

Become  
unstoppable

Introducing VitalFlow™  
ECMO system

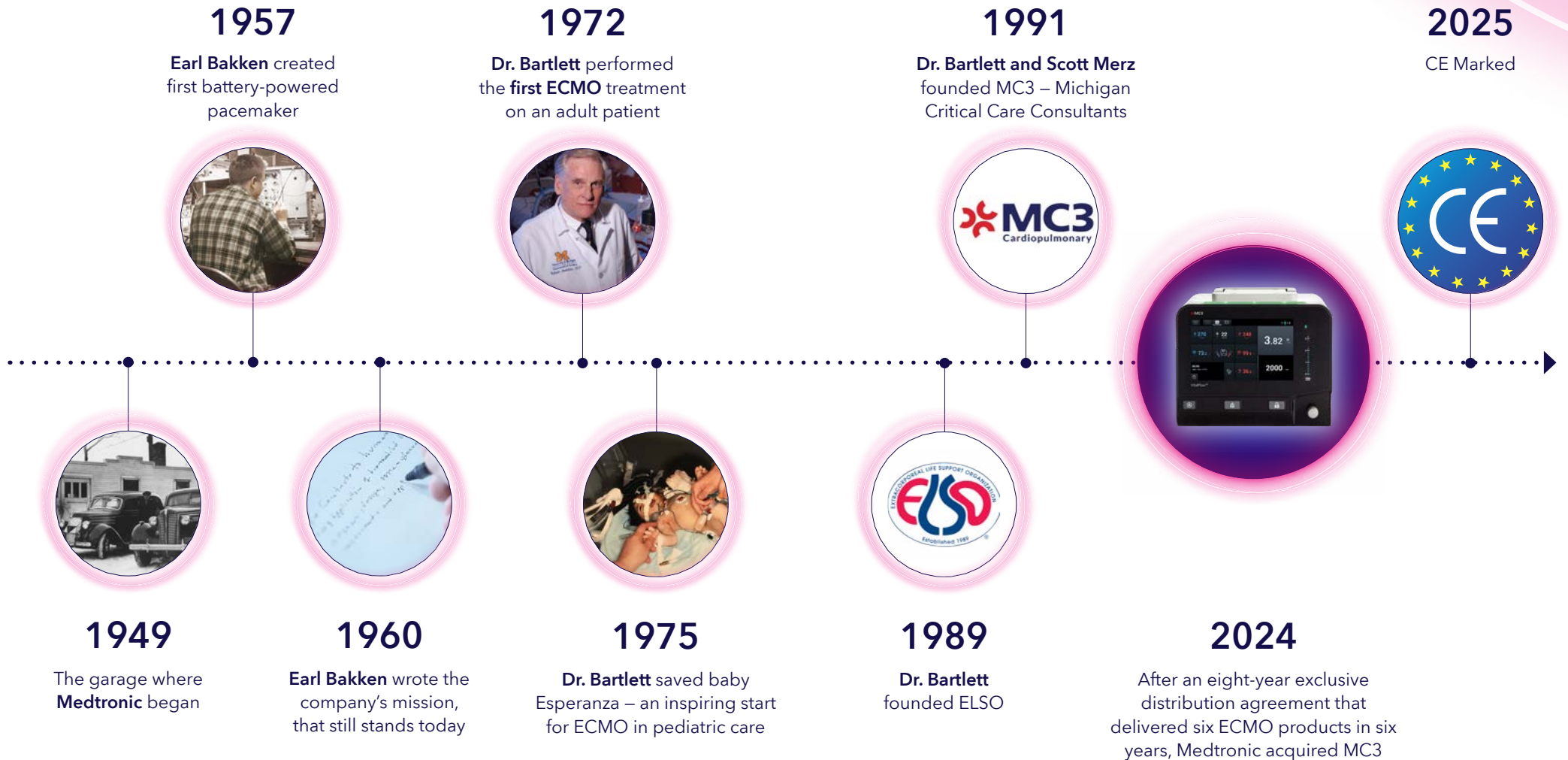
With every beat,  
expect more.

# Contents

<b>The legacy of innovation</b> .....	03
<b>The journey of innovation</b> .....	04
<b>VitalFlow™ value story</b> .....	08
<b>Performance</b> .....	12
- Nautilus™ VF oxygenator .....	13
- Circular flow path .....	14
- Guided inlet .....	15
- Filling vanes .....	16
- VitalFlow™ centrifugal pump .....	17
<b>Simplicity</b> .....	18
- Intuitive user interface .....	19
- Console side view .....	20
- Console back view .....	21
- Console top and bottom view .....	22
- Simplified blood flow, simplified work flow .....	23
<b>Configurability</b> .....	24
- VitalFlow™ ECMO cart .....	25
- VitalFlow™ caddy .....	26
<b>Future-proof design</b> .....	27

# The legacy of innovation

Honoring the roots, building the future





# The journey of innovation

**Medtronic VitalFlow™ system**

# A pathway towards a complete tip-to-tip solution



**Phase 1:**  
Vascular access  
solutions

**Phase 2:**  
ECMO oxygenators

**Phase 3:**  
ECMO system

## We gathered the voice of customers

The VitalFlow™ system was **co-designed with clinicians**, integrating direct feedback from ECMO end-users to ensure **performance, simplicity, configurability**, and **confidence** in every ICU setting.

