

VT900A + VAPOR Product Launch

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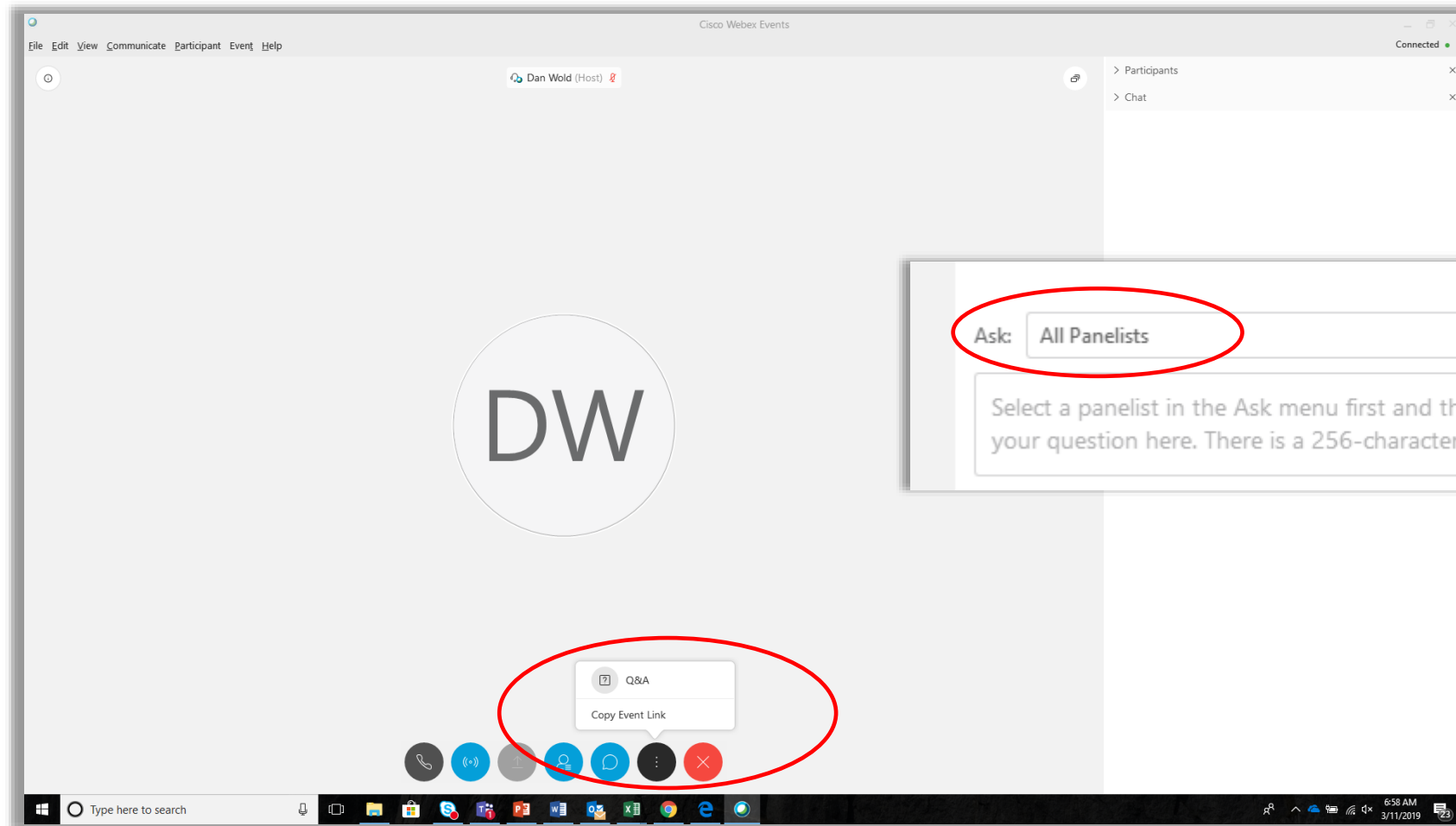


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Overview

- Launch Timing
- Clinical Application
- Case Study
- Customer Application
- Gas Flow Analyzer Product Family
- Introducing VT900A
- Market Intelligence
- Target Customer
- Key Features / Positioning
- Fear / Uncertainty / Doubt vs. Competition
- Win / Fight / Walkaway Tool
- Part Numbers and Kits
- Further Tools to Help You Sell

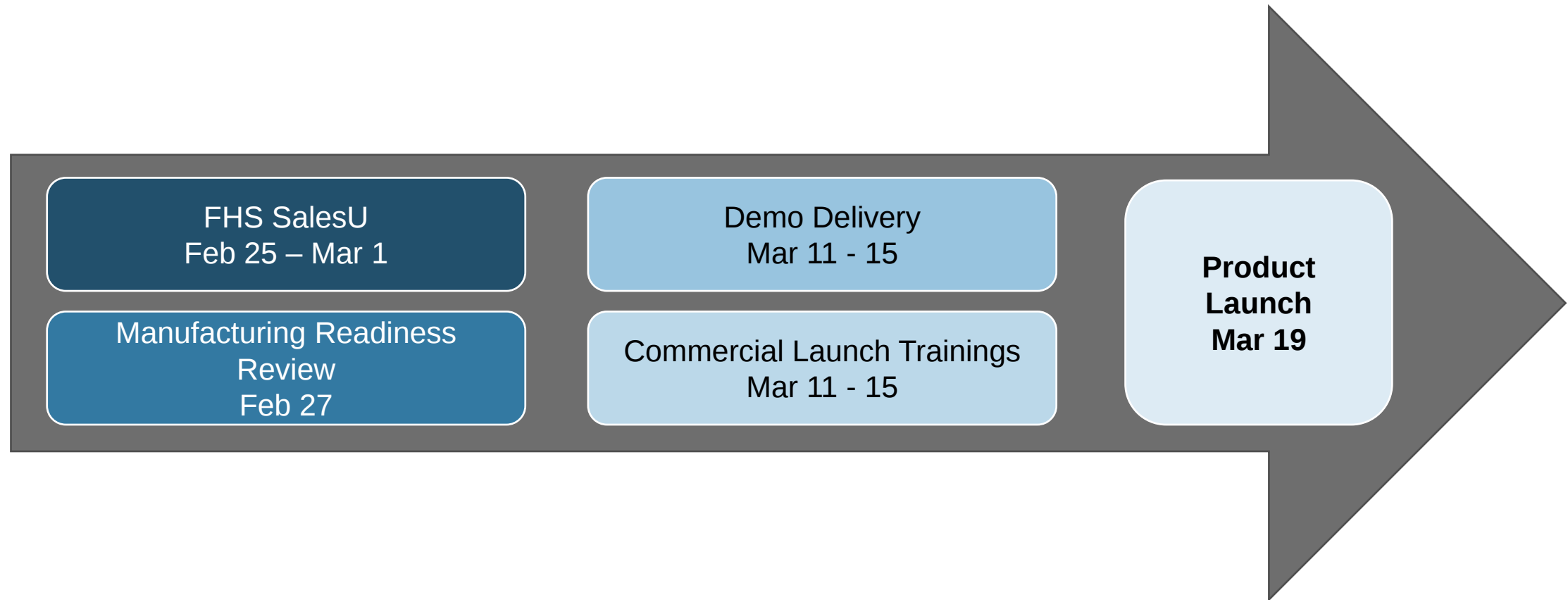
Q&A Instructions



Launch Timing



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Demo Units



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- Pilot units used to fill demo pool
 - Built to final product specifications
 - All are kits of VT900A/VAPOR
- All units are provided by marketing at **no cost** to the regions
- These units are to be shared
- Not every sales call will require a VAPOR unit
- **No channel partner unit upgrades possible**



