

Constant Chlor[®] Plus

Dry Calcium Hypochlorite Feeding System

The New Model
MM-1S



Municipal,
Food Safety &
Industrial
Applications

PATENTED
SPRAY
TECHNOLOGY



DELIVERS
UNPARALLELED
CONSISTENT RESULTS



The Constant Chlor® Plus Dry Calcium Hypochlorite Feeding System

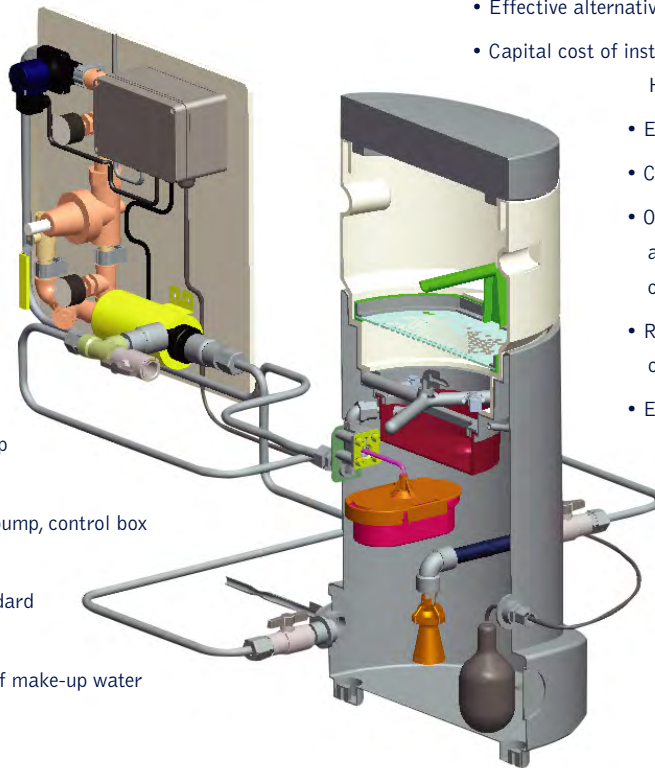
The Constant Chlor® Plus, Model MM-1S dry calcium hypochlorite feeding system is designed to prepare and automatically deliver a consistently accurate dose of liquid available chlorine for disinfection applications. This patented feeding system can supply up to 40 pounds of AVCL/day.

The feeder uses NSF Standard 60 listed Constant Chlor® Plus dry calcium hypochlorite briquettes and patented spray technology to produce fresh liquid chlorine solution as needed. The fresh made reservoir is filled with approximately 1.7% available chlorine solution (at 70° F) and volume is maintained via an electronically controlled spray manifold. Solution mixing and solids suspension is performed by the recirculation pump and nozzle assembly. The hypochlorite solution is injected into the application with an appropriate, highly accurate positive displacement chemical metering pump specified for the application.

Like all Constant Chlor® feeders the MM-1S operates at normal atmospheric pressure, it is readily serviceable for refilling and cleaning while in operation. With a footprint of less than 20" in diameter, and no requirement for storage tanks or secondary containment, the MM-1S is perfect for both central and remote locations.

FEATURES

- Compatible for use with any manufacturer's metering pump sized for the application
- Unit constructed of high impact LLDPE; all wetted areas internal fittings and level controls constructed of suitable plastics or other non-metallic material
- Nested configuration makes it easy to disassemble for installation and maintenance
- Large 62 lb. capacity briquette hopper
- Electronically controlled spray cycle
- Automatic solution tank refill
- Mechanical overflow-prevention valve
- Recirculation pump and nozzle system keep insolubles in solution
- Factory mounted and wired recirculation pump, control box and manifold for "plug-in" installation
- Remote location installation utilizing standard plumbing fittings not exceeding 1/2" sizes
- Spray technology uses less than 320 gpd of make-up water to create hypochlorite solution
- **Optional:** Direct measurement load cell



BENEFITS

- Cost effective
- Effective alternative to liquid bleach
- Capital cost of installation is 1/2 to 2/3 less than Sodium Hypochlorite installations
- Efficiencies in bulk storage and man hours
- Consistent and reliable chlorine solutions
- Operates at normal atmospheric pressures and is readily serviceable for refilling and cleaning while in operation
- Reduced metering pump air locks due to off-gassing
- Eliminates transfer spills
 - Delivers up to 40 lbs. AVCL per day
 - Minimizes man hours for maintenance and shut downs
 - Small make-up water requirement is suitable for RO pretreatment in poor water quality situations

Specifications

Chlorine Feed Rate* ... 1.0-40 lbs. of AVCL per day
 Dry Chemical Capacity* ... 62 lbs.
 Water Inlet Size ... 1/2", F NPT
 Metering Pump Connection ... 1/2", F NPT
 Inlet pressure (Range) ... 17-45 psi

Tubing ... 1/2" O.D. PE
 Chlorinator Diameter ... 19"
 Chlorinator Height ... 34"
 Chlorinator Weight (Full) ... 126 lbs.
 Chlorinator Weight (Empty) ... 28 lbs.

