



HLS Set Advanced

Extracorporeal respiratory
and/or cardiocirculatory support

Cardiohelp System and HLS Set Advanced – the leading ECMO system

Extracorporeal membrane oxygenation (ECMO) provides cardiopulmonary support and reduces strain on vital organs. The Cardiohelp System with its state-of-the-art extracorporeal circuit – the HLS Set Advanced – is the leading ECMO system and has proven its effectiveness in thousands of patients.



The HLS Set Advanced includes a high performance oxygenator with integrated centrifugal pump, pressure and temperature sensors (HLS Module Advanced). Integrated non-invasive sensors help to increase the safety during the application and avoid the need for external measuring lines.

As a compact and lightweight system, the Cardiohelp System allows for versatile use, including transport of patients inside and outside the hospital.

Monitoring of critical blood parameters in combination with Cardiohelp

- Venous oxygen saturation (S_vO_2)
- Hematocrit (Hct)
- Hemoglobin (Hb)
- Venous temperature (T_{ven})
- Venous line pressure
- Arterial line pressure
- Internal pressure (measured between centrifugal pump and gas module)
- Arterial temperature
- Flow-Bubble Sensor (FBS) for bubble detection
- A venous bubble sensor is optionally available

HLS Set Advanced – Technical data

	HLS Set Advanced 5.0	HLS Set Advanced 7.0 HIT Set Advanced 7.0
Blood flow rates	0.5 – 5 l/min	0.5 – 7 l/min
Tube size (inside diameter x wall thickness)	3/8" x 3/32" (9.53 mm x 2.38 mm)	3/8" x 3/32" (9.53 mm x 2.38 mm)
Centrifugal pump speed	0 – 5,000 rpm	0 – 5,000 rpm
Oxygenation membrane surface area	1.3 m ²	1.8 m ²
Heat exchanger surface area	0.3 m ²	0.4 m ²
Gas exchange fibres	Polymethylpentene (PMP)	Polymethylpentene (PMP)
Priming volume HLS Set Advanced with 2 x 2.3 m tubing length	570 ml	600 ml
Priming volume HLS Module Advanced	240 ml	273 ml

Available in different versions

HLS Set Advanced 5.0 accommodates a blood flow of up to 5 l/min, HLS Set Advanced 7.0 accommodates a blood flow of up to 7 l/min. Both HLS Set Advanced sets have a biocompatible Bioline Coating, which ensures a homo-

genous surface and minimizes the blood damaging effects of foreign surfaces. For HIT patients, there is a dedicated HIT Set Advanced with Softline Coating available.

Version	REF	Coating	
HLS Set Advanced 5.0	BE-HLS 5050	Bioline Coating	0.5–5 l/min
HLS Set Advanced 7.0	BE-HLS 7050	Bioline Coating	0.5–7 l/min
HIT Set Advanced 7.0	BO-HLS 7050	Softline Coating	0.5–7 l/min

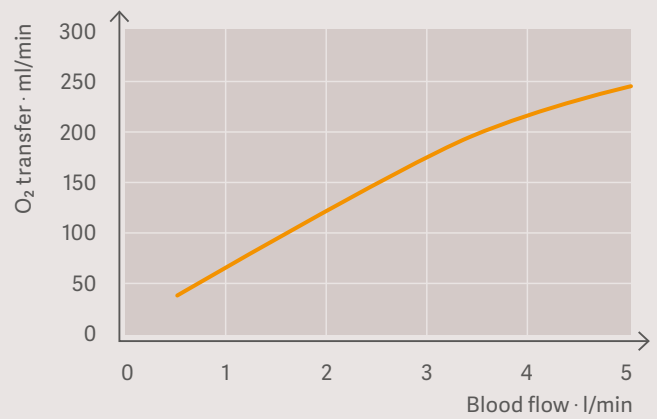
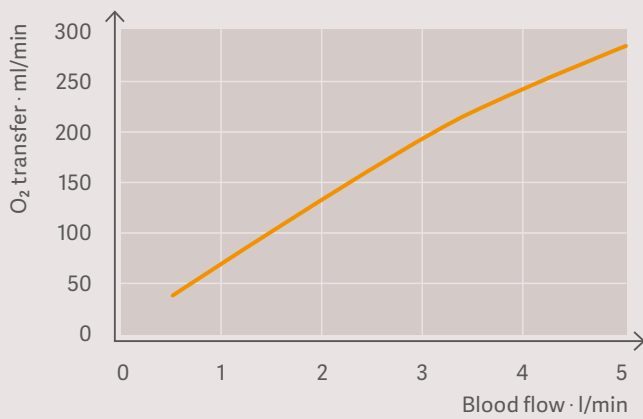


