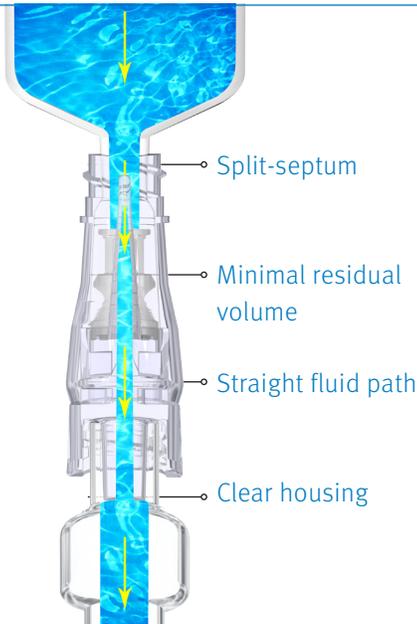
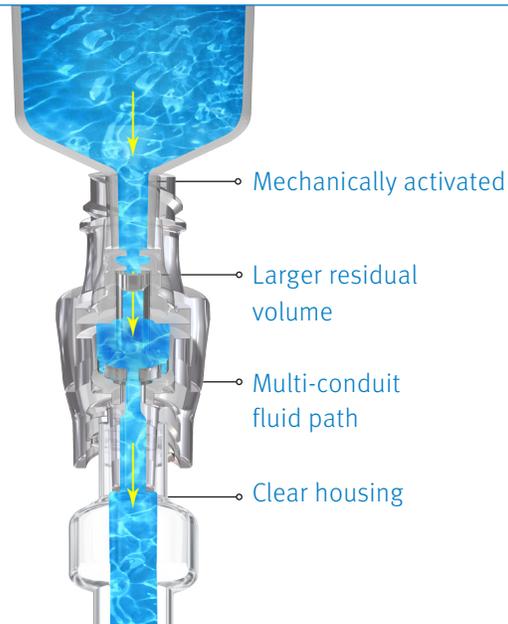


MicroClave® and Kendall™ Comparative Matrix

MicroClave by ICU Medical Inc.



Kendall* by Covidien™



PRODUCT PERFORMANCE	MICROCLAVE TECHNOLOGY	KENDALL TECHNOLOGY
Base Technology	Internal cannula and silicone compression seal split-septum. Internal cannula windows are exposed by the insertion of a male luer and cannula enters the male luer's internal space to achieve flow.	Mechanically actuated silicone septum. Insertion of a male luer pushes a silicone membrane apart and actuates a floating poppet inside of a 2-piece silicone fluid path assembly. Fluid flows through the top of the poppet, out the poppet windows, and around a multi-conduit fluid director formed by the poppet bottom and a second silicone component before leaving the valve through the lower connector housing before entering the catheter hub.
Displacement	Neutral: 0 to - 0.01 mL	Neutral: 0 to - 0.01 mL
Residual Volume	0.04 mL	0.12 mL (0.08 mL ²)
Fluid Path	Straight through polycarbonate cannula. Enhances flushing efficiency.	Fluid exits male luer into a silicone chamber, then into polycarbonate column.
Moving Parts in Fluid Path	No	Yes
Fluid Residual External on Disconnect	Minimal	Minimal
Clamping Sequence	None required	None required
Flow Rate	165 mL/min	161 mL/min (120 mL/min ²)
Clear Available	Yes	Yes
Antimicrobial Available	Yes	No
# of Assembly Parts	3 of which 1 moves	5 components, 3 move on luer access
Bacterial Transfer Performance	The least amount of bacterial transfer of any connector tested. ¹	Exhibits a higher bacterial transfer rate than MicroClave.
Disinfection Directions	Swab using aggressive circular motion for 3 seconds or per facility protocol.	Always swab the top of the valve in a circular motion using an alcohol prep pad for 5 seconds, flip the pad over and wipe for another 10 seconds, and allow to dry.

Performance data on file at ICU Medical Inc. San Clemente, CA 92673. Reference ENG-433

*Also marketed by Nexus® Medical as Nexus NIS®-6P

1. Ryder M, James G, Pulchini E, Bickle L, Parker A. Presented at the Infusion Nursing Society Meeting, May 2011. Differences in bacterial transfer and fluid path colonization through needlefree connector-catheter systems in vitro.

2. Nexus NIS®-6P Brochure