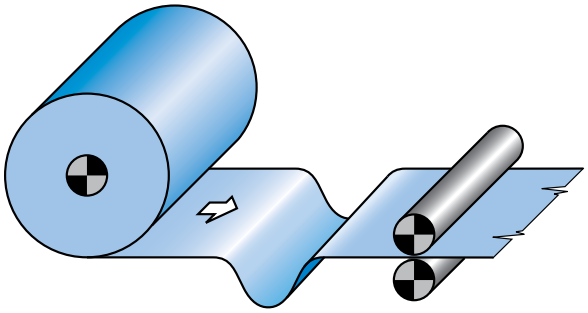
Erhardt+Leimer

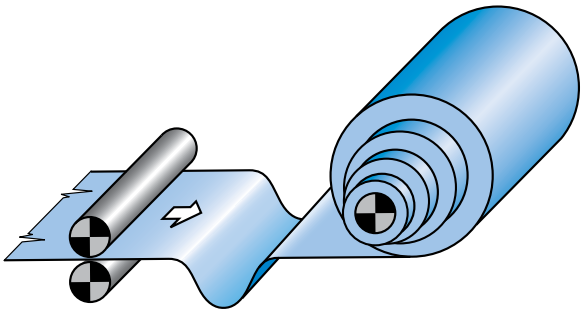
We know web tension

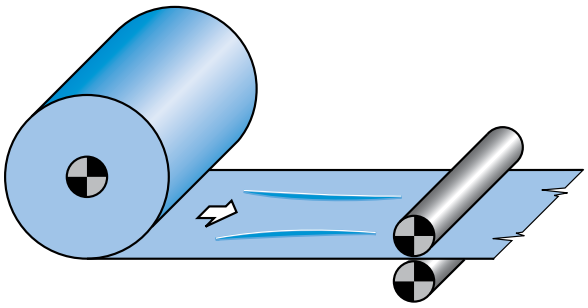
ELTENS - Web tension measuring and control system

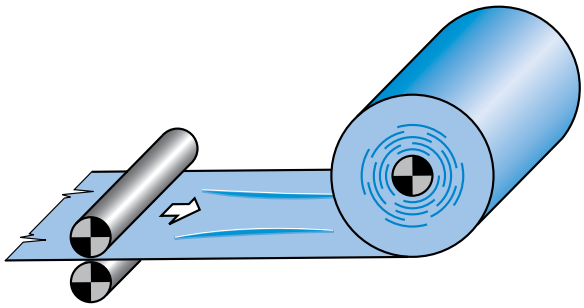
Do you know this?

Typically, webtype materials are fed from a roll to the machine, finished and then rewound. At each stage, web tension errors may occur that may lead to malfunctions and quality impairments.









Web tension after the unwinder

- Insufficient web tension causes slack in front of the transport drive
- If the web tension is too high, longitudinal creasing and textile web deformation may be caused

Web tension on the rewinder

- If web tension on rewinding is insufficient, roll telescoping may occur
- Excessively high tensile forces damage the inner windings

