香港空調及冷凍商會有限公司
THE HONG KONG AIR CONDITIONING AND REFRIGERATION ASSOCIATION LIMITED

會員通訊
NEWSLETTER
SUMMER 2023

10 years+ 同心展關懷 caringorganisation
Awarded by The Hong Kong Council of Social Service 香港社會服務聯會頒發

CONTENTS

ACRA Office
Room 1801,
Tung Wai Commercial Bldg.,
109-111 Gloucester Road,
Wanchai, Hong Kong.
Tel : (852) 2598 0101
Fax : (852) 2598 0102
E-mail : info@acra.org.hk
Web Site : www.acra.org.hk

Message from the President

Ir M.T. LAW
President

I am honoured to deliver this President's message and delighted to see our daily lives progressively returning to normal since the gradual relaxation of COVID-19 restrictions. I would like to take this opportunity, on behalf of all the members, to express our sincere thanks to the council members for their dedicated contributions to the ACRA during the tough times of last year. I believe that the spirit of cooperation to drive a dynamic movement for the success of the association can be maintained and be more effective this year.

In the recent Manpower Forecast for Hong Kong's Construction Industry by the Construction Industry Council, the shortage of skilled labour, technicians and engineering professionals will become more stringent from 2024 onwards. We should prepare ourselves to face this challenge in the industry and put more effort into advising policymakers to formulate short-term actions and long-term strategies that can assist our members in retrieving their business operations for future needs.

I am pleased to represent ACRA in a Joint Technical Visit to Shanghai 2023 Expo from April 5th to 8th, 2023. During the visit, I met different exhibitors, professionals and officials to exchange views on the development directions of the global industry and to share the opinions on our future development in Hong Kong and different cities of China. One of the key events of this visit is to join China Refrigeration Expo, in which the theme of this year is "*Focus on global warming and climate change; Committed to system performance improvement and Exploring systematic and integrity innovation*". It gives a very good introduction for the participants to understand the future development of the HVAC business and formulates a direction for planning the future roadmap towards Green, Excellence and Innovation developments.

Climate change is one of the greatest threats facing humanity today. The Paris Agreement provides a durable framework guiding the global effort and sets a target on 2030+ towards the 'Net-Zero Standard' which is strongly supported by nations around the world.

Hong Kong has been an active participant in combating climate change and announced our pledge to achieve carbon neutrality before 2050. Therefore, a green, environmental, and sustainable approach to achieving 'Net-Zero Standard' is highly concerning for local authorities and private enterprises. In Hong Kong, with close to 70% of total carbon emissions coming from the built environment in our city, as one of the major stakeholders in the industry, we must actively participate in moving the city towards a net zero future and put more innovation into energy efficiency and the overall sustainability of equipment to comply with this demand.

For example, the R&D of environmentally friendly products is one of the keys to the success of achieving the Net-Zero Standard, i.e. the promotion of using low-global warming potential (GWP) refrigerants and technologies in the air-conditioning and refrigeration equipment always remains in our agenda.

Also, improving energy efficiency of buildings is imperative to contribute to a greener and low-carbon community. To be a key player on this perspective, more effort by enhancing different green features, efficient systems and equipment to meet the comprehensive criteria of BEAM Plus in order to optimise energy efficiency and reduce operational energy consumption of the building are highly concerned.

You are welcome to share any views on green development, systematic and integrity innovation, people development and performance improvement in our industry. Any feedback will be collected and communicated with different stakeholders after consolidation and is a key for our success in promoting our professionals and contribute to our society.

AUTO INTEGRATED LIMITED
奧力科技有限公司

AIR-TECH

AIR-TECH®

Electrostatic Precipitator

靜電除油煙淨化器

HKFSD Ventilation Division Approved

Comply with UL 710:2017 (6th Edition) and UL 867:2016 (5th Edition)

MERV15 ASHRAE Test Standard 52.2-2012

96% Oil Removal Efficiency HJ/T 62-2001

Tel. : 852 – 2612 0758
Fax : 852 – 3007 1081
rickie@autoinhk.com

SAIVER®
SINCE 1959

SAIVER® DESICCANT AHU

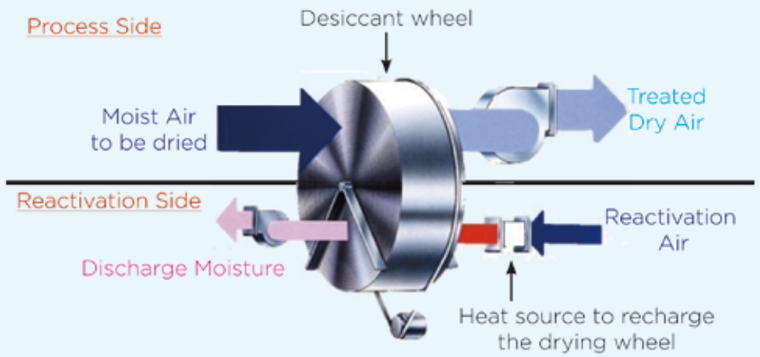
Design and Deliver Dry Air

Features

- Eurovent certified
- Double Skin installation of 60mm or 80mm
- Heat source can be hot water, heat pump, gas or electric heater
- EC fan for process and reactivation air
- Heat pipe can be used to reduce heat source energy.

Desiccant AHU Job References

- Equnix HK2 - IV
- Fortune Pharmaceutical Factory
- H Zentre
- Hong Kong Baptist Hospital
- Hong Kong Ocean Park - Polar Adventure
- Immigration Department at TKO
- Kai Tak Sports Park - Indoor Sports Centre
- M+ Museum
- 625 Kings Road



WELCOME AIR-TECH LTD. 偉基空調有限公司
11th Floor, Trend Centre, No. 29 Cheung Lee Street, Chai Wan, Hong Kong.
Tel: (852) 2806 8316 Website: www.saiver-welaire.com.hk
Fax: (852) 2806 2426 Email: sales@saiver-welaire.com.hk

Service is Our Business

ISO9001:2015 CertificateNo.: CC5615

caringcompany

SAIVER Integrated AHU ITPAC, Chiller & FCU
WELAIRE Ventilating Fan & Filter
DUALSUN PV & PVT Solar Panel
GEOCLIMA Ultra High Efficiency Chiller
REGIN BMS & HVAC Controls
Panasonic FSV / FS MULIT

力霸掣件
SUPERPOWER
Reliability
(SINCE 1977)

ISO 9001 | ISO 14001 | ISO 45001 | CARING COMPANY

Z-TIDE

SHOWA

ICV AVK

FS

IMI TA

NFK

One of the largest valve suppliers in Hong Kong

Superpower was established in 1977, with over 40 years of dedicated service and experience, we concentrate on the manufacturing, agency, sales, installing, repairing and maintenance of various kinds of water pump and plumbing equipment. Superpower also provides different types of valves and fittings to meet the needs of all customers of the industry. Our brands offer wide range of products engineered for plumbing, fire service, HVAC and swimming pool system etc. with most of the products acquired WSD General Acceptance (GA) Letter.

Superpower Pumping Engineering Co. Ltd.
Wellmate Limited
G/F., Times Tower, 928-930 Cheung Sha Wan Road, Kowloon, Hong Kong
Email:info@sppump.com | Website:www.sppump.com
Tel : 2746 4933 | Fax : 2786 2307 | Whatsapp: 9720 8483

Scan to discover !

力霸水泵
SUPERPOWER
Reliability
(SINCE 1977)

ISO 9001 | ISO 14001 | ISO 45001 | CARING COMPANY

45th Anniversary

One of the largest pump suppliers in Hong Kong

Superpower Pumping Engineering Co Ltd has engaged in manufacturing, agency, sales, installing, repairing and maintenance of various kinds of water pumps and plumbing equipment since 1977. Superpower is proud to become Hong Kong's one of the leading companies of water pump design and production for more than 40 years.

Job reference:

新鴻基地產 | 信和集團 | 新世界發展 | 嘉里建設 | 長江實業 | 恒基地產 | 南豐集團 | 麗新集團 | 遠東發展
建築署 | 機電工程署 | 渠務署 | 路政署 | 香港電燈 | 中電 | 港鐵 | 香港國際機場
香港迪士尼 | 海洋公園 | 昂坪360 | 瑪嘉烈醫院 | 瑪麗醫院 | 法國醫院 | 東區醫院 | 屯門醫院
科技大學 | 香港大學 | 中文大學 | 理工大學 | 城市大學 | 浸會大學 | 嶺南大學 | 都會大學

Job Ref: International Commerce Centre

Superpower Pumping Engineering Co. Ltd.
V-Flow Plumbing Services Ltd.
G/F., Times Tower, 928-930 Cheung Sha Wan Road, Kowloon, Hong Kong
Email:info@sppump.com | Website:www.sppump.com
Tel : 2746 4933 | Fax : 2786 2307 | Whatsapp: 9720 8483

Scan to discover !

Smart Site Safety System

To further enhance site safety, some smart-related technologies have been used in construction sites in Hong Kong over the past few years, e.g. wearable safety devices, incident reporting software, access control and alarm monitoring system etc. Development Bureau has recently issued a Technical Circular to set out the policy on adoption of Smart Site Safety System (SSSS) to strive for further excellence on the construction site safety performance. In this article, the components of SSSS are introduced and some applications that are relevant to our electrical and mechanical industry are discussed.

SSSS generally comprises three components, namely smart safety devices for monitoring activities and identifying safety hazards; a communication network for transmitting data collected from smart safety devices; and a centralized management platform for providing a one-stop hub for data analysis and alerts generation, as well as facilitating follow-up actions. The system enables the project team to grasp the safety situation of the entire construction site by collecting and transferring real-time data to a centralized management platform. Whenever a potential hazard i s detected, the system will immediately alert the safety management staff and workers on site.

Categorization of Digital Platforms and Smart Safety-Related Technologies

The digital platforms and smart safety-related technologies can be categorized in terms of their functions as follows :

1. Centralized Management Platform

The Centralized Management Platform (CMP) platform is used for responding, managing and recording signals / alerts received from the SSSS components used in the construction site. It provides a direct means of monitoring the site safety performance online. The signals / alerts, in form of video, audio, image and data received from the SSSS components, are displaced in the CMP on the corresponding CMP monitors, and the data can be used for subsequent analysis, if needed.

