

ADVANTAGE
IN LARGE SCALE!

**STRIP LEVELLING
MACHINES**
WITH LEVELLING ROLLER
DIAMETERS BEYOND
40 MM

"OUR PHILOSOPHY IS
QUITE SIMPLE: ALWAYS
THE BEST SOLUTION."



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

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!

YOUR WISHES ARE OUR STANDARDS.

BECAUSE IDEAL SOLUTIONS NEVER COME OFF THE PEG, KOHLER CONFIGURES YOUR STRIP LEVELLING MACHINE TO PRECISELY REFLECT YOUR REQUIREMENTS.

KOHLER's reputation as a producer of excellent tailor-made levelling technology solutions for industrial production processes extends well beyond the borders of Germany. Another reason for our international reputation is our strip levelling machines that have a levelling roller diameter beyond 40mm. A field in which we have been a technology leader since the 1970's.

But experience is not the only reason why automobile manufacturers and automotive suppliers, press manufacturers, punching works and famous name companies from many other industries rely on KOHLER in this sector. On the contrary, it's our skill to adapt strip levelling machines and their peripherals to precisely suit individual material, quality precision, and budget requirements, as analyzed up front in intensive consultancy meetings. The central question here is always: What does the customer really need?

The final result of this consultancy and implementation process is strip levelling machines with central benefits such as short tooling and idle cycle times, a long service life, maximum flexibility in terms of material processing, strip thicknesses and widths, and a small footprint thanks to optimum usage of space.



— Feed levelling machine in press line

ECONOMIC

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



— Levelling unit



— Strip threaded into levelling machine

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.

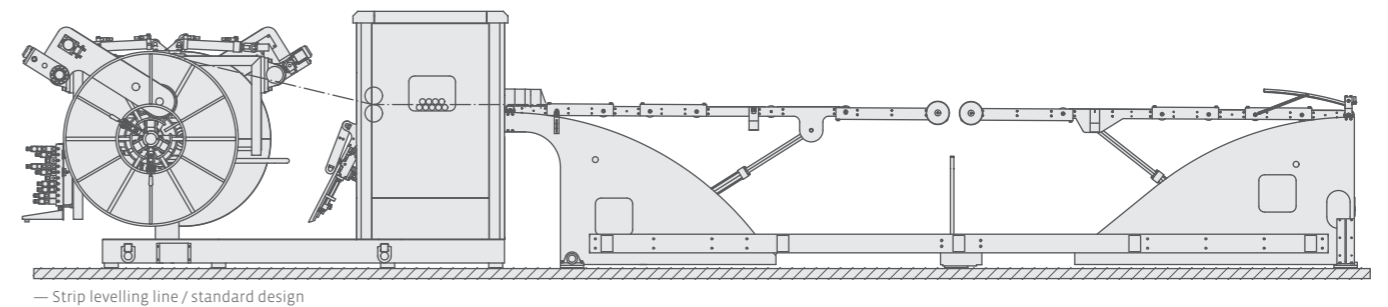
COMPACT AND STANDARD DESIGNED LEVELLING MACHINES BY KOHLER CAN HANDLE A VARIETY OF TASKS.

What customers get from KOHLER is what they really need. It's only logical that this simple but challenging basic principle starts with the key element in each plant: the levelling machine. The spectrum of customization options is huge. Depending on the required level of precision, between 9 and 21 rollers are used. Depending on the material specification, KOHLER also uses hard chrome plating for levelling rollers and/or intermediate rollers. KOHLER also has the expertise to implement processing and handling of high-gloss materials, and materials with a sensitive surface. Special material faults such as edge or center waviness are corrected by a special roller flexion. Smart control solutions guarantee full compatibility with punches and presses by any manufacturer.

