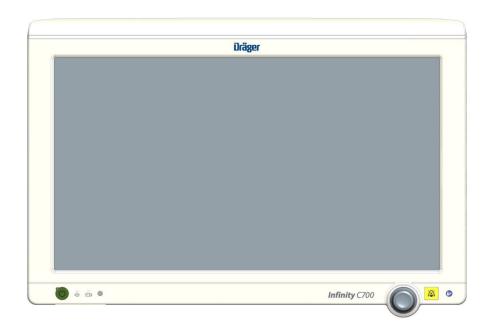


# Instructions for use

# Infinity® Acute Care System



#### **WARNING**

To properly use this medical device, read and comply with these instructions for use.

Infinity<sup>®</sup> Medical Cockpits

# Typographical conventions

- 1 Consecutive numbers indicate steps of action, with the numbering restarting with "1" for each new sequence of actions.
- Bullet points indicate individual actions or different options for action.
- Dashes indicate the listing of data, options, or objects.
- (A) Letters in parentheses refer to elements in the related illustration.
- A Letters in illustrations denote elements referred to in the text.
- The greater-than symbol indicates the navigation path in a dialog window.
  - Bold, italicized text indicates labels on the device and texts that are displayed on the screen.

#### Illustrations

Illustrations of products and screen content in this document may differ from the actual products depending on configuration and design.

#### Use of terms

Dräger uses the term "accessories" not only for accessories in the sense of IEC 60601-1, but also for consumables, removable parts, and attached parts.

## **Trademarks**

#### Trademarks owned by Dräger

The trademarks are registered in the following countries:

Trademark	Country
Infinity <sup>®</sup>	EU, USA, Australia

# Trademarks owned by third-party manufacturers

Trademark	Trademark owner
Actichlor®	Ecolab
BruTab 6S®	Brulin
Dispatch®	Clorox

Trademark	Trademark owner
Buraton®	Schülke & Mayr
Mikrozid®	
Perform®	
acryl-des®	
Descogen®	Antiseptica
Dismozon®	BODE Chemie
Klorsept®	Medentech
Oxycide®	Ecolab USA
Virkon®	DuPont

# Safety information defintions

#### **WARNING**

A WARNING statement provides important information about a potentially hazardous situation which, if not avoided, could result in death or serious injury.

#### **CAUTION**

A CAUTION statement provides important information about a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to the user or patient or in damage to the medical device or other property.

#### **NOTE**

A NOTE provides additional information intended to avoid inconvenience during operation.

# Abbreviations and symbols

Refer to "Symbols" and "Abbreviations" on page 22 for explanations.

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# For your safety and that of your patients

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# **General safety information**

The following WARNING and CAUTION statements apply to general operation of the medical device.

WARNING and CAUTION statements specific to subsystems or particular features of the medical device appear in the respective sections of these instructions for use or in the instructions for use of another product being used with this device.

## Strictly follow these instructions for use

#### **WARNING**

Risk of incorrect operation and of incorrect use

Any use of the medical device requires full understanding and strict observation of all sections of these instructions for use. The medical device must only be used for the purpose specified under "Intended use" on page 16.

Strictly observe all WARNING and CAUTION statements throughout these instructions for use and all statements on medical device labels. Failure to observe these safety information statements constitutes a use of the medical device that is inconsistent with its intended use.

#### Maintenance

#### **WARNING**

Risk of medical device failure and of patient injury

The medical device must be inspected and serviced regularly by service personnel. Repair and complex maintenance carried out on the medical device must be performed by experts.

If the above is not complied with, medical device failure and patient injury may occur. Observe chapter "Maintenance".

Dräger recommends that a service contract is obtained with Dräger-authorized service personnel and that all repairs are performed by Dräger-authorized service personnel. For maintenance Dräger recommends the use of authentic Dräger repair parts.

#### NOTE

Dräger will submit all documents needed for repair on request.

#### Accessories

#### **WARNING**

Risk due to incompatible accessories

The use of incompatible accessories may adversely affect the functional integrity of the product. Personal injury and property damage may occur as a consequence.

Use only compatible accessories. The accessories that are compatible with this product are listed in the list of accessories supplied with the product.

# Not for use in areas of explosion hazard or oxygen-enriched atmospheres

#### WARNING

Risk of fire

The medical device is not approved for use in areas where combustible or explosive gas mixtures are likely to occur or in oxygenenriched atmospheres.

#### Connected devices

#### WARNING

Risk of electric shock and of device failure

Any connected devices or device combinations not complying with the requirements mentioned in these instructions for use may compromise the correct functioning of the medical device. Before operating any combination of devices, refer to and strictly comply with the instructions for use for all connected devices and device combinations.

# Safe connection with other electrical equipment

#### **CAUTION**

Risk of patient injury

Electrical connections to equipment not listed in these instructions for use must only be made when approved by each respective manufacturer.

#### Connection to IT network

The medical device has interfaces to connect to other devices or components. These interfaces are only suitable for connecting devices or connecting to networks that have the physical characteristics described on page 11 and page 50.

For software-related requirements on the connection of devices or networks to these interfaces observe the relevant documents of these applications.

If the Cockpit is used to send or distribute alarm conditions to another device and that system is not able to be a "distributed alarm system with confirmed delivery of alarm conditions" as per IEC 60601-1-8:2006 +A1:2012, cl. 6.11.2.2, then the corresponding remote part of the system shall be labeled with a warning that it shall not be relied upon for receipt of alarm signals.

#### **Device combinations**

This device can be operated in combination with other Dräger devices or with devices from other manufacturers. Observe the accompanying documents of the individual devices.

If a device combination is not approved by Dräger, the safety and the functional state of the individual devices can be compromised. The operating organization must ensure that the device combination complies with the applicable editions of the relevant standards for medical devices.

Device combinations approved by Dräger meet the requirements of the following standards (if applicable):

- IEC 60601-1, 3rd edition (general requirements for safety, device combinations, software controlled functions)
  - IEC 60601-1-2 (electromagnetic compatibility)
  - IEC 60601-1-8 (alarm systems)

Strictly follow the assembly instructions and instructions for use.

The Infinity Acute Care System - Infinity Medical Cockpits have no essential performance as defined in IEC 60601-1.

Any essential performance in combination with an application using the Infinity Medical Cockpits is listed in the accompanying user documentation of that application.

#### Storing the instructions for use

#### **CAUTION**

Risk of incorrect use

Instructions for use must be kept accessible to the user.

#### Electromagnetic compatibility (EMC)

Medical electrical equipment is subject to special precautionary measures concerning electromagnetic compatibility. During installation and before initial operation, follow the information in section: "EMC declaration" (page 52).

This device can be affected by other electrical devices

Portable and mobile RF communications equipment can affect medical electrical equipment.