Site Requirements

Inlet Water ... 1.0 gpm @ 50 – 150 psig
 Electrical ... 20 amp @ 120v/1ph/60Hz
 Operating Temperature ... 40-105°F

*Constant Chlor® Plus or DryTec® FG Dry Chlorinator Briquettes (equivalent to 40 lbs. available chlorine per day). DryTec® FG Briquettes for use with food grade sanitation applications.

Patented Spray Technology

Patented Spray Technology + Constant Chlor® Plus Briquettes = Consistently Accurate Hypochlorite Solution

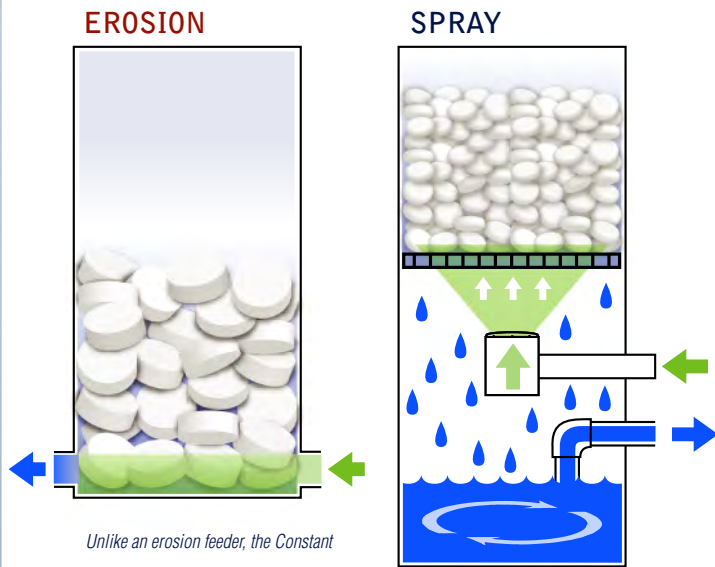


How it Works

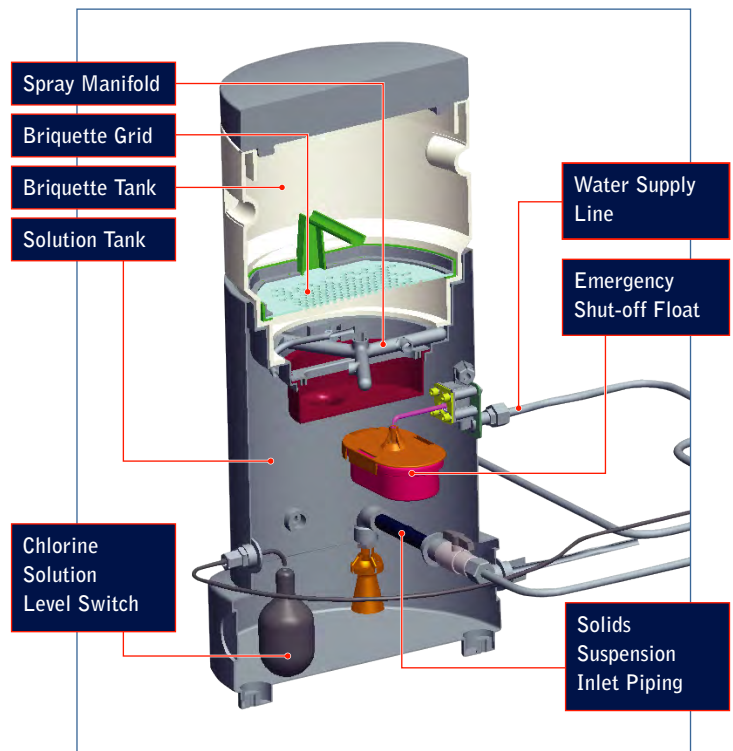
Supply water injected into the unit sprays upward into a bed of briquettes; this short intermittent spray cycle contacts the entire bottom of the bed evenly, not just the material resting on the grid.

Specifically designed for use in the Constant Chlor® Plus Spray Technology feed system, the briquettes are relatively small, smooth and "pillow shaped", for maintaining optimum packing in the spray bed.

Maintaining a well-packed bed of briquettes significantly reduces the potential for large voids in the spray surface that can result in inconsistent residual concentration in the final solution. Hypochlorite solution produced by the unit's short intermittent spray cycle is collected in a lower 7.5-gallon solution tank, where the total volume is slowly and continuously mixed, further enhancing concentration consistency.



Unlike an erosion feeder, the Constant Chlor® Plus Spray Technology feed system sprays upward to a well packed bed of briquettes, contacting the entire bottom of the bed evenly. Solution collected in a lower reservoir is continuously mixed. Due to the consistency of the chemical solution concentration, operator dosage adjustment is minimal.



NOT AN EROSION FEEDER

The Constant Chlor® Plus spray feed system is markedly different from erosion feeders currently on the market.

