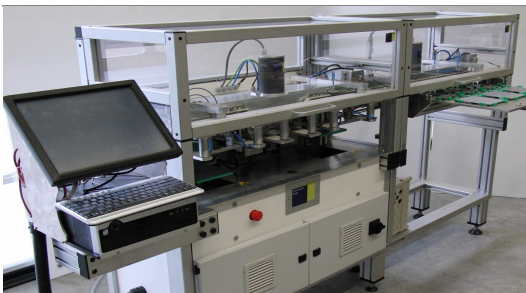


Photovoltaic Industry

Product Data

Non-Contact Matrix Sorter Module



Sorter Module (3x3 Matrix Carrier)

Our handling systems using the ultrasonic suspension technology can be applied in any atmospheric process. The ultrasonic suspension generates a supporting gas-film (air or process-gas) between its surface and the substrate. Thus, any mechanical contact is avoided. The substrate is hovering on or below the supporting gas film at distances of 100 – 300 μm .

Placing and Sorting of Solar Wafers and Cells

Due to the equilibrium of forces between low pressure, ultrasound and gravity, the wafers can be gripped from the top-side and transferred by the belt.

Once the wafer is above its target position the low pressure is turned off. The repelling ultrasound force makes the wafer slide into the magazine or reach its target position.

The wafer is dropped off smoothly. The substrates can be sorted to many different kinds of container systems like cassettes or carrier.

Applications

- Wafer/Cell Sorting
- Wafer/Cell Placing

Highlights

- 2 wafers/s (0.5 s/wafer)
- No mechanical contact between the tool and the substrate
- Suitable for thin wafers down to 75 μm

Your benefits

The ultrasonic suspension technology offers a series of benefits compared to state-of-the-art solutions e.g. Bernoulli-Devices:

- No surface contact
- No Damages
- More degrees of freedom in process and machine design
- Modular Design
- Handling of thin wafers down to 70 μm
- Higher Throughput (+100 %)
- Lower energy consumption (up to -85%)
- Lowest Breakage Rate (50 ppm)

Products which can be combined

- PV-Gripper
- Picker-Module
- Linear-Transfer Module
- Inspection Module

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Non-Contact Matrix Sorter Module

Technical Data

Wafer Thickness	> 75 μm
Matrix Carrier	Customized
Length	300 – 1500 mm
Width	50 – 150 mm
Electrical Equipment	<80 W, 230 V AC (ultrasound) 20 W, 24 V DC (drives)
Distance (Tool - Substrate)	100 – 300 μm
Cycle Time	2 wafers/s (0.5 s/wafer)
Interfaces Available	PROFIBUS, PROFINET, EtherCAT, Digital I/O
Air Consumption	40 l/min (singulation)
Low Pressure	120 l/min, 40 mbar

0.5 s/wafer

Your Experts in Ultrapure Handling

ZS-Handling GmbH
Budapester Strasse 2
93055 Regensburg
Germany

Telephone (EU) +49-941-60389-900
Fax +49-941-60389-999
info@zs-handling.com
www.zs-handling.com