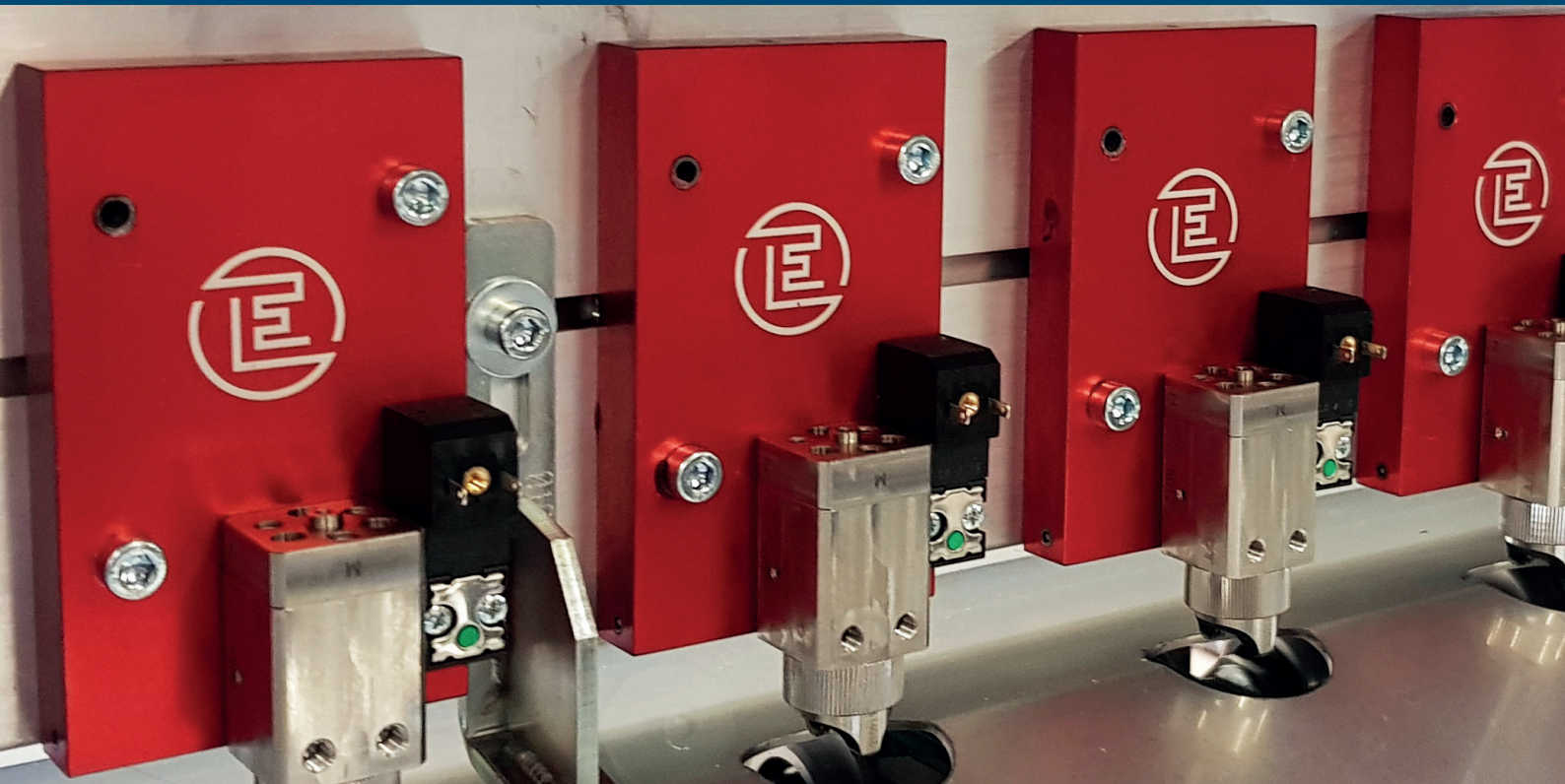


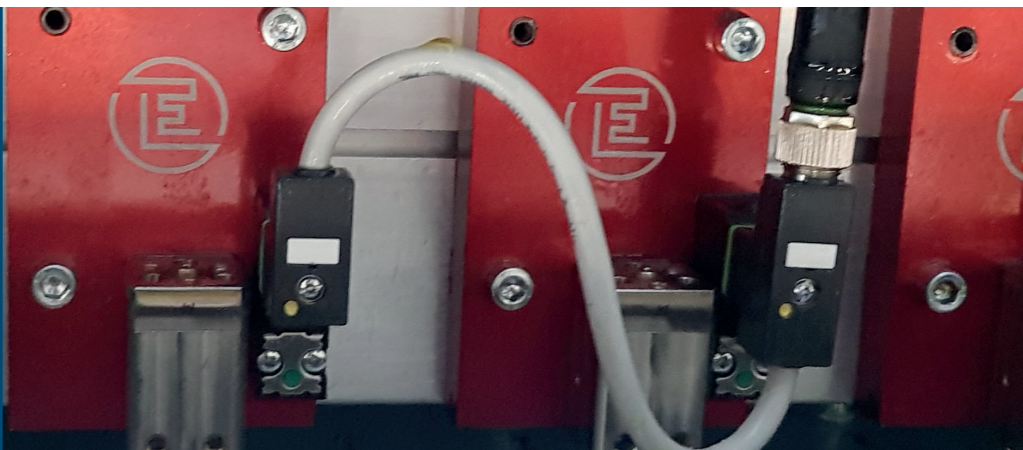
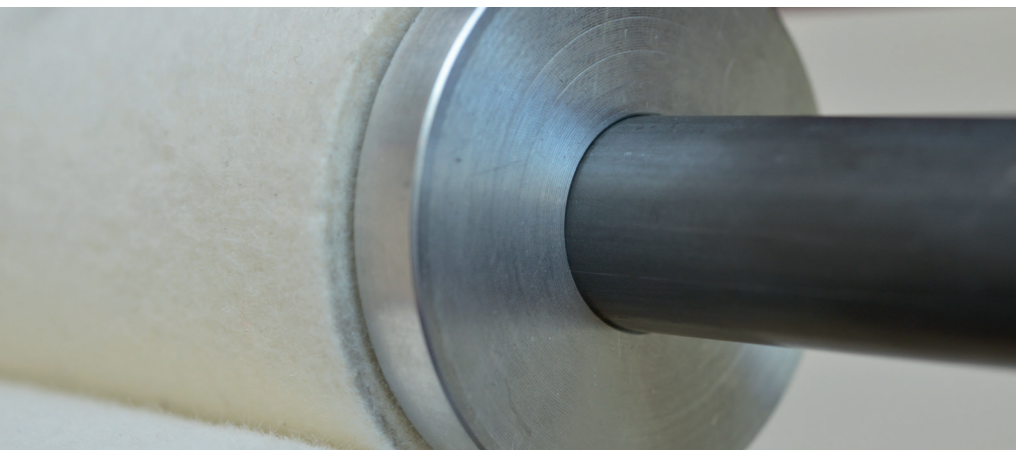
# Precision Lubrication

Any form, any size, any lubricant

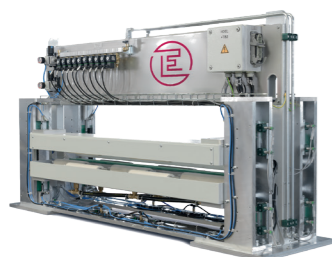


[www.eckardt-systems.com](http://www.eckardt-systems.com)

Roller lubricators | Spray lubricators | Spray & spit nozzles | Dosing systems  
Oil mist separators | Dry cleaning systems | Corrosion protection systems



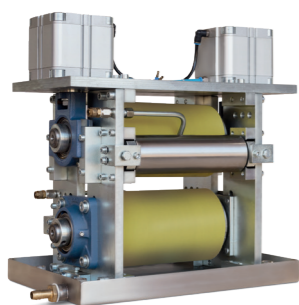
Felt roller lubricators



Section lubricator



- ➔➔ Different roller diameters available, from 32 mm to 110 mm
- ➔➔ Numerous application options for coil gauges from 0.5 to 10 mm
- ➔➔ Rugged, wear-resistant workmanship and easy roller change
- ➔➔ Viscosities up to 150 mm<sup>2</sup>/sec possible
- ➔➔ Versions with their own transport unit available



Squeeze-on lubricator

## For evenly dosed application

We offer felt roller, section roller and squeeze-on lubricators in a variety of different model ranges. Our own high-quality ROTOL lubricants ensure that you can reliably achieve the desired viscosity every time.

### Felt roller lubricators

Our felt roller lubricators are available with different roller diameters. The rollers are generally driven by the feed machine, but we also offer systems equipped with their own transport units.

**32 mm series:** Our compact felt roller lubricators are designed for coil gauges up to 0.5 mm and viscosities up to 100 mm<sup>2</sup>/sec (recommended guideline values). Fields of application include the production of contact components, punched and bent parts as well as fine blanked parts in the area of electronics and precision engineering.