2. Digitized Tracking System for Site Plants, Powered Tools and Ladders

The system is used for real-time online tracking of site plants, powered tools and ladders with respect to the up-to-date status and records of test certification, examination, checking and maintenance. A unique digital identification code is attached to the plants, powered tools and ladders used in the site. A mobile device is used to scan the digital identification code, and information from a database platform on certification, examination, checking and maintenance records of the equipment being scanned is displayed on the mobile device.

3. Digitalized Permit-to-work System for High Risk Activities

The system is used for real-time online tracking of site plants, powered tools and ladders with respect to the up-to-date status and records of test certification, examination, checking and maintenance. A unique digital identification code is attached to the plants, powered tools and ladders used in the site. A mobile device is used to scan the digital identification code, and information from a database platform on certification, examination, checking and maintenance records of the equipment being scanned is displayed on the mobile device.

4. Hazardous Areas Access Control by Electronic Lock and Key System

This system is used to prevent unauthorized opening of locked cover, doorway and barrier to hazardous areas within the site (e.g. electrical distribution board cabinet, floor opening equal to or larger than 500mm x 500mm, entrance to confined space area; lift shaft opening, etc.) The system is provided with an electronic lock and key system for locking down access to hazardous areas in the site, which is only openable to authorized electronic keys with key owners' identity electronically embedded in the key.

5. Unsafe Acts / Dangerous Situation Alert System for Mobile Plant Operation Danger Zone

In this system, adequate number of sensors are installed on the mobile plant chassis and movable plants (e.g. excavators, crawler cranes, mobile cranes, etc.) to ensure a full 360° coverage around the mobile plant danger zone perimeter. Mobile plant operator and any site personnel encroaching the mobile plant danger zone perimeter of the risk of being run over or hit by the plant moving components will be alerted by the system.

6. Unsafe Acts / Dangerous Situation Alert System for Tower Crane Lifting Zone

In this system, adequate number of sensors are installed on or around the tower crane to ensure a full coverage of all loading/unloading areas danger zone perimeter at all floor levels involved. Tower crane operator and any site personnel encroaching the tower crane loading / unloading danger zone perimeter of the risk of being hit by the moving load under the crane hook will be alerted by the system.

7. Smart Monitoring Devices for Workers and Frontline Site Personnel

These are smart devices provided to every workers and frontline site personnel deployed for the works, such as smart safety helmets, smart wristband, etc. The smart devices are connected through cellular, WiFi, NBIoT, LoRa networks, etc. These smart devices have the following functions, among others: (i) outdoor and indoor location tracking and recording of workers' and frontline site personnel in different area and time of working; (ii) real-time detection of any standstill; (iii) real-time detection of body temperature and heart beat rate; (iv) detection and sending alert to workers and plant / machinery operators of moving plants or vehicles; and (v) detection and sending alert to workers and frontline site personnel of unauthorized entry to restricted area.

8. Safety Monitoring System Using Artificial Intelligence

The system, comprising Internet Protocol (IP) cameras and associated Artificial Intelligence (AI) processors, is designed to detect, identify and classify the different types of unsafe scenarios in the site, including but not limited to the following: (i) unauthorized access to restricted zones, danger zones, lifting zones and no-parking zone; (ii) workers near site vehicles or plant; (iii) potential collisions between workers and site vehicles or other plant; (iv) monitoring of fatigue, distraction, inattentive behaviours of site vehicles drivers and plant operators during operation of site vehicles and plant; (v) workers and other personnel not wearing the required personal protective equipment (PPE), including safety helmet and reflective vest; (vi) heights of lifting in excess of the authorized limits; and (vii) workers working at height either without a proper working platform or wearing safety harness linked to a lifeline.

9. Confined Space Monitoring System

This system is used for monitoring the areas in the site defined as confined spaces. The system has the following functions: (i) real-time site worker counting and location tracking inside confined spaces; (ii) confined space environment monitoring including oxygen (O_2) level, temperature, PM2.5 level, carbon monoxide (CO), carbon dioxide (CO_2), hydrogen sulphide (H_2S) and methane (CH_4) level and combustible gas; and (iii) real-time alert if any monitoring parameter exceeds the pre-determined safety levels or any anomaly of workers' conditions is detected.

10. Safety Training with Virtual Reality Technology

This is a safety training using virtual reality (VR) technology for workers engaged in the following high risk activities: (i) heavy lifting operation; (ii) heavy machinery operation; (iii) working in confined space; (iv) erection / alteration / dismantle of bamboo scaffolds; and (v) electrical and other works with potential electrical hazards or chance of coming into contact with live electrical parts.

Smart Safety-Related Technologies Applied in the Industry

Some of our members have developed their smart safety-related technologies and the following are some examples applying in an E&M contracting company:

1. *Digitalizing Safety Processes*

By using digitized electronic forms for document approval, site safety inspections and the issuance of work permits for high-risk processes, this can facilitate proper and timely review by relevant personnel, and make improvement action plans and follow-up actions. In addition, the system allows the site supervisor to submit work permit applications for high-risk procedures such as working in confined spaces, electrical work, hot work, work-above-ground, and working on lift car top, etc. Electronically by mobile phones, the approval processes are streamlined and time required is reduced for effectively improving work performance.

2. *Bluetooth Padlock*

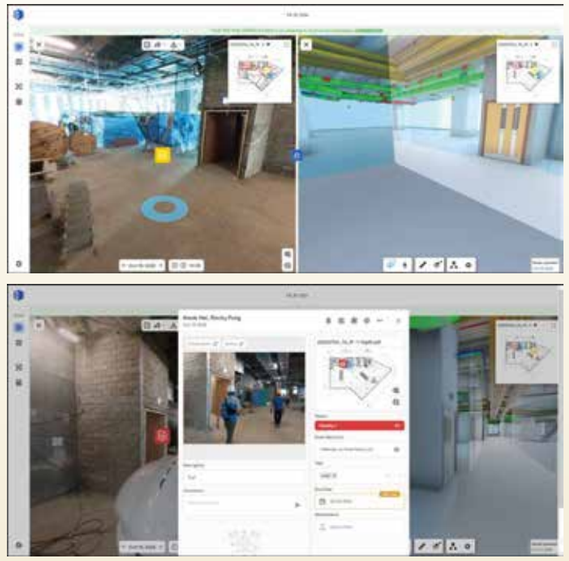
Bluetooth padlock can be installed in the temporary or permanent doors of E&M facility rooms, storage rooms, construction site offices, and electric switchgears or equipment that needs to record the opening / closing time and position. Users must download the smart lock Apps developed by the company in advance, and make application to the person-in-charge before using the smart lock. The smart lock Apps will activate the lock according to the approved qualifications and working hours of individual applicants. In addition, the Apps can record the opening / closing time of the smart lock and the location where the smart lock is used, which can facilitate the operational arrangement and monitoring of various equipment and facilities.

3. *Smart Safety Harness*

A smart safety harness integrates the Internet of Things (IoT), artificial intelligence (AI) detection software, and mobile applications. The system uses wireless remote control to monitor whether workers are attaching safety harness correctly on the anchor point during work on the lifting platform. The system will operate within a specific range, height and time. In case a worker has not properly secured his or her safety harness to an anchor point, the system will immediately issue an alarm on the spot and notify the project-in-charge. After receiving alarm signal by foremen or safety practitioner, corrective measures can be taken immediately.

4. *Reality Capture Platform*

By recording or capturing the scene of the construction sites, the project team can clearly grasp and compare work progress, work environment, housekeeping, and work conditions of the workers. Relevant engineering teams can view the recorded data and analyze data reports from the Reality Capture Platform by using mobile phone or tablet. Project progress can be discussed among various stakeholders based on the real-life data report effectively to resolve project delays or poor communication. Meanwhile, the project team can conduct dynamic risk assessment through the actual situation of the project in order to find out additional risks and more suitable work solutions and mitigation measures.



outdoor and indoor location tracking and recording of workers' and frontline site personnel in different area and time of working; (ii) real-time detection of any standstill; (iii) real-time detection of body temperature and heart beat rate; (iv) detection and sending alert to workers and plant / machinery operators of moving plants or vehicles; and (v) detection and sending alert to workers and frontline site personnel of unauthorized entry to restricted area.

Policy of Development Bureau for SSSS

The Development Bureau issued a Technical Circular (Works) No. 3/2023 on 27 February 2023 to set out the policy on adoption of Smart Site Safety System in public works contracts with immediate effect. All capital works contracts with an estimated contract sum exceeding HK$30 million to be tendered on or after the date of the Circular shall adopt SSSS. Project teams of Government Departments are also encouraged to adopt SSSS in other types of public works contracts with a contract sum exceeding HK$30 million, such as maintenance and term contracts. The estimated cost of SSSS would normally not exceed HK$10 million or 1% of the estimated contract sum, whichever is lower.

CITF Subsidy SSSS

For the construction sites of private sector, the Construction Innovation and Technology Fund (CITF) launched a new funding category on 1 April 2023 to provide subsidies up to HK$7.5 million per contractor / subcontractor to support their adoption of SSSS, a list of SSSS products available under the CITF Pre-approved List is provided at the CITF website for reference. https://www.citf.cic.hk/?route=register

Oxprime (International) Limited
鑫輝(國際)有限公司

BAC FM APPROVED

COOLING TOWER AND ICE STORAGE

APV AHRI CERTIFIED

PLATE TYPE HEAT EXCHANGER

PRODUCTS THAT SUSTAIN THE WORLD

PUROFLUX Particles Removal 25 micron

FILTRATION AND SEPERATION EQUIPMENT

Bell & Gossett a xylem brand

WATER PUMP

SUN VAV TERMINALS

ENVIRO-TEC

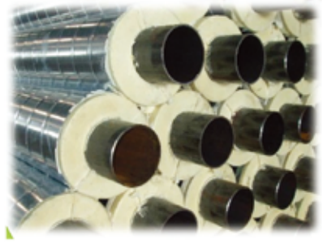
VAV TERMINALS

OXPRIME is not only a significant supplier of **HVAC** equipment but also a sole distributor of **ESG** manufacturers which have improved the world through innovative and sustainable solutions.

www.oxprime.com

鑫力香港有限公司
Fortune Links Hong Kong Limited

Associated Company of Oxprime Group 鑫輝集團關聯公司



LINKS-PIP

PRE-INSULATED PIPE

BS476 Part 6, 7 & 20 certified

HK FSD approved

DfMA ready

SHURJOINT

MECHANICAL COUPLING SYSTEM

FM APPROVED cULus LISTED LPCB NFPA ULC

Your Building Materials

ONE-STOP-SHOP

OPS

"OPS"ABS PIPE HANGER

"俠士牌"內尾牙喉碼

BS476 Part 6 certified &

HK FSD approved

VHS PowerPress® System

PIPE CONNECTION TECHNOLOGY

Reliable Safe Easy Clean Fast

armacell advanced insulation OWENS CORNING ROCKWOOL

Fortune Links is a team of passionate professionals striving to serve as your **building materials ONE-STOP-SHOP**. As a reputable leader for decades and many more to come, Fortune Links firmly believes in reliable supply of high quality products at reasonable price. Fueled by our obsession to excellence, we are committed to bringing latest and greatest technologies into the market. After all, Fortune Links is your partner of choice who is convenient and easy to work with.

www.fortunelinks.com.hk

Energy savings are in the air.