900+

Customer inputs

50+

Usability sessions

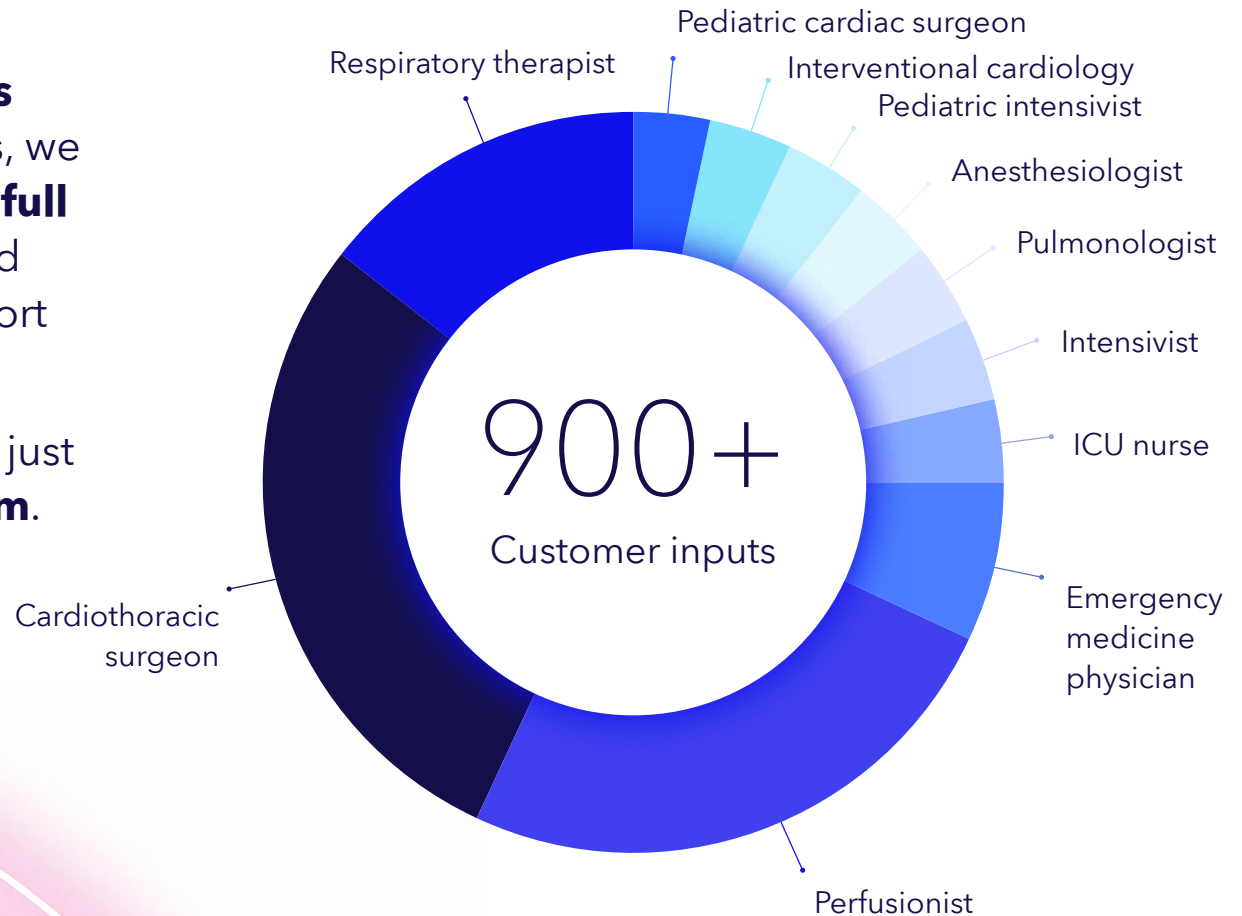
22

Centers for usability testing

# We engaged across the full ECMO pathway

To ensure the VitalFlow™ system **meets the real-world needs** of ECMO teams, we engaged **all stakeholders across the full care continuum** – from intensivists and perfusionists to ICU nurses and transport specialists.

That is why, the VitalFlow™ system isn't just built for clinicians – **it's built with them.**



The slide features a dark blue background with several glowing, curved lines in shades of purple and magenta. The text is positioned on the left side of the slide.

