WAY TO EDGE.“

to support the wood processing industry with our know-how and our products and to improve work processes for our customers. Achieving the perfect finish and at the same time optimising the customer's costs is our top priority.

We achieve this with our chemical agents and system solutions for surface and edge processing, which, with the help of our partners, are currently available in 34 countries worldwide. As an innovative company, our team of experts at LcM® GmbH develops and tests new and improved recipes and technologies every day, which yield new and groundbreaking possibilities for efficient wood processing.

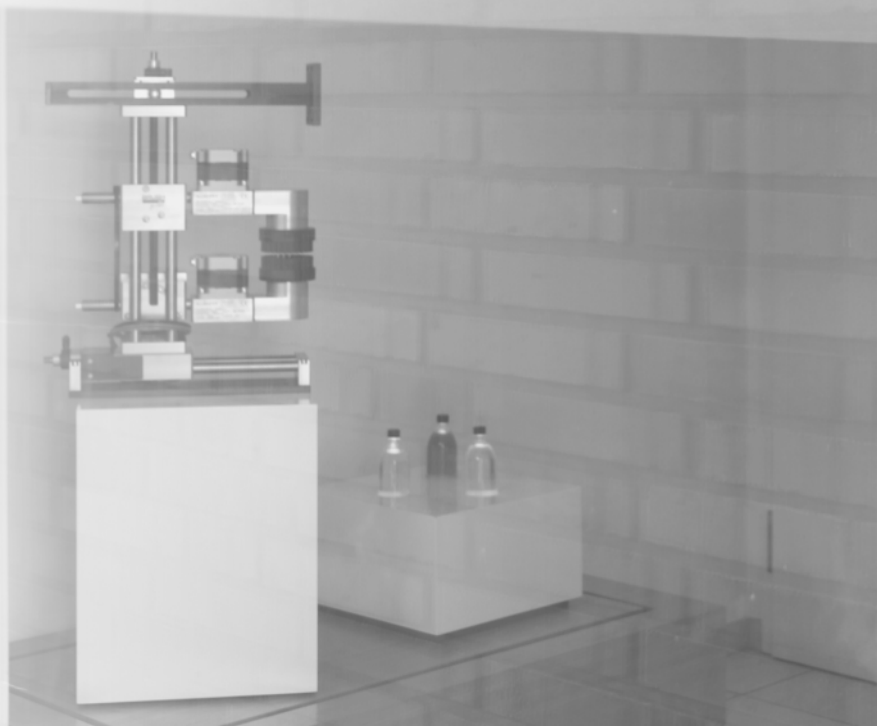
Right from the start, we have been committed to quality and innovation. We therefore attach great importance to our responsibility for the environment. This is reflected, for example, in the development of the world's first VOC-free cleaner for varnishing rollers, which we were able to successfully launch back in 2010.

As for our policy on sustainability, we place a special emphasis on the conservation of natural resources, the use of environmentally safe production processes and the avoidance of emissions.

"Thanks to our customers, we continue to grow and evolve
by adjusting to their requirements, even today."

Daniel Ludewig
Managing director

LcM[®]
LUDEWIG CHEMISCHE MITTEL



LcM GmbH

Siemensstraße 26-28
32120 Hiddenhausen

Tel.: +49 (0)5223 189 66-30
Fax: +49 (0)5223 189 66-35
Mail: info@lcm-gmbh.eu

Status: 04.2023 © LcM GmbH



www.lcm-gmbh.eu

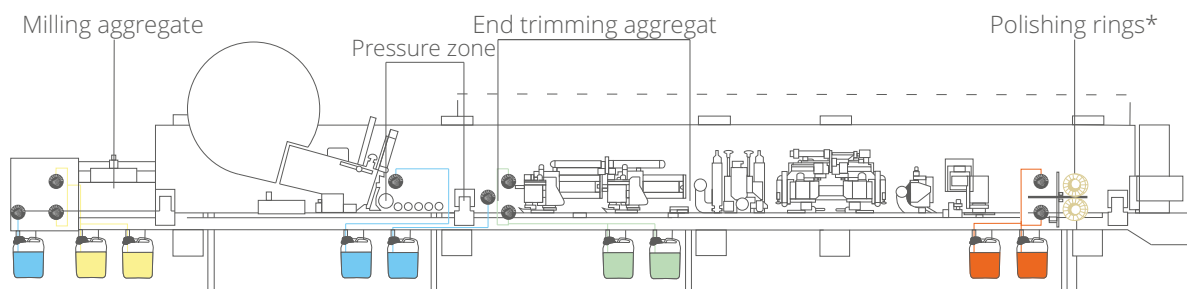
EDGE BANDING

Perfect edges come from East Westphalia - the origin of automated edge banding machine can be traced back to the 1960s, when the world's first machines for narrow surface banding as we know it today was invented. With the subsequent development of new machines, the range of new glues and adhesives grew over time and the materials used for workpiece edges also became more diverse.

However, the advent of revolutionary adhesives and machines that were constantly being developed sometimes brought problems that had not previously existed with the manual application of edgebands and workpieces: machine parts stuck together and the work became unclean. As a result, the finish on most edges was far from perfect. LcM GmbH was founded to offer a solution to this problem and together with the wood and furniture industry we have been developing chemical solutions for edge and surface processing for almost 15 years. Our goal is to provide you with environmentally friendly products that optimise all processes in the edge banding machine and thus ensure the best possible result for your production.

In addition to the conventional protective, separating, cleaning and cooling agents, we also offer our customers solvent-free, chemical products, which include the world's first solvent- and silicone-free separating agent. We are proud of this milestone and are pleased to be able to present this and many other chemical agents to you, as shown below.

Machine supplied with our VOC-containing products



Legende

- | | |
|--|--|
|  Lc 2/40 Protecting agent |  Lc 2/21 Antistatic-Coolant |
|  Lc 2/10 Separating agent |  Lc 2/30 Cleaning agent |

* These can be optionally replaced/supplemented by our **BRUSH-tec® E** or **BRUSH-tec® ES**.



Premium two-substance nozzle



Our **ultra-thin nozzle** for automatic spraying of the contact pressure roller.

DZF-32-10-P-A-S2
164037 N908
p max. 10 bar



Lc 2/21 Antistatic-Coolant

Thanks to its innovative composition, our **antistatic-coolant Lc 2/21** ensures a significant improvement in quality, which is made possible by three simultaneous processes: In addition to the conventional cleaning of the top and bottom of the edge, the cooling effect is particularly important. The glued joint is cooled and thus hardens much more quickly. The edge band is also statically discharged when the fluid is applied, so that the shavings cannot stick, which further increases the cleaning effect.

Antistatic-Coolant Lc 2/21 combines these three important features and thus optimises the process in the edge banding machine and, in turn, the end result of the workpiece. Its cleaning, cooling and static discharge properties are quite impressive, which makes us all the more proud to be able to offer you this chemical agent for your machine.

Variants compared (VOC-content)

Lc 2/21

100,0% VOC

iRelease

0,0% VOC



Lc 2/40 Protecting agent

Protecting agent Lc 2/40, which can also be used as a lubricant, is designed for continuous flow technology and is applied via our premium two-substance nozzle. This prevents unwanted contamination and optimises the entire process at various stations on the edge banding machine.

Applied directly to the scraper and pressure roller, the **protecting agent** ensures that neither dirt or adhesive residue sticks to the tools, so that smooth operation is guaranteed. Another positive effect is that the protective film does not detach from the edge banding during the process. During the application, the slide shoes are also automatically sprayed with the **protecting agent** to prevent friction and adhesive residues.

Variants compared (VOC-content)

Lc 2/40

90,5% VOC

iProtect

0,0% VOC

SPRAY SYSTEM

Our electronically controlled spray system is the ideal choice for spraying all types of VOC-containing release and cleaning agents for edge banding. The system features an integrated control unit, a separate controller, that allows the nozzles to be activated independently of the machine controller. This means that in the case of a retrofit you do not have to depend on the path points from your machine controller. The control unit can be programmed individually and is able to process several input signals – e.g. from light barriers – and output corresponding spray pulses for multiple spray points. Application examples include time-controlled spraying and wetting the contact roller after every third piece.



Control-Unit

- Individually programmable control unit
- Inputs and outputs (sensors & valves) can be flexibly linked with any time programmes
- Route points can be generated independently of the machine (retrofit)
- Spray pulses are precisely adapted to the task, for example: corner processing, hydrophobing,...

Technical specifications

- **Installation dimensions**
 - Height: 215mm
 - Width: 156mm including valves
 - Depth: 85mm
- Power supply: 24 V (With 230 V plug-in power supply unit as standard)
- Compressed air: 2,5 - 5 bar
- 2 inputs & 4 outputs



Premium two-substance nozzle

Continuous development and optimisation are the key tenets of our philosophy. With our **premium two-substance nozzle**, we present you the new generation of self-priming Venturi nozzles. Its impressive features include even spray pattern, fine tuning and high absorbency. In addition, a ratchet mechanism on the adjustment screw provides tactile feedback. The nozzle can thus be optimally and repeatedly adjusted even in inaccessible or hidden positions.

