

ARKTEK™



YBC-5 Passive Vaccine Storage Device Maintenance Manual

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INTRODUCTION

Purpose of Manual

This manual will help you to properly maintain the Arktek YBC-5 device and, if needed, to resolve any issues that might occur.

Device Features

- Advanced materials and superior vacuum insulation
- Easy to use and maintain (simple, safe, robust and reliable)
- Keeps vaccines safely between 0° and 10° C for at least 35 days in an ambient temperature range of 15° to 43° C with no external power source.
- Real-time display of the internal temperature.
- Visual and audible alarm for out-of-range temperature (below 0° C).
- Built-in disposable battery, 5 years no need to change.
- Lid lock for secure storage.

Device Information

ITEM	SPEC
Model identifier <i>Arktek alpha-numeric designation</i>	YBC-5
Ambient Temperature <i>Expected conditions of surrounding environment of use</i>	15°C to 43°C
Vaccine storage temperature range <i>Internal temperature in vaccine payload area</i>	0°C to 10°C
Capacity <i>Volume of internal payload space</i>	5.4 L
Unit Dimension (OD x H) <i>Outside diameter and height</i>	φ528 x 747 mm
Net Weight <i>Unloaded</i>	26.5 Kg
Gross Weight <i>Fully loaded with packages</i>	32.5 Kg

Safety precautions

- Device is designed to store vaccine. Do not use for other purposes (e.g., do not use for storing liquid nitrogen).
- Device is designed for stationary use. Do not use as a portable-transport cold box.
- Some parts may be flammable (e.g., nylon ropes). Keep away from open flame and flammable or explosive items.
- Keep device away from acid, alkali, and other corrosive substances.
- Do not allow children to play on or near device.
- Only allow authorized personnel to perform repairs or maintenance. Do not attempt to disassemble, repair, or modify the unit on your own.
- Do not dispose of the device on your own, even if it is severely damaged. Contact a technical supervisor to perform an authorized disposal.

MAINTENANCE & CLEANING

General instructions

The exterior of the device can be cleaned as needed. The interior of the device should be cleaned during the process of exchanging ice blocks. Do not clean the interior when it is in use for vaccine storage, as doing so will cause unnecessary temperature exchange and thus reduce vaccine hold time.

To clean the exterior of the device

You can clean the exterior of the device when it is loaded with vaccines, however, do not shake or tilt the device. You must avoid damaging the vaccine vials.

1. Use soap and water to wash the device with a hose, sponge, or cloth. Do not use abrasives or cleaning powders.

Note: The device's electronics are can tolerate some moisture. However, do not submerge the device.

2. Dry the device with a lint-free towel or allow it to air dry.

To clean the interior of the device:

To clean the interior of the Arktek, take these steps:

1. Remove the cap.
2. Remove the vaccine stacks. Follow established cold chain vaccine handling practices with any removed vaccines.
3. If needed, clean the vaccine cup-stack containers with soap and water and allow them to dry.
4. Remove and set aside the ice blocks.
5. Use mild soap and water or a 1% chlorine bleach solution to clean the inside of the device with a hose, sponge, or cloth. Do not scrub the interior with abrasives or cleaning powders.

Caution: Take care of the wiring that is affixed on the interior of the device; these wires are for the sensors that monitor the internal temperature of the device.

Caution: The device should not be submerged in water.

