SCS clean

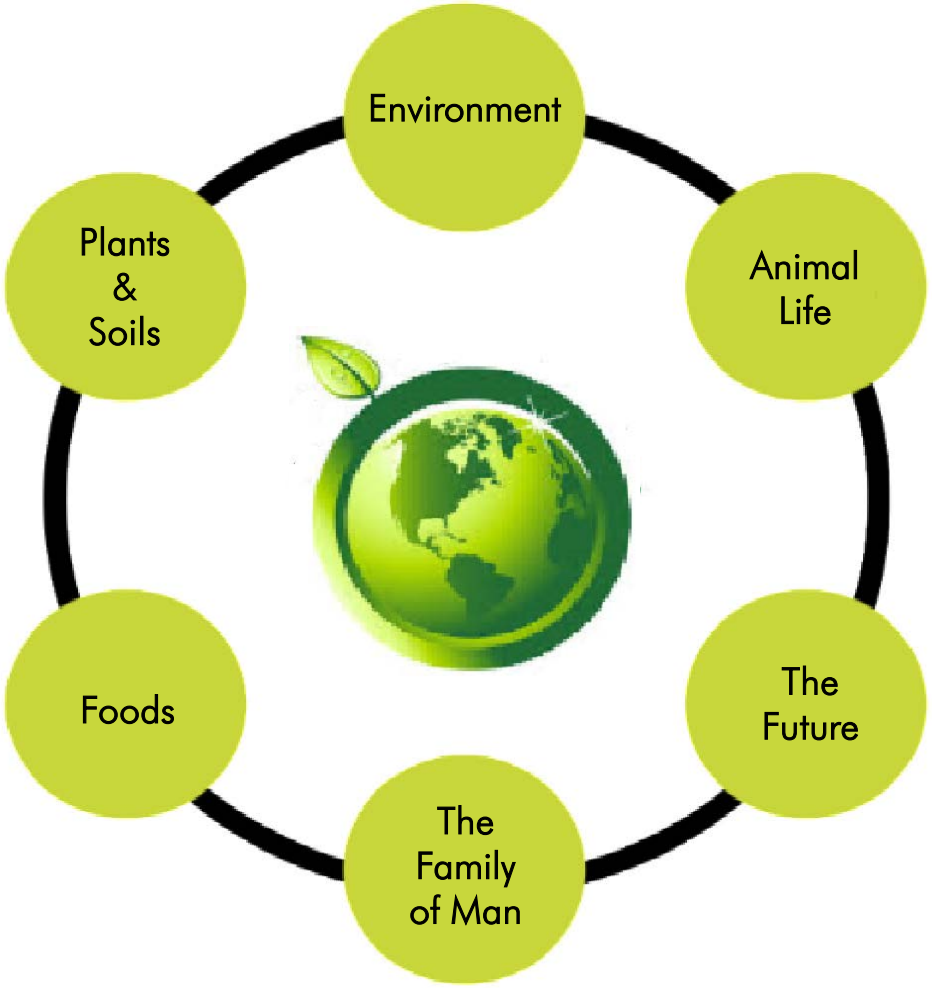
Electrolyzed Oxidative & Reductive Water

SCS INC | STORAGE CONTROL SYSTEMS, INC.

Why SCSclean?

Harsh, Harmful and Toxic Chemicals are
Poisoning Our World and
Our Food Supply Chain

- Protect & Recover Our Fragile Environment
- Protect our Food Supply
- Protect Our Natural Water Resource
- Protect Our Living & Working Spaces



Responsible Creation and Use of Safe and Effective Alternatives to Harmful and Toxic Chemicals

Chemicals for the most part have been good and are good for mankind, improving everything from standard of living to extending health and wellness.

SCS is focused on replacing the chemicals used in the food chain that have harmful effects on our life and environment, such as:

- Water Resources
- Soils
- Plant Life, both Natural & Agricultural
- Grown Food and Feed Products
- Food Processing, Packaging and Storing
- Waste Products

SCS clean

Targeted Industries

&

Proven Applications

- Agriculture (Open Field & Contained Grow)
  - Seed & Seedling Treatments
  - Soil Treatments
  - Foliar Crop Treatments
  - Contained Grow Area Sanitation & Treatment
- Water Treatment & Recovery
  - Source Water Treatment
  - Wastewater Treatment
  - In-Process Water Recovery & Treatment
  - Irrigation System Treatment
- Food Processing & Packaging
  - Fruit Prep & Packing
  - Vegetable Field Prep & Packing
  - Meat Processing
  - Facilities & Equipment Cleaning & Sanitizing

