

# **How the TIEPRO warp tying machine delights weavers worldwide**

**Stäubli unveiled the revolutionary TIEPRO tying machine in 2019. In the short time since then, this machine has become a standard workhorse in renowned weaving mills around the world. Offering unique, easy-handling properties and efficient warp-sheet processing, it has thoroughly convinced operators and managers alike. TIEPRO has become a must-have for forward-looking weaving mills. What makes it so special?**

Warp tying is an essential process in every weaving mill. Until the beginning of the last century, this process was conducted manually. The first warp tying machines appeared in the 1930s. Mechanized warp tying had revolutionized the industry worldwide. At that time, the Swiss company Uster offered the KLEINUSTER/USTERMATIC for automatic warp tying. As part of its global marketing strategy, Stäubli acquired this product line and developed it further, which resulted in the TOPMATIC, one of the world's leading tying machines. The design successfully integrates the workflow requirements of the mill with a number of various technical weaving solutions developed by Stäubli. Continuing development made this machine a highly reliable and important component in many mills. In line with its credo – every development must bring customer benefits – Stäubli constantly pursues its commitment to R&D. Its new TIEPRO warp-tying machine incorporates very special and unique features that make it as inevitable as the tying process itself.

## **Easy and rapid start-up**

Any type of tying machine to be used in a mill must first be placed on the warp-tying frame at the weaving machine. An operator has to dock the machine by hand. Equipped with robotics, TIEPRO docks itself to the old and the new warp sheets. Afterwards, the operator can simply confirm start-up by pushing the start button – and automatic warp tying begins. Thus, TIEPRO leaves staff more time to oversee the weaving hall or handle other tasks.

## **Easy handling**

Before tying, and during the warp stretching on the tying frame, typically, the yarns of new and old warp sheets don't align precisely. This fact can require time-consuming effort during the tying process. But not with TIEPRO. It easily handles misalignments of up to 10 mm, ensuring precise and quick preparation.

TIEPRO incorporates a revolutionary form of automatic Double End Detection (DED) as a standard feature. Stäubli DED detects double ends automatically before the warp yarn is cut. This outstanding feature is unique. Another standard feature is the Auto Reverse function, which works in conjunction with DED during the yarn separation process. Double ends caused e.g. by sticky yarns are detected by the sensor, immediately extracted, and separated. This process is done automatically within milliseconds and is virtually impossible to follow visually. It requires no operator intervention. Once done, the yarn separation process automatically restarts.

## **Sustainable and highly available for processing**

Warp tying machines typically operate using separation needles. TIEPRO is the only one in the world that uses separation cones. The cones are made of top-grade, long-lasting materials, sure to last for many years. This is a great advantage over conventional machines, which require regular replacement of the separation needles. Another benefit is that TIEPRO does tying

without an oil bath. These two attributes make for low maintenance and high availability in the mill.

The TIEPRO warp tying machine covers a broad range of applications and handles warps with or without a 1:1 lease. The design is a result of Stäubli's closeness to mills, understanding of their needs, and constant and successful collaboration with them. The overall concept of the machine makes for less operator intervention, increased efficiency in warp tying, and the highest operational availability.

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### **About Stäubli**

Stäubli is a global mechatronics solutions provider with three core activities: Connectors, Robotics, and Textile. We are an international group based in Switzerland, with a presence in 29 countries. Our global workforce of more than 4,500 shares is a commitment to partnering with customers in nearly every industry to provide comprehensive solutions with long-term support.

Stäubli Textile has been developing and producing high-quality systems for the weaving industry for over a century. The company holds a strong market position in textile machinery, a position earned through the continual pursuit of customer satisfaction.

### **History and future**

Founded in 1892 as a family-owned workshop on the banks of Lake Zürich, Stäubli is a pioneer in mechatronics, with a proud heritage of quality craftsmanship. We are also a forward-thinking organisation, in continual quest of the next great innovation that will help our customers work more productively, efficiently, and sustainably.

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### **Visuals:**

TIEPRO warp tying machine with operator



Historic warp tying machine in a Stäubli showroom

