

Dunwell Bio-Toilet 正昌膜生化廁所

Compact Sewage Treatment & Recycling Plant
小型生活污水處理及回用系統

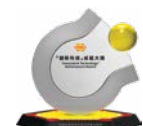


- Eliminates Public Sewers
毋需排污渠
- 100% Water Reuse On Site
100%水循環再用
- Remote Monitoring System
在線監控
- Reliable solution for small scale applications
適合低污水量的用途

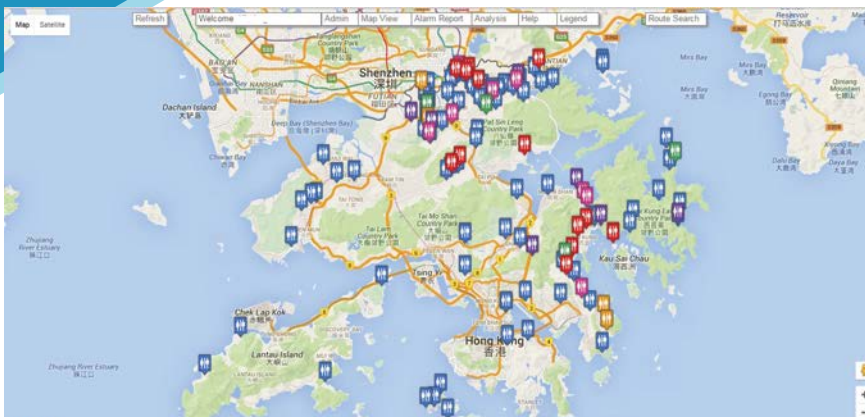
Introduction 介紹

With the increasing demand of sanitary facilities in remote locations with limited space, a cost effective solution was called for to meet the needs. Dunwell Bio-Toilet is an advanced wastewater treatment process which combines membrane separation, biological treatment and aeration technologies. It is specially designed for toilets with daily maximum flow capacity of less than 40m³. The system treats the wastewater on site with the effluent reused directly for toilet flushing, eliminating the need for sewers.

隨着空間有限而且在偏遠地區衛生設施需求不斷增加，需要一種具有成本效益而且能有效解決的方案以滿足需求。正昌膜生化廁所系統是先進的廢水處理技術，結合了膜分離，生物處理和曝氣技術。系統針對生活廢水處理而設計，日處理水量可小於40立方米。當沒有排污管道，膜生物系統現場處理廢水，處理後清水直接回用於沖洗馬桶。



