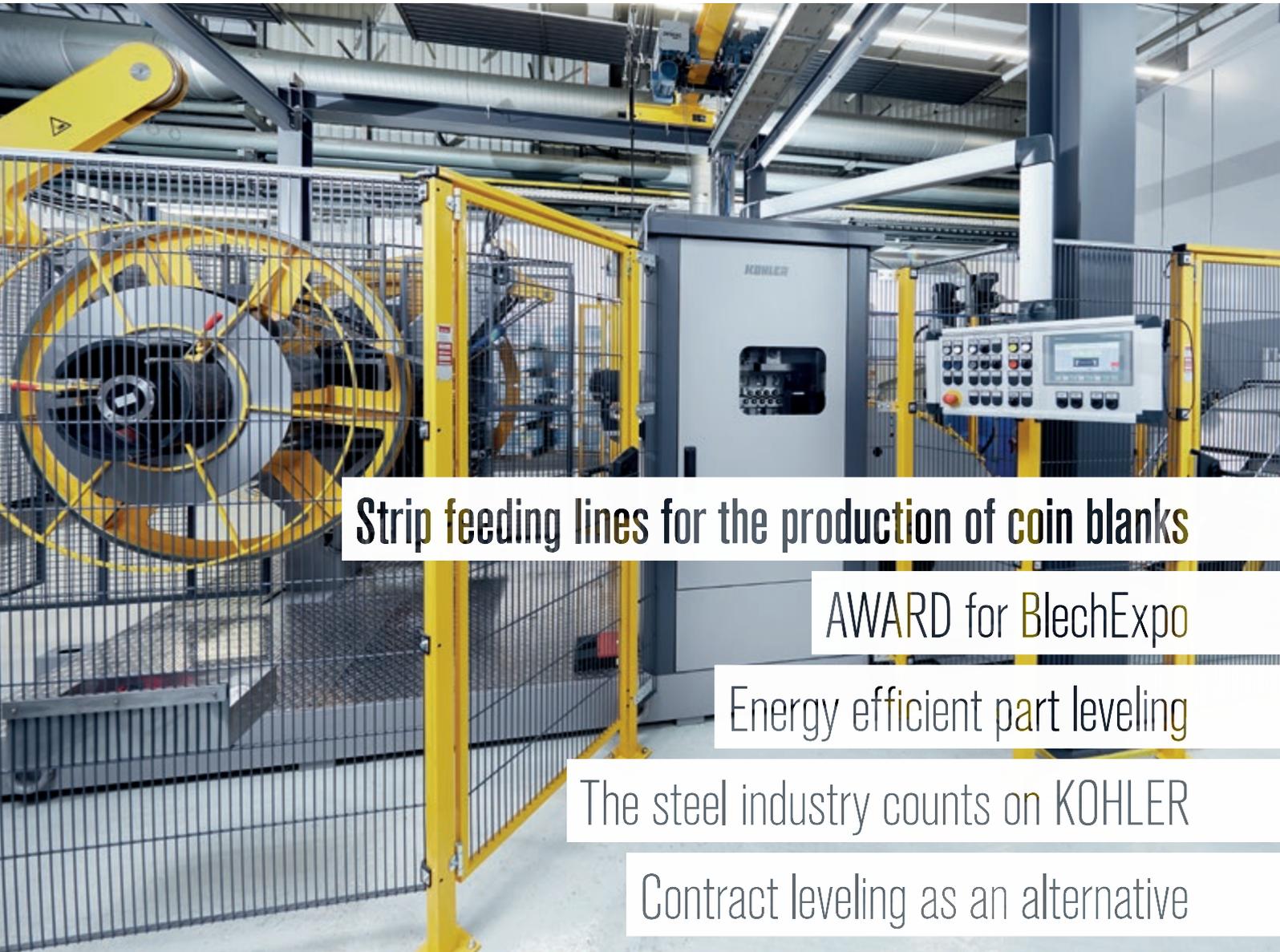


# NEWS **KOHLER**

COMPETENCE CENTER  
LEVELING

EDITION 26



Strip feeding lines for the production of coin blanks

AWARD for BlechExpo

Energy efficient part leveling

The steel industry counts on KOHLER

Contract leveling as an alternative

# FREIBERGER EUROMETALL

## MODERN AND EFFICIENT STRIP FEEDING LINES PAY OFF FOR COIN MANUFACTURER

Freiberger EuroMetall GmbH has just ordered their second strip feeding line from KOHLER Maschinenbau GmbH. When manufacturing huge batches of coin blanks adding up to millions of pieces, high-quality leveling results are essential to ensure the quality expectations of customers around the world are met. The requirements on the modern and consistently reliable strip feeding line that was specifically tailored to the customer's needs by KOHLER are equally as high.



Each year, Freiberger EuroMetall GmbH turns 9,000 t of non-ferrous metal and steel materials into 3 billion coin blanks at their production sites in Freiberg and nearby Halsbrücke, Saxony. National and private mints around the world use these coin blanks to produce a wide variety of coins for circulation. No matter the material requirements, their expectations on the quality of the precision products are always extremely exacting.

Since being founded in 2013, Freiberger EuroMetall has dedicated all of their business and production processes to becoming the market leader for quality, technology and reliability in coin blank manufacturing. Since the very beginning, the company has relied on machines from KOHLER Maschinenbau GmbH, based in Lahr (Baden) for the strip leveling technology they need to manufacture circular blanks.

A KOHLER strip feeding line was commissioned at the Freiberg site in 2014 and meets all the requirements for high levels of precision, consistent reliability and high efficiency. In addition, it has been shown to be seamlessly compatible with stamping machines from BRUDERER. This meant that when it came to investing in a new strip feeding line for the Halsbrücke site, they turned to KOHLER again.

### **Two minutes to change a coil using the double decoiler**

To meet the customer's requirements, KOHLER designed a strip feeding line with a 5000.2 H double decoiler for Freiberger EuroMetall.

