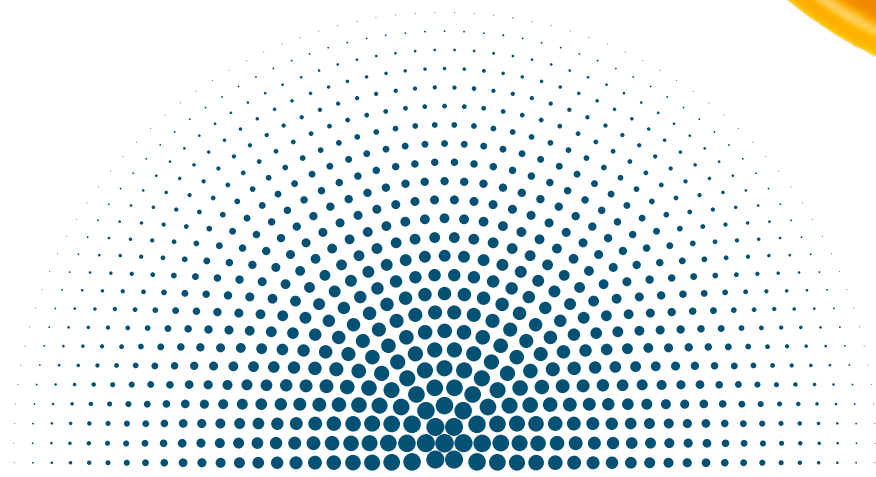


Citrate 20/4 anticoagulation

Powered by AMPLYA Acute
Multitherapeutic system™



Extracorporeal circuit anticoagulation

Extracorporeal circuit anticoagulation is a key prerequisite for delivery of an adequate renal replacement therapy dose.^{1,2}

Acute Kidney Injury (AKI) is a common complication among critically ill adult patients.

368K

AKI patients in Europe³

Patients with AKI could require Renal Replacement Therapy (RRT).

313K

RRT procedures in Europe³

Guideline Recommendations



The international KDIGO (Kidney Disease Improving Global Outcomes) guidelines suggests using regional citrate anticoagulation (RCA) rather than heparin in patients who do not have contraindications for citrate.⁴

Benefits of citrate associated to RCA⁵



Prolonged circuit and filter survival.



Lower bleeding risk associated to RCA.



Citrate accumulation
is a feared and
potentially lethal
complication of RCA.⁶

How to overcome citrate toxicity?

Well designed protocols should aim to minimize citrate delivery to patients.⁶

This goal can be achieved by combining different measures:



Citrate solution

Diluted citrate solutions in predilution⁶



Citratemia

Lower citrate concentration targets in the circuit¹



Setting

Appropriate setting and subsequent adjustments of the main CRRT parameters¹



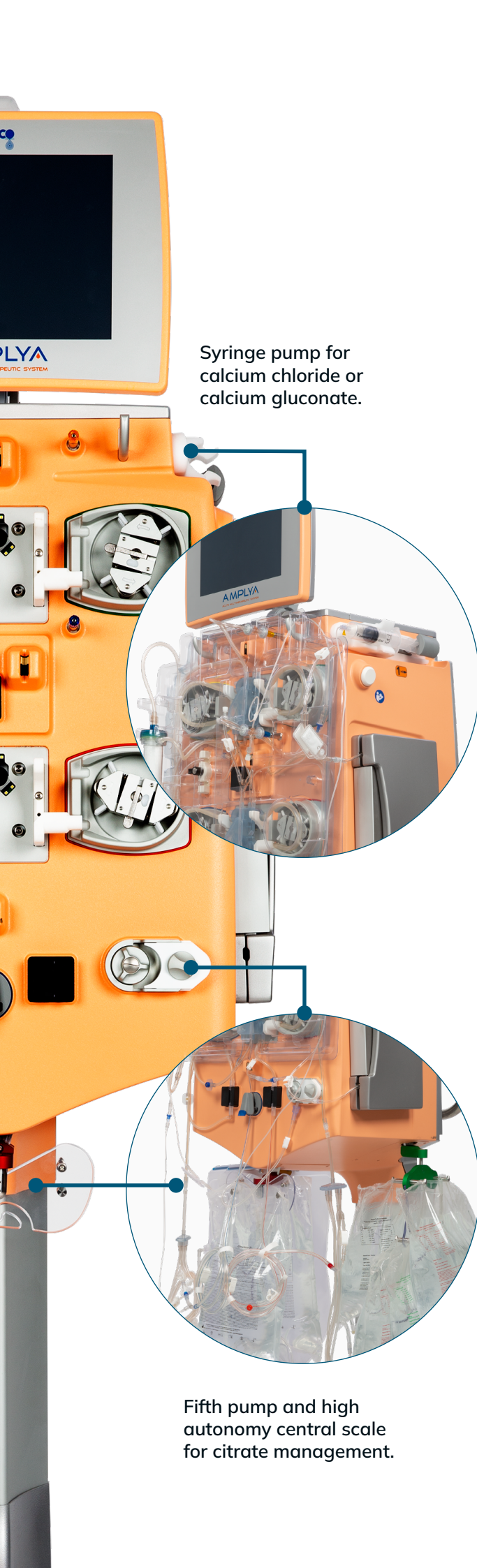
Monitoring

Close monitoring, especially upon initiation of therapy⁷



The Mozarc Medical solution:

Amplya Assisted Citrate 20/4 protocol



Syringe pump for calcium chloride or calcium gluconate.



Combined assisted citrate modality and 24 mmol/L concentration option with Citrachoice 24 bag.

Low-concentration citrate in predilution bags.⁶



RCA management based on citrate plasma concentration.

Lower citrate accumulation.⁶



Assisted citrate modality.



Enables operators to manage the treatment protocol without tables, providing suggested settings based on treatment type and monitoring.⁸

Fifth pump and high autonomy central scale for citrate management.

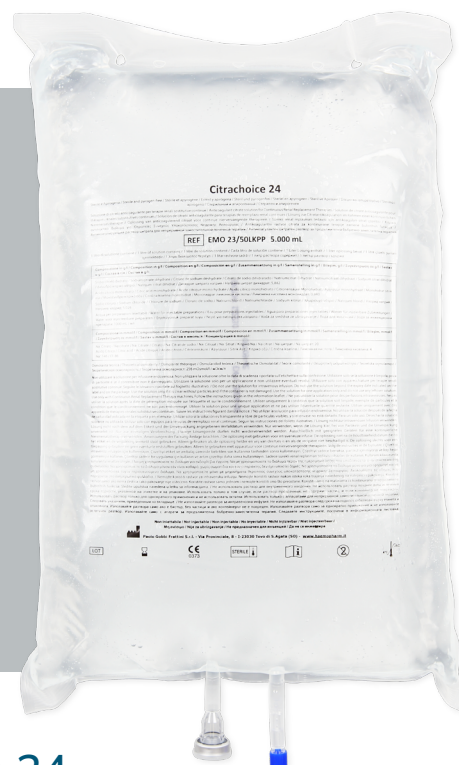


Combined assisted citrate modality and 24mmol/L concentration option with Citrachoice 24

Citrachoice 24

Composition in mmol/L

Na-citrate	20
Citric Acid	4
Na ⁺	146
Cl ⁻	86



Assisted Citrate modality with Citrachoice 24 provides a number of benefits⁸⁻¹⁰

	Clinical considerations			Economic considerations		
	Lower metabolic alkalosis	Lower need for citrate	RCA availability in CVVH modality	Lower amount of anticoagulation solution needed	Space in warehouse	Cost for RCA
Diluted citrate 20/4	+	+	+	+	+	+
Diluted citrate 10/2 and 18/0	+	+	+	-	-	-
Concentrate citrate Tri sodium citrate (TSC) 4%	-	-	-	++	++	++



RCA management based on citrate plasma concentration

Citrate plasma
concentration formula¹¹

Conc. [cit. Blood] =

$Q_{pre} \times \text{Conc. [cit. Bag]}$

$Q_{pre} + Q_B (1 - HT/100)$

Conc. [cit. Blood]:

Concentration of citrate in the
blood expressed in mmol/L

Qpre:

Infusion flow of the solution
containing citrate expressed in mL/h

Conc. [cit. Bag]:

Concentration of citrate in the bag
expressed in mmol/L

QB:

Flow of treated blood, or the amount
of blood treated in the unit of time
expressed in mL/h

HT:

Hematocrit

The citrate plasma
concentration setting
reduces the possibility of
citrate accumulation and
related complications.⁶



Assisted citrate modality

The assisted citrate modality helps operators manage the treatment protocol without tables, providing suggested settings based on treatment type.⁸

In locoregional anticoagulation assisted citrate modality sets treatment data based on patient ideal weight and blood flow.