**60 mm series:** Our medium-sized felt roller lubricators are designed for coil gauges up to 2 mm as well as viscosities up to 120 mm<sup>2</sup>/sec (recommended guideline values). Fields of application include tool making (e.g. components for milling/turning/grinding machines) and the production of stamped parts for household appliances.

**110 mm series:** Our large felt roller lubricators are designed for coil gauges up to 10 mm and viscosities of up to 150 mm<sup>2</sup>/sec (recommended guideline values). Fields of application include the production of handles, heat shields, oil pans, etc. for the automotive industry and fittings for household appliances.

The felt roller lubricators from Eckardt are easy to handle and extremely wear-resistant. The rollers can be easily and quickly changed without tools.

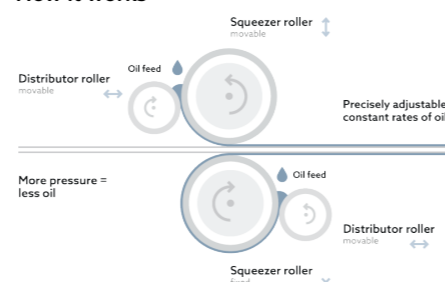
### Section roller lubricators

The section roller lubricator from Eckardt is a rugged system designed for a wide variety of applications requiring maximum flexibility. The system utilizes several 60 mm standard diameter rollers arranged in two rows in a staggered formation. The lubricator is designed to lubricate metal coil widths up to 2,100 mm. Two versions are available; the roller stroke is made either from above down or from below upward.

### Squeeze-on lubricator

The ROTOL squeeze-on roller system is a lubricator developed exclusively in house by Eckardt. The fluid medium is fed between the distributor roller and the fleece rollers and is absorbed by the open pores of the latter. The line pressure acting on the pores increases as the roller rotates on the surface of the sheet metal; the roller begins to flatten, i.e. the porosity decreases, so that the media is squeezed onto the surface absolutely homogeneously. The film thickness decreases as the contact pressure applied by the roller is increased.

#### How it works



## Flexible, pin-point, low-wear

Our spray systems apply oils and release agents fully contact-free, cleanly and evenly. One huge advantage of our spray systems is their extremely fast changeover times to use different grades of oils.

### Spray lubricator EQS 41

EQS (Eckardt Quality Spraying) denotes compact spray lubrication systems which are laid out with regard to the space available in press shops and are therefore perfectly suited for retrofitting purposes.

The spray lubricator EQS 41 is designed for the partial application of lubricants on rectangular and shaped blanks, which are loaded and discharged using transport units provided by the customer. The spraying process is automatically initiated via sheet metal recognition sensors and applies the individually assigned spray patterns.

The height adjustable spray chamber of the EQS 41 is mounted on the basic frame and hosts one top and one bottom mounted spray bar made from a high-quality Eckardt aluminum profile, each of which is equipped with 41 spray nozzles which can be adjusted individually. This offers maximum flexibility for the definition and execution of spray patterns with great attention to detail.

The spray bars are heated on the reverse side; the temperature of the lubricant at the start of the spraying process can be set via the control unit and is continually monitored from three spots on the spray bar.

The spray chamber is encased in a closed cabinet made from zinc coated steel, the guide trenches for the traversing blanks and the sockets for the oil mist extraction system being the sole exceptions.

The chamber can be easily accessed for maintenance work via removable sheet metal covers and swing doors.

Its lower area also serves as the receiving tray for surplus lubrication oil which flows back into the storing tank by gravity and never leaves the closed circuit. Drop wipers attached to the inlet and discharge side prevent the lubricant from dripping on the traversing blanks.

The new control unit of the EQS 41 developed by Eckardt allows for easy definition and allocation of spray patterns. By simply moving the mouse pointer across the control screen individual areas can be combined into individual patterns. The spray grades can be varied in steps of ten percent.

### Spray lubricator EOS Move

The EOS Move system can be fixed on the floor or mounted on reels for mobile use. It processes blanks of up to 600 x 600 mm in size, the seating of which – as well as the entire system – can be adjusted according to individual user requirements. The standard configuration includes 2 x 6 spray nozzles attached to the spray bar.

In comparison with conventional systems EOS Move swaps roles, since it is the spray bar that moves – not the blank. This enables the entire process – blank insertion, blank lubrication and blank removal – to be conducted requiring significantly less working space, and the machine operator to work much more ergonomically.



