



Manuale d'uso e manutenzione Carrelli emergenza

Use and maintenance manual Emergency trolleys



Dispositivo Medico
in classe I
Medical Device
in class I

Istruzioni originali
Translation of the original instructions

Revision	Date	Notes
0.0	21/01/2022	CE marking according to Regulation (EU) 2017/745
0.1	28/08/2024	Insertion of new device code KSM-EM2
0.2	28/08/2024	Insertion of new model KSM-EM2, update of the user manual, declaration of conformity, clinical evaluation and risk analysis
0.3	13/10/2025	Insertion of device K100200, label update, update of the technical file structure and related documentation. Insertion of the SRN code in the declarations of conformity

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1. EU Declaration of Conformity

The manufacturer:

Company: KARREL Health Solutions S.r.l. SRN: IT-MF-000028683

Address: Via Don Milani, 11 – 42020 Quattro Castella (RE) - Italy

Declares, under its own and exclusive responsibility, that the devices

Universal Series Emergency Trolleys			Krazy Series Emergency Trolleys		
CODE	ID BD/RDM	Basic UDI-DI	CODE	ID BD/RDM	Basic UDI-DI
K816419	2194519	805969385K81641XXLU	K820210	2194543	805969385K82021XXJR
K816419G	2194520		K820210X	2194544	
K816419GX	2194524		K820211	2194597	
K816419X	2194526		K820211X	2194598	
K816209	2194531	805969385K81620XXL9	K820212	2194600	
K816209G	2194534		K820212X	2194602	805969385K82026XXKJ
K816209GX	2194537		K820260	2194603	
K816209X	2194538		K820260X	2194604	
K816220	2194539	805969385K81622XDQ	K820261	2194605	
K816221	2194541		K820261X	2194606	
			K820262	2194607	
			K820262X	2194608	

Simple White Series Emergency Trolleys					
CODE	ID BD/RDM	Basic UDI-DI	CODE	ID BD/RDM	Basic UDI-DI
KSM-EM1	2194610	805969385KSM-EMXXJC	KSTD-EM1	2194613	805969385KSTD-EMXMF
KSM-EM1S	2194611		KSTD-EM2	2194614	
KSM-EM2	2640713	8059693850364BU	KSTD-EM3	2194616	

Intended use:

The devices are intended to be used for the transport of medical equipment and to expedite the performance of health services in emergency conditions.

Environment of use: hospital and care facilities.

Personnel intended for the use of the products: healthcare personnel.

The devices cannot be used in a potentially explosive or flammable atmosphere.

Risk class:

Class I (in accordance with Rule 1, Annex VIII of Regulation (EU) 2017/745)

They are in compliance with the following Union legislative acts:

(EU) 2017/745 - Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, amending Directive 2001/83/EC, Regulation (EC) No 178/2002 and Regulation (EC) No 1223/2009 and repealing Council Directives 90/385/EEC and 93/42/EEC

The device is subject to the conformity assessment procedure provided for in article 52, section 7 of Regulation (EU) 2017/745

Quattro Castella,
13/10/2025

KARREL Health Solutions S.r.l.
IL PRESIDENTE
FRANCIA MARCO


2. EU Declaration of Conformity

The manufacturer:

Company: KARREL Health Solutions S.r.l. SRN: IT-MF-000028683

Address: Via Don Milani, 11 – 42020 Quattro Castella (RE) - Italy

Declares, under its own and exclusive responsibility, that the device

CODE	MODEL	ID BD/RDM	Basic UDI-DI
K820263	Standard pediatric emergency cart with 9 drawers and Broselow coding	2297424/R	805969385K820263AV

Intended use:

The devices are intended to be used for the transport of medical equipment and to expedite the performance of health services in emergency conditions.

Environment of use: pediatric wards in healthcare facilities.

Personnel intended for the use of the products: healthcare personnel.

The devices cannot be used in a potentially explosive or flammable atmosphere.

Risk class:

Class I (in accordance with Rule 1, Annex VIII of Regulation (EU) 2017/745)

They are in compliance with the following Union legislative acts:

(EU) 2017/745 - Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, amending Directive 2001/83/EC, Regulation (EC) No 178/2002 and Regulation (EC) No 1223/2009 and repealing Council Directives 90/385/EEC and 93/42/EEC

The device is subject to the conformity assessment procedure provided for in article 52, section 7 of Regulation (EU) 2017/745

Quattro Castella,
13/10/2025

KARREL Health Solutions S.r.l.

