

Instructions for use

Infinity Acute Care System



WARNING

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

Infinity 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.

Any text shown on the screen and any labeling on the device are printed in bold and italics, for example, ***PEEP***, ***Air***, or ***Alarm settings***.

Screen images

Schematic renderings of screen images are used, which may differ in appearance or in configuration from the actual screen images.

Use of terms

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

Trademarks

Trademark	Trademark owner
Infinity®	Dräger
Acute Care System™	Dräger
Medical Cockpit™	Dräger

Safety information definitions

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.

Definition of target groups

For this product, users, service personnel, and experts are defined as target groups.

These target groups must have received instruction in the use of the product and must have the necessary training and knowledge to use, install, reprocess, maintain, or repair the product. The target groups must understand the language of the present document.

The product must be used, installed, reprocessed, maintained, or repaired exclusively by defined target groups.

Users

Users are persons who use the product in accordance with its intended use.

Service personnel

Service personnel are persons who are responsible for the maintenance of the product.

Service personnel must be trained in the maintenance of medical devices and install, reprocess, and maintain the product.

Experts

Experts are persons who perform repair or complex maintenance work on the product.

Experts must have the necessary knowledge and experience with complex maintenance work on the product.

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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 14.

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 DrägerService and that all repairs are performed by DrägerService. 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

Dräger has tested only the compatibility of accessories listed in the current list of accessories. If other, incompatible accessories are used, there is a risk of patient injury due to medical device failure.

Dräger recommends that the medical device is only used together with accessories listed in the current list of accessories.

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 oxygen-enriched 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 48.

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

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)
- Or:
- IEC 60601-1, 2nd edition (general requirements for safety)
 - IEC 60601-1-1 (device combinations)
 - IEC 60601-1-2 (electromagnetic compatibility)
 - IEC 60601-1-4 (software-controlled functions)
 - 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.

Information on electromagnetic compatibility

General information on electromagnetic compatibility (EMC) according to international EMC standard IEC 60601-1-2:

Medical electrical equipment is subject to special precautionary measures concerning electromagnetic compatibility (EMC) and must be installed and put into operation in accordance with the EMC information provided on page 10.

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

WARNING



Risk of electric shock

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

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 DrägerService.

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 48.

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.

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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.

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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 user-interface and processing center for the various applications of the Infinity Acute Care System.

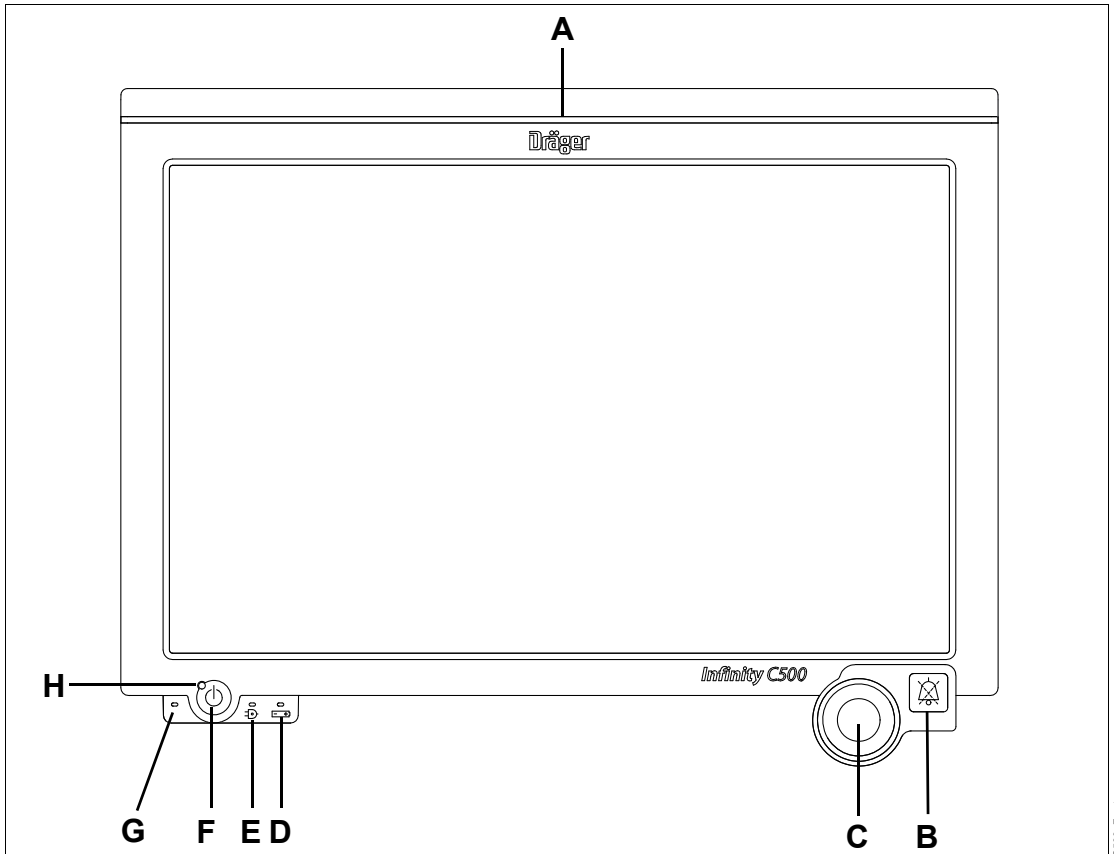
For a dedicated IT solution, the Infinity C700 for IT with a display size of 20 inch (50 cm) is available.

