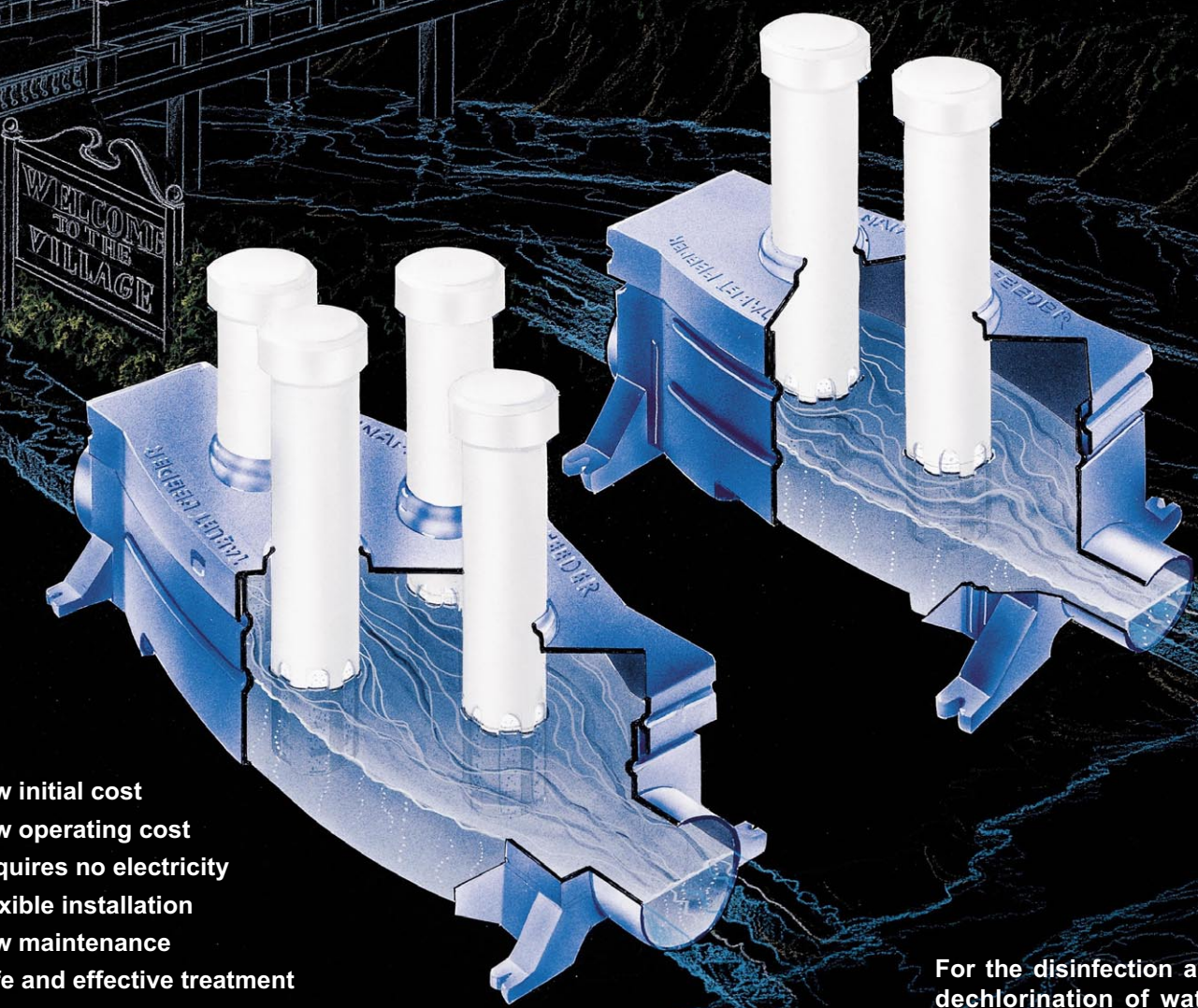


NORWECO
NORWALK WASTEWATER EQUIPMENT COMPANY

BIO-DYNAMIC[®]

DRY CHEMICAL TABLET FEEDER



- Low initial cost
- Low operating cost
- Requires no electricity
- Flexible installation
- Low maintenance
- Safe and effective treatment
- Improved chemical delivery
- 10 year limited warranty

For the disinfection and dechlorination of water and wastewater flows up to 200,000 gallons per day

THE SAFE AND EFFECTIVE ALTERNATIVE TO GAS AND LIQUID SYSTEMS...

