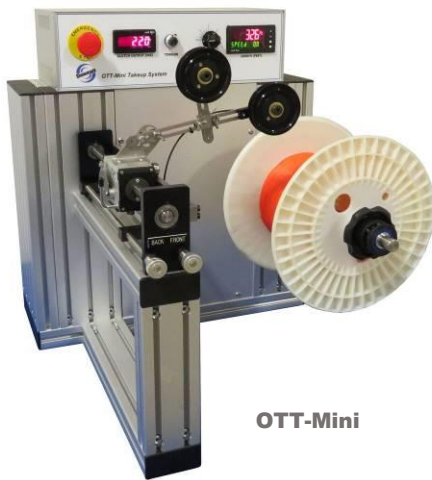




Take-ups

Showmark Standard and Custom Solutions

Showmark manufactures a variety of take-ups for materials ranging from fine wire and filament to systems for heavier cables and tubing. Each take-up unit produces spools or coils with neat and even rows of material that unwind without snags or tangles. Tension can be controlled from less than an ounce to 20 pounds or more. They can be configured to wind with a constant linear speed, rpm of the spool, or tension. Systems can be simple with all mechanical adjustments, or fully programmable with servo control and computer-based recipe management.



OTT-Mini

OTT Take-up Systems

The OTT (Over-The-Top) family of take-up units feature a traversing wire guide that steers the material back and forth onto the rotating spool to produce neatly wound reels that unwind without snags or tangles. They automatically maintain winding pitch even as the speed changes. An OTT can be equipped with an electronic clutch to produce a desired tension. Clutch systems automatically synchronize with the feed rate of the material and keep steady tension – even if the material flow stops. Three standard sizes – Mini, Medium, and Max - are offered for spool diameters up to 40 inches weighing up to 300 pounds. The traverse stroke can be sized to accommodate almost any width of spool. The Mini and Medium sizes are also available in modular stackable versions for multi-wire winding applications.



OTT-Medium



OTT-Max

OTT Specifications

	Available Shaft Sizes	Max Spool Weight	Max Spool Size (inches)		Overall Dimensions (inches)			Power Input
			O.D.	Width	Width	Depth	Height	
OTT – Mini	10, 15, 20mm	40lbs.	20	Any	22	Varies	24	120-240VAC
OTT – Med	10, 15, 20mm	100lbs.	30	Any	25	Varies	41	120-240VAC
OTT – Max	20, 30mm	300lbs.	40	Any	34	Varies	45	120-240VAC

Options include: Electronic tension control, length tracking, linear speed readout, wire break detection, Left-to-Right or Right-to-Left operation.



The easy-to-use OTT-Mini control panel can include Tension, Length, and Linear Speed readouts



Typical example of a control panel for the OTT-Med or OTT-Max



Modular Take-up System (MTS)

The MTS is a flexible solution for single or multi-wire take-up applications. Each MTS module can operate as a complete single axis take-up; or several modules can be stacked together to create a multi-wire take-up system. Each module provides independent controls for speed, tension, and spool dimensions. This results in excellent wind quality regardless of variations in wire-to-wire line speeds and tension. For the ultimate in flexibility, a multi-wire MTS system can be taken apart, moved around, and reassembled in a variety of configurations.

Options include: closed-loop tension control, length counters, and tachometers.



Moving Take-up Unit (MTU)

The spool on a Moving Take-up Unit (MTU) is carried by a traversing system as it rotates. As a result, the material travels in a straight line onto the spool. This design minimizes stress and twisting and is ideal for delicate flat wire or strip materials. The system also potentially produces a neater wind. Showmark offers the MTU-Mini, Medium, and Max for spools up to 30 inches in diameter, 15 inches wide and weighing up to 300 pounds. The systems shown includes a length counter/controller and an electronic slip clutch system for tension control. The Mini and Medium versions are also available with the CE-Mark option.



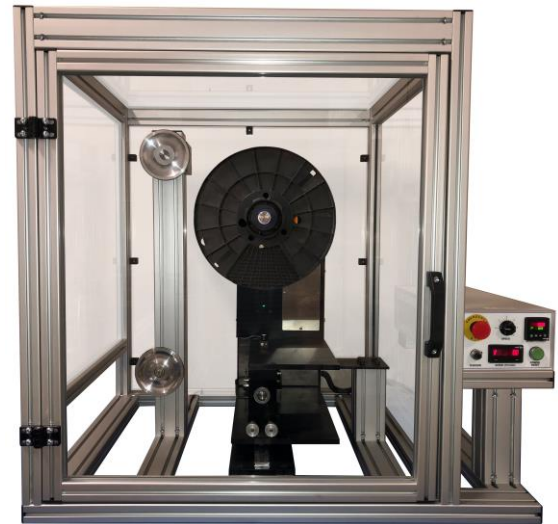
MTU-Mini



MTU-Medium



MTU-Max



CE-Marked MTU-Medium

MTU Specifications

	Available Shaft Sizes	Max Spool Weight	Max Spool Size (inches)		Overall Dimensions (inches)			Power Input
			O.D.	Width	Width	Depth	Height	
MTU – Mini	10, 15mm	20lbs.	10	10	23	20	24	120-240VAC
MTU – Med	10, 15, 20mm	40lbs.	16	10	34	20	33	120-240VAC
MTU – Max	20, 30mm	300lbs.	30	15	45	53	39	120-240VAC

Multi-Axis Payoff and Take-up Systems

Showmark manufactures multi-axis payoff and take-up systems for extruding, annealing, cleaning, and winding applications. They work with a variety of materials such as conventional wire, optical fiber, tubing and 3D Printing Filament.

Systems can be custom built and dedicated to an application or configured using our Modular OTT or MTS Take-up Systems.

Multi-axis systems typically include the following features:

- Different sized spools and materials can be run on each axis.
- Independent tension control for each axis using an electronic slip clutch or servo motor closed-loop to a tension sensor.
- Each axis has independent length tracking. If desired, a target length can be set for each axis. The axis will stop automatically when the length is reached.
- A separate speed or tension can be set for each axis. Systems can maintain constant RPM's, constant linear speed, or constant tension.

6-Axis take-up system for wire annealing application - All parameters for each axis are independently controlled.



Programmable & Custom Take-up Systems

Showmark designs and builds take-ups for applications that require high precision and programmability. These systems typically employ servomotors with closed-loop tension control using solid state tension transducers or dancer arms for feedback. Motor driven actuators provide micron precision traversing motion. Control and setup are accomplished through a dedicated touchscreen or computer interface, push buttons, a computer server, or exchange of I/O with other devices.

Optical Fiber Draw Tower Take-up Unit with Pulling Capstan - Controls the diameter of optical fiber exiting a draw tower based on feedback from a laser micrometer.

