

OPERATING MANUAL

Digital Hot Plate / Stirrer

WH220-HT



WIGGENS
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

Content

1. Intended Use	5
2. Operator Responsibility	5
2.1. Disposal	6
2.2. CE Conformity	6
2.3. Technical Specifications	7
3. Safety Instructions	8
3.1. Explanation of Safety Notes	8
3.2. For Your Protection	9
3.3. For protection of the equipment	11
4. Operating Procedures	11
4.1. Environmental Operating Conditions	11
4.2. Installation	12
4.2.1. Installing the Digital Hot Plate / Stirrer	12
4.2.2. The dimensions of the digital hot plates/stirrer	14
4.3. Operation	15
4.3.1. Overview of the Hot Plate / Stirrer	15
4.3.2. Indicators and Functional Elements	16
4.3.3. Operation of the Hot Plate/Stirrer without a Temperature Sensor	17
4.3.4. Operation of the Hot Plate/Stirrer without a Temperature Sensor	19
4.4. PT100 Temperature Sensor Calibration	20
4.5. The USB interface	22
5. Cleaning and Maintenance	24
5.1. Routine Cleaning	24
5.2. Maintenance	25
6. Transport and Storage	25
7. Accessories and Spare Parts	26
7.1 Temperature Sensor and Holder	26
7.2 Silicone Protective Cover	26

7.3. Stir Bar and Retriever Examples	27
8. Service	29
8.1. Trouble-Shooting	29
8.2. Warranty.....	29
8.3. Contact /Technical Service	30

1. Intended Use

The WH220-HT is a magnetic stirrer with heating function with the purpose to control the temperature of a solution and to reach equal temperatures at each point inside the solution. The WH220-HT features an accurate and stable heating capacity and a unique liquid drainage above the control board in order to prevent liquids from accessing the system. It also features a memory function for the stirring speed and temperature settings, which helps to enhance the effectiveness of repetitive processes. The top plate of the WH220-HT is made of glass ceramic, which has optimal heat conductivity and temperature shock resistance characteristics.

2. Operator Responsibility

Use

- For mixing and/or heating liquids

Range of use

- Laboratories
- Schools
- Pharmacies

This device 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 appliance is operated with accessories that are not supplied or recommended by the manufacturer or if the appliance is operated improperly contrary to the manufacturer's specifications.

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 must 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.

APPROVALS European	EN61326-1: 2013, 2014/30/EU EN61010-1: 2010, 2014/35/EU EN50581: 2012, 2011/65/EU
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2.3. Technical Specifications

Model	WH220-HT
Display	LED
Top plate dimensions	190*150
PT100 sensor length	170mm
Set temperature range(Top plate)	0~400°C
Set temperature range (With Pt 100 sensor)	0~300°C
Safety temperature	450°C
PID	1 set
Temperature Stability (With PT100 sensor)	±2°C
Stirring speed range	100-1200rpm
Interface type	USB
Power Supply	AC 220 Volts, 50/60 Hz, 4A
Heating power	800W
Maximum Volume	20 L (5.3 US Gallons, 4.2 UK Gallons)
Timer(min)	-
Housing	Splash Proof
Order No.	400301