Spray lubrication system EQS 41



- ➔➔ Pin-point lubrication; flexible, partial application possible
- ➔➔ Simple application rate control of lubricant
- ➔➔ Minimum setup times when changing spray medium
- ➔➔ Different spray nozzles applicable according to requirements
- ➔➔ Suitable for all fluid media and numerous oil grades



Spray lubrication system EOS Move



SPRAY NOZZLES  
SPIT NOZZLES



DOSING  
AIR CLEANING



Spray nozzle SD 17

## The right solution for every spray task

No matter if thin films are to be applied evenly or the smallest lubrication points need to be met with precision – we have the right spray nozzle for you! From a spare part through to an individual standalone configuration.

### Spray & spit nozzles

Our spray nozzles are available in many varieties and configurations. There is always the perfect solution for all lubrication requirements.

**Spray nozzle SD 16:** The SD 16 ensures you are able to apply the thinnest films of media such as low-viscosity oils and release agents with precision. For example, the pneumatically controlled, compact nozzle can be integrated directly in a forming tool to facilitate targeted, practically mist-free wetting. Depending on the nozzle cap used it is possible to generate a flat or round spray.

**Spray nozzle SD 17:** The SD 17 is predestined to apply low-viscous oils and release agents in confined conditions. Inserts from 0.2 to 1.5 mm can be used for flat or round spray application. It is optionally possible to place connections for three feed hoses (spray air, control air, sprayed material) on the top or the side of the nozzle.

**Spray nozzle SD 20:** The SD 20 includes an integrated control valve with which it is possible to quickly and simply control the spray and control air. It is possible to adjust the spray width manually. This model is primarily envisaged for flat spraying tasks; however, round spray application is also an option. The SD 20 can be controlled pneumatically or electrically.

**Spray nozzle SD 25:** The pneumatically controlled SD 25 is a medium-size nozzle made entirely from stainless steel.

Distinguished by an extremely attractive price-performance ratio it is particularly suitable for a wide range of tasks. It is possible to apply the media with a flat or round spray. The nozzle is available as a flange version with switching valve.

**Spray nozzle SD 30:** The SD 30 is also made of high-quality stainless steel. Thanks to its rugged design it is particularly suitable for spray tasks that demand high performance in continuous operations. As a special characteristic it is possible to adjust the width of the spray jet – either manually or via remote control.

**Automatic spray nozzle SDA 30:** The SDA 30 is an integrated system consisting of a nozzle and a control module. The nozzle is equipped with a Hall sensor that monitors and controls the position of the nozzle needle. All operational settings (oil rate, etc.) are automated via the controller of the proprietary Eckardt control unit. This makes it possible to control up to four nozzles at the same time.

**Spit nozzle SD 17:** The pneumatically operated SD 17 is also available as a spit nozzle version. The fully spray valve has been specifically developed for pin-point and linear application of oils, release agents and other low-viscosity media; it maintains its precision at certain distances between the nozzle and the application object. The spit nozzle SD 17 is particularly suitable for precision lubrication tasks of components and tools; it can also be set-up for higher viscosities via an optionally selectable heating unit.

## Reliable oil supply and clean air

Our supply and dosing systems and oil mist separation devices harmonize perfectly with all Eckardt lubricators. They ensure maximum application efficiency and air quality in the surrounding work area.

### Dosing systems

Our dosing systems range from small integrated dosing devices through to standalone oil supply solutions with filter units and tank heaters. The following models and configurations are available:

**Dosing system VB 10:** The VB 10 dosing system operates without any pressure. It hangs above the roller lubricator; the oil is supplied to the machine purely through the force of gravity. The capacity of the VB 10 storage container is 10 liters.

**Dosing system DB 10:** The dosing system DB 10 uses a pressure vessel with a capacity of 10 liters. This is equipped with a filler ball valve and plastic funnel, a pressure regulator with bleed screw and a safety pressure relief valve. A float switch is fitted to regulate the fill level. There are two dosing valves on the underside.

This dosing system is available in the following versions:

- DB 10 H: with poppet valve
- DB 40: with 40 liter reservoir
- DB 40 H: with 40 liter reservoir and poppet valve

**Dosing system DOS:** Thanks to automated control of the oil feed rate DOS series dosing systems offer the highest levels of efficiency and flexibility in your lubrication processes – and it does not matter if continuous lubrication is desired or just a single drop is required. The machine cycle time determines the interval at which the lubrication valves open. The following DOS dosing systems are available:

DOS 10 MR, DOS 10 MR H: system for pneumatically operated roller lubricators WF 60 WG, WF 110 WG, WF 110 MOT. Optionally available with poppet valve.

