



Operating Instructions  
For the  
12-0000 Series  
Weavexx Tensometer Instrument

## **Description**

The Weavexx **Tensometer**<sup>™</sup> is a patented instrument for measuring tension in flexible, thin textile conveyor belts, paper, and the like, or webs, generally encountered in paper mills such as:

- Forming Fabrics
- Press Felts
- Dryer Fabrics

The operation is based on the principle that the amount of deflection of a flexible membrane under load is dependent upon the tensile stresses in the membrane.

The load is provided by an internal spring, and a dial indicator calibrated in thousandths measures the amount of web deflection. Using the chart included in this booklet, deflection in thousandths is converted to tension in pounds per linear inch (PLI).

The Weavexx **Tensometer** has been designed to minimize “operator variation” caused by the different pressures applied by the operator. Further, the unique “picture frame” bearing surface eliminates the effect of stress in adjacent areas of the web.

The Weavexx **Tensometer** instrument can be used on webs running in any angular attitude, and it can be applied on either side of the web. The magnitude of readings is independent of speed or moisture content of the web. The dial face, however, should always be directed toward the same side (usually the front side) of the machine.

The instrument can be used safely in wet surroundings since seals protect the mechanisms and rubber bellows.

The range of tension measurable with the instrument is 10 to 50 pounds per linear inch. Accuracy is +/- 10 percent of the converted tension reading.

## **Operation**

1. Set the pointer of the dial indicator to the zero mark by pressing the push button at the bottom of the instrument.
2. Hold the instrument by the outer housing assembly. **DO NOT** contact the picture frame while taking measurements.
3. With the longer side of the frame oriented in the machine direction, press the instrument slowly against the web until the pointer of the indicator stops. (This will occur at approximately 4 pounds hand pressure.)
4. Remove the instrument and read the dial. Then use the appropriate table to convert the dial reading (thousandths) to web tension (pounds per linear inch) for the give or equivalent membrane.
5. Reset the pointer of the dial to the zero position and perform the measurement at least once more to check repeatability.
6. Always make sure that the web is running over the frame of the Weavexx **Tensometer** in the same direction. This will eliminate a slight directional bias.

## **Recommendations**

To ensure your own safety and to prevent machine damage, do not apply the instrument to a moving web in the vicinity of an ingoing nip.

Where lapped seams are present, avoid seam impact n the instrument by timing the measurement to correspond with the web cycles.

When measuring slack spans, avoid wrinkling the web by measuring close to a support roll.

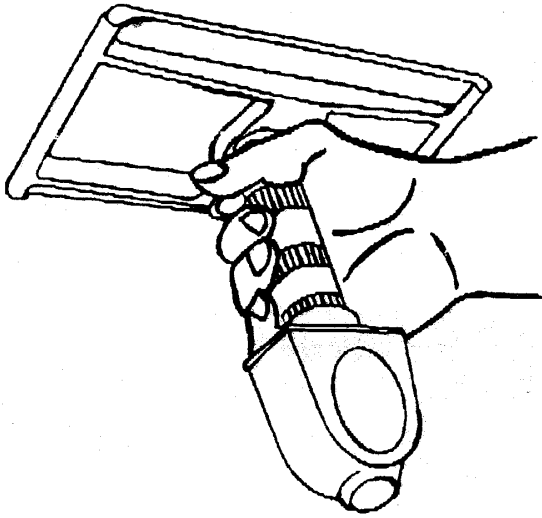
## **Maintenance**

No special maintenance procedures are required. However, the Weavexx **Tensometer** instrument should be cleaned externally and dried after each use.