Bio-Dynamic tablet feeders are a technological advancement in self-contained dry chemical dosing systems for the treatment of water or wastewater. Providing a low cost, low maintenance and extremely effective method of chemical treatment, Bio-Dynamic tablet feeders have no mechanical components and require no electricity. The safety, accuracy and reliability provided by Bio-Dynamic tablet feeders, utilizing Bio-Sanitizer disinfecting tablets or Bio-Neutralizer dechlorination tablets, obsoletes dangerous and expensive gas and liquid chemical feed technology.

PRECISE CHEMICAL DOSAGE BY INTERCHANGEABLE WEIR OR ADJUSTABLE SLUICE...

Chemical dosage applied by the Bio-Dynamic feeder is regulated by interchangeable weir plates or an optional adjustable sluice. Weir plates are easily installed and replaced during tablet feeder operation. The sluice can be completely adjusted during operation using only a standard socket wrench. The adjustable outlet sluice of the Bio-Dynamic tablet feeder allows safe, convenient and precise control of chemical dosage to meet even the most stringent treatment requirements.



EFFECTIVELY TREATS LOW, INTERMITTENT AND SURGE FLOWS AUTOMATICALLY...

The entire treatment process of the Bio-Dynamic tablet feeder is gravity fed. Flow enters the feeder and is channeled under an adjustable inlet baffle to protect the system from hydraulic surges. Liquid proceeds through the tiered flow deck and contacts the chemical tablets, which dissolve in response to the flow rate. As flow into the feeder increases, the dosage increases and results in a consistent chemical level. When incoming flow decreases, the chemical dose is proportionally reduced. The tiered flow deck directs liquid to the tablets during low flows and disperses hydraulic velocity during peak flows to control chemical dosage. The weir or optional sluice regulates the liquid level within the feeder to further control chemical application. All outflow passes through the hydrodynamic mixing chamber to insure complete chemical contact. Each step in the treatment process insures superior performance for any loading pattern or treatment requirement.

DIRECT BURIAL OR CONTACT CHAMBER INSTALLATION...

The Bio-Dynamic tablet feeder has multiple installation options that provide maximum flexibility, including direct burial, in-line and contact chamber mounting. All models include integrally molded mounting feet and molded inlet and outlet hubs that allow connection to standard Schedule 40 PVC piping. Fall through the body of the feeder and the molded outlet hub insure proper drainage of the feeder and eliminate the need for a separate drop box. Bio-Dynamic feeders are designed for direct burial, which allows in-line installation prior to, or following, a chemical contact tank or subsurface filter. Safety/reinforcing struts are included with each direct burial model and riser for additional safety and strength. For installation within a chemical contact chamber, optional non-corrosive mounting brackets are available to mount the feeder directly to the chamber wall. Once properly installed and adjusted, the automatic operation of the Bio-Dynamic feeder requires no further calibration and will function automatically with minimal maintenance.

EXTENSION RISERS ELIMINATE THE NEED FOR A MANHOLE...

Riser assemblies in standard 24" heights are available for all Bio-Dynamic feeders. Eliminating the need for a manhole or separate enclosure during direct burial installations, access risers significantly reduce installation costs. Fully accessible from finished grade, risers alleviate maintenance difficulties and remove the need for expensive confined space entry equipment required by OSHA regulations. Access risers connect directly to the feeder body and utilize the standard lid. Only a few minutes are required to install and seal risers to produce a watertight connection. Multiple risers may be used on deeper installations. Trim lines are located at 6" vertical increments on each riser to allow a customized fit to the desired excavation depth.

