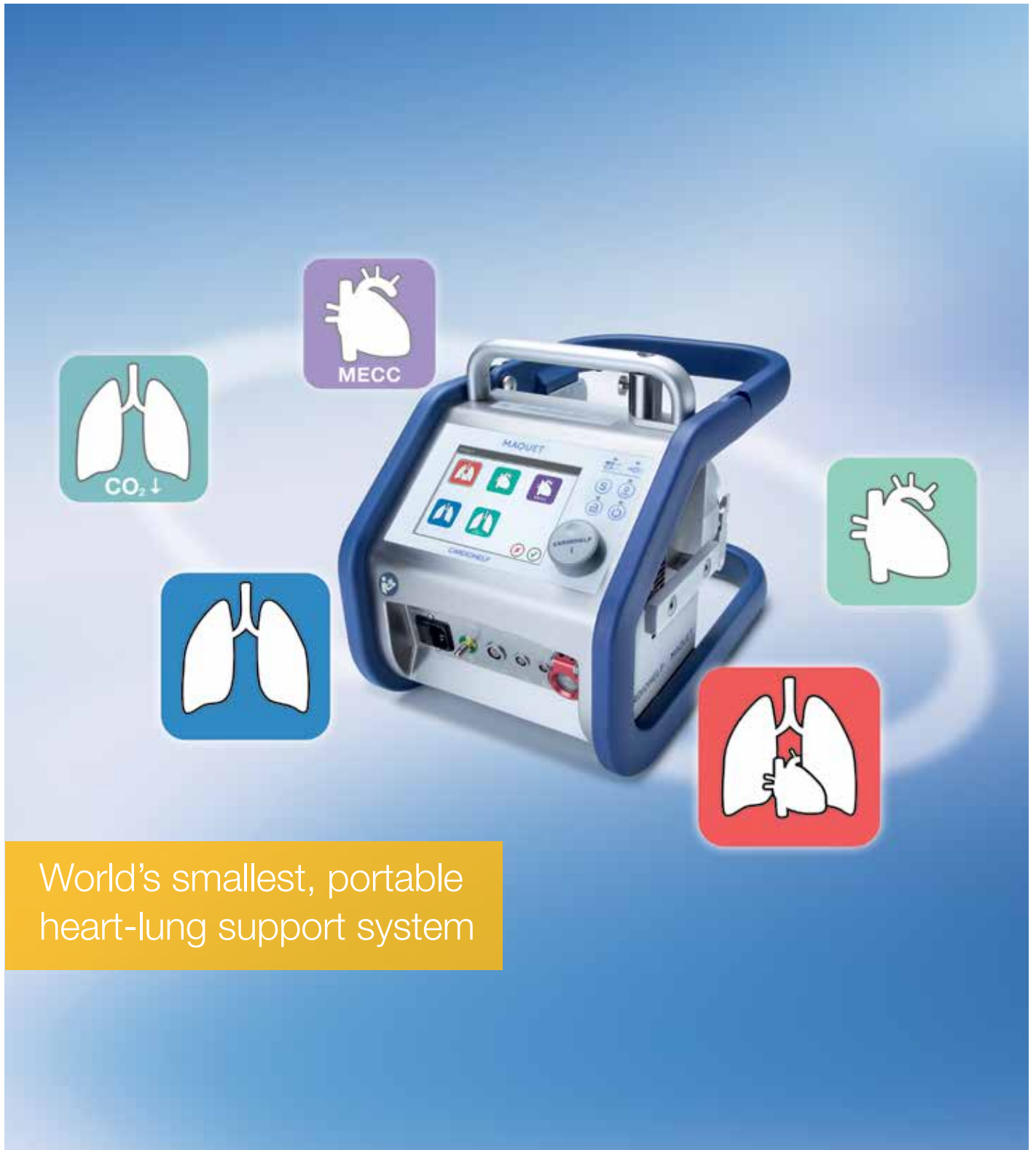


CARDIOHELP System

Heart-lung support system

MAQUET
GETINGE GROUP



World's smallest, portable
heart-lung support system



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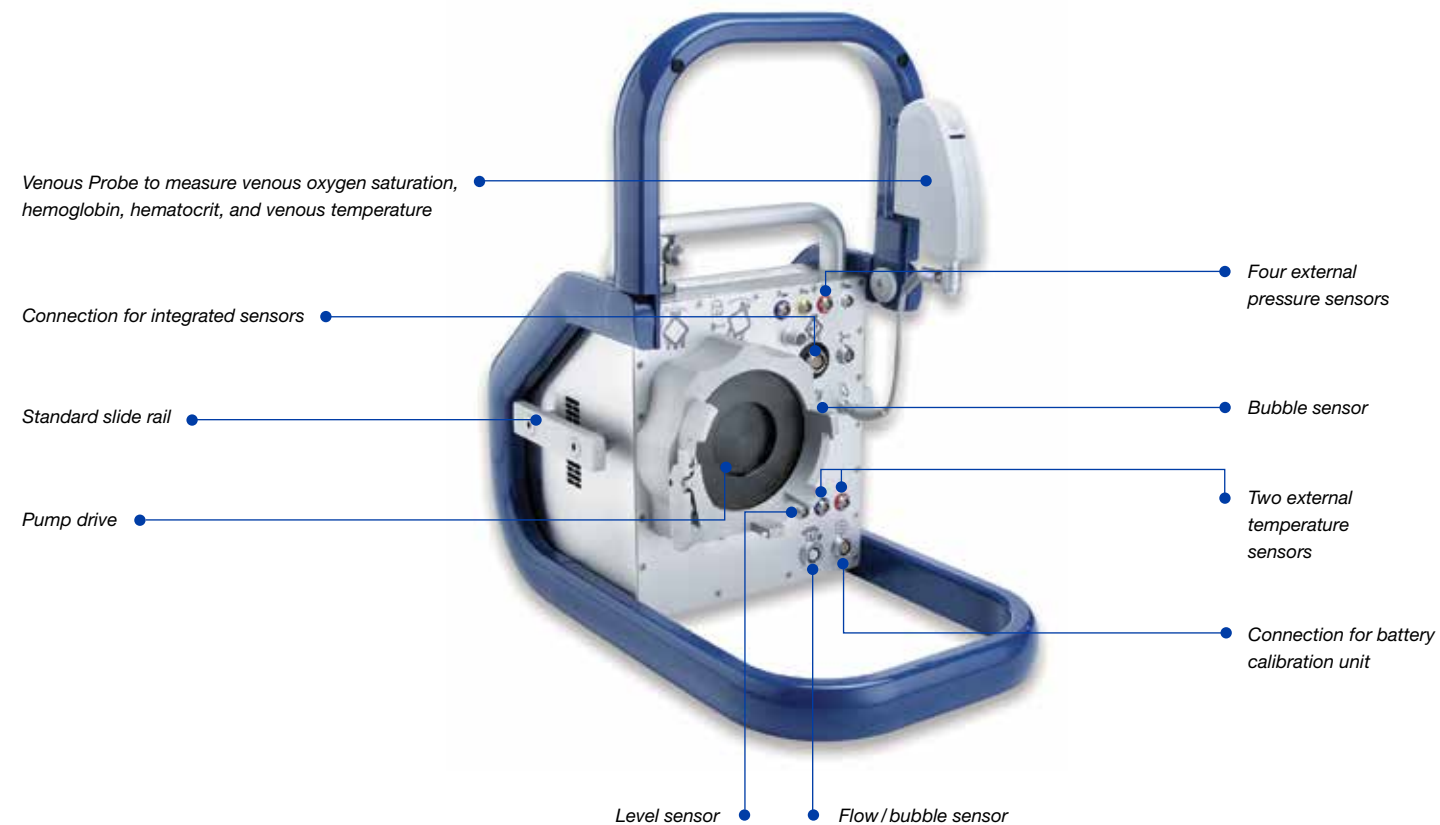
For many years now, Maquet has been one of the world's leading manufacturers of heart-lung machines and components for extracorporeal circulation. Maquet has developed CARDIOHELP as a multi-function heart-lung support system which can be rapidly deployed in the fields of emergency medicine, cardiology and cardiac surgery. The CARDIOHELP device is a compact and light-weight system making it ideal for transporting patients while on circulatory and/or pulmonary support, up to 6 hours.

The CARDIOHELP System is used to restore and stabilize the patient's cardiopulmonary functions so clinicians can gain valuable time to save patients' lives. Proven to be an effective mechanical life support system, CARDIOHELP has a compact and functional design with intuitive software that optimizes several specific areas of applications.