#### **WARNING**

Risk due to electromagnetic disturbance

Wireless communication devices (e.g., cellular phones) and medical electrical equipment (e.g., defibrillators, electrosurgical devices) emit electromagnetic radiation. When such devices are operated too close to this device or its cables, the functional integrity of this device may be compromised by electromagnetic disturbances. As a result, the patient could be put at risk.

Maintain a distance of at least 0.3 m (1.0 ft) between this device and wireless communication devices, to ensure that the essential performance of this device is fulfilled.

Maintain an adequate distance between this device and other medical electrical equipment.

#### **WARNING**

Risk due to electrostatic discharge

Malfunctions that endanger the patient may occur if no protective measures against electrostatic discharge are employed in the following situations:

- When touching the pins of connectors that carry the ESD warning symbol.
- When establishing connections with these connectors.

To prevent malfunctions, observe the following measures and train the relevant personnel:

- Observe the ESD protective measures.
   Such measures may include wearing antistatic clothing and shoes, touching a potential equalization pin before and while making the connection, or using electrically insulating and antistatic gloves.
- Observe the requirements for the electromagnetic environment. Observe the following section: "Electromagnetic environment" (page 53).

#### WARNING



Risk of electric shock

Do not connect connectors with an ESD warning symbol and do not touch their pins without imple-

menting ESD protective measures. Such protective measures can include antistatic clothing and shoes, touching a potential equalization pin before and during connection of the pins, or using electrically insulating and antistatic gloves.

All users concerned must be instructed in these ESD protective measures.

#### WARNING

Risk due to modifications

Modifications to the product may lead to malfunctions and unforeseen risks. This may result in injury to the patient or the user or in property damage.

Do not modify this product.

#### WARNING

No hardware modification is allowed without the consent of the manufacturer. Hardware modifications could compromise the safe electrical and functional use of the product. If the software of the product is modified according to these instructions for use, appropriate inspection and testing must be conducted to make sure, the equipment is safe to use.

#### WARNING

To ensure that the device is properly grounded, connect the power cable to a hospital-grade outlet.

#### WARNING

The Infinity Medical Cockpits are not suitable for use in the presence of oxygen-enriched atmospheres or flammable anesthetic mixtures.

#### WARNING

Because of the risk of electric shock, never remove the cover of a device while it is in operation or connected to a mains power socket.

#### WARNING

Do not operate the device in areas such as: magnetic resonance imaging (MRI) environments, aircraft, ambulance, home or hyperbaric chambers.

#### **WARNING**

Connect only equipment to the analog and digital interfaces (signal inputs and outputs) of which the connected circuit has max.

24 VDC (max. 30 VDC for the system cable) and is either a touchable SELV circuit according to IEC 60950 or double insulated against primary circuits according to IEC 60601-1.

Connect only passive (not separately energized) USB devices.

Any devices, or combination of devices, not complying with the requirements mentioned in these instructions for use may compromise the correct functioning of the Infinity Medical Cockpits. Prior to operating the Infinity Medical Cockpits, consult the respective documentation and instructions for use of all connected devices or combination of devices.

Anyone connecting additional devices to the signal input or output may configure a medical electrical system, and is therefore responsible for ensuring that the system complies with IEC 60601-1 (3rd edition, clauses 14 and 16) or IEC 60601-1-1 with IEC 60601-1-4, and IEC 60601-1-2 and IEC 60601-1-8. If you have any questions, contact Dräger-authorized service personnel.

#### WARNING

USB equipment must be non-touchable by the patient because of possible touch currents flowing between the Cockpit housing and the housing of the USB device.

#### WARNING

The table mount (part number MS13222, IACS monitoring applications only) is not intended for transport. Tilting the table mount beyond 5 degrees can affect the stability of the Infinity Medical Cockpits and cause them to fall.

#### WARNING

To avoid short-circuiting and otherwise damaging the device, do not allow fluids to come in contact with the device. If fluids are accidentally spilled on the equipment, remove the affected unit from service as soon as possible and contact the service personnel to verify that patient safety is not compromised.

#### WARNING

Avoid direct contact between the external surfaces of the device and the patient.

#### WARNING

When mounting the device, make sure the requirements for maximum load and slope of floor are met. Consult the mounting manufacturer's documentation for detailed information.

#### **CAUTION**

When placing the device, make sure adequate ventilation exists and prevent overheating by positioning these items with at least 2 inches (5 cm) of space around all sides if possible.

#### **CAUTION**

To avoid damaging the touch-sensitive screen, do not allow sharp instruments to touch the front access panel of the Infinity Medical Cockpits.

#### CAUTION

The device should only be operated in surroundings that meet the environmental operating temperatures specified on page 51.

#### **CAUTION**

To prevent overheating, do not place the Infinity Medical Cockpits in direct sunlight or near radiant heaters.

#### CAUTION

Do not obstruct or close off the vents on the medical device. Air must be able to enter freely. Otherwise the medical device may become too hot. An alarm is triggered if the medical device overheats during operation.

#### **CAUTION**

After extended exposure in a cold environment, take special care to acclimate the device so condensation does not form on the electronic parts which could lead to damage.

#### Virus protection

#### CAUTION

The Infinity Medical Cockpit does not have virus protection software and relies therefore on the firewall of your institution to prevent access to infected files. While setting up IT applications to access web sites, evaluate each web site with regard to possible virus infection.

#### Service

#### WARNING

Risk if service is not performed regularly

If service is not performed regularly, malfunctions may occur, which can result in personal injury and property damage.

Perform the service in accordance with the chapter "Maintenance".

## **Duties of the operating organization**

The tasks described in this document specify the requirements that have to be met by each respective target group.

The operating organization of this product must ensure the following:

- The target group has the required qualifications (e.g., has undergone specialist training or acquired specialist knowledge through experience).
- The target group has been trained to perform the task.
- The target group has read and understood the chapters required to perform the task.

## **Description of target groups**

The target groups may only perform the following tasks if they meet the corresponding requirements.

#### User

Task	Requirement
Use of the product in accordance with the intended use	Specialist medical knowledge in the use of the product

#### Reprocessing personnel

Task	Requirement
Reprocessing	Specialist knowledge in the reprocessing of medical devices

#### Service personnel

Task	Requirement
Installation	Specialist knowledge in
Basic service work (inspection, mainte-	electrical engineering and mechanics
nance according to the "Maintenance" chapter)	Experience in the servicing of medical devices

#### Specialized service personnel

Task	Requirement
Installation	Specialist knowledge in
Basic and complex service work (in-	electrical engineering and mechanics
spection, mainte- nance, repair)	Experience in the servicing of medical devices
	Experience in complex service work on this product

Dräger recommends arranging a service contract with Dräger-authorized service personnel.

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# **Application**

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#### Intended use

The Infinity Medical Cockpits, consisting of the C500, and the C700 are monitoring and control displays for the Infinity Acute Care System (IACS). Medical Cockpits are intended to be used to monitor waveforms, parameter information, and

alarms as well as to control settings. The Infinity Series Medical Cockpits are intended to be used in environments where patient care is provided by trained healthcare professionals.