Offering parameter values guidance during RRT and CPFA treatments.

Infusion flow
Dialysate flow

Citrate flow
Calcium flow

TREATMENT DATA

Sex: Male
Age: 75
Height: 170
Ideal Weight: 65

1) Set the sex, age and height of the patient.
2) Press CONFIRM.
3) Press CANCEL to cancel the changes made.

CVHDF-ASS_20/4 96% 10:33

START TREATMENT

Flows (ml/min)
Actual Flow: 0 ml/min
Set Flow: 120 ml/min

BLOOD Pressures (mmHg)
Access: 100
Return: 100

EXCHANGES
Citratemia: 3.0 mmol/l
UF flow: 0 ml/h
Dialysate flow: 1300 ml/h

Pressures (mmHg)
Hemo/filtrate TMP: 100

Weight loss: 0 g/h Ideal patient weight: 65 Kg

1) Change the parameters displayed if necessary.
2) Press START to start the treatment.
3) Press HEATER to set the heater.
4) Press SYRINGE PUMPS to set the syringe pumps.
5) Press DATA to view the treatment data.
6) Press SELECT CALCIUM to select the type of calcium to be infused.

CVHDF-ASS_20/4 58% 10:34

Requiring systemic Ca^{2+} value control.

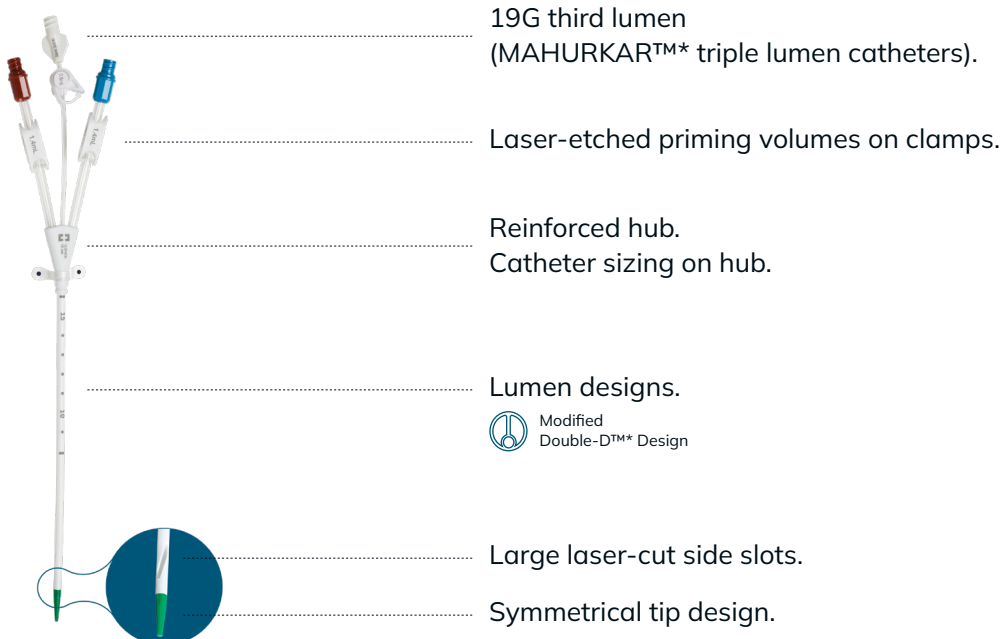
Calcium level monitoring ¹²	Timing			
Ionized systemic Ca^{2+} (range 1,0–1,2 mmol/L)	30'	1 h	2 h	6 h

The added value of AMPLYA system™

- High treatment autonomy due to the 12kg central scale fluid capacity (citrate)⁸
- Possibility of using FREE CITRATE mode also referred to as “unassisted” mode, manually selecting the appropriate settings for each treatment⁸
- Support for nurses to manage systemic ionized calcium modifying calcium flow relying on value inserted⁸
- Bag changes with running pumps:
 - Help to maintain the prescribed dose⁸
 - Avoid citrate pump stoppage during the treatment⁸
 - Reduce events of coagulation of circuits with reduced relative blood loss¹³



The design of the Triple Lumen MAHURKAR™* Elite acute catheter





Questions?

