Electric breast pump

Operation Manual

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Keep this manual for future reference

P/N: 150-ENG-OPM-EUR-R04

Proprietary Material

Prepared by:

Bistos Co., Ltd.
7th FL., A Bldg., Woolim Lions Valley 5-cha,
302, Galmachi-ro, Jungwon-gu, Seongnam-si,
Gyeonggi-do, Korea

Telephone: +82 31 750 0340
Fax: +82 31 750 0344

Revision R04
April, 2020

Printed in Korea

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Intended use/population/user

The electric breast pump is intended to be used by a lactating woman for expressing and collecting milk from her breasts.

The electric breast pump can be used to relieve engorged breasts and plugged milk ducts. (FDA, 05/04/2018, https://www.fda.gov/consumers/consumer-updates/what-know-when-buying-or-using-breast-pump)

Product description

As the same principle with the baby sucking the mother's milk, the breast pump electronically operates the vacuum pump and applies vacuum pressure generated at that time to the breast of the mother in order to express the breast milk from the breasts to outside.

The electric breast pump is used in the home environment, which service massage and expression mode and is capable of single and double pumping.

The operating life of this breast pump is expected to be approximately 150 minutes sessions per day, for one year.

Contraindications

There are no known contraindications for the breast pump.

1. Safety Information

Before using the breast pump, read this entire manual and be fully understood and follow instructions and safety information to prevent injury.

Warning symbols

The following symbols identify all instructions that are important to safety. Failure to follow these instructions can lead to injury or damage to the breast pump. When used in conjunction with the following words, the symbols indicate:

WARNING	A hazard of serious injury or death.
CAUTION	A hazard of minor injury or damage to the system.

The following symbols are placed on product, label, packing and this manual in order to stand for the information about:

	Used to identify safety information for warning. Be well-known this information thoroughly before using the device.
	Used to identify safety information for caution. Be well-known this information thoroughly before using the device
IP21	Indicates the protection level against the ingress of solid object and liquid. IPX1 is protection against some falling water drops vertically. IP2X is protection against solid foreign object like a finger.
	Refer to operation manual. Read manual before placing the device.
	This symbol indicates alternating current.
	Indicates DC power supply.
	Indicates the production date.
	Indicates the manufacturer.
	Indicates the serial number of the device.

EC REP	Indicates the authorized representative in the European Community of manufacturer.
REF	Indicates a reference number.
	This symbol indicates that the power adaptor is a class II device.
	Indicates the BF applied part. It is applicable to Funnel, Funnel block, Air tube, Diaphragm Top, Diaphragm bottom and Bottle.
	Indicates to keep the device dry.
	Indicates the medical device that can be broken or damaged if not handled carefully.
	Indicates to keep upright
	Indicates to keep the device away from sunlight.
	Indicates the temperature limitation for transport and storage.
	Indicates the humidity limitation for transport and storage.
	Indicates the range of atmospheric pressure to which the medical device can be safely exposed for transport and storage.
	Indicates the packing material is recyclable.
	Indicates that the device complies with part 15 of the FCC Rules. 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.
CE 2460	The product is in conformity with European Medical Directive 93/42/EEC. This has been verified by a notified body.

Symbols on the adaptor

	This symbol indicates that the power adaptor is a class II device.
	This symbol indicates that the power adaptor is for indoor use only.
c UL us LISTED	This symbol indicates compliance with both Canadian and U.S. component requirements. (Recognized Component Mark for Canada and the United States)

WARNING

- Do not touch or operate the device with wet hands to avoid electric shock.
- Do not reach for the device if it has fallen into water. Unplug the power adapter immediately from wall socket outlet.
- Only use the breast pump for its intended use as described in this manual.
- Never use while pregnant.
- The breast pump should be used with hygienic. Using second hand or rental product can cause cross contamination.

- Keep away the main body from direct sunlight.
- The pump and accessories are not heat-resistant. Keep away from radiators, open frame and heated surface.
- The pump is a personal care device. Do not use the device by more than one person.
- Supervision is necessary when breast pump used in the vicinity of children or pets. And keep all components not in use out of the reach of them.
- Do not use the damaged components including power adapter.
- Never use damaged device. Before each use visually inspect the individual components for cracks, chips, tears, discoloration or deterioration. In the event that damage to the device is observed, please discontinue use until the parts have been replaced.
- Do not use in the out of range for humidity, temperature and atmospheric pressure environment than indicated in this manual.
- The electronic breast pump should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the electric breast pump should be observed to verify normal operation in the configuration in which it will be used.
- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the device, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.
- Do not use the device as a general suction device for other purposes except the expression of breast milk.
- Do not disassemble the device. Only the qualified service personnel who authorized by the manufacturer can open the battery compartment and replace the battery, and the battery of same model and specification should be replaced.
- The incorrect battery replacement could be caused danger such as excessive temperatures, fire or explosion.
- If the device is not used for long time, it should be stored that battery is removed. Charge the battery and store it at room temperature in low humidity.
- Use only AC/DC Adaptor supplied or appointed by Bistos Co., Ltd.