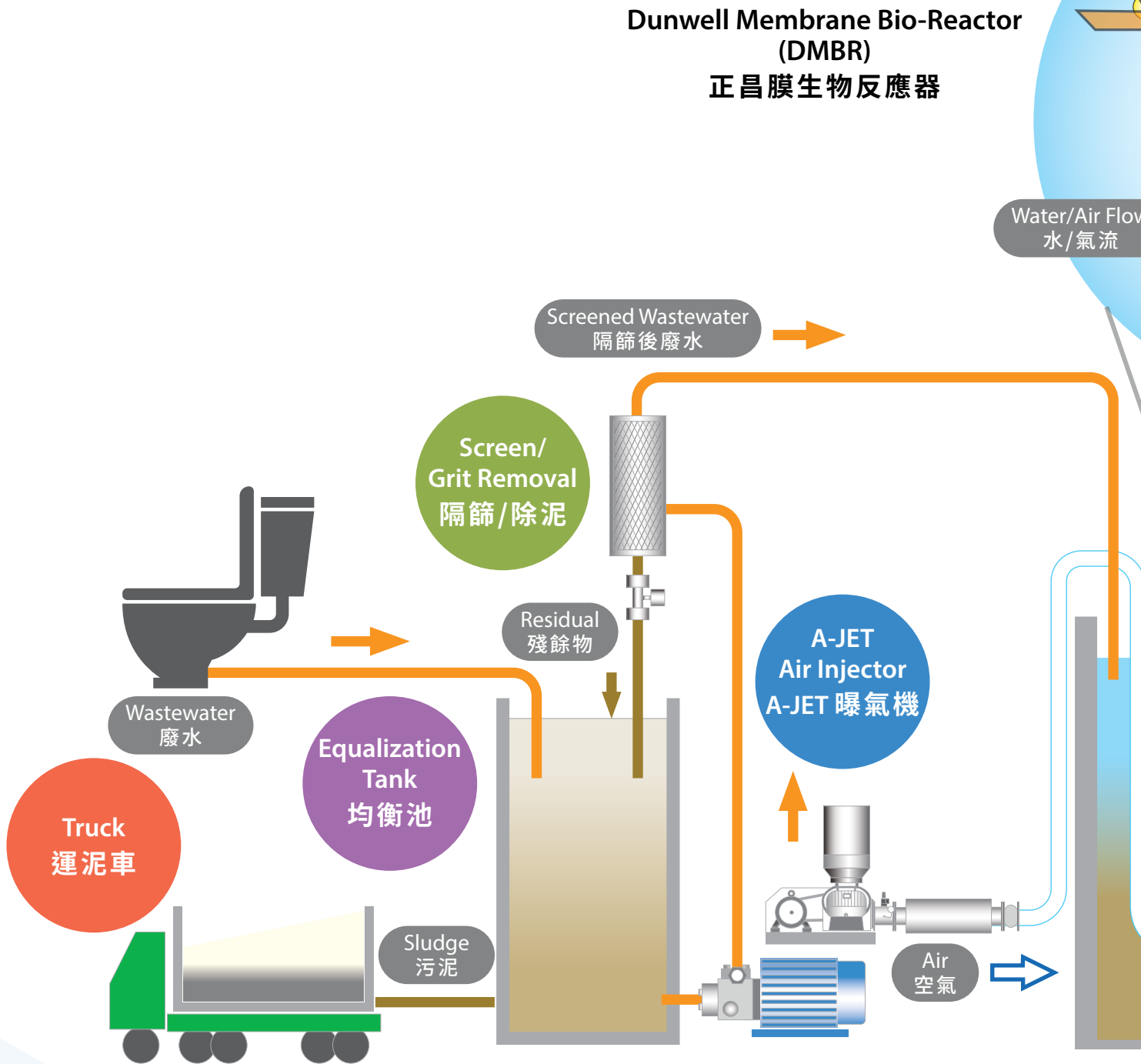
24-hour remote monitoring system
24小時在線監控