NOTE

The Infinity C700 for IT is a device that can be used exclusively to run IT applications. Therefore, it is not governed by the same user interface elements used for other IACS applications. For detailed information, see the *C700 for IT instructions for use* which are shipped with each device.

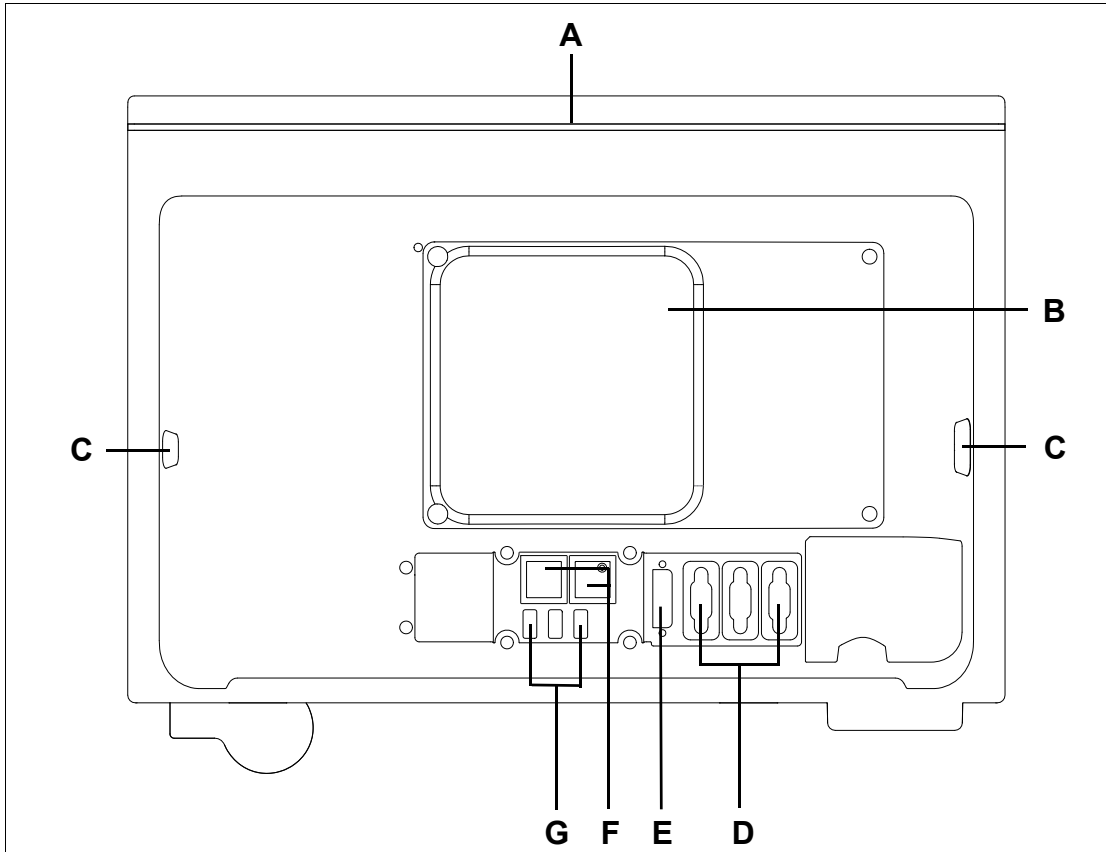
Infinity C500

