



Wafer: 156 mm,  
mono/multi  
Capacity: 3600 wafers/hr.  
Uptime: > 97%  
Breakage: < 0,08%

# WAFER INSPECTION SYSTEM

The quality of the wafer is crucial for the effectiveness of the future solar cell. The Jonas & Redmann Wafer Inspection System sorts out damaged and faulty wafers. Using error-free wafers reduces the breakage rates within the cell production process significantly. As a result customers save enormous costs.

- proven measuring and sorting system for silicon solar wafers
- modular design including devices for loading and unloading, inspecting, sorting, process linkage
- wafer inline check up to the edge e.g. saw mark, contamination and edge thickness variation detection
- perfect adaption of automation to measurement needs
- non contact quality control minimizes stress on the wafer as much as possible
- WIS Master PC for central recipe management to create customized inspection

## Automation Features and Options

### Inspection and Sorting

- conveyors synchronized to measurement tools (stop and go and on-the-fly)
- inline measurement
- configurable number of bins

### Input and Output

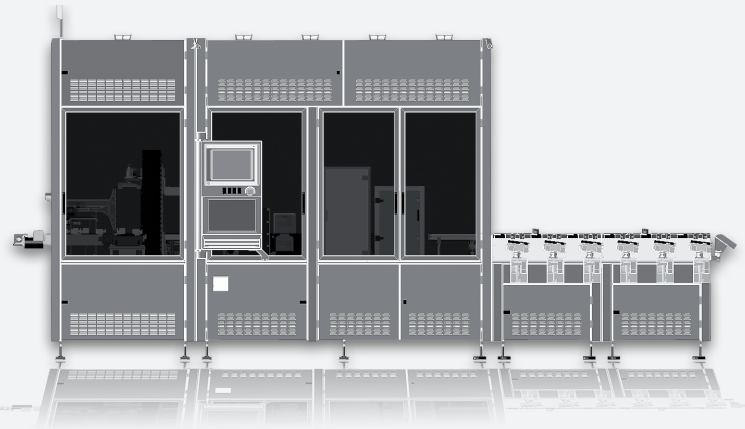
- carrier
- magazine and box
- direct linking with process equipment

### Integration into Production

- stand alone solution
- inline connection
- connection to fully automated transport and linkage system

### Software

- standard MES interface protocols e.g. SECS/GEM and XML
- integration of separate manufacturing execution system (MES) terminal



CATEGORY	INSPECTION PARAMETERS	BASIC	STANDARD	PREMIUM
topology	saw mark	1-sided	2-sided	2-sided
		Minimum detection level > 5 µm		
		accuracy (3 ): 2 µm		
	100 µm lat. res	100 µm lat. res	50 µm lat. res	
	edge thickness variation (ETV)	✓	✓	✓
	geometry	1-sided	2-sided	2-sided
WMT 3	total thickness variation (TTV)	along 1 line	along 3 lines	along 3 lines
	resistivity	✓	✓	✓
surface	edge	✓	✓	✓
	chipping	1-sided	2-sided	2-sided
	contamination	-	2-sided	2-sided
WML	lifetime	upon request		
MCI	µ-crack	-	✓	✓
IT	WIS-master	✓	✓	✓
	WIS-database	-	-	✓