Dunwell Bio-Toilet Sizing Chart 正昌生化廁所體積表

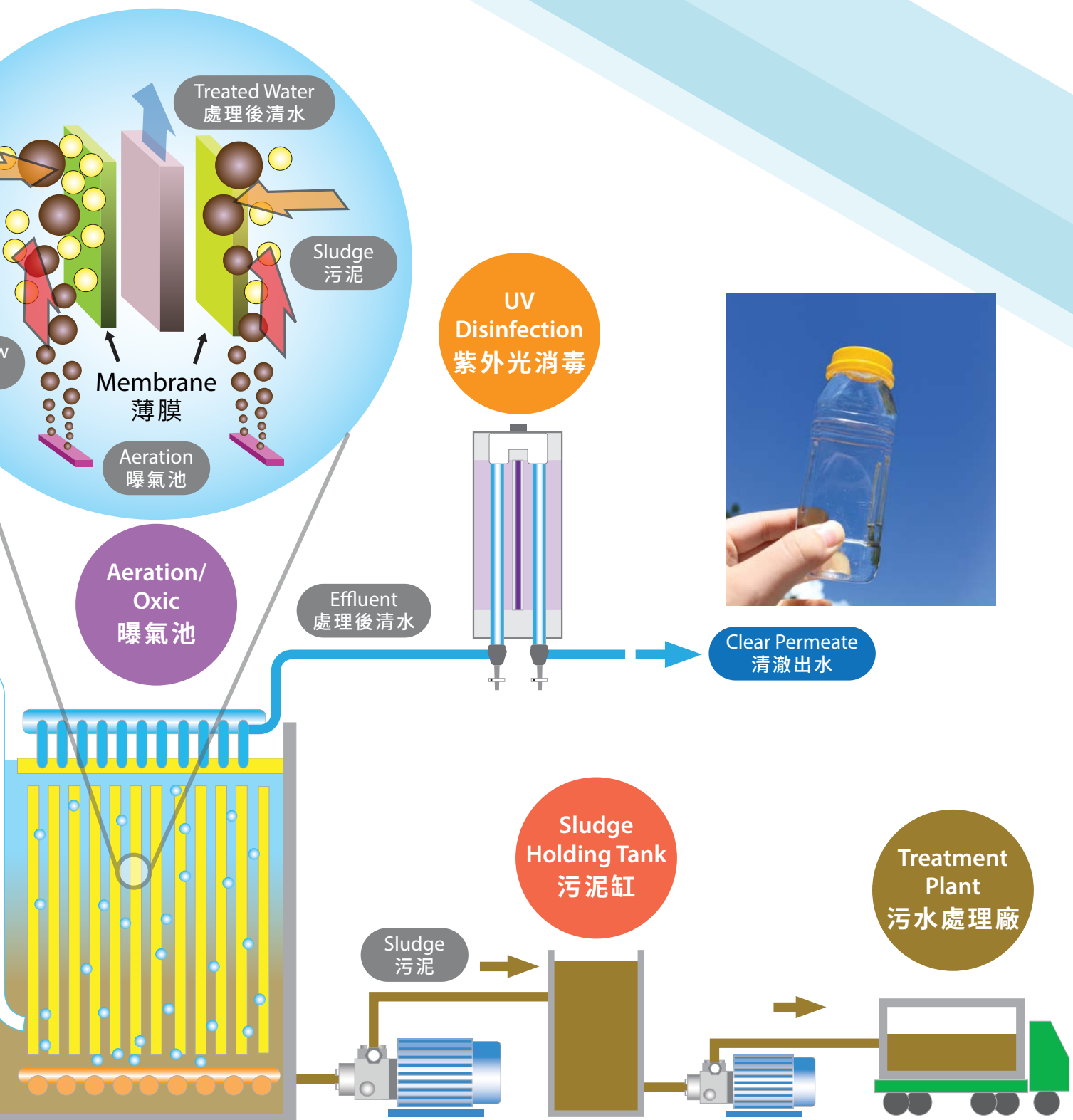
Model 型號	Design Flow (m ³ /day) 設計流量 (立方米/天)	Overall Dimension (Including Maintenance Space) 外形尺寸(包括維修空間)				
		Length (mm) 長度 (毫米)	Width (mm) 度 (毫米)	Height (mm) 高度 (毫米)	Necessary headroom (mm) 房間淨高 (毫米)	Membrane Area (m ²) 膜面積 (平方米)
DBT-5	5	3,000	2,000	3,000	3,500	20
DBT-10	10	4,000	2,200	3,000	3,500	50
DBT-20	20	6,000	2,200	3,000	3,500	100
DBT-40	40	10,000	2,200	3,000	3,500	200

Process flow of Dunwell Bio-Toilet 正昌膜生化廁所處理流程



Advantages 優點

- ◆ On site reuse of treated water
處理後出水現場回用
- ◆ Automated control by Programmable Logic Controller (PLC)
全自動編程邏輯控制
- ◆ 24-hour Remote monitoring system
24小時在線監控
- ◆ Eliminates sewers
毋需排污渠
- ◆ High concentration of Mixed Liquor Suspended Solid (MLSS) (10,000-20,000mg/L) greatly improves efficiency
混合懸浮固體(MLSS) (10,000-20,000 毫克/升) 提升污水處理效率



