

Feature Article



***This Name
Means
Compressor
Reliability.
Here's Why.***

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Cook Certified: What it Means to You

In today's marketplace, maintaining and optimizing your compression assets can be a serious challenge. Among a confusing array of suppliers, service companies, promises and claims - where can you place your trust? How can you accurately assess not only up-front costs, but also long-term value?



For starters, look for Cook Certified.

Cook Certified is a symbol that tells you the products and services you receive are truly best-in-class. It's your assurance of highly engineered solutions that embody all the dedication, knowledge and experience earned in more than 100 years of service.

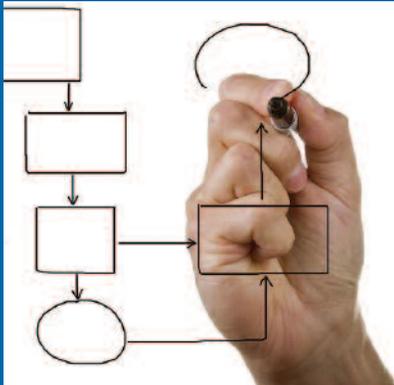
When you see the Cook Certified brand, you'll know that your products meet the highest design and quality standards in the industry. You'll know that aftermarket repairs, reconditioning and upgrades are performed with the utmost skill - and without compromise. And you'll know you will receive superior customer service and technical support every step along the way.

In short, Cook Certified means reliability. In uncertain times, it's good to know there's a name you can count on.

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Chart a Course for Savings

Despite their importance, compressors are not always recognized as critical equipment. In some processes, compressors are simply overlooked in a maze of complex systems demanding attention from plant operating and maintenance teams. The result? In virtually every case, lack of attention results in less-than-optimal performance – for the compressor and the process itself.

Cook Offers the Remedy

Fortunately, Cook Compression provides a valuable service to help customers extract maximum value from their compressors: process flow chart analysis. While using flow charts is not new, the amount of expertise Cook Compression adds to the analysis makes all the difference. Cook has in-depth knowledge of the entire machine - not just a few components - and understands how gas compression impacts plant processes. As a result, Cook can pinpoint problems and propose effective solutions.

To develop a flow chart, Cook specialists work closely with the customer to detail each step in the process and determine how compressors contribute to the overall operation. Along the way, Cook has the opportunity to educate customer operating teams about the capabilities of their compression machinery and quickly identify opportunities for process and machine improvements.

Proven Results

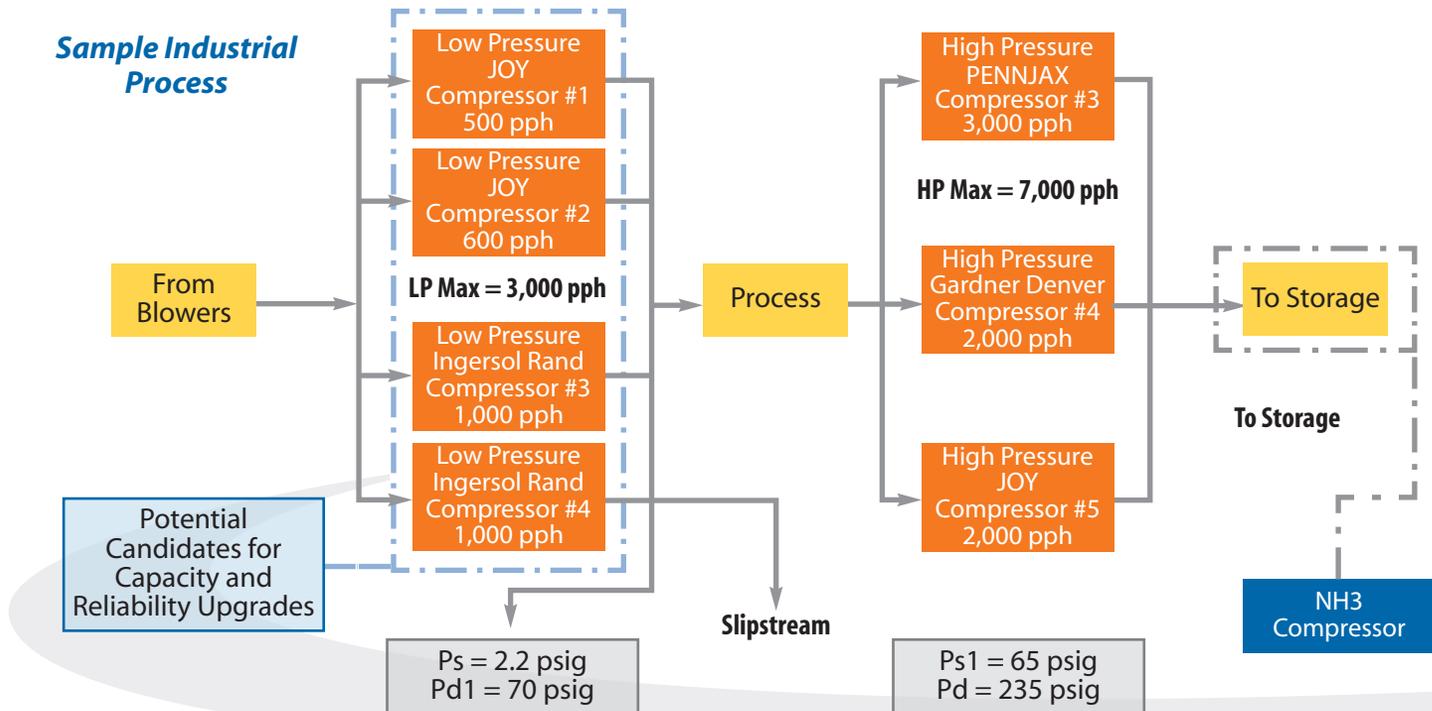
The chart on the next page is an example of an analysis performed to assist a customer in identifying bottlenecks in their process. During the analysis, the critical role of the compressors became clear. In this application, Cook Compression was able to deliver a solution that saved the customer a significant amount of money and downtime by using existing equipment to achieve their goals for higher flow rates and improved reliability. In fact, reliability was extended from 4,000 hours to over 33,000 hours (and still going). The Cook solution also enabled the customer to begin using readily-available, common spare parts.

