

English

# OPERATING MANUAL

Flapping Homogenizer

HG-400V/HG-400VW



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THE MAGIC MOTION

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## Congratulations!

You have made an excellent choice.

WIGGENS thanks you for the trust you have placed in us.

This operating manual has been designed to help you gain an understanding of the operation and possible applications of our instruments. For optimal utilization of all functions, we recommend that you thoroughly study this manual prior to beginning operation.

## Unpacking and Inspecting

Please unpack the device carefully. Check that the package is right-side-up and then open it. Check that model of the product is one that you ordered. Check that there is no damage. If there is any damage, file a damage claim with the carrier. In the case of any damage a damage report should be requested immediately. These instructions must be followed fully for us to guarantee our full support of your claim for protecting against loss from concealed damage. The form required for filing such a claim will be provided by the carrier.

Changes without prior notification reserved

**Important:** keep operating manual for future use

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## 1. Intended Use

The HG-400V/ HG-400VW is a flapping homogenizer employed leading microprocessor technology for flap control. The leading microprocessor technology ensures the accuracy and stability of the process to protect the cell. Its sample does not contact with the homogenizer, so that it not only avoided the cross infections, but easy to clean working chamber. The flapping speed for HG-400V and HG-400VW are adjustable to 20-600 times per minute.

## 2. Operator Responsibility

### Use

For abstracting bacteria from solid samples.

### Range of use (indoor use only)

- Laboratories
- Pharmacies
- Schools
- Universities

This instrument is suitable for use in all areas except:

- Residential areas
- Areas that are connected directly to a low-voltage supply network that also supplies Residential areas

The safety of the user cannot be guaranteed:

- If the instrument is operated with accessories that are not supplied or recommended by the manufacturer
- If the instrument is operated improperly or contrary to the manufacture's specifications
- If the instrument or the printed circuit board are modified by third parties.

The products of WIGGENS ensure safe operation when installed, operated, and maintained according to common safety regulations. This section explains the potential dangers that may arise when operating the instrument and also specifies the most important safety precautions to preclude these dangers as far as possible.

- The operator is responsible for the qualification of the personnel operating the instrument.
- The personnel operating the instrument should be regularly instructed about the dangers involved with their job activities as well as measures to avert these dangers.
- Make sure all persons tasked with operating, installing, and maintaining the instrument have read and understand the safety information and operating instructions.
- When using hazardous materials or materials that could become hazardous, the instrument may be operated only by persons who are absolutely familiar with these materials and the instrument. These persons must be fully aware of possible risks.
- Only qualified personnel are authorized to perform configuration, installation, maintenance and repairs of the instrument.
- Routine operation can also be carried out by untrained personnel who should however be instructed by trained personnel.

If you have any questions concerning the operation of your instrument or the information in this manual, please contact us!

## 2.1. Disposal



At the end of its service life the instrument is to be disposed of in accordance with the local regulations specified for the disposal of electronic industry waste in an environmentally friendly manner.

## 2.2. CE Conformity



The products described in the operating instructions conform to the requirements of the following European guidelines:

Low voltage regulations with respect to legal harmonization of the member countries concerning electric devices for use within certain voltage limits.

EMC guideline with respect to legal harmonization of the member countries concerning electromagnetic compatibility.

<b>APPROVALS</b> European	EN61326-1:2013, 2014/30/EU EN61010-1: 2010, 2014/35/EU EN60204-1:2006, 2006/42/EC EN50581: 2012, 2011/65/EU
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### 2.3. Technical Specifications

Model	HG-400V	HG-400VW
Door Design	Stainless Steel Door	SS-Door With Observation Window
Flapping Speed	Adjustable Between 20-600 strokes/min(10-300 rpm )	
Capacity Range	50 - 400mL	50 - 400mL
Overall Dimensions( L x W x H in cm)	45 x 21 x 24	45 x 21 x 24
Inside Dimensions( L x W x H in cm)	10 x 19 x 22	10 x 19 x 22
Electrical Output	AC 110 - 240 V, 50/60 Hz	AC 110 - 240 V, 50/60 Hz
Basic Order Number	HG400V	HG400VW

All measurements have been carried out at the stated voltage, frequency, and an ambient temperature of 25°C.  
 Technical changes without prior notification reserved.






