

[siemens.com/converting-winder](https://www.siemens.com/converting-winder)

High-performance winders with minimum associated costs

The winder solution based on SIMATIC and SINAMICS G120

The requirements placed on converting are extremely complex. And of course, productivity is absolutely crucial. The Converting Toolbox offers a series of pre-configured and tested functions for these applications. The central winder function is an especially innovative basis to achieve high-performance and cost-effective winders in record time.

Winders represent the central function in machines used to process continuous material webs (from roll to roll or roll to sheet).

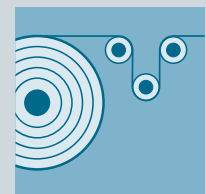
They typically comprise one axis, driven by one or several motors. This winds or unwinds the material to be processed (e.g. material feed and removal for converting processes, etc.).

The speed or torque of the drive is adapted to the diameter, in order to achieve maximum tension precision and constancy.

With the solution based on the SIMATIC automation system in conjunction with the SINAMICS G120 drive system, winders can be implemented for the widest range of applications and materials – for instance, paper, plastic foil, metal foil, board, fabric or tissue. Productivity is boosted, especially for basic tasks or secondary processes, for instance, winding up waste material and similar applications.

Highlights of the axial winder

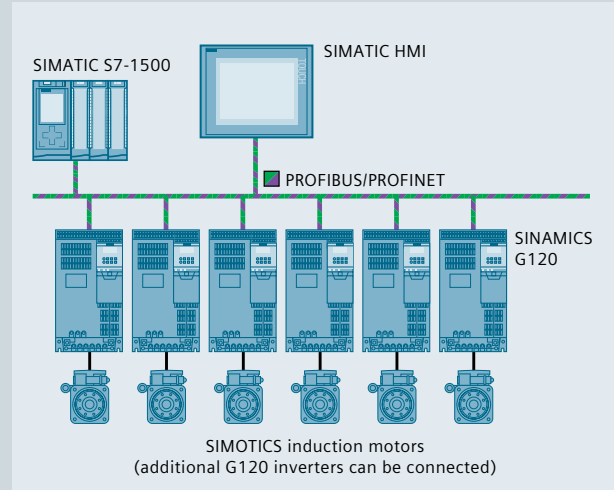
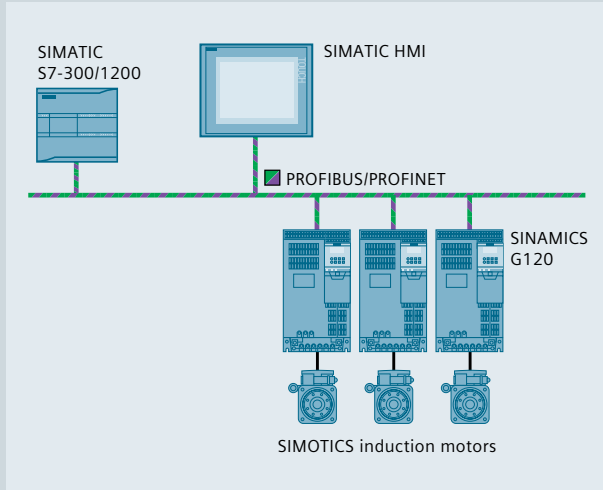
- Hardware platform concept with optimized costs
- Efficient engineering and straightforward commissioning based on open software blocks
 - Closed-loop control modes: closed-loop dancer roll position and torque control using velocity adaptation or torque limiting and indirect closed-loop tension control using torque limiting can be selected using parameters
 - Diameter calculation: either by measuring or calculating – based on the ratio between the material web velocity and the winder speed or the ratio between the material length and the angle that the material is wound or unwound
 - Winding hardness characteristic: linear, table of interpolation points or hyperbolic
 - torque precontrol
 - tension/dancer roll position or speed controller adaptation
 - web break detection



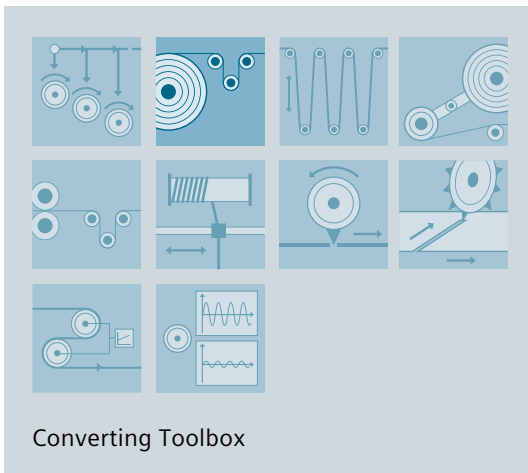
The SIMATIC-based winder can run on:

- SIMATIC S7-300
- SIMATIC S7-1200
- SIMATIC S7-1500

Stand-alone winder – converting in the SIMATIC industrial automation system with SINAMICS G120 and SIMOTICS



If you have to implement other requirements:



Converting Toolbox

Further, the SIMATIC-based winder is a part of the comprehensive Converting Toolbox, that can do a lot more.

The Converting Toolbox includes all of the technologies that are required to implement basic up to especially high-performance machine functions. They function with SIMOTION, SIMATIC and SINAMICS.

For example:

- Winders
- Looping tower to store material
- Automatic roll change (splice control)
- Closed-loop tension control
- Rotating knife
- Flying saw
- Traversing drive
- ...and many more

SIMOTION and SINAMICS S120 are additional hardware platforms for the Converting Toolbox.

Get to know more about the axial winder and the Converting Toolbox. Simply scan!

