



TECHNOLOGY DESCRIPTION

The 100 kHz ultrasonic system UTS enables direct ultra-precision machining of stainless steel with no geometric restrictions. A surface quality Ra of around 1 nm and a dimensional accuracy PV of 100 nm is feasible. The UTS operates at a unique frequency of 100 kHz, so that maximum efficiency is combined with precision.

With this innovative process, steel alloys, invar and some types of glass can be cut directly with single crystal diamond tools. The classic application is optical mould manufacturing for injection or glass moulding.



INNOVATIVE ASPECTS

- Frequency 100 kHz
- Amplitude 2 µm
- Tool overhang > 50 mm
- Micro height adjustment
- Roughness < 3 nm
- PV < 100 nm
- Freeform machining possible



TECHNOLOGY READINESS (in space application)

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COUNTRY OF ORIGIN

Germany

LATEST UPDATE

06/2024

TAGS #ultrasonic #ultra-precision #machining #optical mould #manufacturing #surface quality

APPLICATION AREAS

Aviation Energy Construction & Civil Engineering Electrical & Electronic Engineering Chemical Engineering & Biotechnology Health Safety and security

SPACE
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TECH CARD