Our LcM® **premium two-substance nozzle** is ideal for applying all our VOC-containing agents - such as release and cleaning agents.

When you see this icon next to our chemical agents, it denotes that the chemical agent is applied using our **premium two-substance nozzle**.



iRelease



VOC-FREE PRODUCTS - ADVANTAGES FOR YOU, YOUR EMPLOYEES & THE ENVIRONMENT

Volatile Organic Compounds, or VOC for short, are an important topic in our industry that is currently gaining greater emphasis. These volatile organic compounds can be found in cleaning agents and solvents, but also in paints, varnishes and adhesives. The gaseous or vaporous substances are of organic origin and could be found almost everywhere in the past. Even today, scientific knowledge regarding the potential harm caused by VOC-containing products to humans and our environment is relatively low. This is something we, as a manufacturer of chemical agents, would like to change at all costs. Our VOC-free products offer following advantages:

No increased health risks for you and your employees.

No more problems with the solvent balance.

No increased insurance premiums due to hazardous goods.

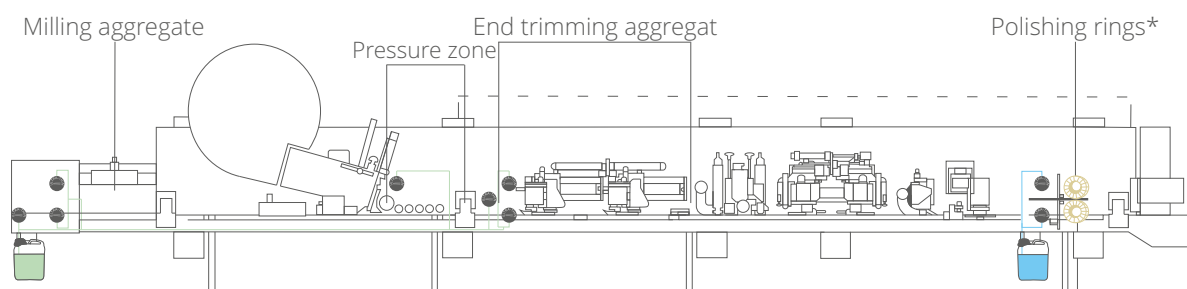
No special storage requirements for release and cleaning agents.

No increased damage to the environment.

With our **VOC-free chemical agents**, we combine the properties of our VOC-containing ones and thus obtain the iRelease and iClean. Used in your machine, we thus achieve with two agents completely without solvents the results that we otherwise achieve with our separating agent, protecting agent, antistatic-coolant and cleaning agent.

In addition to the iRelease, which combines the properties of the Lc 2/10, Lc 2/21 and Lc 2/40 and is usually used directly at the inlet, the iClean finds its place directly in front of the scraper. The cleaning agent can be easily replaced by the BRUSH-tec® agent upstream of one of our finishing units, such as the BRUSH-tec® ES, which also cleans.

Machine supplied with our VOC-free products



Legend



iRelease



Ultra-Thin nozzle



iClean - optionally in front of a BRUSH-tec®



BRUSH-tec® agent

* These can be optionally replaced/supplemented by our BRUSH-tec® E or BRUSH-tec® ES.



Lc 2/55 HydroTec agent

Our Lc 2/55 HydroTec agent was developed in order to prevent moisture from penetrating your workpieces in the long term. The transition area from the top layer to the edge thus obtains hydrophobic properties, which are of great advantage during further processing and later use.

Lc 2/55 is ideally applied via our ultra-fine nozzle and will fully penetrate the workpiece after 24 hours. The sprayed area is then sealed and any residue of the agent will be completely evaporated.

Variants compared (VOC-content)

Item no.	Odour	VOC content	Designation
30055	neutral	100%	Lc 2/55
30055-ST	neutral	100%	Lc 2/55 stick

Lc 2/55 HydroTec stick

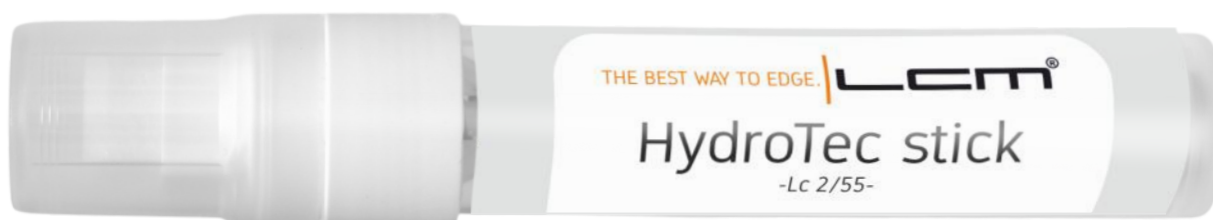
With the HydroTec stick, we offer you the option of applying our hydrophobing agent by hand. To do this, pull the stick, which has a sponge at the tip, vertically over the area of the workpiece to be sealed. After just one day the chemical agent will be absorbed.

Our stick can be used for all furniture parts made of wood-based composites as well as for real wood panels. These are given long-term protection against steam, water and dirt once the application is complete. The HydroTec stick also prevents the edges from swelling.



The tip of the stick is 15mm wide and can be easily replaced at any time.

Since the HydroTec stick is refillable, we recommend it in a set with a 1Liter HydroTec agent bottle with a spout in the lid. So it can be refilled very easily.



*Size of the HydroTec stick in the ratio 1:1

BRUSH-tec® agent



Developed in our in-house laboratory, our **BRUSH-tec® agent** is the perfect chemical addition to our aggregates. The composition and effect of the solvent-free cleaning agent is ideally suited for use right in front of the **BRUSH-tec®** brushes and belts and optimises the effect of these to a large extent.

Previously applied chemical agents or loose adhesive residues that have remained on the edge areas of the workpiece up to this station on the edge banding machine are removed - the edge banding and glued joint are cooled. The **BRUSH-tec® agent** is applied using our nozzles in combination with our **CLOU®**.

Variants compared (VOC-content)

Item no.	Odour	VOC content	Designation
BT - 233	neutral	0%	BRUSH-tec® agent



CLOU[®] 5

With our patented, open compressed air reservoir, the CLOU[®], we have developed a system specifically for use on the edgebander and the use of VOC-free chemical agents. In addition to serving as a central fluid supply for multiple spray points, we pursue the reduction of fluid consumption to a minimum with the CLOU[®] in combination with our ultra-thin nozzle.

In order to supply the chemical agents, such as our iRelease or iClean, to the nozzles via the supply and branch lines, the reservoir of our CLOU[®] is pressurized. This has the effect that fluid is always present at the nozzles and check valves are no longer required. The tank pressure is controlled by our integrated control unit, which also monitors the fill level. A low fill level is indicated by a warning light.

For our CLOU[®] 5, we use a 5-liter canister as a standard container in which our compatible chemical agents are delivered. Refilling is therefore a simple matter of replacing the canister by hand.



Control-Unit

- Individually programmable control unit
- Inputs and outputs (sensors & valves) can be flexibly linked with any time programmes
- Route points can be generated independently of the machine (retrofit)
- Spray pulses are precisely adapted to the task, for example: corner processing, hydrophobing,...

Technical specifications

- Filling capacity: 5 liters
- Tank pressure: 0.25-0.4 bar
- Rated voltage: 200-240 V AC
- There is space on the CLOU[®] for a machine label to identify the liquid used

CLOU[®]20

Based on the premise that the fluid supply is not located in the machine but in front of it, we have developed the CLOU[®] 20 with a capacity of 20 liters.

Your big advantage here: the refilling process becomes much easier for you and especially for your employees. The large container reduces the required refills and ensures a significantly longer runtime. The required storage space is also visibly smaller.

Like our standard CLOU[®] 5 with a capacity of 5 liters, this variant is controlled by our control unit and a low fill level is indicated by the red warning light. indicated by the red warning light. Special features here include the color-coded hold-down device for the pressure tank and the specially created stainless steel canister key, which can be attached to the CLOU[®] 20 using a magnet.



Ultra-Thin nozzle

Our **ultra-thin nozzle** is precisely tailored to the needs of our customers and in particular to the application of our VOC-free products. It enables extremely fine and well-dosed atomisation without overspray. The substances are sprayed with low air and liquid consumption. Optionally, various lances help to apply the chemical agents precisely to the required points. Like our premium dual-substance nozzle, it features tactile feedback for adjusting spray intensity in hard-to-reach and hidden positions.

When you see this icon next to our chemical agents, it denotes that the chemical agent is applied using our **ultra-thin nozzle**.



AGGREGATES

In the furniture industry, as in every branch of industry, ongoing development is an essential factor. Faster, better, further are at the top of the agenda here. Some things have changed with our customers' workpieces and the edge banding machines, and the requirements for processing have become ever higher, while the conventional buffing unit, for example, has not really changed. Due to this fact and our desire for better results with our chemical agents, we were looking for a unit whose tool has a larger contact surface and can therefore process the edge areas of the workpieces more completely.

