Northern Territory Product Approval

On-site Wastewater Management System

FujiClean Australia Pty Ltd

FujiClean ACE 3000 EP

Secondary treatment system

DEPARTMENT OF **HEALTH**

NORTHERN TERRITORY GOVERNMENT

1 Approval details

1.1 System

Name	FujiClean ACE 3000 20EP secondary treatment system

1.2 Manufacturer (Approval holder)

Company			
Name	FujiClean Australia Pty Ltd		
Street address	2/176 Siganto Drive, Helensvale QLD 4212		
Postal address	PO Box 1230, Oxenford QLD 4210		
ACN	129181317		
ABN	74 129 181 317		
Contacts			
Name	Dwain Sullivan	**Position**	General Manager
Phone	0407 535 641	**Email**	dwain@fujiclean.com.au
Website	https://www.fujiclean.com.au		

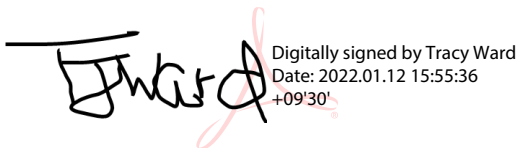
1.3 Approval number and expiry

Approval No.	2022/4227EH
HPRM File No.	EFILE2021/41420
Approval date	11 January 2022
Expiry date	11 January 2027

1.4 Issuing authority

Agency	NT Department of Health
Address	PO Box 40596, Casuarina NT 0811
Phone	(08) 8922 7152
Email	envirohealth@nt.gov.au
Website	www.nt.gov.au (wastewater management)

1.5 Issuing authority's approval*

Approved	**Date: 11/01/2022**
Tracy Ward Director Environmental Health, Public Health Directorate, Public Health and Clinical Excellence Division NT Department Of Health	Signature: 

** This approval is issued under Part 6 – Wastewater Management, Division 4 – "Product approval for on-site wastewater management system" of the Public and Environmental Health Regulations*

1.6 Regulatory authority

#1 The regulatory authority is the Northern Territory Government Agency that has responsibility for the legislation applicable to an individual onsite wastewater management system installation. The applicable legislation for wastewater installations in the Northern Territory is the *Building Act*, *Public and Environmental Health Act* and subordinate regulations.

1.7 Code of Practice for Approval of On-site Wastewater Management Systems

- Sets the minimum requirements for manufacturers to obtain product approval by the Chief Health Officer to produce or sell their on-site wastewater management system (OWMS) in the NT.
- Defines the documentation that applicants need to submit to the Department of Health (DoH) as well as the application process to obtain approval for their systems.
- Sets out the requirements for the design, manufacture, quality assurance, installation, operation and maintenance of OWMS serving individual allotments.
- References several Australian/New Zealand Standards (AS/NZS) and is in line with national standards. The Code needs to be read in conjunction with the relevant standard(s).

2 System detail

2.1 System description

#2 The ACE 3000 (the system) is an all waste system contained in a single, cylindrical horizontal axis, fibreglass reinforced plastic tank, design capacity 8524 litres comprising:

- Primary treatment/sedimentation chamber – effective volume 3169 litres
- Anaerobic filtration chamber – effective volume 3177 litres
- Aerobic contact filtration chamber – effective volume 1431 litres
- Clarification chamber – effective volume 703 litres
- Irrigation/disinfection chamber – effective volume 44 litres
- Emergency storage – effective volume 1316 litres.

#3 The treatment process specifications comprise:

- Primary/Sedimentation Chamber: All wastewater from the dwelling flows into the sedimentation chamber where physical separation of organic waste and foreign material such as fats, oil and grease commence. Sludge and scum form and allow for a reduction in BOD and TSS concentrations.

- Anaerobic Contact Filtration Chamber: Wastewater from the sedimentation chamber gravity feeds into the anaerobic filtration chamber from the sedimentation chamber. This chamber is also part of the primary treatment chamber, with the addition of a contact media filtration bed which increases the surface area for the growth of bacteria. Scum and sludge also form in this chamber through further biological separation.
- Aerobic contact filtration chamber: Primary treated wastewater from the anaerobic filtration chamber gravity feeds into this chamber. This chamber is a contact media filtration chamber. Air is pumped in continuously to assist nitrification of the ammonium nitrogen in the wastewater. The media in the chamber provides a surface area for the growth of bacteria to allow for the bio-degradation of organic material in the wastewater.
- Clarification chamber: Treated wastewater is transferred into the clarification chamber allowing for the removal of settled solids. The solids are transferred to the primary treatment tank by way of an airlift device.
- Irrigation/disinfection chamber: A chlorine disinfection unit is installed on the outlet of the disinfection/pump chamber.
- Filtration: The treated and disinfected effluent is filtered through an external irrigation filter of no less than 130 micron if subsurface drip line is used as the disposal type.
- Air is supplied to the aerobic contact filtration chamber by a FujiMac 200 R11 LPM/140 watt air blower, producing an airflow of a nominal 200 litres/minute at 2m water depth. The air is distributed via a manifold to aeration leg diffusers located near the base of the aeration chamber and the airlift device located in the aerobic zone and in the clarification chamber. The airlift device continually returns partially treated wastewater and settled solids to the inlet of the sedimentation chamber. Irrigation pump: A FujiSub model FS756 submersible irrigation pump or equivalent is installed in the disinfection/pump chamber.
- Alarm system: LED lighting alarms at the treatment plant monitor include: High water (pump fault) and air fault: (air blower failure): The power light is continuous and ceases to illuminate on power outage. Remote alarm plate: LED lighting and audible alarming also trigger on the above faults.

