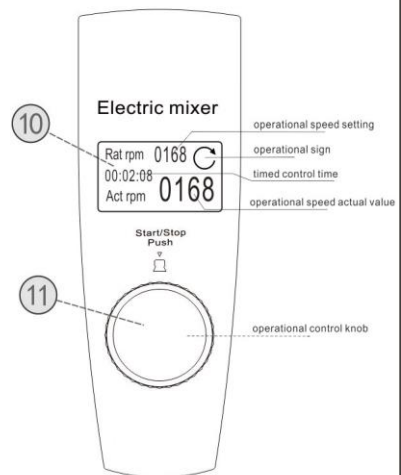
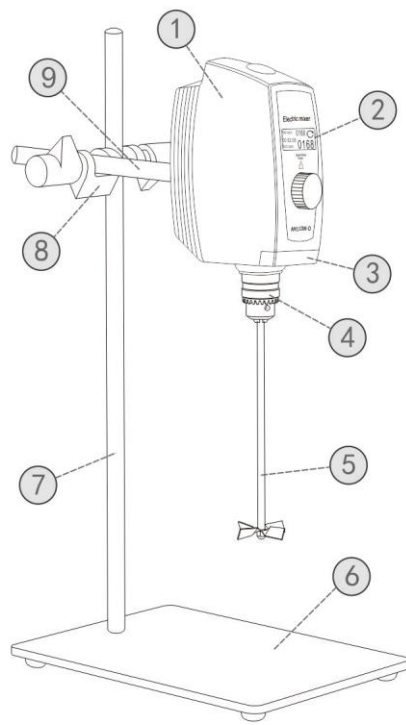


HS-160C

Electronic Constant Speed Mixer



- | | |
|--------------------|-------------------------|
| 1. Mixing host | 7. Column |
| 2. Control panel | 8. Support fixing frame |
| 3. Power indicator | 9. Pillar |
| 4. Transfer chuck | 10. LCD screen |
| 5. Stir bar | 11. Control knob |
| 6. Base | |

Product packing list

No.	Name	QTY
1	mixing host	1
2	base	1
3	column	1
4	support fixing frame	1
5	stir bar	1
6	power box	1
7	product certification	1
8	user's manual	1

Thank you for using the liquid media mixing laboratory equipment. In order to better serve you, please read the instruction manual carefully before using this product and keep it for your use.

1. Product description

The HS-160C electronic constant speed mixer is driven by a brushless DC motor and is suitable for mixing and mixing low to medium and high viscosity liquids in the laboratory. The machine structure is reasonable and compact, ultra-low noise, maintenance-free, and the stirring speed is controlled by the microprocessor, which can instantly compensate the speed change caused by the load change and the power supply voltage fluctuation, and the constant speed is reliable. Built-in automatic overload protection device, safe operation for long-term high-load continuous operation of the test. Operation state knob control makes the experiment operation easier. The stirring speed is steplessly adjusted to meet the requirement of correcting the stirring speed at any time during the experiment. Digital display setting and actual output stirring speed to ensure intuitive collection of experimental data. Operation timing control to ensure that the timeliness of the experiment is effectively controlled. Stable stirring speed, suitable for high viscosity medium, slurry stirring.



- Please pay special attention to the warnings with this symbol.



- To avoid personal injury, please pay special attention to the contents of this manual with this symbol.

2. Technical Parameters

Rated voltage	AC 220~240 V	Dynamic speed detection	Yes
Rated frequency	50/ 60 Hz	Speed memory function	Yes
Equipment voltage	DC 24 V	Overload protection	Yes
Input power	160 W	Stir bar fixing method	Quick type rotary chuck
Output power	160 W	Rotary clamp head range	1~10 mm
Drive type	Brushless DC Motor	Stirring rod penetration diameter (stop)	8 mm
Rated torque	25.1 N.cm	Stir bar configuration	Three-blade spiral mixing paddle
Peak torque	50N.cm	Processing capacity (H ₂ O)	40 L
Work mode	S1 (Continuous)	Treatment viscosity	0~30000 mPa.s
Operation status display	OLED	Allowable ambient temperature	Not more than 40 °C
Operation control method	Combined control knob	Allowable relative humidity	Not more than 80 %

Speed adjustment range	30~2000 rpm	Protection level	IP 40
Speed control type	Stepless	Machine size	215×310×600 mm
Timing control range	1~6000 min	Weight	10 kg

3. Equipment assembly

3-1. Place the base (6) of the unit on the platform, take the column (7) to fix it in the mounting screw hole of the base, and then put the support bracket (8) over the column and rotate the support bracket. The handle is fixed.

3-2. Take the pillar (9) and fix it with the mounting hole on the back of the mixing machine (1), then string the pillar into the support bracket on the column, and rotate the handle of the support bracket to fix the mixing host to the column. The machine can adjust the front and rear of the mixing machine on the support fixture according to the needs of the experiment.