Clinical Application

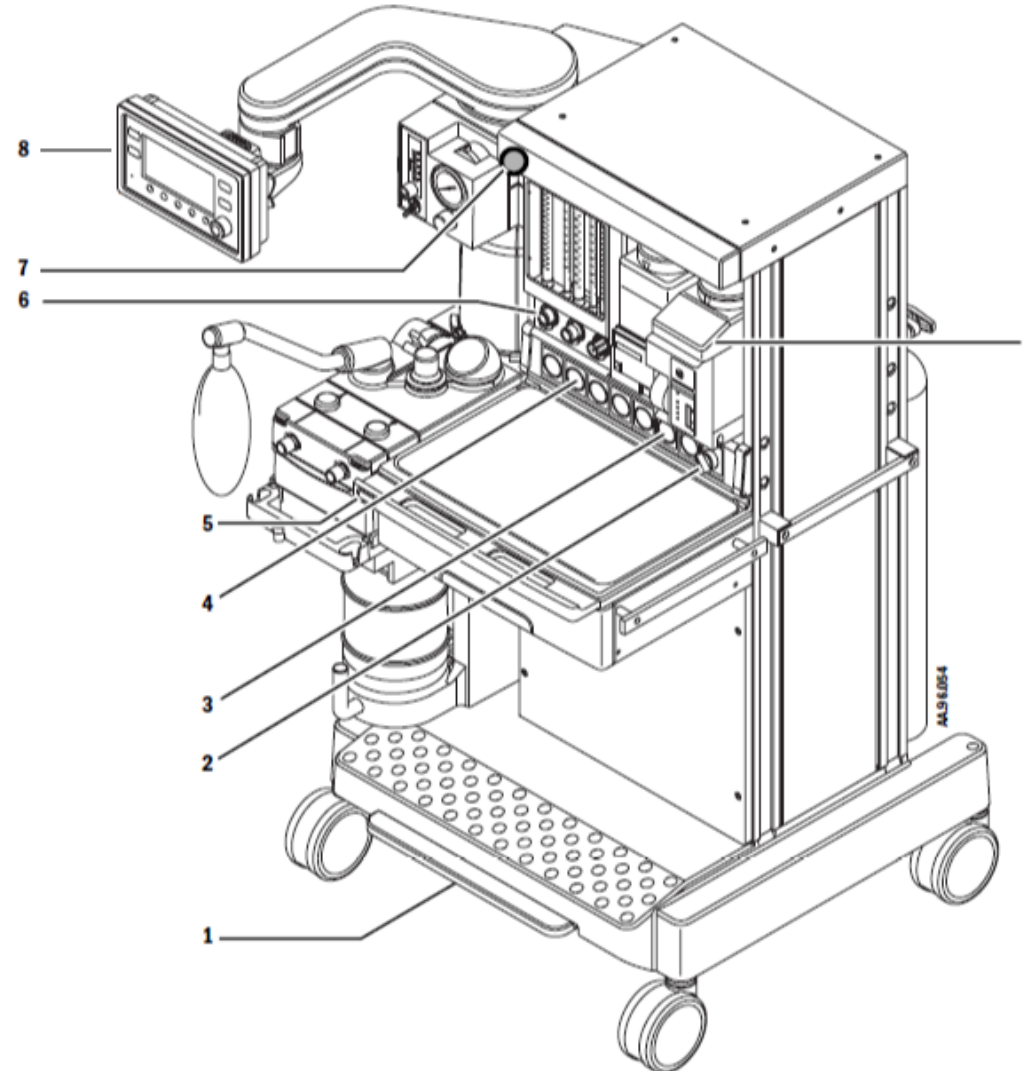
- In 2012 (last year data was available), approximately 312.9 million surgeries were performed worldwide, many of which required general anesthesia¹
- General anesthesia is most commonly administered via inhaled gases delivered by an anesthesia machine
- Under-administration can cause unintended intraoperative awareness, wherein patients are partially awake but unable to speak or move. Such incidents sometimes result in long-term psychological trauma²
- Over-administration can cause cardiac arrest and sometimes death
- Vaporizers and ventilators must be tested routinely to ensure patient safety



Anesthesia Delivery System

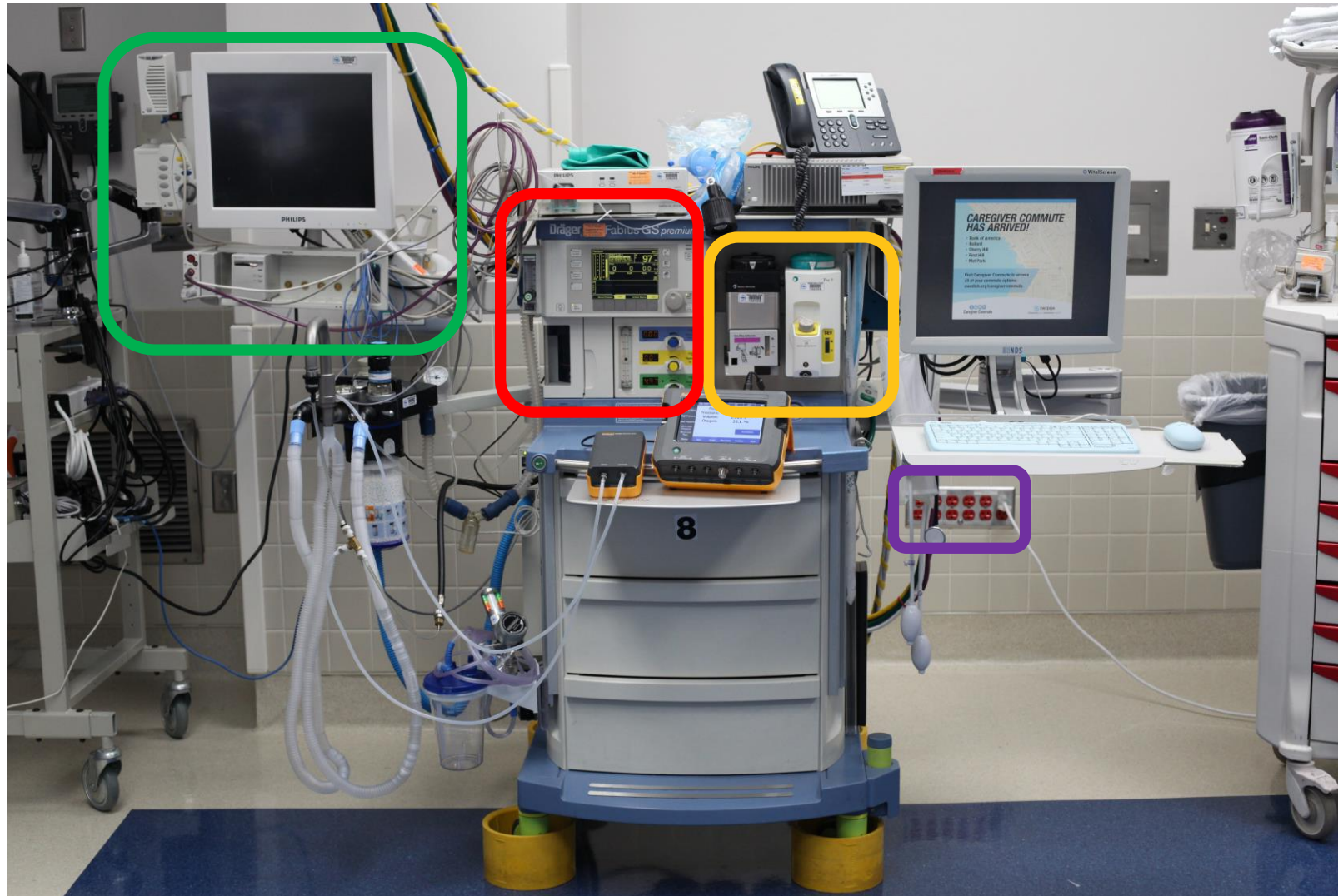
Components

1. Brake
2. System Switch
3. Pressure Gauges (Cylinder)
4. Pressure Gauges (Pipeline)
5. O2 Flush
6. Flow Controls
7. Light Switch and Connector
8. Ventilator Display
9. Vaporizers



Two main functions: Ventilator and Vaporizer

Anesthesia Delivery System



Cross-sell the complete Fluke Biomedical solution

Ventilator Testing

- Anesthesia machine ventilators regulate the breathing cycle of patients under anesthesia
- Ventilator testing is important to verify expected function and ensure patient safety³
 - Leak testing
 - PEEP control
 - Ventilator rate
 - Volume (tidal, minute)
 - Pressure
 - Oxygen calibration
- The VT900A tests 16 breath parameters with best-in-class accuracy. It also has ultra-low flow and ultra-low pressure capabilities for anesthesia machine testing



Vaporizer Testing

- A vaporizer is a device that is attached to the anesthesia machine and delivers an inhalational anesthetic at a defined concentration
- Vaporizer testing confirms that the concentration of anesthetic agent being delivered to the patient is identical to the intended concentration determined by the anesthesiologist
- The carrier gas, nitrous oxide (N₂O) is also an overdoseable element
- This testing is done at multiple flow rates to ensure proper function across the entire range
- This testing also verifies that the respiratory gas monitors (RGMs) on the anesthesia machine are reporting accurately
- RGMs are often used to test vaporizer function (error fraught)
- There are five inhalational anesthetics commonly used: sevoflurane, desflurane, isoflurane, enflurane and halothane
- Vaporizer testing also includes the inspection of interlocks that prevent the delivery of more than one inhalational agent at the same time



What is the customer application?