CAUTION

- If you are a mother who is infected like Hepatitis B, Hepatitis C or Human Immunodeficiency Virus (HIV), pumping breastmilk will not reduce or remove the risk of transmitting the virus to your baby through your breastmilk.
- If you feel pain in your breast or nipple, turn the pump off or slide a finger between the funnel and your breast to break the suction.
- You can experience some inconvenience in the early stage of usage. If the inconvenience is persistent or injury or bleeding around the nipple appears, contact a healthcare professional or breastfeeding specialist immediately.
- For expressing breastmilk, make yourself comfortable and do not incline the bottle.
- For operating pump, connect diaphragm assay tightly to prevent the expressed milk flow into the main body.
- Clean and sanitize all compartments that come into contact with breast and milk according to this manual before and after every use.
- Disassemble and wash all parts that come in contact with the breast and breast milk immediately after use to avoid dry up of milk residue and to prevent the growth of bacteria.
- Only use drinking-quality water for washing.
- Keep dry the all components after clean and sanitize.
- Be sure that the expressed milk does not flow into the main body by checking air tube. If milk

flow in reverse direction, turn the power off, remove the milk from air tube or diaphragm and replace or clean as instructed this user manual.
- If milk follows in reverse direction to the main body, stop using the product immediately and call your nearest service center.
- Do not fill up the bottle to avoid backflow.
- Remove the power adapter from breast pump immediately when charging finished.
- The fuel level displayed in LCD can differ from actual battery capacity. Use breast pump with full charged battery when possible.
- Charge the battery immediately when [*Lo Bt*] displayed.
- If breast pump remain unused for a longer period of time, make sure that the battery full charged before use.
- Only authorized service personnel shall repair or replace of the device.
- Do not use outdoors, or operate where aerosol (spray) products are being used or where oxygen is being administered.
- Mobile and portable radio frequency communications equipment can affect the operation of breast pump.
- Breast pump, plastic bottles and component parts may break when dropped.
- Do not pumping while bathing or showering.
- When disposing of the device, adhere to all applicable laws regarding recycling.
- When handling package materials, abide by local waste disposal laws and regulations. Keep the packaging materials away from children.
- Properly dispose or recycle the depleted battery according to local regulations.
- Always use accessories supplied by Bistos Co., Ltd.

2. Product configuration

The electric breast pump utilizes the vacuum to express the breastmilk. It is classified as a medium vacuum and intermittent suction device.

When unpacking the box, check all the following components are enclosed. ***All components except main body and adapter are consumables***. The standard configuration is composed:

Name	User manual	Power adapter	Main Body	Nipple
Shape				
Qty.	1	1	1	1
Name	Diaphragm Top	Diaphragm	Diaphragm Bottom	Air tube connector
Shape				
Qty.	1	1	1	2
Name	Funnel	Funnel Block	Funnel cap	Air tube/80cm
Shape				
Qty.	1	1	1	1
Name	Bottle/160 ml	Bottle cap	Bottle cover	Bottle disc
Shape				
Qty.	1	1	1	1

The color of main body or components can be changed without notice but the performance characteristics

are not influenced by these changes.

CAUTION

- Use Bistos original accessories only.
- Check consumable set for wear or damage before use and replace if necessary. Especially, as for the nipple, inspect before each use and pull in all directions. Throw away at the first signs of damage or weakness.
- The period of use for consumables excluding battery is recommended 1 to 3 months, but it might be different for the use environment.
- If air tube becomes moldy, discontinue use and replace it.
- Do not leave a nipple in direct sunlight or heat or disinfectant ("sterilizing solution") for longer than recommended, as this may weaken the part.
- To help maintain optimum performance, it is recommended to replace the consumables periodically.

NOTE

- Remove the protective film from the LCD window before use.

