Filament Winding
Resin Applicator
TSE-EcoWinder™

Near Dripless Resin Impregnation System
TSE EcoWinder for Filament Winding Applications

Tired of watching your profit drip all over the floor? Stop wasting that expensive resin by changing to the TSE-EcoWinder™ resin applicator for filament winding.

The TSE-EcoWinder is a super-fast, patented, dripless, high-speed resin applicator designed to work seamlessly with our TSE-EcoWind polyurethane resin system for filament winding. It works just as well with epoxy resins.

The TSE-EcoWinder resin applicator force-infuses resin into the strands as they pass through the rotating elastomer coated rollers. It minimizes waste while maximizing the impregnation of resin into each strand. It ensures better laminate quality through consistent impregnation. The roving tension and the ratio of reinforcement to resin (LOI) can be automatically and consistently controlled. This near dripless resin applicator achieves a 70 to 80% glass-to-resin ratio.

The TSE-EcoWinder resin applicator impregnates each strand with just the right amount of resin, carefully metered by our TSE-EcoWinder Process Controller, virtually eliminating drips and waste! The applicator has been tested at 108RPM mandrel rotational speed, but it's designed to go even faster.

Standard sizes of 20, 40 and 60 strand direct rovings. Custom sizes are also available.

The applicator takes about 10 minutes to clean and put back into service, thereby eliminating long clean-up times to put conventional W Style dip baths or “Doctoring roll design” bath back into production service. The TSE-EcoWinder can be cleaned easily with acetone or acetone replacement resin cleaning solution.
**TSE EcoWinder ResinBot – Applicator Process Controller**

**The Brain.** The TSE-EcoWinder™ Process Controller works seamlessly with our TSE-EcoWinder Resin Applicator, winner of the coveted ACE Award for Composites Excellence presented in October 2014 at the CAMX Show in Orlando for Equipment and Tooling Innovation.

When the resin applicator is running, the Process Controller positions the resin dispensing “arm” off to the side of the unit, where it is flushed out automatically with acetone or whatever cleaner you choose. Next, the Process Controller sends just enough resin through the line to prepare it for the next filling operation. When the resin applicator signals that the level in the bath has hit the lower limit, the Process Controller moves the arm to the center position, refilling the bath. When the resin bath reaches the top limit, the Process Controller stops dispensing resin and moves the arm back to its stationary position off to the side.

Manual Mode is used for startups and clean ups after the job is done.

Elegant in its simplicity, the TSE-EcoWinder Process Controller requires just one air line to run everything, including the tension on the rollers, the flow of resin to the arm, the flushing of the arm and the positioning of the arm.

There are two dials on the unit. The bottom left dial is the arm pressure control. It is set once during initial setup. Once you get the pressure “dialed in,” you push in the dial to lock it in. The dial on the lower right is the roller pressure control which is set during initial setup. Once you’re happy with the tension on the rollers, just push in the dial and lock it in.