

NESPERT Pipe

CAD/CAM system for true shape nesting and NC programming of pipe cutting machines

Purpose of NESPERT Pipe

- ✓ A CAD/CAM system for NC programming of vertical cutting on pipe cutting machines for oxy-fuel, plasma or laser cutting.

Benefits from implementation

- ✓ Considers the specific particularities of various constructions of welded pipes,
- ✓ considerably reduces the time for construction of cylindrical parts from pipe connections,
- ✓ considerably reduces the time for NC programming
- ✓ reduces the metal consumption with around 10% on average compared to NC programming with non specialized systems.

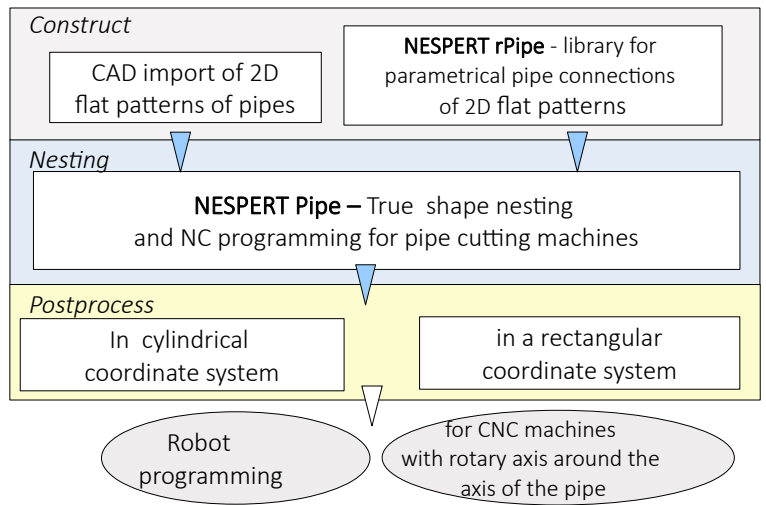


Fig. 1: Workflow

Configuration of NESPERT Pipe

The standard bundle includes licenses for:

- ✓ NESPERT Pipe – CAM system for true shape nesting and NC programming of 2D pipe cutting machines,
- ✓ Library NESPERT rPipe – parametric macros for pipe connections,

Characteristics

- ✓ Quickly and easily prepares design data:
 - Creates pipe parts by entering dimensions or by choosing from the Pipe blanks dataset,
 - assigns material by a selection from the Materials dataset and input of material thickness,
 - sets machine and processing type by a selection from dataset.
- ✓ Creates cylindrical part geometry using the library NESPERT rPipe:
 - The library includes parametric pipe macros for defining pipe connections, with no need for an external CAD system,
 - shows 2D general arrangement sketch, a sketch of the flat pattern and 3D image of the processed part,
 - creates structural elements on the flat pattern, such as slots and mounting markers; The flat pattern takes into account the assembly type of the pipe connection,
 - Using the Single pipe macros the system creates matrix-nested round or rectangular openings on a pipe part.
- ✓ Imports pipe part geometry from CAD files in DXF, DWG, SVG, ESSI and DSTV format.
- ✓ Nests pipes with on-line control against overlapping:
 - NESPERT Pipe creates multi-pipe nesting with different length of pipes with the same diameter and wall thickness,
 - Visualizes the pipe and pipe parts with their flat patterns,