Retrofit your AHUs with GreenTech EC plug fans and save up to 50% of energy costs.

ebmpapst

engineering a better life

Built-in energy efficiency

The traditional centrifugal fan technology in ventilation system has low efficiency. Replacing centrifugal fans of AHUs with EC plug fans can save 30-50% energy consumption.*(Air-side Retrofitting Strategy, HKGBC RETROFITTING GUIDEBOOK)*

Considerations:

- Do not have belt & pulley or gear, less maintenance & consumables required.
- Fangrid provides increased reliability to operation.
- Noise level is lower than centrifugal fans

HKGBC RETROFITTING GUIDEBOOK

Swire Properties	Hongkong Land	SCIENCE PARK
		
Eleven buildings already upgraded	Eleven buildings already upgraded	Five buildings already upgraded

Contact Us

ebm-papst Hong Kong Ltd.
Room 17E, MG Tower, 133 Hoi Bun Road, Kwun Tong, Hong Kong
Phone : +852 2145 8678 www.ebmpapst.com.cn
Daniel.Yiu@cn.ebmpapst.com Darius.Wu@cn.ebmpapst.com

SOUTHA 南龍機電工程有限公司 Technical Limited

Never have environmental concerns been so instantly visible, or their consequences for our societies so real to people. Let's move forward together for creating a better life for us, and generations.

“ It is time to

contribute through the project activities by adopting

- Renewable Energy (Hydrogen)
- Eco–friendly Refrigerants
- Energy and Carbon Saving Solutions (Retro-commissioning (RCx) and Energy Performance Contracting)
- Sustainable Construction Methods (MiC, DfMA, MiMEP)
- IoT Applications (RFID, Hololens, 4D)

(852) 2963 7122 (852) 2963 7102
main@southa.com www.southa.com
香港柴灣嘉業街十二號百樂門大廈七樓
7/F Paramount Building, 12 Ka Yip Street, Chai Wan, Hong Kong

A JOINT VENTURE

VEOLIA 南龍 SOUTHA

人物專訪

何志誠先生

何志誠先生現為建築環保評估協會（BEAM Society Limited）總經理，他既是專業工程師，又是執業大律師，投身職場45年，由電力、屋宇裝備、公營房屋管理、法律、兼職教授以致現在的環保工作，何先生游走各專業上，以求真求知的態度，成就不平凡的人生。

電力：改革開放之源

何先生1976年畢業於香港大學電機電子工程系，還未畢業已被中華電力有限公司錄用，受訓後便參與設計高壓變電站的工作。1977年剛好遇上中國內地改革開放，深圳工業迅速發展，對電力需求大幅增加，何先生有幸參與首個由香港供電給中國內地的變電站設計及建造項目，為祖國改革開放奠下基礎。

由專才至通才

因緣際會，何先生被房屋署聘用，一直在房屋署工作至退休。當年他是以最短時間考取特許工程師資格（Chartered Engineer）的房屋署員工。當年政府要求工程師有穩定可靠的工作表現，並能夠在不同工作崗位之間輪換，實行通材化，減低人才流失的影響。所以房屋署為工程師安排了多方面的培訓課程，其中一個新加坡開利公司定期開辦三個月的密集課程，何先生被派到新加坡參加這個課程，學習空調知識，如潛熱與顯熱（latent and sensible heat），濕度圖（Psychometric chart）等等。培訓後，何先生著手主理上任房屋署首個包含空調的工程項目：房屋署在愛民邨商場的一個保養部的總辦事處，開始實踐所學， 增加了他在屋宇裝備工程中有關 風、火、水、和電力裝備的實際經驗和廣泛的認知。

80年代起，何先生的工作不單單局限於工程範疇，更涉足房屋署大型電腦系統、保養維修預算系統、電腦應用程式、新建樓宇、保養維修、租賃、屋邨管理甚至會見記者等領域。

跳出框框

何先生回想大學修讀工程時的同學，很多都已經跳出工程的框框，從事紡織、金融、法律、從政等不同行業。而近年來各國紛紛開始重視ESG（「環境保護」（Environment）、「社會責任」（Social）、「公司治理」（Governance）），帶動投資基金界對有關環保人材的需求，聘請不少工程系畢業生加入基金行業。由此可見工程師的可塑性是非常高。

何先生在百忙中也抽出寶貴時間到香港大學、深圳清華大學研究院及深圳大學授課，課堂中他會與學生分享自己的經驗，也鼓勵學生畢業後作多方面發展，不一定要成為工程師，只要找到一份對社會有貢獻，對自己的職業生涯感到滿意的工作便可。

培養演說技巧

何先生憶述八十年代之前，工程師在政府的角色主要在後勤處理工程事務。但八十年代初，中英香港前途談判後，港英政府開始推行代議政制，各級議會議員由官方任命逐步加入普選議席，成立地區議會以監察督政府，各政府部門亦開始分拆成獨立機構，例如醫院管理局。何先生提到在轉變初期，房屋署的工程師都不太願意被派往參加區議會會議，解答議員提問。但何先生身先士卒，出席區議會會議後，將自己經驗分享給其他同事，令他們都能夠應付直接面對媒體和市民的公開詢問。他發現房屋署的工程師經過一兩年的實際對市民和媒體的溝通工作，每位工程師都如魚得水，可以直接從工程專業的角度解答公眾和傳媒的諮詢，他們專業的回答其實更具說服力和公信力。

何先生在擔任房屋署總工程師時，每月都會舉辦一次專題分享會並由不同級別的工程師輪流進行演講，以提高每位工程師的演講能力。有一些工程師由一開始不擅長，不肯講，但經過多次嘗試和實踐後開始熟練，更樂在其中。總而言之，何先生鼓勵年輕一代：要像屋宇裝備工程一樣，需一專多才，例如：你的專業是風，但對火水電也需要有基本的瞭解，並能夠代表公司和團隊進行公開介紹。何先生也鼓勵年輕一代不要劃地為牢，限制自己的能力，潛力和前程。在上司的指導下，可以多嘗試，不要怕犯錯。

求真求知

何先生在2000年代初出任署理助理署長一職，而且於日常工作經常要處理很多行政和法律問題。但咨詢內部律師後，他卻未能夠完全明白收到的法律意見和結論。為了能更好處理他的工作，和滿足他尋根究底的性格，何先生於五十五歲開始修讀法律學位和法律專業證書，繼而選擇成為大律師，何大律師也極力鼓勵工程師在業餘時間學習法律，能夠大大提升自己的競爭力及分析論證能力。何大律師形容考大律師的過程就像烤焗（Grilling）一樣，將你放於烤爐內一直烤，直至你承受不了。回想法律考試有一些是於凌晨兩時舉行，交卷時間為早上八時五十九分。原因是當你成為執業律師的時候，客戶一個電話便需要即時到警察局保釋他，不能耽誤，這就是律師的生活。

究竟工程師和律師有什麼分別？何先生認為工程師的工作非常精確和需要肯定的答案，遇到不可預知的情況，他們會感到不安。反觀經濟學、新聞學和法律行業的情況並非如此，很多事情都有不確定和絕對性，但如果工程師能夠突破這個令他不安的事情，運用工程師的邏輯思維，他們所做出的結論會較單憑感覺所作出的決定更為準確。

何先生回顧在擔任房屋署總工程師期間，百分之九十的工作是面對人、對外和政治問題。何先生經常勉勵工程師們學習溝通技巧，其實溝通技巧比起工程專業更容易上手。我們只需要放下少少自我，學識對人微笑，主動對人打招呼，便能夠打開那道溝通的橋樑。

飛躍工程夢

在擔任香港工程師學會電機分部委員期間，何先生參與了第一部工程師電視劇《飛躍工程夢》全五集的拍攝。在拍攝籌備過程中，攝製組表示，工程行業的內容較少人會感興趣，故事性很低，很難將工程工作形象化，戲劇性也相對低，所以一直以來很少以工程為題材拍攝電影或電視劇，反而其他專業如：警察、律師、醫生等都經常有電視劇推出。所以大眾對工程師的了解非常少。何先生認為，工程師其實是對現代世界貢獻最大的群體，工程師們每天都運用自己的專業知識解決問題，為公眾提供基本的生活需求，例如：道路、水務、空調、照明、電力等等。但與其他專業人士相比，他們的社會地位往往被忽視。

金石良言

總括而言，何先生鼓勵各年青工程師不要劃地為牢，應該勇於走出自己的舒適圈。工程師們不僅要有解決問題的能力，更要裝備自己工程以外的知識， 要有敢於嘗試、懂得表達和樂於分享的心態。主動與公眾溝通，讓公眾更了解到工程師的重要性。

ATAL

TA-Smart
Bringing Data to Life

IMI TA

Precise and stable differential pressure control

Delivers desired differential pressure ensuring accurate balancing.

Optional cloud connection

Easy remote access to data and configuration parameters allows to verify and adjust system performance.

Convenient, reliable setup

Fully customisable and commissionable using Bluetooth enabled smart devices, reducing commissioning and diagnostic time.

High measurement accuracy

High flow and temperature measurement accuracies in all configurations (medium type, and temperature) for all flow regimes.

Easy diagnostics

Continuous measurement (flow, temperature, power...) enables accurate error identification in system hydronics.

Compactness and limited number of components

Shortens installation time and space requirements, facilitating retrofit installation.

Versatility in communication

Digital (key Bus protocols and MQTT) and Analog (0(2)-10 VDC or 0(4)-20 mA).

Information, Communications & Building Technologies
Tel: (852) 2565 3399 | Email: icbtmarketing@atal.com | www.atal.com
ATAL Engineering Group

Website LinkedIn WeChat YouTube

ATAL

Optimising Data Centres
with Exceptional Solutions

ATAL Data Centre Infrastructure has over 30 years of experience in offering one-stop services for integrated E&M infrastructure of data centres, covering the full data centre life cycle. With the support from our 24/7 call centre for maintenance services, we are committed to delivering services that exceed our customers' needs.