# VitalFlow™ value story

# Design objectives from 900+ VOC



**Performance**  
is a must!

**Durable and reliable**  
equipment for the most  
fragile patients



**Simplicity**  
Keep it simple!

**Inclusive for every skill level**  
of the users, minimizing  
physical and mental load



**Configurability**  
We go everywhere!

**Compact and ready for any**  
setting in various environments



**Future-proof**  
**Care is evolving**

When ECMO evolves,  
the system must **adapt to**  
**stay ahead**



## Value proposition

The VitalFlow™ system is born from the legacy of MC3, founded by the “father of ECMO”, **Dr. Bartlett**, and shaped by the insights of over **900** ECMO professionals.

### Our offer

The VitalFlow™ system is purpose-built to **transform ECMO** by combining **ultimate performance** with **radical simplicity** – enabling **fast onboarding** and **stable operations** for **clinical confidence** at every level.

### Your value

Empower your ICU team members to deliver **high performance** ECMO with **ease**.

**Become Unstoppable.**

## Key benefits

### A one-system ECMO solution

Designed for simplicity and performance, the VitalFlow™ ECMO system can be configured to accommodate your clinical preferences and hospital protocols to offer you:

- Performance
- Simplicity
- Configurability
- Future-proof design

Streamline and simplify your program with the VitalFlow™ ECMO system – reset your expectations for ECMO care:

**Become Unstoppable.**



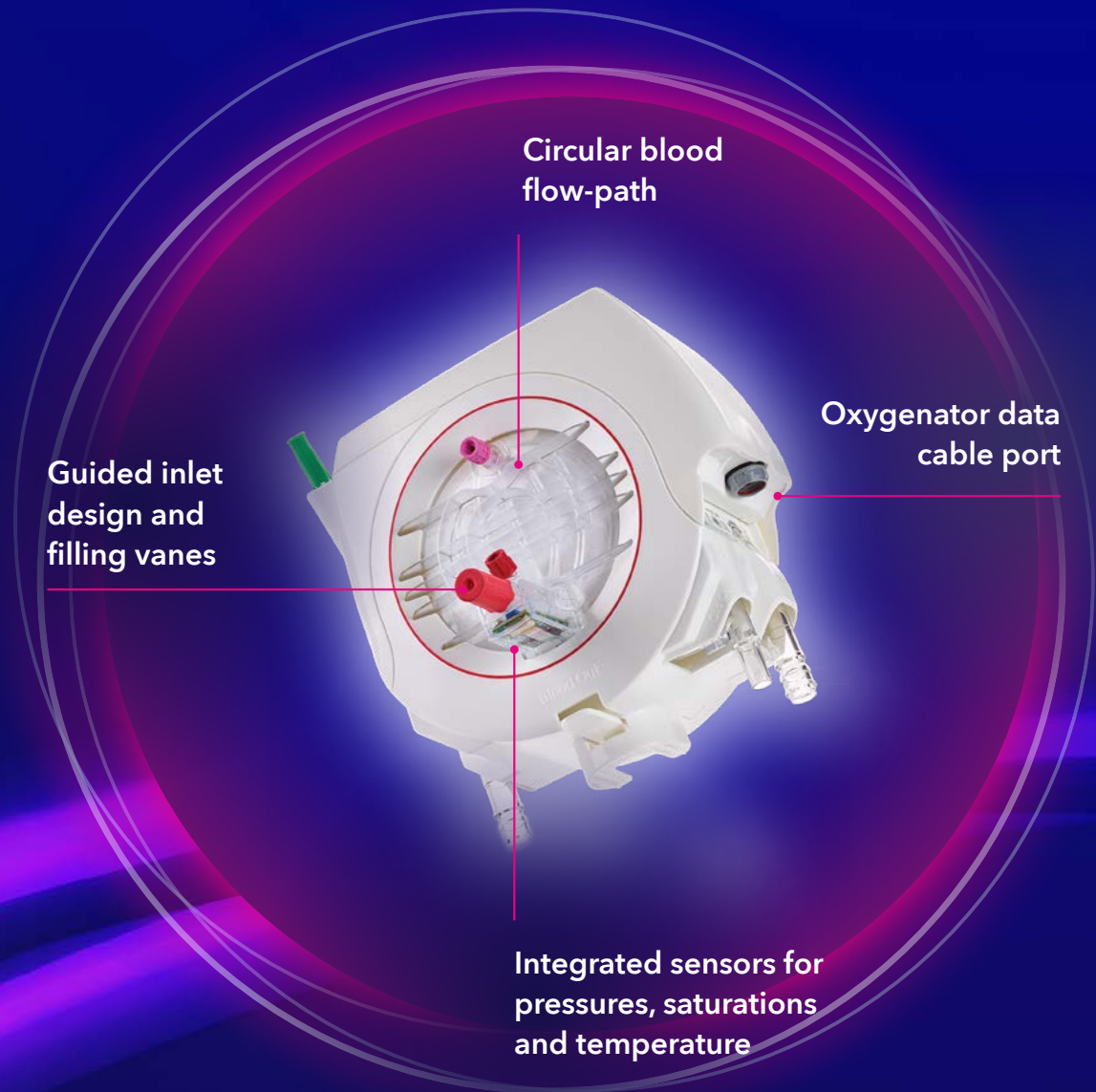


# Performance

## Nautilus™ VF oxygenator

### Tested and indicated for ECMO†

- **Circular shape** – eliminates corners, areas known for clotting
- **Guided inlet design** – reduces velocity changes at the inlet where low flow and stasis may occur<sup>1</sup>
- **Filling vanes** – aid in even filling and even flow distribution across the membrane<sup>1</sup>
- **Integrated sensors** provide real-time device performance data:
  - Pressure in/Pressure out/ $\Delta P$
  - O<sub>2</sub> saturation in/O<sub>2</sub> saturation out
  - Temperature out

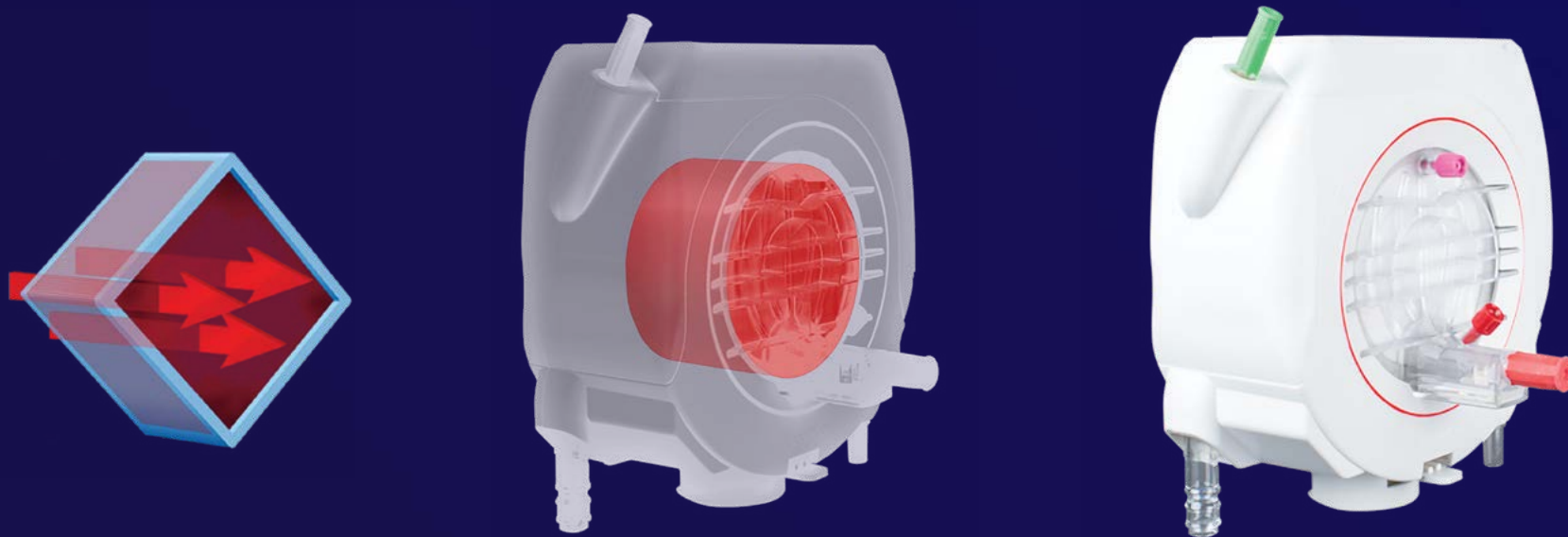


† Indicated in Europe for use up to 14 days.

1. Data on file at Medtronic (200941). Data may not be indicative of clinical performance.

## Circular flow path

The Nautilus™ VF oxygenator has a transverse flow-path with a **circular profile**. Transverse flow minimizes surface contact area while achieving a low blood-side pressure drop. The circular profile eliminates corners where low flow and stasis are known to occur.<sup>1</sup>



