KINS Engineering Limited
堅士工程有限公司



A New Generation Energy Saving Fresh Air Unit

新一代節能鮮風空調系統

The Unique Hong Kong HVAC Solution Provider
Specializing in Fresh Air, Humidity, and Energy Saving

MADE IN HONG KONG



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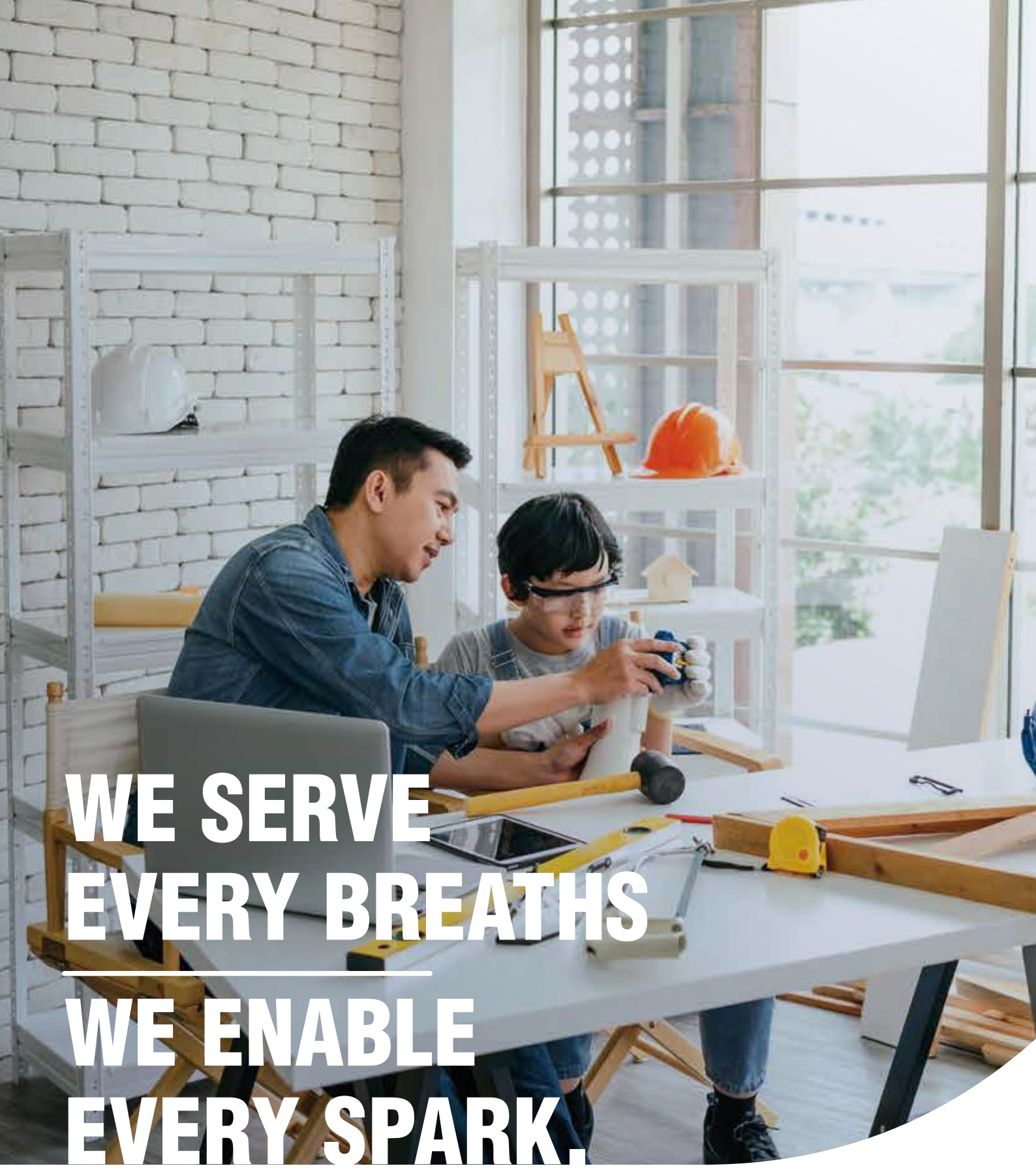
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WE SERVE EVERY BREATHS

WE ENABLE EVERY SPARK.



1 The Power of Every Breath

Our Message | **理念**

At **KINS Engineering**, we believe that air is more than just what we breathe - it shapes our health, comfort, and creativity.

空氣圍繞我們的每一天，而室內空氣的品質決定了我們的健康與生活方式。**堅士工程有限公司**致力於改善室內空氣，讓呼吸更清新，讓環境更宜人，讓靈感自由流動，為未來創造更智慧的空氣解決方案。

· Beyond Air Management
不止是空氣管理

We deliver energy-optimised solutions to elevate indoor environmental quality.

我們提供高效節能的解決方案，全方位提升室內環境品質。

· Bringing Fresh, Comfortable Indoor Air
締造清新舒適的室內空氣環境

We engineer healthier, sustainable spaces infused with fresh air through intelligent airflow and humidity optimization.

憑藉智慧氣流調控與濕度管理，打造健康節能、空氣清新的永續空間。

· Pioneering Sustainability & Innovation
引領永續發展與創新科技

Our *FAU* technology elevates air quality while driving industry advancement.

FAU 技術不僅優化空氣品質，更推動行業革新發展。

2 Where Sparks Begin –
Who We Are | 關於我們

Established in 1983, **Kins Engineering Limited (KINS)** is a Hong Kong-based company deeply rooted in the region, specializing in innovative indoor air solutions. Founded by Danny Ip, a pioneer in the air conditioning industry, KINS leverages its in-house R&D platform to drive growth and advance technology.

堅士工程是一家由空調業界先驅葉裕堅創立，深耕香港的本地企業。成立於1983年，專注於創新的室內空氣解決方案，並利用自主研發（R&D）平台，推動技術進步與企業成長，從而創造出一種更靈活、更智慧的室內空氣管理方式。

WITH A MISSION TO IMPROVE INDOOR AIR QUALITY AND REDUCE ENERGY CONSUMPTION, **KINS** IS DEDICATED TO DEVELOPING SMARTER, MORE SUSTAINABLE AIR SOLUTIONS.

堅士工程以提升室內空氣品質和降低能源消耗為使命，
致力於開發更智慧、更永續的空氣解決方案。



What We Do **業務範疇**

1

FAU Fresh Air Unit 智能鮮風系統

A breakthrough technology that allows cooling with fresh air, reducing humidity and energy consumption.

引入新鮮空氣，同時實現排除污染物、降溫、除濕與節能，提升室內環境品質。

2

Air Conditioning Service 空調系統服務

Design, install and maintenance.

設計、安裝及維護。

3

Air Side Ventilation System Consultant 空氣側通風系統顧問服務

Registered specialist contractor (ventilation) *

註冊專業承辦商（通風系統）*

4

Customized Building Management Automation Service 客製化建築管理自動化服務

IoT platform, BMS platform and custom DDC (control)

物聯網（IoT）平台、BMS（樓宇管理系統）平台和自訂 DDC（控制器）



Registration no. 註冊編號：SC(U)10/2021



Danny Ip 葉裕堅

Chief Executive Officer（CEO）| 行政總裁

For over 40 years, Danny has been a driving force in revolutionizing air technology. Every system he designs is built from firsthand experience, tested, refined, and reimagined in real-world conditions.
His creation, the *Fresh Air Unit (FAU)*, is based on real-world challenges he encountered in workshops and job sites. While most business owners stay behind desks, Danny thrives on the frontlines, personally engaging with machinery. He breaks conventional rules, and rebuilds them with his own designs, creating a smarter and more adaptable way to manage indoor air.