With a load capacity of 5,000 kg per side, it is designed to accommodate a strip width of 500 mm and strip thicknesses up to 3 mm. Tobias Frank, KOHLER Project Manager for the customer based in Saxony, explains: "While the strip is being unwound on one side and fed into the die after being levelled, a new coil is already being loaded on the other side. This saves time when changing the coils and minimizes the changeover time."

“ The KOHLER strip feeding line lets us produce our coin blanks with an extremely high degree of accuracy, in a way that saves resources and is environmentally friendly.”

Thomas Bilas, Managing Director,  
Freiberger EuroMetall GmbH

Top image: Coin blanks and leftover stamping scrap. Freiberger EuroMetall GmbH manufactures a variety of sizes of coin blanks. The blanks are manufactured in huge batches of millions of pieces from a large strip width of material and with constant precision.

Above: Freiberger EuroMetall GmbH is based in Saxony/Germany and manufactures huge batches of millions of coin blanks for a wide variety of coins for customers all around the world.

A double decoiler is loaded manually using an indoor crane. "Our production process does





KOHLER double decoiler, type 5000.2 H, for the loading of two coils, up to 5,000 kg each in weight, strip widths of up to 500 mm and strip thicknesses of up to 3 mm. The coils are fixed to the mandrels using a hydraulic sliding wedge system with automatic retensioning system.



Freiberger EuroMetall uses stamping and edge rimming to produce their coin blanks. The preliminary work is performed by a KOHLER strip feeding line comprising (from left to right) a double decoiler, strip leveling machine and strip transfer to high speed punching machine.

not require automatic loading. The user can carry out control tasks during the loading process,” adds Carsten Gebuhr, Application Engineer in the Freiberger EuroMetall stamping department. Once the coil is loaded onto the expansion mandrel of the decoiler, a hydraulic sliding wedge system with automatic retensioning locks the coil in place. So, an experienced machine operator only needs a maximum of 2 minutes to change a coil.

