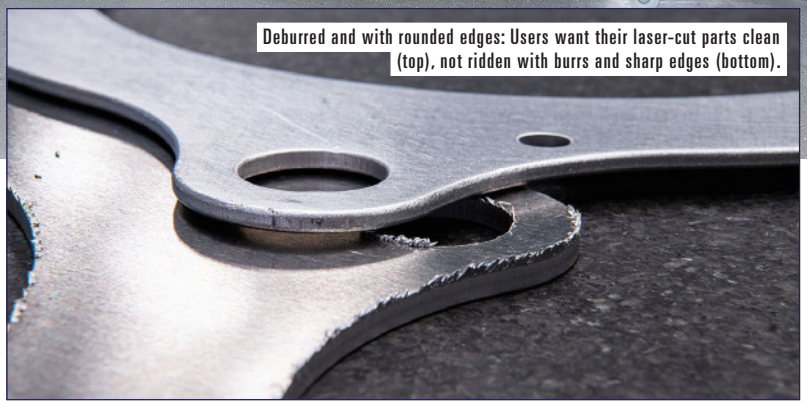
The EdgeBreaker® 6000 deburring machine, with the new ARKU Wizard software, made its debut at EuroBLECH 2022.

ON THE LEVEL



Deburred and with rounded edges: Users want their laser-cut parts clean (top), not ridden with burrs and sharp edges (bottom).

ISMR caught up with ARKU at EuroBLECH 2022 in Hanover to see its newly launched technology, watch its demonstrations and chat with its surface-technology specialists.

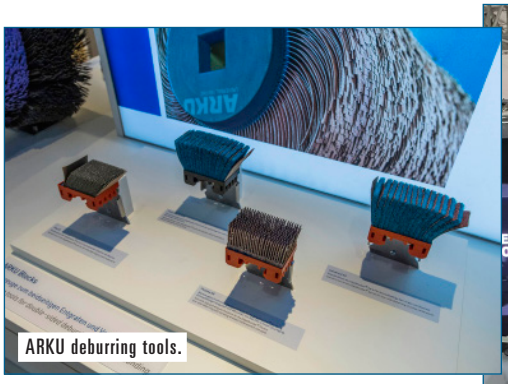
ISMR SAYS: *"ARKU launched its new EdgeBreaker® 6000 deburring machine with its intelligent software function, the ARKU Wizard, at EuroBLECH 2022 in Hanover, Germany."*

ARKU's booth at EuroBLECH 2022 in Hanover, Germany.

ARKU Maschinenbau GmbH has a mission to make deburring easier than ever with its new EdgeBreaker® 6000 machine and its intelligent software function, the ARKU Wizard. Both made their debut on ARKU's booth at the EuroBLECH 2022 exhibition in Hanover, Germany. ARKU is also working with sheet-metal and software specialist TRUMPF to demonstrate how machines from both manufacturers can be seamlessly integrated to achieve complete automation during sheet-metal processing.

ARKU, founded in 1928 as a family-owned company, is a specialist in roller leveller and press-feeding technology. It offers an extensive range of high-capacity and precision levellers, deburring and edge-rounding machines as well as parts-handling solutions for levelling and deburring machines. The product range comprises precision levellers; deburring and edge-rounding machines for parts; automated parts handling via robots; in-line levellers; cut-to-length lines; press feeding lines and coil entry lines for rollformers.

With its headquarters in Baden-Baden, Germany, and ISO-certified facilities in Cincinnati (USA) and Kunshan (China), the company operates in nearly 30 countries worldwide. ARKU offers roll-processing services in three levelling and deburring centre



ARKU deburring tools.

locations with its latest machines.

ISMR caught up with ARKU at EuroBLECH 2022 in Hanover to see its newly launched technology, watch its latest demonstrations and chat with its surface-technology specialists.

An eye on deburring

The EdgeBreaker® 6000 deburrer is the latest machine in ARKU's portfolio and primarily designed to meet the requirements of laser job shops. Flexibility is therefore at the top of the list. Its vacuum conveyor belt and rotary brushes are designed to enable extremely uniform edge rounding (even up to a radius of 2mm). Other processing modules include the grinding belt for deburring and the finishing unit for surface finishing.

"During laser cutting, burr formation is more likely with increasing material thickness. Eventually, you will have to rework these edges. This is more ergonomic and less expensive with the EdgeBreaker® 6000 than by hand," said Daniel Gabriel, Head of Laser Technology, Autz + Herrmann in Heidelberg, Germany.

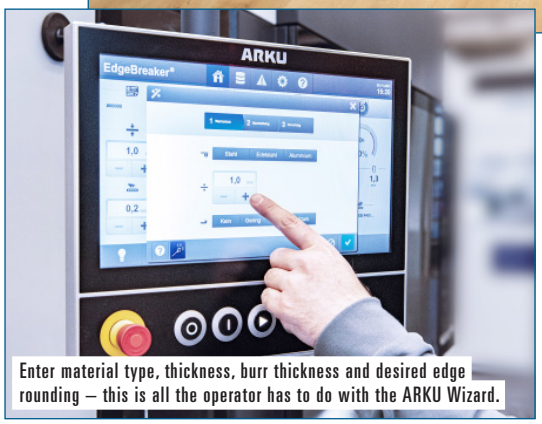
"We have a new product for medical technology made of aluminium. This product is difficult to laser cut and very intricate. However, it can be processed well with the EdgeBreaker® 6000, after which the actual bad side is even more beautiful than the good side."

Deburring becomes even easier with new ARKU Wizard software. *ISMR* watched it live in operation at EuroBLECH 2022 during demonstrations with the EdgeBreaker®.