Front access panel



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

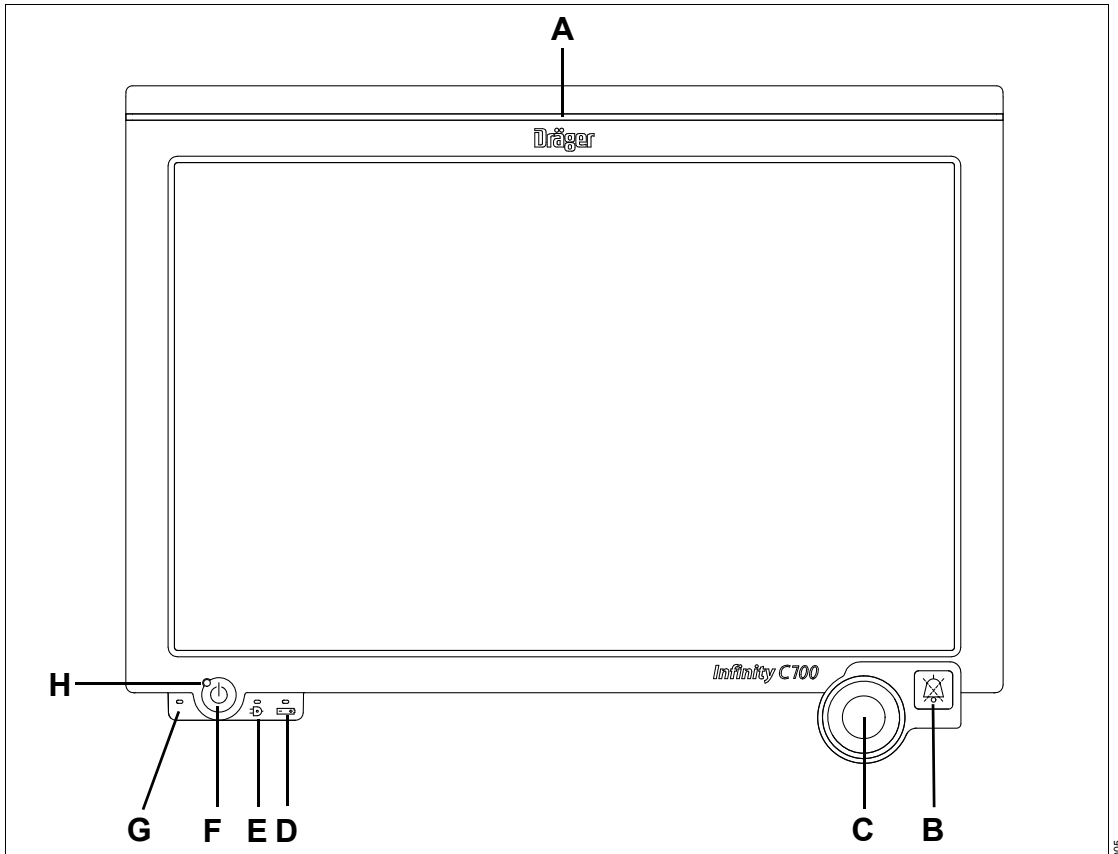
Back panel



- A** Alarm bar (use depends on application)
- B** VESA mounting
- C** 3x USB port
- D** 3x Serial communication port RS232 (COM)
- E** 1x Single-link Digital Video Interface (DVI)
- F** 2x LAN 10/100 Mbit/s (RJ45), isolated
- G** 3x USB port