” The double decoiler saves time when changing the coils and minimizes the changeover time.”

Tobias Frank, Project Manager, KOHLER Maschinenbau GmbH

The strips are guided into the KOHLER strip leveling machine by two continuously pressure rollers that prevent the strip unwinding. Tobias Frank explains the customer-specific configuration for Freiberger EuroMetall, where the strips are inserted into the strip leveling machine manually.

“Automatic strip insertion is not worthwhile for thin strips that are up to around 2.5 mm thick. Strips in this range are often so flexible that it is easier and quicker to insert them into the strip leveling machine by hand.”

### Smart operating design and the ultimate in easy cleaning

The strip feeding line has nine leveling rollers (Ø 40 mm) made from case-hardened steel, precision-ground and chrome-plated, and is designed for a processing width of 500 mm. Motors precisely set the roller frame to the appropriate strip thickness with adjustment accuracy of 0.01 mm. The Expert Calculation System designed by KOHLER enables user-friendly operation of the machine and the option to save the settings you have selected and access them again when required.

The system saves the most recent settings, allowing quick access to the necessary data at any time.



The strip is inserted into the strip leveling machine manually.

Quick and easy cleaning is essential for the best leveling results when producing circular blanks at Freiberger EuroMetall. For this reason, the standard version of the machine includes the electric motor-driven cleaning and quick-change device from KOHLER. This enables the machine operator to carry out both an inspection of the leveling rollers and the relevant cleaning tasks quickly and efficiently.

### Precise strip transfer for a seamless manufacturing process

Precise strip transfer is essential for feeding the strips to the stamping machine in a safe and continuous manner. The KOHLER system at Freiberger EuroMetall is designed for 3 mm thick plates and the transfer is carried out over floor. “We designed the loop between the leveling machine and the subsequent stamping machine as a strip transfer table,” explains Tobias Frank. The individual rollers have an articulated mounting, which allows the loop to be positioned horizontally using a hydraulic cylinder.

### Already in full swing: Industry 4.0

The networking of the individual system components within the coin blank production line at Freiberger EuroMetall shows just how Industry 4.0 can work in practice. Each system component is fitted with an individual control system that is optimized for the relevant task. An intelligent communication concept allows the components to communicate with each other and ensures a continuous and efficient production process at all times.





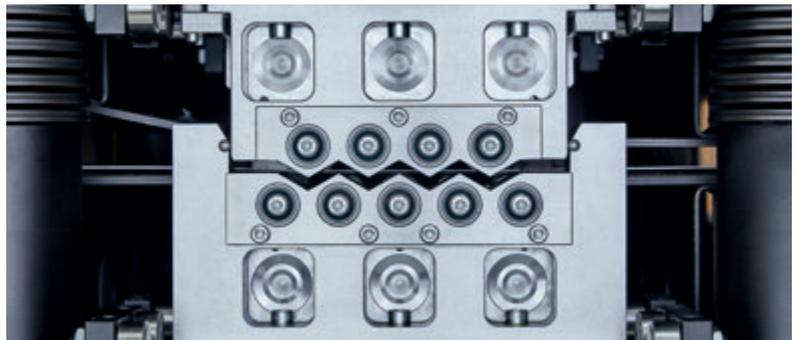
Strip transfer to the downstream high speed punching system. The strip loop between the strip feeding line and the stamping system is designed as a strip transfer table. It ensures a flexible and constant strip supply to the stamping machine.

This means that the double decoiler and the strip feeding line always work in perfect harmony with the downstream stamping machines.

“ We have had such a positive experience with the first KOHLER machine, which has been up and running since 2014, that we chose to get a second one.”

Carsten Gebuhr, Application Engineer,  
EuroMetall GmbH

“We have had such a positive experience with the first KOHLER machine, which has been up and running since 2014, that we chose to get a second one,” summarizes Carsten Gebuhr. It was essential that the new system could continue to meet the exacting quality demands of the international mints. The high level of production precision and efficiency offered by the KOHLER strip feeding line, working in perfect harmony with the stamping machines for round blank production, provide the ideal foundation for continuing to meet these demands. ■



The KOHLER strip feeding line, type 40.500/9, is equipped with nine precision-ground leveling rollers (Ø 40 mm). The maximum strip processing width is 500 mm. The adjustment accuracy of the roller frame is 0.01 mm.



