



SUPERIOR CUTTING,  
PIECE BY PIECE!

## CUTTING LINES

“WHEN WE ACHIEVE ONE GOAL, WE IMMEDIATELY START LOOKING FOR THE NEXT ONE”.



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# ONLY THOSE WHO STRIVE FOR TOP PERFORMANCE WILL BE ABLE TO SET NEW STANDARDS.

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THOSE WHO USE GERMAN ENGINEERING AS A REFERENCE POINT FOR THEIR WORK ARE ALREADY DOING IT RIGHT. THE MORE INTERESTING QUESTION IS: COULD THEIR WORK BE EVEN BETTER? BETTER THAN MADE IN GERMANY? AS A LONG-ESTABLISHED COMPANY BASED IN THE BADEN MUNICIPALITY OF FRIESENHEIM, WE GAVE OURSELVES A CLEAR ANSWER TO THIS MORE THAN 50 YEARS AGO: YES!

This is why we are not just classed as levelling technology pioneers today, but also as technology market leaders and problem solvers who build machines with an unmatched degree of individualization. "Nothing ready-made and everything in the interests of our customers" is one of our main principles, with "everything" also including handling, cutting, washing and stacking. This universality, the high level of expertise across our staff and our engineering skills, which are typical of the Baden region, are also demonstrated by complete automation solutions. Solutions resulting from extensive process and user knowledge which KOHLER is naturally pleased to make available to its customers, including through comprehensive consulting services.

Basically, you will receive what you are fully entitled to expect from a partner working in the sensitive high-tech area of levelling technology: high-performance levelling machines pioneering the latest technology!

**Welcome to the Competence Center Levelling!**

# OUR SOLUTIONS HELP YOU REACH YOUR TARGETS.

WE PAVE THE WAY FOR YOU TO ACHIEVE YOUR REQUIREMENTS AND OBJECTIVES WITH INDIVIDUALLY DESIGNED CUTTING LINES OF LEADING-EDGE TECHNOLOGY.

KOHLER's reputation as a producer of excellent tailor-made levelling technology solutions for industrial production processes extends well beyond the borders of Germany. One of the reasons for this international reputation is our cutting lines. A field in which we have been a technology leader for decades.

#### Specialists for high gloss surfaces

But it's not just our experience that makes – above all – steel service centers and automobile and commercial vehicle manufacturers trust in KOHLER in this field. This trust is also founded on our special expertise with high gloss surfaces, and our ability to adapt any cutting line and its peripherals to individual material, quality, precision, and budget requirements.

Individual requirement scenarios are evaluated in the scope of intensive consultancy meetings which focus on a central issue: What does the customer really need? The result of the implementation process is cutting lines with central benefits, the most important being short tooling and idle cycle times, a long service life, maximum flexibility in terms of material processing, strip thicknesses and widths, a small footprint thanks to optimum usage of space, and much, much more.



— Cut-to-length line with vacuum stacker for highly surface-sensitive blanks

## ECONOMIC

- The solid quality of KOHLER machines guarantees good investment protection.
- KOHLER prides itself on building space-saving and energy-efficient machines.



— Levelling unit



— Crimping frame

## SPECIALIST AND PIONEER

- KOHLER's product portfolio includes both its core area and the peripheral areas of levelling technology.
- KOHLER is the camber levelling line specialist and pioneer.
- KOHLER has mastered every aspect of levelling machines, from their design and construction, installation and commissioning up to their maintenance.

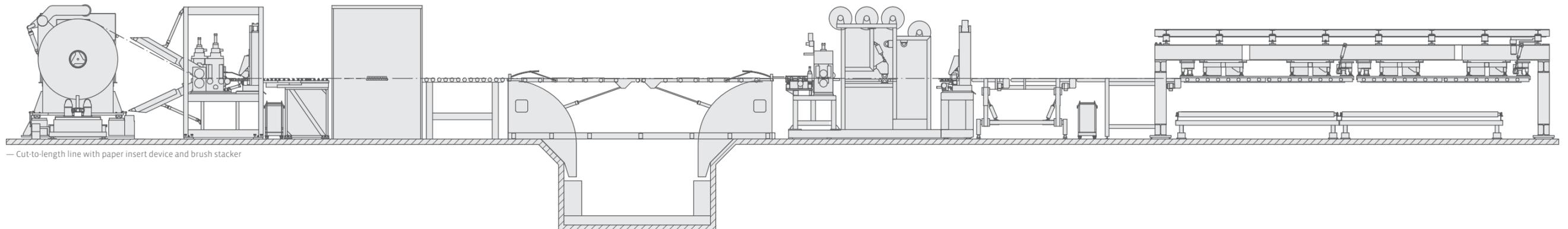
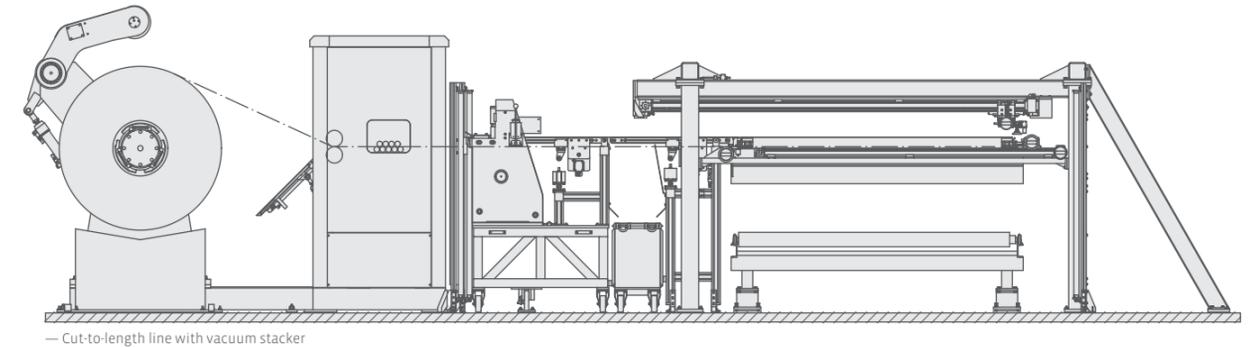
# CUSTOMIZATION BASED ON THE FREEDOM OF CHOICE.

