SYSTEM COMPONENTS FOR PUMPLESS iLA THERAPY

iLA MEMBRANE VENTILATOR

SPECIFICATIONS	
Blood flow rate	0.5-4.5 l/min
Maximum recommended gas flow rate	10 l/min
Maximum bloodside pressure	400 mmHg / 53.3 kPa
Maximum gasside pressure	20 mmHg / 2.67 kPa
Gas exchange surface	1.3 m^2
Membrane ventilator static fill capacity	175 ml Total: 240 ml
Blood flow rate in the external CRRT circuit (connected via CRRT connector)	max. 0.5 l/min
Blood inlet and outlet connectors	3/8" (Safety Connector)
Gas connector	1/4"
Vent connectors	Luer-Lock

NOVAFLOW C ULTRASONIC FLOWCOMPUTER

Integrated alarm functions:

- Acoustic
- Visual

NOVAFLOW C ULTRASONIC FLOWCOMPUTER SPECIFICATIONS	
Dimensions (H x W x D)	90 x 210 x 293 mm
Weight	max. 4 kg
Housing material	Stainless steel
Protection class	I
IP code	IPX1 (Protected against falling water)
Power supply	100-240 VAC / 50-60 Hz
Power consumption	max. 60 VA
Mains fusing	250 V, 1.6 AL, type T, 5 x 20 mm
Power cable	Type EU

NOVAFLOW CLAMP-ON TRANSDUCER SPECIFICATIONS	
Clamp-on transducer	3/8"
Dimensions (H x W x D)	25 x 33 x 45 mm
Weight	100 g
Housing material	Plastic
Cable length	2.8 m
Connector	15-pin high-density D-Sub
Protection	Applied part type BF
IP code	IPX4 (Protected against splashing water)

XENIOS

LUNG AND HEART THERAPIES

XENIOS AG is a medical device company with the three brands, novalung, i-cor and medos, that run on a single XENIOS platform. This platform enables next-generation therapies for lung and heart failure. No other company except XENIOS AG is offering lung and heart therapies on one single platform.

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XENIOS

THE WORLD'S ONLY

PUMPLESS EXTRAPULMONARY GAS EXCHANGE SYSTEM

iLA Membrane Ventilator

novalung

iLA OPENS THE DOOR TO REAL LUNG PROTECTION

State-of-the-art extrapulmonary gas exchange systems are deployed nowadays in all clinical situations in which adequate gas exchange can no longer be sustained despite invasive ventilation. The strain on the respiratory system is relieved. The lung is given time to heal.

APPLICATION

As opposed to ECMO with high extracorporeal blood flows (High Flow ECMO), in which blood flow and oxygenation are closely correlated, extracorporeal CO_2 removal (ECCO2R) needs much lower blood flows of ≤ 25% of the cardiac output to deliver effective decarboxylation, and is adjusted via sweep gas flow.

The iLA Membrane Ventilator is an extrapulmonary ventilation system which is used primarily to remove carbon dioxide. The heart pumps blood through it as it does through a natural organ.

The iLA Membrane Ventilator "breathes" outside of the body for the patient and carries out some of the gas exchange work of the native lung.

The gas exchange takes place via a plasma-tight, heparin-coated diffusion membrane which is connected arteriovenously femorally by means of two Nova-Port one KI single lumen cannulas. This makes the iLA Membrane Ventilator the world's only available pumpless extrapulmonary gas exchange system. It is an integral element of multimodal therapy concepts since years.[1]

The iLA Membrane Ventilator is designed specially for longterm use, and can be applied to the patient for up to 29 days.

