

INSPIRE™ C

The integrated closed system oxygenator for gentle perfusion



Expand your choices with INSPIRE C



Precise
volume control



High
biocompatibility



Optimized
air management



Integrated and
versatile system



GENTLE PERFUSION

INSPIRE C is a unique, integrated closed system oxygenator.

INSPIRE C helps reduce gaseous micro-emboli (GME).

INSPIRE C allows a low hemodilution cardiopulmonary bypass (CPB).

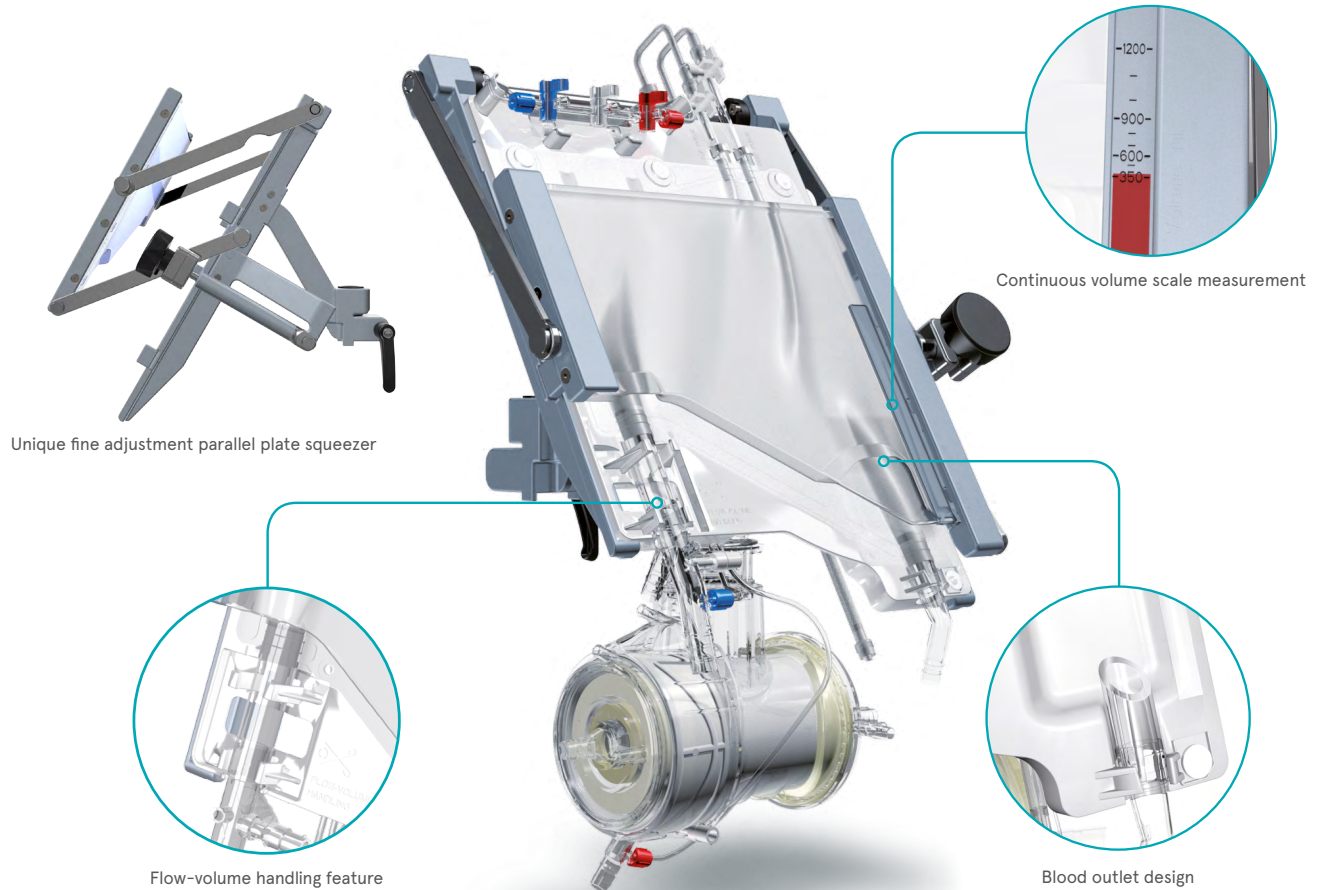
INSPIRE C is available in both 6 LPM and 8 LPM sizes with or without integrated arterial filter.

INSPIRE C, gentle on blood for a highly physiological perfusion.



Precise volume control

The unique, transparent parallel plate squeezer and its fine adjustment mechanism allow precise maximum volume control. The INSPIRE C parallel plate squeezer provides a precisely designed environment where the collapsible venous reservoir predictably expands and behaves in respect to volume and air management.