## CUTTING LINES IN A VARIETY OF CONFIGURATIONS BY KOHLER MEET VIRTUALLY ANY REQUIREMENT.

What customers get from KOHLER is what they really need. And it's only logical that this simple but challenging basic principle also applies to cutting lines and all of the components deployed in these complex systems. The spectrum of customization options is huge. In particular, KOHLER has mastered the art of optimally interlinking and automating a series of components to create a line. Smart control solutions guarantee trouble-free communication between the modules.

### Integration of other manufacturers' products

With our cutting lines, versatility starts with the choice of the machine type. Cut-to-length lines cut and stack blanks. Slitting units cut the strip longitudinally and wind it up again with different strip widths. Edge trimming lines trim off the edge waves at both longitudinal edges. After this, blanks can be cut and stacked like in a cut-to-length line. The important thing here is that KOHLER integrates OEM products (welding machines, measuring systems, oiling machines, interfaces to ERP systems) with the peripheral equipments of a cutting line independently of the machine type.



## PERFECT LEVELLING TECHNOLOGY SOLUTIONS

- KOHLER is a specialist in levelling technology solutions for industrial sheet metal production processes.
- KOHLER offers a broad and market-proven product range.
- KOHLER perfects the entire levelling process – from individual sheet metal parts right through to fully automated solutions.

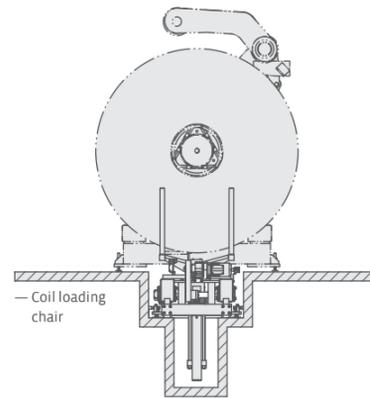
# WHEN PERIPHERALS BECOME THE FOCUS.

PERFECT LEVELLING RESULTS ALWAYS RELY ON PREMIUM LINE COMPONENTS AND WELL-CONCEIVED CONFIGURATIONS.

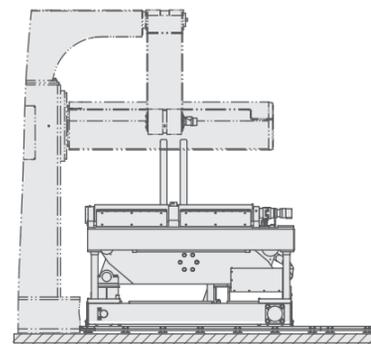
Thus, when we refer to plant peripherals, what we really mean is central solution components that make a major contribution towards quality and efficiency optimization, which is something we insist on at KOHLER.

## COIL HANDLING

Matching previously analyzed customer requirements and spatial conditions to a T, we use a variety of technologies to feed the coils to the strip levelling machine: coil loading chair, coil loading car with transverse mechanism, coil loading car with transverse mechanism for two coils, coil magazines.