Pain points and jobs to be done



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Job to be Done	Pain Point	How could we address?
Ventilator Testing	• High / low flow modules needed for testing, modules get lost • Cannot store results, manual data recording • Warmup time too long • Need to constantly zero • Benchtop analyzer cant be transported • Analyzer screen too small to read • Can't test ultra-low flow/pressure on certain DUTs • No automation	• Single high/low flow channel • Onboard memory • Shorter warm-up time • Longer timeframe between zeros • Lightweight, small, portable • Larger touchscreen • Add ULF/ULP • Workflow automation option
Vaporizer Testing	• Need to enter agent to be tested • Cannot store results, manual data recording • Limited number of agents able to be tested • Only verifies concentration, no other failure modes • Typically a different manufacturer than vent tester – two different calibration sites/timelines	• Agent Auto-ID • Onboard memory • All 5 agents • Verify concentration • Verify that interlock is functioning
Test Setup	• Need to make own test fixture, accessories introduce leak points • Setting adjustments for each brand/model	• Provide all necessary accessories • Ability to program Test Profiles
Finding Assets	• Need to track down machines around hospital	• N/A
Close Work Order Reporting	• Manual data entry into report format	• Onboard memory • Ability to download results to PC

VT Family Evolution

Pre-Launch

Launch

Post-Launch

VT650



100%

VT650 customer base
and market will remain
unchanged

100%

VT650

VT900



Existing Sales

Keep VT900
No change
Continued support

VT900 sales discontinued
after launch

New Products

“New” VT900A and
VAPOR accessory

80%

VT900A

20%

VT900A + VAPOR

Future product line: VT650, VT900A, VAPOR

Gas Flow Product Line Overview



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VT650

- Affordable gas flow analyzer
- Not VAPOR compatible



VT900A

- High-end gas flow analyzer
- Adds ultra-low flow and pressure, trigger, improved oxygen accuracy vs. VT650
- VAPOR compatible



VAPOR

- Measures concentration of five anesthetic agents
- Accessory to VT900A only



Gas Flow Product Line Comparison



Features	VT650	VT900A	VT900A + VAPOR
Single flow full range channel (+/-300lpm)	✓	✓	✓
Airway temperature / humidity / oxygen measurement	✓	✓	✓
Test Profile Customization	✓	✓	✓
Oxygen Accuracy	2%	1%	1%
Ultra-low Flow / Pressure		✓	✓
External Trigger Input		✓	✓
Anesthetic Agent Concentration			✓

Why VT900A?

- The original design of VT900 did not have power or communication compatibilities with VAPOR
- Minor changes made to original design for connector
- Same size and specifications as VT900
- Opportunity used to correct some issues with the VT900 design and supply chain



How do we address the customer application?



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Job to be Done	Pain Point	How could did we address?
Ventilator Testing	• High / low flow modules needed for testing, modules get lost • Cannot store results, manual data recording • Warmup time too long • Need to constantly zero • Benchtop analyzer cant be transported • Analyzer screen too small to read • Can't test ultra-low flow/pressure on certain DUTs • No automation	✓ Single high/low flow channel ✓ Onboard memory ✓ Shorter warm-up time ✓ Longer timeframe between zeros ✓ Lightweight, small, portable ✓ Larger touchscreen ✓ Add ULF/ULP ✗ Workflow automation option
Vaporizer Testing	• Need to enter agent to be tested • Cannot store results, manual data recording • Limited number of agents able to be tested • Only verifies concentration, no other failure modes • Typically a different manufacturer than vent tester – two different calibration sites/timelines	✓ Agent Auto-ID ✓ Onboard memory ✓ All 5 agents ✓ Verify concentration ✓ Verify that interlock is functioning
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Finding Assets	• Need to track down machines around hospital	✗ N/A
Close Work Order Reporting	• Manual data entry into report format	✓ Onboard memory ✓ Ability to download results to PC

What can we test?

Think beyond ventilators ...

VT650

- Ventilators – adult, pediatric, critical care, high frequency
- Flow Meters
- Pressure Gauges
- Regulators
- Suction Devices
- Medical-Surgical Vacuum Outlets
- Medical Gas Outlets
- CPAP Machines
- BiPAP Machines



VT900A (+VAPOR)

- Anesthesia Machines
- Multiple Gas Monitors
- Neonatal Ventilators
- Insufflators
- Exsufflators
- Oxygen Concentrators



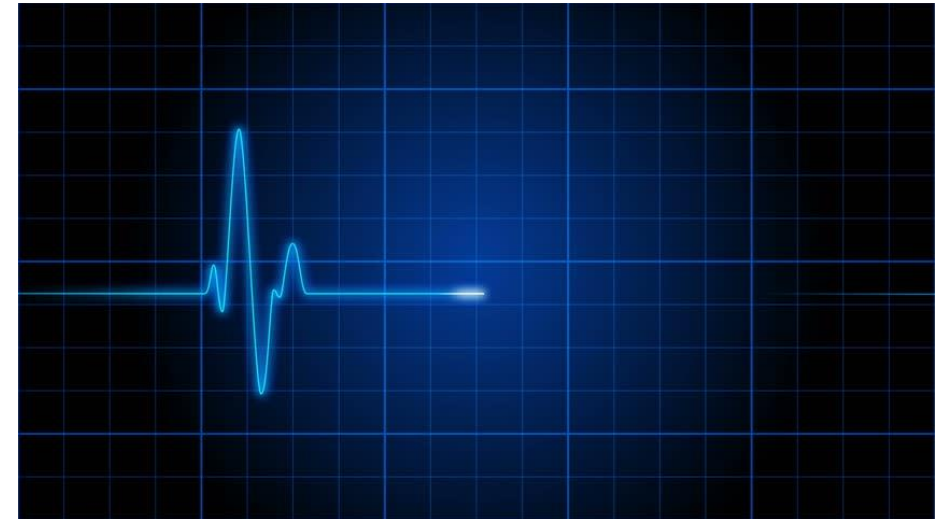
Go Beyond the Usual Suspects ...

- Patient bed air mattresses systems
- Pneumatic Surgical drills
- Oral and Maxillofacial instruments
- ENT consul instruments, and work stations (air compressor flows)



Case Study: Vaporizer Malfunction

- A healthy 36-year-old woman underwent surgery on her left arm
- A desflurane vaporizer was set to 3.5% to maintain anesthesia
- After five minutes, the patient became oxygen deficient and displayed abnormally slow heart activity, followed soon after by cardiac arrest
- The ECG monitor indicated that her heart had stopped. Epinephrine injection and an external countershock restored circulation
- The patient was sedated and transferred to the post-anesthesia care unit. An X-ray revealed an accumulation of fluid in her lungs



What went wrong ...?

Case Study: What Went Wrong?

- An analysis of the equipment revealed that the vaporizer control dial was cracked internally, causing desflurane to be administered at a much higher concentration than indicated. The patient had received 23% desflurane rather than the intended 3.5%⁴
- Had a concentration check been performed prior to administration, the faulty vaporizer could have been removed from use, preventing injury to the patient
- An anesthesia concentration tester such as VAPOR would have shown that the true concentration being delivered in the gas stream was much higher than the concentration indicated by the vaporizer dial



Target Customer Persona

Who are we looking for?

- **Biomed/ISO who tests anesthesia systems**
 - Veteran ventilator tester
 - Not necessarily the same specialist testing vents
 - Certified to work on anesthesia machines
 - Often the most experienced in the group
- **Biomed/ISO manager**
 - Wishes to take anesthesia testing in house – wants to displace an ISO
 - Risk reduction is important
 - ROI is key to making the decision
 - Concerned about compliance
 - Wants to simplify their calibration process – wants to deal with one manufacturer



How to find Customers

Where do we find these people?