UNIQUE FINE ADJUSTMENT PARALLEL PLATE SQUEEZER

The precisely shaped squeezer of INSPIRE C provides gentle, continuous and uniform volume adjustment.

Precise volume control and management is important during the perfusion procedure, especially during the weaning phase when small volume changes need to be correlated to changes in the hemodynamic status of the patient.

BLOOD OUTLET DESIGN

The molded outlet collector and carved outlet area comfortably allow high-flow, low volume operation. Collapsing is safe and predictable, and flow is gently restored, especially when using a centrifugal pump.

CONTINUOUS VOLUME SCALE MEASUREMENT

The volume scale measurement provides continuous volume indications. The regulation mechanism allows fine volume adjustment from 350 to 1200 ml. The volume in the reservoir may change according to hydrostatic load and temperature.

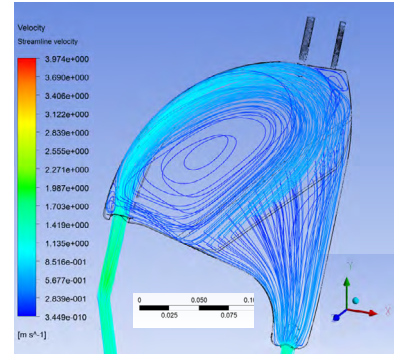
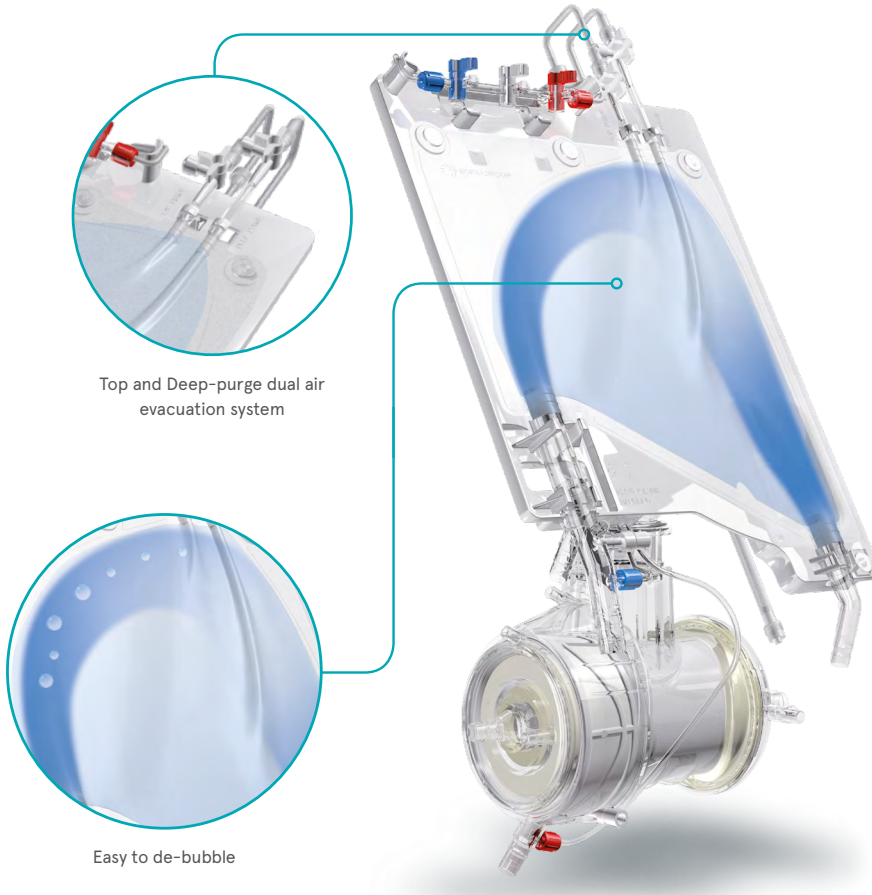
FLOW-VOLUME HANDLING FEATURE

This includes an area for convenient clamping of the venous flow and the removal of venous collector for residual blood recovery at the end of the procedure. By fully or partly clamping the venous manifold in the designated area, venous blood can be deviated to the cardiotomy reservoir, or its flow can be regulated when the cardiotomy line is clamped.



Optimized air management

INSPIRE C is designed to optimize macro air removal and gaseous micro-emboli (GME) control through a combination of fluid-dynamics and filtration capabilities. The combined action of the overall geometry and the purge sites efficiently handle air in all working conditions, with or without squeezer.



EFFICIENT GME CONTROL

The INSPIRE C is designed to maximize GME control through a combination of fluid-dynamics (CFD) and filtration capabilities. The INSPIRE C helps reduce gaseous microemboli (GME), commonly indicated as a potential cause of neurological damage.