① Basic tubing port:
Tubing port for single pumping
② Auxiliary tubing port:
Tubing port for double pumping
③ Port plug

④ Power adapter port

3. Prepare to use

3.1 Air tube and connector assembling

Insert the metal part of air tube connector into the end tip of air tube as shown picture left.

3.2 Assemble and disassemble

① Place the diaphragm in the diaphragm bottom in the direction that the cross lined surface facing to bottom. Cover the diaphragm top and turn it to lock.

② Put the funnel to the funnel block.

③ Put the funnel cap beneath the funnel block. Screw bottle into the funnel assembly.

④ Connect the air hole of diaphragm bottom to the funnel assembly.

⑤ Connects the air tube to basic tubing port on main body and diaphragm top

⑥ Connects the air tube to the bottle block as shown in the picture.

⑦ To clean or storing after use, disassemble the bottle assembly in the reverse order.

3.3 Display

Fig.	Name	Status	Description
UU	Pressure Range	Off	SINGLE expression pressure range
		On	DOUBLE expression pressure range
	Adapter connection	Off	Power adapter is not connected.
		On	Power adapter is connected.
	Battery	Fuel level	Full charged 75 ~ 100 % 50 ~ 75 % 25 ~ 50 % 0 ~ 25 % Full discharge Flashing means charging needed. Shut down automatically when fully discharged.
PGM 8	Program number	On	Displays the currently specified program number
PRESSURE 88	Pressure level	Express Mode	Display the pressure level from 1 to 16
		Massage Mode	The pressure level is displayed from 1 to 16, but the maximum pressure level is adjusted according to the cycle.
CYCLE 88	Cycle level	Express Mode	Display the cycle level from 1 to 6
		Massage Mode	Display the cycle level from 1 to 3

	Expression mode	On	Operating in expression mode.
		Flashing	Operating in stored expression mode sequence.
	Operating time	On	Operating time after power on. After 30 minutes, the main body will turned off automatically. When the battery needs to be charged, [***Lo bt***] will be displayed.
	Massage mode	On	Operating in massage mode
		Flashing	Operating in stored massage mode sequence.
	Program status	On	There is an executable program sequence.
		Flashing	Currently, the program sequence is operating.
	Program sequence running	On	Currently, the program sequence is playing
	Program sequence skip	On	Skips the currently playing program sequence one step.For 2 seconds
	Program sequence stop	On	Indicates that program sequence playback is stopped.

NOTE

- The fuel level displayed in LCD can differ from actual battery capacity. Use breast pump with full charged battery when possible.
- Charge the battery immediately when [*Lo Bt*] displayed.
- If breast pump remain unused for a longer period of time, make sure that the battery full charged before use.

3.4 Operating functions

The breast pump has two operating functions: basic massage/express function and program function to save the operating sequence. Using program function, comfortable and optimum massage/express mode, level of speed/vacuum strength/cycle, massage/express time can be saved and restored anytime.

The massage mode relatively services the light suction pressure at fast speed. And about the expression mode, it services the strong suction pressure at slow speed.

Starting the sessions for the massage mode is recommended to stimulate the breast before the milk is flowing. And during the expression, it is important to set the pump at your maximum comfort vacuum. It helps to maintain and increase milk production. Because the maximum comfort vacuum level is different by individuals, you have to find and set the proper vacuum and cycle of the expression mode by increasing the suction level gradually or starting a similar level with your previous experience. If you feel slightly uncomfortable at a certain level, decrease a level. At first, keep the session short and the suction level low. Yo can increase the settings once you are used to pumping

Type BT-150 and BT-150B are able to control by Application, HI-bebe Super for Android/iOS. Refer to the enclosed Application User Manual (document no. 150APP-ENG-OPM-EUR)

(1) Buttons

Several buttons have two functions. Pressing shortly will make it perform basic functions and press longer more than 2 seconds will make it perform program functions.

Button	**Basic function**	**Program function**
	Short Press	**Press & Long Hold**
	**Power On/Off button**	**Memory start/stop button**
	Turn on and off the power.	

Button	Basic function	Program function
	Short Press	Press & Long Hold
	**Lamp On/Off button**	
	Turn on, change the lamp brightness and turn off the lamp When purchasing a product with a lamp option, Press the lamp button on the power-off pump to turn on the lamp. Each time the button is pressed again, the brightness of the lamp becomes bright. Press the button fourth times to turn off the lamp. If you purchase a product without a lamp option, When you press the lamp button on the power-off pump, the LCD back light turns on. After that, the LCD back light brightness becomes bright each time you press it again, and the LCD back light turns off when you press the third time.	

