



Checking position of plate glass in production

Checking presence, measuring distance and thickness of various sheet materials using mechanical displacement measuring systems

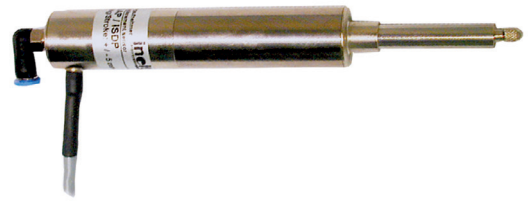
Initial situation

Various measuring methods can be used to determine the position of sheet materials, depending on the requirements. Ultrasonic or mechanical displacement measurement systems are usually used here. They can also provide support in detecting the position of plate glass in glass production, which is why the search was on for a suitable sensor. It is to record the distance between the back wall and the glass surface as well as the distance and position of the panels in order to avoid production errors and improve work safety. One production-related challenge was the specified measuring accuracy of $\leq 0.1\text{mm}$. So the search was on for a sensor which would meet the measurement requirements and provide reliable results.

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Solution

An LVDT displacement sensor from Inelta Sensorsysteme was used in the first test run to meet the required specifications. Due to unavoidable tolerances when lowering the glass plates, the glass occasionally touched down on the tip of the LVDT sensor probe, causing the sensor to be mechanically misaligned and then report incorrect values. This required constant corrective alignment of the sensor, so another approach to the solution was needed.



*Pneumatic LVDT-ISDP
with integrated signal conditioner*

Developing the LVDT-ISDP with pneumatic sensor rod control has made it possible to pneumatically keep the sensor rod retracted until the glass surface reached the rear wall. For measuring, the measuring tip was extended by spring force, the position of the glass surface was recorded and pneumatically retracted after the measuring process. The measuring tip of the sensor was also modified to avoid it damaging the glass. This pneumatic sensor solution from Inelta Sensorsysteme means precise measurement values free of hysteresis can be supplied while avoiding changes in work procedures. The customer has been using the sensor for years reliably and without any problems.



Customer value

- Pneumatic control of the encoder rod minimizes production errors
- Storage logistics optimized
- Increased and improved accuracy
- Improved occupational safety

Inelta Sensorsysteme

For over 20 years now, Inelta Sensorsysteme has been developing, producing, and selling customer-specific sensor solutions for industrial applications. Our portfolio includes sensors for measuring force, pressure, displacement and inclination and also various designs of signal conditioners. We enjoy working with you to develop customized sensor solutions to meet your individual requirements using our interdisciplinary know-how and many years of experience in sensor technology.

Take advantage of our interdisciplinary know-how on sensor systems.

We would be glad to advise you!



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