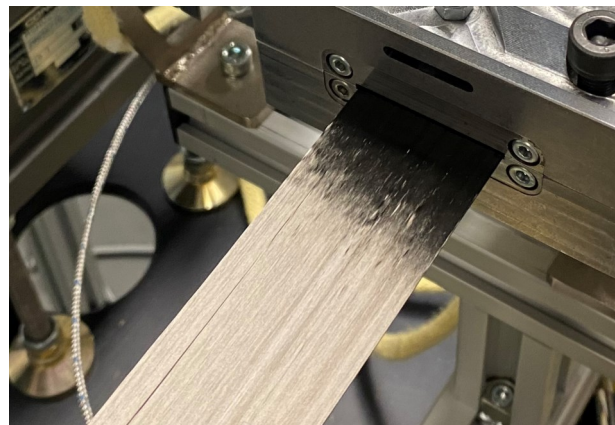


# TPTX-LB CF Reinforced Thermoplastic Tape Extrusion Line

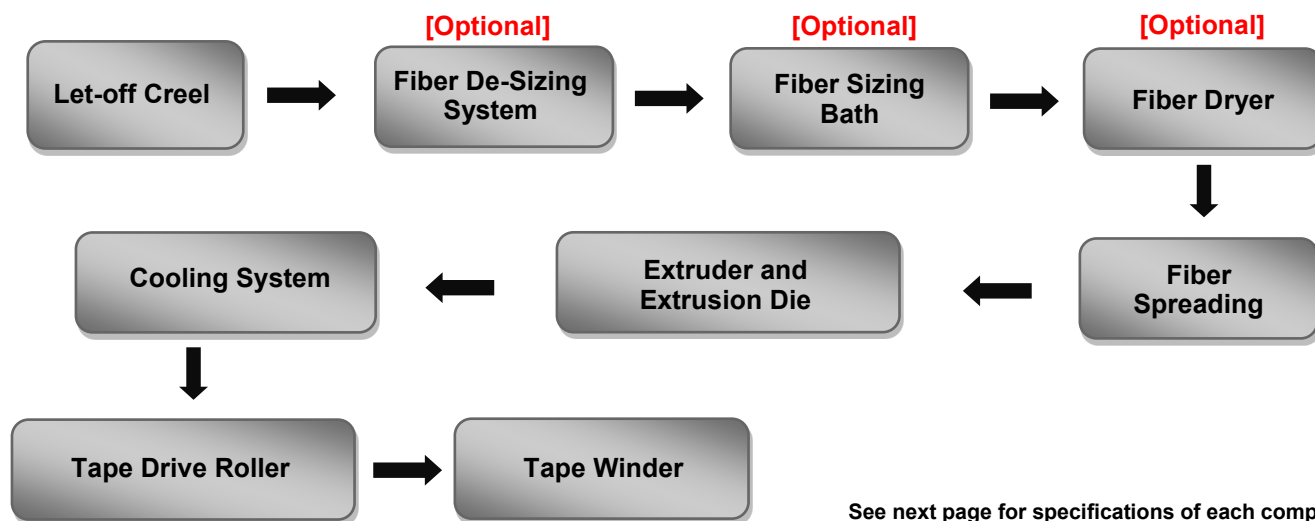
## Features

- Lab scale carbon fiber reinforced thermoplastic tape extrusion lines.
- Carbon fiber, glass fiber, aramid fiber, and other high performance fibers can be used.
- For use with a variety of thermoplastic. Systems are versatile and work with a wide range of matrix materials.
- A wide range of parameters on the machine are adjustable, making the unit versatile for laboratory use and making samples with different materials.
- Available in compact table-top systems as well as floor standing systems.
- Optional equipment available for de-sizing and sizing prior to extrusion.



## Configurable Process Components

Systems are customizable with modular components. Select from components below and arrange to build desired system.



See next page for specifications of each component.

# TPTX-LB CF Reinforced Thermoplastic Tape Extrusion Line

## Specifications

Basic specifications	<p>Configuration: Tabletop system or floor standing system</p> <p>Tape widths: Up to 200mm wide tape</p> <p>Input bobbins: Flexible depending on fiber used and tape specifications</p>
Enclosure / Exhaust	Full polycarbonate enclosures can be provided to keep carbon fiber fly contained or to keep exhaust gasses contained. Exhaust vacuum systems available upon request.
Let off creel	<p>Select from mechanical or electrical creels depending on fiber type and resin requirements.</p> <p>Number of positions can be determined by customer tape requirements.</p> <p>Handles a variety of fibers: compatible with carbon fibers, glass fibers, aramid fibers.</p> <p>Compatible with 3K to 50K carbon fibers.</p>
Fiber de-sizing and fiber sizing systems	<p>Optional fiber de-sizing systems for use when sizing on the fiber is not required.</p> <p>Fiber sizing systems prior to entry of extrusion die when applying specific sizing compatible with thermoplastic resins.</p> <p>The sizing systems are equipped with drying system after sizing is applied.</p>
Spreading	<p>Spreading system to spread fibers before entering the extrusion die.</p> <p>Choose from static spreading bars, free rolling spreading bars, high speed rotating spreader bars depending on fiber type, FAW, tape thickness requirements.</p>
Extruder	<p>Tabletop extruder with AC vector controlled drive.</p> <p>Equipped with multi-zone heater with individual temperature control.</p> <p>Stainless steel feed hopper for resin pellets.</p> <p>Water cooling circuit equipped with flow sensors.</p>
Extrusion die	<p>Fiber entry comb to regulate fiber band width at entry of die.</p> <p>Fiber spreader and resin impregnation features are built into the internal pathway of the die to maximize thermoplastic impregnation of the fiber.</p> <p>Incorporates adjustable exit die jaws to adjust exit thickness of tape.</p> <p>Die temperature control by dedicated temperature controllers.</p>
Cooling	Air cooling or water cooling systems can be provided based on line speed requirements and tape requirements.
Tape drive roller	<p>Multi-roller friction drive roller system to pull tape at constant speed.</p> <p>AC motor or servo motor depending on required speed accuracy.</p>
Winder	<p>Take up winder collects tape as fed by tape drive roller.</p> <p>Reel winders as well as bobbin traverse winders can be provided.</p>
Other	Please contact Izumi International, Inc. for custom requirements or other special features required.