ARROW®

Arrow®

AC3 Optimus® Intra-Aortic Balloon Pump

IABP performance evolved

Teleflex®

Simplicity, right from the start

The AC3 Optimus® Intra-Aortic Balloon Pump is up and running with the push of a button. Set up is fast and easy, guided by visual prompts on the large, high-definition touchscreen — including confirmation that therapy can be initiated. Delivering advanced IABP support to even the most compromised patient has never been so simple.

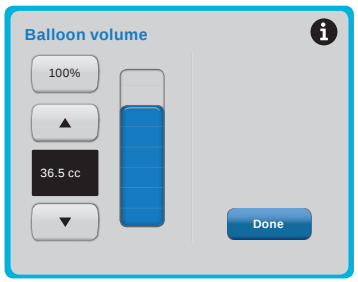
Touchscreen access to alarm settings

360° viewable illuminating switch indicates pump is alarming and the priority level

Heart rate with assisted and unassisted hemodynamic values is clearly displayed in separate colors

Most IABP functions are controlled with six keys

Adjust balloon volume by 0.5cc increments



A touch of the waveform accesses signal-related controls for lead selection and scaling

Easy to connect horizontal FOS port

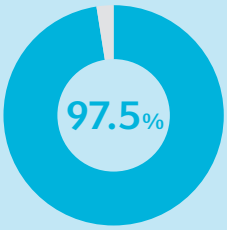
Enhanced value

Beyond its clinical value, the AC3 Optimus® IABP offers low cost of ownership. As budget pressures continue to grow, cost-effective features like these become increasingly appealing:

- Pneumatic drive system with no scheduled replacement parts
- Low component replacement costs

Exceptional service

Teleflex is committed to providing attentive and responsive support. In customer surveys regarding Teleflex IABP service programs:*



97.5% of surveyed customers said their service representative was knowledgeable about our products and services

95% of surveyed customers were overall satisfied with their last interaction with their customer service representative

95% of surveyed customers said they were likely to refer others to Teleflex

*Based on customer surveys conducted by Teleflex.

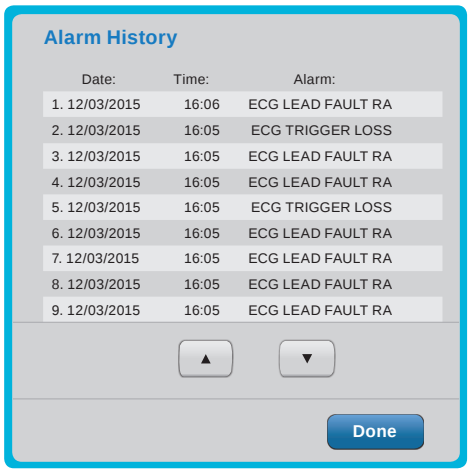
Third-generation AutoPilot® Mode

More than advanced, approachable

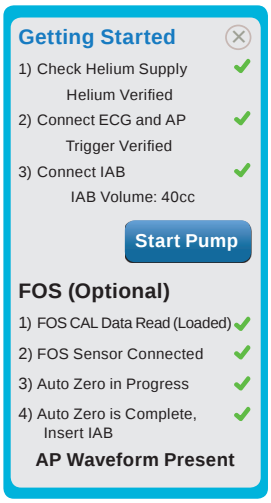
A user-friendly design, intuitive interface, and state-of-the-art AutoPilot® Mode makes the AC3 Optimus® IABP simple to use. With this powerful combination, Teleflex counterpulsation therapy is more accessible than ever.

- **Built for ease-of-use**
  Simple, clean design, large display, fewer keys, mobility/portability
- **Getting started checklist**
  Provides simple and quick confirmation that routine tasks have been completed
- **Touchscreen**
  Allows for fast and easy interaction. Action bar combines assessment and action in a single location
- **Therapy Status Report**
  Quick and easy access to documenting therapy status
- **Graphics**
  Simple green, yellow, and red graphics allow for communication of parameter status
- **Alarm history report**
  Allows interpretation of alarm history to assess impact on therapy

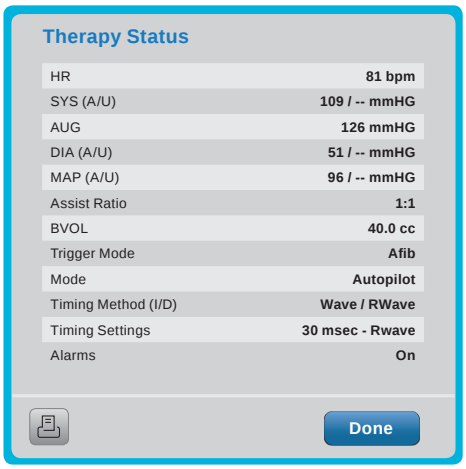
Key actions and assessments made easy and accessible:



Access to alarm history allows for quick review of past alarms and the ability to assess repeated alarms.



