



Plant Services

Sheila Kennedy says seal manufacturers are working to improve energy efficiency, leak protection, service life, and uptime.

By Sheila Kennedy, contributing editor

Seal manufacturers are working to improve energy efficiency, leak protection, service life, and uptime, giving maintenance technicians the benefit of better replacement, upgrade, and retrofit options. New cartridge seal designs are available for **pumps** and **agitators**. For rotating equipment, the latest **shaft seal alternatives** are worth considering. For motors, a new **bearing isolator** may be in order.

Pump users require robust sealing systems. [Flowserve's ISC2 Innovative Standard Cartridge seal](#) series is a more versatile standardized seal family than its predecessor, the ISC seal. The ISC2 seal's patented **thermal management** technology maintains a cool operating environment to promote longevity and protect against leaks. It is designed to survive off-design pump operations and recover from process excursions.



Our [New Product Resource Center](#)

features thousands of industry-leading products, all searchable by category, product type and manufacturer.

"Many interfaces within the ISC2 seal are designed for optimum performance: a graphite gasket between the silicon carbide seal face and adjacent metal facilitates heat transfer; the square-headed drive pins reduce seal face stresses; and a volute in the gland around the circulating device creates maximized cooling flow rates," says Joe Parker, ISC2 product manager for [Flowserve \(www.flowserve.com\)](#). "These are only a few of the ISC2 seal features that extend reliability."

[EagleBurgmann's eCartex cartridge seals](#) for pumps have a DiamondFace (DF) coating, making the seal faces extremely hard and wear resistant, with excellent thermal conductivity. DF-coated eCartex seals are designed to reduce energy consumption by up to 80% and extend service life by up to 100%.

"ECartex not only saves energy, but even more notable is its ability to withstand dry running conditions," says Eric Vanhie, technical specialist at [EagleBurgmann \(www.eagleburgmann.com\)](#). The seals are suited to process industry applications, with benefits in the initial installation, standardization, retrofits, and conversion of packings.

The [ChemSeal cartridge seal from Chemineer](#) was designed specifically to withstand harsh agitator conditions. "The exceptional runout capabilities of the ChemSeal means the seal can withstand very large shaft movement without the need to add an additional bearing, making the seal both more affordable and more reliable," says Tim Ford, engineering manager for [Chemineer \(www.chemineer.com\)](#). "The ChemSeal is a drop-in replacement for most single or double OEM cartridge seals used on top-mount agitators and requires no shaft or flange modifications when used on Chemineer equipment."



Sheila Kennedy is a professional freelance writer specializing in industrial and technical topics. She established Additive Communications in 2003 to serve software, technology, and service providers in industries such as manufacturing and utilities, and became a contributing editor and Technology Toolbox columnist for Plant Services in 2004. Prior to Additive Communications, she had 11 years of experience implementing industrial information systems. Kennedy earned her B.S. at Purdue

When rotating shafts become worn or damaged, the seal can fail. **SKF's Speedi-Sleeve** is a metal sleeve that can be installed on top of a worn shaft to restore the seal, rather than having to disassemble the shaft. SKF recently improved the sleeve's stainless steel material and manufacturing process, resulting in an optimized seal counterface surface that is suited to a wider range of applications.

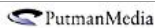
"The upgraded, proprietary Speedi-Sleeve material is 30% tougher," says Dave Mulcahey, business development manager for [SKF seals \(www.skf.com\)](http://www.skf.com). "It can be used on the input and output shafts of gear boxes, electric motors, and general industrial applications, basically, anywhere you have rotating shafts."

Meco Seals, a division of Woodex Bearing, introduced the **Meco EP Type 3 split seal** model, which is designed to handle higher temperatures, large thermal motion, changing pressures, and shaft runout. It is particularly beneficial for horizontal dryers and reactors in vacuum service in the process industries.

"The Meco EP Type 3 is a fully split seal, designed per application for installation within the existing space limitations of the equipment while operating under extreme parameters," says Paul Wehrle, chief engineer for [Meco Seals \(www.mecoseal.com\)](http://www.mecoseal.com). "The in-house split-line fabrication Meco provides is so precise, many times a year maintenance engineers and installers comment that when they took it out of the crate, they thought it was unsplit because they couldn't see a split-line."

Variable frequency drives (VFDs) can cause **electrical discharge machining (EDM)** and bearing fluting, which can lead to premature bearing failure and eventually require a motor replacement. **Garlock SGI, the shaft grounded bearing isolator** from Garlock Sealing Technologies, is designed for installation on electric motors controlled by VFDs. The SGI is available in three configurations, including a maintenance-friendly split configuration design.

"The split SGI would be a great seal where a retrofit is required, as it wouldn't require customer equipment to be disassembled," says Patrick Rhodes, applications engineer for [Garlock Sealing Technologies \(www.garlock.com\)](http://www.garlock.com). "The SGI is an upgrade to our standard bearing isolator as the SGI uses a shaft grounding ring to save bearings from being fluted on electric motors."



[Advertise](#) | [Privacy Policy](#) | [Legal Disclaimers, Terms and Conditions](#)
Copyright © 2004 - 2013 Plant Services [All rights reserved](#)
P: 630-467-1300 | 555 West Pierce Rd., Suite 301, Itasca, IL 60143

[Chemical Processing](#) | [Control Global](#) | [Control Design](#) | [Food Processing](#) | [Industrial Networking](#) | [Pharmaceutical Manufacturing](#) | [Pharma QBD](#) | [Sustainable Plant](#)
[Wellness Foods](#)

University and her MBA at the University of Phoenix. She can be reached at sheila@addcomm.com.



[Subscribe to the Technology Toolbox RSS feed](#)