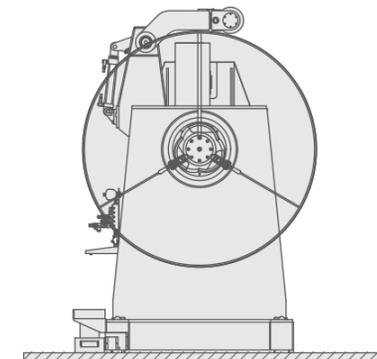
— Coil loading chair



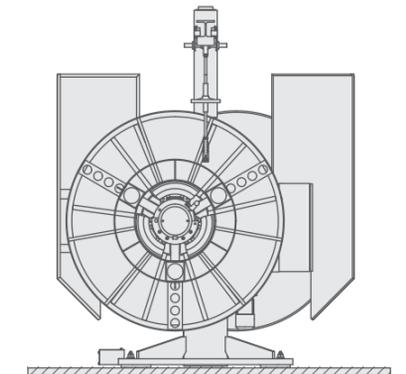
— Coil loading car

## COILERS

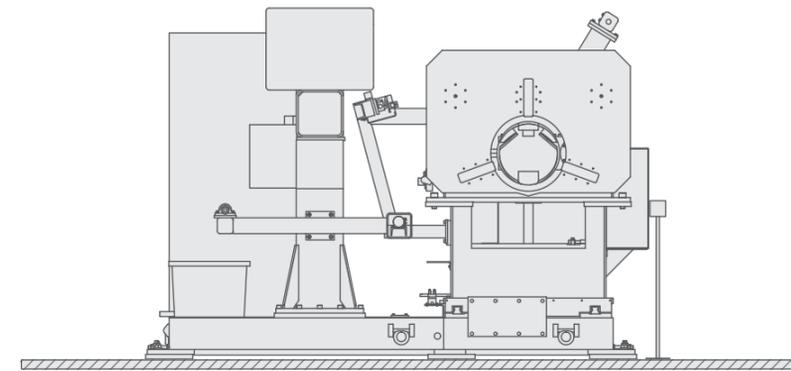
The KOHLER coiler program includes a variety of different models with an impressive range of technical specifications. Or to put this another way: KOHLER has the perfect solution for any requirement here, too.



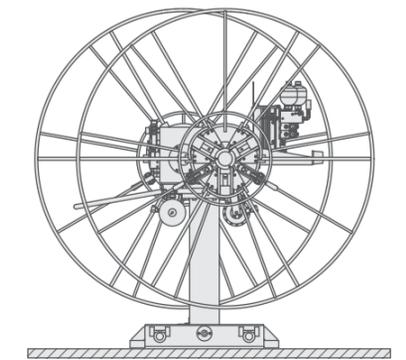
— Single-sided coiler



— Spool coiler (coiling/uncoiling)



— Tension coiler



— Double-sided coiler

## A STRONG PARTNER

— KOHLER develops new solutions, which means the engineering market leader's expertise is combined with its extensive application and process knowledge of various industries under one roof.

— KOHLER is the partner for levelling technology solutions which give customers the potential to use new production processes.



— Coil loading car in front of coiler



— Decoiling side of a double-sided coiler



— single-sided coiler with transversing device

# SHEARING SYSTEMS THAT MATCH THE APPLICATION.

BESIDES LEVELLING, CUTTING IS THE CENTRAL AND DEFINITIVE ELEMENT OF A CUTTING LINE. THE FOCUS IS ON OPTIMUM SHEARING TECHNOLOGY.

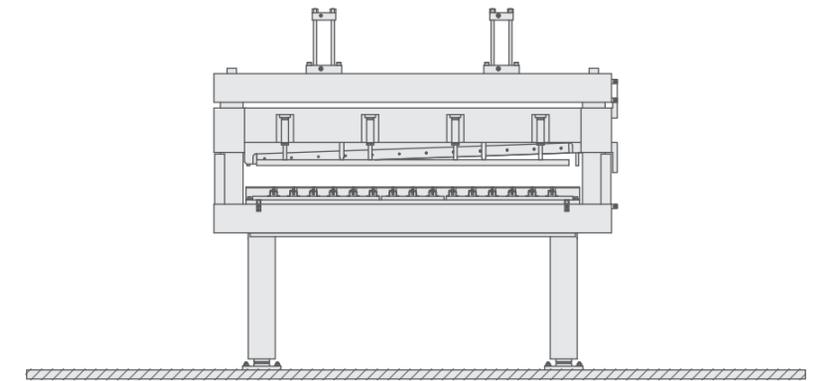
KOHLER's leading role in shearing-specific applications is reflected in the shear quality, on the one hand, and in the breadth and depth of our product range that offers shears for any application, on the other hand. The range starts with cropping shears, through high-performance cut-to-length shears for high stroke rates of up to 120 strokes/min, to slitting shears.

What is typical of KOHLER's engineering potential and differentiated customer needs orientation is the availability of options for automated cutting angle and stroke adjustment. "Automatic" is also the key word for the cutting clearance, which adjusts itself according to the strip thickness. The benefits: cutting and angular precision in sheet metals and almost burr-free cuts.

Besides the following cutting solutions, KOHLER also has some custom shears in its range which can be deployed in configurations specially tailored to customer requirements. They include a special circular saw used for cutting aluminum blanks. This cutting edge is required in the downstream production process. In addition to this, KOHLER has developed a circular blade shears for thin aluminum strip that guarantee a fast separating cut.

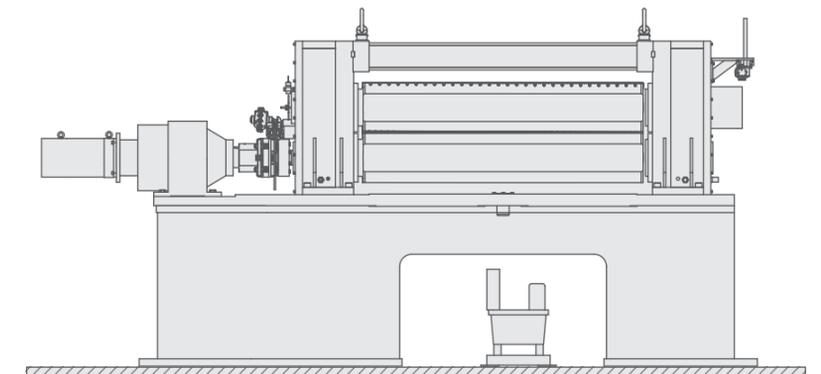
## CROPPING SHEARS

KOHLER offers various types of cropping shears for transverse cutting of dimensionally inaccurate strip initials and ends for strip thicknesses of up to 15 mm and strip widths of more than 2200 mm.