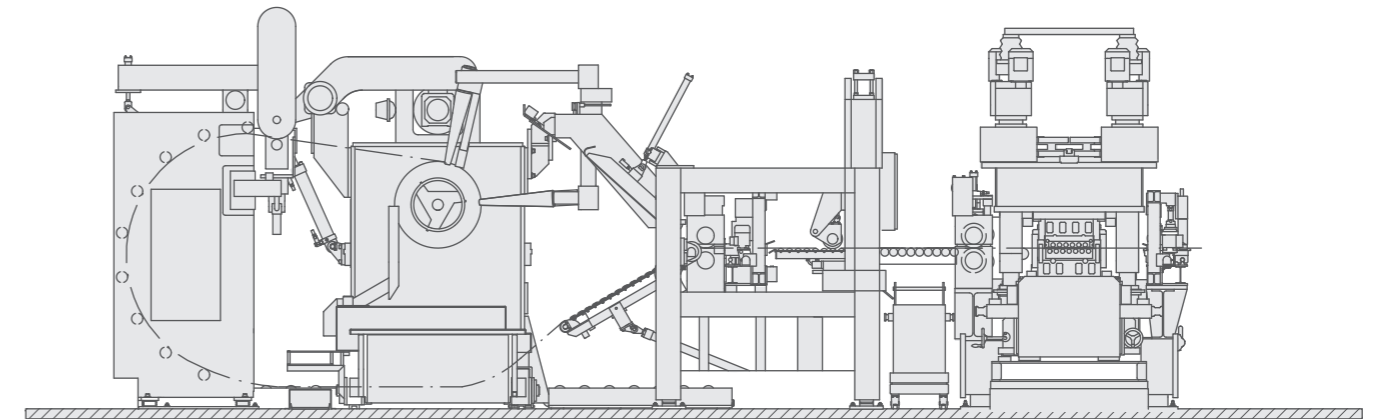
The standard cleaning and quick-change device of the levelling rollers reduces tooling and idle times which can be further reduced with an advanced cleaning and quick-change device. An optionally available changing cassette can significantly extend the spectrum of processable strip thicknesses. And this is true of both our standard and compact designs, whereby the latter impresses with a number of special features.

Compact and standard design

Compact designed feed levelling machines work without a strip loop; the levelling machine itself feeds the strip. A length measuring system guarantees precise feeding of the strip; for special formats, this is supported by zig-zag operation and/or pilot release. For both designs, KOHLER offers a choice between manual strip feeding up to the strip take-off, or an automatic variant with a driven pressure roller, leading-in wedge and holding-down roller up to the strip take-off. Naturally, both designs can be combined with camber levelling units to remove camber.



— Strip levelling line / standard design



— Feed levelling machine / compact design



— Strip levelling machine in standard design



— Strip levelling machine in compact design



— Hydraulic coiler

PERFECT LEVELLING TECHNOLOGY SOLUTIONS

— KOHLER is a specialist in levelling technology solutions for industrial sheet metal production processes.

— KOHLER perfects the entire levelling process – from individual sheet metal parts right through to fully automated solutions.

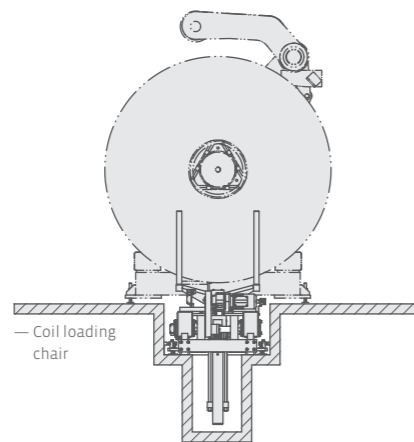
WHEN PERIPHERALS BECOME THE FOCUS.

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

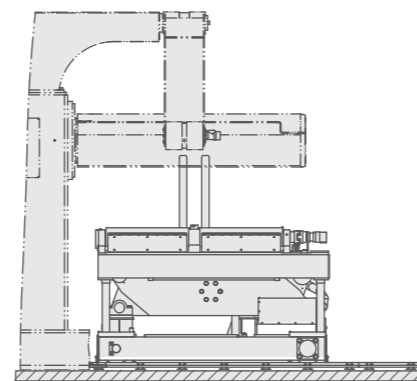
Thus, when we refer to plant peripherals, what we really mean is central solution components that make a major contribution towards quality and efficiency optimization, which is something we insist on at KOHLER.

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.



