

# Mozarc

Empowering patients.  
Enriching lives. **medical**

## The system tailored & precise for tiny patients



**Carpediem™**

Cardio Renal Pediatric  
Dialysis Emergency Machine



## Acute kidney injury and fluid overload in pediatric patients

Neonatal acute kidney injury (AKI) and fluid overload are under-recognized conditions often leading to morbidity and mortality.<sup>1,2</sup>

The incidence of AKI in critically ill neonates

**8–24%**<sup>2</sup>

is associated with mortality rates between

**10–61%**<sup>2</sup>

Renal replacement therapy (RRT) for pediatric patients weighing less than 10 kg is administered with adult machines not designed for the needs of neonates or infants.<sup>3-8</sup>

Most RRT are performed on pediatric patients with acute peritoneal dialysis. However, this may be limited by congenital defects involving the abdominal wall, organs, intraperitoneal surgeries, and complications related to fluid balance.<sup>9-11</sup>

Carpediem™ system is a complete, dedicated, continuous renal replacement therapy (CRRT) solution for pediatric patients. Both continuous veno-venous hemodialysis (CVVHD) and continuous veno-venous hemofiltration (CVVH) modalities extend the application of extracorporeal blood purification to critically and non-critically ill patients.<sup>12,13</sup>

## The added value of Carpediem

The Carpediem™ system is indicated for use in extracorporeal blood treatment of pediatric patients weighing 2.5 kg or more, with acute kidney injury, fluid overload, and/or electrolyte disorders, requiring hemodialysis, hemofiltration, or ultrafiltration/ fluid removal.<sup>14</sup>

### The Carpediem™ system:

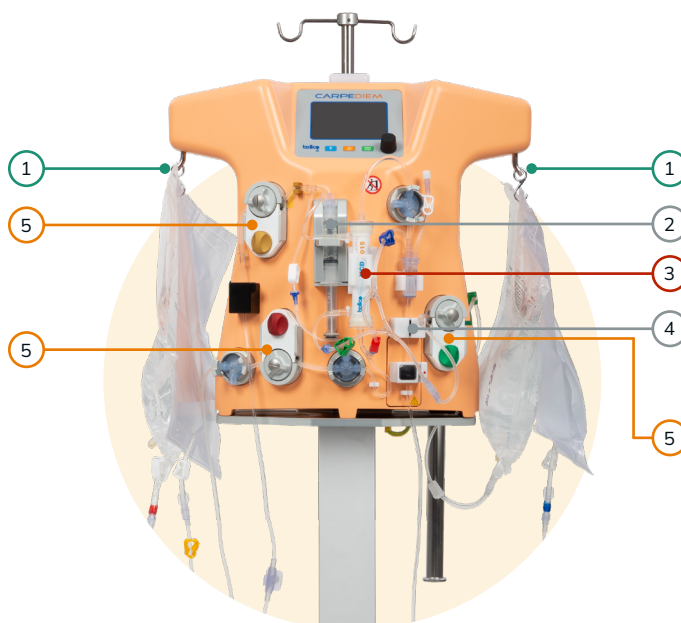
- Enables clinicians to achieve adequate diffusive clearance which reduces the need for high blood flow.<sup>12</sup>
- Optimizes the use of 5 Fr double-lumen catheters, favoring the catheter insertion and reducing the risk of causing central vessel stenosis.<sup>3,12</sup>
- Includes high-precision scales with resolution of 1 g, and miniaturized peristaltic pumps featuring three rollers that ensure precision and accurate flows.<sup>10,11</sup>

**97%**




In a retrospective cohort analysis, there was higher survival to CRRT discontinuation in the patients treated with Carpediem™ system compared to the ppCRRT group<sup>15</sup>.

