

OPERATING MANUAL

Handheld Homogenizer

D-130



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

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1. Intended Use

The D-130 homogenizer is a rotor / stator type dispersing instrument with handheld design. It is lightweight, portable and easy to use. It employs the rotor/ stator technology where the shaft, rotor, and stator can be easily disassembled, convenient accessory change and easy cleaning. Suspended material is drawn into the core by a rotor with a speed of up to 30,000 rpm. Material is repeatedly cycled through narrow slits, rapidly sheared and disintegrated via high speed mechanical action. It can homogenize the tissues completely in a few seconds, but create very low heat.

The D-130 homogenizer is for laboratory use only. It applies to small batch process in the chemical, cosmetic, pharmaceutical, and paint industries as well as in universities and a wide range of medical laboratories.

2. Operator Responsibility

Use

For homogenizing, emulsifying or suspending samples;

Range of use

- Laboratories
- Schools
- Pharmacies
- Research institute etc.....

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 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.

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.

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

Model	D-130	
Mains Requirements	230V 50/60Hz	110V 60Hz
Power Input/ Output	130 W	130 W
Speed at Zero-Load	8000~30000 rpm	
Capacity Range	0.1~250 ml (H2O)	
Contact Material	316L Stainless Steel / Suitable for all Disinfection methods	
Basic Order Number	1710130	

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
Warning signs 	The danger is classified using a signal word. Read and follow these important instructions for averting dangers.
	Warning! Describes a possibly highly dangerous situation. If these instructions are not followed, serious injury and danger to life could result.
	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.
	Notice! Describes a possibly harmful situation. If this is not avoided, the product or anything in its surroundings can be damaged.
	Note! Draws attention to something special.
	Important! Indicates usage tips and other useful information.

2. For Your Protection

Follow the general safety recommendations to prevent damage to persons or property.

Further, the valid safety instructions for working places must be followed.

- 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.
- Make sure that the mains power supply has low impedance to avoid any negative effects on instruments being operated on the same mains.
- Connect the instrument to a power socket with earthing contact (PE-protective earthing)!
- 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.
- Be aware of tripping! Never route the connection cable in highly frequented areas!
- 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.
- Only use the homogenizer for its intended purpose.
- Ensure that the correct electric voltage of the instrument corresponds with power supply used.
- Do not use this instrument in a hazardous area or manner. When handling hazardous chemicals, use appropriate hand and eye protection.
- Do not immerse electrical equipment in water.
- The homogenizer must not be used in highly combustible areas and operated with easily inflammable liquids. It is recommended to run the unit in fume hoods during operation.
- To avoid electrical shock, do not open the housing. Remove the power cord from the power source when the unit needs to be checked or serviced. This instrument must only be opened by qualified service personnel.
- Never touch the spinning rotor, shaft, or the motor side coupling parts, while the unit is under operation or hasn't fully come to a halt.
- It is recommended that the operator should be using ear protection when operating the unit at maximum speed.
- Do not operate the unit after any malfunctions or after it has been damaged in any manner. In case of malfunction or damage contact the equipment distributor where you purchased the unit.
- Switch off the unit before changing the dispersing element.
- Glass vessels must always be secured with the strap or a clamp to prevent them from sliding or tipping.
- Use caution when adjusting the speed to avoid possible spraying of the medium.
- The ventilation slots of the drive must not be obstructed.

- Never let the rotor / stator touch the bottom of the vessel.
- Sudden drops may cause damage in the interior of the instrument.
- Transport the instrument with care.
- Never operate instruments with damaged mains power cables.
- Observe all warning labels.
- Never remove warning labels.
- Repairs are to be carried out only by qualified service personnel

3.3. For protection of the equipment

- You have received a product designed for 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.
- This is not an explosion proof instrument. Do not use with any highly flammable or explosive materials.
- Ensure that the correct electric voltage of the instrument corresponds with power supply used.
- The D-130 must never run without liquid when the shaft is attached the lower slide bearing is cooled and lubricated by the liquid phase of the treated matter. Any dry running will destroy the slide bearing!!
- Ensure that the dispersing shafts are cleaned properly after every use. When cleaning, remove the power cord from the power source.
- Do not cover the device, even partially e.g. with metallic plates or film. This results in overheating.
- Do not operate after the equipment malfunctions or has been damaged in any manner. Return unit to our service centre for examination and repair.
- Only suitable dispersing shafts from WIGGENS must be used.
- Never operate the homogenizer in wet areas!
- Position the device at least 45 cm (12 inches) from combustible materials under any conditions.
- Do not expose the unit to sunlight.