#### **Environment of use**

#### **WARNING**

Risk of explosion and fire

This medical device is neither approved nor certified for use in areas where oxygen concentrations greater than 25 %, combustible or explosive gas mixtures are likely to occur.

The specification of the device environment is classified as pollution degree 2 (non-conductive pollution only).

The device shall only be connected with its power supply to the mains with overvoltage category 2.

The device shall only be connected to telecommunication networks with overvoltage category 1 (peak transient voltage below 1500V according to IEC 60950-1 (chapter G.3, chapter 2.3.1a, chapter 1.2.13.8)).

# System overview

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#### Overview

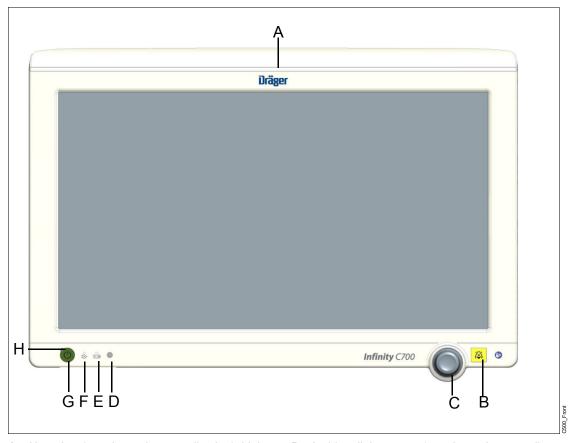
These instructions for use provide a general overview of the Infinity Medical Cockpits. Specifically, these instructions for use describe the common user-interface and hardware components for the Infinity Medical Cockpits when used with different application software. Specifically, this document addresses the following topics:

- Common hardware components (for example, the rotary knob and the alarm bar)
- Common user-interface strategy (for example, navigational tools)
- Technical specifications

This document does not describe the actual functions of an Infinity Medical Cockpit when it is connected to a specific software application. For such detailed instructions, refer to the instructions for use of the application software.

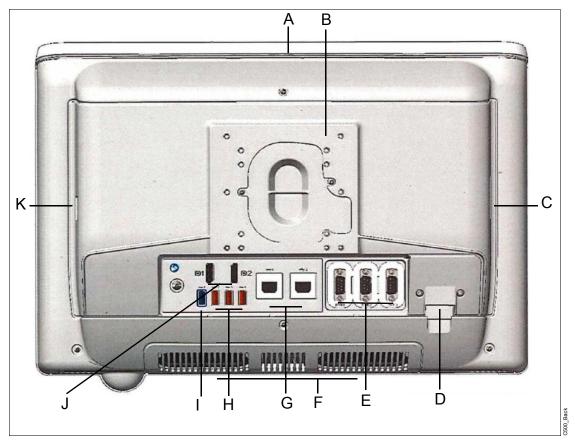
The Infinity Medical Cockpits are the central userinterface and processing center for the various applications of the Infinity Acute Care System.

# Front panel



- A Alarm bar (use depends on application). Lights up during alarm conditions in the respective alarm color.
- B Audio pause key (use depends on application).
- C Rotary knob (use depends on application). The light inside the rotary knob lights up yellow when you have to press on the rotary knob to confirm an action.
- D Ambient light sensor (use depends on application).
- **E** Battery LED. Indicates battery status (only supported if the medical device features a backup battery).
- **F** AC power LED. Lights up when the device is connected to AC power.
- G Power On/Off key
- **H** Power on LED

# **Back panel**



- A Alarm bar (use depends on application)
- K 1x USB 3.0 port

- **B** VESA mounting
- C 2x USB 2.0 port
- D System cable port
- **E** 3x Serial communication port RS232 (COM), isolated
- F Cooling vents
- G 2x LAN 10/100/1000 Mbps, isolated
- H 3x USB 2.0 port
- I 1x USB 3.0 port
- J 2x DisplayPort connections

# **Symbols**

#### Symbol Explanation



Read accompanying documents for specific safety information



Battery status



AC power mains (only for specified AC power supply)



Audio pause (with optional rotary knob; functionality depends on application)



Manufacturer



Attention! Consult the accompanying documents



Attention! Consult the accompanying document



Atmospheric pressure



Temperature limitation



**USB** connection



Serial interface



Functional earth



Caution: Federal law restricts this device to sale by or on the order of a physician.

#### Symbol Explanation



Power on/off



Non-disposable part



Device part number and revision



Device serial number



Date of manufacture



Electrostatic discharge (ESD) warning sign



Warning! Strictly follow these instructions for use



Relative humidity



LAN connection



Protective earth



CSA certification mark



DisplayPort

# **Abbreviations**

USB

# Abbreviation Explanation

AC Alternating Current
DC Direct Current

EMC Electromagnetic Compatibility
ESD Electrostatic Discharge
LED Light-emitting Diode
RF Radio Frequency

VESA Video Electronics Standards

Universal Serial Bus

Association

# **Hardware features**

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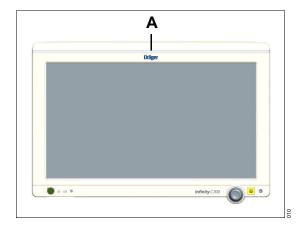
#### Overview

The Cockpit is the main user-interface for the Infinity Acute Care System (IACS). This section describes the main user interface elements.

For detailed information regarding the user interface of individual IACS modules, refer to the instructions for use of the connected module.

### **Alarm Bar**

The alarm bar (A) extends along the top of the front and back panel to alert you to alarm conditions.



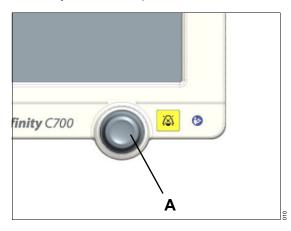
When enabled, the alarm bar lights up in the color corresponding to the priority of the alarm condition:

- Red for high priority (life-threatening) alarm conditions
- Yellow for medium priority (serious) alarm conditions
- Cyan for low priority alarm conditions

The alarm bar also flashes briefly during startup as an indicator that the alarm system is functioning properly.

# Rotary knob

The rotary knob (A) is the main navigational tool of the Infinity Medical Cockpits.



#### To use the rotary knob

- 1 Select a button on the screen to select a setting.
- 2 Turn the rotary knob to select the desired setting.
  - Turn the rotary knob clockwise to increase a numeric value, scroll down a list or navigate to the right during horizontal navigation.
  - Turn the rotary knob counterclockwise to decrease a numerical value, scroll up a list or navigate to the left during horizontal navigation.
- 3 Press the rotary knob to accept the selected setting.

#### NOTE

Press the rotary knob to confirm an action when the backlight in the rotary knob lights up.

