



# Predictability Matters in the Pharmaceutical Industry



## Predictability

This paper is the final part of a four-part collection of white papers designed to address crucial aspects of the pharmaceutical industry. Success in the pharmaceutical industry requires attention to detail on a microscopic level. This paper explains why it is recommended that those in the pharmaceutical industry utilize predictive maintenance techniques to preserve industry-standard compressed air quality, eliminate unnecessary costs and improve uptime. Predictive Maintenance techniques are used to help determine the condition of equipment for the purpose of predicting when maintenance should be performed to prevent unplanned downtime and the increased costs that accompany it.

### WHAT'S THE COST?

The first three papers of this collection identified three major issues that can have detrimental effects on the pharmaceutical industry. The first paper stressed the importance of compressed air quality in a pharmaceutical manufacturing facility. In the pharmaceutical industry, the standards for clean, compressed dry air are high and require strict adherence. Maintaining industry-standard Class 0 air is essential to safely manufacture pharmaceutical products. In the second paper, it was revealed that even the smallest of leaks can result in significantly increased costs and wasted energy. The pharmaceutical industry is a competitive industry with high demands and minimizing unnecessary costs is essential to staying ahead of competitors and optimizing production processes. Finally, the third paper explained that if maintenance services are inconsistent or low quality, plant managers can face unplanned downtime due to wasted time and resources. Especially in the pharmaceutical industry, time is everything. Ensuring reliable maintenance efforts are practiced will maximize uptime and minimize corrective maintenance. As evinced by the above-mentioned examples, the cost of ignoring predictive maintenance can be high. The above are just three out of many cost-devastating problems that can occur in a facility. Taking the initiative to stay ahead of downtime will ensure success in the pharmaceutical industry.

### PREDICTIVE MAINTENANCE TECHNIQUES

Predictive maintenance ensures compressed air systems are consistently performing to industry standards at a competitive level. For example, with predictive maintenance, the goal is to identify areas that, if left unaddressed, will lead to the aforementioned contributors to problems in a facility. Risk and leak assessments are two key actions a facility manager can implement to locate potential risks. When compared to the cost of downtime caused by inoperable compressed air systems, the cost of implementing a monthly, even weekly, assessment of the facility is well worth the investment. Predictive maintenance is an action taken to prevent system failure by replacing parts before they break. In addition to leak and risk assessments, operating conditions oil-sampling analysis, vibration, and past failure data analysis are a few easy-to-implement processes that can identify worn parts before they break down. Remember, ensuring those routine assessments and procedures are executed or double-checked by an experienced maintenance and service team is an important next step. While all pharmaceutical manufacturers have the same goal, each facility yields different challenges that require a customized touch when maintenance is involved.

Consistently utilizing a service team with the familiarity and experience to accommodate the unique needs of each facility can aid in recognizing abnormalities in the compressor system before it escalates.

## CONCLUSION

Utilizing these recommended tips can help to ensure pharmaceutical facilities operate at maximum productivity and your compressed air system stays in premium condition. But predictive maintenance can start before your system is even installed. Predictive maintenance always starts with a reliable Original Equipment Manufacturer (OEM) such as Ingersoll Rand. Ingersoll Rand Class 0 Oil-Free compressors are specifically designed to help pharmaceutical manufacturers adhere to the strict regulations by ensuring production processes remain free of compressor created contaminants. In addition to offering quality compressed air systems, Ingersoll Rand offers rental solutions in the event of an unplanned outage to ensure your facility stays operable. With availability around the world, Ingersoll Rand is there when you need them, wherever you need them, and offers a variety of service programs that include assessments and audits to ensure your compressed air system is running at full capacity. No matter the situation, Ingersoll Rand experts ensure you are prepared for the predictable and ready for the unexpected.

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### **Chad Larrabee**

Services Strategy Leader

Compression Technologies and Services, Ingersoll Rand