



Wafer: 125 mm/  
156mm, mono/multi  
Capacity: 3600w/hr.  
Uptime: > 97%  
Breakage: < 0,08%

## WAFER HANDLING LASER

Laser process implementation has a considerable impact on the efficiency increase potential for crystalline silicon solar cells. Jonas & Redmann develops and manufactures automation solutions for the efficient loading and unloading of industrial laser systems.

- efficient loading and unloading of laser processes such as selective emitter, MWT, EWT, and laser edge isolation
- cost optimized and customer specific solutions available due to modular design
- gentle wafer handling minimizes stress on wafers
- interlinking to preceding or subsequent processes such as furnace unloading, transportation interlink system for carriers and wet bench loading
- one lane automation for high throughput process equipment

## Automation Features and Options

### Carrier Options

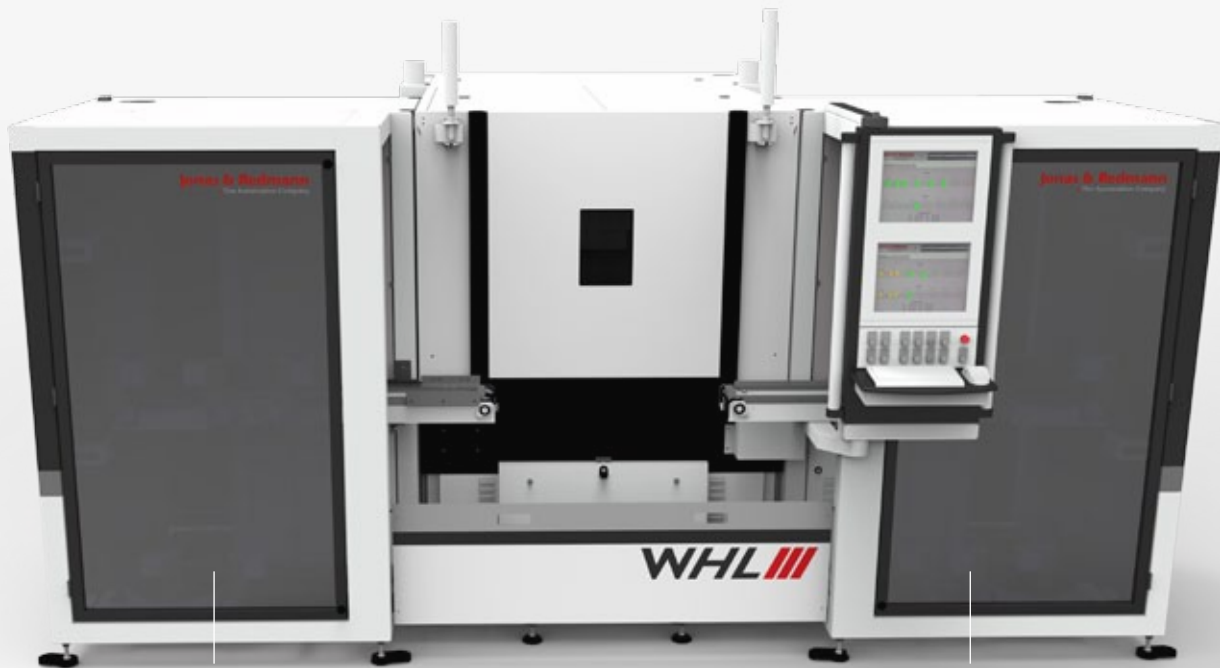
- input and output possible by
- **Jonas & Redmann** carriers
  - wet chemical carriers
  - others

### Software/ MES

- Standard interface protocols
- SECS/ GEM and XML
- MES connection / Semi PV 02

### Equipment Options

- belt alignment, optical alignment
- interlink process tools
- supply of two cells simultaneously or one cell subsequently



### High Flexibility due to Modular Design

INPUT	LASER PROCESSING			OUTPUT
Carrier				Carrier
Magazine	Laserloader	Laser for e.g.	Laserunloader	Magazine
Inline from e.g.				Inline to e.g.
wafer inspection		selective emitter		wet bench
diffusion		laser edge isolation		etching
metallization		EWT		cell testing
		MWT		
		laser fired contacts		