

**BTU**  
**TECH**



**PAPER TUBE CORE CUTTING**

# DESCRIPTION

Paper tube cores are the critical components of the textile industry. Fabrics are wound on paper tube cores for further processing, transportation, etc. Paper cores come in standard widths and diameters, thus they need to be cut to fabric width sizes, on the textile operation premises.

The paper core width, thickness and diameter, and the cutter speed & cutting quality are the critical parameters for this type of machines. The industry uses mostly 3" or 6" diameter paper cores. All the cutter designs have a long shaft, on which paper core is placed and the shaft is rotated by a motor. A blade which can shift sideways for width adjustment, cuts through the paper core.

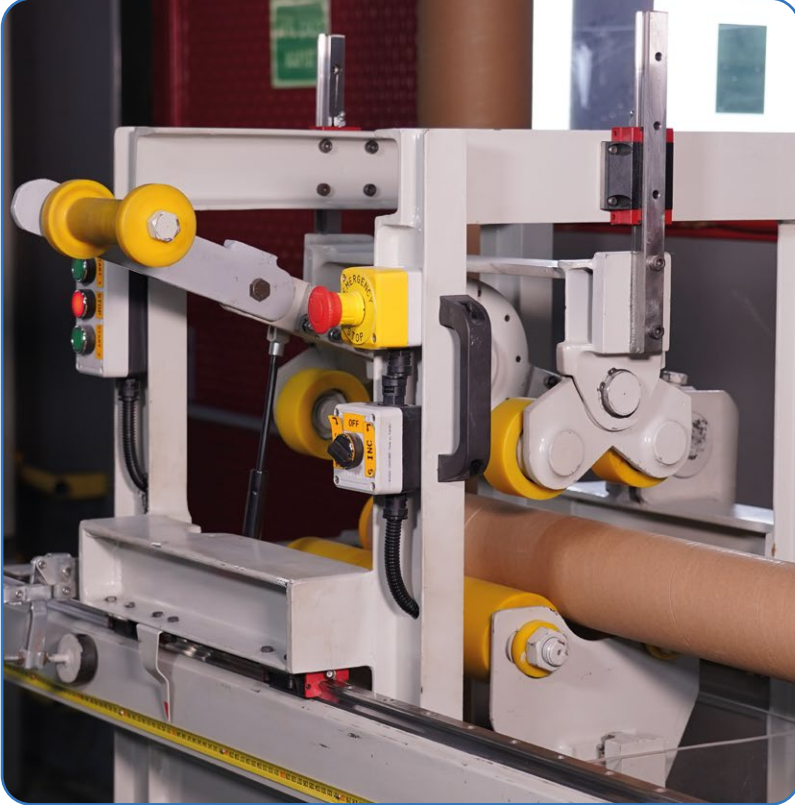
The problems with this typical design is that for 3" and 6" paper cores, it is needed to change the steel shaft mechanically or have 2 machines for a fast and efficient operation. The other issue is that when the blade travels a little further than the paper core, it contacts steel shaft and either is deformed or gets broken. As the blades are sharpened, the diameters of the blades are reduced. Thus, the blade travelling limit has to be increased to cut properly but not to contact the steel shaft. Also, for longer paper cores, the shafts get heavier and start bending or need support from the other end. This, either limits paper core width or the cutter machine investment cost increases dramatically.

BTU-TECH has come up with a cutter design that solves all the above mentioned problems.