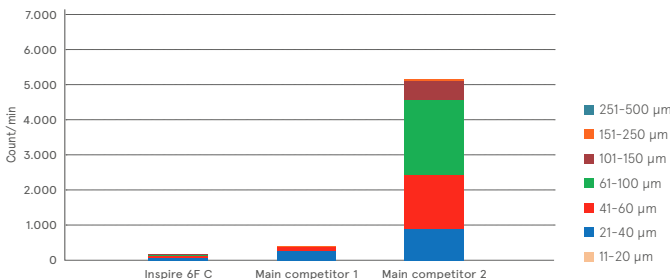
TOP AND DEEP-PURGE DUAL AIR EVACUATION SYSTEM

The top-purge efficiently handles air in most working conditions, while the deep-purge efficiently removes air when the squeezer is not in place or the reservoir is partly empty.

GME COMPARISON

TEST CONDITIONS
 (Gampt BCC200 bubble counter, Bovine blood, Ht=27%±2, Temp.= 30°C ±1, Min squeezer volume indication, 100 ml/min continuous air injection into venous line, 3 min data acquisition, Oxygenator purge lines closed, Venous reservoir purge lines open, purge flow 150 ml/min).

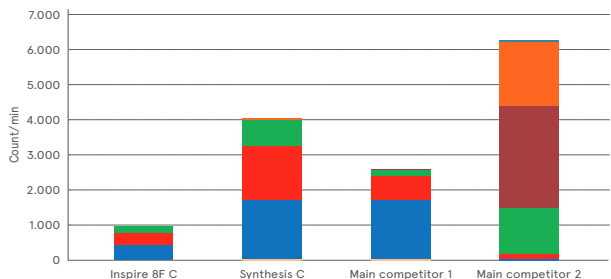
INSPIRE 6F C v. Small Adult Closed System Oxygenators
 Post oxygenator average bubble count @ 4LPM blood flow



EASY TO DE-BUBBLE

Thoroughly designed geometry handles air extremely well for both macro air and micro bubbles. The combined action of the carefully designed body shape and venous inlet, the carved backplate and squeezer, and the single layer filter screen with top bypass efficiently handle air in all flow-volume conditions.

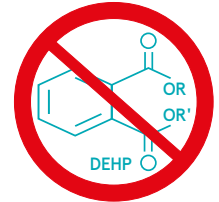
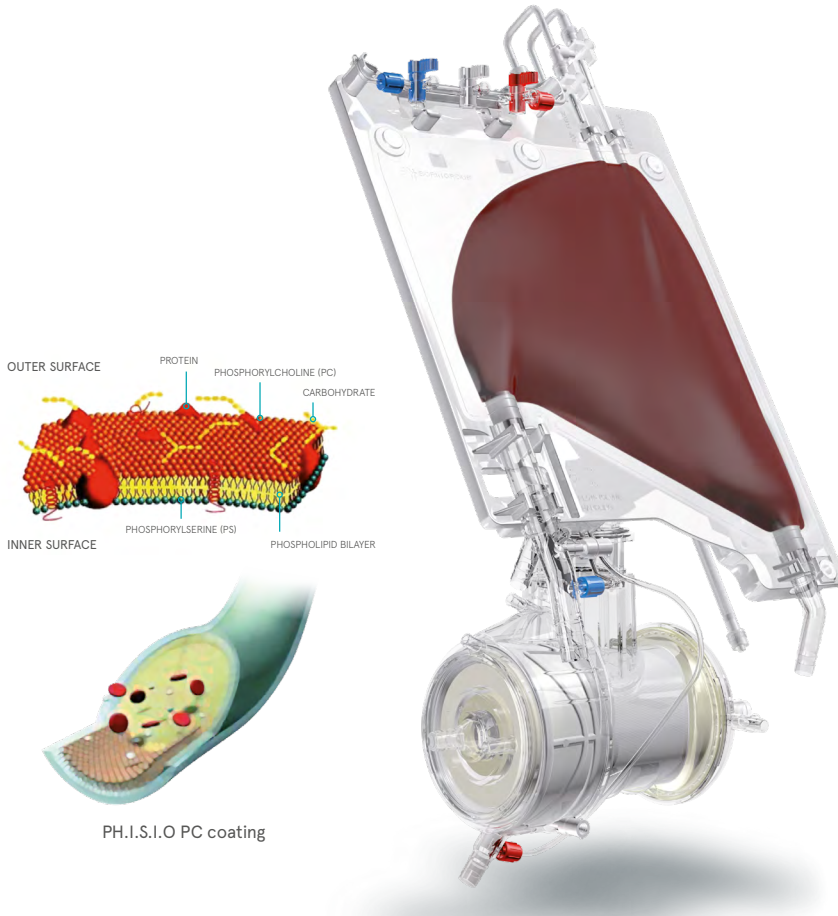
INSPIRE 8F C v. Adult Closed System Oxygenators
 Post oxygenator average bubble count @ 6LPM blood flow





High biocompatibility

The PH.I.S.I.O PC coating and DEHP-free plastic materials increase biocompatibility, making INSPIRE C an advanced tool for closed system CPB. These features combine well with the limited surfaces in contact with blood, the intrinsic absence of defoaming agents and the minimal air-to-blood contact.



