

## KIDS

### A Complete Family of Pediatric Perfusion Systems



# KIDS

Small, sensitive neonatal and pediatric patients deserve **dedicated perfusion systems**. The Dideco KIDS line of pediatric oxygenators and arterial filters are the latest from a long history of pediatric perfusion advancements from LivaNova.

Designed to **minimize hemodilution** and reduce foreign surface area exposure, Dideco KIDS provides optimal clinical flexibility and perfusion support to a broad range of **neonatal and pediatric patients**.

## Low Priming Volume

For true neonates, the D100 oxygenator and D130 arterial filter provides the **smallest priming volume** of any pediatric perfusion system in clinical use, just 47 mls. For larger pediatric patients, the D101 oxygenator and D131 arterial filter offer the ideal balance between high performance and low priming volume: only 115 mls for patients up to 2.5 LPM blood flow.

## Low Surface Area

At 0.22 m<sup>2</sup>, the D100 membrane is sized for neonatal patients without unneeded surface area. The D101's 0.61 m<sup>2</sup> membrane is sized for a **wide range pediatric patients**.

## Advanced Reservoir

The D100 and D101 reservoirs include features that optimize performance but make set-up easy for adult fingers.

- Luer lock connectors on D100, to allow small tubing to be connected easily and quickly
- Integrated pressure relief valve for safer use with vacuum assisted drainage
- Low minimum operating level-only 10 ml for D100 and 30 ml for D101
- Unique hybrid cardiectomy filter (both screen and depth filter) to reduce hold up volume and foreign surface contact

## Intuitive, Fast and Easy Set-Up

The brackets hold each oxygenator securely with simple latches that are **easy to use and maintain**. The luer lock connectors on the D100 cardiectomy lid allow connection without trying to manipulate small diameter tubing onto barb ports. The gas inlet is located on the top of each oxygenator, and the reservoir can be rotated as needed to **optimize visibility**. Hansen fittings on the side of the oxygenators make water connections easy. The D130 and D131 arterial filters utilize purge lines on both sides of the filter to make priming fast and easy. In the event of massive air in the arterial line, priming is made easier by purging both sides of the filter screen.

## High Biocompatibility

To deliver the best possible care for your neonatal and pediatric patients, LivaNova has developed **highly biocompatible products that feature phosphorylcholine (PC) coating**. PC treatment provides a stable coating, which is demonstrated to be effective in improving platelet preservation and reducing platelet foreign surface adhesion.<sup>1</sup>

<sup>1</sup> DeSomer, et al. Phosphorylcholine coating of extracorporeal circuits provides natural protection against blood activation by the material surface. European Journal of Cardiothoracic Surgery 18 (2000) 602-606.



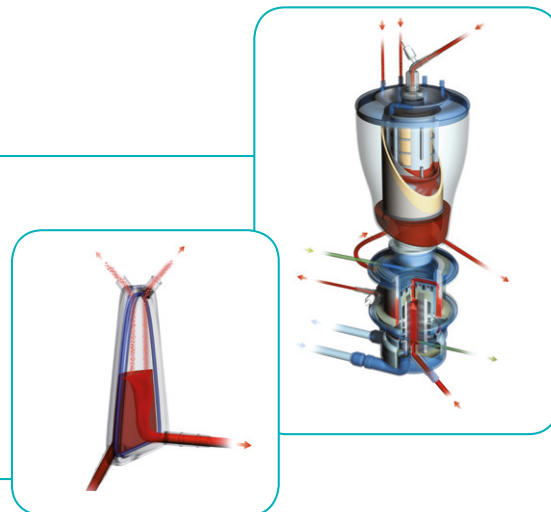
## KIDS - The Optimal Fit for your Smallest Patients

### Minimized Surface Area

The D100 and D101 utilize a circumferential flow path to **increase the efficiency** of the membrane surface area in the oxygenator. As a result, **surface area exposure is minimized**, keeping O<sub>2</sub> and CO<sub>2</sub> transfer rates balanced. By not having excess surface area, more precise CO<sub>2</sub> control is possible at lower rates.

### Dideco KIDS D130 and D131: the World's Smallest Arterial Filters

The D130 and D131 arterial filters provide purge lines on both sides to make priming fast and easy.



### Optimal Reservoir for the Smallest Patients

Matching the reservoir design to the patient size is an important step toward **minimizing circuit volume**. Our sequential cardiotomy filter automatically minimizes the filter surface area in contact with the blood while **adjusting to the incoming flow volume**.

The optimal reservoir shape and venous filter allow operation at extremely low levels:

- 10 mls for D100
- 30 mls for D101



### S5 Mast Mounted Pumps and Dideco KIDS Oxygenators and Arterial Filters Work Together

We have optimized both the pump and circuit design to further reduce prime volume.