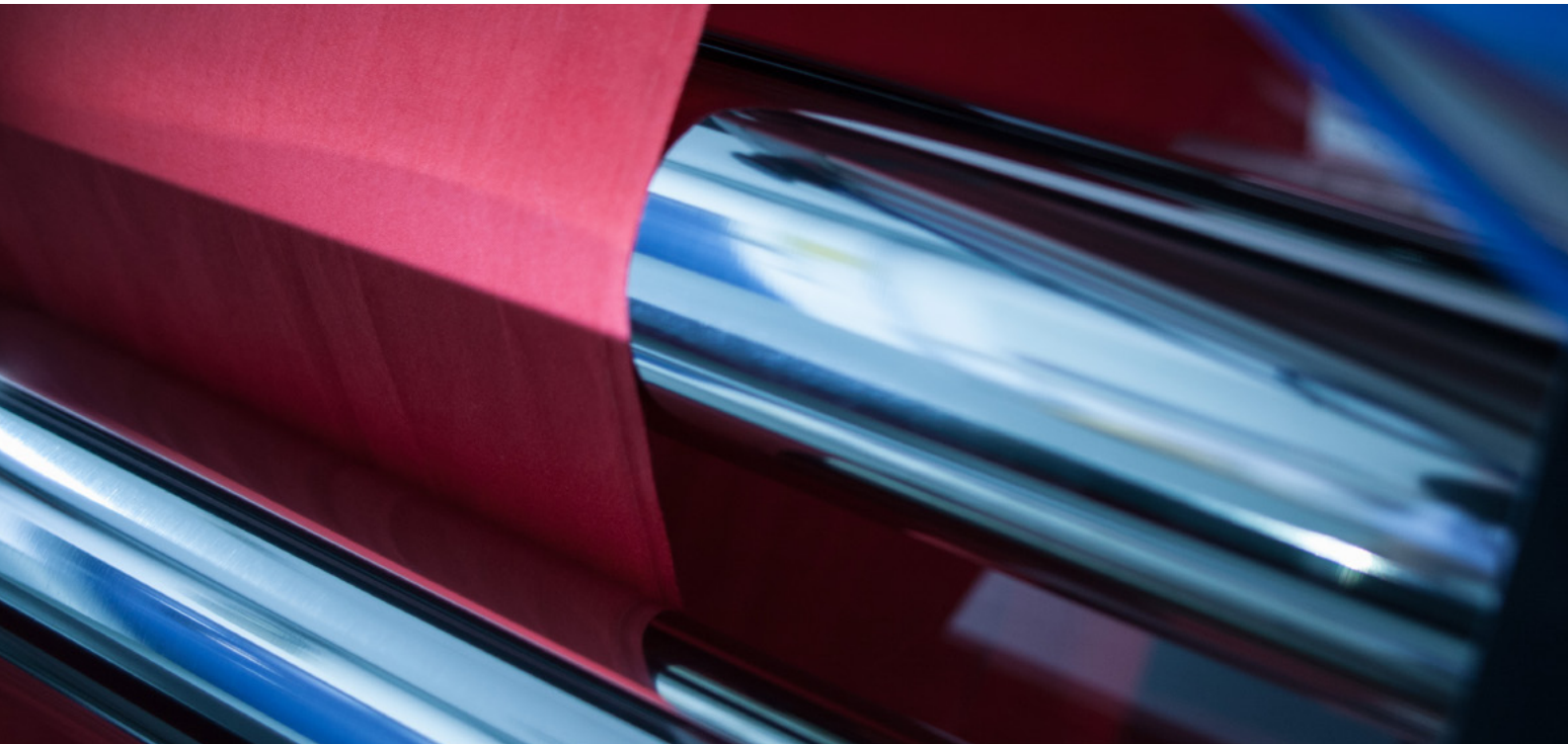
Would you like this?

- **High accuracy class**
  Precise measurement and monitoring of web tension during the production process

- **Long-term stability**
  Ensures a reproducible quality of the final product

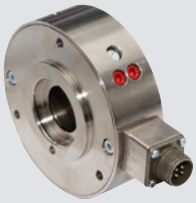
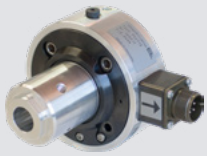
- **10-20 times overload protection**
  Robust against typical web tension peaks, e.g. start-up of production machines

- **Variable mounting options**
  Suitable products and accessories for every application

