

# Plastic injection moulding

Rivolta special products



Rivolta CASSIDA VITROLIS antidot.



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# Safety and value retention sustainable and innovative

Occupational safety, environmental protection, performance and value retention go hand in hand for us. With our lubricants, cleaners and corrosion protection agents, you can rely on the best performance for your application - thanks to our broad portfolio of NSF-registered and biodegradable products, even in sensitive areas.

For over 55 years, Bremer & Lequil has been able to meet almost all the challenges that arise in technical tasks in industry, energy supply and many other areas.

We only use selected raw materials. These serve to reduce the use of hazardous substance labelling and increase safety for the user and the environment.

# Overview, certificates, and pledge to serve

areas of our daily life. Directly usable moulded parts can be produced economically and in large numbers as well as in small limited editions with injection moulding. Only when your in full swing and the output is at a profitable performance be achieved. Our products offer you support here -

The goals of our innovative and highquality Rivolta brand products are increasing the tool life, acceleration of cleaning and maintenance processes, ensuring the intrinsic value and

We offer you a comprehensive product portfolio on the following pages to and release.

This portfolio also offers products with in this. hygiene regulations (DIN EN ISO 22000 An NFS registration is being required & HACCP [Hazard Analysis Critical the requirement even in the plastic

lubricants and cleaning agents, which are permitted for the occasional - unavoidable - contact with

The NSF International (National Sanitation Foundation), an independent organisation, which has been addressing the creation of standards, certification of products, and implementation of tests for the protection of foods, water, and

NFS registered product to that effect.

