WQS-S VIBRATOR

OPERATING INSTRUCTION

Please read through these operating instruction before using

CONTENTS

I. Application

Digital vibrator WQS-S is an up-to date laboratory automatic screen designed and developed by our factory, applied to particle analysis in the fields of pharmacy, metallurgy, foods, cosmetics and grain, and characterized by convenient operation, no rotary component, and electronic controlled amplitude and frequency. Its performance index is equal to that of the vibrator with sieve manufactured by German FRITSCH. In comparison with the traditional manual screen, it can greatly reduce labor intensity of operators and raise working efficiency. It is an essential laboratory screen for particle analysis.

II. Special environmental consideration

a) The normal operating environment for vibrating screen should be kept within 5-35℃.

b) The ground connection of vibrating screen should be reliable.

c) Keep away from the interference sources of strong electromagnetic field.

III. Specifications

a) Operating range: ≤325 mesh

b) Vibration frequency: 3000 times / min, 6000 times / min

c) Amplitude selection: 0-3 mm, continuous adjustment

d) Vibration mode: 1 Micro vibration

2 Intervallic vibration

3 Continual vibration

e) Weight: 20kg

f) Power supply: AC 220V±22V, 50Hz±1Hz

IV. Principle and Structure

It is easy to operate for adopting advanced integrated circuit control. The functional block diagram of the instrument is shown in Figure 1 and the structure in Figure 2.

The main part of the vibrating screen is an electronic controlled electromagnet, on which there is a vibrating plate for mounting screens (8 at most, 50 mm high each). The electronic controlled electromagnet transfers to the vibrating plate a vibration of 3000 times / min (50 Hz) or 6000 times / min (100 Hz). On the vibrating plate install the screens, sieve-tray and screen head. The amplitude of the sieve-plate tower can be changed from 0 to 3 mm by means of the electronic controller. The screening time can be adjusted from 1 to 99 min by a timer.

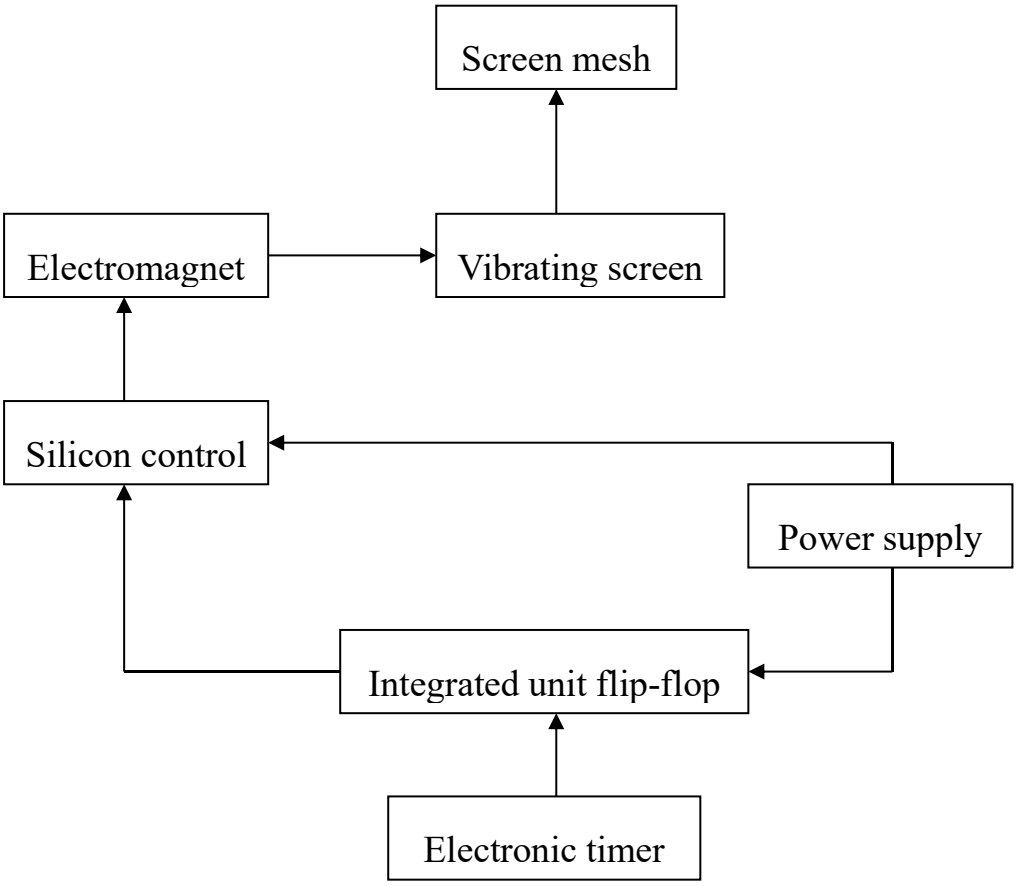

Figure 1

There are three controllers: “Micro”, “Intervallic”, and “Continual”.

“Micro”: the vibrating screen vibrates in a low amplitude at a frequency of 6000 times / min (100 Hz). This operating mode is applied to the analysis of fine screening (especially for wet screening).

“Intervallic”: the vibration screen vibrates as the required amplitude at a frequency of 3000 times / min (50 Hz). The vibration period of the sieve-plate tower can be set from 3 to 12 sec by a potentiometer. The stopping time is about 1.5 sec, preventing the resonance between the screen mesh and material and shortening the sieving time.

