

Otsuka Techno launches OT-Algae, a resin-bag type microalgae culture device as a part of environmentally friendly manufacturing

Otsuka Techno Corporation (Head Office: Naruto, Tokushima, Japan; President and Representative Director: Kanji Tsukii; “Otsuka Techno”), a subsidiary of Otsuka Pharmaceutical Factory, Inc. (Head Office: Naruto, Tokushima, Japan; President and Representative Director: Shinichi Ogasawara), announces that it has launched a resin-bag type microalgae culture device OT-Algae, as a part of environmentally friendly manufacturing, in April.

OT-Algae is a microalgae culture photobioreactor*¹ which uses a single-use polyethylene bag as a culture tank. Compared to the glass type culture vessel, which is the current mainstream of closed-system, this product allows for operational flexibility by lowering the cost for the installation and cleaning and is also expected to reduce the risk of breakage caused by natural disasters, etc. Additionally, for the circulation of the culture medium, the air-lift method*² which uses a ventilation air has been adopted. Because this product does not use stirring blade, it is less likely to cause mechanical shear to microalgae cells and to cause damage to the culture. Furthermore, the device can increase the culture scale relatively easily by connecting each bag, which is suitable for the large-scale culture.

Microalgae are expected to be resources of supplements, foods, cosmetics, fibers, feeds, pharmaceuticals, jet fuels, etc. At the same time, absorption of carbon dioxide and water purification, which are the secondary effects of the culture, are attracting attention. Against this background, Otsuka Techno applied its own infusion film bag technology and conducted joint research on microalgae culture with Tokyo Electric Power Company Holdings, Inc., Shikoku Algae Research Institute LLP (Limited Liability Partnership) and JERA Co., Inc. to develop this product.



The Otsuka Techno will continue to promote sustainable manufacturing as an environmentally friendly manufacturer along with strengthening the environmental initiatives by the introduction of solar power generation systems, tree planting activities and installation of 100% renewable energy-derived electricity to all domestic manufacturing facilities based on the Otsuka Group’s

goal of “reducing CO₂ emissions by 50% by 2028 compared to 2017,” toward the realization of a low carbon society.

The Otsuka Group is united to aim to contribute to the realization of a low-carbon society and eventually a sustainable society through the application of new technologies and solutions.

*1 An apparatus which cultivates photosynthetic organisms such as microalgae and generates organic resources produced by photosynthesis. It is classified broadly into two types: the open-pond system, which uses artificial ponds or pools, and the closed-pond system, which uses tubes or plates.

*2 A system which sends air into a tube and circulates water by the power of the air.

Product Information

Standard Specification	
Air lift pump	SUS pump+PE tube
Culture tank	PE bag
Outlet	SILICOSEN
Culture medium pipe	Silicone tube
Air pipe	Urethane tube

*Customization of specifications is available upon request.



Large capacity image

Company Profile

Otsuka Pharmaceutical Factory, Inc.

Established	:	October 7, 1969 (founded September 1, 1921)
Capital	:	80 million yen
Representative	:	Shinichi Ogasawara, President and Representative Director
Head Office	:	115 Kuguhara, Tateiwa, Muya-cho, Naruto, Tokushima 772-8601, Japan
Employees	:	2,271 (as of December 31, 2022)
Business Description	:	Manufacture, sale, import and export of clinical nutrition products and other pharmaceutical products, medical devices, functional foods, etc.
URL	:	https://www.otsukaki.jp/en/

Otsuka Techno Corporation

Established	:	December 2, 1985
Capital	:	40 million yen
Representative	:	Kanji Tsukii, President and Representative Director
Head Office	:	120-1, Itayashima, Akinokami, Seto-cho, Naruto, Tokushima 771-0360, Japan
Employees	:	436 (as of December 31, 2022)
Business Description	:	Manufacture and sale of medical plastic container components and precision molding products
URL	:	https://www.otsuka-techno.co.jp/en/