

*The Natural Solution
when only the best will do*

System & Product Description

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Bacta-Pur®

BACTIVATOR® LS 1500 Series 4 for Collection Systems and Wastewater® 2011

Bacta-Pur®, BACTIVATOR® & ECOPROBIOTICS® are trademarks of Aquaresearch Canada Ltd used under license.

ECOPROBIOTICS®, of the Bacta-Pur® System, are beneficial communities of natural bacteria, which have been on earth for millions of years and have been selected for their synergistic ability to biodegrade pollutants and to improve water quality. ECOPROBIOTICS® increase biodiversity. Just as people take probiotic yogurt for its' ability to assure the presence of the optimal community for digestion and immunity, ECOPROBIOTICS® improve ecosystem health. EVERY PRODUCTION of Bacta-Pur® products is analyzed and cleared for shipment ONLY after passing all performance tests and being CERTIFIED PATHOGEN FREE using techniques from the food industry. ECOPROBIOTICS® are purely natural and beneficial; they NEVER contain added chemicals such as surfactants, emulsifiers or enzymes..., nor do they contain genetically modified (GMO) or deliberately mutated organisms. ECOPROBIOTICS® are safe and beneficial. Bacta-Pur® microorganisms are not subject to TOSCA (USEPA) and are listed on the DSL of Environment Canada.

The Bacta-Pur® System, of ECOPROBIOTICS® combined with the **BACTIVATOR®**, has developed a worldwide reputation as state-of-the-art. The **BACTIVATOR® LS Series** automatically and continuously preactivates and optimizes the physiological condition of ECOPROBIOTICS®, to optimize biodegradation of grease, fats, oils and sludge, to prevent causes of noxious odors in sewers and wastewater treatment plants, to treat domestic/agricultural / aquacultural wastes and to accelerate biodegradation of soluble organic pollutants (BOD). The **BACTIVATOR®** operates continuously, on a flow through basis, to feed the optimized cultures into the wastewater stream. It is in this manner that the Bacta-Pur® System succeeds, where others fail.

The **BACTIVATOR®** automatically performs the following operations:

1. activates & grows the ECOPROBIOTICS® to increase their numbers;
2. optimizes the physiological condition of the ECOPROBIOTICS® to digest grease, sludge and soluble organic pollutants,
3. adds the optimized cultures 24/7 to the wastewater stream.

The **BACTIVATOR®** is simple to use, saves operator time and money and helps optimize treatment efficiency. The **BACTIVATOR®** is designed and built to operate for extended periods of time with a minimum of maintenance. Replacing the products is as easy as changing a box of soft drink syrup, in a restaurant.

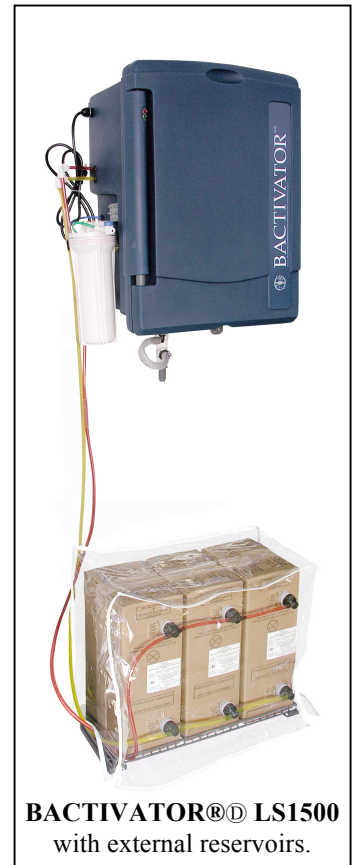
The **BACTIVATOR® LS series 4** requires municipal or city (treated) water. The modular design of the **BACTIVATOR®** allows multiple units to be used, in series, to accommodate any flow rate.

BACTIVATOR® LS1500 - product use rate is 1500 mL/day

Process and equipment

The **BACTIVATOR® LS series 4** contains four principal components: (1) bag-in-box reservoir for the ECOPROBIOTICS® (beneficial bacteria culture) and the ECOPREBIOTICS© (nutrients), (2) multi-step bioreactor, (3) water conditioning and flow distribution system, and (4) electrical controls.

1. The bag-in-box reservoir(s) contain two flexible plastic bags, which separately hold the bacteria and nutrients, within one box. The plastic bags have screw on connectors to make reservoir connection and disconnection quick and easy. The connectors are equipped with automatic shut-off valves, which prevent contamination when disconnected for replacement. A dual-head dosing pump transfers the ECOPROBIOTICS® (cultures) & the ECOPREBIOTICS©



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(nutrients) to the bioreactor. The bags collapse, as the products are used thus preventing oxygen from entering; this extends shelf life. The bags continue to collapse until they are completely empty. A vacuum switch detects when the bacteria bag is empty and sends a signal to the control box to turn off the pump and to turn on a red indicator light showing that reservoir needs to be replaced.

