

● AllPure Technologies
QUICKSEAL[®]

aseptic tube sealing

November 2011

Patent Pending

PLEASE READ BEFORE USING THIS PRESENTATION

- Slides 1 through 10 can be shown to the customer.
- Slides 13-17 are comparison tables with a competitive product.
 - These are meant to be used ONLY when the customer specifically talks about a specific competitor's product.
 - Only display the slides that are pertinent to the discussion.
 - Notes are below each slide to help facilitate discussion.

QUICKSEAL[®] aseptic tube sealing



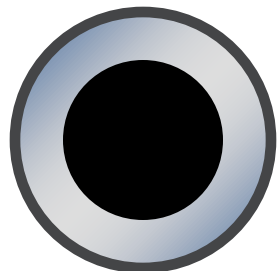
validated aseptic seal in

seconds

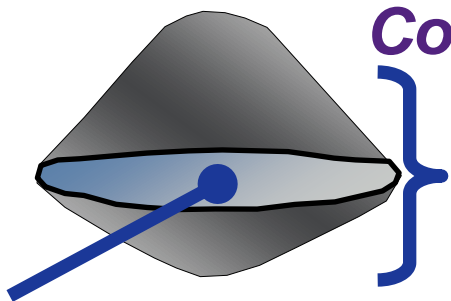
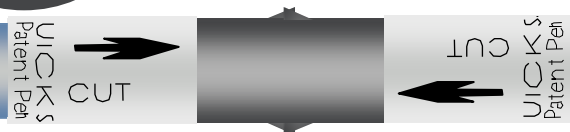


