encore

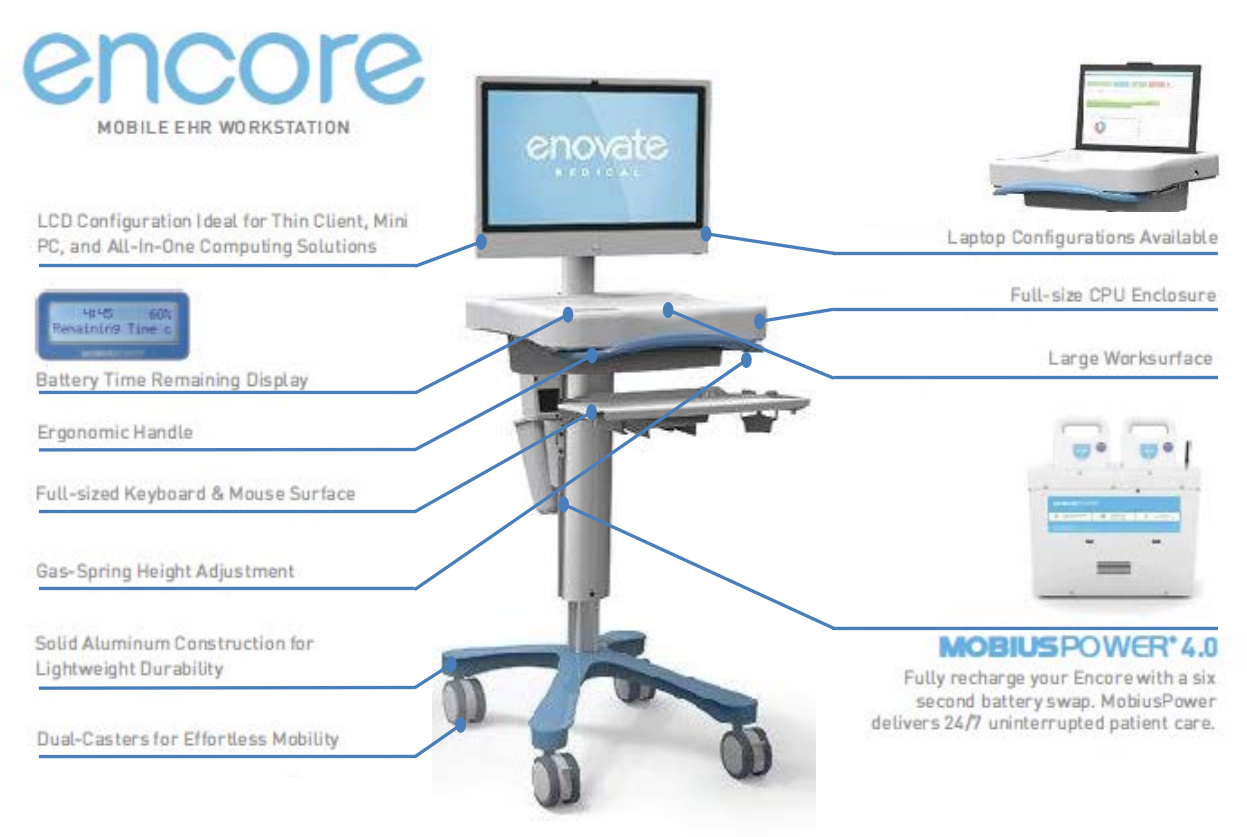
MOBILE EHR WORKSTATION

Laptop, LCD & AIO Configurations Available with MobiusPower 4.0

Welcome

The Enovate Medical Encore Mobile EHR Workstation was designed to set a new standard in quality. Enovate Medical's goal is to provide a workstation that is built right, ready for years of use, and backed by a commitment of exemplary service and support.

Thank you for purchasing the Enovate Medical Encore Mobile EHR Workstation.



Distributed by: Enovate Medical US Headquarters

1152 Park Avenue

Murfreesboro, TN 37129

Support@enovatemedical.com

Toll free 888.909.8930

For laptop compatibility please check with your local

Enovate Medical Representative or call us toll-free (888) 909-8930

Congratulations on your purchase of the Enovate Medical Encore Mobile EHR Workstation. Please do not use your workstation until you have read this manual in its entirety as it contains important safety and use information. The Enovate Medical workstation should only be used as outlined in this manual. Be sure to keep the manual in a safe place for future reference. If at any time you have questions or concerns about the contents of this manual or the use of your Enovate Medical workstation, please contact Enovate Medical Customer Service toll free at 888.909.8930

This manual and the accompanying product labels and safety labeling materials of the Enovate Medical workstation frequently employ the use of symbols with or without accompanying text. Health products regulatory agencies require the use of symbols, often in place of textual statements, to enhance the legibility of labeling and thus improve the conspicuousness of required information such as important safety information. Your attention to the presence and content of symbols used in this manual will help to ensure the safe use of your Enovate Medical workstation. The Symbols and Warnings chart depicts the symbols used and provides a definition for each symbol found in this manual and in the labels and labeling materials of the Enovate Medical workstation.

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Models covered by this document:

Model	Description
EMN0-L21	Encore Laptop Dual Channel Mobius powered workstation
EMN0-L21DL	Encore Laptop Dual Channel Mobius powered workstation, Drawer Ready (electronic locking only)
EMN0-L21D	Encore Laptop Dual Channel Mobius powered workstation, Drawer Ready (non-locking only)
EMN0-L41	Encore Laptop Quad Channel Mobius powered workstation
EMN0-L41DL	Encore Laptop Quad Channel Mobius powered workstation, Drawer Ready (electronic locking only)
EMN0-L41D	Encore Laptop Quad Channel Mobius powered workstation, Drawer Ready (non-locking only)
EMN0-M21	Encore LCD capable Dual Channel Mobius powered workstation
EMN0-M21DL	Encore LCD capable Dual Channel Mobius powered workstation, Drawer Ready (electronic locking only)
EMN0-M21D	Encore LCD capable Dual Channel Mobius powered workstation, Drawer Ready (non-locking only)
EMN0-M41	Encore LCD capable Quad Channel Mobius powered workstation
EMN0-M41DL	Encore LCD capable Quad Channel Mobius powered workstation, Drawer Ready (electronic locking only)
EMN0-M41D	Encore LCD capable Quad Channel Mobius powered workstation, Drawer Ready (non-locking only)
EMN0-LNX	Encore Laptop Non-powered workstation, no keyboard
EMN0-LNXD	Encore Laptop Non-powered workstation, no keyboard, Drawer Ready (non-lock or Code lock only)
EMN0-LN1	Encore Laptop Non-powered workstation, keyboard tray and curly cord
EMN0-LN1D	Encore Laptop Non-powered workstation, keyboard tray and curly cord, Drawer Ready (non-lock or Code lock only)
EMN0-MN1	Encore LCD capable Non-powered workstation, keyboard tray and curly cord
EMN0-MN1D	Encore LCD capable Non-powered workstation, keyboard tray and curly cord, Drawer Ready (non-lock or Code lock only)

The term “symbols” refers to the use of graphical symbols without equivalent accompanying text. Symbols are used by medical device manufacturers to create uniform labels and labeling for the United States, European Union, and any other countries that may permit their use in medical products. By using symbols in place of some textual statements, manufacturers may enhance the legibility of labeling and thus improve the conspicuousness of required information; especially where information is contained upon product labels that are restricted in their space available.

The use of symbols on the product labels are intended to conform to international consensus standards. The following chart depicts the symbols used and provides a definition for each symbol found in the labels.

Symbols

	Alternating current
	Direct current
	Caution In case of application as a safety sign, the rules according to ISO 3864-1 are to be adhered to. See safety sign ISO 7010- W001
	Operating instructions
	Dangerous voltage
	Caution, risk of electric shock
	Date of Manufacture
	Manufacturer
	WEEE Symbol
	General symbol for recovery/recyclable
	Arch Flash
	No pushing, to prohibit pushing against an object

Warnings

 Important Warnings	 Electrical Shock Warning

The above symbols represent safety warnings that require significant attention when seen on the Encore cart or in the user manual. Failure to do so could result in minor injury, major injury, or even death.

NOT SUITABLE FOR USE IN AN OXYGEN RICH ENVIRONMENT! Do not use in the presence of an anesthetic mixture with air or with oxygen or nitrous oxide.

USE A NONFLAMMABLE CLEANER WHEN CLEANING THE UNIT! Failure to do so can result in death, explosion, and/or fire.

DO NOT LEAVE THE UNIT UNATTENDED AROUND CHILDREN! Failure to do so can result in injury, and/or death.