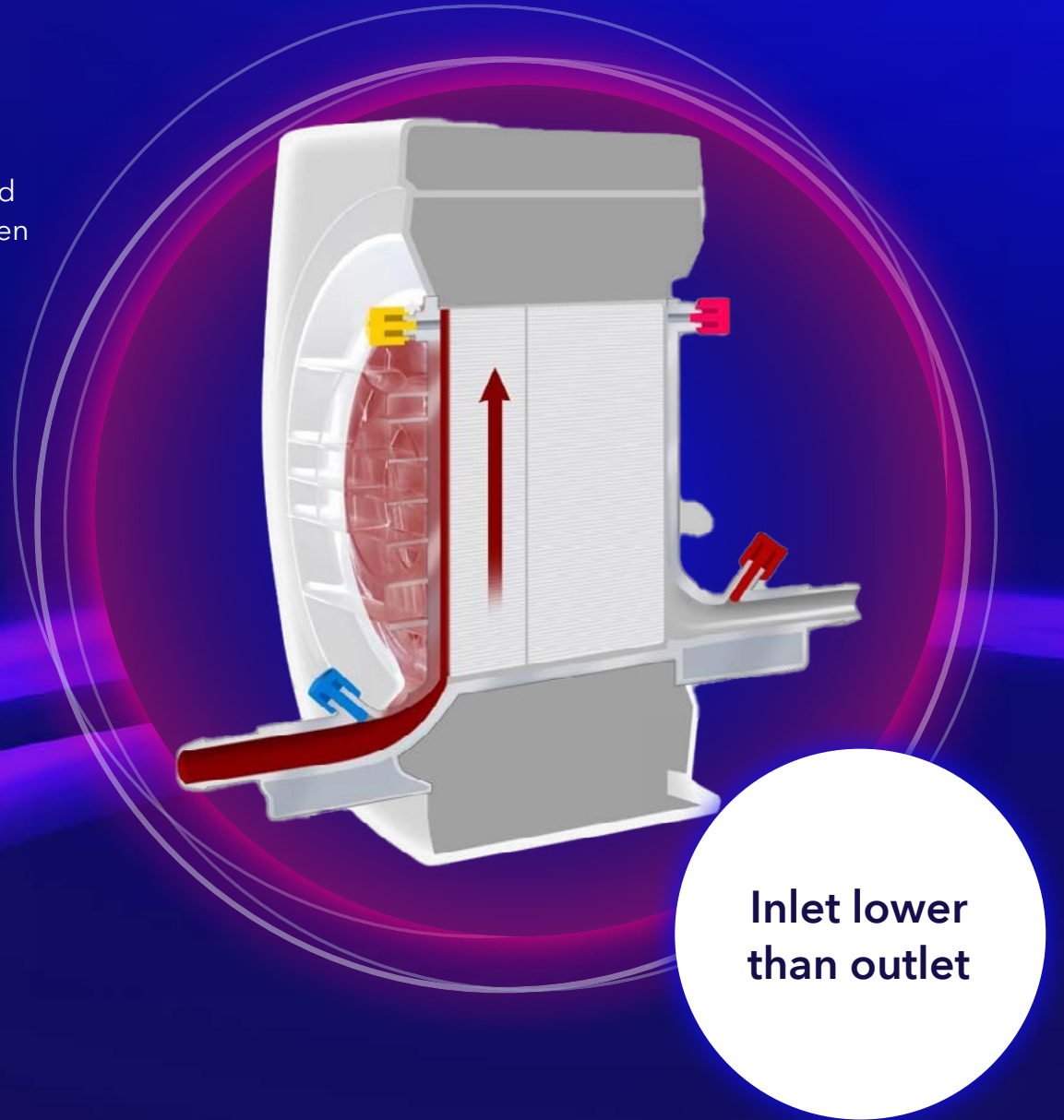
## Alternative product design with corners

1. Data on file at Medtronic (200941). Data may not be indicative of clinical performance.

## Guided inlet

Lowered blood inlet optimizes orientation of blood prior to reaching the fiber – helping prevent uneven distribution of blood flow through the fiber.<sup>1</sup>

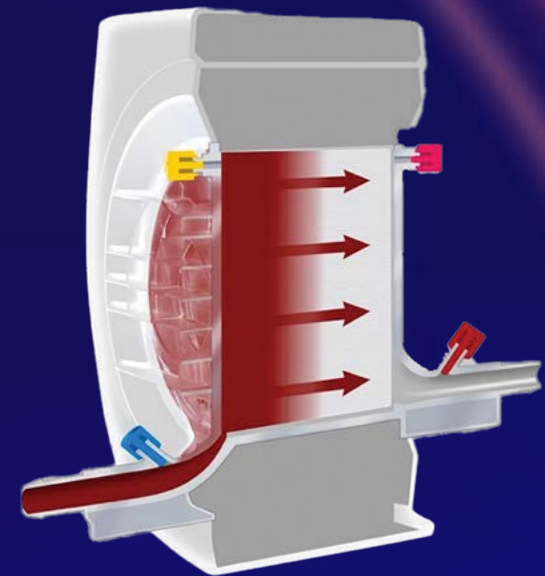
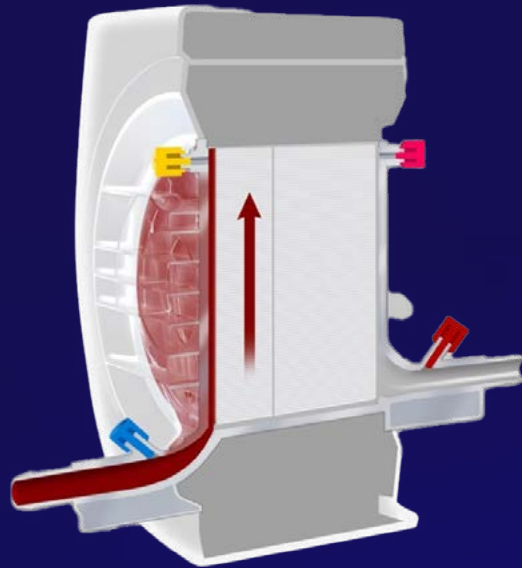
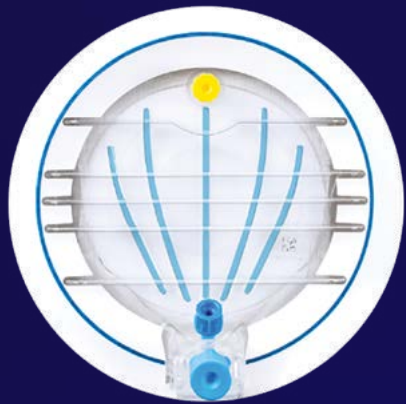
This design feature increases use of fiber and reduces areas of underutilized fiber.