WIGGENS Order Numbers consist of the Basic Order Number (BON) and the Order Number Addition (ONA) which explains different characteristics of the product that can vary from country to country. Order Numbers as stated on the product label and box label are stated as Full Order Numbers (FON), consisting of the BON followed by the ONA. For a full explanation of the ONA of your product, please ask your local WIGGENS support or refer to the Order Number Guide in the WIGGENS General Catalog.

### 3. Safety Instructions



#### 3.1. Explanation of Safety Notes

In addition to the safety warnings listed, warnings are posted throughout the operating manual. These warnings are designated by an exclamation mark inside an equilateral triangle. "Warning of a dangerous situation (Attention! Please follow the documentation)."

Symbol	Additional term / Description
<p data-bbox="129 660 373 705"><b>Warning signs</b></p> 	<p data-bbox="373 660 1466 757">The danger is classified using a signal word. Read and follow these important instructions for averting dangers.</p> <p data-bbox="373 757 1466 936"><b>Warning!</b> Describes a <b>possibly</b> highly dangerous situation. If these instructions are not followed, serious injury and danger to life could result.</p> <p data-bbox="373 936 1466 1115"><b>Caution!</b> Describes a <b>possibly</b> dangerous situation. If this is not avoided, slight or minor injuries could result. A warning of possible property damage may also be contained in the text.</p> <p data-bbox="373 1115 1466 1294"><b>Notice!</b> Describes a <b>possibly</b> harmful situation. If this is not avoided, the product or anything in its surroundings can be damaged.</p>
	<p data-bbox="373 1294 1466 1429"><b>Note!</b> Draws attention to something special.</p>
	<p data-bbox="373 1429 1466 1559"><b>Important!</b> Indicates usage tips and other useful information.</p>



## 3.2. For your protection

- Make sure you read and understand all instructions and safety precautions listed in this manual before installing or operating your instrument.
- Keep the operation instructions in a place where they can be accessed by everyone.
- Make sure the product is checked for proper condition regularly (depending on the conditions of use). Regularly check (at least every 2 months) the proper condition of the mandatory, warning, prohibition and safety labels.
- Connect the instrument to a power socket with earthing contact (PE-protective earth)!
- Do not stay in the area below the instrument.
- Never operate damaged equipment.
- Be aware of tripping! Never route the connection cable in highly frequented areas!
- Be aware of possible cable damage! Keep the connection cable away from the heating zone!
- Always turn off the instrument and disconnect the mains cable from the power source before performing any service or maintenance procedures, or before moving the instrument.
- This is not an explosion proof homogenizer. Do not use with any highly flammable or explosive materials.
- Not recommended for use with corrosive materials or in corrosive atmospheres. Corrosive spills and fumes will damage the top plate and internal components.
-  **Warning!** This is not an explosion proof instrument. Do not use with any highly flammable or explosive materials.
-  **Warning!** When in an emergency, disconnect the main power plug.
- Repairs are to be carried out only by qualified service personnel
- Be aware of the danger of electric shocks!
- When in an emergency, disconnect the main power plug.

### 3.3. For protection of the equipment

- You have received a product designed for industrial and experimental use. Nevertheless, avoid strikes to the housing, vibrations, damage to the operating-element panel, and contamination.
- Make sure that the mains power supply has low impedance to avoid any negative effects on instruments being operated on the same mains.
- Do not expose the unit to sunlight.
- Sudden drops may cause damage in the interior of the instrument.
- Transport the instrument with care.
- Press the power button to interrupt the flapping homogenizer, rather than disconnect the main power plug directly.
- Do not cover the device, even partially e.g. with metallic plates or film. This results in overheating.
- The power supply plug serves as a safe disconnecting device from the line and must always be easily accessible.
- Never operate the homogenizer in wet areas!
- Position the device at least 45 cm (12 inches) from combustible materials under any conditions.

