

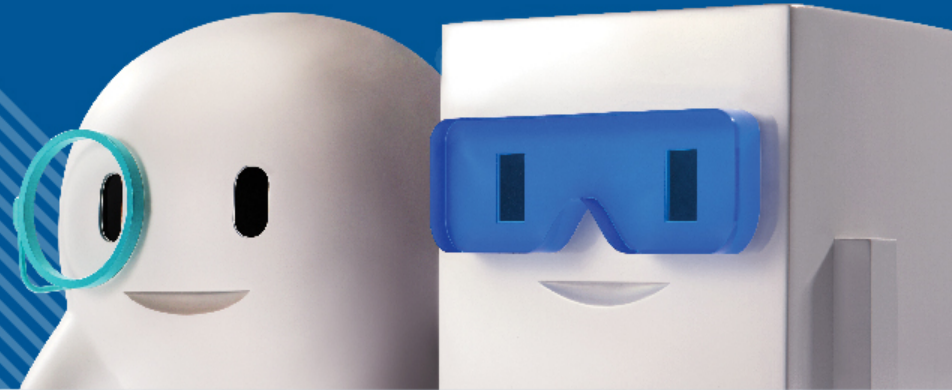


***HKPC-STS***

# **A Packaged Sewage Treatment System**

**HKPC**®

**Environmental Management Division  
Hong Kong Productivity Council  
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# Background

Sewage treatment system, HKPC-STS, is a packaged system designed for treating toilet wastewater (sewage) in some specific locations where are unable to discharge to sewer, e.g. rural schools, campsites, etc



# Introduction

## Common Treatment Methods

- Discharge to sewer (if available)
- Mobile toilets and tanker away of sewage periodically
- Septic tank and soak away pit