An erosion process dissolves material from the bottom of a tablet bed. The standard tablets, or "pill" shaped calcium hypochlorite media, are relatively large and have sharp edges, leaving large spaces or gaps, which can result in solution inconsistency and an uneven feed rate.

Municipal Applications

Arch Chemicals, Inc. provides municipalities across the country with products that meet the toughest regulations and standards including NSF/ANSI 61 for our feeding equipment and NSF 60 for **Constant Chlor® Plus Briquettes**, allowing the public to rest easy about the quality of their water supply.

- Remote Well Sites
- Reclaimed Water
- Booster Stations
- Surface Water Treatment Plants
- Waste Water
- Ground Water Treatment Plants

Potable Water

- Provides hypochlorination to disinfect water supplies in smaller communities
- Requires low initial investment
- Maintains economical operating costs

Private Water Supplies

- Sanitizes wells, natural springs, cisterns and storage tanks by destroying microbes
- Purifies by destroying harmful organic matter



Other Water Treatments

- Controls slime and maximizes cooling efficiency in cooling towers, ponds and reservoirs of power plants
- Controls growth of slime in commercial air conditioning systems, improving cooling efficiency and eliminating unpleasant odors
- Destroys disease-producing organisms in raw or treated sewage
- Keeps decomposing septic sewage odors and masonry disintegration in check by "up sewer hypochlorination"

Food Safety Applications

The Constant Chlor® MM-1S Feeder in combination with Constant Chlor® Plus calcium hypochlorite briquettes is a versatile, effective and cost efficient tool in an integrated approach to controlling food pathogens in pre-harvest, post-harvest and meat processing applications.

Pre-Harvest Applications

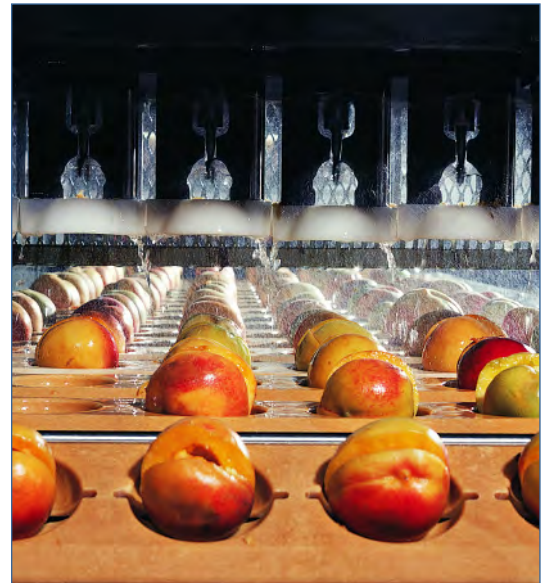
- Sanitization of irrigation lines
- Well treatment
- Prevention and elimination of bio-fouling in irrigation emitters
- Impoundment treatment
- Seed treatment

Post-Harvest Applications

- Disinfection of process water
- Packing sanitization
- Post-harvest washing of:
 - Apples
 - Peaches
 - Citrus Fruits
 - Asparagus
 - Mushrooms
 - Melons
 - Bean sprouts
 - Nectarines
 - Pears
 - Carrots
 - Nuts
 - Peppers
 - Cherry
 - Potatoes
 - Tomatoes

Meat processing

- Poultry
- Red Meat



Industrial Applications

- Bottling Plant Process Water
- Hot Pack Water
- Chemical Scrubbing
- Algae Control
- Foam Control
- Reclaimed Water
- Super Chlorination



Constant Chlor® Plus Briquettes

Constant Chlor® Plus Briquettes are designed for use in the Constant Chlor® Plus Chlorinator. The briquettes provide chlorine solution for use in many applications including the treatment of surface and groundwater for municipal drinking water use, as well as the treatment of wastewater effluent.

These patented, pillow-shaped briquettes contain a scale inhibitor designed to reduce maintenance and improve reliability of the feeder system.



FEATURES

- Dry Solid Product
 - Longer shelf life than liquid bleach
 - Occupies much less space than liquid bleach
 - Less hazardous than liquid bleach
 - Easier to handle than liquid bleach

SCALE INHIBITED

- Patented formulation
- Reduces maintenance of equipment

REGULATORY

- EPA No. 1258-1179
- NSF Standard 60, Drinking Water Additives
- Meets AWWA Standard B300

PROPERTIES

- Available Chlorine (wt%) 65% minimum
- Scale Inhibitor (wt%) 0.5%
- Weight 0.25 oz. (7 grams)
- Dimensions 1-1/4 in. X 3/4 in. X 1/2 in.
- Appearance Pillow Shaped Briquettes

PACKAGING

Constant Chlor® Plus Dry Chlorinator Briquettes are available in 50 lb. plastic pails



Arch also produces Dry Tec® FG Briquettes (Food Grade) for use with the Constant Chlor® Plus feeder. Dry Tec® FG contains a proprietary formulation for certain food applications.

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