Call or email your Mozarc Medical representative.

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

The pre-assembled devices for RRT and CPFA for Amplya are non-active, non-invasive class IIb medical devices CE0123 manufactured by Bellco S.r.l.

The pre-assembled device for CPFA for Amplya and the Mediasorb Cartridge are included in KABL14P05 - KIT CPFA X AMPLYA procedure pack.

The 13-litre (IB0507008) waste bags are non-active, non-invasive, class Ins CE medical devices manufactured by Bellco S.r.l.

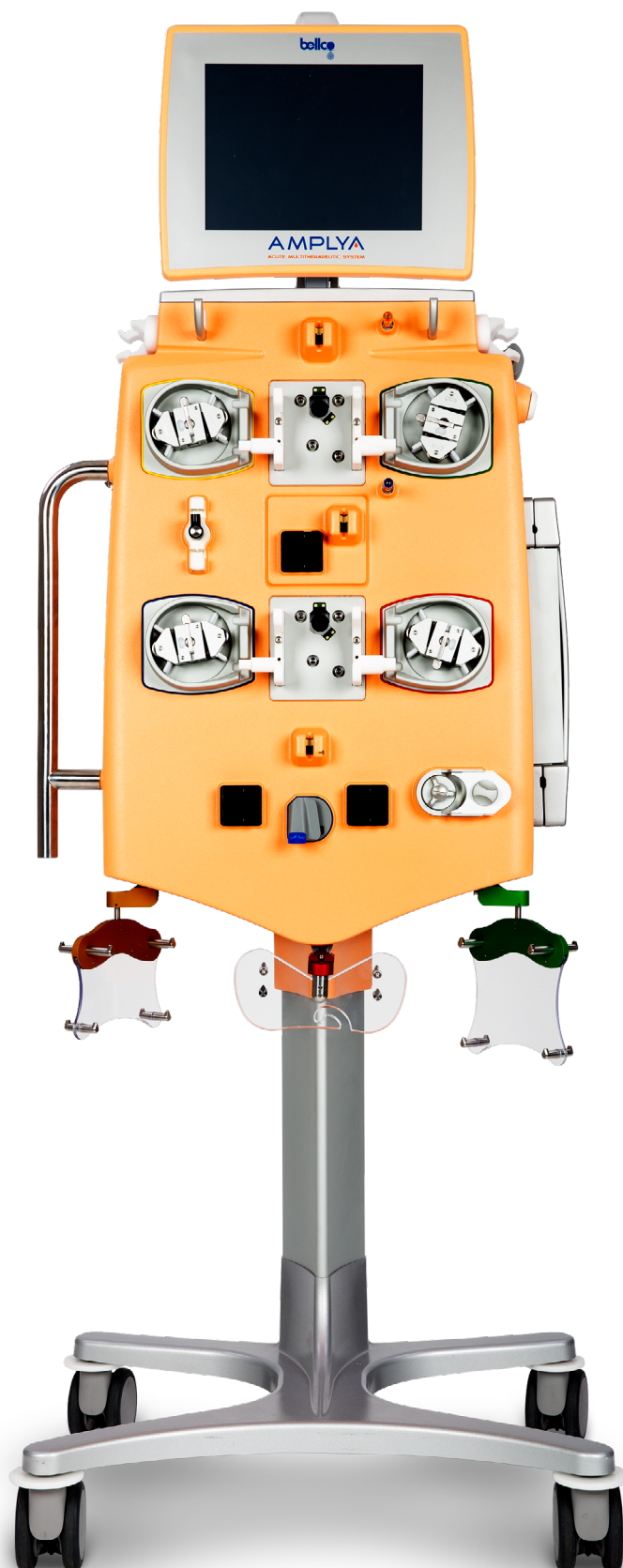
The bicompartamental bag HMB32, HMB34, HMB36 are non-active, non-invasive, class IIb medical devices CE0123 manufactured by Haemopharm Biofluids S.r.l.

The Citrachoice 24 and Mixsol are medical devices manufactured by Paolo Gobbi Frattini S.r.l.

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