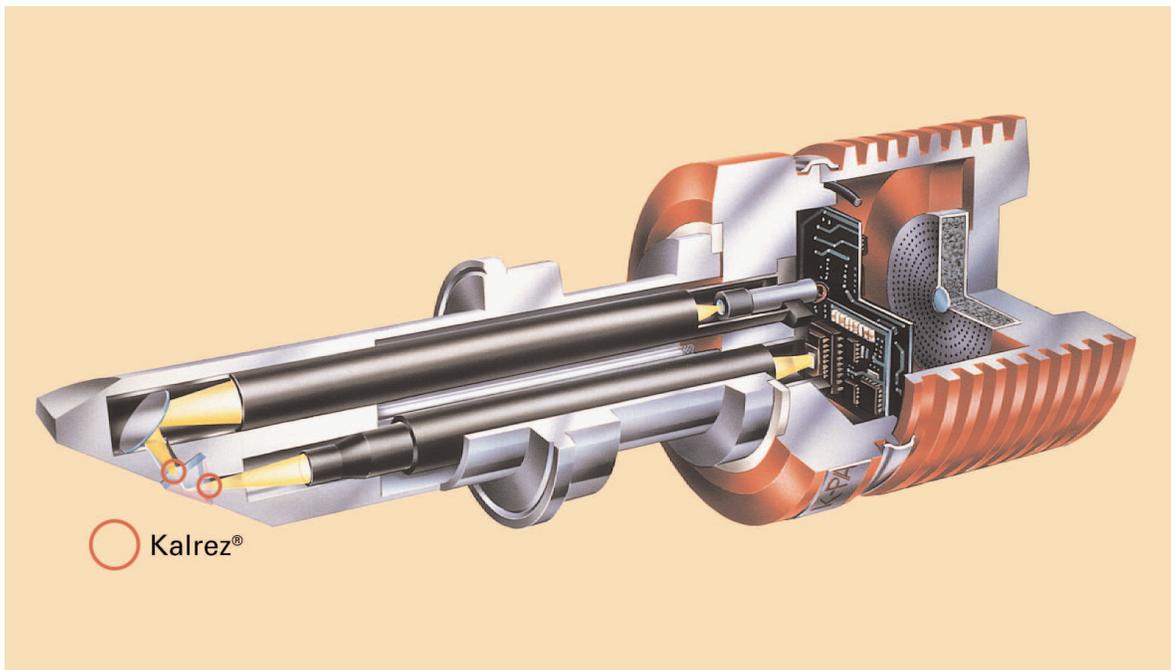




Kalrez[®] perfluoroelastomer
parts

From DuPont Performance Elastomers

Kalrez[®] Seals Dramatically Extend Service Life, Reduce Costs, for Process Instrument Maker



Delicate digital detector circuits and fibre optics in the sensor head of K-Patents' "PR-01-S" process refractometer are sealed from attack by aggressive process media, temperatures from -20° to $+220^{\circ}$ C, and pressures from $-0,7$ to $+25$ bar, by two Kalrez[®] gaskets situated either side of the vital Spinel prism.

By switching from gasket seals of PTFE to custom gaskets of Kalrez[®] from DuPont performance Elastomers in the sensor head of a process refractometer used by the food, pulp and paper and chemical industries, process instrument manufacturer K-Patents Oy, Vantaa, Finland, was able to dramatically extend instrument service life, increase reliability and safety, and reduce costs for the company and its customers.

Aggressive environment

Through permanent in-line fluids immersion, K-Patents' "PR-01-S" refractometer is exposed to temperatures from -20° to $+220^{\circ}$ C, pressures from $-0,7$ to $+25$ bar, and some 500 process fluids and chemicals, many of which are extremely aggressive. Delicate digital detector circuits and fibre optics in the sensor head are sealed by two gaskets from attack by aggressive fluids.

Because of inherent inelasticity, the original PTFE gaskets could not withstand the dynamic temperature fluctuations of many food, pulp and paper and chemical manufacturing processes, creating a leak path allowing process media to enter and damage the device. As a result, costly replacement of the PTFE seal became necessary approximately every 6-12 months.

No leakage in 10 years with Kalrez®

Esko Kamrat, Design Engineer at K-Patents, decided to replace the PTFE seals with gaskets of Kalrez®. He reports that, due to its elasticity and outstanding chemical and heat resistance, the perfluoroelastomer is now achieving as much as 10 years service life without leakage. Frequency of costly repair of the "PR-01-S" refractometer has also been much reduced.

In the 25 years since first commercially introduced, Kalrez® perfluoroelastomer parts have provided superior performance in a wide variety of demanding sealing applications. Kalrez® resists more than 1800 chemicals and is thermally stable up to 327°C.

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