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FRANCIA MARCO



3. EU Declaration of Conformity

The manufacturer:

Company: KARREL Health Solutions S.r.l. SRN: IT-MF-000028683

Address: Via Don Milani, 11 – 42020 Quattro Castella (RE) - Italy

Declares, under its own and exclusive responsibility, that the device

CODE	MODEL	ID BD/RDM	Basic UDI-DI
K100200	Kubo standard emergency cart.	2883368/R	805969385K1002006L

Intended use:

The devices are intended to be used for the transport of medical equipment and to expedite the performance of health services in emergency conditions.

Environment of use: pediatric wards in healthcare facilities.

Personnel intended for the use of the products: healthcare personnel.

The devices cannot be used in a potentially explosive or flammable atmosphere.

Risk class:

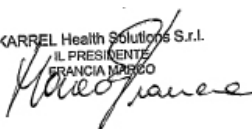
Class I (in accordance with Rule 1, Annex VIII of Regulation (EU) 2017/745)

They are in compliance with the following Union legislative acts:

(EU) 2017/745 - Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, amending Directive 2001/83/EC, Regulation (EC) No 178/2002 and Regulation (EC) No 1223/2009 and repealing Council Directives 90/385/EEC and 93/42/EEC

The device is subject to the conformity assessment procedure provided for in article 52, section 7 of Regulation (EU) 2017/745

Quattro Castella,
13/10/2025

KARREL Health Solutions S.r.l.
IL PRESIDENTE
FRANCIA MARECO


4. General provisions

4.1 Presentation of the manual

This manual is intended to provide the user with all the necessary information that, in addition to proper use of the trolley, will make it able to manage the trolley in the most autonomous and safe way possible.

It includes information relating to the technical aspect, operation, maintenance, spare parts and safety.

Before carrying out any operation on the trolley, operators and qualified technicians must carefully read the instructions contained in this publication.

The illustrations and images contained in this manual are intended only as examples and may differ from practical situations.

If you have any doubts about the correct interpretation of the instructions, please contact our office for the necessary clarifications.



This manual is an integral part of the trolley, must be kept with the utmost care by the user, and must be easily accessible.

The manual must accompany the trolley if it is transferred to a new user.

It is forbidden for anyone to disclose, modify or use this manual for their own purposes.

4.2 Customer Technical Support

Requests for assistance of the customer technical assistance service must be sent by e-mail to the following address:

KARREL Health Solutions S.r.l.

Tel. 0522 17 50 501 - fax. 0522 16 02165

e-mail: info@karrel.it

Specifying:

- type of trolley;
- trolley code, production code, year of manufacture;
- defects found;
- exact address of the place where the trolley is in use.

This information is shown on the label, please refer to section 4.5 on page 10 to identify them.

! ATTENTION! All assistance interventions must be strictly carried out by Karrel H.S. personnel. Assistance interventions carried out by unauthorised persons may compromise the operation of the trolley and may cause damage to property or persons. Karrel H.S. assumes no responsibility for damage to property or persons resulting from assistance interventions carried out by unauthorized personnel.

4.3 Conventions

The following graphic symbols have been adopted in this manual:

! ATTENTION! Placed before certain procedures. Failure to do so may result in damage to the item.

! WARNING! Placed before certain procedures. Failure to do so may cause damage to the operator or patient and to the item.

5. Safety

5.1 General provisions

The indications listed below must be carefully read and become a fundamental part of the daily practice in operation and maintenance, in order to prevent any type of injury to people and/or damage to property.

⚠ WARNING! Improper use and maintenance can cause damage to persons and property.

⚠ ATTENTION! Do not use the trolley until its operation has been clearly understood. If in doubt, despite having carefully and completely read this manual, contact Karrel H.S. Ensure that all safety-related requirements are known to all personnel involved in use, cleaning and maintenance.

⚠ ATTENTION! Periodically the operator must check for any visible defects on the trolley. In this case, immediately notify Karrel H.S. of any obvious breakage of the structure or any other functional part thereof.

⚠ ATTENTION! Pay the utmost attention to all the signs placed on the trolley.

Do not use the trolley for purposes other than those for which it was conceived and designed.

The instructions for use must be fully available to the personnel and the latter must have been correctly instructed about the use of the trolley and must comply with all safety, accident prevention and specifications of the mentioned trolley.

It is necessary to report any major accident occurring in relation to the devices to the manufacturer and to the competent authority of the Member State in which it is established.