Button	Basic function	Program function
	Short Press	Press & Long Hold
	**Change Program ID button**	**Start/stop program storage button**
	Press shortly to change the active program ID which is able to check through the PGM screen. The device stores the 8 different program IDs. Program IDs from 1 to 4 are provided by the default setting and unchangeable by the user. Program IDs from 5 to 8 are able to set by the user.	Button for entering the mode for setting the program sequence of a Program. Pressing this button for more than 2 seconds starts to save the operation sequence to the Program ID number from 5 to 8 currently displayed on the LCD screen. One program is composed of 8 program sequences and each program sequence consists the operation mode, pressure level, cycle level and running time. Once all of above the operation sequences have been saved, and then press and hold this button for more than 2 seconds to store as the assigned Program ID. See the next (2) How to use the program function for more details of the setting.
	**Mode change button**	**SINGLE/DOUBLE pressure change button**
	Toggle between massage and express mode. In the program sequence input mode, the button is used for selecting the mode of a program sequence between massage and express mode.	Toggle between SINGLE and DOUBLE pressure mode
	**Vacuum decrease button**	**Start button**
	Decrease the vacuum in the operating mode. In the program sequence input mode,	Start to operate as saved sequence. No response when no sequence saved.

Button	Basic function	Program function
	Short Press	Press & Long Hold
	the button is used for setting the decreasing value of the pressure level and minute.	
	**Vacuum increase button**	**Skip button**
	Increase the vacuum in the operating mode. (Level 1 ~ 16) In the program sequence input mode, the button is used for setting the increasing value of the pressure level and minute.	It is possible to skip a specific operation sequence during program operation sequence reproduction. If this button is pressed for longer than 2 seconds during program playback, the current program sequence step is ignored
	**Cycle decrease button**	**Stop button**
	Increase the speed the operating mode. (Level 1~6 for express mode, Level 1~3 for massage mode) In the program sequence input mode, the button is used for setting the decreasing value of the cycle level and second.	Stop to operate as saved sequence. No response when not operating according to saved sequence.
	**Cycle increase button**	
	Increase the speed in the operating mode. (Level 1 ~ 6 for express mode, Level1~3 for massage mode) In the program sequence input mode, the button is used for setting the increasing value of the pressure level and minute.	

(2) How to use the program function

You can save and restore the convenient and optimum massage/express mode, speed/vacuum level and operating time.

① Able to use the below Program IDs provided as the default setting.

- Program ID number 1 considering the single pumping for mothers with newborn
- Program ID number 2 considering the dual pumping for mothers with newborn
- Program ID number 3 considering the single pumping for mothers with infants
- Program ID number 4 considering the dual pumping for mothers with infants.

Able to set the desired operation sequence to the 5 to 8 Program IDs by the below procedure.

② Select the proper Program ID number ( ) by pressing the Program ID button ( ) shortly.

③ Press the Program ID button ( ) for long to start a mode for setting the operating sequence.

④ Able to identify the possible state for input by the blinked box of pressure level ( ), cycle level ( ) and operating time( ). Entering the next input is made by pressing the Program ID button ( ) shortly.

⑤ While the box of pressure level ( ) and cycle level ( ) is blinking, start to set each operation sequence for a program sequence. The operation mode can select through the Mode change button ( ). The Vacuum decrease button ( ) and Vacuum increase button ( ) is used to set a decrease and increase of the pressure level. The Cycle decrease button ( ) and Cycle increase button ( ) is used to set a decrease and increase of the cycle level.

⑥ While the box of operating time ( ) is blinking, start to set the operation time for previously set operation mode, pressure level and cycle level. The Vacuum decrease button ( ) and Vacuum increase button ( ) is used to set a decrease and increase of the minute. And the Cycle decrease button ( ) and Cycle increase button ( ) is used to set a decrease and increase of the second.

⑦ If you want to add another program sequence(a next program sequence) within the Program, press the Program ID button ( ) shortly and repeat the above instruction from ④ to ⑥.

⑧ When you finish all set for the program sequences, press the Program ID button( ) for long to exit and store the program sequence input mode.Operate the device the following instruction:

⑨ The program ID 5 to 8 which have been set up the program sequences through the ② to ⑧ instruction or the program ID 1 to 4 provided as the default setting are able to play by pressing the Start button ( ) for long.