An interactive review of the three step startup and confirmation when the pump is ready to start.



One-button summary of patient hemodynamics (response to IABP therapy) and therapy settings. Allows for one key stroke charting, with ability to print reports.

Innovative features from the third-generation AutoPilot® Mode

Deflation timing management
Automated to provide real-time and comprehensive deflation timing.

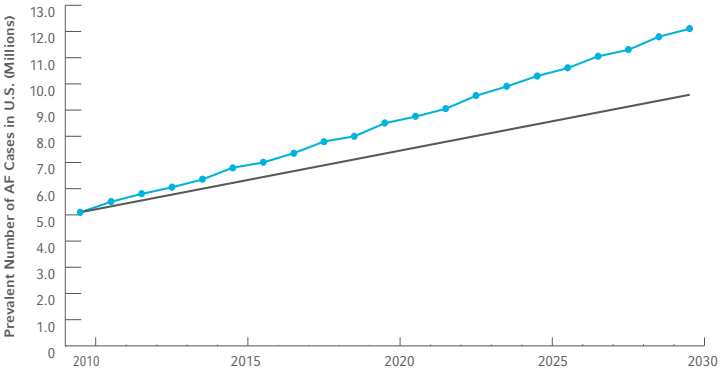
Up to 200 bpm
Provides precise and accurate support for patients with severe arrhythmias and heart rates as high as 200 bpm.[1]

Best signal analysis
Continuously analyzes all leads and trigger modes to identify the optimal trigger.[2]

IntraBeat Timing:
An advanced solution for a growing problem

To address a growing population of arrhythmic patients[3], the AC3 Optimus® IABP features IntraBeat Timing. It determines individual AV closure points to provide remarkable accuracy during IABP support, even in patients with severe arrhythmias.[1,4,5] The AC3 Optimus® IABP can help your facility be better equipped for your current and future patient populations.

Projected prevalence of diagnosed AF cases in United States[3]



Projected prevalence of diagnosed AF cases in United States from 2010 to 2030, assuming (1) no increase in incidence rate after 2007 (solid line) and (2) a logarithmic growth in AF incidence (line with circles).

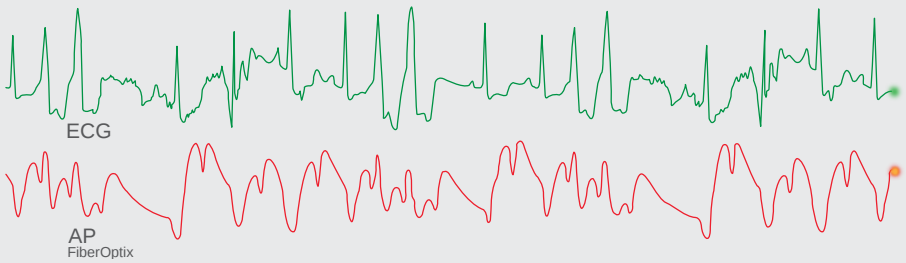
Accurate timing is critical to IABP performance. Early inflation timing errors can have negative effects on IABP therapy, including a decrease in stroke volume by as much as 20% (+/--6% to -55%).[6] Late deflation is also associated with less-than-desirable hemodynamic responses.[5,6]

The solution? IntraBeat Timing for accurate inflation and AutoPilot® Mode for controlled deflation timing management. The AC3 Optimus® IABP makes it easy to track, sense, and adapt to changing conditions without routine clinician intervention, allowing the clinician to focus on what matters most — the patient.

The problem: The arrhythmic patient

The challenge: In published literature, conventional timing only showed 4 out of 16 beats were accurately timed.[5]

The solution: IntraBeat Timing has shown 98.1% accurately timed beats in severe arrhythmia.[1]

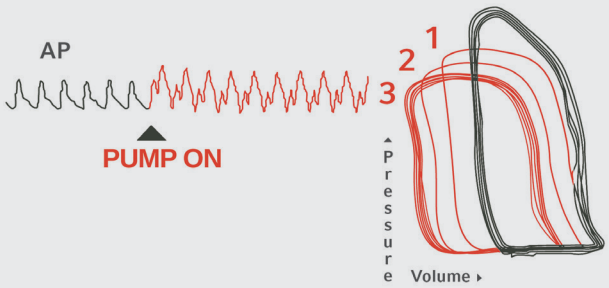


Representative of study. Individual results may vary.