BACKED BY A TEN YEAR LIMITED WARRANTY...

Bio-Dynamic tablet feeders are backed by a comprehensive ten-year limited warranty. The limited warranty protects system owners from defects in material and workmanship under normal use and service for a period of ten years. A warranty registration card and a detailed Installation and Operation manual are included with each new tablet feeder. The Installation and Operation manual provides a description of the components and detailed instructions regarding the use, configuration, adjustment and routine maintenance of the tablet feeder. Comprehensive instructional material accompanied by a ten-year limited warranty insure that each Bio-Dynamic tablet feeder will provide years of trouble-free service.

SERIES 2000 TABLET FEEDER

XT 2000 FOR INSTALLATION AT GRADE

A complete dry chemical dosing system for liquid flows from 200 GPD to 20,000 GPD. The XT 2000 has a maximum flow rate of 70 GPM which allows use in flow equalized applications up to 100,000 GPD. Pre-engineered bypass arrangements are available to increase capacity to 500,000 GPD. Molded mounting feet permit direct connection to the deck of a contact tank, concrete pad or mounting brackets using $\frac{3}{8}$ " corrosion resistant bolts.

- DIMENSIONS, STANDARD**
 - FEATURES, EQUIPMENT, COMPONENTS AND OPTIONS**
- 25 $\frac{1}{2}$ " Length, 10 $\frac{1}{2}$ " Width, 12" Body Height
 - Two Chemical Feed Tubes, 22 $\frac{1}{2}$ " Height
 - Interchangeable 1", 2" and 3" Outlet Weir Plates
 - Molded 4" Inlet and Outlet Hubs
 - Adjustable Inlet Baffle
 - Optional Adjustable Sluice
 - Optional Mounting Brackets



IT 2000 FOR AT GRADE OR SHALLOW BURIAL INSTALLATION



- DIMENSIONS, STANDARD**
 - FEATURES, EQUIPMENT, COMPONENTS AND OPTIONS**
- 25 $\frac{1}{2}$ " Length, 10 $\frac{1}{2}$ " Width, 24" Body Height
 - Two Chemical Feed Tubes, 22 $\frac{1}{2}$ " Height
 - Interchangeable 1", 2" and 3" Outlet Weir Plates
 - Molded 4" Inlet and Outlet Hubs
 - Adjustable Inlet Baffle
 - One Safety/Reinforcing Strut
 - Optional Adjustable Sluice
 - Optional Mounting Brackets

Treatment capacity from 200 GPD to 20,000 GPD. The maximum flow rate of 70 GPM permits use in flow equalized applications up to 100,000 GPD. Designed for mounting at grade or direct burial with in-line connection to piping up to 18" below grade. A molded trim line allows field adjustment for shallow burial installation up to 12" below grade.

ITR 2000-S FOR DEEP DIRECT BURIAL

For liquid flows from 200 GPD to 20,000 GPD. The ITR 2000-S has a maximum flow rate of 70 GPM which allows use in flow equalized applications up to 100,000 GPD. Suitable for direct burial installation up to 42" below grade without additional risers, the ITR 2000-S has trim lines at 6" vertical increments to customize each installation. This model includes an outlet sluice adjustable from grade using a standard $\frac{5}{8}$ " socket with extension. Additional risers may be added, as required, for deeper installations.

