

Other equipment



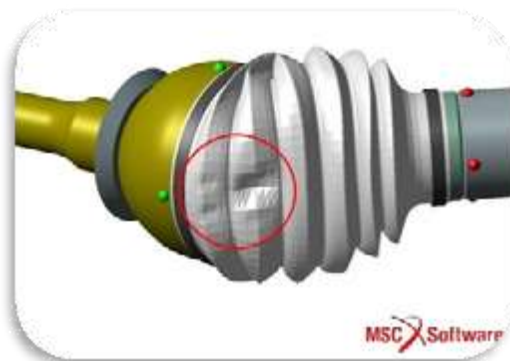
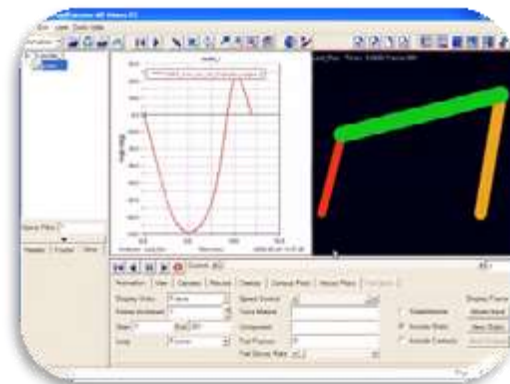


Simulation and advanced movement analysis

MD Adams (Multidisciplinary simulation system for modern technical fields)

Software possibilities:

- Ability to solve multipoint of static and dynamic tasks, linear a non-linear tasks, movement analysis of rigid and flexible objects, contact analysis of flexible objects and contact tasks of 3D objects.
- „Assembly“ option of mechatronic controlled system in 3D model (creation of virtual control system for CAD model controlling) eventually possibility of controlling of 3D model by block patterns





SEM mill 1060

Ion milling system

Two independently adjustable ion sources
High energy operation for rapid milling

- Low energy operation for sample polishing
- Individual, automatic ion source gas control
- Continuously adjustable milling angle range of 0° to 10°

Sample rocking or rotation

Stereo microscope for direct sample observation





KUKA KR 16 a KR 90 R2700

Industrial robots with joint structure

Technical parameters KR 16 / KR 90:

- Weight limit 16 kg / 90 kg
- Range 1611 mm / 2700 mm
- Additional load on 3. axis 10 kg / 50 kg
- Repeatability precision $\pm 0,05$ mm / $0,06$ mm
- Number of degree of freedom 6

Main area of use:

Testing of technological, manipulative and montage operations before manufacture





KUKA KR 5 Scara

Industrial robot with scara structure

Technical parameters:

- Weight limit 5 kg
- Range 550 mm
- Lift in axis from 320 mm
- Repeatability precision $\pm 0,02$ mm
- Degrees of freedom 4
- Absolute measuring position

Main area of use:

Testing of technological, manipulative and montage operations before manufacturing process





ABB IRB 360 FlexPicker™

Industrial robot with parallel structure

Technical parameters:

- Weight limit 1 kg
- Range (average) 1130 mm
- Integrated video camera system

Main area of use:

Testing of technological, manipulative and montage operations before manufacturing process.





Designjet T790 ePrinter, 44" (CR649 A)

Large format color printer

Technical parameters:

- Thermal ink print HP
- Media format A4 to A0+ (1118 mm)
- Max. resolution 2400x1200 dpi
- Min. width of the line 0,06 mm
- Max. thickness of the media 0,8 mm
- Speed of printing A1 39 s





Chroma 61704

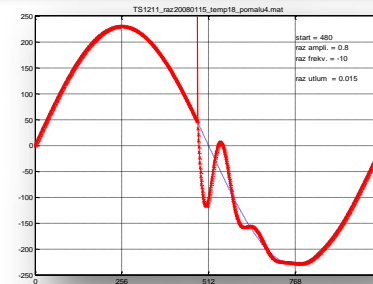
Programmable tree-phase output source

Technical parameters:

- Output 6 kVA
(2 kVA on phase, 1 kVA on phase in DC)
- Voltage range 0 – 300 V RMS
- Max. power 8 A (RMS)/ 48 A (peak)
- Frequency DC, 15 – 1200 Hz
- Simulation of any process based in range
- The advantage is definability of process/breakdown and absolute repeatability