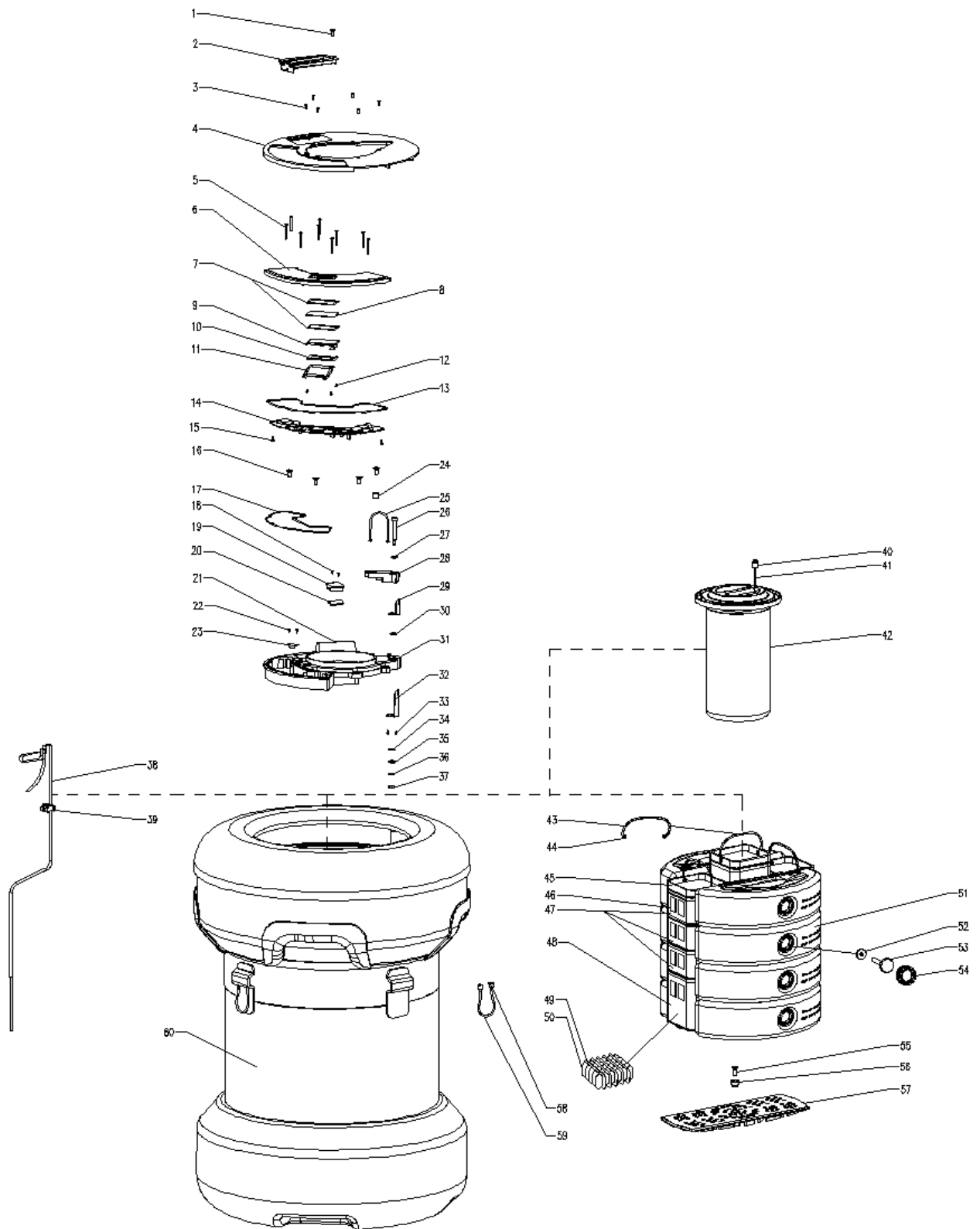
6. Thoroughly wipe down the interior of the device with a towel. The interior of the device can be air-dried if time allows. You can also turn the device upside down as needed to allow it to drain.
7. Leave the cap off of the device during storage for next use. It will remain tethered to the device.

TROUBLESHOOTING

Note: If, for trouble shooting, you need to open the cap or change the internal parts during the use cycle, you should remove everything (vaccine stacks and ice blocks) from the device and follow established protocols for cold chain handling of vaccines so as to ensure that they remain potent and effective. Please record all observed issues and attempted solutions in the device log.

Problems	Typical Causes	Resolution
External components are damaged.	Improper handling or accidental collision.	Replace entire device.
Screen does not display anything.	<ol style="list-style-type: none"> 1. Wire connection came off or wire broken. 2. LCD display and/or main PCB assembly have failed. 3. Battery is dead. 	<ol style="list-style-type: none"> 1. Reconnect or replace with new components. 2. Replace with new components. 3. Replace with a new battery.
The "Err" message displays for a long time.	<ol style="list-style-type: none"> 1. The connection of the data cable has come off. 2. The data cable is broken 	<ol style="list-style-type: none"> 1. Reconnect. 2. Replace with a new one.
Visual and/or audible alarm.	The interior temperature is below 0°C.	Remove everything and reload with properly conditioned ice blocks.
The thermometer's pointer does change position over time (when in the frozen ice block)	Thermometer is broken.	Replace with a new thermometer.
Interior temperature rises more than 2°C / day during the use cycle.	The vacuum Dewar is broken.	Stop using the device. Call the authorized customer service engineer.

