



Protecting Your Customers from the Invisible

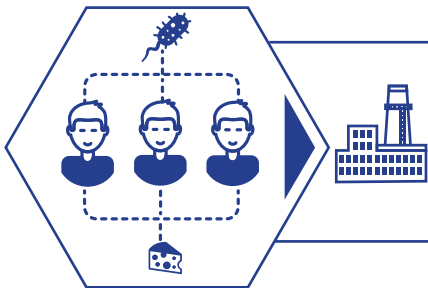
Charm Sciences' Integrated Sanitation Monitoring Programs for Quality and Cost-Effective Verification of Cleanliness

Introduction

There is an increased focus in the food industry on food-safety monitoring. Food manufacturers, processors, packages and handlers must identify safety hazards and adapt process controls to reduce the risk of hazards. Cleaning is a universal process control in food manufacturing. Charm® provides tests that are fast and reliable for cleaning verification, prevention of cross-contamination, and infection control. Charm tests help industries meet third party and process control documentation requirements.



FACT: Whole-Genome Sequencing Traceback



Administrative agencies now have a standard system of identifying foodborne pathogen isolates obtained from foods and environmental samples. Tracebacks have become a common way to relate a foodborne illness to the factories involved.

Integrated Sanitation Tools

Prepare your facility to meet compliance regulations and react quickly to any process deviation.

Integrating Charm's ATP and indicator organism tests with data management empowers food facilities to take vectoring and remedial action at pin-pointed hygienic threats. Use eBacMap® Data Trending & Mapping to link ATP sanitation, microbial indicators, and pathogen test results onto a facility map to quickly identify, communicate, and implement corrective and preventative actions.

Real-time ATP Cleaning Monitoring

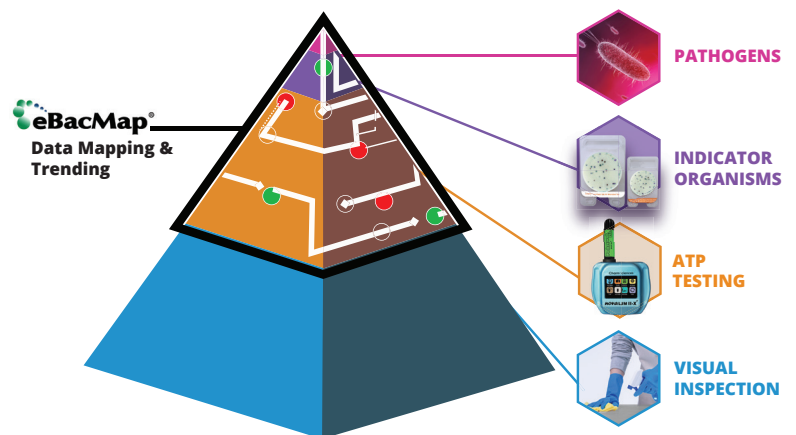
- PocketSwab® Plus ATP Swabs
- novaLUM® II-X System
- Data Management

Indicator Organism Solutions:

- Aerobic Count
- Coliform Count
- *E. coli* Count
- Yeast and Mold Count
- Enterobacteriaceae Count
- Heterotrophic Count
- Staphylococcus Aureus
- Yeast Only

Integrated Mapping Software:

Link ATP sanitation, microbial indicators, and pathogen test results into a facilities map to quickly identify, communicate and manage hygienic challenges in a comprehensive microbial risk-based approach.



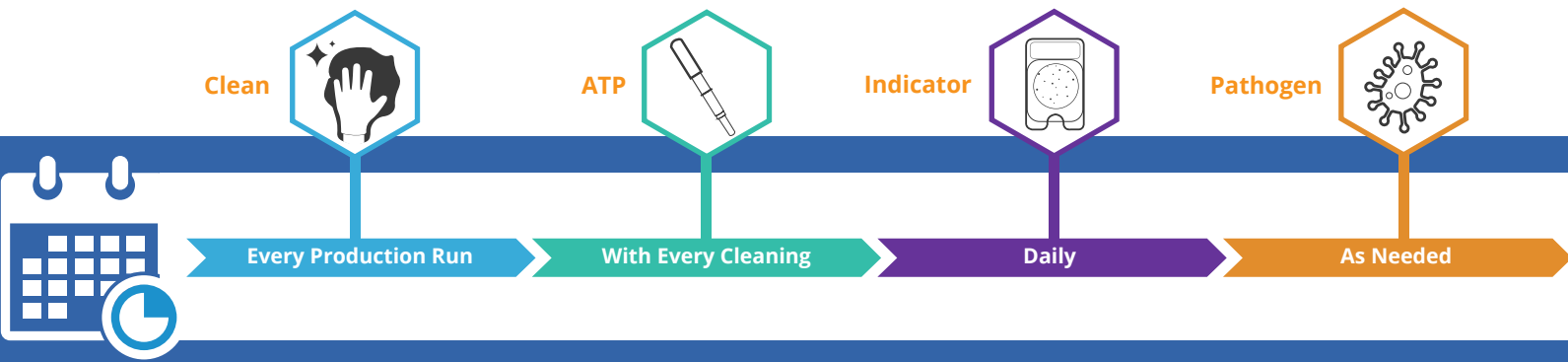
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Part 1: ATP Solution

The Charm PocketSwab Plus ATP Swab provides a simple, rapid method to assess whether a visually clean surface is biologically clean. Verify and audit your cleaning programs, educate staff, and evaluate cleaning protocols.

