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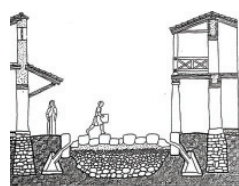
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10014009 (oM710)

Biological Drain Maintenance Systems

HISTORY OF DRAINS

MODERN SEWAGE SYSTEM

Septic tanks were introduced; effluent water was largely untreated causing pollution of streams and rivers.



CAUSTICS: THE FIRST DRAIN OPENERS

Powdered and liquid caustic formulations were introduced to open clogged drains; these were not always effective.

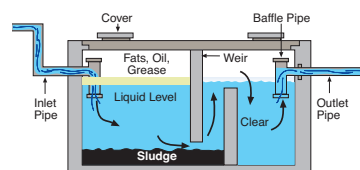


BACTERIA: A BIOLOGICAL BREAKTHROUGH

Powdered and liquid bacteria formulations were introduced; applying in a timely fashion to have an impact was still a challenge.



17TH – 18TH CENTURY — 1940's — 1960's — 1970's — 1980's — TODAY



LEARNING TO TRAP GREASE

Grease traps were introduced; they still experienced foul odors and manual cleaning was required.



ACIDS: THE OTHER END OF THE pH SCALE

Sulfuric acid was used to instantly clear drains; many customers were sensitive to employee exposure to acids.

TODAY

The ECO Bionics® BIO-Amp™ THE PERFECT UNION OF ENGINEERING AND MICROBIOLOGY



BIO-Amp has been created with the increasing developments of bacteria used in drain products. Equipment is now being used to incubate bacteria into live organisms and automatically dispense them into drain lines.



This system provides an excellent alternative to drain maintenance and produces enough bacteria to have a significant impact on the drain system.

THE SOLUTION: THE ECO Bionics® BIO-Amp™

RESULTS WITH THE UTILIZATION OF BIO-Amp

FREE-UP OF VALUABLE MAINTENANCE DOLLARS

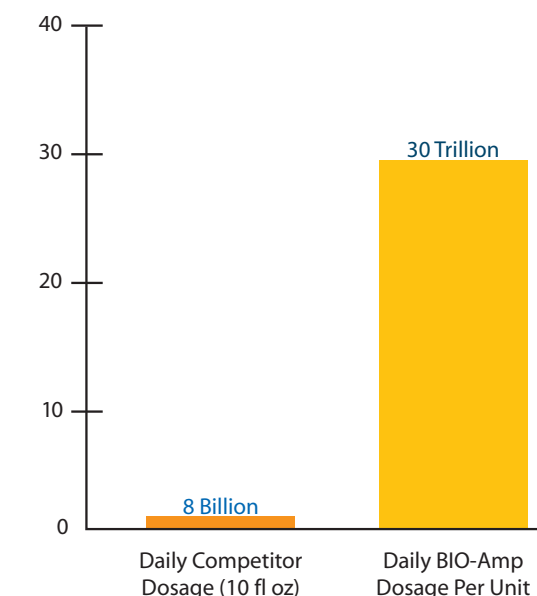
Case Study

A 180-bed hospital located in Bakersfield, California was having significant difficulty in controlling the Oil and Grease accumulation in its kitchen grease trap and 1,500 gallon on-site lift station.

The hospital was spending over \$10,000 annually in biological products and drain treatments, in addition to hydro-jetting the grease trap monthly and manually chiseling large grease deposits from the lift station walls. However, the hospital still incurred periodic backups.

One BIO-Amp was installed feeding directly into the main line leading to the lift station, and a second BIO-Amp was later installed on the main line leading to the grease trap. The BIO-Amps pumped 60 trillion bacteria into the drain system each day.