1. Data on file at Medtronic (200941). Data may not be indicative of clinical performance.

## Filling vanes

Filling vanes act as spacers, allowing blood to fill between faceplate and fiber, aiding in an even distribution of flow across the fiber.<sup>1</sup>

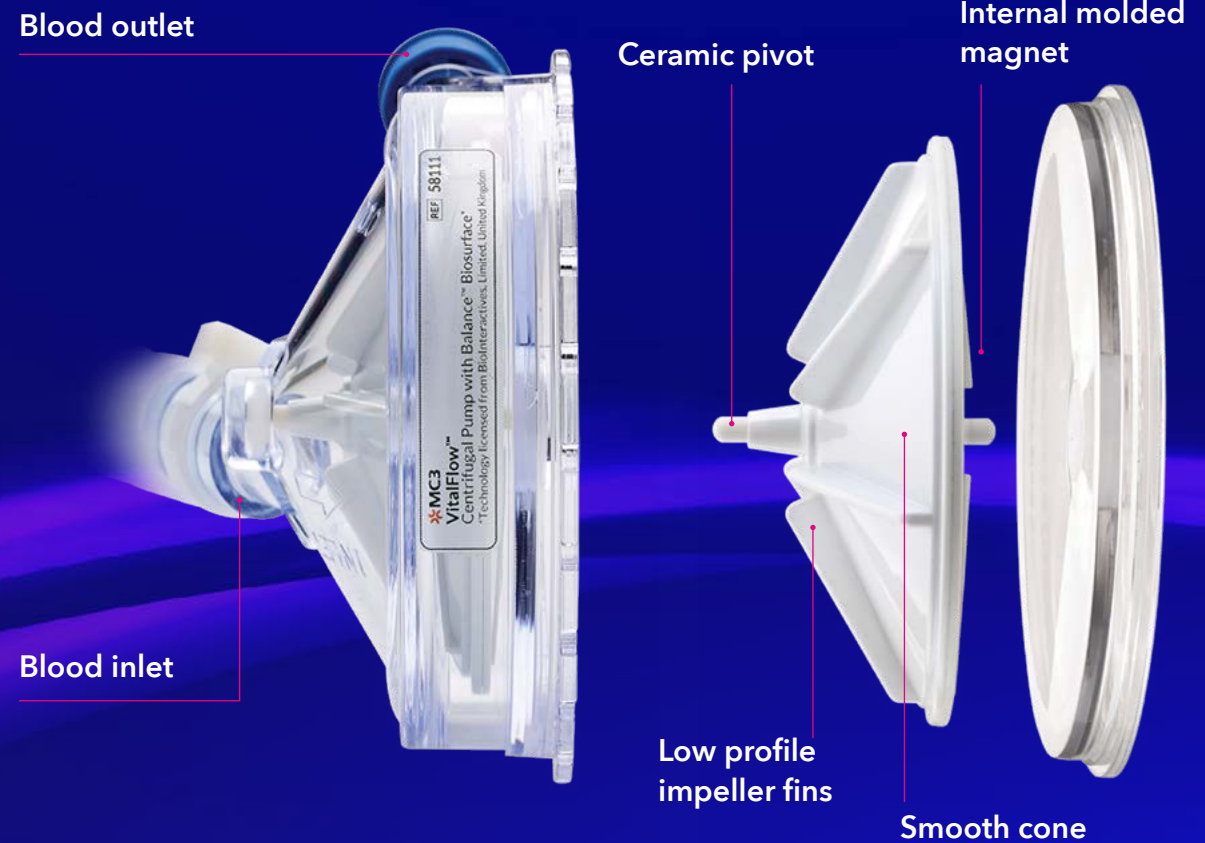


1. Data on file at Medtronic (200941). Data may not be indicative of clinical performance.

# VitalFlow™ centrifugal pump

## Product features

- Low profile fins for efficient blood flow at low RPMs<sup>1</sup>
- Ceramic pivot bearings yield low heat generation<sup>†</sup>
- Centrifugal design leads to low shear and low hemolysis<sup>2</sup>



† Indicated in the U.S. for up to 48 hours.

