

Tiny patients.  
Small solutions.  
Big results.

Carpediem™  
Cardio-Renal Pediatric Dialysis  
Emergency Machine

Enter e-brochure



Mozarc  
medical

The Carpediem™ system

# Improved clinical outcomes for your smallest patients

97%

Neonate survival rate  
upon discontinuation  
of treatment.<sup>1\*</sup>



## Acute kidney disease in neonates is common and deadly

40%

AKI incidence rates  
in the ICU.<sup>2</sup>

78%

Of acute kidney  
injuries (AKI) are  
caused by sepsis.<sup>3</sup>

60%

Mortality rates  
among neonates  
with AKI.<sup>4</sup>

65%

AKI mortality rate  
among neonates  
supported with ECMO.<sup>3</sup>

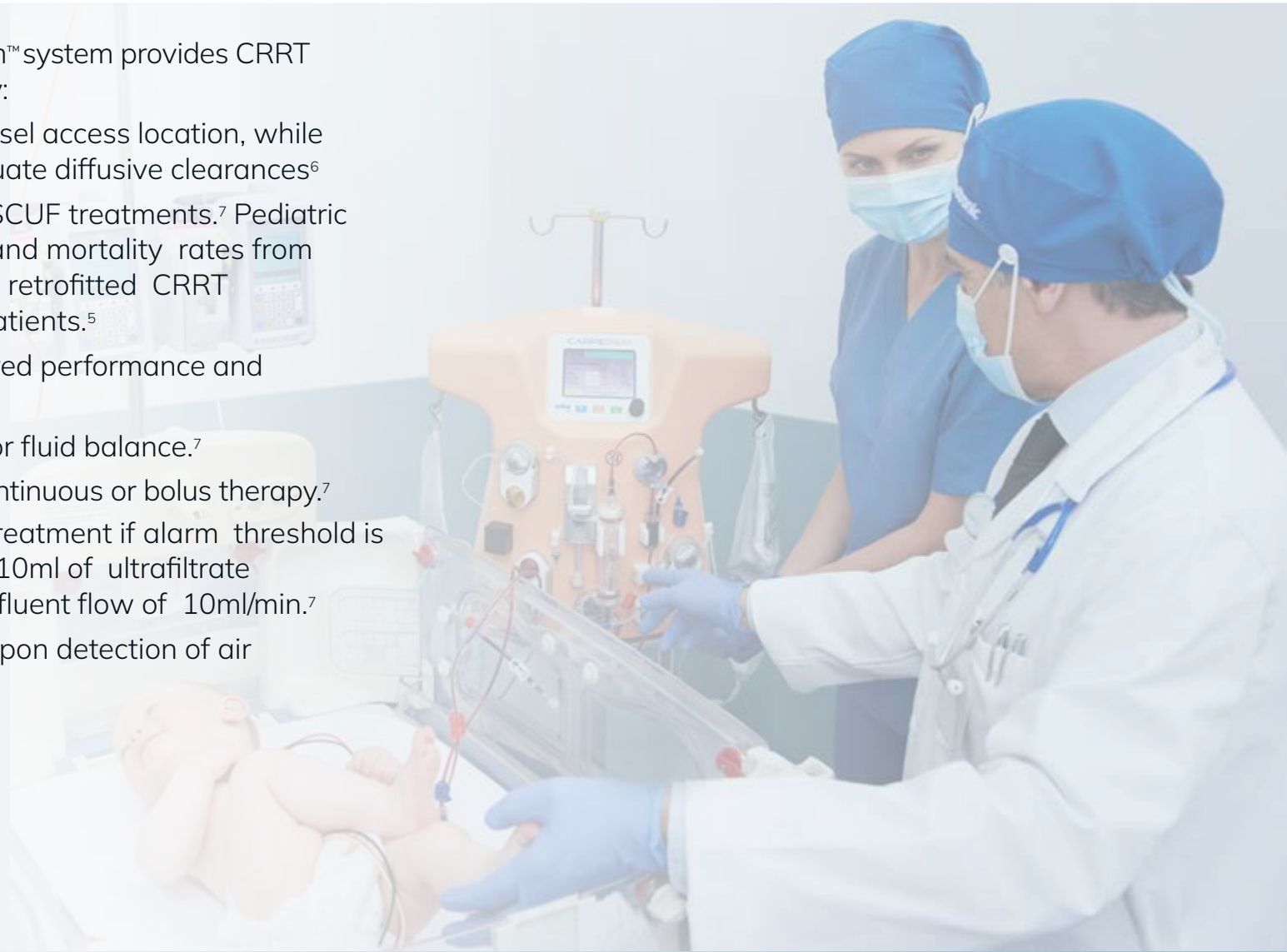


# Innovations in pediatric CRRT

For the first time, pediatric patients with acute kidney injury (AKI) and fluid overload (FO) can be treated with a dialysis system designed specifically for them.<sup>5</sup>

