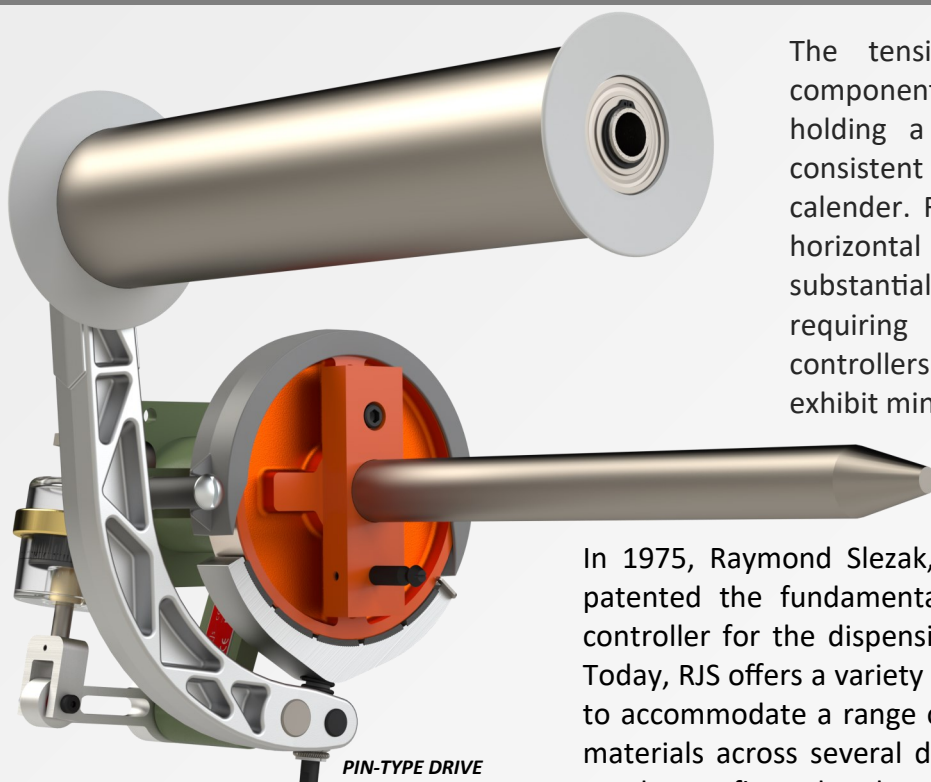




# Standard Tension Controllers



The tension controller is the most important component in the creel system with each controller holding a spool of steel cord while providing a consistent tension as the cord is pulled by the calender. RJS tension controllers are air-actuated for horizontal take-off with the tension remaining substantially constant from full spool to empty requiring no adjustment. A group of tension controllers fed by a common-pressure air supply will exhibit minimal variation in tension output.

In 1975, Raymond Slezak, one of the founders of RJS Corporation, patented the fundamental design for the company's first tension controller for the dispensing of steel cord for radial tire production. Today, RJS offers a variety of tension controllers based on this concept to accommodate a range of configurations, tensions, spool sizes, and materials across several different industries. The RJS standard series can be configured to handle B-80/33 and/or B-60 spools or B-80/17 and/or B-40 spools. Key features include:

## Simple Pneumatic Actuation

Cord tension for a group of tension controllers in a common control zone is adjusted by changing the air pressure for that zone at either a manual or automatic control console. Once a system is fully charged to the desired air pressure, no further air consumption is required.

## Wire Tension Uniformity

RJS tension controllers are force-balanced, mechanical devices. Tension uniformity is assured when all units are supplied with the same air pressure and the wire spools and package content are the same diameter. The tension has a small variation as the full spools unwind and the wire package diameter becomes smaller.

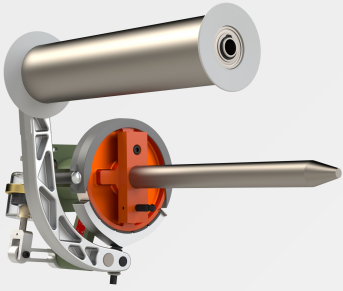
## Enduring Quality

The RJS tension controller is designed for long-lasting performance. The standard brake shoe friction material available on all RJS controllers is the result of extensive testing to find a friction material which maintains constant dynamic and static characteristics throughout an extended lifetime.