- DIMENSIONS, STANDARD**
 - FEATURES, EQUIPMENT, COMPONENTS AND OPTIONS**
- 25 $\frac{1}{2}$ " Length, 10 $\frac{1}{2}$ " Width, 24" Body Height
 - Includes 24" Riser for Overall Height of 48"
 - Two Chemical Feed Tubes, 22 $\frac{1}{2}$ " Height
 - Adjustable Outlet Sluice
 - Molded 4" Inlet and Outlet Hubs
 - Adjustable Inlet Baffle
 - Three Safety/Reinforcing Struts
 - Remote Feed Tube Removal System
 - Bio-Dynamic Sealant and Drive Rivets
 - Molded Trim Lines at 6" Vertical Increments
 - Optional Baffle Adjustment Tool
 - Optional Cable Locking Device
 - Optional Cleaning Brush



SERIES 4000 TABLET FEEDER

XT 4000 FOR INSTALLATION AT GRADE

A complete dry chemical dosing system for liquid flows from 20,000 GPD to 200,000 GPD. The XT 4000 has a maximum flow rate of 150 GPM which allows use in non-flow equalized wastewater applications up to 50,000 GPD. Pre-engineered bypass arrangements are available to increase capacity to 5,000,000 GPD. Molded mounting feet permit direct connection to the deck of a contact tank, concrete pad or mounting brackets using $\frac{3}{8}$ " corrosion resistant bolts.

- DIMENSIONS, STANDARD** ● 35 $\frac{3}{4}$ " Length, 14 $\frac{1}{2}$ " Width, 12" Body Height
- FEATURES, EQUIPMENT, COMPONENTS AND OPTIONS** ● Four Chemical Feed Tubes, 22 $\frac{1}{2}$ " Height
- Interchangeable 1", 2" and 3" Outlet Weir Plates
- Molded 6" Inlet and Outlet Hubs
- Adjustable Inlet Baffle
- Optional Adjustable Sluice
- Optional Mounting Brackets



IT 4000 FOR AT GRADE OR SHALLOW BURIAL INSTALLATION



- DIMENSIONS, STANDARD** ● 35 $\frac{3}{4}$ " Length, 14 $\frac{1}{2}$ " Width, 24" Body Height
- FEATURES, EQUIPMENT, COMPONENTS AND OPTIONS** ● Four Chemical Feed Tubes, 22 $\frac{1}{2}$ " Height
- Interchangeable 1", 2" and 3" Outlet Weir Plates
- Molded 6" Inlet and Outlet Hubs
- Adjustable Inlet Baffle
- Two Safety/Reinforcing Struts
- Optional Adjustable Sluice
- Optional Mounting Brackets

Treatment capacity from 20,000 GPD to 200,000 GPD. The maximum flow rate of 150 GPM permits non-flow equalized wastewater applications up to 50,000 GPD. Designed for mounting at grade or direct burial with in-line connection to piping up to 18" below grade. A trim line allows field adjustment for shallow burial installation up to 12" below grade.

ITR 4000-S FOR DEEP DIRECT BURIAL

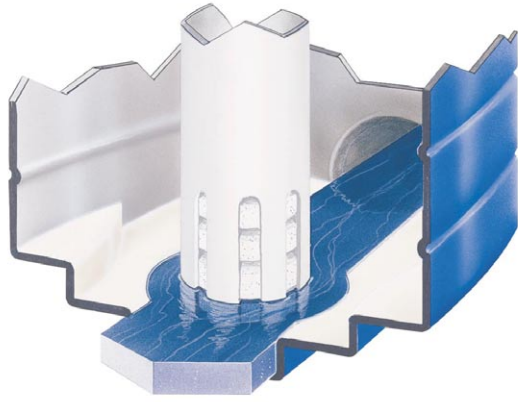
For liquid flows from 20,000 GPD to 200,000 GPD. The ITR 4000-S has a maximum flow rate of 150 GPM which allows use in non-flow equalized wastewater applications up to 50,000 GPD. Suitable for direct burial installation up to 42" below grade without additional risers, the ITR 4000-S has trim lines at 6" vertical increments to customize each installation. This model includes an outlet sluice adjustable from grade using a standard 1" socket with extension. Additional risers may be added, as required, for deeper installations.