CAUTION: MAIN BATTERY IS REMOVEABLE BY HANDLE. You must use proper lifting techniques. Failure to do so can result in injury.

AVOID USING AN EXTENSION CORD WITH THE UNIT! If an operational error occurs, the plug should be immediately removed from the socket.

THIS CHARGER IS DESIGNED FOR USE WITH LITHIUM BATTERIES!
For safety reasons, this charger must be used only for Mobius batteries

DO NOT ATTEMPT TO SERVICE OR REPLACE ANY PART OF THE ENCORE WORKSTATON unless directed to do so through Enovate Medical approved documentation (i.e., this User Manual or other instructions). Only Enovate Medical or an Enovate-certified entity may service or replace the cart components. If any component on the cart is missing or damaged, the cart must not be used. Contact Enovate Medical immediately to request service.

MAINTENANCE During preventive maintenance workstation should be turned off by removing main battery or disconnecting holster charger.

DO NOT TRANSPORT THE WORKSTATION UP OR DOWN STAIRS!
Workstation must be in lowered position and all drawers must be closed during transport.

DO NOT OPEN THE POWER SYSTEM! Unauthorized personnel opening the power system may cause injury and/or death. If the unit is not working properly, please contact Enovate Medical at 888-909-8930

	**DO NOT USE THE UNIT IN/NEAR WATER OR OTHER LIQUIDS!** If the unit becomes wet, unplug it immediately, wipe away any excess liquid and allow it to dry before use. Failure to do so may cause electric shock, damage to the unit, voiding the warranty, injury or death.
	**ALWAYS KEEP THE UNIT WELL VENTILATED!** Do not block ventilation airways or insert items into the ventilation slots. Failure to do so can cause the power system to overheat and possibly cause fire, explosion, and/or death.
	**THE CHARGER CONTAINS DANGEROUS VOLTAGES AND THE COVER SHOULD NOT BE REMOVED.** All service or maintenance work should be carried out by qualified service personnel by contacting Enovate Medical at 888-909-8930
	**GROUNDING** Connect the Enovate holster charger or bay charger to an equivalent receptacle marked “Hospital Only” or “Hospital Grade” to ensure ground
	**WARNING:** To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth
	**WARNING:** Do not push the workstation from the side. Always use the handle to move or adjust the workstation position.

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STATEMENT OF USE:

The Encore Mobile EHR Workstation facilitates mobile computing in healthcare environments to aid in clinical documentation. Designed to set a new standard in quality, ease of use, and customer satisfaction, our goal is to provide a product that is built to exacting standards and is ready for years of durable service in a healthcare environment. This product is designed to be safely used within general patient areas and is meant to aid in the entering or retrieving of clinical data. It complies with IEC 60601-1 electromagnetic leakage and safety requirements if used in accordance with the boundaries and suggestions of this manual.

SAFETY GUIDELINES:

MOBIUS POWER is designed to ensure both the highest level of product quality and safety for the user. To maintain both quality and safety, follow the guidelines and instructions in this manual.

- Use the MOBIUS POWER system only as intended.
- Do not place the power system near a window. Exposing the power system to rain, water, moisture, or constant, direct sunlight can severely damage it.
- The MOBIUS POWER system has no user-serviceable, internal parts. To maintain your warranty, refer all servicing to Enovate Medical qualified personnel.
- Do not cover or obstruct any venting holes on the MOBIUS POWER Main Power Controller or the MOBIUS POWER Charging Stations.
- Store the MOBIUS POWER system within 10 to 30 degrees Celsius (50 to 86 degrees Fahrenheit) for optimum backup battery life. Storing the system outside the temperature range could result in premature backup battery failure.
- Use and maintain the cord set provided with the MOBIUS POWER Charging Stations.
- Position workstation in a manner that does not obstruct or make it difficult to disconnect from external power source.
- If any cord or cable is frayed or damaged, replace it immediately with another of the same type and rating as supplied by Enovate Medical.
- To clean the exterior of the power system/components, follow the IEC 60601-1 standard for use in a hospital environment. See “Maintenance” for more information.
- Before cleaning a MOBIUS POWER Charging Station, disconnect the enclosure from its power source.
- **CAUTION!** Do NOT ship individual MOBIUS POWER Battery Packs by air. Certain restrictions apply. Contact Enovate Medical for shipping instruction.

CLASSIFICATIONS

- Charger: Class 1
- Main Controller: Class 1, Internally Powered
- Degree of Protection against Harmful Ingress of Water, IPX0
- EQUIPMENT not suitable for use in the presence of a FLAMMABLE ANAESTHETIC MIXTURE WITH AIR or WITH OXYGEN OR NITROUS OXIDE

TRANSPORT / STORAGE ENVIRONMENT:

Care should be taken to transport and store this system within the following:

- Ambient Temperature Range: -20 °C to +50 °C (-4 °F to 122 °F)
- Atmospheric Pressure: 50 kPa to 106 kPa
- Relative Humidity: 5% to 85% non-condensing

STORAGE REQUIREMENTS:

- The lithium ion Battery Pack must not be fully charged prior to storing. 50% state of charge recommended.

OPERATING ENVIRONMENT

- Ambient Temperature Range: 0 °C to +40 °C (32 °F to 104 °F)
- Atmospheric Pressure: 50 kPa to 106 kPa
- Relative Humidity: 20% – 85% non- condensing

WARRANTY

- Product Warranty:
    - 1 and 4 year limited warranty on Battery Packs
    - 4 years on Workstation and electronic components
- Contact Enovate Medical directly for full warranty details

COMPLIANCE

Workstation

- IEC 60601-1 3rd Edition

Holster Charger

- IEC 60601-1, EN 60601-1, UL ES 60601-1, CSA C22.2 No. 60601-1
- IEC 60950-1, EN 60950-1, UL 60950-1, CSA C22.2 No. 60950-1
- CE, RoHS

Bay Chargers

- UL 1012
- CAN/CSA-E60335
- IEC 60335

Mobius Battery

- IEC 62133 2nd Edition
- UL 62133
    - Only part numbers: 3117615, 3117715, 3117815, 3117915, 3118015, 3118115, 3118215, 3118315, 3118415
- UN 38.3

EMI (Electromagnetic Interference)

Portable and mobile RF communications equipment can affect Medical Electrical Equipment. The use of accessories, transducers, and cables other than those specified by the manufacturer, may result in increased Emissions or decreased Immunity of the System. The System should not be used adjacent to or stacked with other equipment and that if adjacent or stacked use is necessary, the System should be observed to verify normal operation in the configuration in which it will be used.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio, television or Medical Electrical Equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference using one or more of the following measures: reorient or relocate the receiving antenna; increase the separation between the equipment and the receiver; connect the equipment into an outlet on a circuit different from that which the receiver is connected; consult the dealer or an experienced radio/television technician for help. The user must use shielded cables and connectors with this product.

Any changes or modifications to this product not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation. MOBIUS POWER meets or exceeds FCC Class A limits for EMI

Overview

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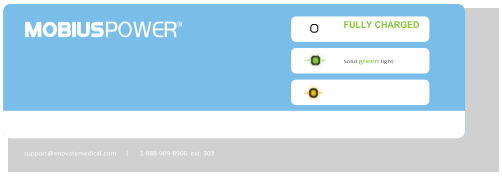

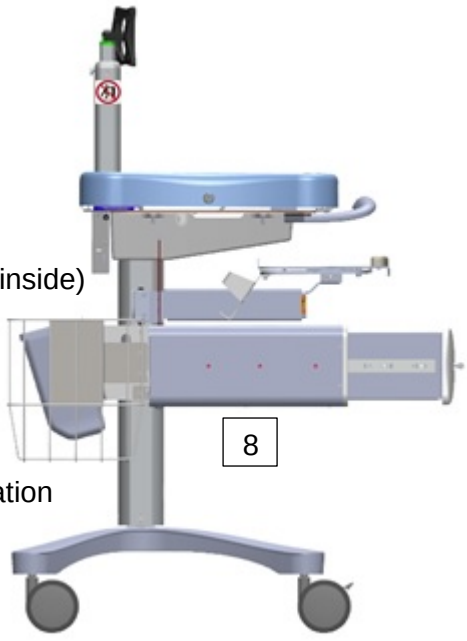

8

1 LCD Message Center

2 AC / DC Holster Charger*

3 Mobius Power Battery Pack

4 Main Power Control (Main Control and DC boards inside)

5 2-Bay Charging Station*

6 4-Bay Charging Station*

7 Indicator Light Instructions on front of Charging Station

8 Electronic Locking Drawer

*OPTIONAL components or system upgrade

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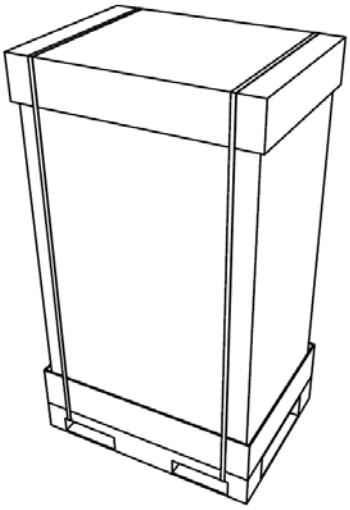
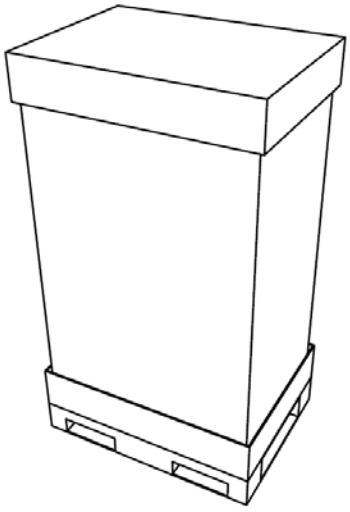
Unpacking

Promptly unpack your products to check for completeness and damage caused by shipping. Immediately after receiving you products, ALL batteries must be fully charged to ensure the duration of their warranty.

