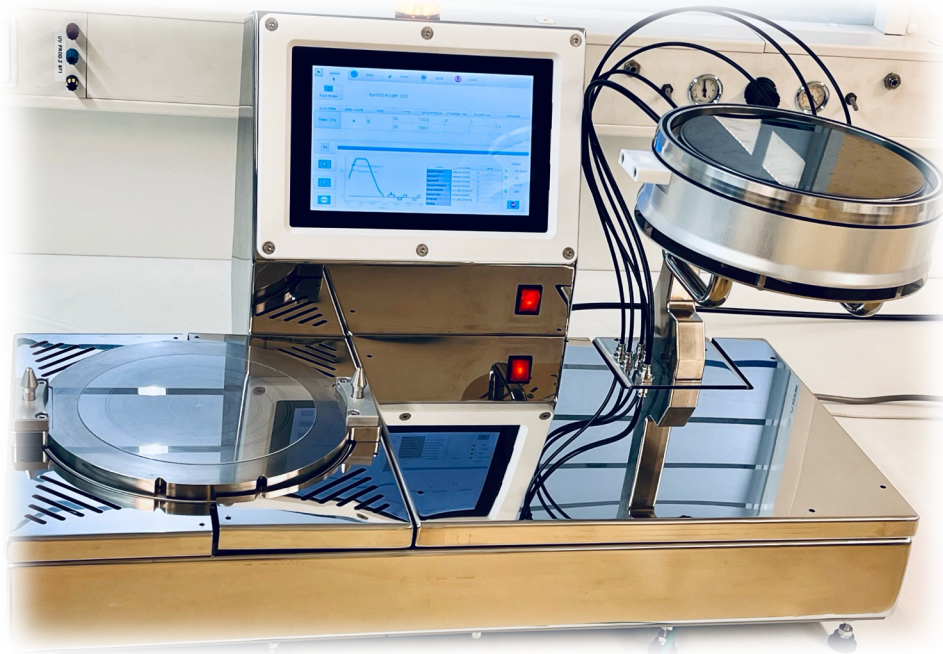


## nanoBOND 200

### Wafer Bonding System



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**Osiris International Inc.**  
Cave Creek AZ 85331  
United State

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## Version Management

<b>Operating Instructions</b>	<b>Modification</b>	<b>Date</b>
Vers. 1.0	First edition	20.03.2025

## 1 General Information

### 1.1 System info

Unit: nanoBOND Manual Temporary Bonding System with hotplate  
Intended purpose: The manual temporary bonding system was designed for manual bonding individual wafers temporarily onto rigid carriers or other wafers.

### 1.2 Manufacturer

ON nano International GmbH  
Kurfuerstendamm 194  
10707 Berlin, Germany  
Phone: +49 7771 6349 60  
E-mail: [service@on-nano.com](mailto:service@on-nano.com)  
Internet: [www.on-nano.com](http://www.on-nano.com)  
Managing Director: Pirmin Muffler  
Register Court: HR-Amtsgericht HRB 268939 B  
VAT No.: DE451465194

### 1.3 Document Information

This document may only be used for the designated purpose.

No part of this document may be reproduced in any form or translated into any language without the manufacturer's consent. Nor should it be used for any other than the designated purpose. Products mentioned in this manual are eventually trademarks and are used for identification purposes only. Contents may be actualized or changed without announcement.

### 1.4 CE marking /Product identification

The product identification is placed on the rear side of the machine.



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Franz-Ziwey-Ring 18, 78333 Stockach, Germany  
Tel: +49 7771 6349 60  
[service@on-nano.com](mailto:service@on-nano.com)

**description:** manual temporary bonding system with hotplate

**type:** nanoBOND 200

**S/N:** 2025/KA-0 00150

**operating voltage:** 230 VAC 110VAC /L/N/PE/50Hz/10A

**control voltage:** 24 VDC

**year of construction:** 2025 *Made in Germany*

### 1.5 Safety Instructions

All safety instructions will be found in **Chapter 0** and following ones. Prior to installation, starting-up and operation of the system relevant safety instructions must be read carefully and considered accordingly. The operating instructions must always have kept close to the device and be accessible to the personnel.

## 1.6 Liability

The manufacturer will not take any liability of object, person and secondary damage caused by improper use or ignoring of safety instructions as well as caused by the owner's manual due to missing updating after the system or its software have been modified, nor will the manufacturer take any liability of damages due to loss of data.

In addition, the terms of business that are part of the order/contract will apply.

Our products are continuously modified and improved due to innovation, legal requirements and standards. Therefore, the information given in this documentation may not accurately reflect every detail of the system delivered. Please contact the manufacturer in cases of uncertainty. Products mentioned in this manual are eventually trademarks and are used for identification purposes only.

## 1.7 Applied directives

Directive 2006/42/EC on Machinery

EMC-Directive 2014/30/EU on Electromagnetic Compatibility

EMC Directive 2014/35/EU on Low Voltage

## 1.8 Applied harmonized standard

EN 60204-1; (VDE 0113-1):2007-06 – Safety of machinery – Electrical equipment of machines – Part 1: General requirements

EN ISO 12100:2010 – Safety of machinery – General principles for design – risk assessment and risk reduction.

## 1.9 Warranty

We guarantee for the equipment as stated in the order/contract.

**This warranty will expire in case of:**

- Interference into or modification of the system without prior consent of the manufacturer
- Improper use of the system
- Insufficient maintenance of the system
- Inappropriate operation of the system
- Negligence of correct supply requirements
- Application of third-part components
- Alteration of program or configuration write-ups without manufacturer's consent

## 1.10 Symbols Used in the Manual



Action

You are requested to do something.



Information and additional advice.

## 1.11 Used warning labels / Danger signs



### Warning - Electric Voltage

Marks areas on the equipment where electric voltages can occur when the protective covers have been removed.



