3-D Spinning Technology
- Forming noncircular shapes designed by 3D-CAD -

◎ Tool pass is automatically generated from polygon data of 3D model
◎ Part design is reflected to NC program exactly and efficiently

Fusion of plastic forming and software technology → Agile forming of noncircular products with wide variety

Synchronous spinning

Roller position is numerically controlled synchronizing with workpiece rotation

Use of 3D-CAD model

3D-CAD → exporting polygon data (STL file)
Computation of workpiece contact position considering roller geometry

Multipass spinning process

Workpiece can be gradually formed to a variety of desired shape through multiple passes while keeping wall thickness

Noncircular spinning lathe

2-roller 5-axis CNC spinning lathe (for tube spinning)
Linear motor spinning lathe (for sheet spinning)

CG of 3D model and forming result

Examples of tube spinning
Examples of sheet spinning

✓ NC program is calculated from a 3D CAD model in a unified procedure
✓ Human workload of NC programming for noncircular spinning is greatly reduced
✓ Tool trajectory can be calculated from arbitrary design data even for a complex shape
✓ Desired axial profile as well as noncircular cross section can be achieved