## 4. Operating Procedures

### 4.1. Environmental Operating Conditions

The Flapping homogenizer must operate in the following conditions:

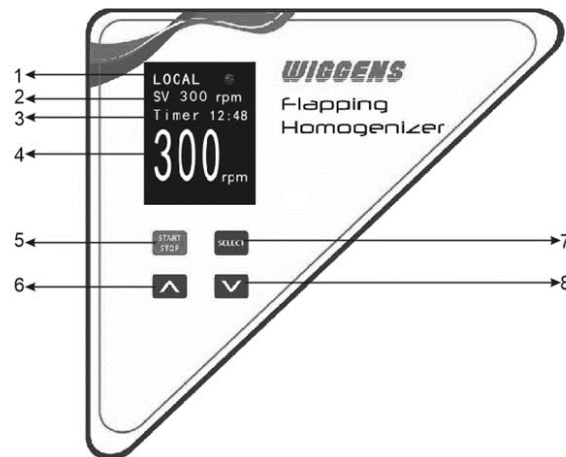
- Indoors
- Altitudes up to 2000 meters
- Temperatures from +5°C to +40°C
- Maximum relative humidity 80% for temperatures up to +31°C, linear decrease down to 50% relative humidity at a temperature of +40°C
- Max. mains fluctuation of  $\pm 10\%$  are permissible
- Overvoltage category II

### 4.2. Installation




- Place the Flapping homogenizer on a stable, flat surface and proper environment for operation. Leave a space at the back and sides of the apparatus of about 20cm.
- Connect the homogenizer to the power supply.
- Connect the power supply to a power socket with earthing contact.

### 4.3. Operation

### 4.3.1. Indicators and Functional Elements



No.	icon	Description
1		<p><b>Indicates the current control mode</b></p> <p>After turn on the instrument, The operator interface will default to the control mode setting, When in control mode setting, press the "increase" or "decrease "button to select between the following modes:</p> <ul style="list-style-type: none"> <li>● LOCAL: Direct control via the on-touch buttons.</li> <li>● ANA V: External control via analog voltage. The voltage range permissible is 0~10V and corresponding speed is 0~MAX (speed can't be set by the keypad in this mode)</li> <li>● ANA I: External control via analog current. The current range permissible is 0~20mA and corresponding speed is 0~MAX. (speed can't be set by the keypad in this mode)</li> <li>● FOOT: Control via foot pedal (speed can't be set by the keypad in this mode)</li> </ul>
2		<p><b>Indicates the set Speed in Rpm</b></p> <p>press the "select" button twice to access the speed setting mode, When in speed setting mode, press the "increase" or "decrease" button to set the speed rate, press to increase 1 rpm every time, press and hold to increase the value faster.(the set value from 10 to 300 RPM)</p>
3		<p><b>Indicate the Set Time</b></p> <p>Press the "select" button thrice to access the timer setting mode, When in timer setting, press the "increase" or "decrease" button to set your desired time ;( from 1min to 24 hours).</p>
4		<p><b>Indicate The Current Speed In RPM</b></p>
5		<p><b>Start/Stop button.</b></p> <p>Start or stop the Flapping Homogenizer</p>

6		<p><b>Select button</b> Select between the control mode setting, the speed setting, and the timer setting</p>
7		<p><b>Increase button</b></p> <ul style="list-style-type: none"> <li>• When in control mode setting, press this button to select your desired control mode ("LOCAL" "ANA U" "ANA I" and "FOOT mode available");</li> <li>• In "Speed Setting" and "timer setting" mode, press this button to increase the value;</li> </ul>
8		<p><b>Decrease button</b></p> <ul style="list-style-type: none"> <li>• When in control mode setting, press this button to select your desired control mode ("LOCAL" "ANA U" "ANA I" and "FOOT mode available);</li> </ul> <p>In "Speed Setting" and "timer setting" mode, press this button to decrease the value;</p>

