

Capacity 8,000 w/ hr  
Uptime > 99%  
Breakage < 0.05%



## WAFER HANDLING PLASMA HIGH THROUGHPUT WHP HTP 8000

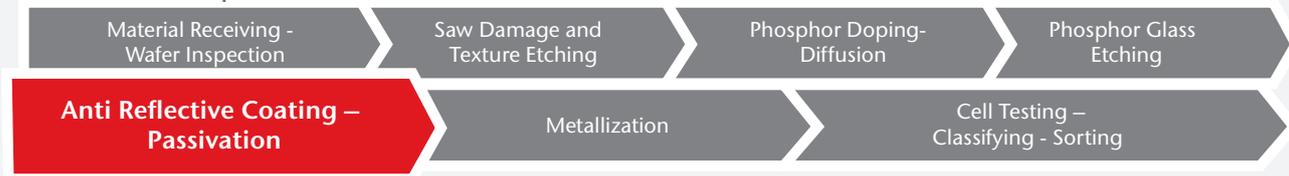
For more than 17 years, Jonas & Redmann has been delivering best-in-class automated loading and unloading equipment for the key process steps in crystalline silicon solar cell manufacturing. Today, our Wafer Handling Plasma (boat loader/ unloader) is the industry standard for automation of batch type coating systems.

The Jonas & Redmann Wafer Handling Plasma High Throughput (boat loader/ unloader) is designed for the fully automatic loading and unloading of process boats (e.g. graphite boats), which are used within batch-type systems for passivation and anti-reflective coating in c-Si solar cell processing. Thanks to its excellent process flexibility, the WHP HTP 8000 system is not only a perfect solution for un-/loading nitride coating processes, but also for the operation in the production of highly efficient solar cell concepts, such as PERC or PID free solar cells.

- best-in-class-tool with highest capacity (wafer/ hour) available on the market
- based on long-time proven concepts and established reliable handling devices
- reliable monitoring of operating sequence to prevent failure (e.g. by wafer breakage)
- proprietary handling technology that ensures a lowest breakage rate
- sorting module for blue color classes available

## Machine platform for automated loading and unloading of batch-type process equipment

### c-Si standard process



### PERC process



The system is available in numerous different versions and can be configured to meet the specific process and capacity requirements, as well as varying degrees of automation.

WHP			WHP HTP		
inline		STA	inline		STA
1:1	TWIN		1:1	TWIN	
up to 4,090 w / hr	up to 4,600 w/ hr	up to 4,600 w/ hr	up to 8,000 w/ hr	up to 8,000 w/ hr	up to 8,000 w/ hr

	configuration	options on request
material input/output	wafer carrier (e.g. Jonas & Redmann Automation Carrier)	interlinking to automated carrier transport
process control/measurement		breakage check and reject handling on input side  color, layer thickness measurement and reject handling in max. 4 bins
boat type	7 boat sections 22-fold wafer packages	8 boat sections, 24-fold wafer packages
software	standard HMI, operator language English	customized operator language MES connection, e.g. Secs GEM, XML according Semi PV02
furnace interface	slider-interface belt-to-belt interface stand alone/ trolley and others on request	
wafer format	156 mm	other wafer formats available on request (up to 163 mm)