Performance data

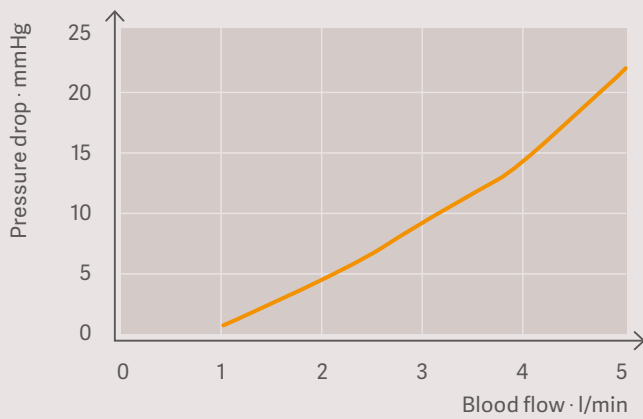
HLS Set Advanced 5.0

O₂ transfer

37°C | Gas-blood flow ratio 1:1

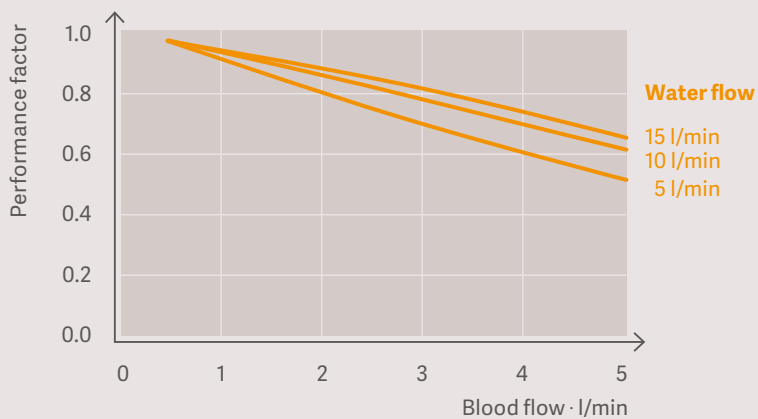


Pressure drop oxygenator



Heat exchanger performance

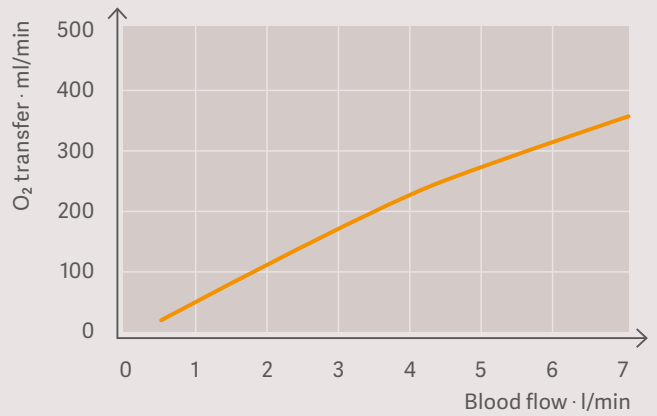
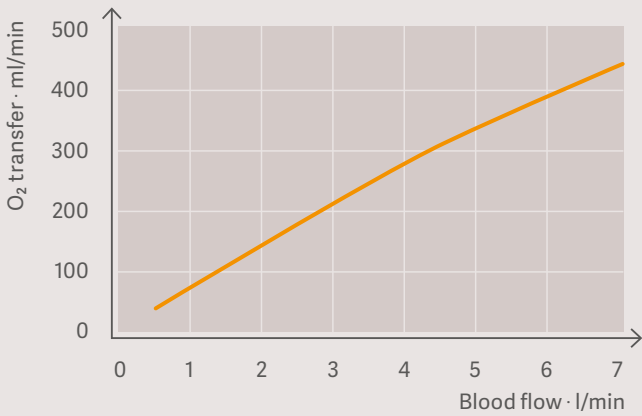
37°C | ISO 7199 Standard