3-3. Open the transfer chuck (4) with the supplied rotary chuck wrench and install the stir bar (5).

3-4. Due to the different experiments applied to the machine, only the standard mixing paddles are available. However, in order to meet the needs of experimental applications, AN Company offers a variety of types of stir bar to buy.



• In order to ensure the safety of the machine, please firmly fix the key connection points and check them frequently to prevent loosening. Please read "Usage and Maintenance" carefully before entering the power supply debugging equipment.



• This machine is prohibited to use in flammable and explosive environments.
 • The power input socket to this unit must be well grounded. It is forbidden to lead the grounding wire to the telephone line, metal water pipe, gas pipe and lightning arrester wire.

• The machine drive has a certain weight. Many people must cooperate with the operation when manually adjusting the height and angle.

• Before the machine is used, it is necessary to conduct a drive host operation test. Do not install stirring paddles during the test.

• This machine is prohibited to start the stirring and mixing operation without the stirring blade's paddle being placed in the stirring medium.

• To ensure safety, the operator should wear a protective cap to prevent the hair from being caught in the chuck of the stirring bar that the machine is rotating when the experiment requires close observation.

4. Use and maintenance

- 4-1. The machine adopts single-phase three-wire system, and the required power socket is 220V, 10A three-hole socket.
- 4-2. Before use, plug the DC24V power supply box into the socket at the bottom of the back of the machine host. Then plug the DC24V power box AC power cord into the AC220V power socket.
- 4-3. Before use, the mixing machine operation test should be carried out first. Please do not install a stir bar during the test. If high-speed agitation is required during the experiment, the mixing rod used must have a higher degree of straightness and rigidity.
- 4-4. After the machine inputs power, the power indicator lights up. The LCD displays: " ", indicating that the device is in standby. The screen display "Rat rpm: 0000" sets the running speed value. "Act rpm: 0000" actual output speed value. "00:00:00" running timing in timing control mode.
- 4-5. Machine operating speed control:
- Press the control knob in standby mode. The device starts up and the "↻" operating status sign turns. The default speed for the start: 30 rpm. Turn the control knob and the setting number of " Rat rpm: 0000 " will become larger, indicating that the device enters the speed setting state, and the set value changes with the knob rotation. When the screen displays "OK", the device automatically confirms the settings and the device enters the running state. The setting of the running speed can be preset in the standby state of the device or dynamically adjusted during the running.
- 4-6. Machine timing control:
- The running timing control can only be implemented when the device is in the pause state. Press the control knob for 3 seconds, the screen displays "00:00:00" flashing, indicating that the timing setting state is entered. Enter the time required for the operation control and press the control knob to confirm. The control time of the operation will display the remaining time in the form of a countdown. When the device is in the timing control mode, if the input power is interrupted, if you need to continue the timing control operation, you must re-set the time in the timing mode.
- 4-7. The machine has a running speed memory function. When the device is running, press the control knob, the device will pause, and the "↻" running status flag will disappear. The setting number of " Rat rpm: 0000 " becomes larger, indicating that the device enters the pause state; when the device is paused, press the control knob to restart the device and keep the original settings running. If the device is suspended for 5 minutes, the device enters the sleep shutdown state. If you need to continue to run, press the control knob.
- 4-8. After the machine is running, please unplug the AC220V power plug and clean the stir bar in time for the next use.
- 4-9. The machine must be regularly maintained. If it needs to be deactivated for a long time, please put it in a dry and ventilated place to avoid the moisture of electronic components. If used again, the host should be idling slowly for a period of time to allow the moisture on the electronic components to diverge.
- 4-10. If the machine does not run during operation or the screen displays "Warning 021-55086048 (Warning: Equipment overload or drive failure, AN Company's after-sales service phone number), the

stir bar should be removed first. Then check if there is power in the power socket, if the connector is loose, and the contact is good. After the above faults are removed, the operation cannot be started normally. Please contact AN Company's after-sales service department. Do not disassemble and overhaul personnel who are not familiar with the performance of this unit to avoid accidents.



Precautions:

- **The machine should be placed in a clean and dry place. Keep it clean and prevent moisture.**

The ambient temperature does not exceed 40°C. Strictly prevent all kinds of foreign objects from splashing into the motor.

- **When the machine is used in a humid environment, use a leakage protection device to ensure the operator's personal safety.**
- **If the machine is used in a power grid with intense voltage fluctuations, it will cause the speed to run out of control. Please use a power supply voltage regulator.**
- **When the machine is used in a strong corrosive environment, please pay attention to necessary protective measures in order to prevent damage to the mechanical and electrical properties of the equipment.**

•If the machine is used for experiments in the presence of volatile flammable media, it must have effective measures to strictly prevent the emission of flammable gases in order to avoid flammable and explosive gases, sparks deflagration, and fire accidents.