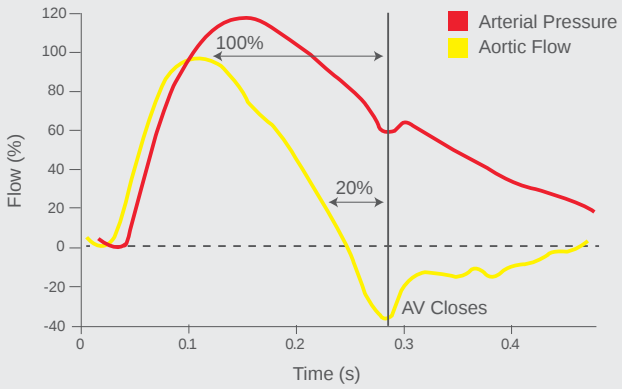
Immediate support with patented technology

The AC3 Optimus® IABP is designed to deliver support from the very first beat, increasing the volume of blood while decreasing blood pressure.[6,10] Accurate aortic flow and pressure is maintained by two proprietary solutions — Flow Conversion and WAVE® Algorithm.

IABP: Immediate support[6,10]

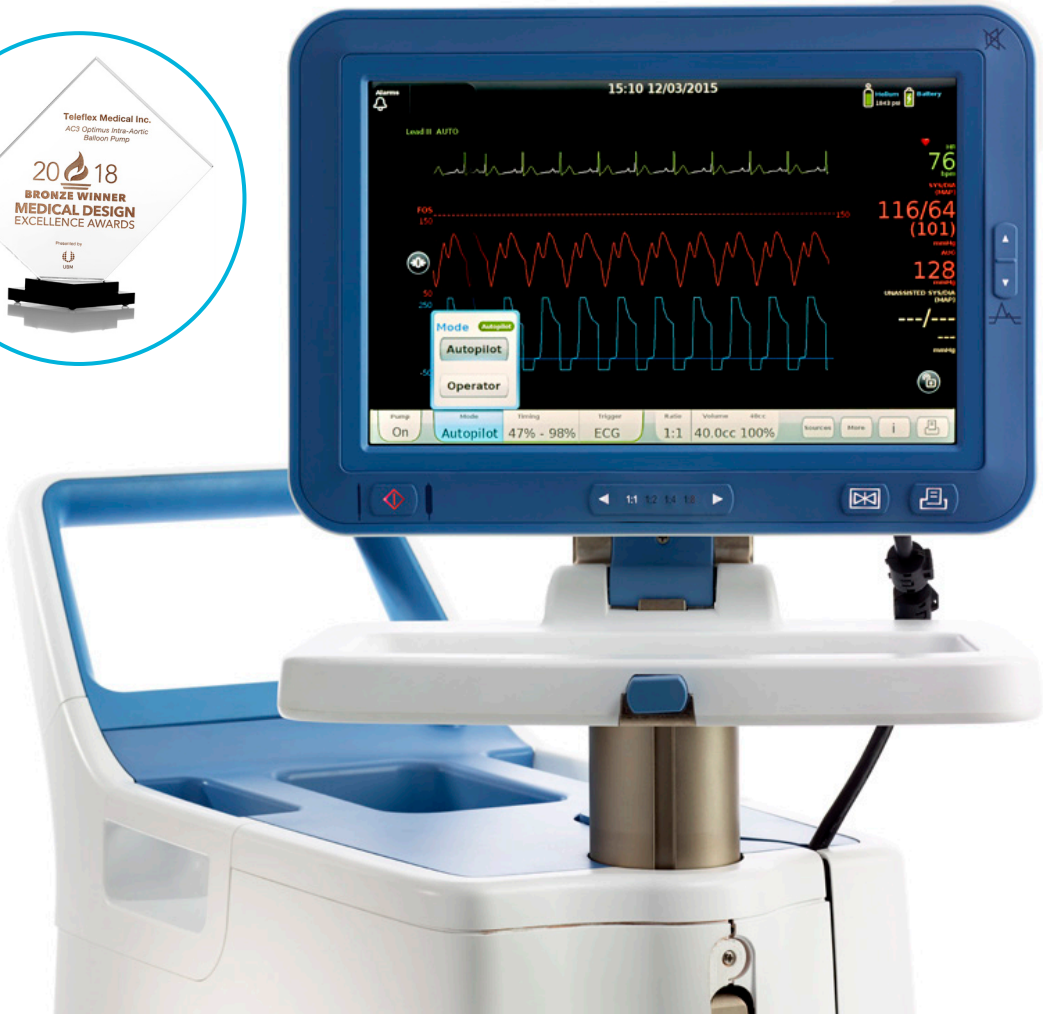


Two proprietary solutions: Flow Conversion, WAVE® Algorithm[1,10]