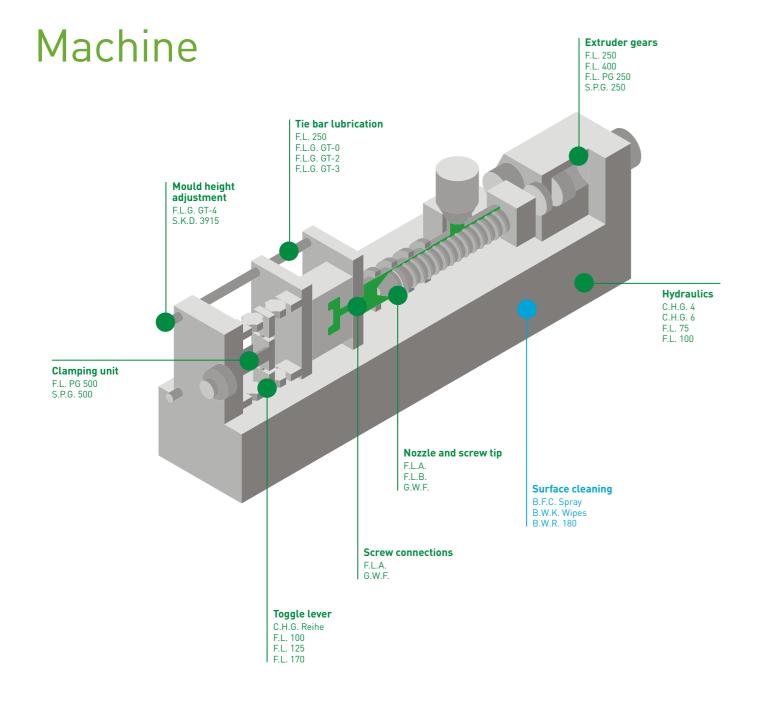


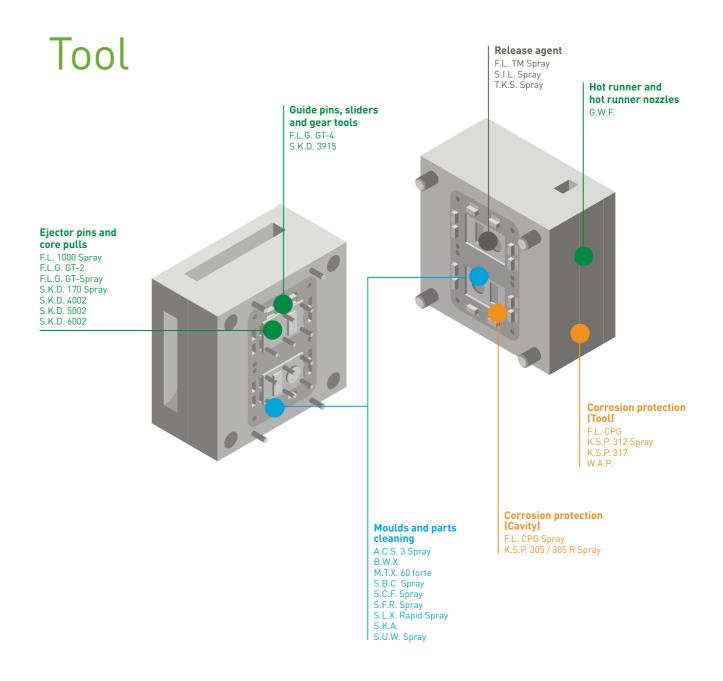




These diagrams only show a simplified product overview.

Please contact us directly to find the right product for your specific application.







## Protect

During the injection moulding process, the costs for the tool account for a major part of the necessary investments.

New construction and maintaining the value of the plastic injection tools are cost-intensive. Therefore, the protection of the tool is of great importance. Even a slight corrosion arising during the breaks in production, storage or you special, easily removable corrosion protection products, which minimise

#### For protecting the cavities, we recommend:

#### K.S.P. 305 Spray / K.S.P. 305 R Spray

It is the ideal corrosion protection for all metal surfaces such as cavities, even for high-gloss finish and complicated moulding. The wax-like protective film can be easily applied, does not creep into the ejection and slider gaps, is effective for a long time, and can often be guickly removed from the mould without additional cleaning expense. The mould can be immediately and readily used without prior cleaning. Corrosion protection is already completely removed without residues after a few shots. You should use Rivolta K.S.P. 305 Spray while storing the mould, after maintenance or in case of longer halts in production, e.g., on weekends. Also available in a red-coloured variant (K.S.P. 305 R Spray).



#### F.L. CPG Spray

Rivolta F.L. CPG Spray was specially developed for conservation of high-glaze surfaces, cavities, and complicated mouldings, which are used in the manufacture of, for example, packaging for food and cosmetic industry and has the NSF-H1 registration. The product does not creep into ejection and slider gaps while applying and does not leave any residues even at increased mould temperatures upon injection process. A separate cleaning of the mould is often not necessary since the corrosion protection coat is already removed without residues after a few shots.



#### For long-term storage and transport, we recommend:

### K.S.P. 312 N Spray / K.S.P. 317

They are wax-like and easily removable corrosion protection products, which can be used in the periphery for long-term preservation, such as long-term storage and transport, also under adverse storage and transport conditions such as air freight or sea transport.



#### For the protection of clamping plates, we recommend:

#### W.A.P.

Rivolta W.A.P. is a light-coloured, high-performance metal-soap based paste in conjunction with highly effective white solid lubricants. W.A.P. is characterised by its high compressive strength, a very good adhesion, and its high waterresistance. Excellent corrosion protection properties effectively prevent the formation of corrosion between clamping plates and the tool. W.A.P. is free of graphite and MoS2.





## Clean

Bremer & Leguil also provides a broad spectrum of specially developed products even in the field of cleaning.

From removing deposits and residues by plastic, fumigations and colour batches right up to degreasing of mechanical machine components, our products measure up to all challenges and thus accelerate your processes. In addition, our cleaning agents are strictly free of CMR substances (carcinogens, mutagens, and toxic for reproduction) and thus contribute significantly to increasing occupational safety.

#### For cleaning of tools and moulds, we recommend:

#### S.F.R. Spray

The high-performance formulation powerfully cleans the moulds and tools. Rivolta S.F.R. Spray is NSF-A1 registered. It is the ideal mould cleaner when it comes to considering all the work safety-related aspects, and to simultaneously penetrate and release plastics without attacking the material of the injection mould in the process.



#### S.K.A.

Rivolta S.K.A. is a user-friendly cleaning agent. It penetrates and releases a number of thermoplastic resins and elastomers from moulds and tools on the injection moulding machines, foil lines, blow moulding lines, spinning plants, and extrusion plants. NSF-A1 registered.



### A.C.S. 3 Spray

It is a universal rapid cleaner and degreaser for cleaning even the most sensitive surfaces including high-gloss engravings without leaving a residue. Creates a basis for subsequent processes such as galvanisation or painting.



### S.U.W. Spray

Is a special evaporating cleaning agent with a mild smell, good material compatibility, and excellent cleaning strength against persistent contaminations such as resinous residues, oils, and greases, etc.



