

TREATMENT PLANT APPROVAL 02/2020
Plumbing and Drainage Act 2018

Approval

1. The **Krystel Kleer ADV 5000 (13EP)** ("the system") described in the Specifications and Drawings in the attached Schedule and manufactured by **Quality Tanks (Qld) Pty Ltd** (ABN 60 834 863 374) ("the manufacturer") has been assessed in accordance with the Queensland Plumbing and Wastewater Code (QPW Code) dated 15 January 2013.
2. Approval is granted for the advanced secondary quality wastewater treatment system, subject to compliance by the manufacturer with the requirements of the *Plumbing and Drainage Regulation 2018*, and the conditions of approval detailed below.
3. This approval, the conditions of approval and the Schedule comprise the entire Chief Executive Approval document.
4. Any modification by the manufacturer to the design, drawings or specifications scheduled to this approval must be approved by the Chief Executive.

Conditions of approval

5. The manufacture, installation, operation, service and maintenance of the systems must be in conformity with the conditions of this Chief Executive Approval.
6. The advanced secondary quality wastewater treatment system, which is an example of the approved systems, may only be used on premises that generate per day:
 - (a) a maximum hydraulic loading of 2,000 litres; and
 - (b) a maximum organic loading of 700grams BOD⁵
7. The system must continue to meet the requirements of advanced secondary quality wastewater treatment system, producing the following effluent quality:
 - (a) 90% of the samples taken must have a BOD⁵ less than or equal to 10 g/m³ with no sample greater than 20g/m³.
 - (b) 90% of the samples taken must have total suspended solids less than or equal to 10g/m³ with no sample greater than 20g/m³.
 - (c) 90% of the samples taken must have a thermotolerant coliform count not exceeding 10 organisms per 100 mL with no sample exceeding 200 organisms per 100 mL.
8. Each system must be serviced in accordance with the details supplied in the owner's operation and maintenance manual.

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9. Each system must be supplied with —

- (a) a copy of this Treatment Plant Approval document;
- (b) details of the system;
- (c) instructions for authorised persons for its installation;
- (d) a copy of the owner's manual to be given to the owner at the time of installation; and
- (e) detailed instructions for authorised service personal for its operation and maintenance.

10. At each anniversary of the Treatment Plant Approval date, the supplier must submit to the Chief Executive a list of all systems installed in Queensland during the previous 12 months. Where the Chief Executive is notified of any system failures the Chief Executive may randomly select a number of installed systems for audit. The Chief Executive will notify the supplier's nominated NATA accredited laboratory which systems are to be audited for BOD5 and TSS. The sampling and testing of the selected systems, if required, is to be done at the supplier's expense. The following results must be reported to the Chief Executive;

- a) Address of premises;
- b) Date inspected and sampled;
- c) Sample identification number;
- d) BOD5 for influent and effluent; and
- e) TSS for influent and effluent.

11. The Chief Executive may, by written notice, cancel this approval if the manufacturer/supplier fails —

- a) to comply with one or more of the conditions of approval; or
- b) within 30 days, to remedy a breach, for which a written notice been given by the Chief Executive.

12. This approval may only be assigned with the prior written consent of the Chief Executive.

13. This approval expires on 1 January 2024 unless cancelled earlier in accordance with paragraph 20 above.

Lindsay Walker

Director
Plumbing, Drainage and Special Projects
Building Legislation and Policy

Date approved: 26 February 2020

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SCHEDULE

Attachment 1

Drawings and Specifications for the

Krystel Kleer ADV 5000

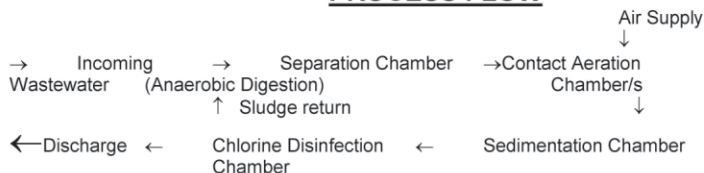
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KRYSTEL KLEER TREATMENT PROCESS FLOW



GENERAL DESCRIPTION AND FUNCTION OF THE PLANT

PRIMARY TREATMENT

The first stage of treatment is to separate the solids from the liquids. The solids, mainly Toilet wastes, remain in the first compartment where a digestion process takes place. The digestion is accelerated by the presence of anaerobic micro-organisms which multiply rapidly under ideal conditions and which will ensure that the offensive faecal solids are turned into an inert waste. **Hence, the microbial action in the first tank should not be hindered by the discharge of chemicals through household drainage fittings, e.g. chemical toilet cleaners and other anti-bacterial cleaning products.**

SECONDARY TREATMENT

The subsequent treatment stages are mainly concerned with the aeration of the liquid wastes. Once more microbes present in these liquids are used to assist in the aeration process. The micro-organisms are called aerobes and will thrive and multiply in the presence of oxygen. It is therefore important that a constant air supply is being maintained at all times. The air is supplied from a small blower located near the system.