C6H4[COOCH2CH(C2H5)(CH2)3CH3]2

DEHP-free materials

PH.I.S.I.O PC COATING

PH.I.S.I.O PC coating has proven to be extremely effective in reducing platelet activation and white blood cell adhesion to foreign surfaces. Activated suction blood sequestration, combined with PH.I.S.I.O PC coating, offers maximum biocompatible benefits.

REDUCED SURFACE AREA, NO DEFOAMING AGENTS AND MINIMAL AIR-TO-BLOOD INTERFACE

INSPIRE C reduces foreign surfaces contact with blood, features NO defoaming agents and provides a CPB with MINIMAL air interface. This reduces the interaction of blood with the CPB environment.

DEHP-FREE MATERIALS

The plastic materials of INSPIRE C are DEHP plasticizer-free and meet the latest recommendations in certain countries and institutions.

DEHP plasticizers are known for their effects in pediatric and neonatal patients.



No defoaming agents

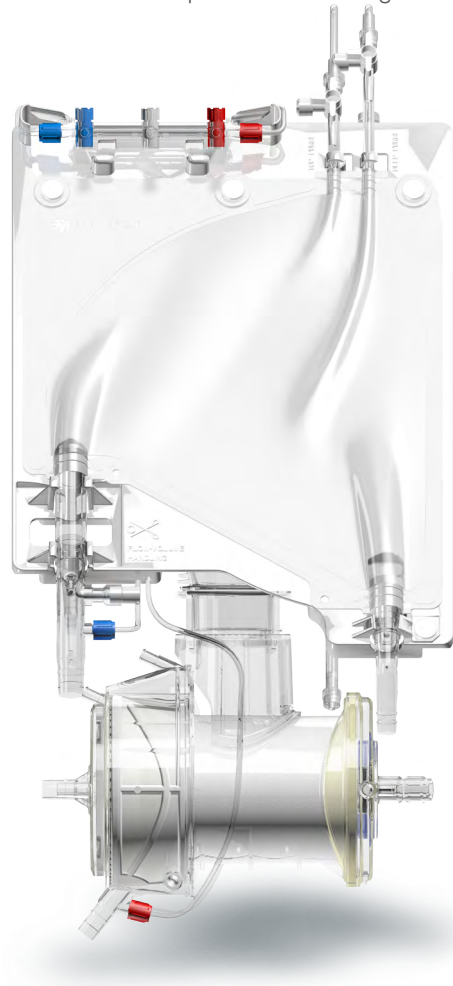


Minimal blood/air contact



Integrated and versatile system

The INSPIRE C is a truly easy and versatile integrated closed reservoir/oxygenator system. It's the most vertically compact oxygenator system on the market and allows a wide choice of set-up options on the heart-lung machine. INSPIRE C may be used either with or without squeezer according to the CPB technique in use.



INSPIRE BKT and
INSPIRE BKT FAST



INSPIRE BKT COMBO



INSPIRE BKT 1200



INSPIRE BKT 1200S

1) SET-UP WITHOUT SQUEEZER

- Allows free blood volume handling
- Improves ease of use

2) SET-UP WITH SQUEEZER

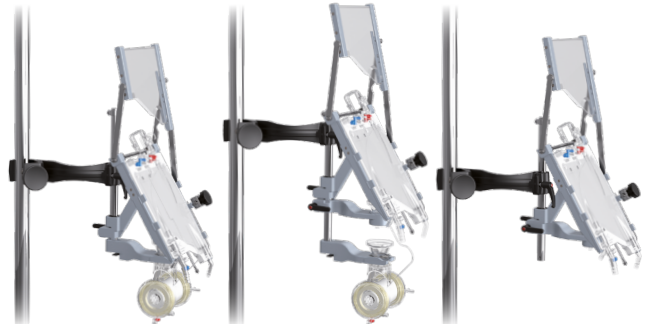
- Allows full blood volume control
- Maximizes prime recovery prior CPB
- Precisely manages weaning from CPB