### M.T.X. 60 forte

It should be used for quickly releasing greases, waxes, cracked oils and other persistent residues. It can be used in various cleaning procedures such as immersion, rinsing, brushing, or spraying using a spray can.



#### B.W.X.

Rivolta B.W.X. is the power pack for removing the most stubborn dirt from water-resistant surfaces. The cleaner is water-based and biodegradable. Thanks to its innovative combination of active ingredients, B.W.X. is suitable for a wide range of cleaning tasks under extreme conditions.



#### S.C.F. Spray

Is a residue-free evaporating and surface-friendly special cleaner with NSF A1 registration. The cleaner is characterised by a mild odour and excellent dissolving power against stubborn soiling such as grease, pastes, oils and much more.



#### S.B.C. Spray

Rivolta S.B.C. Spray is a rapid and residue-free evaporating cleaning agent, which is excellent for quick and thorough cleaning / degreasing of blank metal and steel parts. S.B.C. Spray is NSF-A1 registered. It is based on a combination of highly effective substances, which can each remove various residues and contaminations.



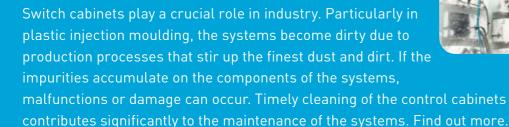
#### S.L.X. Rapid Spray

It is a rapid cleaning agent with NSF-K1 & K2 registration for degreasing the metal surfaces in component production for hygiene sensitive fields. Rivolta S.L.X. Rapid Spray is free of acetone and has excellent cleaning effect under sufficient reaction time. It has versatile uses, e.g., in other sectors as a rapid cleaning agent.



## Electro wet cleaning

according to the Bremer & Leguil method







#### **B.W.K.** Wipes Set

Cleaning wet wipes soaked with an easily biodegradable cleaning agent. Especially suitable for quick and easy removal of contaminations on waterresistant surfaces. NSF-A1 registered. Available as a set of wipes including refillable bucket as well as a refill pack.



#### B.S.E.

Rivolta B.S.E. quickly and thoroughly cleans objects such as rusted workpieces, machines, and fastening elements and is used for safe removal of rust and calcifications from the cooling channels.



#### **B.F.C.** Spray

Universal foam cleaner with NSF-A1 registration. Gently and effectively cleans protective viewing panes, e.g., Makrolon due to its good material compatibility. Also ideal for touch panels and display screens.



#### **B.W.R. 180**

The universally usable cleaning concentrate with higher cleaning strength is suitable to release and clean off a wide variety of contaminations on waterresistant surfaces. NSF-A1 registered and hence "Almost all-in-one".



#### For cleaning the floors, we recommend:

### **B.R.X. 540**

Rivolta B.R.X. 540 is particularly suitable for cleaning floors and sealed ground areas. Its active ingredients release even persistent contaminations.





## Lubricate

Complicated moulds, tool temperatures, aggressive condensates, used injected material and high speeds are the key factors for efficiency in the plastic injection moulding industry.

In addition, there are growing quality requirements. Conventional lubricants are often overburdened here. This is because the base oil viscosity is influenced by temperature, the consistency changes, the lubricating grease liquifies and runs down from the lubrication point. This results in lack of lubrication and consequently, increased wear on the moving parts. Other consequences are higher evaporation rates of the base oil used and thus, the drying out of the lubricant. This results in the formation of solid residues, which can be seen as black or brown spots on the mouldings, and which lead to rejection. You can counteract these with synthetic Rivolta lubricants, which are compatible even with sensitive types of plastics. Relubrication intervals can be significantly extended, and a high quality maintained.

#### For use on ejector pins and core pulls, we recommend:

#### S.K.D. 4002

It is a fully synthetic high-performance grease and excellent for the lubrication of ejector pins up to approx. +100 °C tool temperature. Low evaporation losses result in a stable lubrication film protecting against wear. Coke residues on the ejector pins can be prevented by applying this grease. The practical 100 g tube enables an optimal dosing usable at all times in the workshop as also in the factory.

### F.L.G. GT-2

It is a fully synthetic and NSF registered basic grease for tool temperatures up to approx. +80 °C. Does not result in resin formation and forms a stable, adherent consistency on the moving parts. Protection against wear, stiffness and squealing noises. Practical dispenser for easy application. Your maintenance expense shall be significantly reduced. Rivolta F.L.G. GT-2 is also ideal for general machine lubrication. It has been approved by Arburg GmbH & Co. KG.