# Fixed keys

Two fixed keys are located on the front access panel of the Infinity Medical Cockpits:

- The Audio pause key
- The Power On/Off key

#### Audio pause key



This key is located to the right of the rotary knob. Pressing this key pauses all alarm tones.

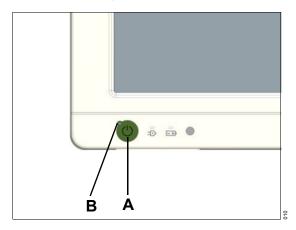
When the *Audio pause* key is pressed, the right most field in the header bar displays a crossed out bell symbol. A countdown timer indicates the activated audio pause feature and the remaining time before alarm tones are reactivated.

#### NOTE

Pressing the **Audio pause** key again, cancels the audio pause period. Alarm tones for any alarm conditions that are still valid sound again immediately.

# Power On/Off key

The Power On/Off key is located in the lower left corner of the Infinity Medical Cockpits.



#### To turn the system on

Press the Power On/Off key (A).

The Dräger startup screen appears, the alarm bar lights up briefly, the power-on LED (B) lights up, and the main screen is displayed.

#### To turn the system off

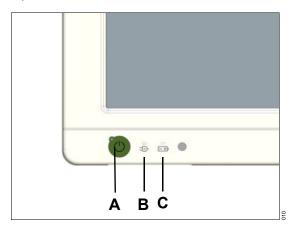
- Press the Power On/Off key (A). A dialog window appears.
- 2 Select Shutdown inside the dialog window to shut down the system. The message Please wait for the system to shut down... appears on the screen while the Infinity Medical Cockpits are being powered down.

#### NOTE

IACS monitoring applications only: Pressing the Power On/Off key for more than four seconds initiates a forced shut-down of the Infinity Medical Cockpit, which should only be used if the normal method of powering down the Infinity Medical Cockpit is impossible.

# **LEDs**

Each Cockpit is equipped with several LEDs that report the device status.



- A Power on/off key and LED (the LED in the key lights up when the device is turned on)
- **B** AC power on/off LED Lights up when the device is connected to AC power.
- **C** Battery status LED indicates the status of the external power supply

#### **Power LED states**

LED	LED color/state	Description
Battery status LED (C)	Does not light up	Battery capacity < 10 %
	Solid green	Battery capacity > 90 %
	Solid yellow	Battery capacity ≤ 90 %
	Blinking yellow	Error state
Battery status LED (C) and	Solid yellow	Battery is charging (including conservation charging)
AC power LED (B)	Solid green	
AC power LED (B)	Does not light up	No AC power is available
	Solid green	AC power is available
Power LED (A)	Does not light up	System is turned off
	Solid green	System is turned on

# **Mounting solutions**

The Infinity Medical Cockpits come with a wide selection of mounting solutions. All Infinity Medical Cockpits mounting solutions must be VESA (Video Electronics Standard Association) compliant. The Infinity Medical Cockpits support the VESA 75 and 100 mounting standard.

The illustration below shows where on the back panel of the Infinity Medical Cockpits the VESA 100/75 mounting holes (A) are located.



#### **WARNING**

Follow the VESA safety instructions for the safe installation of each Infinity Medical Cockpit.

Anyone who mounts the Infinity Medical Cockpits has to make sure that the mounting of the Infinity Medical Cockpits maintains the structural integrity of the mounting system.

For a complete list of available mounting accessories, see your local Dräger representative. If you have any questions, contact Dräger-authorized service personnel.

# Table mount (IACS monitoring applications only)

#### **WARNING**

The table mount (part number MS13222, IACS monitoring applications only) is not intended for transport. Tilting the table mount beyond 5 degrees can affect the stability of the Infinity Medical Cockpits and cause it to fall.

# **Operating concept**

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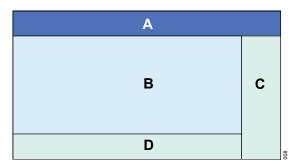
### User interface

Although the content of a screen may vary depending on the user configuration and the connected device, all Infinity Medical Cockpit user interfaces share common screen layout elements.

Although the Infinity Medical Cockpit is a touch screen it also has a rotary knob for scrolling through lists, changing settings, and confirming actions (for more detail, see page 25).

For detailed information on the user interface behavior of a specific device, refer to the devicespecific instructions for use.

The following diagram describes the major elements of a user interface. Each element is described in more detail in the following sections.



- A Header bar
- B Monitoring area
- C Main menu bar
- **D** Therapy bar (if applicable)

# Layout elements

Infinity Acute Care System - Infinity Medical Cockpits share similar layout elements which are described in the following sections.

#### Header bar

Regardless of the connected device, the header bar is always visible and always appears along the top of an Infinity Medical Cockpit.

The header bar is divided into several fields which are reserved for specific types of information. The number of fields in the header bar depends on the connected device(s).



E Patient category field – patient type indicator and associated symbol (adult, pediatric, or neonate)

- **F** System data field battery symbol and status indicator, clock
- **G** Patient name field/Therapy status (depending on application)
- H Time and date field/Therapy status (depending on application)
- I Alarm message field (alarm messages)
- J Alarm banner field displays the current alarm status such as the *Audio paused* button, ☆ symbol, and countdown timer, the *All alarms off* message ☆ symbol, and so on.

You can touch certain fields in the header bar for direct access to specific dialog windows.

## Monitoring area

The monitoring area displays waveforms, trends, loops. The monitoring area is controlled by customizable layouts with common user-interface elements that provide a consistent look and feel regardless of which device is connected to the Infinity Medical Cockpit (for a list of compatible devices, see the *Infinity Acute Care System – Monitoring Applications* instructions for use).

#### Waveform area

Waveform areas can contain display scales, grids, markers, cursors, parameter labels, units of measure, and parameter-specific messages. Parameter-specific messages are displayed in the message field, located in the upper right corner of each waveform area.

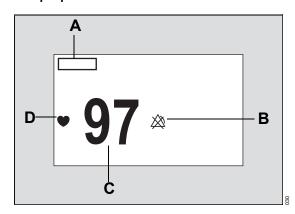
#### Parameter boxes

Although the content and appearance of parameter boxes varies depending on the parameter type and the application it is used for, all parameter boxes share basic display principles. The following list outlines the most basic parameter box elements:

- All parameter boxes contain measurement values and parameter labels which are always located above their respective values. Parameter boxes can contain one parameter or consist of composite parameters with primary and secondary values. The primary value and associated label always appear in a larger font than the secondary value and label.
- Most parameter boxes contain units of measure which always appear next to the parameter label. The display of units of measure can be enabled or disabled.

- Some parameter boxes contain unique, parameter-specific elements such as time stamps, a lung symbol that pulsates with each detected breath, and so on.
- Some parameter boxes have a message field where status messages appear. Refer to the device-specific instructions for use for more details.