The **BRUSH-tec®** system has been part of the LcM® product range since 2016. It has regularly been upgraded by our development and technical team who work on further improving it every day. Depending on the model, our units are used for processing edges or surfaces and, in combination with our Lc cleaning agents, ensure a significant improvement in quality in the through-feed technology. In addition to our original **BRUSH-tec® E**, which was developed for edge banding, the **BRUSH-tec® ES** and the **BRUSH-tec® SF** are now also part of our in-house portfolio.

While the **BRUSH-tec® ES** scores particularly well with its narrow working dimensions for processing edges, the **BRUSH-tec® SF** is our first unit that can also be used for surface processing of your workpieces.



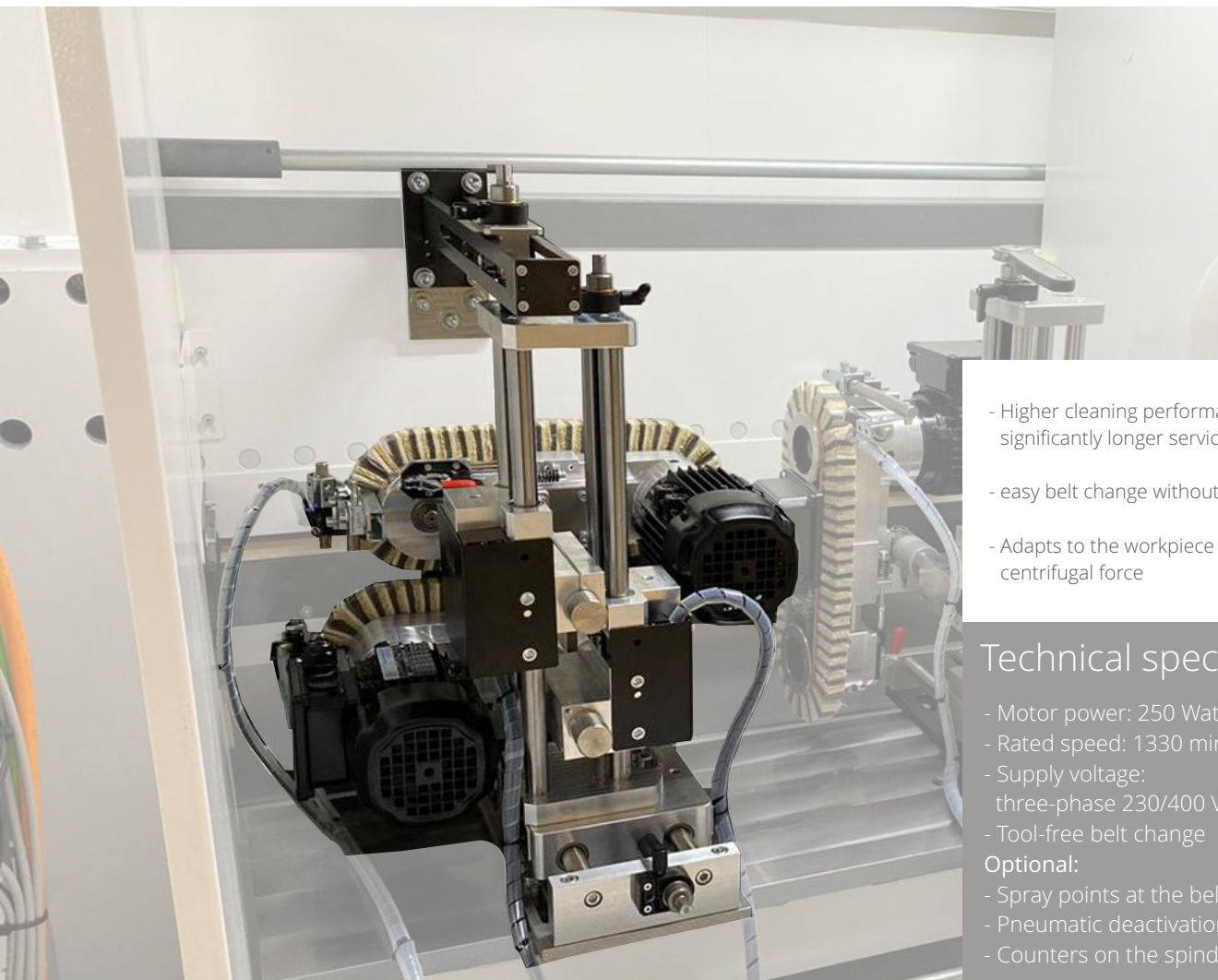
The **BRUSH-tec® ES** is the slimmest member of the LcM product range and is particularly well suited for structured surfaces.

BRUSH-tec®_E

Due to the increasing demands on edge processing, we started to create our alternative to the conventional buffing unit in 2016. Since the machines and workpieces as well as their requirements changed significantly in the past decades, but the buffing unit did not adapt to these innovations until today, we developed our **BRUSH-tec® EDGE, E** for short. While the overall size of the unit remains the same compared to the buffing unit, the much larger contact area of the ribbed belts enables us to achieve significantly more polishing effect with the same throughput time. The service life of the tools is also significantly longer due to the more uniform and full-surface load.

Compared to conventional buffing units, our **BRUSH-tec® E** works with ribbed belts or brushes. Thanks to a quick-release mechanism, the **BRUSH-tec® E** allows you to change the brushes quickly and, above all, without tools - simply and easily. Currently, our portfolio includes a wide variety of belt trimmings made of different materials. Our felt and felt-sisal brushes are particularly popular.

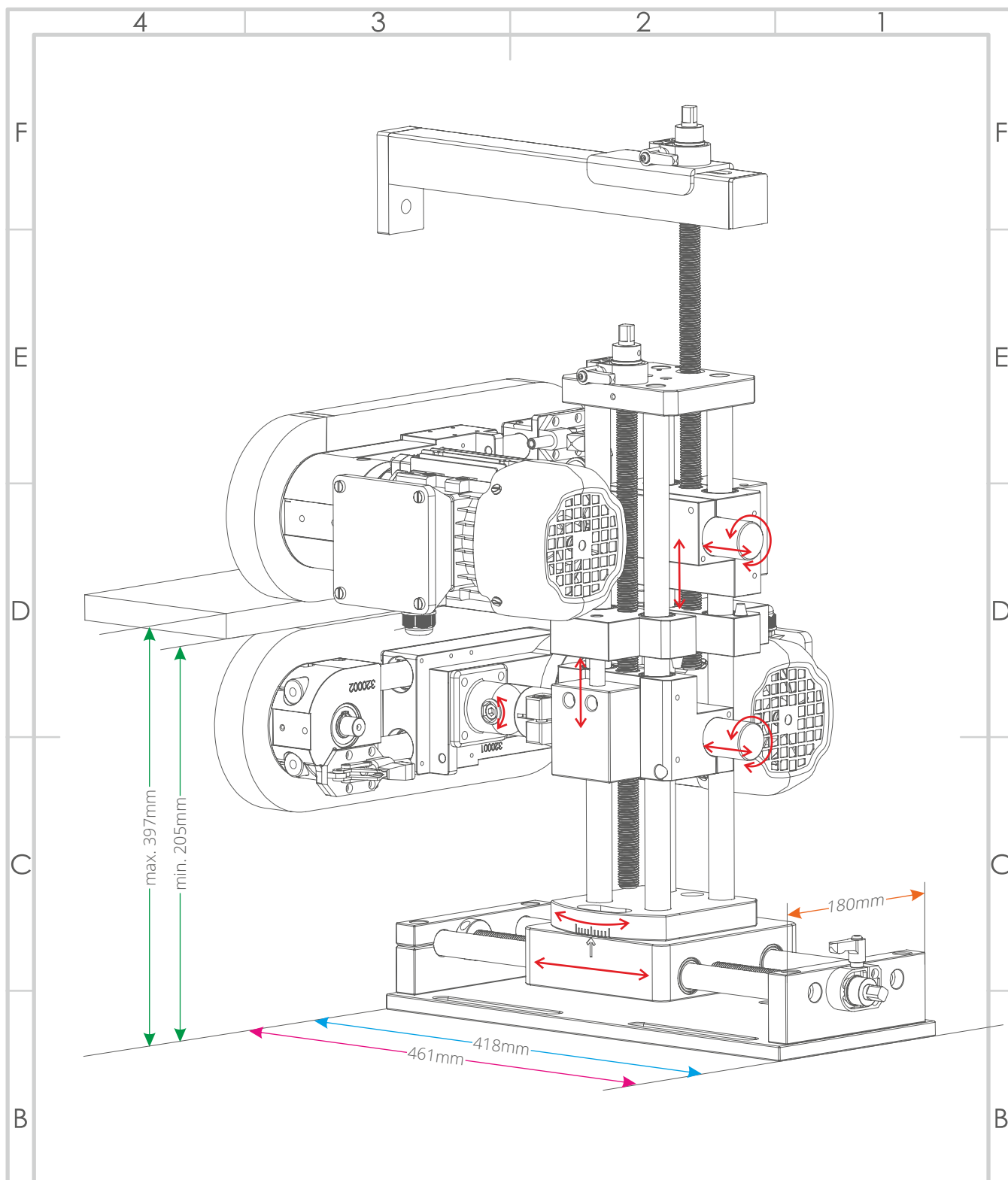
Our **BRUSH-tec® E** comes standard with two tools that work the top and bottom edges parallel to each other. Thanks to the flexible adjustment options, which allow the tools to be positioned independently of each other both horizontally and vertically, cleaning the narrow side of the workpiece and the edge radius is also no problem.