The first of its kind, the Carpediem™ system provides CRRT treatment for pediatric patients by:

- Reducing damage to blood vessel access location, while providing necessary and adequate diffusive clearances<sup>6</sup>
- Enabling CVVH, CVVHD, and SCUF treatments.<sup>7</sup> Pediatric patients suffer high morbidity and mortality rates from AKI and FO, when treated with retrofitted CRRT machines designed for adult patients.<sup>5</sup>
- Delivering treatment with tailored performance and precise control:
  - High-precision scales monitor fluid balance.<sup>7</sup>
  - Heparin pump can deliver continuous or bolus therapy.<sup>7</sup>
  - Blood leak sensor will stop treatment if alarm threshold is detected: 0.15ml of blood in 10ml of ultrafiltrate (hematocrit: 25%) with an effluent flow of 10ml/min.<sup>7</sup>
  - Air sensor stops treatment upon detection of air bubble >10 $\mu$ L.<sup>7</sup>



# The right therapy for the right patient

Designed on a miniaturized platform, the Carpediem™ system delivers continuous renal replacement therapy (CRRT) for pediatric patients weighing 2.5 kg or more.<sup>7</sup>

## Three-rollers peristaltic pumps

Miniaturized pumps support reduced priming volume and pressure shock.<sup>6,8</sup>

## Pediatric access

Small catheter use reduces risk of potential damage to small pediatric vessels.<sup>6</sup>

## Priming volume

Low priming volume mitigates risks associated with blood/albumin priming.<sup>6</sup>

## Precise

Monitors weight loss with a +/- 30 g range over 24 hours. System scales have resolution of +/- 1 g.<sup>7</sup>



# Hemodynamic advantage

## Blood pump flow rate<sup>7</sup>:

2–50 ml/min  
Increments: 1 ml/min



## Infusion/dialysis pump flow rate<sup>7</sup>:

Up to 10 ml/min  
(Depending on selected modality)



## Effluent pump flow rate<sup>7</sup>:

Up to 15 ml/min  
(Depending on selected modality)



## Peristaltic pumps<sup>5,6,8,9</sup>

with cradle movements, instead of rotors, support small circuit lines.

Carpediem™ system components are designed to:

- Reduce priming volume
- Reduce circuit pressure peaks
- Minimize blood hemolysis and enable the use of smaller catheter sizes





## Reinvented

Clinical decisions can now be determined without the increased risks and complexities which have traditionally plagued pCRRT treatments. For the first time, there's no need to adapt adult machines.<sup>9</sup>

## Dedicated

CRRT can be a rigorous process for small patients. The Carpediem™ system is better suited to clinically address AKI and FO for these fragile patients.<sup>5</sup>

## Focused

The simple design of the Carpediem™ system enables staff to focus on what is important.

## Life saving

Clinical data demonstrates a 97% survival rate (upon discontinuation of treatment).<sup>1\*</sup>



