

# SOLAR

## InWaClean




## Inline-Wafer Cleaning

The InWaClean removes slurry and sawing residues from separated wafers in a physical-chemical process.

### Areas of application

- Final cleaning of precleaned and separated mono- and multicrystalline wafers
- Horizontal cleaning of rectangular silicon wafers
- Removal of slurry and silicon residues from a sawing process
- Removal of silicon residues from a diamond wire sawing process
- Main cleaning process with water and ultrasonic cleaning

### Features and benefits

- The wafer is kept wet throughout the entire process until drying, in order to prevent the electrostatic bonding of particles
  - Ultrasonic cleaning employing various frequencies
  - No etching of wafer surface, thus best initial conditions for a variety of texturing processes
  - Modular design
  - Special roller construction reduces operating costs
  - Rinsing cascade reduces water consumption
  - Permanent temperature regulation and conductivity measurement
  - Feed and bleed function in all cleaning tanks
  - RENA AirChannelDryer technology
  - Integrated wafer-counters establish load and unload numbers, throughput, quality and material loss
  - Best service access to the process area from front and back
  - Environmentally friendly basic process, low chemical use, without need for neutralisation
  - Patented by RENA
- Optional:
- Connection to MES
  - Manual or automatic wafer removal via RENA VarioUnload system
  - Wafer tracking





Wafer Input



Wafer Transport



RENA

Fully automated inline wafer cleaning

## Technical Data InWaClean

<b>Process</b>	<ul style="list-style-type: none"> <li>• Final cleaning and drying of pre-cleaned, rectangular silicon wafers</li> <li>• Ultrasonic cleaning at different frequencies</li> <li>• Optimised inline transport system for thin solar wafers</li> <li>• Rinsers connected as cascades to minimise water usage</li> <li>• Cleaning is supported by minimum quantity of cleaning chemicals</li> </ul>		
<b>Dimensions</b>	Multi-lane transport system	10570 x 2000 x 2200 mm (length x width x height)	
	Medium-size	5950 x 2000 x 2200 mm (length x width x height)	
<b>Throughput</b>	Multi-lane transport system	Multi	Mono
	• Wafer size 156 mm	up to 4000 wafers/h	up to 3500 wafers/h
	Medium size		
	• Wafer size 156 mm	up to 4000 wafers/h	—
<b>Wafer thickness</b>	Proofed for 160 µm		
<b>Media consumption</b>	• DI water with 1 - 10 MOhm (1.0 - 0.1 µS/cm)	1000 l/h / 500 l/h (Medium-size)	
	• Cleaner Tegee InWaCleanerSi010		
	• Electricity	380 - 400V AC +5% 3Ph+N+PE, 50 Hz, 77 kW, 177 A	
		50 Hz, 59 kW, 85 A (Medium-size)	