Chalice ECMO Range

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operate your way

ECMO at a glance.

ECLS Trolley

Page 8

Centrifugal Blood Pumps

Page 6

Parallel Simulator

Page 9-10

Tubing Packs

Page 5

Paragon® Oxygenator

Page 3-4

ParaTherm Heater / Cooler

Page 7

Paragon® Oxygenator

The **Paragon PMP** is a stand-alone unit that is specifically designed for long-term applications such as ECMO/ECLS. Possessing all the benefits and features as the standard Paragon, but with the exception of a Polymethlypentene Plasma Tight Fibre Gas Exchanger, an essential requirement to allow extended use.
The Paragon PMP has an intended use of up to 24 hours.

Coated as standard.

Every Unit is coated as standard with our proprietary surface coating.

Rheopak's proprietary formulation contains a synthetic albumin, which improves the biocompatibility of the support circuit by significantly reducing platelet aggregation and adhesion to oxygenator fibres, and has been shown to maintain a presence for up to 24 hours of continuous circulation with almost no wash off during the initial stages of support.

Paragon Adult Maxi

	Adult Maxi
Blood Flow Range:	1 - 8 lpm
Static Priming Volume:	300 ml
Heat Exchanger Surface Area:	0.38 m^2
Gas Exchanger Surface Area:	2.47 m^2
40μ Integrated filter Surface Area:	3/8" Barbed
Blood Inlet/outlet:	1/4"
Gas Inlet :	3/8" Hansen
Water Inlet/Outlet:	3/8" Hansen

Paragon Adult Midi

	Adult Midi
Blood Flow Range:	1 - 7 lpm
Static Priming Volume:	260 ml
Heat Exchanger Surface Area:	0.38 m^2
Gas Exchanger Surface Area:	1.89 m^2
40μ Integrated filter Surface Area:	3/8" Barbed
Blood Inlet/outlet:	1/4"
Gas Inlet :	3/8" Hansen
Water Inlet/Outlet:	3/8" Hansen

Paragon Paediatric

	Paediatric
Blood Flow Range:	0. 5 - 4 lpm
Static Priming Volume:	175 ml
Heat Exchanger Surface Area:	0.22 m^2
Gas Exchanger Surface Area:	1.24 m^2
40μ Integrated filter Surface Area:	190 cm^2
Blood Inlet/outlet:	3/8" Barbed
Gas Inlet :	1/4"
Water Inlet/Outlet:	3/8" Hansen

Paragon Infant

	Infant
Blood Flow Range:	0.5 - 3 lpm
Static Priming Volume:	150 ml
Heat Exchanger Surface Area:	0.20 m^2
Gas Exchanger Surface Area:	0.86 m^2
40μ Integrated filter Surface Area:	175 cm^2
Blood Inlet/outlet:	1/4" Barbed
Gas Inlet :	1/4"
Water Inlet/Outlet:	3/8" Hansen

Paragon Neonatal

	Neonatal
Blood Flow Range:	0.2 - 1.4 lpm
Static Priming Volume:	65 ml
Heat Exchanger Surface Area:	0.13 m^2
Gas Exchanger Surface Area:	0.46 m^2
Blood Inlet/outlet:	3/16" Barbed
Gas Inlet :	1/4"
Water Inlet/Outlet:	3/8" Hansen

Tubing Packs

Chalice has over a decade and a half of experience in producing premium, bespoke tubing packs for ECMO and extra-corporeal bypass.

Using state of the art equipment in 4 of our 8 class-7 cleanroom production rooms; we only use components and tubing of the highest quality, thoroughly checked and supplied by regulated providers from around the world.

Our range of complete ECMO sets provide a convenient singly packaged system that contains one of our coated Paragon^{PMP} Oxygenators, and a premium ECMO tubing pack, that is available with or without our proprietary surface coating Rheopak.

Our complete and professional in-house service covers every stage of the tubing pack development and supply:

Initial Design

Using computer aided design software to precisely illustrate and cost the product.

Evaluation

Produce a sterile or non-sterile sample for wet lab or clinical evaluation.

Production

Full production runs of the customer's specified quantities and frequencies.

Delivery

Delivered directly to stockrooms at the customer's specified frequencies.

Catering for the widest variety of bespoke packs regardless of size or complexity, we recognise that manufacturing to customers' exact specification and requirements is of paramount importance.

Centrifugal Blood Pumps

The CentriMag® and PediVAS™ blood pumps are single use devices that provide up to 30 days hemodynamic stabilisation for patients in need of Extra Corporeal Membrane Oxygenation.

The revolutionary and completely unique way the pump is magnetically levitated allows it to function without any bearings, flexing sacs or contact between the impeller and housing. This eliminates particle or heat generation and massively reduces the risk of hemolysis and thrombus formation, giving clear benefits to the patient.