Purposeful design  
to give every  
baby a chance

# Order information

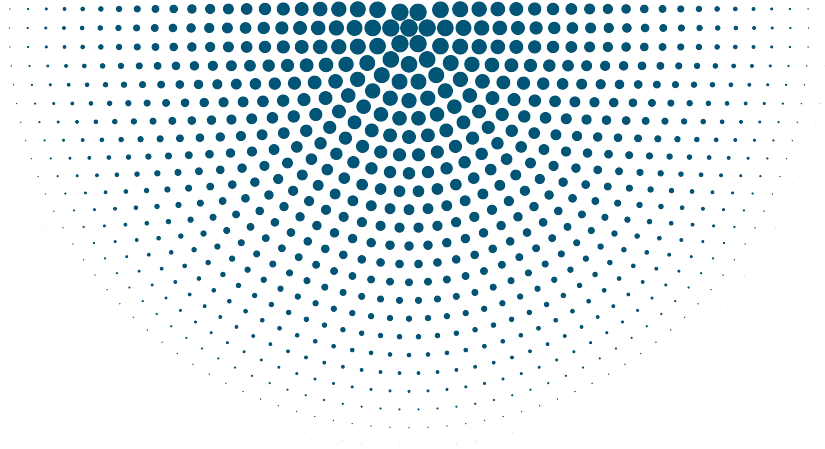
## Capital

CFN CODE	Description	Name	UOM
IB7010200	CARPEDIEM™	CARPEDIEM machine	1 EA
LB22B2685	BW 685 Blood and Infusion Warmer	Biegler Warmer model BW685	1 EA

## Disposables/Consumables

CFN CODE	Description	Name	UOM
IB0595510	BL 250 KIT 0075 CVVH	CARPEDIEM Single Use Kit model 0075	4 / CT
IB0595540	BL 250 KIT 015 CVVH/CVVHD	CARPEDIEM Single Use Kit model 015	4 / CT
IB0595550	BL 250 KIT 025 CVVH/CVVHD	CARPEDIEM Single Use Kit model 025	4 / CT
MD087/ IB0930250	MD087/MD043-HMB32	Haemofiltration and dialysis solution model MD087/MD043-HMB32	4 / CT
IB0507007	3l non-sterile waste bags	Non-sterile waste bag	20 / CT
FP4600203	Extension Set 46000	Biegler Warmer tubing set model 46000	20 / CT





## References:

\* 50% Carpediem™ system patients survived to ICU discharge. Mortality after pCRRT discontinuation due to critical illness with underlying pathologies – many not amenable to treatment. Garzotto F, Vidal E, Ricci Z, et al. Continuous kidney replacement therapy in critically ill neonates and infants: a retrospective analysis of clinical results with a dedicated device. *Pediatr Nephrol.* 2020;35(9):1699-1705.

1. Goldstein SL, Vidal E, Ricci Z, et al. Survival of infants treated with CKRT: comparing adapted adult platforms with the Carpediem™. *Pediatr Nephrol.* 2022;37(3):667-675.
2. Sutherland SM, Byrnes JJ, Kothari M, et al. AKI in hospitalized children: comparing the pRIFLE, AKIN, and KDIGO definitions. *Clin J Am Soc Nephrol.* 2015;10(4):554-61.
3. Selewski D., Charlton J., Jetton J., et al. Neonatal acute kidney injury. *Pediatrics.* 2015; 136(2): e463–473.
4. Zappitelli M., Ambalavanan N., Askenazi D. et al. Developing a neonatal acute kidney injury research definition: a report from the NIDDK neonatal AKI workshop. *Pediatric Res.* 2017; 82(4):569–573.
5. Ronco C, Garzotto F, Ricci Z. CA.R.PE.DI.E.M. (Cardio-Renal Pediatric Dialysis Emergency Machine): evolution of continuous renal replacement therapies in infants. A personal journey. *Pediatr Nephrol.* 2012;27(8):1203–1211.
6. Vidal E, Cocchi E, Paglialonga F, et al. Continuous veno-venous hemodialysis using the Cardio-Renal Pediatric Dialysis Emergency Machine™: first clinical experiences. *Blood Purif.* 2018;31:1–7.
7. Carpediem™ dialysis system [Operator's Manual].
8. Garzotto, F, Zaccaria M, et al. Choice of Catheter size for infants in Continuous Renal Replacement Therapy: Bigger Is Not Always Better. *Pediatric Critical Care Medicine.* 2019; 20(3): 170-179.
9. Ronco C, Garzotto F, Brendolan A, et al. Continuous renal replacement therapy in neonates and small infants: development and first-in-human use of a miniaturised machine (CARPEDIEM). *Lancet.* 2014;383:1807–1813.



## Not available for U.S.

© 2023 Mozarc Medical Holding LLC. Mozarc, Mozarc Medical, the Mozarc Medical logos, and Empowering Patients. Enriching Lives. are trademarks of Mozarc Medical. Covidien and Medtronic are trademarks of Medtronic used under license. ™\* Third-party brands are trademarks of their respective owners.  
08/2023 – EMEA-RC-2100028 Rev.01