Thomas Bilas, Managing Director at Freiburger EuroMetall, and Tobias Frank, Project Manager at KOHLER, in conversation. Freiburger has just commissioned the second KOHLER strip feeding line.

# AWARD FOR BLECHEXPO

## KOHLER ONE OF THE TOP 3 INNOVATORS

KOHLER impressed the jury of the “Award for Blechexpo 2017” at the first attempt. Our part leveling machine, the Peak Performer 80P, finished in the top three in the “Cold/hot forming technologies” category.



Image: VBM, Hauenstein

From left to right: Dr. Hans-Peter Laubscher (Chief Sales Officer), Isabell Lehmann (Marketing Manager) and Arnd Greding (Chief Operating Officer) accepted the award on behalf of the whole KOHLER team.

The Peak Performer 80P represents state-of-the-art part leveling technology. The editors of the leading trade journals “Blechnet” and “MM Maschinenmarkt”, who sat on the jury for the “Award for Blechexpo 2017”, were also very impressed by its capabilities. They named the Peak Performer 80P one of the top three most innovative solutions in the “Cold/hot forming technologies” category at the Blechexpo trade fair in Stuttgart in November 2017.

When reaching their decision, the expert jury evaluated the contribution the Peak Performer 80P makes to part leveling technology. In particular, its improved green credentials and efficiency were key deciding factors for the jury.

The reversible leveling rollers on the new Peak Performer generation extend the service life of the leveling rollers and

reduce wear by up to 50 %. Its energy consumption has also been reduced to around a quarter of that of conventional machines. A further distinct improvement is the increase in the working range, allowing the Peak Performer 80P to level sheets that are up to 50 % thicker – precisely and without damaging the material.

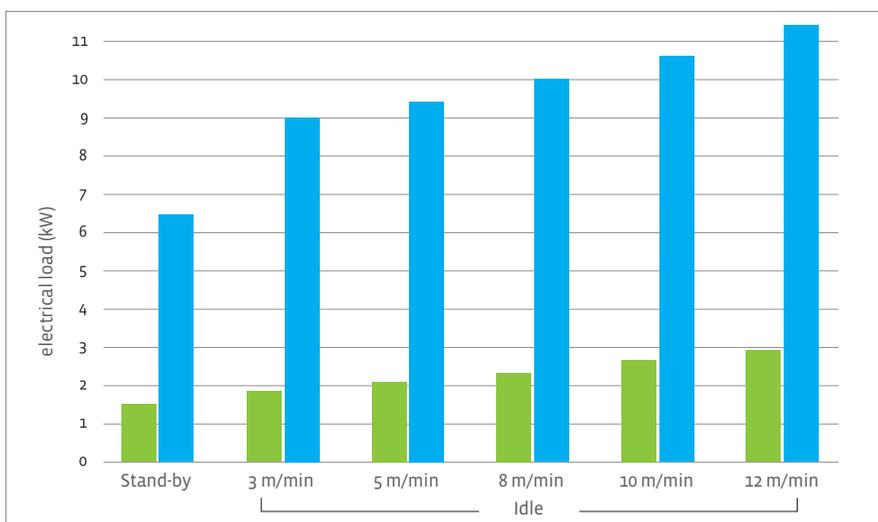
# PEAK PERFORMER PART LEVELING MACHINE

## SUPERIOR ENERGY EFFICIENCY

The optimized machine technology of the KOHLER Peak Performer part leveling machine helps both the environment and your budget. The model range from 80P onwards stands out from the crowd with energy consumption up to 75 % lower than that of conventional machines.