# Tailored performance precise control<sup>5</sup>

1. Fluid balance controlled by high-precision scales
2. Heparin pump, continuous and/or bolus
3. Recognizes the type of filter and limitation of the convective rate to 20% of the blood flow
4. High sensitivity air bubble detector
5. Three miniaturized peristaltic pumps with three rollers for enhanced accuracy of blood, infusion/dialysis, and effluent flows



# Simple and accurate

|  |   |   |
|--|---|---|
|  <p><b>Weight loss accuracy</b></p> <p>Only <math>\pm 30</math> g in 24 hours of treatment.</p> |  <p><b>Reduced priming volume</b></p> <p>Enables priming volumes as low as 26 mL, depending on the preassembled device model used.</p> |  <p><b>Treatment flexibility</b></p> <p>Performs continuous ultrafiltration, hemofiltration, and hemodialysis† — all with the same single use kit.</p> |
|--|---|---|

†Not applicable for: preassembled device 0075

## Order Information:

| Capital   |                       |      |
|-----------|-----------------------|------|
| CFN code  | Description           | UOM  |
| IB7010200 | CARPEDIEM machine     | 1 EA |
| LB22B2685 | Biegler Warmer BW 685 | 1 EA |

| Disposable |  |       |
|------------|--|-------|
| CFN code   | Description                              | UOM   |
| IB0595510  | Procedure pack: BL250 KIT 0075 CVVH      | 4/CT  |
| IB0595540  | Procedure pack: BL250 KIT 015 CVVH/CVVHD | 4/CT  |
| IB0595550  | Procedure pack: BL250 KIT 025 CVVH/CVVHD | 4/CT  |
| IB0930250  | MD043 - HMB32 mL 500 + 1500              | 4/CT  |
| MD087      | HMB32 mL 500 + 1500                      | 4/CT  |
| IB0507007  | 3 liters waste bag                       | 20/CT |
| FP4600203  | Biegler Warmer Extension set 46000       | 20/CT |



## References

1. Piggott KD, Soni M, Decampoli WM, et al. Acute kidney injury and fluid overload in neonates following surgery for congenital heart disease. *World J Pediatr Congenit Heart Surg.* 2015;6(3):401-406.
2. Nada A, Bonachea EM, Askenazi DJ. Acute kidney injury in the fetus and neonate. *Sem Fetal Neonatal Med.* 2017;22(2):90-97.
3. 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;35:1699-1705.
4. 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.
5. 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.
6. Garzotto F, Zanella M, Ronco C. The evolution of pediatric continuous renal replacement therapy. *Nephron Clin Pract.* 2014;127(1-4):172-175.
7. Lorenzin A, Garzotto F, Alghisi A, et al. CVVHD treatment with Carpediem™: small solute clearance at different blood and dialysate flows with three different surface area filter configurations. *Pediatr Nephrol.* 2016;31:1659-1665.
8. 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.
9. Slagle C, Askenazi D, Starr M. Recent Advances in Kidney Replacement Therapy in Infants: A Review. *Am J Kidney Dis.* 2024;83(4):519-530.
10. Ronco C, Ricci Z, Goldstein SL. (R)evolution in the management of acute kidney injury in newborns. *Am J Kidney Dis.* 2015;66(2):206-211.
11. Hothi DK. Designing technology to meet the therapeutic demands of acute renal injury in neonates and small infants. *Pediatr Nephrol.* 2014;29(10):1869-1871.
12. 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.
13. Battista J, De Luca D, Eleni Dit Trolli S, et al. CARPEDIEM® for continuous kidney replacement therapy in neonates and small infants: a French multicenter retrospective study. *Pediatr Nephrol.* 2023;38(8):2827-2837.
14. Carpediem user manual IB5332962 release 2022/04
15. Goldstein SL, Vidal E, Ricci Z. Survival of infants treated with CKRT: comparing adapted adult platforms with the Carpediem™. *Pediatr Nephrol.* 2022;37(3):667-675.

The Carpediem™ machine is an active, non-invasive, class IIb medical device CE0123 manufactured by Bellco S.r.l.

Carpediem preassembled Device 0075 is a non-active, non-invasive, class IIb medical device CE0123 manufactured by Bellco S.r.l.

Carpediem preassembled Devices 015 and 025 are a non-active, non-invasive, class IIb medical device CE0123 manufactured by Bellco S.r.l.

BD Plastipak syringe is a medical device manufactured by Becton Dickinson S.A. They are included in the Carpediem Procedure Packs.




HMB32 Haemofiltration and dialysis solution is a non-active, non-invasive, class IIb medical device CE0123 manufactured by Haemopharm Biofluids S.r.l.

The 3-litre waste bags are non-active, non-invasive, class I CE medical devices manufactured by Bellco S.r.l.

Biegler Warmer BW 685 is a medical device manufactured by Biegler GmbH.

Biegler Warmer Extension Set 4600 is a medical device manufactured by Biegler GmbH.

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