BACTERIA COUNT



THE BIO-Amp SAVED THE HOSPITAL \$10,000 IN MAINTENANCE COSTS, WHILE KEEPING THE TRAPS AND LINES FREE OF GREASE

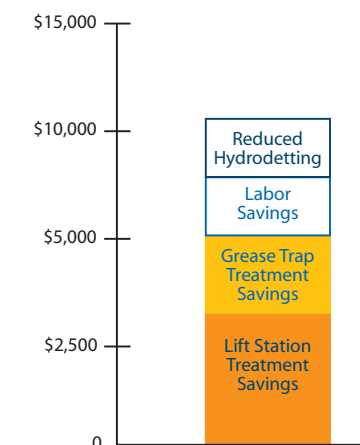
ANNUAL MAINTENANCE SAVINGS \$10,000

Hydro-jetting frequency reduced to once per quarter
Manual chiseling eliminated

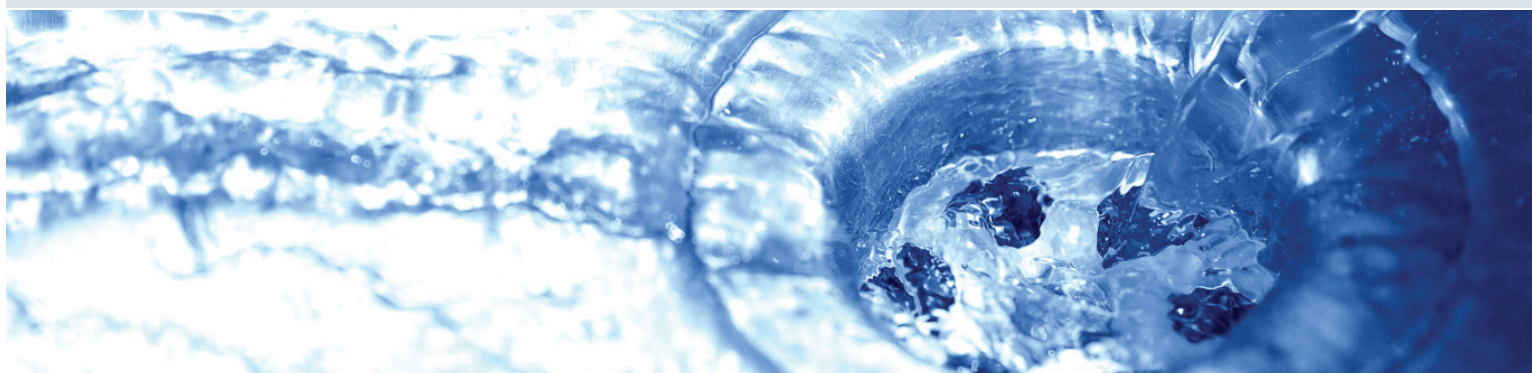
BACKUPS COMPLETELY ELIMINATED

3 years without a lift station backup
2 years without a grease trap backup

COST BENEFIT ANALYSIS
ANNUAL DRAIN MAINTENANCE SAVINGS



THE SOLUTION: THE ECO Bionics® BIO-Amp™



RESULTS WITH THE UTILIZATION OF BIO-Amp

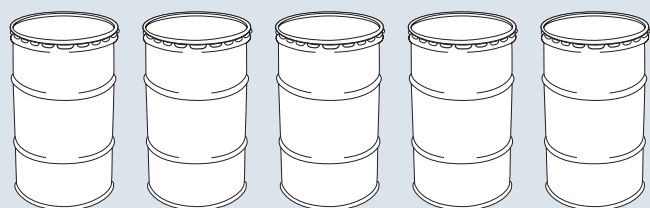
Introduction of 30 Trillion Bacteria Into Drain Line

Overwhelming Amount of Bacteria Is 1,000 Times More Bacteria Than The Nearest Competitor

WHAT DAILY DOSING MEANS TO YOU

The BIO-Amp applies the competitors equivalent of 292 gallons of bacterial product every 24 hours!

THAT'S MORE THAN FIVE 55-GALLON DRUMS... EVERY DAY!

