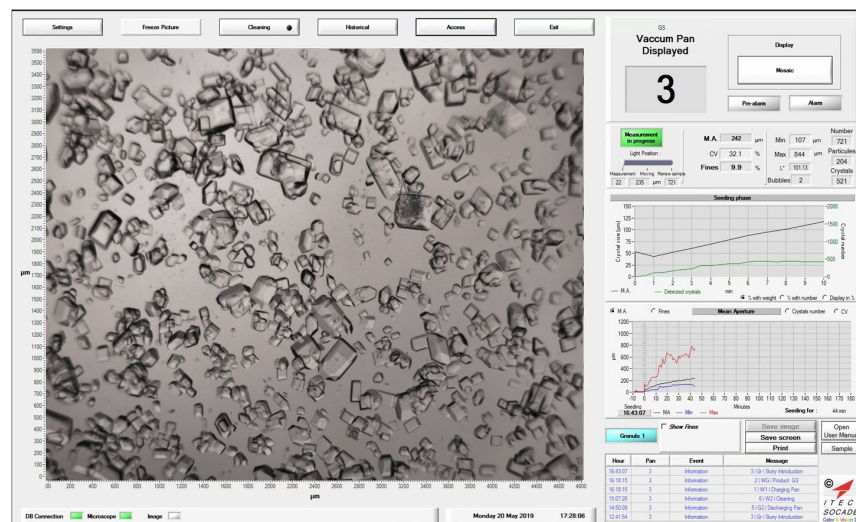


CrystObserver®

On-line HD Video Pan Microscope



- Follow the crystal growth in **Real Time** for **A, B or C** massecuite type
- Calculate **MA, CV and percent of fines** using continuous image processing techniques
- Measure crystal sizes from **4 µm**, monitor the **seeding phase** and detect **false grain**
- Trigger out of specs alarms relayed to the plant PLCs or DCS
- Verify the **syrup quality**: possible contaminants, air bubbles or super coarse crystals
- Store videos and data for a full **traceability**
- Easily **compare cycles** to facilitate trouble-shooting and sharply analyze the process

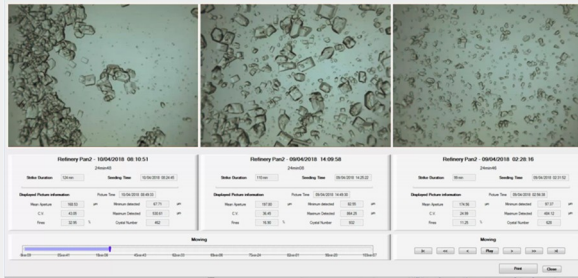


On-line Crystal Growth Video Pan Microscope

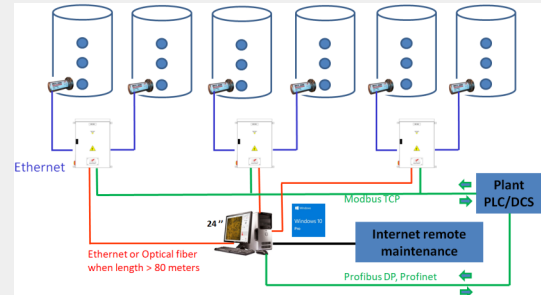
The CrystObserver® measures the **crystal size in real time** directly inside the pan for both raw and refined sugar, beet or cane.

A powerful, adaptive and automatically controlled LED light source backlights the crystals behind a fused sight glass in front of a high resolution digital camera with optical magnification.

The video of the crystals as well as the statistical data **MA, CV, % of fines**, are displayed in real time in control room and stored for subsequent analysis or comparison of cycles.



ITECA powerful software manages simultaneously up to 6 sensors in real time. Connected to the plant PLCs and DCS it offers great potential for a tighter control of the crystallization process.



Maintenance can be performed remotely by ITECA engineers using the available customer Internet access, with secure screen sharing software.

Principle and performances

CrystObserver® features :

- Measurement head mounted on the pan wall
- Control cabinet prewired for two sensors and connected to the plant PLCs and DCS
- Computer in control room with ITECA software
- Before seeding: control of the syrup quality
- At the seeding stage: check number and size of the seeds
- Along the process: measure the crystal growth and detect any non conformity. i.e. MA/CV out of range or false grain



Further Advantages

- Better massecuite quality and less remelting
- Stable MA, CV and a reduced % of fines
- Reduction of steam and water usage
- Increase in centrifugal throughput due to uniform crystals
- Optimize and stabilize the overall quality
- Full traceability

CrystObserver® specifications

Dimensions and weight	300 mm x 600 mm, 35 Kg
Power supply	110/220 VAC, 50/60 Hz, 1.5kW
Communications	4-20 mA Modbus TCP, Profibus DP, Profinet
Light guide	LED through optical fiber Periodic back and forth motion
Material	Stainless steel 316L
Flush water	5 Bars, hot and filtered
Fused sight glass	Hardened Borosilicate DIN 7080

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ITECA SOCADEI reserves the right to change this document without prior consultation