- Computer Room Air Conditioning
- Uninterruptible Power Supply
- Liquid Leak Detection System
- All-In-One Rack
- Hot / Cold Aisle Containment
- IT Rack
- Battery Monitoring System
- IT Structured Cabling & Fibre Raceway System

SIEL ENERGY&SAFETY

CANATAL 南京佳力图机房环境技术股份有限公司

TTK LIQUID LEAK DETECTION SYSTEMS

ATAL Data Centre Infrastructure Limited
Tel: (852) 2561 8278 | Email: info.dci@atal.com | www.atal.com
A member of ATAL Engineering Group

Website LinkedIn WeChat YouTube

REC GREEN Technologies Co., Ltd.
盈電環保科技有限公司

AI x SUSTAINABILITY

SMART & GREEN BUILDING
ENERGY SAVING SOLUTIONS
SECURE SITE ENVIRONMENT

+852-2619-8888 | rgt@rec-eng.com
+852-9238-0703 | www.rec-gt.com

AI Video Analytics - Site Safety
- Human Pose Detection
  - Fall Alarm
  - Idling Alarm
- Manhole Cover Detection
- AI Optical Character Recognition (OCR)
- Safety Helmet Detection
- Safety Vest Detection

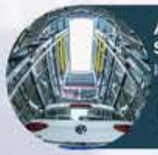
AI Energy Optimization
Energy Savings : 10% - 30%
- Load Prediction to Fit Cooling Demand
- Precaution Maintenance to Improve Services Level
- Payback Period < 3 years
- No Major Equipment Replacement

Energy Storage System
Green Construction
- GHG Emission Reduction
- Flexible Charging Option (Grid & Generator)
- Capable for High Output Spike
- Customized design to fit the actual application

iFCU™ PM / BLDC Motor
Energy Savings : 40% - 80%
Offer FREE TRAIL
- Hotel
- Office Building
- Hospital & Medical Centre
- Shopping Mall

CIC GREEN

Remoted Operation Vehicle
for Operation & Maintenance
- Hydraulic System Suitable for Confined Space
- Varieties of Clearing Tools & Monitoring System Against Different Scenarios

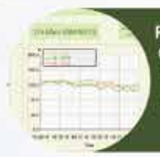


Automated Parking System
Increased the no. of parking spaces
- Puzzle Type
- Circular Type
- Vertical Lifting & Horizontal Sliding
- AGV (Pallet Type / Double Deck)

NB-IoT Controller
Connect your system seamlessly
- Cloud Platform
- 7/24 Monitoring
- Alarm Notification (Email / SMS / Auto-dialer / WhatsApp)

green building award 2012 環保建築大獎

Nanoflex Lighting
Energy savings x Lighting performance
- Open plan x Office
- Office buildings and hospitals
- Saves 30% or more on OPEX & CAPEX



Power Quality (PQMS / BEMS)
- Software Solution for the Analysis and Monitoring of Energy Usage
- Collect Power Information of Major Facilities and System

天成化工有限公司
Tin Sing Chemical Engineers Ltd.
(A wholly-owned subsidiary of Ryoden Engineering Co., Ltd.)

ISO 9001:2015
Certificate No. 131254-H

www.rec-tsc.com
tsc@rec-eng.com
+852-2619-8288

Hanmol Controller

iS Series
Water Treatment Controller System

- Fast response to setpoint
- Optimize treatment programs with continuous monitoring capabilities
- Precise chemicals dosing
- Able to integrated to BMS system
- IP 65 protection
- Enable real-time monitoring with NB-IoT Controller

盈電工程有限公司
REC Engineering Company Limited
(A wholly-owned subsidiary of Yau Lee Holdings Limited)

Business 盈電業務

- Electrical
- HVAC
- Fire Services
- Plumbing & Drainage
- Environmental
- Package Project
- Infra-structure
- Repair Maintenance Addition & Alteration (RMAA)
- Green & Sustainability
- DfMA / MiMEP
- Automated Parking Solution
- Retro-commissioning

Tel 電話：(852) 2619 8888
Fax 傳真：(852) 2481 2870
Email 電郵：info@rec-eng.com
Website 網址：https://www.rec-eng.com/

Tai Lung Veterinary Lab

Shek Pik Floating PV

APS

Industrial News

A. Contractor Management Handbook Amendments

Development Bureau amended Contractor Management Handbook for Approved Contactors, Materials Suppliers and Specialist Contactors for Public Works in March 2023. The amendments related to our industry included:

1. Sample Integrity Management Policy in Annex 3 to Appendix 2A
2. Time interval of minimum capability building events of Top Management and Staff Employment in Appendix 3C;
3. Qualified Worker and Qualified Welder requirement in Annex 1 to Appendix 3C. whereas Qualified welder means a registered skilled worker of trade division “General Welder” under trade “Welder” under the Construction Workers Registration Ordinance”;
4. General Obligations in Security of Payment in item 6.11 and Compliance with BIM Requirements in item 6.18 of Appendix 4B
5. Hot wire anemometer and vane type anemometer shall be “Digital” and Manometers shall be “Electronic direct reading manometer” in the list of tools / equipment and testing instruments for Air-conditioning Installation Category in Annex 2 to Appendix 3C.

Please refer to the Handbook contents and details of the amendments at ArchD website :
https://www.devb.gov.hk/filemanager/en/content_187/CMH_Rev23%20(Mar23).pdf
& https://www.devb.gov.hk/filemanager/en/content_802/Amendment_CMH_Rev23.pdf

B. Revised Test Instruments Calibration Requirements by FSD.

Fire Services Department issued SD Circular Letter No. 5/2022 to revised calibration requirements for Test Instruments Used for Acceptance Inspection of Fire Service Installations and Equipment.

This Circular Letter serves to revise the calibration requirements of three type of test instrument (i) Multi-meter; (ii) Water Pressure gauge; and (iii) Test instruments used for pressurization of staircase and dynamic smoke extraction system. The valid calibration certificate for each calibrated test instrument shall be provided during the test. Validity period of calibration for (i) and (iii) are 1 year while (ii) is 3 years. The test instrument shall be manufactured to an appropriate British Standard or recognized equivalent international standard where appropriate and available and protected from tampering with a calibration label/serial tape sealed by the recognized testing or calibration laboratory.

Validity of calibration certificate for test instruments used for pressurization of staircase and dynamic smoke extraction system are extended from 3 months to 1 year will be benefit to MVAC and FSI contractors.

please refer to FSD website for details of the Circular Letter,:
https://www.hkfsd.gov.hk/eng/source/circular/2022_05_eng_20221220_185139.pdf

C. Reducing Consumption of Hydrofluorocarbons

China officially ratified the Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer in June 2021, which aims to gradually reduce the manufacture and use of 18 types (table 1) of HFCs to mitigate global climate change. According to the Kigali Amendment, Hong Kong must establish and implement an import and export licensing control system for HFCs and import quota control to progressively reduce the use of HFCs by 85% from baseline level by 2036. To fulfil the international obligations of the HKSAR under the Montreal Protocol, the Government is formulating a control proposal for HCFs.

The Environmental Protection Department (EPD) has been in regular contact with relevant local trade associations, equipment suppliers and HFCs importers and professional bodies to exchange views on the use of low-GWP alternatives and discuss and assess their preparedness for gradually reducing the use of HFCs and to gauge their views on the control of HCFs. The Government had formed an inter-departmental task force to draw up the control proposal for HFCs based on the information gathered and formally consulted the trades concerned in early of 2023.

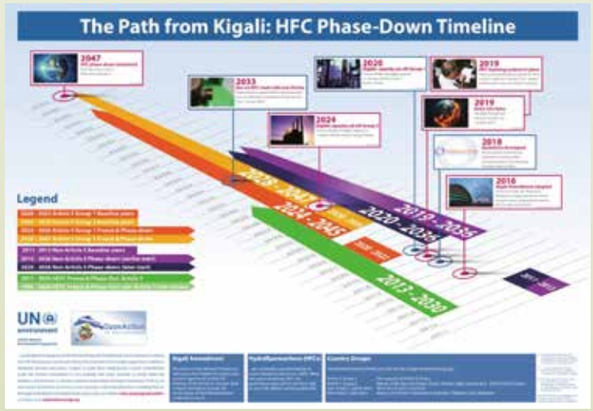
The Government plans to commence the relevant legislative amendment work after consulting the trades on the control proposal for HCFs, which is expected to be completed by 2025. Once legal legislation is enacted, the Kigali Amendment and its HFCs phase-down schedule shall become legally binding on the HKSAR.

To adopt the Kigali Amendment, refrigerant manufactures have developed low-GWP refrigerants that can serve as alternatives to HFCs refrigerants e.g. R1233zd, R514A, R600a and R1234yf. The Government should take lead in using low-GWP refrigerant and procuring refrigeration equipment that use low-GWP refrigerants. The benefits of using such alternatives should also be widely publicized and encourage members of the public and related trades to follow suit and fueling the growth of these products in local market. Hong Kong will achieve the reduction target for HFCs in Kigali Amendment and hence mitigating global climate change.

Table 1 : 18 Types of HFCs under the control of the Kigali Amendment to the Montreal Protocol

Group	Substance	100-Year Global Warming Potential (CO_2 equivalents)
Group I		
CHF_2CHF_2	HFC-134	1,100
CH_2FCF_3	HFC-134a	1,430
CH_2FCHF_2	HFC-143	353
$CHF_2CH_2CF_3$	HFC-245fa	1,030
$CF_3CH_2CF_2CH_3$	HFC-365mfc	794
CF_3CHFCF_3	HFC-227ea	3,220
$CH_2FCF_2CF_3$	HFC-236cb	1,340
CHF_2CHFCF_3	HFC-236ea	1,370
$CF_3CH_2CF_3$	HFC-236fa	9,810
$CH_2FCF_2CHF_2$	HFC-245ca	693
$CF_3CHFCHFCF_2CF_3$	HFC-43-10mee	1,640
CH_2F_2	HFC-32	675
CHF_2CF_3	HFC-125	3,500
CH_3CF_3	HFC-143a	4,470
CH_3F	HFC-41	92
CH_2FCH_2F	HFC-152	53
CH_3CHF_2	HFC-152a	124
Group II		
CHF_3	HFC-23	14,800

Commonly used in air-conditioners



Midea

V8 DISCOVER RELIABLE COMFORT

Extreme Conditions, Supreme Performance

Thanks to **innovative solutions**,
sandstorm is no longer a problem.