在過去 40 多年間，Danny 一直是空調技術革新的推動者。他的每項設計都來自第一線的實戰經驗，在不斷測試、改進中突破，讓技術在真實環境中發揮極致效能。
他研發的**智能鮮風系統**源於工地與機房現場所面臨的實際挑戰。與只坐辦公室管理業務的老闆不同，Danny始終堅持在前線親自動手，拆解、重構、挑戰傳統技術，並以全新設計重新建立更高效的空氣管理系統，從而創造出一種更靈活、更智慧的室內空氣管理方式。



Wilson Ip 葉濠銘

Managing & Engineering Director | 工程與行政總監

Carrying forward **KINS**' bold, pioneering spirit, Wilson Ip leads production, R&D, and engineering advancements, ensuring every innovation is not just visionary but practical and scalable. He is deeply engaged in pushing industry boundaries, serving as an active leader in professional engineering circles, including the Federation of Hong Kong Industries (FHKI), Young Entrepreneur Committee (YEC), and the Hong Kong Institution of Engineers (HKIE).

延續**堅士工程**敢於創新、持續突破的精神，Wilson領導公司生產、研發與工程技術的發展，確保每項創新不僅具前瞻性，更能真正落地應用。
他積極參與業界發展，是多個專業工程機構的活躍成員，包括：香港工業總會、香港工業總會－青年委員會和香港工程師學會。



3 Fresh Air, New Perspectives

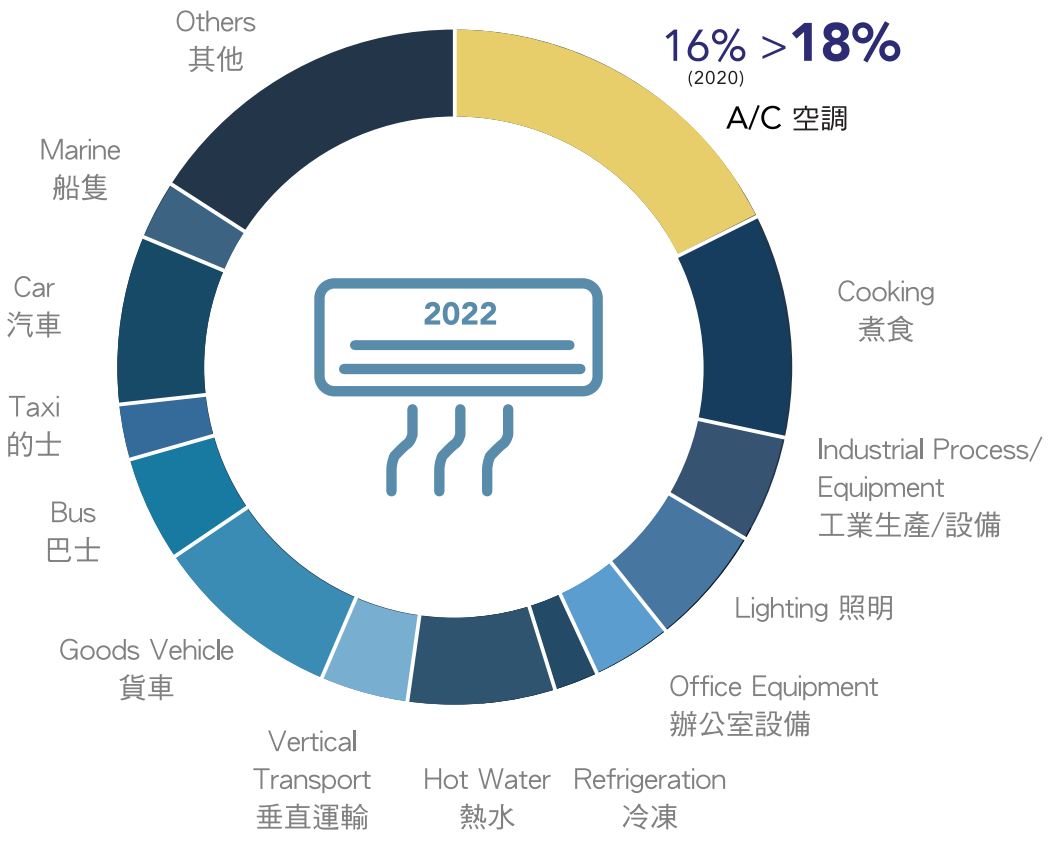
Background | 背景

Did You Know?
你知道嗎？

Air conditioning accounts for **18%** of total energy end-use, and up to **50%** of electricity use in buildings - yet it still fails to solve humidity problems.

冷氣系統佔整體能源最終用途的 **18%**，在建築物內總用電量中更高達 **50%**，但仍無法有效解決濕度問題！

Total Energy Consumption by End-use
能源最終用途



Source: Hong Kong Energy End-use Data 2022
資料來源：香港能源最終用途統計報告 2022



Why Improving Indoor Air Quality (IAQ) Matters ?
為何改善室內空氣品質（IAQ）至關重要？

Improving IAQ can reduce employee sick leave, lower health-related costs, and increase workplace efficiency.
提升 IAQ 有助於減少病假、降低支出，並提高工作效率。

In 2020, commercial buildings in Hong Kong consumed ***89.2%*** of their total energy from electricity, with air conditioning as the largest energy consumer***(18%)*** . And the percentage is getting higher every year.

Air conditioning consumes the most electricity but fails to address humidity issues, leading to poor air quality and increased health risks.
High humidity impacts health, contributing to Sick Building Syndrome (SBS), mold growth, and allergies, which can worsen respiratory conditions.
Uncontrolled humidity affects building structures, weakening ceilings and interior finishes, resulting in high maintenance costs.

在2020年香港商業建築的總能源消耗中（此數據為最新可獲得的官方統計數據），***89.2%*** 來自電力，其中空調用電佔比最高***(18%)***，且每年仍持續上升
空調系統消耗最多電力，卻無法解決濕度問題，導致空氣品質下降、健康風險增加。
高濕度影響健康，導致病態建築症候群(SBS)、霉菌滋生與過敏，更可能引發呼吸道問題。
濕度失控影響建築結構，使天花板與裝潢受損，帶來高昂維修成本。

4 Innovative Design

Core Technologies & Services | **核心技術與服務**

Energy-Efficient
高效節能

Health and comfort
健康舒適

4 Key Benefits
四大優勢

Eco-Friendly Solution
環保友善

Advanced Control System
智能控制系統





FAU

Fresh Air Unit

FAU 智能鮮風系統

The Smart Cooling Revolution

冷卻方式的新革命

Core Technology:

The secret to staying cool even with open windows / open kitchen:

KINS Fresh Air Unit (*FAU*) technology enables a continuous flow of fresh air while maintaining cooling efficiency.

How It Works:

- Traditional A/C operates well in a fully enclosed environment, operating in semi-enclosed places is causing condensation and excessive indoor humidity.
- Modern buildings cannot be completely sealed, e.g. tiny gaps, exhaust fan, kitchen fan hood, making humidity control difficult.
- *FAU* technology draws fresh outdoor air into the room, pre-cools and dehumidifies it, creating a comfortable indoor climate without using conventional A/C.

Therefore, *FAU* can remove excess moisture, reducing skin and respiratory discomfort. Maintains cool temperatures with fresh air circulation instead of recirculated air indoor.