SETTLING

Following aeration, the liquid wastes are allowed to settle under quiescent conditions. Any solid particles, which are suspended in the aerated effluent, will settle out and are returned automatically to the first or second treatment stage. The clarified water, although it looks reasonably clean, may still contain some bacteria which will have to be removed.

TERTIARY TREATMENT

The bacteria are removed by a Chlorine process. While the clarified effluent flows through the chlorine chamber it comes into contact with a disinfecting agent. Chlorine disinfection will ensure the final effluent, meets the criteria set by regulating bodies, prior to irrigation onto your garden.

OPERATION

Once all your household drainage fittings have been connected correctly to the unit, it can be used for its intended purpose immediately; provided your irrigation area has been landscaped to the satisfaction of your local Council.

The landscaping requirements are very essential, because you cannot irrigate on barren dirt. The entire operation of the Krystel Kleer is automatic.

Please refrain from making any adjustments to the air supply or pumping equipment.

Should you require further information on the operation of the system, please contact the nearest Krystel Kleer office and speak with our trained personnel who will discuss your needs with you.

GENERAL

1. Electricity Consumption - Our electrical consultants advise that the annual usage of electricity for the total system is similar to an average household refrigerator. Please don't turn your Treatment Plant off to save power; this will only result in damage to the system.
2. Septic Tank/Compartment - Dependant on individual household usage, it will be necessary to periodically remove the contents. This is the homeowner's responsibility. Our company will assist where required but with costs payable by customers. This service may be carried out by any person or organisation approved by the Health Department.