- Higher cleaning performance with significantly longer service life
- easy belt change without tools
- Adapts to the workpiece surface by centrifugal force

Technical specifications

- Motor power: 250 Watt
- Rated speed: 1330 min⁻¹
- Supply voltage: three-phase 230/400 V
- Tool-free belt change
- Optional:**
 - Spray points at the belt inlet
 - Pneumatic deactivation
 - Counters on the spindles



BRUSH-tec[®] ES

Our **BRUSH-tec[®] EDGE SMALL, ES** for short, owes its name to its narrow working width of just 110 mm. As our narrowest post-processing unit for edge and surface processing, it will always find a place in your machines and is therefore also perfectly suited for retrofitting in existing systems. It is an ideal alternative or extension to conventional buffing units.

The **BRUSH-tec[®] ES** is equipped with up to two premium brushes and, depending on the application and structure, offers you a wide range of options for improving your processes. It not only cleans the surface of your workpieces. The edge banding is also processed by applying it above and below the edge. This function makes it particularly suitable for the post-processing of structured surfaces.

Technically, the **BRUSH-tec[®] ES** impresses with its automatic shutdown and variable speed control, which ranges from 50 to 4,000 revolutions per minute. Another important advantage: Thanks to its numerous setting options, the unit's individually driven brushes can be rotated or tilted in almost any direction. Thus, the **BRUSH-tec[®] ES** can be individually and flexibly adapted to your needs and your edge banding machine.



- reliably removes adhesive residues from workpiece surface & edge
- equalizes manufacturing deviations
- especially suitable for structured surfaces

Technical specifications

- Motor power: 300 watts
- Speed: 50-4,000 rpm
- Rated voltage: 200-240V AC
- Control: 24 V
- Pneumatic deactivation
- Variable speed adjustment
- Digital speed display
- Narrow working width of 110mm
- Direction of rotation reversible

BRUSH-tec[®]_{SF}

Our largest post-processing unit to date is the **BRUSH-tec[®] SURFACE, SF** for short. Designed as our solution to problems with the surface finish of your workpieces, it can be tailored to suit your individual needs: Whether before stacking the furniture parts, before the surface inspection or after processing the workpieces in a drilling machine cell - with the **BRUSH-tec[®] SF** you ensure dust-free and clean surfaces in the right places, and on your machine. Flexible installation options through portal design, cantilever or tripods make individual integration in your machine line possible in any location.

Currently available in three different working widths – 1050 mm, 1500 mm or 600 mm – we clearly stand out from our competitors, in particular with features such as the unit's double belt and the variable speed adjustment. Our parallel-running cleaning brushes ensure significantly more efficient cleaning and perfect surface quality, regardless of whether the surface is smooth or structured.

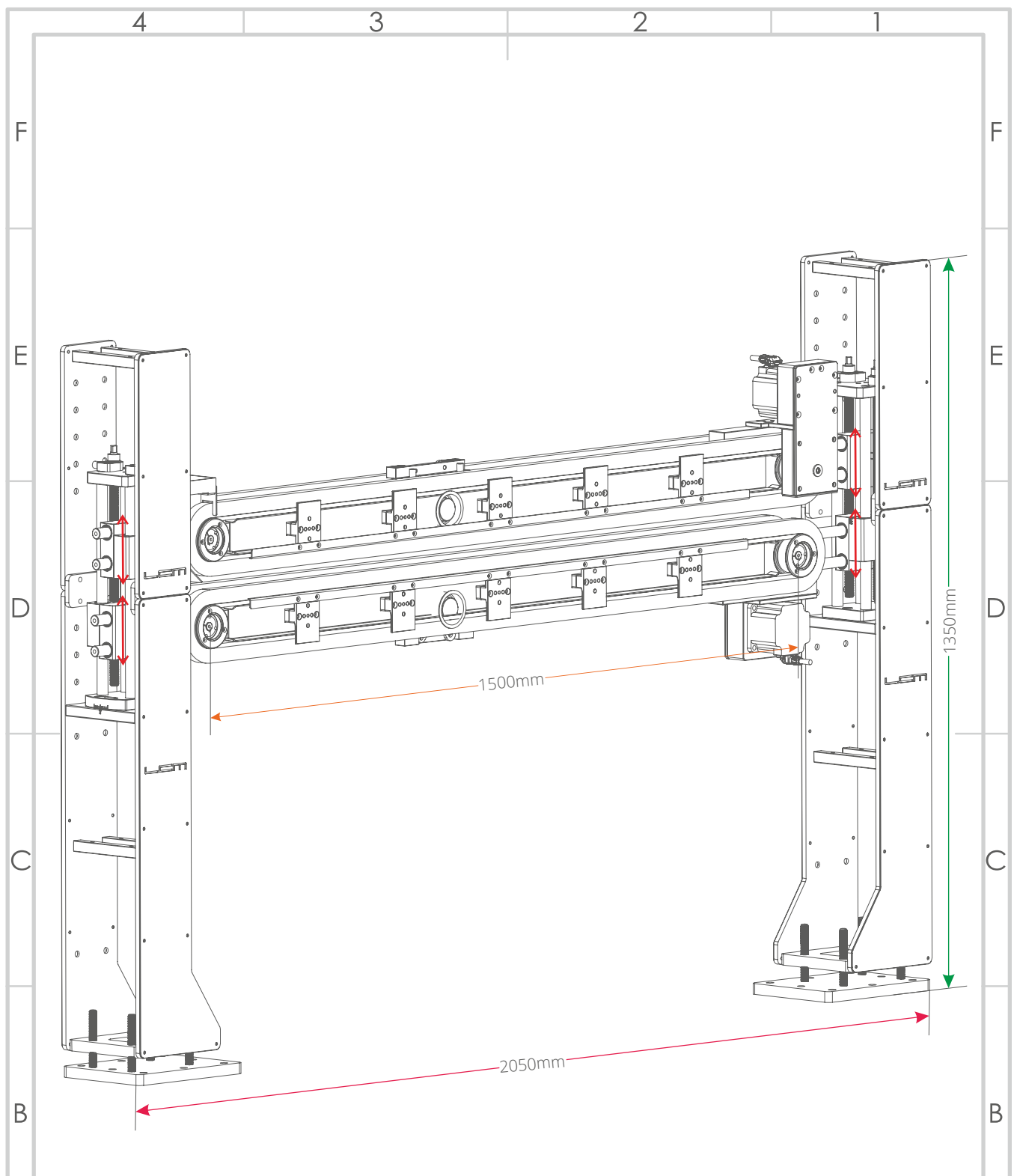
We are particularly proud of the already integrated nozzle technology, which makes the application of our LcM[®] cleaning agents very easy. In combination with the connected CLOU[®], our cleaning agents specially developed for the surface brushes can be applied to the workpieces. In addition to our low VOC Lc 1/700, we also offer the VOC-free Lc 1/300 as an anti-static cleaning agent. Both ensure that the brush and workpiece do not become statically charged (for more information on cleaning agents see page 36).



- can stand on its own or be integrated on the roller table thanks to various assembly options
- including spraying technology and suction
- suitable for smooth and structured surfaces

Technical specifications

- Motor power: 300 Watt
- Rated speed: 200-240 V AC
- Control: 24 V
- Variable speed adjustment
- Digital speed display



TOOLS

At LcM, we not only focus on innovative new developments for edge banding machines, but also on optimisation of existing technologies. It is precisely for this reason that we also offer tools such as buffing wheels, polishing rings and lamellar wheels in our product range, as these make the work of already installed buffing units more efficient and should be adapted to the various edge materials in the best possible way. In addition to conventional models, we also carry some special products that have been developed from our experience over the past few years and customer feedback.

The buffing unit is a processing unit on the edge banding machine that cleans and polishes the upper and lower edges of the workpieces. Even today they can still be found in many older machines, while in new models they are increasingly being replaced by units such as our BRUSH-tec® E. To supplement and support existing buffing units, we have developed the BRUSH-tec® ES, which you can find out more about on pages 21 and 22.

Buffing wheels made of cotton fabric – a widely-used item in the industry. We are now involved in the manufacture of buffing wheels, also with many other materials such as leather, fibre and sisal. You can see our range of buffing discs below, which have impressive properties thanks to the various materials they are made of. Given the many different edging materials used in the manufacture of furniture, it is important to select a buffing wheel that is a perfect match for the material being used, so that it has a positive impact on aggregate results.