Technology Overview

- What was



- Becomes



Collar is fixed to tubing

cut collar maintains compression

mechanical seal

50%+ compression

Mirrors the principle of peristalsis

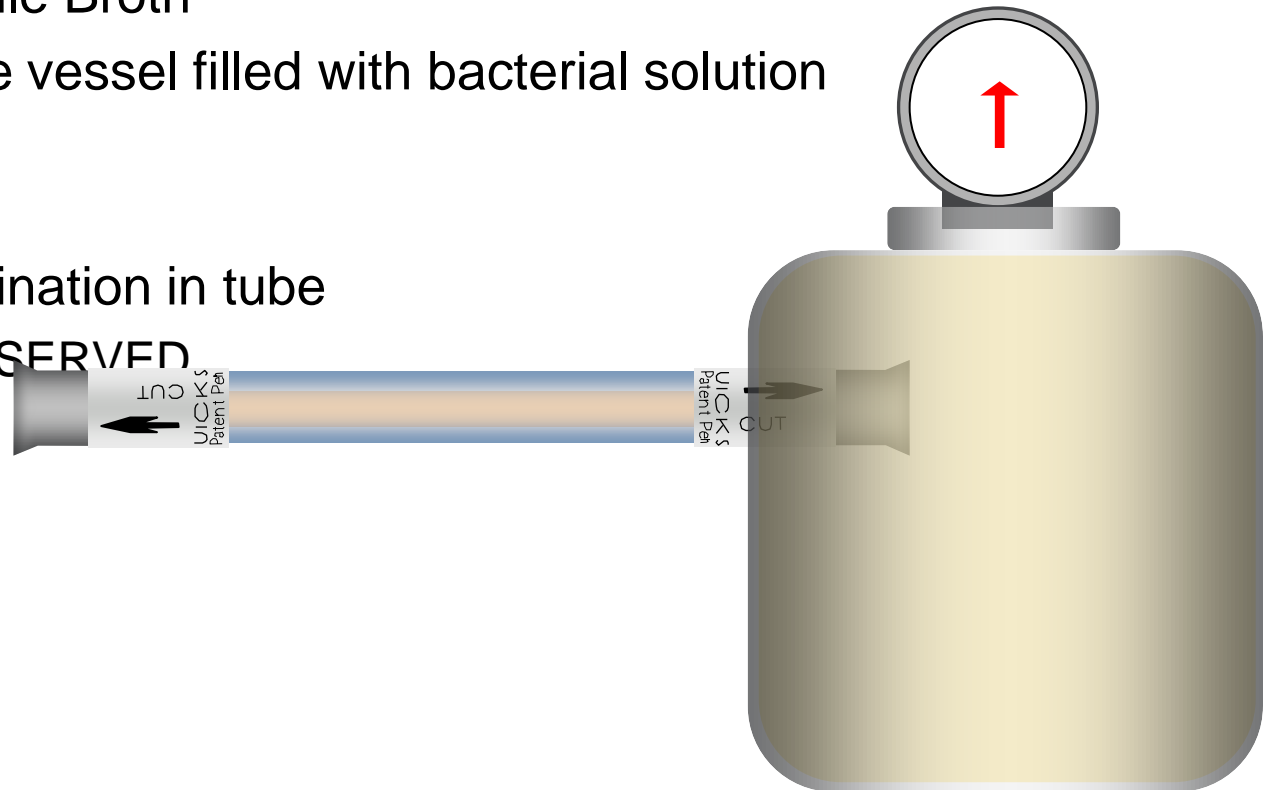
Validation

- Burst Testing
 - Tube fails before **QUICKSEAL**[®]
- Container Closure Study
 - **QUICKSEAL**[®] is microbial barrier
- Leachable & Extractable Profile
 - Identical to tubing



Container Closure Study

- Two Studies
 - Ambient Temperature
 - -60°C to -100°C
- Tube filled with Sterile Broth
- Immerse in pressure vessel filled with bacterial solution
 - +15psi
 - -10psi
- Observe for contamination in tube
 - NO GROWTH OBSERVED



QUICKSEAL[®] capabilities

- Tubing Options
 - TPE
 - C-Flex[®]
 - Advantaflex[®]
 - Platinum-cured silicone
- Tube Sizes
 - 1/8" x 1/4"
 - 1/4" x 3/8"
 - 3/8" x 5/8"
 - 1/2" x 3/4"
- Options for other tubing materials and sizes may be available on a case by case basis.



QUICKSEAL[®] Cutting Tools

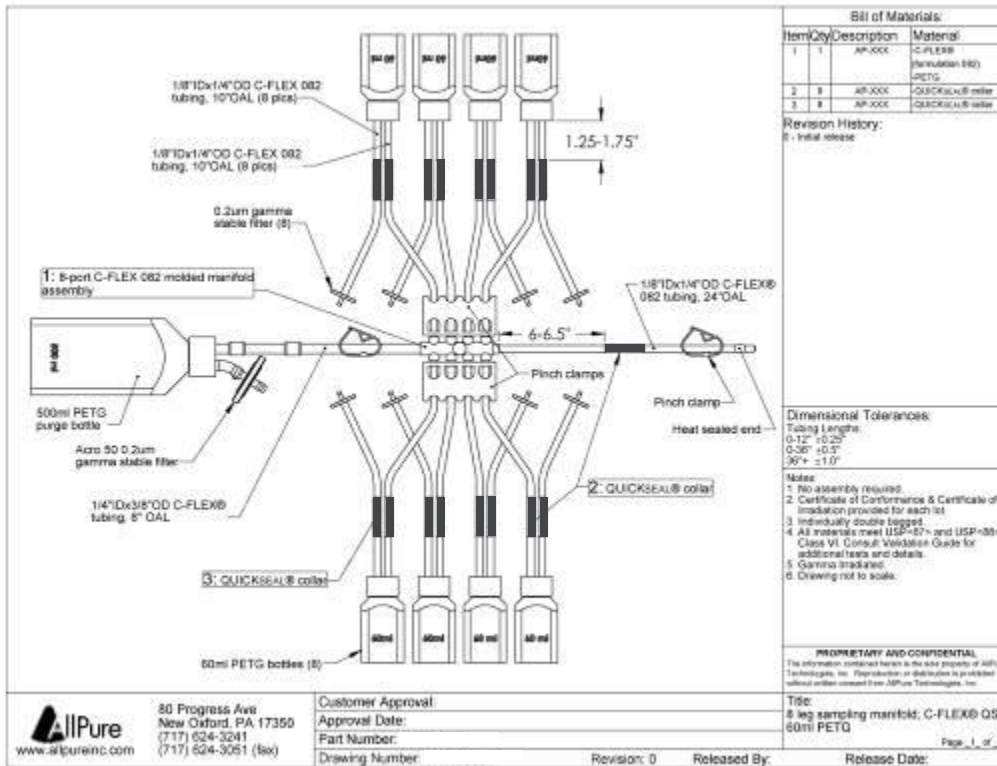
- Small Diameter Cutter
 - 1/4" Outer Diameter
 - Manually Operated
- Large Diameter Cutter
 - 3/4" Outer Diameter
 - Hand held
 - Portable
 - Battery Powered
 - Comes with two batteries and charger