MODEL	TENSION RANGE	AVAILABLE SPINDLE ANGLE	DRIVE TYPE	SPECIAL FEATURES
121	1 - 5 LB 0.45 - 2.3 KG	0° or 4°	Pin Drive, Magnet Drive, PFEF Magnet Drive	◆ Optional chrome-plated control arm roller
305	0.5 - 5 LB 0.23 - 2.3 KG	0° or 6°	Pin Drive, Magnet Drive, PFEF Magnet Drive	-
493	2 - 10 LB 0.9 - 4.5 KG	0° or 4°	Pin Drive, Magnet Drive, PFEF Magnet Drive	◆ Chrome-plated control arm roller
500	2 - 10 LB 0.9 - 4.5 KG	0° or 4°	Pin Drive, Magnet Drive, PFEF Magnet Drive	◆ Chrome-plated control arm roller ◆ 4 IN (102mm) dia. control arm roller

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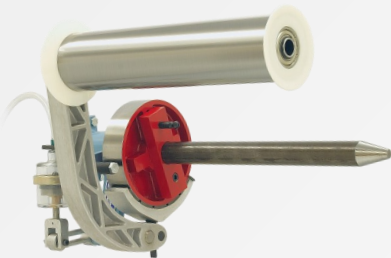
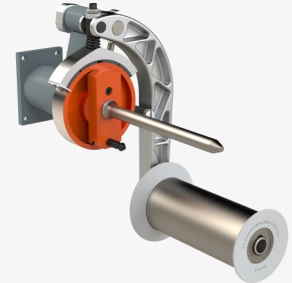


### Model 121 MK III

The Model 121 Tension Controller is the global standard and most widely used for the let-off of steel cord in radial tire manufacturing. This model of controller offers a tension range of 0.45 - 2.3 kg (1 - 5 lbs) per cord. The Model 121 is a reliable controller requiring minimal adjustment.

### Model 305

RJS developed the Model 305 Tension Controller to offer improved creel operation at low tension and can be used for both steel and textile cords. The Model 305 offers a tension range of 0.23 - 2.3 kg (0.5 - 5 lbs). The same proven principles found in all RJS controllers have been applied to the Model 305, with careful emphasis given to those elements which affect low-tension operation. This model is designed with the control arm roller positioned below the spool.

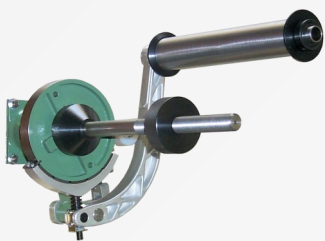


### Model 493

The performance of the Model 493 Tension Controller is optimized for large Truck and Bus Radial (TBR) and Off-the-Road (OTR) tire manufacturing, offering a higher tension range of 0.9 - 4.5 kg (2 - 10 lbs) per cord. A hard chrome plated control arm roller provides long lasting performance even at the highest tensions.

### Model 500

The Model 500 Tension Controller provides the same tension range as the Model 493 Controller typically used in TBR and OTR tire manufacturing. Unique to this tension controller, the Model 500 has a larger control arm roller to accommodate steel cords with diameters up to approximately 6mm. Tension range is 0.9 - 4.5 kg (2 - 10 lbs).



### Specialty Controllers

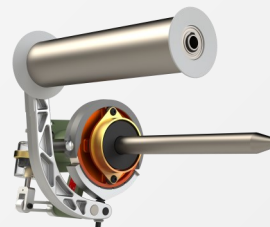
The RJS Special Series of Tension Controllers provides a variety of mechanical tensioning devices used to let-off cord or filaments at uniform tension from proprietary spools or cardboard tubes.

RJS will customize a tension controller design for specific performance needs if the tension controllers in the RJS standard and special series do not meet the unique requirements for a project.

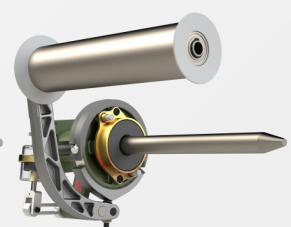
### Magnetic Spool Drives

Magnetic spool drives are available in lieu of the standard drive pin. This option removes the need to locate the drive pin hole of the spool during loading.

RJS offers two designs: The standard Magnet Drive and the PFEF Magnet Drive. The PFEF (Positive Flange Engagement Feature) with spring-loaded pins provides additional insurance from spool slippage.



MAGNET DRIVE



PFEF MAGNET DRIVE



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