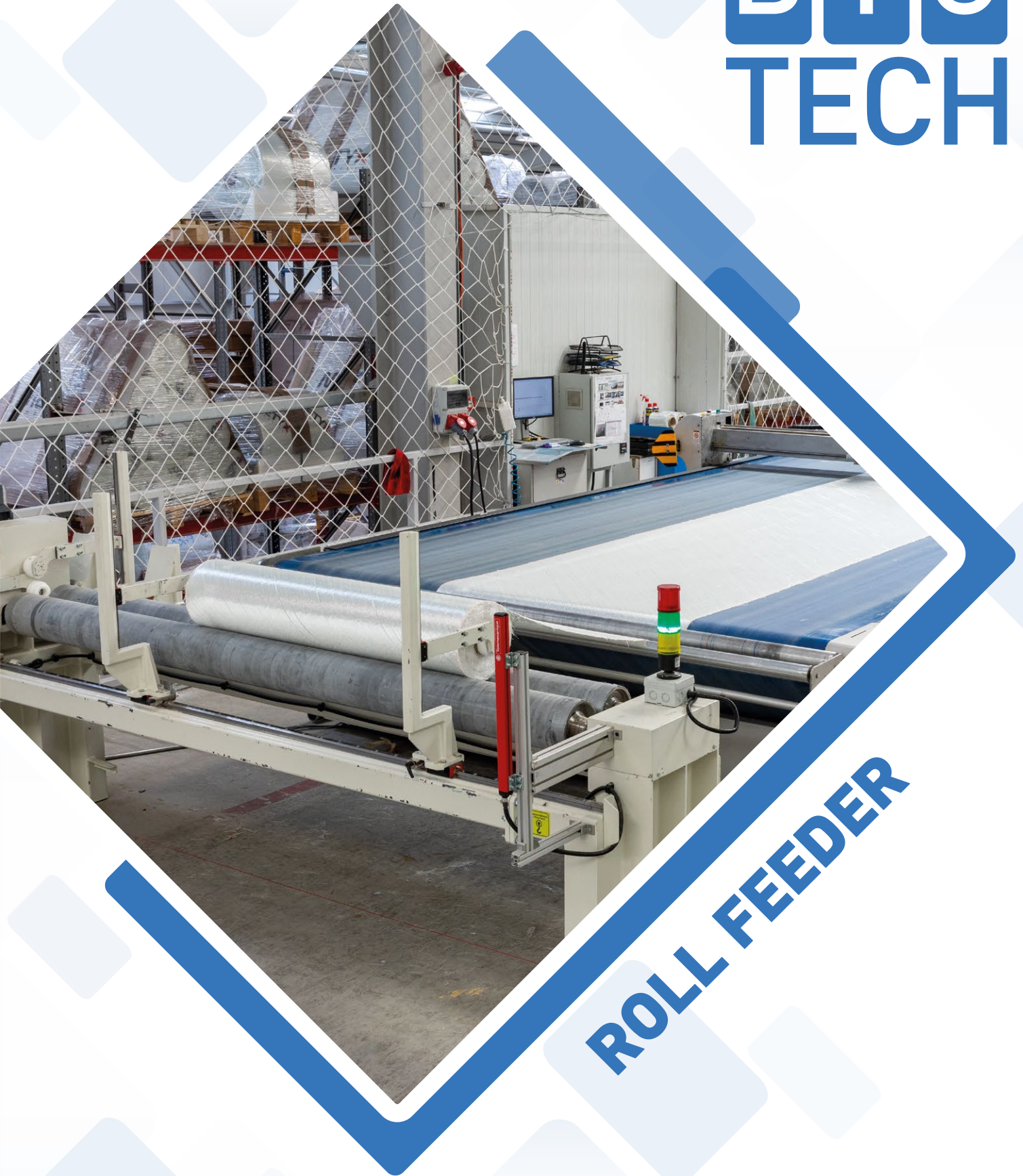


**BTU**  
**TECH**



**ROLL FEEDER**

# DESCRIPTION

CNC fabric cutters are used in a variety of fields where textile materials are processed. In most cases, CNC conveyor pulls the fabric from the roll, which is placed on a free rotating roller and a blade head cuts the fabric with programmed patterns. This pull force is defined only by the friction or the vacuum of the fabric at the conveyor surface. Thus, if the fabric is at the beginning of the conveyor, the pull force is very low. Likewise, if it is at the end, the pull force is much higher. Also the linear speed of the conveyor is converted to rotational force (moment) at the unwinding roll. Depending on the roll diameter, this force varies. So, the fabric tension cannot be kept constant. This results in wrinkles especially during fast accelerations and decelerations that is common in CNC operations. The wrinkles in fabric layer lead to uncut material or broken CNC blades. A motorized feeder with precise speed and tension control in synchronisation with the conveyor motion is a must for such a process.

In addition, operation cycle time of the CNC cutters is highly critical. It would be very beneficial to be able to cut two rolls with different diameters and widths, side by side at the same time.

