

Cylinder Pump

Anyfusion[®] V-100

Operator Manual

Doc No. MTV1-UM-E04
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[Anyfusion V-100 Operator manual]



- This manual provides the method to use Cylinder pump and Anyfusion Cylinder Cartridge set (Model name : Anyfusion V-100) and its technical specification.
- Please read the manual of medical device and accessory before use.
- Please ensure that only clinical doctors and nurses who are familiar with the operation of this pump use this pump.
- The pump is the patient care equipment that is necessary for emergency room and new born baby room. The pump infuses any amount of medicine fluids or medication into a patient's circulatory system with high accuracy.
- Pump can be set the range of flow rate from 0.1ml/h to 999.9ml/h by an operator.
- The pump allows you to set Normal infusion mode and Dosage mode.
- Repair or circuit alteration of this equipment can be only carried out by the personnel who are authorized by Meinntech. Meinntech will not be responsible for any defects or damage caused from repairs or disassembly done by anyone other than personnel authorized by Meinntech. (Safety shall not be assured).
- Parts or circuits which are used for this equipment can be replaced to improve the safety and performance of this equipment by personnel authorized by Meinntech.
- Read this manual carefully and understand its functions and method for safe use before using the pump.

1. Notes For Safety

- 1-1. Danger
- 1-2. Warning
- 1-3. Caution

[1. Notes For Safety]

Safety precautions are classified as below in accordance with the expected Danger, Warning and Caution.



Danger

A precaution which can result in critical personnel injury or immediate loss of life if instructions are not followed.



Warning

A precaution which could result in critical personnel injury or loss of life if instructions are not followed.



Caution

A precaution which could result in minor personnel injury or damage to the product if instructions are not followed.

When installing the pump

- (1) Ensure that the pump is always clean prior to use.
- (2) Please check the Pole clamp installation status when hanging the pump on IV Stand.
- (3) The correct electric power has to be provided.
- (4) Ensure that the power cable is connected safely.
- (5) The location of installation must not be affected by temperature, humidity and pressure.
- (6) Avoid strong direct sunlight.

When operating the pump with external power

- (1) Do not use an extension cord without being grounded.
- (2) Check the power plug prior to use.
- (3) The power plug has to be plugged into grounded outlet in the hospital, and check the rated voltage and the frequency beforehand.

When operating the pump with battery

- (1) General AC power is required for operating this device. Battery is used as an auxiliary power when carrying the device or AC power failure etc.
- (2) Please consider the usage time when operating the pump with battery. (Runs 8hrs at 100ml/h with full charge.)
- (3) Connect the power cord to the pump to charge the battery if the "Low Battery" warning alarm is on the LCD display.
- (4) Charge the battery at least once in a month to prevent reduction of its life-span when unused in long term.
- (5) The battery capacity is indicated on the LCD display while the battery charges. Charge the battery fully(100%).
- (6) Replace the battery if the battery usage time drastically decreases after being fully charged.
 - >> Contact the supplier you purchased the product to replace the battery.

1-1. Danger

Be sure to follow mentioned contraindication below.



Danger

The pump cannot be used for the purpose of infusion of blood or blood product of cytoplasm.



Danger

In order to avoid the hazard of infections, the STERILIZATION for the part to be operated should be done thoroughly before the operation.



Danger

Do not operate the pump in the presence of flammable anesthetics, flammable liquids, or explosive gases (Danger of fire or explosion)



1-2. Warning

Be sure to follow mentioned warning below.

- Do not disassemble the pump without permission of manufacturer.
- Please use designated Pole clamp when you are trying hang the pump on IV Pole. (The usage of undesignated Pole clamp shall not assure the safety and functionality of the device. It might cause the malfunction of the pump or any accident.)
- Please connect enclosed AC power cable to AC power. Do not use enclosed AC power cable to any other equipment. (There is a possibility of malfunction to the pump when using undesignated AC power cable. Also, we don't assure the electrical safety without ground connection.)
- Please check power supply status of the pump before use. (If power supply doesn't work properly, internal battery should be used. Otherwise, emergency situation may be occurred.)
- Because of the fluid, short-circuit may happen. So there should be no wet condition at AC supplier and AC power cable. If you find moisture on the pump, please turn off the power and disconnect AC power cable. Then clean up the pump with a dry cloth. (This device is not waterproof. So the moisture may effect to inner electrical parts to get malfunction of the pump.)
- Do not place the pump as disconnected from AC Power Cable where unstable area.
- Cylinder cartridge is a single-use product. Therefore, it must be discarded after it is used.
- Check the infusion volume, VTBI, flow rate, time and setting values carefully prior to infuse.
- Do not operate the pump in an area where strong sources of high frequency waves and electromagnetic field are presented.
- Do not use the pump near by the radiation where MRI equipment is operated. Also avoid high pressure oxidation.
- Do not leave the pump in a damp environment or disinfection gas area. (These environments may affect internal electrical parts and cause of malfunction or damage to the equipment.)
- Check the function and infusion performance of the pump if the pump has been severely impacted.

1-3. Caution

Be sure to follow mentioned warning below.

- It is recommended to stop using Cylinder cartridge once it is used more than 72 hours by the reason of sterilization characteristic.
- Check the sterilized packing condition before unpacking Cylinder cartridge, IV set at first.
- Please follow IV Pole instruction when you use IV Pole.
- Do not grab the pump handle or upper part. They shall not be pressured while moving the infusion set with fixed IV Pole. (The position of IV Pole clamp would be damaged or incorrectly positioned.)
- Ensure that Cylinder cartridge is installed correctly before operating the pump.
- There should be no big difference in height between the position of infusion pump and the position of the patient.
- Do not touch any buttons by mistake when the pump is operating. Use the key lock function if necessary.
- Please check any set-up errors before you start delivering fluid. (Errors in number, flow rate etc.)
- Please check Cylinder cartridge and tube installation, if the pump door doesn't close properly.
- Do not push excessively when installing the tube. The tube may be deformed so that may not perform properly. Problems may occur with flow rate error or alarm function etc.
- Please careful when infusing high viscosity liquid drug. It may cause occlusion alarm.
- When you start medicine fluid delivery, check the delivery quantity and initialize setting values before use if necessary.
- Please solve the problem when restarting the pump after occlusion alarm.
- Please remove air inside of tube before injecting catheter. If you do not, air will make trouble to patient and also interrupt normal infusion function.

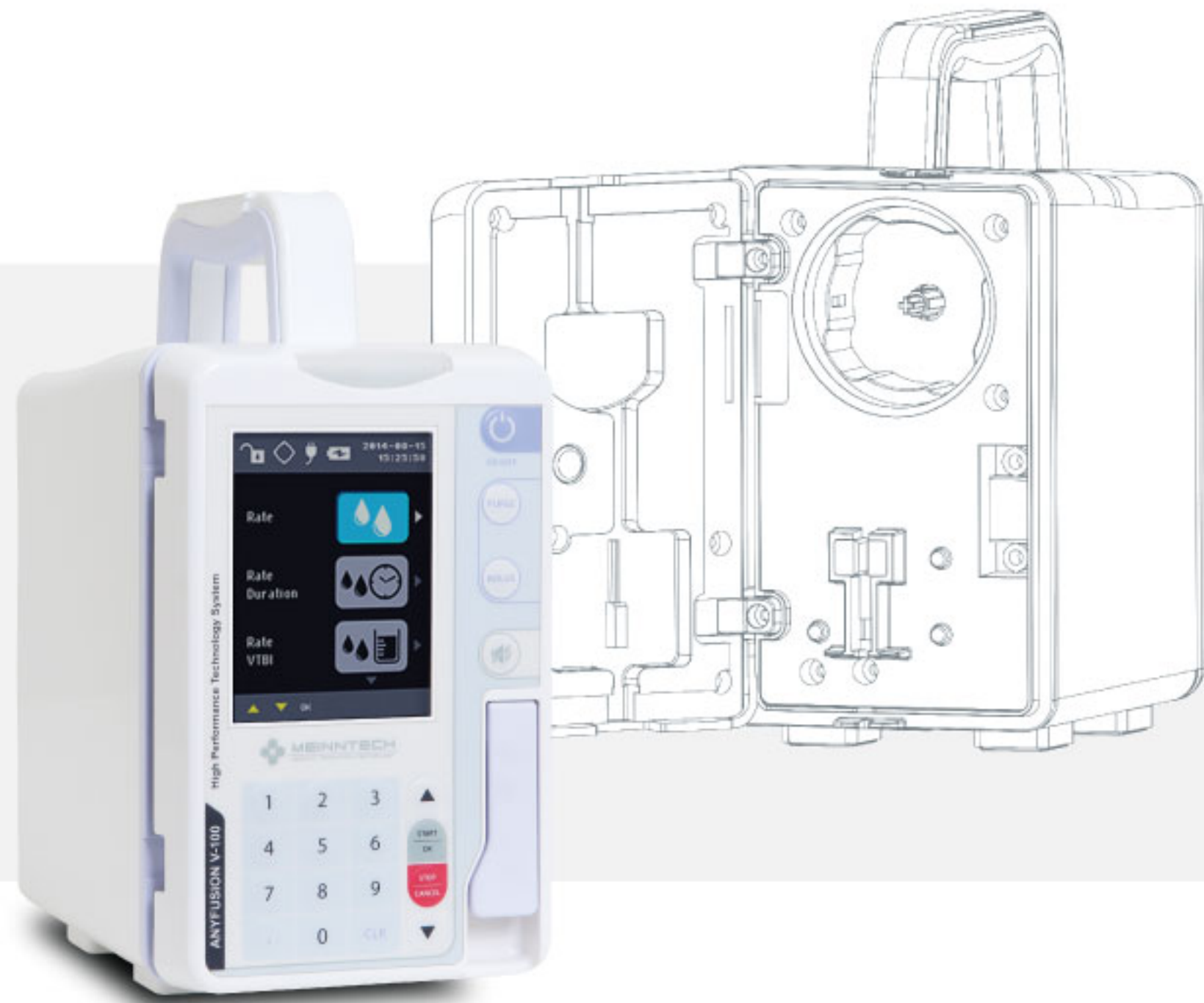
1-3. Caution

Be sure to follow mentioned caution below.

- If the pump is used in the vicinity of the electrical scalpel (Medical electrical scalpel is surgical equipment for incision and coagulation by the high frequency current.), the following must be ensured before use.
 - ① It shall maintain a minimum distance of 25cm between the device and the electrical scalpel code (scalpel holders, scalpels code and a return electrode) and the electrical scalpel body.
 - ② The electrical scalpel device shall be operated from separate power system.
- When you connect the pump to a device or other network system, please check the manufacturer of the device and specifications of the equipment for the safety. Use a connection cable that complies with EMI.
- Do not keep or use the infusion pump in the presence of electrostatic discharge. (It can cause malfunction.)
- Please avoid a heat source, dust, fluff and strong direct sunlight.
- Do not use the pump where can cause sudden changes in temperature, even if the operating conditions suit.
- Connect the pump to a grounded AC Power source and charge for 5 hours or more with power off condition when using the pump for the first time or if you have not used for a long time. (If you do not charge properly, the internal battery may not work as power failure.)
- Please check the device regularly. If a malfunction is suspected, stop using the pump and request for the inspection and repair. (It may not function or perform properly due to equipment failure.)
- Use the micro filter to fill the fluid full with the arrow upper wise.
- Please carefully use the micro filter without any external impact.

2. General Details

2. General Details



Device	Cylinder Pump
Model Name	Anyfusion V-100
Manufacturer's Name	MEINTECH CO., LTD
Address	#14057 401, 501, 502, 702, Digital Empire B/D, A-dong, 387 Simin-daero, Dongan-gu, Anyang-si, Gyeonggi-do, Korea.
Contact	TEL. +82-31-381-7076~7 FAX. +82-31-381-7053

3. Description Of The Device

- 3-1. Description of the device
- 3-2. Intended use
- 3-3. How to use
- 3-4. Device life-cycle
- 3-5. Cylinder cartridge life-cycle

3. Description Of The Device

3-1. Description of the device

Anyfusion V-100 is a Cylinder pump that delivers medicine fluids into a patient's body in controlled amounts and speed. (Any types of drug which they need to be controlled accurately can be infused with this device not only existing infusion pump of peristaltic finger mechanism method but also the drug used at Syringe pump.) It is also equipped with safety features such as alarms or other operator alerts that are intended to activate in the event of a program. (Ex: air bubble, occlusion.)

3-2. Intended use

Cylinder Pump is a medical device that delivers medicine fluids into a patient's body in controlled amounts. It is also equipped with safety features such as alarms or other operator alerts that are intended to activate in the event of a problem. (Ex: air bubble.)

3-3. How to use

Refer to Instruction for use.

3-4. Device life-cycle

5 years (from motor and back light of display)

 **Caution**
After 5 years, Please contact to Meinntech to checkup the device.

3-5. Cylinder cartridge life-cycle

3 years after sterilization has been done.

4. Appearance & Functions

4-1. Appearance

4-2. Inner part

4-3. Anyfusion Cylinder Cartridge set

4-4. Accessory

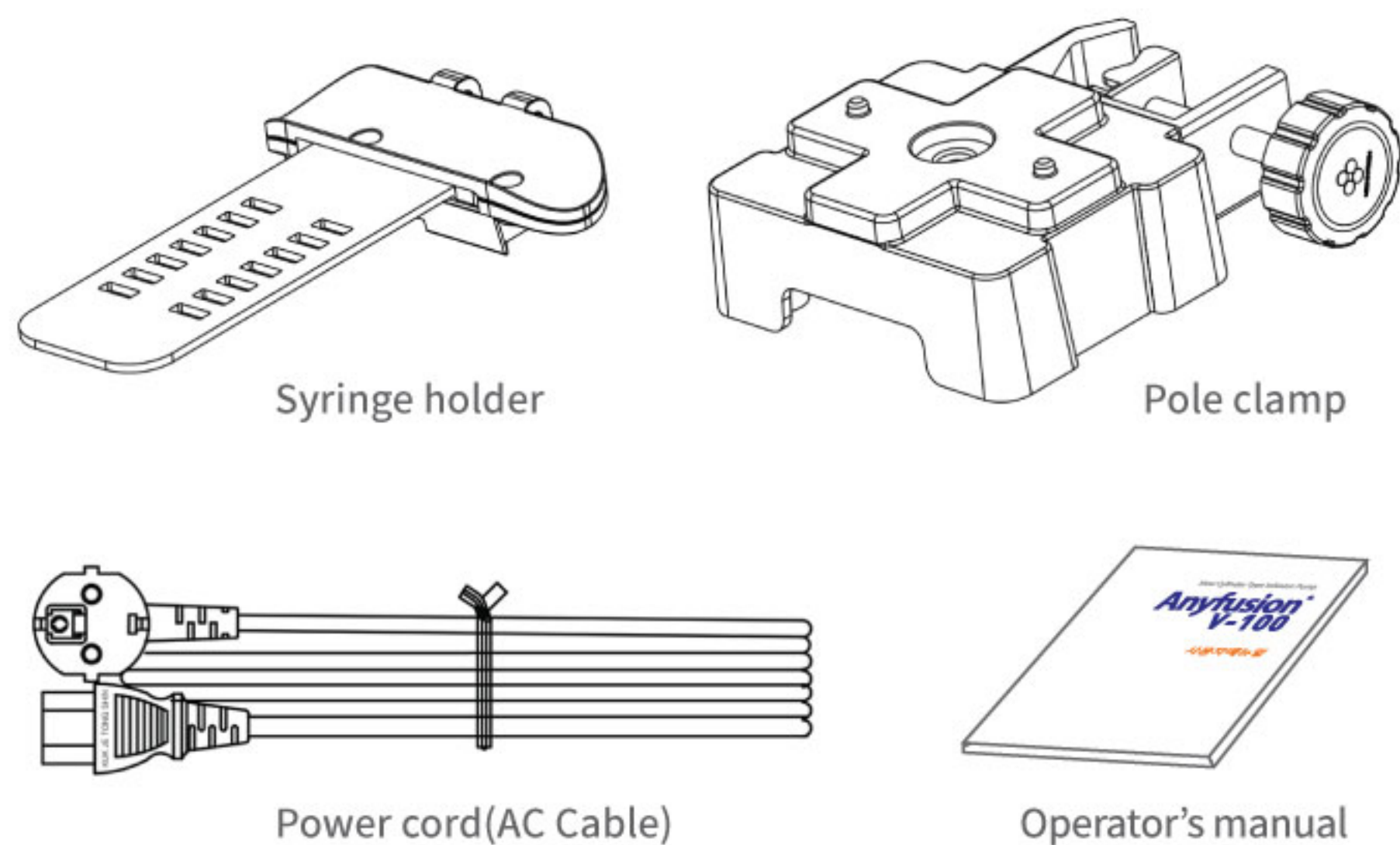
4. Appearance & Functions

Main device Info

Information of device part.



Accessory Component



4-1. Appearance

Description of Anyfusion V-100 appearance.



Front Side

No	Item	Function
1	HANDLE	Use for holding or carrying the pump
2	ALARM LED	Display of Green, Amber and Red as per the alarm status
3	STATUS REGION	Display of operating status using symbol
4	LCD SCREEN	Screen displaying all infusion information (Infusion speed, infusion volume, alarm information, etc.)
5	MESSAGE REGION	Message window for user's convenience
6	NUMERIC KEYS	Keys for set-up control
7	CLEAR KEY	Key for delete input
8	POWER KEY	Button to turn ON/OFF the power
9	PURGE KEY	Key for Rapid infusion
10	BOLUS KEY	Key for Bolus (the pump infuses at the flow rate and volume set in the setting mode)

4-1. Appearance

Description of Anyfusion V-100 appearance.

Front Side

Description of front side.

No	Item	Function
11	SILENCE KEY	Mute the alarm
12	DOOR LATCH	Door lock lever
13	UP SELECTION KEY	Move the cursor upwards
14	DOWN SELECTION KEY	Move the cursor downwards
15	START AND OK KEY	Key for start and set-up completion
16	STOP AND CANCEL KEY	Key for stop and cancel

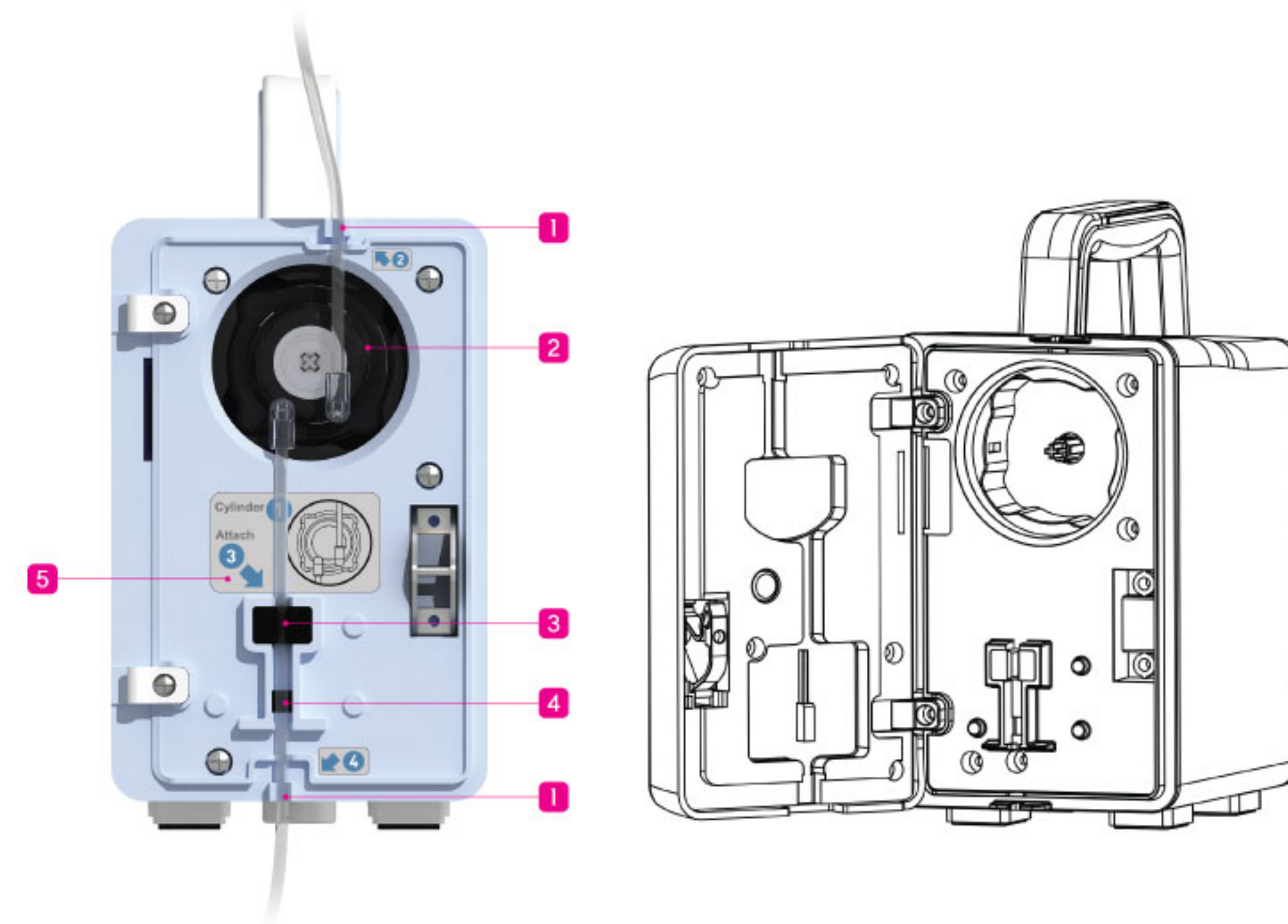
Back Side

Description of back side.

