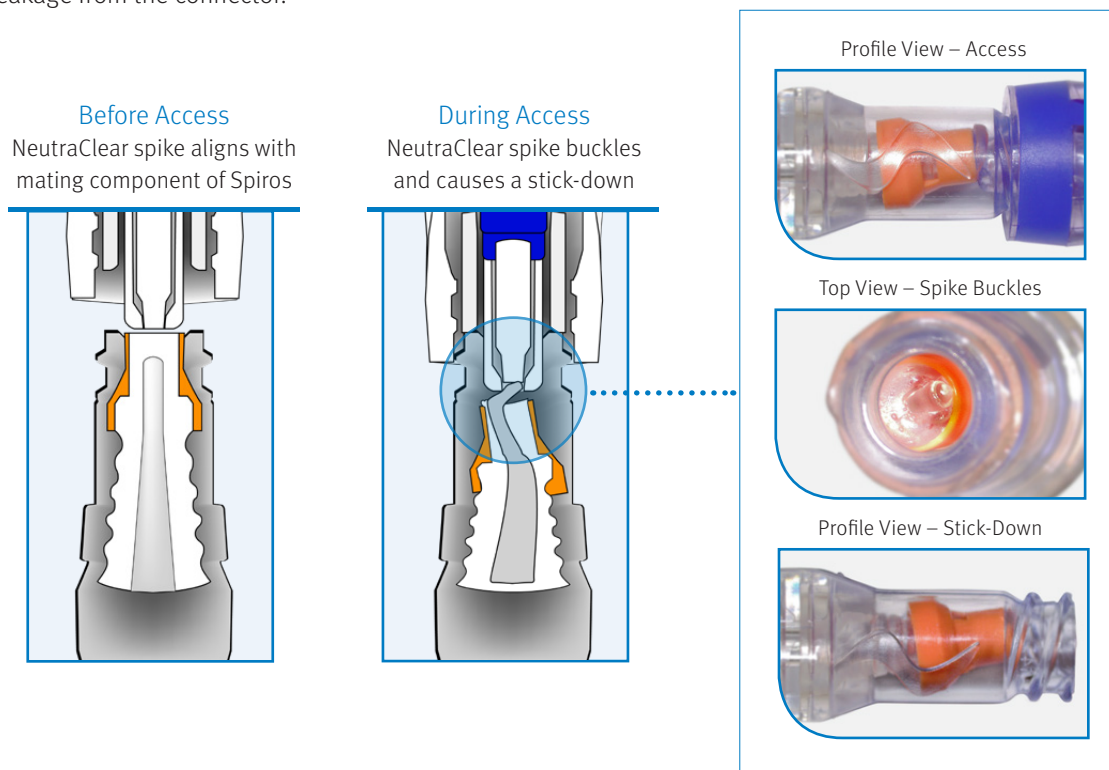


## BD NeutraClear Incompatibility with the Spiros™ Closed Male Luer

Thank you for your interest in the ICU Medical Spiros closed male luer. This widely adopted component of ICU Medical's needfree closed system transfer devices (CSTDs) requires no assembly of components and has been shown to generate less biohazardous waste than other CSTDs. Used in conjunction with other safety precautions, ICU Medical's Spiros and entire portfolio of ChemoClave™ and ChemoLock™ CSTDs helps keep facilities in compliance with OSHA, NIOSH, ISOPP, ONS, APHON, USP <797>, and USP <800> safe handling guidelines.

The Spiros closed male luer is designed to be compatible with all ISO Standard needfree connector technologies; however, after hearing reports from customers of incompatibility with the NeutraClear connector, manufactured by CAIR in France and distributed by BD in the United States, ICU Medical conducted an in-house engineering investigation to assess compatibility. Findings show that NeutraClear incorporates a rigid sealing ring component with the ability to tilt on its axis that creates an opportunity for inconsistent or uneven sealing with the internal mating component of the Spiros. Additionally, upon full activation, the extended length of the NeutraClear spike makes contact with the internal component of the Spiros, causing the spike to buckle as shown in the engineering images below. This combination of tilting ring and buckling internal spike within NeutraClear can result in stick-downs and damage to the spike, which may impede fluid flow or cause leakage from the connector.



If you have any further questions or concerns, please visit our website at [www.icumed.com](http://www.icumed.com) or contact our corporate offices at 949.366.2183 or 800.824.7890

Technical Services

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