

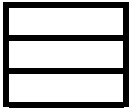
Dr Bob's FT Calculator

The FT Idler position must be set based on the dimensions of the sample and the maximum twisting angle. If the twisting is from 0° to 90°, the maximum twisting angle is 90°.

Enter the length and width of the sample in mm, and the maximum twist angle in degrees.

The calculator gives the Idler position, the sample length change, and the distance the slider moves.

Sample Length	L	<input type="text"/>	mm
Sample Width	W	<input type="text"/>	mm
Maximum Twist Angle	Θ	<input type="text"/>	°



Length of String to Pulley	H	120	mm
Position of Idler	R	<input type="text"/>	mm $R = [\Delta L \times (2 \times H + \Delta L)] / [2 \times H \times (1 - \cos\Theta) + 2 \times \Delta L]$
Sample Length Change	ΔL	<input type="text"/>	mm $\Delta L = L - \text{sqrt} \{ L \times L - [\text{pi} \times W \times \Theta / 360] \times [\text{pi} \times W \times \Theta / 360] \}$
Slider Moving Distance	ΔS	<input type="text"/>	mm $\Delta S = R - H + \text{sqrt} \{ R \times R + H \times H - 2 \times H \times R \times \cos\Theta \}$