#4 The emergency backup storage capacity is achieved by the height of the separate pump outlet tank and above operating level of the ACE 3000 treatment plant. (Minimum emergency storage of 2000 litres in total failure.) Selected pump out tank is to hold a minimum 1000 Litres above the pump out capacity. It is this tank that will set the alarm at under 1000 litres emergency storage. Total emergency storage of over 2000 litres is available.

2.2 Product approval documentation

The following documents are referenced as part of this product approval:

Document	Document date
Application for product approval of an on-site wastewater management	06/12/2022
Global Certification Pty Ltd – Product Certificate of Registration No. 476: AS 1546.3.2017 Advanced Secondary 20EP Level	16/03/2019
Global Certification Pty Ltd – Product Certificate of Registration No. 294/7: AS 1546.1.2008 On-site Domestic Wastewater Treatment Units – Septic Tanks	28/07/2021
Global Certification Pty Ltd – Product Certificate of Registration No. 294/7: AS 1546.3.2017 Advanced Secondary 3000 L/day or 20EP Level with a reduction of 61.25% for Nitrogen and 6.49% for Phosphorus	14/02/2021
Global Certification Pty Ltd – Global Certification Audit Report AS1546.3.2017	12/03/2021
Japanese Standards Association – ISO9001 Certificate of Registration No. JSAQ 1109	05/03/2019
Japanese Standards Association – ISO9001 Appendix to the Certificate of Registration No. JSAQ 1109-10	05/03/2019
FujiClean ACE 3000 – Schematic	Oct 2019
FujiClean ACE 3000 – Installation Manual	02/11/2021
FujiClean ACE 3000 – Operation & Maintenance Manual	02/11/2021
FujiClean ACE 3000 – Owner's Manual	15/09/2021
FujiClean ACE 3000 – Service Life Compliance Statement	12/02/2021
FujiClean ACE 3000 – Service Report	23/02/2020
FujiClean ACE 3000 Identification markings	19/02/2020
Receiver of Territory Monies - Receipt No. R12654	10/01/2022

3 Installation, Operation and Maintenance

#5 The system must be installed by a licensed plumber in accordance with the *Building Act* and Regulations [within Building Control Areas administered by the Department of Infrastructure, Planning and Logistics (DoH)] and the *Public Health and Environmental Health Act* and Regulations [outside Building Control Areas administered by the Department of Health (DoH)].

#6 The installation of each system shall comply with the manufacturer's installation instructions and shall comply with the minimum setbacks as specified in the Code of Practice for Wastewater Management ('the Code').

#7 All electrical work must be carried out by a licensed electrician and in accordance with the relevant provisions of AS/NZS 3000.

#8 Officers from DoH or DIPL reserve the right to inspect installations and also to assess installation and their performance.

#9 Cross connection of the system with the water supply for the premises must be prevented at all times.

#10 Commercial/industrial system installations will be assessed by DoH/DIPL on a case-by-case basis.

#11 Any dischargers involved with the manufacture, processing, wholesaling, preparation and retail of food products will be required to install pretreatment equipment to the system. Any other types of dischargers will need written approval from the manufacturer. Only pretreatment devices approved by the manufacturer will be permitted.

#12 The system can only be installed in an unsewered area. Once sewer is available to the premises, this system must cease to operate and all wastewater must then be discharged to the sewer at the system owner's expense.

#13 The manufacturer shall:

- Ensure that the purchaser is provided with a home owner's manual; and
- Maintain a list of installed systems that includes details of system type, date sold, owners name, owners address, owners contact details, installers name, installers contact details, service dates and service agent.

#14 The system once installed, must be maintained in a fully operational and sanitary state at all times by the user/owner in accordance with the product approval conditions, manufacturer's requirements and any other specific requirements by DoH or DIPL.

#15 The system should be serviced at the intervals in accordance with the details set out in the Owner's Manual. Records are to be kept of all maintenance of the system and are to be maintained on-site.

#16 Desludging is to be carried out in accordance with the manufacturer's instructions.

4 General conditions

#17 The manufacturer is responsible for ensuring compliance with conditions of this approval.

#18 This product approval is not transferable without the prior approval of DoH.

#19 If any modifications are proposed for the system that alters its design, as outlined in the design documentation referenced in this product approval, the approval holder is required to advise DoH in writing and apply for an application to vary this product approval.

#20 If at any time it is determined by DoH that it cannot be demonstrated that the conditions of this approval are being maintained the issuing authority may provide direction to the manufacturer to undertake actions to comply.

#21 Direction under the previous clause of this product approval may include modifying current conditions, additional conditions or suspending or cancelling this product approval.

#22 DoH, by written notice, may cancel this product approval and require the repair, replacement, rectification, alteration of the system or part thereof:

- Should the system or component thereof no longer be manufactured or available for purchase; or
- If the system is defective and not able to perform the function for which the approval is issued; or
- If the manufacturer fails to comply with one of more approval conditions; or
- If the manufacturer within 30 days, fails to remedy a breach for which written notice has been given by DoH.