No	Item	Function
1	RESET KEY	Key for reboot when malfunctioning
2	KEY LOCK	Locking function of set-up information, Only START/OK, STOP/CANCEL, POWER, PURGE, BOLUS Keys are activated Cylinder removal function (Door open status)
3	AC POWER INLET	Inlet for main AC 220 V power

4-2. Inner part

Description of inner part.



Inner Part

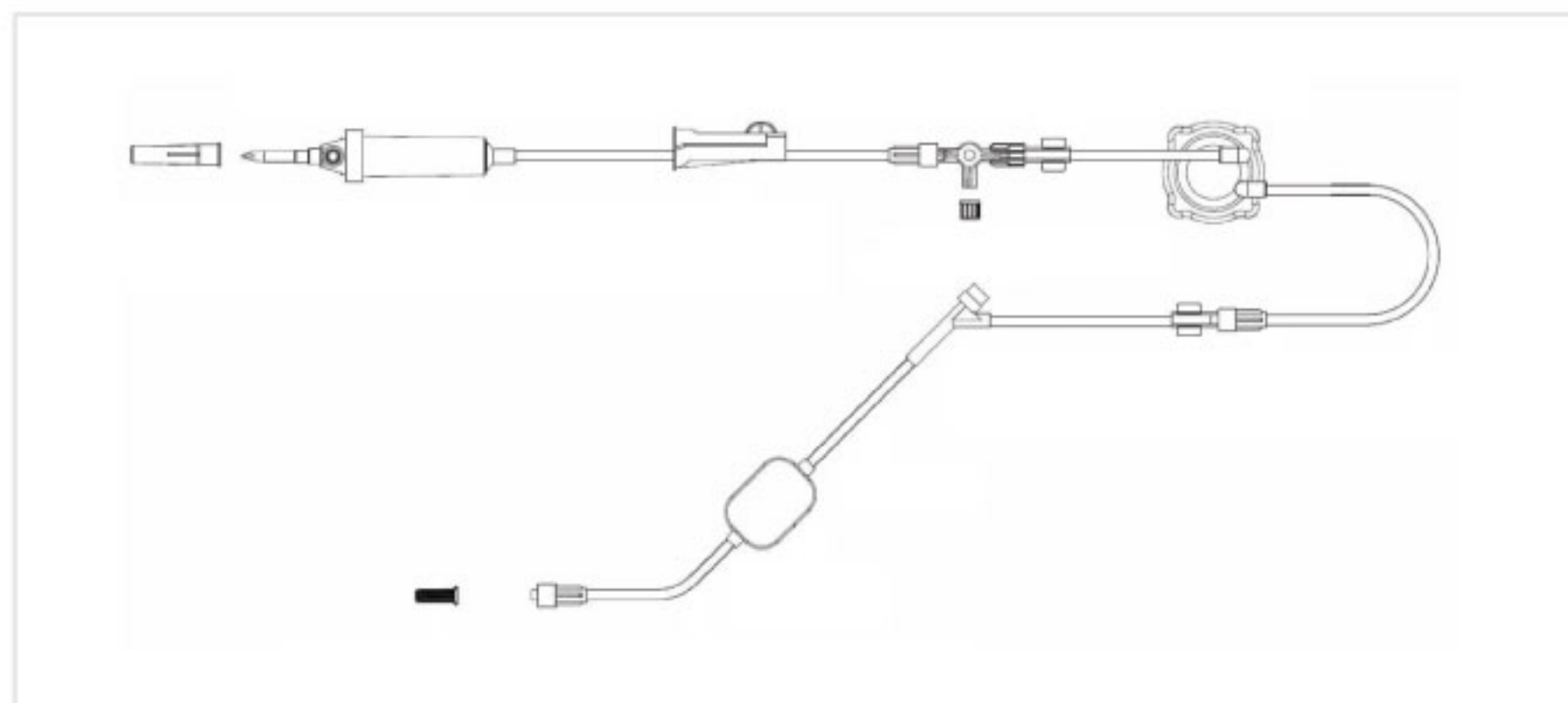
Description of inner part.

No	Item	Function
1	TUBE GUIDE	Guide for tube installation
2	CYLINDER CARTRIDGE	Cylinder cartridge
3	AIR-IN-LINE DETECTOR	Detection of bubble inside the tube
4	OCCCLUSION DETECTOR	Detection of blockage of ringer solution set
5	GUIDE LABEL	Guide for install procedure

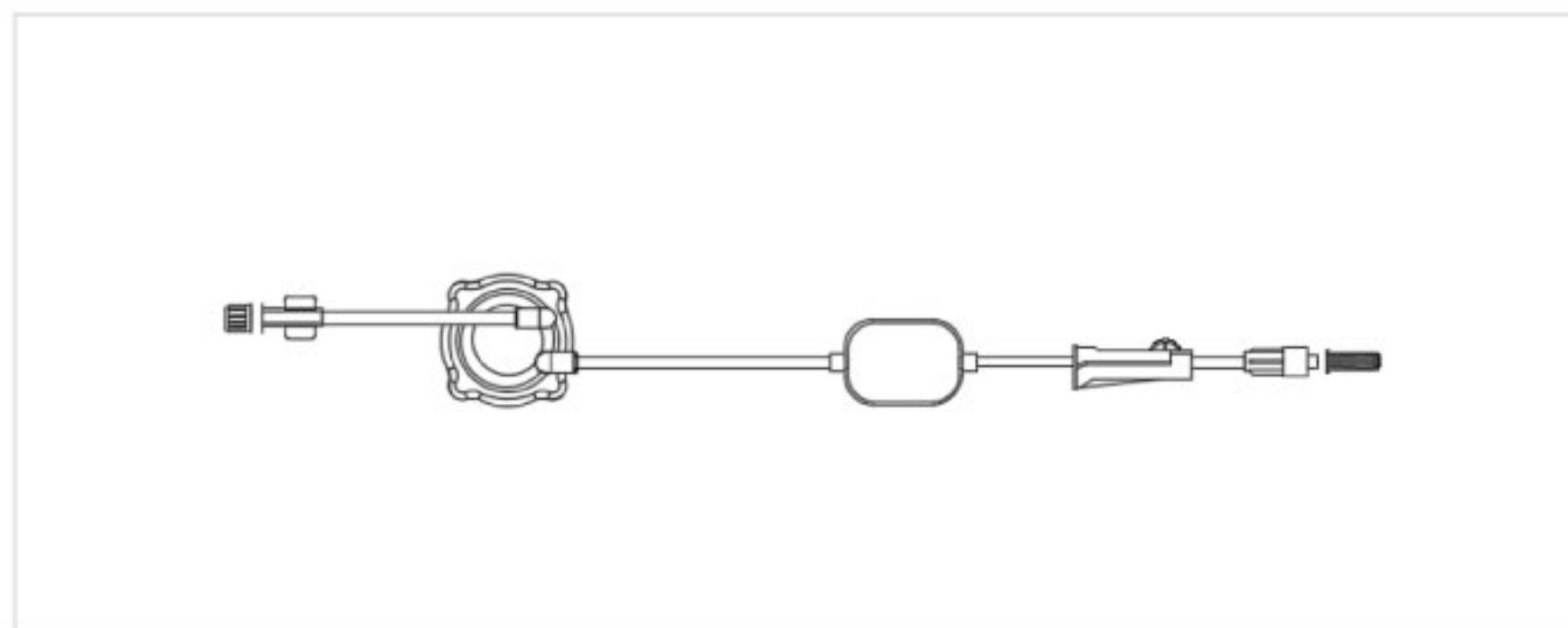
4-3. Anyfusion Cylinder Cartridge set

Description of Anyfusion V-100 components.

Additional Part



Name	Model	Component	Description
Expansion Type	AC11_5.0	Spike cover + Spike + Chamber + Roller Clamp + Luer Lock + 3way stopcock + Female connector + Cylinder cartridge + Y - Site + Micro filter + Luer lock cover	5.0 μm used
	AC11_1.2		1.2 μm used
	AC12_0.2		0.2 μm used
	AC12_1.2		1.2 μm used



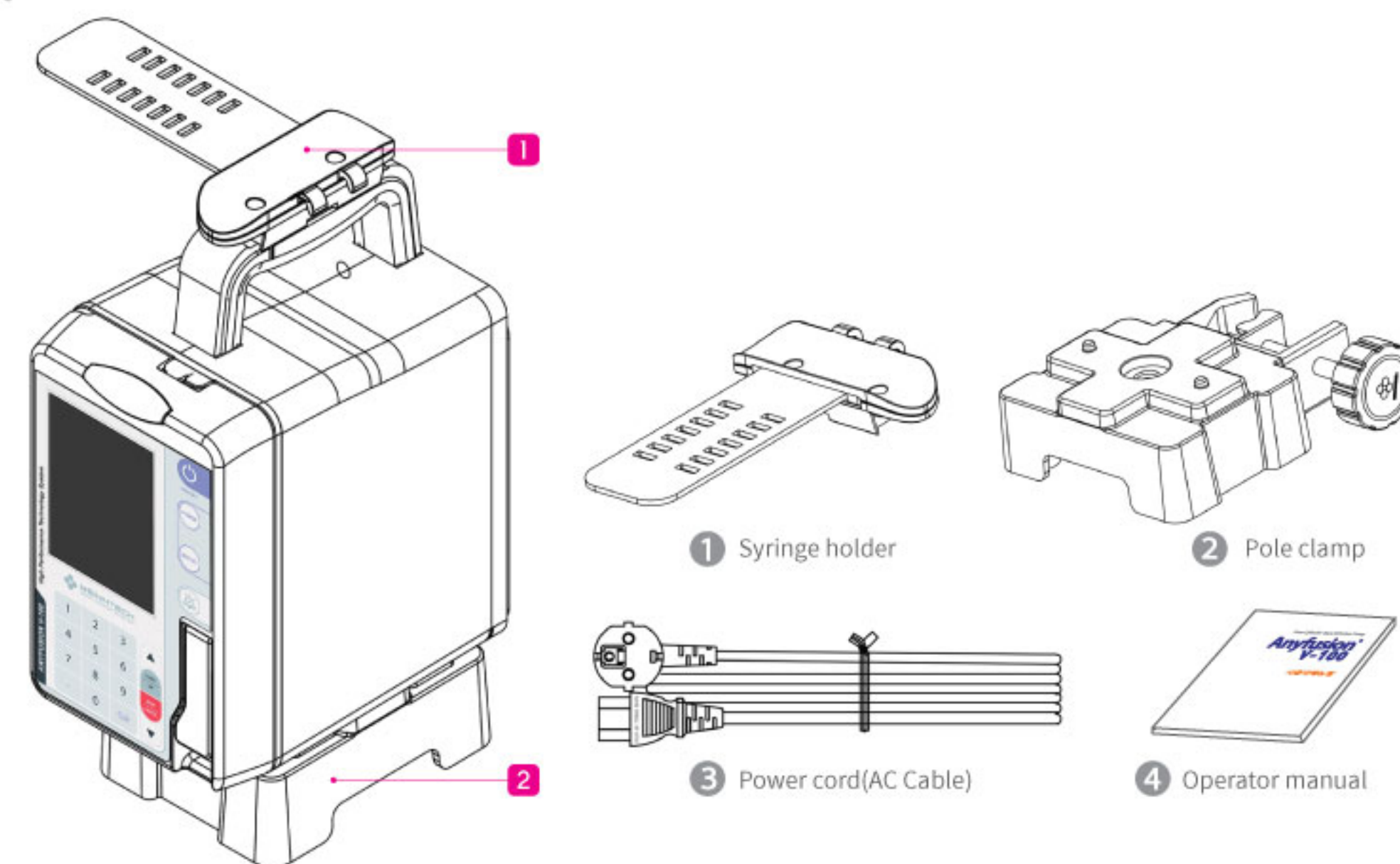
Name	Model	Component	Description
Standard Type	AC10300_5.0	Female cover + Female connector + Cylinder cartridge + Micro filter + Roller clamp + Luer lock + Luer lock cover	5.0 μm used
	AC10300_1.2		1.2 μm used
	AC20300_0.2		0.2 μm used
	AC20300_1.2		1.2 μm used

※ Please contact Meinntech Co., Ltd to get more information.

4-4. Accessory

Description of Anyfusion V-100 components.

Accessible Part



Installing syringe holder and pole clamp

Component of accessory

No	Item	Function	Q'ty
1	SYRINGE HOLDER	Syringe Holder is used for fixing the Syringe.	1EA
2	POLE CLAMP	Use Pole clamp to fix the pump to the IV Stand.	1EA
3	AC CABLE	AC power cable for supplying power to the pump.	1EA
4	USER MANUAL	Manual describing method of use the pump and functions.	1EA



5. The Method Of Installing Pump

- 5-1. Installing pump
- 5-2. Connecting AC power
- 5-3. How to install Cylinder cartridge
- 5-4. How to install Syringe



5. The Method Of Installing Pump

The preparation before use

Information of Anyfusion V-100 before use.

Check prior To use

- Read this manual carefully before using Anyfusion V-100, understand its functions and please aware of precautions.
- Please set-up the time and date in set-up window for recording accurate date before using the pump for the first time.

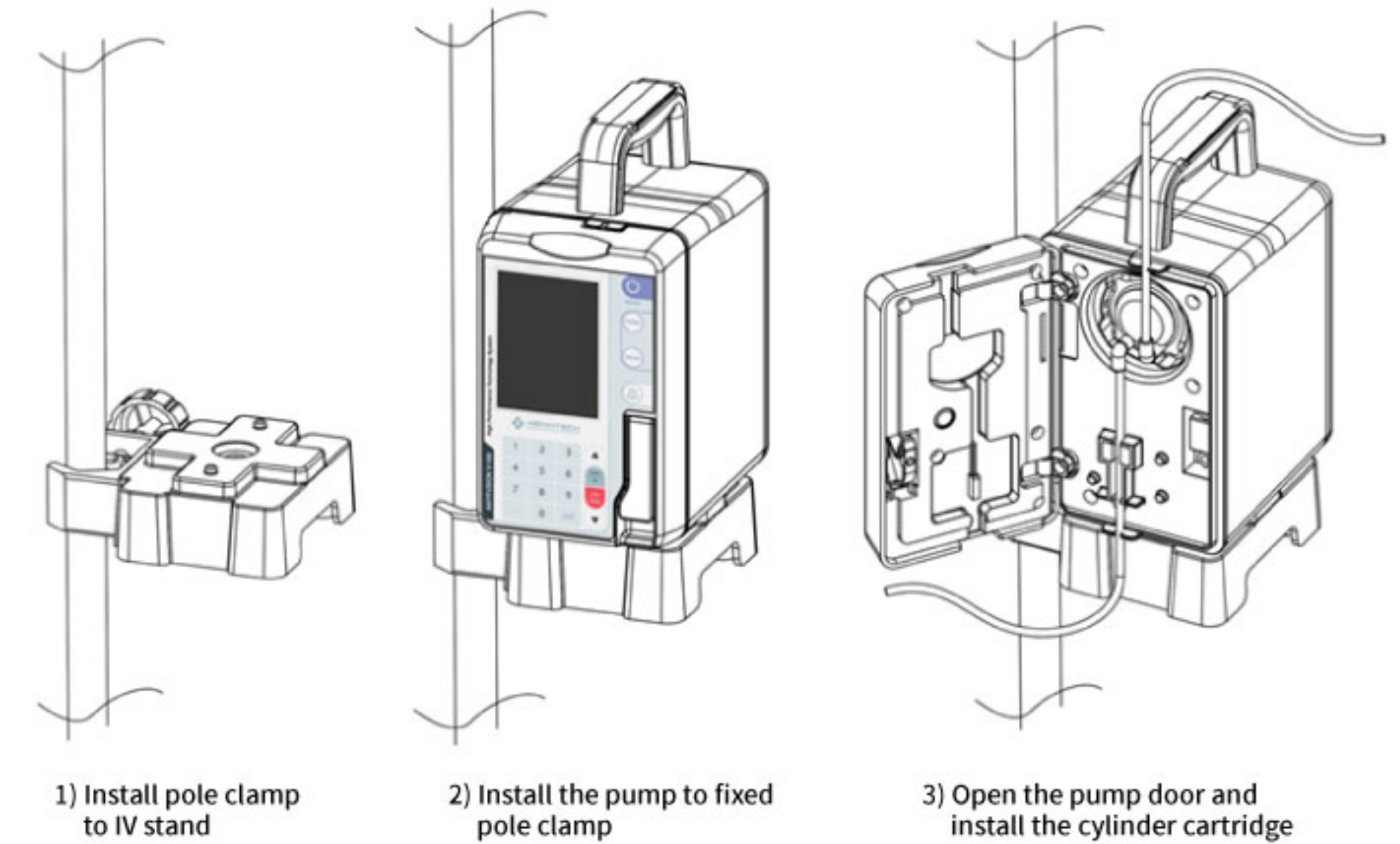
Essential requirement Of using the pump at first

- Charge the battery more than 5 hours by connecting to AC power as the pump is off for the first time before use.



5-1. Installing pump

This is the method of installing Cylinder pump to IV Stand.



Cylinder pump Mounting arrangement

- Please ensure that the IV Stand is fixed.
- Fix the pump to the Pole clamp with screw of the Pole clamp.

Caution Warning



Please ensure that the Pump is fixed Properly to the IV Stand.



5-2. Connecting AC power



Cylinder pump mounting arrangement

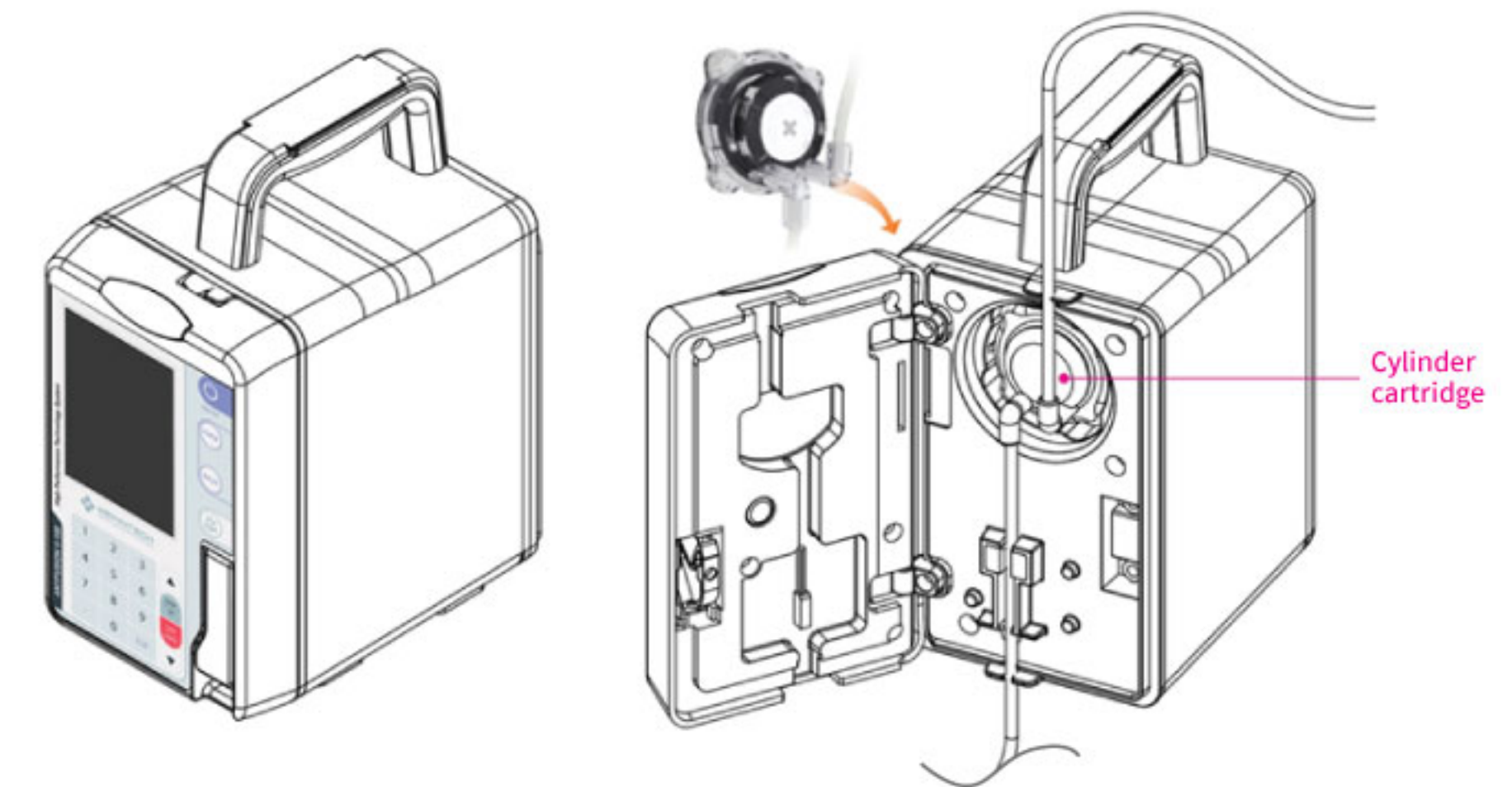
- Plug the supplied AC power cord into AC inlet at the back of the pump.
- When the AC power is connected, battery charge indicator appears in the LCD display.
- The charge complete display appears on the LCD screen when the internal battery is fully charged.

