

BeneFusion VP3

BeneFusion VP3 Ex

Infusion Pump

Operator's Manual



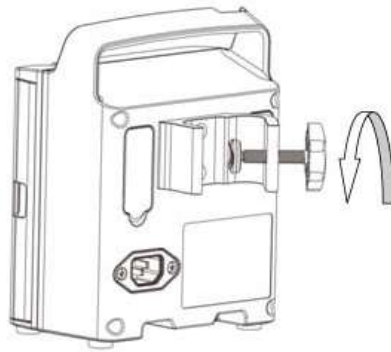
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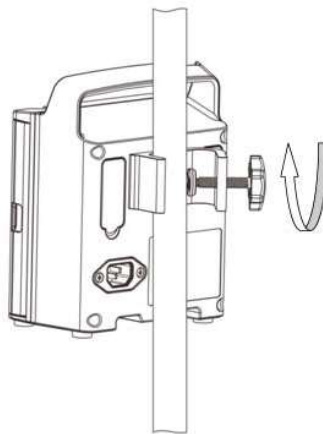


3.1.3 Mount the Clamp

3.1.3.1 Standard Pole Clamp



1. Turn counterclockwise to loosen the pole clamp until an IV stand can be inserted in.



2. Tighten the pole clamp clockwise to firmly fix the device on the IV stand (round vertical bar with diameter size of 15-32mm).

6.3.3 Dynamic Pressure Scanning (DPS)

During the infusion, the bottom-right corner of the Run screen demonstrates real-time pressure changes of the patient, in order to find the tube occlusion at an earlier time and to prevent the occurrence of further complications.

6.3.4 Automatic Pressure Release Function (Anti-Bolus)

When occlusion occurs, infusion will stop and the **[Occlusion]** alarm will be triggered. After the alarm is triggered, the motor is reversed, and the line pressure is then released. This prevents an additional aggressive dose to the patient after the occlusion is eliminated.

6.4 Set Air Detection

Air bubble size indicates the size of air bubble that can be monitored in the tube. The lower of the bubble size, the smaller air bubble can be identified. Bubble in the infusion tube can be measured by the built-in ultrasonic sensor, bubble size can be calculated by the internal CPU, which is compared with the preset threshold. **[Air in line]** alarm will be triggered if bubble size exceeds the threshold.

1. Select **[Main Menu]**→**[General Options]**→**[Air detection]**.
2. Select **[Air detection]**, 6 levels of air detection can be selected, lowest at 20µl, and highest at 800µl. Air detection level should be selected according to actual needs.

CAUTION

- If the patient experiences discomfort or danger at a higher air bubble filter level, monitor the patient's physical conditions and select the actual needed level. Measures should be taken instantly if any abnormal condition occurs.
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6.5 Accumulate Air

1. Select **[Main Menu]**→**[General Options]**→**[Accumulate air]**.
2. Select **[Accumulate air]**: 0.1-4ml is adjustable.

6.6 Drip Setting

1. Select **[Main Menu]**→**[General Options]**→**[Drip setting]**.
2. Select **[d/min]**→**[On]**, and set the "Drip". On infusion parameters setting interface of Rate Mode and Time Mode, "ml/h" and "d/min" can be switched. If **[Off]** is selected, "ml/h" and "d/min" can not be switched.

6.7 Key Lock Function

When locked, an  icon in the upper-right corner of the screen emerges. The following are two ways for automatic lock and manual lock:

■ Automatic Lock:

1. Select **[Main Menu]**→**[General Options]**→**[Auto-lock Time]**.
2. Select **[Auto-lock Time]**: Off, 1-5min. After a specific time is set during the running state, and if there is no operation or high level alarm within the set Auto-lock time, the key board will be auto-locked. **[Off]** indicates switching off the function.

- Manual Lock: In the running interface, under the unlocking condition, press and hold (>3 seconds)  to lock the keyboard.