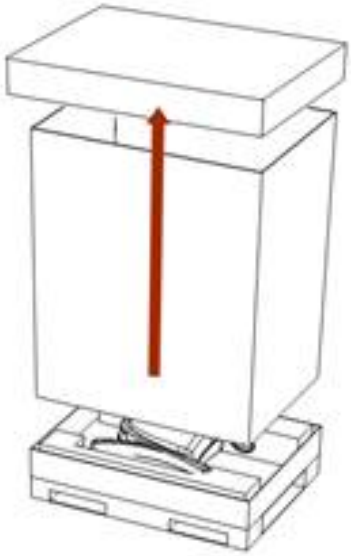
NOTE: All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.



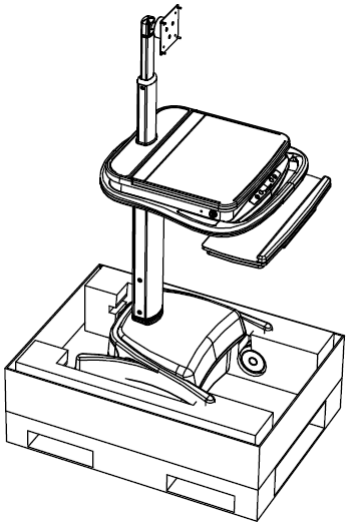
1 Before removing the workstation from a shipping container, check the packaging and pallet to prevent accepting an item with shipping damage.



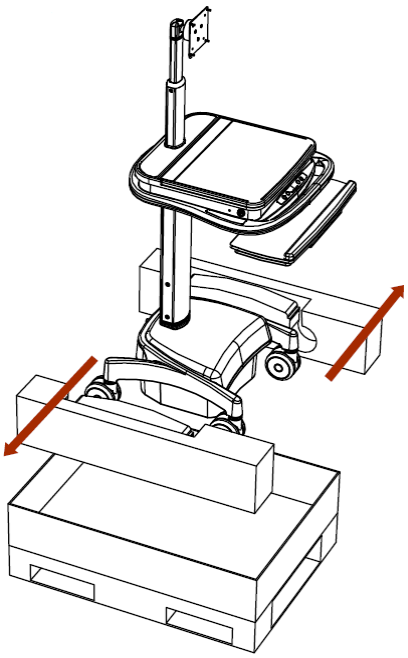
2 Use scissors or a utility knife to cut and remove the two outer straps.



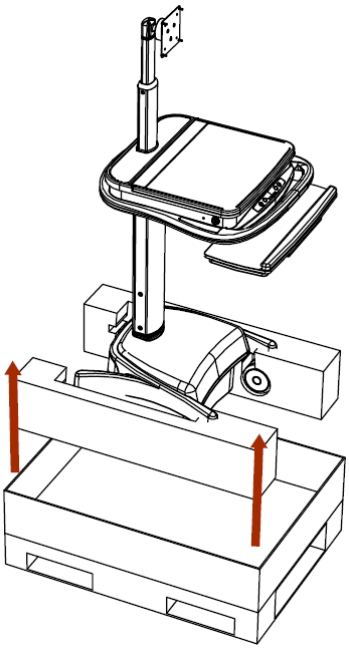
3 Remove cardboard lid and any packing spacers.



4 Remove cardboard walls and plastic bag. NOTE: This step requires two people. Lift cart (with foam castor braces still attached) out of the cardboard base.

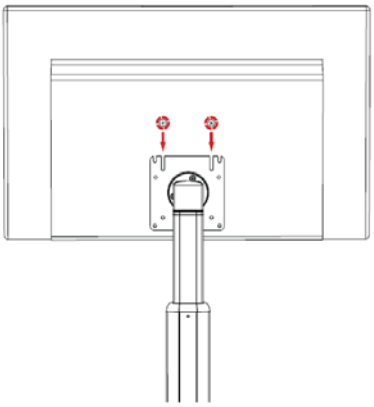


5 Remove foam castor braces.



6 Open tray and check for integration kit and locate all optional accessories.

Initial Setup

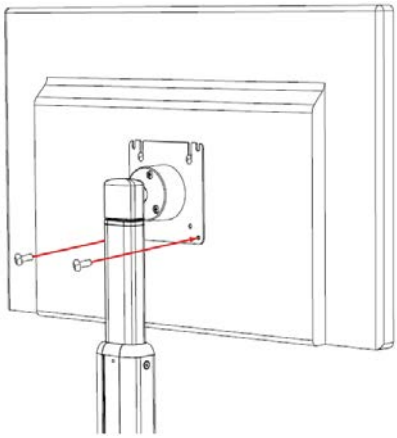


STEP 1

Loosely insert two screws into the top two holes of the VESA pattern on the back of the monitor.

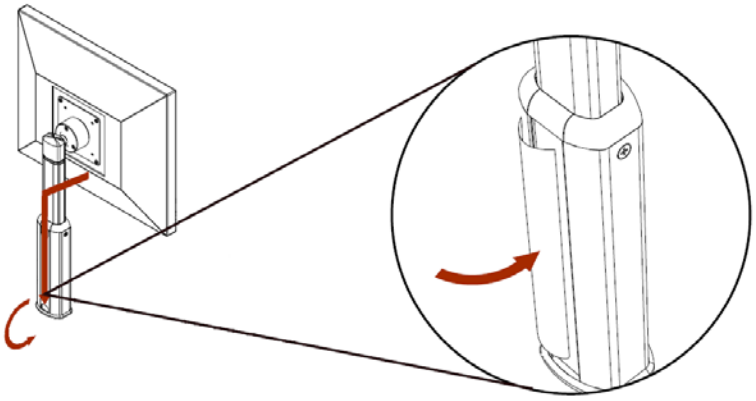
STEP 2

Align screws with the quick mount slots in the monitor pole VESA plate. Slide the monitor into place and tighten the screws.



STEP 3

Insert screws into bottom two holes of the monitor pole VESA plate to properly secure the monitor.



STEP 4

Connect the monitor's power cable and video cable. Route the cable through the channel on the back of the monitor column. Slide the cable management cover into place over the wires. Leave enough slack above the cable management strip to allow the monitor to extend fully upward.

STEP 5

Put the CPU side of the power and video cables through the opening in the center rear of the tray. Pull any extra cable length into the CPU compartment.

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STEP 6

Set the CPU onto the platform beneath the work surface. A VESA mount is available for mini form factor enclosures. *NOTE: Take care in CPU placement; consider orientation based on direction of cable inputs and sizes INCLUDING monitor input, power input, mouse, keyboard and any peripherals. Make cable connections within the tray.*

KEYBOARD INSTALLATION

STEP 1

Pull the keyboard tray forward to full extension. This will simulate the full length requirement of Keyboard cable length.

STEP 2

Set the Keyboard upon the Keyboard tray.

STEP 3

Route the cable under and through the tray, plug into appropriate location on CPU/Laptop and zip tie into place.

MOUSE INSTALLATION

STEP 1

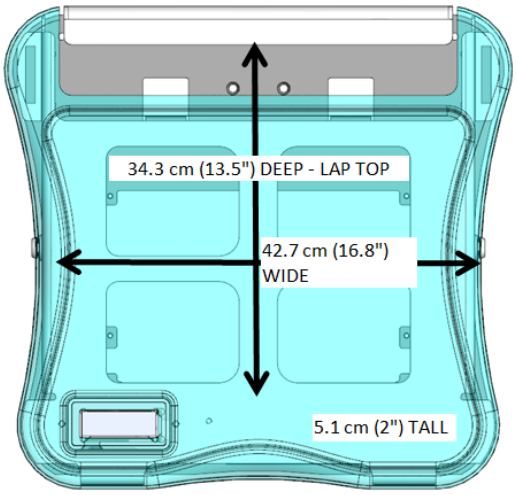
Pull the keyboard tray forward to full extension. This will simulate the full length requirement of Mouse cable length.

