

Quality Control Stoneware Measurement

Industries: Process
Application type: Dimension measurement

Description

This application concerns the quality control of a stoneware manufacturer. Among other products, this manufacturer produces curbs for road construction. These elements are robust and heavy.



Fig 1: Quality control of the stoneware

Incorrect product dimensions are annoying in road construction and reworking or even returning to the manufacturer is cumbersome and expensive. To avoid this, the manufacturer carries out a height check of the production goods at the end of the production cycle.

The quality measurement is carried out in parallel using three DAN-30-050 Laser Distance Sensors without contact. This enables a measurement that does not disrupt the production process and increases production performance, as manual and delayed quality measurements no longer have to be carried out. This full inspection method cleverly checks 100% of the products and improves overall quality.

The control system is used to parameterize which piece of goods are to be checked. Sound and light alarms signal the user when products do not meet the norm and can then be sorted out.

When developing the quality control, the stone producer tested various technologies and manufacturers: ultrasonic sensors, radar sensors and laser distance sensors. During the tests, the Dimetix Laser Sensor DAN-30-150 impressed the customer the most due to its measuring behavior and reliability. The visible spot makes the Laser Distance Sensor easy to align.



Fig 2: Sort out curbs

Customer advantage

- **Convenience:** Easy installation and process control thanks to a visible laser spot.
- **Reliability:** Consistent and rapid measurement results, even in harsh industrial conditions.
- **Flexibility:** Non-contact adaptation to different products is easy.
- **Full control:** Non-contact measurement integrated into the manufacturing cycle for 100% inspection.
- **Customer satisfaction:** Improved quality and increased customer satisfaction.



DIMETIX APPLICATION EXAMPLE

AE-2001

Dimetix Sensors – the solution for applications with high precision requirements

Thanks to the clearly arranged product portfolio the evaluation of a suitable Dimetix Laser Distance Sensor is simple and uncomplicated.

Dimetix Sensors offer numerous features, which are integrated in each and every device as standard, including, among others, various interfaces like SSI, RS-422/485, RS-232 and 2 digital outputs.

Optionally, the Industrial Ethernet interfaces PROFINET, EtherNET/IP and EtherCAT are also available. Furthermore, all devices are IP65-protected and impress with a weight of less than 500 grams!

Particularly noteworthy, however, is the accurate measurement of 1 millimeter over distances of up to 500 meters, even under the most extreme conditions. This is possible with the sensors of the types DPE, DEN and DEH.

No less interesting are sensors of types DAE, DAN and DBN. Preferably, they can be used for projects which do not require a range over 500 meters or are cost-sensitive.

	DPE-10-500	DPE-30-500	DEN-10-500	DEH-30-500
PARTNUMBER	500630	500636	500637	500638
SPECIFICATION				
Typical accuracy $\cong \pm 2\sigma$	$\pm 1 \text{ mm}$	$\pm 3 \text{ mm}$	$\pm 1 \text{ mm}$	$\pm 3 \text{ mm}$
Mensurierung range on natural surfaces	0.05...~100 m	0.05...~100 m	0.05...~100 m	0.05...~100 m
Measuring range on reflective foil	~0.5...500 m	~0.5...500 m	~0.5...500 m	~0.5...500 m
Max. measuring rate	250 Hz	250 Hz	100 Hz	100 Hz
Operating temperature	-40...+60°C	-40...+60°C	-10...+50°C	-10... +60°C

	DAE-10-050	DAN-10-150	DAN-30-150	DBN-50-050
PARTNUMBER	500633	500632	500634	500635
SPECIFICATION				
Typical accuracy $\cong \pm 2\sigma$	$\pm 1 \text{ mm}$	$\pm 1 \text{ mm}$	$\pm 3 \text{ mm}$	$\pm 5 \text{ mm}$
Mensurierung range on natural surfaces	0.05...~50 m	0.05...~100 m	0.05...~100 m	0.05...~50m
Measuring range on reflective foil	~40...50 m	~40...150 m	~40...150 m	
Max. measuring rate	100 Hz	100 Hz	100 Hz	10 Hz
Operating temperature	-40...+60°C	-10...+50°C	-10...+50°C	-10...+50°C