6. Introduction

6.1 Manufacturer

The articles described in this manual are produced by:



KARREL Health Solutions S.r.l.

Via Don Milani, 11 - 42020 Quattro Castella (RE) - Italy

Tel. 0522 17 50 501 - Fax: 0522 16 02 165

e-mail: info@karrel.it

www.karrel.it

6.2 Environmental limits of use

⚠ WARNING! The trolley cannot be used in a potentially explosive or flammable atmosphere.

The environmental working conditions of the trolley must conform to the following indications:

- Temperature: 0°C ÷ +40°C
- Humidity: 10% ÷ 70% (non-condensing)

The positioning or use of the trolley in environments that do not correspond to what is indicated causes the warranty to lapse.

6.3 Expected lifespan

The trolley has been designed and built to operate without risks to things and people, under the ordinary conditions of use defined in this manual, for 10 years. However, this duration can only be achieved by complying with the instructions in this manual and contacting Karrel H.S. assistance whenever a breakdown occurs on the trolley.

6.4 Intended use

The devices are intended to be used for the transport of medical equipment and to expedite the performance of health services in emergency conditions.
Environment of use: hospital and care facilities.

Personnel intended for the use of the products: healthcare personnel.

The devices cannot be used in a potentially explosive or flammable atmosphere.

6.5 Intended use of pediatric emergency carts

The device is intended to be used as a cart for transporting medical supplies and facilitating the provision of medical care to patients.

Environment of use: pediatric wards in healthcare facilities and/or hospitals.

Personnel intended to use the products: healthcare professionals, nurses, and doctors.

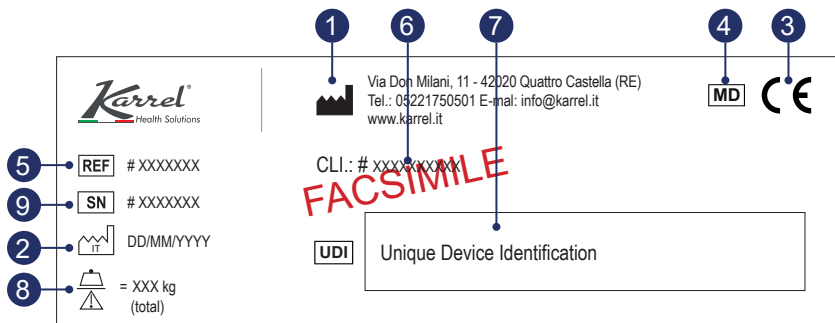
The devices cannot be used in potentially explosive or flammable atmospheres.

6.6 Identification

! ATTENTION! It is forbidden to remove the label from the device for any reason.

The item can be identified by the plate on the trolley bearing the following data:

1. Name and address of the manufacturer;
2. Date and Country of manufacture;
3. CE mark pursuant to Regulation (EU) 2017/745;
4. Medical device;
5. Trolley code;
6. Customer data;
7. UDI vector;
8. Safe workload;
9. Serial number.



6.7 Transport, packaging and delivery

The trolley is delivered already assembled and packed with shock-absorbing cartons.

⚠ ATTENTION! Upon receipt of the trolley, check with the carrier that the material is intact and that it has not been damaged during transport. Check that the supply corresponds to the specifications of the order and verify with the shipping documents that the delivery is complete.

If the packages are damaged externally, open them in the presence of the carrier and check that the trolley has not been damaged.

Note down any damage on the shipping documents and inform the Karrel H.S. Company immediately.

If there are no anomalies in the packaging, check the trolley externally within 24 hours of delivery. In case of visible damage due to transportation, immediately inform the carrier and insurer, as well as the Karrel H.S. Company.

6.8 Installation

The handling activities described in this paragraph must only be carried out by qualified personnel specially trained to carry out the operations of loading, unloading and handling packages in complete safety. Local staff should be aware of the accident prevention rules.

During non-ordinary handling operations, use the required PPE.



6.9 Description

All devices are characterized by a self-supporting and integral frame structure. The choice of an accurate design in every detail, allows the devices to harmonize with any environment.

The upper part is characterized by a large support surface, with a small compartment for objects made of plastic material (technical polymer), designed without sharp edges to facilitate cleaning and disinfection.

All emergency trolleys have the following components:

- push handle;
- IV holder;
- Monitor/defibrillator holder;
- waste bin;
- catheter or tube bin;
- cardiac massage plate;
- bar with hooks for accessories;
- extractable additional work surface.