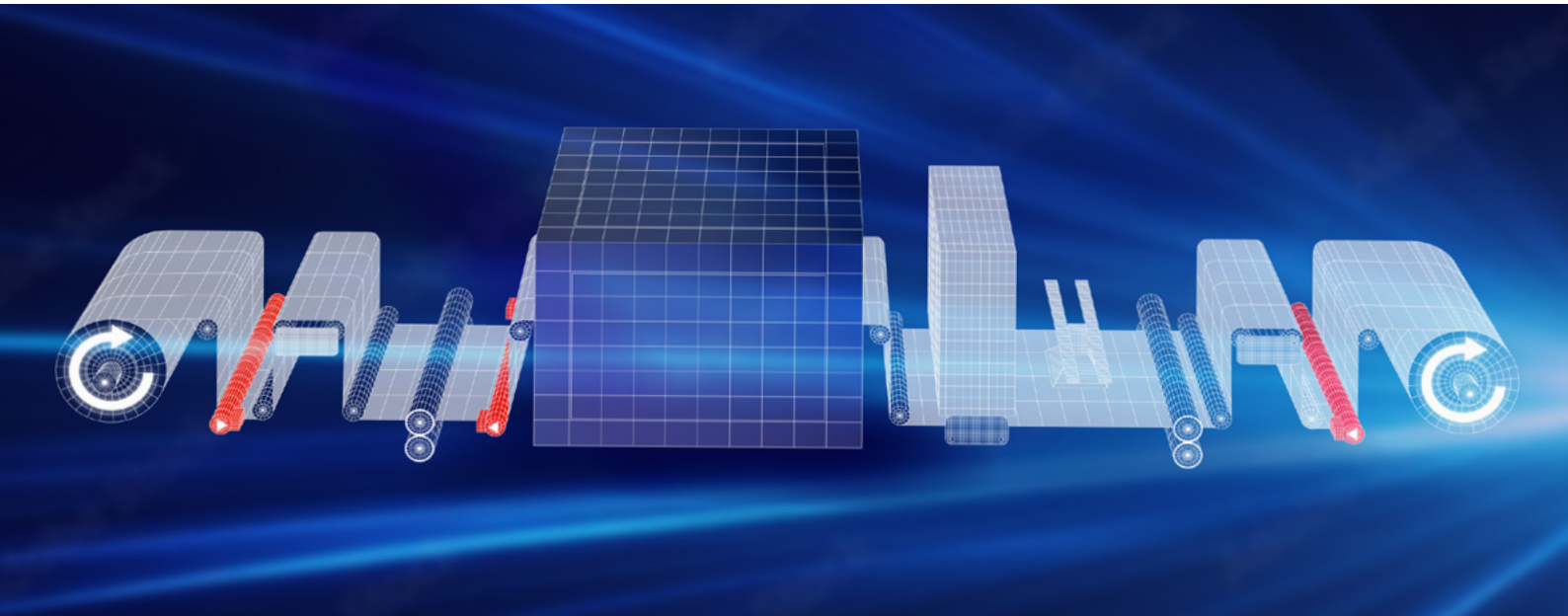


ELTENS – your perfect solution

Web tension monitoring and control

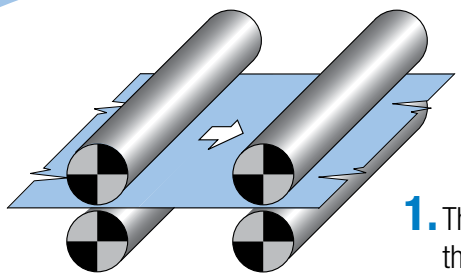
	PD 21/22	PD 23/24	PD 25/26	PD 27	PD 50
Model					
Nominal measuring force	0.05 - 10 kN	0.1 - 3 kN	0.1 - 1.5 kN	60 N	0.08 - 2.0 kN
Web width	wide web	wide web	wide web	narrow web	wide web
Material	steel	stainless steel	aluminum	steel	aluminum
Bore type	one & both sides	one & both sides	one & both sides	one side	one & both sides
Appli-cation	allrounder	wet environment	battery industry	single-side mount	easy roller mounting

Find even more Erhardt+Leimer web tension measuring products on our website.