Are you looking for custom-made buffing wheels? Then call us or send an email: info@lcm-gmbh.eu



Cotton-sisal-wave

This buffing wheel is particularly suitable for sensitive materials such as ABS, high-gloss or matt edges. Thanks to its special structure, the edges are gently smoothed by the **cotton-sisal-wave**, while stubborn adhesive residues are also removed. On the one hand, the wave shape ensures optimal ventilation and thus cooling of the edge, while on the other hand, the surface comes into alternating contact with both fabrics.

The two fabric components in this tool are cotton and sisal: in the **cotton-sisal-wave**, two coarse layers of sisal are each framed by four layers of fine cotton fabric. While the outer layers offer impressive absorbency, the inner layers are particularly abrasive.

Available variants (More on request)

Item no.	Size	Bore	Designation
30120-CSW [HEX]	120x10	19 HEX	Lc 3/120
30150-CSW	150x30	50	Lc 3/150
30150-CSW [HEX]	150x10	19 HEX	Lc 3/150
30160-CSW	160x30	50	Lc 3/160
30190-CSW	190x30	50	Lc 3/190

Fabric polishing rings

Our product range includes a wide variety of **fabric polishing rings** that are optimally tailored to the respective machines and edge materials. In addition to classic cotton fabrics, we also use untreated sisal for this, with both materials scoring particularly well for their absorption volume. The release and cleaning agents are optimally absorbed, which leads to a significantly better result.

Depending on the number of fabric layers, the polishing rings in combination with the irregularly wavy folds have different abrasive effects. The open fold also ensures high flexibility and good cooling, which makes this type of buffing wheel particularly versatile. Even delicate edges, such as ABS, high-gloss or matt edges can be processed with our **fabric polishing rings** without hesitation.



Further types



Special lamellar wheel

Our **special lamellar wheel** is the result of many years of experience and customer feedback, which has enabled us to create a buffing wheel that is particularly suitable for use on real wood veneer edges. The very solid, compressed structure ensures a high degree of abrasiveness, i.e. a rubbing effect that results in a simultaneous smoothing and cleaning effect.

The **special lamellar wheel** is made up of equal parts cotton fabric, sisal, leather and foam - this innovative composition is used primarily for hard-wearing edges where excess material has to be removed. With this model, too, we rely on a specially-designed cast mounting core, which offers additional stability and a long service life.

Available variants (More on request)

Item no.	Size	Bore	Designation
30280	160x30	50	Lc 3/280



Fabric-sisal lamellar wheel

Compared to the fabric polishing rings, the **fabric-sisal lamellar wheel** is significantly coarser and is therefore preferred for use where there are particularly stubborn and strong adhesive residues on the edgeband. The sisal lamellae, some of which are covered with fine cotton fabric, offer a better polishing performance and therefore a shinier finish in combination with the pure fabric lamellae. It is therefore often used for thermoplastic edges of all kinds.

The coarse sisal ensures that protruding edge material can easily be removed and the edge banding can be optimally deburred. Streak-free pre-polishing is no longer a problem with the **fabric-sisal lamellar wheel**, and the specially-designed cast mounting core together with the hard-wearing sisal lamellae offer a longer service life.

Available variants (More on request)

Item no.	Size	Bore	Designation
30131	190x25	50	Lc 3/131
30133	150x25	50	Lc 3/133
30135	160x25	55	Lc 3/135
30136	160x25	50	Lc 3/136
30137	190x25	40	Lc 3/137
30138	150x25	25	Lc 3/138





Fibre round brush

Heat resistance, resilience and elasticity - that's what our **fibre round brush** stands for. This tool is particularly well suited for polishing work, especially in combination with our iRelease and iClean, thanks to its natural fibres. These are obtained from the leaf veins of certain agave species, which only occur in Mexico.

The exceptional absorption power of the fibres enables optimal absorption of the previously applied chemical agents and thus ensures a high-quality finish or polishing of the edge. Another advantage of the **fibre round brush**: Thanks to its properties, it can be used for any edge material as well as for structured surfaces.

Available variants (More on request)

Item no.	Size	Bore	Designation
30089	165x25	50	Lc 3/89

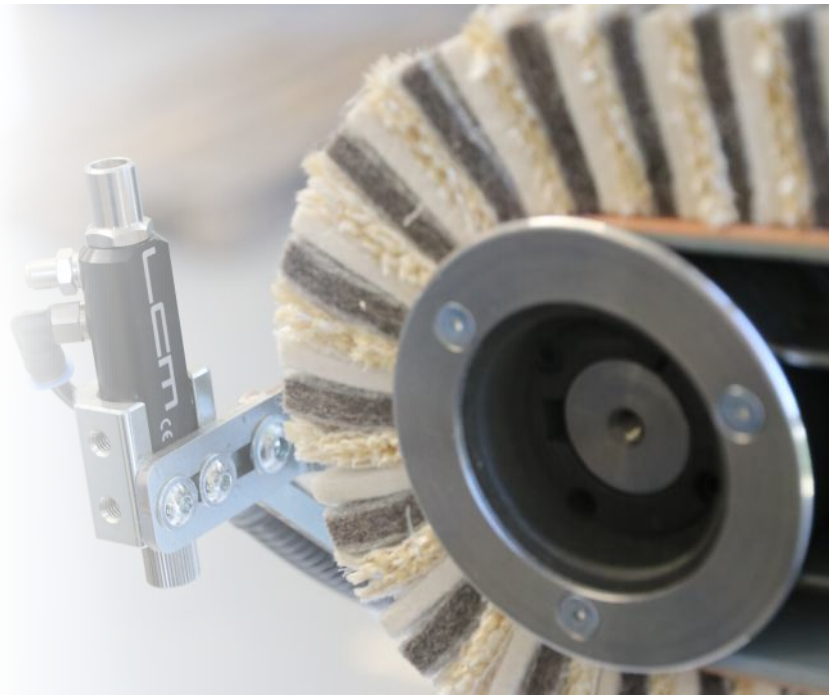
Tools for the BRUSH-tec® E

For our original, specially developed unit, the BRUSH-tec® E, we do not use conventional buffing wheels or polishing rings. This is where our **ribbed belts** are used, which are optimally tailored to cleaning your workpieces on both sides. In addition to our finer felt brush, our range of products also includes a sisal brush, which consists of sisal and felt lamellae.

The lamellae, which differ in quantity and material depending on the model, polishes the edgeband radius and reduces unwanted stress whitening. When joining thin edges, the **ribbed belts** remove excess material, thereby deburring the edgeband.

Available variants (More on request)

Item no.	Material	Designation
BT - 335	Sisal-felt-Combination	BT 3/35
BT - 336	Felt	BT 3/36
BT - 337	Felt	BT 3/37



Tools for the BRUSH-tec® ES

As the heart of our BRUSH-tec® ES, the **premium disc brush** is an integral part of our tool portfolio. Perfectly designed for cleaning your workpieces, our disc brushes are particularly hard-wearing and, in combination with our chemical agents, enormously powerful. Both the brush body made of polyvinyl chloride, PVC for short, and the bristles made of polyamide, PA for short, or fiber, have been optimized for a long service life.

Thanks to the full trim with medium trim density of the bristles, it is ensured that our **premium disc brush** reaches adhesive residues and soiling on the workpiece over the entire surface at every angle and removes them completely. Depending on the degree of soiling and the type of workpiece to be processed, our disc brush is available in various sizes and with different bristle thicknesses and bristle types.

Available variants (More on request)

Item no.	ø/mm	Bristle thickness/mm	Designation
BT - 322_02	80	0,5	BT 3/22_02
BT - 322_05	80	0,6	BT 3/22_05
BT - 322_01	100	0,5	BT 3/22_01
BT - 322_04	100	0,6	BT 3/22_04



Tools for the BRUSH-tec® SF

For our BRUSH-tec® SF, we have adapted the length of our SF-Brush to the different conditions due to the different sizes.

Like the bristles of our premium plate brush, our **SF-Brush** is made of PVC, into which individual bristle bundles are incorporated. These are made of PA, which is the abbreviation for polyamide. Due to the constant further development of our aggregates, the tools can also change and be adapted to new areas of application, which is why you may also inform yourself personally at any time about current options and individual solutions.

Available variants (More on request)

Item no.	Material	Designation
BT - 338_1520	Pa6 Bristles	BT 3/38_1520
BT - 338_2280	Pa6 Bristles	BT 3/38_2280

SURFACE PROCESSING

Over the past 20 years, the propensity of private households in Germany to spend on furniture has almost doubled. In 2020, they spent around € 46 billion on kitchens and the like – for these purchases the first impression is what counts. Furniture has to inspire people from the very first moment, otherwise the decision to buy may prove be difficult. When it comes to our customers in the wood processing industry, the first thing you usually see is the surface. That's why we do everything we can with our products to present them in the best possible light.