2018 Medical Design Excellence winner

The AC3 Optimus® Intra-Aortic Balloon Pump was named a bronze winner in the cardiovascular device category of the 20th annual Medical Design Excellence Awards competition — the industry's premier design competition.



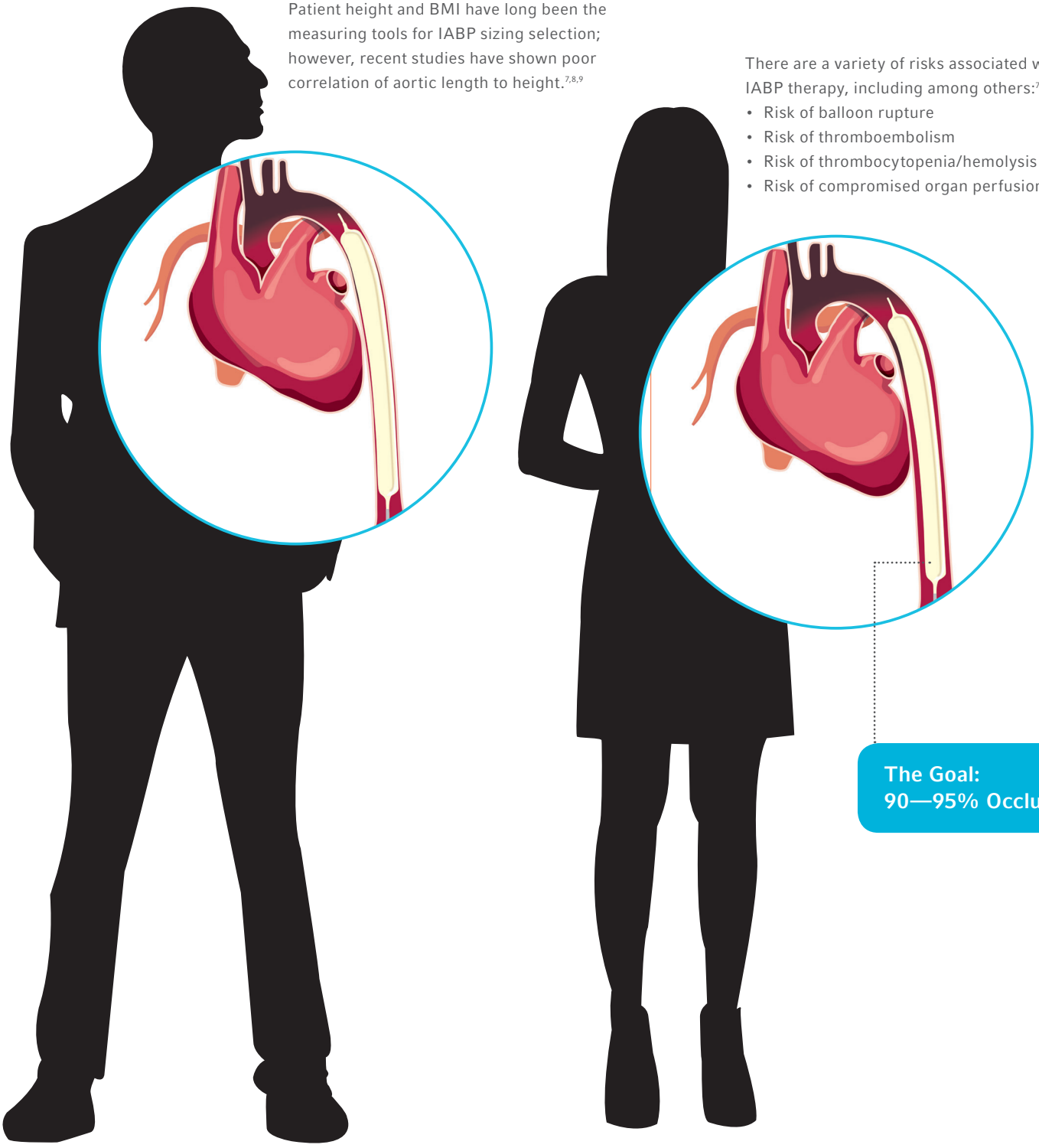
Managing risk with Protective Pumping™ Technology