- Go to known targets
 - Hospital
 - ISO
 - OEM FSE
- Ask the following:
 - Who does anesthesia testing in the hospital?
 - Where is anesthesia testing done?
 - How is anesthesia testing done?
- Might be someone new
- Might be a different group, department



VT900A + VAPOR



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Key Features

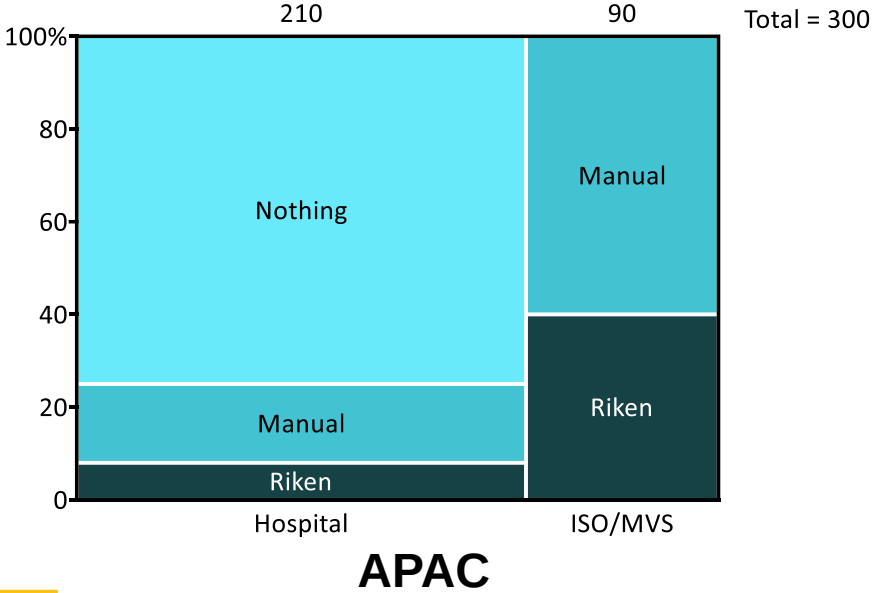
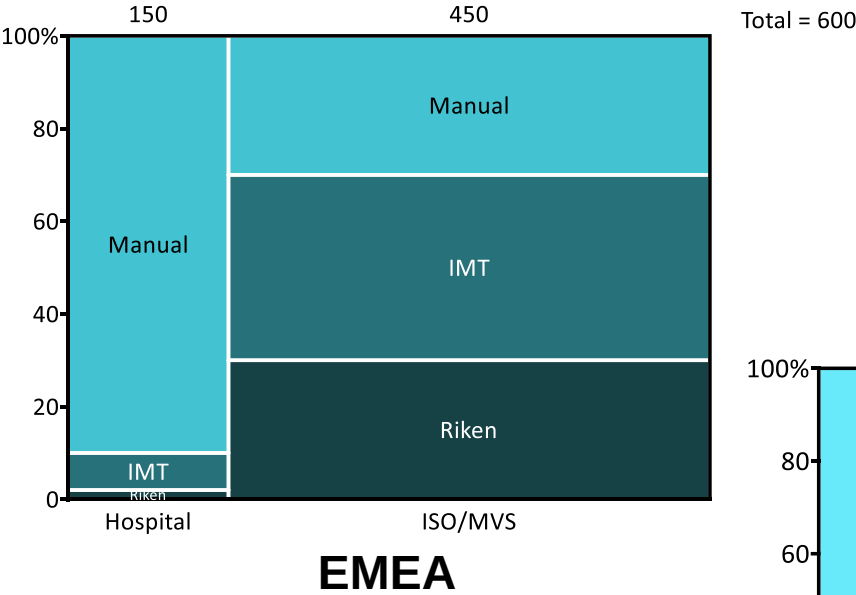
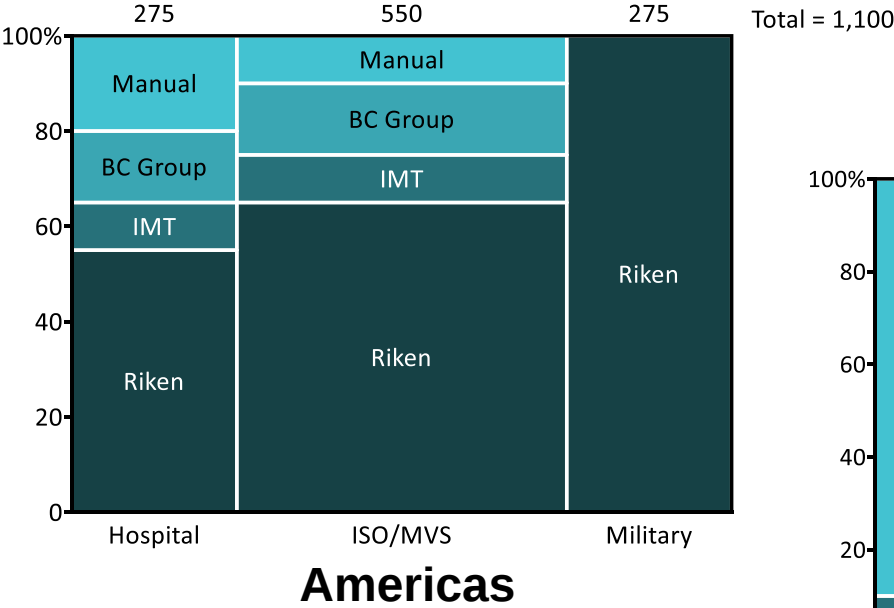
- All the functionality of the VT900A
- Auto-detection of gases
- Color-matched agent identification
- Detection of CO₂, N₂O, desflurane, sevoflurane, isoflurane, enflurane, and halothane
- Pressure and temperature corrections
- Quick-connect fitting
- Onboard memory
- 5 hour (minimum) battery life
- Accessory tee included



Key Positioning

- **One test setup**
 - Single manufacturer for all anesthesia machine testing needs
 - Consistent and reliable calibration from one provider
 - Reduced number of instruments needed
- **Ensure patient safety**
 - Automatic agent detection
 - Simultaneous display of two agent concentrations – detection of additional failure modes
 - Measures 5 anesthetic gases, CO₂, and N₂O
 - Accuracy meets vaporizer manufacturer recommendations
- **Easy to use**
 - Seamless integration between VAPOR and VT900A
 - Automatic agent detection
 - Color-matched agent identification
 - 7-inch touchscreen display
 - Intuitive user interface
 - Can be operated wearing a rubber glove
- **Reliable testing anywhere**
 - 5-hour (minimum) battery life
 - Rugged, durable (thorough drop testing)
 - Best-in-class temperature, pressure and humidity operating ranges
 - Lightweight, portable
 - Convenient carrying case

Market Intelligence

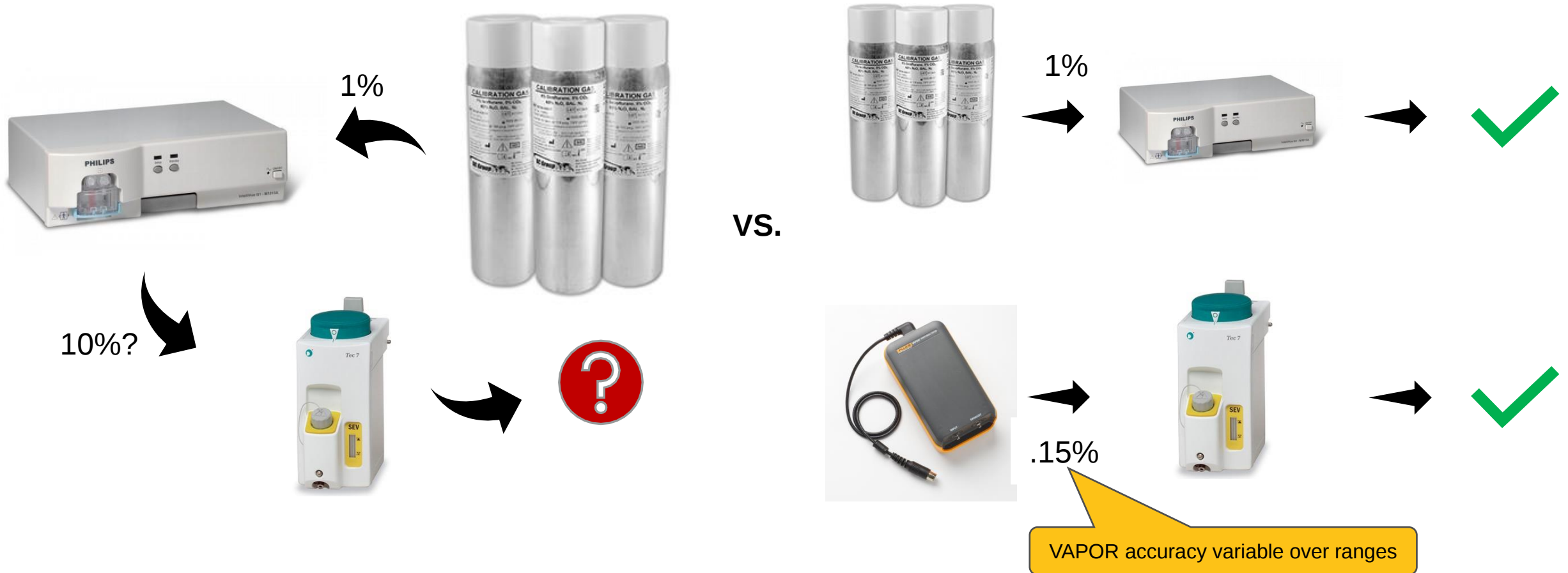


Each region has different market dynamics and players

How to Win: “Manual Testing” or “Circular Testing”