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="129 600 373 645">Warning signs</p> 	<p data-bbox="373 600 1466 696">The danger is classified using a signal word. Read and follow these important instructions for averting dangers.</p> <p data-bbox="373 696 1466 875">Warning! Describes a possibly highly dangerous situation. If these instructions are not followed, serious injury and danger to life could result.</p> <p data-bbox="373 875 1466 1055">Caution! Describes a possibly 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 1055 1466 1234">Notice! Describes a possibly harmful situation. If this is not avoided, the product or anything in its surroundings can be damaged.</p>
	<p data-bbox="373 1234 1466 1364">Note! Draws attention to something special.</p>
	<p data-bbox="373 1364 1466 1496">Important! 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.
- Ensure that only trained staff work with the appliance.
- Follow the safety instructions, guidelines, occupational health and safety and accident prevention regulations.
- Socket must be earthed (protective ground contact).
- 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).
- The power supply plug serves as a safe disconnecting device from the line and must always be easily accessible.
- Do not stay in the area below the instrument.
- Never operate damaged equipment.
- Never operate instruments with damaged mains power cables.
- Observe all warning labels.
- Never remove warning labels.
- Be aware of tripping. Never route the connection cable in highly frequented areas!
- Be aware of possible cable damage. Repairs are to be carried out only by qualified service personnel.
- 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.
-  **Warning!** This is not an explosion proof instrument. Do not use with any highly flammable or explosive materials.
-  **Warning!** Risk of burns!
 - Exercise caution when touching the housing parts and the heating plate. The heating plate can reach temperatures in excess of 500 °C. Pay attention to the residual heat after switching off.
 - Please make sure that the mains cable does not contact the heating plate.
-  **Warning!** Effects of the magnetic field have to be taken into account.(e.g. data storage media, cardiac pacemaker...)
 - The hot plate / stirrer must only be operated in the presence of an exhaust system!
 - (When heating with volatile samples, e.g. silicone oil)
 - Never operate the hot plate/stirrer in wet areas!
 - Be aware of the danger of electric shocks!
-  **Warning!** Be aware of the potential danger of a fire outbreak due to overheating!
-  **Warning!** Wear your personal protective equipment in accordance with the hazard category of the media to be processed. Otherwise there is a risk from:
 - Splashing and evaporation of liquids
 - Ejection of parts

-Release of toxic or combustible gases.

-  **Warning!** When in an emergency, disconnect the main power plug.
- Gradually increase the speed.
- Reduce the speed if:
 - The medium splashes out of the vessel because the speed is too high
 - The appliance is not running smoothly
 - The container moves on the base plate.
- Caution! Only process and heat up any media that has a flash point higher than the adjusted safe temperature limit that has been set 550°C (WH220-HT).
- The safe temperature limit must always be set to at least 25°C lower than the fire point of the media used.
- Beware of hazards due to:
 - Flammable materials
 - Combustible media with a low boiling temperature
 - Glass breakage
 - Incorrect container size
 - Overfilling of media
 - Unsafe condition of container.
- The base plate can heat up due to the action of the drive magnets at high motor speeds, even if the Hot Plate/Stirrer is not operational.
- Process pathogenic materials only in closed vessels under a suitable extractor hood.
- Only process media that will not react dangerously to the extra energy produced through processing. This also applies to any extra energy produced in other ways, e.g. through light irradiation.
- Please observe the operating instructions for any accessories used.
- Ensure that the external temperature sensor (PT 100) is inserted in the media to a depth of at least 30 mm.
- The PT 100 external temperature sensor must always be inserted in the media when connected.
- Safe operation is only guaranteed with the accessories described in the "Accessories" chapter.
- Accessories must be securely attached to the device and cannot come off by themselves. The center of gravity of the assembly must lie within the surface on which it is set up.
- When using PTFE-coated magnetic bars, the following has to be noted: Chemical reactions of PTFE occur in contact with molten or solute alkali metals and alkaline earth metals, as well as with fine powders of metals in groups 2 and 3 of the periodic system at temperatures above 300-400°C Only elementary fluorine, chloro trifluoride and alkali metals attack it; halogenated hydrocarbons have a reversible swelling effect.
-  **Warning!** Warning referring to a particular group of people. Example: People with pacemakers or ICDs (Implanted Coronar Defibrillator)

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.
- The device can be damaged when sucking in aggressive gases or vapor through the installed ventilator.
- Press the power button to interrupt the stirrer, rather than disconnect the main power plug directly.
- The voltage stated on the nameplate must correspond to the mains voltage.
- Do not cover the device, even partially e.g. with metallic plates or film. This results in overheating.
- Protect the appliance and accessories from bumps and impacts.
- Ensure that the base plate is kept clean
- Observe the minimum distances between devices, between the device and the wall and above the assembly (min. 800 mm).

4. Operating Procedures

4.1. Environmental Operating Conditions

The Hotplate / Stirrer can be 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

4.2.1. Installing the Digital Hot Plate / Stirrer

Place the hot plate/ stirrer on a stable, flat surface and proper environment for operation.