NOTE

- If unlocking is needed, press and hold (>3 seconds)  to unlock, it is automatically unlocked during the high level alarm.

6.8 Reminder Function

1. Select **[Main Menu]**→**[General Options]**→**[Reminder Time]**.
2. Select **[Reminder Time]**: Off, 1-5min. **[Off]** indicates switching off the function.

6.9 Time Near End

1. Select **[Main Menu]**→**[General Options]**→**[Time Near End]**.
2. Select **[Time Near End]**: Off, 1-30mins. **[Off]** indicates switching off the function.

6.10 Commonly Used Infusion Sets

There are multiple built-in commonly used infusion set brands in the infusion pump, making it convenient for the user to select from. For specific infusion set brands, please refer to actual infusion device.

1. Select **[Main Menu]**→**[User Maintenance]**→Input User Maintenance Password→**[Infusion Set]**.
2. Select in **[Infusion Set]** according to actual needs.

NOTE

- Please ensure that at least one "Infusion Set" to be selected.

Brand and model of recommended infusion sets:

No.	Type	Brand and Model	specification
1	Regular	BOON A2	20drops
2	Regular	B.Braun Intrafix Safeset	20drops

7 Other Functions

7.1 History Record

The equipment when in use will produce some key data stored in **[History Record]**, providing foundation for the treatment review and maintenance review at a later period. The attribute of recording events includes action, time and description.

If the equipment is disconnected from the AC or DC power supply, history records are saved and the time of equipment power-down is also recorded as an event. If the equipment runs on battery power, battery failure has no impact on the history records stored, and the time of battery failure is not recorded.

1. Select **[Main Menu]**→**[History Record]**.
2. Select **[History Record]**: Each page can demonstrate up to 2 records, and press



to turn the pages.

NOTE

- **The equipment stores up to 2000 events. When the capacity is reached, earlier events will be overwritten by later ones.**
 - **A total loss of power has no impact on the history records stored.**
 - **Alarms are saved as events and will remain if the equipment is powered down. The time of equipment power down is also recorded as an event.**
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7.2 Power-down Storage

To prevent the loss of patient data and alarm settings when the equipment suddenly powers down, the equipment provides power-down storage. Alarms limit setting are saved and will be maintained if the equipment is powered down suddenly. The storage time is equals to the equipment's service life. The alarm limit settings before power-down are reloaded when the equipment is restarted. You can refer to **[History Record]** to view such information as infusion parameters and alarm.

7.3 Nurse Call

Select **[Main Menu]**→**[System Options]**→**[Nurse call]**, and set in the open menu:

- Switch

On: Indicates switching on the nurse call function.

Pressure Unit	mmHg, kPa, bar and psi	mmHg
Alarm Sound	Sound1, Sound2, Sound3	Sound2
Anti-bolus switch	On, Off	On
Drop sensor	On, Off	Off
Infusion accuracy	Infusion accuracy error $\leq \pm 5\%$ Note 1: The infusion accuracy of the infusion system (infusion pump and infusion set) is affected by inner and outer diameter, material, elasticity of the infusion set and other factors. Therefore, infusion sets of different brand and model may differ in the infusion accuracy. Note 2: The above declared infusion accuracy is based on BOON A2 and B.Braun Intrafix Safeset infusion sets, temperature of $20 \pm 2^\circ\text{C}$.	/
Dose of single fault	$\leq 1.0\text{ml}$ Note: The above declared single fault is based on BOON A2 and B.Braun Intrafix Safeset infusion sets at a rate of 25ml/h	/
Status indicators	Stop, running, bolus, KVO, pause, standby, alarm and purge	/
Alarm Information	See complete information in C Alarm Information	/

A.6 A Reference Table Showing Occlusion Alarm Delay and Possible Dose

Occlusion Pressure (mmHg)	Rate (ml/h)	Occlusion alarm delay time (hh:mm:ss)
75	1	<00:06:00
	25	<00:00:15
150	1	<00:15:00
	25	<00:00:30