DOS 40: reservoir and control unit are separate. Also available for squeeze-on lubricators, but without pressure vessel (replacement: VB 10).

DOS S: version for sector lubrication; in this case the oil feed for each roller can be programmed separately (via PLC). Other configurations include, amongst others, an extension to facilitate oil supply directly from an oil drum or an option to operate alternating rollers where several oil containers are utilized and it is possible to control the rollers individually. Generally speaking it is possible to use DOS dosing system controllers in combination with spray and spit nozzles.

### Oil mist separator

The extremely sturdy filter system EONA 3000 is designed for horizontal extraction. We offer this product suitably sized for all working environments. The system stands out because of its integrated F9 class filter which ensures maximum separation efficiency. The use of several filter stages results in a particular long service life of the last filter stage.

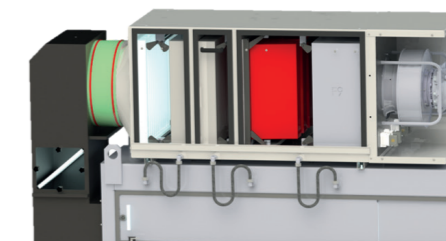
The extraction capacity of the EONA 3000 is 3,000 m<sup>3</sup>/h. The separated oil is collected or is allowed to drain. An electrostatic extraction filter is available as an optional extra. Moreover, the system is also capable of recirculating the extracted air so the air can remain in the room.



Integrated dosing solution EDS



- Individual dosing and storing solutions
- Integrated tank heater and filter units optional
- Suitable for oils of all manufacturers and viscosities
- Available in all sizes and performance data
- Complete oil treatment and reuse of returned oil



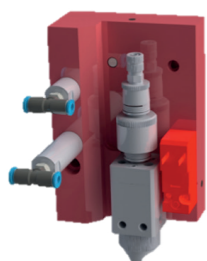
Oil mist separator EONA 3000



- Infinitely variable, precise control of spray interval, pressure
- Pneumatic or electric nozzle activation and control
- Rugged needle nozzle, self-cleaning and heatable
- Low mist nozzle caps for flat or round spraying
- Perfectly suited for minimum quantity lubrication (MQL)



Automatic spray nozzle SDA 30



Spray nozzle configuration for two oil grades



DRY CLEANING

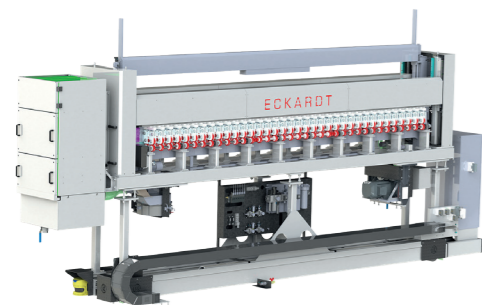


PRESERVING



## Thorough and easy on material and resources

Our dry cleaning system LBE definitely has the edge on conventional washing machines in terms of wear resistance, thoroughness & efficiency and resource-saving operation.



Dry cleaning system LBE

### Dry cleaning system LBE

Our dry cleaning system is suitable for material widths from 500 to 4,500 mm. It cleans individual profiled sheets of metal, galvanised blanks, tailored blanks and much more.

The system not only effectively removes interfering particles, but at the same time it also homogenizes the basic lubrication of the material to be cleaned and makes an overall contribution towards protecting the forming tools.

Top and bottom brushes – we use market leading products – operate at 90° to the direction of material throughput. The brush takes up the dirt, which is then subsequently removed from the brush by a rotating scraper at the peripheral point.

The cleaning system is housed in a solid steel frame, fulfilling the conditions for deployment in a press shop by design. The infeed and outfeed rollers as well as the blanks guidance devices are distinguished by their particularly rugged construction.

#### Countering surface irregularities

Irregularities on the blank surface or differences in blank thickness may cause the brush bristles to be pushed out of their upright position enabling dirt particles to slip through.

As a result, the overall cleaning quality deteriorates and the bristles are likely to wear out prematurely.

The Eckardt dry cleaning system includes a special pressure buffer device which compensates for differences in material thickness of up to +/- 2 mm, ensuring best cleaning results while keeping wear on the brush to a minimum.

The pressure buffer is effectively an air cushion located right underneath the under brush guide. By applying a counter pressure on the under brush the buffer keeps the bristles in their upright position, so that dirt particles cannot slip through.

