

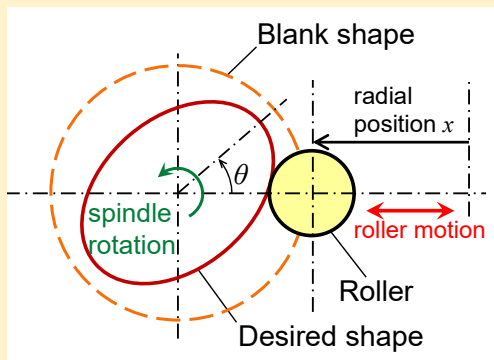
3-D Spinning Technology

- 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

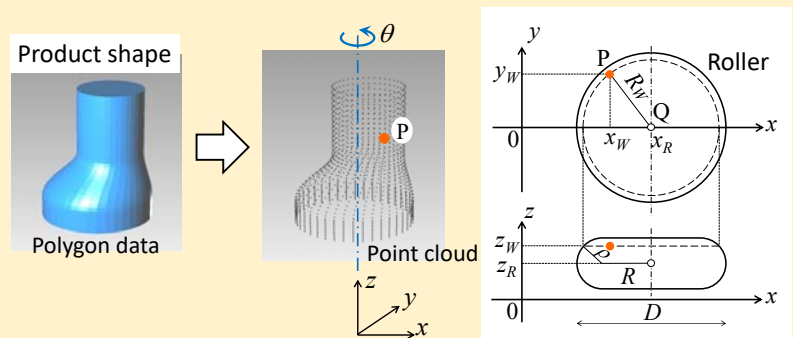
Fusion of plastic forming and software technology → Agile forming of noncircular products with wide variety

Synchronous spinning



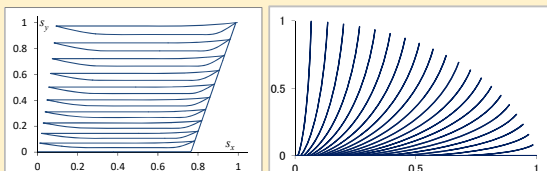
Roller position is numerically controlled synchronizing with workpiece rotation

Use of 3D-CAD model



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

Multipass spinning process



for tube spinning

for sheet spinning

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

Noncircular spinning lathe

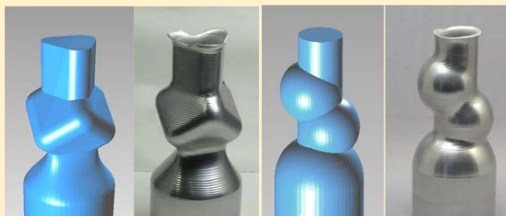


2-roller 5-axis CNC spinning lathe (for tube spinning)

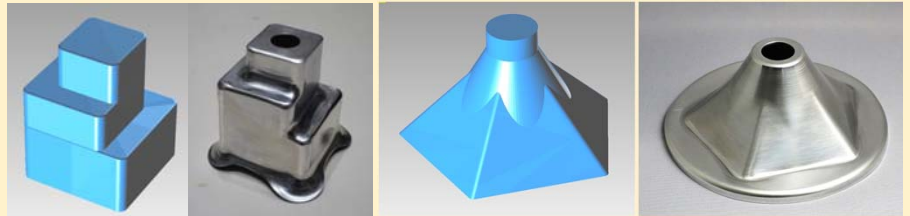


Linear motor spinning lathe (for sheet spinning)

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