#### Sample parameter box



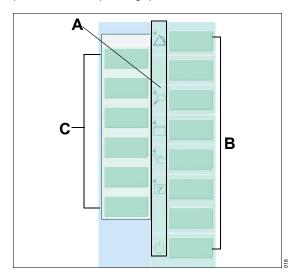
- A Parameter label and, if applicable, units of measure
- C Parameter value
- D Area for special symbols (for example, a heart symbol that blinks with each detected heart beat)

#### IT tabs

IT tabs (optional depending on application) provide access to remote applications such as web-based IT programs. IT applications are options that must be purchased separately and are enabled by authorized personnel. IT tabs always appear along the left edge of the monitoring area. Each tab can be assigned a user-defined name. For specific information on configuring IT tabs, refer to the instructions for use of the connected device.

#### Main menu bar and quick access toolbar

The following diagram shows the main menu bar with quick access symbols. Some applications also provide a corresponding quick access toolbar.



- A Quick access symbols
- **B** Main menu bar
- C Quick access toolbar

#### The main menu bar

The main menu bar (**B**) is located along the right edge of the screen and is always visible. It consists of the following elements:

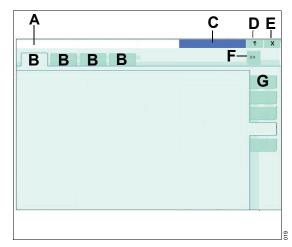
- Quick access symbols (A) with a small arrow to the left that open the associated quick access toolbar (C).
- Buttons with three dots open menus (for example Main Screen...).
- Buttons without dots execute a function directly (for example *NIBP start/stop*) or access a dialog window directly.

#### The quick-access toolbar

Functions that are commonly used are grouped on quick-access tabs (**C**) for easy access. These quick-access functions are accessible by selecting the corresponding quick-access symbols (**A**) on the main menu bar.

#### **Dialog windows**

A dialog window may consist of one or more setup pages. To access a dialog or a setup page, select the corresponding tab. The number of dialog windows and setup pages depends on the parameter or the selected function.



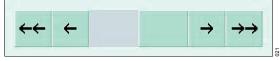
- A Dialog window title corresponds to the name of the button used for accessing the dialog window
- **B** Horizontal tabs for accessing setup pages
- C Message field for parameter-specific messages (not present on all dialog windows)
- **D** Help (not available for all applications)
- **E** Button for closing the dialog window
- **F** Button for accessing additional setup pages
- **G** Vertical tabs for opening additional setup pages

#### **Views**

Views are pre-configured layouts that affect the monitoring area. A View defines the size, content, and position of screen elements within the monitoring area. A certain number of pre-configured Views are stored and can be selected at any time or you can configure a View that best suits your clinical needs. For more detail, see the device-specific instructions for use of the connected device.

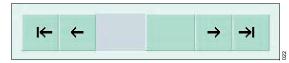
#### Scroll bars

Horizontal and vertical scroll bars enable you to navigate through lists and data sets such as trends.



Whenever you scroll through a list

- Single arrows move through lists/data one item at a time
- Double arrows jump from screen page to screen page



 An arrow with a line moves to the beginning or end of the list/data set

#### Colors

Colors denote alarm conditions and identify the availability of functions or settings.

#### NOTE

If the acoustic alarm signal is paused by pressing the **Audio pause** key (located next to the rotary knob), the parameter box no longer flashes, but the background lights up in the solid alarm color.

#### Alarm colors

The Infinity Medical Cockpit uses the following three colors to identify the priority of an alarm condition:

- Red identifies high-priority alarm conditions
- Yellow identifies medium-priority alarm conditions
- Cyan identifies low-priority alarm conditions

For additional information regarding alarm colors, refer to the device-specific instructions for use.

During an alarm condition, the Infinity Medical Cockpit provides the following optical alarm signals that flash in the corresponding alarm color.

Alarm Priority	Parameter Box	Header Bar	Alarm Bar
High	Flashing red background	Red background	Flashing red
Medium	Flashing yellow back- ground	Yellow background	Flashing yellow
Low	Solid cyan background	Cyan background	Cyan

#### **Buttons/tabs**

The following table illustrates that the color of a button or a tab not only identifies the available settings. It also indicates whether a button or tab is selectable or if it requires user interaction.

Color	Status
Light green	The button is active, ready for selection.
Dark green	The button has been selected and displays the current selection.
Yellow	The button is selected but requires user input or confirmation by pressing the rotary knob.
Gray	The button is not available for selection due to a certain mode or required connection.

# **Customizing the display**

You can control the brightness of the screen, select how to interact with the Infinity Medical Cockpit, and calibrate the touch screen.

#### Touch screen versus mouse

Some applications allow you to interact with the Infinity Medical Cockpit using the touch screen or a mouse. If you want to use a mouse but cannot see the cursor after the mouse has been connected, press the **Alt** and **F10** keyboard keys simultaneously to display it.

#### Color scheme

The Infinity Medical Cockpit supports two color schemes: Day and night mode. Night mode reduces the luminance and brightness of the screen so it is less disturbing to a patient while providing enough contrast for the clinical staff.

#### Calibrating the touch screen

If the touch screen of the Infinity Medical Cockpit is out of alignment for any reason (even accidental decalibration), you can recalibrate it.

#### CAUTION

During the calibration of the screen, no waveforms are displayed on the Infinity Medical Cockpit. Therefore, you should not calibrate the screen while monitoring a patient.

#### To calibrate the touch screen

1 In Stand by mode:

Press the rotary knob together with the *Audio Pause* key for more than 15 seconds until the *Calibrate Touch Screen* popup appears.

Operations:

Press the rotary knob together with the **Audio Pause** key for more than 30 seconds until the **Calibrate Touch Screen** popup appears.

- 2 Select the *Calibrate* button in the popup or press the rotary knob again to access the calibration screen.
- 3 Touch the red dots that appear on the screen in sequence.

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## Reprocessing

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### Disassembly

### Observe before disassembly

- Switch off the device and all devices connected to it.
- 2 Disconnect the mains plugs.

### Information on reprocessing

Instructions for reprocessing are based on internationally accepted guidelines, e.g., standard ISO 17664.

### Safety information

### **WARNING**

Risk due to inappropriately reprocessed products

Reusable products must be reprocessed, otherwise there is an increased risk of infection.

- Observe the hygiene regulations and reprocessing regulations of the healthcare facility.
- Observe national hygiene regulations and reprocessing regulations.
- Use validated procedures for reprocessing.
- Reprocess reusable products after every use.
- Observe the manufacturer's instructions for cleaning agents, disinfectants, and reprocessing devices.

#### CAUTION

Risk due to faulty products

Signs of wear, e.g., cracks, deformation, discoloration, or peeling, may occur with reprocessed products.

Check the products for signs of wear and replace them if necessary.

### **Classifications for reprocessing**

### Classification of medical devices

Medical devices and their components are classified according to the way they are used and the resulting risk.

