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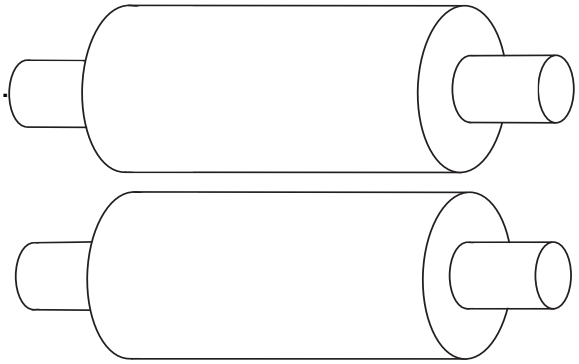
Use Fiberoptics When Intrinsic Safety Is Required

The Problem

To Safely Measure and Control The Gap Between Two Rollers In A Highly Combustible Production Atmosphere.



A manufacturer of high tech fabrics has production lines where solvent-based coatings are applied to a variety of knit and woven substrates. These solvents in the production area are highly combustible. Therefore, intrinsically safe sensors were required.

The Solution

A dual-channel system, model ***2DMS-D100-BC1E,*** was designed with 39 Ft. and 49 Ft. long intrinsically safe fiberoptic cabling with in-line connectors located about 27 Feet from the electronics. This provided sufficient length to measure gaps at both ends of the 10 Ft. long rollers, and to locate the DMS electronics a safe distance away from the solvents.

The Model D100 sensor tips were fixtured at the roller ends on bearing housings where they monitored the positions of the shaft centerlines as the measure of roller gap.