User Operation Manual

H100

Disperser & Homogenizer

CE-Declaration of Conformity

EC-Declaration of Conformity

EC-Declaration de conformite

EC-Dichiarazione de conformidade

EC-Declaracao de confromidade

EC-Deklaracja zgodnosci

EC-Konformitateserklaerung

EC-Declaration de Conformidad

EC-Confromiteitsverklaring

EC-Prohlaseni o shode

EC-Декларация соответствия

EC-Δήλωση συμμόρφωσης

D Wir erklären hiermit, dass das Produkt, auf das sich diese Erklärung bezieht, mit den nachstehenden Normen übereinstimmt

GB We herby declare that the product to which this declaration refers conforms

with the following standards

CZ Timto prohlásujeme, že výrobek, kterého se toto prohlášení týká, je v souladu

s niže uvedenými normami

E Manifestamos en la presente que el producto al cue se refiere esta declaración

esta de acuerdo con las normas siguientes

F Nous déclarons avec cela responsibalite que le produit, auquel se rapporte la

présente déclaration, est conforme aux normes citées ci-aprés

I Dichiariamo con cio che il prodotto al quale la presente dichiarazione si riferisce e conforme alla norme di seguito citate

NL Wij verklaren hiermede dat het product, waarop deze verklaring betrekking heft, met de hierna vermelde normen overeenstemt

P Declaramos por meio da presente que o produto no qual se refere esta declaração, corresponde as normas seguintes

PL Niniejszym oświadczamy, że produkt, którego niniejsze oświadczenie dotyczy jest zgodny z ponizszmyi normami

RUS Мы объявляют, что продукт, к которому обращается эта декларация, соответствует следующим стандартам

GR Εμείς δηλώνουν ότι το προϊόν στο οποίο αναφέρεται η δήλωση αυτή είναι σύμφωνη με τα ακόλουθα πρότυπα

Product Description

The H100 hand held Disperser is a high speed dispersing instrument. It is based on the Rotor/Stator Technology. The shaft and rotor/stator can be disassembled for easy cleaning. You will receive the dispersing tools completely assembled for immediate use with your disperser. Should you dismantle these (e.g. for cleaning) please refer to page 4. This product is for laboratory use only and is used in mainly in biotechnology and human and veterinary medicine and clinical medicine and is suitable among other application for disruption of cells.

The drive unit can be used, based on the dispersing shaft used for volumes from 0.1ml to 50ml with the 5mm shaft or from 1ml to 250ml with the 10mm shafts.

Important Safeguards

When using electrical equipment, basic safety precautions are necessary to reduce the risk of fire, electric shock and personal injury.

- Only use the instrument for its intended purpose.
- Ensure that the correct electric voltage of the instrument and the power supply correspond correctly.
- 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 drive must not be used in highly combustible areas and operated with easily inflammable liquids. It is recommended to run the units in fume hoods during operation.
- To avoid electrical shock, do not open housing. Remove cord from the power source when it is being checked or serviced. This instrument should only be opened by a qualified service personnel only.

The H100 is designed for continues operation, however normally the ultimate fineness will be reached within a few minutes. Any further dispersing will only introduce unnecessary heat into the medium.

- The H100 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 medium. 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.
- Never touch the spinning rotor, nor shaft, nor motor side coupling parts.
- Do not operate after the equipment malfunctions or has been damaged in any manner. Return unit to our service centre for examination and repair.
- Switch off the unit before changing the dispersing element.
- Only suitable dispersing shafts from WAVERLY must be used.
- The ventilation slots of the drive must not be obstructed.
- Never let the aggregate touch the bottom of the vessel.

Unpacking the Instrument

Please unpack the instrument carefully and inspect the unit, the tools and the stand (if this has been ordered) for damage. It is important that any damage during transport is noted at the time of unpacking. In certain cases it may be necessary to follow up with the forwarder.

A typical delivery includes:

- H100 drive
- One or more dispersing element according to your order
- One small H stand with clamp (if stand has been ordered)
- Operating instructions

Proper Use of the H100

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.

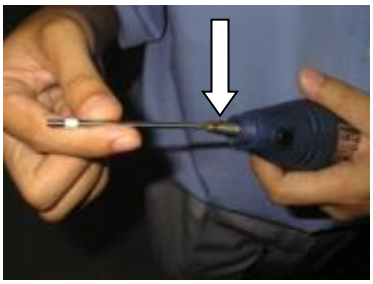
Insert the axle/rotor of the dispersing element completely into the drive coupling and tighten the screw cap by holding the rotor axle of the motor. Then screw the stator/shaft tube onto the motor flange directly.