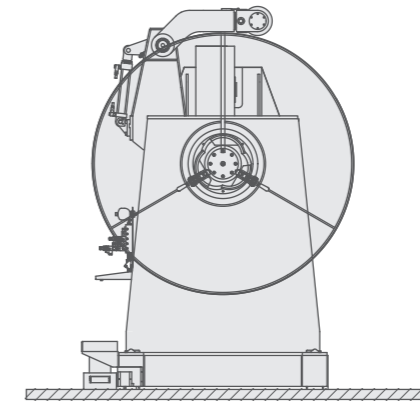
— Coil loading chair



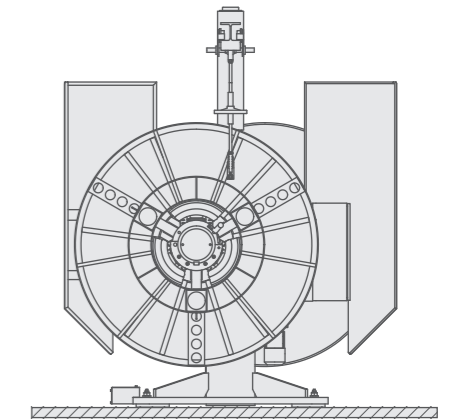
— Coil loading car

COILERS

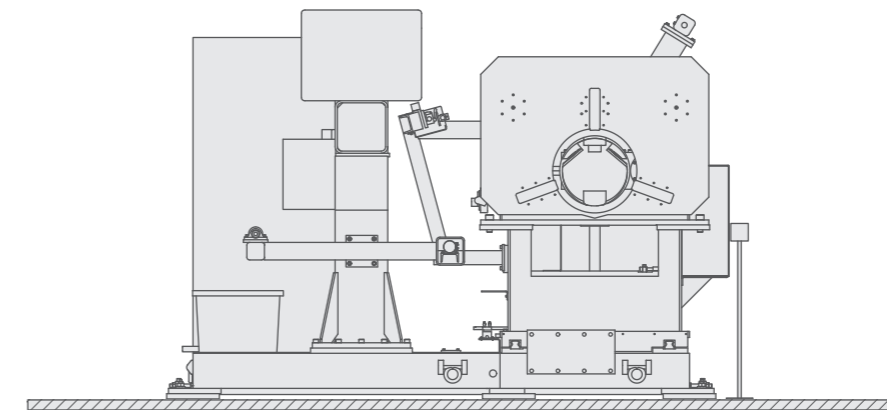
The KOHLER coiler program includes a variety of different models with an impressive range of technical specifications. Or to put this another way: KOHLER has the perfect solution for any requirement here, too.



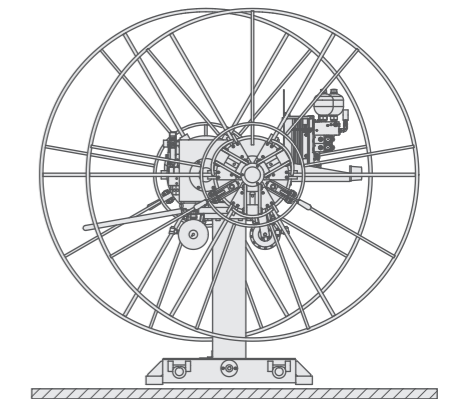
— Single-sided coilers



— 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.



