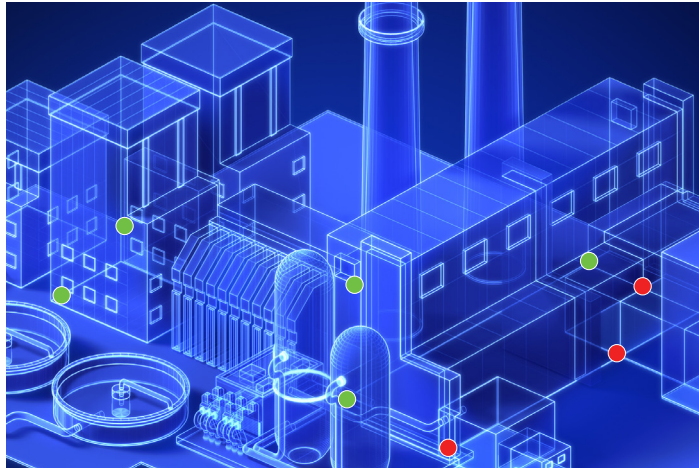




Part 3: Pathogen Testing and Data Integration



Externally tested pathogen results are the final pinnacle of the integrated control pyramid. When ATP sanitation, bacterial indicators, and pathogen results are linked to the EnviroMap software, it can quickly communicate, isolate, and help remediate hygienic deviations. This aids vectoring and corrective action in a comprehensive control program.

Meet the Peel Plate Family



Charm Peel Plate tests handle a wide variety of microbial indicator tests. For other industries and commodities, please contact Charm Sciences at info@charm.com.



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.



Part 1: ATP Solution

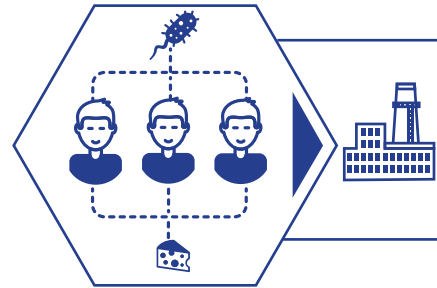
The Charm PocketSwab Plus ATP Swab provides a simple, rapid method for objectively assessing whether a surface is clean. This technique has been used to audit cleaning programs, educate staff, and evaluate cleaning protocols.

Charm novaLUM II-X System

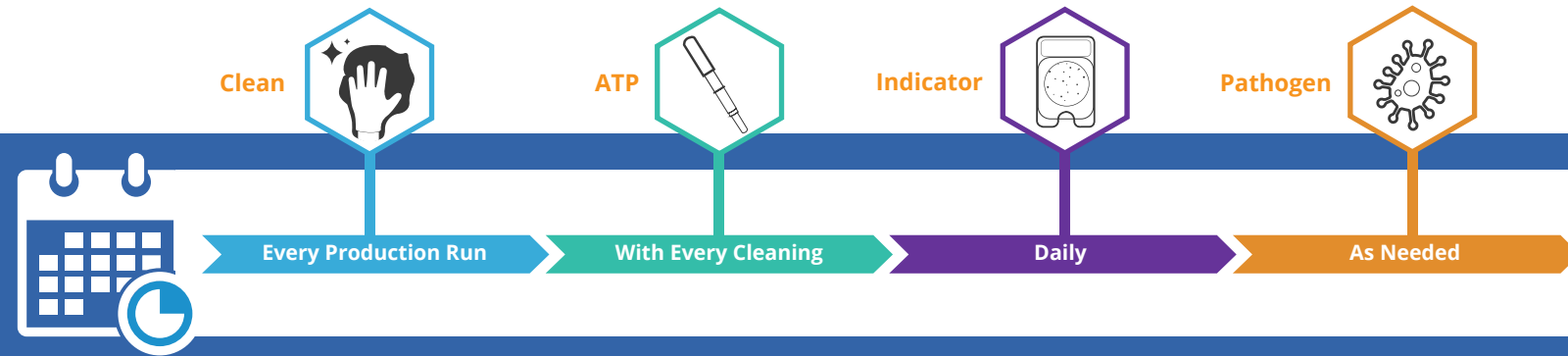
- Is the preferred method to monitor cleaning effectiveness of sanitation programs.
- Utilizes a technology advanced photomultiplier tube, that is more sensitive to ATP presence.
- Allows detection of lower levels of microbial and organic matter contamination.
- WiFi for automated transfer of data.
-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