Caution Warning



- Make sure that there is no water on the AC terminal before connecting the power cord to the Cylinder pump.
- Check the pump is grounded properly.
- If you cannot use a suitable ground connection, operate the pump by battery power.
- Use designated power cord supplied with the product

5-3. How to install Cylinder cartridge



Cylinder cartridge Install

STEP 01

Press power button to turn on the pump.



STEP 02

Open the pump door and install the Cylinder cartridge.



STEP 03

The Auto-locking system is activated automatically when the Cylinder cartridge is attached to the pump.



STEP 04

Install a tube line to the tube guide.

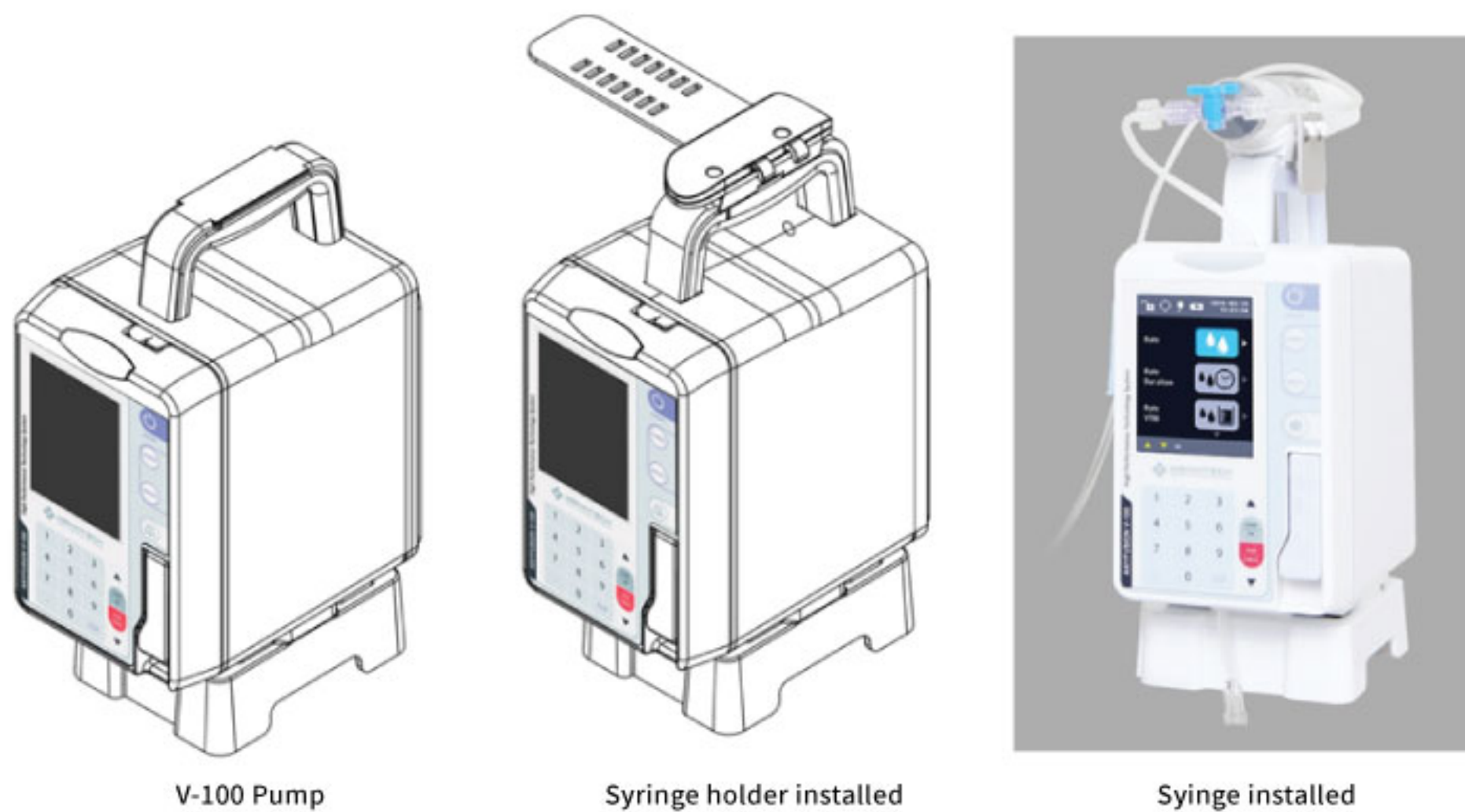


STEP 05

After completing Cylinder cartridge installation, open the Roller Clamp and close the pump door. Then the priming select screen will appear.



5-4. How to install Syringe



Syringe Install

STEP 01

Equip the Syringe holder on the handle of the pump.



STEP 02

Connect Syringe to the Syringe holder.



STEP 03

Connect IV set to the Syringe.



STEP 04

Setting process is the same.



6. Pump Operation Sequence

6-1. LCD Display

6-2. The usage of the pump and operation sequence

6. Pump Operation Sequence

6-1. LCD Display

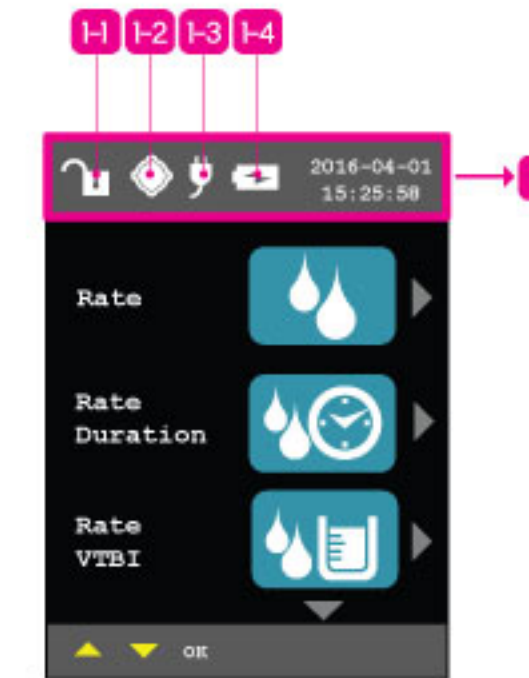
Beginning screen STEP 01



Main menu STEP 02



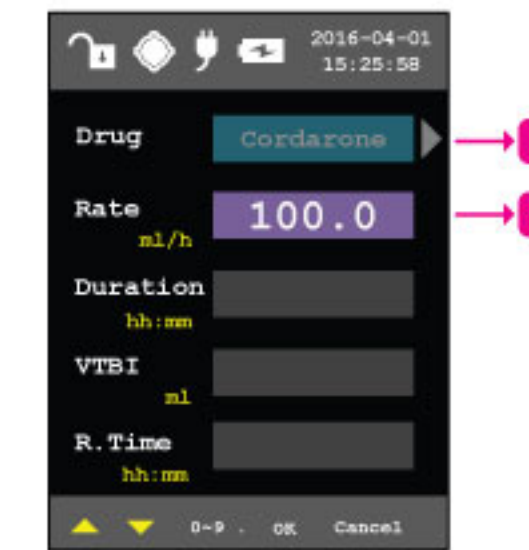
No	Name	Description
1	STATUS REGION	The status window for using symbol is to show operating status.
2	RATE MODE	Select Rate Mode to set and use.
3	RATE/DURATION MODE	Select Rate/Duration Mode to set and use.
4	RATE/VTBI MODE	Select Rate/VTBI Mode to set and use.
5	OPERATING STATUS MESSAGE	Before the operation: display selectable key. During the equipment operation: display message of operating status.
6	DOSAGE MODE	Select Dosage Mode to set and use.
7	SET UP	Select to change the device setting.
8	LOG	Select to check the operation history of the equipment.



< References: 1 - Display symbols >

	1-1 Key lock		1-4 Below 7%, Battery Empty
	1-1 Key unlock		1-4 7%~20%, Battery Low
	1-2 Cylinder cartridge attached		1-4 Battery status 20~50%
	1-3 Cylinder cartridge detached		1-4 Battery status 50~75%
	1-4 AC100~240V		1-4 Battery status 75~100%
			1-4 Battery charging

Rate mode STEP 03



No	Name	Description
1	Drug	Select the drug type to use.
2	Rate	Input Rate value to use. >> Set-up range: 0.1~999.9 ml/h

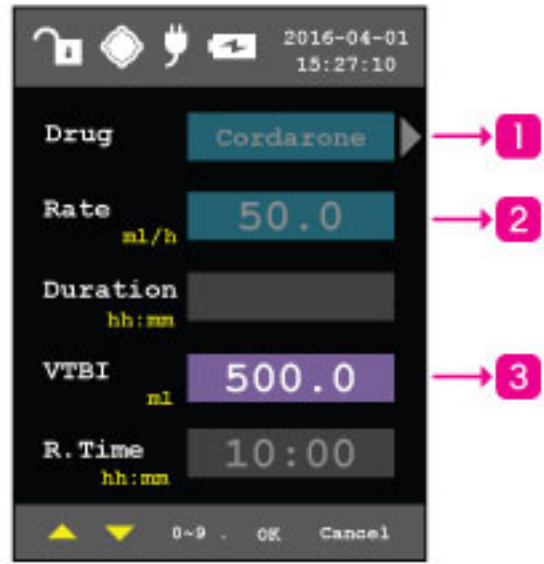
Rate/Duration mode STEP 04



No	Name	Description
1	Drug	Select the drug type to use.
2	Rate	Input Rate value to use. >> Set-up range: 0.1~999.9 ml/h
3	Duration	Input Duration value to use. >> Set-up range: 00:00~99:59 >> When you input Rate & Duration value, VTBI is automatically calculated.

Rate/VTBI mode

STEP 05



No	Name	Description
1	Drug	Select the drug type to use.
2	Rate	Input Rate value to use. >> Set-up range: 0.1~999.9 ml/h
3	VTBI	Input VTBI value to use. >> Set-up range : 0.1~9999 ml >> When you input Rate & VTBI value, Duration is automatically calculated.

Setup

STEP 07



No	Name	Description
1	Language	Select the language
2	Time/Date	Set the time/date
3	Alarm Vol.	Set up the volume >> Level 1~5
4	Occ. Sens.	Set the occlusion level >> Level 1~5
5	Brightness	Set the brightness of LCD screen select >> Level 1~5
6	KVO Rate	Set the KVO rate(Keep Vein Open) input >> 0.1~5ml/h
7	Bolus Rate	Set the Bolus infusion rate input >> 1~999.9ml/h
8	Bolus Vol.	Set the volume input >> 1~99.9 ml
9	Password	Set/change password when to deactivate keylock during the operation.



Dosage mode

STEP 06

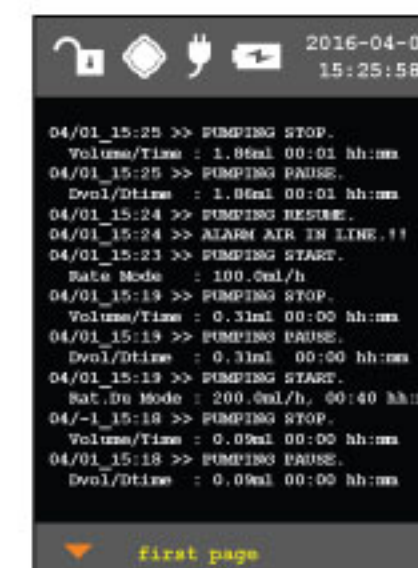


No	Name	Description
1	Drug	Select the drug type to use.
2	Conc	Input Conc value to use. >> Set-up range: 0.1~999.9mg/ml
3	Dose	Input Dose value to use. >> Set-up value: 0.1~999.9
4	Weight	Input weight of patient. >> Set-up range: 0.1~300.0 kg
5	VTBI	Input VTBI value to use. >> Set-up range: 0.1~9999 ml
6	Rate	If Conc, Dose and Weight values are set-up, Rate(ml/h) will be calculated automatically.

Dosage mode main display

Log

STEP 08



No	Name	Description
1	System Log	For checking device history, select Log icon on Main screen. >> It can store up to 500 events. >> Automatic deletion in order when exceeded.

6-2. The usage of the pump and operation sequence

Power on

STEP 01

- Press [ON] button for 2 ~ 3 seconds to turn on the pump.
- Please check the initialization of the motor axis for installation of Cylinder cartridge.

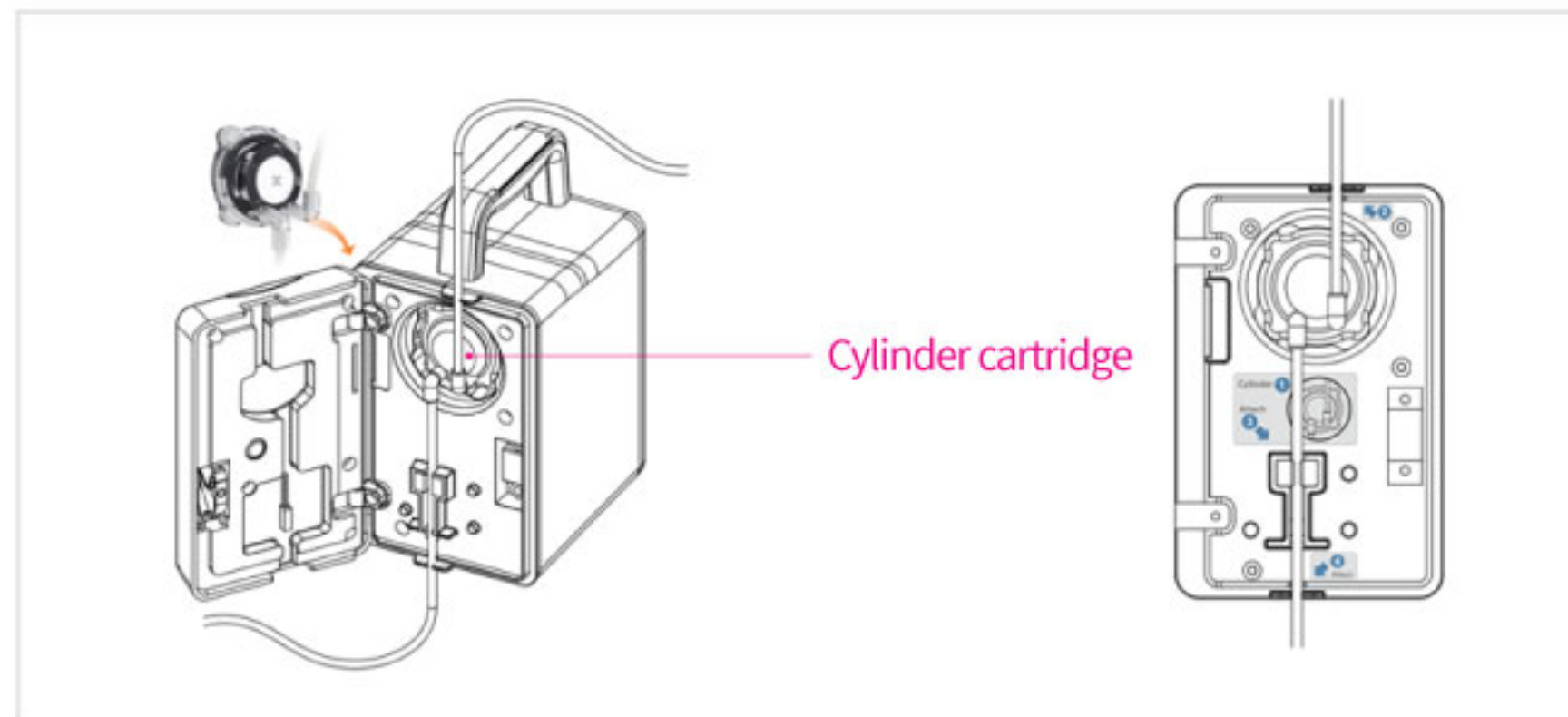


Booting Screen Motor Axis Initialization Screen Priming select screen Cylinder Installation Noticing Screen

- Infusion set: Operating infusion mode with drug bag
- Syringe: Operating syringe mode with syringe
- Main menu: shift to main menu

Installation of Cylinder cartridge

STEP 02



- Open the pump door and install Cylinder cartridge as the picture above.
- When the installation of Cylinder cartridge is completed, motor axis will rotate to fix Cylinder cartridge automatically.

Infusion tubes

STEP 03

- Place the tube on tube guide correctly.



[Caution]
If the tube is not inserted into Air-in-line detector properly, alarm function may be deteriorated.

Cartridge completion of installation

STEP 04

- After completing Cylinder cartridge installation, open the Roller clamp and close the door. The pump will show main menu. When you select the mode, pump will process priming automatically.



[Caution]
Please ensure that Roller clamp should be opened before priming operation.

Priming

STEP 05

- When priming is completed, it will automatically shift to main menu.
- Please fill the rest of the IV line by keep pressing [PURGE] button.
- If you open the door during priming operation, Priming is stopped. At this time, if you close the door, It will display as the picture below ;it restarts the priming operation if you press [OK] button.
- If you press [STOP] button during priming operation, the pump is stopped automatically.



Priming screen



Priming screen



Priming restart screen

IV needle sufferer

STEP 06

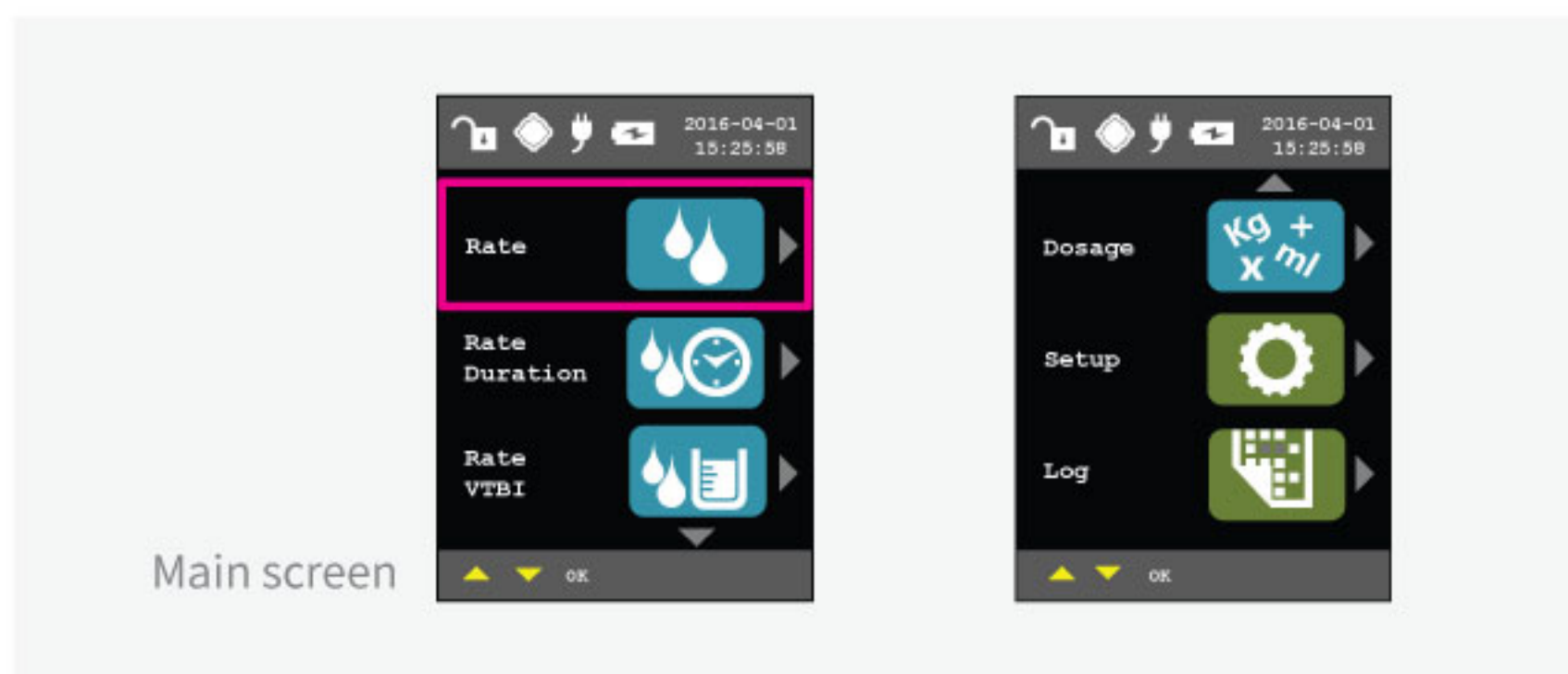
- Connect IV needle to your patient. Make sure that pump is stopped before connecting to your patient. The pump cannot detect whether IV needle falls apart from the vein of the patient. Please check on the connecting part (IV needle) of the patient regularly. (IV needle is not provided. Only licensed IV needle must be used.)