#### F.L.G. GT-Spray

Rivolta F.L.G. GT-Spray is an extremely stable, fully synthetic high-performance lubricant with NSF-H1 registration. It is extremely water-resistant and resistant to high temperatures. Particularly suitable for highly loaded roller and plain bearings and for the lubrication of ejectors, slides and core pulls in plastic injection moulding.

### **S.K.D. 170 Spray**

It is an adherent lubrication oil, combined with excellent adhesion properties for tool functioning, including lubrication of the ejector pins on the ejector plate. Best lubrication properties even for chains and joints on the transport systems and peripheral equipment. Easy to apply.

### F.L. 1000 Spray

An NSF-H1 registered product alternative to Rivolta S.K.D. 170 Spray for plastic articles used in hygiene sensitive sectors.

















#### For screw fittings in hot and cold application, we recommend:

#### For high-temperature use on ejector pins and core pulls, we offer:

#### S.K.D. 5002

This NSF-H1 registered high temperature grease is recommended at temperatures up to approx. +260 °C. It prevents the dirt from being dragged out on the moulding and ensures good material compatibility in sensitive materials, e.g., transparent materials (PC).



#### S.K.D. 6002

This NSF-H1 registered extreme temperature grease is recommended at temperatures up to approx. +280 / +300 °C. It prevents the lubricant from being transferred on the moulding and ensures good material compatibility in sensitive materials, e.g., transparent plastics (PC).



#### For sliders and transmission tools, we recommend the following products:

#### S.K.D. 3915

An NSF-H1 registered product alternative to Rivolta S.K.D. 3915 at temperature requirements up to +160 °C. As the permitted food-grade lubricant, it is also suitable for lubrication of guide pins, sliding surfaces on sliders, column guides, open transmission tools and in mould height adjustment. Also suitable for brass spindles and gear wheels.



### F.L.G. GT-4

An NSF-H1 registered product alternative to Rivolta S.K.D. 3915 at temperature requirements up to +160 °C. As the permitted food-grade lubricant, it is also suitable for lubrication of guide pins, sliding surfaces on sliders, column guides, open transmission tools and in mould height adjustment.



#### G.W.F.

This paste makes the assembly and disassembly of screw fittings on nozzles, screw tips and hot runners easy. Even after long use, the connections can be loosened without any problem. Arburg, Ferromatic, and other manufacturers have approved this paste.



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#### F.L.A.

An NSF-H1 assembly paste for machines with food grade. It enables the assembly and disassembly of nozzles, screw tips and hot runners in the necessary hygiene requirements. Approved by Arburg GmbH & Co. KG.



#### F.L.B.

Rivolta F.L.B. is a fully synthetic and mineral oil free assembly paste with food standard (NSF-H1) with improved breakaway torque. Particularly suitable for the disassembly of nozzles, screw tips and hot runners.





Bremer & Leguil also offers a comprehensive product range, which has been developed especially for the hydraulics, extruder gears, and mechanical clamping units on plastic injection moulding machines.

All the products of the Rivolta F.L. series that are shown here are NSF-H1 registered and can hence be used in hygiene-sensitive fields such as the manufacture of packaging for foodstuff, cosmetics, and pharmaceutics including clean room conditions. They are based on a combination of special fully synthetic oils and an excellent additive package. These premium lubricants thus offer wear protection, ageing stability and corrosion protection all in one.

For hydraulics, extruders, gears, and toggle levers, we recommend the following products:

#### F.L. 75 / 100 / 125 / 170 / 250 / 400

The Rivolta F.L. series offers fully synthetic oils in different ISO VG classes as well as different approvals:

- F.L. 75 is a hydraulic oil of ISO VG 46 with approvals from manufacturers Arburg GmbH & Co. KG, as well as Engel Austria GmbH.
- F.L. 100 is a hydraulic oil of ISO VG 68.
- F.L. 125 has the ISO VG 100.
- F.L. 170 has the ISO VG 150.
- F.L. 250 is an extruder gear oil of ISO VG 220 and also suitable for tie bar lubrication. Approved by Arburg GmbH & Co. KG and the Knödler-Getriebe GmbH & Co. KG.
- F.L. 400 is also an extruder gear oil with ISO VG 320.