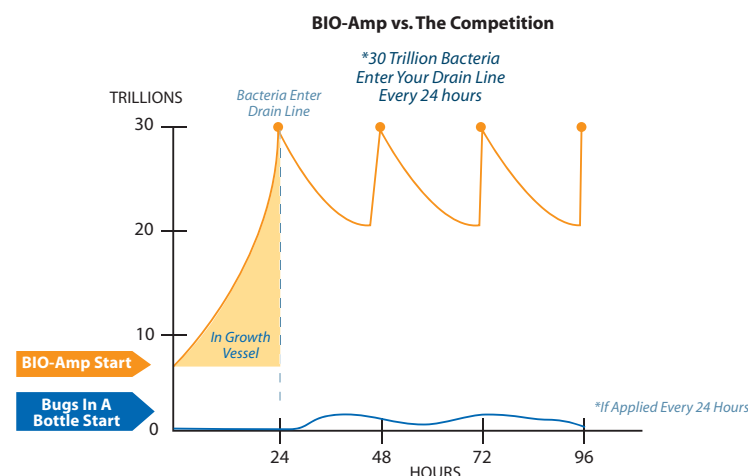


PREVENTS BACK-UPS

Bacteria digest grease build-up in drain lines that can block flow and cause a backup.

ELIMINATES FOUL ODORS

Bacteria reduce the amount of food particles that decay and cause foul odors.



REDUCES PROFESSIONAL MAINTENANCE SERVICING

Bacteria reduce pumps outs, pressure washing, and hydro-jetting occurrences often by as much as 50%.

REDUCES CITY AND COUNTY SURCHARGES

Bacteria reduce FOG, BOD, and other waste content entering the sanitary sewer.

COMMON DRAIN LINE PROBLEMS

SLOW DRAINS & BACKUPS

- Fats, Oils, Grease, and food particles clog drain lines and grease traps
- This is caused by excessive dumping of waste into sinks and floor drains, resulting in filthy snaking and downtime

FOUL ODORS

- Strong odors caused by food particles decomposing inside drain lines and on top of the hardened grease layer in the grease trap

EXPENSIVE & INEFFECTIVE GREASE TRAP PUMPING

- Pumping does not remove grease buildup inside the drain line
- Pumping leaves behind crusted grease on the walls of the trap, which leads to more frequent pumping

CITY & COUNTY SURCHARGES

- Improper disposal of Fats, Oils, and Greases results in fines and extra surcharges
- The local water authorities are becoming more and more stringent in their enforcement of laws pertaining to the level of FOG, BOD, and TSS emitted by businesses into municipal sewer lines

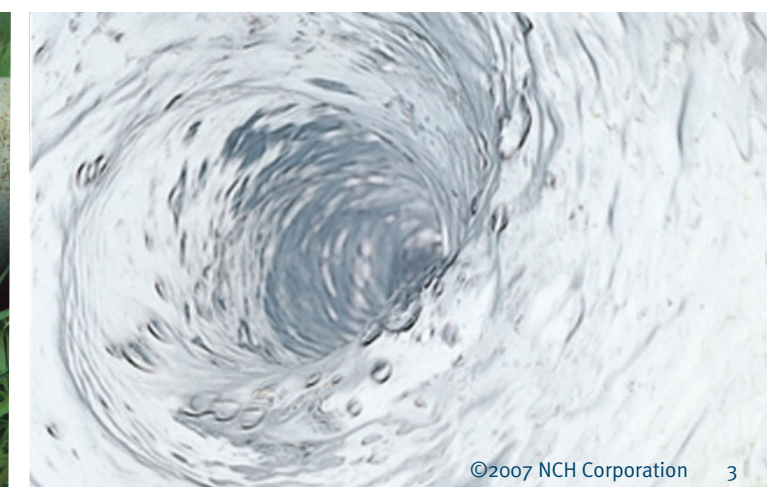


PROBLEMS WITH MOST GENERAL DRAIN LINE PRODUCTS

- Solvents, Caustics/Alkaline, and Acids can harm pipes and fixtures and are not safe to use, handle, or store
- Will not eliminate foul odors
- Product overuse adds to plumber expenses

