

Spring-Loaded Bearing RTD

Customer:

Food Processing Plant: Primarily processing corn into corn oil, syrup, and animal feed.

Location:

Tennessee, U.S.A.

Background:

Plant engineers use RTD sensors to monitor bearing temperatures throughout their plant: on fans, engines, elevators, and belt drives. The bearings move at high rates of speed and need to be closely monitored in order to prevent the bearings from seizing up and causing damage to the equipment. These bearings also physically move (up to 1/2") from their original position during operation, making them difficult to monitor. The sensors typically live inside "oiling holes" which are used to add lubricating oil to the equipment.

Problem:

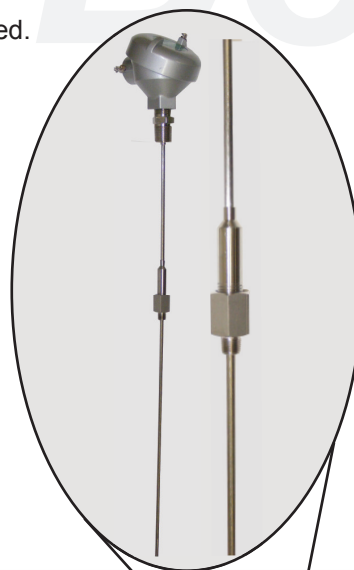
The sensors currently installed at the facility used a compression fitting which locked the stem in place. This was a problem because the bearings moved during operation and as a result they lost contact with the sensor tip. If continuous contact was not maintained between the bearing and the sensor tip, the temperature reading could be thrown off considerably. If a bearing failed because it was not properly monitored, the cost of repairing the damaged equipment, and likely shutting down the process to fix it, was a very expensive proposition. **The customer needed a way to maintain continuous bearing contact and still seal the oil in place.**

Solution:

The customer contacted their local REOTEMP distributor for a solution. **Instead of using the fixed compression fittings, REOTEMP configured a spring-loaded oil seal RTD with a floating stop ring.** The floating stop ring allowed the customer to insert the stem into the oiling hole to the necessary depth, tighten the ring, and seal the connection. The spring-loaded stem, which could travel up to 1/2", ensured the tip of the probe maintained contact with the bearing as it moved and shifted. Finally, the oil-seal fittings ensured the lubricating oil wouldn't leak from the system.

Results:

The plant engineers and maintenance crew were all very happy with the new REOTEMP sensors. They were glad to have an accurate, reliable, sensor in place. Eight sensors were purchased to meet their immediate needs and plans are in place to change over additional sensors throughout the plant.



Food & Beverage

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