

**Attention: Before operating JYQ Biological Air Sampler (BAS) , user must read this operating manual carefully, please! Keeping the manual for reference.**

## **JYQ Biological Air Sampler (BAS)**

Executing standard: Q/320500BSK016-2004

# **OPERATING MANUAL**

ISO9001: 2000 CERTIFIED

**SUZHOU CLEANING TECH. RESEARCH INSTITUTE  
BAISHEN TECHNOLOGY (SUZHOU) CO., LTD.**

**Welcome to use JYQ Biological Air Sampler (BAS), thank you warmly entering into our company's consumer team!**

## **1. General Description**

In order to coordinate our national pharmaceuticals to carry out "Good Manufacturing Practice" (GMP) specification fully, we recommend Type JYQ Biological Air Sampler (BAS) for our customers.

BAS is used for sampling floating germs in variety kinds of cleaning environments. After bacterial culturing, germs number in one cubic meter volume can be obtained, this number can judge environmental contamination degree. So BAS is widely used in pharmaceuticals, hospital, hygiene, food making, cosmetic making and etc.

In the past time germsfree workshop, hygiene cleaning zone and etc. adopted germs settling method for measuring germs degree in the environment, but this method can't truly reflect germs concentration, so germs number in one cubic meter volume is still unknown. Type JYQ BAS samples germs particles in the environment by using seam-gap picking method according to particle impaction concept. Sampling air is exhausted by an exhaust pump, passes seam-gap and approaches to a culture container of the culture medium. then it is detained, and the culture container is rotated fairly.

When sampling air volume reaches one cubic meter, sampling is stopped automatically. at this time the container just rotates for a circle or about a circle, i.e. germs particles fairly are distributed on a circle ring (the ring width is just seam-gap length). After germs culturing, germs particles become countable, germs number in one cubic meter volume by eyes.

## **2. Main Features**

2.1. Seam-gap method culture container size  $\phi 150$  15mm is equal with international standard.

2.2. Sampling flow rate is larger compared with same foreign products.

2.3. Space saving light weight exhaust pump compared with same foreign products.

2.4. Exhaust pump operating and BAS sampling are controlled automatically by a single-chip microprocessor.

2.5. Culture container rotating angles are controllable; sampling is at many points at the same culture container for comparable test.

### **3. Technical Specification**

- 3.1. Sampling volume: 50 liters/min.
- 3.2. Sampling time: 5min, 10min, 20min
- 3.3. Seam-gap width:  $\leq 0.4\text{mm}$ .
- 3.4. Adjustable impaction distance range  $\geq 3\text{mm}$

### **4. Operating Ambient Condition**

- 4.1. Temperature:  $+5^{\circ}\text{C} \sim +35^{\circ}\text{C}$
- 4.2. Relative humidity  $\leq 75\%\text{RH}$ .
- 4.3. Power supply: AC 220 22V, 50Hz, single phase.

### **5. Operating Procedure**

- 5.1. Making culture container culture medium as regular, the container size is  $\phi 150$  15mm.
- 5.2. A disinfectant is sprayed upon the instrument and sampling tubes. Wiping or immersing can be used where can't use spray sterilizing. The other sterilizing method also can be adopted.
- 5.3. As usual, BAS is located on the working booth, twist off the sampler's cover, whole seam-gap is open, and it can sample in the air directly. If measure higher position place. twist the sample's cover tightly, then insert a sampling plastic tube and extend it into a required space.
- 5.4. Connecting electric plug on BAS rear panel with AC power Supply, press the power switch located on the front panel, indication bulb is bright, i.e. at that time BAS is in stand-by state time display is indicated as "PP".
  - 5.4.1. Press or release up/down selection button repeatedly until the indication bulb located upper button "↗" is bright.
  - 5.4.2. Press tune button, the tray falls down at the lowest position.
  - 5.4.3. Open BAS transparent overcover, a prepared culture container is put on BAS tray promptly, then twist BAS transparent overcover tightly at once for seal airtight.
- 5.5. BAS is connected with AC power supply again.
  - 5.5.1. Press or release up/down selection button repeatedly until indication bulb located upper button "↗" is bright,
  - 5.5.2. Press/release red "tune" button repeatedly, the tray raises slowly until the

culture medium surface is alignment with red-mark line of BAS overcover.

5.6.1. Sampling time selection (5 10 20min) is pressed by user optionally according environmental degree of cleanliness, at this time corresponding indication bulb is bright.

5.6.2. After about 30 seconds, the digital display is indicated changed from "PP" to "YY", BAS starts to sample, BAS counting is performed.

5.6.3. Then operating person can leave testing spot in order to protect germs with person body entering.

5.6.4. When sampling time is reached, the exhaust pump is stopped automatically, final sampling time is indicated at digital display.

5.7. Turning off AC power supply

5.7.1. Twist off BAS transparent overcover, the culture container is put out away promptly.

5.7.2. Repeat mentioned above procedure, and a new culture container is put on for the second sampling use.

5.7.3. If the first sampling adopts sampling tubes, the second sampling tubes should be replaced; the second sampling tubes should be pre-sterilized.

5.7.4. The taken culture container is put on the culturing cabinet for culturing again.

5.8. Stopping sampling in BAS working way can be obtained by pressing "reset" button, at this time sampling culture in BAS is scrapped. The second sampling procedure is according mentioned above repeatedly.

5.9. If flow rate can't be adjustable by fine-tuning to reach 50liters/min, coarse tune a rotary switch (divided 5 ranges) located on the rear panel of BAS can be uscd until reaching 50liters/min.

## **6. Caution**

6.1. When BAS is in rest state for a period, it should be placed in a germsfrec room.

6.2. When the exhaust pump is working, sampling tubes should not be block-up or crooked, it can damage the exhaust pump.

6.3. BAS is forbidden in the place where there're corrodent gas and corrodent liquid.

6.4. BAS should be checked and calibrated once every year.

## 7. Trouble Diagnosis and maintenance for BAS

When trouble occurs, maintenance should be carried on before AC power supply is disconnected.

<b>Trouble</b>	<b>Probable Cause</b>	<b>Remedy</b>
Flow rate can't be adjustable.	Connecting plastic tubes may be crooked or fallen down	Connecting plastic tubes should be straight, re-connected with BAS.
Exhaust pump doesn't work, when press sampling time set button	1. Digital display may be damaged. 2. Crystal oscillation occurs abnormally. 3. Single-chip microprocessor may be damaged.	Return BAS to the manufacturer for remedy.
Sampling tray doesn't rotate.	1. Planetary gear system may be troubled. 2. Pivot is loose with rotating shaft.	Return BAS to the manufacturer for remedy.
When sampling time is reached, exhaust pump still runs.	Corresponding relays or corresponding circuits for controlling relays may be damaged.	Diagnose damaging components, replace new.

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