⑩ To skip a certain program sequence, press the Skip button ( ) for long.

⑪ Anytime, to exit the playing Program, press the Stop button( ) for long.

⑫ In the operation mode, pressure level and cycle level can change even while playing the program.

CAUTION

- Increasing the Frequency might be accompanied by an increase in noise and vibration.

3.5 Essential performance

The breast pump specifies to limit the vacuum pressure as - 290 mmHg.

4. Pumping

CAUTION

- Before each use visually inspect the individual components for cracks, chips, tears, discoloration or deterioration. In the event that damage to the device is observed, please discontinue use until the parts have been replaced.
- Clean and sanitize all compartments that come into contact with breast and milk according to this manual before first use and after every use.
- Do not use the components if dirt, mold or other residual is visible when they do not be gone even after clean and sanitizing.
- Do not use the device with a position that air tube or other lines are possible to be entangled. Make sure that the air tubes not to get tangled while double pumping.
- Do not use the device while sleeping or overly drowsy.

4.1 Prepare to pump

(1) Wash hands thoroughly (at least one minute) with soap and water before touching the breast and pump parts.

(2) Check pump set components for wear or damage before use and replace if necessary.

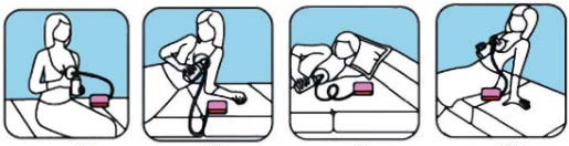
(3) Make sure that the components that come into contact with breastmilk are cleaned and sanitized appropriately. Assemble the funnel, diaphragm and bottle according to this manual and connect to main body via air tube. As to funnel, choose the proper size by individuals.

(4) Check the air tube connected tightly to prevent the vacuum leakage. When single pumping covers the auxiliary tubing port with port cover to prevent the air flow into the breast pump.

(5) Check the battery capacity and connect the power adapter necessary.
(6) Massage the breast for about 5 minutes with warm towel to promote expression.

4.2 Pumping

(1) To prevent the backflow, always pumping while seated.



(2) Place the funnel on your breast so that your nipple is centered.
(3) Turn the breast pump on to pumping.
(4) Adjust the speed/vacuum to a comfortable level. Increase speed/vacuum level until pumping feels slightly uncomfortable (not painful), then decrease it slightly to find the comfortable level.
(5) Normal pumping times are from 15 minutes to 30 minutes but it can vary individually.
(6) When the pumping session is over, turn off the power and slide a finger between the funnel and your breast to separate the funnel from your breast.

5. Wash and Sanitize

(1) Clean all parts before using the pump for the first time. Especially, all parts that come in contact with breast milk including the bottle set, before the first use, must be place in boiling water for 5 minutes following the '5.2 sanitize' instruction. This is to ensure hygiene.
(2) Clean the device (main body) after each use with clean and dry towel.

5.1 Wash

(1) Disassemble the bottle block for washing.
(2) Rinse all separated parts that came in contact with breast and breast milk in cool water in order to remove breast milk residue.
(3) Wash in sink, or
- Soak all separated parts in warm, soapy water for 5 minutes.
- Wash each part with a clean dish-cloth or soft brush.
- Rinse all separate parte with clear water.

(4) Wash in dishwasher
- Wash all separated parts on top rack of dishwasher.
- Allow all breast pump parts to air dry in a clean area.

(5) Place parts on a clean surface and/or towel.
(6) Allow all parts to air dry.
(7) Store dry parts in a clean, cool place when not in use. Do not store wet or damp parts.

	
Main body when dirty wipe with a clean dry towel after each pumping session	**Air tube** Do not clean tubing, replace damaged or dirty tubing with a new set

CAUTION

- Disassemble and wash all parts that come in contact with the breast and breastmilk immediately after use to avoid dry up of milk residue and to prevent the growth of bacteria.
- Only use drinking-quality water for washing.
- Do not use strong detergent to clean.

5.2 Sanitize

Boiling water

(1) Disassemble all parts that come in contact with breastmilk.
(2) Fill a pot with enough water to cover all parts.
(3) Boil the water for 5 minutes while parts in the water.
(4) Allow water to cool and gently remove parts from water with tongs.
(5) Place parts on a clean surface and/or towel.
(6) Allow all parts to air dry.
(7) Store dry parts in a clean, cool place when not in use.
Do not store wet or damp parts.