Maquet | The Gold Standard



CARDIOHELP Device: connections and components



CARDIOHELP Device: features and technical data

Design features:

- The CARDIOHELP device, with its innovative design and safety features, is ideal for use in multiple settings in the operating room, cardiac catheterization laboratory and in the emergency room.
- Compact and functional design provides maximum flexibility and easy handling of the device and its disposables.
- Offers greater intuitive control, even in emergency situations, with its touchscreen and newly designed user interface.

Safety features:

- Blood parameters provide easy access to continuous in-line measurement including temperature, hemoglobin, hematocrit and venous saturation.
- Integrated sensors provide a comprehensive overview of pressures and flow rate.
- Sophisticated safety management allows individual alarms, warning limits and interventions to be set to ensure a high degree of safety during use.
- Extensive back-up system offers a 90-minute battery supply when fully charged, Emergency Drive Hand Crank and a special Emergency Mode.
- An automatic screen lock prevents accidental operating and configuration changes.

Technical Data

Dimensions (H x W x D) with guard closed	14 x 10 x 17 in (315 x 255 x 427 mm) (without holder / disposable)
Weight	Approx. 22 lbs (10 kg)
Display	5.7 in LCD touchscreen
Sensors	4 x External pressures 3 x Internal pressures 2 x External temperatures 2 x Internal temperatures 1 x Venous oxygen saturation 1 x Hemoglobin 1 x Hematocrit 1 x Flow/bubble sensor 1 x Venous bubble sensor (optional) 1 x Level sensor
Operating voltage range	11 – 28 Volt DC 100 – 240 Volt AC / 50 – 60 Hz
Interfaces with	1 x USB port type A (for data export on USB stick) 1 x USB port type B (for data recording system and service purposes) 1 x Connection for alarm output (ward call)
Battery operating time	Minimum 90 min (fully charged batteries)

CARDIOHELP disposable

Convenient handling



HLS Module Advanced

Until now, a patient's blood parameters were measured using an external blood analysis device or a sensor in blood-carrying tubes.

The unique HLS Module Advanced (part of the HLS Set Advanced) integrates a gas exchanger (equipped with a diffusion membrane), a highly efficient heat exchanger, and a cutting-edge centrifugal pump. In addition, the integrated measuring cell is used to measure the important blood parameters of venous oxygen saturation (S_{vO_2}), hematocrit (Hct) and hemoglobin (Hb), as well as venous temperature (T_{ven}). Sensors for three pressure parameters and the arterial temperature are also integrated.

The HLS Module Advanced is available in two versions: for a blood flow of up to 5.0 l/min (HLS Module Advanced 5.0) and up to 7.0 l/min (HLS Module Advanced 7.0).



CARDIOHELP with the HLS Module Advanced attached

- For up to 6 hours
- BIOLINE Coating
- DEHP—Plasticizer-free set
- Safety de-airing function
- Multiple integrated pressure sensors
 - venous pressure at the module
 - arterial pressure at the module
 - internal pressure at the module
- Integrated arterial temperature sensor
- Integrated measuring cell for multiple parameters
 - venous oxygen saturation
 - hemoglobin
 - hematocrit
 - venous temperature

CARDIOHELP sprinter cart

Stable, compact and multi-functional

Sprinter Cart XL





The solution for patient transport

- The world's smallest, portable heart-lung support system— perfect for safe and effective inter- and intra-hospital patient transport by air or ground.
- Intuitively operated system which can be deployed rapidly in emergency situations.
- Transport of severely ill patients to specialized centers during ongoing circulatory support.
- Secure installation in any ambulance and various helicopter types.
- Broad variety of transport accessories such as the Mobile Holder, the Base Plate and the CARDIOHELP Trolley System are available.
- Ability to connect to the electrical system on a helicopter or ground transport vehicle.
- Integrated lithium-ion batteries provides 90 minutes of operating time when fully charged.



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Getinge Group is a leading global provider of products and systems that contribute to quality enhancement and cost efficiency within healthcare and life sciences. We operate under the three brands of ArjoHuntleigh, Getinge and Maquet. ArjoHuntleigh focuses on patient mobility and wound management solutions. Getinge provides solutions for infection control within healthcare and contamination prevention within life sciences. Maquet specializes in solutions, therapies and products for surgical interventions, interventional cardiology and intensive care.