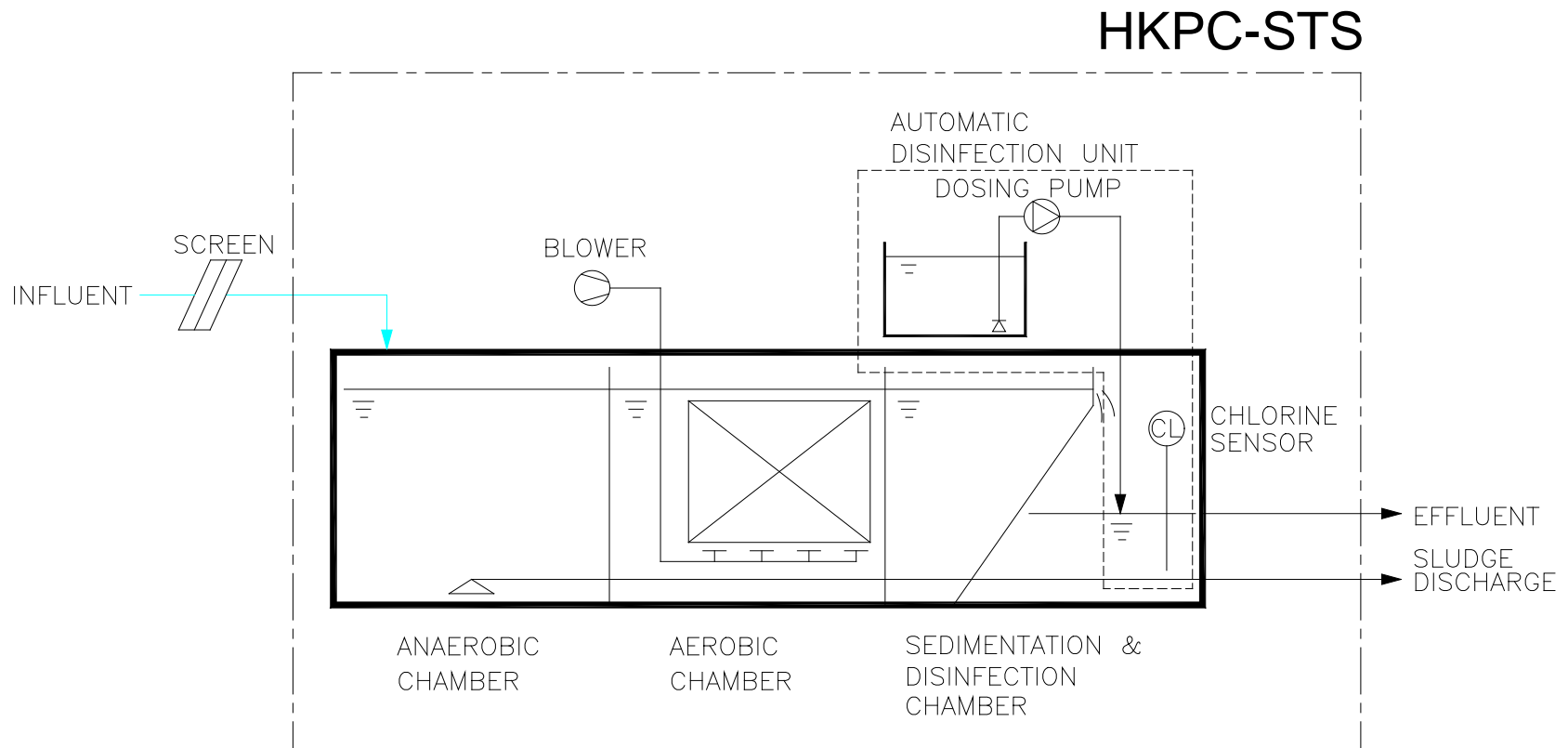


# Technical Details

## Design Basis

- Influent Standard
  - No. of people served : 50 ~ 200
  - Influent flow : 3 ~ 12 m<sup>3</sup>/day
  - BOD<sub>5</sub> : up to 250mg/L
  - COD : up to 400mg/L
  - SS : up to 400mg/L
- Treated Effluent Standard (storm drain, etc.)
  - BOD<sub>5</sub> : 20mg/L
  - COD : 80mg/L
  - SS : 30mg/L

# Flow Schematic



# Treatment Process

- HKPC-STS consists of an anaerobic chamber, an aerobic chamber and a sedimentation and disinfection chamber.
- Wastewater from toilets is firstly discharged into the anaerobic chamber for digestion and decomposition
- Then the wastewater will be overflowed into the aerobic chamber for the aerobic treatment process. Soluble and suspended organic matters in the wastewater are absorbed and assimilated by the microorganisms growing on the surface of the fill media.
- Finally, wastewater will enter into the sedimentation and disinfection chamber for final sedimentation and disinfection.

# Technical Features

- Flexible in site installation. System can be floor mounted, buried wholly or half-submerged.
- Made of FRP. Light weight, high strength, anti-corrosion and high durability.
- Simple, continuous and automated operation.
- Low noise, less odor and less sludge generated.
- Excellent treatment performance.



# Application Area

- The ***HKPC-STS*** has three standard models to suit different inflow rate and different sizes of construction site to comply with general effluent standard for discharge to storm drain, etc.):

<u>Model No.</u>	<u>Capacity</u>	<u>Dimensions</u>
<b>STS-50</b>	<b>3m<sup>3</sup>/day</b>	<b>2.0 X 2.7 X 2.3 m</b>
<b>STS-100</b>	<b>6m<sup>3</sup>/day</b>	<b>2.0 X 3.9 X 2.3 m</b>
<b>STS-200</b>	<b>12m<sup>3</sup>/day</b>	<b>2.0 X 7.2 X 2.3 m</b>

# Commercialization Package

## **Part A Design Information**

- System design data
- System specification
- Flow schematic, electrical and mechanical drawings

## **Part B System Design Reference**

- Layout drawings for installation arrangement
- Operation and Maintenance Manual
- Testing and Commissioning Report

## **Part C Technical Support**

- One year on-site technical support on installation, testing and commissioning of system

# Case Sharing



# Transportation and Installation



# Transportation and Installation



# Testing and Commissioning



# Testing and Commissioning



# Testing and Commissioning



# Testing and Commissioning



# Testing and Commissioning



# Treatment Performance

## Wastewater Characteristics

Parameter	Discharge Limit	Influent	Effluent	Influent	Effluent
BOD <sub>5</sub> (mg/l)	20	140	10	150	14
COD (mg/l)	80	260	49	280	50
SS (mg/l)	30	63	7	61	26
E-Coli (count/100ml)	1000	---	<2	---	<2

# Project References



# Project References



# Q & A

# Thank You!



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