

BK-AC10 Auto Cap Screwing

Machine User Manual

1. Basic Information

Name: Auto Cap Screwing Machine

Model: BK-AC10

This product is used to open and close the cap of virus sampling tube, it can be used in clinical gene amplification testing laboratory, CDC Center for Disease Control and Prevention, scientific research institute laboratory, medical university laboratory, etc.

2. Precautions for Use

Caution

The moving parts of this system (cap screwing gripper) may cause personal injury during operation. During the operation, do not extend your body parts into the working area of the equipment, otherwise, the equipment may be damaged or even personal injury to the operator.

3. Basic Parameters

No.	Performance	Parameters
1	Access	Single cap screwing access
2	Manner	Screwing
3	Speed	<1.8s
4	Count	With counting function
5	Display	LCD1601 screen
6	Induction	Diffuse reflection induction mode of operation
7	Dimensions	164*295mm*363mm
8	Weight	7.80kg
9	Power	AC 220V 50Hz, 40VA

No.	Performance	Parameters
10		Foot switch (optional)
11		Can be embedded in the safety cabinet for use

4. Instrument Structure

The structure of the auto cap screwing machine is shown as follows:



No.	Name	Function
1	Displayer	Setup and operation the display
2	"Zero" button	Counting zeros, and setting changes
3	Gripper	Open and close the cap of virus sampling tube
4	Diffuse switch	Inductive action.
5	"Set" button	For device Settings

5. Operating Principle

Place the virus sampling tube in the cap screwing gripper of the instrument, the diffuse reflection switch detects obstruction, and the gripper is detected to the cap and catch it, the cap screwing machine will perform cap screwing action and open it, when the diffuse reflection detects obstruction again, the gripper will perform cap screwing action again and close it.

6. Operation

6.1 Counts Zero

Click the [Zero] button at the bottom of the interface in figure 1, and the software counts zero.



Figure 1

6.2 Mode Change

Click the [Set] button at the bottom of the display, as shown in figure 2. Click [Zero] to switch modes. Adjust to manual mode as shown in figure 3 (Note: manual mode needs to be connected with the foot switch).

After setting, please return to the counting interface.



Figure 2 Auto mode



Figure 3 Manual mode

6.2.1 Foot Switch(optional)

After the mode is switched to foot mode "MAN", connect the aviation connector of foot switch to the matching interface of the equipment, as shown in figure 4

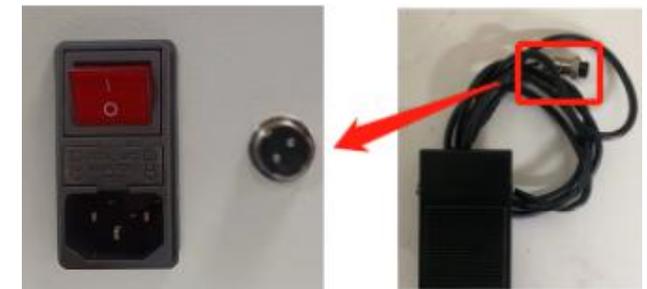


Figure 4

6.3 Del Time

Del Time: The time to be delayed after the execution of an action after a command is detected.

Click the [Set] button at the bottom of the display, as shown in figure 5. Click [Zero] to increase the value, the larger the value is, the longer the delay time is.

After setting, please return to the counting interface.

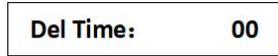


Figure 5

6.4 Num Turns

Num turns: Number of turns for cap screwing.

Click the [Set] button at the bottom of the display, as shown in figure 6. Click [Zero] to increase the value, the larger the value is, the more the "Num turns" is.

After setting, please return to the counting interface.



Figure 6

6.5 Cap Screwing Mode Selection

Switch to the FS interface, "FS: Open_close" can open/close the cap which is shown in figure 7, "FS: Only_Open" can only open the cap which is shown in figure 8, and "FS: Only_Close" can only close the cap which is shown in figure 9.

After setting, please return to the counting interface.



Figure 7

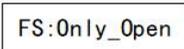


Figure 8

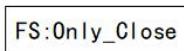


Figure 9

7. Faults Handing

No.	Phenomenon	Reasons	Measures
1	After the power switch is turned on, the display does not light up	Power supply not connected	Check the power supply and turn it on.
		Fuse burnt out	Replace the fuse.
		Switch damaged	Replace the switch.
		Power supply damaged	Replace the power supply.
		Others	Contact technical support personnel.
2	Button failure	Button damaged	Contact technical support personnel.
3	Instrument can not run	Check the Settings	return to the counting interface
		Power supply not connected	Check the power supply and turn it on.
		Fuse burnt out	Replace the fuse.
		Switch damaged	Replace the switch.
		Power supply damaged	Replace the power supply.
		Others	Contact technical support personnel.

8. Maintenance

8.1 Cleaning Agent

Specification of cleaning agent:

Cleaning Agent	Specification
Water	Distilled or deionized water
Alcohol	75% ethanol

Caution:

The cleaning agent Should be consistent with this instruction and the high concentration may dissolve the carrier and the equipment surface coatings.

Do not use the hypochlorite-containing disinfectant (bleach liquid and chlorine) or bleach to clean the instrument and its components.

During the cleaning of the instrument, do not use an open flame or clean near a device that is prone to sparks. Do not use a hot fan to dry the instrument . Otherwise, flammable detergents may burn, which may damage the instrument or even cause personal injury.

8.2 Pollution Exclusion

To protect the maintenance personnel, the equipment must be cleaned in accordance with the standard laboratory specification (GLP) prior to repairing this auto cap screwing machine. If the instrument or individual parts are to be returned to the dealer or manufacturer, the necessary cleaning and disinfection treatment must be performed.

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