

8" WAFER PROCESSING SYSTEM

RC8 THP

ADVANCED WAFER PROCESSING

The SUSS RC8 THP wafer processing system is based on the patented GYRSET® closed cover system.

A selection of optional modules, including GYRSET spin coater, hot plate and manual loader, allow you to configure the system to your application.

The SUSS RC8 THP is extremely simple to operate, with fully programmable process parameters.

SUSS GYRSET®

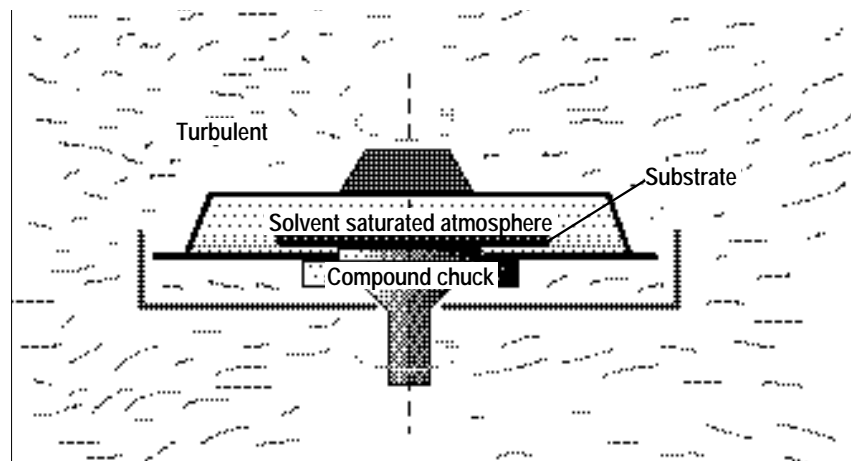
The patented SUSS GYRSET® system is based on a simple but revolutionary concept. Compared to a conventional spin coating system it has multiple unparalleled advantages, offering better uniformity and up to 50% resist cost saving.

The GYRSET® system with indexed bell-shaped cover excludes air turbulence inside the process chamber. This design yields a uniform, consistent coating thickness without the usual spinning defects.

Because of the solvent-saturated atmosphere inside the process chamber, less resist dry skin effect occurs. Consequently, better uniformity and process control for thick as well as for thin resist layers are produced.



RC8 THP wafer processing system with GYRSET, hot plate and manual loader

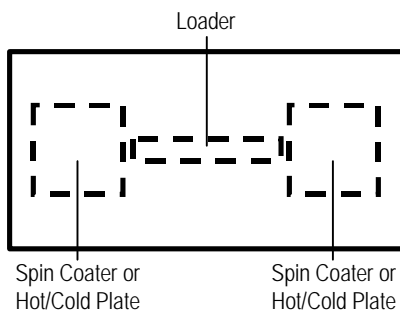


The GYRSET principle

FLEXIBLE WAFER PROCESSING

MULTI-CONFIGURATION

The RC8 THP with extended stainless steel cabinet features two workstations, linked by an optional manual loader. A selection of workstation modules gives you the flexibility to choose from a variety of formats, to suit your application.



WORKSTATION MODULES

Choose from a range of workstation modules:

- ▲ RC8 Spin Coater
- ▲ Hot Plate
- ▲ Large Area Hot Plate
- ▲ Blank (work area)

Each is fully integrated in the extended cabinet with its own programmable controller. A central controller ensures each functions correctly in relation to the others.

In addition, pumps can be supplied (Virgin 30 standard viscosity and Vulcan 40 high viscosity) to complete the set-up.

FEATURES

- ▲ The wafers do not come into contact with metal components: only PEEK and TEFLON, thereby electrically isolating the component and avoiding metallic particle contamination
- ▲ All modules are commanded centrally through a common controller
- ▲ Each module is set up independently through its own programmable controller
- ▲ Each module can function independently or in conjunction with other modules

EXTENDED STAINLESS STEEL CABINET

The stainless steel cabinet integrates the RC8 THP workstations and options in a small footprint. The separate fluid storage, process areas and electronics reduce the risk of contamination. Each workstation is also separate. A spill plate contains the liquids within the cabinet.

The upper safety barrier on the spin coater protects the operator, and the additional flow grill provides laminar flow assuring proper ventilation through the process. Easy installation is provided by the connections at the back (nitrogen, vacuum, air, mains supply and exhausts).



