



simply genius

**cavity sinking EDM systems
handling-systems
software-solutions**

The company building

ZK
simply genius





Amazing results.

**Unique selling points –
Distinctive features compared
to competitors.**

The bottom of the slide features a decorative graphic consisting of two thin, light-colored wavy lines that span the width of the page. The lines are positioned in the lower third of the image, with one line curving upwards and the other curving downwards, creating a subtle, rhythmic pattern against the red background.

automatic process control at ZK Generator

The gap supervision adapts the work parameters automatically, depending to the changing conditions at crosscuts during the work

- the current will be adapted
- the pause time will be changed
- the timer will change
- the feed forward will be adapted

advantages of automatic process control

- the user has not to manipulate the generator settings
- even if there are graded electrodes or premilled workpieces
- one can be sure to reach a good quality result, even with a view simple settings

Advantages of ZK genius

- mechanical accuracy with hand scraped guide rail
- Automatic Process control in generator technology
- everything from one hand; machine, handling and software (interface solution = system support und responsibility)
- single options and modules are upgradeable at everytime
- very good accessibility to the machine
- low floor space needed
- open PC-control
- strong C-axis
- own development department
- high performance generator, even so with special technologies
- it's possible to combine older machine generations with new systems (downward compatibility!)

Advantages of ZK genius

- ⑩ Max. Flexibility in automation
 - Persons Independent repeatable quality level
 - Cross-Process Manufacturing
 - Max. Machine utilization through ext. Set up
 - Processes can be fully automated with full accessibility for manual edits
 - Full data throughput in a data base
 - Each process is updateable for themselves
 - No room for error through automated data flow
 - Minimized waiting times by parallel processing of individual processes
 - Process integration from raw material to final measured product
 - Working with original 3D model data
 - Open to integration with other machine manufacturer

Differences for the competition

OPS Ingersoll:

- machine frame is a weldment
 - => bad vibrational properties, difficult to keep thermal stability
- design concept as gantry with one central drive and measurementsystem
- neither own control or generator (Andronic) nor development
- needs a lot of space
- low tank height
 - => less dielectric fluid above table
- centralized lubrication
- all guide ways are completely open
 - => washout of the grease by dielectric steams
- cooling of the frame with current of air
 - => thermal instable weldment

Differences for the competition

OPS Ingersoll:

- Z-axis has problems by warming from Z-drive
- keyboard / control is placed 1.70 m above bottom! Ergonomics!
- additional PC at the side (also for electrode-changer)
- bad accessibility

Differences for the competition

Exeron:

- coordinatesystem can only be lined up at the X-axis
- glass scales only as an option
- automatisaton and handling neither modular nor expandable
- design concept as gantry with one central drive and measurementsystem
- well balanced space-drive relation
- at present, the *genius* is superior in EDM
- problems with the dataflow
- even the adaption of a CMM is circumstantial
- No mirror finishing possible
- Bad in tungsten carbide machining
- Develpoment focus on Milling

Differences for the competition

AGIE:

- needs a lot of space
- work tank is not full sinkable
- relation between tables size and pathways suboptimal
- Low cost machine has cross table (a high weight has to be moved)
- different product lines (low-cost machine)
- C-axis only optional and not stable
- bad accessibility (completely encapsulated)
- Hyperspark, despite 50 % improved performance to the pre-control, at present, the *genius* is superior in EDM
- no own handling-system (3R)
- basically there are two PCs necessary, if it should be worked with a handling-system
- performance problems by OS/2 operating system in the control primarily at connection to systems
- Bad resulte in graphite

Differences for the competition

Charmilles:

- EDM with the C-axis almost not possible, because it is weakly designed (at stuck C-axis one can turn the axis by hand)
- shaft encoder has only 360 increments and will be interpolated up to 0.001° (only a distortion bigger than 1° will be recognized!)
- different product lines (low-cost machine)
- no hand wheel => operation only with buttons
- max. axes speed: 3,6 m/min with 5 mm spindle lead

Differences for the competition

Charmilles:

- centralized lubrication with oil => strong pollution
- work tank is not sinkable - filling time is more than twice as long as ours (filling CT 60sec, genius700 25sec, draining CT 45sec, genius700 20sec)
- RF550 needs 1000 l dielectric fluid => 8 filters, high cooling performance
- ISOPULSE generator:

material removal copper/steel:	400 mm ³ /min	genius: 400 mm ³ /min
material removal graphite/steel:	480 mm ³ /min	genius: 580 mm ³ /min
- generator power 10 kVA => twice so high as genius (5 kVA)
- generator current 64A
- general data for accuracy at stabilised temperature for only 20° +/- 1°
- cooling temperture has to be < 10°! => risk of condensed water!
- NC-kernel is Fanuc

Differences for the competition

ONA:

- no contact, not present in our market yet

Makino:

- work tank has to be filled
- machines are expensive
- bad accessibility
- problems with automatisisation

Differences for the competition

Sodick:

- in case of linear Motor he have to cool the machine body
- Difficult programming
- No full trop tank
- Need big space
- No special generator technology
- complex and expensive control circuit
- produces much heat
- axis has to be braked pneumatically
(pneumatic because of the needed reaction speed)
- High dependence of the complete system availability
(cooling, lubrication, pneumatic, ...)

**Competitive edges considering
cavity-sinking tests as examples.**



An aerial photograph of terraced rice fields in a tropical region. The terraces are filled with water, reflecting the sky and surrounding greenery. The fields are arranged in a series of steps that follow the contours of the land. In the background, there is a dense forest of palm trees and other tropical vegetation. A few small buildings are visible among the trees. The sky is overcast with soft, grey clouds. The overall scene is lush and vibrant, showcasing traditional agricultural practices in a beautiful natural setting.

**Connecting systems
for more growth**

A close-up photograph of a green leaf, showing a dense network of veins. The veins are light green and form a complex, interconnected pattern across the leaf's surface. The leaf is slightly out of focus, with the veins in the foreground being sharper than those in the background. The overall color is a vibrant green.

All units networked

Software solutions

Software is the key to create new potentials within your company. This is why we develop tailor-made solutions for which we also assume systems responsibility.

Our software module are the guarantor of your process reliability.

We are there. Wherever you are.



Service – competent and cooperative

Competence, reliability and straightforward solutions, that's what you can expect from us, especially when it comes to:

- Training
- Installation and adjusting
- Maintenance and software updates
- Diagnostics und and trouble shooting

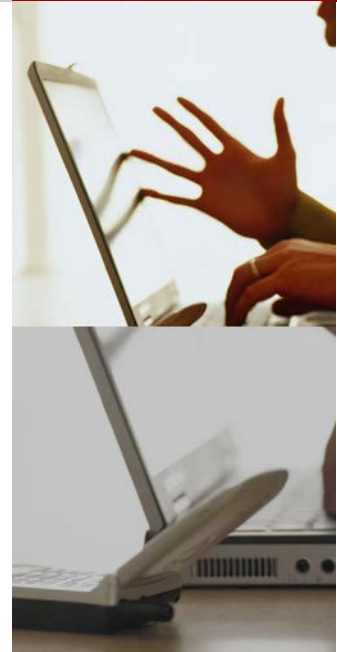
Installation and adjusting

- Assembling at the customer's plant
- Positioning, adjusting and setting-up of the machine
- Test runs and instructions
- Online and phone support for further questions
- Service free of charge during the year of the machine's operation



Diagnostics and trouble shooting

- Repairs are free of charge during the warranty period
- 24-hour online-service
- Online-diagnostics: quick, worldwide error-detection
- 80 % of the errors can be detected and repaired online
- Repair service in all European countries, overseas and the Far East will be carried out by our distributors
- All members of our service staff have been trained at Zimmer & Kreim



**Nothing is more exciting
than the future.**



Future developments

Our development division is currently dealing with these questions:

- What are the trends in the markets of the future?
- How can our customers meet the rising demands and standards?
- Which technologies will our customers ask for?
- How can we support our customers in the best possible way?

This is how we answer your future questions today.