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Calibrated gas used to calibrate RGM used to calibrate vaporizer – see a problem?
Tolerances can add to one another yielding false positives and negatives
Test using a third party device to avoid additive tolerances skewing test results

How To Win: Creating FUD



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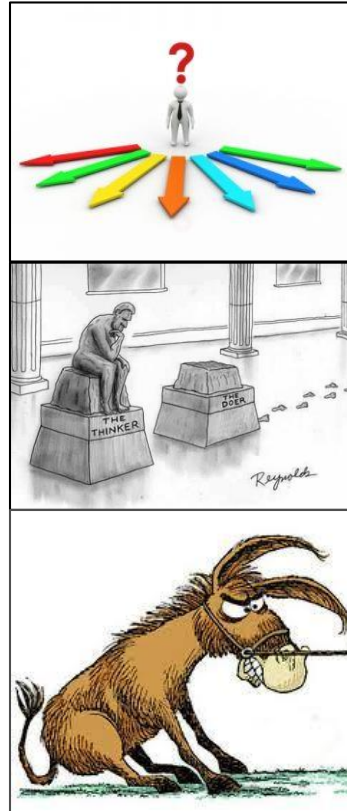


Category	FUD			Fluke Winning!
	Riken FI-8000P	IMT OR-703 + PF-300	BC AA-8000	
Measured Gases	Only tests 4 agents. Lacks ENF, CO2, N2O. Smaller ranges.	Tests all 5 agents, CO2 and N2O.	Only tests 4 agents. Lacks ENF, CO2, N2O. Smaller ranges.	Tests all 5 agents, CO2 and N2O.
Measurement Technology	NDIR. Up-to-date sidestream testing.	NDIR. Out-of-date mainstream testing. Questionable measurement technique.	NDIR. Up-to-date sidestream testing.	NDIR. Up-to-date sidestream testing.
Size	Lightest analyzer in comparison, but lacks ventilator test option.	Smallest analyzer in comparison, but needs to be used with PF-300 which is by no means portable.	Standalone tester lacking ventilator test option.	Integrated ventilator and vaporizer test solution that remains portable. Complete anesthesia delivery system PM.
All-day testing?	12 hours (Alkaline)	2 hours	12 hours (Li-Ion)	8 hour battery life if only using VT900A. 5 hour minimum battery life if VAPOR in operation. Ability to store test results to onboard memory.
Ease of Use	No ventilator test solution. Must manually input gas to be identified and cycle power when gas is changed. Outdated UI.	Ventilator and vaporizer test solution. Gas auto detection. Cumbersome, dated UI.	No ventilator test solution. No automatic gas identification.	Ventilator and vaporizer test solution. Gas auto detection and color ID. Simple, easy, touchscreen UI.



Three Segments

- The Specialists
- The Doers
- The Die-Hards



Goal:

Get customer to talk holistically about what they do and how they do it

-people
-process
-product

Simple questions uncover customer focus area:
Who What Where How

The Specialists (or not)



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PEOPLE

Key Question:

Who/How many people perform anesthesia machine testing?

Win:

Anesthesia specialist does 100% of the work

VT900A + VAPOR is the complete package to perform anesthesia machine PMs

Use VT900A to test ventilator performance and VAPOR to test vaporizer performance. Can warm up while doing your ventilator testing to do a complete PM with one solution

Fight:

A team shares the responsibility, each testing some of the time

VAPOR is an accessory to VT900A. The team can own many VT900As and share a VAPOR

VT900A is the only gas flow analyzer you will need for all medical gas flow equipment. When vaporizers are to be tested, simply take VAPOR along and be able to perform a complete anesthesia machine PM

Walk Away:

- One person only tests vaporizers
- We outsource to an ISO

Our solution requires the purchase of a gas flow analyzer.

Which ISO are you using?

These customers will not be happy with the need to purchase an additional gas flow analyzer to test. Use the opportunity to create some FUD about their current process and continue their learning

The Doers (and how do they do it)

PROCESS

Key Question:

How many different types of gas flow equipment are you testing?

Win:

I test many brands/models of ventilator and anesthesia machine

You can reduce your test time significantly and work all-day on the go with VT900A and VAPOR

VT900A allows for saving test profiles – gas correction, parameters, units, etc. This can reduce test setup time by 90% each time you test.

Fight:

The hospital is standardized on one brand/model of ventilator

VT900A and VAPOR can help you work more efficiently

You can significantly reduce your test setup time with a saved test profile and work remotely all day with onboard memory and 8 hour battery life. Download your results to a PC when you return to the shop.

Walk Away:

- I don't test many at all
- We outsource the few we have

Our solution likely does too much for what your workflow requires

Our solution will do too much for these customers and they will not be willing to pay

The Die-Hards (and how to make them softer)



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PRODUCT

Key Question:

What test equipment do you use to perform anesthesia delivery system PMs?

Win:

I carry an old vent tester, a DPM, a gas analyzer and all the accessories

Reduce your equipment to just a VT900A and VAPOR – it's the complete package that meets all your gas flow testing needs!

This customer can dramatically reduce what they have to carry to one case, two products and it covers all of their gas flow testing needs in the hospital

Fight:

- I use a TSI and Riken
- I use calibrated gas

Two devices from two manufacturers? Do you misplace modules?

Did you know that you might be introducing error to your system by using calibrated gas?

- One solution, one manufacturer, less downtime for calibration. All-in-one solution with better specs.
- Testing your RGM with cal gas and using the RGM to test your vaporizer can increase test uncertainty

Walk Away:

I recently purchased a PF300 with the Masimo unit

How old? Would you rather have a portable test solution? Better battery life? Mainstream testing is considered antiquated

These customers have likely invested greatly in their current solution. Since they have purchased both parts from one manufacturer it may be hard to get them to switch. Use this opportunity to learn more and create some FUD and interest

More the in the Appendix



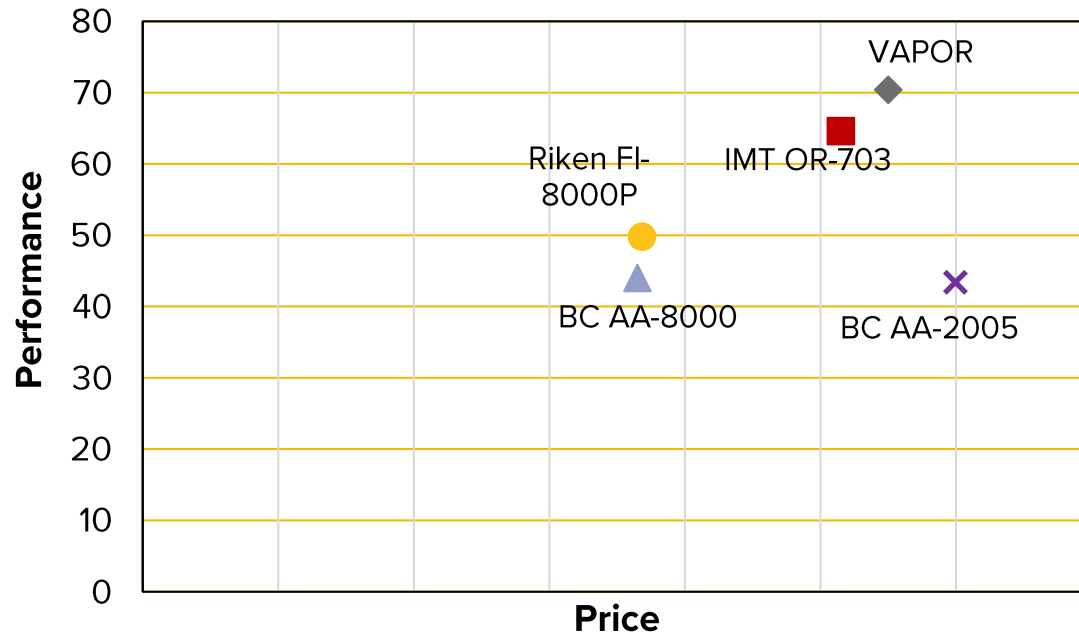
Further Tools to Help You Sell!