STEP 2

Route the cable under and through the tray, plug into appropriate location on CPU/Laptop and zip tie into place.

STEP 3

Stow mouse in mouse holder.



LAPTOP INTEGRATION

STEP 1

Open CPU compartment by lifting the work surface. Install Laptop and plug appropriate cable into the Laptop power jack.

STEP 2

Plug in all USB, video and audio cables.

STEP 3

With the Laptop screen open, lower the work surface making sure it does not make contact with the screen, close and lock.

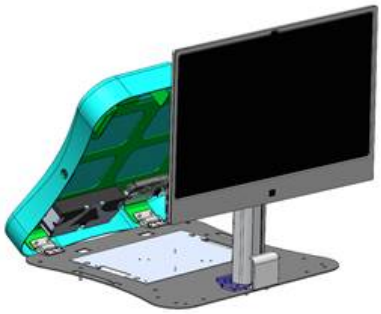
STEP 4

To adjust the screen height, locate the two screws holding the riser plate. Using a T15 Torx bit, loosen the riser, make adjustments and tighten the screws.

MINI FORM FACTOR PC INTEGRATION

STEP 1

If a monitor is installed, turn it around so that it faces the back of the workstation.



STEP 2

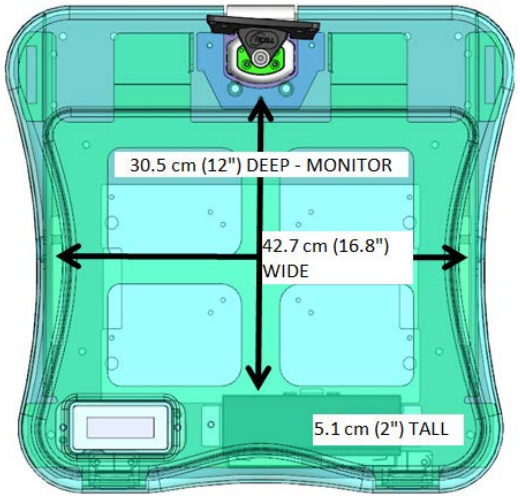
Open CPU compartment by lifting the work surface. Install CPU and plug appropriate cable into the CPU power jack.

STEP 3

Plug in all USB, video and audio cables.

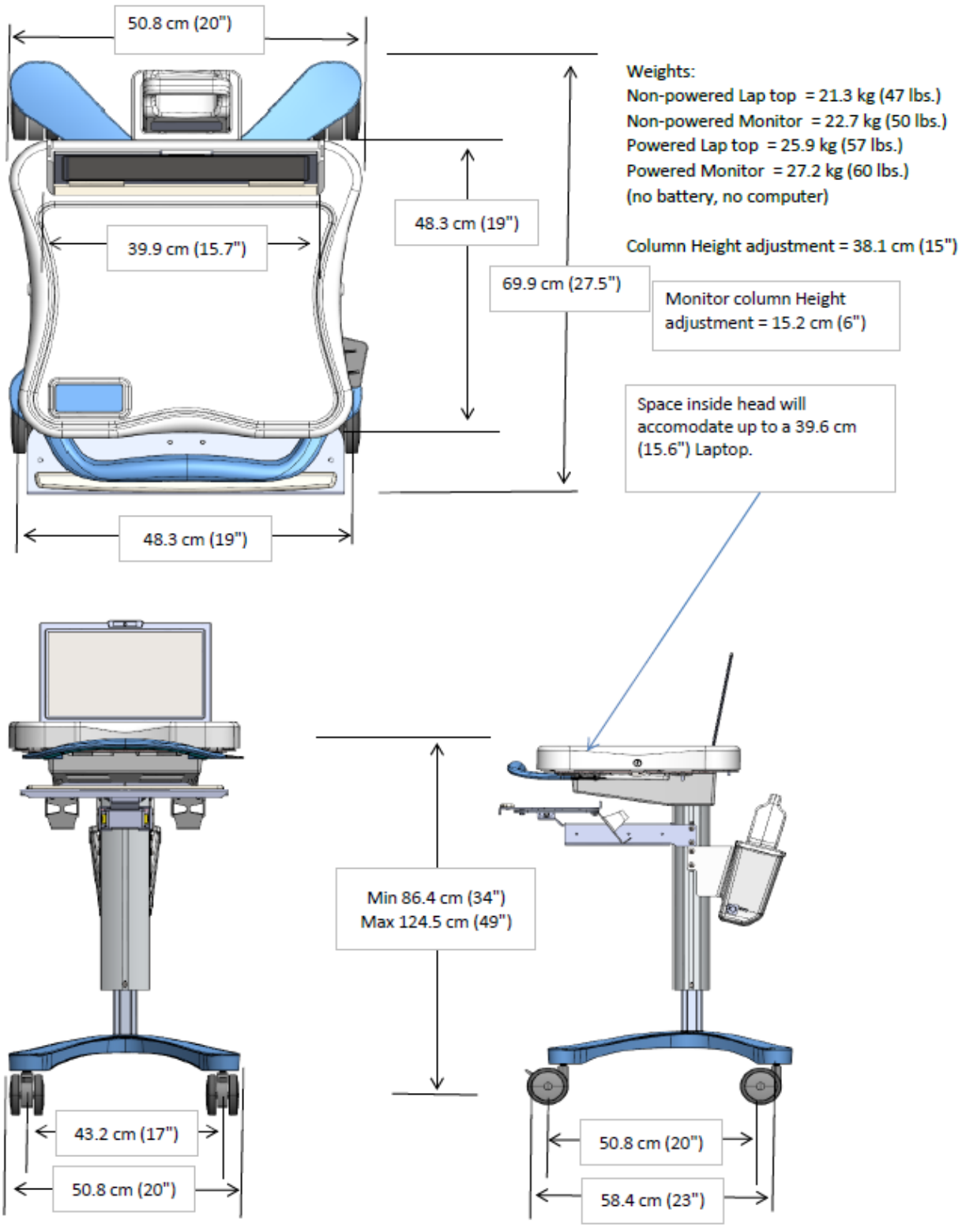
STEP 4

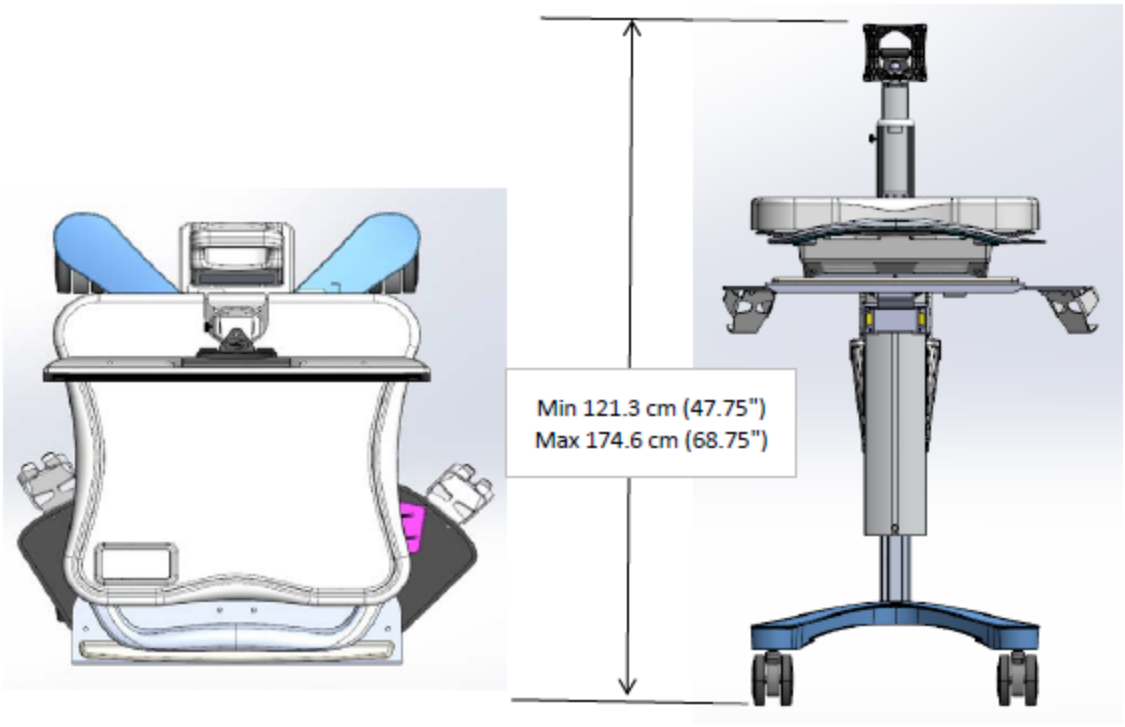
Lower the work surface making sure it does not make contact with the monitor.