SCSclean Technology has been Developed and Installed in the Broadest Range of Generators

- The first high volume EOW machines
- Machines that can create from 25 to 150,000+ gallons of Ionized-EO Water per day

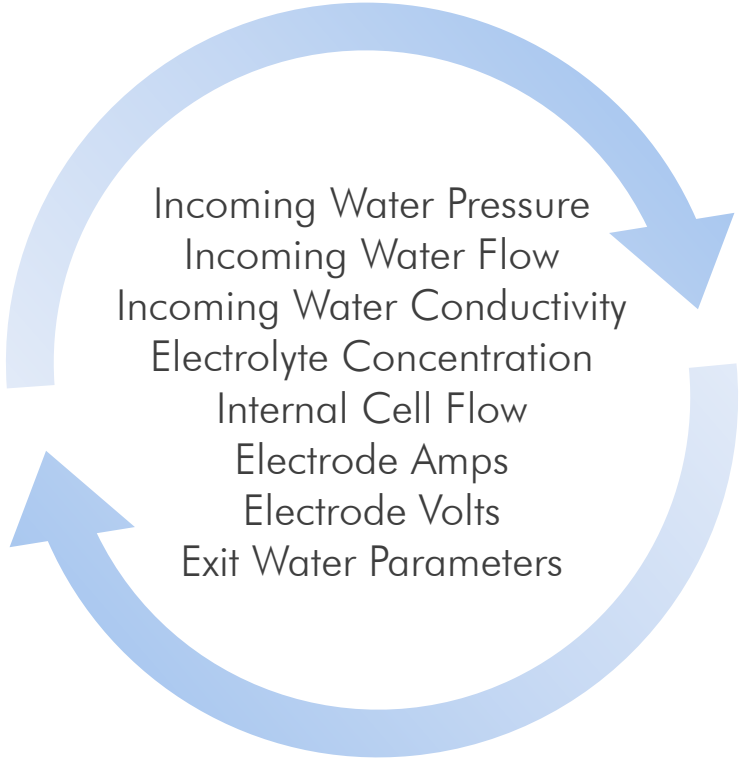
We continue to customize use, volume and production based upon need

Dairy Drinking Water System (3,000 Cow Capacity)

2,000-Acre Apple Orchard Anti-Fungal Spray

Automated Flow Technology

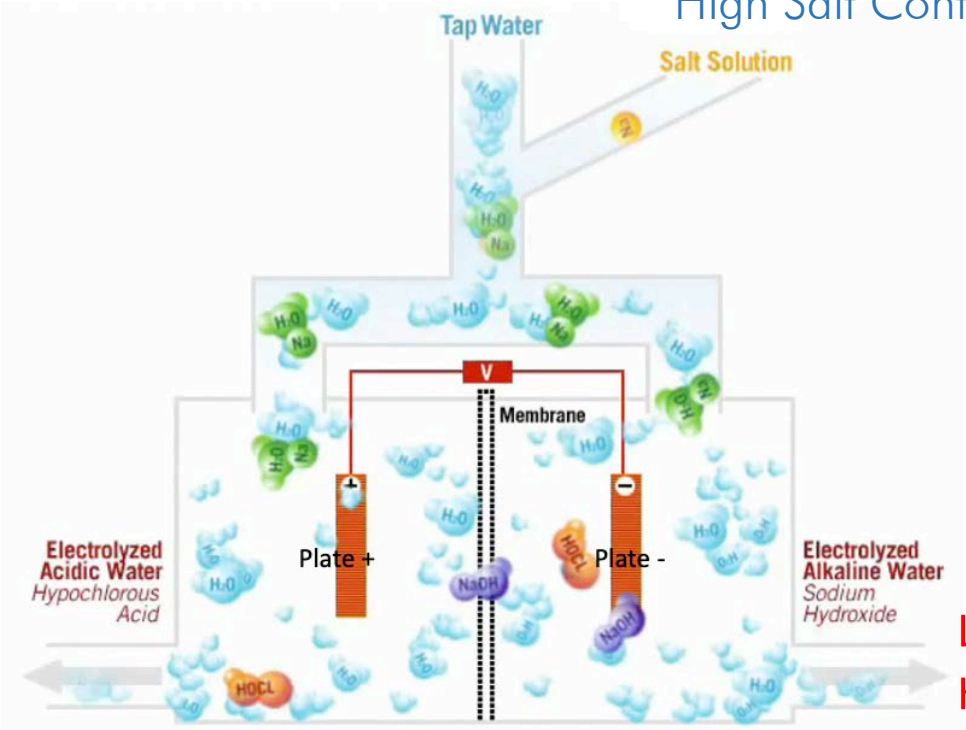
Continually Automatically Monitor, Adjust, Record and Repeat:



Traditional Electrolysis

One Power & Salt setting for both fluids
Not efficient using Salt & Power
Not Compliant with USDA HOCl
Cleaner not effective in CIP
Reduced purity –
- IONIC Mixing Permitted
- High Salt Residuals
- Variable Values

High Salt Content

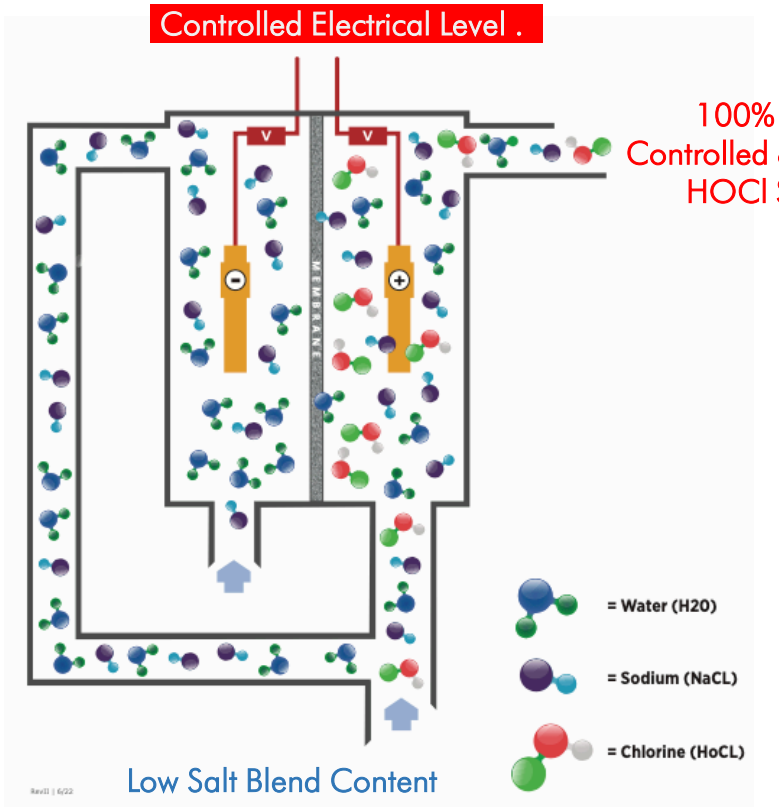


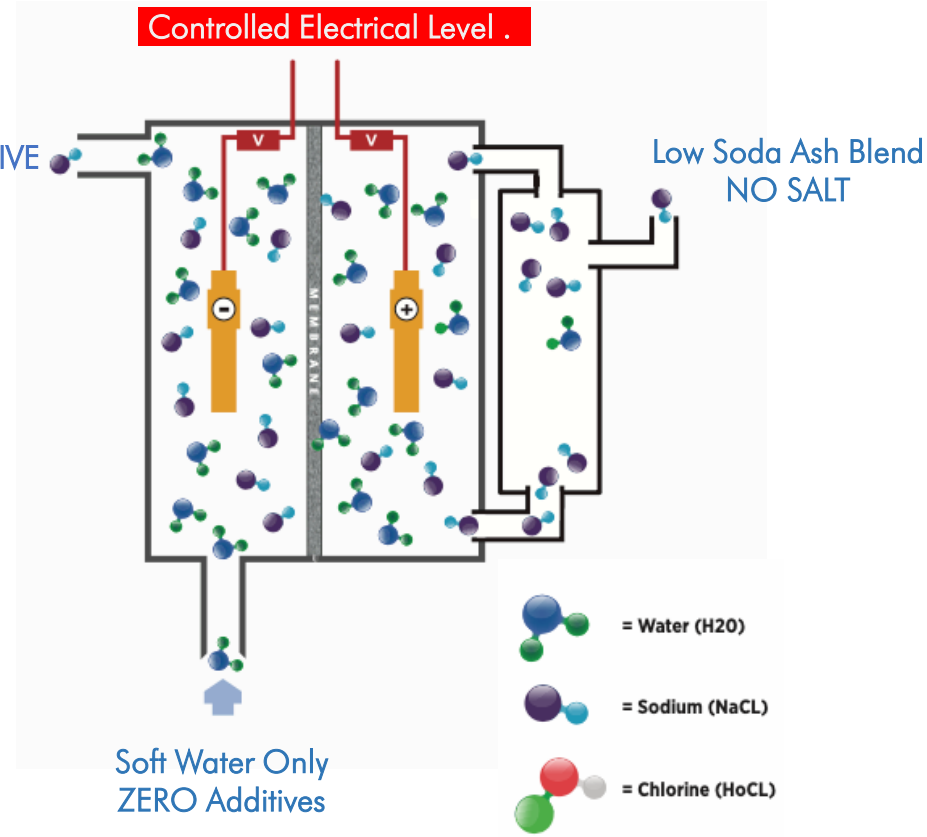
Little control over HOCl Level
High Salt Content in Product