Mode setup

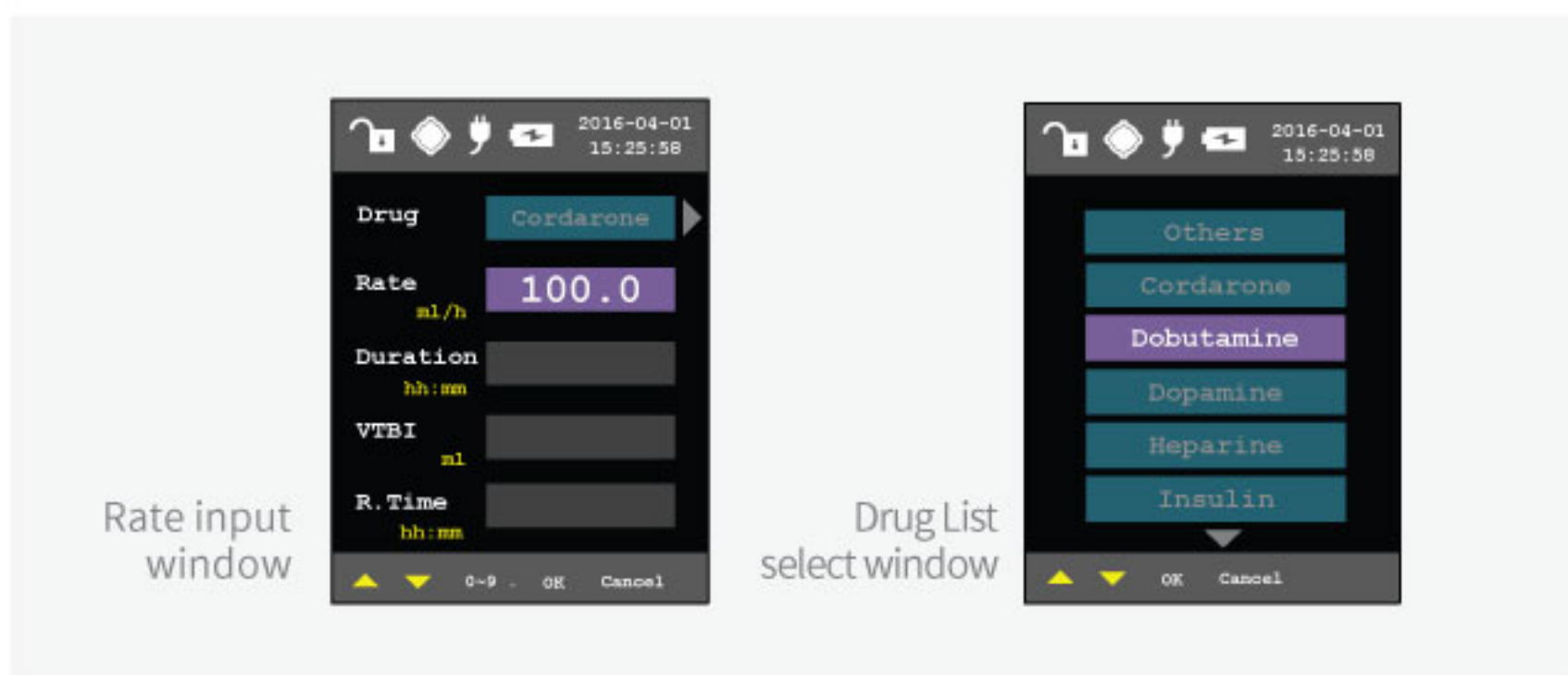
STEP 07

• Rate Mode

- ① Please ensure that the pump is not infusing. It cannot set up the infusion rate while the pump is infusing. (However, the pumping rate can be changed when the device is paused.)
- ② Select “Rate” in Main screen to enter into infusion rate setting.



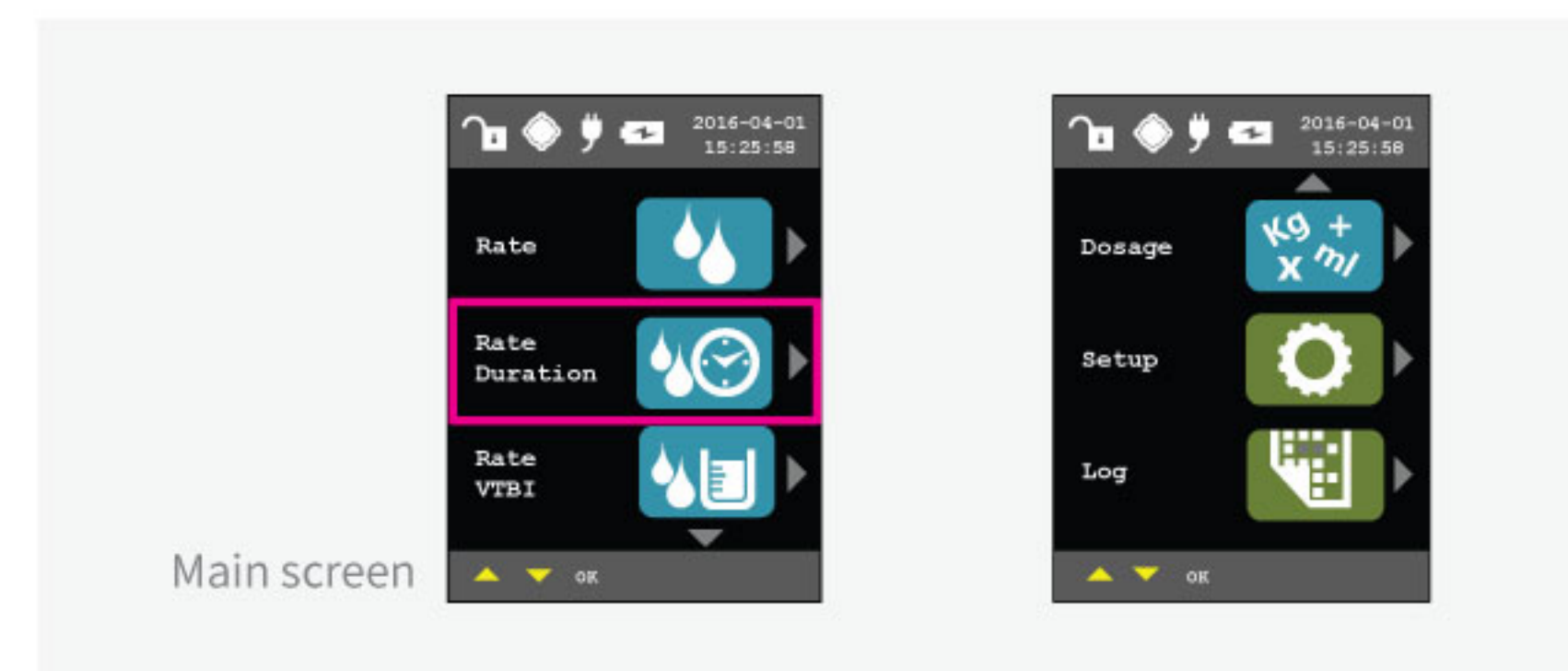
- ③ Select the drug from the Drug List. Select ‘Others’ if there is no drug in the list that you are going to infuse.



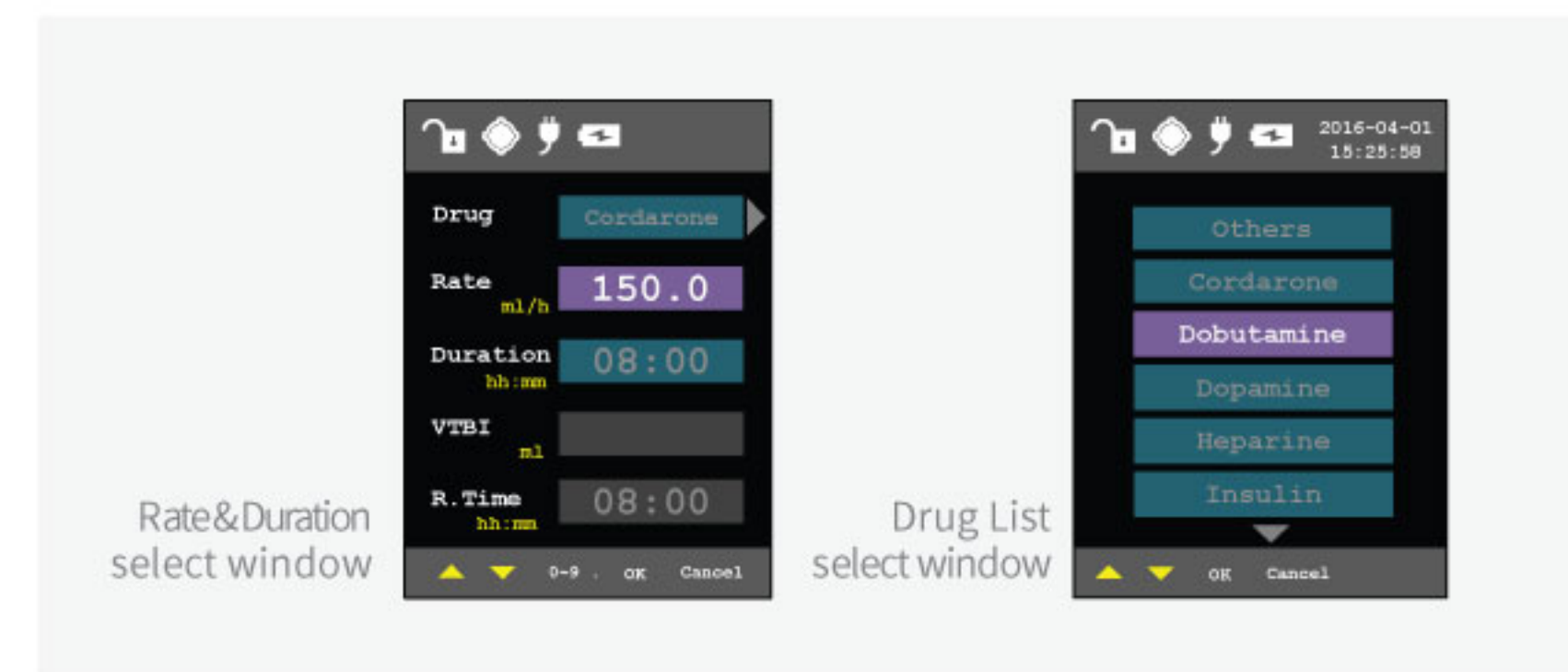
- ④ Use Numeric Keys to set up the infusion rate. (Set-up range: 0.1~999.9ml/h)
- ⑤ If you want to change the rate value, Press [CLR] button and input the new value of infusion rate.

• Rate & Duration Mode

- ① Please ensure that the pump is not infusing. It cannot set up the infusion rate while the pump is infusing. (However, the pumping rate can be changed when the device is paused.)
- ② Select “Rate & Duration Mode” in Main screen to enter into Rate & Duration setting.



- ③ Select the drug from the Drug List. Select ‘Others’ if there is no drug in the list that you are going to infuse.



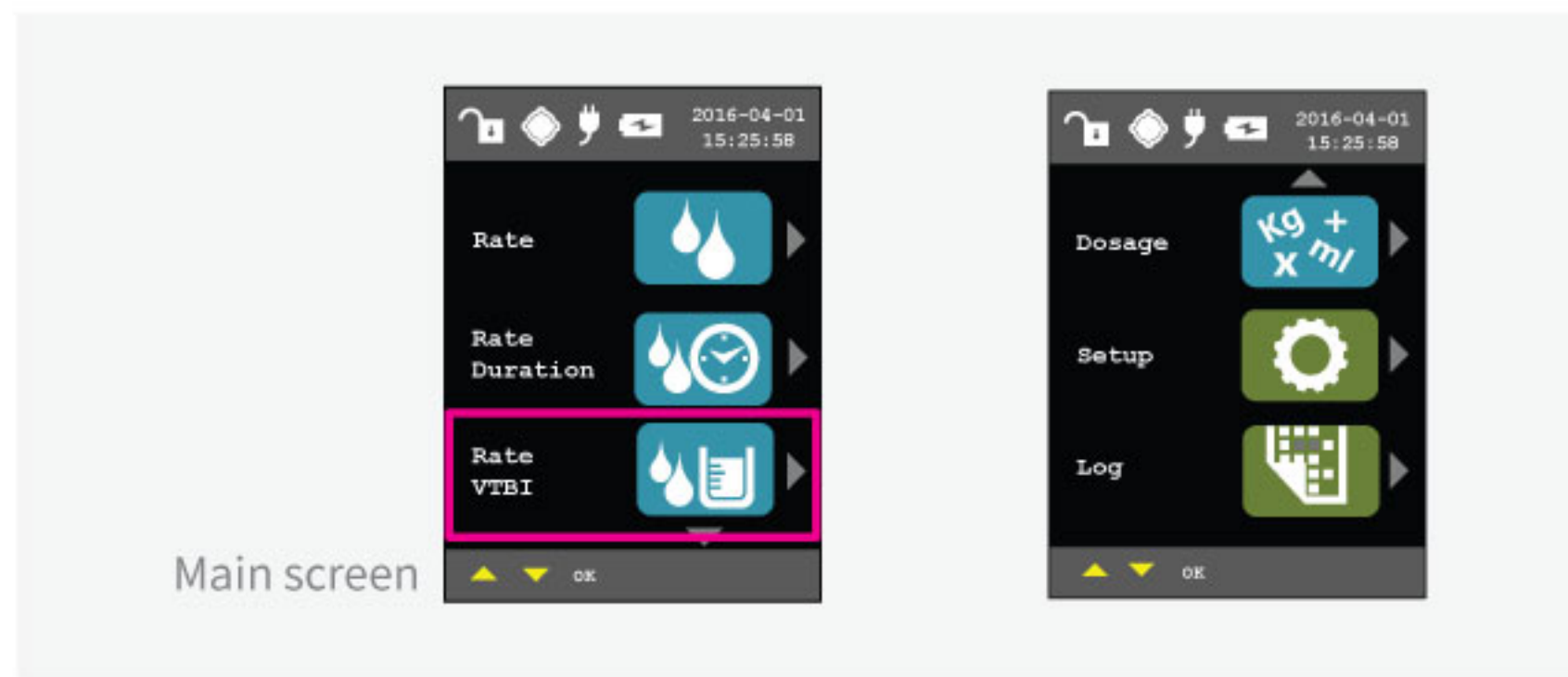
- ④ Use Numeric Keys when to input “Rate & Duration” then VTBI will be automatically calculated.

Mode setup

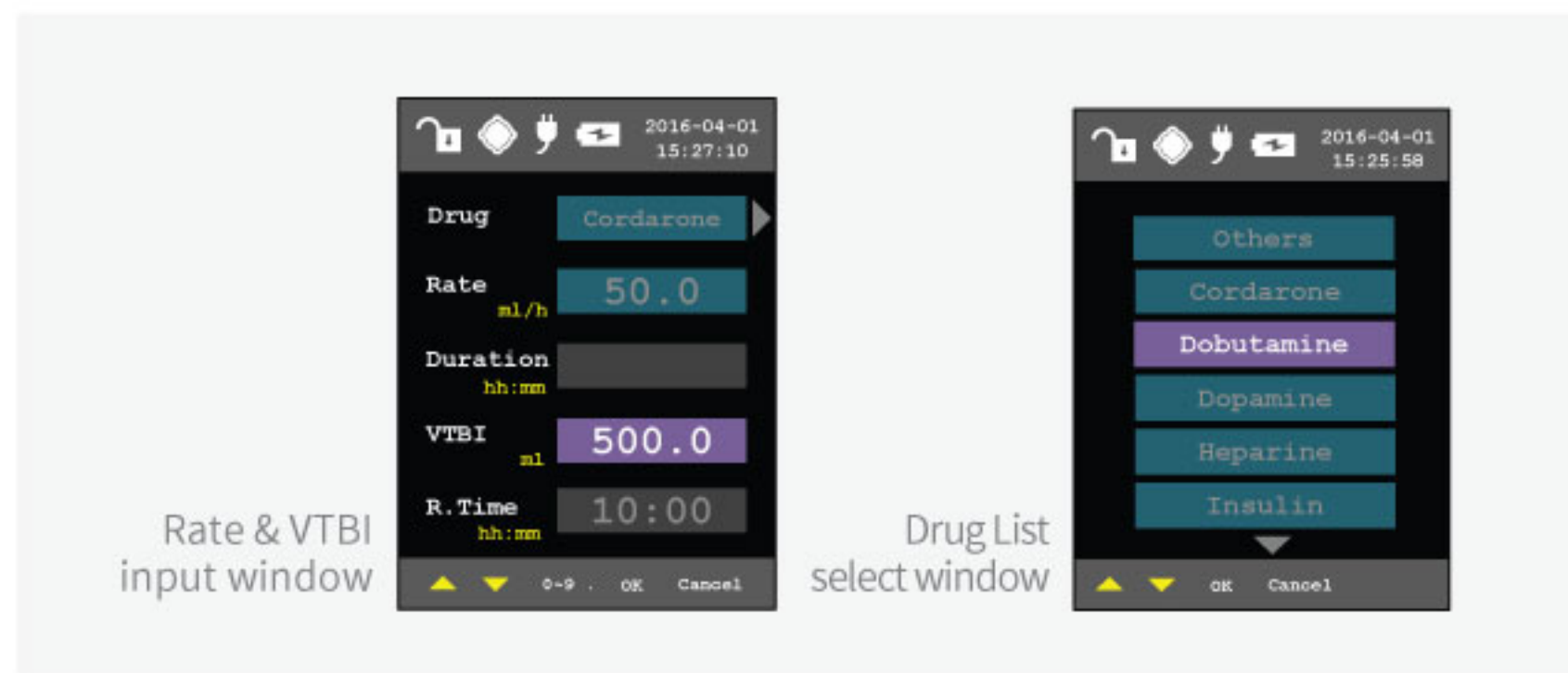
STEP 07

• Rate & VTBI Mode

- ① Please ensure that the pump is not infusing. It cannot set up the infusion rate while the pump is infusing. (However, the pumping rate can be changed when the device is paused.)
- ② Select “Rate & VTBI Mode” in Main screen to enter into Rate & VTBI Mode setting.



- ③ Select the drug from the Drug List. Select ‘Others’ if there is no drug in the list that you are going to infuse.



- ④ Use Numeric Key when to input “Rate & VTBI” then Duration is automatically calculated.

• Dosage Mode

- ① Please ensure that the pump is not infusing. It is not able to set up Dosage setting while the pump is infusing.

< Calculation Formula of Flow Rate >

$$\text{Flow rate(ml/h)} = \frac{\text{Dosage rate(mg/(kg/h)} \times \text{Body weight(kg)}}{\text{Concentration(mg/ml)}}$$

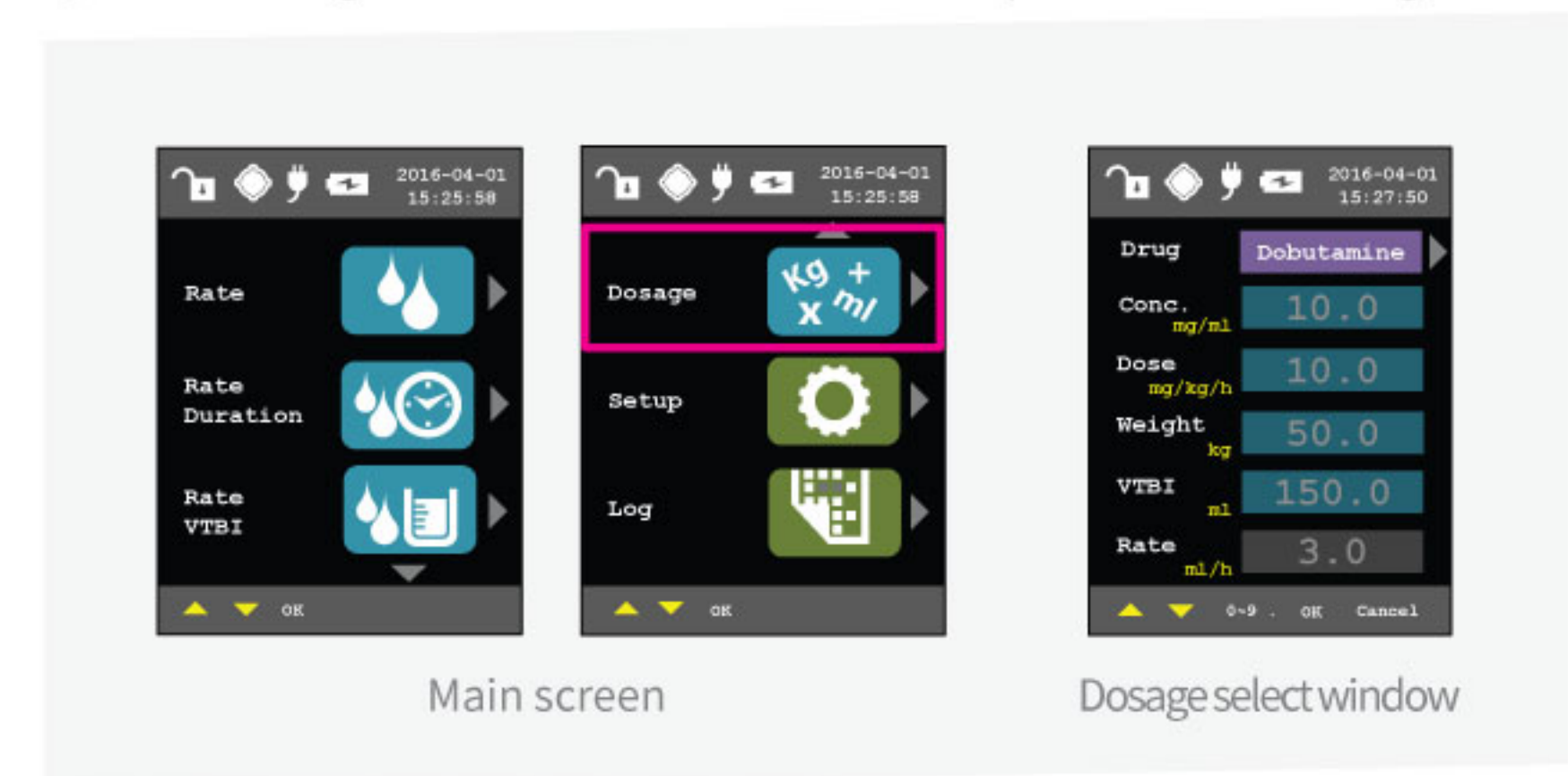
>> After setting of dosage (µg/kg/min or mg/kg/h), body weight, drug mass, and solution volume, the flow rate (ml/h) will be automatically calculated and displayed.