## DRUM SHEARS

Drum shears cut coils in transverse direction in a pass-through process at high strip running speeds of up to 300 m/min. Maximum strip width: more than 2200 mm. Strip thickness: up to 3 mm depending on design. Other features: pre-selectable cut-off lengths and cutting clearance settings.



## ENGINEERING

— KOHLER solves every levelling technology challenge with enthusiasm.



— Cut-to-length shear

## SIMPLER

— KOHLER offers customers everything from one source and therefore reduces the number of interfaces in their levelling process and the peripheral areas associated with it.

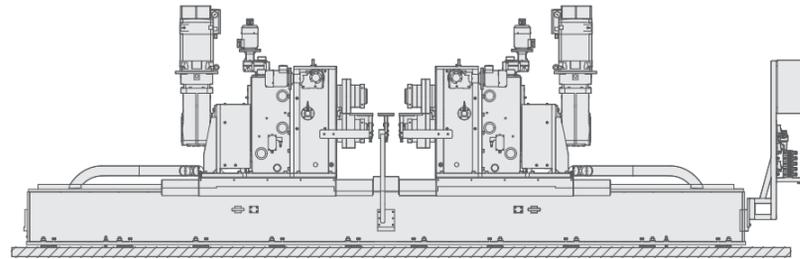


— Drum shear

# SHEARING SYSTEMS THAT MATCH THE APPLICATION.

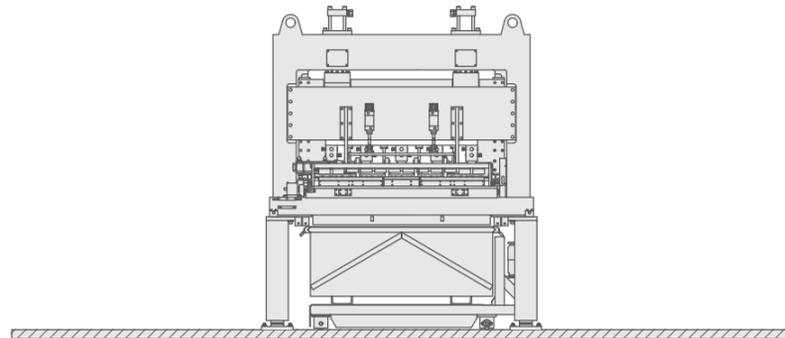
## EDGE TRIMMING SHEARS

Edge trimming shears by KOHLER impress with best-in-class precision in double-sided strip trimming in a pass through process. They feature automated cutting gap and depth settings as well as automated strip width adjustment.



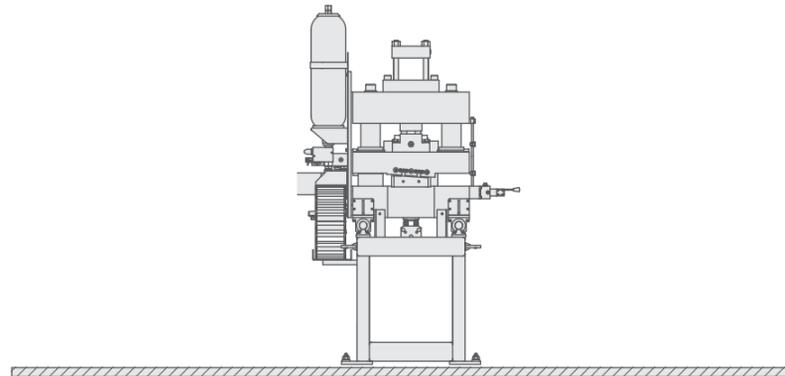
## HIGH-PERFORMANCE CUT-TO-LENGTH SHEARS

Our high-performance cut-to-length shears cut dimensionally-accurate blanks in transverse direction in start/stop operation. Ideal for high cutting strokes of 120 strokes/min, they feature automated cutting angle, cutting clearance and stroke rate adjustment, as well as pre-selectable cut-off lengths.



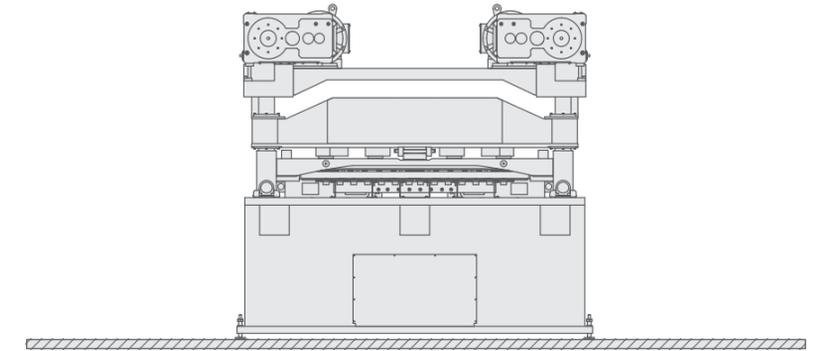
## FLYING SHEARS

Flying shears are carriage-borne cut-to-length shears for transverse cutting of coils in a pass-through process.



