

Bacta-Pur®

Commercial BACTIVATOR® LS Series 4.1 for Restaurants and the Food Service Industry® 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® products combined with the **BACTIVATOR®**, has developed a worldwide reputation as state-of-the-art. The **BACTIVATOR® LS Series 4.1**, designed to biodegrade grease, fats and oil and prevent causes of noxious odors in restaurant drains, grease traps, and/or interceptors. The **BACTIVATOR®** automatically and continuously preactivates and optimizes the physiological condition of ECOPROBIOTICS®, to feed the optimized cultures into the wastewater. It is in this manner that the Bacta-Pur® System succeeds, where others fail.

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

1. awakens & grows the ECOPROBIOTICS® to increase their numbers;
2. optimizes the physiological condition of the ECOPROBIOTICS® to digest grease, sludge and soluble organic pollutants.

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



**BACTIVATOR® LS500 &
AQX500 models**

The **BACTIVATOR® LS Series 4.1**, requires disinfected tap water; if not available the model AQX, with ultraviolet disinfection (UV), is required.

Process and equipment

Two models are available:

1. **BACTIVATOR® LS500 or AQX500, 6w** - product use rate 500 mL/day, and
2. **BACTIVATOR® LS1500 or AQX1500, 6w** - product use rate adjustable to 1500 or 1000 mL/day.

The **BACTIVATOR® LS/AQX Series 4.1** contains four principal components housed in one cabinet of blue roto-molded polyethylene: (1) bag-in-box reservoir for the ECOPROBIOTICS® (beneficial bacteria) and the ECOPREBIOTICS™ (nutrients), (2) multi-step bioreactor, (3) water conditioning and flow distribution system with activated carbon filter (LS models) **or** with pre-filter and UV (AQX models), and (4) electrical controls.



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1. Each bag-in-box reservoir contains 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® & the ECOPREBIOTICS™ 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® LS500 or AQX500, 6w Series 4.1** are designed to operate with one bag-in-box reservoir installed inside the cabinet. The **BACTIVATOR® LS1500 or AQX1500, 6w** models require two or three bag-in-box reservoirs stored on a shelf, which is mounted on the wall below the **BACTIVATOR®** cabinet.

2. The bioreactor has multiple 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 bacteria out of dormancy and to begin their growth. The culture then flows through the next growth compartment before leaving the system and being fed into the drain or grease trap. An air pump supplies oxygen to the bioreactors.

3. The water treatment and distribution system is designed to work with municipal or city water (treated, disinfected), well water, system or surface water. Water disinfected by chlorine requires the model with the activated carbon filter (models LS). The activated carbon filter removes chlorine from the water to be used in bioreactor. Non-treated, non-disinfected well water, system or surface water requires the models with ultraviolet sterilization (AQX models). The ultraviolet sterilizer removes pathogens and microbial predators prior entering in the 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 the active cultures leaving the bioreactor to the treatment area.

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 or AQX, 6w Series 4.1** requires the Bacta-Pur® XLG-KIT (14L) (item # 03385) for operation. Each KIT 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. Starting after twelve months of operation, the units require one annual replacement parts kit per year.



*The Natural Solution
when only the best will do*

System & Product Description

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Bacta-Pur®

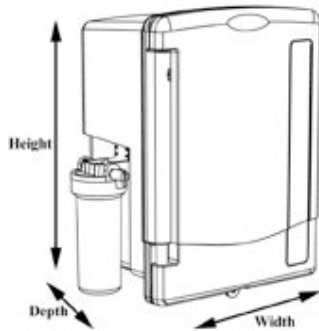
Sizing (based on meals prepared per day):

The products use rate can be adjusted based on the number of meals prepared per day.

BACTIVATOR® Series 4.1 Model #	LS500 or AQX500, 6w	LS1500 or AQX1500, 6w	
Adjusted products use rate (mL/day)	500	1000	1500
Meals prepared per day (mpd) ¹ up to	1250	2500	3750
# Bacta-Pur® XLG-KITs (14L) / year	13	26	39
# bag-in-box reservoirs connected for operation	1	2 (3 ²)	3
# weeks between reservoir replacement	4	4 (6 ²)	4

¹ If restaurant produces greasy food, the dose rate of the ECOPROBIOTICS® should be increased. Higher dose rates give faster results.

² When three reservoirs are connected the number of weeks between reservoir replacements will be extended to 6.



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

BACTIVATOR® is approved by Massachusetts Plumbers Code.

Note: To evaluate the size and model of the BACTIVATOR® required for your treatment system, please contact IET-Aquaresearch Ltd or an 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 4.1

INSTALLATION DIMENSIONS	The BACTIVATOR® LS or AQX, 6w cabinet: 24" W x 15" D x 31.5" H (61cm W x 15cm D x 80cm H). BACTIVATOR® LS1500 & AQX1500, 6w only: external reservoirs to be located on the shelf: 25" W x 13" D x 22" H (64cm W x 33cm D x 56cm H) 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	LS500, AQX500, 6w: 97 lbs (44 Kg); LS1500, AQX1500, 6w: 88 lbs (40 Kg); External Reservoirs Shelf (LS1500, AQX1500, 6w only): 107 Lbs (49 Kg)
OPERATING TEMPERATURE	Minimum Temperature: 63°F (17°C) Maximum Temperature: 104°F (40°C)
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. Step-down transformer provided for operation at 220-240v.
WATER REQUIREMENTS	LS Model: Municipal or City (treated, disinfected) water, 20 psi (138 Kpa or 1.38 Bars) to 200 psi (1379 Kpa or 13.8 Bars). If water pressure exceeds maximum, a pressure regulator set at 25 psi (172 kPa or 1.72 bars) must be installed before the system. AQX, 6w Model: Non-treated, non-disinfected, well, system or surface water, 30 psi (207 Kpa or 2.07 Bars) to 150 psi (1034 Kpa or 10.3 Bars). If pressure exceeds maximum, a pressure regulator set at 30 psi (207 Kpa or 2.07 Bars) must be installed before the system. Inlet water supply options: 1/4" OD rigid line (copper or plastic) (not supplied by manufacturer).
WATER USE	LS500, AQX500, 6w: ± 27 US gal (104 L) per day, LS1500, AQX1500, 6w: ± 29 US gal (111 L) per day
PRODUCT USE RATE	LS500, AQX500, 6w: 500 mL per day, LS1500, AQX1500, 6w: 1500 or 1000 mL per day
OUTFLOW	Water consumption + product use rate LS500, AQX500, 6w: ± 104 L + 0.5 L per day, LS1500, AQX1500, 6w: ± 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 water connections: 3/4" ID tubing (not supplied by manufacturer).



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