#### F.L. PG 250 / 500

Rivolta F.L. PG 250 is polyglycol-based and is suitable for separate extruder gears. It has the ISO VG 220.

F.L. PG 500 is also a polyglycol with ISO VG 460 and is used for gears and clamping gears on toggle levers.





### F.L.G. GT-0 / F.L.G. GT-3

Both are ideal for tie bar lubrication. Rivolta F.L.G. GT-0 has the NLGI class 00 and F.L.G. GT-3 has the NLGI class 2.



#### For applications without NSF classification, we recommend:

#### C.H.G. 4 / 6 / 10 / 15 / 22

Rivolta C.H.G. 4 / 6 / 10 / 15 / 22 are fully synthetic, low-evaporation, highperformance oils with high-quality oxidation and corrosion protection additives as well as inhibitors for friction and wear minimisation. They were specially developed to offer a high performance in hydraulics and gears. ISO VG from 46 to



#### S.P.G. 250 / 500

Fully synthetic polyglycol-based special oils with a high-performance additive package for especially heavy loads, e.g., in separate extruder gears. The extremely high viscosity index ensures functional safety in a wide operating range for temperature. In conjunction with a very low friction coefficient and excellent wear protection properties, they enable a higher efficiency and long oil life. Rivolta S.P.G. 250 has the ISO VG 220 and S.P.G. 500 has the ISO VG 460.





# Release

#### As release agents, we recommend:

## F.L. TM Spray

It is silicone-free and does not contain any substances, which affect a further downstream processing such as painting, galvanising, or multiple-component production. Specially developed for use in sensitive fields of hygiene also and NSF-H1 registered. It has material compatibility to polycarbonates.



### S.I.L. Spray

It is a silicone-containing mould release agent, which can be used as a sliding and release agent for conveyor belts, slides, guides, as well as moisture protection and maintenance of surfaces or for assembly of rubber and plastic parts. NSF-H1 & 3H registered.



### T.K.S. Spray

Rivolta T.K.S. is a silicone-free high-performance release agent that enables easy demoulding of thermoplastic injection-moulded parts without damaging the mould and also minimises flow lines. For demoulding processes with high requirements and mould temperatures up to 200 °C. Specially developed for use in the food, pharmaceutical and animal feed industries and NSF-M1 registered.





# Packaging Overview

#### **Protect**

Product		Application
<b>F.L. CPG Spray</b> Synthetic Corrosion Protection Spray	400ml	For temporary preservation of semi-finished products, injection moulding tools, thin-layer preservation, without penetration behavior
K.S.P. 305 / 305 R* Spray Corrosion protection wax	400ml	Conservation of cavities and all sensitive metal surfaces during downtimes or storage
K.S.P. 312 N Spray Corrosion protection wax	[400ml]	Exterior preservation of tools, spare parts, and machine parts for the long-term storage or the transport (sea and air freight) in handy spray can
K.S.P. 317 Corrosion protection wax	101 601 2001	Exterior preservation of tools, spare parts and machine parts for the long-term storage or the transport (sea and air freight) as bulk product
<b>W.A.P.</b> High-performance grease paste	1 kg 25kg	Preservation of clamping plates and all sensitive metal surfaces during downtimes or storage

\*red pigmented

#### **NSF** classes

- describes cleaning products for the general, universal use in all areas as well as in production areas of the food industry.
- describes floor cleaners which can be used in alle areas of the food industry for the cleaning of floors and walls.
- describes solvent cleaners which can be used in the food industry outside the production area.
- describes solvent based cleaning products for electrical and electronical installations and instruments.
- describes lubricants which can be used at critical points in the food industry, where an incidental, unscheduled contact of the lubricant with the food cannot be completely excluded.
- describes lubricants which act as a release agent where direct food contact is intended or technically necessary to stop the food from sticking during the manufactoring process. Thereby acting as a lubricating film and release material.
- describes products which are acceptable for use as a mould release agent on moulds that are used to produce packaging materials that will occasionally contact food.