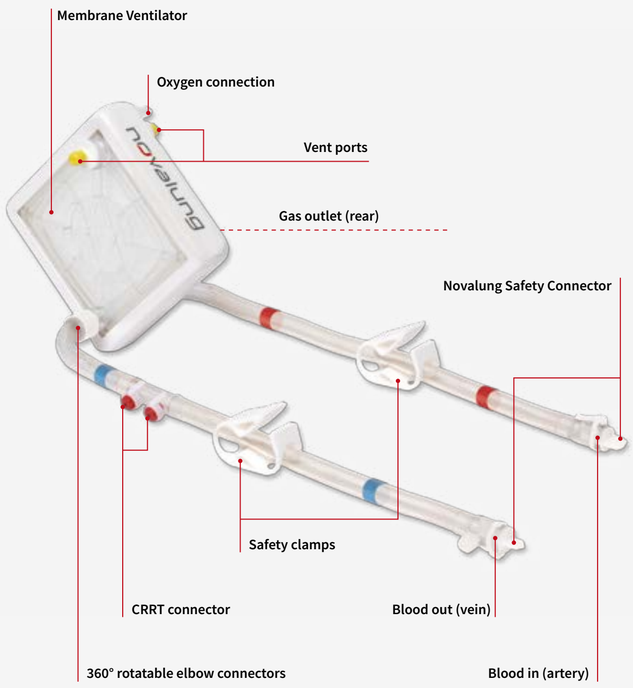
Where additional oxygenation is needed, the XENIOS console is another system which meets all extracorporeal gas exchange needs beyond CO_2 removal. With four different-sized patient kits, the XENIOS console can be customized to reduce or replace invasive ventilation.

INDICATIONS

- All clinical situations where strict application of lung-protective respiration is performed and where there is insufficient exchange of gas, in particular insufficient removal of CO_2. Examples for such cases are:
  - ARDS
  - Exacerbated COPD
  - Bridging the period until a lung transplant can be performed
  - Protective respiration in the case of elevated intracranial pressure
  - Bronchopleural fistulas
- All clinical situations where the patient must make an increased effort to perform spontaneous respiration or where failure of the respiratory pump is imminent. Examples for such cases are:
  - Exacerbated COPD
  - (Aggravated) weaning

SYSTEM OVERVIEW iLA MEMBRANE VENTILATOR

COMPONENT DESCRIPTION

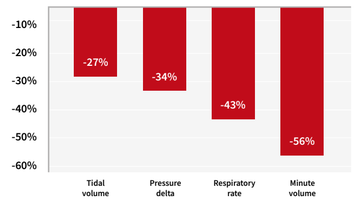


INVASIVE VENTILATION – A DOUBLE-EDGED SWORD

THERAPEUTIC INFORMATION

Ventilation with positive pressure is always unphysiological. Consequently, invasive ventilation in particular triggers cascades of pathophysiological processes which additionally damage the lung (VALI/VILI). In these processes, the inflammatory mediators released from the lung tissue and other biophysical stresses such as volutrauma, barotrauma and atelectrauma damage other organs including the liver or kidneys. Mechanical ventilation is a life-saving therapy which can kill the lung.

Reduced ventilation parameters after 4 hours[3]



Extracorporeal CO_2 removal, reducing the need for mechanical ventilation of the patient, has the potential to completely eliminate the side-effects of mechanical ventilation.[2]

Applied at an early stage, therapy with the iLA Membrane Ventilator can also avoid intubation.[4,5]

ADVANTAGES OF THERAPY WITH THE iLA MEMBRANE VENTILATOR

The iLA Membrane Ventilator is currently being successfully used in thousands of applications.

- Reliable efficacy – efficient CO_2 removal
- High degree of biocompatibility thanks to heparin coating.
- Easy handling
- One vascular access for iLA Membrane Ventilator and CRRT thanks to integrated CRRT connector.

We will be glad to send you all references from scientific publications on request. Please contact us!

REFERENCES

1 Muellenbach RM et al. Eur J Anaesthesiol 2008;25:897-904.
2 Presenti A et al. Crit Care Med 2010;38(10):549-554.
3 Novalung Registry 2011.
4 Kluge S et al. Intensive Care Med 2012;38(10):1632-1639.
5 Biederlau J et al. Eur Respir J 2012;40(3):783-785.