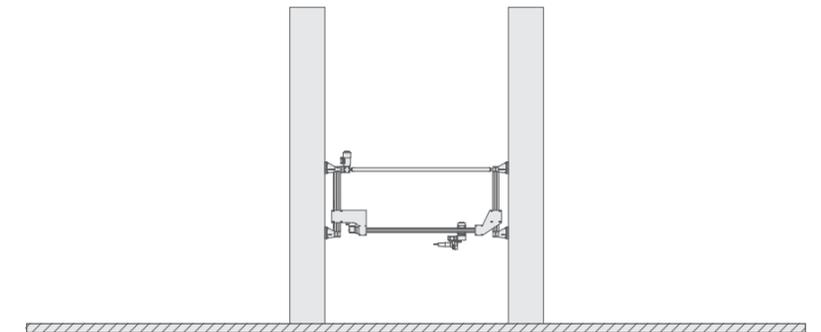
## SWIVELLING SHEARS

Swivelling shears cut trapezoid or rhombic shaped blanks. Arc and contour cutting is also possible with special tools. Swivelling shears by KOHLER are high-performance shears designed for high stroke rates.



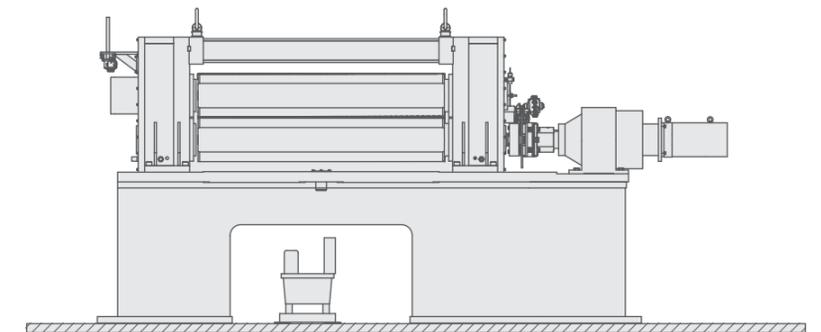
## STRIP SEPARATORS

This inexpensive alternative to the cropping shear is mainly used for cutting aluminum strips or for separating defects in material, or for transverse cropping cuts. Strip thicknesses up to 5 mm.



## ECCENTRIC SHEARS

Eccentric shears for high stroke rates up to 150 strokes/min are used for continuous transverse cutting of strips in a run-through process. The shears feature automated cutting clearance and depth adjustment.



## THE RELIABILITY OF A PIONEER

- KOHLER offers the consistency and reliability of a levelling technology pioneer.
- KOHLER guarantees maximum functionality of its levelling technology solutions and long-term availability of replacement parts.
- The extremely solid quality of KOHLER machines guarantees good investment protection.



— Cut-to-length shear



— Swivelling shear



— High performance cut-to-length shear

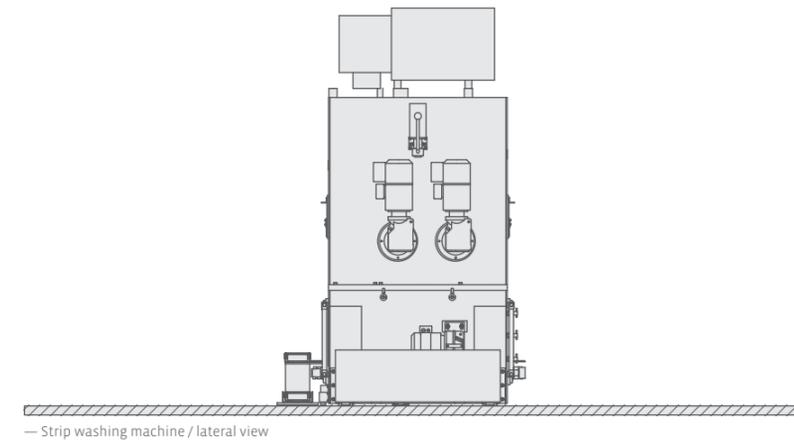
# CLEAN WITH STRIP AND BLANK WASHING MACHINES.

AS THE TECHNOLOGY MARKET LEADER IN LEVELLING TECHNOLOGY, KOHLER ALSO HAS AN EXTREMELY EFFECTIVE APPROACH TO MITIGATING SOILING AND DEPOSITS ON STRIPS AND BLANKS.

