Sapphire™

Setup and Mid - Infusion Actions

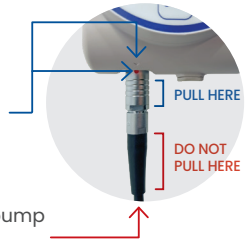
The information provided here applies to Sapphire SW revisions 16.50 onwards, and does not replace the Sapphire™ user manual.

eitan medical sapphire™

Setup Actions

Charging the Sapphire battery

- The Sapphire pump operates on a rechargeable battery power
- It is important to push in the charger's connector (red dot or arrow) in front of the arrow on the pump



DO NOT TWIST THE CONNECTOR

- To disconnect the connector from the pump or splitter, pull metal snap and release
- Charger LED indicates battery charging status
- A blinking yellow light indicates the battery is charging. A solid yellow light indicates the pump is connected to main power, and the battery is fully charged

The Sapphire bolus handle connection is identical, and it must be connected directly to the pump

Priming the Sapphire set

- The Sapphire set can be primed via the pump, some sets can also be primed manually (non-PAV sets)
- It is possible to prime with the pump before or after programming the infusion, in all delivery modes
- The priming can be interrupted at any point

1. Before/after programming

2. Disconnect the set from the patient

3. Priming starts, countdown time is displayed

4. Prime ends. Confirm with OK. Repeat until all air is discarded

- **When set to on, Prime reminder displays a message to the user to prime the set before starting infusion**
- **The volume used for prime is not reduced from the volume to be infused**

Setup Actions

Changing the delivery mode

Upon turn on, the Sapphire pump is automatically set to the last delivery mode used.

To select a different delivery mode:

- From the start up screen, select **Options**
- From the options screen, select **Delivery mode**
- Enter the High code, and press **OK**
- Select the required delivery mode
- The pump shows the start up screen

The delivery mode is displayed on upper right corner, next to the battery icon

Quick Start Options

Quickly start an infusion by using one of the quick start options.

Option 1 – Repeat Last Infusion

1. Select **Repeat Last Infusion**
2. Review and confirm the program
3. Prime the set
4. Press **Start** to start the infusion

Option 2 – PreSet

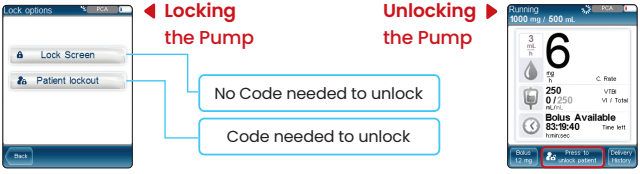
1. Select PreSet Programs
2. Select the program name from the list
3. Review and confirm the program
4. Prime the set
5. Press Start to start the infusion

Repeat Last Infusion option is used only for the same patient. The pump retains all the information from previous infusions (volumes infused, bolus history, lockout time)

Mid-Infusion Actions

Locking and Unlocking the Pump

The pump can be locked to avoid unintentional or unauthorized touching of the screen.



The pump can be unlocked with any code level, functions will be limited according to the code level entered. When Auto Patient Lockout is enabled, Patient Lockout will be reactivated within 30 seconds.

Modifying an active Infusion Program

1. Unlock the pump to modify parameters
2. To modify a PCA/PCEA infusion, pause the pump first
3. TPN infusion parameters cannot be changed during infusion

From running screen

Direct, single parameter change

1. Press the parameter to be modified
2. Enter the new value
3. Press **OK** to confirm
4. PCA/PCEA/PIEB : Press Request Continue
5. If required, lock the pump

From View/Edit menu

1. Press the **View/Edit** key
2. Select the parameter to be modified
3. Enter the new value
4. As needed select additional parameters to be modified
5. Press OK to confirm
6. PCA/PCEA/PIEB : Press Request Continue
7. If required, lock the pump

Mid-Infusion Actions

Viewing Infusion Program

During infusion the entire infusion program can be viewed on the Infusion values menu.

