

microCELL™ OTF

On-the-Fly Laser Processing System for PERC Cells (LCO)

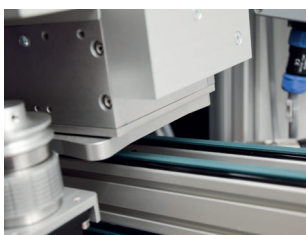
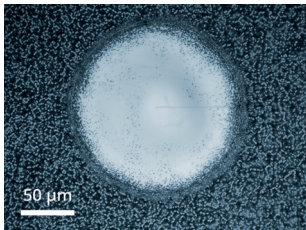
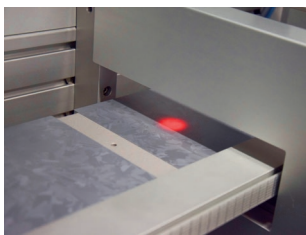
3D-Micromac's microCELL™ OTF is a highly productive laser system for processing of mono- and polycrystalline silicon solar cells. The microCELL™ OTF meets cell manufacturers' demands for increasing the efficiency of PERC solar cells, by precise surface structuring, low operating costs, and highest availability. Laser processing on-the-fly and an innovative handling concept enable maximum throughput and yield in the mass production of crystalline solar cells. The contactless cell handling enables processing without surface defects or microcracks.

microCELL™ OTF offers:

- On-the-fly laser processing with unbeatable cost-benefit ratio
- Contactless wafer handling
- High throughput and efficiency (> 3,800 wph)
- Low cost of ownership and CAPEX
- Upgrade for existing production lines or expansion



microCELL™ OTF - System Configuration



Key Features

- Contactless wafer transport
- Throughput > 3800 wph
- On duty time laser >98%
- Smallest footprint
- Direct access for maintenance and service

Options

- Breakage control / NIO discharge
- RFID reader
- Data matrix reader (DMC)
- Wafer buffer system
- MES system
- Loading- and unloading handling as on customer specification
- Beam splitter

Wafer size	<ul style="list-style-type: none"> • 156 x 156 mm² - 165 x 165 mm² • Square and pseudosquare shapes, different sizes on request
Throughput	<ul style="list-style-type: none"> • > 3,800 wph (depending on pattern) with single lane processing
Uptime	<ul style="list-style-type: none"> • ≥ 97 %
Pattern for PERC cells	<ul style="list-style-type: none"> • Line pattern • Dot pattern • Dash pattern • Other pattern on request • Easy read-in by dxf-file • Beam diameters between 40 µm and 200 µm possible
Laser sources	<ul style="list-style-type: none"> • Standard setup: one ns laser source, 1064 nm • Or customized solution
Laser processing	<ul style="list-style-type: none"> • On-the-fly
Beam delivery unit	<ul style="list-style-type: none"> • Beam delivery unit including scanner head
Alignment	<ul style="list-style-type: none"> • Self alignment system
Handling/positioning system	<ul style="list-style-type: none"> • Contactless wafer transport • Continuously running
Loading/unloading	<ul style="list-style-type: none"> • Feeding of wafer via inline transport belt
Dimensions	<ul style="list-style-type: none"> • Approx. 2,200 x 1,300 x 2,500 mm³ (L x W x H) • Approx. 1.2 t
Exhaust system	<ul style="list-style-type: none"> • High particle extraction (three-stage-filter)
Standards	<ul style="list-style-type: none"> • Laser safety class 1 • CE compliant

Changes in accordance to technical progress are reserved.