

## 2.4 Cleaning and disinfection

### Caution

Use of harsh cleaning agents, liquids or sprays.

#### **Risk of electrical hazard or damage to the system**

- ◆ Use only substances for cleaning and disinfection, which are recommended.
- ◆ Do not let cleaning liquids seep into the openings of the system, e.g., air openings, gaps between covers.
- ◆ Observe the following cleaning and disinfection instructions.



Sprays can penetrate the interior of equipment.

It can cause damage to electronic components and the formation of flammable mixtures of air/solution vapor.

### 2.4.1 LC displays

- LC displays are very sensitive to mechanical damage.
  - Avoid scratches, bumps, etc.
- LC displays are very sensitive to liquids.

Longer contact with the liquids can cause discoloration or can leave calcium residue on the surface.

Droplets that run down between the panel and the frame can cause damage or total failure of the panel!

The following active ingredient classes can be used for LC displays:

Active ingredient class	Tested cleaning agents and disinfectants	Additional examples
Alcohol	Ethyl alcohol 96%	Hospiset cloth Microcide liquid

Active ingredient class	Tested cleaning agents and disinfectants	Additional examples
Aldehyde	Melsitt Cidex	Aldasan 2000 Kohsolin Gigasept FF
Chlorine derivatives	Terralin	Quartamon Med
Disinfectants	Taski DS5001 (Diverseylever Labs) Morning Mist Surfanios Fraicheur Citron (Anios Labs)	
Guanidine derivatives	Lysoformin	
Quaternary compounds	Incidur spray, full strength	
Commercially available dish-washing liquid	Tempo	Fairy Ultra, Palmolive
Benzine	Petroleum ether	
Pyridine derivatives	Active Spray, full strength	
Water	Tap water Distilled water	

### 2.4.2 Other system parts

For some accessory parts special instructions for cleaning are given in the corresponding chapters.



Some substances contained in disinfectants are known to be **hazardous to health**. Their concentration in the air must not exceed the legally defined limit.

Always follow the manufacturer's instructions when using the disinfectants.

The following active ingredient classes can be used:

Active ingredient class	Cleaning agents and disinfectants
Aldehyde	Incidin Perfekt
Alkylamine	Lysoformin Plus
Chlorine derivatives	Clorina
Commercially available dish-washing liquid	Tempo, Fairy Ultra, Palmolive
Guanidine derivatives	Biguacid S
Organic acids	Apesin SDR san
Quaternary compounds	Oasis Pro
Peroxides	Sanosil
Pyridine derivatives	Bacoban WB

The following products should **not** be used:

- All alcohol-based products
- All chlorine-releasing products
- Benzine / phenole-based products
- Products: Banicide Advanced, Wavicide, Terralin, Cidex OPA



Always follow the safety data sheets of the manufacturer which provide detailed information on the composition of the disinfectants.

### 2.4.3 Cleaning and disinfecting



Use gloves to avoid infection.

- 1 Before cleaning the system, shut down the system properly.
- 2 Clean all contaminated parts and all parts which may or have come into contact with the patient.
- 3 Keep the ventilation slots of **all** components unobstructed.  
Dust deposited on moving parts can impair unit movements.
- 4 Regularly clean the dust off all rails and joints etc.  
The adhesive capacity of the Velcro tapes will be reduced if contaminated.
- 5 Remove any contamination using a plastic comb.

### 2.4.4 Instructions for all LC displays

- 1 If possible, immediately clean any droplets of liquid.
- 2 If a cleaning agent is sprayed directly on the display surface, make sure that any droplets that run down are wiped off with a microfiber cloth before they reach the edge of the panel.
- 3 If the front of the panel is soiled, clean it with a microfiber cloth and, if necessary, with a glass cleaning agent. Clean housing parts with a cleaning agent for plastics only.
- 4 In the case of contaminated panel front clean with a microfiber cloth and if necessary with a cleaning agent.
- 5 Clean the housing components only with the recommended agents.

If you are using agents not listed below, the panel surface will be irretrievably damaged.

### 2.4.5 Instructions for all other system parts

The following applies in general:

- 1 Use a lukewarm detergent solution and a soft cloth to remove slight contamination.
- 2 Remove major contamination first with a cloth soaked in alcohol, then wipe off with clear water.
- 3 Remove blood spots best of all with cold water.
- 4 Remove contrast medium spots best of all with warm water.
- 5 After using disinfectants, always wipe off with clear water.

### 2.4.6 Sterilization

Please observe your hospital's regulations concerning sterilization.

## 2.5 Information about unit movements

Because of the possible speed of movement of the stand and C-arm and the tabletop, this system must be operated with particular care.

### 2.5.1 Collision protection

For reasons of safety the systems are equipped with collision sensors.



The system is equipped with the following collision sensors:

- Collision sensor on the input of the flat detector
- Collision sensor on the primary collimator
- Collision sensor on the cover of the X-ray tube assembly
- Collision sensor on the two switching bars on both sides of the C-arm
- Collision sensor on the backside of the stand column (depends on configuration)

If one of the collision sensors is activated, further unit movements are blocked and a message indicating that appears.