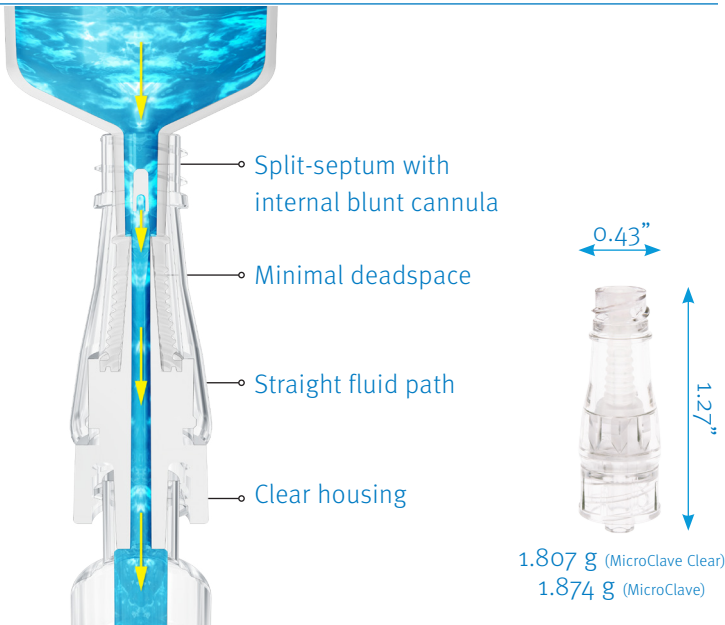
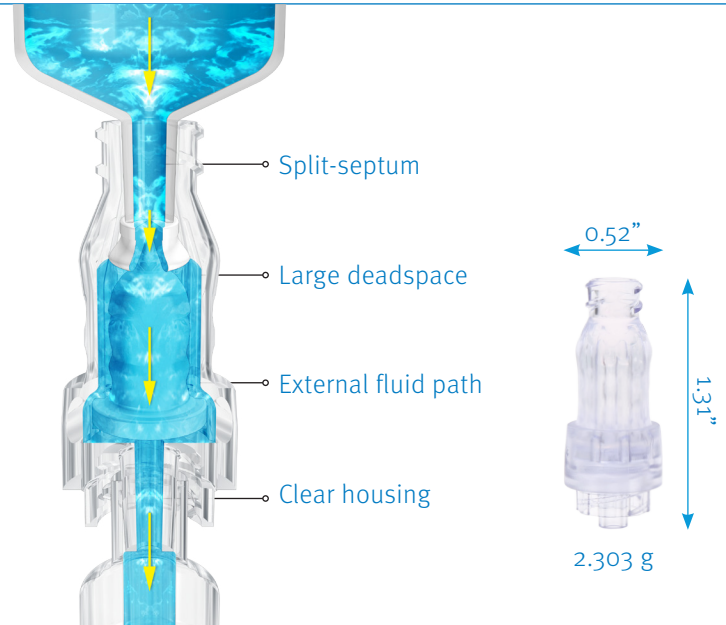


# MicroClave® and CARESITE™ Comparative Matrix

## MicroClave by ICU Medical Inc.



## CARESITE by B. Braun Medical Inc.



PRODUCT PERFORMANCE	MICROCLAVE TECHNOLOGY	CARESITE 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 luers internal space to achieve flow.	Split-septum. Crushable elastomer piston deforms upon luer connection to allow fluid flow around and through the septum and around the piston.
Displacement	Neutral: 0 to -0.01 mL	Positive: +0.01 to +0.03 mL Note: The Society for Healthcare Epidemiologists of America (SHEA) and Infectious Disease Society of America (IDSA) have recommended against using positive displacement needleless connectors with mechanical valves without a thorough assessment of risks and benefits.
Residual Volume	0.04 mL	0.2 mL (5 times larger)
Fluid Path	Straight through polycarbonate cannula. Enhances flushing efficiency.	Between external housing and piston. Results in comparatively large residual volume.
Moving Parts in Fluid Path	No	Yes
Fluid Residual External on Disconnect	Minimal	Yes
Clamping Sequence	None required	Yes. Clamp after disconnect.
Flow Rate	165 mL/min	192 mL/min
Clear Available	Yes	Yes
Antimicrobial Available	Yes	No
Patient Comfort	17% smaller profile 19-21% less weight	Larger and heavier than MicroClave.
Flushing Performance	Highly efficient. Connector cleared of blood elements with minimal flush volumes (from 2 to 75 mL) <sup>1</sup> . Not recommended to change connector after blood draw.	Connector unable to be cleared of blood elements at maximum flush volumes (10 mL) <sup>2</sup> . Recommended to change connector according to institutional protocol or per CDC guidelines.

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

Performance data on file at ICU Medical Inc. San Clemente, CA 92673. Reference 00-0751, 01-189t, 01-133t

1. Breznock E, Sylvia C. BioSurg, Inc., March 2011. The in vivo evaluation of the flushing efficiency of different designs of clear needlefree connectors.
2. Breznock E, Sylvia C. BioSurg, Inc., 2011. The in vivo evaluation of the flushing efficiency of the NanoClave™ low-profile neutral displacement connector compared to two other connectors commonly used on central and PICC lines.

**icumedical**  
human connections