In addition, the K816220 and K816221 devices are equipped with bottle holders.

7. General description

7.1 Name of the main parts

1. Support surface;
2. Object compartment;
3. Push handle;
4. Modular drawers;
5. Monitor/defibrillator holder;
6. IV pole;
7. Plate for cardiac massage;
8. Extractable work surface;
9. Shelf with front plate (only on some models (see par. 6.6.1));
10. Waste bin;
11. Catheter or tube bin;
12. Recessed cylinder compartment;
13. Bar with hooks for accessories;
14. Wheels;
15. Brake;
16. Bumpers;
17. Disposable tear-off seals;



7.2 Technical features Universal Series and Crazy Series

7.2 1 General Information

Dimensions	Small: 670 x 640 x 1600 mm
	Standard: 820 x 640 x 1600 mm
Standard drawers <i>Universal Series</i>	Module 1: 450 x 485 x 135h mm Module 2: 450 x 485 x 275h mm
	Module 3: 600 x 475 x 135h mm Module 4: 600 x 475 x 275h mm
	Module 5: 445 x 485 x 75 mm Module 6: 445 x 485 x 150 mm Module 7: 445 x 485 x 230 mm
Standard drawers <i>Krazy Series</i>	Module A: 450 x 485 x 75h mm Module B: 450 x 485 x 150h mm Module C: 450 x 485 x 225h mm
	Module D: 600 x 475 x 75h mm Module E: 600 x 475 x 150h mm Module F: 600 x 475 x 225h mm
Structure material	Type 1: plastic (technical polymer) and steel sheet painted with antimicrobial epoxy powders Type 2: plastic (technical polymer) and AISI 304 stainless steel sheet

7.2 2 Safe drawer workload

Safe drawer workload	25 kg for plastic drawers
	45 kg for painted / stainless steel drawers

7.2 3 Universal Series Emergency Trolleys

Code	Format	Standard drawers		Wheels	Structure material
		Module	Material		
K816419	Small	3x module 1 1x module 2	plastic (technical polymer)	Ø 125 mm single	plastic and painted steel
K816419G	Small	3x module 1 1x module 2	plastic (technical polymer)	Ø 125 mm single	plastic and painted steel
K816419GX	Small	3x module 1 1x module 2	plastic (technical polymer)	Ø 125 mm single	plastic and stainless steel
K816419X	Small	3x module 1 1x module 2	plastic (technical polymer)	Ø 125 mm single	plastic and stainless steel
K816209	Standard	3x module 3 1x module 4	plastic (technical polymer)	Ø 125 mm single	plastic and painted steel
K816209G	Standard	3x module 3 1x module 4	plastic (technical polymer)	Ø 125 mm single	plastic and painted steel
K816209GX	Standard	3x module 3 1x module 4	plastic (technical polymer)	Ø 125 mm single	plastic and stainless steel
K816209X	Standard	3x module 3 1x module 4	plastic (technical polymer)	Ø 125 mm single	plastic and stainless steel
K816220	Standard	1x module 5 1x module 6 2x module 7	stainless steel	Ø 125 mm single	plastic and stainless steel
K816221	Standard	1x module 5 1x module 6 2x module 7	painted steel	Ø 125 mm single	plastic and painted steel

For more details, see “7.2 Technical features Universal Series and Krazy Series” on page 47.

7.2 4 Krazy Series Emergency Trolleys

Code	Format	Standard drawers		Wheels	Structure material
		Module	Material		
K820210	Small	2x module A 2x module B 1x module C	plastic (technical polymer)	Ø 125 mm single	plastic and painted steel
K820210X	Small	2x module A 2x module B 1x module C	plastic (technical polymer)	Ø 125 mm single	plastic and stainless steel
K820211	Small	2x module A 2x module B 1x module C	painted steel	Ø 125 mm single	plastic and painted steel

Code	Format	Standard drawers		Wheels	Structure material
K820211X	Small	2x module A 2x module B 1x module C	stainless steel	Ø 125 mm single	plastic and stainless steel
K820212	Small	2x module A 2x module B 1x module C	painted steel	Ø 125 mm single	plastic and painted steel
K820212X	Small	2x module A 2x module B 1x module C	stainless steel	Ø 125 mm single	plastic and stainless steel
K820260	Standard	2x module G 2x module E 1x module F	plastic (technical polymer)	Ø 125 mm single	plastic and painted steel
K820260X	Standard	2x module D 2x module E 1x module F	plastic (technical polymer)	Ø 125 mm single	plastic and stainless steel
K820261	Standard	2x module D 2x module E 1x module F	painted steel	Ø 125 mm single	plastic and painted steel
K820261X	Standard	2x module D 2x module E 1x module F	stainless steel	Ø 125 mm single	plastic and stainless steel
K820262	Standard	2x module D 2x module E 1x module F	painted steel	Ø 125 mm single	plastic and painted steel
K820262X	Standard	2x module D 2x module E 1x module F	stainless steel	Ø 125 mm single	plastic and stainless steel

For more details, see “7.2 Technical features Universal Series and Krazy Series” on page 47.