DISCOVER
easy COMFORT

Midea Electric (Hong Kong) Limited
Unit 3906-3910, 39/F., Tower 6, The Gateway, Harbour City,
9 Canton Road, Tsimshatsui, Kowloon, Hong Kong.
Telephone: 3669-4888 Email: project1@mideahk.com Website: www.mideahk.com

MITSUBISHI ELECTRIC
Changes for the Better
三菱電機

VRF變頻多聯系統及商用分體式空調

CITY MULTI


天花板卡式（四面出風）
PLFY-VEM-PA系列


天花板卡式
（2'x 2'四面出風）
PLFY-VFM-E系列


天花板埋入式
（金屬風扇型）
PEFY-VMM-E1-SH
系列


PUHY-YKD系列（8-60匹）


壁掛式
PKFY-VLM-E系列


天花板埋入式（超薄型）
PEFY-VMS1-E系列


PUMY-(V)YKM系列（4.5-12匹）


天花板埋入式
（標準及高靜壓型）
PEFY-VMA-E 及
VMH(S)-E系列


落地式
PFFY-YM(H)-E系列

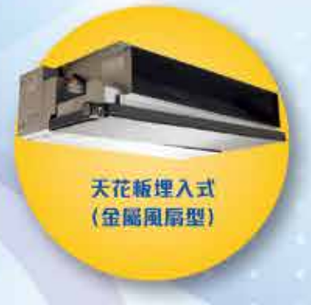

AE-200E
中央控制器


BAC-HD150-E
BACnet介面適配器


天花板吊頂式
PCFY-VKM-E系列

Mr.SLIM


天花板卡式
（四面出風）


天花板埋入式
（金屬風扇型）


天花板吊頂式


小型室外機SUZ系列（1-3匹）
定頻淨冷PU-P系列（2-6匹）
變頻淨冷PUY系列（2-6匹）
變頻冷暖PUHZ系列（2-6匹）


壁掛式


天花板埋入式
（標準及高靜壓型）


天花板卡式
（2'x 2'四面出風）

辦事處及陳列室 Office & Showroom:
香港太古城英皇道1111號20樓
20/F., 1111 King's Road, Taikoo Shing, Hong Kong
電話 Tel : (852) 2510 0555

維修服務中心 Service Centre:
香港 Hong Kong : 香港九龍九龍灣臨樂街8號商業廣場7樓
7/F, Corporation Square, 8 Lam Lok Street,
Kowloon Bay, Kowloon, Hong Kong
電話 Tel : (852) 2427 8484
澳門 Macau : 電話 Tel : (853) 6269 9203

Utilising AI-enabled Digital Twin for ESG Compliance and Advancement

Given the increasing regulatory requirements and market demands on mandatory Environmental, Social & Governance (ESG) disclosures, it has become imperative for businesses to create an ESG strategy in ensuring compliance by transforming from manual-based work practices to AI-driven automation. This article provides a holistic perspective on implementing AI-powered Digital Twin technology in the built environment, with a strong emphasis on ESG considerations to optimise operational efficiency using IoT technologies and big data analytics.

INTRODUCTION

AI-enabled Digital Twin

The Digital Twin technology for the built environment is an artificially intelligent virtual replica of a structure that can simulate and evaluate its actual performance. It is connected to physical systems that gather data to train machine learning algorithms. By doing so, the AI-powered Digital Twin can forecast operations, recognise potential issues, and offer recommendations for optimal performance. This offers organisations the ability to monitor and enhance their building systems in real-time, which can lead to enhanced efficiency and minimised downtime.

IoT Connectivity for Real-time Data Collection

IoT technology plays a crucial role in enabling AI-powered Digital Twin technology by integrating data from multiple sources. To create a robust digital twin, a vast array of data reflecting building performance is required for analysis and machine learning. This includes data from HVAC systems, lighting, security systems, and other building services. In existing buildings, this type of data is often unavailable due to outdated building management systems. However, as technology advances, the collection of big data has become easier. With the use of wireless IoT sensors, real-time operational, environmental, and energy data can be effortlessly obtained through an IoT network, providing billions of data points every day to feed into the Digital Twin and create transparency throughout the enterprise.

ANALYTICS AND OPTIMISATION

Automated Fault Detection and Diagnostics (AFDD)

Advanced analytics and efficient data cleansing for Digital Twins are essential to eliminate inaccurate, incomplete, inconsistent and repetitive data, which can lead to poor facility management and unnecessary energy use. FDD enables fault detection and diagnostic on energy performance, control stability, and tenant comfort monitoring. Unnoticed faults, such as sensor biases or insufficient refrigerant in chillers, can affect system control and energy performance, but are not easily identifiable without FDD. Equipment performance models are developed using advanced modelling techniques as a baseline for future model comparison, and high-frequency data is used to represent real-time physical characteristics and behaviors for accurate predictions, simulations, and data-driven decision making. Automated Fault Detection and Diagnostics (FDD) is needed to monitor and diagnose building systems in real-time, discover faults, investigate root problems, and recommend solutions for optimal system performance.

Energy Optimisation

Energy optimisation in Digital Twin utilises real-time data and advanced algorithms to continuously improve building systems, particularly in energy management where large sets of operating data are available. This process employs physics-guided machine learning (PGML) algorithms that incorporate physics laws to ensure modelling accuracy. The AI-enabled Digital Twin identifies inefficiencies and areas for improvement by analysing data on energy usage and environmental factors, it also allows for testing and analysis of different scenarios prior to physical implementation. This empowers facility managers to make informed decisions on changing control settings, leading to enhanced building performance, resource-saving, and reduced risk of costly errors.

ESG-CENTRIC DIGITAL TWIN WITH AI MACHINE LEARNING

An ESG-focused Digital Twin technology is built with AI algorithms to enhance ESG performance on a comprehensive level. To implement an ESG-focused Digital Twin, the process involves identifying ESG factors, integrating data from various sources, developing AI models, optimising ESG performance, generating customised ESG reports, and continuously improving ESG performance over time.

Define ESG Metrics and Integrate Data Sources

ESG metrics can be updated in Digital Twin in real-time to comply with the latest regulatory requirements. An AI-enabled Digital Twin integrates data from various sources, including BMS, environmental sensors and IoT devices, financial systems, and supply chain data, to provide a comprehensive view of a building's ESG performance. With data collected from multiple sources, organisations can gain insights into their energy usage, water consumption, environmental factors, financial impact of sustainability initiatives, and supply chain sustainability.

Analyse ESG Data with AI Models

Utilising machine learning algorithms, AI models can be trained with collected data to identify trends and patterns for insights. Regression analysis, clustering analytics, and deep learning techniques can be applied to solve complex problems with unstructured data in various formats. Insights generated by the AI models can be leveraged to identify areas for improvement, which can then be evaluated and acted upon.

Identify and Prioritise ESG Opportunities for Improvement

By leveraging AI models, forecasts can be generated for selected ESG metrics, and insights can be gained to identify areas for improvement that may not be immediately apparent. For example, AI can pinpoint energy-saving opportunities by optimising lighting or HVAC systems. With the assistance of AI-enabled Digital Twin technology, prioritisation can be based on the potential impact and feasibility of identified opportunities, with high-potential and feasible opportunities taking precedence.

Generate ESG Reports and Continuous Improvement

ESG reporting and Digital Twin technology are closely intertwined. The AI-enabled Digital Twin can produce ESG reports that provide stakeholders and regulatory bodies with an accurate and current view of an organisation's ESG performance. These reports can be tailored to meet the specific needs of investors, customers, and employees, improving stakeholder engagement. An ESG-focused Digital Twin should be a continuous process of monitoring and improvement, with regular reviews of sustainable strategies and initiatives to ensure high ESG performance.

Utilising an AI-enabled Digital Twin for ESG advancement empowers organisations to promote sustainable innovation and demonstrate their dedication to social and environmental responsibility. By providing transparency with accurate ESG data, an AI-enabled Digital Twin can help organisations identify opportunities for improvement, optimise sustainability initiatives, and aid in decision-making. The Digital Twin technology also facilitates effective communication and engagement with stakeholders, including investors, customers, and employees, who are increasingly prioritising ESG considerations when making decisions. Ultimately, implementing an AI-enabled Digital Twin for ESG compliance can enhance an organisation's reputation and competitiveness in today's business landscape, where sustainability is a key driver of success.

ATAL

ESG-centric Digital Twin for Complying with Regulatory Requirements

Mandatory ESG (Environmental, Social & Governance) disclosures for complying with a growing wave of regulations is an increasing challenge for organisations. Integrating ESG aspects into the day-to-day decision-making process has become essential for business success. ATAL's ESG-centric Digital Twin enables organisations to automate operations and perform data analytics for ESG insights and business intelligence in addressing specific challenges from energy saving and maintenance optimisation to space utilisation and emergency response.

Information, Communications & Building Technologies
Tel: (852) 2565 3399 | Email: icbtmarketing@atal.com | www.atal.com
ATAL Engineering Group

Website LinkedIn WeChat YouTube

Lucky - PIP® Pre-insulated Pipe

A New Generation of Thermal Insulation System

Advantages of using Lucky-PIP

- FSD certificate – Part 6, Part 7, Part 20
- Environmentally Friendly – CFC & HCFC Free
- Robust and Durable – Minimize Maintenance Costs
- Eliminates potential Thermal Bridges (at Pipe Support and Wall Penetration)
- Less Workmanship at Site – Less Human Error, Improve Safety and Site Management
- Perfect for Prefabrication
- Can Insulate any Pipework Route and any Shape and any Fittings
- Production Schedule Regardless of Site Condition – Improves Time Management
- High Insulation Efficiency – Energy Saving
- Less Commercial Wastage
- Ultimate Vapour Barrier and Weather Resistance

Link The Best Company Limited

Unit 8, Industrial Park, No.188 Tai Po Tin, Ping Che, Fanling, NT
Tel: (852) 2568 4092 Fax: (852) 2423 7829
E-mail: sales@linkthebest.com.hk
Website: www.linkthebest.com.hk

Link The Best

ISO 9001:2015
Certificate No:Q040

無滴汗風咀

有倒汗水的風咀。

防結露測試：Delta T 14.7°C at 93% (RH)
* BS476: Part 6 ; BS476: Part 7
符合香港消防局要求
專利設計
NYLON 66
SWEATLESS DIFFUSER
Anti-condensation

工程項目:

港鐵各車站，麥當勞叔叔之家，American Club 美國會，官塘馬會投注站，葵涌馬會投注站，赤柱監獄，荃灣港安醫院，中信銀行，海事博物館，問月酒店，萬國殯儀館，荃灣柏傲灣，太古廣場，青衣城，香港都會大學，沙田馬場，理工大學，聯合醫院，怡和大廈，油麻地圖書館，友誠商業中心，九龍灣宏天廣場，怡和大廈，旺角友誠，青衣城

WIN POWER

SCR (無斷式)功率控制器

工程項目:

中文大學
哈羅香港國際學校
屯門醫院
陽明山莊
黃道益
香港大學

DDS 不銹鋼電熱管

工程項目:

香港大學、香港中文大學
香港賽馬會
港珠澳大橋
港怡醫院
澳門新濠天地
澳門新地

SUPAFLEX
美佳软性风管

Supaflex Flexible Duct

工程項目:

將軍澳入境事務大樓
敬德體育園
港怡醫院
庫務大樓
沙田威爾斯親王醫院
西九文化區

DDS 佳得風管系統有限公司
Delta Duct Systems Ltd.
3/F, Unit A, Kader Building, 22 Kai Cheung Road, Kowloon Bay, HK
+852 2511 2118 sales@dpx.hk www.dds.hk

AEROSEAL®

Duct Sealing From The Inside

ENERGY-SAVING AIR DUCT SEALING TECHNOLOGY

NET ZERO MADE EASY

ESG: ENVIRONMENTAL · SOCIAL · CORPORATE GOVERNANCE

風管補漏-90%

密封膠用料安全 符合香港消防局要求

BS476 Part 6 & 7

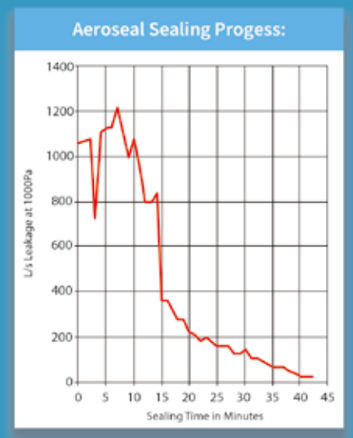
風管修補前洩漏
1056.2 L/s

修補後
16.2 L/s

減少漏風率達

98%

- 減低能源消耗及成本
- 符合行業規格及要求
- 改善室內空氣質素 (IAQ)
- 改善通風系統性能
- 減低維修成本



UL LISTED · HVCA DW 143 · SMACNA

TURNKEY SOLUTION · SAFE & TESTED · MEASURABLE & VERIFIABLE

亞樂斯(香港)有限公司
AEROSEAL (HK) LIMITED.
Tel: +852 2511 2118 Email: ivanlee@aerosealhk.com www.aeroseal.com
3/F Unit A, Kader Building, 22 Kai Cheung Road, Kowloon Bay, Hong Kong.

Replacement of Chillers at MTRC Stations and Depots

Project Name

K1847-16E(A) - Replacement of Chillers at MTRC Stations and Depots

Member's Role in the Project

Design, replacement, supply and installation of 63 nos. chiller at 19 nos. station and depot at various MTRC lines in 6 years (finally re-scheduled to 5 years).

Completion Year

2022

Member / Company Name

The Jardine Engineering Corporation, Ltd.

Location	New Chillers to be installed
Section 1 – 2017-18	
1.1. Lo Wu (LOW) (Plant 3)	2 nos. 200TR ACC
1.2. Tai Wo (TWO) (Plant 1-3)	3 nos. 180TR ACC + 1 no. 25TR ACC + 1 no. 16TR ACC
1.3. Sha Tin (SHT)	4 nos. 150TR ACC
1.4. Sheung Wan (SHW)	2 nos. 290TR ACC
Section 2 – 2018-19	
2.1. Lo Wu (LOW) (Plant 1, 2 & 4)	4 nos. 650TR Water Cooled Chiller
2.2. Causeway Bay (CAB)	2 nos. 390TR ACC
2.3. Kowloon Bay Depot (KBD)	4 nos. 300TR ACC + 1 no. 140TR ACC
Section 3 – 2019-20	
3.1. Choi Hung (CHH)	1 no. 45TR ACC
3.2. Lai King (LAK)	3 nos. 330TR ACC
3.3. Cheung Sha Wan (CSW)	1 no. 25TR ACC
3.4. Quarry Bay (QUB)	2 nos. 380TR ACC
3.5. Ho Tung Lau Depot (HTD)	3 nos. 230TR Water Cooled Chiller
Section 4 – 2020-21	
4.1. Fanling (Plant 1-2) (FAN)	1 no. 20TR ACC + 1 no. 15TR ACC
4.2. Tsuen Wan West (TWW)	3 nos. 85TR Air-Cooled Condenserless Chiller
4.3. Central (CEN)(Plant 1-3)	3 nos. 36TR Water Cooled Chiller (connected to Hong Kong Station condensing water system)
4.4. Tin Shui Wai (TIS)	5 nos. 250TR ACC + 2 nos. 100TR ACC
Section 5 – 2021-22	
5.1. Long Ping (LOP)	2 nos. 100TR ACC + 3 nos. 250TR ACC
5.2. Siu Hong (SIH)	3 nos. 450TR Water Cooled Chiller
5.3. Tai Wo Hau (TWH)	2 nos. 280TR ACC
5.4. Hang Hau (HAH)	3 nos. 200TR ACC

Remarks: *Air-cooled -> Water-cooled* *Air-cooled Condenser-less Chiller*

Project Overview

On October 1, 1979, the first Light Rail Transit, aka the MTRC, opened. Today, MTRC has more than 150 stations across ten lines. Operating in a humid subtropical climate requires extensive use of chillers to maintain comfort for its nearly 5 million daily passengers. Over the years, the condition of chillers has deteriorated, and aged chillers consumed more energy. This contradicted one of the environmental and social objectives of the MTRC, which is to reduce greenhouse gas emissions by adopting suitable energy efficiency measures in their operations. To achieve this, the MTR has been upgrading its chiller plants with highly efficient chillers from time to time. In 2016, MTRC launched a large-scale chiller replacement program which accelerated the replacement of chillers at various stations and depots in several batches.

Project Highlights

The scope of work includes the design, replacement, supply and installation of 63 chillers at 19 stations and depots across various MTRC lines in 6 years (finally rescheduled to 5 years) with completion milestones of each section. The project challenges are to replace the chillers in a live environment and always provide adequate cooling capacity to the operations. Apart from the general safety requirements, all works should not cause any nuisances to public and railway operations. For MTRC projects, a Competent Person (CP) is required for the site management at each site. The CP reports all activities to the Station Controller or Depot Yard Master before entering the site. Before starting work each day, the CP conducts a site briefing for all workers on the house rules, safety requirements, types of work, and risk exposure for the day's activities. All works must be supervised by Competent Persons (CP) and Engineer's Person-in-charge (EPIC). The MTRC project, design & safety teams and JEC project team work closely together to ensure the smooth completion of each section. An engineer/project in charge works together with the CP, Safety Officer/Supervisor and various sub-contractors for the site management and installation.

Site surveys were conducted to assess the conditions, performance and environment before commencement of works. The energy consumption of each chiller in the existing chiller plants was logged before the commencement of dismantling works. This data would serve as a benchmark for comparing the performance of new chillers in operation. As the chiller replacement project is classified as a major retrofitting project of the building, the equipment (such as chillers, pumps, fans, etc.) selected for the project must meet the latest energy efficiency requirements outlined in the Building Energy Code (BEC).

Energy-efficient, sustainable and environmental friendly chillers were installed. The new BAS must interface and integrate with the existing BMS individual stations and depots of MTRC. Several chiller plants were converted from air-cooled to water cooled systems. The water-cooled chillers must be installed in an indoor or protected environment. The space and delivery routing for chillers in existing buildings has always been stringent. Some new water-cooled chillers were disassembled into major components for easy hoisting, delivery and on-site reassembly. The overall planning of the phasing of replacement is critical under such circumstances. To protect our environment, the 3R's concept (Reduce, Reuse, and Recycle) is adopted for waste management at all sites.

Air-Cooled Chillers to Water-Cooled Chillers

Air-cooled chillers were originally used at Lo Wu & Siu Hong Stations and Ho Tung Lau. The contract required the replacement of air-cooled chillers with water-cooled chillers at these stations and depot. Finding indoor space for chillers and outdoor space for Cooling Towers, water tanks and piping was challenging at Lo Wu Station. The structural engineer had to calculate and approve the loading and structure of supporting base frame. The site boundary of Lo Wu is located within a restricted area. All workers and delivery of materials had to apply for special work permits and obtain approval. Approval for hoisting work inside Lo Wu station was required not just from MTRC, but also from other stakeholders such as government departments (e.g., police, immigration, customs, etc.), the fire service department, border shops, and Lo Wu village residents. Coordination with all parties was necessary to avoid daytime traffic obstructions since midnight hoisting was not approved by EPD due to noise consideration. Over 21 days were required to hoist a large amount of E&M equipment and building materials. Moreover, unloading the materials and equipment required a large amount of transportation work on the limited rooftop area designed for this purpose.

Cooling Tower Plant at Lo Wu Station

BIM and DfMA Design for Cooling Towers at HTL Depot

To improve efficiency, enhance quality control and reduce safety risk, BIM model and DfMA concept were utilized at Ho Tung Lau Depot. The 'Marley' Cooling Tower was designed and manufactured into only two pieces, making assembly works at site fast and simple. Additionally, the supporting frame of Cooling Towers was divided into two pieces and prefabricated at off-site warehouse. The size of the DfMA components was typically larger than piece meal components. This required advanced planning and coordination for delivery routing and hoisting arrangements.

BIM Model for Condensing Water Piping at Ho Tung Lau Depot

Metal Frame was prefabricated at off-site warehouse

2-pieces DfMA Marley Cooling Tower at Ho Tung Lau Depot

Special Transportation Arrangement for Large DfMA Item at Limited Access

Chiller Plant Optimization Program (JEDI)

Application of artificial intelligence (AI) control system on chiller plant at MTR stations

ABSTRACT

Following the completion of chiller replacement at Shatin Station, a pilot of JEDI's AI-powered and machine learning smart energy management platform optimized the rule based BMS at the MTRC's Shatin Station, resulting in an 8.7% reduction in annual energy consumption and associated cost. JEDI's platform analyzed various data sources including weather data, real-time and historical data. The platform enabled the operator to predictively plan the operational pattern, such as staging, temperature set points etc., while optimizing energy consumption while maintaining comfort levels within the station. JEDI's machine learning model controlled these various combinations to optimize relevant power consumption and cooling demand parameters. Operational efficiency also improved by reducing the need for manual intervention through automation and predictive control measures. The project team and MTRC presented the application and results in a technical paper at HKIE Transaction in 2022.