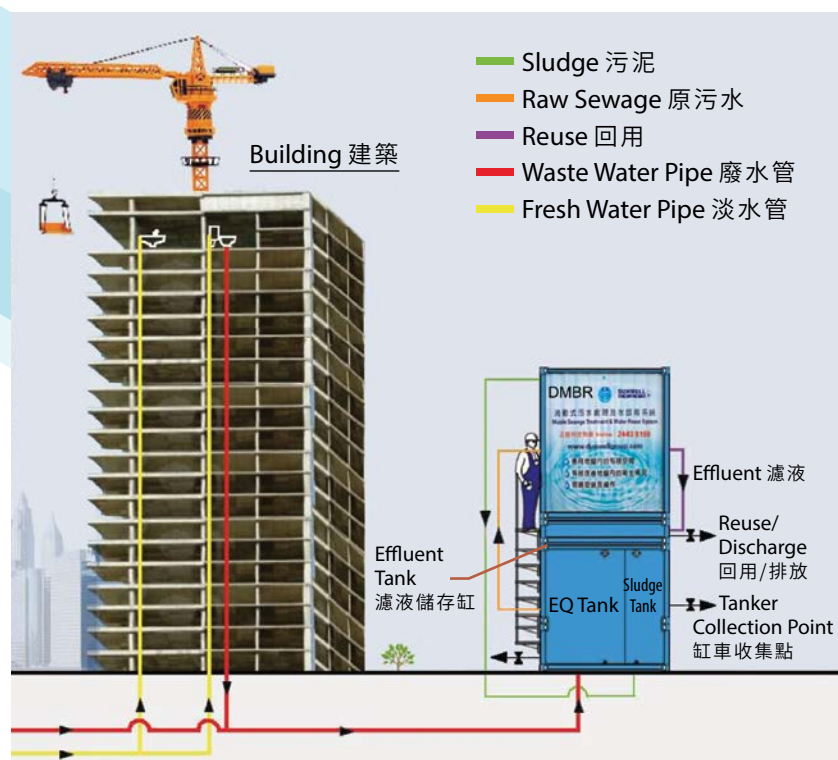
- ◆ Completely removes suspended solids from effluent
完全去除出水的懸浮固體
- ◆ Membranes have excellent durability and chemical resistance
膜組性能優異，耐久性高和耐化學性

- ◆ Can easily add UV disinfection or Reverse Osmosis to further enhance effluent quality
可以加裝紫外光消毒或加裝反滲透，進一步提高出水水質

Optional Features – Containerized Plant 可選設計 – 集裝箱裝置

Designed for construction sites and remote areas with limited space

專為建築工地和空間有限的偏遠地區而設計



Containerized plant 集裝箱式系統

To cope with temporary demands, phased construction sites or extremely remote areas, Dunwell takes a step further and introduces a containerized version of Bio-Toilet. The entire treatment plant is fitted into a customized container which is compact and portable. It is designed to provide reliable and efficient sewage treatment for small scale applications.

為了應對分階段建築工地或極為偏遠地區的臨時需求，正昌更進一步設計集裝箱式生化廁所。整個處理廠安裝在一個小型及可移動的集裝箱內。它旨在提供可靠和有效的小規模污水處理方案。