6. Storage of breastmilk

The information below is referenced from website of Office of Women's Health.
Store your breastmilk in clean glass or hard BPA-free plastic bottles with tight-fitting lids. You can also use milk storage bags, which are made for freezing human milk. Do not use disposable bottle liners or other plastic bags to store breastmilk.

After each pumping

- Label the date on the storage container. Include your child's name if you are giving the milk to a child care provider.
- Gently swirl the container to mix the cream part of the breastmilk that may rise to the top back into the rest of the milk. Do not shake the milk. This can cause some of the milk's valuable parts to break down.
- Refrigerate or chill milk right after it is expressed. You can put it in the refrigerator, place it is a cooler or insulated cooler pack, or freeze it in small (2 to 4 ounce/60 to 110 g) batches for later feeding.

Tips for freezing milk

- Wait to tighten bottle caps or lids until milk is completely frozen.
- Try to leave an inch or so from the milk to the top of the container because it will expand when freezing.
- Store milk in the back of the freezer, not on the shelf of the freezer door.
- If you are adding expressed breastmilk to a container of already frozen breastmilk, make sure to add a lesser amount than the already frozen amount.

Tips for thawing and warming up milk

- Clearly label milk containers with the date the milk was expressed. Use the oldest stored milk first.
- Breastmilk does not need to be warmed. Some moms prefer to take the chill off and serve at room temperature. Some moms serve it cold.
- Thaw the bottle or bag of frozen milk (1) by putting it in the refrigerator overnight (24hours), (2) by holding it under warm running water, or (3) by setting it is a container of warm water (over 20 minutes, be careful not to infiltrate water into bag or bottle of breastmilk).

- Never put a bottle or bag of breastmilk in the microwave. Microwaving creates hot spots that could cause the burn to the mouth of your baby and damage the milk.
- Swirl the milk, and test the temperature by dropping some on your wrist. The milk should be comfortably warm, not hot.
- Use thawed breast milk within 24 hours. Do not refreeze thawed breastmilk.

Guide to storing fresh breastmilk for use with healthy full-term infants

Place	Temperature	How long	Things to Know
Countertop, table	Room temp (up to 77˚F (25℃))	Up to 3 to 4 hours is best. Up to 6 to 8 hours is okay for very clean expressed milk.	Containers should be covered and kept as cool as possible. Cover the container with a clean cool towel may keep milk cooler. Throw out any leftover milk within 1 to 2 hours after the baby is finished feeding.
Refrigerator	39˚F(4℃) or colder	Up to 3 days is best. Up to 5 days is okay for very clean expressed milk.	Store milk in the back of the main body of the refrigerator. When at work, you can place your expressed milk in the refrigerator.
Freezer	0˚F (-18℃) or colder	Up to 3-6 months is best. Up to 9 months is okay for very clean expressed milk.	Store milk toward the back of the freezer where the temperature is most constant. Milk stored at 0˚F or colder is safe for longer durations, but the quality of the milk might not be as high.
Deep freezer	-4˚F(-20℃) or colder	Up to 6 months. Up to 12 months is okay for very clean expressed milk.	Store milk toward the back of the freezer where the temperature is most constant. Milk stored at 0˚F or colder is safe for longer durations, but the quality of the milk might not be as high.

Guide to storing thawed breastmilk

	Room temperature (60˚F to 85˚F/16℃ to 29℃)	Refrigerator (39˚F/4℃ or colder)	Any freezers
Thawed breastmilk	Up to 1 to 2 hours is best. Up to 3 to 4 hours is okay.	24 hours	Do not refreeze.

7. Trouble shooting

No or low expression	• Check the power button. • Ensure the funnel, diaphragm assembly and bottle assembled correctly. • Inspect all components for tear, cracks or bending.
Battery not charged	• Check the adapter connected correctly. • If you still have a problem with charging, replace the adapter with new one.
Does not power on	• Inspect the power on/off button and case for any foreign materials.

Main body becomes wet	• Unplug the power adapter from the socket. • Turn off the main body. • Wipe main body with dry cloth and store the main body in a warm, dry place more than 12 hours.
Breastmilk in tube	• Turn off the main body. • Disconnect the air tube from diaphragm top. • Remove the milk from tube and diaphragm.
Milk flow in reverse direction up to Main Body	• Stop using the product immediately. • Contact service center.