## Perfusion systems designed for the broadest range of pediatric patients

### D100 Neonatal Oxygenator D130 Neonatal Arterial Filter

The WORLD'S SMALLEST perfusion devices, specially designed for the smallest of patients



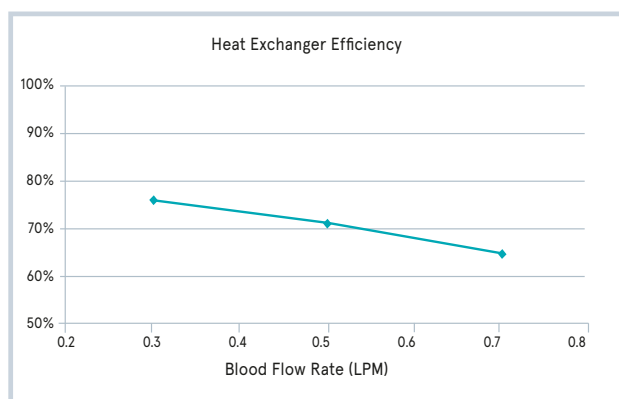
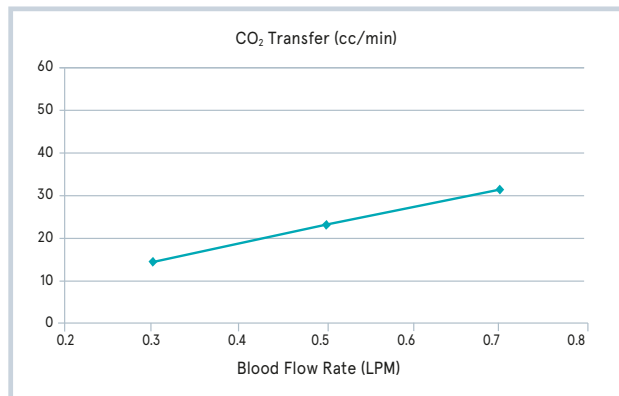
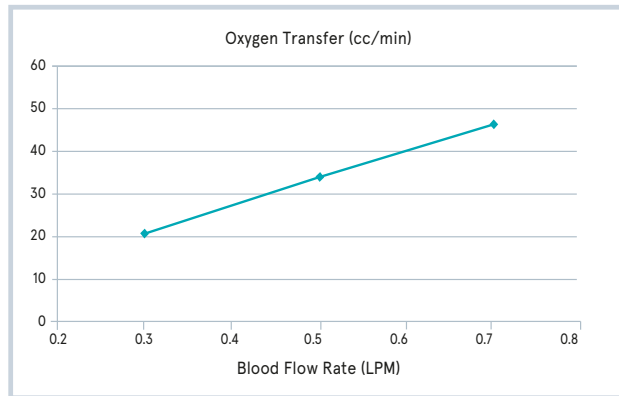
### D101 Infant Oxygenator D131 Infant Arterial Filter

Designed for the WIDEST RANGE of pediatric patients

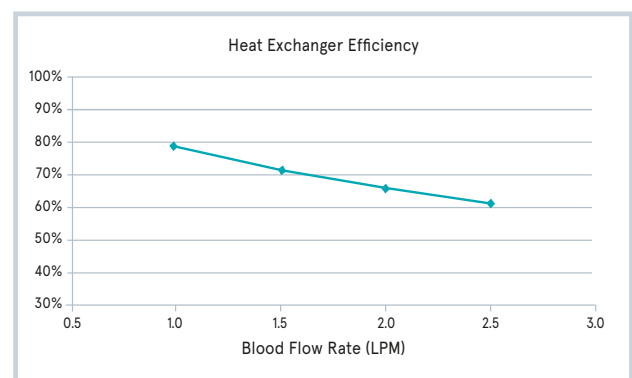
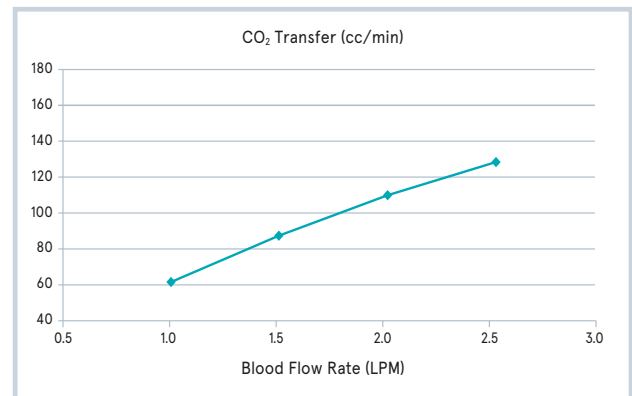
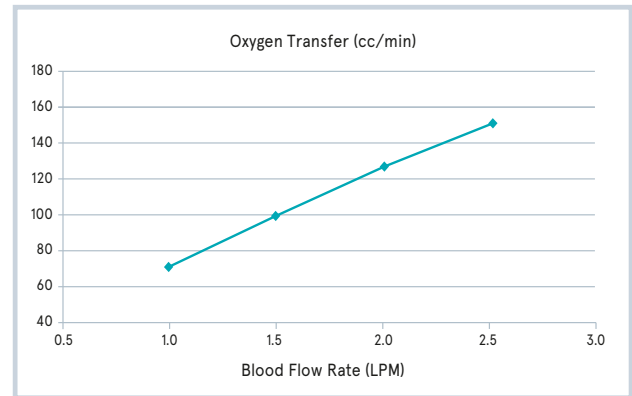