[Caution]

If calculated flow rate is less than 0.1 ml/h or more than 999.9ml/h, it is not possible to operate.

- ② Select “Dosage” in main screen and enter into input window for Dosage.

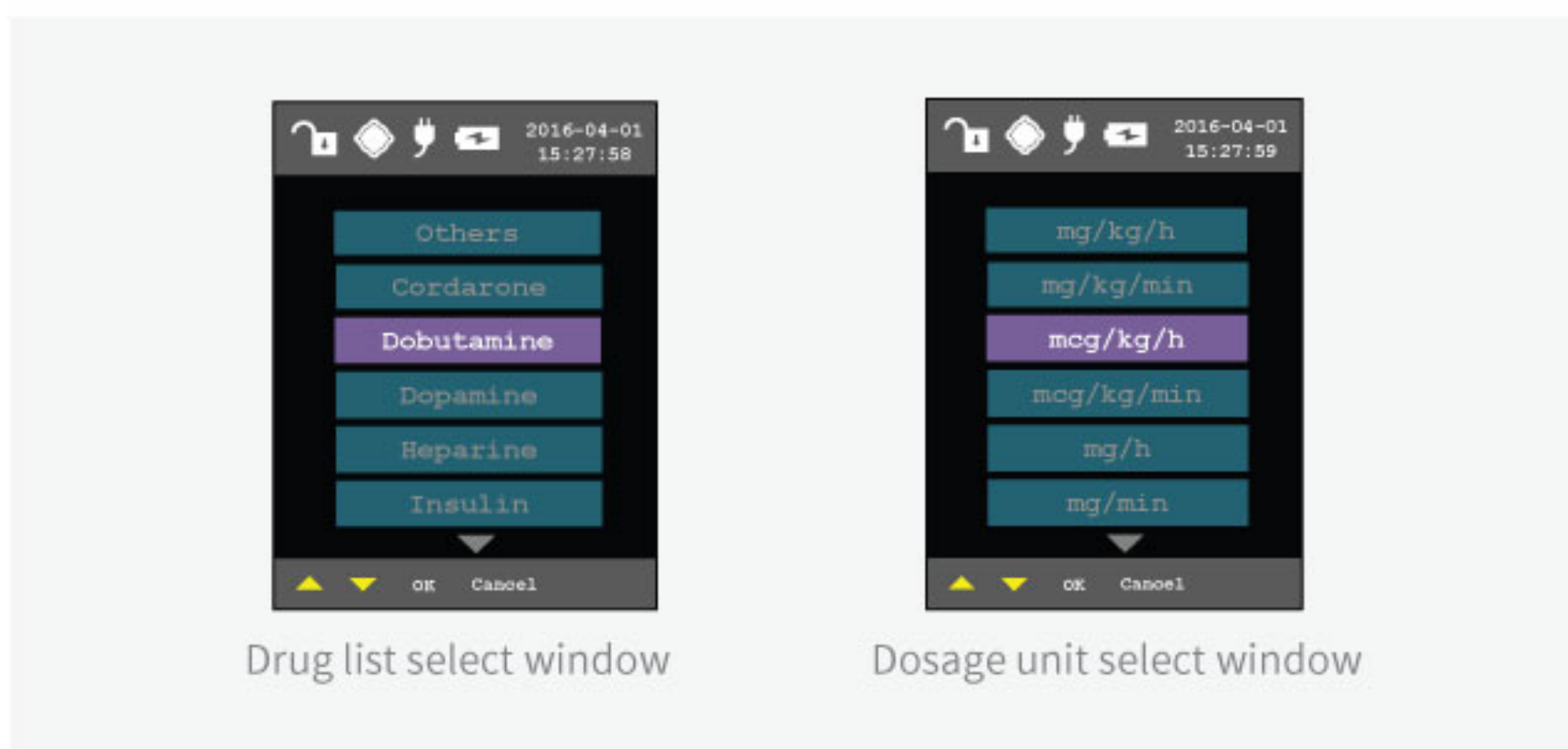


- ③ Select the drug that you are going to infuse from Drug List and select ‘Others’ if the drug in the list that you are going to infuse is not listed.

- ④ Once the drug is selected, the screen will switch to Dosage unit. Please select the right unit for the drug.

Mode setup

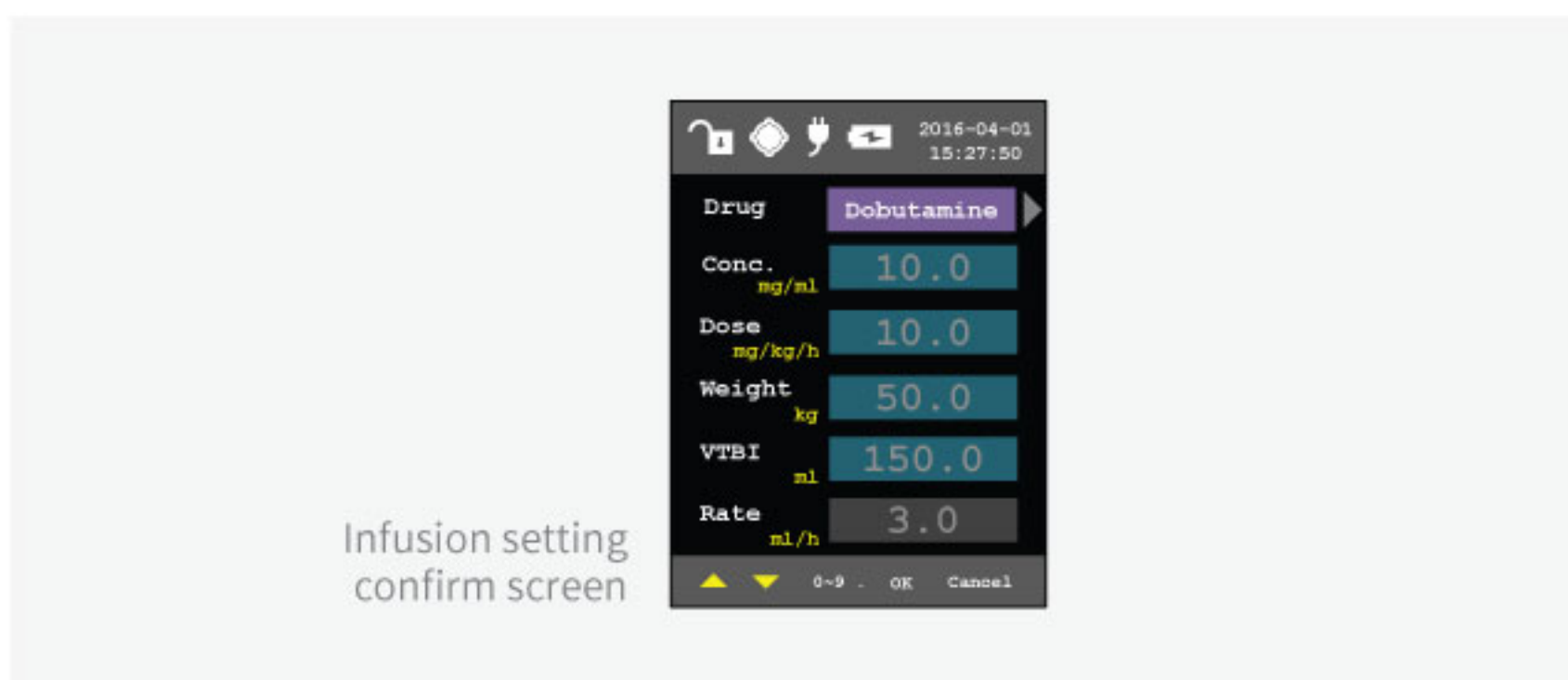
STEP 07



⑤ Select the Dosage Unit by the Numeric Keys and then set up the concentration and dose of the drug that you are going to infuse and weight of a patient. (VTBI mode available if VTBI is setup)

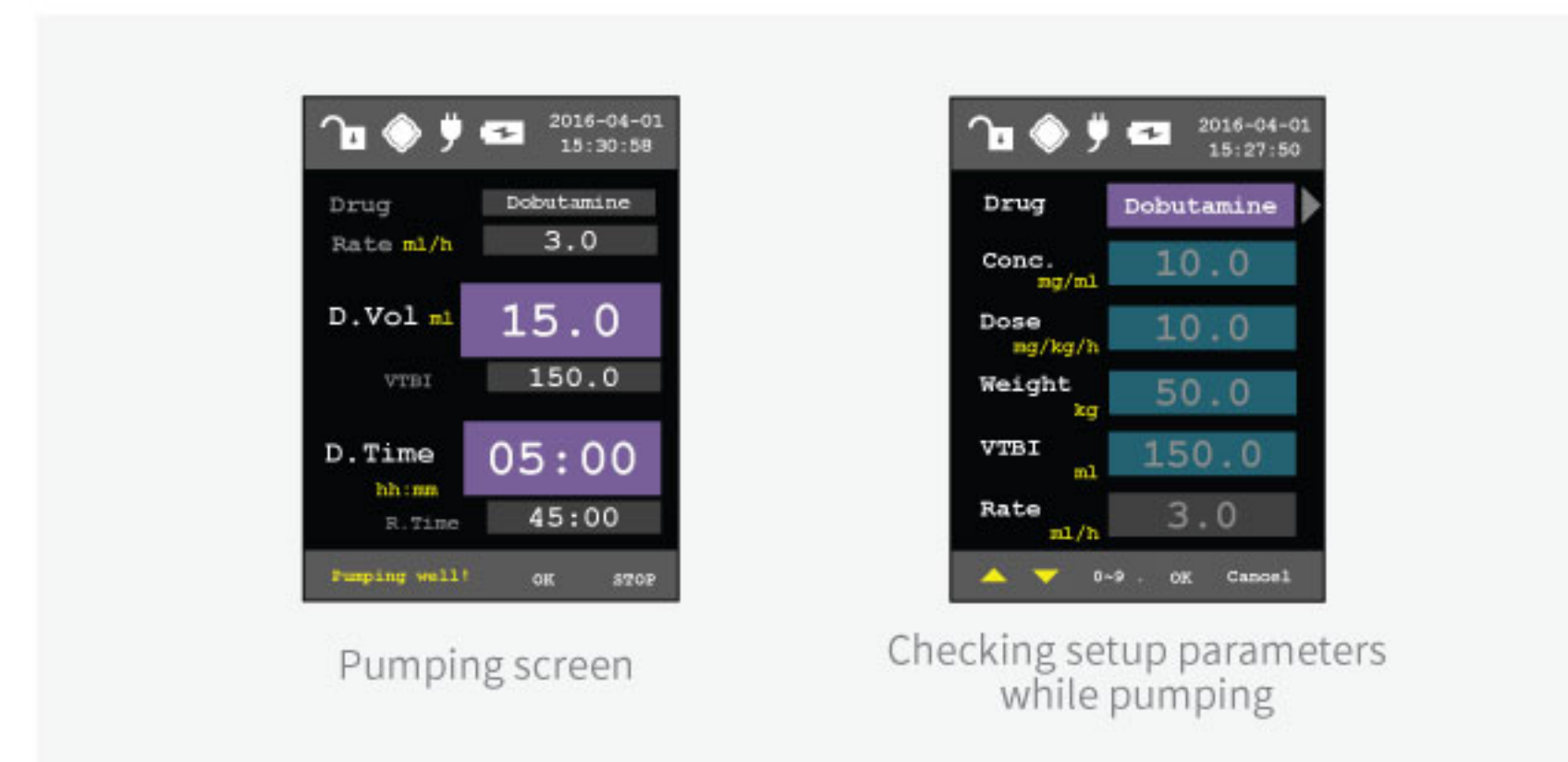
Set-up range	
Dosage	0.1 ~ 999.9
Body weight	0.1 ~ 300.0 kg
Drug concentration	0.1 ~ 999.9 mg/ml

- When set-up is done, press [OK] button to complete input.
- Check if set value is correctly entered in infusion Set-up window. Also check the status of the infusion line.



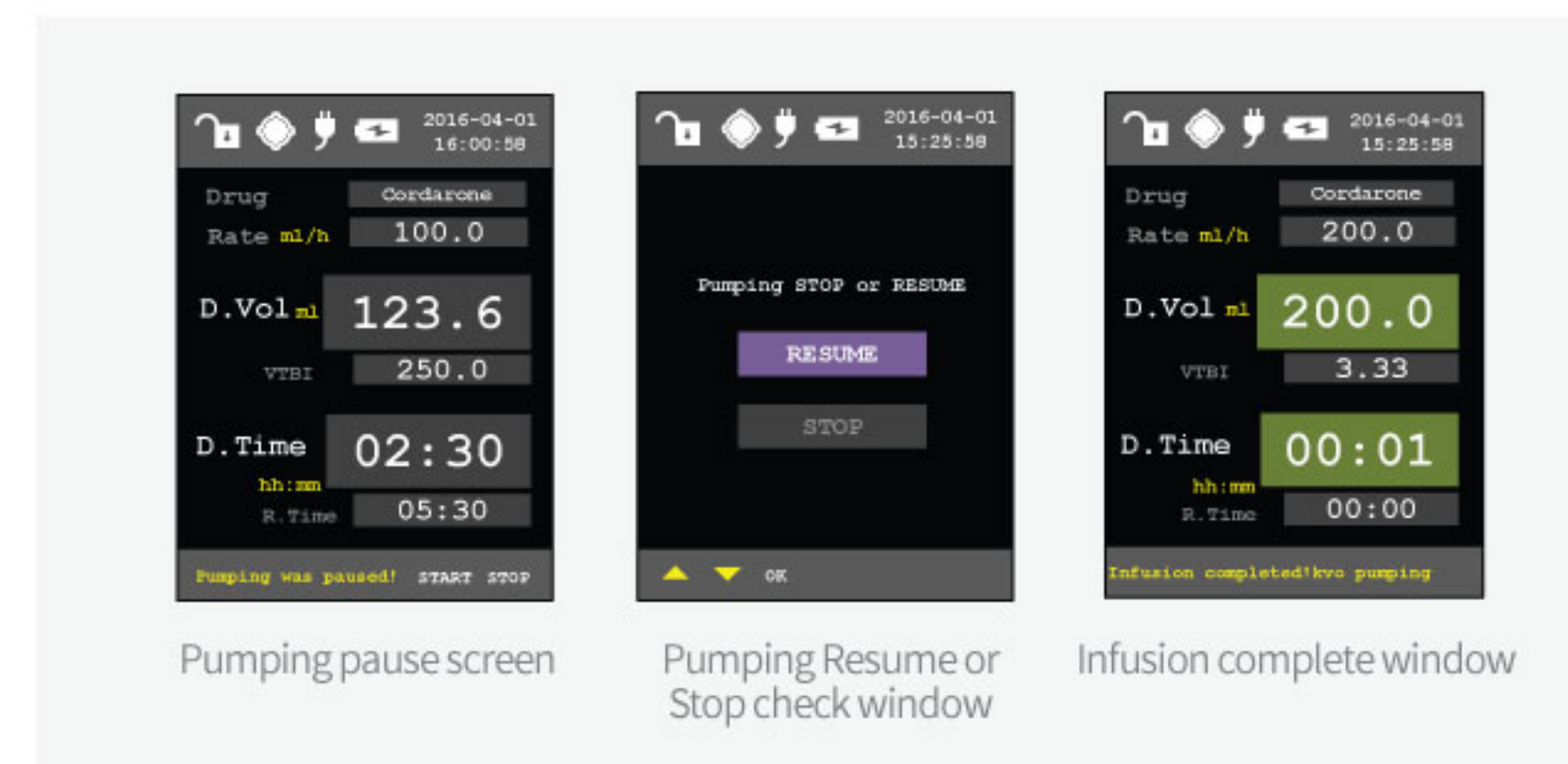
- Press [START] button to start infusion. If the pump is Stand-by over 1 minute with ready status, alarm will beep.(Press [OK] button to stop the alarm.)

>> Press [OK] button to check setup Dosage mode parameters while pumping.



- Infusion Stop/Infusion Set-up Change

- ① To stop or pause infusion, press [STOP] button.
- ② To resume infusion, press RESUME by using [OK] button.
- ③ If you want to change infusion setup, move to Main Menu by pressing [STOP] button to change the set-up.



- When set-up values (infusion time, infusion limit) are completed, it stops automatically with alarm sound. Also, KVO function is activated and infusion is continuing with the set speed.

Mode setup

STEP 07

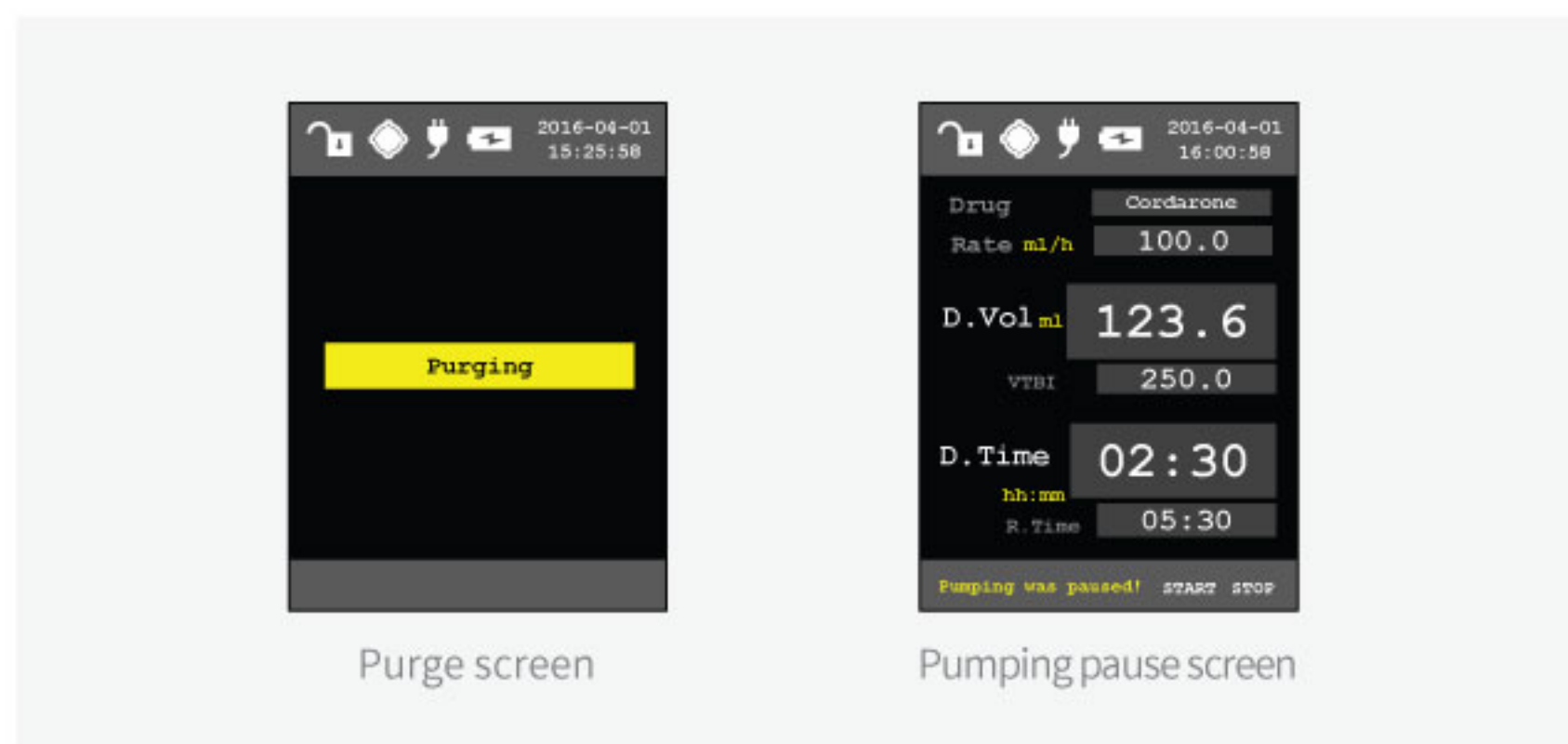
- When the pump is stopped, close IV line and remove Cylinder Cartridge. (Open the door and press Lock key to rotate the motor before removing Cylinder Cartridge. You can easily remove Cylinder Cartridge.)
- After use and removal, Press [Power] button for 3 seconds to power OFF.



