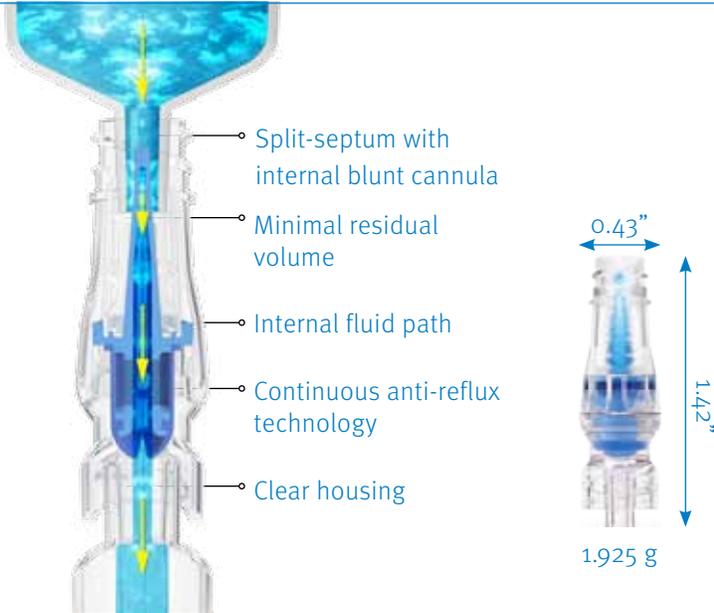
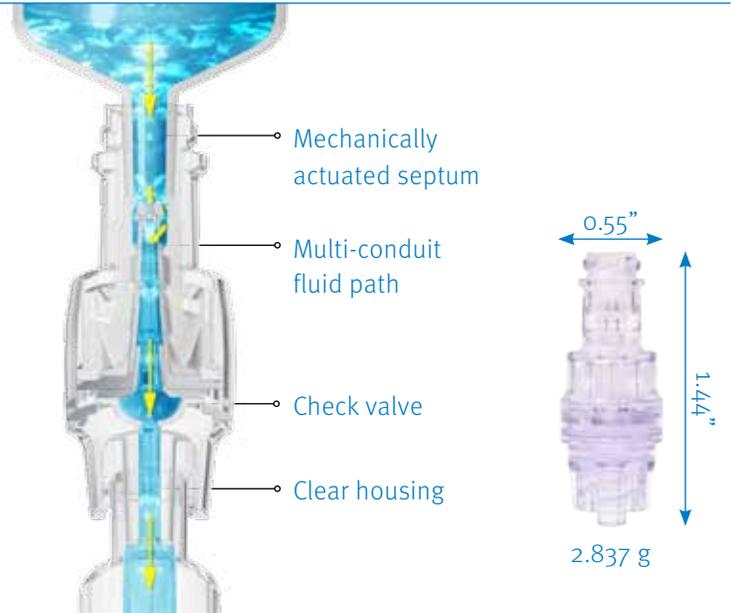


Neutron™ and TKO®-6 Comparative Matrix

Neutron by ICU Medical Inc.



TKO-6 Nexus Medical, LLC.



PRODUCT PERFORMANCE	NEUTRON TECHNOLOGY	TKO-6 TECHNOLOGY
Base Technology	Internal cannula and split-septum compression seal. 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 compresses the silicone seal forcing it against a rigid column, spreading open the top of the seal. Fluid enters the silicone seal chamber then enters the column through a single window, achieving flow.
Anti-Reflux Technology	100% of the time. Bi-directional silicone valve and bellows combination remains closed unless infusion or aspiration pressure is exerted. The unique design actively absorbs and physically compensates for pressure variations that can result in blood reflux into a catheter.	All times except during male luer connect and disconnect: Bi-directional silicone valve remains closed unless infusion or aspiration pressure is exerted or upon removal of a male luer.
Displacement	Neutral: 0 mL	Neutral: Allows less than 0.01 cc of reflux (fluid retrograde) upon disconnection of standard syringe. ¹ Allows between 1/16 inch and 1/8 inch of reflux in standard small bore tubing with 0.047" ID (inner diameter). ²
High Pressure Compatibility	350 psi, 10 mL/sec	No
Residual Volume	0.1 mL	0.15 mL ²
Fluid Path	Straight through polycarbonate cannula. Laminar flow optimized through anti-reflux valve and bellows. Enhances flushing efficiency.	Fluid exits male luer into a silicone chamber, into polycarbonate column, then through anti-reflux valve.
Disinfection Directions	Swab with 70% isopropyl alcohol using an aggressive circular motion for three seconds.	Swab the Nexus TKO-6 in a circular motion for a minimum of 5 seconds with an alcohol prep pad, flip the pad over and swab for an additional 5 seconds and allow to dry.
Flow Rate	100 mL/min	75 mL/min claimed. 64 mL/min tested. ²
Patient Comfort	22% smaller profile. 32% less weight.	Larger and heavier than Neutron.
Catheter Patency Performance	The ICU Medical Neutron was the only connector to maintain catheter patency in all three tested connectors throughout the entire test timeframe of 11 days, including through three simulated reflux events on days 3, 6, and 9. ³	Not tested
Flushing Performance	Highly efficient. Connector cleared of blood elements with minimal flush volumes (approx. 4.5 mL). ⁴ Not recommended to change connector after blood draw.	Moderately efficient. Connector cleared of blood elements with approx. 8 mL. ⁵