The BACTIVATOR® LS1500 model requires three bag-in-box reservoirs stored on an outside shelf, which is mounted on the wall below the BACTIVATOR® cabinet.

2. The bioreactor has two internal compartments or growth chambers. The first contains an immersion heater and receives the incoming ECOPROBIOTICS®, ECOPREBIOTICS® and water. This compartment serves to bring the ECOPROBIOTICS® out of dormancy and to begin their growth. The cultures then flow through the next growth compartment before leaving the system and being fed into the wastewater. Air is supplied to the bioreactors, by an internal air pump.

3. The water treatment and distribution system contains an activated carbon filter, pressure regulators, a solenoid valve, timers and drip emitters. The activated carbon filter removes chlorine from the water to be used in bioreactor. A solenoid valve and a timer are used to transfer precise quantities of treated water to the first bioreactor. Surplus water is added continuously into the bioreactor outlet pipe to enhance the flow of active cultures leaving the bioreactor to the injection point.

4. Electrical control system is available for AC 115v, 50/60Hz or 220-240v, 50/60Hz service. UL/CSA approved components are used. A simple dial setting, within the electrical panel, allows the dose rates to be selected or adjusted to the levels listed in the table below.

Products required:

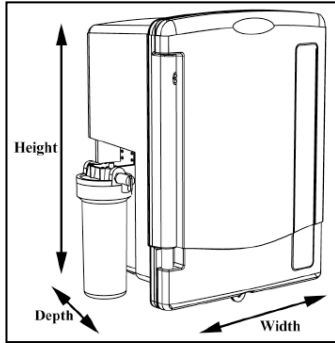
The BACTIVATOR® LS series 4 requires the Bacta-Pur® XLG-KIT (14L) (item # 03385) for operation. Each KIT (14L) with bag-in-box packaging has two separate bags and connectors for quick connections to the BACTIVATOR®. Bacta-Pur® XLG and Bacta-Pur® ACTIVATOR GS are provided in the correct ratio; no mixing is required. Changing reservoirs is fast and clean. The bag, connectors and carton are all fully recyclable, making this an environmentally friendly package.

Sizing:

BACTIVATOR® Series 4 Model #	LS1500
Adjusted products use rate (mL/day)	1500
*Wastewater Flow rate treated (up to) —	0.50 MGD _{us}
# Bacta-Pur® XLG-KITs (14L) / year	39
# bag-in-box reservoirs connected for operation	3
# weeks between reservoir replacement	4

* Dose rates can be increased, in systems, with high grease or waste concentrations or during initial cleaning; higher dose rates give faster results.





INSTALLATION REQUIREMENTS:
May vary by region/state and local codes.

NOTE: To evaluate the size and model of the **BACTIVATOR®** required for your treatment system, please contact IET-Aquaresearch Ltd or one of our authorized representatives.

Some models are special order items, call for availability. The external configuration may vary with the model. The installation dimensions remain the same for all models, unless otherwise specified.

Technical Specifications: **BACTIVATOR®** LS Series 4

INSTALLATION DIMENSIONS	The BACTIVATOR® LS cabinet: 24" (61 cm) Width x 14.5" (37 cm) Depth x 31.5" (81 cm) Height. LS1500 only: external reservoirs to be located on the shelf: 25" W x 13" D x 22" H (64 cm x 33 cm x 56 cm) mounted on the wall beside/below the cabinet of the BACTIVATOR®. The maximal acceptable range of vertical distance between bottom of reservoir and bottom of cabinet, to obtain published injection rates, is 45" (114 cm) and 58" (147 cm). Reservoir bottom must NEVER be higher than the bottom of cabinet.
WET WEIGHT	LS1500: 88 lbs
OPERATING CONDITIONS	Minimum Temperature: 63°F Maximum Temperature: 104°F
ELECTRICAL REQUIREMENTS	115v, 50/60Hz (0.7 Amp) is a standard option. 220-240v, 50/60 Hz. (0.35 Amp) is a special order option. GFI always required.
WATER SYSTEM REQUIREMENTS	Water Pressure: 20 psi to 200 psi. If pressure exceeds maximum, a pressure regulator set at 25 psi must be installed before the system. Inlet water supply options: 1/4" OD rigid line (copper or plastic).
WATER CONSUMPTION	LS1500: ± 30 US gal per day
PRODUCT USE RATE (CAPACITY)	LS1500: 1500 mL per day
DAILY OUTFLOW	Water consumption + product use rate LS1500: ± 111 L + 1.5 L per day
OUTPUT MECHANISM	Output is by gravity feed. If the product must flow uphill, an auxiliary pump (not supplied) must be installed. Outfall connections: 3/4" ID tubing (not supplied by the manufacturer).