- DIMENSIONS, STANDARD** ● 35 $\frac{3}{4}$ " Length, 14 $\frac{1}{2}$ " Width, 24" Body Height
- FEATURES, EQUIPMENT, COMPONENTS AND OPTIONS** ● Includes 24" Riser for Overall Height of 48"
- Four Chemical Feed Tubes, 22 $\frac{1}{2}$ " Height
- Adjustable Outlet Sluice
- Molded 6" Inlet and Outlet Hubs
- Adjustable Inlet Baffle
- Six Safety/Reinforcing Struts
- Remote Feed Tube Removal System
- Bio-Dynamic Sealant and Drive Rivets
- Molded Trim Lines at 6" Vertical Increments
- Optional Baffle Adjustment Tool
- Optional Cable Locking Device
- Optional Cleaning Brush



CHEMICAL TABLET FEEDERS

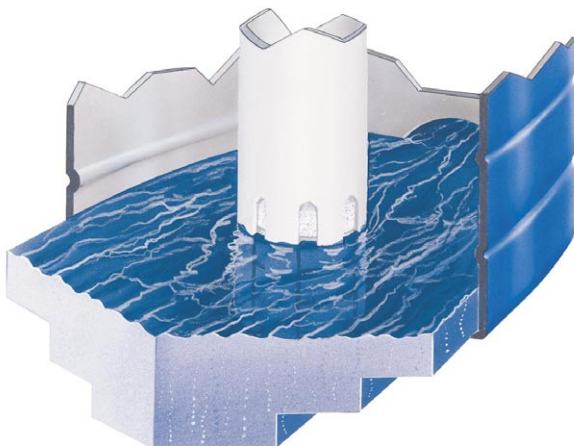
A PRECISION ENGINEERED CHEMICAL TREATMENT SYSTEM THAT DELIVERS SAFE, RELIABLE AND COST EFFECTIVE PERFORMANCE TO MEET A WIDE RANGE OF TREATMENT REQUIREMENTS...



**INERT
DRAINAGE TIER**



**INTERMEDIATE
FLOW TIER**



**UPPER
FLOW TIER**

- Fully serviceable from grade — risers eliminate the need for confined space entry equipment as required by OSHA regulations.
- Customized installation — integrally molded trim lines and riser sections allow height adjustment on site for each installation.
- Inlet and outlet hubs — internal fall through the system and integrally molded hubs allow direct connection to treatment system piping.
- Adjustable inlet baffle — protects chemical tablets and the treatment process during intermittent hydraulic surges and peak loading.
- One-piece feed tubes with twist-lock caps — allows safe handling of chemical tablets, insures dependable performance and long life.
- Accommodates variable flow rates — tiered flow deck automatically treats low, intermittent and surge flows without adjustment.
- Safe and reliable — Bio-Sanitizer disinfecting tablets and Bio-Neutralizer dechlorination tablets outperform gas, liquid and ultraviolet systems.
- Low installation and operating cost — no electrical or mechanical equipment, no manholes or drop boxes. Flow deck, interchangeable weir plates and adjustable sluice minimize chemical consumption.
- Easily adjustable chemical dosage — interchangeable weir plates or adjustable outlet sluice allow precise chemical application.

TIERED FLOW DECK INSURES CONSISTENT CHEMICAL APPLICATION EVEN AT SUSTAINED, VARIABLE AND INTERMITTENT FLOW RATES...

Treatment systems seldom discharge at a consistent rate. Surges many times the average daily flow rate may occur during the morning while no flow conditions may last throughout the night. This variation in flow rate frequently causes problems for conventional tablet feeders and manually adjusted gas or liquid chemical feed systems. The tiered flow deck of the Bio-Dynamic tablet feeder is designed to insure that all incoming liquid is properly treated regardless of the flow pattern. Engineered to enhance the fluid dynamics of the liquid passing through the system, the tiered flow deck strategically directs and controls the velocity of incoming flow. During low flow conditions, all liquid is directed through the lowest tier of the feeder, the inert drainage tier. This tier forms a narrow hydraulic channel that increases the velocity of the liquid, uniformly eroding the tablets and assuring accurate chemical delivery. As flow into the feeder increases, the liquid level rises to the intermediate flow tier. The intermediate flow tier creates a flume to accelerate the liquid as it passes the chemical tablets. Flow greater than the capacity of the intermediate tier rises to the upper flow tier. The larger upper flow tier causes the liquid to lose velocity and prevents excessive chemical consumption. Using this precisely controlled flow pattern to promote uniform tablet erosion, the Bio-Dynamic tablet feeder insures that chemical application remains consistent throughout the design flow range of the water or wastewater treatment system.