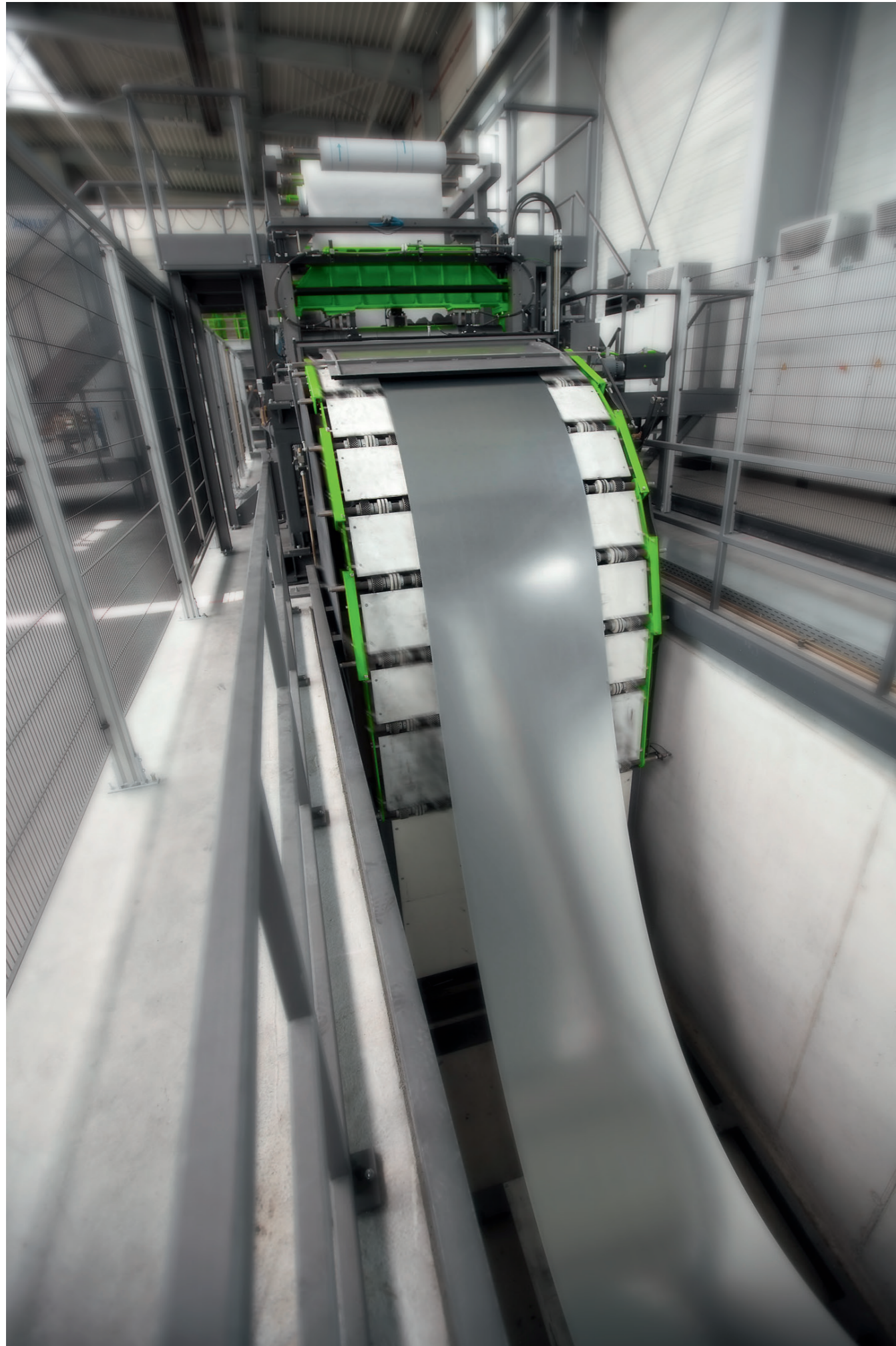
— Coil loading car in front of coiler



— Loading side of a single-sided coiler

ENGINEERING

— KOHLER solves every levelling technology challenge with enthusiasm.

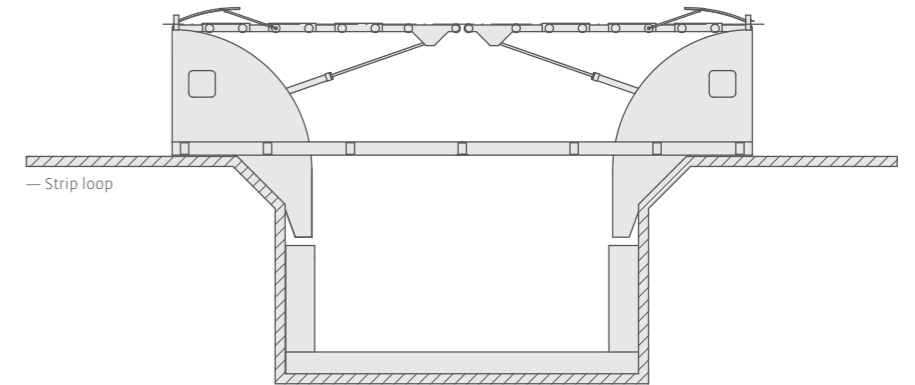


— Strip transfer

WHEN PERIPHERALS BECOME THE FOCUS.