Classification	Explanation
Non-critical	Components that come only into contact with skin that is intact
Semi-critical (A, B)	Components that carry breathing gas or come into contact with mucous membranes or pathologically altered skin
Critical (A, B, C)	Components that penetrate skin or mucous membranes or come into contact with blood

### Classification of device-specific components

Observe the instructions for use for the components.

The following classification is a recommendation from Dräger.

#### Non-critical

Infinity Medical Cockpit

#### Semi-critical A

None

#### Semi-critical B

None

### Critical

None

### Reprocessing list

Components	Surface disin- fection with cleaning			Steam steril- ization	Special repro- cessing mea- sures
Infinity Medical Cockpit	Yes	N/A	N/A	N/A	N/A

### Reprocessing procedures

### Validated reprocessing procedures

At the time of product-specific validation, the following reprocessing procedures showed good material compatibility and effectiveness:

Procedure	Agent	Manufacturer	Concen- tration	Contact time	Tempera- ture
Surface disinfection with	Dismozon pur	Bode Chemie	1.5 %	15 min	N/A
cleaning	Dismozon plus	Bode Chemie	1.6 %	15 min	N/A

The effectiveness of the listed reprocessing procedures has been validated by independent laboratories that are certified to the standard ISO 17025.

#### **Disinfectants**

Use disinfectants that are nationally approved and are suitable for the particular reprocessing procedure.

#### Surface disinfectant

At the time of the test, the surface disinfectants listed in the following table showed good material compatibility. They can be used in addition to the surface disinfectants listed in the section "Validated reprocessing procedures".

The manufacturers of the surface disinfectants have verified at least the following spectra of activity:

- Bactericidal
- Yeasticidal
- Virucidal or virucidal against enveloped viruses

Observe the specifications of the surface disinfectant manufacturers.

Other surface disinfectants are used at one's own risk.

Class of active ingredient	Surface disinfectant	Manufacturer
Chlorine-releasing agents	Actichlor plus	Ecolab
	BruTab 6S	Brulin
	Clorox Professional Disinfecting Bleach Cleaner	Clorox
	Dispatch Hospital Cleaner Disin- fectant Towels with Bleach	
	Klorsept 17	Medentech
Oxygen-releasing agents	Descogen Liquid	Antiseptica
	Descogen Liquid r.f.u.	
	Dismozon plus	Bode Chemie
	Dismozon pur	
	Oxycide	Ecolab USA
	Perform	Schülke & Mayr
	Virkon	DuPont
Quaternary ammonium com-	Mikrozid sensitive liquid1)	Schülke & Mayr
pounds	Mikrozid sensitive wipes1)	
	Mikrozid alcohol free liquid <sup>1)</sup>	
	Mikrozid alcohol free wipes <sup>1)</sup>	
	acryl-des1)	
Aldehydes	Buraton 10 F	Schülke & Mayr

### 1) Virucidal against enveloped viruses

Dräger states that oxygen-releasing agents and chlorine-releasing agents may cause color change in some materials. Color change does not indicate that the product is not functioning correctly.

### Surface disinfection with cleaning

### WARNING

Risk due to penetrating liquid

Penetrating liquid may cause the following:

- Damage to the device
- Electric shock
- Device malfunctions

Ensure that no liquid penetrates the device.

- Remove soiling immediately. Use a cloth dampened with disinfectant to remove soiling.
- Perform surface disinfection.
- 3 After the product has been exposed to the disinfectant for the specified contact time, remove residual disinfectant.
- Wipe with a cloth dampened with water (at least drinking-water quality). Allow the product to dry.
- **5** Check the product for visible soiling. Repeat steps 1 to 5 if necessary.
- **6** Check the product for visible damage and replace if necessary.

### **Maintenance**

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### Overview

This chapter describes the necessary maintenance steps to be performed by your service personnel for the proper functioning of the equipment. For additional guidance on how to perform the required maintenance, refer to the Technical Service Document which can be obtained from Dräger.

#### WARNING

Risk due to inappropriately reprocessed products

The product may be contaminated with infectious agents.

Before service is performed and before the product is sent back for repair, reprocess the product in accordance with the chapter "Reprocessing".

#### WARNING

Risk if service is not performed regularly

Wear and material fatigue of the components may lead to device failure and malfunctions.

Perform service at the specified intervals.

#### **WARNING**

Risk if service is not performed properly

Personal injury and property damage may occur if service is not performed properly.

Service must be performed by those target groups that are assigned to the particular measure.

#### **WARNING**

Risk if maintenance is not performed properly

If the device is connected to the power supply during maintenance, there is a risk of personal injury and property damage.

Before performing maintenance, disconnect all electrical connections from the power supply.

#### **WARNING**

Risk when the housing is being opened

Under the housing, there are live electrical components, which may cause an electric shock.

The housing may only be opened by those target groups that are assigned to that particular measure.

#### **WARNING**

If the device is mechanically damaged, or if it is not working properly, do not use it. Contact your service personnel.

#### **WARNING**

Risk of infection

The responsible personnel may become infected by disease-causing germs.

Clean and disinfect device or device components before each maintenance step, also before returning for repair.

#### WARNING

If you spill liquid on the equipment, battery or accessories or immerse these components in liquid, allow them to dry completely for at least 24 hours to 48 hours. Contact your hospital's service personnel to test any such component is fully operational before putting it back in clinical use.

#### **WARNING**

This device must be inspected and serviced at regular intervals. A record must be kept on this preventive maintenance. We recommend obtaining a service contract with Drägerauthorized service personnel through your vendor. For repairs we recommend to contact Dräger-authorized service personnel.

#### **CAUTION**

When servicing devices from Dräger, always use spare parts that are qualified to Dräger standards. Dräger cannot warrant or endorse the safe performance of third-party spare parts for use with the devices.

### **Definition of maintenance concepts**

Concept	Definition
Maintenance	Appropriate measures intended to retain the functional state of a medical device
Inspection	Measures intended to determine and assess the actual state of a medical device
Preventive maintenance	Repeated indicated measures intended to retain the functional state of a medical device
Repair	Measures intended to restore the functional state of a medical device after the failure of a device function

### **Maintenance of the Cockpit**

The following table provides an overview of the intervals for the Cockpit.

Device parts	Maintenance interval and tasks
Inspection of all components	The regular inspection interval for a Cockpit is 24 months. This interval is shorter if an application with a shorter inspection interval that depends on the Cockpit for its proper function is connected to the Cockpit.
Safety inspection of all components	Every two years by trained service personnel according to hospital protocol.

### Inspection

Inspections must be carried out regularly according to the following guidelines and within the specified intervals. All information needed for maintenance and safety inspections are included in this document and in the accompanying documents of connected medical equipment. Additional guidance is given in further technical documents that can be obtained on request.