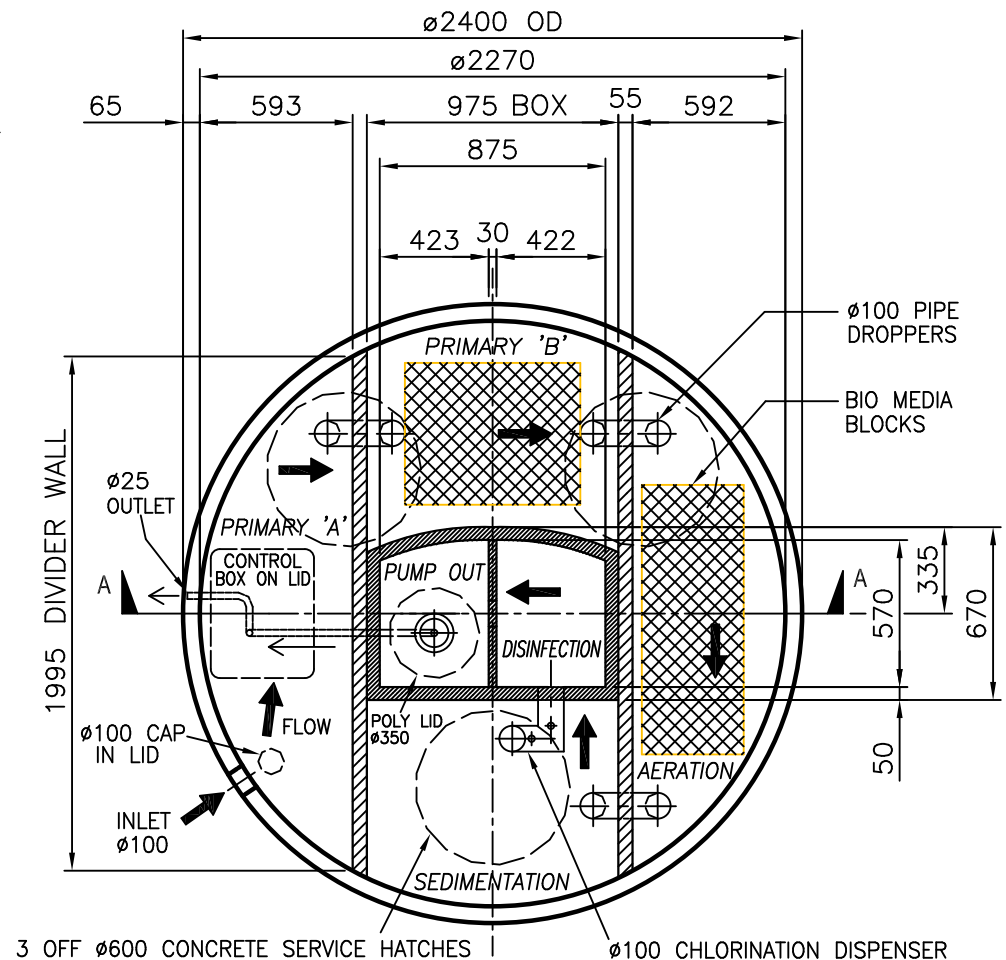
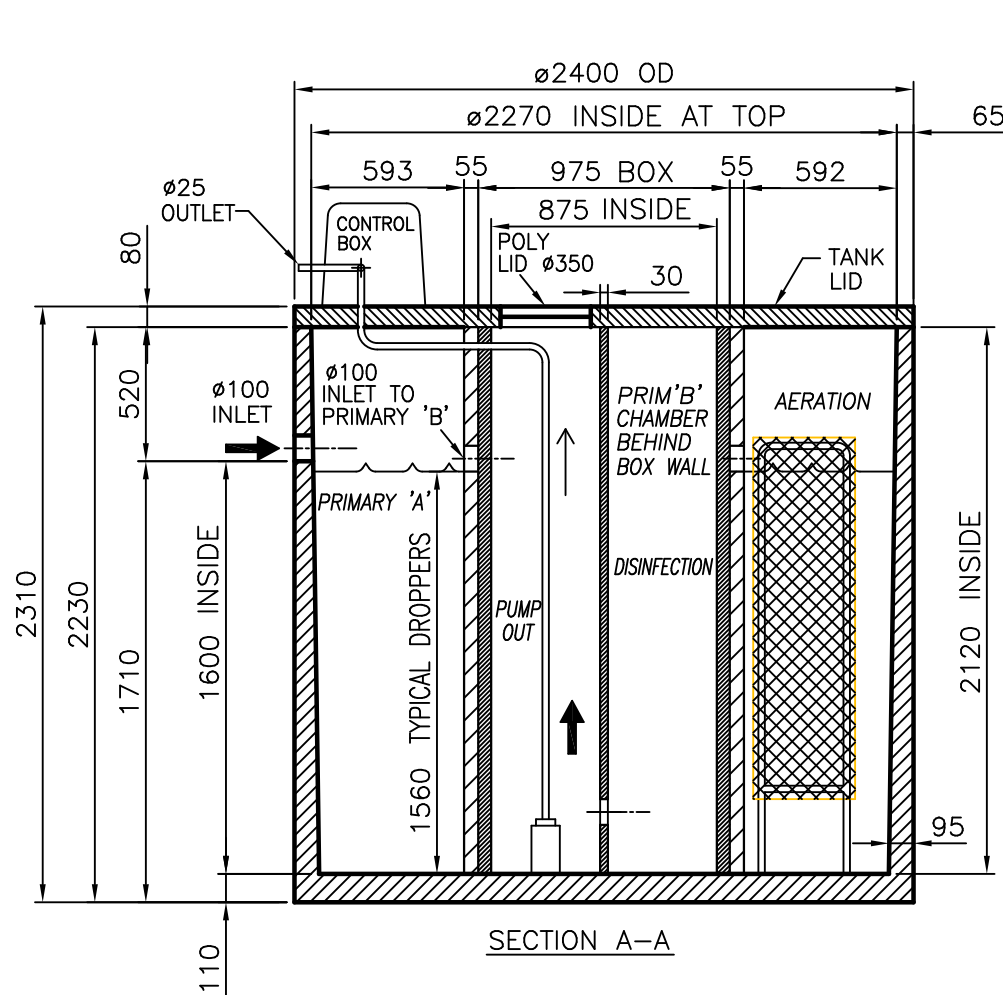
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TOTAL CAPACITY OF TANK : 7250 LITRES

CAPACITY OF CHAMBERS AT WORKING LEVELS :-

1. PRIMARY 'A' : 1229 LITRES
2. PRIMARY 'B' : 1215 LITRES
3. AERATION : 1210 LITRES
4. SEDIMENTATION : 1185 LITRES
5. PUMP OUT & DISINFECTION : 695 LITRES

TOTAL CAPACITY OF CHAMBERS AT WORKING LEVEL : 5534 LITRES

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ISSUED : 17 JUNE 2016

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KRYSTEL KLEER TREATMENT SYSTEMS
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KRYSTEL KLEER ADV 5000 CONCRETE TANK ADVANCED CHLORINE DISINFECTION SYSTEM	Drawing No. QT 1609	Rev A