

# Application Note: Wire-Winding Machine

May-04



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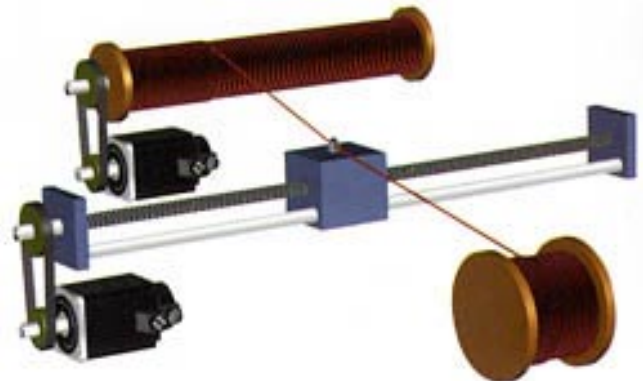
## WIRE-WINDING MACHINE

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### OBJECTIVES:

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- 🌐 Quick changeover
- 🌐 Programmable position on flange reversal
- 🌐 Batch mode operation (JIT)
- 🌐 Improved product quality
- 🌐 Reduce raw-material waste
- 🌐 Reduce machine complexity and maintenance issues



*Traverse Winding*

Since this customer's products varied in winding requirements and production rates, a less sophisticated control solution would be insufficient.

### WHY EUROTHERM DRIVES, INC.?

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The unique features of the 637 series servo controls make it an ideal solution for this application. The 637 intelligent servo controller calculates the diameter of the roll based on the number of spool rotations, product diameter and fill-factor. The second axis of motion is an electronic-gearred traverse position as a function of the spools angular position.

### BENEFITS:

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- 🌐 **Absolute-position** feedback on the servomotor driving the traverse axis
- 🌐 Elimination of limit and home switch
- 🌐 Elimination of complex homing routines
- 🌐 Programmable positions on flange reversal
- 🌐 Ability to restart production without loss of product
- 🌐 HMI input of system parameters and recipe items

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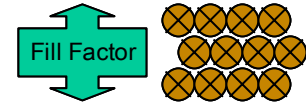


EUROTHERM  
DRIVES

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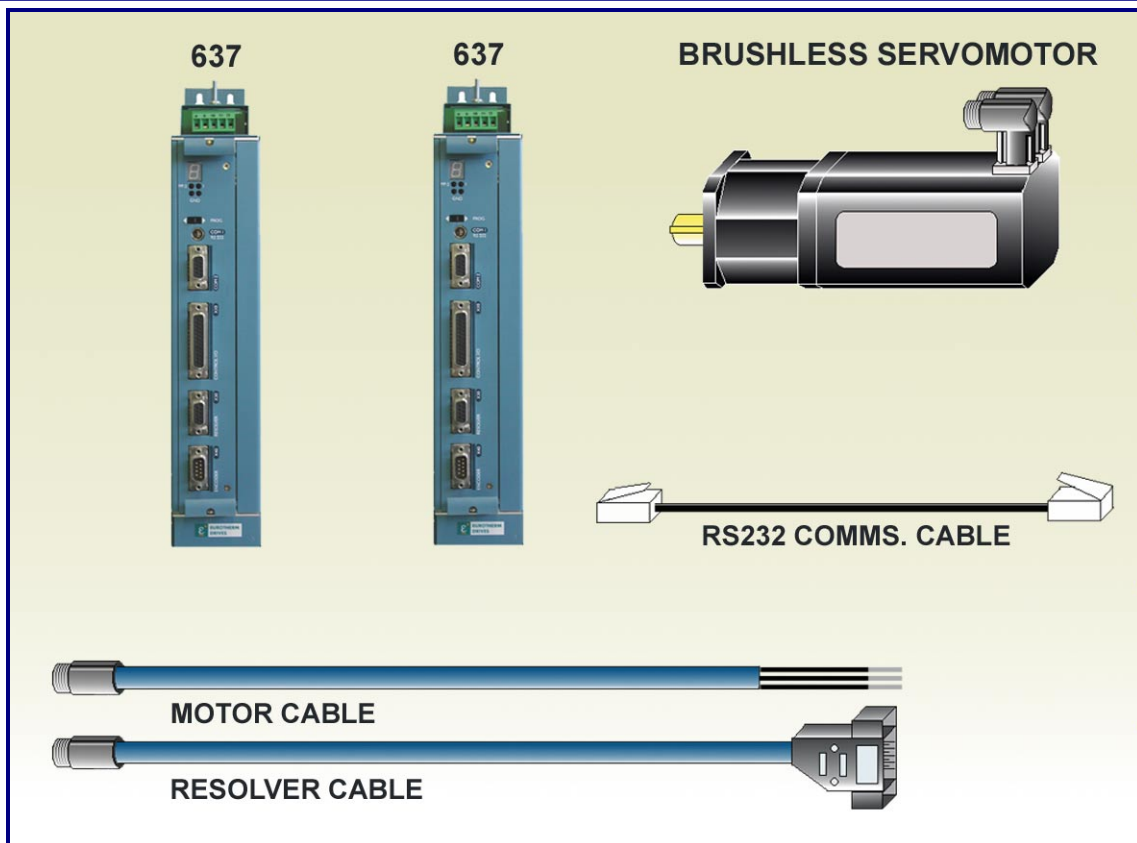
## WINDING CONTROL REQUIREMENTS

The wire is pulled from a supply by the main spool drive, which controls the rate and length of wire spooled.



The wire is guided onto the spool by a high-speed traverse mechanism. To get a uniform and high-density wind, the traverse position is electronically geared to the position of the spool. Limits and end-stops are programmed in software to reduce machine complexity and maintenance issues.

## COMPONENTS USED



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