NOT ALL BIOLOGICAL DRAIN MAINTAINERS ARE THE SAME

- Most companies deliver weak or dormant bacteria that are less effective
- Many products contain only "free enzymes" which break up and liquefy grease sending the problem down the line; products like these are prohibited by most water authorities
- Most biological products are applied under the wrong conditions and at the wrong time
- Traditional "bug in a bottle" products must package product with dormant, spore-form bacteria which require 4-6 hours to wake up and begin feeding
- Most facilities do not have 4-6 hours of downtime, causing most of these products to be prematurely pushed through your system to the collection facility



THE SOLUTION: THE ECO Bionics® BIO-Amp™

STEP 1: THE INTRODUCTION OF BACTERIA

FREE-FLOW™

30 TRILLION BACTERIA DAILY

Free-Flow generates 1,000 times more bacteria than the nearest competitor.



LIVE BACTERIA

Unlike other spore-form bacteria products, Free-Flow bacteria are ready to go to work soon as they enter the drain system, improving the effectiveness of each treatment.

THE RIGHT BACTERIA



Free-Flow contains five different types of bacteria that attack food sources and turn them into water and CO₂, and in turn, generate more bacteria.

Often these are the same bacteria used by local wastewater treatment facilities.

THE RIGHT ENZYMES

Specific enzymes are released by the Free-Flow bacteria so they can digest and eliminate fats, starches, proteins, paper and vegetables, and human and animal wastes.

NO FREE ENZYMES OR SURFACTANTS

Free-Flow actually digests and removes grease, unlike solvents and free enzyme products which liquefy grease and send it to treatment facilities.



FOG REDUCTION

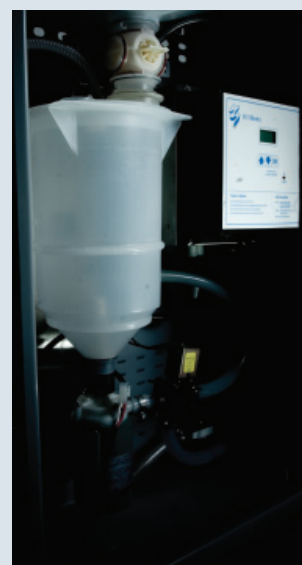
Free-Flow reduces the amount of Fats, Oils, and Greases passed to the city or county wastewater treatment facility.

STEP 2: THE DELIVERY SYSTEM

THE BIO-Amp UNIT

WORRY FREE OPERATION

The BIO-Amp unit automatically applies product without any need for you to mix chemicals and apply.



COMPACT SIZE

18"W x 29.5"H x 9.25"D, the unit easily fits into tight areas where wall space is valuable.

MAINTENANCE FREE

Each BIO-Amp is leased so that any monthly service is addressed by the technician.

PATENTED TECHNOLOGY

The BIO-Amp Unit is developed specifically for our company.

NO SPECIAL CONNECTIONS

The unit operates when connected to a standard hose bib and a 110V electrical outlet.

AUTOMATIC DOSAGE

The BIO-Amp Unit calculates the correct dosage amount for your system every time.

