XSM machining center for high speed light milling and digitizing

The XSM machine has been developed to meet the requirements of the high speed light milling and digitizing of small and medium sized models and complex surfaces.

Innovative solutions and the use of modern mechanical tecnologies coupled with the advanced sophisticated algorithms supplied by the digitrek numerical control confirm this machine as an ideal instrument for any style center, model maker, technical studio and project center in many different sectors offering one integrated solution to efficiently solve all the reverse-engineering and fast prototyping and styling of models.

High axes acceleration to speed up the process, ball-screw high precision linear guides with digital motor drives to optimize the dynamic behavior and to increase accuracy and performance, high resolution encoders directly mounted on the motors to read out the machine position.
The overall compact dimension and the light weight allow you to install the machine virtually everywhere, even on a standard desk.

It's available in four different sized models, all with a common structure based on an xy mobile table and an independent z axis.

The models are:
XSM222 with stroke ranges of 219x219x219mm
XSM422 with stroke ranges of 411x219x219mm
XSM432 with stroke ranges of 435x335x219mm
XSM522 with stroke ranges of 511x219x219mm

To match different customer needs the machine can be obtained in 3 different configurations:
a) light milling
b) digitizing (contact and/or laser)
c) light milling and digitizing

The Milling Option

The machine can be fed by a standard ISO/ASCII-G code toolpath which may be provided by any CAD/CAM software or directly from a previously digitized part.

The spindle has a power ranging from 140W to 200W and a speed of up to 50.000rpm and it's designed for light milling of several materials (like clay, polystyrene, ureol, plastics, acetate, etc...)

The high speed milling allows you to speed up the process and couple it with a very high quality surface finishing.

With this option the machine is supplied with a lexan coverage to avoid dust and to increase safety.

With this option the digimill CAM package is bundled with the machine to compute milling toolpath on an STL file; which can be produced by digiline or supplied by any CAD software.

The Digitizing Option

The scanning option is based on the latest version of the digitrek numerical control, a well known system largely diffused on the cmm and retrofit market for scanning and digitizing.

A software option that during it's 15 years lifecycle has reached customers in more than 30 countries, with more then 600 instalations.

Tha standard scanning probe is a contact probe for continuous digitizing of free form surfaces. Different styli can be used according to the surface details; a special star tip stylus can be used for undersquare digitizing.

Different scanning cycles, manual or automatic scanning, zeroing and alignment cycles are available in the digitrek scanning software.

Any machine includes the post processor digiline that allow you to manipulate the digitized data and to create a probe radius compensated STL pseudo-surface in order to export it to any CAD-CAM station. It may also generate sections to be exported via IGES/VDA/DXF/ASCII. The probe can be equipped with different styli and even with a star styli to digitize models with undersquare.

It is available with a laser scanning option which integrates a Wolf&Beck laser head (OTM3). This option is ideal for medals, coins, toys, leather, small high-detailed parts, tail, or any other soft model (clay) for a non contact high precision and fast scanning. Bundled with this option there is the digiline PRO software for reverse-engineering that has specific new algorithms to produce very high detailed STL files from a laser cloud of points.

digiline

digiline is a **reverse engineering** software for the optimization of the digitized files produced by digitrek, or by any other scanning system (mechanical, laser or optical).

Developed for the Windows 2000/XP platform digiline is the natural interface between the scanning department and the CAD/CAM one. The cloud of points representing the model is post processed by digiline in order to obtain the skin of the form; digiline can then export compensated skin sections (IGES, DXF, VDA or ASCII polylines) or the STL triangulation. The sections can be imported into any CAD station for reverse engineering while the STL triangulation can be used in a CAM station to generate toolpaths.

http://www.xystum.it

info@xystum.it