The laser's finest hour

The limited edition Meister S Chronoscope Platin Edition 160 from the watch and clock maker Junghans quickens the pulse of watch enthusiasts around the world. Only twelve watches will be brought to market. The edition engraving along with the limited edition number has been applied to precious platinum by a TruMicro Mark 2030 in a TruMark Station 7000.

Uhrenfabrik Junghans GmbH & Co. KG

www.junghans.de

The watch and clock maker Junghans was founded in 1861 in Schramberg in the Black Forest. The company employed more than 3000 employees in 1903 and was the largest watch and clock maker in the world. Thanks to the development of precision clock units, Junghans later became the largest chronometer manufacturer in Germany. The traditional company can look back over 160 years of company history. Even today, every watch is manufactured in Schramberg with the greatest care. The high standards of design and quality as well as technological competence set the watches with the star apart as real classics.

INDUSTRY
Clock and watch manufacturing

NUMBER OF EMPLOYEES
110

SITE
Schramberg

TRUMPF PRODUCTS

- TruMicro Mark 2030
- TruMark Station 7000

APPLICATIONS

- Laser engraving

Challenges

Junghans is celebrating its 160th company anniversary in 2021. For the occasion, the traditional watch and clock maker is bringing the limited edition of the Meister S Chronoscope Platin Edition 160 to market with just 12 watches worldwide. Even the smallest detail must be perfect for this luxury product available for 16,000 Euros. Case, pusher and the screwed crown of the Meister S Chronoscope are made from polished, high-gloss platinum PT950. The case back provides the space to make every single one of the twelve watches distinctive: the high-quality edition engraving with limited edition number.

"No watch is complete without an engraving."

MATTHIAS STOTZ

CEO OF UHRENFABRIK JUNGHANS GMBH & CO. KG

Solutions

TRUMPF Laser's headquarters are also in Schramberg and the two neighbors have worked together in the past. Two old but very robust TRUMPF marking lasers have been used in the Junghans production for decades. But TRUMPF had to go one technological step further for the anniversary watch. The reason: "Platinum is the most valuable precious metal in the watch industry and is difficult to process. I therefore wanted to play it safe for the engraving as well," says CEO Matthias Stotz. Junghans decided on a new laser procedure from TRUMPF for engraving the high-quality platinum watches.

Implementation

Junghans engraves the watch backs in a TruMark Station 7000 which is equipped with a TruMicro Mark 2030. The pulse duration can be set variably between 400 femtoseconds and 20 picoseconds. The result: burr-free, deep engravings as well as exquisite, whitish engravings. The aim was to achieve an engraving depth of 17 micrometers for the anniversary watch. Deep enough for an exquisite appearance but not so deep that too much valuable precious metal is removed by the laser. The desired depth is engraved first using a higher pulse rate, then a fine molten film is generated by quickly changing the process parameters in order to lighten the engraving. Switching between the process parameters such as the pulse duration takes less than 800 milliseconds.

Forecast

TRUMPF's laser technology gives Junghans completely new freedom in engraving their products. "We can respond to individual customer requests quickly if we can engrave in-house using a laser. The technology has developed a great deal and we are excited that we can use it for our high quality, limited-edition watches. This additional scope will be incorporated in our design development in future," says CEO Stotz.

Find out more about our products

TruMark Station 7000

The TruMark Station 7000 is suitable for automated series production as well as for customized small series. Large and heavy as well as small and delicate components can be safely marked using a laser.

Zum Produkt

TruMicro Mark 2000

The TruMicro Mark 2000 is the first all-around turnkey solution for an ultrashort pulse laser in a marking station. Benefit from deep engravings with no burrs, only removing as much material as absolutely necessary, leaving behind a classy white engraving.

Zum Produkt

https://www.trumpf.com/en_US/solutions/success-stories/the-success-story-of-our-customer-junghans/