- If a PT100 temperature sensor package was ordered:



- Install the sensor holder into the screw inlet on the back of the hot plate / stirrer



- Place the clamp onto the holder and tighten the screw connecting the holder and the clamp



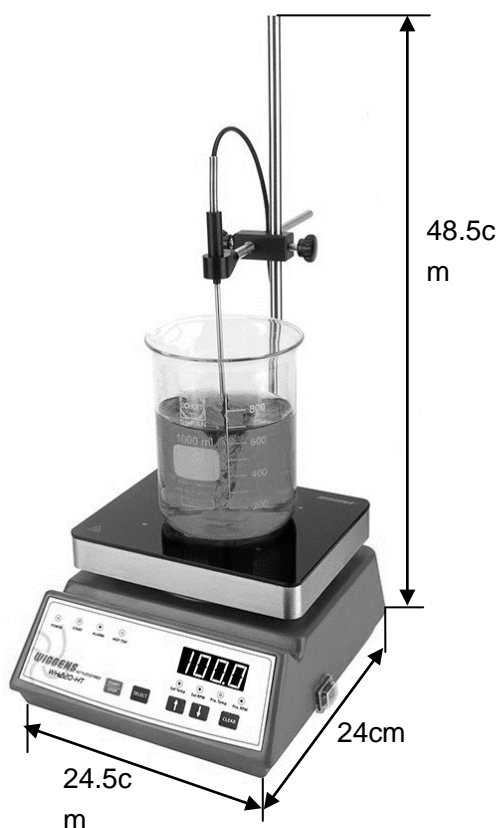
- Mount the Pt100 temperature sensor on clamp and tighten the screw connecting the temperature sensor and the clamp



- Connect the PT100 temperature sensor cable to the corresponding connector in the back of the hot plate / stirrer

- Connect the stirrer to the power supply. The power supply voltage, frequency and current are respectively AC 108V~125V、60Hz、10A.
- Connect the power supply to a power socket with earthing contact.

4.2.2. The dimensions of the digital hot plates/stirrer (after connect PT100Temperature sensor)



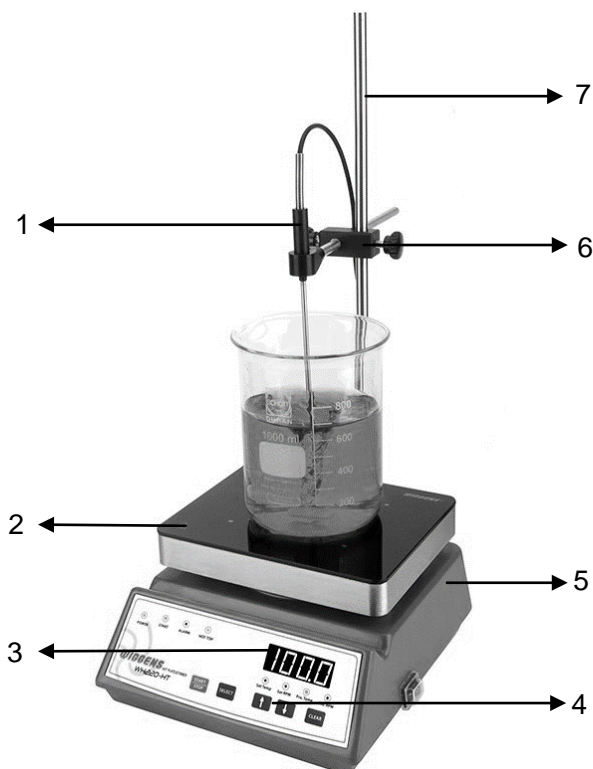
CAUTION!



- Do not use voltages that are higher or lower than 10% of the voltage specified on the label, which is on the backside of the instrument.
- Keep the power cord and temperature sensor cable off of the hot plate while heating.
- Put the solution on the top plate before operating the instrument.
- Heating corrosive liquids under poor ventilation hoods will shorten the life of the electronic components inside the instrument.
- Upon the first heating operation, a particular smell and white smoke can appear. This is normal. Put the instrument under a fume hood and moderately heat for about one hour until the smell and smoke fully disappear.
- If toxic gases are released, air circulation must be kept.
- The safe temperature limit must always be set to at least 25°C lower than the fire point of the media used.

