



**FRESENIUS  
KABI**

caring for life

**IVENIX**  
INFUSION SYSTEM

# The Ivenix Infusion System

**Robert Canfield**

Director of Marketing  
Fresenius Kabi

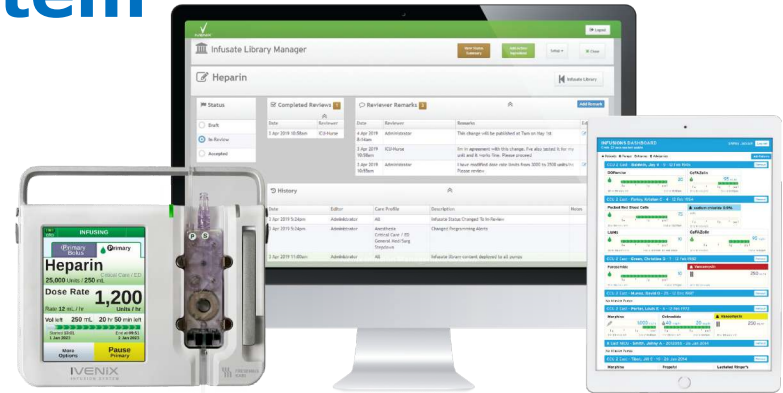
Please see the Instructions for Use for a full list of warnings and precautions associated with this device.

We can't solve problems  
by using the  
**same kind of thinking**  
we used when  
**we created them.**

**-Albert Einstein**

# The Ivenix Infusion System

Built to comply with the latest FDA guidelines for infusion pump **durability**, **reliability**, and **cybersecurity** to address recurring safety issues with infusion pumps.<sup>1,2</sup>



**Innovative large-volume pump** with exceptional capabilities and clinical performance.

**Portfolio of proprietary disposables** deliver a new level of safety.<sup>1,3</sup>

**Comprehensive software** tools optimize patient care and reduce total cost of ownership.

1. Ivenix Infusion System Large Volume Pump (LVP) Instructions for Use. 2021.
2. U.S. Food and Drug Administration. Infusion Pumps Total Product Life Cycle Guidance for Industry and FDA Staff. Document issued on December 2, 2014.
3. Penoyer D, Giuliano K, Middleton A. Comparison of safety and usability between peristaltic and pneumatic large-volume intravenous smart pumps during actual clinical use. *BMJ Innov.* 2022;8:78-86.

# Reducing Infusion-Related Errors Through Simple, Automated, and Informed Care



Detects and warns of duplicate or incompatible drugs.

Bags can be hung anywhere, including on the side of the pump, simplifying line tracing.

Clear and simple smartphone-like user interface.

Pneumatic pumping eliminates the complexities of setting up and operating the pump.

Medications can be infused until bag is emptied and followed by an automatic flush of fluids.

Designed not to free flow under any operating condition.

Dual inlet cassette allows simple, safe delivery from bags, bottles, or syringes.

No annual preventive maintenance required.



Winner MedTech Breakthrough Award for Best New Technology Solution in Drug Delivery



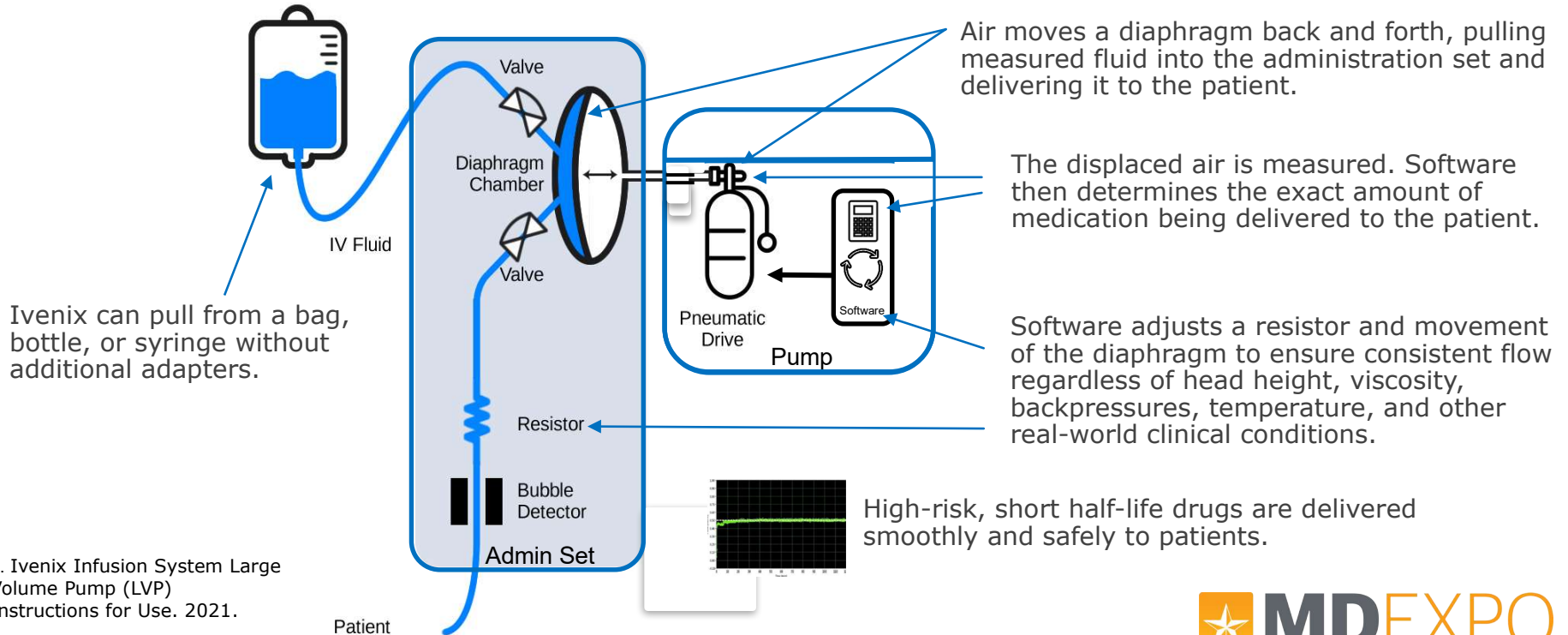
Winner of the 2019 Stanley Caplan PDTG User-Centered Design Award



