

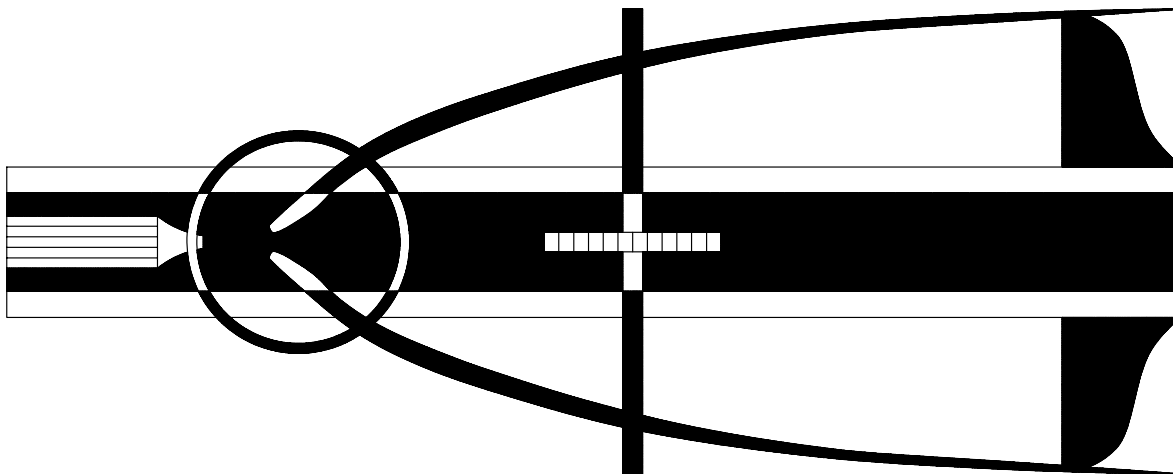


BIO-DYNAMIC®

MODEL LF 500 TABLET FEEDER

GENERAL SPECIFICATIONS

The contractor shall furnish and install one Bio-Dynamic Model LF 500 tablet feeder with all applicable equipment as described in the following specifications. Treatment of the water or wastewater flow shall be accomplished by immersion of one feed tube containing vertically stacked chemical tablets. Chemical agents shall be released as the liquid erodes the tablets. The tablet feeder shall be equipped with a self-draining flow channel to allow complete dry down of the chemical tablets during extremely low and/or no flow conditions and to insure long-term tablet integrity. The tablet feeder shall be a Bio-Dynamic Model LF 500 as manufactured by Norweco, Inc., Norwalk, Ohio, USA. Principal items of equipment and components shall include a 4" inlet hub, optional inlet baffle, tiered flow deck including inert drainage tier, intermediate flow tier and upper flow tier, feed tube, a 4" riser hub, molded mounting feet and a 4" outlet hub. Electrically operated and/or feeders constructed of plastic pipe and fittings are subject to improper operation or ineffective performance and shall not be considered for this application.



CONSTRUCTION AND OPERATING CONDITIONS

The tablet feeder shall be constructed of ANSI/NSF Standard 61 listed polyvinyl chloride (PVC) for maximum strength and durability. The feeder shall be blue in color and shall have an operational rating of 500 gallons per day (GPD) with a peak flow factor of four. The feeder shall be a complete dry chemical dosing system that allows flexible application depending on the type of tablet, flow velocity, flow pattern and upstream tank configuration. The tablet feeder shall be elliptical in shape with nominal dimensions of 10" length, 7" width and 7 3/4" height. The feed tube shall contain a vertical stack of tablets which dispense chemical agents into the liquid flow. The tablet feeder shall be designed with an internal slope of one-quarter inch for drainage of effluent from the flow channel. Four reinforced mounting feet shall allow the unit to be directly bolted to the treatment system tank or mounting brackets. For direct burial installations, the tablet feeder shall use standard 4" Schedule 40 PVC piping and cap as a riser to finished grade.