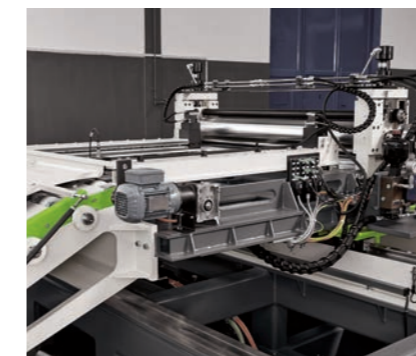
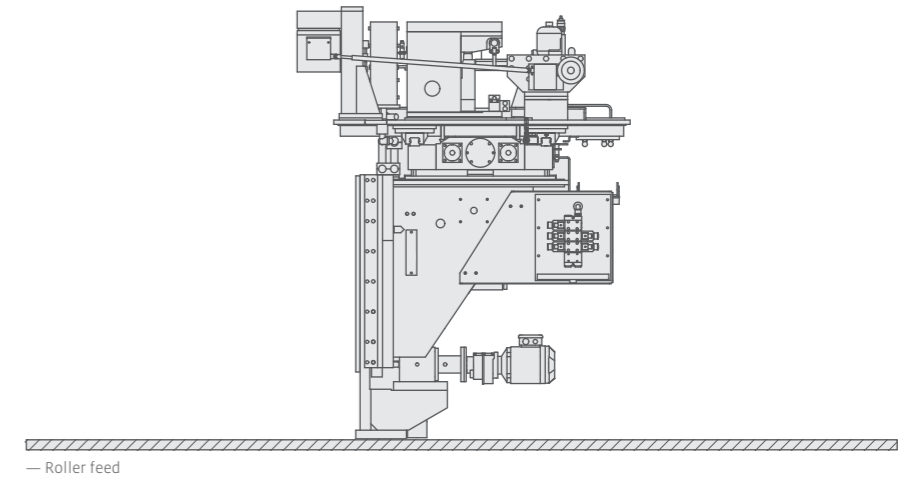
STRIP LOOP

The strip loop is a main component in the standard design and decouples the levelling machine from the feed unit to allow for continuous levelling. In typical KOHLER style, we can offer floor-mounted or underfloor variants, as well as many additional options.



ROLLER FEED

High-performance roller feeds by KOHLER guarantee a positionally-accurate feeding of the strip into the press or punch, thus leveraging the full potential of the downstream line. High-tech, custom formats such as zig-zag roller feeds and designs with dynamic pilot release for downstream cutting improve positioning accuracy to the technically feasible optimum, wherever needed.



— Roller feed

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.

WHEN PERIPHERALS BECOME THE FOCUS.

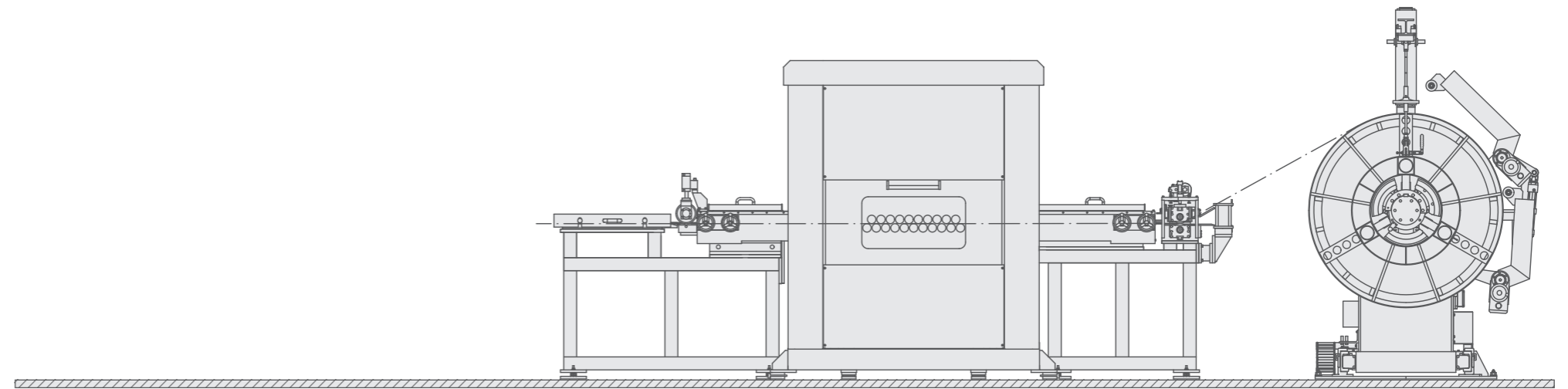
GAMBER LEVELLING LINES

As the pioneer in camber levelling lines, KOHLER develops and produces machines with a varying degree of automation taking particular requirement situation into consideration. These leading-edge custom engineering solutions are needed when camber is present in the strip. In other words, when the bending axis is longitudinal with respect to the run direction in a single-axis curvature.