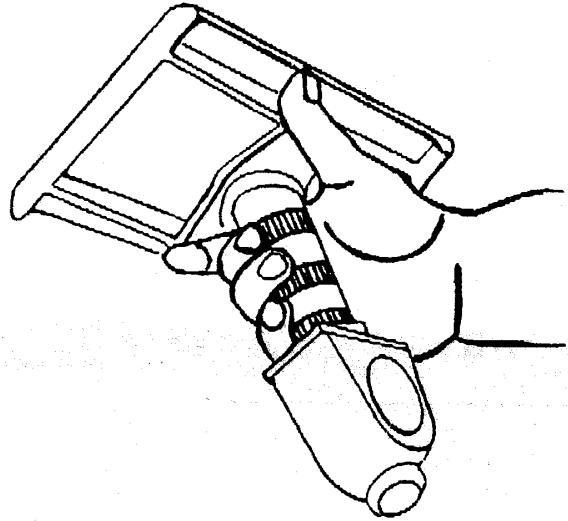
## **Service**

For service contact Customer Service, Weavexx, Post Office Box 471, Wake Forest, North Carolina 27588-1709. Telephone number (919) 556-7235.

**DO NOT DISASSEMBLE THE INSTRUMENT**



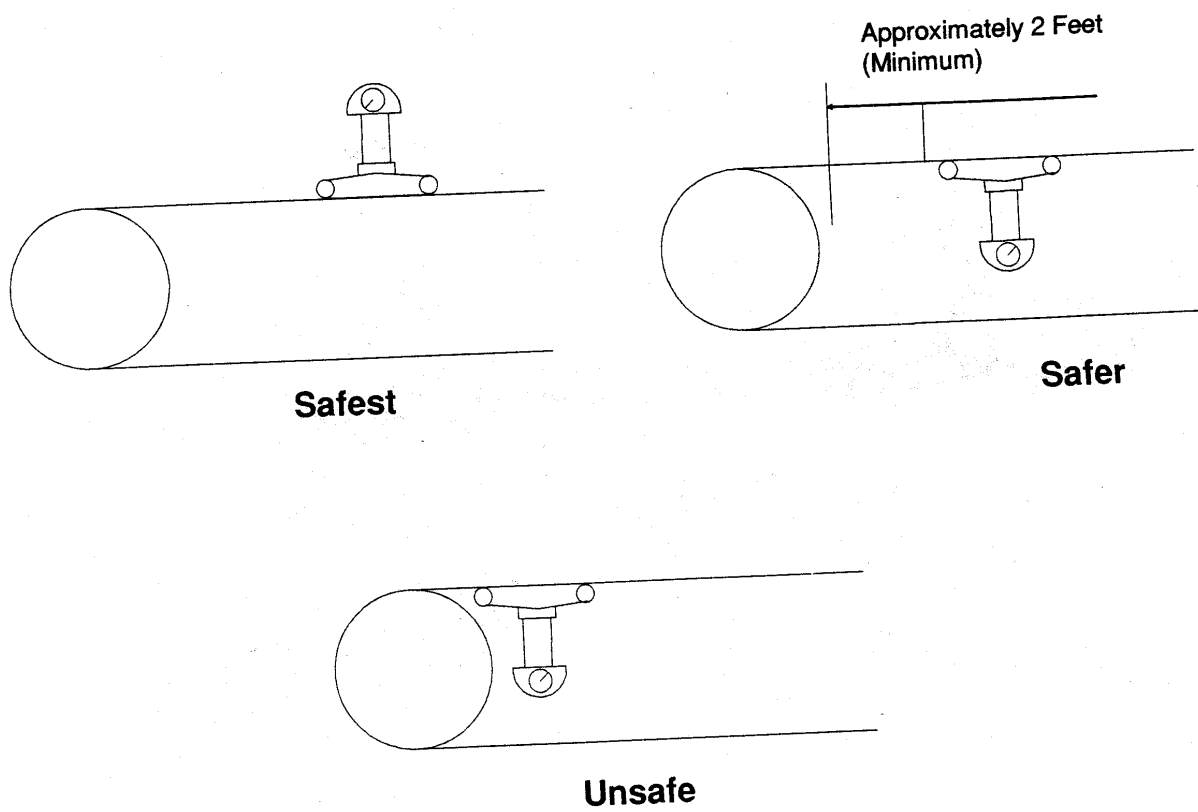
**Right**



**Wrong**

**Figure 1.**

Do not contact the picture frame while taking measurements with the **Tensometer** instrument.