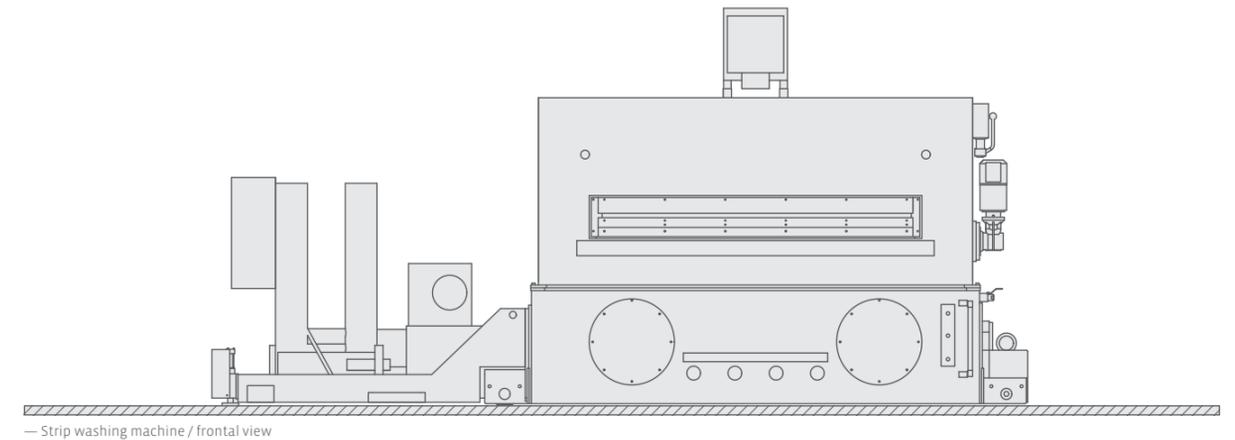
Especially when you produce premium punched parts, cleanliness of strip and blank surface is a crucial issue. Cleaning and degreasing strip or blanks actually reduce downtimes and improve the productivity and quality of the downstream processes. Conversely oiling protects the material against oxidation.

KOHLER strip and blank washing systems handle these eminently important tasks in a thorough and efficient way that is so typical of KOHLER. The order is: wash, brush and squeeze. At the end of the line, the blank or strip exits the machine with an adjustable film of drawing oil on its upper and lower side.

Both machine types process strip material made of uncoated, coated, galvanized, and painted steel, independently of whether it is material unwound from the coil or individual metal sheets with different widths. Additional benefits: both types of machines can be set up flexibly within the strip levelling line in front of or behind the levelling machine.



— Strip washing machine / lateral view



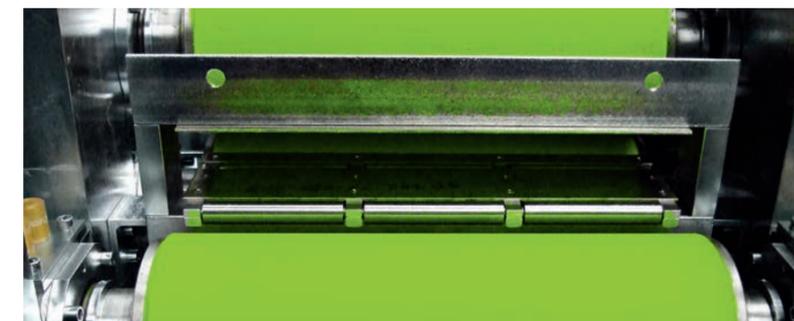
— Strip washing machine / frontal view

## UPGRADING

- KOHLER is an expert at modernizing its own machines and systems, as well as those made by other manufacturers.
- KOHLER also offers complete automation solutions, including the integration of third-party products.



— Outlet side of a strip washing machine



— Squeezing rolls



— Strip washing machine / lateral view

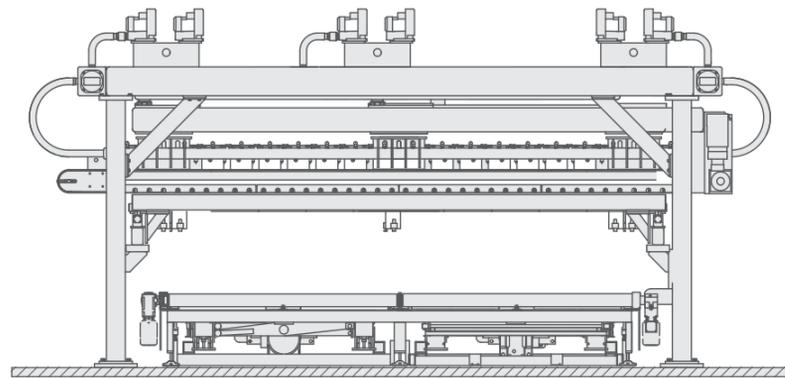
# HIGH-TECH STACKING UNITS.

AS KOHLER OFFERS ITS CUSTOMERS EVERYTHING FROM A SINGLE SOURCE, A VARIETY OF STACKING UNITS IS ALSO A FIXED PART OF THE CUTTING LINE SOLUTIONS OFFERED BY THE GERMAN LEVELLING TECHNOLOGY PIONEER.

Stacking units stack the blanks cut from strips of various thicknesses, widths and lengths with straight edges and no marks. Stacking units by KOHLER handle this task in a totally reliable way and guarantee freedom from scratching. A variety of technologies are available for material-friendly stacking of production parts, depending on the material in question.

## VACUUM STACKERS

The vacuum stacker impresses with fast cycles in the handling of thin, sensitive, ferrite or non-ferrite blanks or materials.