Integrated device

Separate devices

Stand alone SVR



Integrated device

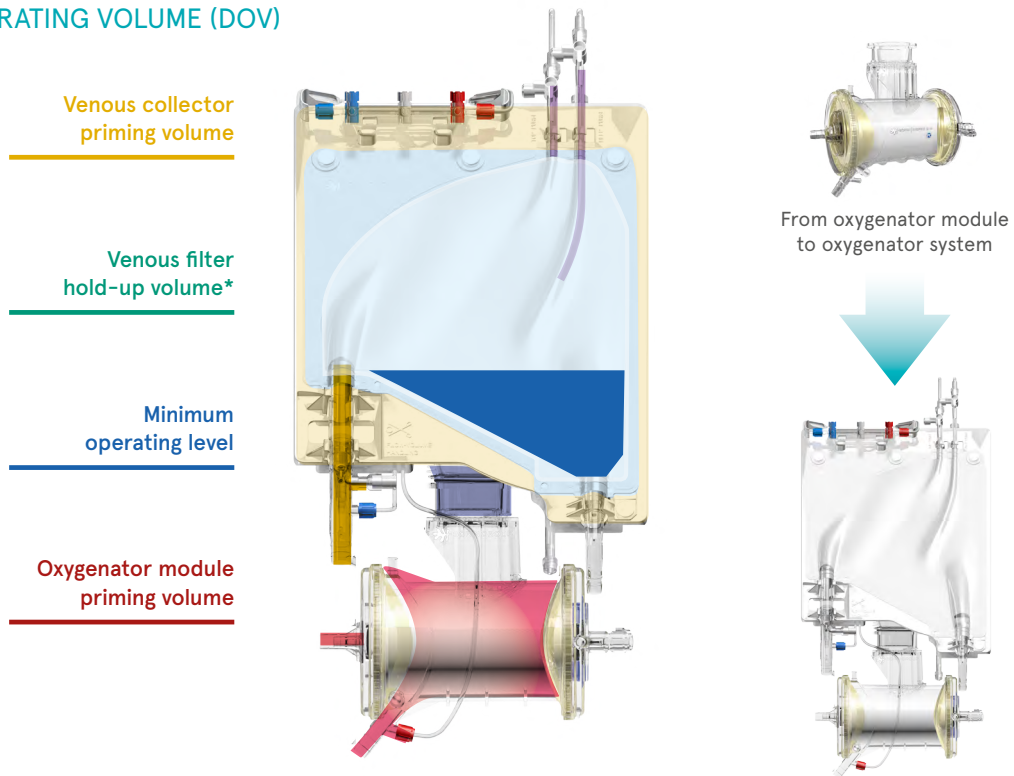
Separate devices

Stand alone SVR

Minimized impact on hemodilution

Introducing a whole new concept to closed system perfusion in CPB, from oxygenator module to oxygenator system. The INSPIRE C oxygenator system minimizes the impact on hemodilution at a system level by featuring low priming oxygenator modules, the lowest minimum operating level in the closed system reservoir (265 ml) and low venous collector priming volume. These elements determine the oxygenator system DOV in a closed circuit, impacting hemodilution.

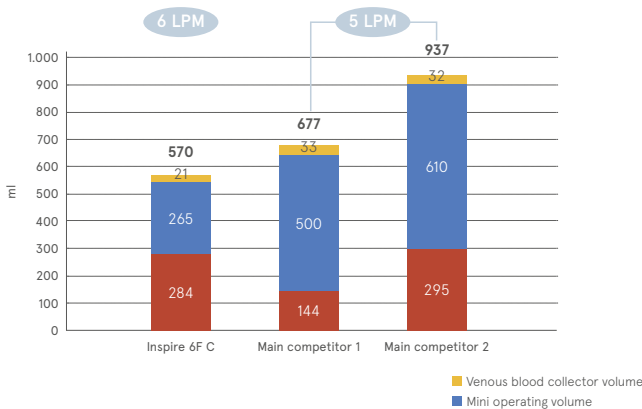
DYNAMIC OPERATING VOLUME (DOV)



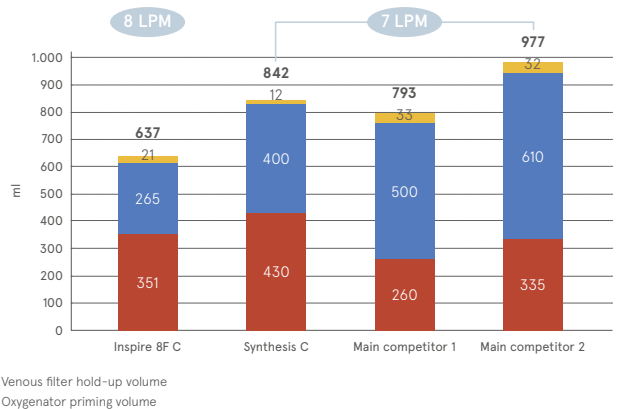
OXYGENATOR SYSTEM DOV (at maximum blood flow)

TEST CONDITIONS
 (Bovine blood, Hb 12±0.2 gr/dl, Temp. 37±1 °C, Min.
 Operating volume as per IFU or minimum squeezer volume,
 60 cm hydrostatic load on Inspire SVR 1200)