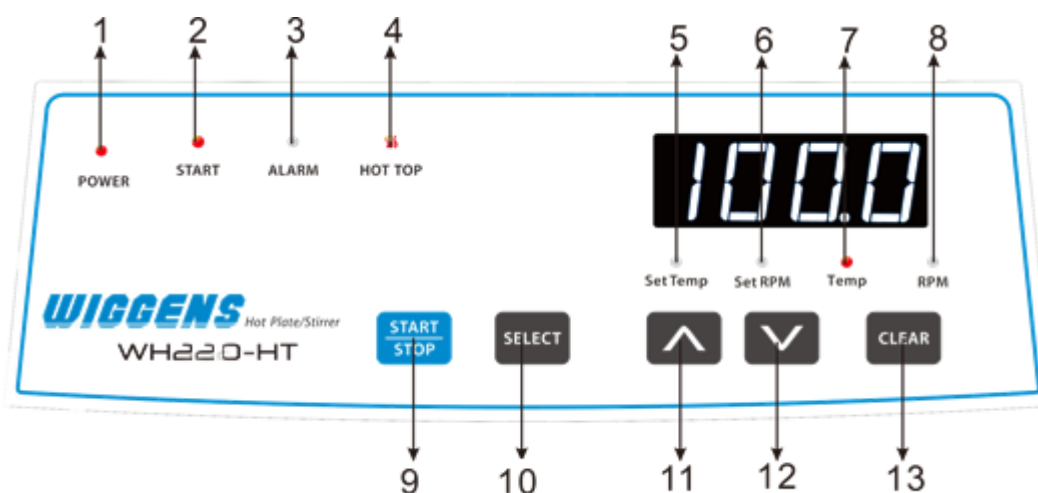
4.3. Operation






4.3.1. Overview of the Hot Plate / Stirrer



No.	Description
1	PT100 Temp. Sensor
2	Heating Zone
3	LED Digit Display
4	Operation Panel
5	Instrument Housing
6	Boss Head Clamp
7	Installation Stand

4.3.2. Indicators and Functional Elements



No.	Icon	Description
1	POWER	Indicates if the power switch is turned on or off
2	START	Indicates if either the hot plate or stirring or both are turned on
3	ALARM	Indicates if there is an error occurring. If the ALARM indicator is on it is complemented by an alarm sound.
4	SURFACE HOT	Indicates that the temperature of the top plate is over 60°C
5	Set Temp	Indicates the set temperature
6	Set RPM	Indicates the set speed.
7	Temp	Indicates the actual temperature Of the top plate, when no temperature sensor is connected Of the solution, when a temperature sensor is connected
8	RPM	Indicates the actual speed
9		START / STOP Button Press the START / STOP Button to start or stop the instrument. (The upper left start indicator is lit when the instrument is in operation)
10		SELECT Button Press the SELECT Button to select between the setting of temperature, overheating protection temperature, stirring speed, and timer.
11		Up Button Press the up button to increase the set value. If pressed continuously, the increase will be quicker.
12		Down Button Press the down button to decrease the set value. If pressed continuously, the decrease will be quicker.
13		CLEAR Button The button clears up all set values and sets them to 0. The timer is set to continuous mode.

4.3.3. Operation of the Hot Plate/Stirrer without a Temperature Sensor

1. Switching the Hot Plate/Stirrer on



- Plug in the power cord and turn on the main power switch
- Switch the hot plate / stirrer on by pressing the main switch on the right side of the instrument.
- The display lights up and shows the model and software version of the instrument.

2. Setting the temperature



e.g. The Set temperature is 70°C

- Press the SELECT Button to select Set Temp
- Press the Up Button and Down Button to set the required temperature

3. Setting the stirring speed:



e.g. Set "RPM" is 800

- Press the SELECT Button to select Set RPM
- Use the Up Button and Down Button to set up the required stirring speed

4. Starting the Instrument



e.g. The actual temperature is 70°C



e.g. The actual "RPM" is 800

- After all the settings are completed, press the START / STOP Button to start the stirring / heating process.
- The START indicator will light up
- In order to monitor the actual temperature / stirring speed press the SELECT button to select Pro.TEMP / Pro.RPM.