Influence of COVID and Shortage of Micro Chips

The entire project lasted 5 years, including the most serious COVID pandemic, which spanned 3 year. There were many unexpected hurdles and problems during this period. The COVID outbreak caused many difficulties and restrictions, e.g. inadequate manpower, delayed delivery of goods from worldwide (including Mainland China), extra costs and administrative work for disinfection and protection, no factory witness test, extension of installation program, etc. In addition, the worldwide shortage of microchips affected the production and delivery of various components and equipment. These hurdles significantly disrupted the normal sequence of work. For example, silencers have to be installed before chiller delivery. To catch up on the installation program, some air-cooled chillers were shipped without condenser fans, which were installed on-site, requiring additional site acceptance test. Sudden changes in sea freight routing or schedule frequently occurred, which jeopardized the work program and caused project delays.

Summary

The project was successfully completed despite many unexpected issues. A salute must be given to both MTRC and JEC project teams for their excellent work to make sure the installations are in full compliance with statutory regulations, technical specifications, safety standards and within the milestone. MTRC has invested HK$1.3B in replacement of over 150+ HVAC facilities in the past few years and will continue to execute the chiller replacement program to uplift the energy efficiency of facilities and achieve carbon neutrality in Hong Kong in the long run.

第三十四屆國際製冷、空調、供暖、通風及食品冷凍加工展覽會

2023年4月7日，第三十四屆國際製冷、空調、供暖、通風及食品冷凍加工展覽會（簡稱“中國製冷展”）在上海新國際博覽中心盛大啟幕。以“聚焦全球冷暖　致力系統創新”為主題，設置了九大展館，展覽面積十萬平方米，來自全球十九個國家和地區的近一千一百家企業及機構參展，為期三天的展會吸引了六萬多名專業觀眾和買家參觀洽談。中國製冷展組委會秉承以展商和行業的發展需求為己任，與展商及行業不忘初心、攜手共進、凝心聚力、再創輝煌，為全球制冷暖通空調行業綠色健康發展貢獻力量。疫情三年期間，製冷展組委會與全行業同仁勠力同心、攜手共進、砥礪前行，製冷展克服重重困難，連續三年成功舉辦、從未間斷，成為全球制冷暖通空調行業唯一連續舉辦的規模最大、專業性最強、最具權威性的品牌展會。

本著聚集更優質資源、服務於整個行業、集技術創新與貿易交流於一體的國際化大平臺的原則，一如既往香港空調及冷凍商會受到中國製冷展組委會的盛情邀請，組織了一個香港代表團出席這個盛會。代表團由香港空調及冷凍商會、香港能源工程師學會、英國屋宇裝備工程師學會香港分會和美國供熱、製冷與空調工程師學會香港分會聯合組成。部份活動更得到香港註冊專門承建商（通風系統）協會的一起參與，非常熱鬧！

第一天（4月5日）的行程，主要是乘坐國際航班從香港出發去上海。第二天（4月6日），代表團安排了參觀位於江蘇蘇州工業園區的”Grundfos - 格蘭富” 水泵工廠。格蘭富總部位於丹麥，是世界最大的水泵製造商之一，蘇州工廠是集團在亞太地區的主要製造基地，從事水泵裝配和零件生產，現有五百多個員工。格蘭富水泵蘇州工廠主要產品有立式多級離心泵、立式管道泵、深井潛水泵、標準小型迴圈泵、家用增壓泵、單級端吸泵、Hydro 系列變頻穩壓供水系統和潛水馬達等等，產品琳琅滿目，令到大家目不暇給。工廠生產採用很多自動化設備，對環境保護、質量控制、生產效率、安全

保護大大提升，並且對員工福利和健康也很關注，不愧被評為”2006年到蘇州工業園區最佳僱主”。除了水泵產品的介紹和參觀，格蘭富在香港的代理商怡和機器更安排了格蘭富的專業技術人員講解了一個嶄新的分佈式水泵節能系統連智慧監測平臺和DfMA產品模式，令大家對水泵在節能和應用上提升了層次。午膳安排在工廠的員工飯堂進行，大家有機會體驗一下國內員工的飲食情況。

午膳後，代表團馬上出發去考察ARGU艾格魯管道科技（江蘇）有限公司位於江蘇常熟的工廠。艾格魯是奧地利ARGU 全資擁有的子公司。ARGU產品主要用於：天然氣和供水，礦業，化學工業，半導體工業，製藥業，植物灌溉，建築工程，氣壓管路和環境工程，應用範圍相當廣泛。艾格魯不單安排了詳盡的產品介紹和工廠參觀，還非常熱情招待代表團晚宴之後才回程返上海。

第三天（4月7日）是全程的重點，各會主要代表一大清早出席了中國製冷展開幕典禮及論壇。及後與其他香港代表團的參加者會合拍攝團體照作為留念，大家隨即到展覽會場探訪來自香港的參展商，之後各自活動去尋找有興趣的展位參觀。到了下午大約五點，大家再次集合去出席中國製冷展的國際組織招待會和晚宴。來自中國製冷學會、中國製冷空調工業協會的各位副理事長、國內外行業專家學者、海外及港臺地區行業組織的代表、參展商代表及各界的朋友們藉此機會聚首一堂，互相認識和溝通，彼此建立了聯繫作日後交流！

最後一天（4月8日）的上午，代表團參觀了由新鴻基地產開發的”上海環貿廣場 - iapm”內的機電設施。該廣場剛進行了大型的空調改造，將部份空調冷水機組改為變頻模式，並加裝熱泵機組來提供熱水給大廈供暖。在一般天氣下焗爐可以作為後備，令到大廈節省不少燃氣的費用。大廈還採用了很多IoT感應器來作採集即時數據來作系統上的優化管理和分析，值得我們學習。午膳後，代表團按計劃去到上海浦東機場乘坐航班回港，整個行程順利結束。

組委會已經宣佈2024年中國製冷展會回到北京舉行，今年錯過了的朋友，可以早點安排和計劃。

ACRA 61st Annual Dinner

ACRA's 61st Anniversary Dinner held on 12 December 2022 was a grand success, with esteemed members and guests, including the Secretary for Housing – Ms. Winnie HO as our Guest of Honour, participating to celebrate its achievements and milestones with integrity for excellence, innovation, and sustainability for the HVAC industry development. The evening not only provided a decent feast with networking opportunity for the participants but also embraced recognition of members' dedicated contributions through a trophy presentation to the council members and subcommittee members. Overall, the event was a significant tribute to the association's legacy of promoting the highest standards of distinction in the industry of air conditioning and refrigeration.

Joint Professional Training Course 2022

The Joint Professional Building Services Training Course is tailored to provide comprehensive information in the design, installation and maintenance of BS Systems. The classes were conducted every Wednesday from 30 November 2022 to 8 March 2023 via webinar. One of the highlights includes the practical insights sharing into best practices and emerging trends from the guest speakers who are industry professionals from various sectors.

E&M Safety Walk 2022

With the invitation from the organizers EMF and HKFEMC, ACRA was pleased to participate in the E&M Safety Walk at Whitehead Barbecue on 4 December 2022 to support the safety awareness promotion for the industry from this special occasion

ACRA Badminton Tournament 2022 (IES Cup)

Due to COVID-19 pandemic, one of our most popular sport events – ACRA Badminton Tournament sponsored by IES Engineering (Hong Kong) Limited has been suspended for 3 years. Nonetheless, we are thrilled to have received an overwhelming response from our member companies for the competition which was held on 14 December 2022 and 21 December 2022. All partaken badminton players have exerted every effort to strive for the championships.

Congratulations to the winners:

Cup Tournament

Champion	The Jardine Engineering Corporation, Limited
1st Runner-up	ATAL Engineering Limited
2nd Runner-up	Young's Engineering Company Limited

Plate Tournament

Champion	The Hong Kong and China Gas Co. Ltd
1st Runner-up	IES Engineering (Hong Kong) Limited
2nd Runner-up	Southa Technical Limited

CI Expo 2022

Our President, Mr. M.T. Law and council members attended the Construction Innovation Expo co-organized by the Development Bureau, Centre of Science and Technology Industrial Development, and Construction Industry Council at HKCEC on 16 December 2022. This expo is a showcase of the innovated technologies for sustainability in the industry such as low-carbon construction in Hong Kong, Mainland and overseas which ACRA is devoted to support for creating a better environment for our society and the world.

HKGBC Retrofitting Guidebook Launching Ceremony and Group Media Interview

The depletion rate of natural resources in our planet is accelerating leading to global warming and other severe environmental issues. If sustainability fails, the consequence is unconceivable. Hong Kong Green Building Council has long aware of this matter, and recently launched the Retrofitting Guidebook for energy saving and carbon neutrality with the launching ceremony held on 6 December 2022 and the group media interview conducted on 11 January 2023. ACRA is pleased to be invited to represent the air conditioning industry to witness and exchange information for this momentous event. Some ideas include property management through IoT, providing relevant education the next generation, and innovative technology such as solar panel. Some of the property developers have already been engaging in applications of energy saving for years which received inspiring result in both energy and cost saving in the long run. In brief, we should continue to strive our best for protecting the environment.

Hong Kong Social Service Expo 2023

Social responsibility is one of the major objectives that ACRA pursues to accomplish every year for providing wholeheartedly contribution to the society in Hong Kong through participating in various caring events. Thank you to The Hong Kong Council of Social Service that has awarded ACRA the Caring Company logo for 13 consecutive years at the Hong Kong Social Service Expo 2023 on 15 February 2023.

E&M Expo 2023

On 3 March 2023, the E&M Expo 2023 namely “Grooming Young Talent, Building Smart City” hosted by EMSD with support from some E&M organizations. On behalf of the air conditioning industry, ACRA has been actively participated in this event over the years with our council members sharing their professional work experience and knowledge to promote the new blood about the competence of the career path development for this industry.

Spring Dinner 2023

One of the most entertaining events of the year, the Spring Dinner 2023 of ACRA was held on 3 March 2023 to celebrate the Year of the Rabbit. All participants had a pleasant time together with the authentic Chinese cuisine, lucky draw, and of course our most exciting game – Beer Competition that attracted many new and talented engineers to join. The evening was completed marvelously with joyful cheers and memories for ACRA.

