

Field Reports

## Metal detection system helps Doughnut Peddler meet its quality goals



Doughnut Peddler installed Stealth conveyor systems on its production lines, with each capable of checking 160 doughnuts per minute.

*Photo courtesy of Doughnut Peddler*

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In the space of a few years, Doughnut Peddler went from a single-bakery operation servicing a single state to a multi-site enterprise supplying retailers across 11 states.

“We’ve seen a snowball effect. Once our customers see what we are capable of, they want to work with us in other territories. We’ve been firing on all cylinders to meet this growth,” says Jason Yada, national director of sales at Doughnut Peddler.

To keep pace with demand, the company has opened four bakeries in recent years—in Orlando, Houston, Chattanooga, Tenn., and Charlotte, N.C. The company makes more than 800,000 deliveries each year, transporting over 60 million doughnuts, cinnamon rolls, apple fritters and other freshly baked goods to convenience stores across North America.

The company, with headquarters in Phoenix, had always wanted to invest in metal detection but needed a business justification for the investment. This rapid expansion provided the opportunity and the commercial case that Doughnut Peddler needed. The company installed four Stealth metal detectors from Fortress Technology.

## **The need**

Doughnut Peddler’s brief, in terms of what it wanted from its metal detectors, was straightforward.

“Just to detect metal. We didn’t want any bells and whistles, just something reliable. I wanted it not to be an issue, to be able to set it and forget it,” says Jon Dairman, senior operation manager—procurement.

From a metal detection perspective, though, the project wasn’t entirely straightforward. Doughnuts come out of the fryer and onto a 12-ft. cooling conveyor with high-temperature belting. Doughnut Peddler wanted to mount the detectors at this point, as it provides the last opportunity to check the doughnuts before they are packed into plastic trays that sit in metal baskets.

However, the combination of high temperatures and moisture creates a “product effect” that can confuse metal detection equipment, as it cannot discriminate between this and actual metal contamination. This issue can trigger frequent false rejects. With Doughnut Peddler’s lines running continuously at speeds of 160 doughnuts per minute, the company could not have false rejects disrupting production.

Fortunately, Fortress’ Stealth metal detector was able to achieve reliable performance thanks to a powerful digital signal processing technology that allows high-speed precision detection and dual frequency operation, which automatically compensates for extreme product characteristics. All of the processing power is on one board versus multiple boards required on some competitive models. A technical feature is the Fortress FM Software, created to enhance the detector’s performance and stability, especially in difficult applications.

These features ensure that signals for mechanical, electrical, airborne and product are nullified or eliminated. This allows the detector to identify signals created by the three types of metals—ferrous, nonferrous and 300 series stainless steel—overcoming the risk of false rejects.

As Doughnut Peddler pursues its ambitious inter-state growth strategy, the ability to demonstrate this level of rigor has the potential to unlock potential customers, according to Yada.

“Some of the potential customers we are reaching out to are even more encouraged in working with us as they learn of our use of the robust metal detection HACCP plan we have in place.”

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