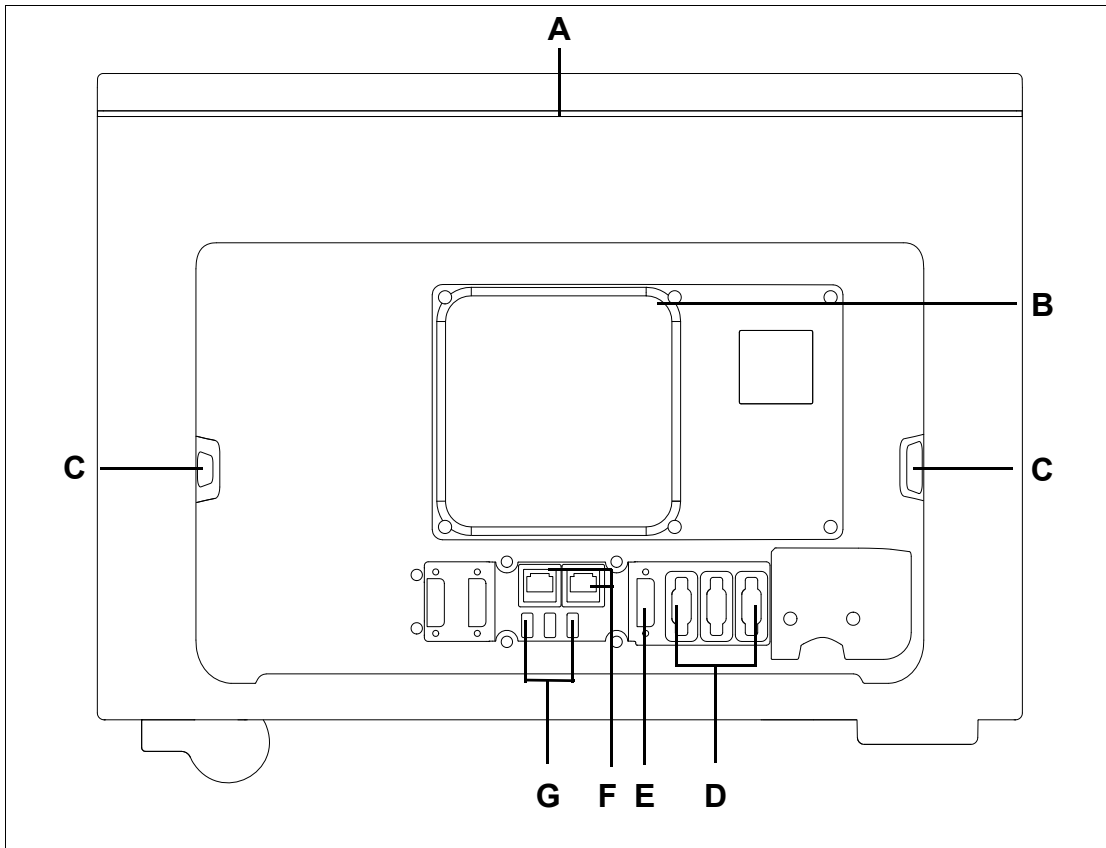
Infinity C700

Front access panel


























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



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Symbols

Symbol	Explanation	Symbol	Explanation
	Read accompanying documents for specific safety information		Power on/off
	Battery status		Non-disposable part
	DC power mains (only for specified DC power supply)		Device part number and revision
	Audio pause (with optional rotary knob; functionality depends on application)		Device serial number
	Manufacturer		Date of manufacture
	Attention! Consult the accompanying documents		Electrostatic discharge (ESD) warning sign
	Attention! Consult the accompanying document		Warning! Strictly follow these instructions for use
	Atmospheric pressure		Relative humidity
	Temperature limitation		LAN connection
	USB connection		DVI connection
	Serial interface		Protective earth
	Functional earth		

Abbreviations

Abbreviation	Explanation
AC	Alternating Current
DC	Direct Current
DVI	Digital Video Interface
EMC	Electromagnetic Compatibility
ESD	Electrostatic Discharge
LED	Light-emitting Diode
RF	Radio Frequency
USB	Universal Serial Bus
VESA	Video Electronics Standards Association

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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.

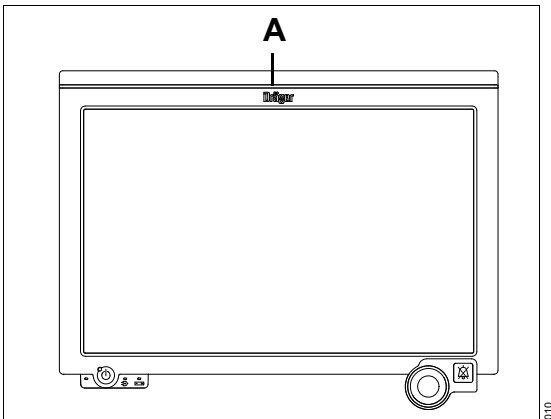
Alarm Bar

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:

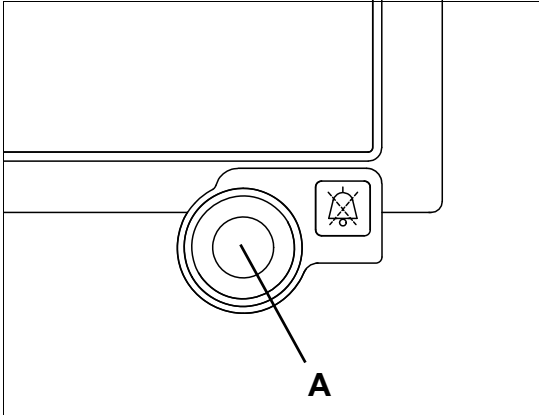
- Red for high priority (life-threatening) alarm conditions
- Yellow for medium priority (serious) alarm conditions

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.

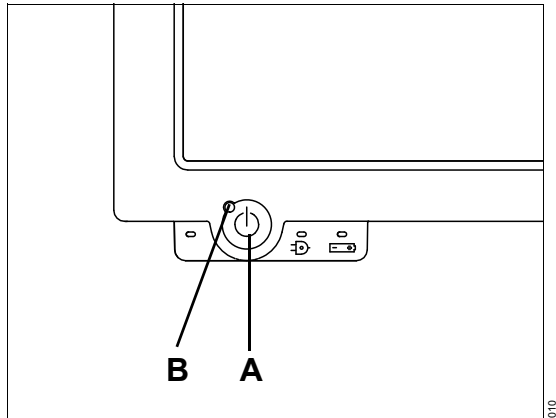
When the **Audio pause** key is pressed, the right most field in the header bar displays a crossed out bell symbol. A countdown timer indicates the activated audio pause feature and the remaining time before alarm tones are reactivated.

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

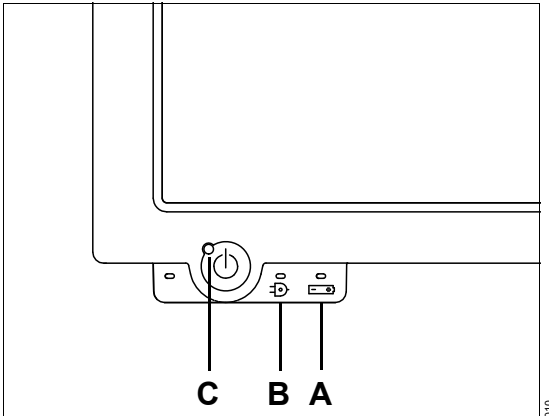
- 1 Press the Power On/Off key (A). A dialog window appears.
- 2 Select **Shutdown** inside the dialog window to shut down the system. The message **System is shutting down** appears on the screen while the Infinity Medical Cockpits are being powered down.

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

Power LED states

LED	LED color/state	Description
Battery status LED (A)	Does not light up	No battery is available
	Solid green	Battery capacity > 80 %
	Solid yellow	Battery capacity ≤ 80 %
	Blinking yellow	Error state
Battery status LED (A) and AC power LED (B)	Solid yellow and Solid green	Battery is charging (including conservation charging)
AC power LED (B)	Does not light up	No AC power is available
	Solid green	AC power is available
Power LED (C)	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.

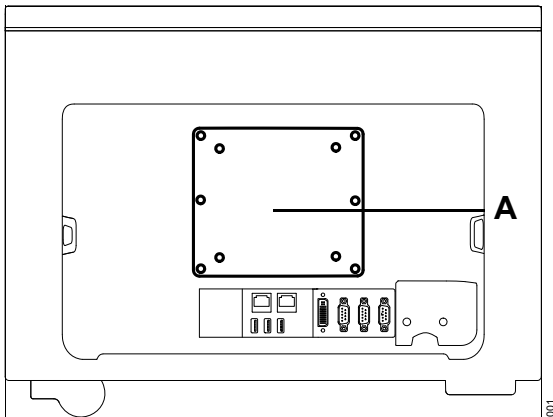


Table mount (IACS monitoring applications only)

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.

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 DrägerService.

