

# Bottling process benefits from new technology

A regular customer of Sensor Technology Ltd has switched to its latest range of torque sensors

The TorqSense SGR530/540 from Sensor Technology measures torque using a full four element strain gauge bridge. With this, four separate strain gauges are fixed to the drive shaft of the plant or machinery being monitored. The gauges are aligned so that each measures shaft deflection in a different direction as it rotates under load. Electronics within the sensor collects readings from all four gauges and uses them to calculate the torque value in real time.

## A forty-year specialist

Sensor Technology has specialised in real-time torque measurement for over 40 years, pioneering the use of wireless solutions based on radio frequency pick-ups that do away with the need for hard wiring and unreliable slip rings.

Strict international rules apply to the manufacture and packaging of pharmaceutical products, and require that the correct environment is maintained within the bottle or other packaging following capping. To this end, Regulation USP 671 provides a guide to the torque range to be used for screw-type containers with varying closure diameters. By ensuring that bottle caps are successfully applied to the bottles within the required torque tolerances, the integrity of the product can be maintained.

Over the years, Sensor Technology has worked with many OEMs to develop high-precision, high-speed machines for use in pharmaceutical plants and a range of other applications. One of these, an Oxfordshire neighbour of Sensor Technology, has for over ten years incorporated TorqSense units into its capping machines.

## Bottle capping

Bottle capping is nearly always performed at very high speed so that production targets are met. A major



The separate sensing head and electronics housing of the TorqSense SGR530/540 series allows for easy mounting on machines where space is difficult to find

advantage of TorqSense is that it does not need to physically contact either the bottle caps or shaft of the torque head it is monitoring, instead using a radio frequency link. This means initial set-up and change over to new product runs is fast and efficient while operational reliability is not dependent on delicate slip rings.

"All you have to do is set up a TorqSense transducer in the capping machine and turn it on," said Mark Ingham of Sensor Technology.

Significantly, the new SGR530/540 sensors are designed to be drop-in replacements for the older RWT430/440 units. They are the same size and shape as their corresponding older model, with the same mounting holes, cables in the same position, and so on.

"All we have had to do to the capping machines is a straightforward swap of old for new. It only takes a few minutes," said Ingham. "Our new SGR TorqSense units are getting a realistic long-term work out on the capping

machines, working for long hours at high speed, where they are required to be 100% reliable and consistently accurate."

## Torque measurement

Fast and accurate torque measurement is becoming more and more important as all sectors of manufacturing automate their physical processes while also needing to improve the recording of production performance data. TorqSense is used in many industries from automotive to materials handling, test and measurement, FMCG (fast moving consumer goods) production, power generation, and so on. Sensor Technology is working with customers in many sectors to assess the new SGR units in a range of working environments.

### CONTACT:

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