5. Switching off the Hot Plate/Stirrer

- Press the start/stop button again, and turn off the main power switch
- The Hot Plate/Stirrer is now switched off.



Note!


- The temperature / stirring speed can be adjusted during operation
- Press the SELECT Button to change the current display during operation

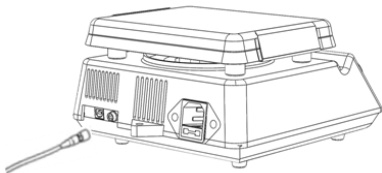



CAUTION!

- Residual heat! Do not touch the heating zone!
- Risk of overheating! Do not pull out the mains plug!
- Do not unplug and turn off the mains of the hot plate before the heating zone has completely cooled down, then turn off the mains switch and pull out the mains plug.
- Risk of deflagration, explosion and fire hazard when heating flammable liquids! Only heat up liquids with a flash point above 580°C! Be aware of increased ease of ignition of hot liquids!
- Always cover the vessel to prevent hot liquids from getting into contact with the heating zone (e.g. by liquid splashing or boiling over, or through escaping gases)!

4.3.4. Operation of the Hot Plate/Stirrer without a Temperature Sensor

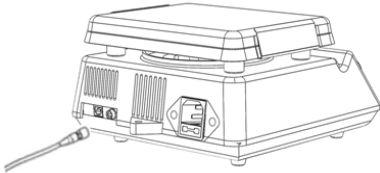
	<p>Note!</p> <p>In contrast to operation without temperature sensor, the laboratory hot plate now features:</p> <ul style="list-style-type: none"> ● Automatic temperature control instead of fixed heating temperature controlled by the heating power. ● When you press "Select" to see Pro.temp, it will display solution temperature.
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1.Connecting the Temperature Sensor	
	<ul style="list-style-type: none"> ● Make sure that the hot plate / stirrer is completely switched off. ● Be sure to use the correct temperature sensor ● Connect the temperature sensor at the rear of the hot plate / stirrer ● Make sure that the cable of the temperature sensor is routed so that it cannot touch the heating zone. ● Immerse the temperature sensor into the liquid min.30 mm in depth.
2.Switching the Hot Plate/Stirrer on	<ul style="list-style-type: none"> ● Please refer to 4.3.3.
3.Setting the temperature	
 <p>e.g. The actual "TEMP" is 70°C</p>	<ul style="list-style-type: none"> ● Refer to 4.3.3 for how to set the temperature, but please note the following points ● Now the instrument will enter the external temperature control mode(to measure and control the temperature of the solution accurately) The maximum set temperature is 300°C ● Press the SELECT Button to select Pro Temp, and now the display shows the solution actual temperature measured by the temperature at that time.
4.Setting the stirring speed	<ul style="list-style-type: none"> ● Please refer to 4.3.3.
5. Start the Instrument	<ul style="list-style-type: none"> ● Please refer to 4.3.3.
6. Switching off the Hot Plate/Stirrer	<ul style="list-style-type: none"> ● Please refer to 4.3.3.

4.4. PT100 Temperature Sensor Calibration

The PT100 temperature sensor can be connected to measure and control the heated liquid temperature. The sensor has been initially calibrated in the factory. If the measured temperature is slightly different from the temperature standard you are using, a follow-up calibration is also possible with the following steps.