The CentriMag®.

Priming Volume:	31 ml
Inlet & Outlet:	3 / 8"
Maximum Speed:	5,500 rpm
Maximum Flow:	9.99 lpm
Maximum Operating Pressure:	600 mmHg

The PediVAS™.

Priming Volume:	14 ml
Inlet & Outlet:	1 / 4"
Maximum Speed:	5,500 rpm
Maximum Flow:	1.7 lpm
Maximum Operating Pressure:	540 mmHg

CentriMag™

The CentriMag® V2 Console.

The robust but compact form allows it to be a permanently situated in an ITU but also perfectly lends itself to patient transport by air or ground ambulance.

With 250 CentriMag® consoles located in 33 centres across the UK & Ireland, and over 1250 pumps sold in 2016, the CentriMag® is a clear choice for any centre wishing to update their older and less compatible support systems.

As the UK distributor for Abbott, Chalice are also authorised service agents for the CentriMag® drive consoles. Please contact a Sales Manager to discuss the options available.

ParaTherm Heater / Cooler

The ParaTherm is a compact and efficient heater/cooler unit which is CE marked with the intended use in connection with an oxygenator to facilitate patient thermo-regulation during extra-corporeal bypass procedures such as ECMO.

Owing to the ParaTherm's robust and sleek design, it is ideally suited for either a permanent site in an Intensive Therapy Unit (ITU) or for use as a mobile device in the transport of patients.

Key Features:

- Automatic self-diagnostic to check temperature safet cut-off.
- Clear display panel and valved quick connection sites.
- Exceptionally quiet and environmentally friendly.
- A simple and precise operating system.
- Extremely safe and user friendly.

We cool to

15 °C

In contrast to larger traditional theatre heater/coolers, the ParaTherm benefits from employing a fully 'closed' water circulatory system. *"In this type of closed heater cooler, air born transmission of Mycobacterium chimaera could not be demonstrated"* [1].

A further advantage the ParaTherm offers over the larger theatre thermo-regulatory devices, is that it provides thermo-electric heating and cooling through non-fluid contact Peltier tiles. This replaces the need for harmful refrigerants or water submerged heating elements which are prone to calcification.

1) Trudzinski, F.C. , Schlotthauer, U. , Kamp, A. , Hennemann, K , Muellenbach, R.M. , Reischl, U. Gärtner, B. Wilkens, H. , Bals, R. , Herrmann, M. Lepper, P.M , and Becker S.L. (2016) 'Clinical implications of Mycobacterium chimaera detection in thermo-regulatory devices used for extracorporeal membrane oxygenation (ECMO), Germany, 2015 to 2016', in *Euro Surveillance*, p. 6.

Specifications:

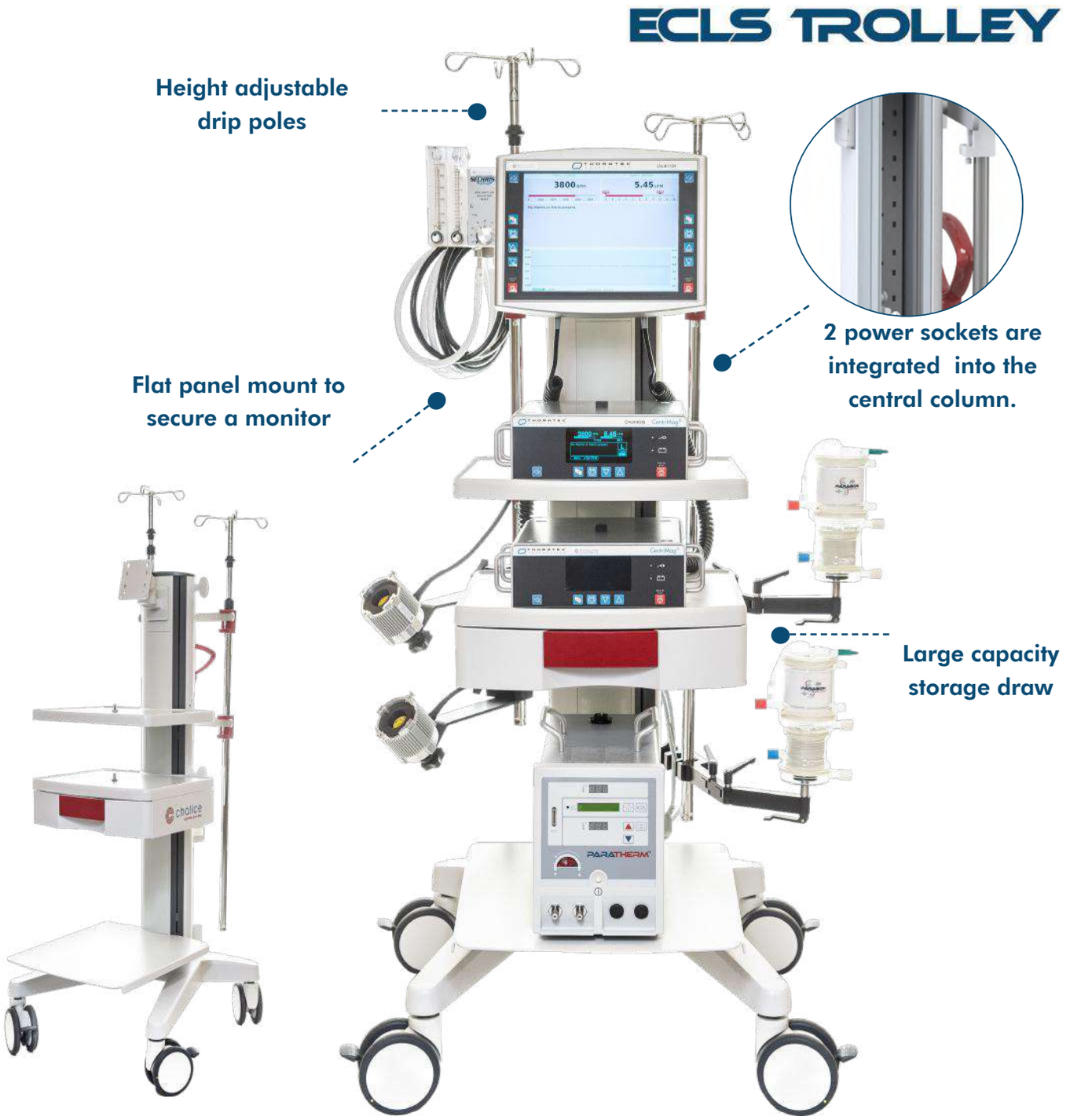
Power Voltage:	220 - 230 VAC, 50 / 60 Hz 115 VAC, 60 Hz
Setting Range for Water Temp:	15 - 39 °C
Water Content:	0.5 / 1.0 L (min / max)
Pumping Level:	Max. 5.5 L (min / max)
Cooling Time (20 - 15 °C):	5 - 10 min
Warming Up Time (20 - 37 °C):	5 - 10 min
Safety Cut Off:	41.1 - 41.5 °C
Weight:	17 kg (approx. empty water tank)
Dimensions:	200 x 290 x 440 mm

ECLS Trolley

A stable and manoeuvrable hardware station for class leading ECMO equipment.

The third generation ECLS Trolley has been designed specifically to accommodate a mixture of hardware and disposables used in the treatment of Adult, Paediatric or Neonatal ECMO.

For use as a permanent fixture on any ITU ward, or to facilitate inter-department patient movement during support, the ECLS Trolley is equally suited for both applications.



Trolley Specifications

Height: 1360mm Width:610mm Storage Draw Width: 400mm Lower shelf width: 520mm Depth: 750mm

Parallel Simulator

The initial and continuous education and training of healthcare professionals is of global wide importance and a priority for many institutions.

Potential adverse incidents unfortunately, but commonly experienced with mechanical circulatory and pulmonary support therapies such as ECMO can now be effectively prepared for by exposure to simulated and highly realistic scenarios. This pre-exposure is a widely recognised effective training method that is growing in popularity, as advances in technology improve the fidelity of the experience.

Introducing the Parallel Simulator, a highly portable training system.

It comprises of a small Simulation Hub and two separate high resolution tablet PC's. One is designated as the 'Control' and the other as the 'Monitor'. To accommodate larger groups, additional Monitor tablets can be added to the same simulation session, or the display can be outputted to a larger external monitor via a HDMI cable.

How does it work?

Using a wireless protocol, the software held on the Control tablet allows an instructor to configure a scenario by specifying physiological parameters to replicate adult, paediatric or neonatal patients.

A trainer has the ability to either adjust a single parameter or multiple parameters concurrently, to which the Simulation Hub responds to the instructed changes and instantly relays them to the Monitor tablet, allowing the trainee to re-evaluate the situation and take corrective action if necessary.