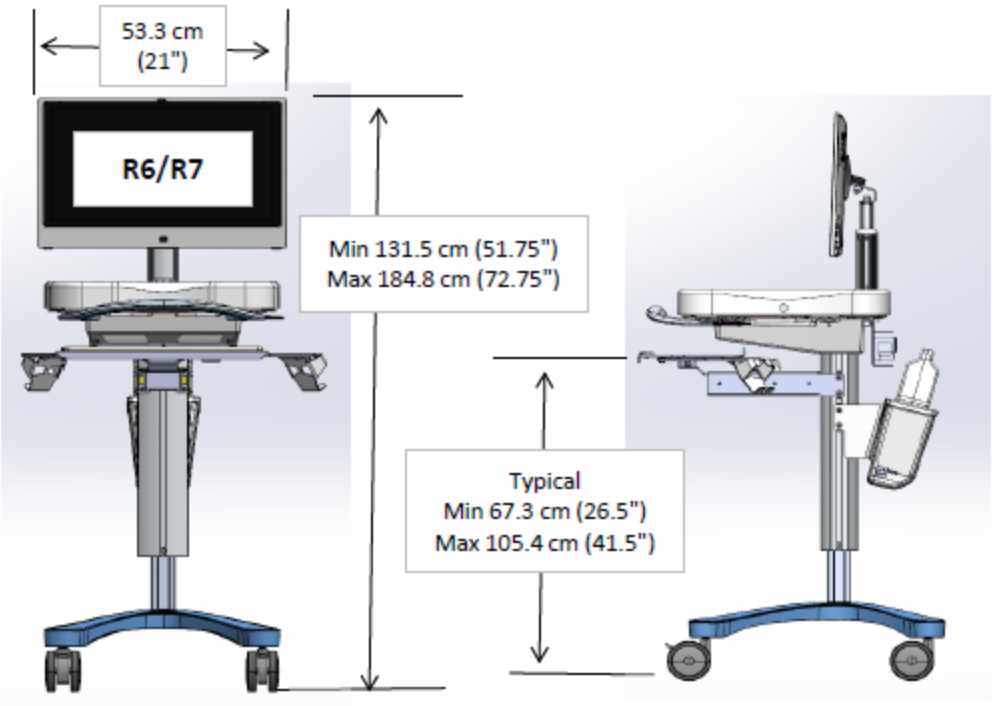


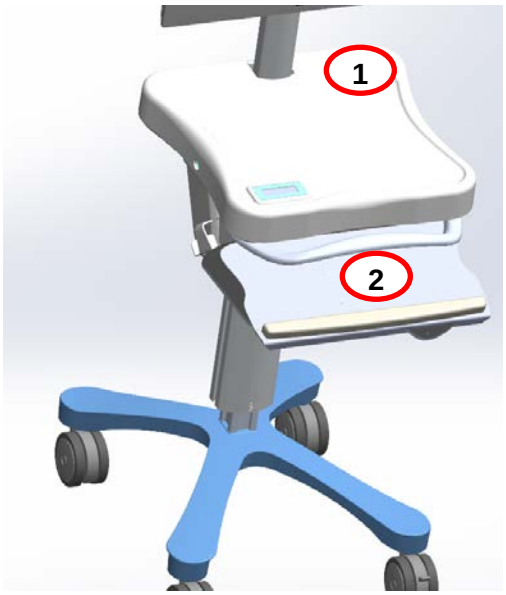
Workstation Features

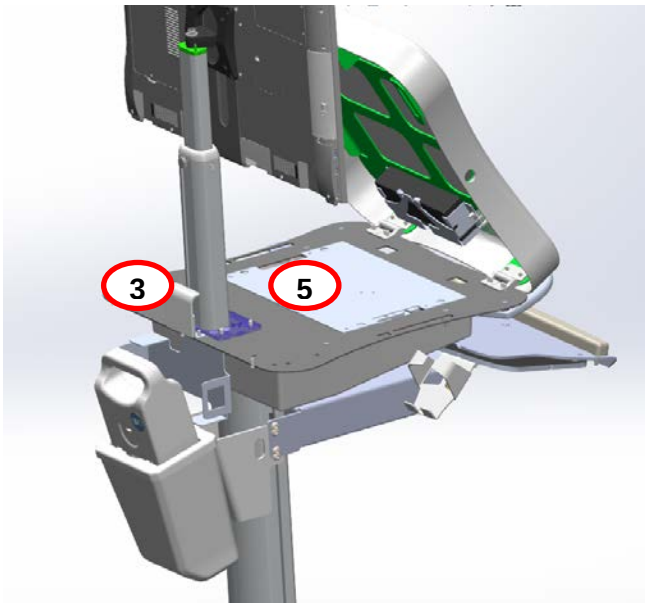
Encore Specifications



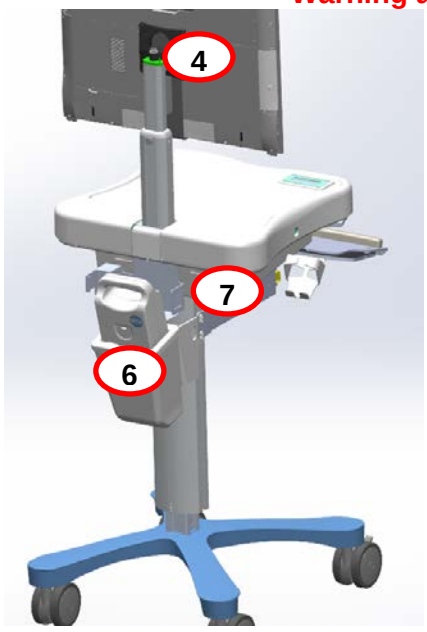


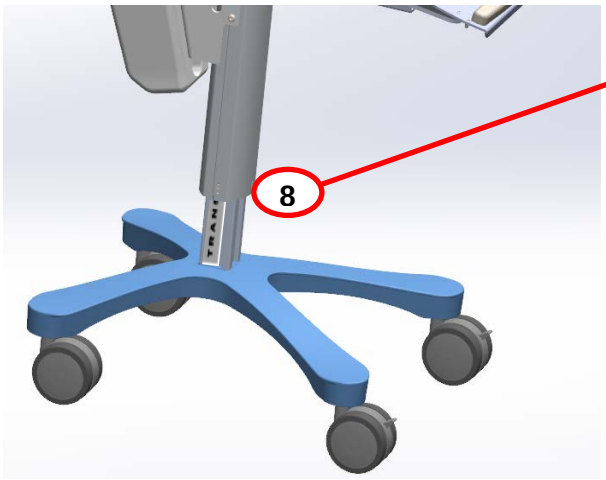




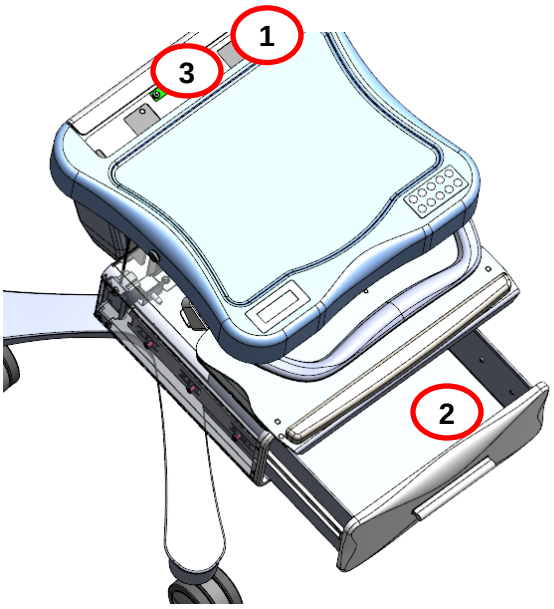


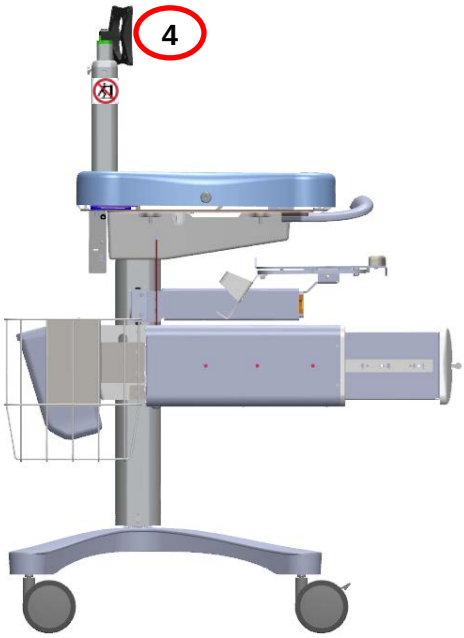
Warning and Information Label Locations

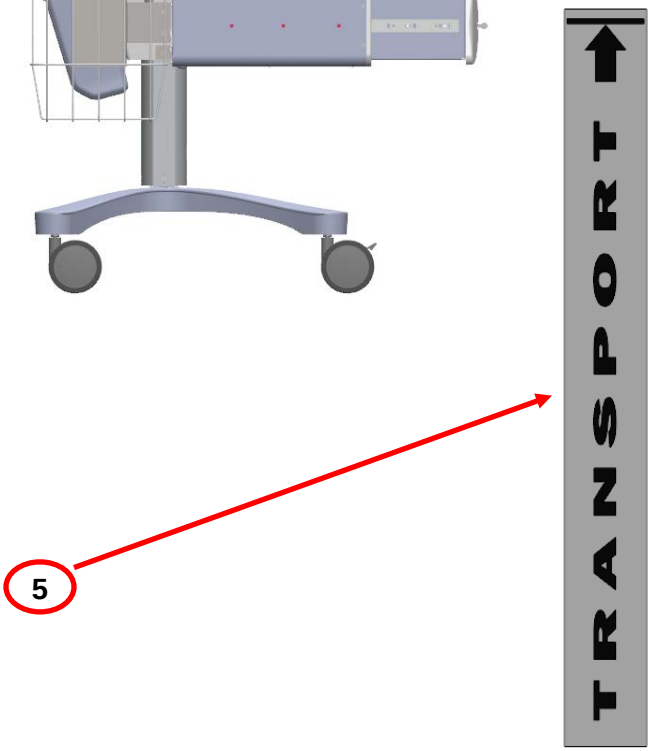




WARNING	1	**Tipping Hazard:** Transport cart in lowered position
	2	Safe Working Load: 3.2 kg (7 lbs.)
	3	**Maximum total load: 22.2 kg (49 lbs.)** CPU Compartment: 4.5 kg (10 lbs.) Work Surface: 4.5 kg (10 lbs.) Keyboard Tray: 1.4 kg (3 lbs.) Monitor: 7.3 kg (16 lbs.) Column Mounted Accessories (located below keyboard tray): 4.5 kg (10 lbs.)
	4	Maximum Monitor Weight: 7.3 kg (16 lbs.)
	8	Transport position is any position below line
INFORMATION	5 6	Mobius Power serial number label
	7	Encore Workstation serial number label







WARNING	1	**Tipping Hazard:** Transport cart in lowered position
	2	Safe Working Load: 4.5 kg (10 lbs.)
	3	**Maximum total load: 26.8 kg (59 lbs.)**
		CPU Compartment: 4.5 kg (10 lbs.) Work Surface: 4.5 kg (10 lbs.)
		Keyboard Tray: 1.4 kg (3 lbs.) Monitor: 7.3 kg (16 lbs.)
		Column Mounted Accessories (located below keyboard tray): 4.5 kg (10 lbs.)
		Column Mounted Drawer: 4.5 kg (10 lbs.)
	4	Maximum Monitor Weight: 7.3 kg (16 lbs.)
	5	Transport position is any position below line

Locking Drawer

Technical Administrator Guide available at: support@enovatemedical.com

or Toll free 888.909.8930

Unlocking the Drawer

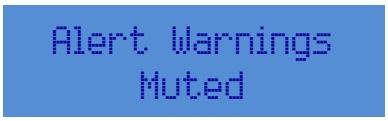
- Using the keypad, enter the assigned pin. The default unlock code is 1122
- If you enter an incorrect pin, you can press the “CLEAR” button on the keypad to clear code one digit at a time.
- If you enter incorrect key, the LCD will read “InValid PIN Entry”

Locking the Drawer

- The drawer will Auto Lock after 120 seconds. The countdown timer will be present on the LCD
- To manually lock the drawer, ensure the drawer is closed, then press the “LOCK” button on the keypad
  - The LCD will read “Locking Drawer”

Muting Alerts

- To mute the Alert Warning, press the “MUTE” button on the keypad.
  - The LCD will inform you that the Alert Warnings have been muted



Checking Drawer Firmware

- To check the drawer’s firmware, press the “e” on the keypad.
  - Firmware pictured is current as of the issue date of these Instructions for Use.

Repairs

No user serviceable parts. Repairs and/or upgrades are to be performed only by an authorized service provider.

MAINTENANCE

Your device provides reliable and efficient operation with a minimum of care. Although specific maintenance is not required, the following periodic checks ensure dependable operation:

LCD STATUS WINDOW

The LCD Encore status window may be cleaned with a soft cloth or tissue dampened with water (or a mild detergent-water solution). If a detergent solution is used, rinse with a clean tissue dampened with water only.