• Other functions

(1) Purge Mode

- ① If air bubble occurs in IV line, stop the pump operation and press [Purge] button until deflating air completely out of detached IV line from patient.
- ② Purge operating speed is 700ml/h and accumulated amount is not added during the purge operation.
- ③ When you stop pressing [Purge] button, Purge will stop and move to pumping pause screen if Purge operation is completed. At this time, if you want to continue the infusion, Press [Start] button to operate the pump.



(2) Bolus Mode

- ① If you want rapid infusion during the pump operation, press [Bolus] button after selecting infusion stop button.
- ② If you press [START] button, it will infuse automatically with the pre-set value of Bolus Rate and Bolus Volume and it will stop when you press [STOP] button.
- ③ Bolus Volume can be adjusted before infusion is started and initial set-values can be adjusted in Setup menu. (Initial set-values - Bolus Rate : 500 ml/h, Bolus Volume : 3ml)



[Caution]

When Bolus is completed, very first setting values are still remain. So please check the setting Bolus Rate and Bolus Volume values.

(3) Set up

- ① To change set-up, select Set-up in main screen and enter into input window.



- ② Available settings : Language, Time/Date, Volume, Occlusion Sensitivity, KVO Rate, Brightness, Bolus Rate, Bolus Volume and Password.

- Language: Language setting
- Time/Date: Control Time/Date
- Occlusion sensitivity: Control Occlusion sensitivity
- KVO(Keep Vein Open) rate: Control KVO dosage rate
- Brightness: Control brightness of screen

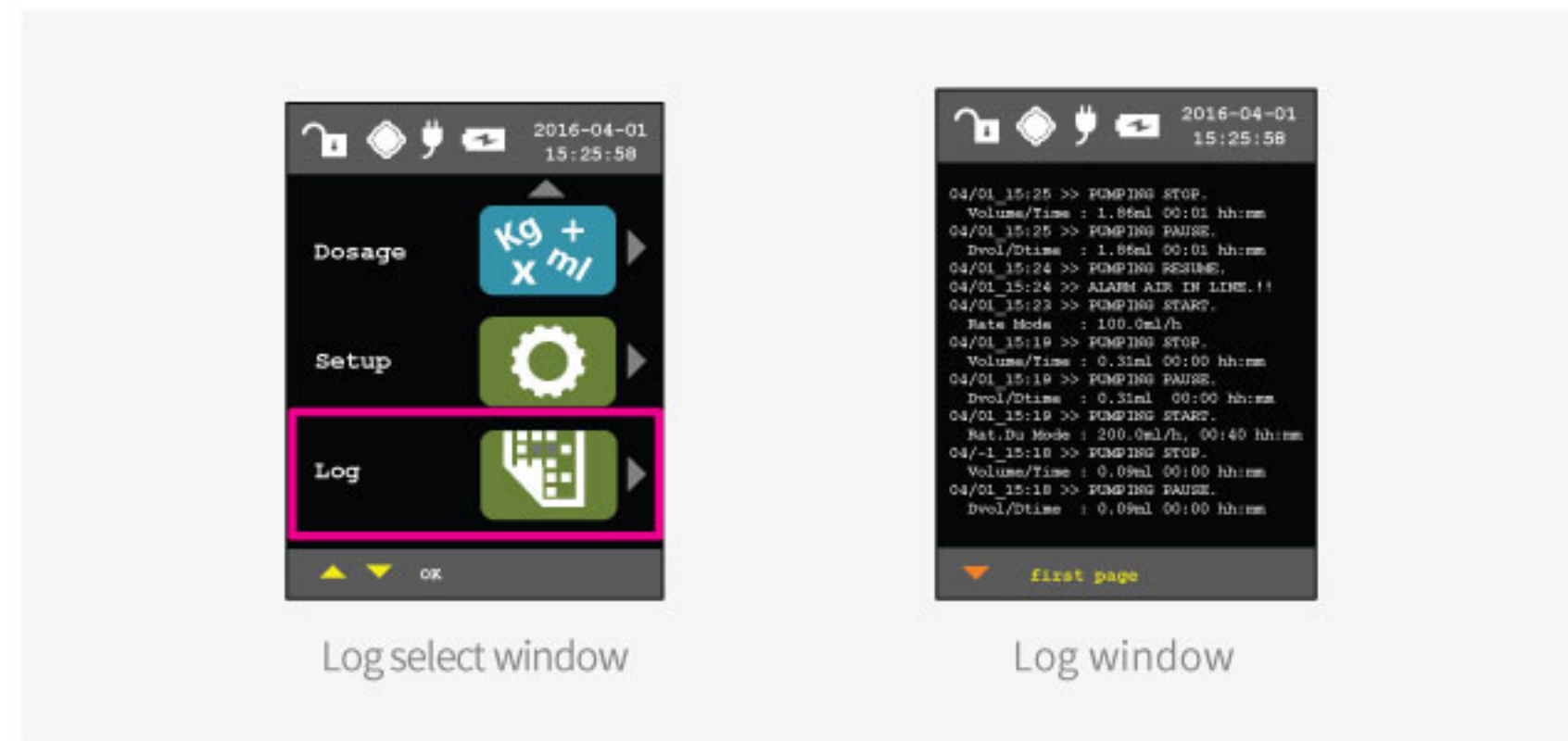
Level	1	3	5
Pressure[mmHg]	Typ. 150	Typ. 430	Typ. 750

Mode setup

STEP 07

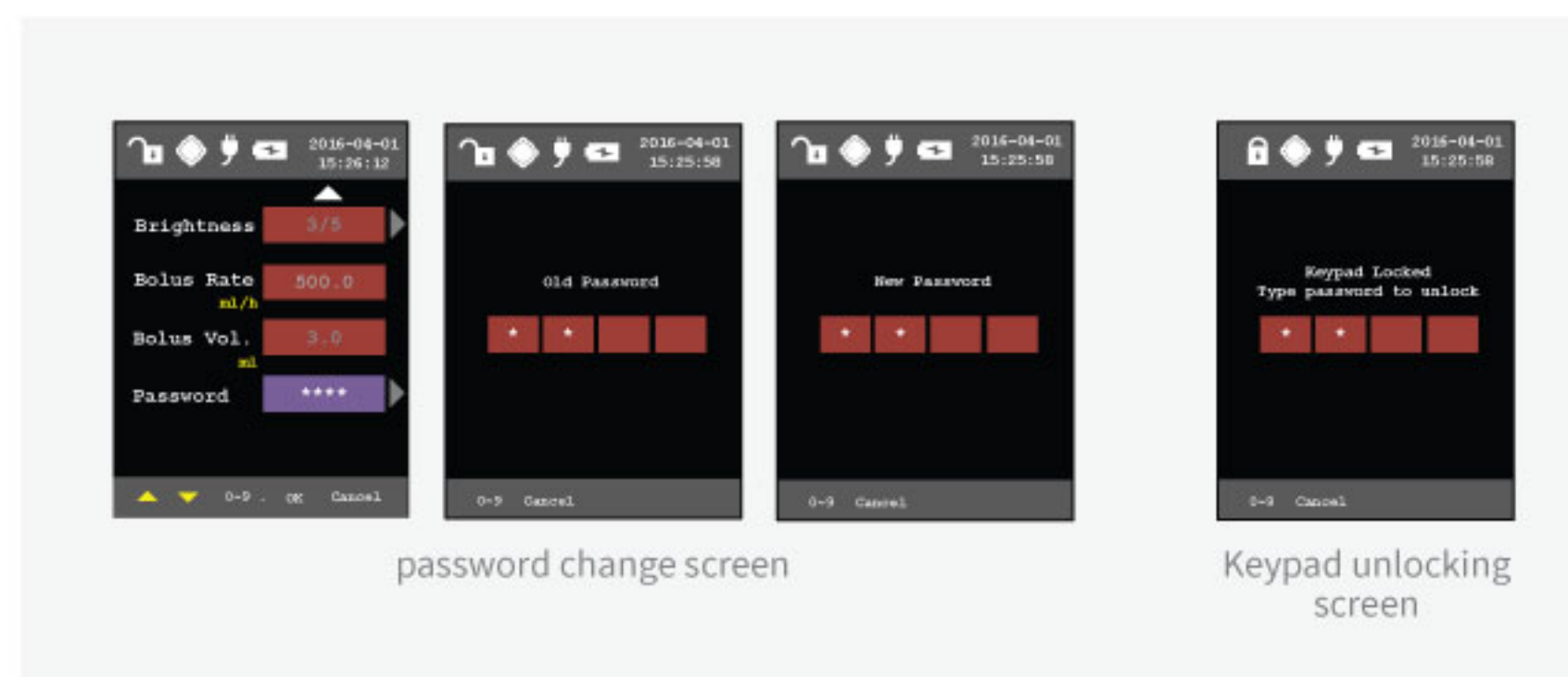
(4) Log

- ① For checking device history, select Log icon to check in Main screen. (It can store up to 500 events. It deletes in saving order when exceeded)



(5) Key Lock

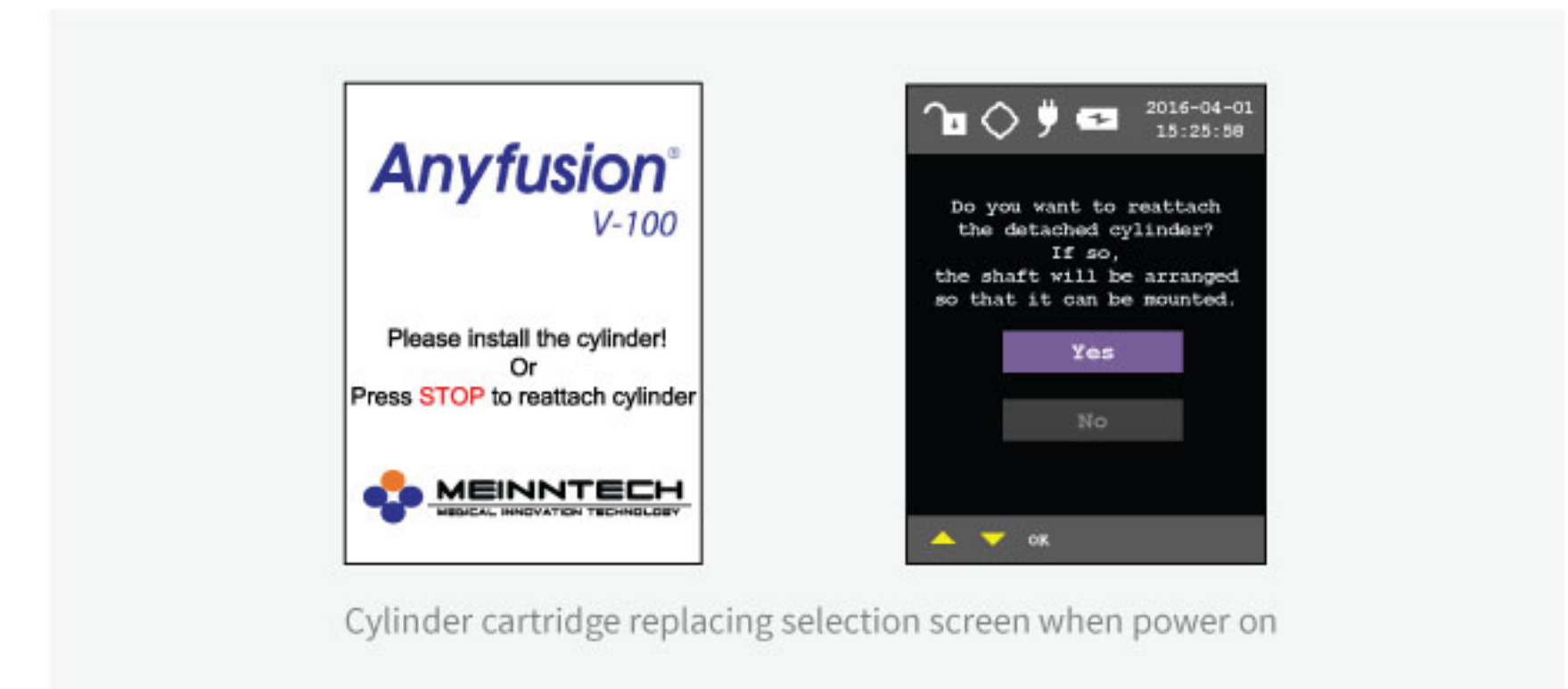
- ① Set-up Password to select Set-up icon in Main.
- ② If New Password is set, password should be input for unlocking Key Lock. If Password is not in a reset, initial Password is '0000'.
- ③ Key Lock does not have an effect on Numeric Key and Arrow key.



• How to reattach Cylinder cartridge

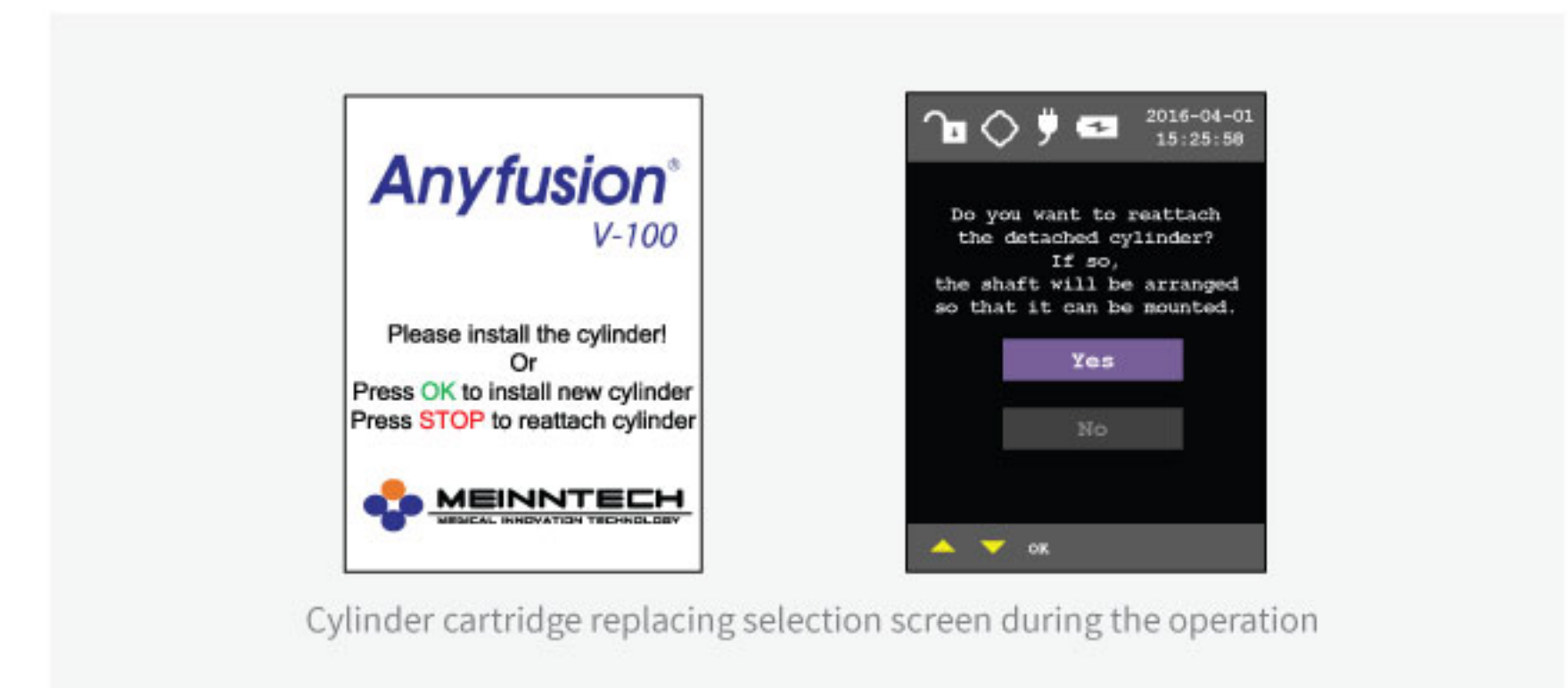
(1) Cylinder cartridge reattach with power ON

- ① Turn on the Power of the pump to reattach Cylinder cartridge, then press [STOP] button.
- ② When asking reattaching Cylinder cartridge screen comes up, press YES to reattach, otherwise press NO.



(2) Reattaching Cylinder cartridge while using the pump

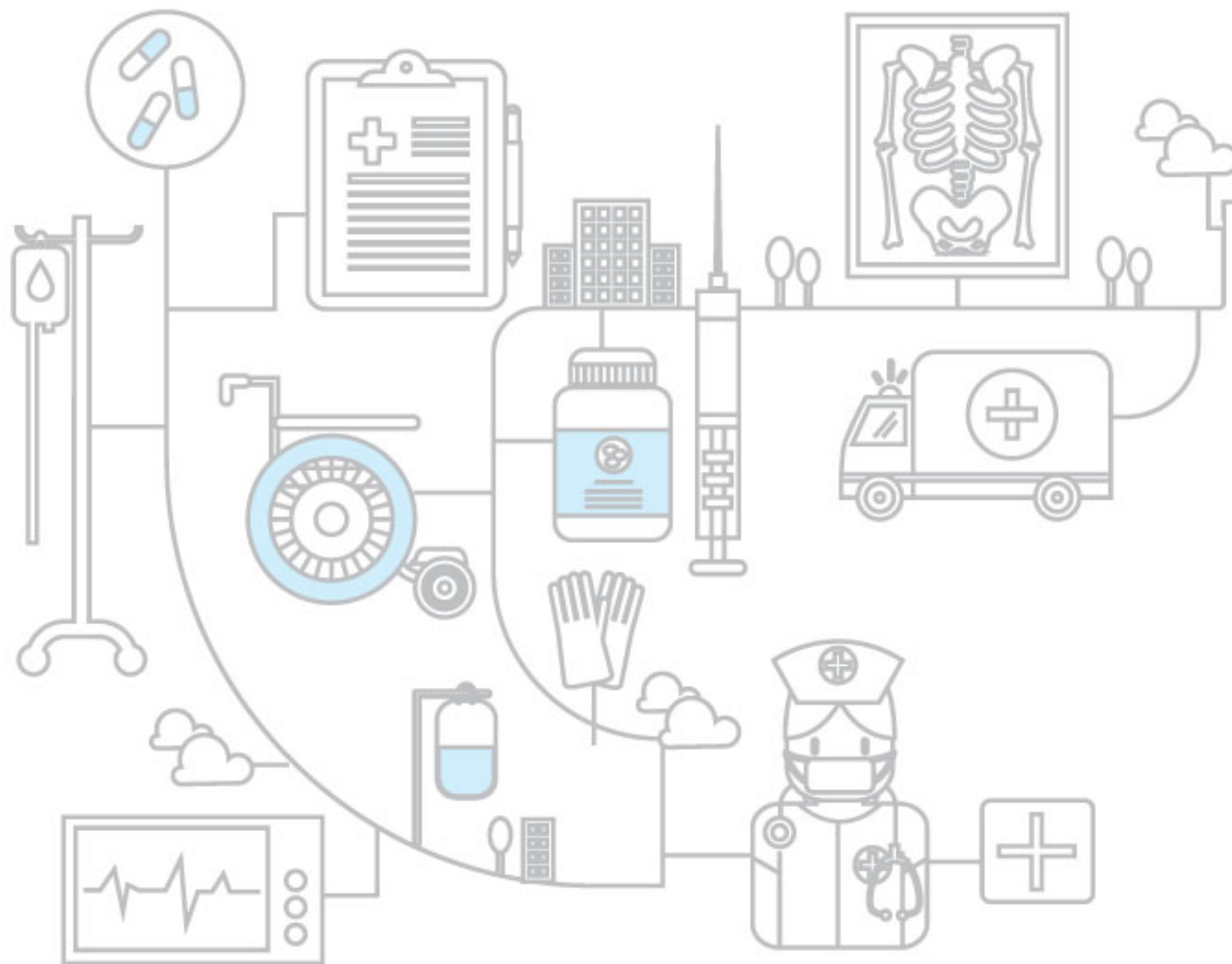
- ① If Cylinder cartridge is detached while using the pump, the screen will switch to ask reattaching Cylinder cartridge screen.
- ② At this time, the screen will switch to Cylinder cartridge reattach mode if you press [STOP] button by following screen.
- ③ When asking reattaching Cylinder cartridge screen comes up, press YES to reattach, otherwise press NO.



- ④ Reattach Cylinder message is activated when the Cylinder cartridge is detached while using and the motor axis moves for reattaching the Cylinder cartridge.

7. Feature of Product & Declaration

- 7-1. Feature of Product
- 7-2. Declaration of manufacturer



7. Feature of Product & Declaration

7-1. Feature of Product

01 Occlusion detection characteristic

(1) Flow rate is measured as 25ml/h for detecting occlusion.