#### Clean

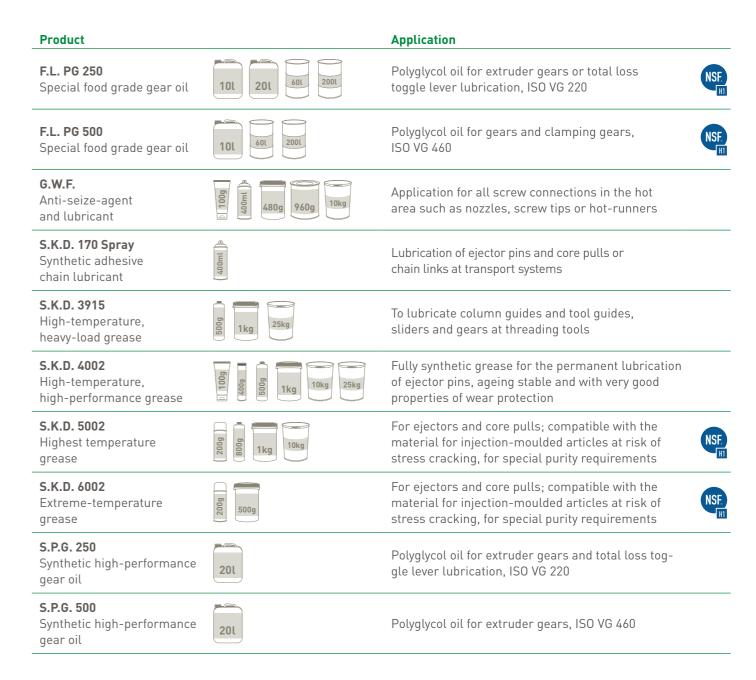
Product		Application
A.C.S. 3 Spray Rapid evaporating cleaner	TSOM	Highly effective removal without residues of all oily and greasy contaminations from moulds and mechanical parts, cleaning of glossy engravings
B.F.C. Spray A1-Foam cleaner	400ml	Streak-free cleaning of windows at safety doors, of control panels and screens
<b>B.R.X. 540</b> In-depth cleaner for floors	10l 200kg	Highly concentrated ingredient combination, phosphate-free, highly alkaline, effortlessly removes the most stubborn dirt
<b>B.S.E.</b> Safety rust remover	11kg 20kg 220kg	For the removal of rust, lime and scale deposits, free of mineral acids, VOC-free
<b>B.W.K. Wipes Set</b> Wet wipes	70 Stk.	Ready to use, enormous cleaning power, very good material compatibility, user-friendly, free from colorants, fragrances and preservatives
B.W.R. 180 Cleaning concentrate	11kg 20kg 220kg	Cleaning of machine surfaces and hall floors
<b>B.W.X.</b> Xtreme cleaner	750ml 10l 200kg	Removal of the most stubborn dirt from water- resistant surfaces
M.T.X. 60 forte Intensive cleaner	100 200 2000	For the cleaning of all oil and grease lubricated mechanical sliding surfaces, removal of deposits on mounting surfaces and parting lines
S.B.C. Spray A1-Special cleaner	500ml	Special cleaner with rapid and residue-free evaporation and strong cleaning power
S.C.F. Spray A1-Degreaser	500ml ) 	Residue-free evaporating special cleaner, mild odour, excellent dissolving power against stubborn soiling
<b>S.F.R. Spray</b> Special mould cleaner	400ml	Cleaning of cavities from plastic deposits
<b>S.K.A.</b> Mould cleaner	101	User-friendly, removes residues that arise on tools and moulds during plastics processing
<b>S.L.X. Rapid Spray</b> Universal rapid cleaner	100ml	Removal without residues of oily and greasy contaminations, cleaning of glossy engravings
S.U.W. Spray Special cleaner for wind power stations and industrial plants	500ml	Mild smell, enormous cleaning power, good material compatibility, residue-free and rapid evaporation