To access infusion values during infusion:

- Press **View/Edit** key
- Select **View system** option
- Press the infusion values row

- **The values shown are the last programmed for the treatment, VTBI is the current remaining VTBI**
- **Parameters cannot be edited in this menu**

Changing bag

If additional volume needs to be programmed to continue a running infusion, do one of the following:

1. Change the VTBI - Before infusion ended message (see modifying infusion program section)
2. Use Repeat Last Infusion option - After infusion ended message (see quick start options)

Stopping the Pump

Stopping the pump can be done from the screen or from the hard key.

From the screen:

- Unlock if needed
- Press **Request Pause**
- Press **OK** to pause the pump

From the hard key:

- Press the **STOP** hard key
- Press **OK** to pause the pump

- **If the pump remains paused longer than the time set for unattended alarm, the alarm will be triggered.**
- **To keep the pump paused for a long period of time without alarming, power off the pump without quitting the program (see p.6 instructions)**

Mid-Infusion Actions

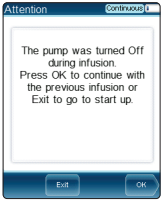
Turning Off the Pump (Quit infusion or Resume)

The pump can be turned off at any time by pressing the On/Off hard key and confirming on the screen.

During infusion, the pump can retain the infusion status and resume it at a later time

Turn off without resuming later

1. Pause the infusion
2. Press **Quit**
3. Press **Quit** infusion
4. Press **On/Off** hard key
5. Press **OK**



To resume

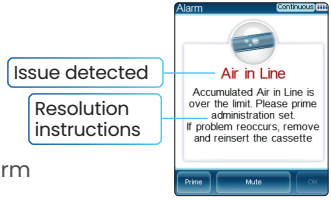
1. Press **On/Off** hard key
2. Press **OK** to resume infusion
3. Press request continue
4. Press **OK** to continue infusion

Troubleshooting Alarms

When the pump detects an issue with the infusion, it stops the infusion and alarms.

To resolve the issue and resume the infusion

1. Press **Mute** to silence the alarm for 2 minutes
2. Follow the instructions on the screen to resolve the issue
3. Press **OK** to dismiss the alarm
4. Press **Request** continue
5. Press **OK** to confirm and restart the infusion



Mid-Infusion Actions
PCA/PCEA/Epidural Intermittent

Giving a Clinician Bolus in

PCA **PCEA** **Intermittent** **infusions**

- Unlock the pump if it's locked
- Press **View/Edit**
- Select **C.bolus**
- Enter the **High level code** and press **OK**
- Enter the bolus dose to be given and press **OK**
- Press **OK** to start the bolus

A clinician bolus can be given only when the infusion is in progress. The bolus rate is predetermined in the pump settings.

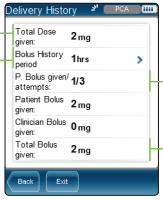
Delivery History

- Press the **View/Edit** key
- Select **Delivery history**

When pump is locked, the delivery history menu is available from the running screen, no need to unlock

Total amount of medication delivered since infusion started

To change the time period corresponding to the bolus events below, select the >, and enter the desired time period

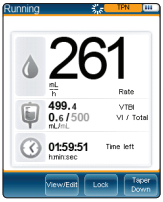


Total number of boluses delivered / patient bolus requests

Total amount of medication delivered via boluses (patient's, clinician's, loading dose, PIEB intermittent doses)

Mid-Infusion Actions TPN

TPN



Immediate Taper Down

If the pump has to be stopped in the middle of a TPN infusion, the option to apply the programmed taper down or stop at once is available.

The option of taper down is available during the plateau rate.

To activate the taper down:

1. Press the **Taper down** key
2. Select **Immediate Taper Down**
3. Press **OK** to start taper down

When the pump is set to High/Medium code, the user can adjust the taper down time

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