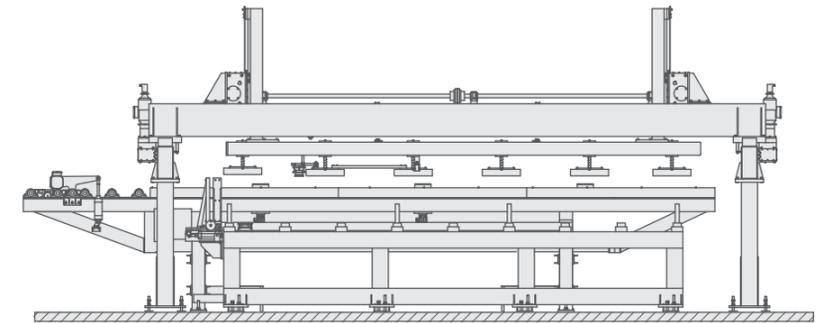
— Vacuum stackers

## KOHLER MAKES CUSTOMERS MORE SUCCESSFUL

- KOHLER ensures that its levelling technology solutions are always perfectly designed, and then fit in to enhance a production system seamlessly when actually constructed.
- KOHLER designs and constructs all the components of its levelling systems according to their specific use and optimizes them with regard to customers' individual costs and performance targets.

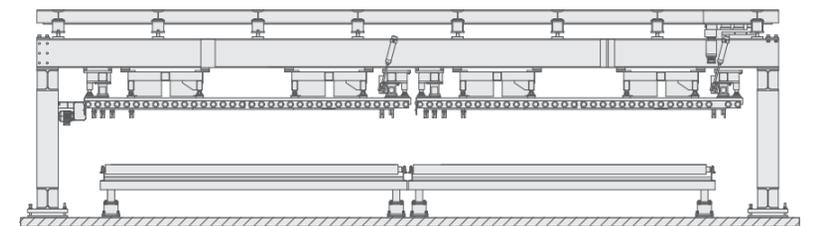
## GANTRY STACKERS

Gantry stackers by KOHLER are deployed for heavier part weights and lower cycle speeds. Their typical characteristics include: stacking or multiple stacking, also transversely to the strip run direction. Variants with magnets for magnetizable materials and with vacuum suction cups for non-magnetizable materials.



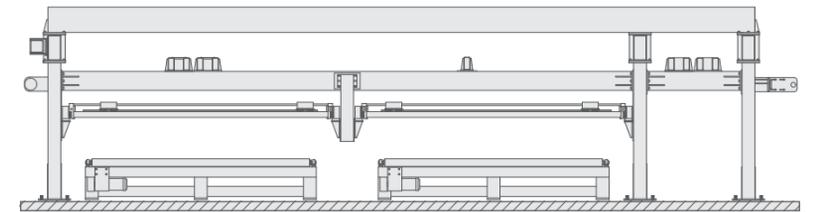
## BRUSH STACKERS

Brush stackers by KOHLER allow for scratch-free, multiple stacking at medium cycles.



## MAGNETIC STRIP STACKERS

Ideal for fast cycles, the magnetic strip stacker supports scratch-free stacking and multiple stacking of ferrite or magnetic materials.



— Brush stacker

# AFTER SALES WITH GREATER REACH!

WITH A TEAM OF SPECIALISTS FOR SERVICE AND MAINTENANCE, KOHLER MAXIMIZES THE PROCESS SAFETY THROUGHOUT YOUR PLANT'S SERVICE LIFE.

Traditionally, KOHLER's comprehensive, levelling technology competency started with a design concept, and extended through installation and commissioning into After Sales service. Because service and maintenance have proved to be equally relevant to success in a complex, industrial production process, KOHLER is now also focusing on this highly sophisticated field of tasks.

Our customers appreciate our highly-specialized Service Team for their service and maintenance needs as an additional guarantor of maximum investment protection, maximum process safety, and minimum investment risk. Based on knowledge gained over many decades, we offer a number of tangible benefits here, too:

- Long spare parts availability also for older machines
- Extremely high availability of wear parts, such as levelling rollers or supporting rollers
- Worldwide shipping of spare and wear parts
- Individual maintenance agreements with clear cost transparency
- Reduction of maintenance costs and response times through remote diagnostics
- Remote access to controls (Teleservice), just like an expert on site
- Machine checks to ensure optimum production conditions
- Levelling training for best-possible levelling results

#### Retrofitting as a specialist After Sales service

Many years of experience in After Sales have shown that the modernization of existing reliable resources can be more efficient than investing in a completely new machine. And modernization of our own and third-party products is one of KOHLER's fields of key competency.



