**Hemodynamics Redefined**<sup>™</sup>



# A new era in **Cardiac Output** testing From the lab to the field

# PhysioFlow<sup>®</sup> Enduro<sup>™</sup> Parameters

Stroke Volume/Index
Cardiac Output/Index
Contractility Index
Early Diastolic Filing Ratio (Preload Index)
Systemic Vascular Resistance (Afterload)
Left Cardiac Work Index (surrogate of MVO2)
Ventricular Ejection Time (est.)
Ejection Fraction (est.)/End Diastolic Volume (est.)

# For Multiple Applications

Cardio-Pulmonary Exercise Test
Athlete's Training Optmization
Lab and Field Performance Testing
COPD/Pulmonary Hypertension/6MWT
Cardiology/6MWT/Internal Medicine
Cardiopulmonary Rehabilitation
Military and Aerospoace Medicine



Routine hermodynamic evaluations



Assessment of performance limiting factors



Paris Marathon field experiments

# The first and only system fully validated during exercise

The well established PhysioFlow<sup>®</sup> **Signal Morphology-based Impedance Cardiography** (SM-ICG $^{\text{TM}}$ ) technology has been fully validated in the last ten years, resulting in more than 100 international peer-reviewed publications and a market presence in over 45 countries.

Its accuracy is comparable to invasive techniques and its clinical reproducibility and sensitivity are unsurpassed. PhysioFlow<sup>®</sup> pushes the limits of noninvasive cardiac output monitoring in general and thoracic electrical bioimpedance in particular by opening more arenas where continuous noninvasive cardiac output measurements are made possible: **exercise at all levels, obesity, thoracic fluid overload, COPD, low cardiac outputs etc.** The PhysioFlow<sup>®</sup> core technology has been approved in many countries, including in Europe, Japan, China, and by the US Food and Drug Administration.

PhysioFlow<sup>®</sup> has been further developed to include the latest advances in electronic and signal processing technologies. The result is PhysioFlow<sup>®</sup> Enduro<sup>™</sup>, the first **holter-size wireless** cardiac output monitor for real time recordings or use as a data logger.

A new filter technology for **high performance noise cancellation** (HD-Z<sup>™</sup>) is built-in.

The combination of advanced hardware, firmware and software enables new applications in the field for trainers and exercise physiologists and more sensitive measurements for cardiac patients tested on treadmills.

### PhysioFlow<sup>®</sup> Enduro<sup>™</sup> Features

Small Size: 115 x 85 x 18 mm

Light Weight: Less than 200g (with batteries)

6 high-performance pre-gelled thoracic surface electrodes Advanced adaptative filter for noise cancellation (HD-Z<sup>™</sup>)

Lithium AA batteries or rechargeable NiMH AA batteries, 6 hours autonomy

24 hours MMC memory, downloaded either by USB or wireless

Real time wireless monitoring. Range is 100 meters

Works with PhysioFlow<sup>®</sup> V2 MS-Windows<sup>™</sup> based software for display, data analysis, and storage

OS: Windows™ 7, 8 or 10 Computer requirements:

RAM: 4 GB, Hard Drive 500 MB free, 1280x1024 screen, 2GHz X86 or X64 processor

Windows<sup>™</sup> is a trademark of Microsoft Corporation

#### Contact:

Manatec Biomedical Find us on Facebook and Linkedin

10 bis, rue Jacob Courant info@physioflow.com

78300 Poissy Tel: + 33 3 72 82 50 00

FRANCE Fax: + 33 1 30 74 46 48

www.physioflow.com Rev 1.3



Rally race field experiments

