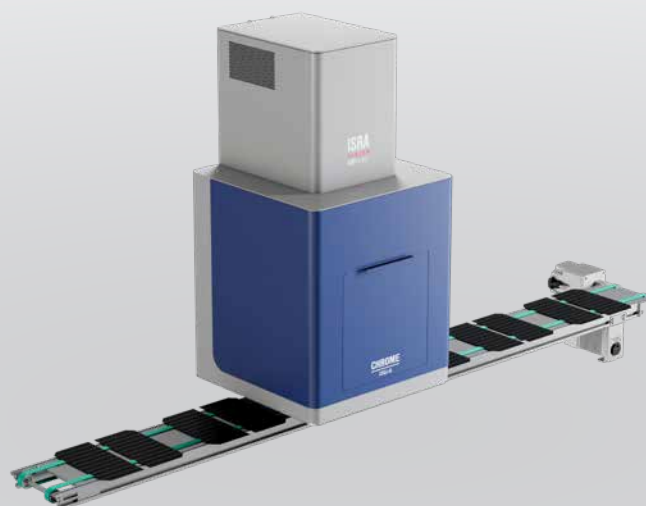


Cell Quality Grading with CELL-Q PRO

High Sorting Purity with Low Overkill and Underkill



Requirements & Targets

Highest quality requirements for front side print of solar cells

- Highest quality requirements, tighter quality tolerance window
- Optimal optical impression required, zero tolerance for discolorations, stains, or visible print defects
- Maximum flexibility to answer upcoming cell designs and technologies
- Maximum investment security

Inspection Solution

CELL-Q PRO for front side and mono/bifacial rearside

- Up to 65 MP high resolution camera
- Matrix camera technology for best metrology
- Cycle times < 0.7 sec. with highest detection rate and lowest false rejects
- Easy integration into any state-of-the-art sorters
- ISRA VISION/GP Solar Multiview technology: Smart design for high performance and fast ROI
- Multi-image processing for detection of low-contrast defects at highest throughputs
- Best contrast for laser pattern alignment check
- Smart Color Calibration: Easy line-to-line recipe transfer

System Application

Inspect In-line – color and print in a single system

- Inspection of arbitrary print patterns for front, rear, dual, double, bifacial, IBC or plating
- Inspection of single and multi layer coatings for color impression and coating defects of print, coating and cell surface
- Alignment control of laser and print pattern
- 100% control of each solar cell - 100% defect detection
- Inspection of wafer sizes from M6 to M12+

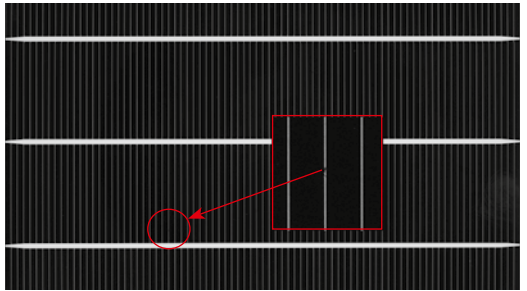
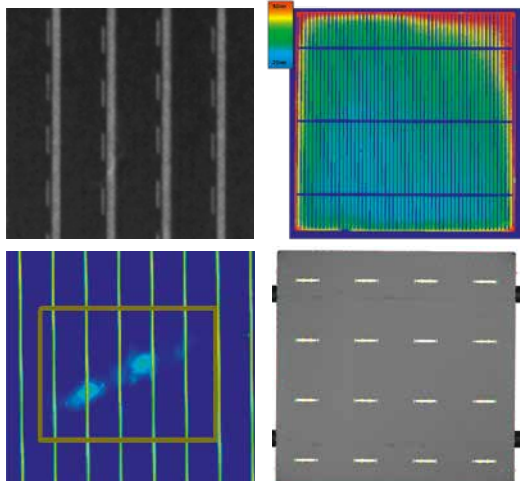
Benefits for Production

Invest in the key to cost savings and improve quality

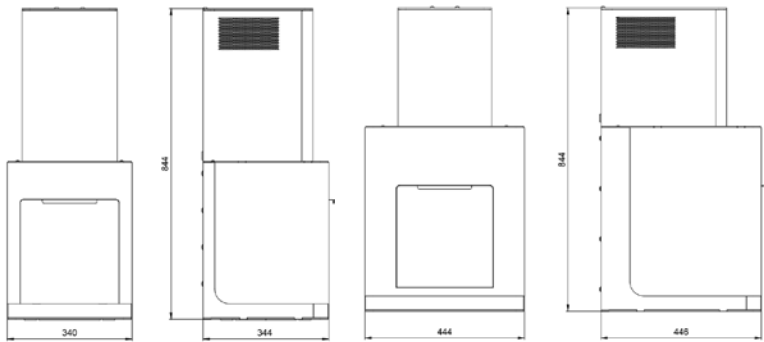
- Robust and reliable detection and sorting of all relevant defects
- Define a global quality standard, and deliver same quality to your customers
- Optimize the process with detailed production statistics including optical quality
- Zero defect tolerance with the highest yield (99.9%)
- Full support for all Connected PV features

Inspection Features

Print Geometry and Quality	Position / rotation, distance to edge, busbar positions / rotation, finger / busbar width, finger defects, busbar defects, print defects (paste stains, missing paste, scratches), alignment control of laser and print pattern
Coating Quality	Coating defects (flakes, discolorations), color impression, optical layer thickness
Surface Quality	Low contrast surface defects (stains, fingerprints, scratches)
Wafer Geometry and Contour	Edge lengths, corner angles, phase lengths, phase angles, diagonals, contour defects (breaks, V-breaks)



CELL-Q PRO sorting and classification with cameras following optical criteria: Find constant quality in each sorting bin, day-by-day, each week, every year.



CELL-Q PRO: 6i housing for up to M10 sizes

CELL-Q PRO: 9i housing for up to M12+ sizes

Discover our inspection and monitoring solutions for the entire PV manufacturing chain:



Optimize your ROI with the technology leader **ISRA VISION** and **GP Solar**

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