CAUTION: The LCD Encore status window is not watertight. Do not use abrasive wipes or tissues on the LCD window – abrasive wipes may scratch the window. Never use solvents on the window – solvents may damage the finish or window.

WORK SURFACE

All configurations of Encore workstations utilize an external plastic covering that is designed to resist the effects of harsh chemicals in a health care environment.

WORKSTATION CLEANING INSTRUCTIONS

Nonabrasive cleaners or mild cleaning solutions should be used. As a precaution, we recommend testing the suitability of a cleaning product by applying to an inconspicuous area, minimizing the time of exposure and the amount of cleaning agent used (dilute as recommended by the supplier) to prevent any damage to the surface.

TESTED AND APPROVED CLEANING AGENTS:

- ✓ Quaternary ammonium compound
- ✓ Bleach Solution (generic)
- ✓ *Alcohol Solution (91% isopropyl: Avoid Use on Base)
- ✓ Hydrogen Peroxide
- ✓ Sani-Cloth® Plus Wipes
- ✓ Super Sani-Cloth® Wipes

- Contamination by intensely colored substances such as: coffee, iodine, or dyes, must be removed immediately.
- Power System should be inspected bi-annually to ensure vent holes and pan guard are free of dust and debris.
- All paints and plastic cart components will withstand cleaning by most commonly used diluted non- abrasive solutions such as: quaternary ammonia compounds, or bleach.

PRECAUTIONS:

Do not use steel wool or other abrasive cleaners, solvents, polishes, waxes or steam cleaning tools that will damage the surface finish.

- Do not use strong solvents such as trichloroethylene and acetone; these materials will damage the surface finish.
- Caution should be used in the application of cleaning agents containing Ethylene Glycol Monobutyl Ether including: CaviWipes™, 409® Cleaner, Windex® and ammonia cleaners which have been shown to cause increased brittleness in PC/ABS components over time.
- The use of Zymit® Enzyme Cleaner, Virex® 256, or Micro-90® is not recommended.
- To avoid risk of electric shock, do not expose electrical components to water, cleaning solutions or other potentially corrosive liquids or substances.
- Do not immerse the cart or cart components in liquid or allow liquids to flow into the cart. Wipe cleaner off surface immediately using a damp cloth. Thoroughly dry surface after cleaning.
- Do not use flammable cleaners on cart surfaces due to proximity of electrical power and equipment.

IMPORTANT INFORMATION:

The preceeding recommendations should not be construed to guarantee infection control. The hospital infection control administrator should be consulted regarding cleaning procedures and processes.

*In some cases, alcohol will strip paint stampings like custom branding and graphics

INSPECTING CORDS AND CONNECTORS

Equipment can be damaged during use and when it's moved from one location to another. Damage can render equipment unsafe to use. Device interface cables, both power and data, ship installed in the Encore workstation.

