Setting with ZEISS CALYPSO preset
from an EDM machine to an automated cell
Let your EDM machines do the production – we’ll take care of the measurement.

With a ZEISS coordinate measuring machine and ZEISS CALYPSO preset software, you’ll be able to preset your electrodes quickly and safely. You thus will benefit not only from shorter machine setup times, but also from greater accuracy and a considerably increased productivity. Invest in your production of the future step-by-step.

**Do you still clamp electrodes and workpieces and align them manually?** Do you achieve a maximum of 1000 erosion hours per year and thus tie down a specialist completely?

**Your first step towards enhanced efficiency**
With a ZEISS coordinate measuring machine and ZEISS CALYPSO preset, you can perform presetting more efficiently and more safely. Achieve shorter setup times, more flexibility and much higher utilization. Measurement on the EDM machine and manual data handling have thus been eliminated.

With a step-by-step upgrade of an EDM machine which already integrates a ZEISS solution at an early stage, both the generation of traceable quality data and a simultaneous reduction of manual activities are achieved. This leads to increasing throughput and decreasing costs with a higher productivity.

The ZEISS measuring system is a fixed constant within the complete cell; the offset data are thus automatically sent to the job manager. The logging and use of the quality measurements take place in a closed loop.

**Automate the processes and workflows step-by-step by upgrading your existing EDM machine.**

**Step 1**
Do you still clamp electrodes and workpieces and align them manually? Do you achieve a maximum of 1000 erosion hours per year and thus tie down a specialist completely?

**Step 2**
With a ZEISS coordinate measuring machine and ZEISS CALYPSO preset, you can perform presetting more efficiently and more safely. Achieve shorter setup times, more flexibility and much higher utilization. Measurement on the EDM machine and manual data handling have thus been eliminated.

**Step 3**
With a step-by-step upgrade of an EDM machine which already integrates a ZEISS solution at an early stage, both the generation of traceable quality data and a simultaneous reduction of manual activities are achieved. This leads to increasing throughput and decreasing costs with a higher productivity.

**Step 4**
The ZEISS measuring system is a fixed constant within the complete cell; the offset data are thus automatically sent to the job manager. The logging and use of the quality measurements take place in a closed loop.

**Step 5**
This process step unites all aspects into a self-sustaining and efficient overall system: the automated EDM cell. As an option, a robot also can be used for the parts handling.
The accuracy of the measurement is less precise in direct comparison to a coordinate measuring machine. The quality of the workpiece thus decreases. In addition, the quality of the electrode’s shape, which directly affects the quality of the workpiece produced, cannot be examined with this method. The result is long setup times during which the machine is not producing anything, long throughput times in production, missing quality information, and finally, an excessively low machine throughput.

A ZEISS solution for your production that pays off

The illustration on the right side depicts production without using coordinate measuring machines (CMMs), (see Fig. 01). Four EDM machines are used for production here. In the bottom illustration (see Fig. 02), only two EDM machines are required to produce the same annual volume as previously produced by four EDM machines. The CMM thus enables the EDM machine to achieve a much higher degree of utilization while at the same time decreasing production and investment costs.

One more step towards an efficient solution

Manual measurement on a coordinate measuring machine already pays off with your first EDM machine: shorter setup times, considerably longer machine running times, increasing throughput and the generation of quality data increase your overall productivity. The most efficient expansion stage is a fully automated cell. In it, a process control system performs all work. The key component of such an EDM cell is the job manager. It assumes the complete interaction between software and hardware such as e.g. automated removal from the magazine and robot-supported loading and unloading of electrodes and workpieces.
Hardware and software comprise a single unit and a direct connection to the EDM machine.

From manual pallet placement right up to the fully automated process control system, the ZEISS CMM and ZEISS CALYPSO preset let you measure offset and rotation when exchanging electrodes and workpieces in a matter of minutes. The ZEISS software has open interfaces to which it transmits the offset data with a direct connection to the EDM machine. If a job manager is integrated, it transmits the offset data directly to the machine.

ZEISS CALYPSO preset
The software offers a complete library of all current macros for presetting electrodes and workpieces. A graphic user guidance helps to configure the measuring run.

What ZEISS CALYPSO preset can do
The software is used to simplify the presetting and quality inspection of electrodes and workpieces. First of all, the zero point is set on the clamping system. You can then select a macro and probe the electrode as well as the workpiece. In the next step, a file featuring the offset data is available, which can be exported directly to the EDM machine. All current EDM machines can be connected directly.

Data export is supported for all relevant manufacturer-specific formats. As an alternative to the connection to a job manager, the offset data and all relevant quality data can be transferred to the latter. The task of the job manager software here is to start the measurement and receive the offset data in order to subsequently send the data to the production systems and log the data of the quality measurement. ZEISS CALYPSO preset is compatible with job manager software from Zimmer & Kreim, Georg Fischer/System 3R, Röders and ERÖWA/CERTA and many more.

Simple offset and quality measurement:
from the electrode to the workpiece and the clamping system