RC8 THP with GYRSET, Manual Loader and Hot Plate

WORKSTATION MODULES

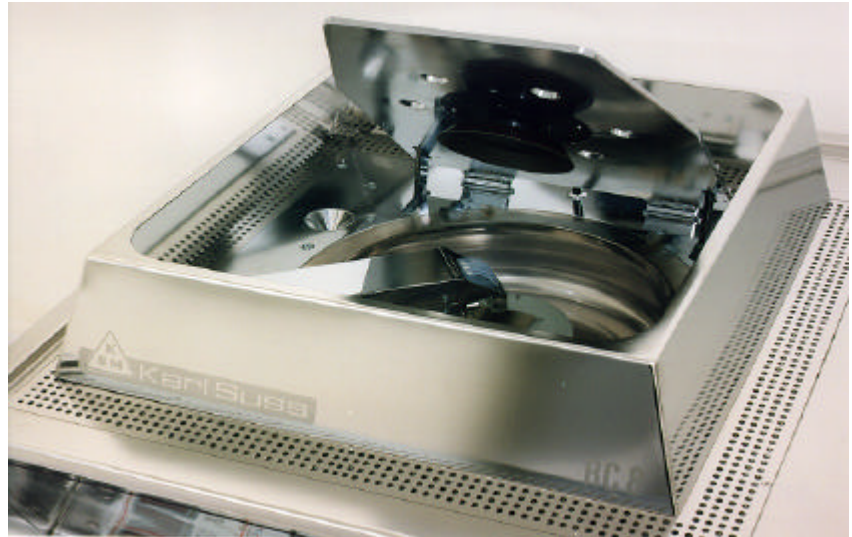
GYRSET SPIN COATER

ADVANCED SPIN COATING

The SUSS RC8 Spin Coating Module is based on the patented GYRSET® closed cover system. It combines state of the art technology with an innovative concept.

FEATURES AND BENEFITS

- ▲ Uses the GYRSET closed cover spin coating system that offers uniform coatings with reduced consumption and less edge build-up particularly on square or rectangular substrates
- ▲ Microprocessor-based control system allows process parameters to be fully programmed with several process cycle and process steps
- ▲ Handles up to 8 inch round or 6 inch square substrates
- ▲ Memory backup and RS232C interface for remote control
- ▲ Multi-size configuration with automatic GYRSET cover size detection and automatic maximum spin speed limitation set up. It gives the flexibility to meet all major application types.
- ▲ High and low viscosity SUSS dispenser pump configuration option with a single controller afford accurate and precise dispense of resist, solvent and polyimide.



RC8 GYRSET module showing motorised dispense arm, safety barrier and flow plate

- ▲ GYRSET quick exchange system and removable stainless steel collector bowl. It gives easy cleaning of the process chamber and the application of multiple chemically incompatible resists without danger of cross contamination
- ▲ Meets current SEMI-Spec ergonomic and safety requirements

CONFIGURATION CHOICES

- ▲ 8", 5" or 3" processing format
- ▲ Quick exchange or fixed GYRSET covers
- ▲ Standard or high profile GYRSET covers
- ▲ Single or double side chucks

OPTIONS

- ▲ Stainless Steel Cabinet
- ▲ Pneumatic Dispenser Arm
- ▲ Motorised Dispenser Arm
- ▲ Programmable Solvent Dispense
- ▲ Resist Nozzle Autoclean with Programmable Solvent Dispense
- ▲ Programmable Solvent Autoclean
- ▲ Edge Bead Remover
- ▲ Cotton Candy Remover
- ▲ Nitrogen Blow
- ▲ Dispense Pump For Low Viscosity
- ▲ Dispense Pump For High Viscosity
- ▲ Chuck Indexing & Substrate Lift-Up/Down
- ▲ Photoresist swing nozzle
- ▲ Adapter for Small Substrates, Single Side or Double Side
- ▲ Standard plate and chucks

WORKSTATION MODULES

HOT PLATE

The HP8 hot plate is designed to process photoresist on wafers. The wafer is either held securely on the hot plate by vacuum or kept a few millimetres above the plate on motorised pins.