Perform the following safety checks before energizing equipment:

- When properly installed, the plug should fit snug and not wobble in the socket. Look for visible damage to equipment, wall disconnects (holster charger), enclosures and electrical devices
- **Important!** If External holster charger is present, ensure power supply cord has proper grounding with a 3-prong plug
- Inspect cables for wear; look for defects and missing, bent or broken plugs
- Inspect external sheaths of power supply cords to ensure they are not cut, frayed, twisted, or damaged
- Ensure the inner cores of power supply cords are not exposed where they connect to equipment, plugs and/or sockets
- Ensure inner cores of power supply cords are not exposed or twisted along the cord's length
- Ensure there are no exposed, unprotected electrical conductors
- Ensure electrical tape or anything that can cover damage has not been applied to power supply cords and devices

  NOTE: If any of the above items exist, immediately tag the item, remove from service and notify a supervisor or facilities management

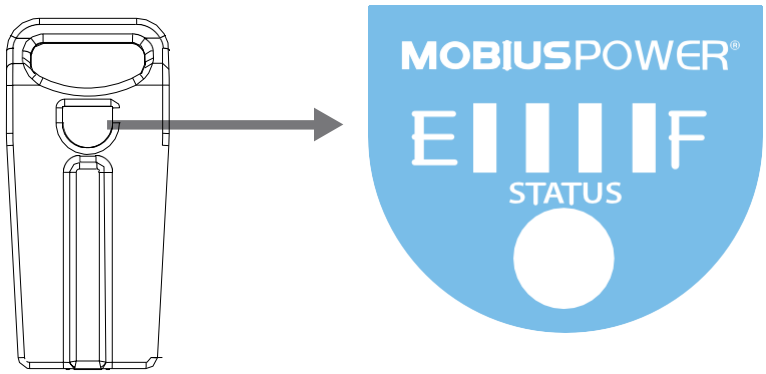
In Addition:

- Switch off disconnects and equipment before connecting or disconnecting power supply cords
- Keep power supply cords clear of walkways (holster charger)
- Keep power supply cords away from heat, sharp edges and moving parts that can damage cord sheath and insulation
- To prevent overheating, do not use extension cords (holster charger)
- Notify maintenance if a power supply cord feels more than comfortably warm
- Never use adapters to convert 3-prong plugs into 2-prong plugs (holster charger)
- Pull the plug, not the cord when unplugging equipment. Pulling the cord causes unnecessary wear and adversely affects wiring to the plug
- Walk or look all around equipment prior to moving to ensure it has been completely disconnected (holster charger)

Power Systems

Each Battery Pack has a “fuel gauge” to indicate charge level/capacity.

- You may check a Battery Pack’s charge capacity at any time.
- To check the remaining charge on a Battery Pack, press and release the white circle on the Battery Pack’s fuel gauge display.
- The charge level is indicated in 25% increments by the number of status lights appearing between the E-Empty and F-Full.
- After 3 seconds, the status lights will turn OFF.



Charge Capacity		LED 1	LED 2	LED 3	LED 4
E F	**0% - 10%**	FLASH	OFF	OFF	OFF
E F	**11% - 25%**	ON	OFF	OFF	OFF
E F	**26% - 50%**	ON	ON	OFF	OFF
E F	**51% - 75%**	ON	ON	ON	OFF
E F	**76% - 100%**	ON	ON	ON	ON

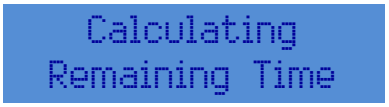
MOBIUS POWER QUICK REFERENCE GUIDE

Q: When do I need to change the Mobius Power Battery Pack?

1152 Park Avenue
Murfreesboro, TN 37129
p. (888)909-8930 f. (615)896-1652

www.enovatemedical.com
support@enovatemedical.com

TIME REMAINING ON BATTERY PACK



The workstation is calculating the run time based on the current being drawn by the system.

Once the time is calculated, the Battery Pack will show a continuous display of 'Time Remaining' in hours and minutes. With Nurse Sensor installed, the time will vary depending on usage amount.

LOW BATTERY WARNING CYCLE

25 minutes time remaining:

- LCD displays 'Low Battery'
- Audible alarm (single beep) will alert you every 100 seconds

20 minutes time remaining:

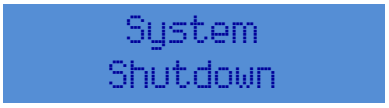
- LCD displays 'Low Battery'
- Audible alarm (double beep) will alert you every 75 seconds

15 minutes time remaining:

- LCD displays 'Replace Battery'
- Audible alarm (two beeps) will alert you every 50 seconds

10 minutes time remaining:

- LCD displays 'Replace Battery'
- Audible alarm (single beep) will alert you every 20 seconds

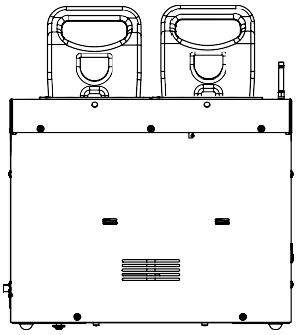


5 minutes time remaining:

- LCD displays 'System Shutdown'
- The Mobius SD application is doing an orderly shutdown of Windows because the battery charge level is very low.

Once the Battery Pack charge capacity is depleted, the LCD Message Center will turn off. At this point, MOBIUS POWER, your computer and any other devices requiring power will shut down until the Battery Pack is replaced with a Fully Charged Battery Pack OR the Battery Holster is plugged into an AC outlet using the optional Holster Charger. You may then turn on your computer and other electronic devices.

MOBIUS POWER Charging Station



Includes 2-Battery or 4-Battery Charging Stations. Once the Charging Station is placed and plugged into an outlet, slide a Battery Pack into any open slot making sure the FLASHING GREEN indicator light turns on. The charge cycle is complete when the indicator light is illuminated SOLID GREEN.

	**FULLY CHARGED** Solid green light
	**CHARGING** Blinking green light
	**ERROR** Solid or blinking yellow light

MOBIUS POWER Holster Charger

Use of the Holster Charger requires two connections. One end connects to the Battery Holster on your mobile cart and the other to an AC electrical outlet. After you connect the Holster Charger to both the Battery Holster and the electrical outlet, the LCD will read ‘AC Powered’. Charge status can be checked by unplugging the Holster Charger from the wall outlet and reading the ‘Time Remaining’ on the LCD, or use the LEDs on the Battery Pack

BATTERY DISPOSAL

Industrial batteries contain materials which are considered ‘hazardous substances’. If batteries are improperly disposed of, for example, thrown in the trash or illegally dumped, these substances can eventually leak out and contaminate the surrounding soil and groundwater supply.

It is a violation of federal law to improperly dispose of batteries once they can no longer be used. Once a battery is purchased, full liability and responsibility lies on the owner to dispose of the battery. The law says that responsibility is still on the owner if the battery is disposed of improperly by dumping in a landfill, or shipping to a scrap dealer who does not handle it properly and in which environmental damage occurs.

It is illegal to dispose of batteries in any way other than ‘thermal recovery’ or recycling of the hazardous substances in batteries according to the Environmental Protection Agency (EPA).

The Department of Transportation (DOT) has strict guidelines for the shipping of hazardous materials, which result in large fines if they are not followed.

Check with your local ordinances for proper disposal procedures. SDS sheets are available on-line at http://www.enovatemedical.com. Batteries are consumable goods.

Recycling MOBIUS POWER Batteries - Rechargeable batteries power everything from portable phones and cordless phones to laptops and PDAs. Batteries are a unique product comprised of heavy metals which include nickel cadmium, alkaline, mercury, nickel metal hydride and lead acid, which can threaten our environment if not properly discarded or handled. There are many ways to properly dispose of batteries, most of which depends on the type of battery you have. Lithium-ion rechargeable batteries are less toxic than many others, but it is still recommended that they be recycled.

The Rechargeable Battery Recycling Corporation (RBRC) manages a collection and recycling program for rechargeable batteries. The RBRC accepts rechargeable nicad, NiMH, Lithium-Ion, and small (under 2-lb) sealed lead-acid batteries. The RBRC has made it very convenient for you to recycle your rechargeables by getting retail stores like Home Depot, Target, Wal-Mart, and others to serve as collection points. And it's all free of charge. To find a drop-off point near you in the US or Canada use the Call2Recycle Locator tool at http://www.call2recycle.org/ (U.S.); http://www.call2recycle.ca/ (Canada).

Remember: Batteries enable our mobility, so it's likely our society will be using a lot more batteries in the future. But to ensure that we're not slowly poisoning our highly mobile selves, it's important that we do a good job of recycling batteries.

Power Specifications

BATTERY SPECIFICATIONS

One Year Battery

Chemistry: Lithium Ion
Capacity: 26.1 AH
Voltage: 10.8 (nominal)
Charge Time: < 4 hrs.
Measurements: 31 cm (12.2") H x 12.7 cm (5") W x 8 cm (3.14”) D
Weight: 2.5 kg (5.5 lbs.)

Four Year Battery

Chemistry: Lithium Ion
Capacity: 26.1 AH
Voltage: 10.8 (nominal)
Charge Time: < 4 hrs.
Measurements: 31 cm (12.2") H x 12.7 cm (5") W x 8 cm (3.14”) D
Weight: 2.5 kg (5.5 lbs.)