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

Charm Sciences' sanitation monitoring uses ATP and Peel Plate tools for cleaning and microbial control verification. Integrated data management empowers food facilities to take vectoring and remedial action at pin-pointed hygienic threats. EnviroMap® links externally performed pathogen test results into a visual facility map. This integrated sanitation pyramid prepares the facility to meet compliance regulations.

Real-time ATP Cleaning Monitoring

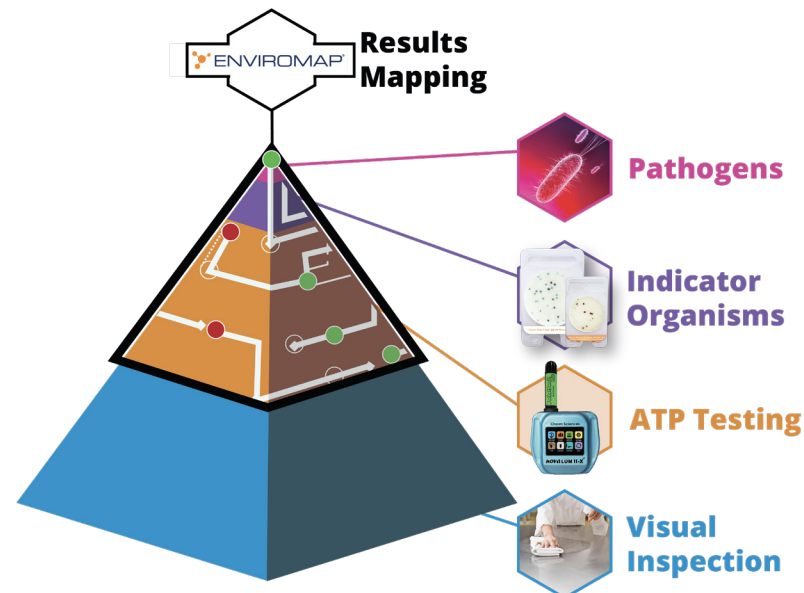
- PocketSwab® Plus ATP Swabs
- novaLUM® II-X System
- Data Management

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:

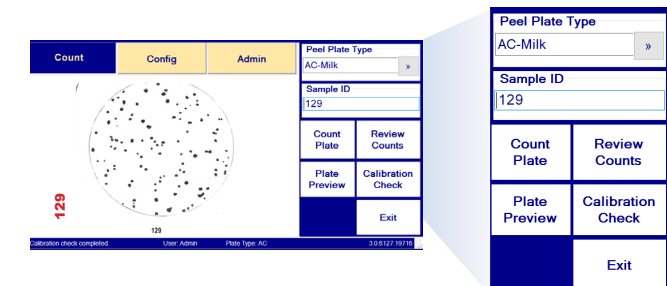
Link ATP sanitation, microbial indicators, and external pathogen test results into a facilities map to quickly identify, communicate and manage hygienic challenges in a comprehensive microbial risk-based approach



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 Microbial Tests along with the Peel Plate Colony Counters provide facility employees with a simple-to-use tool without needing a trained microbiologist. Counters are stand-alone units which reduces the dependency of a separate computer connection. The Peel Plate Colony Counters produce results that integrate into EnviroMap. The counters also help with audit requirements, storing images, and data supporting hygienic control throughout the production plant.



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 LIMS's