核心技術：

開窗、開放式廚房也能保持涼爽的秘密：

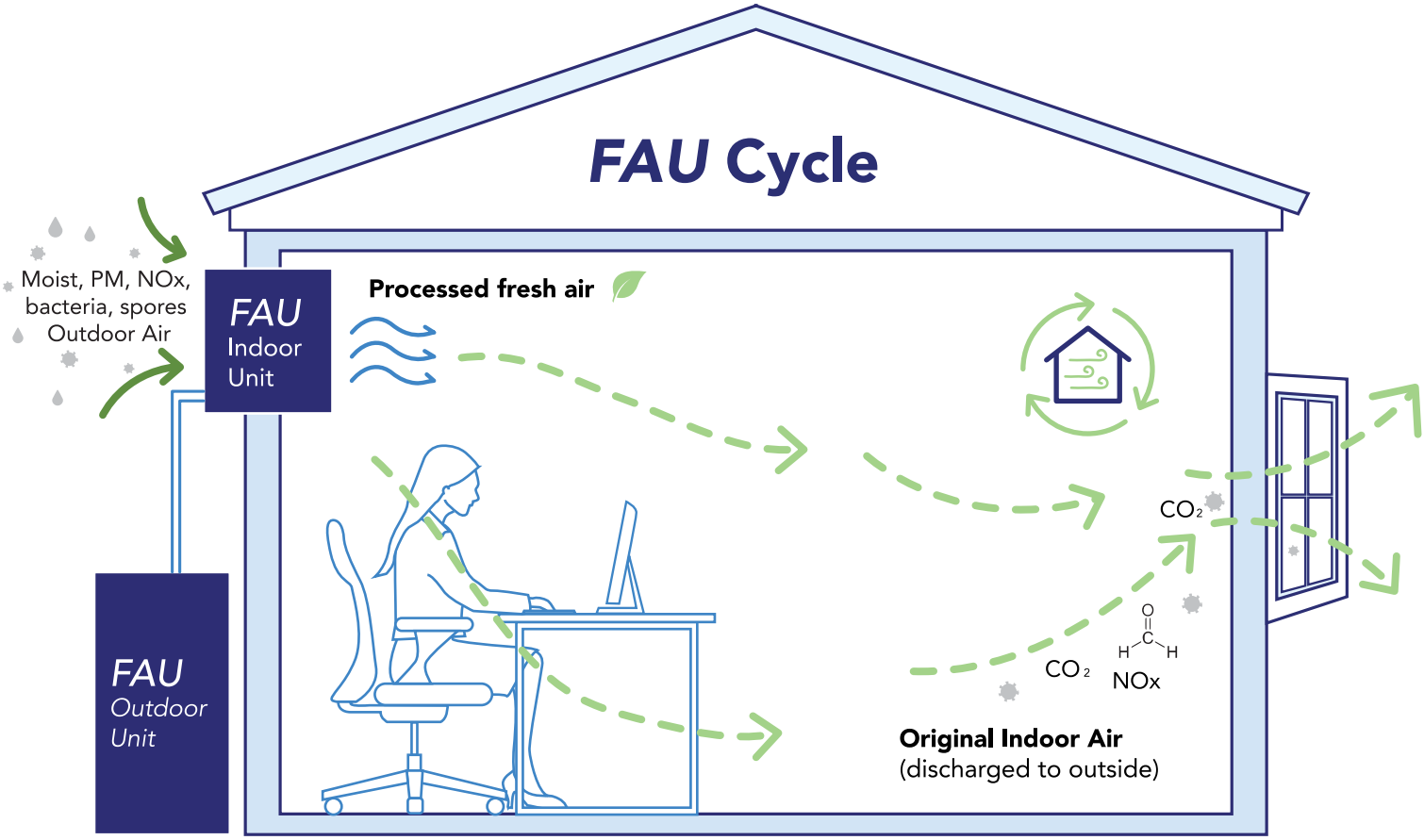
堅士工程智能鮮風系統（*FAU*）能夠持續引入新鮮空氣，同時保持冷卻效率，讓空間在開窗通風時依然舒適涼爽。

FAU 運作原理：

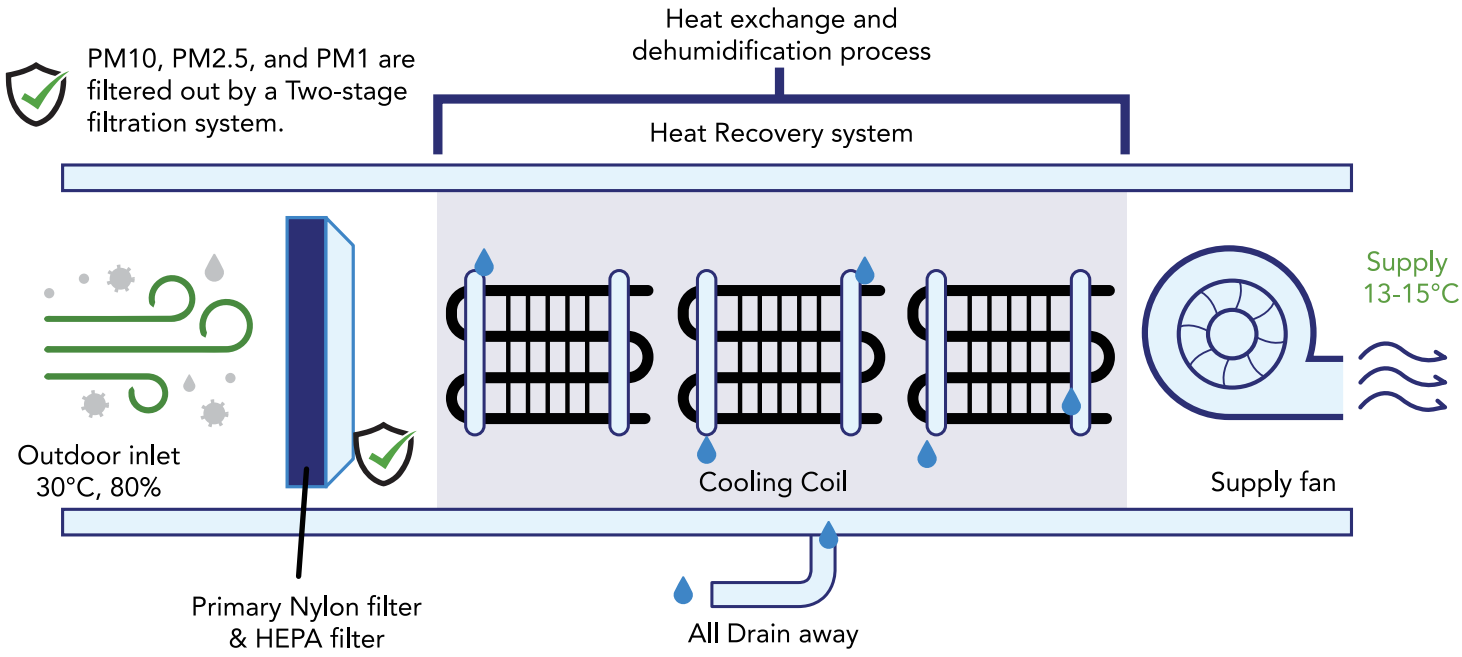
- 傳統空調需要完全密閉環境才能有效運作，但在半開放空間（如開放式廚房、部分開窗環境）會產生冷凝水，導致濕度過高。
- 現代建築無法完全密封，例如：門窗縫隙、排氣扇、廚房抽油煙機，讓濕度控制變得更加困難。
- *FAU* 技術透過引入新鮮戶外空氣，先行降溫並除濕，營造涼爽舒適的室內環境，無需依賴傳統冷氣系統。