7.3 Technical specifications Simple White Series

7.3 1 General Information

Dimensions <i>Simple White Series</i>	Small: 850 x 714 x 1182 mm Small (2) : 851 x 710 x 1230 mm
	Standard*: max. 1180 x 745 x 1235 mm
Standard drawers <i>Simple White Series</i>	Module 1: 450 x 75h mm Module 2: 450 x 150h mm - 450 x 151h mm Module 3: 450 x 230h mm - 450 x 228h mm
	Module 4: 600 x 75h mm Module 5: 600 x 150h mm Module 6: 600 x 230h mm
Structure material	Plastic (technical polymer) and steel sheet coated with antimicrobial epoxy powders

*may vary depending on the components in the trolley

7.3 2 Safe drawer workload

Safe drawer workload	25 kg for plastic drawers
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7.3 3 Simple White Series Emergency Trolleys

Code	Format	Standard drawers		Wheels	Structure material
		Module	Material		
KSM-EM1	Small	2x module 1 2x module 2 1x module 3	plastic (technical polymer)	Ø 100 mm twin version	plastic and painted steel
KSM-EM1S	Small	2x module 1 2x module 2 1x module 3	plastic (technical polymer)	Ø 125 mm single	plastic and painted steel
KSM-EM2	Small (2)	2x module 1 2x module 2* 1x module 3*	plastic (technical polymer)	Ø 125 mm single	plastic and painted steel
KSTD-EM1	Standard	2x module 4 2x module 5 1x module 6	plastic (technical polymer)	Ø 125 mm single	plastic and painted steel
KSTD-EM2	Standard	2x module 4 2x module 5 1x module 6	plastic (technical polymer)	Ø 125 mm single	plastic and painted steel
KSTD-EM3	Standard	2x module 4 2x module 5 1x module 6	plastic (technical polymer)	Ø 125 mm single	plastic and painted steel

* Module 2* and module 3* refer to the second measurements indicated in the table Technical specifications Simple White Series.

For more details, see “7.3 Technical specifications Simple White Series” on page 50.

7.4 Technical specifications pediatric emergency trolleys

7.4 1 General Information

Dimensions	Standard: 820 x 640 x 1600 mm
Standard drawers	Module 1: 600 x 475 x 75h mm
Structure material	Plastic (technical polymer) and steel sheet coated with antimicrobial epoxy powders

7.4 2 Pediatric emergency trolleys

Code	Format	Standard drawers		Wheels	Structure material
		Module	Material		
K820263	Standard	9x module 1	painted steel	Ø 125 mm single	plastic and painted steel

7.5 Technical specifications Kubo Series

7.5 1 General Information

Dimensions	Standard: 880 x 650 x 1600 mm
Standard drawers	Module 1: 450 x 485 x 150h mm Module 2: 450 x 485 x 225h mm
Structure material	Plastic (technical polymer) and steel sheet coated with antimicrobial epoxy powders

7.5 2 Kubo Series Emergency Trolleys

Code	Format	Standard drawers		Wheels	Structure material
		Module	Material		
K10020	Standard	3x module 1 1x module 2	painted steel	Ø 100 mm twin	plastic and painted steel

8. Operation and use

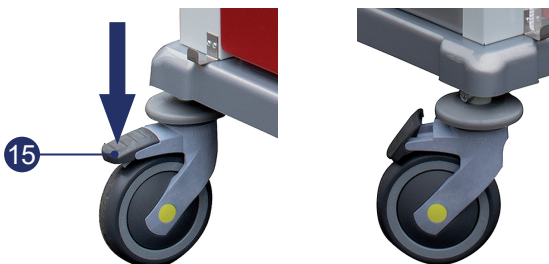
8.1 Warnings for use

- ⚠ **Sanitise the trolley according to the procedures described in the chapter "Sanitisation".**
- ⚠ **Do not use the trolley for purposes other than those for which it is intended and for which it was designed.**
- ⚠ **Do not open all the drawers of the trolley at the same time.**
- ⚠ **Always lock the wheels of the trolley, by activating the brakes, when it must not be moved.**