### Danger - Burn hazard

Marks areas on the equipment which are very hot and can cause skin burns.



### Hazard by violent pressure

Marks areas on the equipment which can cause violent pressures on hand and fingers.

### Danger



Indicates an immediate hazard while using the system.

Neglecting of instructions given in this documentation or on the system itself can result in personal injury or death of the operator or of persons being close by. The system, other equipment or the environment can be seriously damaged as well.



### Caution

#### Wear protective gloves!

Wear appropriate protective gloves when doing maintenance work on the modules. Some substances used for substrate manufacturing can cause skin burns. Read the Material Safety Data Sheets of the substances used for manufacturing.



### Caution

#### Wear protective goggles!

Some substances used for substrate manufacturing can cause irritations of the eyes. Wear protective goggles when doing maintenance work on the modules. Read the Material Safety Data Sheets of the substances used for manufacturing.

### Note

#### Note

Indicates a possible hazard or unsafe practice while using the system.

Neglecting of instructions given in this documentation or on the system itself can result in personal injury of the operator or of persons being close by. The system, other equipment or the environment can be damaged as well.

## 2 Safety

### 2.1 Description of Safety Instructions



This manual contains additional safety instructions. They are marked by a triangle with an exclamation point.

“Caution, warning of a danger point”.

In connection with a signal word the danger is classified.

Read and follow the instructions!



#### **Warning**

Marks a **potentially** imminent hazard for life and health of persons. Inobservance can Failure to follow these instructions can result in serious adverse health effects, including life-threatening injuries.



#### **Caution**

Marks a **potentially** dangerous situation. If it's not avoided, it can cause slight and minor injuries. A warning about damage to property may also be included in the text.



#### **Attention**

Marks a **potentially** noxious situation. If it's not avoided, it can damage the product or something other in the environment.



#### **Hazard by electric voltage**

Marks areas on the equipment where electric voltages can occur when the protective covers have been removed or the protective doors opened.



#### **Hazard by violent pressure**

Marks areas on the equipment which can cause violent pressures on hand and fingers.

### 2.2 Safety Instructions

Prior to installation, starting and operation of the system relevant safety instructions should be read carefully and considered accordingly.

#### 2.2.1 Safety Instructions General

**Please observe following:**

- All personnel which works in the area of this unit have to read and understood this manual.
- Persons charged with transport, storing, installation, starting, operation, maintenance and service must know the content of this manual.
- This manual contains information and warnings to be followed by the user to ensure safe operation and to maintain the system in secure condition. It should be located in a suitable place close to the system.
- Valid, legal and other local regulations concerning Health, Safety, prevention of accidents are applicable. Attention should be paid to ventilation, prevention of fire and fire protection.

- Please consider all instructions, in particular safety instructions, in order to achieve safe operation of the system.
- Possible hazards harming the user or resulting in damage to the system are clearly stated within appropriate chapters of this manual.
- For maintenance or repair work, the Main Power Disconnect Switch must be set to OFF whenever possible. The Main Power Disconnect Switch must be secured against erroneous or unauthorized switching on again).

Advice contained in this chapter is intended to supplement, not to supersede, the safety advice given in other chapters of this manual, nor the general safety code of behavior prevailing in the user's country.

**The operating company must ensure the following:**

- Appropriate administrative controls shall be established.
- Appropriate standard operating procedures shall be established.
- Appropriate personal protective equipment shall be used.
- Adequate ventilation shall be provided.
- Devices for emergency stop shall be installed.
- The personnel must be instructed at regular intervals about potential hazards.

## **2.2.2 Safety Instructions General Hazards**

This system has been designed and manufactured considering all relevant safety regulations. Improper use or operation by persons not qualified accordingly may result in danger:

- to life and health of the operator
- to the system itself
- to surroundings of the user
- to performance and efficiency of the system

**General hazards of the system, depending on design or type, may arise in the following ways:**

- mechanical hazard caused by squeezing, shearing and cutting, catching and winding, stitching or by freely moving parts
- thrust caused by kinetic energy of moving mass
- sharp corners and edges
- electrical hazard caused by touching live parts (directly or indirectly)
- thermal hazard causing burns
- chemical hazard causing poisoning, corrosion and explosion
- toxic hazard due to inhalation of vapors and gases
- gases under pressure
- liquids under pressure
- combination of hazards caused by
  - faulty installation
  - incorrect loading of substrates / wafers
  - breakdown of power or media supply
  - breakdown and/or incorrect arrangement of preventive measures

- combination of escaping media
- hazards caused by
  - human misconduct
  - noise
  - allergies, excitations of mucous membrane, unknown effects caused by media
  - ejection of parts
  - disturbance / malfunction of control system
  - leaking of hoses or pipes
  - combination of atmospheres or vapors
  - fire hazard
  - natural hazards caused by lightning, environmental catastrophes etc.

### 2.2.3 Safety Instructions Electrical



#### **Danger - Electrical hazard**

This system operates under high voltages. Danger of high voltages exists even when the system is switched off, but still connected to the power supply. Capacitors within the system may be charged even in case the system is switched off and disconnected from mains supply line.



#### **Danger**

Under no circumstances use makeshift fuses or short-circuit any fuse holders.

## 2.2.4 Safety Instructions Power supply



### **Danger**

#### Electrical hazard

- The system needs to be grounded in all cases. Do not remove or cut off any ground wire of power supply or inside the system. Insufficient grounding can cause additional electrostatic charging of plastic parts, hoses or pipes, and the system as a whole.  
This system operates under high voltages. Danger of high voltages exists even when the system is switched off, but still connected to the power supply. Capacitors within the system may be charged even in case the system is switched off and disconnected from mains supply line.
- While switched on, electrical connectors will be live. Opening of covers or removing of parts may result in exposure to live parts.
- Interchange of current-bearing wires may result in danger for health and life of operator. Connection to the mains supply must be effected by a qualified electrician according to prevailing regulations. Neutral wire (blue) and ground wire (green/yellow) must be connected in due form.
- Persons bearing a pacemaker may not operate, clean or service the unit.
- Due to electrical charging plastic components or wiring, solvents and process chemicals could be ignited. Therefore, the system and its components must be grounded.