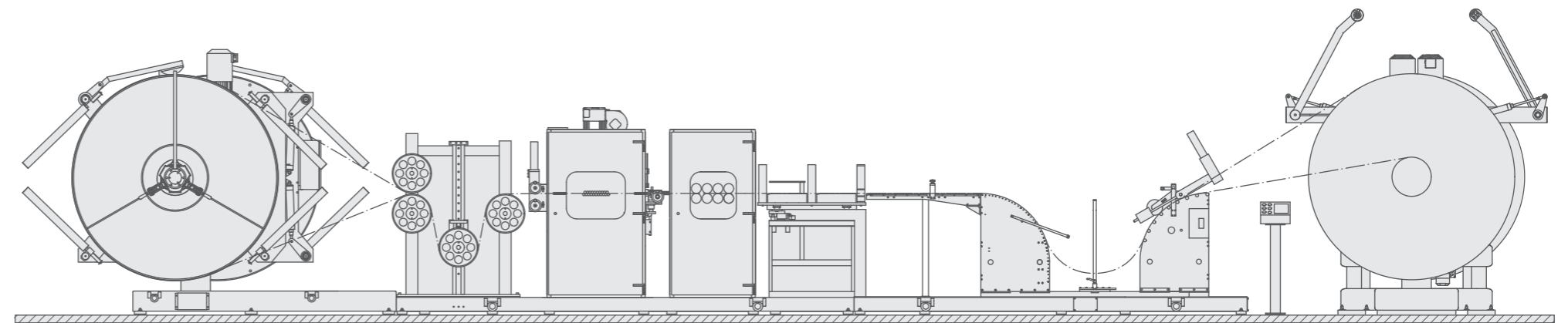
Variety of plant types:

- Custom long part production machines for levelling long parts and follow-on composite parts.
- Machines for the production of chassis beams can be configured as a combination of cut-to-length, levelling and camber levelling technology.
- Individually designed recoiling lines for bimetallic strips that use a tension coiler to rewind the low-tension strip downstream of the levelling process for the further production.

KOHLER's camber levelling lines are the result of the experience gained in manufacturing a large number of tailor-made machines that impress with their precision, robustness, reliability, high speeds, and their ability to process strips with a high thickness to width ratio. Machines of this type comprise of a precision levelling machine and a camber levelling unit mounted at the inlet and the outlet of the levelling machine. The adjustment options for camber levelling extend from manual to fully-automated via a camber measuring device.



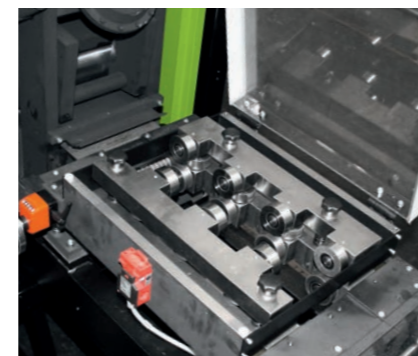
— Strip levelling machine with camber levelling line



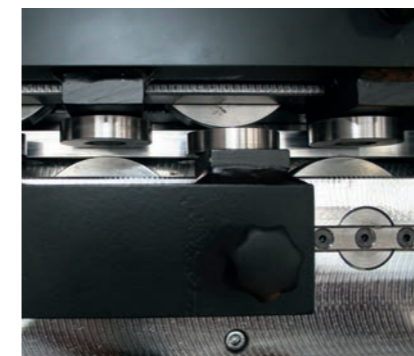
— Recoiling line for saw blade production

THE RELIABILITY OF A PIONEER

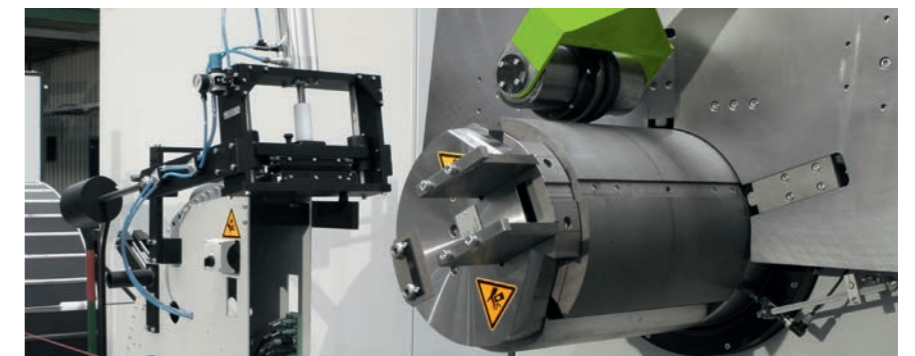
- KOHLER offers the consistency and reliability of a levelling technology pioneer.
- The extremely solid quality of KOHLER machines guarantees good investment protection.
- KOHLER guarantees maximum functionality of its levelling technology solutions and long-term availability of replacement parts.