— Coiler with leading-in device



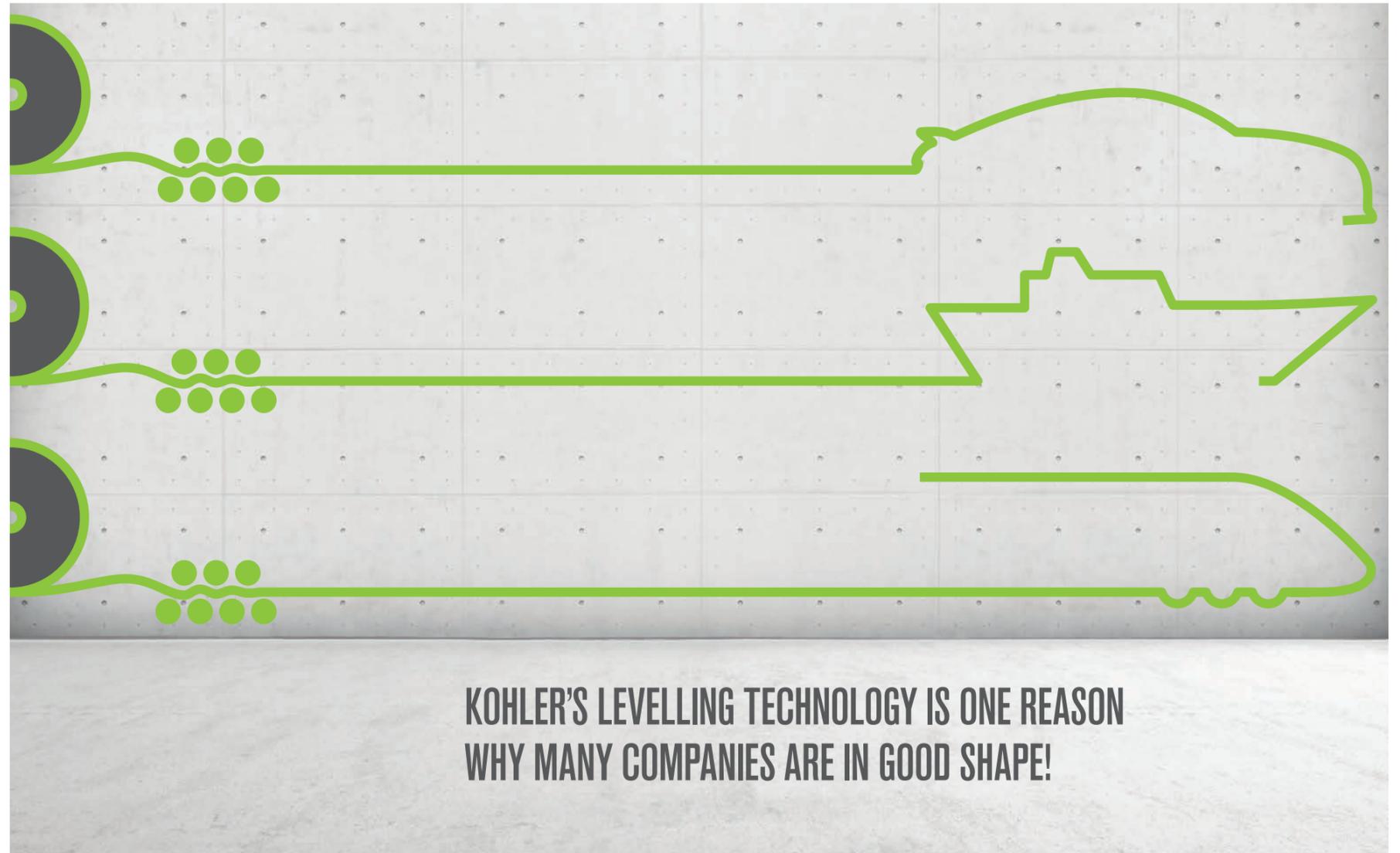
— Optimum levelling result

# WELCOME TO THE COMPETENCE CENTER LEVELLING!

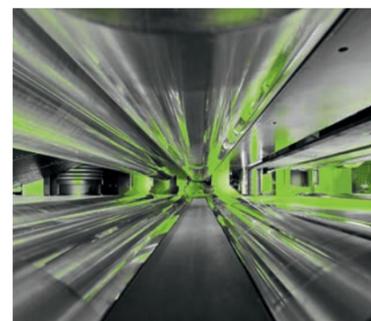
KOHLER'S REPUTATION AS A PRODUCER OF EXCELLENT TAILOR-MADE LEVELLING TECHNOLOGY SOLUTIONS FOR INDUSTRIAL PRODUCTION PROCESSES EXTENDS WELL BEYOND THE BORDERS OF GERMANY. THE COMPANY IS ALSO WELL-KNOWN AS A CAMBER LEVELLING LINE SPECIALIST.

The best and most effective levelling technology solutions are always perfectly designed, and then fit in to enhance a production system seamlessly when they are actually constructed – and this is exactly what KOHLER's solutions do. Traditionally, we are not just successful in our core area of levelling technology, but also in the other important peripheral areas, i.e. handling, cutting, washing, and stacking. This universality, the high level of expertise across our staff, and our can-do attitude, which is typical of the region of Baden, are also demonstrated by complete automation solutions.

Our area of expertise, special machine construction, has proven to be a logical consequence of our focus on advice and solutions, as well as our wide product range and the experience we have accumulated through building over 6,000 levelling machines. Customers also turn to us when they want to modernize production lines, their own products, or products made by other manufacturers. These customers generally come from the top end of their industry, and we make our collaboration with them as simple as possible by employing the one-face-to-the-customer principle.



**KOHLER'S LEVELLING TECHNOLOGY IS ONE REASON WHY MANY COMPANIES ARE IN GOOD SHAPE!**



— Levelling rollers



— Strip take-off

## COMPETITIVE ADVANTAGES

- KOHLER identifies and increases potential for improvement in levelling technology solutions, which makes customers more competitive.
- KOHLER solves every levelling technology challenge with enthusiasm and Baden engineering.

