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.
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.

**Optimized air management**

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.

**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.

**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, 5 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

**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.

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.

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.

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.
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.

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
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.

**Minimized impact on hemodilution**

**DYNAMIC OPERATING VOLUME (DOV)**

- Venous collector priming volume
- Venous filter hold-up volume*
- Minimum operating level
- Oxygenator module priming volume

**INSPIRE 6F C v. Small Adult Closed System Oxygenators**

**INSPIRE 8F C v. Adult Closed System Oxygenators**

**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)

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

**INSPIRE 6 C**

**INSPIRE 8 C**

**INSPIRE 6 F C**

**INSPIRE 8 F C**

**TEST CONDITIONS**
- Bovine blood - Hb 12±0.2 gr/dl - Blood Temp. 37±1 °C
- Venous pCO₂ 45±5 mmHg - O₂ Venous Sat. 65±5%
- Blood Temp. 37±1 °C - QG /QB =1 - FiO₂ 100% - Qw=10±0,5 l/min

**Technical specifications**

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<tr>
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<th>INSPIRE 6 C</th>
<th>INSPIRE 8 C</th>
<th>INSPIRE 6 F C</th>
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<td>Oxygenator System D.O.V. @ max flow</td>
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<td><strong>OXYGENATOR MODULE</strong></td>
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<td>Maximum Blood Flow Rate</td>
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### Order guide

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*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.

HEARTLINK™ CARD

GDP™ MONITOR

CONNECT™

INSPIRE™ C

XTRA®

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

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