CHARGING STATION SPECIFICATIONS

Dual Charging Station

Inlet:	IEC 320 C14
Protection:	10 A, 250 VAC Fuse
Input Voltage:	120V +/- 10%
Input Frequency:	60Hz
Input Current:	3.6 Amps max
Output Voltage:	12.6 VDC
Output Current:	8.5 A per bay (max)
Output Power:	115 Watts (max) per bay
Measurements:	32 cm (12.6”) H x 43.2 cm (17") W x 14.7 cm (5.8") D

Quad Charging Station

Inlet:	IEC 320 C14
Protection:	15A, 250VAC Breaker
Input Voltage:	120V +/- 10%
Input Frequency:	60Hz
Input Current:	7.2 Amps max
Output Voltage:	12.6 VDC
Output Current:	8.5 A per bay (max)
Output Power:	115 Watts (max) per bay
Measurements:	32 cm (12.6”) H x 68.6 cm (27") W x 14.7 cm (5.8") D

MAIN CONTROLLER SPECIFICATIONS

Power Controller

Output Voltage:	2 Channels variable 5 VDC – 12 VDC
Output Power:	5 VDC – 12 VDC, 60 W (max) each
Output Voltage:	2 Channels variable 12 VDC – 24 VDC
Output Power:	12 VDC – 24 VDC, 120W (max) each
Input Voltage:	10.8 VDC nominal
Input Voltage Range:	9.6 VDC – 12.6 VDC
Input Current:	14.9 A (max)
Output Protection:	Yes
Output Power:	144 W Total for System
Overload Recovery:	Yes
Overload Protection:	Yes

HOLSTER SPECIFICATIONS

Holster Charger

Model:	Protek Power PMP150-12-HI
Input Voltage:	90 VAC – 264 VAC
Input Frequency:	47 Hz – 63 Hz
Input Current:	2 A (rms) for 115 VAC, 1 A (rms) for 230 VAC
Output Voltage/Current:	12.0 VDC, 11.0 A
Charge Time:	< 7 hrs.
Measurements:	5 cm (1.96") H x 8.2 cm (3.23") W x 20.8 cm (8.17") D

System Electromagnetic Emissions

MEDICAL ELECTRICAL EQUIPMENT needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the ACCOMPANYING DOCUMENTS.

WARNING: Use of unapproved ACCESSORIES may result in degradation.

Guidance and Manufacturer's Declaration – Cables, Transducers and Accessories

The listed cables, transducers and accessories have been determined by Enovate Medical to be compliant with the emissions and immunity requirements of IEC 60601-1-2: 2001.

Part No.	Description	Max Possible Length	Shielded (Y/N)
3113935	Cord set, hospital grade IEC 60320-C13RA to NEMA 5-15P	304.8 cm (10')	N
A0000241	DC power, 2.5 x 5.5 x 9.5mm to KPPX-4P	127 cm (50")	N
3116937	DC power, 2.5 x 5.5 x 9.5mm to KPPX-4P	91.4 cm (36")	N

1152 Park Avenue
Murfreesboro, TN 37129
p. (888)909-8930 f. (615)896-1652

www.enovatemedical.com
support@enovatemedical.com

Table 201 – Guidance and manufacturer's declaration – electromagnetic emissions – for all EQUIPMENT and SYSTEMS (see 6.8.3.201 a)3))

Guidance and Manufacturer's declaration – electromagnetic emissions

MOBIUS POWER is intended for use in the electromagnetic environment specified below. The customer or the user of MOBIUS POWER should assure that it is used in such an environment.

Emissions Test	**Compliance**	**Electromagnetic environment - guidance**
RF emissions CISPR 11	Group 1	MOBIUS POWER uses RF energy only for its internal function. Therefore, its RF emissions are very low and are
RF emissions CISPR 11	Class A	MOBIUS POWER is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Not Applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not Applicable	

Table 206 – Recommended separation distances between portable and mobile RF communications equipment and the EQUIPMENT or SYSTEM – for EQUIPMENT and SYSTEMS that are not LIFE-SUPPORTING (see 6.8.3.201 b)

Recommended separation distances between portable and mobile RF communications equipment and the MOBIUS POWER.

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

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz d = [3.5/ V1]eP	80 MHz to 800 MHz d = [3.5/E1]eP	800 MHz to 2.5 GHz d = [7/E1]eP
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmit- ter 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.

Table 202 – Guidance and manufacturer's declaration – electromagnetic immunity – for all EQUIPMENT and SYSTEMS (see 6.8.3.201 a) 6))

Guidance and manufacturer's declaration – electromagnetic immunity

MOBIUS POWER is intended for use in the electromagnetic environment specified below. The customer or the user of MOBIUS POWER should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/ output lines	±2 kV for power supply lines ±1 kV for input/ output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% UT (>95% dip in UT) for 0.5 cycle 40% UT (60% dip in UT) for 5 cycles 70% UT (30% dip in UT) for 25 cycles <5% UT (>95% dip in UT) for 5 sec	<5% UT (>95% dip in UT) for 0.5 cycle 40% UT (60% dip in UT) for 5 cycles 70% UT (30% dip in UT) for 25 cycles <5% UT (>95% dip in UT) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Mobius requires continued operation during power mains interruptions, it is recommended that the Mobius be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m (60Hz)	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.

Table 204 – Guidance and manufacturer's declaration – electromagnetic immunity – for EQUIPMENT and SYSTEMS that are not LIFE-SUPPORTING (see 6.8.3.201 b))

Guidance and manufacturer's declaration – electromagnetic immunity

MOBIUS POWER is intended for use in the electromagnetic environment specified below. The customer or the user of MOBIUS POWER should assure that it is used in such an environment.

Immunity test	IEC 60601 test	Compliance level	Electromagnetic immunity - guidance
Conducted RF IEC 61000-4-6 Radiated RF IEC 61000-4-3	3 Vrms 150 kHz to 80 MHz 3 V/m 80 MHz to 2.5 GHz	3 V 3 V/m	Portable and mobile RF communications equipment should be used no closer to any part of the MOBIUS POWER including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance d = [3.5/ V1]eP d = [3.5/E1]eP 80 MHz to 800 MHz d = [7/E1]eP 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 meters (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: 

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 broad- cast 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 MOBIUS POWER is used exceeds the applicable RF compliance level above, MOBIUS POWER should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating MOBIUS POWER.

b) Over the frequency range 150 kHz to 80 MHz, field strength should be less than [3] V/m.

Glossary

ACCESS COVER: Part of an ENCLOSURE or GUARD providing the possibility of access to electrical equipment parts for the purpose of adjustment, inspection, replacement, or repair.

ACCESSORY: Additional part for use with equipment in order to:

- achieve the INTENDED USE,
- adapt it to some special use,
- facilitate its use,
- enhance its performance, or
- enable its functions to be integrated with those of other equipment.

CLASS I: Term referring to electrical equipment in which protection against electric shock does not rely on BASIC INSULATION only, but which includes an additional safety precaution in that means are provided for ACCESSIBLE PARTS of metal or internal parts of metal to be PROTECTIVELY EARTHED.

INTERNALLY POWERED: Term referring to electrical equipment that is able to operate from an INTERNAL ELECTRICAL POWER SOURCE.

MANUFACTURER: Natural or legal person with responsibility for the design, manufacture, packaging, or labeling of ME EQUIPMENT, assembling an ME SYSTEM, or adapting ME EQUIPMENT or an ME SYSTEM, regardless of whether these operations are performed by that person or on that person's behalf by a third party.

NORMAL USE: Operation, including routine inspection and adjustments by any OPERATOR, and stand-by, according to the instructions for use.

OPERATOR: Person handling equipment.

OXYGEN RICH ENVIRONMENT: Environment in which the concentration of oxygen is:

a) greater than 25 % for ambient pressures up to 110 kPa; or

b) the partial pressure of oxygen is greater than 27.5 kPa at ambient pressures exceeding 110 kPa.

SAFE WORKING LOAD: Maximum external mechanical load (mass) on equipment or an equipment part that is permitted in NORMAL USE.

TOTAL LOAD: Maximum total loading of a part including the maximum SAFE WORKING LOAD, where applicable, and the static and dynamic forces occurring in NORMAL USE.

REVISIONS

REV	DESCRIPTION	DATE	BY
IR	Initial Release	06/13/2017	S. Godbey
A	Add Electronic Locking Drawer	09/01/2017	S. Godbey

1152 Park Avenue

Murfreesboro, TN 37129

p. (888)909-8930 f. (615)896-1652

www.enovatemedical.com

support@enovatemedical.com