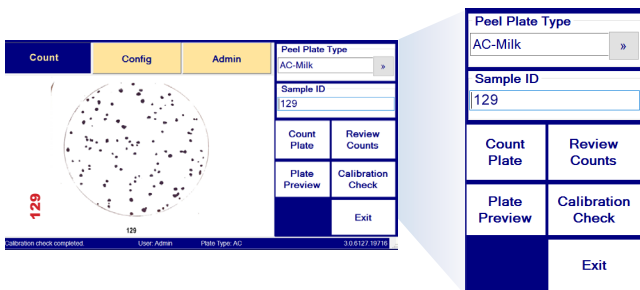
Charm novaLUM II-X System

- Is the preferred method to monitor cleaning effectiveness of sanitation programs.
- Utilizes a technology advanced photomultiplier tube, that is more sensitive to ATP presence.
- Allows detection of lower levels of microbial and organic matter contamination.
- WiFi for automated transfer of data.
- Retest to document corrective action.



Part 2: Microbial Testing

Indicator organisms are not necessarily correlated to pathogen results, but are a good monitor of microbial control in the facility and provide faster feedback to process deviations than pathogen results.



Peel Plate Colony Counter Count Screen



Peel Plate EC and Peel Plate Colony Counter

Charm Peel Plate Microbial Test and Colony Counters

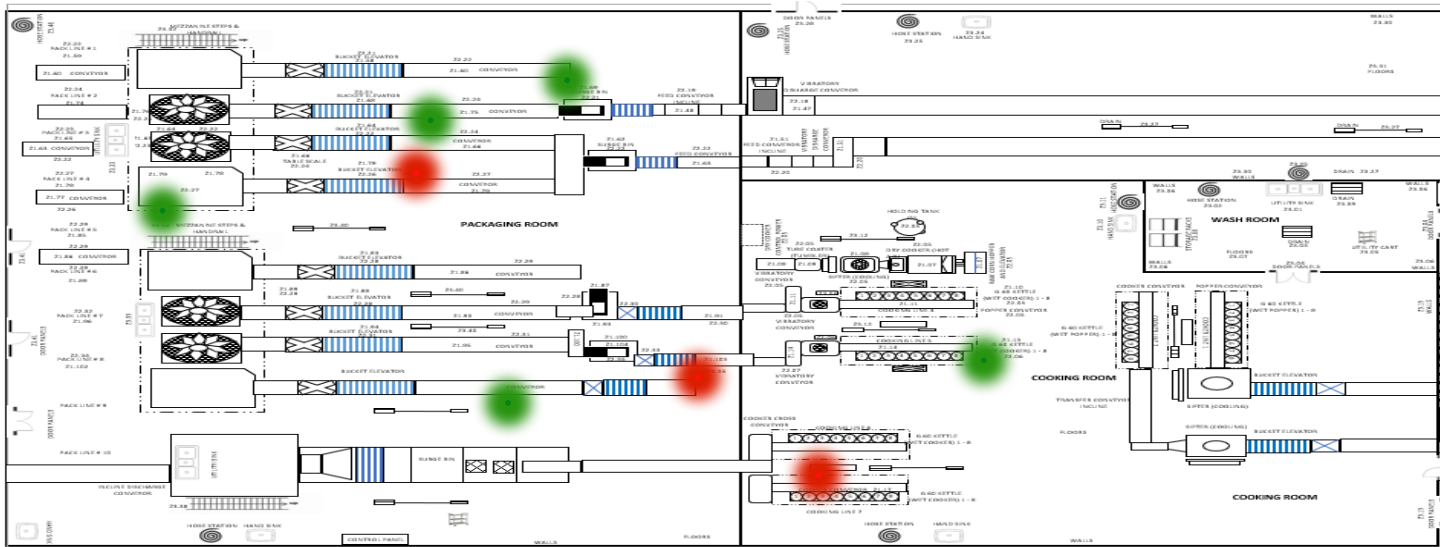
- Increases productivity and reduces human error with accuracy within 10% of an experienced microbiologist's visual count
- Detects and quantifies spreader colonies on Peel Plate tests
- Channels are customizable per product type
- Stores images of test results for downloading to mapping/trending software and to LIMS's

Part 3: Data Mapping & Trending

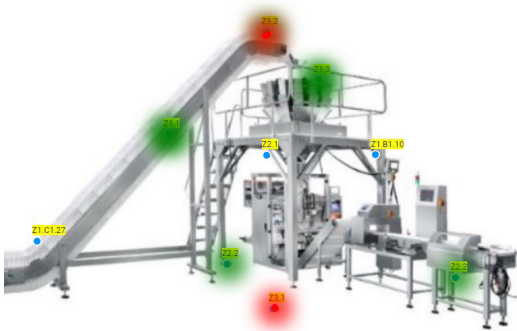
Turn your environmental monitoring data into actionable insights with eBacMap Data Mapping & Trending

Realize immediate ROI while you protect your brand equity.

- Cut labor costs by automating sample collection scheduling.
- Minimize errors inherent in the manual upkeep of spreadsheets.
- Save time with direct upload of ATP results from the novaLUM II-X system.
- Provide trend reports on demand showing hotspots for management review and audits.
- Reduce the cost of rework and risk of recall.



Floorplan with heat spots quickly lets you visualize the physical location and frequency of contaminations.



Plant rendering with heat spots quickly lets you visualize the physical location and frequency of contaminations.

Quantify. Verify. Satisfy.

- **Understand** your facility's environment through results mapping, trend reports, a sample scheduler, and digital CAPA records.
- **Communicate and Collaborate** better with your food safety team.
- **Create** sampling schedules on a routine or randomized basis to ensure that all sites are adequately monitored.
- **Investigate** more thoroughly and intentionally.
- **Implement** targeted corrective and preventive actions.