

PACKAGE SEWAGE TREATMENT PLANTS A/O Canal

A wide range of sewage treatment plants that meet GES of DAO 2021-19 for nutrients reduction are available from Hydrex Asia Ltd. They are suitable for residential communities and industrial parks. Hydrex plants are energy efficient, economical, compact, odor/ noise free, easy to construct and simple to operate/ maintain. Hydrex A/O Canal plants are available in two modules, for a population of 10,000 and 20,000. Plants for higher populations can be met by putting modules together.

A- three (3) modules @10,000 population A/O Canal sewage treatment plant



Energy Efficient, Economical, Easy-to-Install/ Operate

Treatment Plant Description

A/O process is a well-known and proven biological treatment method for reduction of nutrient (nitrogen and phosphorous) to meet most General Effluent Standard such as DAO-2021-19. Hydrex guarantees treatment results basic upon given design parameters.

A typical Hydrex A/O Canal package sewage treatment plant consists of a number of process/ components including:

- Pretreatment, such as screening and grit removal.
- Equalization to handle surge flows and concentrations and with lift pumps.
- A/O biological treatment process to reduce nitrogen, phosphorous and ammonia together organics. The most energy efficient mixer/ aerator (patented) are offered.
- Clarification, for the effective separation of clear effluent from biological sludge. A sludge collector and pumps for recycling the settled out activated sludge back to the A/O process.
- Post treatment, such as chlorination.
- Sludge digestion/ dewatering.

Design Features

Process Tanks: Hydrex has supplied hundreds of wastewater treatment plants with glass coated steel tanks. The above ground glass-fused-to-steel tanks are ideally suited as process tanks and have been designed to solve the problems associated with traditional concrete structures such as cracks, leakage caused by earth quakes and weathering.

Mixing/ Aeration Devices (Patented):

These SS304 aerators are even more energy efficient than fine bubble air diffusers in the long run and do not require diffuser membrane replacement. Their oxygen transfer efficiency and energy consumption are certified by independent party.

Fast & Easy to build:

These plants are easy to install and can be completed within a relatively short period of time. The plants are constructed on a simple concrete slab. The hard, impervious finish will not deteriorate, even after decades of service.



A- two (2) modules @20,000 population A/O Canal sewage treatment plant

IN THE MARKET FOR THE MOST COST EFFECTIVE AND RELIABLE WASTEWATER TREATMENT SYSTEMS AVAILABLE?

From even the most basic design information, Hydrex can design and supply economical, power efficient and highly reliable package sewage treatment systems for industrial, commercial and residential applications throughout the Asia region.

Our plants provide efficient and economical treatment even under the most adverse conditions. Maintenance costs are minimized because of our unique plant designs, ruggedly built equipment and corrosion resistant materials. Hydrex plants incorporate the most advanced equipment and extremely energy efficient. An audio-visual training program is provided for the training of inexperienced operators as well.

Our clients include some of the most respected multinational and regional

companies, an association we are extremely proud of. The hundreds of treatment plants that are in operation for many years are proof of our leadership in this area. In regards to package sewage treatment plants in particular, Hydrex's clients include, for example:

PT. SCCI Kawarang, Indonesia

Hydrex supplied a three (3) modules @10,000 population A/ O Canal package sewage treatment plants for a combined industrial/ residential estate in three phases.

Science Park of the Philippines Inc (SPPI)

Hydrex has supplied a total of eight (8) centralized wastewater treatment plants to SPPI up to 2021. Please see the following advertisement that was published in CEO magazine, Asia/ August 2021 issue.



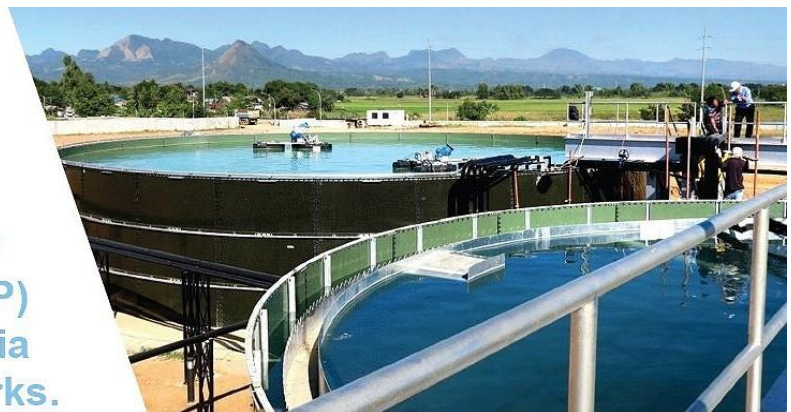
Centralized Wastewater Treatment Plants (CWTP) Designed by Hydrex Asia for SPPI's industrial parks.

It is a long story... but in short:

In 1991, Hydrex's tender for CWTP-1 of Light Industry & Science Park I (LISP I) was evaluated to be the most competitive. However, in order to meet Science Park of the Philippines, Inc. (SPPI) special requirements Hydrex offered a more attractive alternate design: special process tanks and aeration systems. The contract was completed within one year and the CWTP has been running satisfactorily up to now. Hydrex has provided SPPI a **total of eight (8) CWTP's** for its various industrial parks and its process tanks are still shining without any major repair/repainting despite going through many typhoons and earthquakes. Most equipment continue to operate well and treated effluent is excellent.

In the recent decade, Hydrex's new custom design CWTP can be constructed in phases but without increasing the ultimate cost except inflation.

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Design Considerations

Designing of a sewage treatment plant system requires careful consideration of many factors that may affect sizing and performance. The basic wastewater characteristics and effluent requirements must first be established. Design can be proceeded with sufficient knowledge of the following parameters:

A. Type of Establishment

- Residential - Ordinary
- Residential - High Class
- Commercial

Population _____
 Population _____
 Staff _____; Visitors _____

B. Sewage Treatment Plant Influent

Flow, Daily Average _____ m³/ d
 Flow, Peak _____ m³/ h
 Peak flow duration _____ hr/ d
 BOD Concentration _____ mg/ l
 TKN _____ mg/ l
 Nitrate-N _____ mg/ l
 Ammonia-N _____ mg/ l
 Total Phosphorous _____ mg/ l
 Ambient Temperature Summer/Winter _____ / _____ °C
 Power Supply 3 Phase / _____ Volt / _____ Hz
 Sewage Delivery Method Below Ground Gravity Sewer or Above Ground Pressure Pipe

C. Sewage Treatment Plant Effluent

BOD Concentration _____ mg/l
 SS (Suspended Solids) Concentration _____ mg/l
 Other Requirements (please specify) _____

Please put a “√” in the appropriate box. Items A and C must be filled in entirely to allow us to design an appropriate treatment plant. If information for Item B is unavailable, please ignore.

FOR FURTHER INFORMATION

A full range of water and wastewater treatment systems and equipment are available from Hydrex. For further information, please contact us or our authorized agent.

Authorized Agent:

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