No additional electronic brush adjustment or measurement of bristle length is required.

#### Combination with spray lubrication

The combination of dry cleaning and spray lubrication is a special area of expertise at Eckardt's. We do not only offer solutions which are perfectly adjusted to the space and press line requirements in press shops but also the option of operating both machine types using a single control unit.

This helps greatly reduce the time and effort for configuration, operation and maintenance while malfunctions can be detected and addressed especially quickly and thoroughly.

Since the systems and components involved in the processes increasingly interact and communicate with one another we prepare you already today with what will be standard requirements in the press shop of tomorrow.

## Protected during transport and storage

With our special systems you can effectively protect your components against corrosion. We develop different system varieties that satisfy your individual requirements perfectly in this sensitive area.

### EKS corrosion protection

Our technology greatly reduces the omnipresent risk of corrosion during production, transport and storage as well as in many other situations. The following types of systems are available:

**During production:** We offer corrosion protection solutions for components with exposed metal parts. They are generally active immediately after the hot forming process when the parts would begin to rust as they emerge from sand blasting systems unless corrosion protection is applied immediately.

**Transport:** We also offer special systems to provide corrosion protection during transport of carbody parts. Component assemblies such as wings, chassis beams, pillars are reliably coated with corrosion protection, which is generally applied following welding and riveting processes. We also have appropriate systems for sections and semi-finished flat rolled steel products.

**Hybrid solutions:** To meet increased demands with regard to the adherence properties of the preservative oil we have included hybrid systems in our range of products that make possible electrostatic spraying. Standard atomizing nozzles are used to apply the oil. In addition, the corrosion protection oil is charged electrostatically so that it adheres particularly well to perpendicular surfaces (on cylinders, for instance). Our corrosion protection systems represent a real competitive advantage in comparison with other manufacturers!

#### Practical benefits

The utilized spray nozzles form the heart of the Eckardt spray system. Since the spray chamber is significantly larger than those of comparable systems, more nozzles can be distributed across the whole width and – as a consequence – reach all of the surface areas even of vastly different sized parts.

The spray nozzles can move freely in all directions and they seamlessly adapt to the swivel angle and required amount of oil. That makes it possible to align the lubrication process perfectly to suit different surface geometries and set up individual lubrication patterns down to the finest detail. The patterns can be reproduced at any time and called up by the system controls at the press of a button.

#### Better air quality

The Eckardt corrosion protection solution has several filter stages connected in series, which increases the overall separating efficiency and, in particular, reduces the load on the final filter stage thus greatly increasing its service life.

In this manner the remaining solid particles in the oil mist are reliably removed, which makes extraction simpler and more efficient.

In addition, the filters can be heated so that the wax proportion in the oil is kept liquid all the time. The oil can drain well and, as a consequence, the filters need to be changed less often and substantially more oil can be re-used – a key aspect with regard to reducing operational expenses!



- ⚡ Transport system: endless conveyor or material carriers
- ⚡ All systems equipped with dedicated oil supply
- ⚡ Precision heated oils for particularly smooth application
- ⚡ High-performance spray nozzles for full surface application
- ⚡ Larger spray chamber, more spray nozzles compared to competitors



Corrosion protection system EKS



- ⚡ Cost-efficient cleaning without using „detergents“
- ⚡ Rugged construction, suitable for press shops
- ⚡ Application of market-leading brush technology
- ⚡ Low wear on components and amount of maintenance
- ⚡ Joint operation with spray lubricator using a single control unit

Eckardt Systems was founded in 1992. Today, the second generation of the family-run company employs some 30 people. All of the systems and components are developed and assembled at the company headquarters in Bretten (Southwestern Germany). The depth of its in-house manufacturing capabilities is widely recognized.

The company runs an electronics development department as well as a nozzle testing laboratory dedicated to optimizing spraying processes and performing fault analyses in customer systems.

Eckardt offers comprehensive advice on all aspects of the lubrication process, from an extensive survey of the production environment through to the best-possible system integration in upstream and downstream process steps.

Eckardt serves customers in all regions of the world, focusing on the automotive and supplier industries as well as small companies offering sheet metal punching services.



# ECKARDT

Lubricating • Cleaning • Preserving

Eckardt Systems GmbH  
Westliche Gewerbestr. 2

75015 Bretten

Germany

Phone +49 (0)7252 9420-0

E-Mail: [info@eckardt-systems.com](mailto:info@eckardt-systems.com)



[www.eckardt-systems.com](http://www.eckardt-systems.com)