# FEATURES

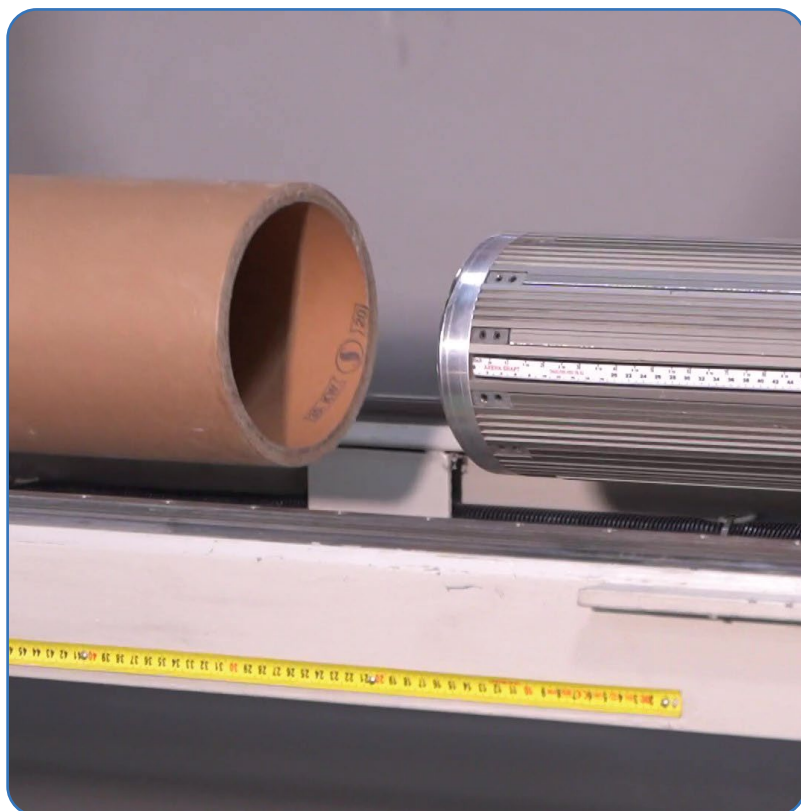
The paper tube core cutter design features are as follows:



**Shaftless Design:** The cutter does not have a steel shaft. Thus, same machine can be used for either 3" or 6" diameter. Since the blade cannot get into contact with a steel shaft, blade lifetime is longer and maintenance costs are much lower.