BTU-TECH designed a special "Roll Feeder" which is capable of unwinding two individual rolls of different diameters and widths, at the same time with programmable tension control and synchronised motion with CNC cutter high speed operation.



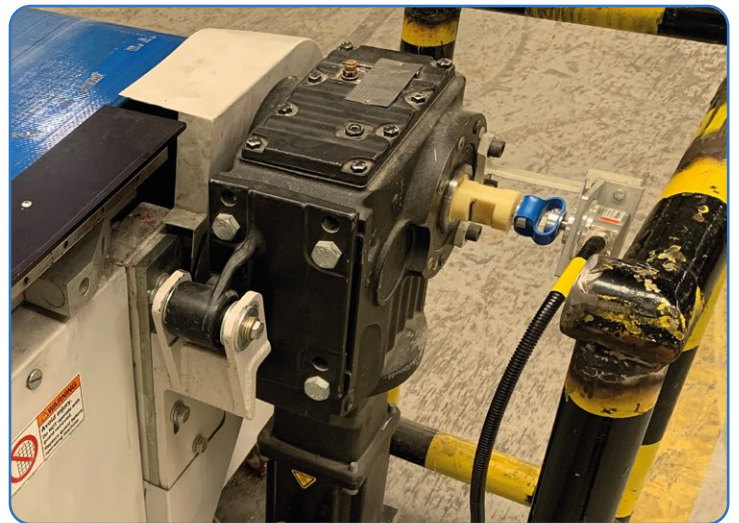
# FEATURES

BTU-TECH Roll Feeders offers following features;



**Surface Unwinding:** The fabric roll is placed on to two surface roller driven with a motor. Since the weight of the roll is supported, the weight capacity of surface feeders are much higher compared to center feeders. Also, surface feeders ensure constant linear fabric speed with changing roll diameter without using an encoder or an ultrasonic sensor.

**Speed Control:** Using an encoder, the linear fabric speed is measured from the CNC cutter and the feeder surface speed follows with extreme accuracy, enables the use of pulse control while the roll diameter is continuously changing. This also enables using two different diameter rolls, side by side.



**Tension Control:** With fine adjustment of encoder pulses, the fabric tension can be kept constant without using a loadcell or pneumatic dancer.



**Roll Arms:** Sliding roll arms with manual brakes, keep rolls fixed in place, not allowing sideways shifts.

**Rollover Arms:** During roll placement on the surface rollers, safety arms make sure that the rolls do not rollover to the other side.



**HMI:** A touch panel is supplied with the feeder to adjust all the settings.

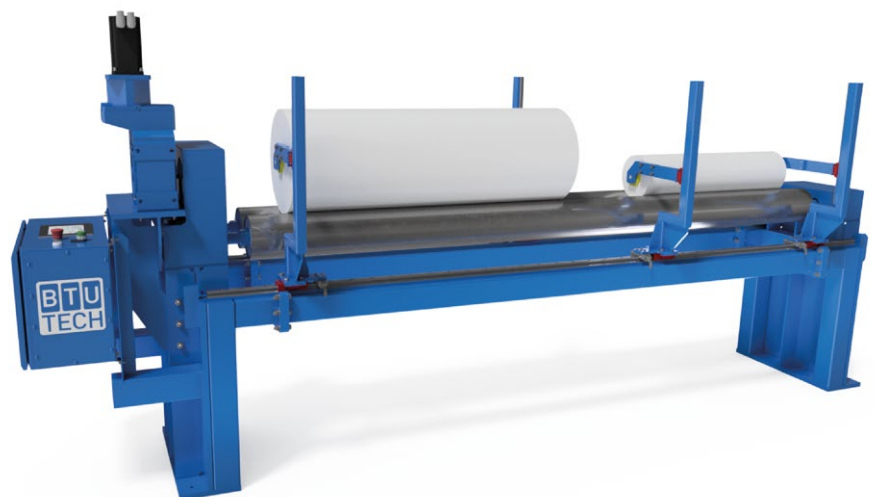
## ROLL FEEDER SPECIFICATIONS

Unwinder Speed	40m/min (designed acc. to the requirement)
Motorized & Free Rotating Rolls	All CNC Treated and Weight Balanced
Width	Up to 150"
Roll Diameter:	1000mm max.
Roll Weight:	2000kg max.
Power	20kW
Supply	50-60Hz, 380-480V, 3 Phase
Electric Panel AC Cooling	Optional
Electric Panel Protection Level	IP54
Motor Protection Level	IP54
HMI	7.5" Touchpanel with Fabric Database
Safety Barriers	Laser & Mechanical Barriers with ESTOP Triggered Doors.
Total Weight	1000kg
Dimensions (WxHxL)	3000mm x 2500mm x 5000mm
Certifications	CE



## MACHINE UPGRADE OPTIONS

- 6" Air Shaft
- IP65 Motors
- IP65 Carbon Safe Electric Panel
- Pneumatic Dancer
- Mechanical Dancer with Counterweights
- Edge Tracking
- Electric Panel AC Cooling
- Laser Barriers



# ABOUT BTU

BTU-TECH-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-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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