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

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

Fixing the shaft onto H100 drive

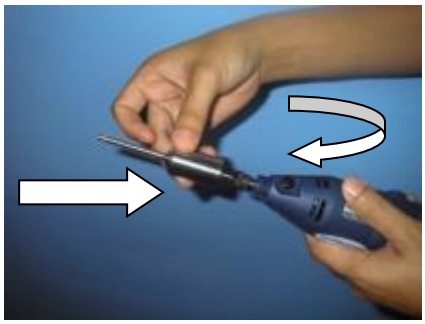
1. Hold H100 drive open the collette and press the black button to lock it and unscrew the collette.

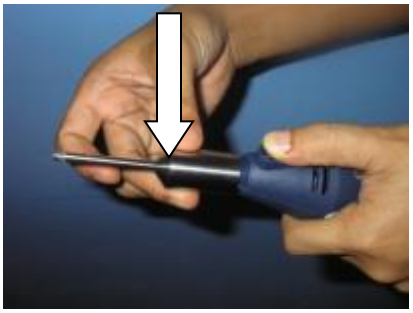


2. Remove the collette from the motor.

3. Substitute with the new colette.

4. Insert the axle into new collette.





5. Put collette lock head onto the shaft and srew it back to the drive itself! While doing that you must press the black button to lock it.

6. Put the shaft tube onto the axle and screw clockwise onto the housing!

7. Press the black locking button and screw it fully onto the drive!

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.

Cleaning

- Immediately after finishing work with the apparatus, the dispersing element must be cleaned so that substance residues do not stick to the threads.
- Small bacterial cultures can form in the small grooves, and this will create difficulties.

For this reason, and to clean the dispersing tool effectively, it should be run in a solvent that dissolves the residue, but does not harm the Teflon bearing and the steel.

- For proper cleaning, the dispersing element must be disassembled.
- Proper care and cleaning of the equipment will ensure a longer and better use of the equipment.

Sterilization

- Chemical processes: Germicidal solutions (formalin, phenol, alcohol etc) can disinfect in most cases. However, residues of the gemoce must subsequently be removed with sterilized water.
- Sterilizing by humid heat: This means sterilizing with steam at a pressure bar of 2 above atmospheric and a temperature of 120 degrees C
- Sterilizing by hot air: Hot air sterilization is normally carried out at 160C or 190C

Corrosion

- Stainless steel is not corrosion proof. Certain chemicals can seriously attack this material.
- 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. Neutralize lye with solutions and acids.
- Protect all parts from aggressive agents.

Working with the WT130

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**. Based on the dispersing shaft used the unit can be used for following volumes 0.1-50ml with the 5mm shaft, which makes it ideal for small applications inside Eppendorf tubes etc., or for volumes of 1-250ml with the 10mm shaft which makes it ideal for all other test tubes or small vessels.

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 of the drive. The speed is selected by the control knob on the top of the drive. Approximate rpm of the drive is:

1= 8,000 rpm 2= 12,000 rpm 3= 15,000 rpm
4= 18,000 rpm 5= 22,000 rpm 6= 30,000 rpm

For an emergency stop, press the large button on the drive!

Maintenance of Motor

The motor does not need any maintenance and there are no parts inside which can be repaired by the user. The only parts which are excluded from this are the carbon brushes. Please contact or your authorized supplier for replacement and use original spare parts only. The carbon brushes can be replaced after disconnecting the power supply!

Stand

The H100 homogenizer is designed as a hand-held homogenizer. However, it can also be delivered with a small H100 stand for more comfortable usage and storage of the unit.

Assembly of H100 stand

This H100 stand consisting of a base, a rod and a holding clamp for the H100 homogenizer.

Screw the rods to the aluminium bottom piece to fix the “H” on the bottom. Screw the two shorter pieces at the back (50mm) and the longer pieces at the front of the base to get the “H”. The attach the rod onto the middle piece. The rod consists of two different parts which need to be connected to safe space during shipment. The fix the aluminium clamp onto the desired height and insert the motor. Tighten the screw lightly.

Specifications and Technical Data

Voltage	110V 50/60Hz
Power input/output	110 Watt
Rotor speed	between 6.3 to 14 m/sec
Weight	0.6 kg
Sound Pressure Level	72 dB(A)
Speed Setting	Infinitely Variable
Permissible Ambient Temperature	5°C - 40°C
Relative Humidity	85%
Permissible Period of Operation	100%
Protection	IP 30
Dimensions WxDXH (drive)	46mm x 55mm x 230mm

Warranty

This instrument has a warranty of 24 months from date of purchase which covers material and workmanship.

El Dorado Labtech will repair or replace free of charge the defect parts which were found defective after an inspection finds that the defect is due to materials or workmanship.

The warranty for this equipment does not cover normal wear from using it and does not apply to any instrument or part which has been altered by anyone else than an employee of El Dorado Labtech or its authorized agents.

It also does not cover instruments which have been damaged due to accident, negligence of the user, failure to follow the operating instructions, the use of electric currents and circuits other than in this manual, misuse of the unit or abuse of it.

We reserve the right to change or modify or improve any of our instruments without any obligation to make corresponding changes to any instrument previously sold.

Please contact your authorized dealer for any further assistance.

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