NO HASSLE NEWS

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Long Stroke Slow Compression (LSC): CCI's Game-Changing Compression Technology

Natural gas compression using conventional compressors, high-speed recips, and oil-flooded screws has been plagued with issues when processing liquids and wet gas. Liquids entering the compressor intake or longer chain hydrocarbons liquifying under compression mix with and contaminate the lubricating oil in oil-flooded screws, inevitably leading to damage and bearing failure. High-speed recips simply can't survive liquid slugs. Both are completely reliant on expensive inlet separation, resulting in high maintenance costs and poor reliability.

Recognizing these challenges, CCI embarked on a mission to develop a fit-for-purpose solution: a *No Hassle* Solution. After a decade of investment in engineering, testing, field operations, and performance optimization, we present our Long Stroke Slow Compressor (LSC) with its proprietary compression element. The CCI LSC design delivers a multitude of benefits over conventional compression methods:

- **Set it and forget it**: Each LSC model is simple and fast to install, commission, and operate. The unit is placed according to the customer's operation. Process piping is tied into the compressor suction and discharge using stainless steel flex hoses, hydraulic and electric hookups are completed, operating parameters are entered into the PLC, and the unit is ready to run on autopilot, staying within user-defined thresholds for pressure and temperature.
- **Condition-based monitoring**: Highly efficient demand-based maintenance with no fixed schedule. Proprietary software continually monitors data from sensors for pressure, temperature, oil level, and compression stroke, constantly assessing the operating condition of the unit. Maintenance requirements are sent to CCI and customer field operators through our SkyView remote monitoring system, allowing predictive maintenance planning and minimizing field time and HSE risks.
- **Low maintenance and cost of ownership**: With no pneumatic valves and minimal components by design, LSC units are extremely operator-friendly and require minimal maintenance. All process wetted parts can be replaced quickly on-site. The low stroke rate of LSC means extremely low seal and valve wear, leading to longer life.

- **Suited for dry or wet-gas conditions**: The LSC's ability to process liquid slugs in the compressor as a normal part of its operation eliminates the need for inlet separation equipment.
- **100% turndown capability**: At low suction pressure or high discharge pressure exceeding set targets, the LSC pauses compression until conditions are back within the user-defined operating range. During compression pause, the hydraulic system continues to circulate, consuming minimal energy.
- **Versatility across many applications**: The LSC is highly configurable, making it perfect for multiple applications including vapor recovery, casing gas compression, well and line boosting, gas lift, multiphase pumping, well unloading, frac flowback, pipeline service, and more.

For more information about our LSC technology, please contact us at: ccisales@compactcompression.com.

Stay tuned this spring for the launch of the new Compact Compression website featuring the LSC and our expanding CCI technology portfolio.

CCI's Ongoing Pursuit of Operational Excellence: The New Face in CCI Service Leadership

Compact Compression is proud to introduce our new Service Manager, **Chris Carlson**. Born and raised in Southern Saskatchewan, Chris calls Estevan his home. He joined CCI in April 2013 as a Field Service Technician in our Stoughton, Saskatchewan office. In 2018, he became the Field Foreman for Saskatchewan, managing a team of six experienced field operators and over 800 compressors.

Chris' dedication to service quality and customer satisfaction has been instrumental in making Southern Saskatchewan CCI's busiest operating area. His expertise in compression, production operations, and mechanical systems, combined with close collaboration with CCI Engineering, has resulted in the remarkable reliability (>99% uptime) of our compressor fleet. Chris has worked closely with our Saskatchewan customers for many years, ensuring they have a *No Hassle* experience.

Now, Chris brings his customer-focused approach, strong organizational, and leadership skills to oversee CCI's field operations across Canada and support our international customers.

In his new role, Chris will be introducing himself to our customers' operations leads to establish close working relationships, putting a face and voice to a name and number.

If you need operations or service assistance, please don't hesitate to reach out to Chris through our main line at (403) 219-3026 or by cell or email.

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Engineering Performance Upgrades: New Rod Coatings to Significantly Improve Both Seal and Rod Life

Since our start in the compressor manufacturing business over 20 years ago, CCI has carefully monitored compressor performance, working hard to eliminate issues and improve durability, reliability, efficiency, and user-friendliness. Our philosophy has always been that a great product, operational excellence, and a *No Hassle* experience lead to happy customers and a strong business.

For more than a decade, when an endemic issue has been identified, we have analysed it and developed engineering upgrades to eliminate it. Our solutions are tested in controlled environments, fine-tuned, and deployed to a small group of field units. We work closely with our customers to put the solution to the test, and once success is achieved, the upgrade is deployed to the rest of the fleet. Since 2015, we have implemented over 200 engineering upgrades, delivering exceptional reliability and customer satisfaction.

In 2022, we began examining the wear of hydraulic rods and seal elements in our compressors. Under harsh operating conditions with exposure to solids, contaminants, and production chemicals, the hydraulic rod coating tends to wear more quickly. This creates an abrasive surface, which in turn causes premature wear on the hydraulic seals. The compromised rod coating and worn seal packs reduce the interval between cylinder rebuilds. This prompted us to develop a more durable coating to extend the life of both rods and seals. CCI Engineering & Service teams have been actively developing and field testing several coatings aimed at improving service life and increasing resistance to wear and damage.

At the conclusion of our 3-year test program, our newly designed coating, ***CCI-SS (Seal Saver)***, has produced impressive results. The increased life expectancy of rods coated with CCI-SS is yet to be determined, as none have shown significant wear, even in harsh environments with production chemistry, contaminants, and higher levels of solids production. To date, we've observed a 75% to 90% increase in rod and seal pack life compared to rods in similar operating conditions with standard coating.

CCI and our customers are excited about the possibilities these results represent. As we deploy this engineering upgrade to the fleet, it has the potential to dramatically improve our cylinder rebuild interval and bring our compressors even closer to operating at near-perfect reliability.