因此，*FAU* 透過新鮮空氣循環維持涼爽溫度，而非不斷回收室內空氣。能有效去除多餘濕氣，減少皮膚與呼吸道不適

How does *FAU* work:
FAU 運作原理:



Within *FAU* Unit



How can the *FAU* Cycle be beneficial?
FAU 循環有何好處？

Client side 客戶端

***FAU* cycle** ensures fresh air supply is dry, clean, and maintained at a comfortable temperature based on different weathers, as well as a good air ventilation.
穩定供應乾淨、新鮮空氣，根據不同氣候條件調節適宜溫度，同時確保良好通風。

Ventilation method: Compared to A/C, *FAU* optimizes airflow direction and circulation for more even cooling.
空氣流通管理方法：相比傳統冷氣，*FAU* 最佳化利用氣流方向與循環方式，讓降溫更均勻。

Effectively removes outdoor harmful substances and indoor pollutants. This significantly **enhances indoor air quality (IAQ)** and prevents mold growth, ensuring a healthier indoor environment.
有效去除戶外污染物及室內有害物質，顯著**提升室內空氣品質**（IAQ），防止霉菌滋生，營造更健康的居住與工作環境。

Property side 物業端

Higher flexibility: Works with both air-cooled and water-cooled systems, optimizing machine plant space (as seen in NEC warehouse projects).
高靈活性：適用於風冷與水冷系統，最佳化善用機房空間（如 NEC 倉庫案例）

Retrofit-able: *FAU* is an individual system that can co-exist with existing A/C system. Chest interest: maintain whole properties
可以靈活改裝：*FAU* 是獨立系統，可與現有空調共存，適用於樓宇翻新與設備升級。

FAU maintains a comfortable 23–25°C environment with lower humidity.
This not only protects interiors from moisture damage, but also reduces energy use and renovation costs.
FAU 維持在舒適的23–25°C溫度，同時降低濕度，不但防止濕氣損壞室內裝潢，亦有助節省能源和翻新成本。

Fun Facts

Under lower humid conditions, a relatively high indoor temperature level is acceptable for the thermal comfort.
For example, at a relative humidity of **70%**, the maximum allowable temperature in an indoor environment to achieve acceptable thermal comfort is around **22°C**, while it is **26°C** at a relative humidity of **40%**.*

在低濕度環境下，人體能接受較高的室內溫度，依然保持舒適。
相對濕度 **70%** 時，人體舒適的最高室溫約為 **22°C**。
相對濕度 **40%** 時，舒適的最高室溫可達 **26°C**。*





*ASHRAE. (2020). Thermal Environmental Conditions for Human Occupancy. ISSN 1041-2336.

5 Key Advantages of *FAU* Technology
FAU 技術的優勢

Features **綜合功能**	***FAU* Fresh Air System** **智能鮮風系統**
Operation **運作條件**	Works with open windows 可以在開窗環境下運作
Control **雙向控制**	Controls both temperature & humidity 同時調節溫度與濕度
Customisation **具客製化**	Custom-built by HK engineers with remote control 由香港工程師客製化設計，支援遠端控制
Energy Efficiency **高效節能**	15-30% energy savings 節能範圍 15-30%

1 Humidity Control – Finding the Perfect Balance
濕度控制 - 尋找最理想的平衡點

Conventional A/C mainly controls temperature but struggles with humidity.
FAU technology separates temperature and humidity control, providing a balanced climate without overcooling.

Optimized dehumidification technology:

- Special cooling coils enhance humidity control without requiring additional heating processes.
- Maintains indoor humidity at around **50-55%**, significantly improving thermal comfort.

傳統空調僅調節溫度，無法有效控制濕度，導致過度降溫或濕度高等問題。
FAU 技術將溫度與濕度控制分開，提供更穩定、均衡的室內氣候，避免過度降溫的不適感。

更完善的除濕技術：

- 特製冷卻線圈增強濕度控制，無需額外加熱以降低濕度，更節能。
- 室內濕度穩定維持在大約 50-55%，顯著提升舒適度。

2 Maintaining Consistent & Comfortable Temperatures
保持均勻與舒適的室內溫度

Traditional A/C causes uneven cooling, leading to discomfort.
FAU distributes fresh air evenly, maintaining an optimal indoor climate and circulation.
傳統空調容易造成冷熱不均，影響舒適度。
FAU 技術透過新鮮空氣循環，均勻分配冷氣流動，確保穩定舒適的室內環境。

3 Improving Indoor Air Quality
改善室內空氣品質（IAQ）

FAU reduces CO_2 levels below 700 ppm, aligning with global IAQ standards (ASHRAE).
Controls PM2.5 levels, enhancing respiratory health.
FAU 可將室內 CO_2 濃度降低至 700 ppm 以下，符合全球 IAQ 標準（ASHRAE）。
有效控制 PM2.5 濃度，改善呼吸道健康，減少過敏與污染物影響。

4 Enhanced Comfort & Productivity
提升舒適度與生產力

Prevents excessive dryness and cold discomfort, creating a more balanced, healthy, clean and comfortable indoor environment.
防止過度乾燥與寒冷不適，提供更平衡、乾淨、健康又舒適的室內環境。

5 Smart Monitoring & Energy Optimization
智能監控與能源最佳化

FAU integrates with sensors and Building Management System (BMS).
Automatically adjusts water output based on real-time temperature data, improving energy efficiency.
FAU 可整合傳感器與樓宇管理系統（BMS），進行自動監控與調節。
根據即時溫度數據，自動調節水量輸出，提升能源效率，減少不必要的能耗。

6 From Sparks to Action -
Case Studies | 成功案例

Real-World Applications 實際應用

- Hotels & Resorts 酒店和度假村
- Heritage Sites & Museums 古蹟和博物館
- Luxury Residences & Office Buildings 豪宅和辦公大樓
- Canteens, Kitchen & Restaurants 食堂、廚房和餐廳
- Office, Factories & Industrial Spaces 工廠和工業空間
- Flats, House & Apartments 住宅和公寓
- University, Library and Laboratory 大學、圖書館和實驗室
- Church & Buildings 教堂和建築
- Wine cellar, Warehouse 酒窖和倉庫

and many more...



Building/Office
建築/辦公室



Canteen/Restaurant
飯堂/餐廳



Factory/Warehouse/Lab
工廠/倉庫/實驗室



House 住宅



Hotel 酒店



Wine Cellar 酒窖

KINS *FAU* was used in more than 50 locations in Hong Kong and overseas market including:
KINS *FAU* 遍佈香港超過50個地點，更出口至海外，包括：

- 中國 China
- 星加坡 Singapore
- 越南 Vietnam
- 泰國 Thailand
- ... ...
- 馬來西亞 Malaysia
- 衣索比亞 Ethiopia
- 印尼 Indonesia
- 杜拜 Dubai
- ... ...