Checks	Interval	Responsible personnel
Inspection and safety checks <sup>1)</sup>	Every 24 months	Service personnel

1) Designation applies to the Federal Republic of Germany; corresponds to the "Recurring safety inspection" in the Federal Republic of Austria

### Safety inspections

### CAUTION

Perform the safety inspections in the specified intervals. Otherwise, the correct functioning of the device may be compromised.

# Scope of safety inspection for the Cockpit

The following safety inspections are no substitute for the inspection and maintenance indicated by the manufacturer, including preventive exchange of parts subject to wear. For technical documentation, contact your local Dräger-authorized service personnel.

- Check accompanying documents and determine if the instructions for use are available.
- 2 Check that the equipment is complete and ready for use according to the instructions for use.

- 3 Verify that the device in combination with other system components is in good working condition. Specifically, verify the following:
  - All labels are complete and legible
  - There is no visible damage
- 4 Check that the device meets the electrical safety requirements according to IEC 62353, Medical electrical equipment - recurrent test and test after repair of medical electrical equipment.
- 5 Verify that the visual and acoustic alarm signals function properly.
- 6 Verify that the following device features operate according to the instructions for use:
  - Verify the LEDs
  - Perform device checks

## Disposal

### Disposing of the medical device

At the end of its useful life, dispose of the product in accordance with the applicable legal provisions.

The disposal of electrical and electronic devices is subject to special guidelines. This device must be disposed of in accordance with national regulations. In countries of the European Union, Dräger will organize the return of the device. Additional information is available at www.draeger.com (search term: WEEE).

### **Technical Data**

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### Infinity C500/C700

The following table contains the technical data for the Infinity C500 and Infinity C700.

Where applicable, differences in technical data are identified for each device. Otherwise, the data applies to all devices.

Physical attributes	
Dimensions with rotary knob (W x H x D)	Infinity C500: 453 x 327 x 127 mm (17.83 x 12.87 x 5.00 in)
	Infinity C700: 546 x 381 x 127 mm (21.50 x 15.00x 5.00 in)
Weight (without mounting)	Infinity C500: 6 kg (13.23 lbs)
	Infinity C700: 7 kg (15.43 lbs)
Cooling	Passive cooling
User interface	Touch screen or via keyboard and mouse
CPU	Intel Haswell-ULT i5-4300U
RAM	Standard: 8 GB (2x SO-DIMM DDR-3L)
	Maximum: 16 GB (2x SO-DIMM DDR-3L)
Connectors	
Input/output ports	2x LAN 10/100/1000 Mbps, isolated
	3x RS232, isolated
	5x USB 2.0
	2x USB 3.0
	2x DisplayPort
	1x Plug for optional LED panel
System connector	Connector for system cable (22 pins)
	Isolation from AC mains: by pulling the mains plug of connected medical equipment (mains plug has to be positioned in a way that it can easily be accessed and detached if needed for safety purposes).
Electrical requirements	
Power input	24 V DC
Maximum power consumption	<100 Watt @ 24 V DC
Current consumption	ON mode: <6 A
	OFF mode: <8 mA at 16 VDC

Mode of operation	Continuous
Environmental attributes	
Humidity	Operating: 5% to 95% (non-condensing)
	Non-operating: 5% to 95% (non-condensing)
Temperature	Operating: 0 °C to 40 °C (32 °F to 104 °F)
	Non-operating: –20 °C to 70 °C (–4 °F to 158 °F)
Altitude	0 to 4000 m (13123 feet)
Atmospheric pressure	Operating: 620 to 1100 hPa
	Non-operating: 500 to 1100 hPa
Display attributes	
Touch screen	5-wire resistive analog
Diagonal display size	Infinity C500: 439 mm (17.3 in)
	Infinity C700: 546 mm (21.5 in)
Display area size (H x W)	Infinity C500: 382 mm x 215 mm (15 in x 8.5 in)
	Infinity C700: 476 mm x 268 mm (18.8 in x 10.6 in)
Aspect ratio	16:9
Display colors	16.7 M
Resolution	1920 x 1080 pixels
Contrast ratio (typical)	Infinity C500: 600:1 (typical)
	Infinity C700: 3000:1 (typical)
Viewing angle (r/l/u/d)	Infinity C500: 80°/80°/60°/80° (typical)
	Infinity C700: 89°/89°/89° (typical)
Luminance (when set to maximum brightness)	300 cd/m² (typical)
Alarm bar	Integrated into front bezel
Alarm bar viewing angle	Visible from 360°
Risk management	
Fire protection	In normal atmospheres according to IEC 60601-1.
Mechanical shock	Operating: 15 G, 6 ms duration, half-sine
	Non-operating: 15 G, 6 ms duration, half-sine
Vibration	Operating: 10 to 500 Hz, 1.60 g rms
	Non-operating: 10 to 500 Hz, 1.60 g rms
Liquid ingress protection	IP21 per IEC 60529
Ethernet ports	Ethernet 10/100/1000, supports auto detection

### **EMC** declaration

#### General information

The device was tested for electromagnetic compatibility using accessories from the list of accessories. Other accessories may only be used if they do not compromise the electromagnetic compatibility. The use of non-compliant accessories may result in increased electromagnetic emissions or decreased electromagnetic immunity of the device.

The device may be used in the direct vicinity of other devices only if Dräger has authorized this device arrangement. If no authorization has been given by Dräger, it must be ensured that the device functions correctly in the desired arrangement before using it. The instructions for use for the other devices must be followed.

#### NOTE

The information regarding electromagnetic compatibility is only valid if one of the approved power supplies Infinity P2500 or Infinity PS250 is used.

### **Electromagnetic environment**

### Guidance and manufacturer's declaration - electromagnetic emissions

The device (Infinity Acute Care System) is intended for use in the electromagnetic environment specified below. The customer or the user<sup>1)</sup> of the device (Infinity Acute Care System) should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11 (radiated and conducted)	Group 1	The device (Infinity Acute Care System) uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
	Class A	The device (Infinity Acute Care System) is suitable for use in all establishments other than domestic, and may be used in domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes, provided the following warning is heeded:
		Warning: This equipment/system is intended for use by healthcare professionals only. This equipment/ system may cause radio interference or may disrupt the operation of nearby equipment. It may be necessary to take mitigation measures, such as re-orienting or relocating the device (Infinity Acute Care System) or shielding the location.
Harmonic emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Not applicable	

<sup>1)</sup> In this context user is to be understood as the "organization responsible".

### **Electromagnetic immunity**

### Guidance and manufacturer's declaration - electromagnetic immunity

The device (Infinity Acute Care System) is intended for use in the electromagnetic environment specified below. The customer or the user<sup>1)</sup> of the device (Infinity Acute Care System) should assure that it is used in such an environment.