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For this customer, a \$50,000 investment to upgrade an existing compressor offset a \$250,000 investment for a new unit. Interestingly enough, there was a calculated payback of 9 to 18 months on the \$50,000 investment. Justifying payback for a new installation would have been difficult task. Per the customer's request, this same approach is now being applied to their entire compressor fleet (over 50 units) in various facilities throughout North America.

If you're looking to optimize a process, start by contacting Cook Compression for a thorough analysis. We'll help you achieve your objectives by applying sound engineering practices and the latest technology.



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New AutoBalance™ System Maintains Clean-Running Engines

Concerned about emissions regulations? If you operate large-bore, natural gas fired engines, here's the solution. The Windrock AutoBalance system effectively reduces NOx and CO emissions to the absolute minimum for your engine configuration. It automatically maintains optimal balance on engines 24/7, delivering reliable emissions control at varying speeds, loads and ambient operating conditions.



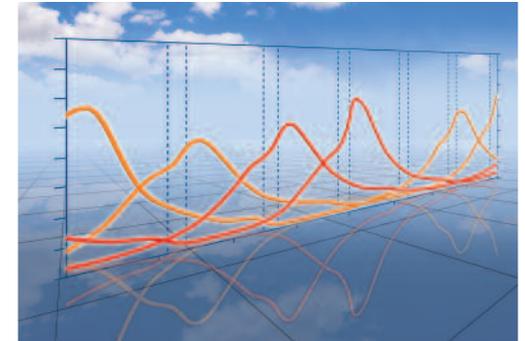
The AutoBalance system provides continuous, peak-pressure balancing for slow-speed, integral engines such as Cooper-Bessemer, Clark/Dresser, Ingersoll-Rand, Worthington, and other two- or four-stroke engines with individual cylinder fuel adjustment valves. In addition to controlling emissions, it helps cut fuel consumption, decrease wear and improve overall machine availability.

A Better Option

Unlike manual balancing, the AutoBalance system maintains constant engine balance over extended periods without any human intervention. Compared to high-pressure fuel injection systems, the AutoBalance system is significantly more economical, simpler to install and extremely low-maintenance. A single system can automatically balance up to 20 power cylinders.

How It Works

The AutoBalance system consists of stepper-motor actuated fuel valves (replacing manual valves), pressure sensors on each cylinder, a Windrock E-Guard on-line pressure monitor, and an AutoBalance module to



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control fuel valve positions. The system electronically controls fuel balance using continuous pressure monitoring feedback and an advanced balancing algorithm. It maintains peak firing pressures and optimizes standard deviation of combustion across all power cylinders.

Results

The AutoBalance system has demonstrated >25% reduction of NOx emissions (compared to standard controls), with emissions maintained at $\pm 5\%$ of average, despite differing ambient conditions, varying speeds and changing loads.

As emission regulations tighten and companies look for more environmentally responsible ways to operate, Windrock's AutoBalance system offers a practical solution.



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Denver & Grand Junction Facilities Boost Service to the Rockies

When it comes to service, Cook Compression President Don York believes in “putting resources where the horsepower is.” One case in point is the Rocky Mountain region, where growing demand for Cook Aftermarket Services has been met with expanding Cook facilities and capabilities.

Regional Focus

“For aftermarket services, one key customer concern has been communicated to us loud and clear: they want close proximity,” explains York. “Customers don’t want to ship their product more than 200 miles away. They need faster turnaround. That simple fact lead to our strategy of delivering services on a regional basis, with facilities and expertise positioned in high-demand areas. Our service expansion in the Rockies illustrates the success of this approach.”

Full Service & Satellite

The Denver Service Center is a full-service operation that opened in 2008. It is staffed and equipped to handle anything on the entire compression section of the compressor, including packing case and valve repair, piston and rod repair, manufacturing of piston rings and rider rings, and manufacturing of cylinder liners. The center is equipped to install liners into cylinders, recondition and repair cylinders, hydrotest cylinders – essentially servicing anything from the crosshead out.