#### **Ensure the following:**

- The system must be installed and earthed in accordance with local regulations.
- Water or perspiration may cause electrically hazardous conditions.
- Wear dry, intact and non-conductive gloves, clothing and shoes.
- Do not touch live electrical parts.
- Make sure all protective covers are installed.

## 2.2.5 Safety Instructions Handling of Electronic components

Electrostatic discharges can cause damage to parts.

#### **For handling electronic components several precautions are essential:**

- Wear a grounded wrist strap or work on a grounded static-dissipating work surface. If this not possible touch an adjacent earth ground (i. e. central heaters or water pipes) before handling electronic components or printed circuit boards.
- Leave electronic components and printed circuit boards in their original packaging until final installation.
- Handle electronic components by their body or case, avoid touching of leads.
- Keep electronic components and printed circuit boards away from such static-generating materials as vinyl, plastic bags, etc.
- Maintenance and repair work required, but not listed in this manual, should only be done by OSIRIS service or by persons of equivalent qualification.

## 2.2.6 Safety Instructions Mechanical

### Danger



- By applying components of other manufacturers additional and unknown hazards may arise. No liability will be taken in this case.
- Use only genuine parts provided by the manufacturer of the system.
- Genuine parts are constructed conforming to applicable safety regulations.
- Moving parts may cause squeezing or cutting of extremities.
- Don't touch moving parts during operation.
- Operation of the system by several persons may cause hazards based on misconduct or missing mutual understanding.
- Operation of the system by two or more persons is not allowed.
- If in case of service or maintenance tasks the system must be operated by two persons, these must conduct a secure joint procedure.
- The system may only be operated if all safety guards and protection systems are closed and proper installed.
- In case of any safety deficiencies the system must be switched off and the service personnel must be informed accordingly.
- Protective covers may not be removed or opened during operation (except for maintenance works).
- Never open the system when it's switched on.
- Never remove safety covers or doors during operation (only for service case). Never open the system when it's switched on (optional).

## 2.2.7 Safety Instructions Maintenance

### Attention



Troubleshooting must be performed by suitably qualified and authorized personnel.

**Before beginning any maintenance work, please observe the following points:**

- Maintenance work must be done only by personnel who are familiar with the hazard zones and know how to prevent any possible hazards by applying the appropriate safety measures.
- Make sure that you follow all safety measures described in **Chapter 0**

- Safety.
- Check the function of the switch-off devices before beginning to work.
- Inform the operating personnel about the maintenance work before beginning it and mark the system appropriately while the maintenance work is under way.

- For maintenance or repair work, the Main Power Disconnect Switch must be set to OFF whenever possible. The Main Power Disconnect Switch must be secured against erroneous or unauthorized switching on again.

**Observe the following:**

- Pushing the EMERGENCY STOP pushbutton does not disconnect the equipment from the mains power supply.
- When performing maintenance work during which the equipment must be switched on, secure the equipment against any inadvertent switching.

## 2.2.8 Safety Instructions Transport

### **Danger**



- An overturning unit may cause serious injuries. If the unit should be transported, there must be installed anti-tilt features inside the packing.
- The unit is equipped with transportation castors. If placed on inclining ground, the unit must be secured against rolling.
- Upon delivery, moving parts of the system are secured against moving.
- If the unit is to be relocated later, all moving parts must be fixed.
- The unit is equipped with transportation castors and fixed feet. Move the unit on castors to the installation site and then place it on its feet.
- Transport and moving must be done either by manufacturer or by approved specialist personnel who have received special training by the manufacturer.
- Always contact the manufacturer
- Lifting of heavy loads can cause crushing or bone fractures!
- Use only appropriate and properly functioning lifting apparatus with enough lifting rating.
- Follow the applicable safety regulations and accident prevention procedures.
- Otherwise personal injury may result.

## 2.2.9 Safety Instructions Installation

### **Danger**



- Installation and initiation of the electrical equipment must be effected by competent and qualified personnel only. All valid national instructions (i. e. VDE) must be observed. Prior to all works assure the disconnection of all components to be installed of power supply.
- The system is not protected against the ingress of water. Therefore, it should be installed in a dry place only, where it is protected from humidity.

## 2.2.10 Safety Instructions Chemicals

Chemicals are provided and applied by the user. Proper handling of chemicals is the user's responsibility. Always wear appropriate protective equipment.

**For handling chemicals several precautions are essential:**

- It is the user's responsibility to mark all containers and supply lines of chemicals (e. g. containers of media and waste) with appropriate labels and warning signs.

- Please observe relevant safety regulations as well as supplier's information (safety data sheet and additional advice).
- Insure proper ventilation and exhaust of vapors.
- Observe that released chemicals may react with each another, leading to unwanted and unknown substances. These substances may bear major additional risks.

### **Danger**



#### **Solvents / Process chemicals / Corrosives / Gases**

Inflammable, explosive, toxic

- Do not inhale its vapors (danger of suffocation).
- Prevent electrostatic loading.
- Keep away from ignition sources.
- Do not smoke.
- Do not eat (danger of poisoning)
- Avoid contact to eyes.
- Do not touch.

### **Danger**



In case of corrosive, gassing or noxious wet media are applied you must prevent any peril to your staff.

