



Guidelines for selecting the right SCHMIDT Tension Meter

1. Select the desired model:

■ **According to your desired use:**

- Hand-held or stationary model
- Mechanical or electronic model

■ **According to application:**

Selection Guide

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2. Determine the appropriate tension range:

■ **Recommendations for typical textile and wire applications:**

Tension Range* up to	SCHMIDT Calibration Material**	Textile Industry e.g. yarn count max.	Wire Industry e.g. copper wire, soft-annealed
20 cN	Filament: 25 tex	25 tex	max. 0.05 mm Ø
50 cN	PA: 0.12 mm Ø	50 tex	max. 0.08 mm Ø
120 cN	PA: 0.12 mm Ø	120 tex	max. 0.13 mm Ø
200 cN	PA: 0.12 mm Ø	200 tex	max. 0.17 mm Ø
300 cN	PA: 0.20 mm Ø	300 tex	max. 0.20 mm Ø
400 cN	PA: 0.20 mm Ø	400 tex	0.10 - 0.25 mm Ø
500 cN	PA: 0.20 mm Ø	500 tex	0.10 - 0.25 mm Ø
1000 cN	PA: 0.30 mm Ø	1000 tex	0.10 - 0.40 mm Ø
1500 cN	PA: 0.30 mm Ø	1500 tex	0.15 - 0.50 mm Ø
2000 cN	PA: 0.50 mm Ø	2000 tex	0.30 - 0.60 mm Ø
3500 cN	PA: 0.80 mm Ø	3500 tex	0.35 - 0.80 mm Ø
5000 cN	PA: 0.80 mm Ø	5000 tex	0.40 - 1.00 mm Ø
8000 cN	PA: 1.00 mm Ø	8000 tex	0.50 - 1.10 mm Ø
10 daN	PA: 1.00 mm Ø	10000 tex	0.70 - 1.20 mm Ø
20 daN	PA: 1.50 mm Ø	20000 tex	1.20 - 1.70 mm Ø
30 daN	PA: 1.50 mm Ø	30000 tex	1.50 - 2.00 mm Ø
50 daN	Steel rope: 1.50 mm Ø (7 x 7 x 0.20)	50000 tex	1.50 - 2.50 mm Ø

* Tension measured in N (Newton):

1 cN = 1.02 g = 0.01 N; 1 daN = 1.02 kg = 10 N;

** Calibration with standard materials – such as polyamide mono filament (PA) – according to the SCHMIDT factory procedure has been proved to provide the best results for 95 % of all industrial applications.

Note: We recommend selecting the tension range twice the tension you intend to measure. This has the advantage that you can measure higher than expected values. It also facilitates reading the measured tension on analog scales.

■ **If your material to be measured differs in kind and diameter:**

Please contact us for assistance to determine the right tension range and model. For this purpose a material sample of 5 m should be supplied.

A wide variety of roller types are offered depending on the material to be measured:

unsymmetrical cross sections



exible, with small diameters



sensitive materials



exible, with large diameters



tapes and bands



3. Select the guide rollers according to the following criteria:

- Roller shape V-grooved or with asymmetrical groove ...
- Roller shape U-grooved with radius or cylindrical ...
- Roller material (hardcoated aluminium, plastic, steel, etc.) ...
- Max. line speed of the measured material ...

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4. Required accessories:

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- Adjustable damping
- Special lever
- Memory pointer

5. Special custom-made designs:

on request

- Special tension ranges
- Customized measuring head widths for applications with limited access space
- Customized distance between the two outer rollers to minimize material deformation
- Calibration for material path other than vertical
- Calibration to different units, such as g or kg

6. Calibration using customer-supplied material:

This is recommended when the material to be measured differs significantly from the SCHMIDT calibration material in diameter, rigidity or shape etc. For this purpose a material sample of about 5 m should be supplied.

7. Inspection Certificate and Calibration Reports:

These Quality Certificates are optionally available and are recommended especially for ISO 9000 certified companies.

If you need assistance ... Should you need any help in selecting your tension meter, please contact us directly, or the service department of your machinery supplier. In any case, please furnish the following information:

- Description of application and machinery
- Description of the material to be measured (Ø, type, characteristics, etc.)
- Line speed of the material
- Recommended or estimated tension
- Maximum measuring head width or available access space
- If necessary, submit a material sample of about 5 m