**Aftermarket
Service Solutions**



Denver Service Center



Grand Junction Satellite Facility

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Opened in 2009, the Grand Junction facility is a satellite operation focusing on valve and packing case repair, but also manufacturing piston rings and rider rings. The facility has allowed Cook Compression to provide quick turnaround and short lead-times for gas gathering and processing customers along the western slope of the Rocky Mountains and surrounding areas. Whenever a customer need involves more extensive repair or reconditioning, Cook transports the component to the Denver facility, which is only three hours away.

Open for Business

The Denver Service Center is ready to take on both everyday requirements for repair and service, as well as the most challenging machinery problems. It is located at 5401 Oswego Street - Suite B. Customers should contact Phil Schulz at 303-750-1991 for sales and support.

The Grand Junction Satellite Facility is at 2487 Industrial Dr, Units 6 and 7. For assistance, contact Gene Cook at 970-639-6057.



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Cook Compression Acquires Mechanical Field Services, LP

In September of 2009, Cook Compression completed the acquisition of Mechanical Field Services, LP, a leading provider of turnkey repair, maintenance and overhaul services for compressors, engines, pumps, turbines and other reciprocating and rotating equipment.



Cook operates the business as Cook-MFS, Inc. Key management from MFS continued in the new organization. Eric Kennedy assumed the role of Sales & Business Development Manager and Wade Calk serves as Operations Manager.



Comprehensive Solutions

“The addition of Mechanical Field Services enhances Cook Compression’s position as a turnkey provider of gas compression solutions for the oil and gas industry,” said Don York, President of Cook Compression.

“MFS enjoys a reputation for superior technical ability and responsive service. Our combined capabilities give compressor operators a single source for a full range of expertise, services and engineered products to support their maintenance needs, planned outages and project activities.”

Over 20 Years of Service

Mechanical Field Services was founded in 1988 and provides a full range of field and shop services, project support and contract maintenance.

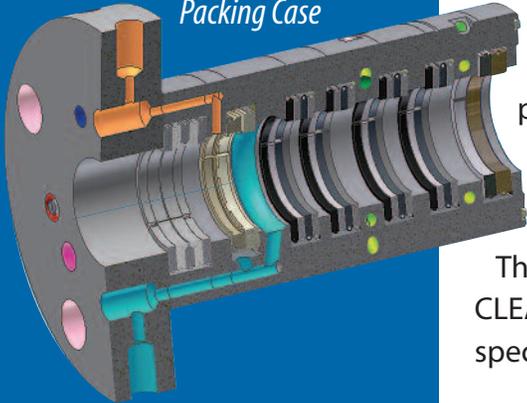
MFS currently operates from three facilities: a headquarters and large shop southwest of Houston in Van Vleck, TX, a satellite facility north of Odessa in Gardendale, TX, and a satellite facility in Tyler, TX. Plans are underway to open additional Cook-MFS locations throughout the United States.

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*Cook Clean
Packing Case*



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California Gas Producer Hits Emissions Targets With Cook

A major Southern San Joaquin Valley production/gas gathering/sales company was required by their local air quality board to reduce cylinder emissions on 90% of their reciprocating gas compressors. Cook Compression Western U.S. Manager David Michael looks back on how the company responded to the challenge and reports on the results they have achieved.

Plan of Action

The company's first step was to take an "overview look" at their entire compressor operation. The resulting action plan focused on making significant improvements in three key areas: maintenance practices, compressor cylinder operation and repair services. Their next step was to look to Cook Compression.

"Cook Compression was chosen to provide upgrades to the compressor trim, which included pistons/rod assemblies, rod pressure and wiper cases, and the packing," says Michael. "Cook Compression was also asked to provide the necessary training on the new products and procedures to accommodate the new changes."

The heart of the project was the conversion of OEM pressure and wiper cases to COOK CLEAN cases. COOK CLEAN cases are purged systems that also include a range of other features customized to meet specific emission-reduction objectives.

Mission Accomplished... and More

"Over the first 18 months, most of the units were converted," continued Michael. "After three years, the customer confirmed that the new packing cases not only achieved their intended emissions reduction,

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but also provided improved longevity. Before this project, the company was averaging 150 to 225 case repairs per year. After three years, that number was reduced to fewer than 50 cases.

“The upgrade included a change to Cook Compression Teflon®-based material for most rings and riders. The company noticed significant savings in ring/rider usage as the new material provided extended service life. Even better, the material also reduced cylinder wear.

“Along with the improvements of the pressure and wiper cases, the customer has noticed a 200-300% improvement of reliability - all while meeting their desired emission standards.”

The Latest Update

In early 2009, the customer was faced with deep budget cuts, which affected the preventive maintenance (PM) schedule. All compressors were forced to operate past scheduled PM's.

“The COOK CLEAN cases and upgrades have performed exceptionally well,” noted Michael, “easily handling increased demands due to the extended PM schedules. Some of the compressors are now approaching 32,000 hours of operation.”

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