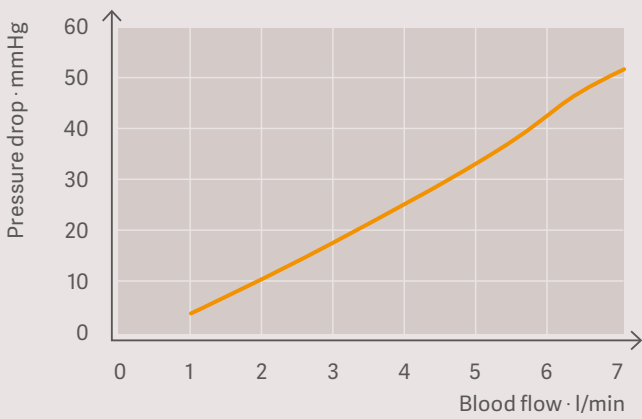
HLS Set Advanced 7.0 | HIT Set Advanced 7.0

O₂ transfer

37°C | Gas-blood flow ratio 1:1

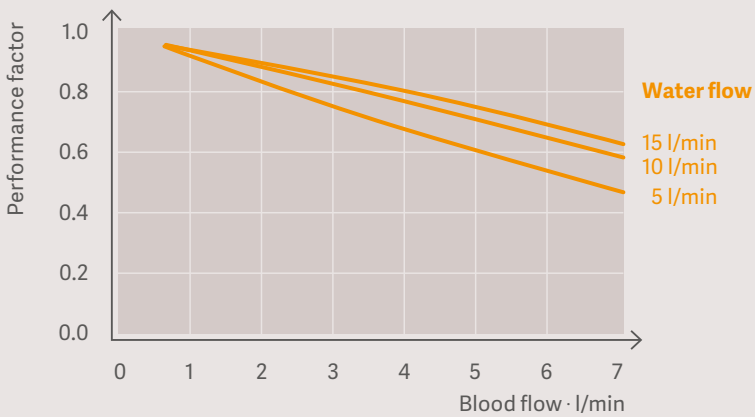


Pressure drop oxygenator



Heat exchanger performance

37°C | ISO 7199 Standard



Benefits at a glance

- Integrated non-invasive sensor technology helps to avoid the need for external measuring lines.
- Integrated pressure monitoring for increased safety during application.
- Quick and easy set-up and priming for routine and rapid deployment in emergency situations.
- An integrated heat exchanger helps to precisely manage temperature.
- Provided as a standard set, supporting routine handling in any situation and consistent training of users
- The Cardiohelp System and HLS Set Advanced are approved for safe intra- and inter-hospital patient transport.
- Dedicated softline-coated set to treat patients who are sensitive to heparin-induced thrombocytopenia



CARDIOHELP MAQUET



With a firm belief that every person and community should have access to the best possible care, Getinge provides hospitals and life science institutions with products and solutions aiming to improve clinical results and optimize workflows. The offering includes products and solutions for intensive care, cardiovascular procedures, operating rooms, sterile reprocessing and life science. Getinge employs over 10,000 people worldwide and the products are sold in more than 135 countries.

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