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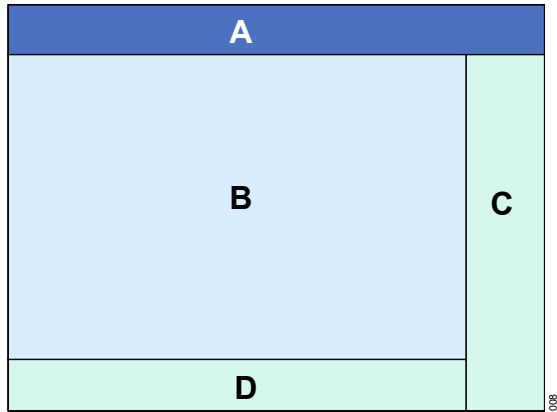
User interface

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 device-specific 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.

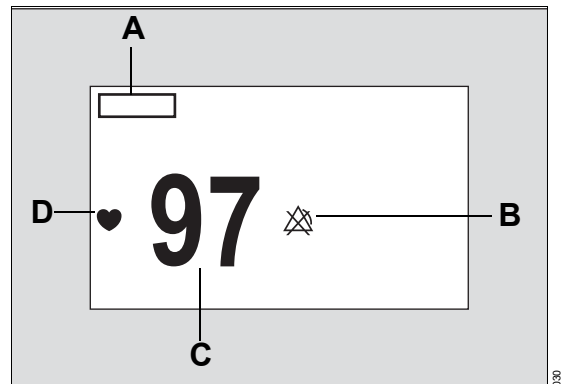
Parameter boxes


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 have alarm limits which are replaced by the symbol  when alarms are turned off. The display of alarm limits can be enabled or disabled (IACS monitoring applications only).

- 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



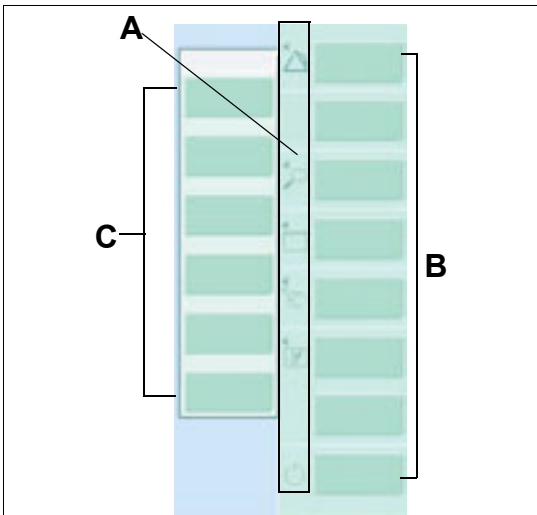
- A** Parameter label and, if applicable, units of measure
- B** Upper and lower alarm limits (if feature is enabled) or  symbol if alarms are turned off
- C** Parameter value
- D** Area for special symbols (for example, a heart symbol that blinks with each detected heart beat)

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:

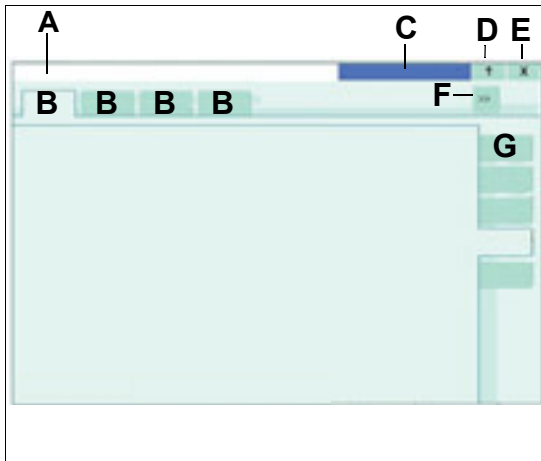
- Quick access symbols (**A**) with a small arrow to the left that open the associated quick access toolbar (**C**).
- Buttons with three dots open menus (for example *Main Screen...*).
- Buttons without dots execute a function directly (for example *NIBP start/stop*) or access a dialog window directly.

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.



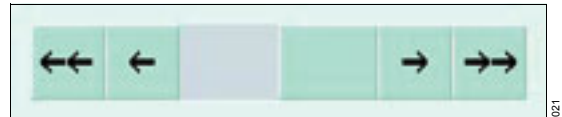
- A** Dialog window title – corresponds to the name of the button used for accessing the dialog window
- B** Horizontal tabs for accessing setup pages
- C** Message field for parameter-specific messages (not present on all dialog windows)
- D** Help – (not available for all applications)
- E** Button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

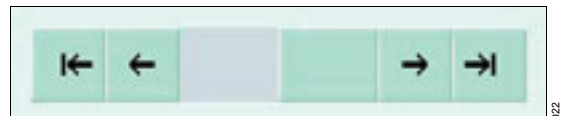
Scroll bars

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 background	Yellow background	Flashing yellow
Low	Solid cyan background	Cyan background	No visual signal

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.