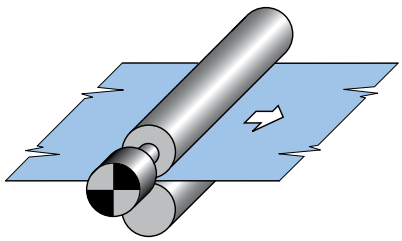
Control loop

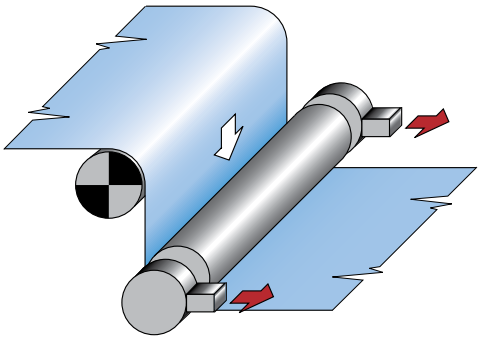
Any automation of a controller is based on the principle of a simple control loop. Even the most complex tasks may be reduced to this control loop.



1. The starting point is the actual tensile force of the web.

4. The actuator converts the correction signal into the braking torque or the target speed value and, in this way, generates and controls the web tension.





3. The controller compares the actual web tension value with the specified target value and transmits the relevant corrective signal to the actuator.

2. Load cells continuously and precisely detect the actual web tension.

Flange load cell PD 21/22

- Best surface protection due to chemical nickel plating
- Various mounting options enable position-independent installation
- Good temperature behavior

More info about PD 21 ›

Flange load cell PD 21/22

Type, bore on one side	Type, bore on both sides	d** (mm)	Nominal measuring force (kN)				
PD 2112	PD 2212	12	0.05	0.1	0.2	0.5	1
PD 2115	PD 2215	15	0.05	0.1	0.2	0.5	1
PD 2117	PD 2217	17	0.05	0.1*	0.2	0.5*	1
PD 2120	PD 2220	20		0.15	0.3	0.75	1.5
PD 2125	PD 2225	25		0.15*	0.3	0.75*	1.5
PD 2130	PD 2230	30		0.3	0.6	1.5	3
PD 2135	PD 2235	35		0.3*	0.6	1.5*	3
PD 2140	PD 2240	40		0.6	1.2	3	6
PD 2145	PD 2245	45		0.6	1.2	3	6
PD 2150	PD 2250	50		0.6*	1.2	3*	6
PD 2155	PD 2255	55		1	2	5	10
PD 2160	PD 2260	60		1	2	5	10
PD 2165	PD 2265	65		1	2	5	10
*Preferred sizes		**Diameter of the axle journal					

Flange load cell PD 23/24

- Made of stainless steel
- Suitable for wet production areas e.g. textile production
- Suitable for wide moving webs and heavy material

More info about PD 23 ›

Flange load cell PD 23/24

Type, bore on one side	Type, bore on both sides	d (mm)	Nominal measuring force (kN)			
PD 2317	PD 2417	17	0.1	0.2	0.5	1
PD 2325	PD 2425	25	0.15	0.3	0.75	1.5
PD 2335	PD 2435	35	0.3	0.6	1.5	3