Product Demonstration



Example



- Fill & disconnect each bottle
- Sealing Procedure:
 - ~~Prior: Heat Sealing with 3 seals per cut~~
 - NOW: One Cut
- Seal cycle time:
 - ~~Prior: 2 min/seal~~
 - NOW: 2 seconds/cut
- Time Per Manifold
 - ~~Prior: 102 minutes~~
 - NOW: 34 Seconds

Conclusion

- Easy Safe Disconnections are Available on All Tubing Materials
Not just for TPEs or PVC tubing anymore
- Scalable
Available on a wide range of sizes and more can be added
- Saves You Time
Disconnect in 2-3 seconds
- Intuitive Design
So simple anyone can do it

Get Started Today!

Thank you!

Comparison to Clipster

	QUICKSEAL	Clipster
Sizes	<ul style="list-style-type: none"> • 1/4" OD; 3/8" OD, 5/8" OD, 1/2" OD, 3/4" OD • Scalable – Other Sizes can be Added Quickly 	<ul style="list-style-type: none"> • 5/8" OD and 3/4" OD • Need Tooling to Create New Sizes and May Need New Cutter
Number of Steps	<ul style="list-style-type: none"> • One Step – Cut • Optional Step – Place Protective Cap Over End 	<ul style="list-style-type: none"> • Four Steps – Position, Placing in Tool, Cut, Disconnect
Testing	<ul style="list-style-type: none"> • Aseptic Dry Disconnect - Bacterial Challenge Test at Ambient and at Frozen Temperatures 	<ul style="list-style-type: none"> • Aseptic Dry Disconnect - Bacterial Challenge Test at 30-37°C
Lead Times	<ul style="list-style-type: none"> • No Delays for Production on BPCs 	<ul style="list-style-type: none"> • High Volume Requests Add to Lead Times Which can Cause Delays
Cost	<ul style="list-style-type: none"> • Average - Compared to like Components 	<ul style="list-style-type: none"> • Slightly Lower Than Average – Compared to like Components
Flexibility	<ul style="list-style-type: none"> • Location is Predetermined, Reduces Variability 	<ul style="list-style-type: none"> • Location Determined at Time of Use, Increased Variability

Comparison to Kleenpak Sterile Disconnect

	QUICKSEAL	Kleenpak Sterile Disconnect
Sizes	<ul style="list-style-type: none"> • 1/4" OD; 3/8" OD, 5/8" OD, 1/2" OD, 3/4" OD • Scalable – Other Sizes can be Added Quickly 	<ul style="list-style-type: none"> • Currently only 1/2" HB (3/8" HB due soon) • Limited Size Range and Flow is Restricted Due to Design
Number of Steps	<ul style="list-style-type: none"> • One Step – Cut • Optional Step – Place Protective Cap Over End 	<ul style="list-style-type: none"> • Four Steps – Remove Anti-Actuation Collar, Actuate, Remove Disconnection Collar, Twist to Remove
Testing	<ul style="list-style-type: none"> • Aseptic Dry Disconnect – Bacterial Challenge Test at Ambient and at Frozen Temperatures 	<ul style="list-style-type: none"> • Validated as a Sterile Dry Disconnect
Cost	<ul style="list-style-type: none"> • Average – Compared to like Components 	<ul style="list-style-type: none"> • About 100% More Expensive Than the Average - Compared to like Components
Flexibility	<ul style="list-style-type: none"> • Location is Predetermined, Reduces Variability 	<ul style="list-style-type: none"> • Location is Predetermined, Reduces Variability