8.2 Locking and unlocking the trolley

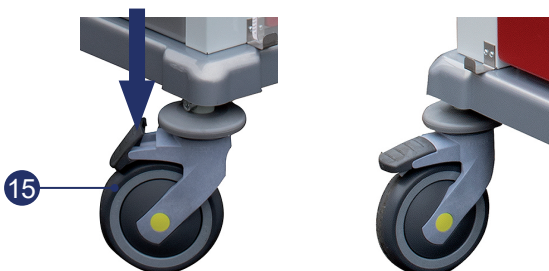
To **lock** the trolley proceed as follows:

- press down one foot on the outermost part of the brake pedal (15).



To **unlock** the trolley proceed as follows:

- press the innermost part of the brake pedal (15) with one foot downwards.



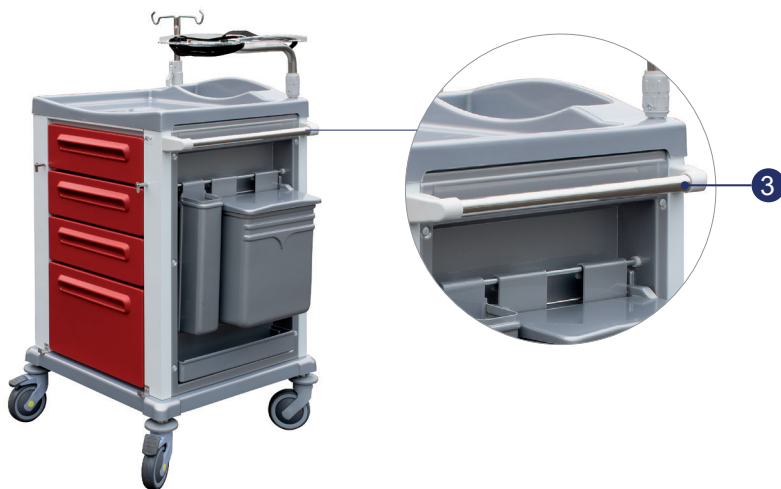
8.3 Handling the trolley

⚠ ATTENTION! Do not move the trolley using its accessories.



To move the trolley proceed as follows:

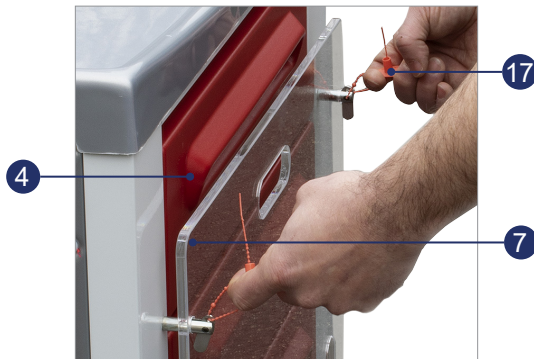
- unlock the wheels (see paragraph "Locking and unlocking the trolley");
- move the trolley using the push handle (3) on the right side of the device.



8.4 Opening of the emergency trolley drawers (only for trolleys with front cardiac massage axle)

To open the drawers (4) of the emergency trolley with the front cardiac massage plate (7) proceed as follows:

- break the seals (17) by inserting your thumbs into them and pulling firmly;



- lift the levers (18) with medium and/or annular finger and slide the cardiac massage plate (7) towards you holding it with the thumb and index finger of each hand;



- firmly grasp the cardiac massage plate (7) from the appropriate handle (19) and remove it by lifting it slightly.

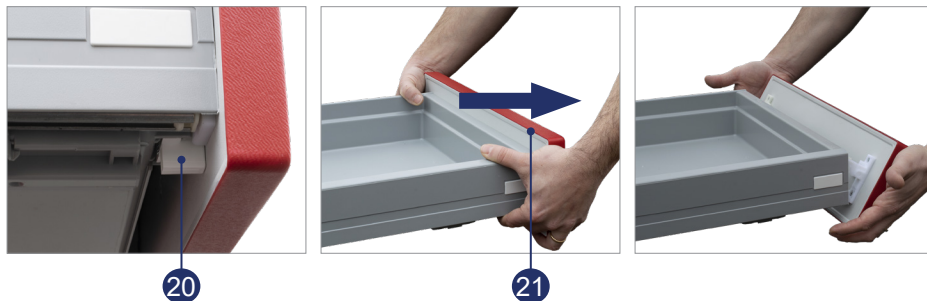


8.5 Technical polymer drawers (only for technical polymer trolleys)

The front plates of the drawers of the technical polymer trolleys can be easily removed, replaced or repositioned.