FIERCE Innovation Best New Product & Innovation in Drug Delivery Technology



# Ivenix Delivers Accurately and Consistently<sup>1</sup>



1. Ivenix Infusion System Large Volume Pump (LVP) Instructions for Use. 2021.

# Unparalleled Flow Accuracy and Continuity<sup>1-4</sup>

## Designed to be inherently safe

- First and only pump that works based on a pneumatic pressure that **measures and adjusts flow** regardless of bag height changes, patient movement, fluid viscosity, etc.\*
- Delivers the programmed amount, reducing the chance of under- or over-infusing
- Consistent accuracy in flow rate is maintained regardless of temperature, pressure, head height, backpressure, fluid viscosity, or tubing configuration
- Recognizes pressure changes, such as an occlusion, and adjusts to ensure an unintended bolus (>0.5 mL) is not delivered
- Automated infusion restart after resolution of patient-side occlusion

\*First and only in U.S. market as of 2/23.

1. Ivenix Infusion System Large Volume Pump (LVP) Instructions for Use. 2021. 2. BD Alaris™ System with Guardrails™ Suite MX User Manual. CareFusion. 2020. 3. Plum 360™ Infuser System Operating Manual. ICU Medical. 2020. 4. Sigma Spectrum Operator's Manual. Sigma, LLC. 2011.

# Accuracy of Infusion Delivery Equates to the Accuracy of Infusion Documentation





# Accuracy of Infusion Documentation Equates to Accurate Billing



Patient-identified infusion data.

Your billers and coders.



Accurate and on-time delivery.

Your EMR.

# A Tough Exterior Built to Withstand Daily Abuse

## Designed to last

- No door to break and no precision mechanisms to knock out of calibration
- Sealed enclosure to protect against spills and offer easy “spray down” cleaning – IPX 3 rating
- Rugged, impact-resistant housing to withstand daily abuse
- Few crevices to trap contaminants, which could lead to hospital-acquired conditions
- Advanced materials (Eastman Tritan 421) to withstand repeated exposure to harsh disinfectants
- Magnesium “roll-cage” power-grip handle for easy handling

# A Game Changer for HTM Professionals

Find it, watch it, fix it from anywhere<sup>1-3</sup>

- Lower cost fleet management
- No calibration needed
- Pump locator
- Predictive maintenance advisories
- Remote troubleshooting
- Transparent software updates

The screenshot displays the Ivenix Systems Dashboard. On the left is a green sidebar with navigation options: System Summary, Manage Fleet, and Maintain Devices. The main area shows a table of devices with columns for Unit/Dept, S/N, and a 'Find Pump' button. Three pop-up windows are overlaid, each showing detailed information for a specific device, including battery health, software version, and infusion hours.

Unit/Dept	S/N	Find Pump
1st Floor ED	1808...	Find Pump
1st Floor ED	1624...	Find Pump
2nd Floor OR	1808...	Find Pump
2nd Floor OR	1808...	Find Pump
2nd Floor OR	1624501131	Find Pump
2nd Floor OR	1808500039	Find Pump
2nd Floor OR	1624501143	Find Pump
2nd Floor OR	1808500047	Find Pump
2nd Floor OR	1804700111	Find Pump
2nd Floor OR	1808500043	Find Pump
5th Floor ICU	1804700106	Find Pump
5th Floor ICU	1808500056	Find Pump
5th Floor ICU	1620800009	Find Pump
5th Floor ICU	1808500003	Find Pump

1. Ivenix Infusion System Large Volume Pump (LVP) Software Requirement Specifications. 2021.
2. Ivenix Infusion System Large Volume Pump (LVP) Instructions for Use. 2021.
3. Ivenix Infusion System Administration Guide. 2021.