Low NaOH Level
High Salt Content in Product

PROBLEMS:
1. High Salt ingredient and Salt residual in products
2. Little control over HOCl Usable Key Active Components (HOCl & NaOH)
3. High Waste Stream

SCS clean Automated Flow Control Technology





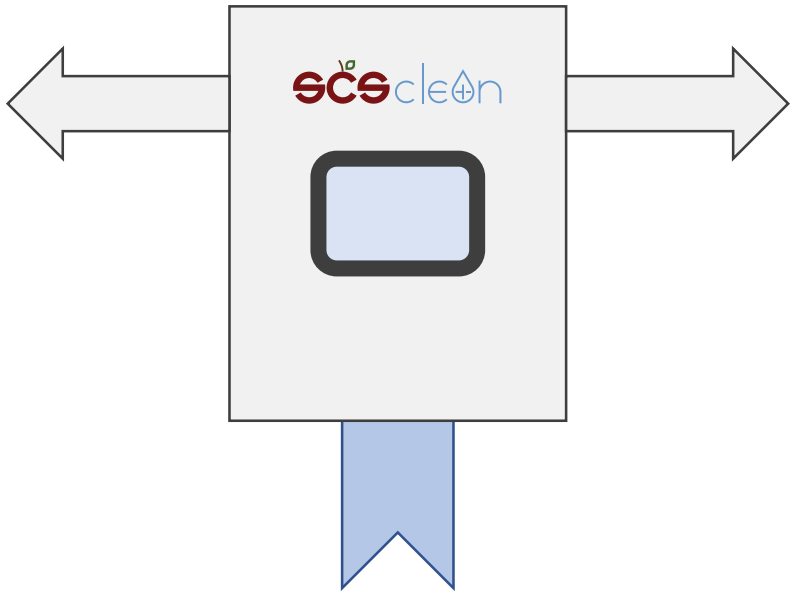
Automated Flow Control Technology. Created by Michael Hampson, XL Automation Inc.

SCS clean Automated Flow Control Technology

CATHOLITE

Alkaline
NaOH – Sodium Hydroxide
Cleaner
Reductive

Example Uses:
· Floors
· Benches
· Dump Tanks
· Brushes/Beds



Soft Water
Supply

ANOLYTE

Acidic
HOCl – Hypochlorus Acid
Sanitizer
"Kill Step"

Example Uses:
· CA/Grow Room Walls
· Packing Room Floor
· Final Rinse Brushes
· Mist over Flowers
· Powdery Mildew
· Algae

SCSclean Water Systems & Technology Improvements

- SCSclean Proprietary Water Technology provides:
  - Water Values customized to meet the application needs
  - Low Chloride Sanitizing Solutions
  - Proven Effective Electrostatic Spraying Systems for area decontamination, Traditional Spray & Wash, In-Solution Mixing

- On demand production of cleaning and/or sanitizing solutions to meet plant consumption volumes
  - Ensures no wasted fluids

- No dilution required – 100% of SCSclean Water is Electrolyzed
  - Generates *repeatable, consistent* sanitizing and cleaning fluids
  - *No variation* in pH or concentration due to variations in plant water

- Proven, superior Cleaning and Antimicrobial performance (efficacy)

- Proven Solution and Service Provider

Why SCSclean Water is Effective: As a Cleaner

Sodium Hydroxide as an Active Ingredient in Cleaners

— Safe & effective at low concentration levels (200-300 ppm)

— Replaces standard chemical caustics containing over 10,000 ppm of NaOH

· Common Soap: Up to 250,000 ppm

· SCSclean Water: 250 ppm

Increased pH Contributes to Cleaning Power

— Decreased Surface Tension

High Negative ORP Oxidation Reduction Potential

— Typically -900 mV charge.