Calibration Procedure



- Plug the PT100 temperature sensor into the designated input and turn on the main power switch
- Put the PT100 sensor and third-party thermometer in the temperature environment of T1, T1 means the first measured temperature point for calibration (e.g. 300 ml silicone oil, the temperature 1 stability at 24 degree, this value should be measured by the third-party thermometer)



e.g. the digital display shows "S1"

- Press the CLEAR Button 10 times to enter the calibration mode (You have reached the calibration mode when all LED lights light up and the digital display shows "S1". "S1" means Set 1 (The first setting temperature for calibration).



e.g. T1 Set to 24

- Wait for the "T1" to reach and equilibrium(24°C)
- refer to the shows value on third-party thermometer and Press Up Button and Down Button to set the actual value of T1 (e.g. Set to 24)



e.g. The corresponding AD value of S1 is 429

- now the display shows its corresponding AD read value of S1
- Press and hold the START / STOP Button and observe the value change on the display
- Release the START / STOP button when the temperature fluctuation is less or equal to ± 1



- Press the SELECT Button on the operation panel. The display will shows "S2". "S2" means Set 2 (The second setting temperature for calibration).

- Put the PT100 sensor and third-party thermometer in the temperature environment of T2, T2 means the second measured temperature point for calibration (e.g. 300 ml silicone oil, the temperature stability at 151 degree, this value should be measured by the third-party



e.g. T2 Set to 151



e.g. The corresponding AD value of S2
is 1468



thermometer)

- Wait for the temperature to reach and equilibrium
- refer to the shows value on third-party thermometer and press the Up Button and Down Button to set the value of S2
- now the display shows its corresponding AD read value of S2(e.g. The corresponding AD value is 1468
- Press and hold the START / STOP Button and observe the value change on the display
- Release the START / STOP button when the temperature fluctuation is less or equal to ± 1
- Press the SELECT Button on the operation panel to complete the calibration process.
- The display will show the model and software version again.



Caution!

- The T1 and T2 temperatures can be between 20°C to 200°C, since the maximum measured temperature of the PT100 temperature sensor can be up to 200°C.
- The temperature environment between T1 and T2 should be greater than 50°C to ensure the accurately calibration result.

4.5. The USB interface

The instrument can be connected to a PC through the COM port which is using the USB connection, it can be plugged directly to the PC's available USB connection.

1. We provide USB port COM port driver and installation instructions, the drive can be downloaded from the following address.

Driver download address:

<http://www.ftdichip.com/Drivers/VCP.htm>

Installation instructions download address: <http://www.ftdichip.com/Support/Documents/InstallGuides.htm>

2. RS-232command set

Item	Input / output	Content of "#"	Meaning	Remarks
Set the equipment parameters				
Set temperature unit	setto #	0	°C	
Set temperature	out_sp_00 ### ←	Decimal number	—	Unit: °C or °F (set by equipment)
Set speed	out_sp_01 ### ←	Decimal number	—	Unit: RPM
Set state	out_mode_05 # ←	0	stop	
		1	start	
Timing sending once every 3 seconds, Temperature unit: °C, It has nothing to do with the equipment settings				
internal control	rs ### ### ←	Decimal number	Internal temperature, speed	eg: rs 1000 120 means current Internal temperature 100.0°C, speed 120RPM
External control	prs ### ### ← ### ←	Decimal number	External temperature, Internal temperature, speed	eg: prs 800 1000 120 means current External temperature 80.0°C, Internal temperature 100.0°C, speed 120RPM
Send "status" will return the following information				
Current setting temperature	in_sp_00 ### ←	Decimal number	—	Unit: °C or °F (set by equipment)
Current setting speed	in_sp_01 ### ←	Decimal number	—	
Current set	set to# ←	0	°C	

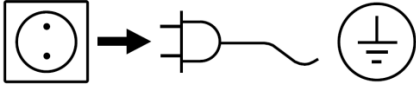
temperature unit		1	°F	
Current setting status	status # ←	0	stop	
		1	start	
When the alarm will be sent to the following information				
alarm	status # ←	03	Internal temperature exceeds the upper limit	
		04	Control temperature over-temperature	
		06	Motor speed anomaly	
		07	Safety temperature overrun	

5. Cleaning and Maintenance

5.1. Routine Cleaning

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* hot plate/stirrer. If the hot plate/stirrer housing is opened the warranty becomes void. 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 hot plate/stirrer 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 hot plate/stirrer 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 hot plate / stirrer as outlined can lead to damages or be harmful to the health.