CUHK – Woo Sing College Canteen
中文大學 和聲書院

Challenge 挑戰

- Strong sunlight at the window side caused uneven indoor temperatures. More energy was needed to maintain comfort.
- High humidity caused discomfort for students and staff, affecting the dining experience.
- Excess moisture raised food safety concerns and increased maintenance costs for kitchen and dining areas.
- 靠窗日照強烈，室內溫度分布不均，為保持舒適溫度需額外電力。
- 濕氣重令用餐體驗不適，影響學生與職員舒適度。
- 廚房及飯堂濕氣積聚，增加食品安全風險及維修成本。



Solution 解決方案

- *FAU* technology optimized temperature and humidity control, creating a more comfortable and hygienic environment.
- Fresh air circulation reduced humidity, preventing condensation buildup and improving air quality.
- Energy efficiency was maximized, with significantly lowering electricity costs.
- *FAU* 技術精準控制溫度與濕度，提升整體舒適度與衛生水平。
- 新鮮空氣流通減少濕度，防止冷凝水積聚並改善空氣質素。
- 提升能源效率，有效降低電力成本。



Canteen Interior area 飯堂內部

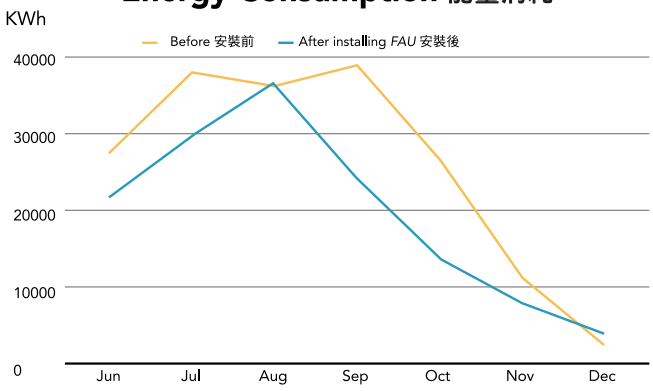




Ventilation tube 通風口

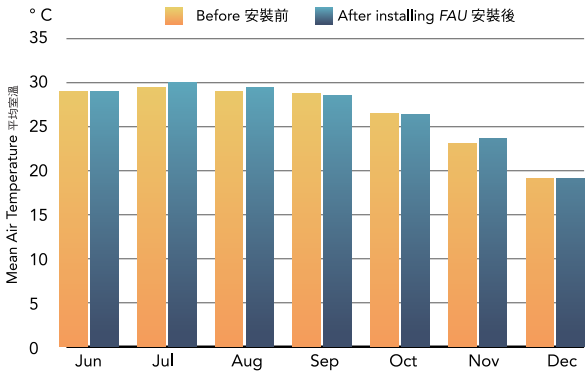


Energy Consumption 能量消耗



Total Energy Consumption Before
安裝前總用電量：**181,476KWh**
Total Energy Consumption After
安裝後總用電量：**137,400KWh**
Annual Energy Saving 每年節省電量：
44,076KWh => 24.3%

Energy savings at Lee Woo Sing College Canteen: 24.3% reduction in electricity usage.
和聲書院學生飯堂節能成效：
用電量減少 **24.3%**。



Almost same temperature range before and after
安裝前後的室內溫度變化幅度相若

FAU can achieve the same results while consuming less energy and keeping better air quality.
FAU 在維持同樣冷氣效果的同時，能耗更低，空氣品質更佳。

After installing *FAU*, our office feels fresher, and energy costs have dropped by **40%!**
安裝 *FAU* 後，辦公室感覺更清新，
電費節省了 **40%**！



TAL – Office Building Retrofit
辦公大樓空調翻新案例

TAL Apparel

Challenge 挑戰

- Poor ventilation & high pollution from midtown area
- Inefficient HVAC leading to high energy costs
- Indoor air filled with PM, CO, NO_2 pollutants
- 城市地區污染嚴重、通風不良
- 原有空調系統效率低，導致高能源成本
- 室內空氣中含有大量 PM、CO、NO_2 等污染物



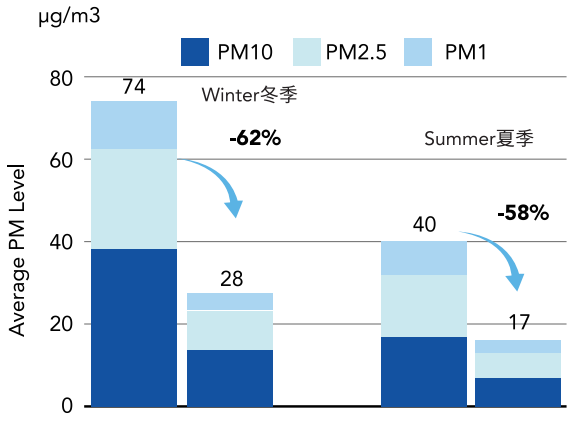


Solution 解決方案

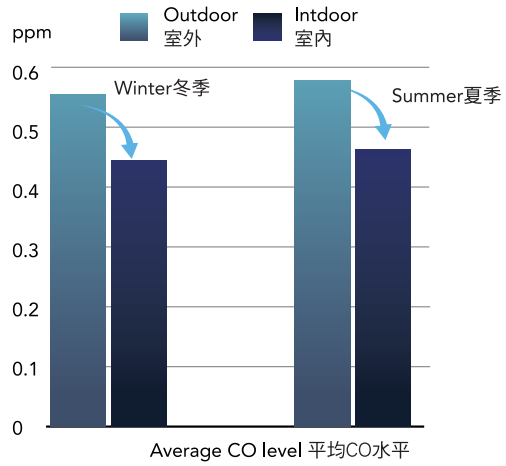
FAU System _FAU_ 智慧空氣系統

- _FAU_ effectively filters pollutants, providing fresh, breathable air
- Cuts energy use while improving air circulation
- Creates a healthier and more efficient workspace
- _FAU_ 有效過濾污染物，提供乾淨、可呼吸的清新空氣
- 改善空氣循環，同時降低能源使用
- 創造更健康、高效的辦公環境

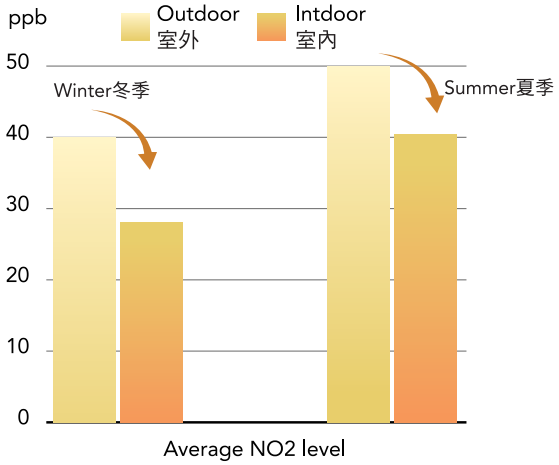
1. Indoor Air Quality Result 室內空氣品質成果



- Indoor PM10, PM2.5, and PM1 levels were substantially lower than outdoor levels.
- *FAU*'s filtration system improved ambient air quality by **up to 60%**.
- During high-pollution periods (e.g., winter), *FAU* operated with higher efficiency.
- 室內 PM10、PM2.5 與 PM1 濃度顯著低於室外
- *FAU* 濾淨系統可將整體空氣品質改善高達 **60%**，在污染較嚴重的冬季，*FAU* 濾效更顯著



- Indoor CO concentrations remained below 1 ppm, significantly lower than the WHO indoor air guideline of 7mg/m^3 (6 ppm) in 24-hour exposure.
- 室內 CO 濃度低於 1 ppm，遠低於 WHO 的 24 小時標準7mg/m^3（6 ppm）。



- Indoor NO2 concentrations were 20-30% lower than those at the air intakes, ensuring a cleaner and safer breathing environment.
- 室內 NO2 濃度比進氣口低 20%-30%，確保更潔淨的呼吸環境。

Clients' Story

During a meeting at the TAL Group building in Jordan, the team used their own air quality monitor to test the fresh air unit's IAQ performance in real time. Pollution levels were so low that researchers initially suspected device malfunction. However, outdoor testing confirmed the indoor readings were accurate.