1. Medtronic validation and verification data on file. May not be indicative of clinical results.

2. Medtronic verification data on file. May not be indicative of clinical results.



Simplicity

# Intuitive user interface



## Console side view

### Vents

For thermal management

### USB port

For data export

### Indicator light bar

At-a-glance notifications visible from 360° to simplify patient monitoring for ICU nurses

**Color-coded**  
for different  
priority alarms



### Speakers

With adjustable alarm volumes from 45 dBA to 84 dBA depending on the settings and alarm priority levels



## Console back view

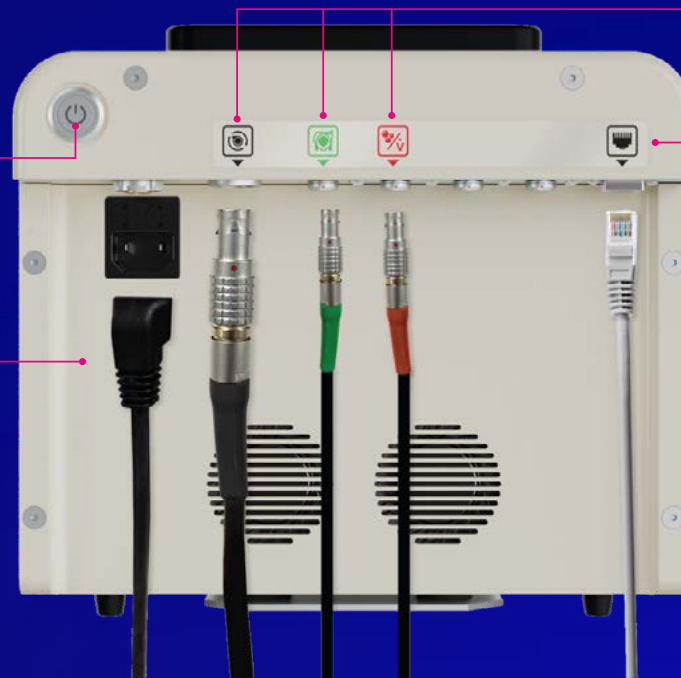
All connections are smartly placed at the back – streamlining setup and contributing to a smarter, simpler, and remarkably intuitive user experience.

### Recessed power button

to prevent accidental shutdowns

### Efficient cord management

rear mantle design for streamlined setup



### Color-coded, clearly organized rear connections

### RJ45 Connection

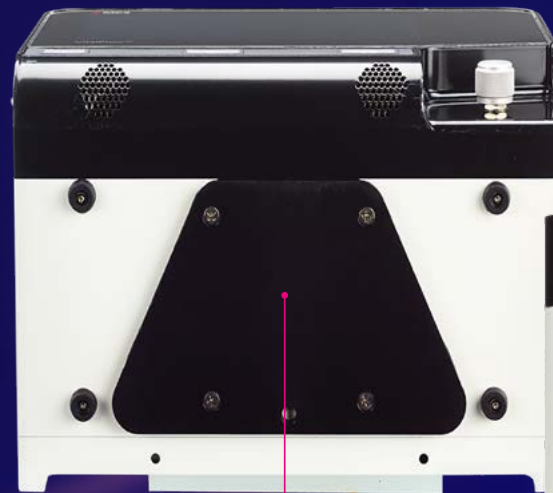
for real-time data streaming



## Console top and bottom view

- Compatible with other manufacturer's mounting systems
- Included VESA mounted handle (top) and VESA mounted bottom plate (bottom)
- Capable of being temporarily or permanently mounted from above (e.g. Cathlab / OR / intra-hospital transport environments)

**Bottom view**



**Top view**



**Standard 75 mm VESA pattern**

## Simplified blood flow, simplified work flow

- Tested and indicated for use in ECMO
- DEHP free†
- Pre-Connected VitalFlow™ ECMO pump
- 3 optional tubing lengths for pump-to-oxygenator connection



### VitalFlow™ set includes:

- Prime bag
- Table tray
- Tubing and accessories
- Nautilus VF ECMO oxygenator
- VitalFlow™ centrifugal pump

† Prime bag contains phthalates.