## **2.2.11 Safety Instructions Hotplates Operation**

### **Danger**



Hot surface

- The hotplate will reach temperatures of 200°C based on option provided.
- Touching of it may lead to serious injuries.
- Don't touch the hot plate surface!
- The plate may still be hot, even when switched-off.
- Prior to any maintenance or repair work, please make sure that all heated parts have reached ambient temperature.
- Before touching any parts check the actual temperature displayed on temperature indicator.

### **Danger**



Fire hazard

- Do not place any inflammable objects on hotplate or close to it.
- Do not use any inflammable media close to the hotplate.
- Do not operate the hotplate in an area with explosion hazard.

### **Danger**



Do not operate the hotplate without adequate exhaust.

The emergency stop button must not be used to stop the system in normal operation.

**Note:**

Note

Pushing the EMERGENCY STOP pushbutton does **not** disconnect the equipment from the main power supply.  
An emergency-stop can be residual pressure in the pneumatic system.  
This poses a crushing hazard.

### 2.2.12 Additional Safety Information

- Do not take actions on the system other than described in this manual.
- Do not operate the system while covers or other protective systems have been removed.
- Maintenance and service work may only be executed by OSIRIS service personnel or persons qualified accordingly.
- Disconnect all wires of power supply prior to opening of the system. In case work must be done while the system remains open (for adjustments, maintenance etc.) it should only be done by qualified personnel, knowing all potentially dangerous points and being able to prevent hazards by taking appropriate precautions.
- In case fuses must be replaced make sure that only fuses of same type and current rating will be used.
- In case of insufficient grounding or of damaged ground conductor make sure that the system will be inoperable and secure it against unauthorized or unintentional operation.
- Whenever it is likely that the system is no longer electrically safe, make it inoperable and secure it against any unauthorized or unintentional operation.
- The system is likely to be electrically unsafe if:
  - any damage is visible.
  - it fails to perform according to specification.
  - it has been subject to prolonged storage under unfavorable conditions
  - it has been subject to severe transport stress.

In these cases, the safety state of the machine must be checked by OSIRIS service personnel.

**The operating company must ensure the following:**

- Appropriate administrative controls shall be established.
- Appropriate standard operating procedures shall be established.
- Appropriate personal protective equipment shall be used.
- Adequate ventilation shall be provided.
- Devices for emergency stop shall be installed.
- The personnel must be instructed at regular intervals about potential hazards.

## 3 Transportation and Storage

### 3.1 Transportation

**Observe the following:**

- Prior to transport or moving the unit must be disassembled into its major modules as indicated by the manufacturer.
- In case of transport the transport castors must be installed and afterwards removed again.
- Make sure all media and waste containers are empty, media lines are dry for transport.
- Make sure that all energy or media supplies have been disconnected from the modules before moving.
- Use only appropriate and properly functioning lifting apparatus with sufficient lifting rating; the module may not be suspended or fixed ( i. e. do **not** use a crane for transport).
- For transport from grey-room to the clean room use an air cushioning device (e.g. Aero-caster AirShuttle); this facilitates alignment of the modules.
- Keep modules upright during transport.
- Movable parts of the equipment must be secured.
- Secure modules from falling over.
- Make sure that the modules are not subjected to strong impacts as this could damage equipment parts.
- Make sure that no equipment parts (e.g. cables, hoses) are damaged during transport.

### 3.2 Storage

**Instructions for optimized storage:**

- Without any liquids (process chemicals etc.)
- dust-free and protected (eventually packed up)
- individual parts with chemical dehumidifiers

**Observe the following ambient conditions during storage:**

<b>Admissible temperature range</b>	5 to +50 °C / 41 °F to +122 °F
<b>Maximum temperature variation</b>	20 °C/h / 68 °F/h
<b>Relative humidity</b>	30 to 60 %

When removing from storage, prior to installation, keep the system for at least one day under approved operating conditions.

## 4 Installation

The equipment may only be installed and put into operation under the supervision of Osiris International GmbH specialists.

**Please observe the following:**

- The operating company must make sure that the permissible floor load is not exceeded. The floor must be level and vibration-free.
- The operating company must make sure that the floor space is adequate for operation and maintenance.
- The operating company must make sure that the media lines and media tanks are properly connected to the modules.
- The operating company must make sure that the extraction system is properly installed and fully functional.
- The operating company must make sure that appropriate protective enclosures are installed and that potential hazard zones are not accessible.

### 4.1 Basic Safety Rules for Setup and Installation

**Make sure you observe the following safety rules:**

- Installation shall be done by, or under the supervision of, a qualified person.
- Installation including earthing, necessary disconnects, fuses and type of incoming power shall be in accordance with national and all local standards. Faulty installation, improper grounding of electrical equipment are sources of danger.
- The cables used must be in accordance with specifications.
- Back-up fuses of appropriate amperage must be used.

**Ensure the following:**

- Water or perspiration may cause electrically hazardous conditions.
- Wear dry, intact and non-conductive gloves, clothing and shoes.
- Do not touch live electrical parts.
- Make sure all protective covers are installed.

### 4.2 Unpacking



This is a highly sensitive electromechanical appliance.  
Be careful while unpacking.



The device is packed in special packaging.



Check the contents upon unpacking for damages during transport.



In case of transport damages or damages in transit, please contact the shipping company, the insurance company and Osiris International GmbH immediately.



Verify receipt of all parts based on packing list.



In case of missing parts, please refer to the manufacturer.



Remove the transport castors if the unit is firmly and securely on the feet at the destination.

### 4.3 Ambient Conditions for Operation

This system will operate correctly under following conditions:

- Ambient temperature +20 °C to +24 °C
- Do not operate without suitable exhaust.

#### Operating temperature

+20 °C to +24 °C / +68 °F to +76 °F



#### Danger

Explosive atmospheres!  
Do not apply any explosive chemicals.  
Do not operate the system in explosive atmospheres.



#### Danger

The unit may never be operated without connected exhaust system.  
When operating without exhaust system components installed may be ruined and media fumes may be set free.

