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CPI goes auto with Proflo EOS

New lubrication pump monitors, adjusts lubrication levels on recip. By **DJ Slater**

Sometimes the most crucial pieces of equipment come in the smallest packages. That's the case with Compressor Products International's (CPI's) latest device – the Proflo EOS self-adjusting lubrication pump – which is designed to keep reciprocating compressors properly lubricated.

The Proflo EOS, crafted from stainless steel, monitors the amount of lubrication oil passing through a divider block and into a reciprocating compressor and adjusts it accordingly based on a user's setpoint. It also adjusts to reach the setpoint even when the piston and cylinder of the pump begin to wear.

CPI developed the Proflo EOS to replace outdated or inefficient manual lubrication pumps that can over- or under-lubricate reciprocating compressors. Because lubrication is essential to the performance and health of a compressor, having a device that can automatically adjust lube levels ensures equipment longevity, said Ben

Kluding, sales engineering manager for CPI.

"What happens is these historic units that have been in the field for 40, 50 years still run well. These systems delivering oil are not efficient," Kluding said. "This device balances it out. It will adjust the flow rate to add more oil or adjust it to provide less oil based upon the conditions of the compressor."

Better than manual

Typical lubrication pumps require someone to adjust the lubrication levels by hand, usually by moving a lock nut. While this ensures proper lubrication at that moment, lube levels can skew over time. For example, six months post adjustment, lube levels can vary between 15% to 20% from the setpoint due to wear, environmental conditions or

compressor condition changes, Kluding said.

With the Proflo EOS, lube levels stay at the setpoint without any intervention from a user. If the Proflo EOS can't reach the setpoint, due to pump wear or other factors, the device will set off an alarm to inform the user.

"We've eliminated that variability with previous pumps by implementing real-time feedback and automatic adjustments into the Proflo EOS," Kluding said. "By installing the Proflo EOS, you'll see an immediate reduction of oil (about 5%) because the pump is efficient and stays at the setpoint instead of going over or under it."

Users can also program the Proflo EOS for custom commands, which can be helpful for running a break-in cycle. In this scenario, a compressor usually requires up to double the amount of lubrication for a set period of time. The Proflo EOS can double the lubrication amount for a 200-hour window and then drop it back down to a normal lube rate, Kluding said.

It also can prevent a common problem Kluding sees when a break-in period occurs.

"Commonly, manual pumps are left in this break-in mode and are never adjusted back to normal operation," he said. "Operators will



CPI's Proflo EOS monitors and adjusts lubrication levels on reciprocating compressors to prevent over- and under-lubrication.

The Proflo EOS is applicable with applications that require the use of a recip compressor.





Operators do not have to make manual adjustments to the Proflo EOS. After establishing a setpoint, the device automatically makes lubrication level adjustments.



In this photo, a gearbox is fitted with a manual lubrication pump. The Proflo EOS can make automatic adjustments.

let this go sometimes for months and not know it. They will see their oil costs go up, but sometimes a 10% increase or more in lube oil at your station may not get noticed until the end of the year."

Other Proflo EOS benefits include keeping vital compressor components – cylinders, valves, pistons – from prematurely failing and extending the life of disposable parts, such as filters. Designed for reciprocating compressors in any industry, the Proflo EOS's requirements are minimal – a 24V power source and a proximity switch on a divider

block, Kluding said.

Users can receive feedback from the Proflo EOS via the Proflo PF1, Proflo Jr. or a proximity switch. They can also set up the Proflo EOS to a PLC unit or control panel to obtain data in real time.

The power of feedback

While the Proflo EOS had a soft launch in 2017, it officially debuted this year at the Gas Machinery Conference in Kansas City, Missouri. Prior to that, it spent two years in field trials.

The Proflo EOS concept arrived shortly after CPI entered the lubrication market in 2010, a move that included acquiring three companies and establishing its own lubrication division. CPI obtained the complete product portfolio of CC Technology, Premier Lubrication Inc. and Progressive Equipment in 2010.

The Proflo EOS features a display screen with lubrication level information. It can also alert operators when a problem surfaces, such as the inability to meet the setpoint.



Three years later, CPI patented the Proflo EOS concept, with the proceeding years spent on development and field testing. CPI then had the Proflo EOS on display at the Gas Machinery Conference in Pittsburgh, Pa., a move that allowed the company to gain real-world feedback on the device.

"The feedback over the years (and after the 2017 GMC) helped a lot," Kluding said. "We found some things in the product that worked well in the lab, but not in the field. We took that feedback and put it into the design."

That design includes compatibility with 3/16, 1/4 and 3/8 in. (4.8, 6.4 and 9.5 mm) pump sizes; single-speed and variable-speed modes; and the ability to operate in temperatures from -40° to 185°F (-40° to 85°C).