### 4.3.2. General Operation Procedure

1. Place the flapping homogenizer on a stable and flat surface
2. Turn off the main switch and plug in power
3. By pulling out the right side handle to open the frontal door;
4. Place the Sterile bag into the blending chamber.
5. By pushing the right side handle to close the frontal door;
6. Turn on the main switch and set your required parameters.
7. After setting the parameters, press the START/ STOP button to start the homogeneous process.
8. After finished the homogeneous process, Press the START/ STOP button again to stop the instrument;
9. (Note: if the operator open the frontal door during the homogeneous process, the instrument will also stop working automatically).
10. Open the frontal door and pull out the sterile bag carefully.

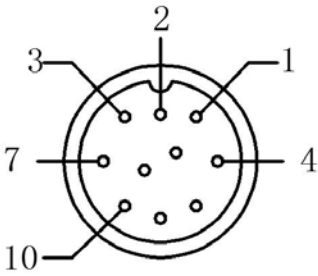
### 4.3.4. External Control

Besides the general control mode, the flapping homogenizer can also be remotely controlled.

For remote control there are following operating methods available:

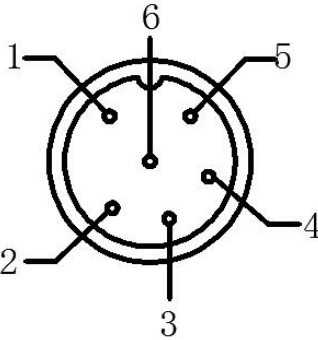
#### 1. Analog Input / Output Control:

Use 0-20mA or 0-10V signal to drive the flapping homogenizer (It can also be connected to a pedal switch).Please refer to the pin assignment as follows;



- 2. Input Foot
- 3. Input 0-10V (0-MAX RPM)
- 4. Output 0-10V (0-MAX RPM)
- 7. Input 0-20mA (0-MAX RPM)
- 10. GND

2. RS-232 Control:



- 1. TX
- 2. RX
- 3. GND
- 4. A
- 5. B
- 6. GND

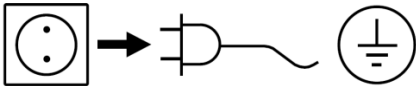
## 5. Cleaning and Maintenance

### 5.1. Routine Cleaning

Wipe the housing and operation panel of the instrument with a damp cloth using a mild soap and water solution. For heavier soiling, using isopropyl alcohol appropriate.

The device is maintenance-free.

#### Cleaning



For cleaning disconnect the main plug.

Only use cleansing agents which have been recommended by *WIGGENS*

**Use to remove**

Dyes	isopropyl alcohol
Construction materials	isopropyl alcohol/water containing surfactant
Cosmetics	isopropyl alcohol/water containing surfactant
Foodstuffs	water containing surfactant
Fuels	water containing surfactant

- Do not allow moisture to get into the appliance when cleaning.
- Wear protective gloves when cleaning the devices.
- Before using another than the recommended method for cleaning or decontamination, the user must ascertain with WIGGENS that this method does not destroy the instrument



**Note:**

Do not use chlorine bleach, chlorine-based cleanser, abrasives, ammonia, steel wool or scouring pads with metal content or similar harsh solvents or abrasives. These may damage the surface of the instrument.

## 5.2. Maintenance

Do not attempt to service or repair a WIGGENS flapping homogenizer. If the flapping homogenizer housing is opened, the warranty becomes void. Please Contact WIGGENS for return authorization and return instructions.

Ordering spare parts

When ordering spare parts, please give:

- Machine type
- Manufacturing number, see type plate
- Item number and designation of the spare part.

Repair

Please only send devices in for repair that have been cleaned and are free of materials which might present health hazards. For this, use the "certificate of compliance" form which you can obtain from WIGGENS. If your appliance requires repair, return it in its original packaging. Storage packaging is not sufficient when sending the device - also use appropriate transport packaging.