INSPIRE 6F C v. Small Adult Closed System Oxygenators



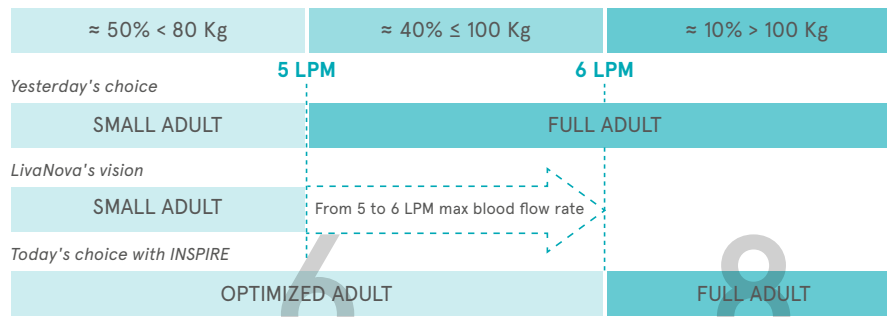
INSPIRE 8F C v. Adult Closed System Oxygenators



*Venous filter hold-up volume in closed circuit oxygenator systems is equivalent to 0 ml.

Adult patient population and oxygenator of choice

Patient Body Weight & Distribution per INSPIRE Market Assessment Study (MAS) database



INSPIRE 6 LPM

Our Inspire 6 LPM oxygenator systems are the only optimized adult oxygenator systems with a low blood contact surface area which can minimize impact on hemodilution and effectively control GME, while offering full performance up to 6 LPM maximum blood flow. This oxygenator module covers the requirements of a wide patient population.

INSPIRE 8 LPM

This Inspire 8 LPM oxygenator systems provide superior performance up to 8 LPM, allowing clinicians to safely and comfortably treat all adult patients, while reducing hemodilution and effectively controlling gaseous micro-emboli (GME). INSPIRE 8 LPM oxygenator systems offer the ideal solution for powerful perfusion and have been designed to help clinicians standardize perfusion practice at the highest performance levels.

INSPIRE™
the most complete family
of adult oxygenator systems.

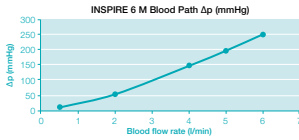
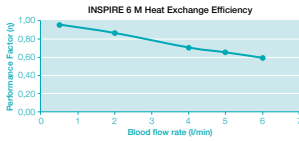
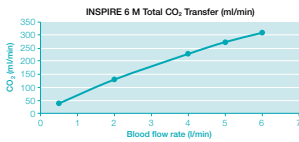
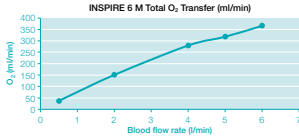
		BIOCOMPATIBILITY		
		OPEN CIRCUIT RESERVOIR		CLOSED CIRCUIT RESERVOIR
		Single Chamber	Dual Chamber	Collapsible
		HVR SINGLE	HVR DUAL	SVR 1200
FLOW 	OXY MODULES			
	6 LPM w/o filter	INSPIRE™ 6	INSPIRE™ 6 DUAL	INSPIRE™ 6 C
	6 LPM with filter	INSPIRE™ 6F	INSPIRE™ 6F DUAL	INSPIRE™ 6F C
	8 LPM w/o filter	INSPIRE™ 8	INSPIRE™ 8 DUAL	INSPIRE™ 8 C
	8 LPM with filter	INSPIRE™ 8F	INSPIRE™ 8F DUAL	INSPIRE™ 8F C

Performance charts

INSPIRE 6 C



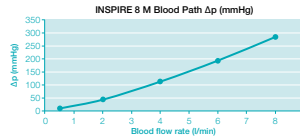
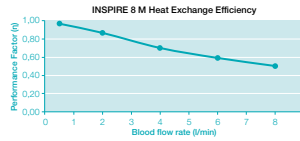
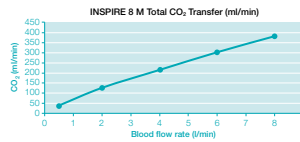
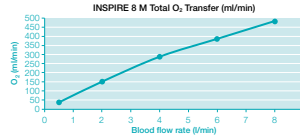
TEST CONDITIONS
 Bovine blood - Hb 12±0.2 gr/dl - B.E. 0±2mEq/l
 - Venous pCO₂ 45±5 mmHg - O₂ Venous Sat. 65±5%
 - Blood Temp. 37±1 °C - Q_i/Q_o=1 - FIO₂ 100% - Qw=10±0.5 l/min