SPECIFICATIONS

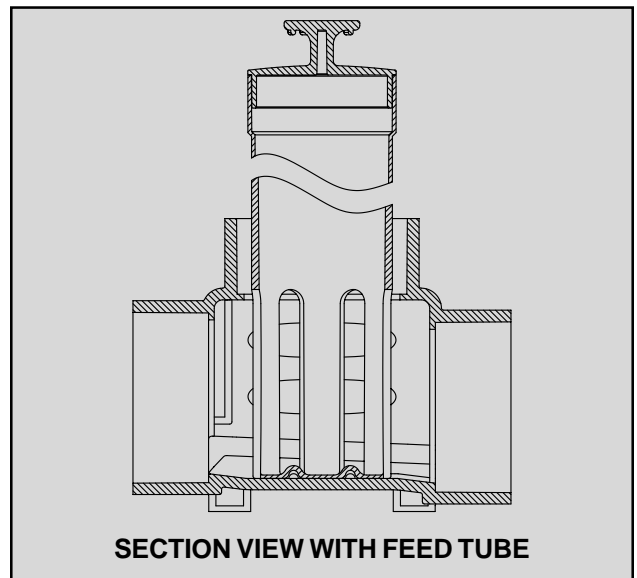
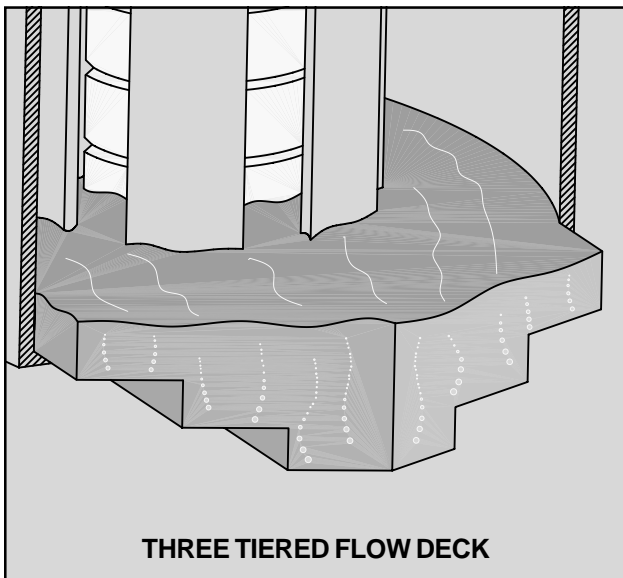
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INLET, OUTLET AND RISER HUBS

The feeder shall connect directly to 4" Schedule 40 PVC piping without the need for external adapters or mounting fixtures. All flow entering the tablet feeder shall pass through the integral one-piece molded inlet hub, which shall form a direct solvent weld connection to treatment system piping. All flow out of the tablet feeder shall pass through the integral one-piece molded outlet hub, which shall also form a direct solvent weld connection to treatment system piping. The inlet and outlet hubs shall prevent leakage and bypass of incoming or outgoing flow. For direct burial installations, a Schedule 40 PVC pipe and cap shall be solvent welded to the integral one-piece molded riser hub to form a riser assembly. The length of the riser assembly shall be adequate to provide access to the feeder, feed tube and chemical tablets from finished grade.

FLOW DECK

A tiered flow deck shall be molded into the bottom of the feeder and configured to control liquid velocity within the unit, resulting in a stable chemical dose. The flow deck shall consist of three separate tiers designed to optimize the flow pattern of the liquid. The lowest tier shall be employed during extremely low or no flow conditions and shall form an inert particle and drainage channel in the feeder unit. A feed tube retaining ring with locating ribs shall be molded into the inert drainage tier and shall securely locate the feed tube in proper position. As the flow rate increases through the design flow range of the tablet feeder, the liquid level will rise to the intermediate tier. The intermediate tier shall insure accurate and consistent chemical delivery during sustained flows. At higher flow rates, the liquid level will rise to the upper tier of the unit. This tier shall provide even tablet dissolution and consistent chemical dosage throughout the operating flow range. Mounting slots shall be molded into the body of the tablet feeder to accommodate an optional inlet baffle that should be used for all water treatment applications to control the flow pattern of the liquid before it reaches the flow deck.