### 4.4 Place of Installation

The system may only be placed on a stable, flat, vibration-free and safe surface not to be deformed under the weight of the unit and eventual accessories.

### 4.5 Connecting Media Supply



All media lines connected with the system's reverse are carrying unmistakable plugs.



The sockets are marked appropriately.



#### Danger

Prior to media connections make sure that the system is disconnected from current.



#### Danger

In case corrosive, gassing or noxious wet media are applied you must prevent any peril to your staff.

### 4.6 Connecting Power Supply



All cables connected with the system are carrying unmistakable plugs.



The sockets are marked appropriately.



### **Danger**

Connect the mains cable at last (after all connections) to the house power supply.



### **Danger**

Each installation and operation work at electrical equipment must be done by qualified personnel.

The valid national instructions (e.g. VDE) must be followed. Prior all work checks the system's disconnection of the power supply.



### **Danger**

An Emergency Stop button is required.

Look for the connection values in **Chapter Technical Data**. Without Emergency Stop button operating the system isn't allowed. The Emergency Stop button with connection is delivered by the manufacturer.



Make sure that the system is switched off.



Connect power cable to power supply stream.

#### **Ensure the following:**

- Water or perspiration may cause electrically hazardous conditions.
- Wear dry, intact and non-conductive gloves, clothing and shoes.
- Do not touch live electrical parts.
- Make sure all protective covers are installed.

## **5 Product Description**

### **5.1 Intended Use**



The unit is designed for typical mounting applications or similar processes up to 200 °C.



The unit is suitable for wafers up to 8".



The unit is intended exclusively to heat wafers, substrates and their fragments in order to prepare their surface or coating for further process steps.



The unit is specially intended:

- For laboratories and research institutions to run test or small series productions
- For industrial applications.

**Danger**



This unit is not suited or designed for any other applications than the ones stated above. Any modification of the system requests manufacturer's prior consent as well as his confirmation in writing.

**Danger - Chemicals**



Without proper protection the system is not suited for the application of explosive or hazardous chemicals.