## 6. Transport and Storage

- Clean the flapping homogenizer so that it is free from any materials which may be harmful to the health. Provide a material safety data sheet where appropriate.
- Place the flapping homogenizer unit and its parts into the original packing or a container with necessary protection to prevent damage during transport. Seal the original packing or container with packing tape.
- Store the packed unit in a dry place.



### CAUTION!

Failure to clean, maintenance, and handle the flapping homogenizer as outlined can lead to damages or be harmful to the health.

## 7. Service

### 7.1. Trouble-Shooting

Cause	Remedy
After switching on the unit, the display shows no light and the flapping homogenizer does not react to any input.	<ol style="list-style-type: none"><li>1. Ensure that the mains electricity plug is plugged into a working socket outlet and check if the main switch is in the "on" position.</li><li>2. Open the fuse holder of the power cord, which you can find at the back of the instrument. If the fuse is damaged,</li><li>3. If the fuse is not damaged and the malfunction cannot be determined, please contact the WIGGENS support.</li></ol>
After switching on the unit, the display shows a blank screen.	This probably caused by the internal component, please contact the WIGGENS support.



WIGGENS reserves the right to carry out technical modifications with repairs for providing improved performance of the instrument.



## 7.2. Warranty

- In accordance with WIGGENS warranty conditions, the warranty period is 24 months. For claims under the warranty please contact your local dealer. You may also send the machine direct to our works, enclosing the delivery invoice and giving reasons for the claim. You will be liable for freight costs. The warranty does not cover wearing parts, nor does it apply to faults resulting from improper use or insufficient care and maintenance contrary to the instructions in this operating manual.
- WIGGENS reserves the right to decide the validity of any warranty claim. In case of faults arising either due to faulty materials or workmanship, parts will be repaired or replaced free of charge.
- Any other compensation claims, such as consumables, damages caused by corrosion or accidental breakage, are excluded from this guarantee.
- This warranty may only be altered by a specifically published amendment. No individual has authorization to alter the provisions of this warranty policy or its amendments.

## 7.3. Contact /Technical Service

If your device is not working properly:

- ⇒ Please inform *WIGGENS* Instruments by using our contact information.  
You have contacted *WIGGENS* Instruments?
- ⇒ Copy and complete the Confirmation of condition of unit from these operating instructions.
- ⇒ Please repack the device appropriately for transport and send to *WIGGENS* Instruments together with the Confirmation of condition of unit.

### Our contact details

#### **WIGGENS GmbH**

Add: Gässlesweg 22-24, 75334 Straubenhardt, Germany

Tel.: 0049 7248 4529088

#### **WIGGENS China**

Room 426, Hall A, Office Building M8, No.1 Jiuxianqiao East Road, Chaoyang District, Beijing 100015, China

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## Confirmation of condition of unit

In the case of repair, copy and complete the Confirmation of condition of unit and send it to *WIGGENS* Instruments.

### 1. Details about the unit

Product number \_\_\_\_\_

Serial number \_\_\_\_\_

Reason for repair \_\_\_\_\_

### 2. Has the device been cleaned, decontaminated/sterilized?

Yes

No

### 3. Is the unit in a condition which does not represent any health threats for the staff of our service department?

Yes

No

If not, which substances has the unit come into contact with?

\_\_\_\_\_

### 4. Legally binding declaration

The customer is aware of being legally liable to *WIGGENS* Instruments for any damages arising from incomplete and incorrect information.

Date \_\_\_\_\_

Signature \_\_\_\_\_

Company stamp \_\_\_\_\_

### Please Note

The shipper is responsible for the return of the goods in well-packed condition, suitable for the mode of transport.

### Sender information

Name \_\_\_\_\_

Company \_\_\_\_\_

Department, research group Street \_\_\_\_\_

Zip code, city \_\_\_\_\_

Country \_\_\_\_\_

Phone \_\_\_\_\_

E-mail \_\_\_\_\_



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