

**BTU  
TECH**



**PAPER REWINDER**

# DESCRIPTION & FEATURES

Specialized carbon multiaxial machines have two methods of forming carbon layers before stitching. They either feed the rovings from bobbins on a creel or feed a “pre-spread” carbon fibre tape.

The spreading is made offline, at a separate line where rovings (bobbins) are fed to a spreader machine, which spreads the rovings to achieve certain areal weights. This spread tape is wound as a roll and later fed to the carbon multiaxial machine.

Spread delicate carbon layers in the roll have the risk of entangling with each other, which could make the process problematic. For this reason, the spread tapes are wound with a paper layer in between them. This paper is taken out and rolled to a paper tube while feeding the tape to the multiaxial machine. Sadly, it goes to thrash since it is not reusable because of the misaligned edges (telescopic effects), loose tension and fiber dust/residue.

## Removal of paper from the tape during the feeding into the carbon multiaxial line



A good-sized carbon multiaxial machine runner consumes a large volume of paper, which becomes a consumable and a significant cost for the operation.

Addressing this problem, BTU-TECH has developed a “Paper Rewinder” which takes a poorly wound used paper roll and rewinds it into almost original form to become “reusable.” This fully automatic machine takes the unusable paper roll and rewinds it with very high speed while adjusting the original tension.



**BEFORE**

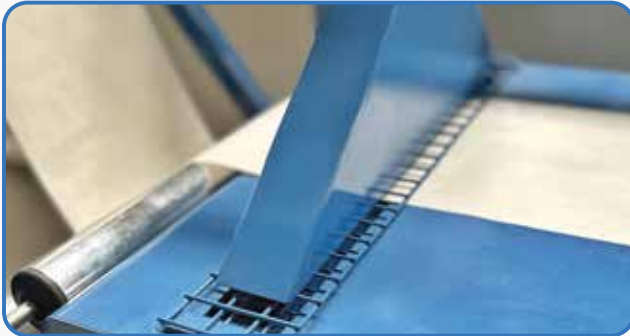


**AFTER**





**Edge Control:** The machine is compatible with all widths of standard paper sizes up to 350mm width and can align the edges within less than +/- 0.1mm.



**Dust Suction:** A dust suction system removes the carbon dust and fibres attached to the paper roll.



**Operator User Interface:** The user can obtain all types of data from the operation, including, but not limited to, length, diameter, number of turns of the roll, duration of the operation, and actual speeds.

The rewinder can stop operation at a predefined diameter, paper length, or the paper roll's end.



## PAPER REWINDER SYSTEMS SPECIFICATIONS

• Speed: max.	30m/min
• Paper Width: max.	350 mm
• Frame:	CNC Machined Steel
• Unwinder roll diameter:	max. 350mm
• Unwinder roll weight:	max. 50kg
• Unwinder roll width:	max. 350mm
• Unwinder Paper Core Diameter:	3"
• Unwinder Air Shafts:	3", automatic inflating
• Winder roll diameter:	max. 350mm
• Winder roll width:	max. 350mm
• Winder Paper Core Diameter:	3" mm
• Winder Air Shafts:	8", automatic inflating
• Fabric length measurement:	Servo motor encoder based
• Remote hand panel for manual operation	
• Voltage :	380-480VAC (third party suction system motor is 380V)
• Frequency :	50-60Hz (third party suction system motor is 50Hz)
• Power :	5KW
• Air :	4-10bar
• Servo Drives:	SCHNEIDER LEXIUM32 Series, 208-480VAC, Ethernet/IP
• PLC:	SCHNEIDER TM241 Series
• 24VDC Power Supply:	SCHNEIDER ABL5 Series
• HMI:	SCHNEIDER HMIGTO Series, 3.5", Ethernet/IP, Color
• Safety Lights:	3 color light column with alarm
• Protection Class :	IP54 min
• Weight:	max. 500kg
• Transportation in operating site:	Caster wheels, crane lifting
• Certification:	CE 2006/42/EC Machinery Directive
• Dimensions (WxHxD):	2500mm x 1500mm x 1500mm

## 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.

# BTU TECH

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

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