LcM® cleaning agents offer you the perfect solution for every surface. Whether sensitive or hard-wearing - in our product range you will find the right chemical agent for each of your workpieces. For more than a decade we have been inspiring people with cleaners that easily remove production residues from surfaces. These include light adhesive residues, streaks, fingerprints, dust particles or even greasy films. These are removed without much effort and thanks to the rapid evaporation nothing is left behind.

Individual solutions for you and your products: over the years we have adapted our surface cleaners to a wide variety of materials, needs and customer requests. We now offer a variety of scent additives and intensities, and even cleaners with a lower solvent content.



In addition to the classic surface cleaners, you will also find our products for **floor processing** .



Lc 1/18 Cleaning agent

Above all, it is the versatility that makes our Lc 1/18 so special. It is highly effective cleaning agent that was specially developed by us for use on sensitive surfaces. Thanks to the high solvent content, the cleaner, which is used in manual applications, quickly and efficiently removes all kinds of dirt.

Even stubborn, superficial contaminants on your workpieces or machines, such as rubber residues, oils, adhesive residues and abrasion, are no problem for our Lc 1/18.

Over the years, we have developed several product variants from this original product, which have different features and areas of application. These variants can be found in the table below and on the following pages.

Available variants (More on request)

Item no.	Odour	VOC content	Designation
30090	neutral	100%	Lc 1/18
30098	apple	100%	Lc 1/18 AN
30097	citrus	100%	Lc 1/18 DN
30095	orange	100%	Lc 1/18 Z

Accessories

Since all our products for surface treatment are applied manually, combining our chemical agents with the right tools can make application much easier. You can find these products in our product range, for example:

Accessories available (More on request)

Designation
CLOU® XS - refillable compressed air tank
Plunger can
Canister key
Filling tap
Spray nozzle
Microfibre cloth



Lc 1/18 S Surface cleaner

Our **Lc 1/18 S surface cleaner** is a highly effective cleaner that was specifically developed for high-gloss surfaces. It can also be used to clean metal, tiles, wood or stone as long as they have a smooth surface. As a stronger variant to our **Lc 1/18**, this cleaner also removes contaminants such as resin, oil, bitumen, as well as rubber and adhesive residues quickly and effectively, not least because of its high solvent content.

Like all other **Lc 1/18** products, this quickly evaporating surface cleaner is applied undiluted manually or with the help of a spray bottle. The surface being cleaned should then be rubbed down with a dry cloth.

Available variants (More on request)

Item no.	Odour	VOC content	Designation
30091	solvent	100%	Lc 1/18 S



Lc 1/18 V Surface cleaner

Another variant of our surface cleaner is the **Lc 1/18 V**. This low-solvent cleaning agent has been specially developed for use on very sensitive surfaces, such as glass, metal, wood or marble. It can also be used to clean other smooth surfaces.

The **1/18 V** is simply applied undiluted to the surface to be cleaned and removes dirt such as dust particles, fingerprints and greasy film. As with our **Lc 1/18**, any residues from the cleaner evaporate completely, so that no stripes remain on the surface.

Available variants (More on request)

Item no.	Odour	VOC content	Designation
30092	neutral	18,9%	Lc 1/18 V





Lc 7/18 Glass cleaner

Lc 7/18 is recommended for cleaning glass, mirrors, tiles, etc. The VOC-free glass cleaner can be easily applied to the surface to be cleaned with a spray bottle/spray gun or, of course, by hand.

As a cleaning concentrate, Lc 7/18 can be used undiluted. It removes not only traces of nicotine and fingerprints, but also any greasy or oily residues. For the best possible result, use a lint-free cloth, such as our microfibre cloth, and rub in the liquid until the surface is dry.

Available variants (More on request)

Item no.	Odour	VOC content	Designation
30120	fresh	0%	Lc 7/18

Lc 7/19 Surface cleaner

Lc 7/19 is an important part of our surface treatment product range. Developed for use on all smooth surfaces such as tables, worktops and shelves, it even removes oily or greasy dirt and traces of nicotine. When used correctly, this chemical product cleans streak-free and leaves no residue on your surfaces.

Lc 7/19 is used undiluted and achieves the desired effect with just a small amount. It should therefore be applied very sparingly and preferably with a spray bottle or gun. The cleaner should then be rubbed in with a lint-free cloth until the surface is completely dry. The colourless liquid smells fresh and contains no VOC.

Available variants (More on request)

Item no.	Odour	VOC content	Designation
30121	fresh	0%	Lc 7/19



Lc 1/300 Antistatic-cleaning agent



Antistatic-cleaning agent Lc 1/300 is another VOC-free chemical product in our portfolio and therefore does not require any hazard warning labelling. The aqueous cleaner is based on non-ionic surfactants and preservatives and evaporates very quickly. In addition to its main area of application, the cleaning agent, which was specially developed for use on round brushes on wood processing machines, can also be used on a wide variety of surfaces for streak-free and dust-free cleaning.

If the antistatic-cleaning agent is applied to the brushes, this ensures that neither the brushes nor the workpieces become statically charged. This has the advantage of ensuring that dust and other dirt particles do not stick.

Available variants (More on request)

Item no.	Odour	VOC	Designation
31300	neutral	0%	Lc 1/300
31300-K	alcohol	50%	Lc 1/300-K*

*The abbreviation "K" stands for "concentrate".



Lc 1/700 Antistatic-cleaning agent

Lc 1/700 is another antistatic-cleaning agent in our product range. The application of this chemical product also ensures that brushes and workpieces in the edge processing machine do not become statically charged. Dust, chips and other dirt do not stick to it. The result: a significantly cleaner surface and therefore a higher-quality finish.

Due to the composition of ethanol and water, as well as other additives that are not subject to labelling, our anti-static cleaning agent is classified as low VOC. It is particularly suitable for cleaning acrylic glass and plastic surfaces, but can also be used on other surfaces.

Available variants (More on request)

Item no.	Odour	VOC content	Designation
31700	characteristic	30%	Lc 1/700



FLOOR PROCESSING

Lc 2/57 HydroTec agent

Our **Lc 2/57** is our chemical agent for hydrophobing when it comes to use in the flooring industry and thus in the double-end tenoner. To prevent moisture, for example mop water, from penetrating later, the flooring is treated with **HydroTec agent** after profiling. This works most effectively with our Ultra-Thin nozzle, which applies the agent precisely to the area to be sealed.

Applied directly after the buffing wheels or our BRUSH-tec® E in edge banding the **Lc 2/57** is fully penetrated after only 24 hours, thus protecting your workpiece from moisture. Any excess that may remain on the surface during application evaporates completely during this period, leaving no visible residue.

Available variants (More on request)

Item no.	Odour	VOC content	Designation
30057	neutral	4.99%	Lc 2/57



Lc 2/42-18 Protecting agent

Protecting agent Lc 2/42-18, which can also be used as a lubricant, is used in the floor finishing and is applied with the help of our premium two-substance nozzle. This prevents unwanted contamination and optimises the entire process at various stations on the double-end tenoner.

Applied directly the **protecting agent** ensures that neither dirt nor adhesive residue sticks to the tools, so that smooth work is guaranteed. Another positive effect: the protective film does not detach during the process. Used in the edge banding machine the slide shoes are also automatically sprayed with protecting agent, and here too friction and adhesive residues are avoided.

Available variants (More on request)

Item no.	Odour	VOC content	Designation
30042-18	characteristic	19,9%	Lc 2/42-18



iProtect

Used in the double-end tenoner, **iProtect** protects workpieces such as laminate from unwanted shiny spots, which can also arise during processing. This makes our product particularly appealing for the flooring industry and underlines its many advantages.

Of course, we also use VOC-free products for floor processing. With **iProtect**, we have developed the counterpart to our VOC-containing Lc 2/42-18. As the name suggests, our chemical agent not only protects your workpieces from sticking adhesive residues, markings or abrasion, tools such as pressure rollers or scrapers also receive this protection. It also prevents the protective film from detaching from the edgeband during processing in the edge banding machine.