**Infinite Tube Width:** Thanks to the shaftless design, BTU-TECH cutter does not have any limit on the tube width.

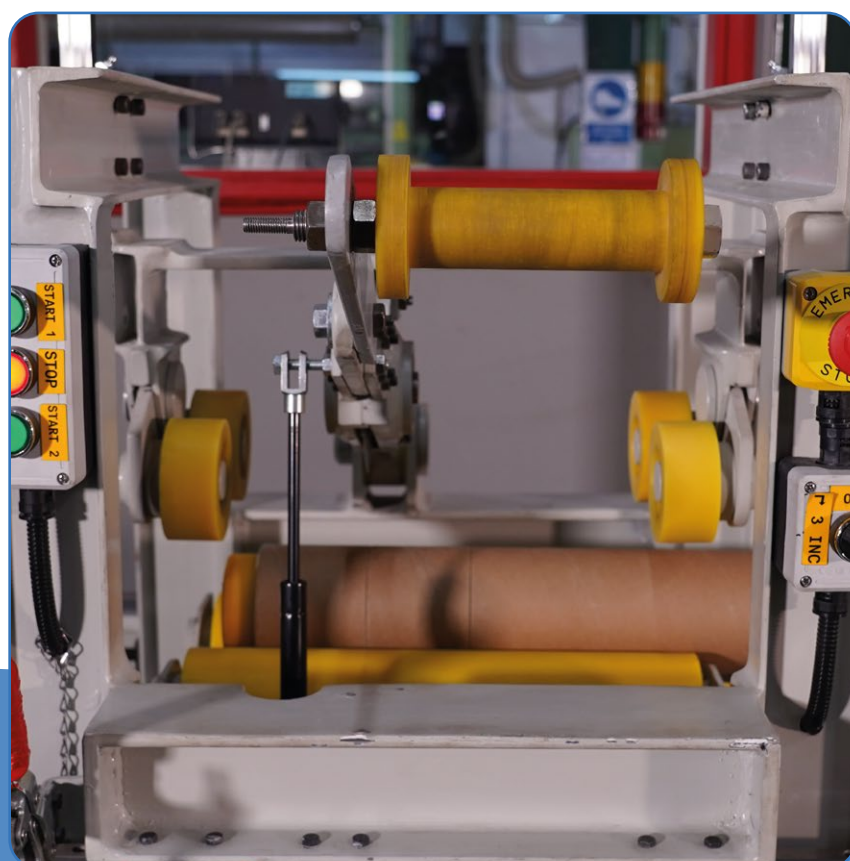




**Pneumatic Tube Holder:** The standard design machines use needles or steel pins that are inserted into the paper tube to keep it in place while shaft is rotating with high speed. But, when the blade touches the paper core, it creates a huge frictional reverse force on the needles. They are easily deformed and need to be replaced often. Also, they damage the paper tube edges. BTU-TECH uses a short pneumatic tube holder to keep the paper core in place. This method does not damage the core and does not require any maintenance. The pneumatic tube holder automatically inflates or deflates with the push of a button.

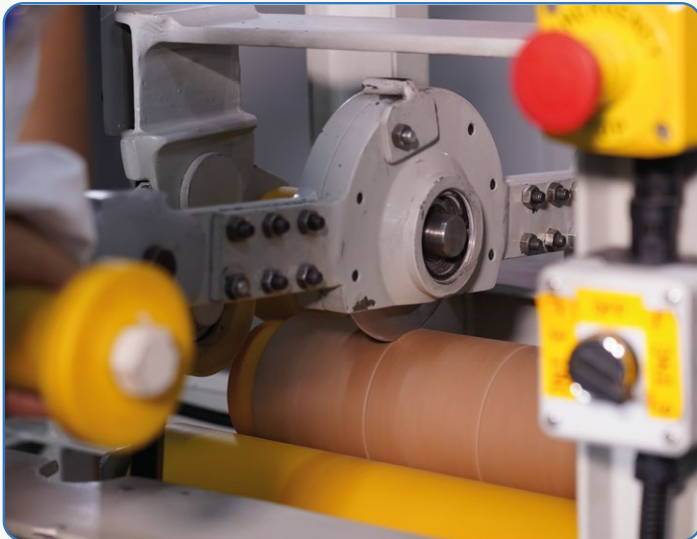
### Paper Core Support System:

The paper tube core is supported by free rotating rollers from the bottom and top. This makes sure that the tube is held tightly in place during cutting operation and the blade cuts with a straight edge. The support system automatically moves up and down depending on the paper core diameter.



## PAPER TUBE CORE CUTTING SPECIFICATIONS

Paper Tube Core Diameter	3" or 6"
Paper Tube Core Width	Infinite
Paper Tube Core Min.Cut Width	1cm
Paper Tube Core Movement	Motorized rotation
Paper Tube Core Support System	Motorized
Paper Tube Core Holding System	Pneumatic
Blade Rotational Movement	Free
Blade Sideways Movement	Manual
Blade Cutting Operation	Manual
System Pressure Min.	4bar
System Pressure Max.	10bar
Power	20kW
Supply	50-60Hz, 380-480V, 3 Phase
Electric Panel Protection Level	IP54
Motor Protection	IP54
Total Weight	1000kg
Dimensions (WxHxL)	2000mm x 2600mm x 4600mm
Certifications	CE



## MACHINE UPGRADE OPTIONS

- Motorized Blade Sideways Moving System (Automatic Metering)
- IP65 Motors (Carbon-Proof)
- IP65 Electric Panel (Carbon-Proof)



# ABOUT BTU

BTU-TECH was founded in 2020 as a start-up company for engineering, design and manufacturing of machines and technologies for variety of industries, such as textile and composites.

As the main shareholder and CEO of the company, Burçin Pak received investment for the company. In addition to his 20+ years in microelectronics, communication and machinery which includes many patents and awards for the developed technologies, together with its investors, the company has a total of 60 years of experience, covering industries such as heavy duty machinery & transport equipments, robotics, microelectronics, IOT, industrial textiles.

The company has a talented core team for analysis, engineering, design, quick prototyping and serial production. The inhouse capabilities and skills are 3D modelling, FEA, programming and industrial automation.

Based in Istanbul, Turkey, BTU-TECH is aiming to serve customers globally both by direct contact and via technical partners.

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[www.btu-tech.com](http://www.btu-tech.com)

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