



# Novalung® kits

## Heart and Lung Therapies

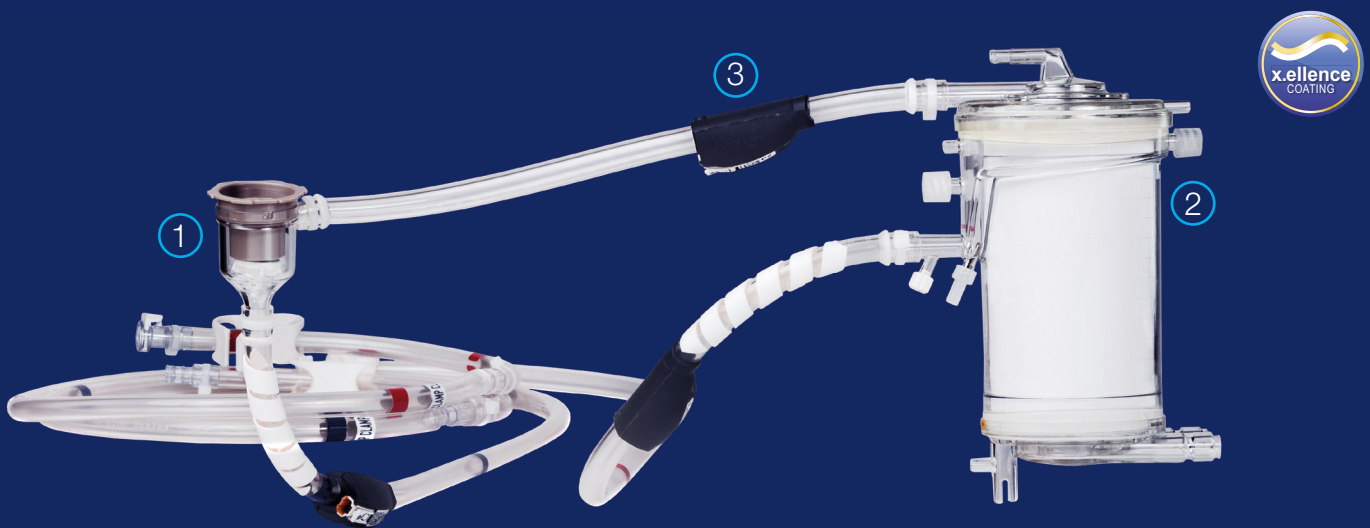


# Our Novalung kits are used together with our console in LUNG ASSIST MODE for ECMO treatments

The intended use of the Novalung kits is extracorporeal gas exchange, pumping of blood and thermo-regulation of blood.

## Elementary features

- Certified for 29 days application period
- Matching pump sizes for 1/4" or 3/8" tubing
- x.ellence multilayer coating
- Wide range of extracorporeal respiratory support from CO<sub>2</sub> removal to oxygenation support



### ① DP3 pump head

Novalung kits include the DP3 pump head, with a diagonal flow

- 1/4" with up to 2.4 l/min blood flow
- 3/8" with up to 8 l/min blood flow

### ② Oxygenator

Different sizes to meet patients' needs

- Plasma-tight Polymethylpentene (PMP) multilayer coating
- Temperature management possible

### ③ Integrated pressure sensors (IPS)

IPS without connectors and continuous visibility

- No interruption of the tubing system allowing undisturbed blood flow
- Pressure measurement without blood contact reduces the risk of air aspiration
- No calibration during therapy necessary
- Design of the IPS sensors makes regular rinsing unnecessary and thus avoids hemodilution

	<b>XLung kit 230</b>	<b>MiniLung kit 1/4"</b>	<b>MiniLung petite kit</b>
Article no.	32000014	32000001	32000003
Coating	x.ellence	x.ellence	x.ellence
Blood flow rate	1.0–7.0 L/min*	0.35–2.4 L/min*	0.10 - 0.80 L/min*
Tubing length	230 cm / 230 cm	199 cm / 199 cm	199 cm / 199 cm
Total priming volume kit	670 ml ± 10 %	240 ml ±10 %	195 ml ±10 %
Pressure measurement	IPS	IPS	IPS
Temperature management	✓	✓	✓
Pump head size	DP3 3/8"	DP3 1/4"	DP3 1/4"
Maximum gas flow rate	14 L/min	10 L/min	10 L/min
Maximum pressure on gas side	25 mmHg	12 mmHg	12 mmHg
Maximum pressure on blood side	600 mmHg	600 mmHg	600 mmHg
Maximum recommended therapy pressure for intended clinical use	400 mmHg (53 kPa)	400 mmHg (53 kPa)	400 mmHg (53 kPa)
Maximum recommended water pressure	750 mmHg	750 mmHg	750 mmHg
Surface area of gas exchanger	1.9 m <sup>2</sup>	0.65 m <sup>2</sup>	0.32 m <sup>2</sup>