## Performance Data

### D100



### D101



Performance data: D100 and D101  
 In vitro tests with bovine blood at  
 AAMI standards conditions  
 Hgb:  $12 \pm 0.2$  g/dl  
 B.E.:  $0 \pm 5$  mmol/l  
 Blood Temp.:  $37 \pm 1$  °C  
 O<sub>2</sub> Venous Sat.:  $65 \pm 5$  %  
 Venous pCO<sub>2</sub>:  $45 \pm 5$  mmHg  
 Water flow rate at water side = 10 lpm



## Product Specifications



D100 Oxygenator	
Static Priming Volume (ml)	31
Membrane Surface Area (m <sup>2</sup> )	0.22
Max Blood Flow (maxflow, ml/min)	700
Reference Flow AAMI (ml/min)	1000*
Dp @ Maxflow (mmHg)	175
Heat Exchanger Surface Area (m <sup>2</sup> )	0.03
Heat Exchanger Efficiency @ Maxflow (%)	65
<b>Hardshell Reservoir</b>	
Capacity (ml)	500
Minimum Operating Level (µm)	10
Cardiotomy Filter Pore Size (micron)	33
Venous Filter Pore Size (micron)	51
Pressure Relief Valve (µm)	+5/-80
<b>Oxygenator module connections</b>	
Venous Inlet	3/16" – 1/4"
Arterial Outlet	3/16"
<b>Hard-shell reservoir connections</b>	
Venous Return	3/16" – 1/4"
Outlet	3/16" – 1/4"
<b>Filtered ports</b>	
Suction Inlets	7 x LL
Vertical Inlet	3/16"
Unfiltered Port	LL
<b>Coating</b>	Phosphorylcholine

\*AAMI reference flow is the flow in which oxygen delivery equals 40 ml/min/L of blood flow under AAMI standard conditions (35% hct, 37c, hgb=12 g/dl, fiO<sub>2</sub>=100%).

D130 arterial filter	
Static Priming Volume (ml, weighed)	16
Max Blood Flow (ml/min)	700
Pore Size (µm)	40
<b>Connections</b>	
Inlet Connector	3/16"
Outlet Connector	3/16"
Purging Lines	2 x LL
<b>Coating</b>	Phosphorylcholine

D131 arterial filter	
Static Priming Volume (ml, weighed)	28
Max Blood Flow (ml/min)	2500
Pore Size (µm)	40
<b>Connections</b>	
Inlet Connector	1/4"
Outlet Connector	1/4"
Purging Lines	2 x LL
<b>Coating</b>	Phosphorylcholine

D101 Oxygenator	
Static Priming Volume (ml)	87
Membrane Surface Area (m <sup>2</sup> )	0.61
Max Blood Flow (maxflow, ml/min)	2500
Reference Flow AAMI (ml/min)	3500*
Dp @ Maxflow (mmHg)	159
Heat Exchanger Surface Area (m <sup>2</sup> )	0.06
Heat Exchanger Efficiency @ Maxflow (%)	61
<b>Hardshell Reservoir</b>	
Capacity (ml)	1500
Minimum Operating Level (µm)	30
Cardiotomy Filter Pore Size (micron)	33
Venous Filter Pore Size (micron)	51
Pressure Relief Valve (µm)	+5/-80
<b>Oxygenator module connections</b>	
Venous Inlet	1/4"
Arterial Outlet	1/4"
<b>Hard-shell reservoir connections</b>	
Venous Return	3/8" – 1/4"
Outlet	1/4"
<b>Filtered ports</b>	
Suction Inlets	3 x 1/4" + 2 x 3/16"
Vertical Inlet	1/4"
Additional Inlets	4 x LL
Unfiltered port	LL
<b>Coating</b>	Phosphorylcholine

\*AAMI reference flow is the flow in which oxygen delivery equals 40 ml/min/L of blood flow under AAMI standard conditions (35% Hct, 37C, Hgb=12 mg/dl, fiO<sub>2</sub>=100%).

Ordering Information	Code
D100 Dideco KIDS Neonatal Oxygenator, with Hardshell Reservoir, Phisio coated	050531
D100 Dideco KIDS Neonatal Oxygenator, Oxy Module, Phisio coated	050534
D130 Dideco KIDS, Neonatal Arterial Filter, Phisio coated	050538
D120 Dideco KIDS, Neonatal Hardshell Reservoir Phisio coated	050536
D101 Dideco KIDS Infant Oxygenator, with Hardshell Reservoir, Phisio coated	050540
D101 Dideco KIDS Infant Oxygenator, Oxy Module, Phisio coated	050543
D131 Dideco KIDS, Infant Arterial Filter, Phisio coated	050542
D633 Oxygenator Bracket	05083
D634 Arterial Filter Bracket	050539

[www.livanova.com](http://www.livanova.com)



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