The latest generation of Peak Performer part leveling machines only needs up to 60 % of

the electrical energy required by comparable conventional machines to perform leveling



■ KOHLER Peak Performer 80P with electro-mechanical GAP control and direct drive concept without cardan shafts  
■ conventional machine with servo-hydraulic GAP control and cardan shafts

operations. In standby mode (rollers do not turn when the machine is switched on) or when idling (rollers turn when the machine is switched on but leveling does not take place), energy savings up to 75 % are possible.

KOHLER has optimized the machine technology on the Peak Performer with the aim of both increasing the power range and energy efficiency at the same time. Clear progress has been made in this area with the development of the innovative electromechanical GAP control and the use of a new direct drive for the leveling rollers. In addition, the Peak Performer part leveling machine does not require hydraulic oil and achieves perfect leveling results with an increased power range.

KfW (Kreditanstalt für Wiederaufbau or “Reconstruction Credit Institute”) encourages investment in production systems whose energy efficiency levels exceed the sector’s average.

# THE STEEL INDUSTRY COUNTS ON KOHLER



The touch display and intuitive user interface means operators can set up the part leveling machine in just a few steps.

## PART LEVELING MACHINE DELIVERED TO POLAND

thyssenkrupp Materials Poland is one of the biggest players on the eastern European steel market. As well as trading in conventional steel products, it also offers customers materials processing on both a large and small scale.

To be able to meet ever-growing demand at thyssenkrupp, a modern, high-precision KOHLER Peak Performer 80P.2000 part leveling machine was commissioned at the Dabrowa Gornicza site at the start of 2018. Equipped with high-performance, energyefficient direct drives, this Peak Performer can level sheets that are up to 25 mm thick.

Just like all KOHLER Peak Performers, this part leveling machine runs entirely without

hydraulics. The electromechanical gap control keeps the leveling gap constant and is able to react incredibly quickly. The intelligent 4-point overload protection ensures the safety of the system. In the event of an operating error, it responds within milliseconds, reliably preventing any damage to the machine.

The advanced cleaning and quick-change system makes it quick and easy to clean the

entire leveling unit, saving time and money. The patented reversible leveling rollers also help to keep maintenance and replacement costs very low.

This investment means thyssenkrupp Materials Poland is in an excellent position to remain the market leaders in Eastern Europe for many years to come.

# PERFECT LEVELING RESULTS

## NO INVESTMENT IN YOUR OWN MACHINE PARK

Contract leveling is the cost-effective alternative to investing in your own part leveling technology. KOHLER uses high-performance part leveling machines and offers custom service packages.

Contract leveling at the KOHLER leveling center in Lahr is mainly popular with manufacturers that work with frequently changing sheet metal parts and varying batch sizes. However, there are many other circumstances in which making the most of our capacities is worthwhile, if investing in your own part leveling machine is not economically viable.

With more than 50 years of experience and high-precision, reliable machines, we guarantee perfect contract leveling results every time. Our top priority is finding the ideal combination of machine technology and service

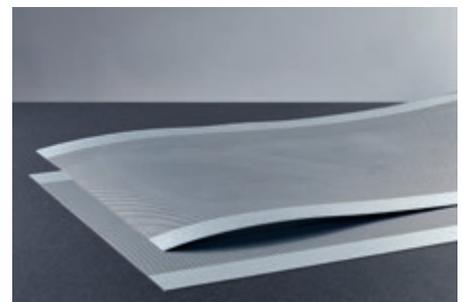
in order to create bespoke solutions that meet each customer's needs.

Sheet dimensions for contract leveling:

- Thickness of 0.15 mm to 40 mm
- Width up to 2500 mm

Our customizable service packages for contract leveling:

- Self Service: The customer organizes the transport of the materials to be levelled and processes their parts in the leveling center themselves.
- Expert Service: The customer delivers the materials to be levelled, but the leveling process is carried out by one of our leveling experts.



Perfect leveling results even with perforated sheets

- Full Service: KOHLER handles both the transport of the materials to be levelled and the entire leveling process.

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