DETAILED PARTS-ASSEMBLY VIEW



LIST OF PARTS

Item number in expanded view	Spare parts number	Spare parts description in English
1	92703A207	Flat Head Torx Screw M3*8
2	YBC-5.8-1	Battery Cover
3	92703A207	Flat Head Torx Screw M3X8
4	YBC-5.0-8	Dewar Top Deck
5	91771A110	Stainless Flat Head Torx Screw M3X12
6	YBC-5.7-3	Call Top Plate
7	YBC-5.7-5	Main Seal
8	YBC-5.7-2	Glass Window Edges Masked
9	YBC-5.7-7	LCD Display
10	YBC-5.7-6	LCD Foam Backer
11	YBC-5.7-4	Display Bracket
12	91772A073	Stainless Pan Head Screw M2*4
13	YBC-5.6-1	Main PCB O-Ring
14	YBC-5.7-1	Main PCB ASSY
15	92115A211	Stainless Pan Head Screw ST3*8
16	91500A537	Stainless Flat Head Torx Screw M6X12
17	YBC-5.6-1	Main PCB O-RING
18	91400A107	Stainless Pan Head Screw ST3.5*9.5
19	YBC-5.6-2	Battery Clamp
20	YBC-5.6-5	Battery Clamp Foam
21	YBC-5.6-6	Battery
22	91400A107	Stainless Pan Head Screw ST3.5*9.5
23	YBC-5.6-7	Loudspeaker
24	YBC-5.6-9	Snap Button-Female
25	YBC-5.2-4	Nylon Rope-2
26	YBC-5.6-8	Shoulder Screw M5.0X10,Shoulder: ϕ 6.35,Length : 38mm
27	90945A760	Flat Washer, ID ϕ 6.6,OD ϕ 12,Thickness0.8mm
28	YBC-5.6-3	Latch
29	YBC-5.6.2	Lock Inner Bracket
30	90945A760	Flat Washer, ID ϕ 6.6,OD ϕ 12,Thickness0.8mm
31	YBC-5.6-4	Collar
32	YBC-5.6.1	Lock Outer Bracket
33	90065A077	Pan Head Screw ST3.5*9.5
34	90945A760	Flat Washer, ID ϕ 6.6,OD ϕ 12,Thickness0.8mm
35	92147A029	Split Lock Washer, ϕ 7
36	90107A011	Flat Washer, ϕ 5
37	91240A011	Hex Nut,M5
38	YBC-5.0-14	Flex Sensor Folded PCB Assy
39	YBC-5.0-9	Hall Sensor Cradle
40	YBC-5.2-5	Snap Button-male
41	YBC-5.2-4	Nylon Rope-1
42	YBC-5.2	Plug
43	YBC-5.3.2-1	Nylon Rope-3
44	YBC-5.3.2-2	Handle Washer

45	YBC-5.3-1	Vaccine Stack Top Shell
46	YBC-5.3.1-5	Foam Bumper Strip
47	YBC-5.4.1	Vaccine Cup Small
48	YBC-5.3.1	Vaccine Cup Large
49	YBC-5.3.3-1	Vaccine Cup Divider-Male
50	YBC-5.3.3-2	Vaccine Cup Divider-Female
51	YBC-5.5-1	Ice Block
52	YBC-5.5-5	Thermometer Plug
53	YBC-5.5-6	Thermometer
54	YBC-5.5-2	Ice Block Cap
55	91771A539	Flat Head Screw M6X16
56	YBC-5.0-7	Vaccine Stack Plate Fixed Axis
57	YBC-5.0-5	Vaccine Stack Plate
58	YBC-5.0-10	Stop Compression Sleeve For Wire Rope
59	YBC-5.0-11	Wire Rope
60	YBC-5.1	Dewar

Aucma Global Co., Ltd

ADD: NO.315 Qianwangang Road, Economic & Technological
Development Qingdao, China

Zip: 266000

Tel: +86-0532-88965799

Fax: +86-0532-88965766

Email: info@aucma.com.cn

Website: <http://www.arktek.org>

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