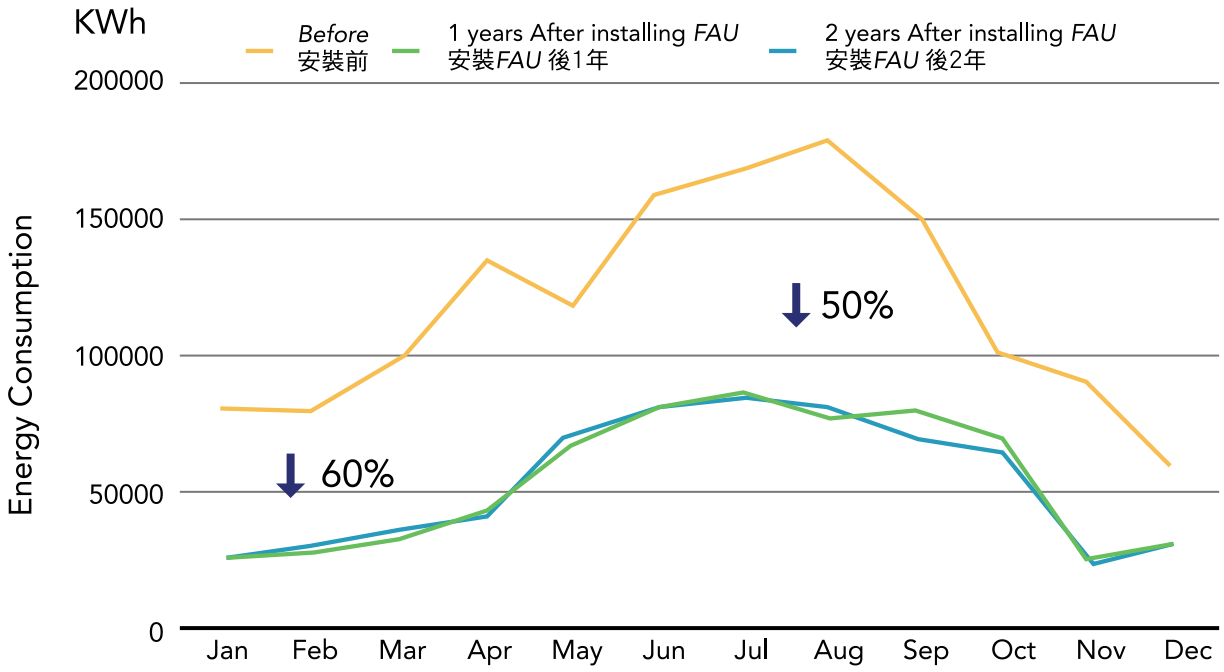
The team was impressed that the decade-old system still delivered top-tier air quality and energy efficiency, proving the long-term value and advanced design of *FAU* technology.

在一次與客戶及研究團隊於佐敦 TAL group 大樓會議期間，團隊自備空氣品質監測儀器實測鮮風機運作下的 IAQ 效果，期間顯示污染數值接近零，研究人員一度懷疑儀器故障。但他們在會議結束後於街外再次測試，儀器顯示正常，證實室內數值真實極低且遠低於世衛最新室內空氣品質標準。研究團隊對此系統效能表示驚訝，這套中央鮮風系統已安裝超過十年，卻依然能夠達到現代最高標準的空氣品質與節能表現，證明 *FAU* 技術具備長遠效益與先進領先的設計概念。



TAL – Office Building Retrofit
辦公大樓空調翻新案例

2. Energy Consumption 能源消耗



3. Payback Period Analysis and potential benefits
能源消耗與回本分析

Energy Efficiency & Cost Savings:

Year 1: Energy usage cut from 1,423,000 kWh to 635,000 kWh

55.4% savings.

Year 2: Maintained efficiency at 645,000 kWh,

54.7% savings.

Cost Analysis:

If total retrofit cost: HK$2.4M

Net energy saving ~778,000kWh(55%)

~**HK$0.98millions.**

能源消耗前後對比：

第1年：從 1,423,000 kWh 降至 635,000 kWh，

節能55.4%

第2年：維持效率，為 645,000 kWh，

節能54.7%

成本分析：

若總翻新成本為港幣 240 萬。

年度節總量為778萬度電(55%)，

大約為**港幣98萬。**

Payback period:3 years
回本期：約 3 年

4. After Installation 改造後的效果

FAU removed pollutants, reduced energy waste, and optimized air circulation, creating a healthier, fresher office space.
FAU 有效去除染物、降低能源浪費、令空氣流通，創造出更健康清新的辦公空間。











*Data from HKUST Envr "Energy consumption,indoor thermal comfort and air quality in a commercial office with retrofitted heat,ventilation and air conditioning(HVAC) system" Report , Jan.2020

NEC warehouse -

Pre & Post Installation Comparison (high tech goods warehouse)

日通日電精密零件倉庫-安裝前後比較

挑戰 Challenge

- Uneven cooling across multiple floors, non-stop addiction to A/C usage causing temperature imbalances and condensate across floors/ levels. Excessive energy consumption.
- **Severe humidity issues and energy crisis:**
  Upper floors experienced wet floor and severe condensation buildup unless turning on strong A/C all together.
- Installing 130 HP (horsepower) air conditioning A/C system was the only conventional solution—leading to extremely high electricity consumption.
- Cooling one floor excessively led to ceiling water seepage on lower ceiling and upper floors. Dehumidification was ineffective, requiring large-scale industrial systems and non-stop huge energy input.

- 多層樓宇之間的冷氣分布不均，導致住戶長期依賴冷氣，出現溫度失衡和嚴重冷凝問題，進一步造成能源浪費。
- **嚴重濕氣及用電危機：**
- 傳統解決方案為安裝高達**130匹馬力的**冷氣系統，導致極高電力消耗。
- 但此方法並不有效，而且需要長時間全層全力開動冷氣，若不全力開動，地面及天花將出現反效果，引致嚴重冷凝積水。



Before 改造前

A/C installed Total 80HP Operation~40kw
冷氣總安裝功率為80匹（運作功率為40千瓦）



After 改造後

FAU installed Total 10HP Operation~6kw
FAU 總安裝功率為10匹（運作功率為6千瓦）



Solution 解決方案

- *FAU* technology optimized airflow to maintain consistent temperature and humidity levels across all floors.
  It replaced traditional cooling methods, achieving the same effect without the need for conventional A/C.
- **Installation Details:**
  FAU dissipates heat efficiently and associates indoor humidity, using a compact 10 HP cooling system per floor.
- **System design:**
  2-comp, 3-coil cooling mechanism, ensuring precise climate control.





