

## Die 3D Creator System Family – Innovative 3D Measure Systems with Touch Probe and Laser Scanner for Effective Solutions

Modern quality control requires flexible and modular gauging systems, which are easy to install, to integrate and to use. The 3D Creator systems with their innovative optical navigation and scanner technology offer the base to design mobile, inexpensive and efficient solutions for different types of applications.



3D Creator with Touch Probe



3D FreeScan - Prototype

### System concept

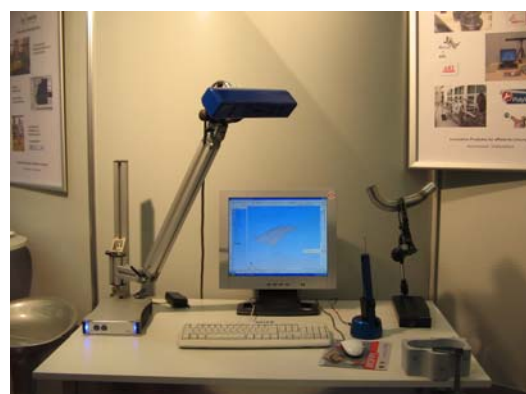
The 3D Creator is an optical measuring and tracking system which transfers the position values of the free movable probe and the free movable laser scanner to the sensor unit via an infrared transfer. Therefore probe and the laser scanner are furnished with active infrared emitters which are able to reach a distance of up to 5 meters. The exact position of these emitters are recorded with the highly sensitive cameras and are getting transferred via modern image calculation algorithms into XYZ coordinates and the movement vectors I and J. So the coordinates and the vectors of the touch probe and the laser scanner are known in real time. Depending on the tasks single points or geometrical sizes can be measured with the touch probe or there can be touch less digitised free form surfaces with the laser scanner for model comparisons. This modular and compact built system can be used with different sensor units (300/500/800 mm) or as dual sensors in order to extend the measuring volume. The selection and combination of the sensor units destine the reachable size of the measuring volume as well as the accuracy, which allows a high degree of freedom in defining dedicated customer solutions.

### System modules

The 3D Creator consists on a sensor unit, control unit which is connected via USB with a PC or Notebook, the free movable probe with load station. The complete system can be packed in a portable case and therefore it is very mobile usable. The 3D Creator DUAL requires an additional sensor with control unit. The both sensor units are synchronised by master slave concept of the control units and can be used in opposite or parallel positions.



3DCreator Dual System



3D Creator Desktop (300mm)

The 3D FreeScan includes a line laser scanner which takes 48 000 points per second and gets synchronised via the control unit whereas the scanned point clouds gets directly transferred by wire connection into the computer.

## Software Interface

With the Microsoft Hyper Terminal it is possible to control the 3D Creator functions by using simple text commands. After entering the basic communication features all parameter settings can be checked with the predefined status messages and if applicable they can be changed. For the software integration software development kit SDK is provide in the programming languages C++ and Visual Basic. The well defined user interface (API) of the 3D Creator allows integrating all system functions in the user level of the application software.

## Software Solutions for Industrial Applications

RevXperts offers completely integrated software solutions for 2D/3D measuring tasks, 3D inspection, CAD comparisons, treatments of point clouds and complete 3D analysis:



**PowerINSPECT** > 3D inspection software for direct Comparison with the 3D CAD models – with many direct interfaces to CAD systems



**Aberlink 3D** > 2D/3D measuring Software for quality control and Reverse Engineering



**PolyWorks** > comprehensive inspection software with digitizing, point cloud treatment and analysis features for quality control and reverse Engineering



**PointMaster** > Software for point cloud treatments, surface reconstruction CAD Comparison and 3D Analysis



**TeZetCAD** > Software for measuring and design of tubes with interface to CAD and interface to bending machines



**RevWorks** > integrated solution for SolidWorks for design und construction



**Rhino\* and ARL** > Software for free form surface treatments Transfer from 3D in 2D presentation



**3DReshaper** > comprehensive Reverse Engineering Software for point cloud modification, surface reconstruction and 3D inspection

## Software Solutions for Robot Applications

TU München - Lehrstuhl für Werkzeugbau und Betriebswissenschaften (IWB)  
(intuitive and quick programming for robots with 3D Creator touch probe )

## Software Solutions for Tracking Tasks

Company Metronom Automation GmbH (real time tracking of moved objects)

## Innovative Products for Effective Solutions