— Enhances ability to separate and suspend soils & oils

Tested & Proven Safe

— Safe to People, Homes, Workplaces, Foods & Environment

SCSclean *is* *Just Water*

Why SCS clean Oxidative Water is Effective: As a Disinfectant

Hypochlorous is key active ingredient in acidic electrolyzed water (Anolyte)

- Over 100 times the efficacy of chlorine bleach
- pH control ensures the solution remains >90% HOCl for maximum antimicrobial effectiveness

Acidic pH inhospitable to many microbes

High Positive ORP Oxidation Reduction Potential*

- Typically +950 mV charge
- Increases the antimicrobial efficacy
  - Electrical Kill is Complete vs. Chemical/Poison Kills Allow for Microbial Adaptation

**Oxidation Reduction Potential (ORP) is a measurement of the strength of an oxidizer(+)*

SCSclean Oxidative Water is an Effective:

Disinfectant - Pesticide - Sanitizer

What does it kill?

— Bacteria: Lactobacillus, Salmonella, Legionella, E. Coli, MRSA, Staphylococcus, Listeria, Pseudomonas, etc.

— Viruses: HIV-1, Hepatitis, **Coronavirus** SARS-CoV-2 (**COVID**-19) List N

— Protozoan Cysts: Cryptosporidium

— Yeasts: Saccharomyces

— Spores: Molds, Fungus and Mild. including Powdery Mildew and Fire Blight

— Cleans and Eliminates Biofilms

SCSclean *is* *Just Water.*

SCSclean Generator Comparisons

	OnSite Chlorine Generators	Concentrated Acid/Alkaline Water Generators	SCSclean Automated Flow Generators
% of Electrolyzed Water	Typically Less than 1%	Typically 5-10%	100%
Typical ORP of Acidic Sanitizer as Applied	Low Same as Dilution Water	Low Same as Dilution Water	High +900mV or Greater
Typical pH of Acidic Sanitizer as Applied	Same as Dilution Water	Same as Dilution Water	Controlled to Set Point 4-6.6pH
% of Chlorine in Form of HOCl as Applied	Depends on pH of Dilution Water	Depends on pH of Dilution Water	HOCl Controlled to Mandated Levels
Amount of Alkaline Cleaner Produced	N/A	Typically about 15% of Acid Water Production	Automated Flow creates 100% Alkaline Cleaner – No Waste
Typical ORP of Alkaline Cleaner as Applied	N/A	Same as Dilution Water	~900mV (Antimicrobial per W.H.O.)
Typical pH of Alkaline Cleaner as Applied	N/A	Same as Dilution Water	Typically 11.5 or Greater
Production Ratio of Sanitizer to Cleaner	N/A	Fixed Ratio	Variable Ratio to Match Consumption

SCS clean Case Study: Apple Packing Company

Client Priorities
- Reduce use of toxic chemical, based cleaners and sanitizers
- Improve water utilization
- Waste water disposal compliance

Meeting Facility Priorities
- Reduction in the use of hazardous chemicals
- Increase water recycle
- Improve cleaning process

Solution Design & Implementation
- On site generator design and installation

Results
- 85% reduction in chemical cost
- 50% reduction in water consumption
- Increase cleaning sanitizing capacity
- Other benefits

SCS clean Complete Non-Toxic Organic Processing Plant Process

- Spray Bars on Packing lines
- Clean-in-Place
- Plant Wash Down
- Bio-Film Removal
- Pathogen free on conveyors, metals, brush beds etc. after both waters are applied
- Extended product life for distributor and end customers.
- Eliminates re-contamination from brush beds.
- Stops the use of other chemical needed for processing plant sanitation needs.
- CA Storage Rooms and Plant Cleaning
- Exceeds Regulatory Requirements for Surface Cleaning and Sanitization

SCS clean Application Technology Benefits Summary

Enhanced Operational Margins

- Increased plant up-time; reduced clean times
- Reduced chemical costs and inventory costs
- Reduced energy (ambient clean), water consumption and wastewater costs

Improved Employee Safety

- Minimizes exposure and risk of handling of harsh chemicals and high temperature cleaning

Increased Efficacy

- Superior ambient cleaning and sanitizing

Foster Sustainability

- Reduced environmental impact (energy and water)

Meets Organic and Safe Foods Initiatives

- Complies with State and Federal guidelines for Food Safety and Organic Cleaning and Sanitizing

Effectively and Safely Disinfects & Sanitizes

- It works… It doesn't impact other objects or solutions… It's Cost Effective