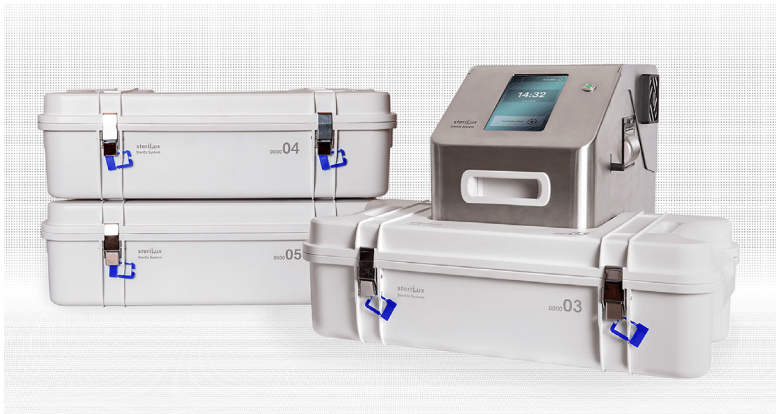
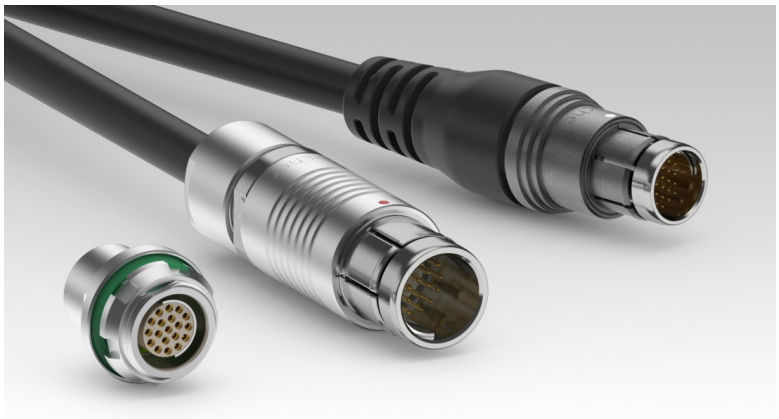
SUCCESS STORY

Hermetic and high-voltage connectors for SteriLux's sterilization system



SterOx sterilization system by SteriLux, integrating Fischer Core Series connectors

Fischer Connectors and SteriLux (sterilux.ch), a MedTech startup specialized in sterilization systems, collaborated in 2016 to provide reliable connectivity for the SterOx System, developed as a safe alternative to conventional sterilization methods aimed at controlling infections in medical-care facilities. The project's key challenge was to ensure a reliable power supply to the UV lamps in the SterOx System, which convert oxygen into ozone, the sterilizing agent. The connectors had to be extremely reliable to prevent oxygen leaks and expensive damage to the equipment by highly reactive ozone. SterOx System uses Fischer Core Series connectors chosen by SteriLux for their hermeticity and suitability for 240-volt applications. The high-performance plugs and sealed receptacles with five high-voltage contacts exactly matched their key requirements for ruggedness, reliability and durability, and ensured that the solution met the high safety standards required for medical devices.



The high-performance Fischer Core Series used in the SterOx System

INDUSTRY
Medical

APPLICATION TYPE
Sterilization

LOCATION
Switzerland

PROJECT OVERVIEW
Fischer Connectors' engineers worked closely with the SteriLux design engineers to adapt the device to meet higher medical technology safety standards. SteriLux's specific requirements were twofold: on the one hand, their design engineers needed a solution that could easily be integrated into their device; on the other hand, they needed to receive detailed advice on technical and safety aspects and obtain the required certifications. As a result, SteriLux chose the Fischer Core Series connectors – 104993 & 104539 – comprising plugs and sealed receptacles with five high-voltage contacts.

KEY CHALLENGES
- Ensure reliable connectivity
- Hermetic sealing
- Offer customized technology to meet stringent medical regulations and certification requirements

CHALLENGES & OPPORTUNITIES

Safety in extreme environments

Medical applications have to withstand high loads and offer safe technology. A reliable power supply is a must for SteriLux, because devices need to operate without failing and remain functional over long periods with minimum maintenance required. This calls for connectors that meet the precise requirements and withstand the extreme conditions found in diverse healthcare environments. For a sterilization device that uses oxidizing gas ozone, SteriLux needed both the right airtight connectivity solution and a reliable development partner.

Collaborative design

An Internet search for robust, innovative connectivity solutions led SteriLux to Fischer Connectors. SteriLux then initiated a fruitful collaboration with Fischer Connectors to design a customized connectivity solution meeting its stringent SterOx System performance and reliability requirements. It chose to integrate two models from the Fischer Core Series – 104993 and 104539, offering plugs and sealed receptacles with five high-voltage contacts – into its new sterilization system because of their durability, hermeticity, and suitability for 240-volt medical applications. In several joint meetings, Fischer Connectors' engineers advised SteriLux's design engineers on how to adapt the device to improve performance, protect the equipment, and meet higher safety standards. The team was able to meet the SterOx System specific requirements exactly, with only minor modifications.

Enhanced performance

The sterilization of medical devices is energy and resource intensive. Steam and heat are usually applied to make medical devices as germ-free as possible and enable their risk-free reuse. However, many medical devices are too sensitive for such conventional sterilization methods, and low-temperature sterilizers on the market are extremely expensive in terms of purchase and ancillary costs. The SterOx System offers a gentler and better value alternative, which reduces water and energy use. Only certified products may be integrated into SterOx System. The Fischer Core Series high-voltage connectors integrated into the SterOx System ensure a reliable power supply to the UV lamps in the main unit, keeping them hermetically sealed from the outside world, shielding electronics and optical fibers from damage, and ensuring that microorganisms are effectively eliminated. The easily integrated Fischer Core Series connectors thus underpin the quality, reliability and durability of the SterOx System, transforming connectors from being the 'weak link' to being a 'safety and performance enhancer', and making both designers' and users' lives easier.

For more information: fischerconnectors.com/sterilux

THE SOLUTION

Selected connectivity solution:
Fischer Core Series 104993 – SV 105 A039 Ø10.5-UI, and 104539 – DBPE 105 A039-69, in size 105; plugs and sealed receptacle with five high-voltage contacts

Main requirements:
Ruggedness, reliability, durability, hermetic sealing, suitability for 240-volt applications

Business benefits:

- Enhanced product quality and reliability in medical facilities
- Durability
- Cost efficiency thanks to a better project cost to product life-cycle ratio

"From the outset, the connectors from Fischer Connectors provided all the required characteristics. The quality is impeccable and today's solution meets our expectations. The company was always on hand to answer questions and also ensured that we received all the certifications and accompanying explanations we needed for our safety laboratory. In new devices, we'll replace our UV lamps with even more efficient models. For this we need connectors with larger dimensions.
Fischer Connectors not only offers the right products, but also the certainty that we'll always receive reliable support."

Marc Spaltenstein
CEO, SteriLux

REIMAGINING CONNECTIVITY TOGETHER