

A Truly Reliable Solution for the Healthcare Industry

An established X-ray tube manufacturer approached Nason with a unique application in mind: they needed a pressure switch that would act as part of the safety system inside the X-ray tubes, as the tubes could reach extremely high temperatures during use and the CT or MRI equipment would need to shut off if a certain limit was exceeded.

But because the X-ray tubes were filled with water glycol on one side and dielectric fluid on the other, it was decided that the new pressure switch would have to be completely submerged during operation.



Challenge

The Nason team set about creating a fully submerged — and fully sealed — pressure switch for the first time ever, but the building pressure around the switch when it was in use caused it to falsely trip.

Faced with this initial setback, Nason engineers went back to the drawing board and developed three additional iterations of the switch before achieving the ideal design this one-of-a-kind application required.

Solution

Nason engineers developed a switch that allowed the dielectric fluid to flow into the switch and equalize the pressure on both sides of the diaphragm. At every step of the process, they worked closely with the customer — asking the right questions and piecing together critical information.

This solution required precise attention to detail: not only keeping the set point extremely tight for accurate readings, but also serializing and recording set point data for traceability on each individual switch. Given the strict standards of today's medical equipment industry, it was vital to ensure the reliable, consistent performance of every component.



Result

Thanks to a close partnership with Nason, the customer achieved maximum uptime for the CT and MRI equipment which utilized their newly developed X-ray tubes —nearly doubling the number of possible daily scans.

Not only did this dramatically increase the end-user's ROI, it also gave the customer the confidence to trust Nason with additional orders for pressure switches to fit multiple X-ray tube sizes in the future.