• Infusion mode

Flow Rate	Occlusion level (Setting)	Occlusion pressure (mmHg)	Time required before an Occlusion alarm(sec)	Bolus volume (ml)
25ml/h	1	150	45	0.286
	5	825	371	0.881

• Syringe mode

Flow Rate	Occlusion level (Setting)	Occlusion pressure (mmHg)	Time required before an Occlusion alarm(sec)	Bolus volume (ml)
5ml/h	1	134	563	0.272
	5	780	1929	0.864

02 Memory function

- (1) Recent infusion rate, infusion time and infusion volume are stored in the internal memory.
- (2) The data entered through the setting window, date, time, volume level, occlusion sensitivity, KVO rate, Brightness level, Bolus rate, Bolus volume, Password are stored in the internal memory and display through the LCD window.

[Reference]

- The data entered through the setting window will be initialized when you do reset.
>> Except for the date and time.

Item	The initialization value
Volume level	4/5
Occlusion sensitivity	3/5
KVO Rate	0.1ml/h
Brightness Level	3/5
Bolus Rate	500ml/h
Bolus volume	3ml
Password	0000

03 EMS Issue

This equipment has been tested and found to comply with the limits for medical devices in EN 60101-1-2.

These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- (1) Reorient or relocate the receiving device.
- (2) Increase the distance between the equipment.
- (3) Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected.
- (4) Consult the manufacturer or field service technician for help.

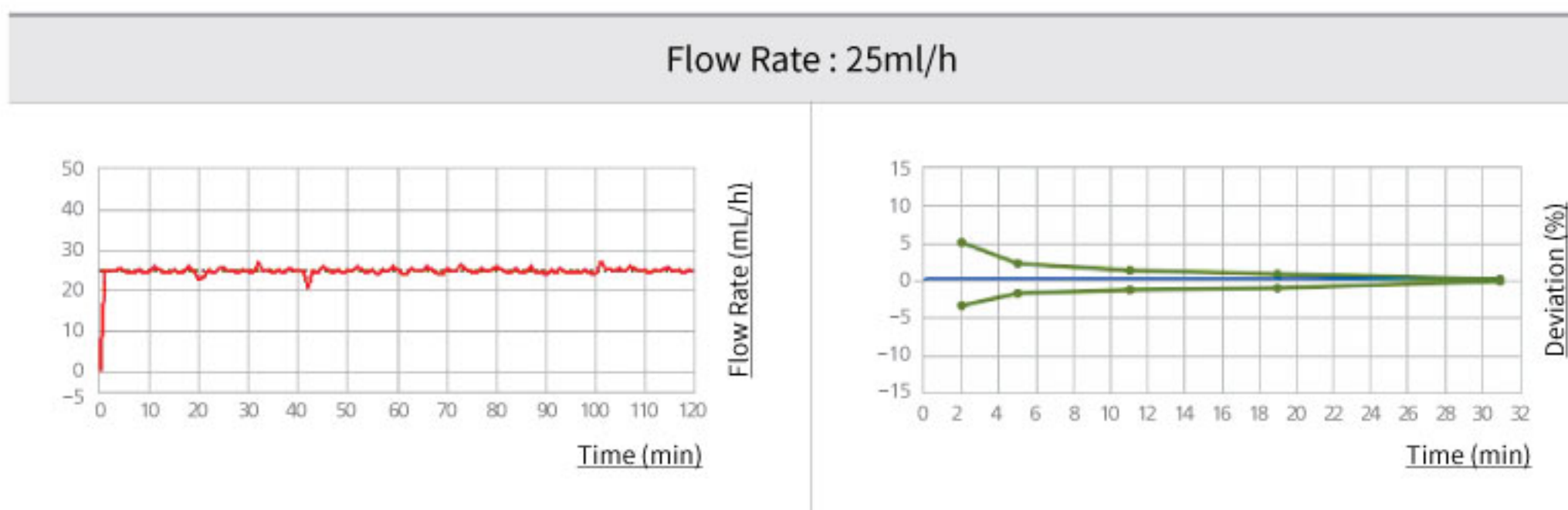
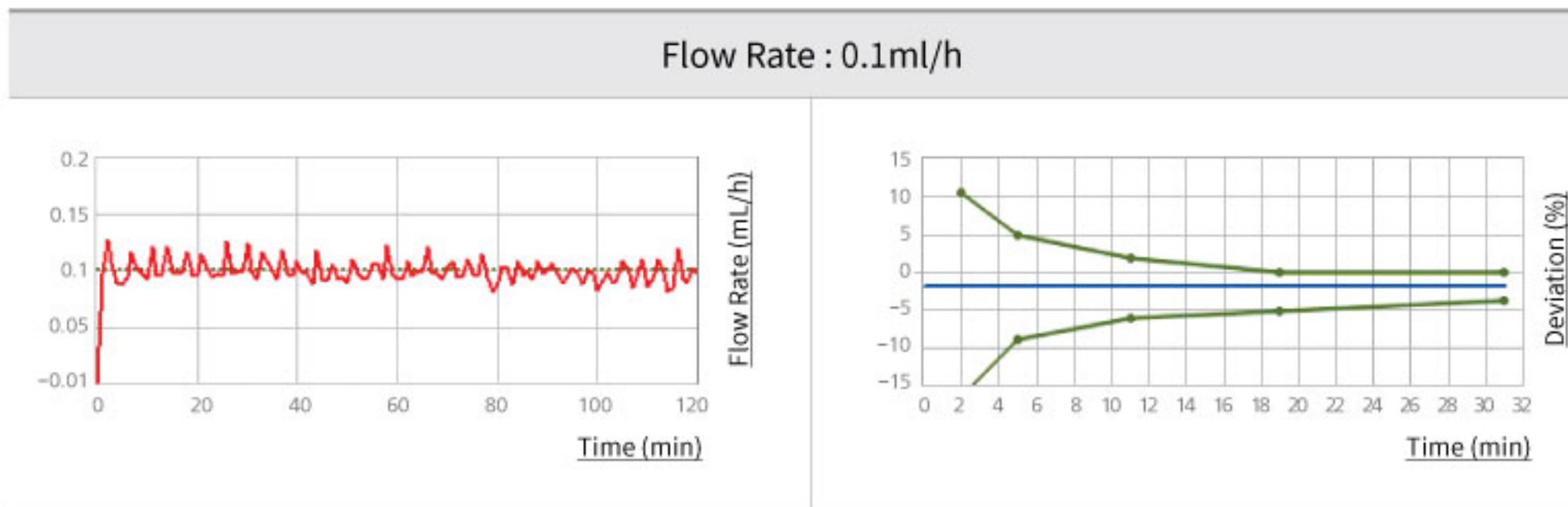
04 Characteristics curves

>> The following characteristics curves were achieved in the same conditions as those of IEC 60601-2-24.

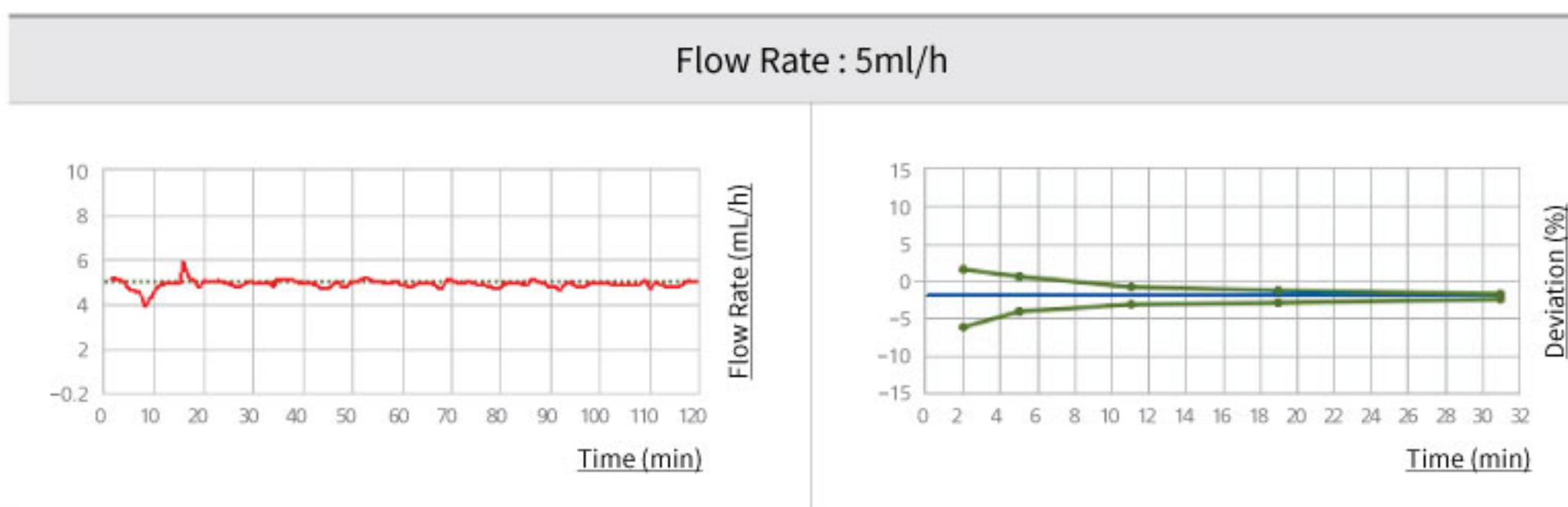
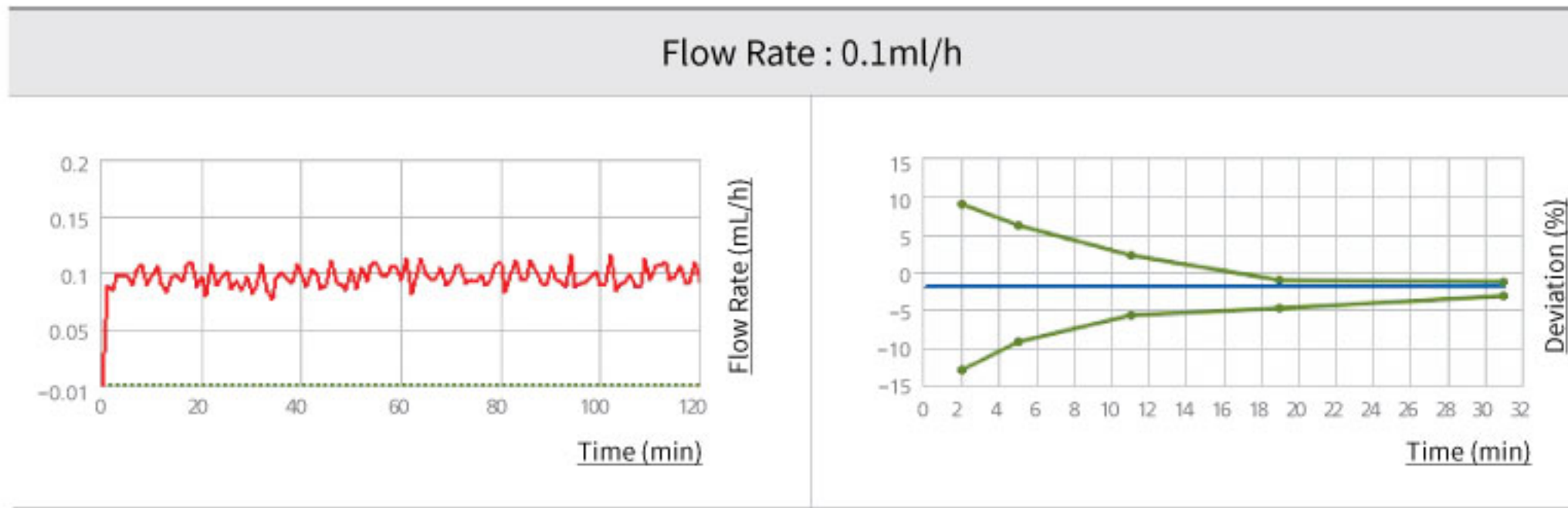
- (1) Start-up curve: This curve is measured every 30 seconds within 2 hours after the start of infusion. The starting curve represents the characteristic when stabilized after the infusion. The horizontal axis represents the measured time and the vertical axis represents the measured flow rate (ml/h). The dashed horizontal line indicates the set flow rate. The start-up curve shows the time till the actual flow rate reaches the set flow rate.
- (2) Trumpet curve: Horizontal axis of Trumpet curve represents the observation window. The vertical axis represents the percentage error of the actual flow rate to the specified flow rate. The dashed horizontal line indicates the set flow rate. The solid horizontal line indicates the overall mean percentage error.



• Infusion mode



• Syringe mode



7-2. Declaration of manufacturer

01 Electromagnetic emissions

The Anyfusion V-100 is intended for use in the electromagnetic environment specified below. The customer or the user of the Anyfusion V-100 should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic Environment-guidance
RF emissions CISPR 11	Group 1	The Anyfusion V-100 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class A	The Anyfusion V-100 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	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	Warning: The Anyfusion V-100 is intended for use by healthcare professionals only. It may cause radio interference or may disrupt the operation of nearby equipment. It may be necessary to take mitigation measures, such as re-orienting or relocating the Anyfusion V-100 or shielding the location.

02 Immunity and compliance levels

Immunity test	IEC 60601 Test Level	Actual Immunity Level	Compliance Level
Conducted RF IEC 61000-4-6	3 Vrms, 150 kHz to 80 MHz	3 Vrms, 150 kHz to 80 MHz	3 Vrms, 150 kHz to 80 MHz
Radiated RF IEC 61000-4-3	3 V/m, 80 MHz to 2.5 GHz	3 V/m, 80 MHz to 2.5 GHz	3 V/m, 80 MHz to 2.5 GHz

03 Electromagnetic immunity


The Anyfusion V-100 is intended for use in the electromagnetic environment specified below. The customer or the user of the Anyfusion V-100 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	±8 kV Contact ±15 kV Air	±8 kV Contact ±15 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	±2kV for power supply lines	±2kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	1 kV line to line 2 kV line to earth	1 kV line to line 2 kV line to earth	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% U _T (>95% dip in U _T)for 0.5cycle 40% U _T (60% dip in U _T)for 5 cycle 70% U _T (30% dip in U _T)for 25 cycle <5% U _T (<95% dip in U _T)for 5 s	<5% U _T (>95% dip in U _T)for 0.5cycle 40% U _T (60% dip in U _T)for 5 cycle 70% U _T (30% dip in U _T)for 25 cycle <5% U _T (<95% dip in U _T)for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Anyfusion V-100 requires continued operation during power mains interruptions, it is recommended that the Anyfusion V-100 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	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

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

04 Electromagnetic emissions

The Anyfusion V-100 is intended for use in the electromagnetic environment specified below. The customer or the user of the Anyfusion V-100 should assure that it is used in such an environment.

Immunity test	IEC 60601 Test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms 150 kHz to 80 MHz	Portable and mobile RF communications equipment should be used no closer to any part of the Anyfusion V-100, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. [Recommended separation distance] $d = 1,2\sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80MHz to 2.5GHz	3 V/m 80 MHz to 2.5 GHz	[Recommended separation distance] $d = 1,2\sqrt{P}$ 80 MHz to 800 MHz $d = 2,3\sqrt{P}$ 800 MHz to 2,5 GHz Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in 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 landmobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the Anyfusion V-100 is used exceeds the applicable RF compliance level above, the Anyfusion V-100 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the Anyfusion V-100.
- b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

05 Recommended Separation Distances

The Anyfusion V-100 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The user of the Anyfusion V-100 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Anyfusion V-100 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 $d = 1,2\sqrt{P}$	80 MHz to 800 MHz $d = 1,2\sqrt{P}$	800 MHz to 2.5 GHz $d = 2,3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.37	0.37	0.74
1	1.17	1.17	2.33
10	3.70	3.70	7.37
100	11.70	11.70	23.30

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 transmitter in watts (W) according to the transmitter manufacturer.

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

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

8. Using Conditions

- 8-1. Cleaning & storage
- 8-2. Waste & Recycle
- 8-3. Operating condition
- 8-4. Transport & Storage condition

8. Using Conditions

8-1. Cleaning & storage

- 1) Before cleaning the pump, make sure of turning off the power and disconnecting the AC power cord.
- 2) Please be careful about floating particles of dust. They might pass through the pump when cleaning up.
- 3) If any solution spills on the pump or the pump gets heavily soiled, wipe it immediately with gauze or similar cloth dampened with cold or lukewarm water.
- 4) Clean AC inlet and Cylinder cartridge install area regularly.
- 5) Do not use organic solvent such as alcohol or thinner.
- 6) After using a disinfectant for cleaning, wipe it out using gauze or similar cloth dampened with cold or luke warm water.
- 7) The following table lists examples of disinfectants that may be used to clean the pump.

Ingredients	Chlorhexidine gluconate	Benzalkonium chloride
-------------	-------------------------	-----------------------

- (1) Please follow the instruction of disinfectant.
- (2) The Cylinder pump cannot be autoclaved.
- (3) Never use a dryer or similar device to dry the Cylinder pump.

- 8) Do not leave the pump in wet conditions.
- 9) Do not store the pump in a place where atmospherically pressure, temperature, humidity, ventilation, air containing salinity or sulfur may have adverse effects on it.
- 10) Do not store the pump in a place where vibrations frequently present.
- 11) Please remove the Cylinder cartridge before storing the pump.
- 12) Cylinder cartridge, needle and injection needle cannot be reused and have to be discarded as an infectious waste.
- 13) Clean the cartridge install part with disinfection cotton after use.
- 14) If you don't use the pump for a long time, remove the power cord from the pump and store it separately.

8-2. Waste & Recycle

- 1) If you want to discard or recycle the pump, Li-ion battery should be removed from the equipment.
- 2) Disposal of this Cylinder pump batteries has to be done according to your local regulations or contact your local distributor.

8-3. Operating condition

Operating condition	
TEMPERATURE	10 °C~ 40 °C
HUMIDITY	30 % ~ 75 %
PRESSURE	700hPa ~ 1,060 hPa

8-4. Transport & Storage condition

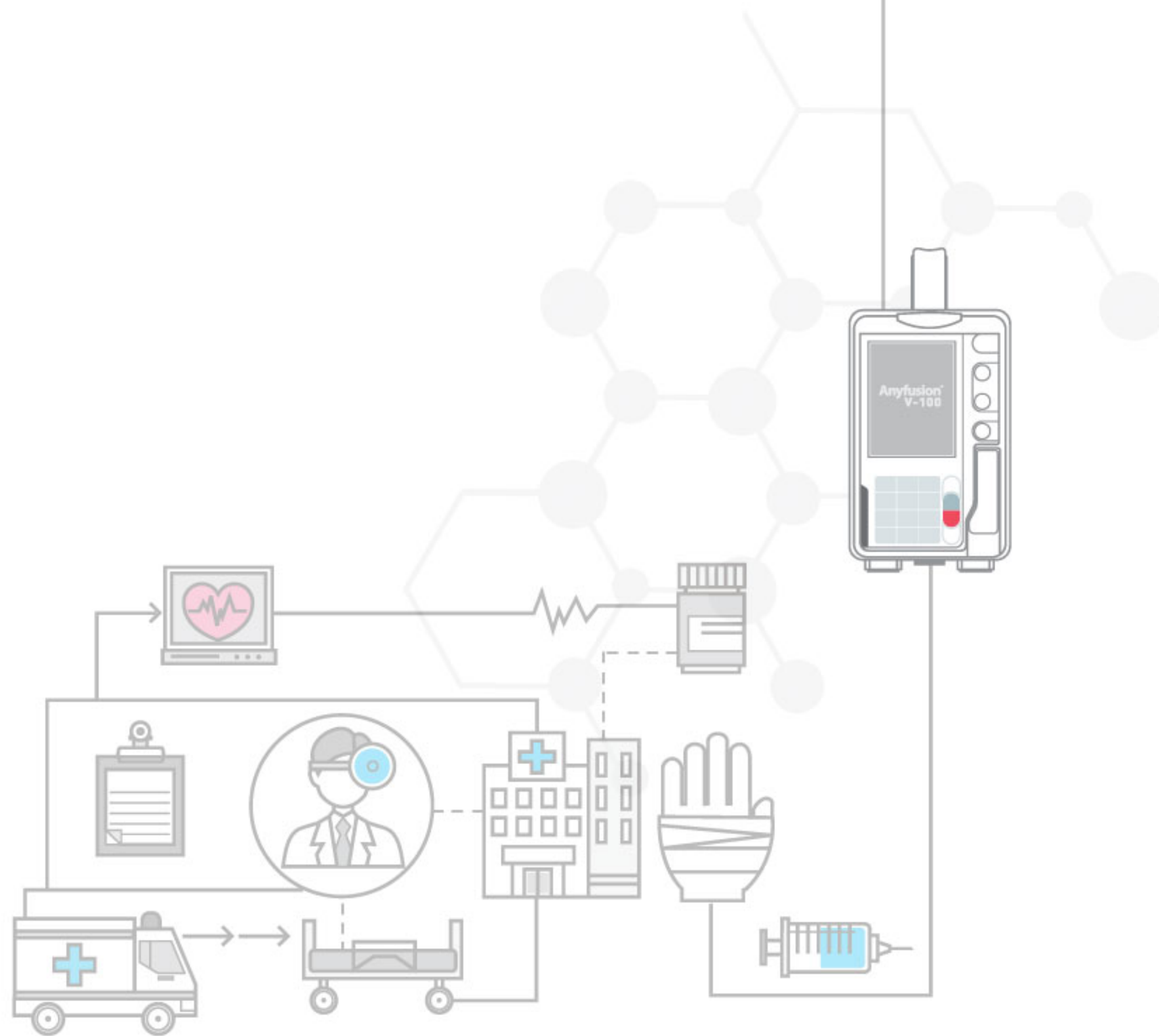
Transport & Storage condition	
TEMPERATURE	-20 °C~ 60 °C
HUMIDITY	10 % ~ 95 %
PRESSURE	650 hPa~ 1,060 hPa



9. Service & Trouble Shooting

9-1. Power & Battery

9-2. Alarm/Message section



9. Service & Trouble Shooting

- If occurs any trouble during use, follow the instruction below.
- If following these trouble shooting suggestions does not solve the problem call sales distributor or it's A/S center.

