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Livestock

PLASSON Guide to Cleaning Water Lines

PLASSON recommends a regular cleaning program to eliminate water lines contaminants and scale buildup. These recommendations should support integrator cleaning and maintenance procedures.

Prior to using any commercial solution, verify with the solution manufacturer it is compatible with the PLASSON watering system.

Flushing duration:

Incoming pressure source	Line length	Flushing duration (minutes)
Mains	any	5
Tank	< 70 m (230')	5
	≥ 70 m (230')	10

Scale and Biofilm problems may be detrimental to bird performance as they can restrict water flow, clog filters and Nipples and harbor microorganisms.

A water line sanitizing program and routine water testing will minimize these problems so that scale and biofilm does not develop.

Flushing the lines during grow-out is beneficial, but sanitizing in between flocks is essential.

The Watering System should be thoroughly cleaned between flocks. A stronger cleaning solution may be used since birds will not be drinking the water.

We recommend thoroughly flushing the system with clean water at high pressure (line by line) before and between every one of the cleaning stages.

It is essential to confirm concentrated products are completely flushed from system before bird placement.

Before using any commercial solution verify it is compatible with the watering system components

There are different treatments for different purposes:

1. Sediment removal using Detergent
   - Any commercial detergent used and known in agriculture.
   - Dish-washer tablets or powder
   - Commercial solutions specially designated for poultry
     Water systems cleaning containing materials such as ammonium chloride, ammonium bromide, hydrogen peroxide etc…
2. Scale removal by reducing water PH
   - Sodium bisulfate
   - Citric Acid
   - Household vinegar
3. Sanitizing the water system by using Sanitizers
   - Chlorine (during grow-out)
   - Bromine
   - Hydrogen peroxide

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PLASSON Ltd. suggests the following as a regular cleaning program to eliminate water lines contaminants and scale buildup.

These recommendations serve to support integrator cleaning and maintenance procedures.

The standard cleaning procedure for every stage is as follows:

1. Flush the system with fresh and clean water using high pressure, one line at a time.
2. Mix the cleaning solution as detailed in the table below.
3. Fill watering system with solution (3 m (10') pipe section contains 1.15 lit. (0.304 gal.) of water).
4. Allow solution to remain in the system as explained in the table.
5. Flush the system using high pressure, one line at a time.
6. Clean filters, readjust regulators and activate Nipples prior to bird placement.

Note: In clean water conditions with low mineral concentrations and low bacteria count, not all the listed treatments are essential. It is up to the grower to know the quality of his water and treat the system accordingly.

Stage	cleaning procedure no.	Type of solution	Stock solution* for use with medicator 1:128	Solution preparation in a 1000 lit. tank	Final concentration in drinker line	Treatment duration	Treatment frequency	comments
Between flocks	1 ** Sediment removal	Detergent for agriculture or for dishwasher	100 gr. (3 oz) of dry detergent with 1 gal. of water = 1 gal. stock	200 gr.		6 to 24 hours	Once between flocks	Activate the Nipples manually in order to get the cleaning agent into the Nipples
	2 ** De-scaling	Citric acid	PH ≥8, 750 gr. (27 oz) mixed in 1 gal. of water =1 gal. stock	1.5 kg of citric acid	0.15%	5 to 12 hours	Once between flocks	The main purpose in this stage is to reduce the PH rate below 5 for at least 5 hours, removing scale and biofilm
			PH < 8, 500 gr. (18 oz) mixed in 1 gal. of water =1 gal. stock	1.0 kg of citric acid	0.10%			
Before placing birds	3	Citric acid	200 gr. (7 oz) mixed in 128 fl. oz of water =1 gal. stock	400 gr. of Citric acid	0.04%	1 to 3 days	Once every grow-out	Administer citric acid into the Nipple system and let it stay in the lines until birds are placed. Flushing is not mandatory
During grow-out	4**	Hydrogen Peroxide	30-60 gr. (1-2 oz) H2O2 + 124 fl. oz water=1 gal. stock	60-120 gr.	25-50 ppm	First 7-14 days And after performing other treatments		
	4a Alternative To 4 above	Chlorine***	3 fl. oz Bleach + 125 fl. oz water =1 gal. stock	3 (15-20 gr each) chlorine tablets twice a week in the water tank	3 ppm	During grow-out except when performing other treatments		Check end of line for residual chlorine to be approx. 3 ppm Flushing is not mandatory
Last 1 to 3 days of grow-out	5	Citric Acid	200 gr. (7 oz) mixed in 128 fl. oz. of water =1 gal. stock	400 gr. of Citric acid	0.04%	1 to 3 days	Once every grow-out	Preferable to Acetic Acid
	5 a Alternative To 5 above	Acetic Acid (Vinegar)	128 fl. oz (1 gal.) white household vinegar (5%) = 1 gal. stock	8 lit. of white household vinegar (5%) Or apple cider vinegar (5%)	0.04%	1 to 3 days	Once every grow-out	Alternative to Citric acid

Notes:

* Stock solution is for use with a Medicator that is set to a ratio of 1 part stock solution to 128 parts of water (1 fluid oz stock to 1 gal. of water).

** Commercial solutions for this stage of cleaning/de-scaling can be used. Follow manufactures suggestions.

*** If using Chlorine gas, follow manufacturer's instructions to achieve the required ppm.

- After medication and after applying any kind of solution flush the system with fresh clean water using high pressure, one line at a time.
- Before medication, be sure stock solutions container or tank has been properly cleaned.

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Feeding Drinking Climate Housing

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