4. Operating Procedures

4.1. Environmental Operating Conditions

The Homogenizer should not be operated outside 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 Stand and homogenizer

The D-130 is designed for using with a stand. WIGGENS recommends the standard plate stand (single rod design).

Installation Steps



1、 Place the single rod stand on a flat and stable surface, then twist the Bakelite screw clockwise to mounting the clamp.



2、 Before Connect the homogenizer to stand please make sure the clamp fixed tightly.



3、 Clamp the handhold homogenizer to a WIGGENS stand. Connect the power supply to a power socket with earthing contact.

4.2.2. Installation the Handheld Homogenizer

The voltage on the name plate must match the main voltage. If it does not, do not operate the instrument.

Make sure that the unit is switched off when connecting or disconnecting the dispersing shaft into the drive.

Insert the axle/rotor of the dispersing element completely into the drive coupling and tighten the screw cap by holding the rotor axle of the motor. Then screw the stator/shaft tube onto the motor flange directly.

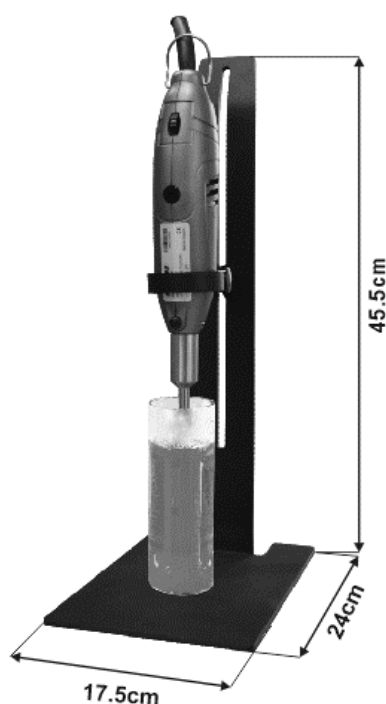
To remove the dispersing element from the flange, remove the stator/shaft tube from the drive. Then hold rotor axle of the motor to dismantle the screw cap and remove the axle rotor.

Never turn the motor on with the stator/shaft tube removed to escape bend of the axle/rotor. Always, both axle/rotor and stator/shaft tube must be attached.

When assembling the dispersing tool, always make sure that the PTFE bearing is fixed correctly and cooled by the working medium. Otherwise, it may cause serious defects to the whole dispersing tool. Examine the PTFE bearings regularly. Treat the dispersing tools carefully as they are the hearts of your dispersing unit. In particular the axle reacts very sensitive to impacts.