"With the Wizard, operators only need to enter four parameters; the size of the burrs, material type and thickness as well as the desired edge rounding after deburring. Further information comes from automatic wear measurement of the rotary brushes. The ARKU Wizard can then calculate the correct machine settings with the appropriate tools,"explained ARKU.

"With the software, the deburring systems also work as economically as possible. The processing speed is optimised and material removal during edge rounding is reduced to the necessary level. This reduces both processing time and wear on the tools," it added.

ISMR watched a demonstration on ARKU's EdgeBreaker® 6000 deburring system.



Enter material type, thickness, burr thickness and desired edge rounding – this is all the operator has to do with the ARKU Wizard.

The Wizard is designed to save operators valuable time so that they do not make numerous, lengthy attempts to find the required edge-rounding level. In addition, less experience is required to operate the deburring machine.

"Because the optimal processing settings are stored in the machine, even less well-trained employees can quickly be called on to operate this equipment. In times of skilled worker shortages, this is an important asset for sheet metal processing companies. The Wizard also paves the way for the automation of deburring in sheet-metal processing," ARKU told *ISMR*.

ARKU also showcased a selection of its own grinding/edge-rounding and surface-finishing tools at EuroBLECH 2022 in Hanover.

"We are happy to advise users on the optimum interaction of machine, tools and software," it confirmed.

Live levelling demos

ISMR also watched a live demonstration of ARKU's FlatMaster® 55 levelling machine at EuroBLECH in Hanover.

"This precision leveller is particularly suitable for levelling laser, stamped and flame-cut parts. Its rollers provide excellent flatness results and remove invisible residual stresses. These flat and stress-free parts can then be worked much more easily in subsequent processes (such as bending or welding)," outlined ARKU.

"The rollers used in our FlatMaster® series can eliminate residual stresses in parts, sheet and plate from 0.5 to 60mm thick. Subsequent processes become much more efficient and

ARKU's FlatMaster® 55 leveller at EuroBLECH 2022.

The FlatMaster® 55 levelling machine demonstration at EuroBLECH 2022.

A workpiece on the ARKU FlatMaster® 55.

ARKU and TRUMPF are collaborating on coil processing developments.

accurate. Whether it is welding, folding or bending, both man and machine are able to process flat and stress-free parts, sheet and plate without any rework. The levelling process only takes a few seconds and achieves consistent high-quality results. The FlatMaster® series offers servo-hydraulic levelling gap control and is equipped with hydraulic overload protection to protect the drive and levelling unit," added the levelling specialist.

Integrated production chain

Across their two booths at EuroBLECH in Hanover, TRUMPF and ARKU demonstrated how levelling and deburring can be integrated into the entire sheet-metal processing production chain. On the software side, ARKU's deburring machine was integrated into the systems at TRUMPF's neighbouring booth. The two manufacturers jointly presented a complete sheet-metal processing chain for Industry 4.0 in the form of a sheet-metal bird feeder which has been developed by TRUMPF and deburred by ARKU.

A joint project to process a bird feeder by ARKU and TRUMPF.

Coil-fed laser blanking

ARKU and TRUMPF also showcased their latest innovations in coil-processing at EuroBLECH 2022.

"With this joint development, sheet-metal workers can work from the coil instead of flat metal sheets. This can save up to 30 per cent of material costs and eliminate tooling costs completely," ARKU explained.

The trend towards even smaller and more flexible batch sizes also makes laser processing from coil attractive for companies who previously worked with presses. Lower investment costs and high flexibility have led to the combination of coil and laser. Coil-fed laser blanking can close the application gap between flexible laser processing and productive coil processing with presses.

In 2021, a coil-fed laser line incorporating an ARKU precision leveller coil line and TruLaser 8000 Coil Edition from TRUMPF was developed in Neukirch (Germany) and has been running under real production conditions in two- and three-shift operation since January 2022. ■

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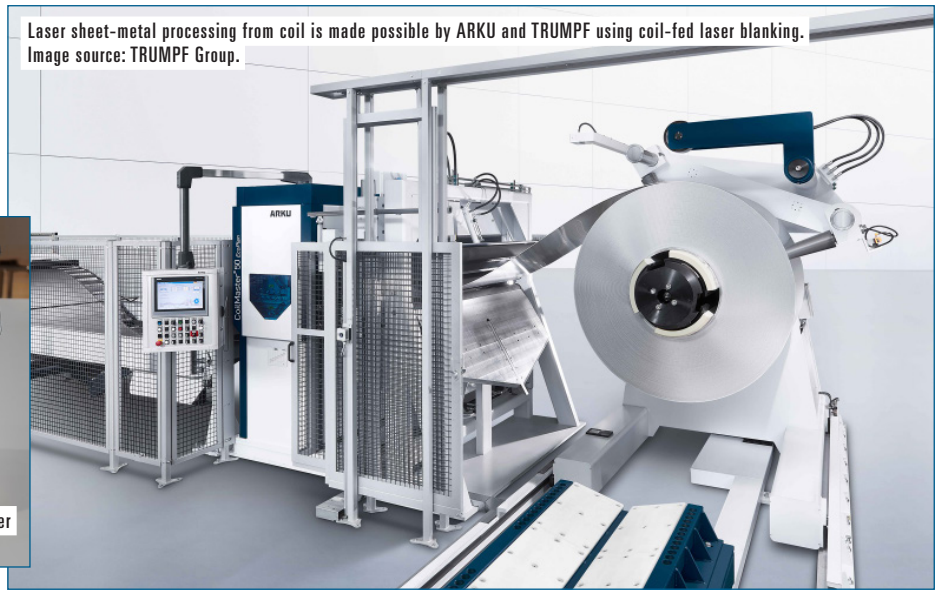

Laser sheet-metal processing from coil is made possible by ARKU and TRUMPF using coil-fed laser blanking. Image source: TRUMPF Group.