INSPIRE 8 C



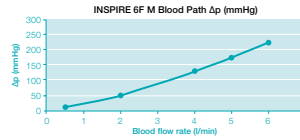
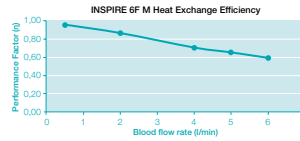
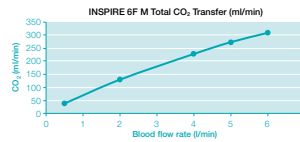
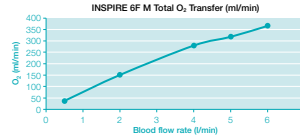
TEST CONDITIONS
 Bovine blood - Hb 12±0.2 gr/dl - B.E. 0±2mEq/l
 - Venous pCO₂ 45±5 mmHg - O₂ Venous Sat. 65±5%
 - Blood Temp. 37±1 °C - Q_i/Q_o=1 - FIO₂ 100% - Qw=10±0.5 l/min



INSPIRE 6F C



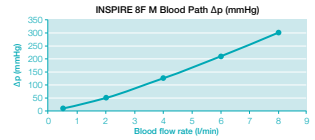
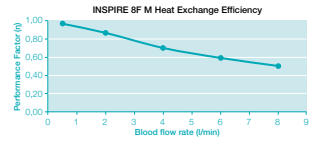
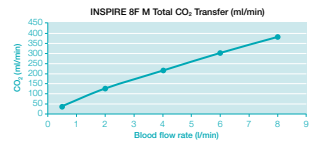
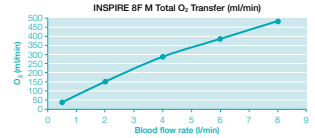
TEST CONDITIONS
 Bovine blood - Hb 12±0.2 gr/dl - B.E. 0±2mEq/l
 - Venous pCO₂ 45±5 mmHg - O₂ Venous Sat. 65±5%
 - Blood Temp. 37±1 °C - Q_i/Q_o=1 - FIO₂ 100% - Qw=10±0.5 l/min



INSPIRE 8F C



TEST CONDITIONS
 Bovine blood - Hb 12±0.2 gr/dl - B.E. 0±2mEq/l
 - Venous pCO₂ 45±5 mmHg - O₂ Venous Sat. 65±5%
 - Blood Temp. 37±1 °C - Q_i/Q_o=1 - FIO₂ 100% - Qw=10±0.5 l/min



Technical specifications

	INSPIRE 6 C	INSPIRE 8 C	INSPIRE 6F C	INSPIRE 8F C
OXYGENATOR SYSTEM				
Oxygenator System D.O.V. @ max flow	470 ml	505 ml	570 ml	637 ml
Biocompatible Coating	Phosphorylcholine (PHISIO)	Phosphorylcholine (PHISIO)	Phosphorylcholine (PHISIO)	Phosphorylcholine (PHISIO)
RESERVOIR				
Max. Volume Capacity (approx. value)	1325 ml	1325 ml	1325 ml	1325 ml
Min. Operating Volume (approx. value)	265 ml	265 ml	265 ml	265 ml
Venous Filter micron size	105 µm polyester screen	105 µm polyester screen	105 µm polyester screen	105 µm polyester screen
OXYGENATOR MODULE				
Maximum Blood Flow Rate	6 l/min	8 l/min	6 l/min	8 l/min
Static Priming Volume (oxy module + heat exchanger average value)	184 ml	219 ml	284 ml	351 ml
Membrane surface area (approx. value)	1,4 m ²	1,75 m ²	1,4 m ²	1,75 m ²
Heat Exchanger material	Polyurethane	Polyurethane	Polyurethane	Polyurethane
Heat Exchanger surface area (approx. value)	0,4 m ²	0,4 m ²	0,4 m ²	0,4 m ²
Arterial Filter material type			Polyester net	Polyester net
Arterial Filter micron size			38 µm	38 µm
Arterial Filter surface area			68 cm ²	97 cm ²