Comparison to NovaSeal

	QUICKSEAL	NovaSeal
Sizes	<ul style="list-style-type: none"> • 1/4" OD; 3/8" OD, 5/8" OD, 1/2" OD, 3/4" OD • Scalable – Other Sizes can be Added Quickly 	<ul style="list-style-type: none"> • 1/2" OD, 5/8" OD, and 3/4" OD • Limited Size Range Due to Crimper Tool Capabilities
Number of Steps	<ul style="list-style-type: none"> • One Step – Cut • Optional Step – Place Protective Cap Over End 	<ul style="list-style-type: none"> • One Step – The Tool Crimps and Cuts
Testing	<ul style="list-style-type: none"> • Aseptic Dry Disconnect – Bacterial Challenge Test at Ambient and at Frozen Temperatures 	<ul style="list-style-type: none"> • Validated as a Sterile Dry Disconnect
Cost	<ul style="list-style-type: none"> • Average – Compared to Like Components 	<ul style="list-style-type: none"> • Average – Compared to Like Components
Flexibility	<ul style="list-style-type: none"> • Location is Predetermined, Reduces Variability 	<ul style="list-style-type: none"> • Collar is Free Floating and can be Cut Anywhere on the Line

Comparison to HFC39 Series

	QUICKSEAL	HFC39 Series
Sizes	<ul style="list-style-type: none"> • 1/4" OD; 3/8" OD, 5/8" OD, 1/2" OD, 3/4" OD • Scalable – Other Sizes can be Added Quickly 	<ul style="list-style-type: none"> • 1/4" HB, 3/8" HB, 1/2" HB • Available also on the AseptiQuick DC (Sterile Connect and Disconnect)
Number of Steps	<ul style="list-style-type: none"> • One Step – Cut • Optional Step – Place Protective Cap Over End 	<ul style="list-style-type: none"> • Two Steps – Press Button and Pull Apart
Testing	<ul style="list-style-type: none"> • Aseptic Dry Disconnect – Bacterial Challenge Test at Ambient and at Frozen Temperatures 	<ul style="list-style-type: none"> • Validated as a Sterile Wet Disconnect
Cost	<ul style="list-style-type: none"> • Average – Compared to Like Components 	<ul style="list-style-type: none"> • Average – Compared to Like Components
Flexibility	<ul style="list-style-type: none"> • Location is Predetermined, Reduces Variability 	<ul style="list-style-type: none"> • Location is Predetermined, Reduces Variability
Reconnection	<ul style="list-style-type: none"> • Not Possible 	<ul style="list-style-type: none"> • Possible

Comparison to Tubing Welders/Sealers

	QUICKSEAL	Tubing Welders/Sealers
Sizes	<ul style="list-style-type: none"> • 1/4" OD; 3/8" OD, 5/8" OD, 1/2" OD, 3/4" OD • Scalable – Other Sizes can be Added Quickly 	<ul style="list-style-type: none"> • Limited to Type of Welder/Sealer On-hand: Sizes Anywhere from 1/8" – 1-1/2" OD
Requirements	<ul style="list-style-type: none"> • QUICKSEAL Cutter • Usable on All Types of Tubing 	<ul style="list-style-type: none"> • Power • Air • Blades • Limited to Thermoplastic Elastomers (TPE) Tubing
Time	<ul style="list-style-type: none"> • 2-3 Seconds 	<ul style="list-style-type: none"> • 2-3 Minutes
Type	<ul style="list-style-type: none"> • Aseptic Dry Disconnect 	<ul style="list-style-type: none"> • Sterile Weld or Seal
Flexibility	<ul style="list-style-type: none"> • Location is Predetermined, Reduces Variability 	<ul style="list-style-type: none"> • Location is Flexible, But may be Limited to the Type of Welder/Sealer Set-up Requirements.