FEATURES

- ▲ Motorised pin lift with programmable speed and extension
- ▲ Pin lock for height control
- ▲ Programmable time range

- ▲ Dual display for set and actual temperatures
- ▲ Deep chrome process on plate (other materials upon request)
- ▲ Heating element levelling screws (for stand-alone use)
- ▲ Temperature alarm safety control
- ▲ Manual on/off switch for vacuum
- ▲ Temperature display in °C or °F
- ▲ Hot plate and controller fully integrated in stainless steel cabinet

OPTIONS

- ▲ **Closed process chamber**
 - Solvent vapour exhaust
 - ON/OFF switch for exhaust
 - Adjustable nitrogen shower
 - ON/OFF switch for nitrogen
- ▲ **Vacuum pump**
- ▲ **Water Cooling**
- ▲ **Substrate Pin Lift**
 - Motorised 3 pin control
 - Adjustable speed
 - Manually adjusted proximity gap

MANUAL LOADER

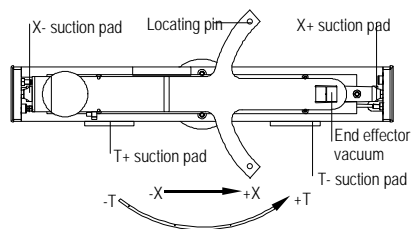
The manual loader helps the user to move the wafer from one workstation to the other.

It limits human contact with the wafer which could damage or dirty it, and assures a highly accurate positioning over the modules. In addition, the horizontal movement of the wafer during transfer ensures thick resists remain even.

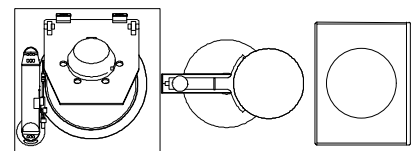
The substrate is carried on a fork, called an "end effector", on the end of the loader arm, and is held in position by locating pins and vacuum.

The loader rotates through 180° (with the substrate always moving away

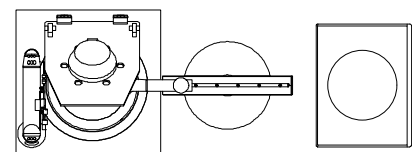
from the user) and displaces through 265 cm. Rotation (T+/-) and translation (X+/-) detectors activate suction pads during the program sequence. These in turn manage the lift pin movements of the spin coaters and the hot/cold plates, and the end effector vacuum.



