ALPHACAM :Core 3-Axis Solution

ALPHACAM Core is the foundation for your manufacturing needs, offering a wide range of essential functionality for part programming. Core includes the ability for CAD importing, toolpath generation, simulation, report generation, and more. Start with ALPHACAM Core for your essential requirements and add multipliers to build the CAM solution that meets the unique needs of your business. Some of the key features of ALPHACAM Core include 2D - 3D machining (3-Axis), 3D engraving (3-Axis), lathe (2.5-Axis), laser / waterjet (2-Axis), stone cutting custom functionality (sawing, polishing, and more), wire EDM (2-Axis), import CAD files, parametric sketching, thread milling, basic multidrill functionality, 2D CAD creation and editing, utilities to handle STL mesh files, full machining simulation, common line removal for CAD repair (prepare for manufacture), 3D disc machining, and standard reporting functionalities, including labels.

ALPHACAM xAPI

ALPHACAM's xAPI multiplier allows you to tap into our powerful CAM engine utilizing standard programming languages to extend and customize the way the software functions. Whether you are looking to create applications that streamline your manufacturing operations, or developing unique programs for custom manufacturing applications, xAPI allows you to take full advantage of the power of ALPHACAM. Some of the xAPI key features are powerful and extensive API, utilize any .NET language, VBA editor included, VBA post editing, ability to create a VBA project, and the ability to create add-ins to extend the functionality of ALPHACAM.

ALPHACAM xAutomation

With xAutomation, 2D and 3D CAD files, along with solid models from third party software, can be batch processed - from file preparation right through to applying toolpaths with NC code being generated automatically. In addition, the files create a full report structure, along with labels and bar coding. Using xAutomation can save an end user days and weeks, potentially even months of programming time in a year. Some of the key features of xAutomation are solid Assembly processing (combined with xSolids), CSV import, tool ordering, reusable machining styles, 2D and 3D CAD processing, parametric part processing, offcut and waste management, multiple machine output, ability to run custom macros, connect to SQL databases including CV material database, and cabinet door manufacturing (CDM).

ALPHACAM xConstraints

Parametric part programming can save you hours of time and eliminate errors by creating rules for how certain part attributes are affected when other attributes change. xConstraints gives you the full set of tools and commands to take full advantage of constraints, allowing you to program smart parts with ease. Some of the xConstraints key features are auto constrain drawings, constrained workplanes and wireframe geometry, parametric rules, parametric variables, automatic updating of toolpaths, and change the size and configuration of a drawing based on user defined rules, variables, and equations.

ALPHACAM xFixtures

If you need to control the placement, position, and movement of your machinery's fixtures and clamps within your CAM system, xFixtures is the multiplier for you. Add fixtures to your drawings with drag and drop ease, utilize robust simulation to visualize the placement and motion of your fixtures and materials, or take advantage of features for automatic pod and rail positioning. xFixtures puts you in control. Some of the xFixtures key features are automatic positioning for pods and rails, easy definition of clamps and fixtures in drawings, move clamps and fixtures, move material, pop up and down clamps and stops, simulate clamps and stops, and the ability to quickly drag and drop fixtures into drawing from a library.

ALPHACAM xNesting

Nested manufacturing is made easy using ALPHACAM's xNesting multiplier. Parts can be selected directly from the screen or as a kit; their orientation fixed, if grain direction needs to be maintained or rotated to any angle. Nesting supports tool lead in/out, support tags for small parts, avoiding loss of table vacuum and multiple depth cuts, if an onion skin is required. ALPHACAM's industry leading nesting technology is productive, optimized, and efficient, and includes robust reporting for part traceability. Some of the xNesting key features include bridge nesting for minimizing lead in, lead out (time saving), common cut removal, reverse side nesting, manual nesting for more control, offcut management (save offcut to sheet database), suppressed drawing of duplicate sheets (quantities rather than repetition), and minimize toolchanges.

ALPHACAM xPositional

For manufacturers that have 4/5-axis machinery but don't need the complexity of simultaneous motion toolpaths, the xPositional multiplier is the perfect solution. By unlocking an additional axis, you will be able to program your machine to cut from any angle. Some of the xPositional key features are 2D machining (3+2 Axis), 3D machining (3+2 Axis), advanced multidrill definition and functionality, define aggregate tooling, advanced machine configurations for 3+2 Axis, create geometries for machining utilizing workplanes at any angle, define turrets, roughing and finishing for lathe, and unlock C-Axis for lathe.

ALPHACAM xRobot

If you are needing to output your part programs to be handled by robotics applications, xRobotics is the multiplier for you. We've taken the guess work out of what information needs to be output to be best handled by your 3rd party robotics post processor. From tooling, toolpath, and 3D CAD data, xRobotics can help streamline the ability to work with robotic motion cutting tools. Some of the xRobotics key features are APT output (vector movement) for compatibility with 3rd party robotic post processors, output tooling, output 3D CAD for tooling, and output toolpath support for RoboDK.

ALPHACAM xSimultaneous

Head mounted rotary axes on CNC routers can be programmed at any orientation. Aggregates with a programmable rotary axis and manual tilt are fully supported, as well as fully interpolating 5-axis

heads. Safe rapid moves between planes are automatically controlled and verified using advanced solid simulation. Some of the xSimultaneous key features are create fully simultaneous 4 and 5-Axis toolpaths, 4 and 5 Axis toolpath optimizer, machine configuration support for 4 and 5 axis machines, orientate tool perpendicular to profile for aggregates, 5 axis toolpath smoothing, convert 3+2 toolpaths to 5 axis toolpaths, and cylindrical parallel and profiling.

ALPHACAM xSolids

The extensive range of translators ensures that you can work with data from almost any supplier. Very large files can be handled with ease and companies working with complex designs will benefit from the simplicity with which their customer's CAD data can be manipulated. Some of the xSolids key features are import solid models, import solid assemblies, import multibody parts, automatically save solid bodies to individual files, define solid tooling including holders, aggregates, and turrets, apply toolpaths directly to solid models or solid face selection, automatic feature recognition, geometry extraction for applying toolpaths, advanced querying for identifying predefined features, and export solid CAD models. Following are the supported CAD translators: Catia V4 & V5, Pro/ENGINEER & PTC Creo, Autodesk Inventor, Siemens NX, SolidWorks, Solid Edge, Sketchup, Adobe Illustrator, Adobe PostScript, and Spaceclaim

ALPHACAM Advanced 5 Axis

ALPHACAM's Advanced 5-axis additional module seamlessly integrates 4 and 5-axis simultaneous machining within its machining environment to allow a range of multi-axis cutting strategies to be applied to the most complex tooling or components.

Pre-requisites:
ACSIMULTAN ALPHACAM xSimultaneous