5. After-sales service

5-1. Within one year from the date of purchase, AN Company will be responsible for the warranty due to the quality of the product itself.

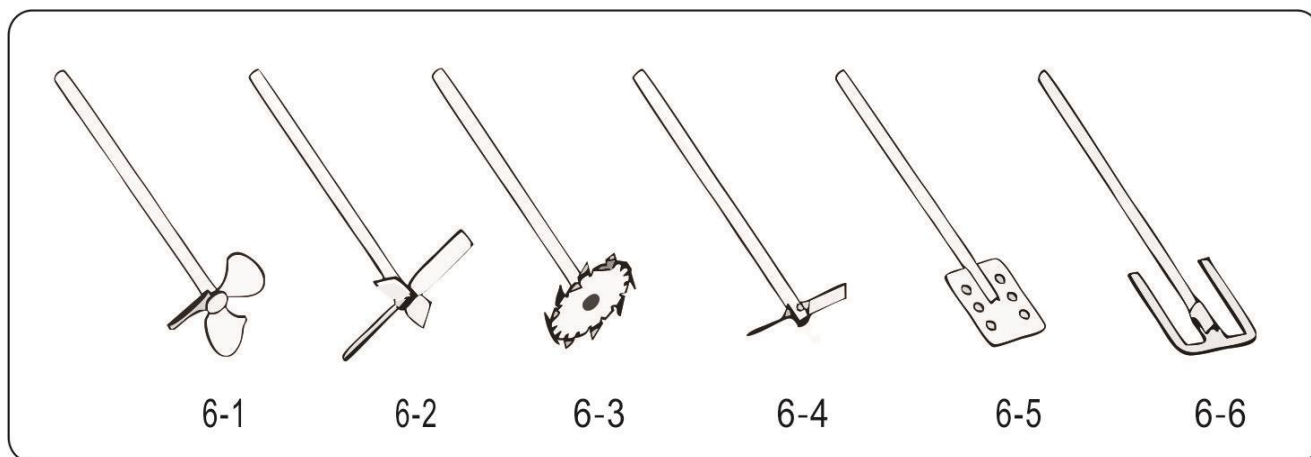
5-2. In case of improper use by the user or human damage, AN Company will not assume any responsibility and related maintenance costs.

5-3. The machine's warranty must have a warranty.

5-4. If the internal structure of the machine has been dismantled or dismantled by itself, the part that the company specified in the specification as being prohibited from dismantling shall be regarded as man-made damage.

5-5. This machine has exceeded the warranty period. The resulting maintenance costs are borne by the user.

6. Stir bar application reference in stir experimental operation:



6-1. Three-bladed propeller type (standard): Used in high speeds. The mixed medium flows axially from top to bottom and the shear force is small.

6-2. Four-bladed propeller: Used in high speeds. The mixed medium flows axially from top to bottom, producing a local shear force.

6-3. Dissolution type: Used in high speeds. The mixed medium produces radial flow from both above and below, forming a strong turbulent flow and high shear force, which can grind particles in the liquid.

6-4. Centrifugal: Used in high speeds. The double blades are suitable for use in narrow mouth containers and open with increasing speed. The stirring effect is similar to a four-bladed propeller type.

6-5. Fan type: Used at low speeds. Small tangential flow turbulence and good heat exchange performance. Used in applications where soft stirring media is required.

6-6. Anchor: Use at low speed. Tangential flow occurs with high shear rates at the edges. Mixed media is not easily deposited on the container wall. Applied to polymer reactions and the dispersion of minerals in liquids. It is an ideal stirring element for medium and high viscosity fluids.

WARRANTY

No. _____

Dear Customer:

Thank you for choosing AN products.

If there is a fault caused by a product quality problem within the warranty period after the purchase, AN Company will provide you with free maintenance service. I hope you can help to do the following:

1. Carefully store the warranty card after purchase and carefully read the instructions.
2. Please present the warranty card and invoice (can also be faxed) during the warranty period. If the warranty cannot be presented, it will be charged even during the warranty period.
3. If the warranty is mailed, the postage must be borne by you.

The following conditions are not covered by the warranty, but maintenance services are still guaranteed:

1. Machine damage caused by user's own disassembly or repair.
2. The user has not damaged the machine due to installation, use and maintenance according to the instruction manual.
3. Quality maintenance services will still be provided for products that exceed the warranty period, but corresponding service fees will be charged as required.

Information registration



Device name: Electronic constant speed mixer Purchase date: _____

Device model: HS-160C Warranty period: one year

Sales company name	
Company address	
Telephone	
Maintenance company name	
Company address	
Telephone	