Immunity test	IEC 60601 Test level	Compliance level	Electromagnetic environ- ment – guidance
Electrostatic discharge	±6 kV contact	±6 kV	Floors should be wood, con-
(ESD) IEC 61000-4-2	±8 kV air	±8 kV	crete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transi- ent/burst IEC 61000-4-4	±2 kV for power supply lines	±2 kV	Mains power quality should be that of a typical commercial or hospital environment.
120 01000-4-4	(PS250 and P2500)		nospital environment.
	±1 kV for input/output lines	±1 kV	
Surge	±1 kV line(s) to line(s)	±1 kV	Mains power quality should be
IEC 61000-4-5	±2 kV line(s) to earth	±2 kV	that of a typical commercial or
(PS250 and P2500)			hospital environment.
Voltage dips, short in- terruptions and voltage variations on power	<5 % UT (>95 % dip in UT) for 0.5 cycles	>95 %, 0.5 cycles	Mains power quality should be that of a typical commercial or hospital environment. If the
supply input lines IEC 61000-4-11 (PS250 and P2500)	40 % UT (60 % dip in Uτ) for 5 cycles	60 %, 5 cycles	user of the device (Infinity Acute Care System) requires continued operation during
	70 % UT (30 % dip in UT) for 25 cycles	30 %, 25 cycles	power mains interruptions, it is recommended that the device (Infinity Acute Care System) be powered from an uninter-
	<5 % UT (>95 % dip in UT) for 5 s	>95 %, 5 s	ruptible power supply or a bat- tery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Note: UT is the a.c. mains voltage prior to application of the test level.

<sup>1)</sup> In this context user is to be understood as the "organization responsible".

### Guidance and manufacturer's declaration - electromagnetic immunity

The device (Infinity Acute Care System) is intended for use in the electromagnetic environment specified below. The customer or the user<sup>1)</sup> of the device (Infinity Acute Care System) should assure that it is used in such an environment.

Immunity test	IEC 60601 Test level	Compliance level	Electromagnetic environment – guidance	
			Portable and mobile RF communications equipment should be used no closer to any part of the device (Infinity Acute Care System), including cables, than the recommer ded separation distance calculated from the equation applicable to the frequency of the transmitter.	
			Recommended separation distance	
Conducted RF IEC 61000-4-6		3 Vrms	$d = \left[\frac{3.5}{3}\right] \sqrt{P}$	
Radiated RF 3 V/m IEC 61000-4-3 80 MHz to	3 V/m	d = $[\frac{3.5}{3}]\sqrt{P}$ 80 MHz to 800 MHz d = $[\frac{7}{3}]\sqrt{P}$ 800 MHz to 2.5 GHz		
	2.5 GHz		$d = [\frac{7}{3}] \sqrt{P}$ 800 MHz to 2.5 GHz	
			where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m).	
			Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, a should be less than the compliance level in each frequency range. b	
			Interference may occur in the vicinity of equipment marked with the following symbol:	
			(( <b>♠</b> ))	

Note 1: At 80 MHz and 800 MHz, the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a) Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the device (Infinity Acute Care System) is used exceeds the applicable RF compliance level above, the device (Infinity Acute Care System) should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the device (Infinity Acute Care System).

- b) Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.
- 1) In this context user is to be understood as the "organization responsible".

# Recommended separation distances from mobile high-frequency communication equipment

# Recommended separation distances between portable and mobile RF communications equipment and the device (Infinity Acute Care System)

The device (Infinity Acute Care System) is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user¹) of the device (Infinity Acute Care System) can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the device (Infinity Acute Care System) as recommended below, according to the maximum output power of the communications equipment.

Rated maxi- mum output po-	Separation distance according to frequency of transmitter		
wer of transmit- ter	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
W	$d = \left[\frac{3.5}{3}\right] \sqrt{P}$	$d = \left[\frac{3.5}{3}\right] \sqrt{P}$	$d = \left[ \frac{7}{3} \right] \sqrt{P}$
0.01	0.1	0.1	0.2
0.1	0.4	0.4	0.7
1	1.2	1.2	2.3
10	3.8	3.8	7.4
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be determined using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

Note 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

1) In this context user is to be understood as the "organization responsible".

### **EMC** declaration

### **General information**

This device was tested for electromagnetic compatibility using accessories from the list of accessories. Other accessories may only be used if they do not compromise the electromagnetic compatibility. The use of non-compliant accessories may result in increased electromagnetic emissions or decreased electromagnetic immunity of the device.

This device may be used in the direct vicinity of other devices only if Dräger has approved this device arrangement. If no approval has been given by Dräger, it must be ensured that this device functions correctly in the desired arrangement before use. The instructions for use for the other devices must be followed.

### **Electromagnetic environment**

Emissions	Compliance
Radiated emissions	Class A, group 1 (30 MHz to 1 GHz)
Conducted emissions	Class A, group 1 (150 kHz to 30 MHz)

#### **NOTE**

The emissions characteristics of this equipment make it suitable for use in industrial areas and hospitals (CISPR 11 class A). If it is used in a residential environment (for which CISPR 11 class B is normally required), this equipment might not offer adequate protection to radio-frequency communication services. The user might need to take mitigation measures, such as relocating or re-orienting the equipment.

Immunity against	Test level and required electromagnetic environment
Electrostatic discharge (ESD) (IEC 61000-4-2)	Contact discharge: ±8 kV
	Air discharge: ±15 kV
Fast transient electrical disturbances (bursts) (IEC 61000-4-4)	Power cable: ±2 kV
	Longer signal input lines/output lines: ±1 kV
Impulse voltages (surges) (IEC 61000-4-5)	Voltage, external conductor – external conductor: ±1 kV
	Voltage, external conductor – protective ground conductor: ±2 kV

Immunity against	Test level and required electromagnetic environment
Magnetic fields at mains frequency (IEC 61000-4-8)	30 A/m
Voltage dips and short interruptions in the supply	100 % drop, 0.5 period
voltage (IEC 61000-4-11)	100 % dip, 1 period
	30 % dip, 25/30 periods
	Voltage interruptions:
	100 % drop, 5 seconds
Radiated high-frequency disturbances (IEC 61000-4-3)	80 MHz to 2.7 GHz: 3 V/m
Conducted high-frequency disturbances (IEC 61000-4-6)	150 kHz to 80 MHz: 3 Vrms, ISM bands: 6 Vrms
Electromagnetic fields in the vicinity of wireless communication devices	Various frequencies from 385 MHz to 5785 MHz: 9 V/m to 28 V/m, with various pulse modulations

### Recommended separation distances from wireless communication devices

To ensure that the functional integrity of this device is maintained, there must be a separation distance of at least 1.0 m (3.3 ft) between this device and wireless communication devices.

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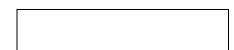
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These instructions for use only apply to **Infinity Medical Cockpits** 

with the Serial No .:

If no Serial No. has been filled in by Dräger, these instructions for use are provided for general information only and are not intended for use with any specific machine or unit.

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