9-1. Power & Battery

No	Symptoms	Causes	Corrective Actions
1	AC indicator doesn't appear when connecting AC power.	<ol style="list-style-type: none"> 1. AC Power cable may be not connected properly to the pump. 2. AC Power cable may be malfunctioning. 3. Fuse, SMPS or AC Power may be malfunctioning. 	<ol style="list-style-type: none"> 1. Please re-check the connection status of AC power cable. 2. Replace AC Power cable. 3. Call A/S center.
2	Power switch on when using AC power, malfunction occurs from the battery capacity indicator.	<ol style="list-style-type: none"> 1. Battery recharging or battery may be malfunctioning 	<ol style="list-style-type: none"> 1. Call A/S center.
3	When the power switch is on, battery capacity indicator is on but the motor doesn't operate.	<ol style="list-style-type: none"> 1. Transient error may be occurred in the pump. 2. Motor, Motor controller circuit is defective. 	<ol style="list-style-type: none"> 1. Press RESET KEY to reset the pump. 2. Call A/S center.
4	The pump doesn't shut down after Power switch off operated.	<ol style="list-style-type: none"> 1. Power doesn't go off during infusion process. 2. Power button may be malfunctioning. 	<ol style="list-style-type: none"> 1. Please stop the pump by pressing STOP & CANCEL KEY then turn off. 2. Call A/S center.
5	When using battery power, malfunction of battery capacity indicator appeared.	<ol style="list-style-type: none"> 1. Transient error may be occurred in the pump. 2. Battery or Power may be malfunctioning. 	<ol style="list-style-type: none"> 1. Press RESET KEY to reset the pump. 2. Call A/S center.
6	Full charge mark doesn't appear at the indicator after the battery is fully charged.	<ol style="list-style-type: none"> 1. Battery recharging time may not enough. 2. Battery recharging or battery may be malfunctioning. 	<ol style="list-style-type: none"> 1. Connect AC Power cable to recharge battery over 5 hrs. 2. Call A/S center.
7	Using time is short after the battery is fully charged.	<ol style="list-style-type: none"> 1 Battery exceeds is life-span. 	<ol style="list-style-type: none"> 1. Call A/S center.
8	Battery is not charging.	<ol style="list-style-type: none"> 1. Battery recharging or battery may be malfunctioning. 	<ol style="list-style-type: none"> 1. Call A/S center.



- Battery life-span may differ depending on the environment and the frequency of use.
- Please operate the pump at least once a month with the battery for checking battery performance.

<Characteristics of alarm indicator>

Alarm category	Indicator color	LED	Sound
HIGH PRIORITY	Red	Blink	HIGH ALARM
LOW PRIORITY	Yellow	Constant (on)	LOW ALARM

9-2. Alarm/Message section

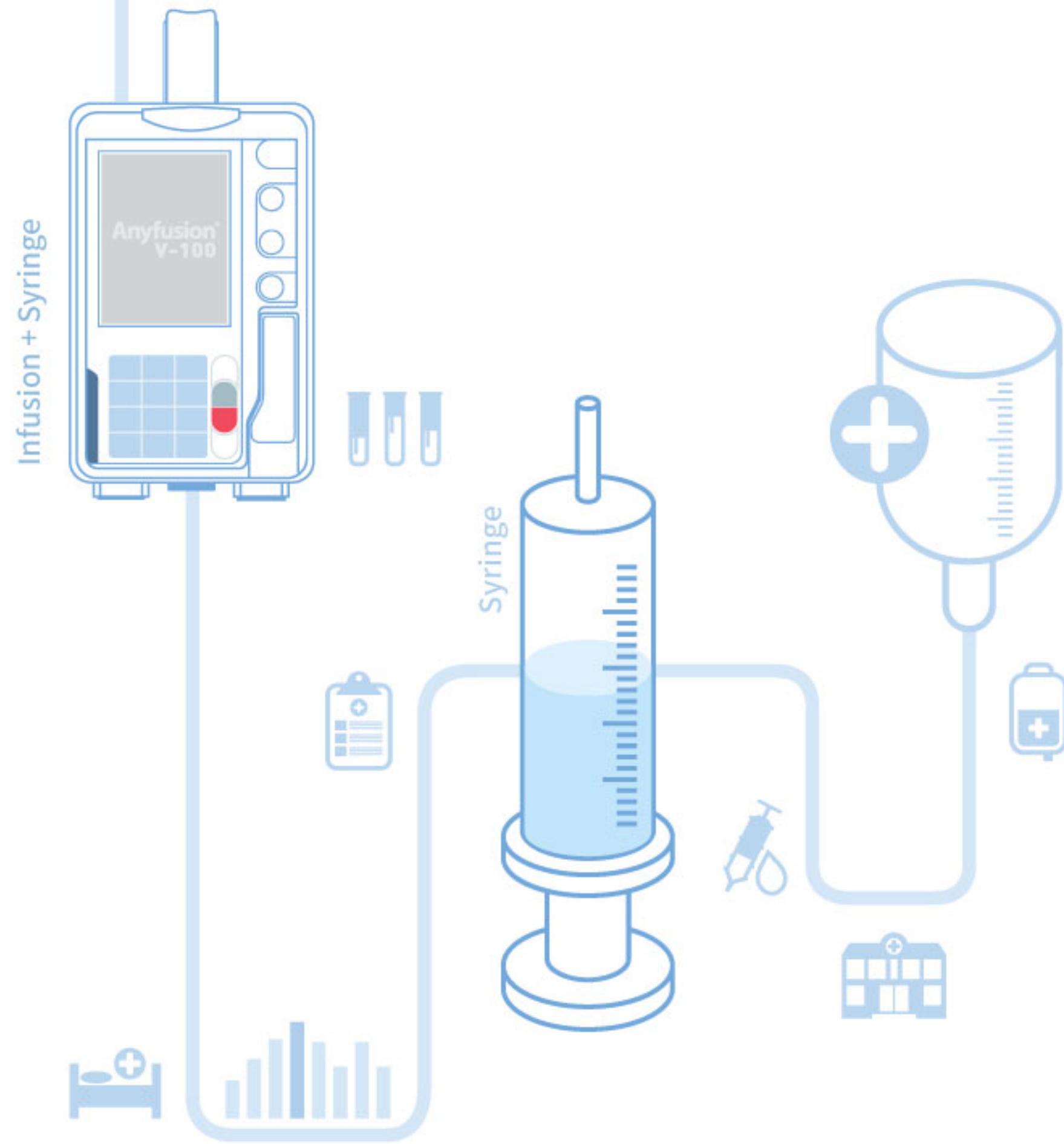
- 1 ~ 7 : TECHNICAL ALARM CONDITION
- 8 ~ 11 : LOW PRIORITY
- 12 ~ 21 : HIGH PRIORITY

No	ALARM	DESCRIPTION	CAUSE OF OCCURRENCE	ACTION
1	POWER ON	1) Alarm LED: Green, Yellow, Red Light ON  2) Sound: POWER ON MELODY	-	-
2	POWER OFF	1) Alarm LED: Green, Yellow, Red Blinks  2) Sound: POWER OFF MELODY 3) Message: POWER OFF..BYE!	-	-
3	BATTERY CHARGING	1) Message: CHARGING	-	-
4	BATTERY CHARGE COMPLETE	1) Message: CHARGED!(100%)	-	-
5	DOOR OPENED WHILE WAITING FOR INFUSION	1) Alarm LED: Green Blinks 2) Sound: DOOR OPEN ALARM 3) Message : DOOR WAS OPENED!	Door opened while waiting for the infusion.	Close the pump door
6	INFUSING	1) LED: Green Blinks 2) Message : PUMPING WELL	-	-
7	PAUSE WHILE INFUSING	1) Message : PUMPING WAS PAUSED!	-	-

9-2. Alarm/Message section

No	ALARM	DESCRIPTION	CAUSE OF OCCURRENCE	ACTION
8	NEAR INFUSION COMPLETE	1) LOW PRIORITY	Alarm beeps the situation of 5 minutes before the infusion complete	-
9	START REMINDER	1) LOW PRIORITY	Alarm beeps when 2 minutes over after power on and Stand-by status.	-
10	INPUT TIME EXPIRED	1) LOW PRIORITY 2) Message : KEY IN TIME EXPIRED!	Alarm beeps when input time is expired. (over 1 min)	-
11	LOW BATTERY	1) LOW PRIORITY 2) Message : BATTERY NEARLY EMPTY!	Alarm beeps when the remaining capacity of batter is below 30 mins or 5 mins.	Connect AC power cable to recharge the battery.
12	INFUSION COMPLETE	1) HIGH PRIORITY 2) Message : INFUSION COMPLETED! KVO PUMPING.	-	Press START & OK KEY to complete infusion.
13	NO BATTERY	1) HIGH PRIORITY 2) Message : BATTERY IS DISCONNECTED!	Alarm beeps if the internal battery is not connected properly.	Call A/S center.
14	DEPLETED BATTERY	1) HIGH PRIORITY 2) Message : REPLACE THE BATTERY!	Alarm beeps if the battery replacement is required when the battery is expired.	Call A/S center.

No	ALARM	DESCRIPTION	CAUSE OF OCCURRENCE	ACTION
15	OCCCLUSION DETECTION	1) HIGH PRIORITY 2) Message : Occlusion. WAS DETECTED!	Alarm beeps if occlusion is detected during the infusion	Solve the problem of occlusion and then press STOP & CANCEL KEY to stop the alarm. After that continue the infusion with pressing START & OK KEY button.
16	CYLINDER CARTRIDGE DETACH DETECTION	1) HIGH PRIORITY	Alarm beeps if Cylinder cartridge detached is detected.	Please carefully check the Cylinder installation status. If the problem continues, please call A/S center.
17	AIR IN LINE DETECTION	1) HIGH PRIORITY 2) Message : Air WAS DETECTED!	Alarm beeps if air bubble is detected during the infusion.	Please carefully check the Cylinder installation status. If the problem continues, please call A/S center.
18	DOOR OPEN (DURING INFUSION)	1) HIGH PRIORITY 2) Message : DOOR WAS OPENED!	Alarm beeps if the pump door is opened during the infusion.	After closing the door press START & OK KEY to restart the infusion again.
19	SYSTEM MALFUNCTION -1	1) HIGH PRIORITY 2) Message : SYSTEM MALFUNCTION![-1]	Alarm beeps if the pump door is opened during the infusion.	Call A/S center.
20	SYSTEM MALFUNCTION -2	1) HIGH PRIORITY 2) Message : SYSTEM MALFUNCTION![-2]	Alarm beeps if there is a malfunction of internal system of the pump.	Call A/S center.
21	SYSTEM MALFUNCTION -3	1) HIGH PRIORITY 2) Message : SYSTEM MALFUNCTION![-3]	Alarm beeps if there is a malfunction of internal system of the pump.	Call A/S center.



10. Technical Specification

- 10-1. V-100 Specification
- 10-2. AC/DC Power supply
- 10-3. Rechargeable battery

10. Technical Specification

10-1. V-100 Specification

Product name	Cylinder pump
Model name	Anyfusion V-100
Cylinder cartridge	Single-use Cylinder cartridge (with Luer connector)
Flow rate	0.1~999.9 ml/h
Flow rate accuracy	± 2%
VTBI selector, ml	0.1 ~ 9999 ml
Total volume infused display, ml	0.01 ~ 9999 ml
KVO rate, ml/hr	0.1 ~ 5 ml/hr
IV set	Compatible with any brand of IV sets (Compatible with installed Micro filter 0.2um~5.0um)
Purge rate, ml/hr	700 ml/hr
Bolus rate, ml/hr	500(default), 1 ~ 999.9 ml/hr
Bolus Volume	3(default), 0.1 ~ 99.9ml
Occlusion Pressure	110 ~ 750 mmHg
Display	3.5" TFT-LCD(Resolution: 240 x 320)
Alarm	<ul style="list-style-type: none"> - Infusion completed alarm - Start reminder alarm (after 2mintues from Standby state.) - Repeat alarm - Low battery alarm - No battery alarm - Depleted battery alarm - Occlusion alarm - Air-in-line alarm - Door open alarm - System malfunction alarm - Cylinder detached alarm - Input time expired alarm

Safety Features	<ul style="list-style-type: none"> - Door open: Infusion is unavailable when the door is open - Key Lock: Only the Start/Ok, Stop/Cancel, Power, Purge, Bolus Keys activate - Cylinder removal function (Door open status) - Occlusion Sensor: Detects clogging of the extension tube - Air sensor: Detects air bubbles - Cylinder Sensor: Detects detached Cylinder
Other Functions	<ul style="list-style-type: none"> - Rate Mode: Flow rate - Rate/Duration Mode : Calculates the VTBI by setting the flow rate and infusion time. - Rate/VTBI Mode : Calculates the infusion time by setting the flow rate and VTBI - DOSAGE Mode : Calculates the flow rate by setting the dosage. - Date and Time : The date and time can be checked without a power supply, since a designated clock is installed. - Log: saves up to 500 in the pump and it can be viewed in the pump at log
Power	AC 100 ~ 240 V, 50/60 Hz / Fuse: 250V, 1.6A
Battery type	Rechargeable Li-ion
Battery life	Approx. 8 hrs at 5 ml/h, 10 hrs at 25ml/h, 7 hrs at 999.9 ml/h
Recharge time	Approx. 5hrs
Power Consumption	Max. 65 VA
Protection Type	<ul style="list-style-type: none"> - Protection from electric shock : Class I - Protection capacity for electric shock : Type CF - Protection from liquid infiltration : IPX2
Dimension	102(W) x 147(D) x 204(H)mm
Weight	Approx. 1.9 kg
Operating condition	<ul style="list-style-type: none"> - Temperature : 10 ~ 40 °C - Humidity : 30 ~ 75 % - Atmospheric pressure : 700 ~ 1,060 hpa
Storage condition	<ul style="list-style-type: none"> - Temperature : -20 ~ 60 °C - Humidity : 10 ~ 95 % - Atmospheric pressure : 650 ~ 1,060 hpa
Accessories	Syringe holder, Pole clamp, AC power cord, Operator manual

10-2. AC/DC Power supply

No	Name	Specification
1	Input voltage	100 VAC to 240 VAC
2	Input Frequency	50 Hz to 60 Hz
3	Inrush current	< 60A at 230VAC, < 30A at 115VAC
4	Efficiency	84%
5	Output Voltage	18.0V
6	Ripple and noise	100mVpp
7	Load regulation	<±1%
8	Hold up time	18ms typical at rated load and 115VAC
9	Overload protection	Auto-recovery
10	Short circuit protection	Auto-recovery
11	Overvoltage protection	Latch-off (Over voltage protection mode is defined at 60% rated load)
12	Cooling	Free air convection
13	Storage temperature	-40°C to +85°C
14	EMI	EN55022, level B conducted & radiated
15	Safety	EN60950-1, cUL60950, IEC60950-1, EN60601-1, cUL60601-1, IEC60601-1

10-3. Rechargeable battery

- Component of cell : Lithium Ion Battery 4 Cell.
- Rated voltage: +14.4V
- Capacity : 2,600mAh
- PCM: Provides protection from overcharge, over-discharge, short circuit and overheating

Inspection Item	Unit	Allowable Value	
Overcharge protection voltage	V	17.20±0.100	
Overcharge protection release voltage	V	16.23±0.200	
Overcharge protection delay time	ms	1000.0±500	
Overdischarge protection voltage	V	10.00±0.400	
Overdischarge protection release voltage	V	12.00±0.400	
Overdischarge protection delay time	ms	100±50	
Overcurrent protection current	A	10±2.5	
Overcurrent protection delay time	ms	10.0±5	
Operating temperature range	°C	-10~50	
Storage temperature range	°C	-20~60	
Current Consumption	Normal	µA	Max. 30
	Power saving	µA	Min. 0.1



11. Warranty



[11. Warranty]

WARRANTY

Product Name	Cylinder pump	Agency	
Model	Anyfusion V-100	Tel no.	
Seller		Person in Charge	
Product No.		Applicant name	
Rated Voltage		Applicant Tel no.	
Date of Purchase		Applicant address	
Warranty period	1 year from the date of purchase	Gender / Age	

- Please fill out above when you purchase the product.

- We are not responsible for the after service or any disadvantage when you do not have a warranty sheet.

Regulation of Warranty

<Warranty Period>

Warranty period is 1 year after the date of purchase with no repair charge in case the damage happened in normal condition of the device.

<The exception of warranty>

We are not responsible for :

1. Damage due to careless handling or mistake by user.
2. Damage due to renovation of production or repair by others than our A/S representative.
3. Damage due to using other accessories or expendables than our appointed equipment.
4. The warranty sheet is not filled out, Fake signature is filled out.
5. Damage cause from the power problem
6. Damage due to using the device for other purpose.
7. Damage due to natural disaster like fire, earthquake, flood and etc.

<Repair after warranty period>

For the repair after warranty period, Consumer will pay for the repair. The exceptional matters which are not mentioned in this sheet will be treated according to regulation of compensation for consumers based on law of consumer protection. Please contact to the agency for the other damage or request. Please read the manual carefully before using.

Thanks for purchasing our product. You will need this warranty sheet when you ask for A/S, so please keep this safely. For any dissatisfying service or request, please contact the agency.



12. Symbols & Labels




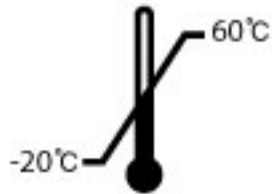
















12-1. Symbols

12-2. Labels

12. Symbols & Labels

12-1. Symbols

The symbols of the device as below.

 Serial number	 Catalogue number	 Caution	 Temperature limitation	 Follow instructions for use.
 Use by date (expiration date)	 CE Marking	 WEEE Marking	 Manufacture date	 Manufacturer
 Ingress protection rating	 Type cF Applied part	 Do not use if package is damaged	 Keep away from sunlight	 Do not re-use
 Latex Free	 DEHP Free	 Batch code	 Authorized representative in the European Community	 Sterilized using ethylene oxide

12-2. Labels


The label of the device is shown as below.


Main device Labels

This regulation label is attached at the side of the pump.


Cylinder Pump Medical Device **CE** 0476

MODEL : Anyfusion V-100


REF 

SN 

401, 501, 502, 702 A-dong,
387 Simin-daero, Dongan-gu, Anyang-si, Gyeonggi-do, Korea

EC REP SCANKO TRADING CO.
P.O.Box 73, Bragemes, 3030 Drammen, Norway 

Power Input 100-240V~, 50/60Hz, 65VA / Fuse Rate T1.6AH 250V
Battery 14.4V == 2600mAh

MEINTECH CO., LTD / MADE IN KOREA 

Cylinder cartridge Label (Printed)

This sterilization label is printed at the back of the Cylinder cartridge packing.

Anyfusion® Cylinder Cartridge set

Medical Device
Disposable Use

METHOD OF USE

- 1) Remove cylinder cartridge set from plastic bag.
- 2) Remove spike cover, insert spike to I.V bag or other infusion fluid container.
- 3) Press drop chamber two or three times slightly to fill the chamber.
- 4) Remove the cover of end catheter.
- 5) Install cylinder cartridge to cylinder infusion pump.
- 6) Close the pump door then priming will start automatically.
- 7) After priming, start the infusion.

CAUTION

- 1) Do not open a package until actual use.
- 2) Single use only. Do not reuse.
- 3) Do not use if package shows any damage.
- 4) Keep the roller & clamp open while the cylinder cartridge is operating.



METHOD OF KEEPING

- 1) Avoid keeping this product at high temperature & humid place.
- 2) Do not expose the product directly to the sun.

INTENDED USE

Delivering medicine fluids into a patient's body.

REF MTCC-UM-E00 (Rev.00. 2016.03.28)

401, 501, 502, 702 A-dong, 387 Simin-daero, Dongan-gu, Anyang-si, Gyeonggi-do
MEINTECH CO., LTD / MADE IN KOREA 

EC REP SCANKO TRADING CO.
P.O.Box 73, Bragemes, 3030 Drammen, Norway **STERILEEO**

• QTY : 1 PCS

MODEL _____

LOT _____

 3years from the date of manufacturing

Anyfusion[®]
V-100
Operator Manual

