

Offline programming of complex cutting application.

MechanicalCut PowerPac

PowerPacs are “plug ins” for the off-line programming system RobotStudio to optimize it for specific applications. The MechanicalCut PowerPac is a tool for programming of mechanical cutting applications such as plastic cutting. But it is also great for most applications where it’s important to accurately follow a specific curve or a path. The MechanicalCut PowerPac includes great functions for optimizing robot paths. A utility for calibration is also included.

New possibilities for cutting applications

The MechanicalCut PowerPac opens new possibilities in robotized cutting applications. You can now implement more cost efficient production processes, such as using a robot instead of a machine tool. By adding new functions to RobotStudio, MechanicalCut greatly increases the efficiency in part programming.

You can save considerable time and money by using MechanicalCut:

- Program new parts without interrupting production
- Parts that previously were too complex can now be programmed
- Generate higher part quality through creation of accurate paths
- Optimize robot programs

The MechanicalCut PowerPac is also easy to use. The input from experienced robot programmers and application experts guided the development of MechanicalCut. This ensures that it’s easy to use and meets the specific demands. The user interface is divided into several steps that follow the natural work flow to create and optimize a robot program.

Enjoy the power of True Offline Programming™

Here are some of the features that will make your work more efficient:

Setup cutting parameters

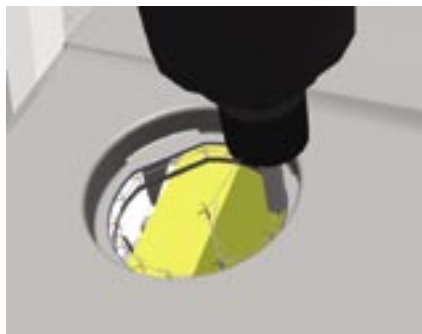
Setup Cutting allows you to define the process parameters such as cutting speed and zone.

Path linearization

Minimizing the reorientation of the tool is important in order to cut cycle-time and to reduce wear in the robot wrist. This is achieved by the Path linearization function that “smoothes” the orientation of robot positions in a path.

Tool compensation

Diameter compensation adjusts all robot positions in the path so that the cutting tool diameter (i.e. the edge of the tool) is following the specified path regardless of the tool diameter. This function is also very handy if you need to update your robot program after a tool change.



Adjusting robot positions to the tool diameter.

Approach and exit from the path

How to approach and exit from a cutting path affects the quality of your part, you don't want notches. This utility helps you to define approach and exit movements to and from a path in different patterns to assure a high quality part is produced.

Testing the path

The Test of Path utility can be used at any time. You can easily step between all instructions in the path and make sure that everything is correct. You

can also define the configurations for the robot arm to avoid joint-limit and singularity errors. Here you do the final verification before the program will be downloaded for production.



Test your robot programs for potential problems like singularity errors at your desk.

Calibration

The calibration utility allows you to define reference points that are used for calibration. By using the same reference points in the real station the robot program will be adjusted to any differences that may occur between the virtual and the real world. This minimizes the need for touch up and production can start earlier.

FACTS ABOUT ROBOTSTUDIO:

RobotStudio is an offline programming system that allows you to build an exact virtual copy of the real ABB robotics system.

It has the power to seamlessly download programs to the real robot without any post-processing or filtering of the robot programs.

RobotStudio utilizes ABB VirtualRobot™ Technology.

VirtualRobot Technology is that the actual robot system software controls the robot simulation.

With VirtualRobot Technology, you can be assured that your programs are accurate and ready to go!

RobotStudio PowerPacs are available for different applications such as welding, painting and cutting.