While a larger balloon has been shown to improve augmentation, it does not come without potential risks.[7,8,9]

Patient height and BMI have long been the measuring tools for IABP sizing selection; however, recent studies have shown poor correlation of aortic length to height.[7,8,9]

There are a variety of risks associated with IABP therapy, including among others:[7,8,9]

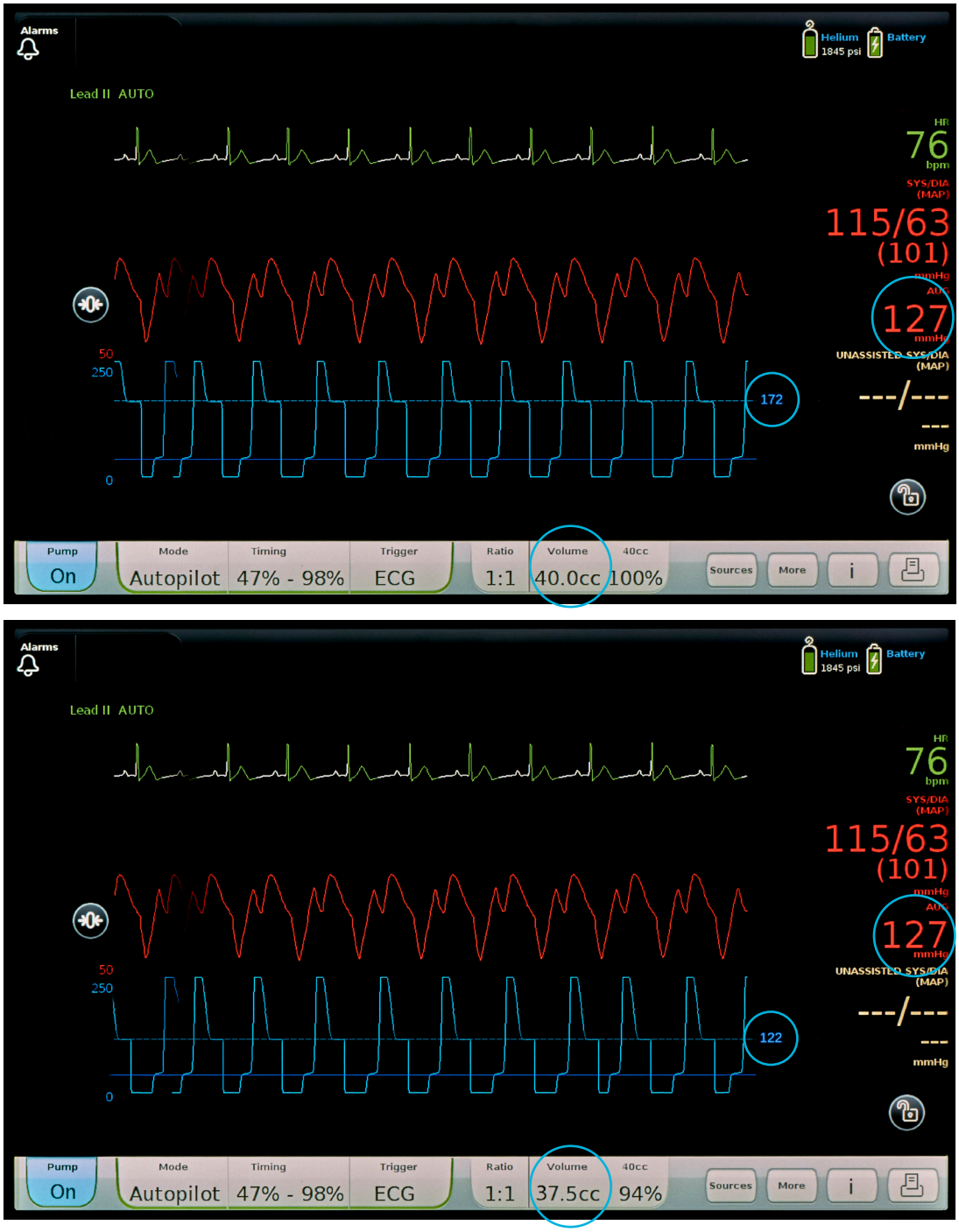
- Risk of balloon rupture
- Risk of thromboembolism
- Risk of thrombocytopenia/hemolysis
- Risk of compromised organ perfusion



The Goal:
90—95% Occlusive[10]

Monitoring pressure to optimize balloon sizing

Compare the pressure within the balloon to the augmented pressure. Protective Pumping™ Technology, another AC3 Optimus® IABP exclusive feature, allows for measurement of the balloon within the aortic space to determine proper sizing.