Available variants (More on request)

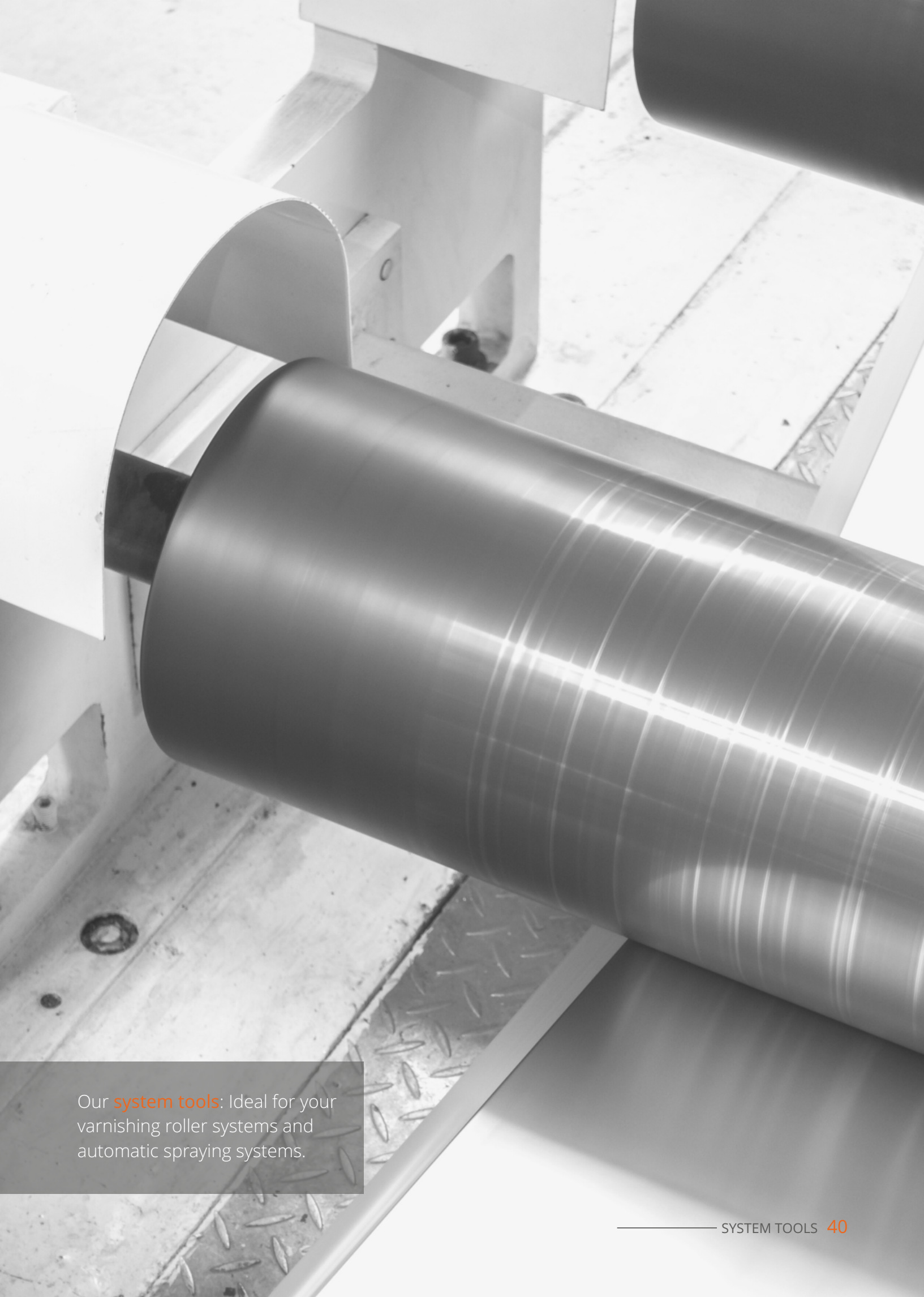
Item no.	Odour	VOC content	Designation
30040-ie	neutral	0%	iProtect

SYSTEM TOOLS

At LcM GmbH, we not only offer you the best solutions for cleaning your workpieces, but would also like to support your company with process optimisation. This also includes your machines, which come into contact with dirt and residues due to various production processes, which are in continuous operation. Over time, these contaminants can not only impede the work processes, but also the quality of the workpieces machined. Even the running time of the machine itself can be significantly affected. To prevent this and to enable you to achieve optimal results in production, we have developed a range of system cleaners.

We place great emphasis on the protection of your employees when using our products. Their health and occupational safety are not only important to us - it is the measure of all things in the manufacture of our chemical agents. Our system tools not only meet all current health and safety requirements, we even implement measures that go beyond them. For cleaners that are applied manually, protecting those who use them is the most important thing. We therefore not only aim to impress you with the cleaning effect, but also give careful consideration to our recipes and the composition of the chemical products.

Another advantage of our system tools: Due to their high viscosity, product loss through evaporation is prevented. Added to this is, better adhesion of the cleaning agent to the machine, tool, etc. ensures that the cleaning agent stays where it is needed during the cleaning process. However, our system cleaners do not leave any residue.



Our **system tools**: Ideal for your varnishing roller systems and automatic spraying systems.



Lc 4M/25 Cleaning agent

Cleaning agent Lc 4/25 is our first chemical agent for cleaning varnishing roller systems and automatic spraying systems. Intended for through-feed machines, the cleaner is designed for use with a wide variety of varnishes. These are completely removed from the rollers or the conveyor belt of automatic spraying systems, so that work and production can continue without interruption after cleaning.

Our Lc 4/25 has one big advantage over rival products: during other similar agents on the market are flammable and harmful to health due to their ingredients, our in-house developed cleaner excludes both these risk factors. It is not classified as hazardous, so no hazard warning label is required. Our cleaning agent is also completely VOC-free.

Available variants (More on request)

Item no.	Odour	VOC content	Designation
30310	characteristic	0%	Lc 4M/25

Lc 4/29 Cleaning agent

Our top-of-the-line cleaner is used for automatic spraying systems and varnishing roller systems – **cleaning agent Lc 4/29** was specifically developed for use in through-feed machines that only operate with varnish. It has one noteworthy advantage over products: sold elsewhere as a flammable and above all harmful agent, our in-house laboratory has developed a variant without these two risk factors. This cleaning agent is therefore not classified as hazardous.

While the cleaner can be applied directly to the conveyor belt via the nozzles in automatic spraying systems, in the case of the vanishing rollers, the cleaner is introduced into the machine between a change from one varnish to another, so that the rollers are directly sprayed with it and thus cleaned. As a low VOC, chemical agent, Lc 4/29 also contributes to more environmentally friendly cleaning and due to its high viscosity, and product loss through evaporation is significantly lower.

Available variants (More on request)

Item no.	Odour	VOC content	Designation
30304	characteristic	13%	Lc 4/29



Lc 4/32 Cleaning agent

Lc 4/32 is another variant of our cleaning agent for varnishing roller systems, such as those from Hymmen or Bürkle, and automatic spraying systems. Our VOC-free alternative to Lc 4/29 meets all the requirements of our customers for this cleaner and is highly effective. Any remaining varnish on the rollers or the conveyor belt is completely removed, allowing production to continue without interruption.

In the case of automatic spraying systems, nozzles can be easily retrofitted through which the cleaner is applied to the assembly line. If the chemical agent is to be used on a varnishing roller system, it can simply be exchanged for the varnish and applied to the rollers in this way. Your advantage: After cleaning, the varnish can be pumped back onto the rollers immediately.

Available variants (More on request)

Item no.	Odour	VOC content	Designation
30305	characteristic	0%	Lc 4/32



Lc 9/700 Sliding agent

Specially developed for the wood processing industry, our Lc 9/700 lubricant serves to protect your machines and workpieces from resins of all kinds. Thanks to its excellent smoothing effect, it prevents contamination from by-products such as sawdust or shavings. A positive side effect is that the lubricant also protects against corrosion and moisture build-up.

According to the current Hazardous Substances Ordinance, our Lc 9/700 is not classified as dangerous and is free of flammable substances and silicones. It can be applied both with a pump and manually with the help of a spray or brush. It is also very easy to install using our nozzles and spray system.

Available variants (More on request)

Item no.	Odour	VOC content	Designation
30307	solvent	100%	Lc 9/700

LOOP®

Parts washer System



LP-860-80 Parts washer

The second generation of our parts washer makes quite an impression our customers, thanks to its optimal size that can hold around 80 litres of cleaning agent. Integrated handles and a filling level mark make it even easier to use. It doesn't matter whether you use a cold or warm cleaning agent, the washer's double-walled construction ensures ideal thermal insulation.

Cost-effective and environmentally friendly, the washer is very energy-efficient with a power saving of more than 50%. The upgraded technology also ensures significantly less cleaning liquid evaporates.



LP-1 Multifunctional oil

The name says it all here - because our **LP-1 multifunctional oil** combines three functions that build on each other when used. As a cleaner, the odourless product removes oily, greasy and sticky residues on a wide variety of materials and maintains them sustainably. The film that remains on the surface after cleaning provides long-term protection against moisture from external influences.

Our **LP-1** is also used to lubricate hinges, locks and other moving metal parts, so that they can work smoothly without squeaking nor jamming. Last but not least, the multi-oil helps to loosen mechanisms that are stuck by loosening rust and protecting against subsequent corrosion.

LP-2 Brake cleaner

Our **LP-2 brake cleaner** is a highly valued product, especially in the automotive industry, for both cars and motorcycles alike. The alcohol-based intensive cleaner is primarily used to remove stubborn dirt such as grease, oil, abrasion and brake dust.