CHEMICAL FEED TUBE AND CAP

The system shall be equipped with a molded, one-piece chemical feed tube with a twist lock cap. The feed tube and cap shall be constructed from ANSI/NSF Standard 61 listed PVC for durability and long life. The feed tube shall incorporate the translucent ClearCheck™ design to determine whether tablet refill is required. The feed tube shall utilize tablets with the nominal weight and dimensions of 5 ounces, 2 5/8" diameter and 13/16" to 1" height. Ribs molded into the feed tube shall allow the dry down of tablets during no flow periods. The liquid shall flow through six equally spaced openings for contact with the tablets. Feed tubes that are not molded as one piece or that utilize glued screens are subject to failure and shall not be considered for this application.

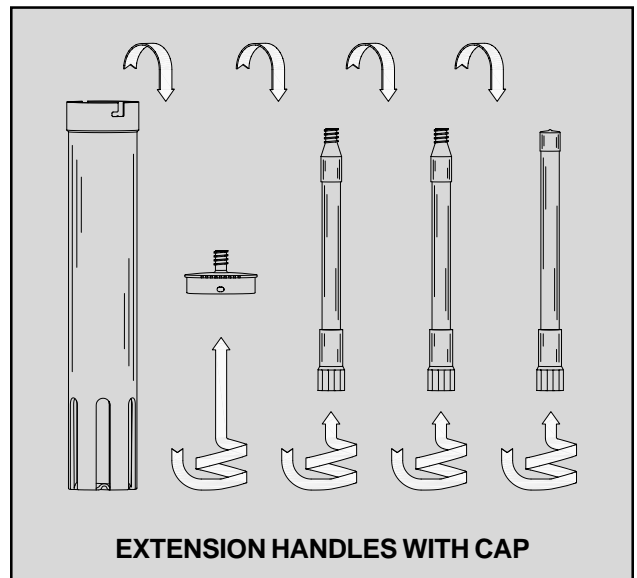
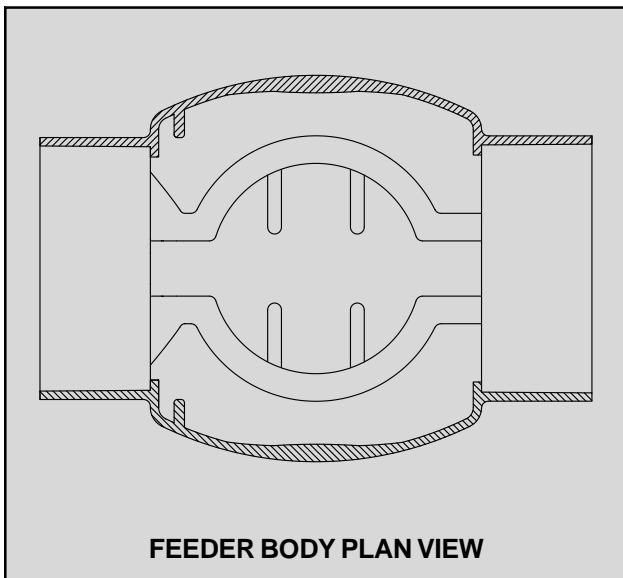
MODEL LF 500

REMOTE FEED TUBE REMOVAL SYSTEM

An optional remote feed tube removal system shall be provided for use in direct burial installations where treatment system piping is 36" or greater below grade. The remote removal system shall allow for convenient access to the feed tube, chemical tablets and the internal portion of the tablet feeder. The remote removal system shall allow the tablet feeder to be connected to piping at any depth suitable for a water or wastewater treatment system, without the use of a manhole or secondary enclosure. Use of the remote removal system with direct burial installation of the feeder shall eliminate the need for confined space entry equipment required by OSHA 29, CFR1910.146 regulations. The remote feed tube removal system shall include a twist lock cap with threaded top extension and a corrosion resistant extension handle. The extension handle shall be threaded onto the feed tube cap and shall permit access to the feed tube from grade through a 4" riser pipe. Once installed, the feed tube removal handle and cap shall remain in place. The remote feed tube removal system shall allow for the extension handle, attached feed tube and cap to be removed, recharged and reinstalled by the operator with no additional tools or equipment required. A chemically resistant cleaning brush shall also be available for use with the remote removal handles for routine feeder and feed tube maintenance.