- *FAU* 智能空氣系統透過調節氣流，維持樓層之間穩定一致的溫度與濕度。
  能替代傳統冷氣方式，無需倚賴傳統冷氣，也能達到相同的室內舒適效果。
- **安裝細節：**
  FAU 有效散熱，並調節室內濕度，每層**只需使用小巧的 10 匹馬力**冷卻系統。
- **系統設計：**
  採用兩泵三換熱冷卻設計，提供精準的溫濕度控制。



iv JTIA – Heritage Site Preservation
古蹟保護案例 - 饒宗頤文化館



Challenge 挑戰

- **Excess humidity** - damageing historic interiors, causing mold, odour, and material deterioration.
- **Condensation issues** - deterioration of books, manuscripts & structures
- **Ineffective AC system** - failed to regulate moisture

香港高濕度的環境會破壞歷史建築內部，導致霉菌滋生、異味及材料劣化。原有空調系統無法有效調節濕度，導致冷凝現象，使珍貴文物（如書籍、手稿、建築結構）受損。





Solution 解決方案







- *FAU* Smart Control maintains stable indoor conditions by effectively regulating humidity, preventing moisture buildup, and preserving structural integrity
- Protects sensitive artifacts, improves air quality, and enhances energy efficiency, ensuring the long-term preservation of JTIA's cultural heritage.
- *FAU* 能穩定室內環境，有效控制濕度，防止水分累積，保護建築結構與珍貴文物。
- 同時提升空氣品質並更有效使用能源，確保文化遺產能長期保存。

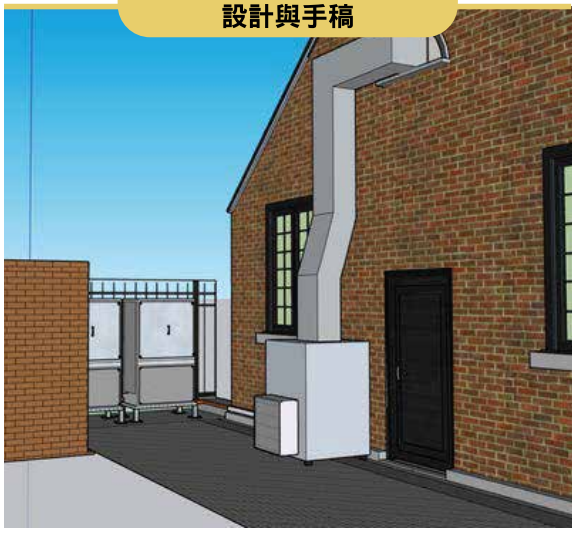
Key Results 成果

- **Humidity Control:** Maintained 55%-65% RH, preventing mold and decay.
- **Energy Savings:** Reduced energy costs by 22%.
- **Condensation Prevention:** Eliminated moisture buildup, ensuring a well-preserved, comfortable venue.
- **Odor Reduction:** Improved air quality, removing old building smells.
- **濕度控制：**維持 55%-65% RH，防止霉菌與材料劣化。
- **節能成效：**降低 22% 能源成本。
- **冷凝防治：**消除水氣積聚，確保場館乾燥舒適。
- **異味減少：**改善空氣品質，去除老建築異味。

YouTube

FAU@JTIA介紹影片
Introduction video

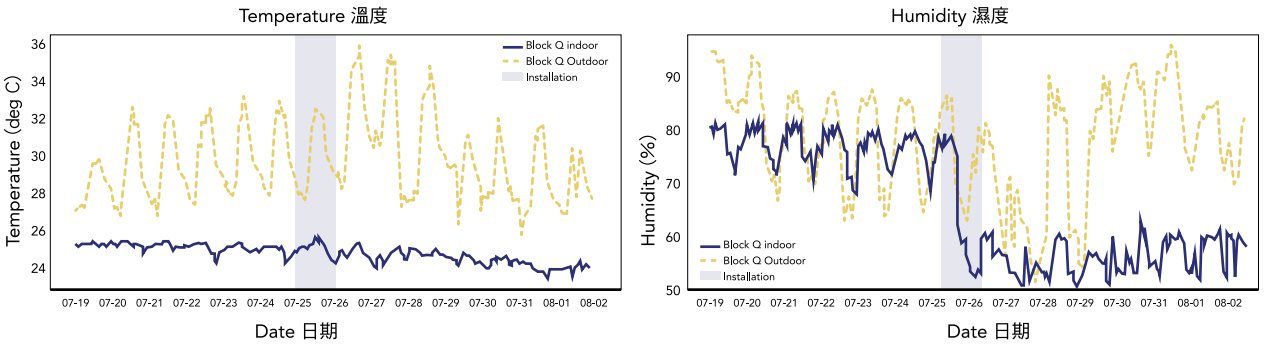
Design/Drawing
設計與手稿



Finished Outcome
成品



Temp & RH Statistics 溫度和相對濕度統計



JTIA's success has been shared with heritage site operators, students, VIPs, and government departments, showcasing *FAU*'s role in cultural preservation and sustainability.
JTIA 的成功案例已分享給文化遺產管理者、學生、貴賓及政府部門，展示出 *FAU* 在文化保護與永續發展中的價值。



V Luxury Residence – The Peak
山頂豪華住宅

An international entrepreneur purchased a historically valuable residence on The Peak, with strict requirements that no structural changes, false ceilings, or separate dehumidification rooms be added during renovation. The villa houses a collection of rare artworks, including one of only three ivory pianos in the world—without any dedicated humidity-controlled space.

To meet these exceptional preservation standards, we customized a *FAU* and A/C system solution that discreetly maintains stable humidity and air quality, protecting priceless items from moisture and air pollutants without altering the original architecture.



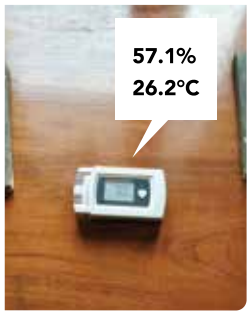


一位國際企業家於山頂購入具歷史價值的別墅，特別要求在裝修期間不得破壞原有建築結構，並且不能加建假天花或獨立防潮空間。屋內安放大量名貴藝術品，包括全球僅有三台的象牙鋼琴，但不設獨立恆濕空間。

為滿足客戶高標準的保護需求，我們為其量身設計鮮風系統與冷氣配套方案，於不影響原有建築的情況下，穩定控制室內濕度與空氣品質，保護珍貴收藏免受潮濕空氣與污染損害。



Before installing FAU
安裝FAU前



After installing FAU
安裝FAU後

客戶分享
Client Sharing

During our renovation period, strong odours from paint thinners, boiling Chinese herbs, and even hotpot caused us great concern. We were especially worried about formaldehyde, VOCs, and dust in a newly furnished space. However, with *FAU* in place, all odours were dispelled within just 15 to 30 minutes — no need for makeshift solutions or stress. KINS even lent us an IAQ sensor to monitor the air quality, which gave us full confidence in their system. It was a reassuring and trustworthy gesture, proving that *FAU* truly delivers clean, breathable air when we needed it most.

搬入新居期間，裝修仍在進行中，當時我們非常擔心室內空氣質素，例如甲醛、VOC和塵埃。偏偏當時還有不少異味來源，例如天拿水裝修味、中藥煲味，甚至打邊爐的氣味。老實說，當時真的有點頭痛，不知道可以怎樣處理。
但安裝了*FAU*系統之後，這些氣味竟然在短短 15 至 30 分鐘內就完全散去，不需要再想其他解決辦法，效果非常顯著。堅士工程更主動借出IAQ空氣質素感應器給我們使用，令我們對系統更加安心。這種主動又有誠意的行動，令我們覺得非常值得信任，*FAU* 確實幫我們解決了真正的煩惱。



My husband used to practice kung fu at home, but he couldn't stand the stuffy air with A/C only. He always opened all the balcony doors and windows, which meant all the cold air escaped. Since we live in the Peak area, the humidity is terrible. The whole house would get damp.It gave me a headache, and even our kids would go back to their rooms just to avoid the living room.
When KINS first visited, they saw my husband shirtless, practicing in the living room, this was our normal. But after installing *FAU*, the air feels fresh even with all windows closed.
Now my husband can enjoy kung fu again, and my family finally feels comfortable at home.
He even praised me, “Where did you find this amazing system and team?”