7. Accessories and Spare Parts

7.1 Temperature Sensor and Holder











Model	Description	Order No.
PT100 Temperature sensor, Type I	Length: 170 mm; Diameter: 4 mm; Material: Stainless steel; Admissible temperature: -30 ~ +300°C	PT100-01
PT100 Temperature sensor, Type II	Length: 300 mm; Material: Stainless steel	PT100-02
PT100 Temperature sensor, Type III	Length: 150 mm; Material: Stainless steel, PTFE coated	PT100-03
PT100 Temperature sensor, Type IV	Length: 300 mm; Material: Stainless steel, PTFE coated	PT100-04
PT100 Temperature Sensor, Type VI	Length: 250 mm; Diameter: 4 mm; Material: Glass; Admissible temperature: -30 ~ +300°C	PT100-06
Holder for Temperature Sensor	Holder and clamp for PT100 temperature sensor; Suitable for WH240-HT /WH220-PLUS/WH220-HT	PT100-05

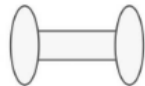
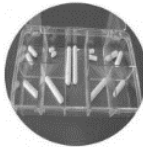

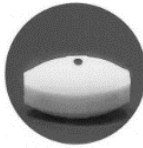

7.2 Silicone Protective Cover

Model	Description	Order No.
Silicone protective cover Type I	Material: Silicone, square hole on the top surface Suitable for H240-PLUS/WH240-HT /WH220-PLUS/WH220-HT	400-001
Silicone protective cover Type II	Material: Silicone, round hole on the top surface Suitable for WH240-R	400-002

7.3. Stir Bar and Retriever Examples

Model	Description	Order No.
Cylindrical Stirrer Bars		001.110.6
Plain Stir Bars		001.210.6
Octahedral Stir Bars		001.513-R/B/Y
Micro Stir Bars		001.802
Colored Micro Stir Bars		001.802-R/B/Y
Oval Stir Bars		001.610
Octaoval Stir Bars		001.3319
Cylindrical Stir Bars With a Removable Pivot Ring		001.1712
Tapered Stir Bars		001.1910
Double Ended Stir Bars (Natural)		001.1335

Model	Description	Order No.
Test Tube Wings		001.2201.1
Cross-Shaped Stir Bars		001.2401
Crosshead Stirrer Magnets(Double Sided)		001.1110
Crosshead Stirrer Magnets(Single Sided)		001.1110.1
Hub Stirrer Magnets		001.2301
Tube Stirrer Magnets		001.1609
Disc-Shaped Stirrer Magnets		001.709
Spherical Stirrer Magnets		001.1512
Glass Encased Stir Bars		001.1206
Extra Large Stir Bars		001.0120

Double Ended Stir Bars (Colored)		001.1335-R/B/Y	Stir Bar Sets (18 Bars)		001.3003
Triangular Stir Bars		001.412	Rare Earth 'Turbo' Stir Bars		001.2610.RE
Ribbed Triangular Stir Bars		001.1812	Stir Bar Retrievers		004.150



For more information about Accessories please contact your local supplier



CAUTION !

For safety and guarantee reasons only original accessory parts are to be used!

8. Service

8.1. Trouble-Shooting

Cause	Remedy
After switching on the unit, the display shows no light and the hot plate / stirrer does not react to any input.	<ol style="list-style-type: none"> 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. 2. Open the fuse holder of the power cord, which you can find at the back of the instrument. If the fuse is damaged, replace it with a 4A / 230V fuse. Clean the holder before your replacement. 3. If the fuse is not damaged and the malfunction cannot be determined, please contact the <i>WIGGENS</i> support.
After switching on the unit, the power switch is lit up, but the display shows a blank screen.	This is probably a malfunction of the control board. Please contact the <i>WIGGENS</i> support.



Note!

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

8.2. 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.

8.3. 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

Tel: +86 400-809-2068

Fax: +86 400-809-2068-112

info@wiggens.com

service@wiggens.com

www.wiggens.com

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



WIGGENS GmbH

Gässlesweg 22-24, 75334 Straubenhardt, Germany

Tel.: 0049 7248 4529088

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