TEN YEAR LIMITED WARRANTY

The manufacturer shall provide a limited warranty against defects in material and workmanship under normal use and service for a period of ten years. The limited warranty shall cover all components of the Bio-Dynamic Model LF 500 tablet feeder purchased from the manufacturer, including feeder body, feed tube, cap and remote feed tube removal system. The warranty shall begin upon installation of the tablet feeder, provided that the warranty registration card has been properly returned to the manufacturer. A detailed copy of the warranty shall be provided to the regulatory agency, contractor and customer as required. Tablet feeders that are not covered by a warranty of at least seven years duration shall not be considered for this application.



EQUIPMENT MANUFACTURER

The equipment specified herein shall be the product of a manufacturer having a minimum of seven years experience in the construction of water and/or wastewater treatment systems and equipment. Bids shall be prepared on the basis of the equipment and material specified herein for purposes of determining the low bid. This is not done, however, to eliminate other products or equipment of equal quality and efficiency. If equipment is to be substituted, approval of such substitution must be made prior to execution of any order. It is assumed that substitution will result in a reduction of cost to the contractor and that if accepted, these savings will be passed along by a reduction in the base bid.

BIO-SANITIZER® DISINFECTING TABLETS

The tablet feeder shall be furnished complete with a (10 lb., 25 lb., 45 lb. or 100 lb.) supply of Bio-Sanitizer disinfecting tablets. Bio-Sanitizer tablets shall be manufactured to insure efficient and dependable disinfection where a predictable long-term source of chlorine is desirable. The tablets shall be manufactured from pure calcium hypochlorite and contain at least 70% available chlorine. The tablets shall incorporate beveled edges to enhance the chemical dissolution pattern. Each tablet within the feed tube shall be $2\frac{5}{8}$ " diameter, compressed to a $\frac{13}{16}$ " thickness, weigh approximately 5 ounces and be white in color for easy identification. The tablets shall dissolve slowly, releasing controlled amounts of chlorine for water or wastewater disinfection.

BLUE CRYSTAL® RESIDENTIAL DISINFECTING TABLETS

The tablet feeder shall be furnished complete with a (10 lb. or 100 lb.) supply of Blue Crystal residential disinfecting tablets. Blue Crystal tablets shall be formulated for consistent chlorine dosage to the sustained, variable and intermittent flows that are typical of domestic wastewater treatment systems. Manufactured from pure calcium hypochlorite and containing at least 70% available chlorine, the tablets shall incorporate beveled edges to enhance the chemical dissolution pattern. Each tablet within the feed tube shall be $2\frac{5}{8}$ " diameter, compressed to a 1" thickness, weigh approximately 5 ounces and be white in color with blue crystals for easy identification. The tablets shall dissolve in direct proportion to the flow rate, releasing controlled amounts of chlorine.

BIO-NEUTRALIZER® DECHLORINATION TABLETS

The tablet feeder shall be furnished complete with a (25 lb. or 45 lb.) supply of Bio-Neutralizer dechlorination tablets. The active ingredients of the tablets shall be specifically formulated to chemically neutralize both free and combined chlorine. The tablets shall incorporate beveled edges to enhance the chemical dissolution pattern. Each tablet within the feed tube shall be $2\frac{5}{8}$ " diameter, compressed to a $\frac{13}{16}$ " thickness, weigh approximately 5 ounces and be green in color for easy identification. The tablets shall dissolve in direct proportion to the flow rate, releasing controlled amounts of chemical for the instantaneous removal of residual chlorine. The tablets shall provide a dechlorination rate that is automatic and flow dependent.

BIO-PERC™ BIOLOGICAL REMEDIATION TABLETS

The tablet feeder shall be furnished complete with a (10 lb. or 25 lb.) supply of Bio-Perc biological remediation tablets. As part of a general maintenance program, Bio-Perc tablets shall enhance the performance of treatment systems by reducing and/or eliminating organic solids. Bio-Perc tablets shall help remediate failing sand filters or soil-based disposal systems, allowing the system to digest additional accumulated organic material and naturally recover its percolation capacity. The tablets shall be $2\frac{5}{8}$ " diameter, compressed to a 1" thickness, weigh approximately 5 ounces and incorporate beveled edges to insure consistent dosage.

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