- How to Win vs. Competition – Questions to Ask
- Specifications vs. Competition
- Best Practices – Webinar to follow
- Product Demo – Videos on channel launch page
- Objection handling / FAQ

VAPOR Price Performance Chart



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Push accessory sales

2387318 Acculung
 4281291 Acculung II
 4969657 VESA Mount System
 2133712 Bacterial Filter

PN	DESCRIPTION
5014709	VAPOR
5014711	VT900A
5014727	VT900A/VAPOR
5014730	VT900A ACCULUNG II
5034254	VT900A W/ACCULUNG
5067868	VT900A/VAPOR/ACCUII
5067879	VT900A/VAPOR/ACCU
4920340	VT650
4962481	VT650/ACCULUNGII
5067887	VT650 W/ ACCULUNG

PNs active today for demo and pre-orders

Global Pricing



PN	DESCRIPTION	US	APAC LAAM	EMEA EUR	EMEA GBP	EMEA MEAT
5014709	VAPOR	\$5500	\$6600	5280€	£4760	\$6340
5014711	VT900A	\$10710	\$11250	9000€	£8100	\$10800
5014727	VT900A/VAPOR	\$16210	\$17850	14280€	£12860	\$17140
5014730	VT900A ACCULUNG II	\$11110	\$11670	9340€	£8420	\$11220
5034254	VT900A W/ACCULUNG	\$13060	\$14070	11260€	£10140	\$13520
5067868	VT900A/VAPOR/ACCUII	\$16390	\$18050	14440€	£13010	\$17340
5067879	VT900A/VAPOR/ACCU	\$18610	\$20730	16590€	£14940	\$19910

- Some pricing adjustments made internationally to adjust for currency fluctuations
- Further mid-year price increase possible on VT900A due to lack of pricing standard work at VT650/VT900 launch
- VAPOR has already been adjusted to match standard work
- **ASK:** Support in building out regional price-performance charts

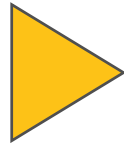
How can existing VT900 customers get a VT900A?



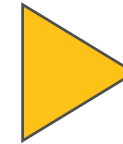
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VT900



- Existing price variance process
- Send requests to your Sales Director
- Approved on a case-by-case basis
- Time limited to 90 days from launch



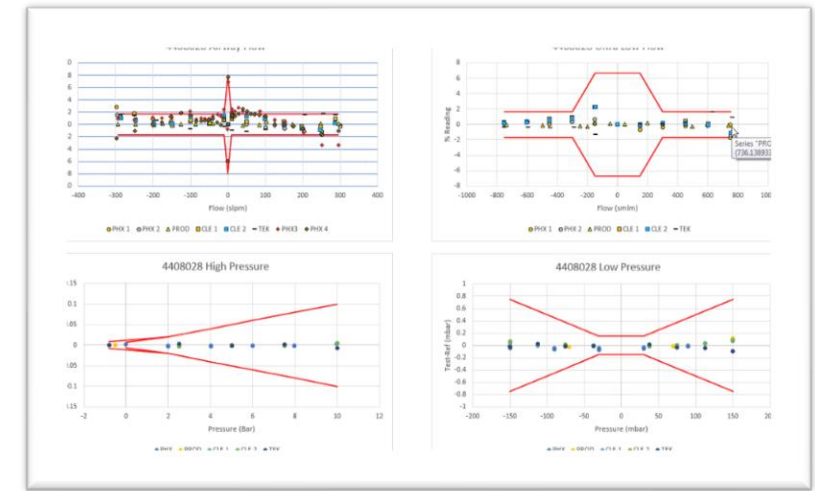
VT900A

Upgrade and trade-in options investigated
Price variance process approved

ISO 17025 Calibration

Now Available!

- 2 units shipped from factory to 4 Fortive sites to perform interlab comparison (ILC)
 - FBC Factory, Everett
 - Fluke Calibration, Phoenix
 - FBC Service, Glenwood
 - Tektronix, Cincinnati
- Results were compared to prove calibration repeatability
- Calibration competency was confirmed by Jeff Gust, Chief Corporate Metrologist
- **Stipulations:**
 - Uncertainty of Airway Flow needs to be increased by 1.5% (customers must approve)
 - Only available on new units from the factory
- Tek SSO would perform accredited calibrations until FBC Service is ready in Q2
 - We would then allow units from the field to also have an accredited calibration
- **Ask:** collect VOS about whether or not ISO 17025 is needed for VAPOR
 - Which gases? SEV, HAL, ISO, ENF, DES, CO2, N2O?



VT900A + VAPOR Product Launch

Marcom Launch Plan



VT900A + VAPOR Marketing Launch Plan



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Creating Application focused webpages within the website will help increase traffic.

This allows our content to focus around problem solving for our customers.

- How to videos
- Application notes
- Tip and tricks
- Webinars



VT900A + VAPOR Marketing Launch Plan



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Internal Sales Launch – Today

Pre-designed email that you can send out today to your valued customers with a sneak peek of the VT900A + VAPOR.

The public launch will be **March 19th**.



The image shows a pre-designed email template for the VT900A + VAPOR launch. At the top, there is a header image with the text "VT900A + VAPOR Gas Flow Analyzer & Anesthesia Tester" and the FLUKE Biomedical logo. Below the header, the email body starts with "Dear Valued Customer," followed by a sneak peek announcement for the 19th of March. The subject line is "VT900A + VAPOR Anesthesia Tester". The main body text describes the product's capabilities and lists four bullet points: Streamline testing procedure, Avoid confusion and improve efficiency, Be confident in results, and Portable. It concludes with a call to action to talk to the sales rep for more information. At the bottom, there is a footer with the logos of FLUKE Biomedical, RaySafe, and LANDAUER.

VT900A + VAPOR
Gas Flow Analyzer & Anesthesia Tester

FLUKE Biomedical

Dear Valued Customer,

Here is a sneak peek of our new product that will be released next week on the 19th of March.

VT900A + VAPOR Anesthesia Tester

With the all-new Fluke Biomedical VAPOR Anesthesia Tester, you can quickly and accurately perform concentration measurements of five anesthetic agents. Used with the VT900A Gas Flow Analyzer, VAPOR offers a complete, simple, and reliable solution for anesthesia machine testing. Complete your whole anesthesia machine PM with this one solution.

- Streamline your testing procedure by performing all anesthesia machine and ventilator checks with one test setup
- Avoid confusion and improve efficiency with auto-detection of anesthetic agents and color matched gas identification
- Be confident in your results with accurate concentration measurements
- Portable - fits in one case with VT900A

One solution for all your anesthesia delivery system and ventilator testing needs.

Talk to me for more information.

Sales Rep Contact Information

FLUKE Biomedical RaySafe LANDAUER

VT900A + VAPOR Marketing Launch Plan



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Biomedical

Brochure and Datasheets

Gas Flow Analyzers

Highly accurate, all-in-one portable gas flow analyzers engineered to meet global standards.

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et for gas flow and
ulators, flow meters,
lightweight design,
te saving space on

FLUKE®

Easy-to-use

- Create customized profiles for specific model testing and user preference
- View readings up to 6" (1.6 m) away with the large 7" (17.8 cm) color touch screen
- Easily access menu options with a simple touch on the screen
- Real-time results are displayed numerically and graphically
- Global user interface makes operating this device straightforward and uncomplicated

Traceable

- The large on-board memory allows both short and long term recording and storing of test data
- Transfer data via USB to a PC and upload the generated test file to your CMMS system for simple reporting
- Remote commands enable automated testing, help decrease risk and increase efficiency

VAPOR Anesthesia Tester

VAPOR seamlessly integrates with the VT900A Gas Flow Analyzer, allowing you to quickly and easily transition from ventilator to vaporizer testing. Complete your whole anesthesia machine PM with this one solution. All five agents are automatically detected and two are displayed simultaneously to detect all vaporizer failure modes.

- Detects all 5 anesthetic agents (SEV, ISO, HAL, ENF, DES)
- Reduce risk of error with automatic agent ID and color matching
- Portable – fits in one case with VT900A

For more information about Fluke Biomedical gas flow analyzers, visit: www.flukebiomedical.com/gasflow

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Technical data
VT900A Gas Flow Analyzer

The Fluke Biomedical VT900A is designed to accurately and reliably test all types of medical gas flow equipment—ventilators, insufflators, oxygen meters—especially those requiring high accuracy in ultra-low flow and ultra-low pressure measurements such as anesthesia machines, flow meters and neonatal ventilators.