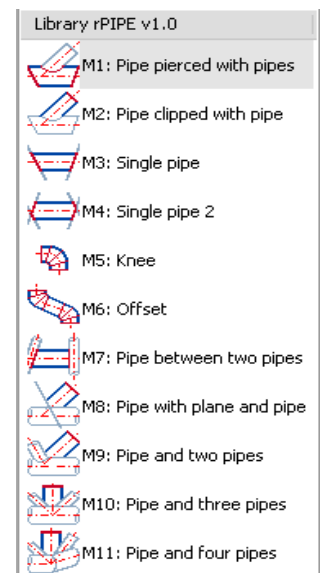


Fig. 2: Library NESPERT rPipe

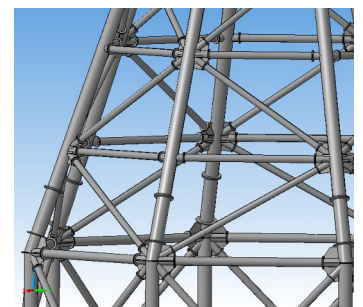


Fig. 3: 3D pipe assembly in CAD system, programmed for nesting with NESPERT Pipe

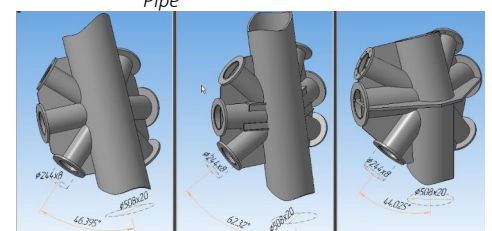


Fig. 4: Pipe parts from pipe connections in NESPERT rPipe library

- manages the project using a job, in which pipe parts of relevant quantity are added,
- nests parts interactively with functions, like rotation of part around its axis, axis shift and rearrangement.
- ✓ Automates the creation of cutting technology:
 - Automatically generates cutting paths, Lead-Ins/Lead-Outs of inner paths and bridges between parts, taking into account the resulting closed contours,
 - manages interactively path elements, such as Lead-In – Lead-Out, gap, pseudo-bridge, bridge and transition for continuous cutting
 - when needed calculates the value of the feed (F) for each cutting move, in accordance to the assigned contour cutting velocity,
 - automatically creates a route for the inner paths in a part, interactively creates a route between separate paths.
- ✓ Generates NC programs and documents:
 - Generates NC programs in ISO/EIA, ESSI, XNL LXND and other command systems,
 - allows programming of pipe cutting processing in cylindrical or rectangular coordinate system,
 - generates specification and a nesting layout in HTML and PDF,
 - saves flat pattern geometry of a pipe part or nesting layout in DXF.

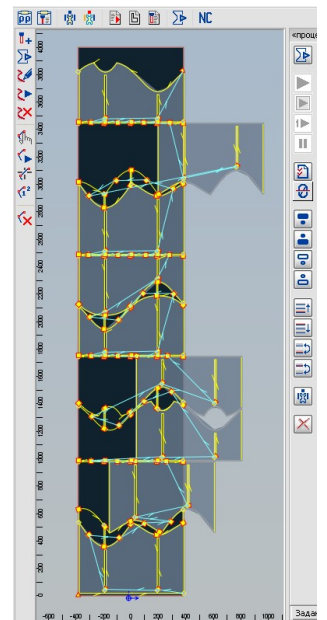


Fig 5: True shape nesting of pipe parts using NESPERT Pipe

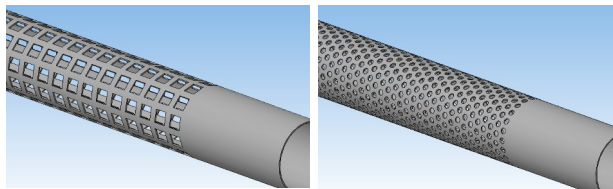


Fig 6: Pipe parts with holes in NESPERT rPipe library

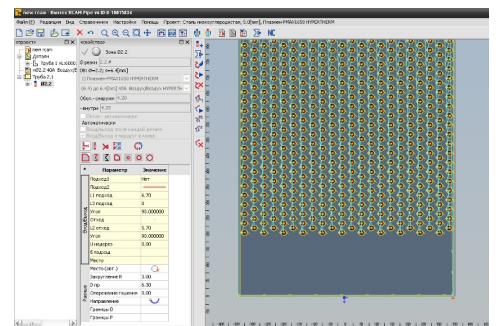




Fig 7: Technology and NC programming in NESPERT Pipe

System requirements and localizations

The NESPERT Pipe CAD/CAM system works in the environment of:

- Microsoft  Windows 11, 10,
-  Linux Ubuntu, in native mode without emulation.

The system is localized in English  and Bulgarian .

The license of NESPERT Pipe is a network license. The network license enables the installation of the CAM system on multiple workplaces connected in a network, while the number of simultaneously working users is equal to the number of owned licenses.

VINTECH — Your partner for CNC thermal and jet cutting of sheet material!

VINTECH is the author and the creator of NESPERT® CAM and MES systems, based on IT excellence and more than 44 years of experience in the integration of effective CNC/CAM/MES solutions.

NESPERT CAM- CAM system for true shape nesting and NC programming,
NESPERT Pipe- CAM system for NC programming of pipe cutting machines,
NESPERT Duct- CAD/CAM system for production of flat patterns of fittings of HVAC systems,

We create software for managing Your future!

NESPERT NCV- Verifier of NC programs for thermal cutting,

NESPERT Manager - CAPP system for preparation of the nesting production,

NESPERT MES- MES system for management of the nesting production.