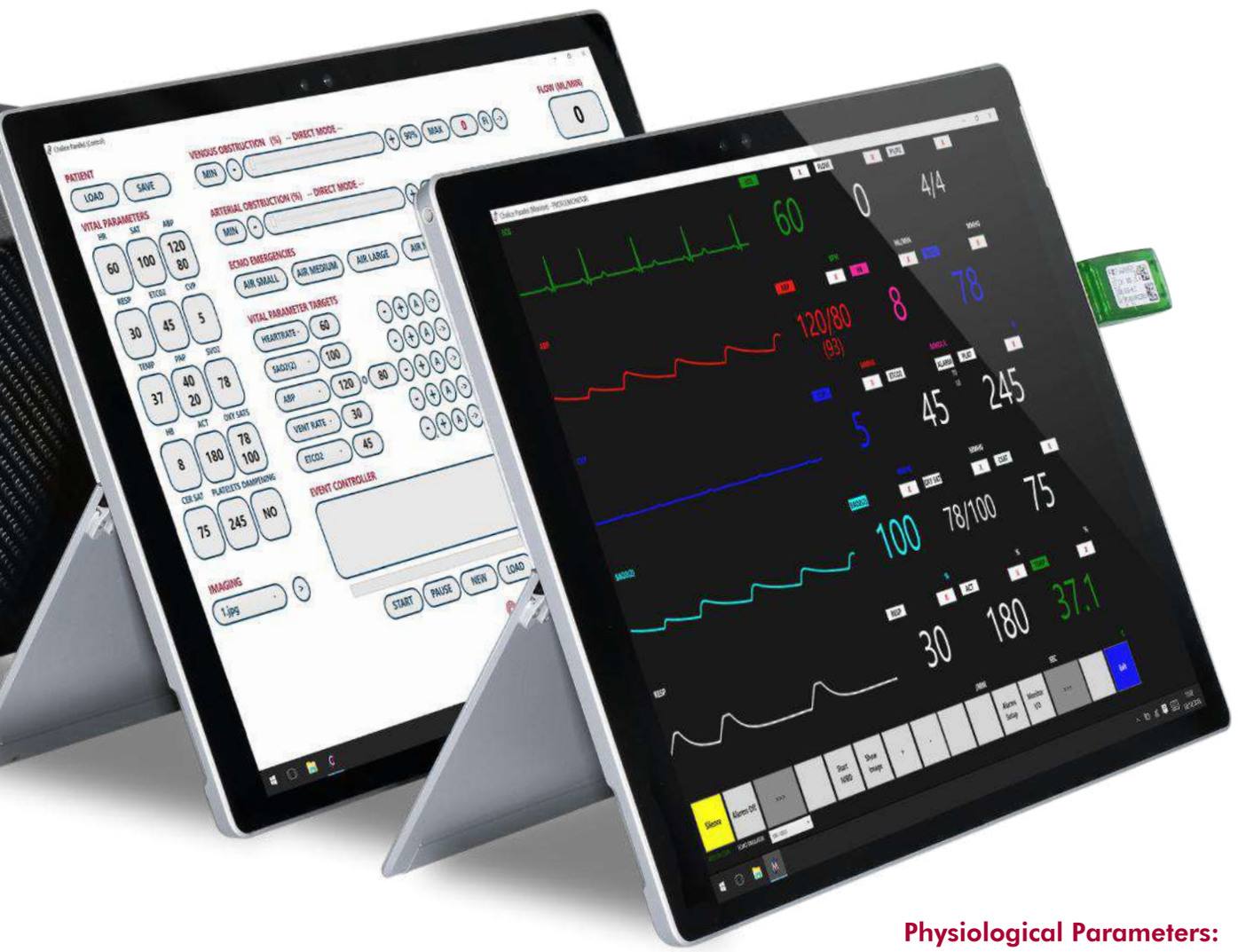
Features include:

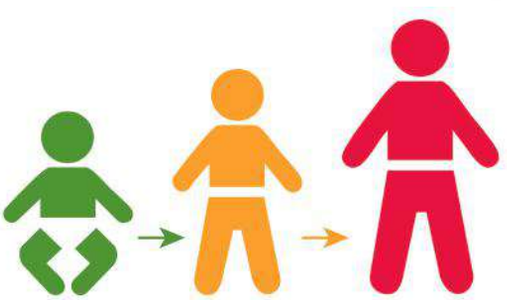
- Wireless communication to allow the trainer to be in a separate observation room to the students.
- Compact and portable for easy movement and storage.
- A function to cue up several related events to occur simultaneously.
- Programme in and recall 'favourite' common scenarios.
- The ability to upload X-Ray images for inspection.

The Simulation Hub weighs less than 2kg, measuring only 27cm x 18cm x 13cm. Each system is supplied with a custom built transport case to keep all components safe and secure.

While connected in line with a conventional circuit, the Parallel will simulate common scenarios related to ECMO and other circulatory and pulmonary therapies.

These scenarios can include hypovolemic incident through an unexpected bleed, air emboli entrainment, restricted Venous return and changes to the Central Venous Pressure. Cavitation from kinked cannula, and 'effective' and 'ineffective' resuscitation can also be simulated.





'Replicate Neonatal, Paediatric or Adult patients'.

Physiological Parameters:

- Arterial & Central Venous Pressure
- Heart Rate & Respiratory Rate
- Temperature
- Mixed Arterial & Venous Saturation
- End Tidal Carbon Dioxide Level
- Fluid Flow Rate

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operate your way

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NOTE: These products are not available in the USA

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