# Configurability

# VitalFlow™ ECMO cart

## Handle

Height adjustable

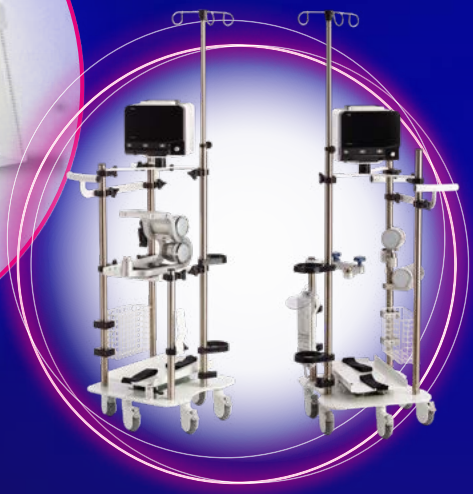


## VitalFlow™ caddy shelf

Height adjustable with caddy lock

## Accessory basket

Adjustable and removable



## IV pole

Height adjustable

## Console mounting shelf

Height adjustable and swivel



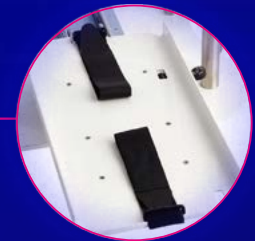
## Oxygen tank holders

## Cord/cable wraps

Adjustable and removable

## Heater cooler shelf

Sliding and lockable



## Large caster wheels

6 lockable wheels

# VitalFlow™ caddy





# Future-proof design

## A platform that grows with you

The new VitalFlow™ software – the brain of the system – is built for evolution.

With future-ready architecture, it supports future upgrades via USB, ensuring your system grows with you. As we continue to develop new features and measurements, our goal is to keep your solution agile, powerful, and perfectly aligned with your hospital's ever-changing needs.

Become  
unstoppable



## Additional measurement ports

Equipped with two additional ports – inactive at launch – the system is built as a platform for continuous upgrades.

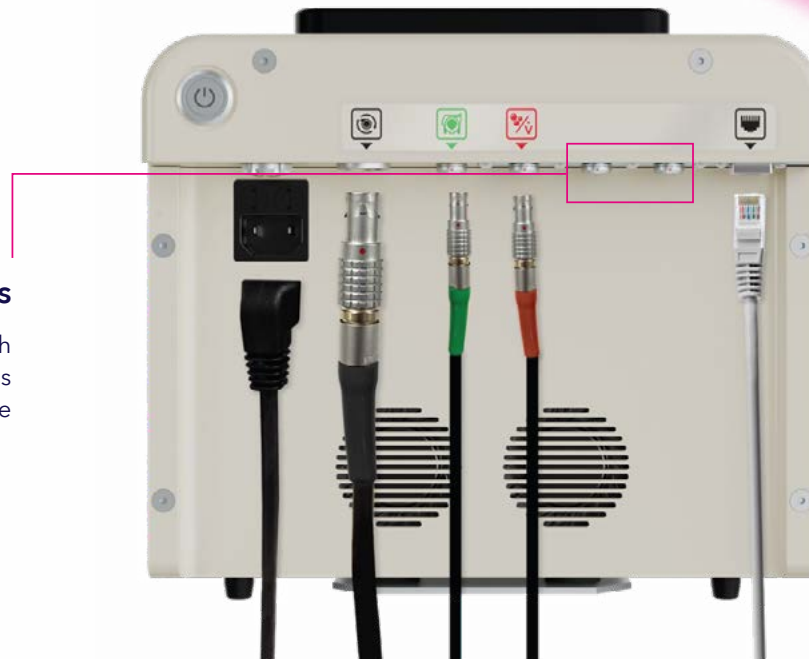
These ports are reserved for future probes, which will be developed in response to customer feedback and evolving clinical needs.

As new features emerge, they can be seamlessly integrated into your existing setup without the need to change the console.

Future-ready by design,  
these ports – though  
inactive at launch –  
are your gateway to  
tomorrow's innovations.

### Two additional ports

Reserved for future system upgrades, such as new measurements probes for seamless integration and easy system upgrade



# Become unstoppable

This material should not be considered the exclusive source of information, it does not replace or supersede information contained in the device manual(s).

Please note that the intended use of a product may vary depending on geographical approvals. See the device manual(s) for detailed information regarding the intended use, the implant procedure, indications, contraindications, warnings, precautions, and potential adverse events.

For a MRI compatible device(s), consult the MRI information in the device manual(s) before performing a MRI.

If a device is eligible for eFU usage, instructions for use can be found at Medtronic's website [manuals.medtronic.com](https://manuals.medtronic.com).

Manuals can be viewed using a current version of any major internet browser. For best results, use Adobe Acrobat® Reader with the browser.

Medtronic products placed on European markets bear the CE mark and the UKCA mark (if applicable). For any further information, contact your local Medtronic representative and/or consult Medtronic's websites.