Day and night mode

The Infinity Medical Cockpit supports two color modes: 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.
- 4 Select the green check mark symbol ✓ to complete the calibration procedure.

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Cleaning

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Safety information

WARNING

Do not use sharp tools or abrasives. Never immerse electrical connectors in water or other liquids. Avoid letting fluids puddle near the edge of the screen while you are cleaning it. Such actions may damage the device.

WARNING

Do not immerse or rinse the Infinity Medical Cockpit and its power supply. If you accidentally spill liquid on a device, disconnect the unit from the power source. Contact your service personnel regarding the continued safety of the unit before placing it back in operation.

Reprocessing procedure

Classification of medical devices

For reprocessing, the medical devices are classified by their way of application and the risk resulting from it:

- Uncritical medical devices: Surfaces accessible to the user, e.g. device surfaces, cables
- Semi-critical medical devices: parts conducting breathing gas, e.g. breathing hoses, masks

Referring to its reprocessing, this medical device belongs to the group of uncritical medical devices.

Testing of procedures and agents

The cleaning and disinfection of medical devices has been tested with the following procedures and agents. The following agents showed good material compatibility at the time of the test:

CAUTION

If using alcohol, it should only be a 40 % diluted solution. Higher concentrations could damage the device.

- Incidin Perfekt 2 %
- Banicide Advanced
- Isopropyl alcohol (40% solution)

- Metricide 28 – not to be used on the touch screen
- Wavicide-01 – not to be used on the touch screen
- Sporox II – not to be used on the touch screen (7.5% hydrogen peroxide, 0.85% phosphoric acid, and 91.65% inert ingredients)

In addition to material compatibility, the following agents were also validated for their disinfection efficacy for the product:

- Buraton 10 F (concentration: 1%, disinfection time: 30 min)
- Dismozon pur (concentration: 1.5%, disinfection time: 15 min)

Dräger makes no claims regarding the efficacy of chemicals and methods of disinfection that have not been validated.

Dräger generally makes no claims regarding the ability of the agents to control infection, their environmental impact, safe handling, or any related precautions regarding their use. Refer to information provided by the manufacturer of the cleaning solution for more information in these areas.

Uncritical medical devices

Manual cleaning and disinfection

Manual disinfection should preferably be carried out with disinfectants based on aldehydes or quaternary ammonia compounds.

Observe the applicable country-specific listings for disinfectants. The list of the German Association for Applied Hygiene (Verbund für Angewandte Hygiene VAH) applies in German-speaking countries.

The composition of the disinfectant is the responsibility of the manufacturer and can change over time.

Strictly observe the manufacturer's information on the disinfectant.

Cleaning the mouse and keyboard

To clean the mouse and the keyboard

- 1 Wipe the mouse and the keyboard with a cloth moistened in soap solution.
- 2 Dry thoroughly with a lint-free cloth.

Cleaning the Infinity Medical Cockpit

CAUTION

Do not clean the front access panel of the device while monitoring a patient. Before cleaning, take the device out of operation.

NOTE

Do not spray the cleaner directly on the touch screen. The cleaning liquid must be applied on a cloth or tissue before cleaning the surface of the Infinity Medical Cockpit.

To clean the Infinity Medical Cockpit

- 1 Wipe the Infinity Medical Cockpit housing with a cloth moistened in soap solution.
- 2 Dry thoroughly with a lint-free cloth.

To disinfect the Infinity Medical Cockpit

- 1 Disinfect the surfaces with gauze moistened in disinfectant. Use the correct concentration as directed by the manufacturer of the disinfectant.
- 2 Dry thoroughly with a lint-free cloth.

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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

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 DrägerService through your vendor. For repairs we recommend to contact DrägerService.

CAUTION

When servicing devices from Dräger Medical, always use spare parts that are qualified to Dräger standards. Dräger Medical 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	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.

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 ¹⁾	Every 12 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 DrägerService representative.

