

**TRITEX DESIGN & DEVELOPMENT LTD** is based in Hinckley, Leicestershire England. Their specialty is manufacturing machines that can knit fine wire (0.003 – 0.020 dia.) into circular tubes that can vary from 0.2-inch to 30-inch in diameter.

The versatility of the machine enables the customer to knit an endless variety of materials. The machine is capable of threading everything from fine wire thread to cotton threads with only minor adjustments.

Depending on the customer's request, the machine can have between 3 and 2,640 needles arranged on the periphery of the knitting drum. Maximum drum speed is 60 rpm, variable down to almost zero speed. Knitting speed varies depending on the material being used and line production speed.

Previously, a competitor's drive was used in the machine process but proved unsatisfactory due to its inability to provide consistent controlled soft stops and starts.

Tritex replaced the competitor's model with the Yaskawa J series ac drive because of its ability to provide both a controlled slow soft start and an accurate quick soft stop, within a required 0.5 second interval.

The time period is critical to the process to prevent material breaks and costly time-consuming machine rethreading.

If the material does break during the process, the drive must bring the machine to a controlled stop within the 0.5 second time period to prevent the broken wire from entering the main part of the web and creating a hole.

When the machine needs to be re-treaded for a new core or because of a broken wire, the standard Jog function on the drive is used to slowly increment the machine at 5 Hz to complete the rethread process.

Since its adoption, tests have proven the Yaskawa drive to be the solution to extending the performance and reliability of this versatile machine.



*Shown is a circular WEFT knitting machine. It is actually knitting bandage, but the same machine also knits wire.*