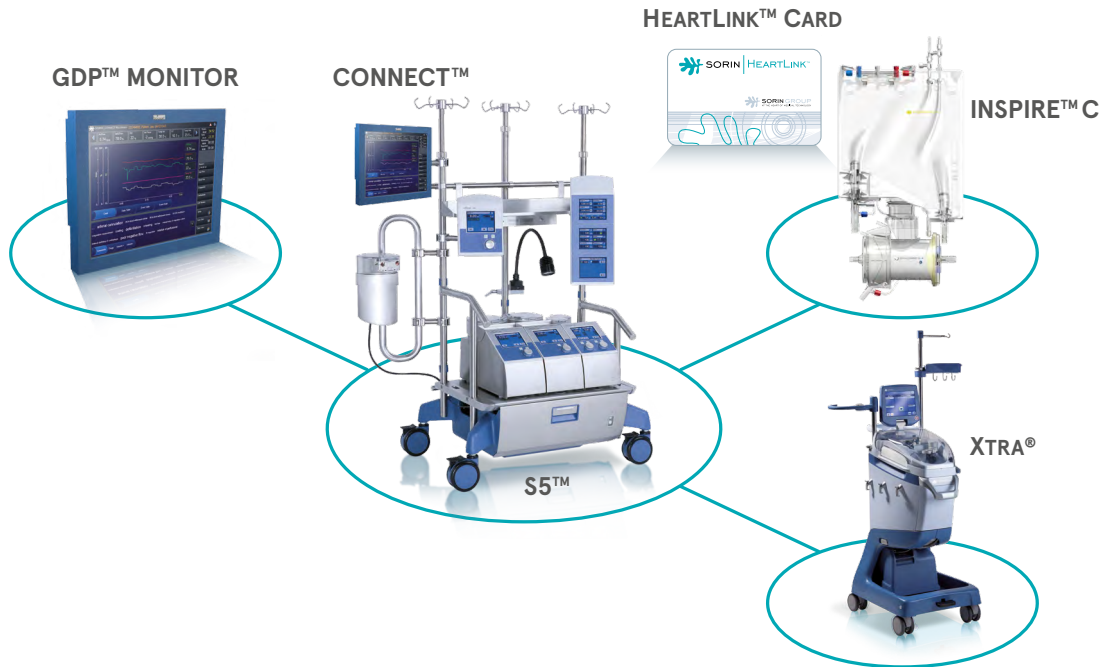
Order guide

ITEM #	DEVICE	DESCRIPTION	UNITS PER CASE	IMAGE
Available only into PTS	INSPIRE 6 C	INSPIRE 6 LPM PHISIO OXY MODULE WITH INTEGRATED PHISIO 1200 SOFT SHELL VENOUS RESERVOIR	N.A.	
050721	INSPIRE 6F C	INSPIRE 6 LPM PHISIO OXY MODULE WITH INTEGRATED ARTERIAL FILTER AND PHISIO 1200 SOFT SHELL VENOUS RESERVOIR	1	
Available only into PTS	INSPIRE 8 C	INSPIRE 8 LPM PHISIO OXY MODULE WITH INTEGRATED PHISIO 1200 SOFT SHELL VENOUS RESERVOIR	N.A.	
050722	INSPIRE 8F C	INSPIRE 8 LPM PHISIO OXY MODULE WITH INTEGRATED ARTERIAL FILTER AND PHISIO 1200 SOFT SHELL VENOUS RESERVOIR	1	
050706	INSPIRE SVR 1200	INSPIRE PHISIO 1200 SOFT SHELL VENOUS RESERVOIR	1	
050640	INSPIRE BKT	BRACKET FOR INSPIRE OXY MODULES AND INTEGRATED OXYGENATOR SYSTEMS	1	
48-42-10	IINSPIRE BKT FAST*	BRACKET FOR INSPIRE OXY MODULES AND INTEGRATED OXYGENATOR SYSTEMS WITH FAST CLAMP	1	
050642	INSPIRE BKT COMBO	BRACKET FOR COMBINED INSPIRE SVR SYSTEMS TO BE USED IN CONJUNCTION WITH INSPIRE BKT 1200 and 1200S BRACKETS	1	
050645	INSPIRE BKT 1200	BRACKET FOR INSPIRE SVR 1200	1	
050646	INSPIRE BKT1200 S	SQUEEZER FOR INSPIRE SVR 1200 TO BE USED IN CONJUNCTION WITH INSPIRE BKT, INSPIRE BKT FAST, INSPIRE BKT 1200 AND INSPIRE BKT COMBO BRACKET	1	
042229000	TEMPERATURE PROBES	TEMPERATURE PROBES	2	

*To be ordered as an accessory of LivaNova S5 and C5 HLMs.

HEARTLINK™ SYSTEM

INSPIRE C is a key component of the LivaNova HeartLink™ System: the first automatically integrated **Perfusion Management System** designed for **improved patient outcomes, increased clinical efficacy and Goal-Directed Perfusion.**



LivaNova

Health innovation that matters

www.livanova.com



LivaNova's Green Leaf program

The Sorin Group Italia Quality System complies with: EN ISO 13485:2012/AC 2012

CE According to 0123 MDD 93/42/EEC amended by Directive 2007/47/EC

Manufactured by:

Sorin Group Italia Srl

A wholly-owned subsidiary of LivaNova PLC

Via Statale 12 Nord, 86

41037 Mirandola (MO) Italy

Tel. +39 0535 29811 - Fax +39 0535 25229

info.cardiacsurgery@sorin.com

Refer to the information for Use provided with each product for detailed information, warnings, precautions and possible adverse side effects.

© 2016 LivaNova all rights reserved.