**5.2 System Components**

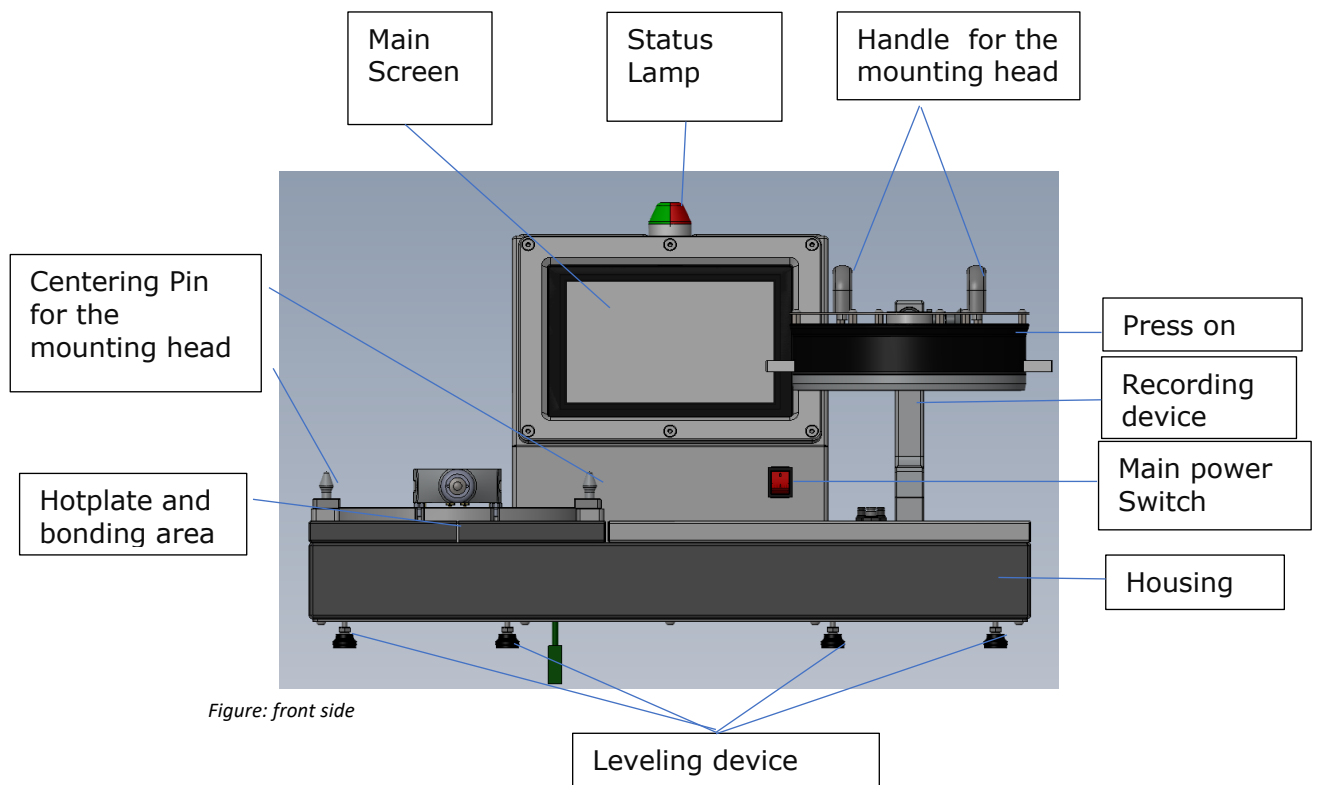


Figure: front side

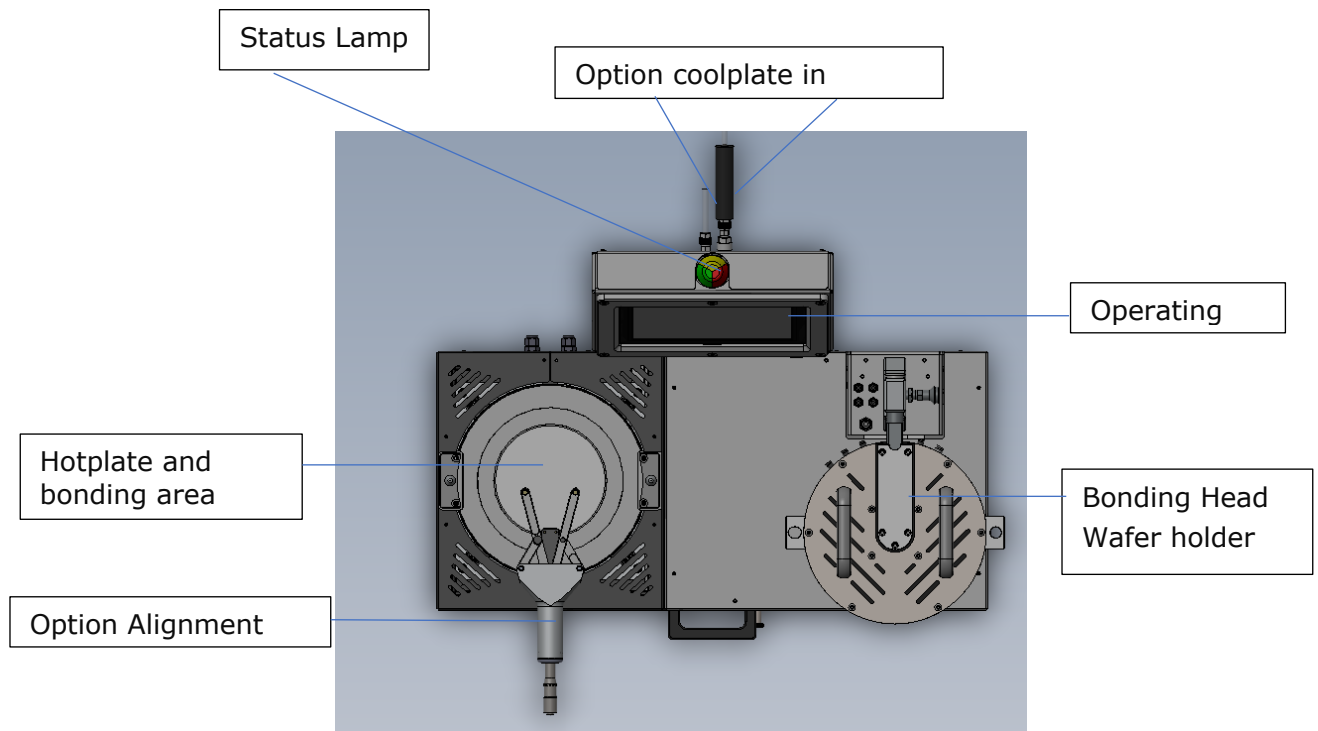


Figure: Top Side

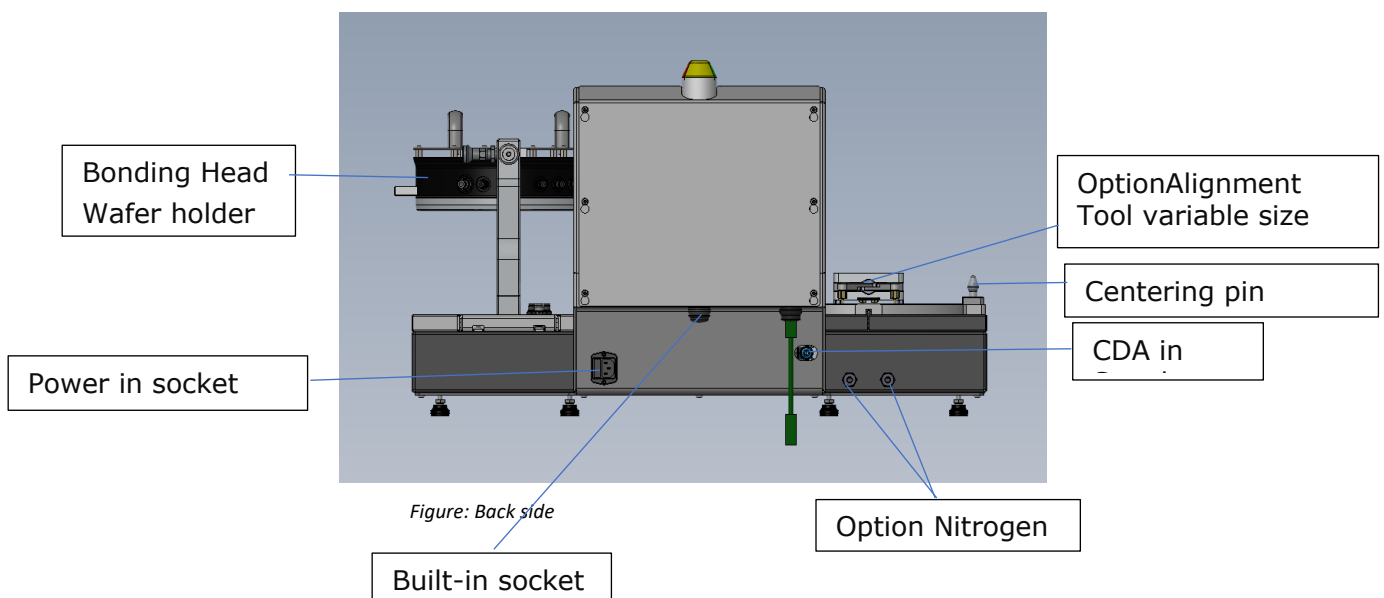
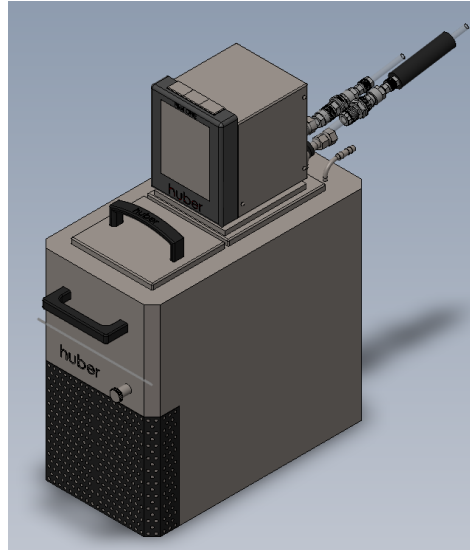
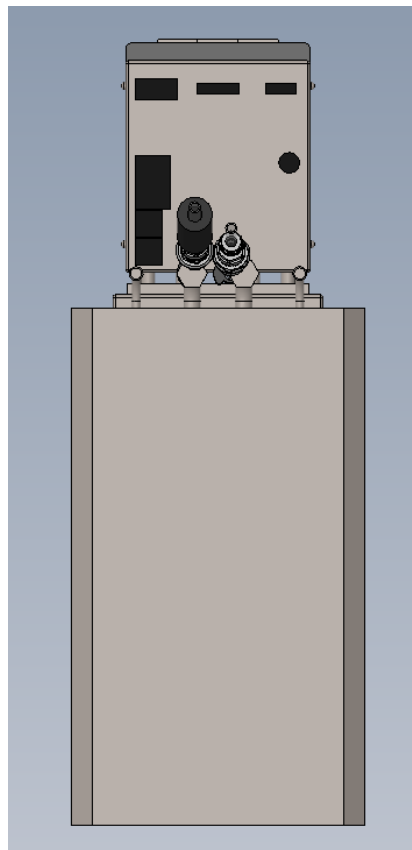