我先生平時在家練功夫，但他完全無法接受只有冷氣但沒有新鮮空氣的環境，經常要把露台門和窗戶全部打開，結果冷氣全流失，加上我們住在山頂，一年四季濕氣重，整間屋都濕答答，真的令我非常頭痛，兩個小朋友也不願意留在客廳，都跑回房避開。
堅士工程團隊第一次到訪時，剛好看見我丈夫赤膊在客廳練功，對我們來說已經是常態。安裝*FAU*系統後，即使全屋門窗緊閉，室內仍保持清新空氣。丈夫終於能安心練功，家中氛圍亦變得和諧。他更稱讚道：「你是從哪裡找到這麼出色的空氣系統和團隊？」

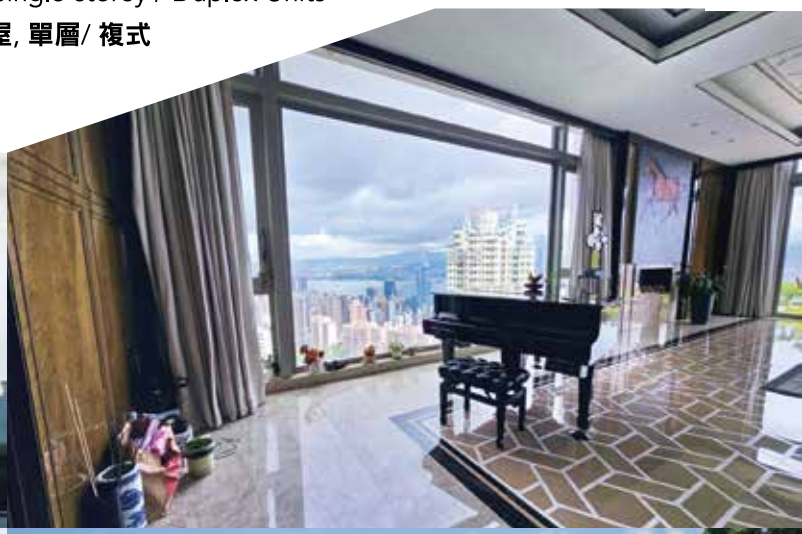


vi Other Applicable Environments
其他適用場景

House 住宅

Villas, Detached Houses, Single-storey / Duplex Units

洋房, 獨立屋, 單層/ 複式

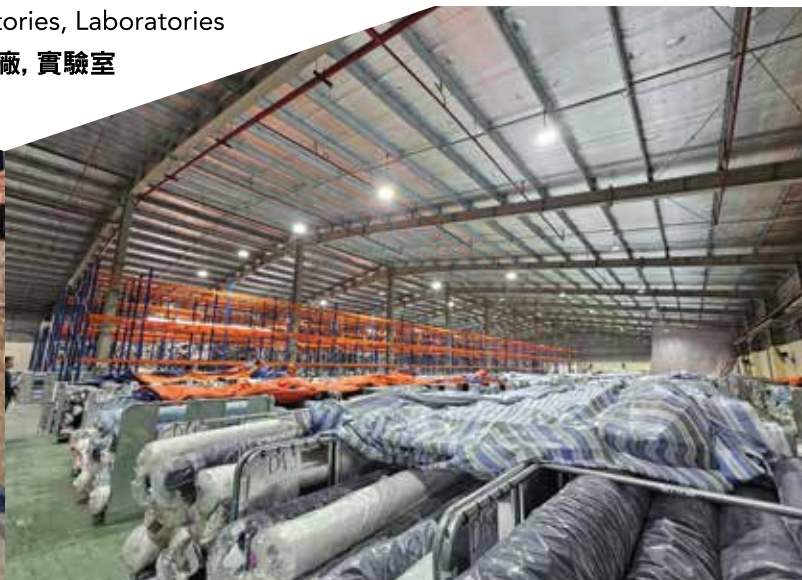





Industrial 工業

Warehouses, Factories, Laboratories

倉庫, 工廠, 實驗室

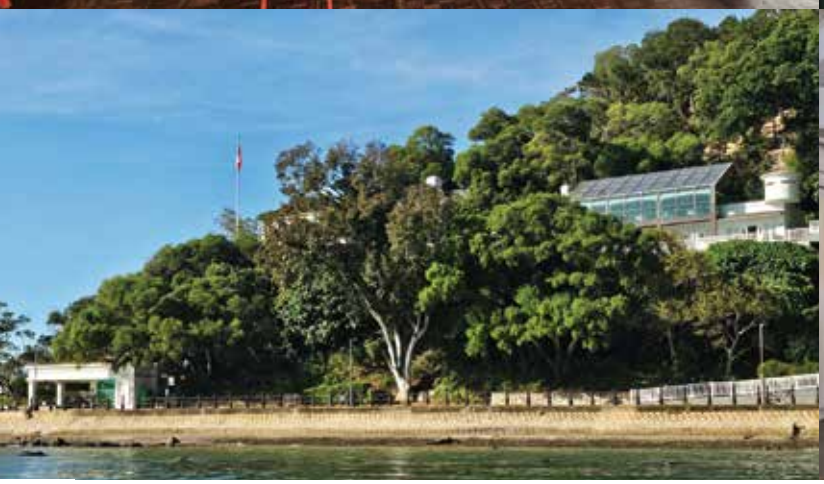
TVB
Interview 訪問

Heritage 古蹟

Private Collections, Libraries, Museums, Churches

珍藏館, 圖書館, 博物館, 教堂






Business 商用

Offices, Wine Cellars, Restaurants, Kitchens

辦公室, 酒窖, 餐廳, 廚房





7 Looking Forward

Our Vision and Impact | **願景與影響**

At KINS,
we believe everyone deserves clean air and smarter energy use for a better future.
From Hong Kong to the world, our *FAU* technology reduces carbon emissions, improves energy efficiency, and enhances indoor air quality, transforming the way we live and work.

我們相信每個人都應該擁有清新的空氣，致力讓空氣更清新、能源運用更聰明，為未來帶來更多可能。
從香港出發，*FAU* 技術減少碳排放、提升能源效率與室內空氣品質，改變我們的呼吸、生活與工作方式。



First *FAU* @TAL
第一台*FAU*@聯業製衣

TVB Interview News Magazine-Green Building
TVB 專訪新聞透視綠色建築

First Heritage FAU@JTIA
第一台古蹟*FAU*@饒宗頤文化館

Our Vision 我們的願景：

Cuts building energy consumption by **8-12%,** reducing costs and emissions.
Optimizes HVAC efficiency, tackling the **30%** energy burden of traditional systems.
Acts as a city-wide indoor air purifier, ensuring fresher, healthier air for all.

降低建築能耗 **8-12%**，減少成本與碳排放。
最佳化化 HVAC 系統效率，解決傳統空調高達 **30%** 的能源負擔。
成為城市級的室內空氣淨化系統，讓每個空間都擁有更清新、更健康的空氣。



Sino Group visiting *FAU* @TAL
信和集團參觀TAL 中央式*FAU*

Tai O Heritage Hotel running FAU
信和集團古蹟酒店試行*FAU*

Clean Air Network Indoor Air Quality Forum
Clean air network 室內空氣質素論壇

CUHK Woo Sing Press Conference
中大和聲新聞發佈會

WE SERVE EVERY BREATHS

WE ENABLE EVERY SPARK.

與我們聯繫，共創更好的室內空氣環境。

CONNECT WITH US TO BUILD A HEALTHIER, SMARTER INDOOR AIR ENVIRONMENT.

KINS Engineering Limited

堅士工程有限公司

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