**Figure 2.**

Do not apply the **Tensometer** instrument in the vicinity of an ingoing nip.

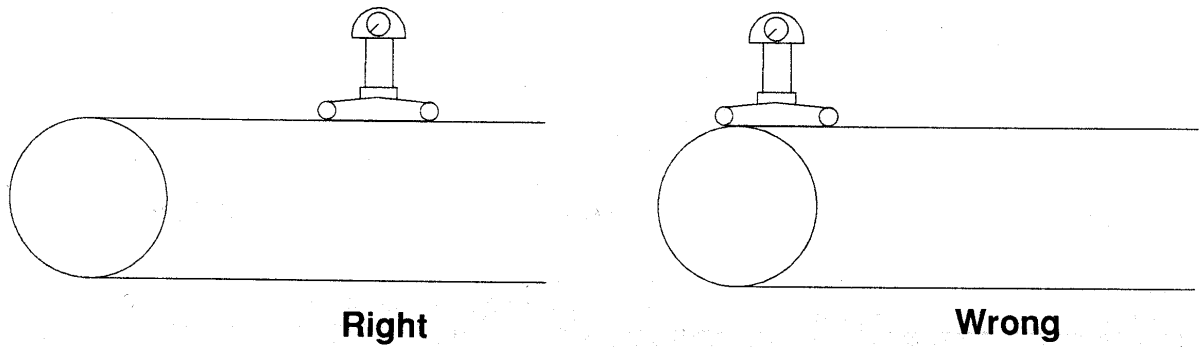


Figure 3.

Do not use the **Tensometer** instrument on top of a roll.

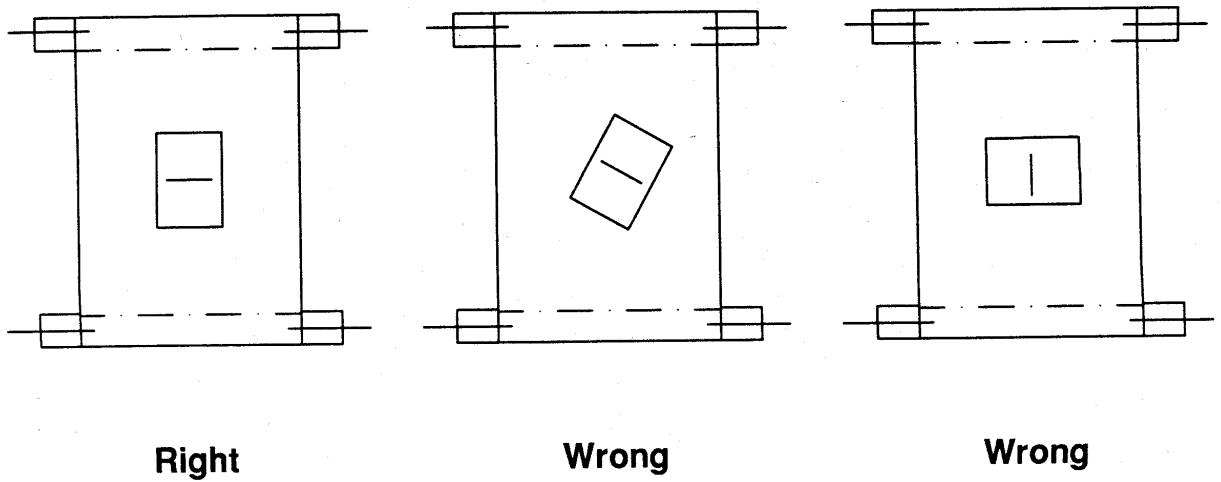
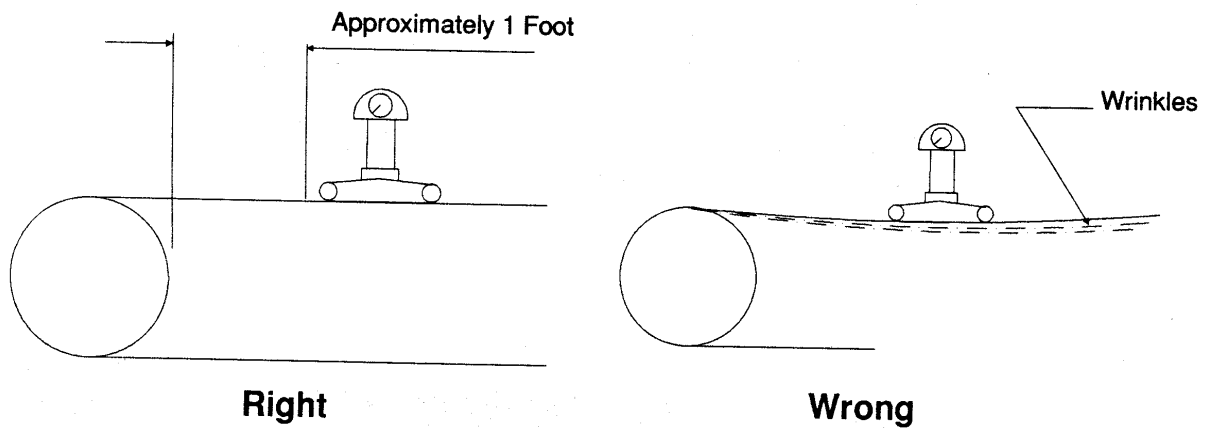