For illustrative purposes only

References:

1. Donelli A, Jansen JRC, Hoeksel B, et al. Performance of a real-time dicrotic notch detection and prediction algorithm in arrhythmic human aortic pressure signals. *J Clin Monit.* 2002;17(3-4):181-185. Study sponsored by Teleflex.
2. Torracca, L. Overcoming electro-surgical inference in IABP therapy with the combined use of AutoPilot and FiberOptix IAB sensor signal. 2007. (case report, data on file). Study sponsored by Teleflex.
3. Susan Colilla, PhD, MPHa, Ann Crow, MLSb, et al. Estimates of Current and Future Incidence and Prevalence of Atrial Fibrillation in the U.S. Adult Population. *Am J Cardiol.* 2013 Oct 15;112(8):1142-7
4. Hoeksel S, Jansen J, Blom J, & Schreuder J,. Detection of dicrotic notch in arterial pressure signals. J Clin Monit. 1997;13(5),309-316. Study sponsored by Teleflex. Dr. Schreuder was formerly a paid consultant of the study sponsor.
5. Schreuder J, Castiglioni A, Donelli A, et al. Automatic intraaortic balloon pump timing using an intra beat dicrotic notch prediction algorithm. Ann Thorac Surg. 2005;79(3):1017-1022. Study sponsored by Teleflex. Dr. Schreuder was formerly a paid consultant of the study sponsor.
6. Schreuder J, Maisano F, Donelli A, et al. Beat-to-beat effects of intra-aortic balloon pump timing on left ventricular performance in patients with low ejection fraction. Ann Thorac Surg. 2005;79(3):872-880. Study sponsored by Teleflex. Dr. Schreuder was formerly a paid consultant of the study sponsor.
7. Parissis et al. Intra aortic balloon pump: literature review of risk factors related to complications of the intraaortic balloon pump. *Journal of Cardiothoracic Surgery 2011*, 6:147
8. Young-Seok Cho, Cheong Lim, et al. Should We Consider the Ethnic Difference in Selecting Size of Intraaortic Balloon by Commercial Guideline? *ASAIO Journal 2009*
9. Ardawan Julian Rastan, MD, PhD; Eugen Tillmann, MD et al. Visceral Arterial Compromise During Intra-Aortic Balloon Counterpulsation Therapy. Circulation. 2010;122[suppl 1]:S92–S99
10. Parissis, H, Soo, A, Leotsinidis, M, and Dougenis, D, A statistical model that predicts the length from the left subclavian artery to the celiac axis; towards accurate intra aortic balloon sizing. Journal of Cardiothoracic Surgery. 2011, 6:95.
11. Data on file

Teleflex is a global provider of medical technologies designed to improve the health and quality of people's lives. We apply purpose driven innovation – a relentless pursuit of identifying unmet clinical needs – to benefit patients and healthcare providers. Our portfolio is diverse, with solutions in the fields of vascular and interventional access, surgical, anesthesia, cardiac care, urology, emergency medicine and respiratory care. Teleflex employees worldwide are united in the understanding that what we do every day makes a difference. For more information, please visit teleflex.com.

Teleflex is the home of Arrow®, Deknatel®, Hudson RCI®, LMA®, Pilling®, Rüsch®, and Weck® – trusted brands united by a common sense of purpose.

Corporate Office
Phone +1 610 225 6800, 550 E. Swedesford Road, Suite 400, Wayne, PA 19087, USA

Regional Offices
United States: Phone +1 919 544 8000, Toll Free 866 246 6990, cs@teleflex.com, 3015 Carrington Mill Boulevard, Morrisville, NC 27560, USA

Latin America: Phone +1 919 433 4999, la.cs@teleflex.com, 3015 Carrington Mill Boulevard, Morrisville, NC 27560, USA

International: Phone +353 (0)9 06 46 08 00, orders.intl@teleflex.com, Teleflex Medical Europe Ltd., IDA Business and Technology Park, Dublin Road, Athlone, Co Westmeath, Ireland

For more information, please visit teleflex.com.

Teleflex®