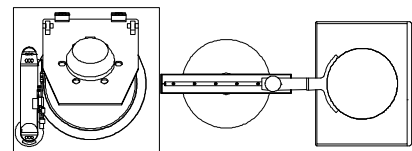
Manual Loader Layout



Rest Position

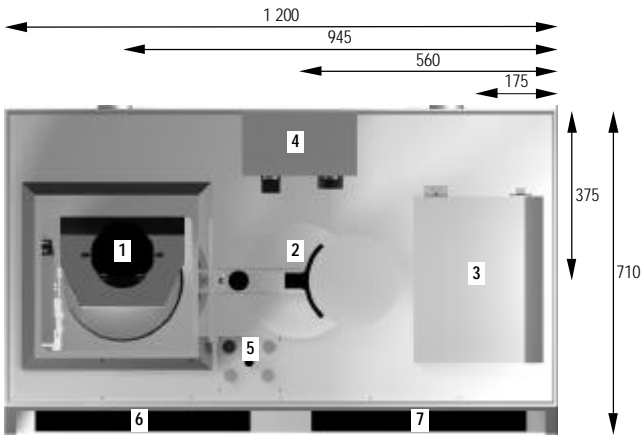


Position Workstation 1



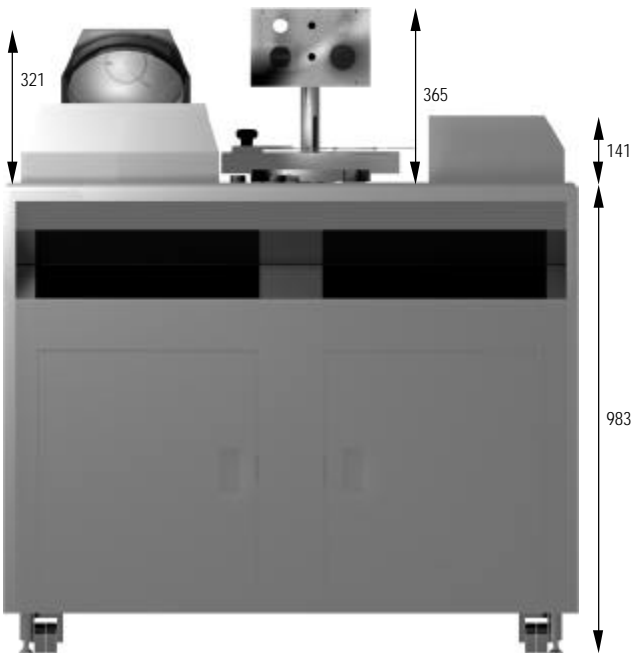
Position Workstation 2

THE RC8 THP IN YOUR WORKPLACE

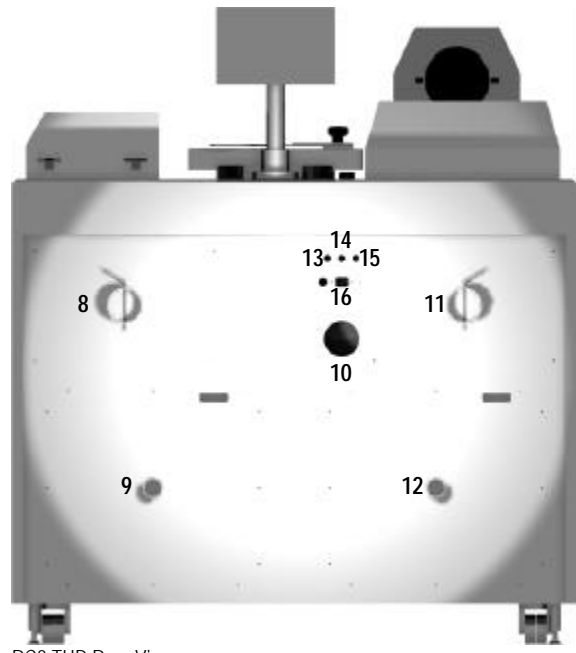


RC8 THP Top View

1. Work Station 1 (Spin Coater)	
2. Manual Loader	
3. Work Station 2 (Hot Plate)	
4. Isolation Panel	
5. Loader Controller	
6. Spin Coater & Pump Controller	
7. Hot Plate Controller	
8. Upper Cabinet 2 Exhaust	75 mm Ø
9. Lower Cabinet 2 Exhaust	40 mm Ø
10. Coater Chamber Exhaust	75 mm Ø
11. Upper Cabinet 1 Exhaust	75 mm Ø
12. Lower Cabinet 1 Exhaust	40 mm Ø
13. Compressed air	4 – 9 bar, 4 mm Ø
14. Vacuum	-0.6 bar, 4 mm Ø
15. Nitrogen	4 – 9 bar, 4 mm Ø
16. Mains supply	115V/5A or 230V/2.5A 3kW



RC8 THP Front View



RC8 THP Rear View

TECHNICAL DATA: SUSS RC8 THP 8" WAFER PROCESSING SYSTEM

RC8 GYRSET

Maximum Substrate Size	
RC8 GYRSET 3	up to 3" Ø12"
RC8 GYRSET 5	up to 5" Ø14"
RC8 GYRSET 8	up to 8" Ø16"
Maximum Speed (10 rpm steps)	
RC8 GYRSET 3	7 000 rpm
RC8 GYRSET 5	5 000 rpm
RC8 GYRSET 8	3 000 rpm
RC8 standard plate	7 000 rpm
Maximum acceleration	5 000 rpm/s
Control	
Time Range	0 - 999 s
Speed Regulation	Tachometric
Speed Control	Galvanometric
Power Requirements	
Power	110/230 AC
Consumption	0.3 kW
Frequency	47 - 63 Hz
Utilities	
Vacuum	-0.6 bar
Air pressure	4 - 9 bar
Nitrogen	4 - 9 bar
Exhaust	600 l/min
Conforming to:	
European Machine Norms CE certification	
EMC Electro magnetic capability	
SEMI specifications	

HOT PLATE

Substrate Size	up to 8" Ø16"
With Pin Lift	from 4" Ø
Temperature	
Range	RT to 400°C
Resolution	± 1°C
Uniformity	± 1°C
Conforming to:	
Electrical discharge	EN 61000-4-2
Flicker test	EN 61000-3-3
Harmonic Test	EN 61000-3-2
Discontinuous Interference noise test (clicks)	EN 55022
General specifications on electrical devices	EN 60335 1
Particular specs on electrical hot plates	EN 60335 2

EXTENDED CABINET

Dimensions	
Footprint	1 200 W x 710 mm D
Height	1 348 mm

MANUAL LOADER

Movement	
Rotation	180°
Displacement	265 mm
Repeatability	±20 µm
<i>Data can depend on individual process conditions and will vary with equipment configuration</i>	

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