Figure: Back side



*Figure: Circulation thermostat for Option Coolplate*



*Figure: Circulation thermostat for option Coolplate*



**Note:**

Lock / unlock to turn the plunger: Pull out locking bolt (6) and turn the plunger. Pay attention not to pull off the plunger from holder system.



**Note:**

Place the plunger exactly using the centering pins.

## 6 Required Media



According to features following media are required:

- Vacuum.



Chemicals to be provided and applied by user.



**Danger**

When handling chemicals please observe relevant safety regulations as well as supplier's instructions (safety data sheet plus additional instructions).

## 7 Operation



Prior operation: Align the machine so that it is straight by adjusting the height-adjustable leveling feet.

**Following must be considered:**

- Make sure that the substrate is placed correctly between the centering pins.
- The system may never be switched on nor operated without vacuum.
- Prior to operation of the system this operating instruction containing relevant safety instructions. They should be read carefully and considered accordingly.
- The constant temperature is optimally set by the producer.
- If you add one more hotplate the set temperature is not reached and not controlled.
- The system may never be operated without exhaust.
- Without exhaust, dangerous vapors and fumes can be set free damaging health or parts of the system.
- Please consider: All exhaust tubes must be of the same length to warrant a continuous exhaust.



**Danger**

Hotplate operation

The substrate, the hotplate and its lid are very hot, touching can lead skin burns.

## 7.1 Start-Up

### 7.1.1 Preparations in General



Depending on used features and media special preparations are necessary.



Make sure that vacuum and suction are connected.



Make sure that the suction at the hotplate is switched on and operational.

### 7.1.2 Switching the Hotplate on



Press the main switch.

- The hotplate begins heating up to the temperature set at last.
- Until this temperature is reached the red LED display is flashing (option).
- The actual temperature is displayed on the temperature indication.
- The timer displays the process time programmed at last.



Press the '**SET**' button of the temperature control.

- The display of the temperature control changes from indicating the actual value to set value.



For setting the process temperature press simultaneously the '**SET**' and the '**UP**' button or the '**SET**' and the '**DOWN**' button.



Let off the '**UP**' or the '**DOWN**' button.



Let off the '**SET**' button.

- The display of the temperature control changes to indicate the actual process temperature.

## 7.2 Starting Mounting Process

1. Be sure both sides from the hotplate and mounting tool are clean.  
(Clean it with solvent)
2. Make sure hotplate has reached the preset value.
3. Place carrier/substrate on hotplate, use alignment marks for visual alignment without vacuum fixing.
4. Disconnect the locking mechanism and rotate the mounting tool upside down. (*Handles looking down*)
5. Switch the main vacuum -ON-.
6. Place wafer/substrate on mounting tool, use alignment marks for visual alignment and switch wafer clamp -ON- for cleaved wafer.

**Main wafer clamp switch for all wafer sizes.**

Cleaved Wafer: 3" - 5" 6" or 8"

7. Switch plunger up -ON-.
8. With regulator -plunger up- set the appropriate vacuum to retract the plunger and keep it in its fully retracted position CW\*.
9. Rotate mounting tool. (*Handles up*)
10. Take the mounting tool out of the holding device.
11. Place it on the hotplate.
12. Make sure regulator -plunger down- is at its fully CCW\* position.  
(*No vacuum supplied to mounting chamber*)
13. Switch plunger down ON.
14. Turn regulator -plunger down- CW\* to appropriate value.  
(*Increase vacuum in mounting chamber*)
15. Let the tool in this position for 5 to 20 sec.  
(*Is important for a bubble free mounting.*)
16. Switch plunger up OFF.
17. Reduce vacuum by turning regulator -plunger up- CCW\*.  
Do not fall below -0,15 bar on the reading.
18. Wafer mounting process starts.
19. !! Start an external timer!! (not including)  
(*It dependent on the process, the time will be between 15 sec to 2 min.*)
20. Reduce vacuum by turning regulator -plunger down- fully CCW\*.
21. Switch plunger down OFF.
22. Switch wafer clamp OFF.
23. Turn the regulator -plunger up- CW\* to increase vacuum retract.
24. Remove mounting tool from hotplate bring it back to holding device.
25. Remove mounted wafer/carrier from hotplate.
26. Bring all switches in the OFF position except.
27. Switch the main vacuum OFF.  
\* CCW -> counter clockwise / CW-> clockwise

## 8 Cleaning



The system doesn't need any special maintenance, except occasional cleaning.