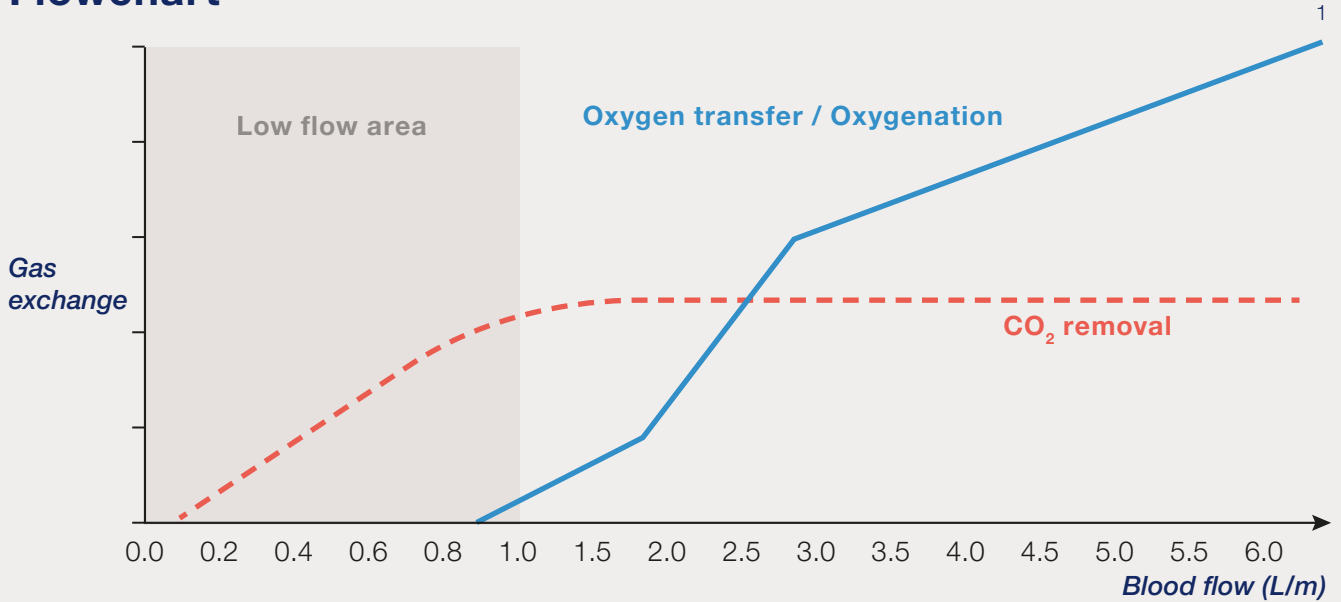
\*Determined with a water-glycerol solution (viscosity: 4.0 cP) and a backpressure of 150 mmHg

### Further information (single components)

<b>Gas exchanger</b>			
Material	Polymethylpentene (PMP)	Polymethylpentene (PMP)	Polymethylpentene (PMP)
Rest blood volume in the oxygenator	65 mL	53 mL	20 mL
<b>Pump head</b>			
Pressure difference	0–600 mmHg/0–80 kPa	0–600 mmHg/0–80 kPa	0–600 mmHg/0–80 kPa
Pump speed	0–10.000 U/min	0–10.000 U/min	0–10.000 U/min
Size of blood inlet and outlet connectors	3/8" ; 3/8"	1/4" ; 1/4"	1/4" ; 1/4"
<b>Others</b>			
Sterilization method	Ethylene oxide (EO)	Ethylene oxide (EO)	Ethylene oxide (EO)
Measuring rate IPS	-400 mmHg to +400 mmHg (-53kPa to +53kPa)	-400 mmHg to +400 mmHg (-53kPa to +53kPa)	-400 mmHg to +400 mmHg (-53kPa to +53kPa)
Accuracy IPS	± 1 % (0 to ± 50 mmHg) / ± 3 % (51 to ± 400 mmHg)	± 1 % (0 to ± 50 mmHg) / ± 3 % (51 to ± 400 mmHg)	± 1 % (0 to ± 50 mmHg) / ± 3 % (51 to ± 400 mmHg)

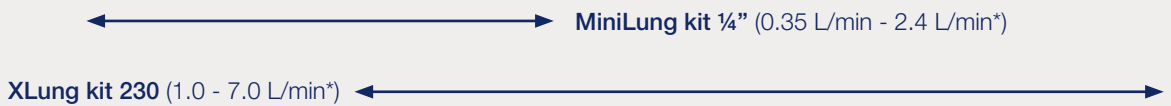


## Flowchart



Clinical challenge	Hypercapnia	Hypoxemia	
Actions to be taken	CO <sub>2</sub> removal	O <sub>2</sub> support	Oxygenation

### Maximum blood flow rates of suitable products



\* Determined with a water-glycerol solution (viscosity: 4.0cP and a backpressure of 150mmHg)

1 Schema and classification according to T.Staudinger: Extrakorporale Membranoxygenierung, Systemauswahl; MedKlin IntensivmedNotfmed 2017; 112:295-302; DOI 10.1007/s00063-017-0279-8