Accurate

The VT900A is Fluke Biomedical's high-accuracy premium gas flow analyzer. The single, full-range ± 300 lpm air flow channel offers built-in oxygen, temperature and humidity measurements to streamline testing and automatically compensate for environmental conditions. The VT900A features an external trigger input and special ultra-low flow and ultra-low pressure ports. These ultra low-flow and ultra-low pressure ports allow the highest accuracy for devices requiring crucial low volume and pressure testing such as anesthesia machines and flow meters. Designed and tested to world renowned Molbloc-L calibration specifications ensures traceability to global regulatory standards with reliable measurements you can count on.

Easy-to-use

- Create customized profiles for specific model testing and user preference
- View readings up to 6" (1.6 m) away with the large 7" (17.8 cm) color touch screen
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FLUKE®

Technical data
VT900A + VAPOR

The Fluke Biomedical VT900A + VAPOR is designed to efficiently and reliably perform a full anesthesia machine PM, from ventilators to vaporizers.

One Solution

VT900A + VAPOR is a comprehensive test setup that can be used to test anesthesia machine ventilators and vaporizers. All flow, concentration and pressure parameters are accurately measured without any additional equipment, allowing you to lighten your load and simplify your test procedure. Streamline anesthesia machine testing and improve efficiency with one test setup to meet all your needs.

Auto-detection to Ensure Patient Safety

VT900A + VAPOR automatically detects and identifies CO₂, N₂O, sevoflurane, isoflurane, desflurane, halothane and enflurane. Two agents can be displayed simultaneously to comprehensively analyze any anesthesia flow stream making sure that only one agent is being delivered. Automatic agent identification reduces the risk of error and ensures patient safety by eliminating the need for user input and providing a means to test interlock systems and vaporizer contents. Keep patient safety the priority by testing anesthesia machines with equipment you can trust.

Key benefits and features

- Streamline your testing procedure by performing a complete anesthesia machine PM with one test setup
- Avoid confusion and improve efficiency with auto-detection of anesthetic agents and color-matched gas identification
- Reduce bulk and improve ease of transport with a convenient carrying case for the lightweight accessory and gas flow module
- Operate on-the-go with durable, robust design
- Simplify calibration and servicing with one manufacturer for all anesthesia test equipment
- Reduce testing time with 7-in. color touch screen, quick-connect fitting and complete anesthesia hosing accessory kit
- Confidently test with accuracy that meets vaporizer manufacturer recommendations
- Ensure patient safety with automatic detection and measurement of CO₂, N₂O and five commonly used anesthetic agents

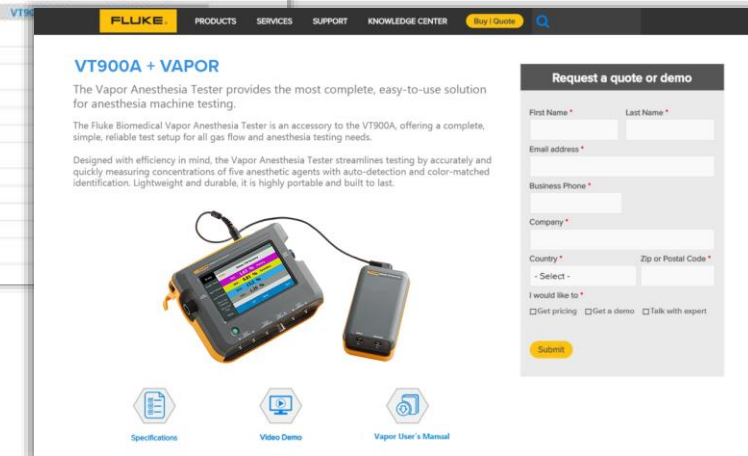
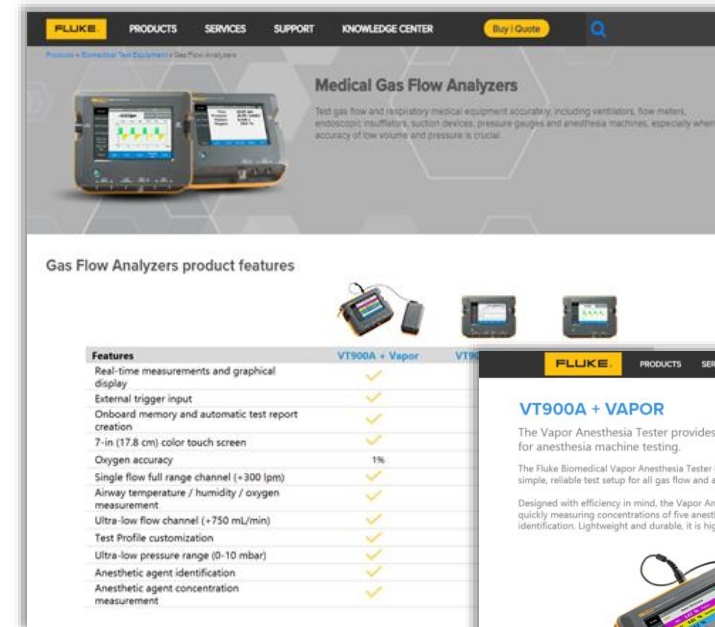
VT900A + VAPOR Marketing Launch Plan



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Launch Email and Website – March 19th



Email Schedule after launch

VT Family

March 26th

Results
Made
Easy

April 2nd

Portable
on the go
Testing

April 9th

How to
Video

April 16th

Test
Everything

April 23rd

VT900A + VAPOR Marketing Launch Plan



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Retargeting Display Program



VT900A + VAPOR Marketing Launch Plan



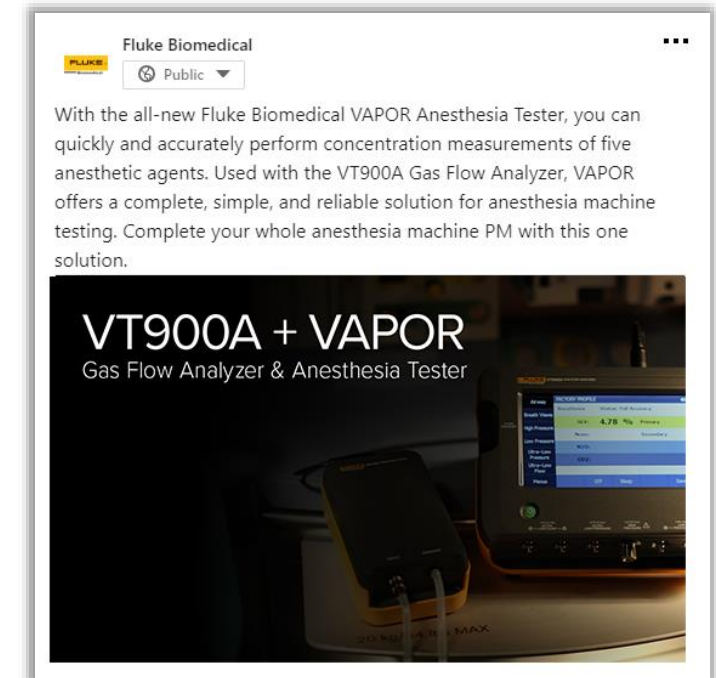
LANDAUER®



Social Media Program – LinkedIn, Facebook and YouTube



March 19th at 10 AM PST



VT900A + VAPOR Marketing Launch Plan



LANDAUER®



Email Signature

Take your customers to the landing page

- Available March 19th

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Set it and forget it.

Using on-board test automation.

Introducing the new Fluke Biomedical ESA614 Electrical Safety Analyzer

The ESA614 Electrical Safety Analyzer brings fast and simple automated testing in the form of a portable analyzer to healthcare technology professionals that perform electrical safety testing on medical equipment both in the field and in facilities.



Whether it is simple testing or comprehensive analysis, the ESA614 can do it all. The ESA614 is an all-in-one solution with a multimeter, safety analyzer and ECG simulator in a single electrical safety test instrument. Just set and forget it.

Request a quote or demo

I would like to *

☐ Get pricing ☐ Get a demo ☐ Talk with an expert

First Name * Last Name *

Email address *

Company

Business Phone

Country * Zip or Postal Code *

- Select -

Channel Launch Page

<https://www.flukebiomedical.com/vapor-launch-page>

Visit this web page to download the assets for this campaign.

Password: VAPOR2019

For sales only!

