



# TORRES SURFACE MILLING

Surface Milling Machine

The TORRES SURFACE MILLING is a machine specifically designed to perform mechanically the Aircraft skins thickness reduction process, traditionally executed using chemical milling.

This solution includes a Vertical TORRESMILL® 5 axis milling machine, a TORRESTOOL® Flexible Tooling system plus another column with a 5 axis configuration, TORRESHOLDER, located at the back side of the installation.

Its application is to machine fuselage or wing skin panels pockets, for weight reduction purposes, therefore eliminating the traditional Chemical Milling process.

All three machines work simultaneously. While the TORRESTOOL® supports the panel on space, the TORRESMILL® performs the surface milling process, to mill the pockets on the panel.

Simultaneously, and working interpolated with the TORRESMILL®, the TORRESHOLDER supports the panel from its backside to, on the one hand avoid panel deflections while machining and on the other hand, to measure on real time the actual panel thickness, via a built-in ultrasonic measuring system, Pulse/Echo type, to ensure no overruns by the TORRESMILL® on its machining process, therefore keeping accurate final panel thickness.

After the surface milling process is done, the TORRESMILL®, performs the routing and drilling process, as a regular TORRESMILL® and TORRESTOOL®.

The system is well proven and in operation for several years.

**TORRES SURFACE MILLING Machine is specially designed to substitute the traditional Chemical Milling for Mechanical Milling and still profiting of the great flexibility provided by the TORRESTOOL® Flexible Tooling system.**

