



# LOW-TENSION SHEETS FOR STABLE PRODUCTION PROCESSES

## KOHLER LAUNCHES NEW COMPACT PRECISION LEVELING MACHINE FOR MANUFACTURING CONNECTORS

KOHLER Maschinenbau GmbH specializes in leveling technology and regularly brings innovations in the field of leveling technology onto the market. KOHLER has now developed a new, compact precision leveling machine that has been specially designed to meet the requirements of manufacturing plugs, connectors, and electronic components. Users benefit from optimum leveling results even in the case of thin coil material or quality deviations. This allows for more stable production processes and the fulfilment of even the most stringent requirements.

Electronic control systems are becoming more advanced, particularly in the automotive industry. On the one hand, the number of vehicles with electric motors is increasing, and on the other, a growing number of electronic assistance, safety, and comfort systems are being built into cars. In order for these control systems to work, connectors

are required. They establish contact between the individual components and transfer data, energy, or signals.

Plugs, connectors, and other electronic components are often made from strips stamped out of copper, steel, aluminum, or stainless steel sheet, which are wound onto

coils. To eliminate existing tension in the material, the strips must be leveled prior to stamping and forming. However, most levelers are not suitable for the high precision requirements of the industry: the leveling rollers are too thick for the low strip thickness, and the machines do not demonstrate a high enough level of rigidity



to provide sufficient plasticization of the material. The consequence is that increasingly complex tools are being used to attempt to overcome inadequacies in the material. This also results in inaccuracies, which can lead to problems in downstream processes such as galvanization or coating with plastic. Thus, the high level of precision required by connector manufacturers often cannot be achieved.

**Precise leveling results thanks to optimum roller diameter**

With the CPL 120, KOHLER is bringing a compact precision leveling machine onto the market that has been precisely tailored to the requirements of connector manufacturing.

Particular attention was paid to the leveling rollers: the leveler has been equipped with 19 hard chrome coated leveling rollers, which are supported by a large number of supporting rollers to achieve high rigidity. The small roller diameter ensures that even the thin strips normally used in the industry can be leveled with precision.

Easy accessibility allows for quick and straightforward cleaning of supporting rollers and leveling rollers. This protects the strip material from dust, dirt particles, and damage.

The machine exhibits high rigidity in order to compensate for leveling pressure.

**High degree of plasticization even for thin strips**

The new CPL 120 enables degrees of plasticization of more than 70 percent to be achieved, reliably eliminating tension and unevenness in the coil material. The result is a much more stable production process and components that meet even the most stringent precision requirements. Users can also reduce their operating costs, as there are

fewer rejects and the stamping tools can be designed with a reduced degree of complexity, ultimately resulting in longer service lives.

The first users are already delighted with the CPL. "The machine delivers what KOHLER promised," explains Alexander Frank, Head of Stamping Technology at Schröder & Bauer Werkzeugbau Stanztechnik GmbH + Co. KG.

“A simple leveler and a KOHLER precision leveling machine are worlds apart.”

Alexander Frank, Head of Stamping Technology at Schröder & Bauer Werkzeugbau Stanztechnik GmbH + Co. KG

“The machine is absolutely fantastic for leveling strips up to 0.8 millimeters thick and more. The settings allow for more sensitive and more accurate operations than other models. The leveling process is therefore always stable and delivers optimum, reproducible results.”

**Can also be supplied as a complete system**

The newly developed compact precision leveling machine from KOHLER can be supplied as a complete system with horizontal coiler or vertical coiler for different coil weights. KOHLER also supplies the appropriate machine control system on request.

Thanks to its space-saving design, the machine can be integrated in existing unwinding and production systems that have been operating without a leveler until now. This means that every user can improve their product quality over the long term, even in retrospect.

**Machine and leveling material facts:**

**Leveler:**

- Torsion-resistant design
- Number of leveling rollers: 19
- Min. and max. strip width: 10 – 120 mm
- Min. and max. strip thickness: 0.1 – 2 mm
- Max. strip cross section: approx. 190 mm²
- Min. and max. yield point: approx. 200 – 600 N/mm²
- Min. and max. strip speed: 5 – 30 m/min
- Surface treatment of the leveling rollers: hard chrome coated

**Coiler:**

- Available with driven horizontal or pull off vertical unwinder
- For unwinding of coils directly from the pallet
- Universal, extremely high-quality pallet unwinder
- Contactless rotation speed control via ultrasonic sensor
- Winding direction can be reversed
- Robust machine body with high load-bearing capacity
- Can be supplied in various sizes due to modular design
- Further options available

**Leveling material:**

- Copper, steel, aluminum, stainless steel, fully or partially finished strips with precious metals
- Strip thickness: max. 2 mm
- Strip width: max. 120 mm
- Tensile strength: 200 – 600 N/mm²

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Photo above: The unlevelled material has tensions and unevenness. Photo below: With precision leveled strip material the stresses are reduced to a minimum.



Easy accessibility allows for quick and straightforward cleaning of supporting rollers and leveling rollers.