U.S. and Foreign Patents Pending

ENVIRONMENTAL LABORATORY AND TESTING FACILITIES



Norweco operates a complete, full-service environmental laboratory to serve licensed distributors and to enhance research and development. Laboratory services are available through distributors to determine the exact performance characteristics and treatment requirements for any water or wastewater treatment system. Samples can be sent to Norweco for complete analysis with regard to a wide range of treatment requirements, including physical, chemical and biological parameters. Test results can be returned directly to the distributor or submitted to a regulatory agency for their records. Our scientists and laboratory staff are always available to assist distributors and answer questions regarding water, wastewater or chemical treatment systems. Laboratory services and technical support are available to our Singulair, Modulair, Travalair and Chemical distributors for analysis, testing and regulatory reporting.

BIO-SANITIZER® DISINFECTING TABLETS

Bio-Sanitizer disinfecting tablets are uniquely formulated to provide efficient and reliable disinfection of water or wastewater. Recommended for use in Bio-Dynamic tablet feeders, Bio-Sanitizer tablets provide treatment plant operators a means to consistently meet disinfection standards without exceeding new and stringent limits for total residual chlorine. Produced from a proprietary grade of calcium hypochlorite and containing a minimum of 70% available chlorine, Bio-Sanitizer tablets are registered by the U.S. Environmental Protection Agency and the Ministry of the Environment. With a proprietary beveled edge to minimize wicking, Bio-Sanitizer tablets dissolve slowly and evenly, providing effective, economical bacteria killing power. Bio-Sanitizer disinfecting tablets are packaged in easy to open, resealable 10 lb., 25 lb., 45 lb. and 100 lb. Department of Transportation approved containers.

CAUTION: *The improper handling of Bio-Sanitizer tablets may cause injury or property damage. Keep out of the reach of children. Do not handle without first carefully reading the product container label and/or the handling and storage instructions. Do not use swimming pool chemicals in Bio-Dynamic feeders. For additional information, contact your local distributor.*

BIO-NEUTRALIZER® DECHLORINATION TABLETS

Bio-Neutralizer dechlorination tablets are formulated to effectively remove both free and combined chlorine from water or wastewater. Containing 35% active sodium sulfite, Bio-Neutralizer tablets will remove chlorine without degrading the quality of the environment. Bio-Neutralizer dechlorination tablets contain a unique chemical blend that protects water quality while reducing or removing chlorine. Research shows that higher concentrations of sodium sulfite will degrade beneficial dissolved oxygen in receiving environments, producing harmful effects on the ecosystem. The superior formulation of Bio-Neutralizer tablets provides consistent reduction or elimination of residual chlorine without affecting water quality, dissolved oxygen, or other discharge parameters. Bio-Neutralizer tablets are packaged in easy to open, resealable 25 lb. and 45 lb. Department of Transportation approved containers.

CAUTION: *Bio-Neutralizer dechlorination tablets should not be mixed with Bio-Sanitizer tablets or the remnants of any other product. Do not handle without first carefully reading the product container label and/or the handling and storage instructions. For additional information regarding Bio-Neutralizer dechlorination tablets, contact your local distributor.*



DISTRIBUTED LOCALLY BY:

220 REPUBLIC STREET
NORWALK, OHIO, USA 44857-1196
TELEPHONE (419)668-4471
FAX (419)663-5440
EMAIL email@norweco.com

©MM NORWECO, INC.

PROGRESS THROUGH SERVICE SINCE 1906