#### Lubricate

Multi-Temperatur-

bereichsfett

#### **Product Application** C.H.G. 4 / 6 / 10 / 15 / 22 Synthetic hydraulic and gear oil, Fully synthetic top-ISO VG 46 - 220 performance oil F.L. 75 Synthetic food grade Synthetic hydraulic oil, ISO VG 46 lubricating oil F.L. 100 Synthetic oil for hydraulics or toggle lever, NSF. Synthetic food grade ISO VG 68 lubricating oil F.L. 125 NSF. Synthetic food grade Synthetic oil for toggle lever, ISO VG 100 lubricating oil F.L. 170 NSF. Synthetic food grade Synthetic oil for toggle lever, ISO VG 150 lubricating oil F.L. 250 Synthetic oil for extruder gears or tie bar NSF. Synthetic food grade quidance, ISO VG 220 lubricating oil F.L. 400 NSF. Synthetic food grade Synthetic oil for extruder gears, ISO VG 320 10l 20l lubricating oil F.L. 1000 Spray Lubrication of ejector pins and core pulls, NSF. Synthetic food grade lubrication of chain links at transport lubricating oil systems F.L.A. Assembly paste with a wide temperature range NSF. High-performance of -40 °C up to +1200 °C assembly paste F.L.B. Montagepaste mit weitem Temperatur-NSF. Edelstahl-Hochleistungseinsatzbereich von -40°C bis +1200°C, Montagepaste niedriges Losbrechmoment F.L.G. GT-0 To lubricate tie bars and toggle levers, with a wide NSF. Synthetic semi-fluid grease temperature range F.L.G. GT-2 Temperature stable high performance grease for NSF. Synthetic multi-temperature improved sliding properties at ejector pins, core grease pulls or sliding surfaces of peripheral devices F.L.G. GT-3 To lubricate guides and tie bars, NSF. Synthetic multi-temperature good corrosion protection grease F.L.G. GT-4 To lubricate column guides and tool guides, NSF. Synthetic multi-temperature sliders and gears at threading tools for increased grease temperature requirements F.L.G. GT-Spray Hohe thermische Beständigkeit, zur Schmierung



Release			
Product		Application	
F.L. TM Spray Silicone-free allround release agent		Silicone-free mould release agent for applications of highest product purity in hygiene areas	
<b>S.I.L. Spray</b> Silicone oil	400ml	Silicone-based release agent and mounting aid for applications of highest product purity in hygiene areas, NSF-H1 and 3H listed	
T.K.S. Spray Silicone-free mould release agent	400ml	Silicone-free, especially for plastic injection moulding, NSF-M1 registered, can be used at high mould temperatures	

von Auswerfern, Schiebern und Kernzügen

NSF.

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# We bring quality closer -Clearly arranged and on site

Benefit from our experience and let one of our 40 sales representatives throughout Germany introduce you to our products and find suitable products to increase your operating efficiency.

We will be happy to advise you!

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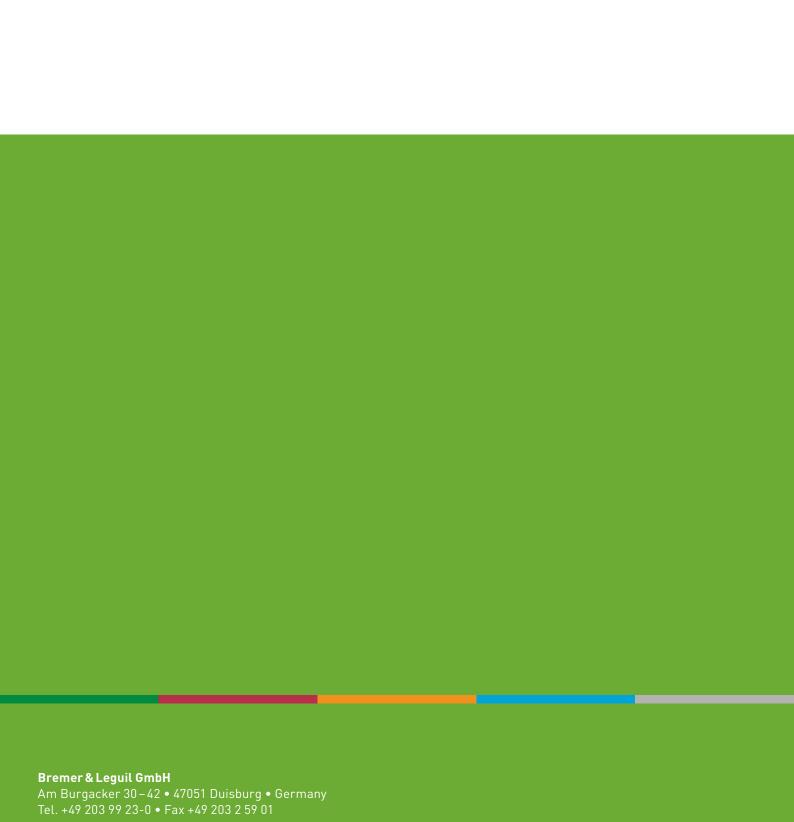
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