

Introduction

Lantek Flex3d Tubes is part of the **Lantek Flex3d** family of products. It is specifically created for the design and cutting of tubes.

Lantek has used all of its experience and proficiency gained in design systems and programming for sheet metal cutting, punching and bending machines and applied it to the tube cutting sector – regardless of the type of machine.



Easy, flexible design

Lantek Flex3d Tubes integrates with various kinds of tubular geometry importers such as SAT and IGES. This software allows 3D design to be simple and intuitive. It gives a true vision of the resulting design profile that will eventually be cut on a machine.

This system is a parametric system which allows the user to change the values of any operations previously made, including changes to the initial parameters of each tube (lengthening, shortening, change of diameter).

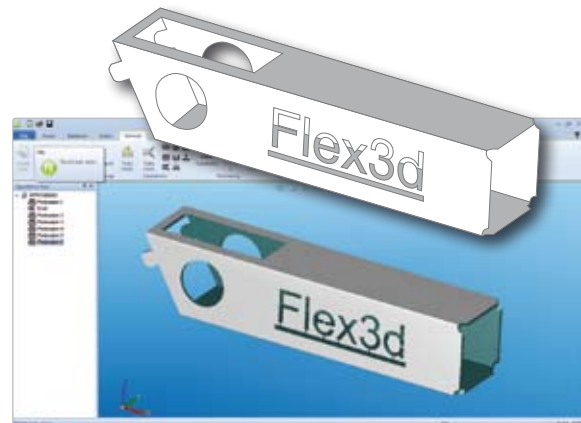
Once the design stage is complete, the user can simulate optimization of the tube (nesting) and the path followed by the cutting head. The software will directly generate the NC program in order to send this optimization to the machine.

Lantek Flex3d Tubes adjusts cutting information based on the characteristics of the machine such as the number of applicable axes (3 axis, 5 axis, etc.).

Technical characteristics

- Provides a real vision of the expected result on the screen.
- Displays the exact tube and simulates 3D and each process, thus reducing errors.
- Allows for easy manipulation and editing of the design with zoom, view, and rotation controls.

- Offers the user the ability to create standard tubes based on requirements.
- Allows the user to design tube types adapted to their needs from 2D outlines, in addition to cylindrical, rectangular, and triangular tubes.
- Allows for the design or import of desired geometry to create any type of cutout or trim with 2D design options.



- Offers a dynamic coordinate system tool, which is specific for tubes, and offers various options to configure the coordinate system.

Lantek Flex3d Tubes is totally integrated with **Lantek Manager** and **Lantek Integra**, Lantek's management systems.

This system integrates management of the sales process from quotations through invoicing. It also includes sales orders, manufacturing operations, resource management, material requirements, purchasing processes, production planning, and time and cost controls.

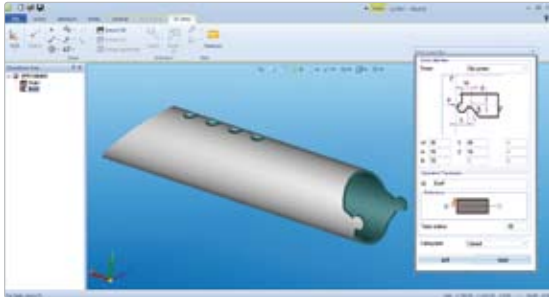
It is also possible to incorporate workshop data collection and to integrate it for a total management package. This includes management of warehouse/stock (profiles, sheet metal, tubes, remnants, commercial product and finished goods). Additionally, the system includes serial and batch numbers for complete traceability management.



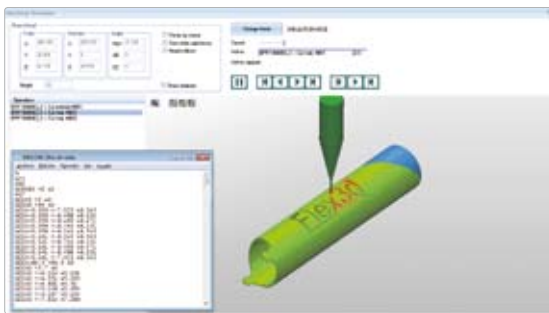


Design options

- Complete or partial chamfers on either end of the tube.



- Possibilities for creating any type of contour (round, rectangular, triangular, etc.) either projected through one or both faces at any point on the tube, at any angle.
- Various options for copying elements and operations (linear, circular, by grid).
- Visual identification of intersections and operations with easy calculation of intersections between two tubes.
- 2D geometry projected or surface mapped on the tube surface.
- Data modification checked and modified at any time in the operations tree.

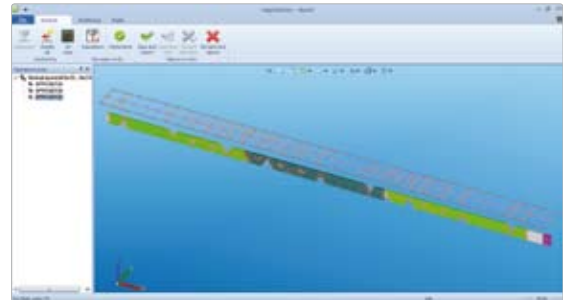


Optimization and cutting the tube

Lantek Flex3d Tubes allows the user to obtain the best optimization of both the tube itself and the generation of the NC file for the machine. Optimization is created by importing sections from the warehouse automatically or by calculating supply needs.

Other features include:

- Remnant management.
- Warehousing and Re-utilization.
- Automatic, semi-automatic or manual 3D nesting.
- Automatic or manual lead-in and lead-out generation.



- Profile management and subsequent operations along the length of the tube.
- Support for machines with various number of axes.
- Integrated management of different machining technologies such as: bridges, micro-joints, cutting qualities – all managed manually, semi-automatically, or completely automatically.
- A versatile environment for the machining process which can be achieved in 2D or 3D.
- Machine technological parameters are specified in material dependency tables which are totally user-configurable.
- There are several reports with relevant information for the user.
- The order in which the contours are cut can be calculated either automatically by the system or manually by the user.

CNC simulation and generation

- **Lantek Flex3d Tubes** can simulate the cutting machine and the machine sequence over the tube. If the resultant simulation is acceptable by the user, **Lantek Flex3d Tubes** will automatically generate the NC file for each machine; and, in the same environment, it will integrate the information related to the design and post-processing. **Lantek Flex3d Tubes** offers totally interactive simulation: step-by-step, forward, rewind, pause, and restart.