Cleaning intervals depend on usage intensity and the type of applied media.



Do not use scratching or scouring cleaning agents or tools.

### Danger



Prior to all maintenance and cleaning work inside the unit, the unit and additional modules must be disconnected from all external supplies.

Pay attention to all additional safety instructions in **Chapter 0**

Safety.

### Danger



All maintenance and service tasks must be carried out by specially qualified persons only, knowing the perils and being able to prevent them by applying suitable safety measures.

### Caution



#### Wear protective gloves!

Some substances used for wafer manufacturing can cause skin burns.

Wear appropriate personal protective equipment (PPE) when cleaning the modules. While cleaning pay attention to sensors and reflectors, cable as well as covers and doors. Cover and doors are made of plastic – **do not clean with Acetone**, use suitable cleaning media.

Before cleaning make sure hotplate has been cooled down.

### Caution





#### Wear protective goggles!


Some substances used for wafer manufacturing can cause irritations of the eyes. Wear appropriate personal protective equipment (PPE) when cleaning the modules.

### 8.1 Cleaning in General



Clean the hotplate with DI water or a solvent which is suitable for the process chemical.

-  Clean the stainless-steel surfaces, the armatures and the cabinet only with alcohol or equal solvents.
-  If required rinse the hoses with suitable cleaning agents.

 The type of cleaning agent depends on the process media used before.

## 9 Maintenance



### Danger

By applying components of other manufacturers additional and unknown hazards may arise. Prior to all maintenance and cleaning work inside the unit, the unit and additional modules must be disconnected from all external and media supplies. Pay attention to all additional safety instructions in the referring chapter.



### Danger

All maintenance and service tasks must be carried out by specially qualified persons only, knowing the perils and being able to prevent them by applying suitable safety measures.



### Caution

#### Wear protective gloves!

Some substances used for substrate manufacturing can cause skin burns. Wear appropriate protective gloves when doing maintenance work on the modules. Read the Material Safety Data Sheets of the substances used for manufacturing.



The type of cleaning agent depends on the process media used before.

- Wear appropriate personal protective equipment.
- Replace parts only with original parts which are authorized by the manufacturer. Do not substitute or modify any parts.
- Maintain the complete electrical installation in safe working condition. Do not operate the equipment in faulty condition. Improper or worn electrical connections can increase the chance of an electrical shock. Do not use worn, damaged or bare cables.
- Use fuses of proper rating.
- Avoid live circuits. Always disconnect the equipment from the mains power supply before doing any maintenance. Use appropriate lock-out/tag-out procedures.
- If protective devices must be removed for maintenance, make sure that all protective devices are re-installed after the maintenance job is terminated.
- Make sure the ventilation system is fully functional after the maintenance job is terminated.

### 9.1 Preventive Maintenance



The preventive maintenance intervals in the table see **Maintenance Schedule** are meant to be approximate guidelines only. Actual intervals may be different depending in the operating and environmental conditions.

### Caution



#### **Wear protective gloves!**

In operation the surface of the hotplate can cause skin burns.

Wear appropriate protective gloves when doing maintenance work on the modules.  
Read the Material Safety Data Sheets of the substances used for manufacturing.

## 10 Troubleshooting



### Warning

The correction of errors must be performed by suitably qualified and authorized personnel.



### Warning

Ignoring error messages can result in personal injury or severe machine damage. Do not simply ignore and acknowledge an error message which is displayed on the operator panel, but first correct the cause of the error message.



### Warning

Remove blockages of mechanically operated machine parts with great care.  
Pneumatically operated machine parts are pressurized and can move if you remove the blockage! This can result in serious injuries.

## 11 Disposal

### 11.1 Disposal of the System



At the end of its life span the system must be disassembled and disposed according to applicable laws and regulations.



Upon disposal, consider the following:

- Separate materials.
- Forward metals to a recycling process.
- Forward plastic parts to a recycling process.
- Forward electrical/electronic parts to a special waste disposal process.

**Recommendation: Get in contact with a waste disposal professional.**

The equipment must be disposed, according to the local provisions in accordance with the regulations and laws applicable at the time of disposal in an environment-friendly manner.

All substances used in the equipment must be disposed of in accordance with the Material Safety Data Sheets (MSDS).

## 11.2 Disposal of Chemicals



Chemicals used in processes or cleaning must be disposed according to applicable laws and regulations.

## 12 Terms and Abbreviations

Abbreviation	Comment
CDA	Compressed Dry Air
PPE	Personal Protective Equipment
UPS (German: USV)	Uninterruptible power supply
VDE (German)	Association of Electrical Engineering Electronics Information Technology

## 13 Technical Data

### 13.1 Requirements

Power	230 / 110VAC/L/N/PE/50 Hz/10A
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### 13.2 Dimensions

Mounting tool (W x D x H)	350 x 350 x 432 mm / 13.8"x13.8"x17.0"
Hotplate (W x D x H)	550 x 400 x 280 mm / 21.6"x15.7"x11.0"

### 13.3 Weight

Weight	approx. 106 kg
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### 13.4 Noise Emission

Workplace related emission value	≤ 50 db(A)
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### 13.5 Basic Materials

Micro polished stainless steel / anodized aluminum