OVERFLOW PROTECTION

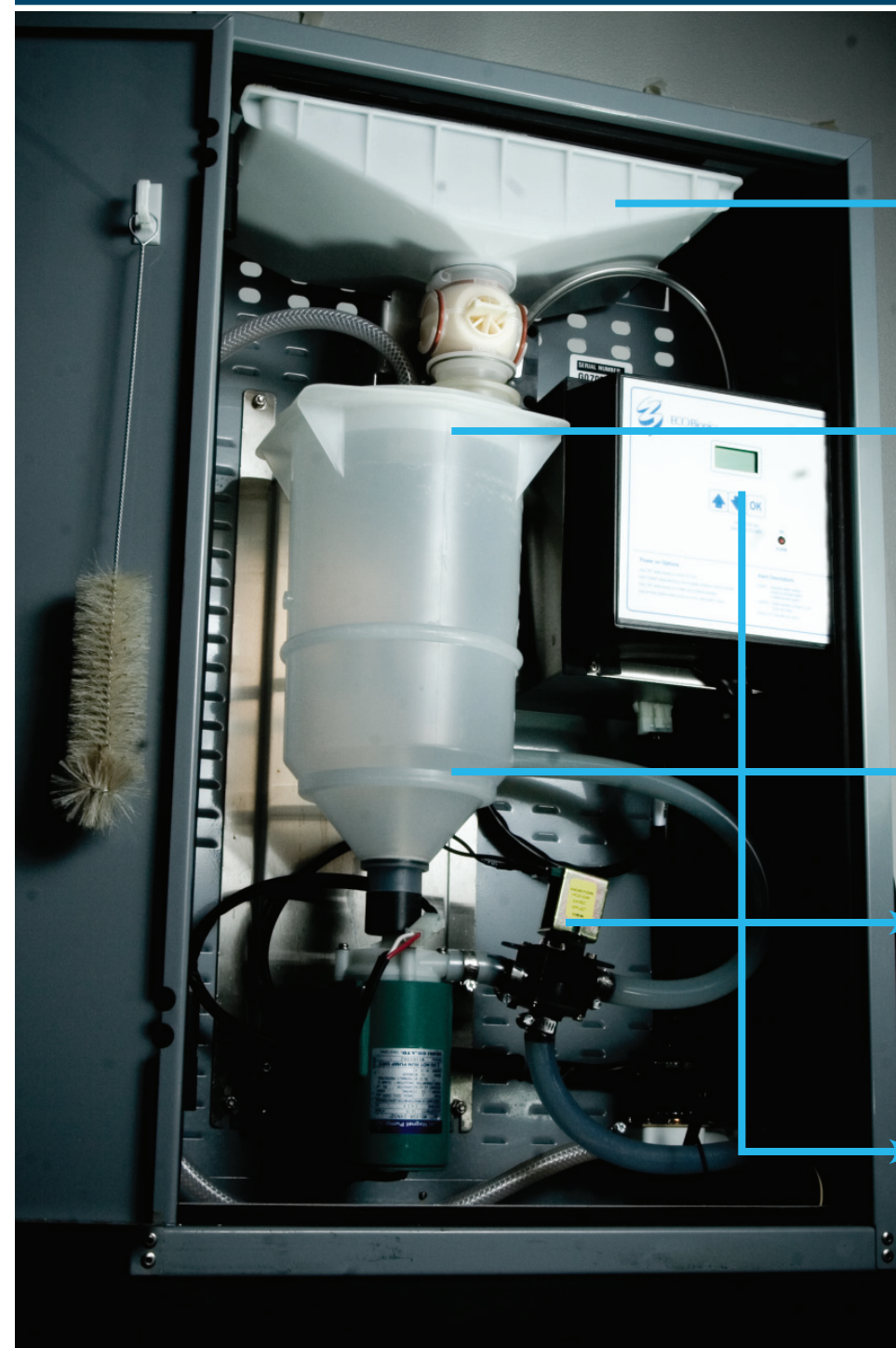
The unit will automatically shut off in an overflow situation.

BACK-FLOW PREVENTER

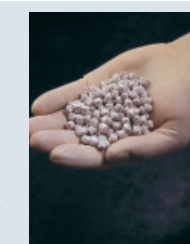
This ensures that biologicals cannot enter the fresh water supply.

THE SOLUTION: THE ECO Bionics® BIO-Amp™

STEP 3: THE INTRODUCTION OF BACTERIA INTO DRAIN LINES



1. Each day 32 grams of Free-Flow™ pellets are automatically dumped into the growth vessel



2. The vessel fills with water and begins to spin, creating a vortex



3. The bacteria dissolve and spin for 24 hours where they become active and multiply every 20 minutes



4. At the end of the 24 hour period, the entire contents of the vessel (30 trillion live bacteria) are applied to your drain system and the entire process starts over again

5. All of this is controlled by the computer found here – The machine is completely independent and requires no action from you or your staff