Performance data on file at ICU Medical Inc. San Clemente, CA 92673. Neutron Engineering Evaluation Test, July 11, 2011

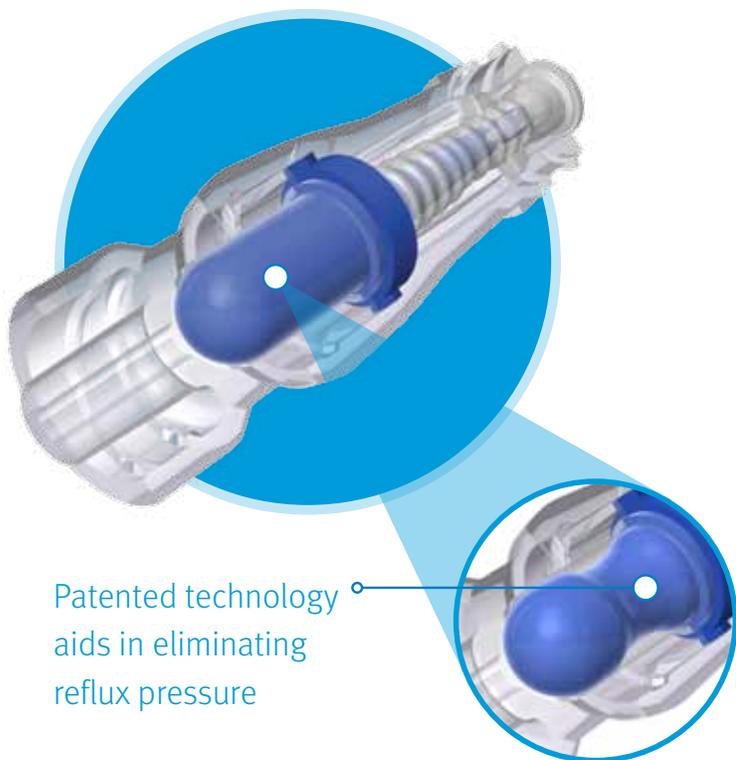
Performance data on file at ICU Medical Inc. San Clemente, CA 92673. Nexus TKO-6 Engineering Test, October 10, 2012

How does Neutron anti-reflux technology differ from the others?

Neutron shares an identical housing component, split-septum seal, and blunt cannula geometry with our market-proven MicroClave Clear connector. Building on these and other industry-leading features, Neutron also incorporates several new technology features to create the first simple to use connector that actively helps to reduce intraluminal catheter occlusions.

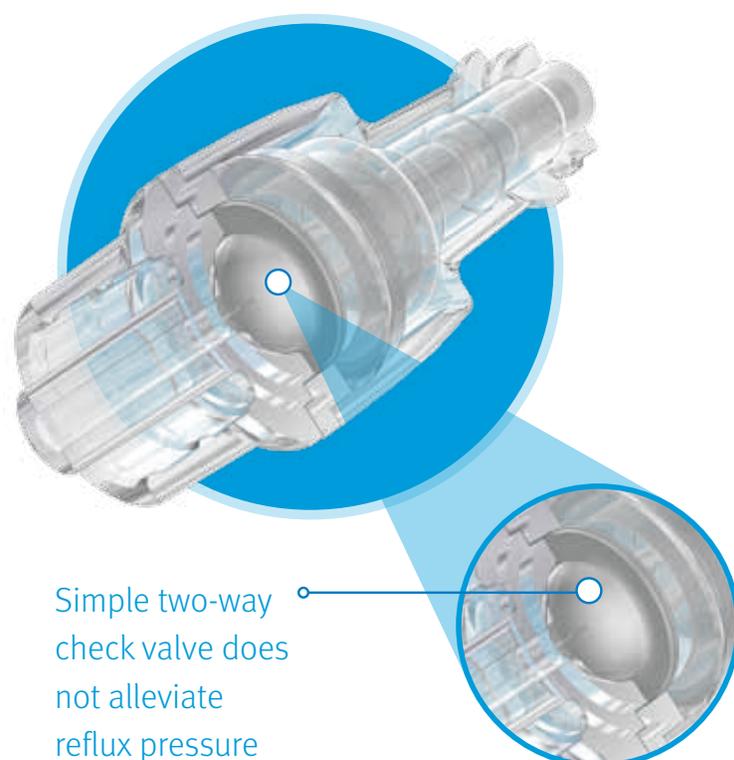
Neutron

Neutron's innovative bi-directional silicone valve and internal bellows-design work together to prevent blood reflux at all times. The valve remains closed unless the Neutron is being accessed for aspiration or infusion, and the bellows give the Neutron its unique ability to absorb and physically compensate for pressure variations that typically result in blood reflux into a catheter.



TKO-6

Other "valved" or "anti-reflux" technologies on the market are simple two-way check valves attached to needlefree connectors or integrated into catheter hubs.



1. Nexus TKO-6 Technical Specification Sheet
2. ICU Medical Engineering Lab Test Report
3. Ryder M. June 2011. A pilot study evaluation of three needlefree IV connectors and their ability to maintain catheter patency over an 11-day period.
4. Breznock E, Sylvia C. BioSurg, Inc., 2011. The in vivo evaluation of the flushing efficiency of the Neutron needlefree catheter patency device compared to two other connectors commonly used on central and PICC lines.
5. Breznock, E. Biosurg, Inc. 2012