Examples:

- Testing of suply sources 1 and 3f
(consumption characteristics, efficiency, EMC decline of voltage by ČSN EN 61000-4-11)
- Testing of electric resistance





Software base

Computer laboratory

PC laboratory (highly equipped workplace for construction, research and development)

CAD software (university license)

- Catia V5
- Pro/Engineer, Creo
- Inventor, Mechanical Desktop Solidworks

Simulation programs (university license)

- Ansys, Ansys Workbench
- Altair Hyperworks
- Comsol Multiphysics, Matlab
- Pam Crash, Abaqus
- Adams, Marc





Useful for

Computer laboratory

Dynamics snapping of composite textile

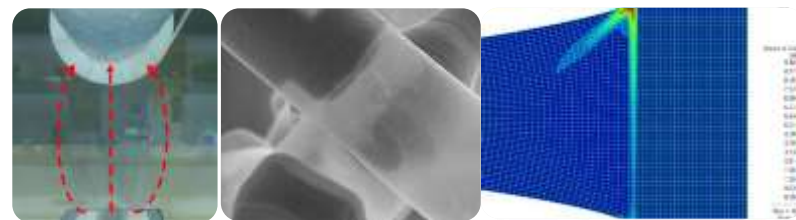
- Fall-test for speed 8m/s (28,8 km/h)
- Complex study of rift enlargement with modeled simulation

Study of rift management – steel reinforcement of the bath

Research of contacts between two wires

- Model simulation according to structural theory
- Mechanics, wire geometry \varnothing 0,1 - 1mm

Increase and optimization of effectivity of the electrical field

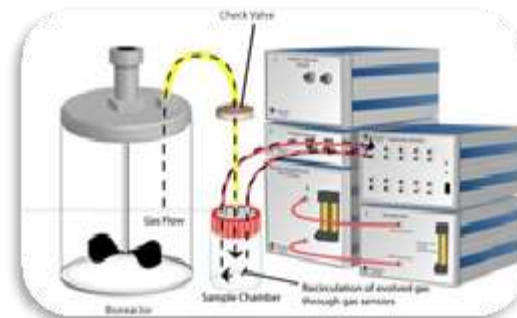




Respirometry

Quantification of biodegradable activities

- Kinetic assessment of biochemical reactions
- Assessment of degradability of xenobiotic
- Toxicity assessment on different kinds of life organisms (from bacteria to a rabbit)





Geomagic STUDIO 2012

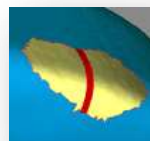
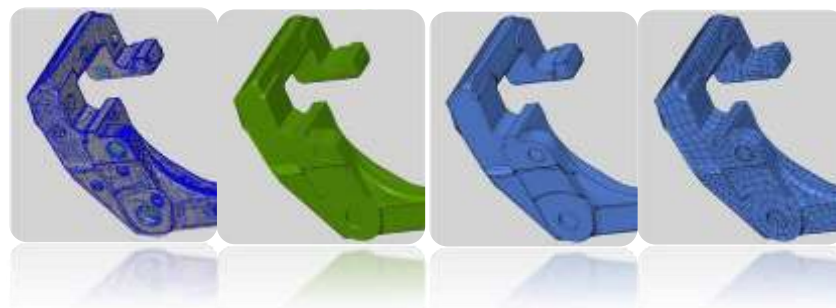
3D measurements and digitalization

Use of the software:

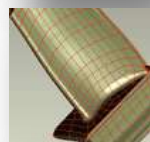
- Export of data into neutral formats (for example: STEP, IGES, Parasolid, STL, WRMOL, OBJ)
- Export of parametric data into CAD programs (for example.: SolidWorks, Autodesk Inventor, Pro/E)

Use:

This specialized software provides intelligent solutions for transformation of data scanned in 3D on a very precise polygonal net and consequently in native CAD models for reverse engineering, precut design, rapid prototyping and analysis.



Transfer of clouds into points on polygonal net, work with polygonal net.



Transfer of polygonal net to a precise NURBS plane.



Analysis of scanned model and definition of individual analytical surfaces – creation of areal/volume model used in CAD/CAM systems