— Camber levelling unit



— Precision guidance



— Rewinding unit

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



— Easily accessible service points

PERFORMANCE DATA AT A GLANCE.

LEVELLING MACHINES WITH LEVELLING ROLLER DIAMETERS BEYOND 40 MM

Strip thicknesses from 16mm Vmax (poss.) 0 - 100m/min

| Type | Max. passing width | Quick-change device | Advanced quick-change device | Motorized setup | Expert calculation | Leading-in devices | Strip take-off | Camber levelling unit |
|------|--------------------|---------------------|------------------------------|-----------------|--------------------|--------------------|----------------|-----------------------|
| 50 | 400 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 50 | 500 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 50 | 600 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 50 | 800 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 50 | 1000 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 50 | 1250 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 50 | 1500 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 50 | 1850 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 50 | 2000 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 65 | 400 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 65 | 500 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 65 | 600 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 65 | 800 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 65 | 1000 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 65 | 1250 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 65 | 1500 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 65 | 1850 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 65 | 2000 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 80 | 400 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 80 | 500 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 80 | 600 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 80 | 800 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 80 | 1000 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 80 | 1250 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 80 | 1500 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 80 | 1850 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 80 | 2000 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 100 | 600 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 100 | 800 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 100 | 1000 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 100 | 1250 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 100 | 1500 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 100 | 1850 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 100 | 2000 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 120 | 600 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 120 | 800 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 120 | 1000 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 120 | 1250 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 120 | 1500 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 120 | 1850 mm | ■ | □ | ■ | ■ | □ | □ | □ |
| 120 | 2000 mm | ■ | □ | ■ | ■ | □ | □ | □ |

■ = Standard □ = Option / More machine types on request

COILERS

| Max. capacity | Type | | Lateral adjustment | Pressure arm | Coil retainer | Coil loading chair / Coil loading car |
|---------------|--------------|--------------|--------------------|--------------|---------------|---------------------------------------|
| | single-sided | double-sided | | | | |
| 3000 kg | ■ | ■ | □ | □ | □ | □ |
| 4000 kg | ■ | ■ | □ | □ | □ | □ |
| 5000 kg | ■ | ■ | □ | □ | □ | □ |
| 8000 kg | ■ | ■ | □ | □ | □ | □ |
| 10000 kg | ■ | | □ | □ | □ | □ |
| 12000 kg | ■ | | □ | □ | □ | □ |
| 15000 kg | ■ | | □ | □ | □ | □ |
| 20000 kg | ■ | | □ | □ | □ | □ |
| 25000 kg | ■ | | □ | □ | □ | □ |
| 30000 kg | ■ | | □ | □ | □ | □ |
| 35000 kg | ■ | | □ | □ | □ | □ |