Flange load cell PD 25/26

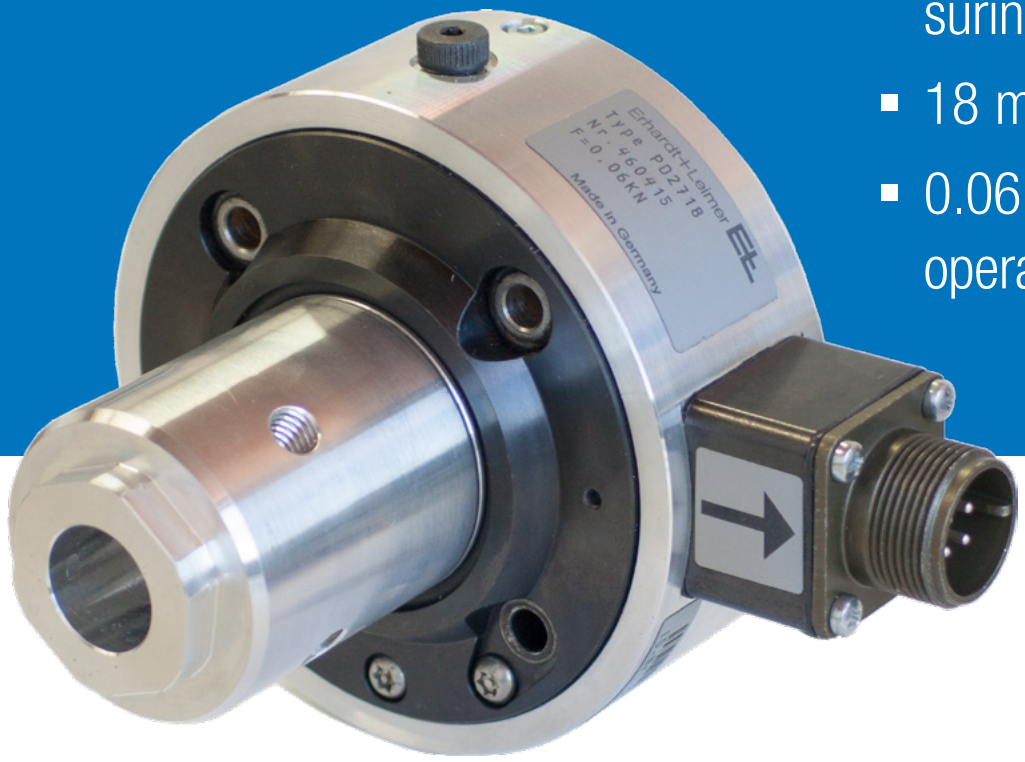
- Made of aluminum
- Suitable for battery production
- Accuracy class 1
- Protection class IP 54

More info about PD 25 ›

Flange load cell PD 25/26

Type, bore on one side	Type, bore on both sides	d (mm)	Nominal measuring force (kN)		
PD 2517	PD 2617	17	0.1	0.2	0.5
PD 2525	PD 2625	25	0.15	0.3	0.75
PD 2535	PD 2635	35	0.3	0.6	1.5

Flange load cell PD 27



- 0.06 N nominal measuring force
- 18 mm axle diameter
- 0.06 - 0.084 kN operating load

More info about PD 27 ›

- Precise web tension measurement independent of the force applied to the roller
- Highly reliable in operation thanks to overload protection up to 10 times the nominal measuring force
- For measurements in a horizontal direction, the weight of the roller does not affect the measured result
- Nominal characteristic value calibrated in the factory to 1 mV/V

PD 50 block load cell

- Made of aluminum
- Highly versatile application options
- Accuracy class 0.5
- Protection class IP 54

More info about PD 50 ›

PD 50 block load cell

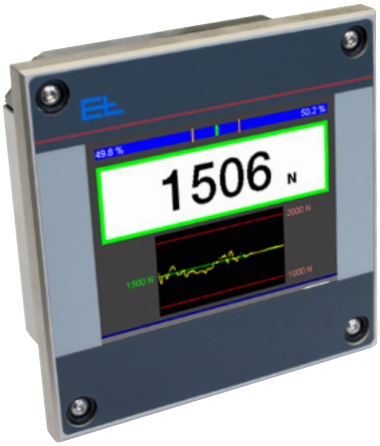
Type	Size L x W x H (mm)	Nominal measuring force FN per block load cell (kN)		
PD 5010	134 x 48 x 78	0.08	0.2	0.4
PD 5020	150 x 68 x 78	0.5	1.0	2.0

Amplify, monitor and control

Measuring amplifier CV 22

- Single-channel measuring amplifier for connection of one or two load cells
- Precision instrument amplifier with low temperature drift, high long-term stability and excellent linearity

Digital measuring amplifier PA 62



- Digital two-channel measuring amplifier for connection of two load cells
- Temperature compensated amplifier with accuracy class 0.1
- Menu-based, language-neutral commissioning wizard

Web tension controller DC 62

- Compact, digital web tension controller for different control structures including color touch-display
- Digital two-channel measuring amplifier for connection of two load cells

EL.NET Inside

Ready to optimize your production with precise web tension?

We are your perfect production partner.

Feel free to contact us.

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Sales Division Manager Paper I Film I Special Markets

Erhardt+Leimer GmbH

Contact us

MYEL

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