“Continual”: the working of vibrating screen is as above, but no stopping. This operating mode is mainly applied to the materials that are easy to be sieved (the fine substances contained are not too many).

In case of the sieving particles greater than 200 mesh, place screening-aid balls on the screens, each of which can use 10 agate balls of 10 mm in diameter each, or 5 rubber balls of 20 mm in diameter each, preventing from blocking the screen meshes.

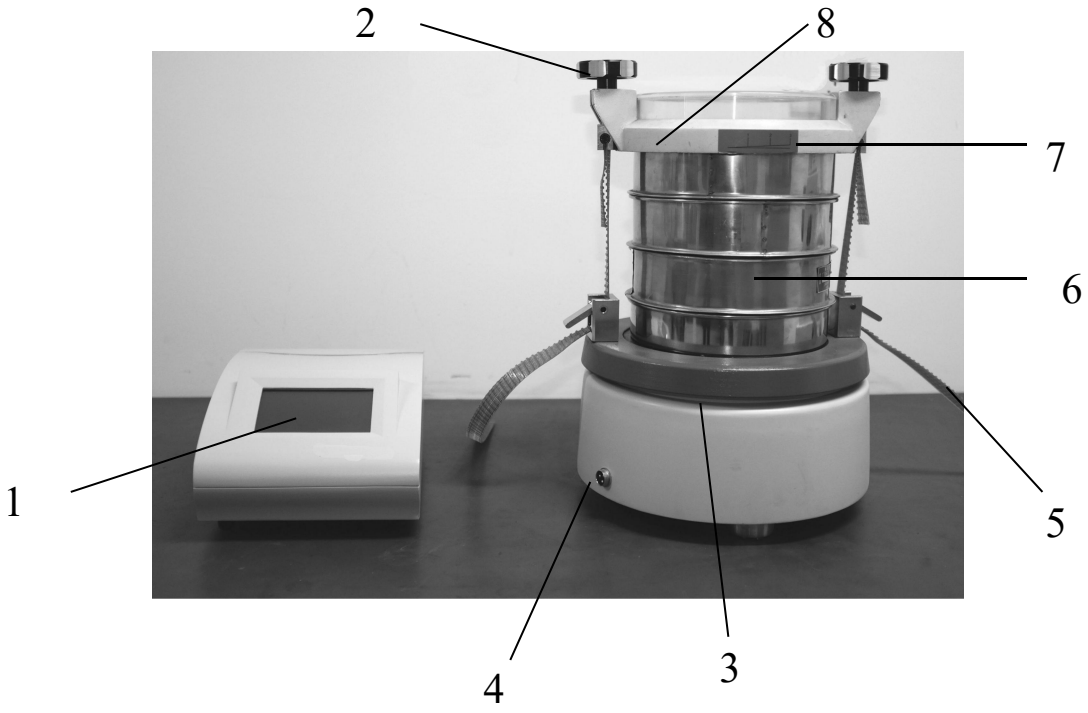

Figure 2

1— Display screen; 2— Spanner;

3— Sieve-tray; 4— Lock nut; 5— Tension belt;

6— Standard screen; 7— Amplitude mark; 8— Screen head

V. Operation

1. Before using the vibrating screen, ascertain what is the specifications of the screen and how many screens to be used according to the materials to be sieved by the user.
2. Place the sieve tray and the corresponding sieve on the instrumental platform, and put the screen head on the top, then lock up with lock nut, same strength should be put forth to both sides.
3. Plug the power cord into the AC outlet, select an operating mode on the main page according to the type of the material to be sieved.

3.1 Quick switch

Under the three working modes, users can directly run the corresponding vibration state without setting countdown, and can turn off the vibration state directly when needed.

3.2 Timer

Under the three working modes, user can set countdown by clicking

the timer to make the instrument vibrate for a period of time. The setting range is 1-99 minutes. When the setting is completed, the user can immediately enter the vibration state by clicking "Enter".

3.3 Amplitude setting

This setting only works under continual and intervallic modes. When the vibration state is turned on, the system will vibrate at the lowest amplitude. When leaving the factory, the default amplitudes of 1, 2 and 3 correspond to the no-load amplitudes of 1 mm, 2 mm and 3 mm respectively. Users can use "+/-" to modify the amplitude within a certain range (the scale on the visual screening head is adjusted to the required amplitude) to adapt to their own load. Press "X" to exit directly without saving, press "Enter" to save the current amplitude for using it directly next time.

3.4 Interval setting

Only works under the intervallic mode. Each interval period contains 1.5s stopping time. The'+/-'key sets the interval period by seconds. The period between the touch +, - key shows that the current data can be withdrawn and saved.

3.5 Lock window

When users only need to use one of the vibration modes, they can touch the lock window for mode locking, and the next boot will directly enter the locked mode.

VI. Common Breakdown and Handling

Breakdown Appearance	Reason and Handling method
The instrument does not work.	Fuse is blown out, please change. (It is installed on PCB, if you can not handle, please contact our Technical Service Department)
The screen head is not fixed firmly for the strap is loose.	By reason that the strap is too long, please adjust it to the range which the teeth can work.

VII. Maintenance

1. In order to ensure vibration is effective when using, the instrument should be put on the stable platform which is made of stone.
2. The instrument should be covered with a plastic cover hood when it is not used.
3. When the instrument has breakdown, please contact our Technical Service Department.