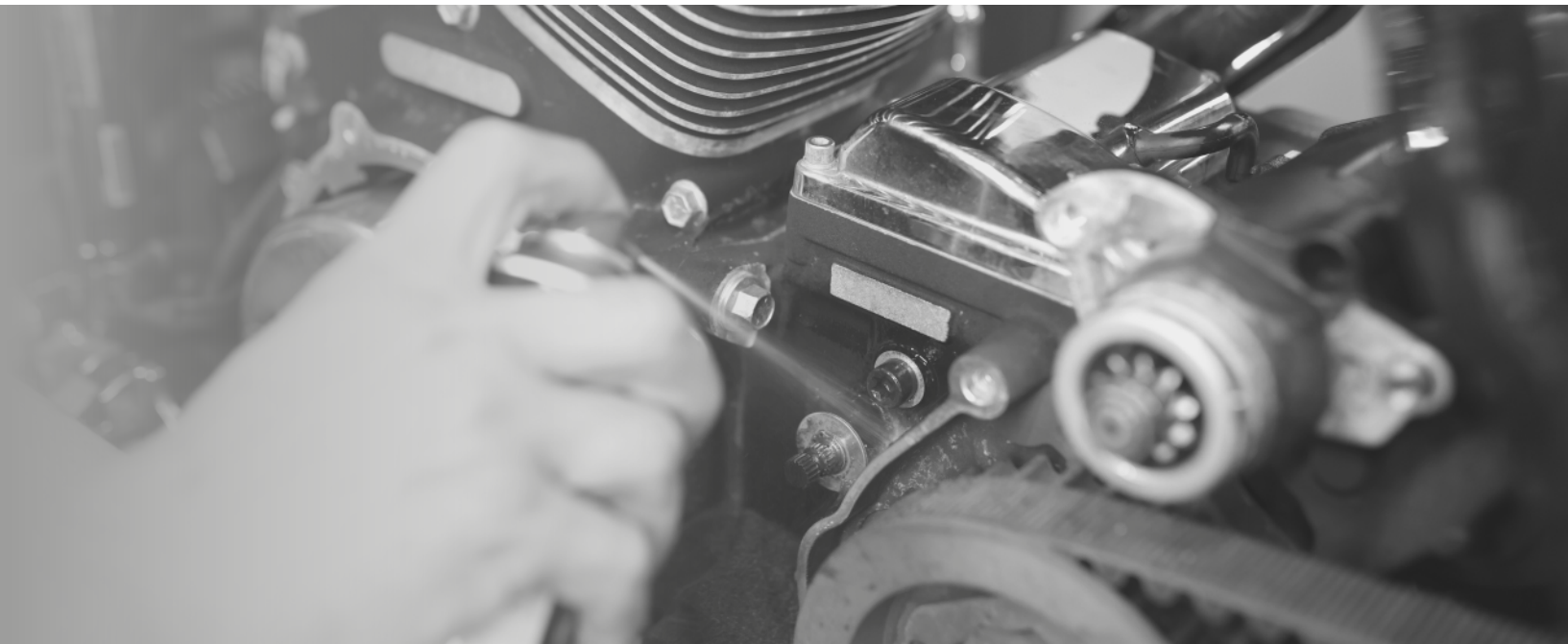
In addition to its cleaning effect, the **LP-2's** other main advantage is its protective function, which ensures dirt is not only effectively removed from brakes and other vehicle parts, but also, thanks to the cleaner ingredients, are also permanently protected against subsequent rusting.

Note: Our acetone-free brake cleaner LP-2.1 is also suitable for rubber.



About LOOP®

A clean future - With our Made in Germany LOOP® cleaning products and parts washer, we have established a brand that specialises in the cleaning and maintenance of workshops, machines and tools.



LP-3 Rust remover

Our **LP-3 rust remover** can also support you in maintaining and restoring the function of your machines and tools. Thanks to the alcohol-based cleaner, rusted or corroded parts can be separated from one another without great effort and optimally cleaned in the same step.

In addition, tight connections between individual mechanisms are easily released, and thanks to its special formula our **LP-3** penetrates even the smallest cracks and can even reach hard-to-reach places. After cleaning with this LOOP® product, a protective film remains on the parts, which protects them from further corrosion and rust.



LP-7 Craftclean+

With the **LP-7 Craftclean+**, we have developed a water-based high-performance cleaner that can be used not only manually but also in one of our washers to deliver the best results. This is made possible by the high dirt holding capacity and demulsifying properties.

Heavily soiled machine parts and tools are cleaned quickly and effectively with the **LP-7** and completely degreased if there are residues of lubricating oils, etc. As a ready-to-use cleaning agent, the **Craftclean+** is immediately ready for use. Note: Our **LP-7.1** is an alternative power cleaner+ without corrosion protection.

PRODUCTS

Technology	Page	Compatible with	Product category
BRUSH-tec® E	19	Sisal-Brush; Felt-Brush	Aggregates
BRUSH-tec® ES	21	Premium disc brush; Premium round brush	Aggregates
BRUSH-tec® SF	23	SF-Brush	Aggregates
CLOU® 5Ltr.	15	iRelease; iClean; BRUSH-tec® agent	Edge banding
CLOU® 20Ltr.	16	iRelease; iClean; BRUSH-tec® agent	Edge banding
CLOU® XS	33	Manually applicable cleaning agents	Surface processing
Cotton-Sisal-Wave	27	Buffing unit	Tools
Fibre round brush	29	Buffing unit	Tools
Felt-Brush	29	BRUSH-tec® E	Tools
LP-860-80 Parts washer	43	LOOP® products	Maintenance (LOOP®)
Fabric polishing rings	27	Buffing unit	Tools
Premium round brush	30	BRUSH-tec® ES	Tools
Premium disc brush	30	BRUSH-tec® ES	Tools
Premium two-substance nozzle	10	Spray system	Edge banding
SF-Brush	30	BRUSH-tec® SF	Tools
Sisal-Brush	29	BRUSH-tec® E	Tools
Special lamellar wheel	28	Buffing unit	Tools
Spray system	9	CLOU®; Premium two-substance nozzle; Ultra-Thin nozzle	Edge banding
Fabric-sisal lamellar wheel	28	Buffing unit	Tools
Ultra-Thin nozzle	16	CLOU®	Edge banding

You would like to order directly? We will be happy to take your order simply and uncomplicatedly by mail to order@lcm-gmbh.eu. Please always indicate the article number or the name of the product (you will find these on the respective product pages).

Chemical agents	Page	VOC-containing	Low VOC	VOC-free	Product category
Lc 2/10 Separating agent	7	✗			Edge banding
Lc 2/21 Antistatic-Coolant	8	✗			Edge banding
Lc 2/30 Cleaning agent	7	✗			Edge banding
Lc 2/40 Protecting agent	8	✗			Edge banding
Lc 5/100 Protecting agent spray	/	✗			Edge banding
iRelease	11			✗	Edge banding
iClean	11			✗	Edge banding
BRUSH-tec® agent	14			✗	Edge banding
HydroTec agent -2/55-	13	✗			Edge banding
HydroTec stick	13	✗			Edge banding
Lc 1/18 Surface cleaner	33	✗			Surface processing
Lc 1/18 AN Surface cleaner apple	33	✗			Surface processing
Lc 1/18 DN Surface cleaner citrus	33	✗			Surface processing
Lc 1/18 Z Surface cleaner orange	33	✗			Surface processing
Lc 1/18 S Surface cleaner	34	✗			Surface processing
Lc 1/18 V Surface cleaner	34		✗		Surface processing
Lc 7/18 Glass cleaner	35			✗	Surface processing
Lc 7/19 Surface cleaner	35			✗	Surface processing
Lc 1/300 Surface cleaner -antistatic-	36			✗	Surface processing
Lc 1/700 Surface cleaner -antistatic-	36		✗		Surface processing
HydroTec agent -2/57-	37		✗		Floor processing
iProtect	38	✗			Floor processing
Lc 2/42-18 Protecting agent	38		✗		Floor processing
Lc 4M/25 Cleaning agent	41			✗	System tools
Lc 4/29 Cleaning agent	41		✗		System tools
Lc 4/32 Cleaning agent	42			✗	System tools
Lc 9/700 Sliding agent	42	✗			System tools
LP-1 Multifunctional oil	43		✗		Maintenance (LOOP®)
LP-2 Break cleaner	43	✗			Maintenance (LOOP®)
LP-3 Rust remover	44	✗			Maintenance (LOOP®)
LP-7 Craftclean+	44			✗	Maintenance (LOOP®)

More detailed information on the individual products as well as the respective item numbers, can be found under the product descriptions on the catalog pages shown here.

SERMA[®]

WOOD PRODUCTS & FURNITURE FITTINGS

Vlorë: Autostrada Vlorë Fier, km 13, Albania / Tiranë: Autostrada Tiranë - Durrës km6, Albania

Tel: +355 395 30973-2 / Fax: +355 395 30974

e-mail: info@serma.al / web: www.serma.al / facebook: serma / instagram: sermashpk

Lokacion Vlora



Lokacion Tirana



LcM GmbH

Siemensstraße 26-28
32120 Hiddenhausen

Tel.: +49 (0)5223 189 66-30

Fax: +49 (0)5223 189 66-35

Mail: info@lcm-gmbh.eu



www.lcm-gmbh.eu