

LASER ENGRAVING ON FINISHED COMPONENTS

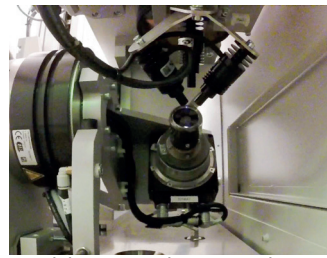
CHALLENGES

- ▶ 360° engraving on a surface of revolution inclined by 10 to 30°.
- ▶ Full integration with an engraving laser
- ▶ Focal length measured by projection of a laser beam
- ▶ Accurate positioning of the component
- ▶ Measurement of the flatness of the component and its orientation
- ▶ Management of out-of-circularity of tools for precise positioning of the component
- ▶ No degradation of finished surfaces

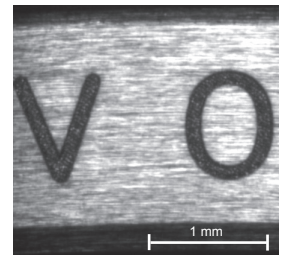


RESULTS

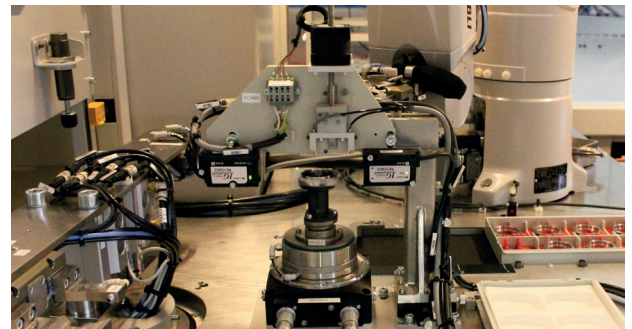
- ▶ Angular positioning of engraving at $90^\circ \pm 0.5^\circ$
- ▶ Engraving symmetry at ± 0.035 mm
- ▶ Repeatable aesthetic engraving in several fonts on several types of material (steel, gold and platinum)



precision engraving engraving



engraving



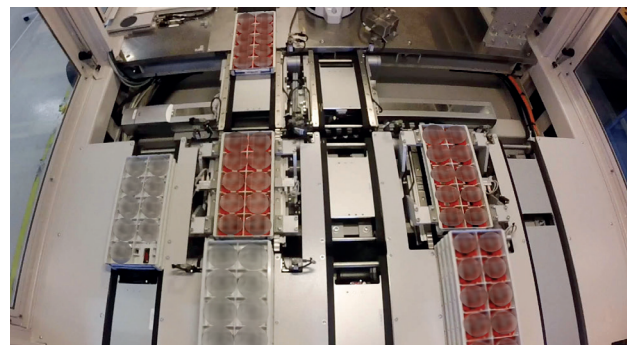
measurement of the flatness and orientation of the component

ADVANTAGES

- ▶ The component is handled only once, it is moved on a specific tool (the component does not degrade)
- ▶ Sorting and distribution station for up to 6 stacks of 10 trays (600 components) and multi-batch management
- ▶ Precise engraving with galvanometric laser head installed on a system of XYZ linear axes
- ▶ Component positioned accurately and repeatably using the swivelling axes B and C
- ▶ Intuitive and operator-oriented HMI
- ▶ Monitoring plan for the parameters influencing the process with automatic calibration functions

GENERAL SPECIFICATIONS

Angular positioning accuracy	$90^\circ \pm 0.5^\circ$
Engraving symmetry tolerance	± 0.035 mm
Autonomy	600 components
Fibre laser	20 W
Tool store	16 pairs



sorting and tray distribution station