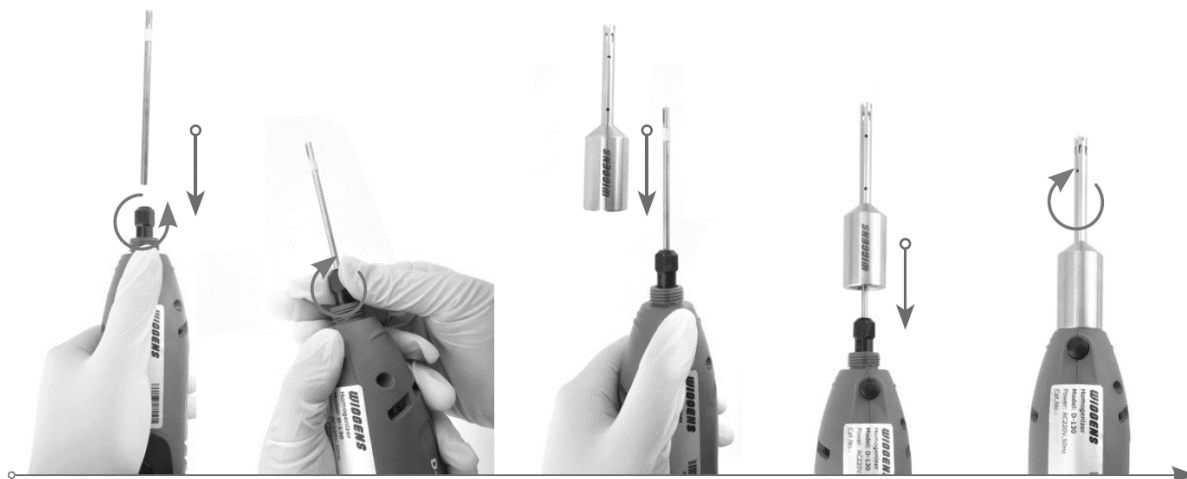
- All corrosive agents should only be in contact with the fine steel for a short period of time. Make sure they do not dry out the material.
- Ensure that the dispersing element is always cleaned properly after every use. Neutralizes lye with solutions and acids.
Protect all parts from aggressive agents.

4.2.3. The dimensions of the handheld homogenizer (With stand)



4.3. Operation

4.3.1. Fit the dispersing shaft



1. Press the black button and turn the black part to the right.
2. Insert the dispersing shaft when the hole is large enough.
3. Press the black button and turn the black part to the left, it is best to use a wrench to tighten it.
4. Please put on the stator.
5. Tighten the stator to the screw of the motor part with hand.

4.3.2. Immersion Depth

The optimal immersion depth of the dispersing shaft is approximately 2/3 below the liquid surface and 1/3 above the bottom of the beaker. When inserting the dispersing shaft slightly slanted (approximately at an angle of 15 degrees), it improves the efficiency of the disperser. The dispersing shaft should not be immersed more than 30mm below the flange

4.3.3. Working with Speed Control

The drive and control are in the same housing. Before using the unit, run a test without the dispersing shaft by switching the ON button on the side drive.

The speed is selected by the control knob on the top of the drive. The approximate speed of that corresponds with the control knob levels are as follows:

Level 1=8,000rpm Level2=12,000rpm Level3=15,000rpm

Level4=18,000rpm Level5=22,000rpm Level6=30,000rpm

For an emergency stop, press the On / Off Switch.

For reaching the best effects, the rotor speed of the D-130 should be appropriate to the actual dispersion task.

IMPOTANT

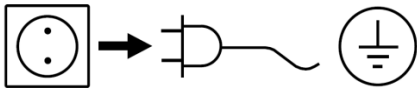
The maximum rotor speed depends on the sample type and its viscosity. The speed is reduced by highly viscous samples in order to protect the drive from overload .If the viscosity is too high, the motor will stop automatically to prevent damage to the equipment. The electronic system prevents damage to the motor drive

5. Cleaning and Maintenance

5.1. Routine Cleaning

Wipe the housing of the instrument with a damp cloth using a mild soap and water solution.

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 homogenizer. If the homogenizer's 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 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 homogenizer 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 homogenizer as outlined can lead to damages or be harmful to the health.

7. Accessories and Spare Parts

7.1. Dispersion Shaft

Model /Name	Description	Order No.
Dispersion Shaft	Length:90mm Rotor Diameter:5mm Volume Range:0.1~50ml	DS130/5
Dispersion Shaft	Length:160mm Rotor Diameter:7mm Volume Range:0.3~50ml	DS130/7
Dispersion Shaft	Length:150mm Rotor Diameter:10mm Volume Range:1~250ml	DS130/10
Dispersion Shaft	Length:170mm Rotor Diameter:14mm Volume Range:2~250ml	DS130/14

7.2. Stand

Model /Name	Description	Order No.
Stand for D130 homogenizer	Outer Dimensions:(W*L*H):17.5*24*45.5	1710130-01



Note:

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
The unit does not turn on	<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 either in the Continuous mode. 2. If the malfunction cannot be determined, please contact the WIGGENS support.



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

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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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