※ *If you have not resolved the problem with breast pump or you have further questions, please contact Bistos customer center.*

8. Manufacturer's declaration on EMC

The electric breast pump needs special precautions regarding EMC (Electromagnetic compatibility) and needs to be used according to the EMC information provided in this user manual. Wireless communications equipment such as wireless home network devices, mobile phones, cordless telephones and their base stations, walkie-talkies can affect the electric breast pump and should be kept at least 1 m away from the equipment. And it does not suitable for use in an MRI environment.

8.1 Electromagnetic emissions

The electric breast pump is intended for use in the electromagnetic environment specified below. The customer or the user of the electric breast pump should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment-guidance
RF emissions CISPR 11	Group 1	The electric breast pump uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The electric breast pump is suitable for use in all establishments, including domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emission IEC61000-3-2	Class A	
Voltage fulctuations /flicker emissionsIEC61000-3-3	Complies	

WARNING

- The electric breast pump should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the electric breast pump should be observed to verify normal operation in the configuration in which it will be used.
- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the pump, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.
- Use of adapter other than those specified or provided by the manufacturer of this equipment could results in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

8.2 Recommended separation distances between portable and mobile RF communications equipment and the electric breast pump

The electric breast pump is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the electric breast pump can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment and the electric breast pump 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 ~ 80 MHz $d = 1.2\sqrt{P}$	80 MHz ~ 800 MHz $d = 1.2\sqrt{P}$	800 MHz ~ 2.5 GHz $d = 2.3\sqrt{P}$
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 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.

NOTE2) These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

8.3 Electromagnetic immunity

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

Immunity test	Test level	Compliance level	Electromagnetic environment-guidance
Electrostatic discharge(ESD) IEC 61000-4-2	contact discharge ±8kV air discharge: ±2kV, ±4kV, ±8kV, ±15kV	contact discharge ±8kV air discharge: ±2kV, ±4kV, ±8kV, ±15kV	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 IEC61000-4-4	± 2 kV 100 kHz repetition frequency	± 2 kV 100 kHz repetition frequency	Mains power quality should be that of a typical commercial or domestic environment.
Surge IEC61000-4-5	± 0,5 kV , ± 1 kV Line-to-line	± 0,5 kV , ± 1 kV Line-to-line	Mains power quality should be that of a typical commercial or domestic environment.
Voltage dips, short interruptions and voltage variations on power supply input lines	0 % U_T; 0,5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315° 0% U_T; 1 cycle and	0 % U_T; 0,5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315° 0% U_T; 1 cycle and	Mains power quality should be that of a typical commercial or domestic environment. If the user of the electric breast pump requires continued operation during power mains interruptions, it is recommended

IEC61000-4-11	70% U_T ; 25/30 cycles Single Phase; at 0° 0% U_T ; 250/300 cycles Single Phase; at 0°	70% U_T ; 25/30 cycles Single Phase; at 0° 0% U_T ; 250/300 cycles Single Phase; at 0°	that the electric breast pump is powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC61000-4-8	30 A/m, 50 or 60 Hz	30 A/m, 50 or 60 Hz	Power frequency magnetic fields should be at levels characteristic of a typical commercial or domestic environment.
NOTE: U_T is the a.c. mains voltage prior to application of the test level.			

Immunity test	Test level	Compliance level	Electromagnetic environment-guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz 6 Vrms in ISM bands between 0.15 MHz and 80 MHz	3 Vrms 150 kHz to 80 MHz 6 Vrms in ISM bands between 0.15 MHz and 80 MHz	Portable and mobile RF communications equipment should be used no closer to any part of the electric breast pump, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance: $d = 1.2\sqrt{P}$ $d = 1.2\sqrt{P}$ 80 MHz ~ 800 MHz $d = 2.3\sqrt{P}$ 800 MHz ~ 2.7 MHz where p is the maximum output power rating of the transmitter (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:
Radiated RF IEC 61000-4-3	10 V/m 80 MHz to 2.7 GHz 80%, 1 kHz AM RF Wireless Comm.	10 V/m 80 MHz to 2.7 GHz 80%, 1 kHz AM RF Wireless Comm.	
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 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 electric breast pump is used exceeds the applicable RF compliance level above, the electric breast pump should be observed to verify normal operation.			

If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the electric breast pump.
[b] Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 10 V/m.

WARNING

- Excessive ambient EM (Electromagnetic) DISTURBANCES can cause the pressure of the unit to be temporarily excessively high or low. Please use in environments below the above test standards.