# Ivenix Provides Access to Your Pump Fleet From Anywhere, Further Reducing the Cost of Maintenance

- Browser-based access to Systems Dashboard enables management of your fleet from anywhere
- Up-to-the-minute pump status indicators guide maintenance and support efforts
- Location awareness makes it easier to **“Find a Pump”** with locate pump feature
- Remote access to wirelessly transferred pump logs helps simplify troubleshooting

The screenshot displays the Ivenix Systems Dashboard with a 'Manage Fleet By Utilization' view. A table lists various pumps with columns for DevName, Manufacturer, S/N, Placement Date, Month of Use, and Infusion Hours. Two pop-up windows are overlaid on the table, showing detailed information for a specific pump (DevName - S/N: 1804700111). The first pop-up shows tabs for Device Info, Deployment, Status, Battery, Infusion, Maintenance, and Pump Logs. The 'Battery' tab is active, displaying Battery Health (100), Battery Fault (null), Battery Charge (92%), Battery Hours (37), and Battery Time Remaining (6/76 mths). A 'Locate Pump' button is visible. The second pop-up window shows a message: 'There are no pump logs available for download.' with buttons for 'Retrieve Pump Logs' and 'Refresh Pump Logs'.

DevName	Manufacturer	S/N	Placement Date	Month of Use	Infusion Hours
1st Floor 1D	1808020045	15 May 2019 10:00am	5/07	729	
1st Floor 1E	1801021126	11 May 2019 11:00am	01/0	1947	
2nd Floor 06	1808020000	17 Aug 2019 10:00am	08/0	530	
2nd Floor 08	1808020049	15 Aug 2019 10:00am	08/0	1781	
2nd Floor 09	1804021101	13 May 2019 10:11am	09/0	1728	
2nd Floor 09	1808020030	10 May 2019 01:10pm	10/1	437	
2nd Floor 20	1801021140	8 May 2019 6:18pm	09/3	1079	
2nd Floor 28	1808020037	8 Aug 2019 5:13pm	01/0	1077	
3rd Floor 06	1804700111	8 Aug 2019 2:14pm	01/0	339	
2nd Floor 02	1808020040	7 Feb 2019 2:48pm	4/01	881	
5th Floor 02	1801021066	14 May 2019 11:00am	07/0	1026	
5th Floor 03	1808020096	11 May 2019 11:00am	07/0	2361	
5th Floor 03	1808020009	11 Aug 2019 11:05am	7/01	1331	
5th Floor 03	1808020005	22 Aug 2019 10:45am	4/01	627	

# “Find a Pump” Helps Hospital Staff Quickly Find Pump Assets

From the Infusions Dashboard or System Dashboard, a user can locate pumps

## On the display of the pump:

- The pump wakes up from standby
- The pump displays who is looking for the pump and how that person can be contacted
- Optionally, the pump chimes



# Everyone Is Tasked With Doing More With Less

The screenshot shows a webpage from Advisory Board. At the top, there is a red banner with the text "WHAT IS THE FUTURE OF VALUE-BASED CARE? Commercial risk will be a critical catalyst of progress – it's complicated, but is it possible? We think so." and a "Learn more" link. Below the banner is a navigation bar with "Log in", "Create an account", and "Learn about membership" links. The main content area features a date "SEPTEMBER 28, 2022" circled in red, followed by the article title "These 23 health systems laid off employees 'to keep the lights on' in 2022" and the sub-header "Daily Briefing". The article text begins with "Amid 'some of the worst' margins since the beginning of the pandemic, many hospitals and health systems around the United States have been forced to lay off workers, limit services, and even shut down, Dave Muoio writes for Fierce Healthcare." Below this is a link "How Covid-19 impacts facilities" and a section titled "Background" with text: "In 2022, providers were forced to hire contract workers to address the nursing shortage, paying much higher rates than those before the pandemic. While those costs seem to be growing more stable each month, 'many hospitals' depleted budgets are now having to contend with economywide wage and supply". On the right side, there are sections for "RECOMMENDED FOR YOU" with three items: "Can Mark Cuban solve our drug cost problems?", "The 'super common side effect' of the monkeypox vaccine", and "Some people test positive for Covid-19 for weeks. Are they still infectious?". Below that is a "RECOMMENDED EVENTS" section with one item: "Webinar | How to scale team-based primary care ac". At the bottom right of the article area is a "Have a Question?" button.

According to Kaufman Hall's *National Hospital Flash Report*, hospitals in July experienced **“some of the worst margins”** since the beginning of the pandemic—especially since they can “no longer count on supplemental federal funding to buffer these mounting losses, as they did in previous pandemic years.”

These 23 health systems laid off employees “to keep the lights on” in 2022 (advisory.com) accessed February 16, 2023.

# Your Right to Repair

# Questions?





**FRESENIUS  
KABI**

caring for life

# Thank you!

**IVENiX**  
INFUSION SYSTEM