

posalux<sup>®</sup>  
SWISS MADE 



HP4  
FP1

# Custom solutions in micro-erosion for mass production

## • HP4

### DESIGNED FOR MASS PRODUCTION

- High productivity
- High positioning accuracy
- Process stability
- Easy machine maintenance
- Multi spindle machine available
- Compact water deionization system
- Siemens 840D SL



## • FP1

### DESIGNED FOR FLEXIBLE SMALL BATCH PRODUCTION

- Prototyping small series machine
- High positioning accuracy
- Process stability
- Easy machine maintenance
- Single spindle
- Compact water deionization system
- Siemens 840D SL

Based on our profound experience in automotive applications we provide solutions for all high-end micro-machining needs

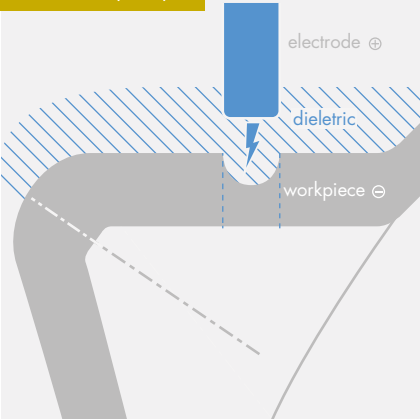
## Micro-EDM

## Electrode management

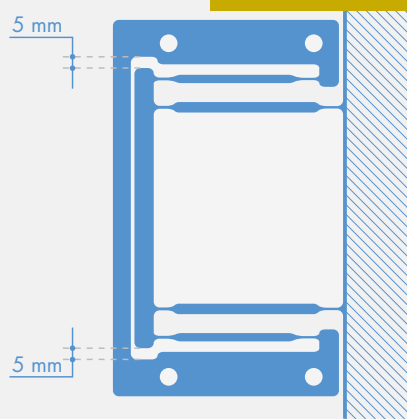
- Based on the electro erosion principle the integrated micro-EDM generator and a precise work piece positioning allow machining with shorter cycle times implying 25% more productivity.
- The Posalux CNC machine communicate with the micro-EDM generator interface with high-speed mode.

- The shifting and guiding collets precisely feed the smallest electrodes available in the market, down to 35  $\mu\text{m}$ .
- Spindle rotation up to 3500 rpm for shortest erosion time and optimised material ablation.
- The erosion z-axis with parallelogram type flexible structure removes mechanical axis resonances.

### Micro-EDM principle



### Z-Axis flexible structure



### 4 spindles for high productivity

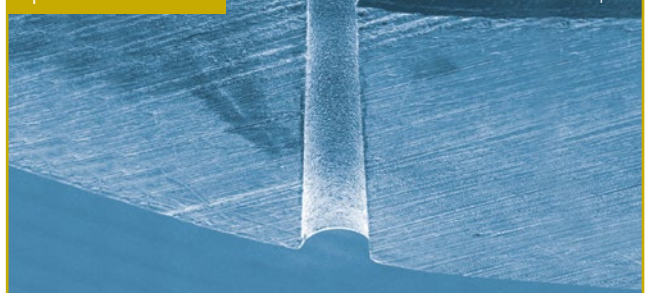
- Surface finish  $Ra < 0.2 \mu\text{m}$ .
- Elimination of micro-vibrations by separation of filtration tank from machine frame.
- Screen integrated on camera and automatic positioning program facilitate setting of the electrode and the needle of the part fixture
- Decrease of leak check time by 50 %.
- New interactive HMI:
  - Real time monitoring of process parameters
  - Storage and visualization of erosion time and electrode wear

Innovation

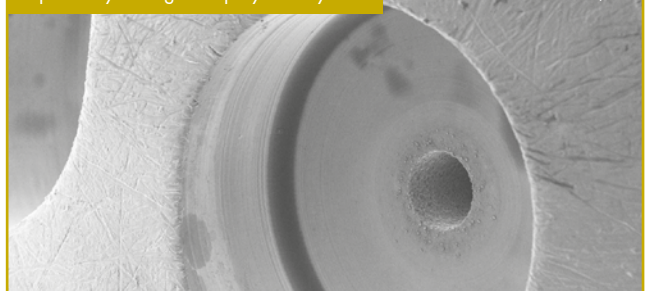
## Micro-machining

- Hole diameter from 50  $\mu\text{m}$  to 2 mm (0.002 to 0.08 inch)
- Tapered hole with reverse taper up to 150  $\mu\text{m}/\text{mm}$
- Wall thickness/hole diameter, ratio up to 12
- Without burrs and material deposit, no micro-cracks
- Smooth roughness :  $Ra < 0.2 \mu\text{m}$  ;  $Rz < 1 \mu\text{m}$

### Tapered conical hole



### Step hole by milling and spray hole by EDM

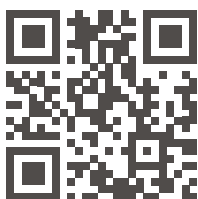


### Posalux complete production solution



- Automatic loading/unloading with 8 grippers
- Accurate clamping devices
- Short cycle times
- Customized software development
- Posalux technology support on micro-EDM parameters
- User interface options like MES, Flow measurement, Traceability etc.

Custom devices  
and support



Release 1001

# EDM

micro-machining

Founded in 1943, Posalux is a leading manufacturer of micro-technology machines intended for mass production. From our headquarters in Biel, Switzerland, we engineer and produce world-renowned system solutions.

Our clients are distinguished companies leading the automotive, electronic, watch, and medical industries. Thanks to our global network of Posalux branches and agents, we are able to provide reliable services and support to our customers worldwide.

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