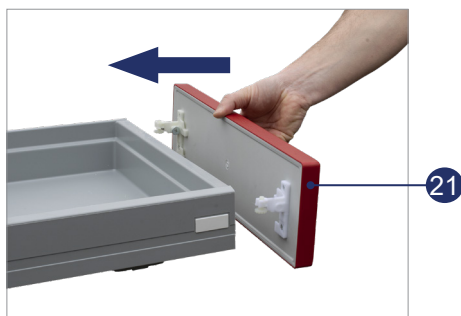
To extract the front plates proceed as follows:

- press upwards the rectangular buttons (20) positioned on the bottom edge of the drawer and pull the front panel (21) towards you;



To reposition the front plates, proceed as follows:

- make sure that the buttons (20) have remained pressed;
- reposition the front plate (21) on the drawer;
- press until you hear the snap of the coupling.



8.6 Characteristics "left or right side" of the trolley

8.6 1 Shelves with front plates

Some trolleys are equipped on the left or right side with shelves with front plates.

To insert the shelves with the front plate (9) in the trolley, proceed as follows:

- position the shelf with the front plate by matching the grooves (22) with the special protuberances (23).



To remove the shelves with the front plate (9) from the trolley, proceed as follows:

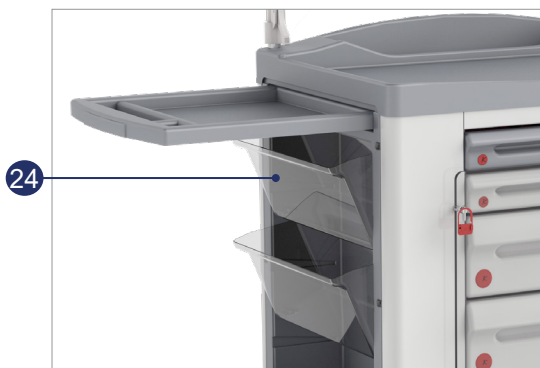
- lift the shelf to remove it.

8.6 2 Reclining drawers

Other trolleys are equipped on the left or right side with reclining drawers.

To open the reclining drawers (24) proceed as follows:

- grip the upper end of the drawer (24) with both hands;
- pull gently up to the blocking point.



8.7 Internal divisions of the drawers

The trolleys can be equipped on request (when ordering) with internal drawer divisions. If the trolley is so equipped, proceed as follows to install them correctly:

- extend the long divisions (25) on the bottom of the drawer;
- take one of the shortest divisions (26), choose the desired position and lift the long divisions by hand inserting them one at a time into the short one;



- insert the remaining short divisions in the desired positions.



9. Sanitisation

9.1 General notes on safety rules

Sanitizing agents are corrosive, therefore take the recommended precautions by consulting the safety data sheets and adopting the PPE provided.

Avoid contact between sanitising products and skin or eyes. Wear protective clothing, gloves, goggles and safety footwear. When sanitizing, do not approach the sanitizing agents. In case of accidental contact with sanitising products, rinse the affected part thoroughly with warm water. In case of contact with the eyes, immediately rinse with the appropriate cleaning solutions or, if not available, with warm water. In any case, immediate medical care is advisable.

9.2 Regulations and general provisions

⚠ ATTENTION! Acid or basic sanitising products must not be discharged into urban sewage. For disposal, refer to the local regulations in force.

9.3 Sanitising products

⚠ ATTENTION! Sanitising agents are corrosive.

⚠ ATTENTION! If you plan to use ETHER, ACIDS or products that are particularly aggressive and/or corrosive, please take special care with the plastic surface (technical polymer), which may be indelibly stained.

The best sanitizing and disinfecting agents are those most commonly used in the industrial field. Follow the manufacturer's instructions for the specific application during use. If possible, ask the manufacturer for guarantees on the degree of corrosivity of the solutions used.

It is very important to follow the specifications regarding concentration, temperature and reaction times. Any modification of these characteristics could damage the trolley.

