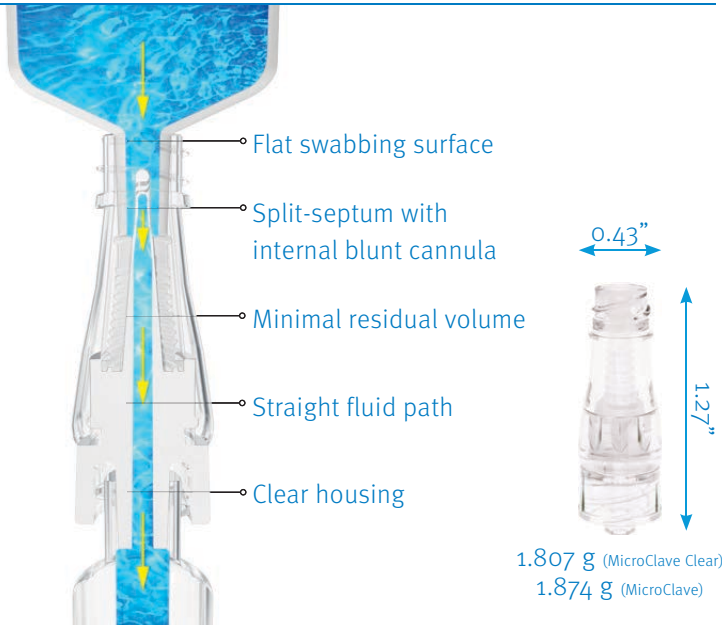


MicroClave® and Vadsite® Comparative Matrix

MicroClave by ICU Medical Inc.



Vadsite by Laboratories Pharmaceutiques, Vygon



PRODUCT PERFORMANCE	MICROCLAVE TECHNOLOGY	VADSITE 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.	Silicone compression seal split septum with no internal cannula. Silicone is depressed by the insertion of a male luer. An internal pin interfaces with the split in the septum of the membrane from below as the tip of a male luer depresses the membrane during connection. The pin does not penetrate the split septum.
Displacement	Neutral: 0 to -0.01 mL -0.0049 mL and -2.2 cm published ¹	Negative: -0.03 mL ²
Residual Volume	0.04 mL	0.07 mL (1.75 times larger) ²
Clamping Sequence	None required	Yes. Clamp before disconnect. ³
Fluid Path	Straight through polycarbonate cannula. Enhances flushing efficiency.	Through silicone slit into interstitial cannula.
Moving Parts in Fluid Path	No	No
Fluid Residual External on Disconnect	Minimal	Minimal
Flow Rate	165 mL/min	170 mL/min ²
Clear Available	Yes	Yes
Antimicrobial Available	Yes	No
Maximum Number of Activations	700	360 ²
Bacterial Transfer Performance	The least amount of bacterial transfer of any connector tested. ⁴	Unknown
Flushing Performance	Highly efficient. Connector cleared of blood elements with minimal flush volumes (2 to 75 mL) ⁵ . Not recommended to change connector after blood draw.	Blood can be flushed effectively from Vadsite using normal saline. 99.629% of the blood challenged was cleared with the first 5 mL flush. ²

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

Vadsite and Vygon are trademarks of Vygon Pharmaceutiques.

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2. Vadsite Clinical Performance Studies. DB Bion 13 197 E, June 2013.
3. Policies and Procedures for Infusion Nursing. Infusion Nurses Society, 4th Edition.
4. Ryder M, Pulcini E, Parker A, James G. Presented at the World Congress on Vascular Access, June 2014. Comparison of Bacterial Transfer and Biofilm Formation on Intraluminal Catheter Surfaces Among Fourteen Connectors in a Clinically Simulated In-Vitro Model.
5. Breznock E, Sylvia C. BioSurg Inc., March 2011. The In-Vivo Evaluation of the Flushing Efficiency of Different Designs of Clear Needlefree Connectors.