



Case Study

TOUGH CHEESE! LOMA CHOOSES DAIRY FOOD FACTORY TO TEST IQ METAL DETECTOR TO THE LIMIT

When Loma Systems' IQ series of metal detectors came out, the company wanted its first machine placed in a plant that would really test its mettle. Loma settled on Oakville, Ontario-based **Armstrong Cheese Company Ltd.**, subsidiary of **Dairyworld Foods**.

"The IQ came out and we told Armstrong that we wanted to put the detector in a place where we could prove it," says Doug Pedersen, director of sales for Loma Canada. "We chose a cheese plant because they're really tough environments, with all the water, food and cleaning materials that the machines have to face every day. "Also, cheese is one of the more difficult products to run through a metal detector. Cheese is wet and conductive, so you need a detector that can find a tiny piece of conductive contaminant inside a bigger piece of conductive material," says Pedersen. "We thought that the Armstrong plant would allow us to prove the IQ's capabilities," he adds.

The Loma IQ features a white silicon rubber aperture lining to protect the unit from water ingress and severe temperature changes. The aperture is a key site on the detector head. Since it is the opening through which products pass, the aperture houses the metal detecting coils which, if left unprotected, may cease to function properly. "The silicon lining is unique to our machine," says Pedersen. "It compensates for thermal expansion in the detection head that occurs with the temperature changes caused by cleaning. "Also, it can withstand up to 1,000 psi (pounds per square inch) of direct hose pressure during washdown, and it's IP67- and NEMA 4X-rated," Pedersen says, adding that the Loma IQ "is at the leading edge of metal detecting technology".



With over 10 years in the cheese business, Doug Mann understands the importance of good quality control technology. And Mann has nothing but good things to say about the Loma IQ metal detector. "The IQ detector is extremely user-friendly," says Mann, Armstrong Cheese's production Manager. "As a result, our operators are not afraid to use it and they don't take shortcuts with it".

Because the Loma IQ comes with a performance validation system (PVS), the operator's job is even easier than before. The PVS prompts the operator to check the metal detector's performance at regular intervals and provides proof that the system is operating at optimum sensitivity levels throughout a batch run. "The PVS prompts the operator to run regular sensitivity tests", says

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Pedersen. “And the machine will only accept valid test samples. It won’t let you run your keys or a pen through; you have to use a proper sample. “In the end the machine decides whether the test is a pass or a fail,” he says.

SENSITIVE TOUCH

Doug Mann likes the IQ’s accuracy and sensitivity levels, areas that can sometimes be a problem with metal detectors. “The Loma detector is extremely accurate and very sensitive. The problem with some detectors is that they are either too sensitive or not sensitive enough. That means you either get a lot of false rejections, or contaminants get missed”, says Mann. “The IQ detector is stable. When it rejects an item it’s usually for a good reason, and the reason is there is metal or grease in the cheese”, he says. Mann also says that the Loma machine is a lot better at picking up stainless steel contaminants than other models of metal detectors. Pedersen points to the IQ’s new 32-bit microprocessor as the reason for its improved sensitivity levels. “The 32-bit microprocessor sets the IQ detector apart,” says Pedersen “Most metal detectors feature eight-bit and 16-bit processors. “The 32-bit processor allows us to do things with the digital signal processing to get better detection sensitivity,” he says.

Gregg O’Drowsky, Armstrong’s assurance manager, adds that he’s happy with the interference threshold that the Loma IQ provides. “The interference from the cheese is lower,” he says. “As a result (the IQ) is more accurate with picking up metal, so we’re getting fewer false rejections than we did in the past. By getting less false rejections our operators know more clearly that, ‘Yeah, it is a piece of metal or a contaminant,” states O’Drowsky, adding that when a machine begins signaling too many false rejections the operators lose confidence in its ability to do the job right. In the end, their doubt slows production down so that they can double-check the job the machine is doing. Says O’Drowsky: “The new Loma system changes all that. It’s a top-of-the-line unit”.