9. Technical specifications

Functional Characteristics		
Type	Electric Breast Pump	
Pumping pressure(Vacuum)	MAX. - 290mmHg	
Display	Type	6 cm diameter Mono LCD
	Pressure Level	Numeric Display
	Operating Time	Numeric Display (min:sec)
	Battery Level	3 levels
Function	Mode	expression mode - 16 pressure levels - 6 cycle levels
		massage mode - 16 pressure levels - 3 cycle levels
	Auto Shut Off	30 minutes
	Program	8 Program IDs. 8 Program Sequences for each IDs
	Backflow protection	

Power	
Adaptor	The certified adaptor in accordance with IEC 60601-1 or IEC 60950-1 should be used for electric safety. Input: AC 100 ~ 240V (50/60 Hz) Output: DC 12V/2.0A
Main body	Input: DC12V/1.3A
Rechargeable Battery	7.4 V Li-ion Polymer 2200 mA
	Operating Time: 120 min
	Charging Time: 150 min (100%)
	Maximum charge-discharge cycles: 300 cycles

Standard Configuration	
Operation manual	1ea
Power Adaptor	1ea
Funnel & Bottle Set	1ea(default: 24 mm)

Options	
Nursing Night Lamp	3 step brightness control

Wireless Interface	Equipment Description : Bluetooth LE Module Frequency Band of Transmission : 2402~2480MHz(2MHz Separation, 40 Channel) Frequency Characteristics of the Modulation : GFSK Effective Radiated Power (ERP) : 4.06 dBm EIRP Available devices : CISPR 32 Class-A or higher certified smart phone Certification : RF-EMC : EN 301 489-1 v2.2.0 EN 301 489-17 v3.2.0 RED : TEC FCC/IC : FCC Part 15 Subpart B RF RSE : EN 300 328 v2.1.1
Carrying Bag	1ea
Funnel	21 mm/24mm/27 mm/32mm
Funnel & Bottle Set (for Dual)	Default 24mm funnel

Physical Characteristics		
Dimension	Main Unit	190(W) x 190(D) x 79(H)mm
	Packing	277(W) x 194(D) x 183(H)mm
	Carton Box(4ea)	570(W) x 405(D) x 205(H)mm
Weight	Main Unit	BT-150 : 800g / BT-150B : 790g BT-150L : 795g / BT-150S : 780g
	Packing	1.7Kg
	Carton Box(4ea)	7.4Kg

Environmental Conditions	
Operating Temperature	10 to 40°C (50 ~ 104°F)
Operating Humidity	5 ~ 85% non-condensing
Atmospheric Pressure for operating	80kPa ~ 106kpa
Storage Temperature	–20 to 60°C (–4 ~ 140°F)
Storage Humidity	0 ~ 95% non-condensing
Atmospheric Pressure for storage	70kPa ~ 106kpa

Performance Characteristics	Suction cycle (cycles/min)	Vacuum level (negative mmHg)	
		Single pumping	Double pumping
Massage mode (at level 1)	70/80/90	50	30
Massage mode (at level 16)	70/80/90	230	150
Expression mode (at level 1)	35/40/45/50/55/60	50	30
High expression (at level 16)	35/40/45/50/55/60	250	200

Product Warranty

Product Name	Electric Breast Pump
Brand name	Hi bebe^{super}
Model Name	BT-150, BT-150S, BT-150L, BT-150B
Serial No.	
Warranty Period	Main body and Adapter: 1 year from the date of purchase Battery: 6 months from the date of purchase (excluding batteries consumed over time)
Date of Purchase	
Customer	Name: Address: Telephone:
Sales Agency	
Manufacture	Bistos Co., Ltd.

※Thank you for purchasing our product.

※This product is manufactured and passed through strict quality control and inspection.

※Compensation standard concerning repair, replacement, refund of the product complies with "**Framework Act on Consumers**" noticed by Fair Trade Commission of Republic of Korea.

Service Telephone and Fax. Numbers

Telephone: +82 31 750 0340
Fax.: +82 31 750 0344

Bistos Co., Ltd.
7th FL., A Bldg., Woolim Lions Valley 5-cha, 302,
Galmachi-ro, Jungwon-gu, Seongnam-si,
Gyeonggi-do 13201, Korea
www.bistos.co.kr
bistos@bistos.co.kr

EC REP **Obelis s.a**
Bd. Général Wahis 53
1030 Brussels, BELGIUM
Telephone: + (32) 2. 732.59.54
Fax.: + (32) 2.732.60.03

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