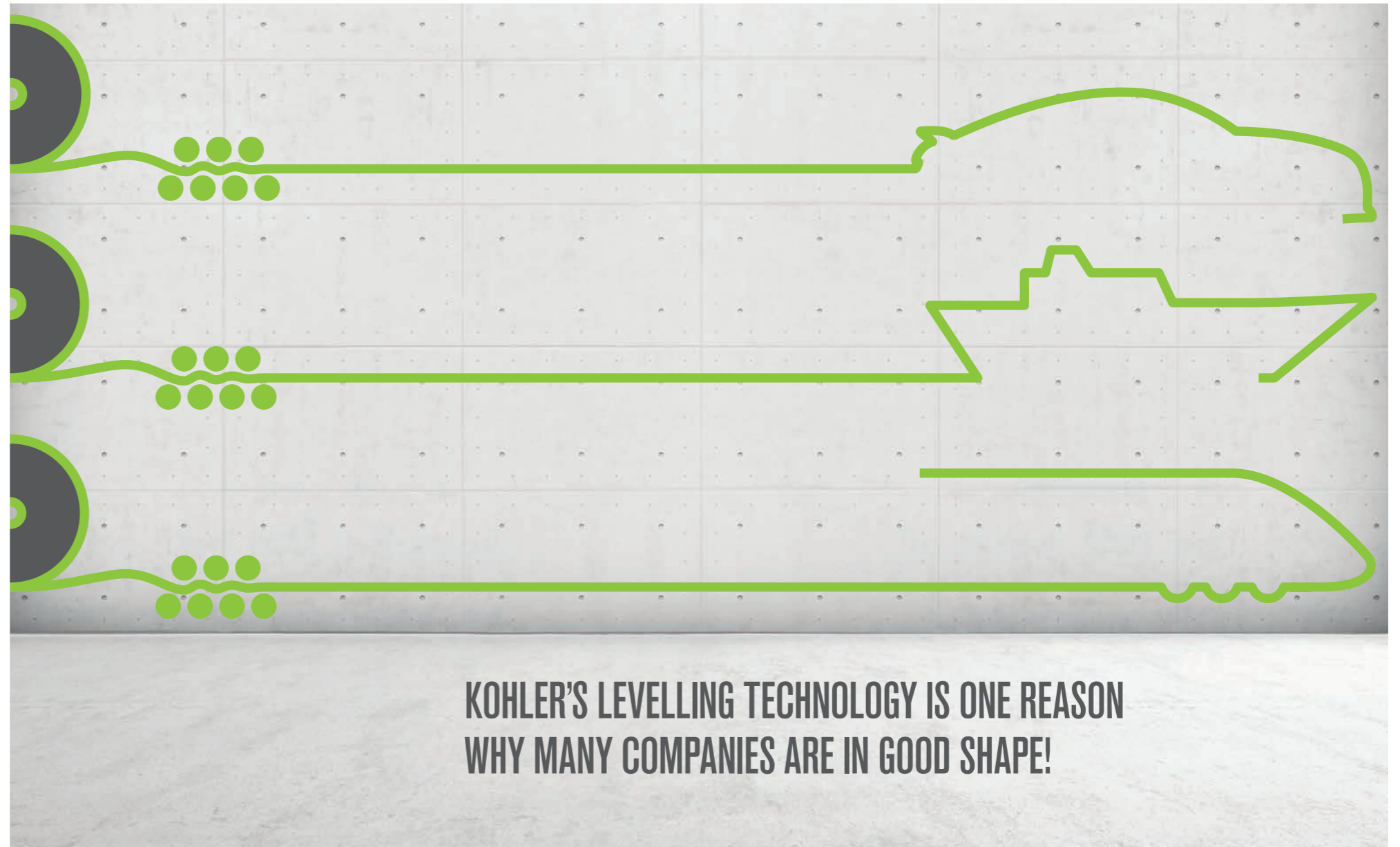
■ = Standard □ = Option / More machine types on request

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!



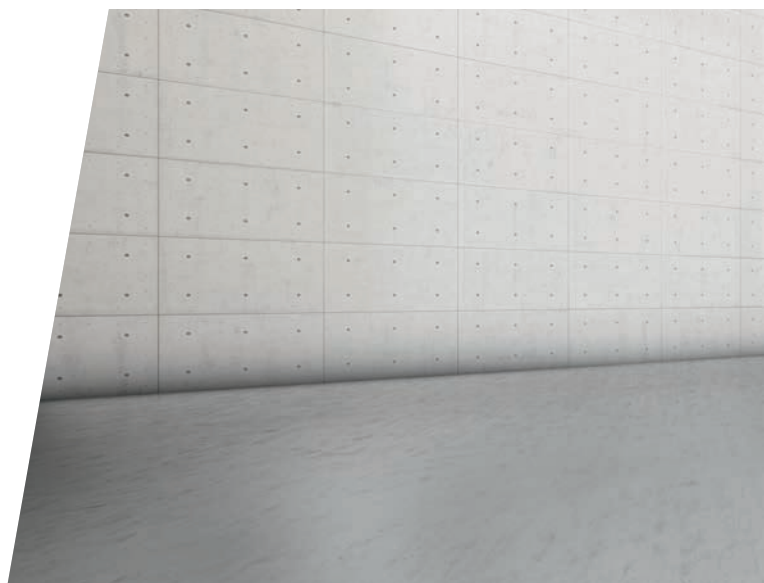
— Levelling rollers



— 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.



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