References



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VT900A + VAPOR



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Competition: Parameters

Parameter	VT900A + VAPOR	Riken FI-8000P	BC AA-8000	IMT OR-703 + PF-300	BC AA-2005
Weight	0.68 + 1.6 kg	1.1 kg	1.6 kg	< 30 g + 3.7 kg	5.9 kg
Measured Gases	CO2, N2O, HAL, ISO, ENF, SEV, DES	HAL, ISO, DES, SEV	HAL, ISO, DES, SEV	CO2, N2O, HAL, ENF, ISO, SEV, DES	CO2, N2O, HAL, ISO, ENF, SEV, DES, O2
Gas Corrections	Pressure and temperature	Pressure and temperature	Pressure and temperature	Pressure and temperature	Pressure and temperature
Size	191 x 96 x 57 mm	154 x 127 x 81 mm	200 x 173 x 76 mm	37 x 27 x 25 mm + 220 x 250 x 120 mm	165 x 279 x 305 mm
Interface	RS-232	IrDA	USB	RS-232	Digital DB9, Mini-DIN8
Measurement Technology	NDIR side stream	NDIR side stream	NDIR side stream	NDIR mainstream	NDIR side stream
Warmup Time ISO, full spec	45 sec / 10 minute	unavailable	unavailable	10 sec / 1 minute	1 min / 20 min
Pressure range	525-900 mm Hg	unavailable	unavailable	525-900 mm Hg	unavailable
Temperature	10-55 C	20-50 C	15-40 C	10-40 C	15-35 C
Humidity	10-95% RH	Below 95% RH	unavailable	10-95% RH	15-90% RH
Measurement Time	<20 sec	unavailable	unavailable	<1 sec	5 min

VT900A + VAPOR

Competition: Accuracy

Accuracy	VT900A + VAPOR	Riken FI-8000P	BC AA-8000	IMT OR-703 + PF-300	BC AA-2005
CO2 %ABS range, accuracy	0-1, 0.1	N/A	N/A	0-10, 0.2 + 2% rel	0-12.5, + 2% + 4% rdg
	1-5, 0.2			10-20, 0.3 + 4% rel	
	5-7, 0.3				
	7-10, 0.5				
N2O % ABS range, accuracy	0-20, 2%	N/A	N/A	0-100, 2 + 2% rel	0-99, + 1.5% + 4% rel
	20-100, 3%				
HAL, ISO, ENF %ABS range, accuracy	0-1, 0.15	0-6, 3%	0-8, 0.15 + 4% rel	0-8, 0.15 + 5% rel	0-10, 0.1% abs + 4% of rdg
	1-5, 0.2	N/A (ENF)	N/A (ENF)	8-12, 0.2 + 10% rel	
SEV %ABS range, accuracy	0-1, 0.15	0-10, 3%	0-8, 0.15 + 4% rel	0-10, 0.15 + 5% rel	0-10, 0.1% abs + 4% of rdg
	1-5, 0.2			10-15, 0.2 + 10% rel	
	5-8, 0.4				
DES %ABS range, accuracy	0-1, 0.15	0-20, 3%	0-20, 0.15 + 4% rel	0-22, 0.15 + 5% rel	0-20, 0.1% abs + 4% of rdg
	1-5, 0.2			22-25, 0.2 + 10% rel	
	5-10, 0.4				
	10-15, 0.6				
	15-18, 1				

VT900A + VAPOR



Competition: Features

Feature	VT900A + VAPOR	Riken FI-8000P	BC AA-8000	IMT OR-703 + PF-300	BC AA-2005
Portability	8 lbs., carrying case	2.4 lbs., shoulder strap	3.5 lbs., no case	8.2 lbs., case unknown	13 lbs., no case
Battery	5 hrs (max)	12 hrs (Alkaline)	12 hrs (Li-ion)	2 hrs	1 hr (NiMH)
Connectivity	RS-232	IrDA	USB	RS-232	Digital DB9, Mini-DIN8
Measurements	Accuracy meets manufacturer recommendations	Lower accuracy, fewer gases detected	Lower accuracy, fewer gases detected	Best-in-class accuracy, though questionable due to measurement technique	Lower accuracy, limited operating conditions
Ease of Use	One test setup, color-matched identification, gas auto-detection, touch screen	No ventilator testing, must manually input gas identity and cycle power when gas is changed	No ventilator testing, no automatic gas identification	One test setup, gas auto-detection , cumbersome UI	No ventilator testing, long warmup time, gas auto-detection
Quality	Fluke quality	Reputation unknown	Poor reputation	Good reputation in EMEA , questionable elsewhere	Poor reputation

- **What are the differences between VT900A and VT900?**
 - There are no differences between the VT900 and VT900A in function, size or performance. The VT900A was created to allow for a power and communication interface to the VAPOR Anesthesia Tester and only replaces the VT900 to reduce operational complexity.
- **Why cant I connect VAPOR to a VT900?**
 - The VT900 USB interface cannot provide both the power and communication needed to operate VAPOR. This is why the VT900A is needed.
- **What happens in 12 months? Will you come out with another new product?**
 - Fluke does not plan on any further updates to the VT product line. All VT products will continue to be supported with updated firmware versions in order to improve function and usability.
- **Why is there no Ansur plug-in?**
 - The management of Fluke Biomedical has made a strategic decision not to pursue an Ansur workflow automation plug-in for the VT650 and VT900. You can, however, use the Excel plug-in to download your test results from your VT to your PC.

- **What do I do with my VT900?**
 - The VT900 has the same function as the VT900A so do not worry that you have an outdated product. Fluke Biomedical will stop selling the VT900, but it will continue to be supported with firmware updates and replacement parts.
- **Why wasn't VAPOR built into the VT900A?**
 - The initial idea during the development of the VT650 and VT900 was to eventually add VAPOR as an accessory. VT650 and VT900 were built in an internally modular way and introducing additional internal components would disrupt that modularity. There were attempts to allow agent to flow through the main flow channel, but doing so would destroy the thermal sensors over time.

How to Win: Riken and IMT



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How to Win vs. Riken FI-8000P

- Do you need to test enflurane?
- What ranges do you need to test?
- Do you like carrying two separate devices to test flow and concentration?
- What if you didn't have to enter the agent you are looking for? Cycle power when agent is changed?
- Do you need a carrying case?
- Is accuracy important to you?
- How important is the user interface to you?
- How would you measure CO2 and N2O? Another device?
- Would you prefer a rechargeable Li-Ion battery?



How to Win vs. IMT OR-703/PF-300

- Do you need a portable solution?
- Mainstream sampling is antiquated - sidestream is more modern and has a better reputation in medical devices
- Would all-day battery operation be a plus? Is 2 hours enough?
- How important is the user interface to you?



How to Win: BC Group

How to Win vs. BC AA-8000

- Do you need to test enflurane?
- What ranges do you need to test?
- Do you like carrying two separate devices to test flow and concentration?
- What if you didn't have to enter the agent you are looking for?
- Do you need a carrying case?
- Is accuracy important to you?
- How important is the user interface to you?
- How would you measure CO2 and N2O? Another device?



How to Win vs. BC AA-2005

- Do you like to carry two separate devices to test flow and concentration?
- Is portability important to you? Do you need a carrying case?
- Do you need your device to warm up and measure quickly?
- Is accuracy important to you?
- Would all-day battery operation be a plus? Is 1 hour enough? Li-Ion preferred?
- How important is the user interface to you?



Best Practices

1. Understand the laws of gas physics and human physiology and breathing
2. Obtain and understand the requirements of the manufacturer's service manual
3. Understand the modes of ventilation in the DUT
4. Perform electrical safety testing - always
5. Establish and adhere to a regular maintenance schedule
6. Create and follow a standardized maintenance checklist and procedure
7. Perform one comprehensive test (all functions, all equipment, one report)
8. Document electronically, use automation
9. Archive using a CMMS
10. Use third party test equipment vs. calibrated gas
11. Choose the right test equipment
12. Best test setup - Activate scavenging system during test, use antibacterial filter, zero device

VT900A

- Calibrate O2
- Zero your Airway
- Test Setups: Hookups, Filter
- Modes: Uni-directional, bi-directional
- Test Profiles: Units, Correction Mode
- Test ID
- Visualization: Airway, Breath Views, Data, Graph
- Tests: Volume Control, Pressure Control, PEEP
- When to use ULF, ULP, other ports
- Saving test results
- Excel Plug-In: Plug-In download, How to Use

VAPOR

- Test Setup: Connection, Accessory
- Warm-up time
- Demo Mode
 - Auto detect
 - Color code
 - Measure two agents at the same time
 - All 5 gases, N2O, CO2
 - Battery life
 - Portability, case
- Disclaimer: You CANNOT put agent through the main flow sensor
- Saving Test Results