- 1 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. 46

Disposing of the medical device

At the end of its service life:

- Have the medical device appropriately disposed of in accordance with applicable laws and regulations.

For countries subject to the EU Directive 2002/96/EC

This device is subject to EU Directive 2002/96/EC (WEEE). In order to comply with its registration according to this directive, this device may not be disposed of at municipal collection points for waste electrical and electronic equipment. Dräger has authorized a company to collect and dispose of this device. To initiate collection or for further information, visit Dräger on the Internet at www.draeger.com. Use the Search function with the keyword "WEEE" to find the relevant information. If access to Dräger's website is not possible, contact the local Dräger organization.

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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: 416 x 322 x 122 mm (16.38 x 12.68 x 4.8 in) Infinity C700: 489 x 374 x 136 mm (19.25 x 14.72 x 5.35 in)
Dimensions without rotary knob (W x H x D)	Infinity C500: 416 x 300 x 99 mm (16.38 x 11.81 x 3.9 in) Infinity C700: 489 x 356 x 112 mm (19.25 x 14.02 x 4.41 in)
Weight (without mounting)	Infinity C500: 7.5 kg (16.53 lbs) Infinity C700: 9.5 kg (20.94 lbs)
Cooling	Convection
Altitude	70 to 106 kPa, 0 to 3000 m (9842 feet)
User interface	Touch screen or via keyboard and mouse
CPU	Infinity C500/Infinity C700: Intel Celeron M 723 ULV
RAM	Infinity C500/Infinity C700: 1 GB (1x SO-DIMM DDR-3)
Connectors	
Input/output ports	Infinity C500/Infinity C700: 2x LAN 10/100 Mbit/s, isolated 3x RS232, isolated 6x USB 2.0 1x DVI-I
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	Infinity C500: <55 Watt @ 24 V DC Infinity C700: <100 Watt @ 24 V DC
Current consumption	ON mode: <5 A OFF mode: <7 mA at 24 VDC
Mode of operation	Continuous
Environmental attributes	
Humidity	Operating: 10% to 95% (non-condensing) Storage and transportation: 5% to 95% (non-condensing)
Temperature	Operating: 0 °C to 40 °C (32 °F to 104 °F) Storage and transportation: -20 °C to 60 °C (-4 °F to 140 °F)
Pressure range	Operating: 70 kPa to 106 kPa (700 hPa to 1060 hPa) Storage and transportation: 50 kPa to 106 kPa (500 hPa to 1060 hPa)
Display attributes	
Touch screen	5-wire resistive analog
Diagonal display size	Infinity C500: 17 in (431.8 mm) Infinity C700: 20.1 in (510.5 mm)
Display area size (H x W)	Infinity C500: 367 mm x 229 mm (14.45 in x 9.02 in) Infinity C700: 433 mm x 271 mm (17.05 in x 10.67 in)
Display colors	Infinity C500: 16.7 M Infinity C700: 16.7 M
Aspect ratio	16:10
Resolution	Infinity C500: 1440 x 900 pixels Infinity C700: 1680 x 1050 pixels
Contrast ratio (typical)	Infinity C500: 500:1 Infinity C700: 800:1
Viewing angle	Infinity C500: 150° (typical) Infinity C700: 160° (typical)
Luminance (when set to maximum brightness)	Infinity C500: 250 cd/m ² (typical) Infinity C700: 300 cd/m ² (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.

Operational shock	10 g, half-sine, 11 ms, 600 shocks in total according to IEC 60068-2-29
Random vibration	1.04 g rms, broadband, 10 to 500 Hz, 6 hours in total according to IEC 60068-2-64
Liquid ingress protection	IP21 per IEC 60529
Standards	CISPR 11/EN 55011: Class B IEC 60601-1, IEC 60601-1-2 Ethernet 10/100, supports auto detection Packaged drop and vibration according to ISTA procedure 1 Compliance with IEC 60601-1-8 can be achieved when integrating these Cockpits into specified ME equipment or ME systems, but this Cockpit alone is only prepared for IEC 60601-1-8 compliance (subject to such integration).

Infinity C700 for IT

For technical data regarding the C700 for IT, refer to the *Infinity C700 for IT instructions for use*.

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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 gen-
eral information only and are not intended for
use with any specific machine or unit.

This document is provided for customer informa-
tion only, and will not be updated or exchanged
without customer request.



Directive 93/42/EEC
concerning Medical Device

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