



## 11 ROPE OPENER

Precision Tube Opening for Uniform, Open-Width Fabric Processing

The Dhara Rope Opener, also known as a Tube Opening Machine, is engineered to convert tubular knitted and circular fabrics into a perfectly flat, open-width form with maximum control and fabric safety. As a critical component in textile finishing lines, the machine eliminates edge curling, rope marks, and residual stresses, ensuring smooth fabric presentation for downstream processes such as dyeing, printing, finishing, shaping, and cutting.

Designed for high productivity and consistent quality, the Dhara Rope Opener enhances process efficiency, dye uniformity, and dimensional accuracy, even when handling delicate or elastic fabrics.

### Process Concept & Working Principle

- » Tubular fabric is guided into the machine through a controlled feeding and tensioning system
- » A combination of mechanical expanding elements (spiral rollers, bowed rollers, or olive-shaped expanders) progressively opens the fabric
- » Air-assisted expansion (optional) introduces controlled airflow inside the fabric tube to improve opening uniformity and wrinkle removal
- » Edge alignment systems (EPC) continuously monitor fabric edges and automatically correct deviations
- » Fabric exits the machine in a fully opened, flat, and aligned state, ready for further processing

### Core Functions

- » Controlled conversion of tubular fabric to open-width form
- » Removal of curling stress and rope formation
- » Wrinkle-free and distortion-free fabric handling
- » Stable fabric tension and speed synchronization

### Machine Configuration Options

#### By Opening Technology

- » Mechanical Rope Opener  
Uses spiral, bowed, or expanding rollers for robust and consistent opening

#### By Automation Level

- » Fully Automatic Version  
PLC-controlled speed, tension, and edge alignment
- » Semi-Automatic Version  
Manual parameter adjustment with stable mechanical operation

#### Specialized Variants (Optional)

- » Anti-static configuration for synthetic fabrics
- » High-temperature compatible designs
- » Custom layouts for sterile or controlled environments



## Key Components

### Mechanical System

- » Fabric feeding unit with tension control
- » Spiral / bowed / olive-shaped expanding rollers
- » Fabric guiding and spreading assemblies
- » Output section with batching, plaiting, or flat stacking

### Control & Drive System

- » Variable frequency drive (VFD) motors
- » Electronic tension monitoring and feedback
- » Photoelectric Edge Position Control (EPC) system

### Auxiliary & Safety Devices

- » Edge suction and dust removal units (optional)
- » Emergency stop switches
- » Full safety guarding as per industrial standards

### Performance Benefits

- » Uniform fabric opening without overstretching
- » Improved dyeing and finishing consistency
- » Accurate edge alignment for precise cutting and printing
- » Reduced fabric damage and process losses
- » Smooth integration with continuous finishing lines

## Selection Criteria

- » Fabric type (cotton, viscose, synthetics, blends)
- » Fabric elasticity and delicacy
- » Compatibility with upstream and downstream machines (dyeing units, stenters, cutters)
- » Required production speed

## Operational Recommendations

- » Ensure fabric is untwisted before feeding
- » Adjust expander pressure or airflow according to fabric weight
- » Periodically calibrate EPC systems for optimal alignment

## Typical Applications

- » Knitted fabric finishing lines
- » Dyeing and washing preparation
- » Hosiery and tubular garment processing
- » Apparel cutting and panel preparation
- » Home textiles and industrial textile processing


## The Dhara Advantage


The Dhara Rope Opener combines precision mechanical engineering, intelligent control systems, and fabric-friendly design to deliver consistent, high-quality tube opening across a wide range of textiles. Built for reliability and adaptability, it is an essential solution for manufacturers seeking process stability, improved fabric quality, and operational efficiency.






## CONTACT

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