During the sanitisation phases, only use:

- cold water;
- hot water max. 95°C;
- alkaline solutions max. 80°C;
- acid solutions;
- disinfectant solutions.

Do not use sulphuric acids or mineral acids such as HCl, H₂SO₄, HNO₃ and H₂SO₃.

For the **daily cleaning** of the trolleys, only the cleaning of all the components that are used during a specific application is recommended.

The trolley can be cleaned using a soft cloth (preferably microfibre) and the degreasing and/or sanitising detergents commonly available on the market, however, it is recommended not to use any type of denatured or isopropyl alcohol.

For cleaning stainless steel surfaces it is recommended to use specific products commonly available on the market.



9.4 Sanitisation with halogen-containing products

Products containing halogens, if used incorrectly, can corrode steel especially if at low pH. Perform thorough checks before using these solutions.

If the trolley is to be sanitised using products containing halogens (e.g. chlorine), the following requirements must be followed:

- the pH must be greater than 10;
- the temperature must not exceed 40°C;
- the solution must not remain in contact with the trolley for more than 20 minutes;
- use a concentration of max. 50 ppm of active chlorine;
- after sanitising, rinse thoroughly with water.

9.5 Sanitisation with acid products

! ATTENTION! After each sanitisation cycle with acid products, the trolley must be rinsed immediately and thoroughly with water.

9.6 Sanitisation with chlorinated products

! ATTENTION! Ensure that the chlorinated concentration in the washing chemical solution is less than 50 ppm. If the concentration exceeds this value, the parts that come into contact with the product may become corroded.

9.7 Sanitisation with oxygen-releasing chemicals

! ATTENTION! These agents may cause reactions with the seals or rubber parts of the trolley and may destroy them during prolonged closed-loop treatment (not recommended). It is recommended to perform only a brief disinfection of this type before commissioning the trolley.

9.8 Sanitisation intervals

The sanitisation intervals will be defined by the customer, according to the needs, taking into account the indications reported in this manual, and those reported by the sanitising products used.

9.9 Automatic sanitisation and manual sanitisation

! WARNING! Always check the safety data sheets of the materials being used for sanitisation. In case of contact/inhalation and/or ingestion, follow the instructions provided in the prescribed sheets.

The **automatic sanitisation** (autoclave) is defined by the customer, according to the needs, taking into account the indications reported in this manual and those reported by the sanitising products used.

Manual sanitisation will be defined by the customer, based on the needs, taking into account the indications given in this manual, and those reported by the sanitising products used.

10. Maintenance

The trolley must always be kept in excellent condition. Should any defect prevent its safe operation, it must be immediately put out of use.

10.1 Periodic check

The trolley has been designed to have its maintenance reduced to a minimum.

Every 15 days it is necessary to check the status:

- of the joints;
- of the small parts;
- of movements;

If necessary, lubricate with silicone spray.

The general inspection of the trolley is required **once a year**.

The customer is obliged to report any problems that must be solved by the manufacturer.

Karrel H.S. disclaims any liability for damage to property and/or persons in the event that the customer does not comply with what has been indicated above and/or performs ordinary and extraordinary maintenance operations on their own.

11. Testing

The trolley is delivered to the customer ready for use, after having passed the tests and inspections provided by the manufacturer, in compliance with the laws in force.

12. Demolition and disposal



Disposal does not require special precautions as the trolley is not built with harmful materials.

The materials of which the trolley is composed consist essentially of:

- painted or galvanised ferritic steel;
- plastic abs material;
- elastomers.

Disassemble the trolley by separating the individual pieces according to the material with which they are made. It is mandatory to dispose of the different materials in accordance with the provisions of the legislation of the country in which the trolley must be disposed of.

With regard to the disposal of consumer products, proceed as follows.

Sanitisation products:

- the products used for sanitisation must not be discharged into the urban sewage;
- inquire about existing disposal arrangements with local authorities.

13. Warranty

For the entire duration of the warranty period, the manufacturer undertakes to eliminate any flaws and/or defects in the trolley provided that it has been used correctly in compliance with the indications given in the use and maintenance manual.

The replacement of parts with others that do not comply with the Karrel H.S. specifications if commercial, or not supplied by Karrel H.S. if on design, will void the warranty, as well as the improper use of the trolley.



KARREL Health Solutions S.r.l.

Via Don Milani, 11 - 42020 Quattro Castella (RE) - Italy

Tel. 0522 17 50 501 - Fax: 0522 16 02 165

e-mail: info@karrel.it

www.karrel.it