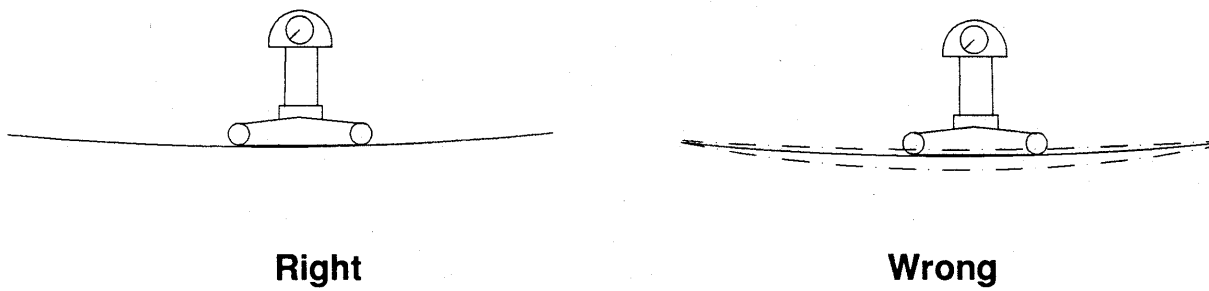
Figure 4.

The longer side of the **Tensometer** instrument frame must be oriented in the machine direction.



**Figure 5.**

To prevent wrinkling of slack webs, measure close to a support.



**Figure 6.**

Gently apply the **Tensometer** instrument.

## Other Products from



Weavexx Fabrics

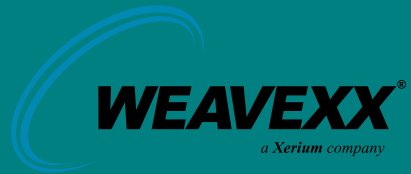
Weavexx Hydrofoil Dewatering Equipment

Vacufoil Units

Contact your local Weavexx Sales/Service Representative or our Wake Forest Office for details about how these products can improve your machine productivity and sheet quality.

Weavexx  
Post Office Box 471  
Wake Forest, NC 27588-1709  
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## TENSOMETER CHART

