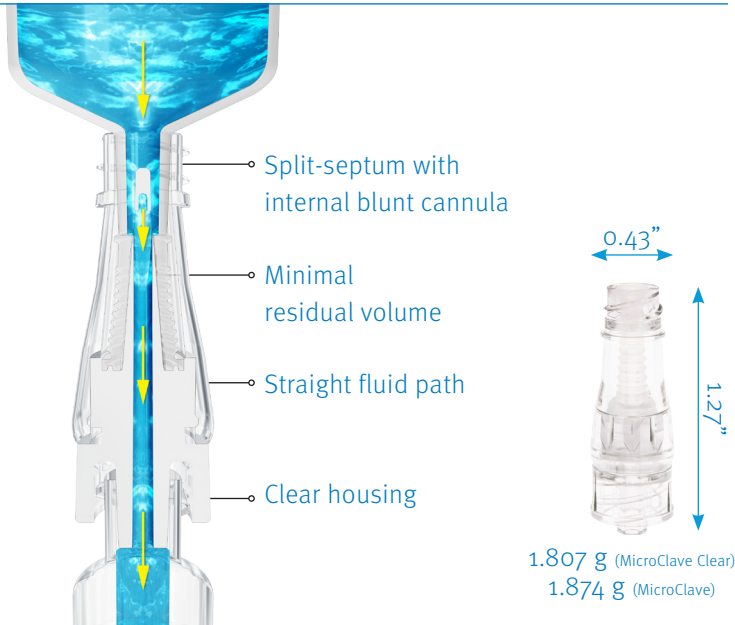
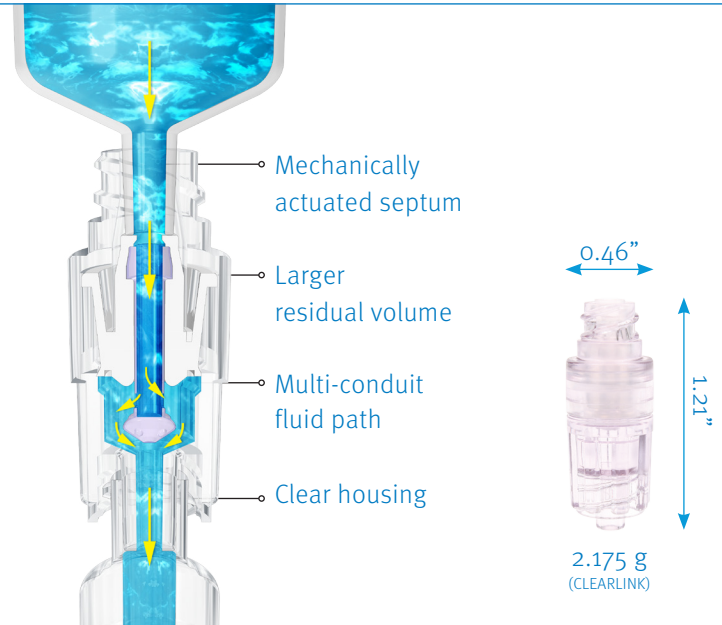


MicroClave® and CLEARLINK® Comparative Matrix

MicroClave by ICU Medical Inc.



CLEARLINK by Baxter Healthcare Corp.



PRODUCT PERFORMANCE	MICROCLAVE TECHNOLOGY	CLEARLINK 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 an internal poppet down. Fluid flows from the luer into the internal poppet, through the poppet windows, and around a fluid director into the lower connector housing and into the catheter hub.
Displacement	Neutral: 0 to -0.01 mL	Negative: 0.13 mL ^{1,2}
Residual Volume	0.04 mL	0.25 mL (over 6 times larger)
Fluid Path	Straight through polycarbonate cannula. Enhances flushing efficiency.	Fluid exits male luer into a polycarbonate poppet, out window into lower housing.
Moving Parts in Fluid Path	No	Yes
Number of Assembly Parts	3, of which 1 moves on luer access.	4, of which 2 move on luer access.
Fluid Residual External on Disconnect	Minimal	Minimal
Clamping Sequence	None required	Yes, clamp before disconnect.
Flow Rate	165 mL/min	118 mL /min ¹
Clear Available	Yes	Yes
Antimicrobial Available	Yes	Yes
Patient Comfort	7% smaller profile, 14-17% less weight. Smooth profile.	Larger and heavier than MicroClave.
Bacterial Transfer Performance	The least amount of bacterial transfer of any connector tested. ³	Exhibits a higher bacterial transfer rate than MicroClave. ⁴
Flushing Performance	Highly efficient. Connector clear of blood elements with minimal flush volumes from 2 to 7.5 mL. ⁵ Not recommended to change connector after blood draw.	Baxter recommends flushing CLEARLINK connector with 10 mL or more after blood infusion/sampling. If CLEARLINK connector cannot be cleared of blood after blood infusion/sampling, replace immediately. ⁶

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

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- ICU Medical Engineering Test Lab. Procedure P500-00037: Section 16.4. Data on file at ICU Medical.
- Evaluation: Needleless Connectors, ECRI Institute Health Devices, Sept. 2008, Volume 37, Number 9.
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- Breznock E, Sylvia C. BioSurg, Inc., March 2011. The in vivo evaluation of the flushing efficiency of different designs of clear needlefree connectors.
- Baxter CLEARLINK 2N8399 Directions For Use. Reference 07-19-53-247.

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