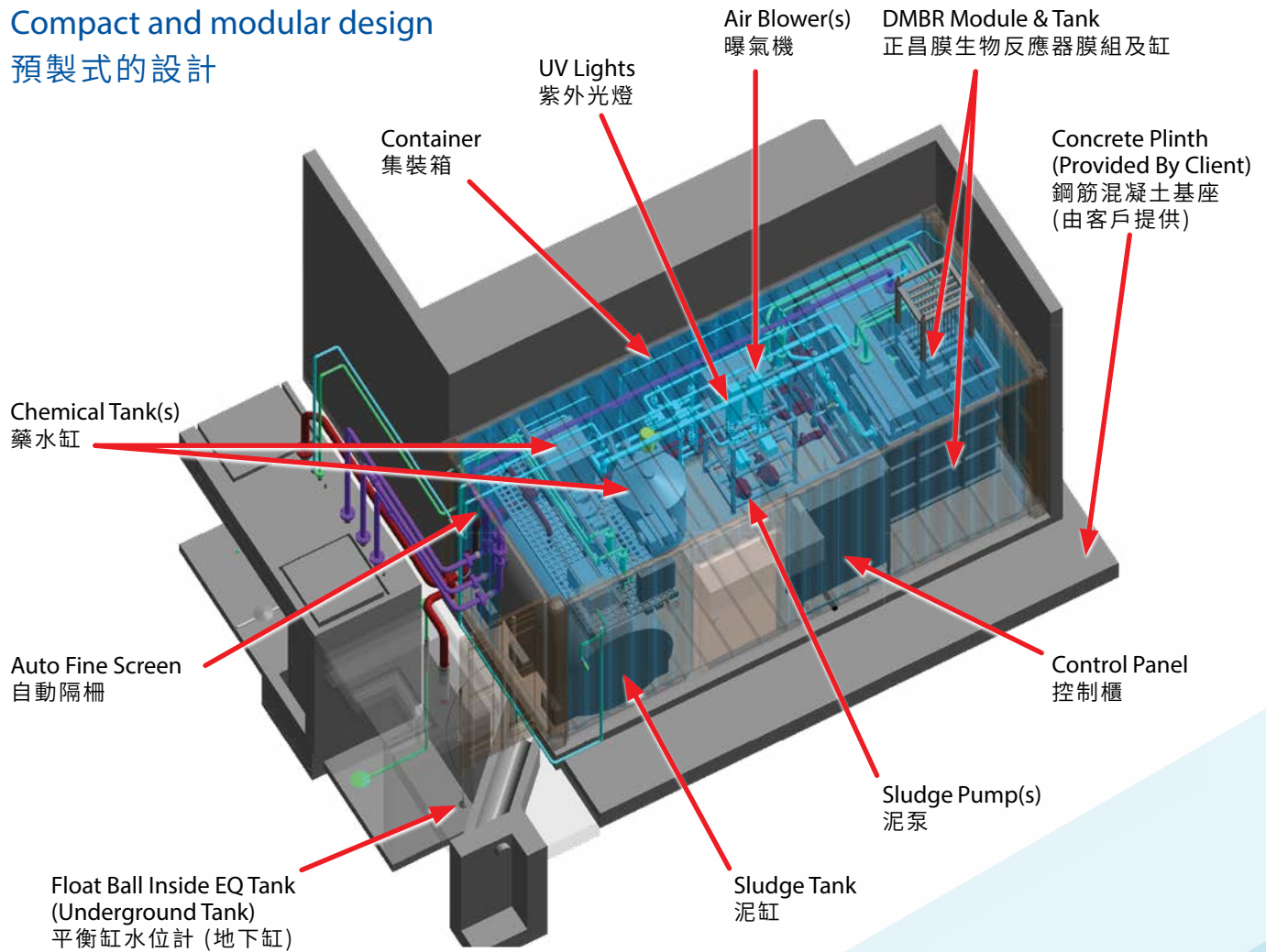
- ◆ Factory installed and tested, hence no construction works on site 於工廠進行出廠前安裝和測試，毋需現場施工
- ◆ Short delivery period 交貨期短
- ◆ Easy to relocate 易於搬運
- ◆ Minimal operation and maintenance attention needed 簡易操作和維護

Dunwell Bio-Toilet Containerized Plant Sizing Chart 正昌集裝箱式生化廁所系統尺寸表

Model 型號	Design Flow (m ³ /day) 設計流量 (立方米/天)	Overall Dimension (Including Maintenance Space) 外形尺寸(包括維修空間)			
		Length (mm) 長度 (毫米)	Width (mm) 寬度 (毫米)	Height (mm) 高度 (毫米)	Membrane Area (m ²) 膜面積 (平方米)
DBT-C5	5	3,000	2,100	2,390	20
DBT-C10	10	3,000	2,100	2,390	50
DBT-C20	20	6,000	2,100	2,390	100
DBT-C40	40	12,000	2,100	2,390	200

Compact and modular design

預製式的設計



"Plug and Play" Design

「一駁即用」一體化設計



Installed into the site
安裝後的系統

Job references 過往項目

Lung Kwu Tan Public Toilet – 28m³/day

龍鼓灘公共廁所 – 28立方米/天



Qingdao Laoshan Tourist Area, China – 20m³/day

中國青島嶗山旅遊景區 - 20立方米/天



Toyokawa shi, Japan - 10m³/day
日本豐川市 - 10立方米/天



WWF Mai Po Nature Reserve – 24m³/day
米埔自然保護區 - 24立方米/天



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Dunwell Engineering Co., Ltd
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