Visit to HA's MiC Mock-up Site at Tung Chung Area 99

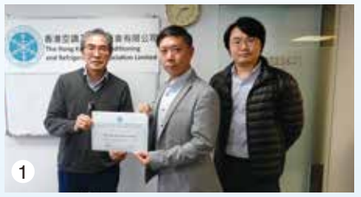
With the invitation of Housing Department, ACRA visited the Mock-up Site for the very first concrete MiC construction of the 12-storey Block 5 of the public housing development at Tung Chung (Extension) Area 99 on 31 March 2023. This MiC method will be a crucial direction for the property development in the future fitting the low-carbon emission construction goal. There is also a policy addressing that at least half of the public housing projects in the second half of the next ten years will be built using the MIC method. ACRA is gratified to witness this innovative construction in Hong Kong which will certainly have cross-effect to the E&M installation including air conditioning industry.

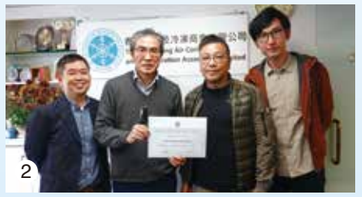
Next Generation Refrigerants Development Class

Two online classes of Next Generation Refrigerants Development were hosted by ACRA, EMSD, and VTC on 6 December 2022 and 17 May 2023. The old refrigerants are gradually fading out due to their negative impact to the environment. This course is designed to motivate the industry stakeholders to increase application of the next generation refrigerants in all relevant projects through providing details of efficiency, flammability, handling, and risk management of various refrigerant options together with the attention of sustainability as well as environmental and safety influence.

Practical Training Course on Household Air Conditioners using Mildly Flammable Refrigerant

Organized by ACRA, EMSD, and Pro-Act by VTC, four lessons of the Practical Training Course on Household Air Conditioners using Mildly Flammable Refrigerant was held from January 2023 to February 2023. The course includes theory lectures on features, relevant OSH legislations, safe handling and technical requirements on various types of mildly flammable refrigerants in addition to hands-on sessions to allow industry practitioners to practice the works of R32 refrigerant with proper handling.





New Members

1	Associate Member	Kitz Hong Kong Company Limited	Dec 2022
2	Associate Member	Nation Engineering Company	Dec 2022
3	Associate Member	Satchison Engineering Limited	Feb 2023
4	Associate Member	Alfa Laval (China) Ltd.	Apr 2023
5	Associate Member	Tak Cheong Air-Con. Equipment Supply Co., Ltd.	Apr 2023

ACRA Youth Committee

In the past few months, numerous of social activities resume as Hong Kong has continued to relax its COVID-19 restrictions. On behalf of ACRA Youth Committee, it is our pleasure to join and support different kinds of ACRA activities and share our works.

Joint-caring Activity 2022

For many years, ACRA Youth Committee has worked closely on caring programmes for the elderly in the community. A recent example was the "開心福袋贈長者" held on 5 November 2022, to show our care and respect for the elderly. Our volunteers distributed happy bags including hand sanitizer, face mask, rice, etc. to the households in public housing estates at Lam Tin as gifts.

IES Badminton Competition

After adjournment due to the pandemic of past years, we were delighted to meet our members again at the competition. As the support team, ACRA YC members were invited to be the scorekeeper of this intense competition. Appreciation to all the teams and congratulation to the winners.

61th ACRA Annual Dinner

As ACRA celebrates its 61st anniversary, ACRA Youth Committee is pleased to join this enjoyable event. With the help of every YC member, we are able to support the association with our best effort.

As the pandemic comes to its end in 2023, ACRA Youth Committee take the chance to participate in various activities.

E&M Expo 2023

E&M Expo 2023 is held at VTC, Kwai Chung. ACRA YC members were glad to take part and introduced the industry to the students. Having this opportunity to interact directly with the students, we wish to bring them insights and career suggestions of the industry.

ACRA Spring Dinner and Beer Competition 2023

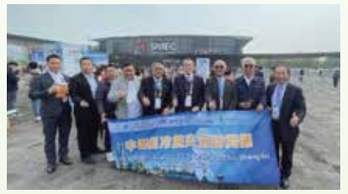
As one of the most popular events, ACRA YC hosted the Beer Competition 2023 during the ACRA Spring Dinner which invited ladies and gentlemen to enter competing for the champion of the strongest beer drinker.

HKFEMC Beach Cleaning

HKFEMC YC organized a Beach Cleaning activity for the youth members on 18 March 2023. ACRA YC members are glad to participate in this meaningful event that we can get connected while preserving the environment.

Technical Visits

In support of the industry, ACRA YC members participated in the technical visit in April 2023: China Refrigeration Expo 2023 in Shanghai and Huawei/Shun Cheong in Shenzhen and Guangdong. The technical visit aims to encourage the members to learn more about China's recent technology and development. Through these technical visits, ACRA YC members had widen their horizon and vision.



「全國兩會精神」分享會

As well, we try our best to support the development of Greater Bay Area by attending the meetings with various government departments and industry organizations to know more about the goals and principles of development plan.

ACRA Youth Committee Member Connections

Although we are facing the challenging Covid-19 pandemic, ACRA Youth Committee continues to organize different types of activities and virtual meetings, to keep interaction between YC members.

Upcoming

Due to cancellation of epidemic prevention measures, ACRA Youth Committee will pick up the pace and organize more in person meetings and activities. More joyful activities are to expect, indoor and outdoor activities, such as technical talk, factory visit, sports event, etc. are to be expected. So, keep your eyes on us for more fascinating activities!

MEMBERSHIP LIST

Contracting · Manufacturing · Servicing · Supplier

	Company Name		Contact Number	Website / Email	Trade
ACRA Fellow Members	ATAL Engineering Limited	安樂工程有限公司	2561 8278	www.atal.com	C M S Sp
	Carrier Hong Kong Limited	開利(香港)有限公司	2694 5618	www.carrier.com.hk	C M S Sp
	Krueger Engineering (Asia) Limited	高雅機電工程有限公司	2860 7333	www.krueger.com.hk	C
	Newland Engineering Limited	新陸工程有限公司	2967 8620	moshiu@newland.com.hk	C
	REC Engineering Company Limited	盈電工程有限公司	2619 8888	www.rec-eng.com	C S
	Shinryo (Hong Kong) Limited	新菱工程香港有限公司	2237 8624	www.shinryo.com	C
	Shun Hing Engineering Contracting Company Limited	信興機電工程有限公司	2419 8282	www.shecon.com	C
	The Jardine Engineering Corporation Limited	怡和機器有限公司	2807 4511	www.jec.com	C S Sp
	Trane Hong Kong	特靈香港	3128 4756	www.tranehk.com	M S Sp
	Winston Air Conditioning & Engineering (Hong Kong) Company Limited	永通冷氣工程(香港)有限公司	2764 1200	www.winston-hk.com	C S
	York International (Northern Asia) Limited	約克國際(北亞)有限公司	2590 0012	www.johnsoncontrols.com	C M S Sp
	Young's Engineering Company Limited	景福工程有限公司	2235 0900	www.youngs.com.hk	C S
ACRA Ordinary Members	Alliance Contracting Company Limited	聯和承造有限公司	2891 9083	www.alcc.com.hk	C
	Analogue Technical Agencies Limited	安樂科技有限公司	2561 8278	www.atal.com	Sp
	ATAL Building Services Engineering Limited	安樂機電設備工程有限公司	2561 8278	www.atal.com	C S Sp
	Bun Kee (International) Limited	彬記(國際)有限公司	2748 9319	www.bunkee.com	Sp
	BYME Engineering (Hong Kong) Limited	嘉福機電工程有限公司	2881 6690	www.bymehk.com	C S
	Carewin Engineering Limited	嘉榮行工程有限公司	2898 2183	admin@carewinhk.com	C S
	Chevalier (E & M Contracting) Limited	其士(機電工程)有限公司	2111 4811	www.chevalier.com	C
	China State Mechanical & Electrical Engineering Limited	中國建築機電工程有限公司	2823 7888	www.cohl.com	C
	Chun Wo E & M Engineering Limited	俊和機電工程有限公司	3758 8007	www.chunwo.com	C
	Daikin Airconditioning (Hong Kong) Limited	大金冷氣(香港)有限公司	3966 9528	www.daikin.com.hk	Sp
	Efatar Environmental Protection Equipment Limited	怡輝環保器材有限公司	2606 6922	www.cold-magic.com	M S Sp
	Fook Loong (HK) Limited	福隆(香港)有限公司	2393 7773	www.flhk.com.hk	Sp
	Gammon E&M Limited	金門機電工程有限公司	2516 8823	www.gammonconstruction.com	C
	Gate Way Valve & Fitting Limited	基法水管配件有限公司	2688 2666	www.gatewayv.com.hk	Sp
	Honeywell Limited	霍尼韋爾(香港)有限公司	2331 9133	www.honeywell.com	S Sp
	Hsin Chong Aster Building Services Limited	新昌亞仕達屋宇設備有限公司	2675 3300	www.aster.hk.com	C
	Johnson Controls Hong Kong Limited	江森自控香港有限公司	2590 0012	www.johnsoncontrols.com	C M S Sp
	K-Thorn Engineering Company Limited	旗鋒工程有限公司	2481 2918	main@k-thorn.com.hk	C
	Lik Kai Engineering Company Limited	力佳工程有限公司	2611 4501	ericyung@likkai.com.hk	C
	Lucky Engineering Company Limited	運通冷氣電業有限公司	2780 5285	general@luckyeng.com.hk	C
	McQuay Air-Conditioning Limited	麥克維爾空調有限公司	2893 6261	www.mcquay.com.hk	C M S Sp
	MECO Engineering Limited	德寶工程有限公司	2774 8200	meco-engltd@yahoo.com.hk	C
	Midea Electric (Hong Kong) Limited	美的電器(香港)有限公司	3669 4888	www.mideahk.com	C M Sp
	Quad-Tech Engineering (Hong Kong) Company Limited	高得工程有限公司	2573 1832	qt@quadtech.com.hk	C
	Raising Engineering Limited	威信工程有限公司	2395 6081	simonsiu@raising.com.hk	C
	Ryowo (Holding) Limited	菱和(集團)有限公司	2391 8381	www.ryowo.com	M
	Siemens Limited	西門子有限公司	2107 6506	andy.wong@siemens.com	Sp
	Skyforce Engineering Limited	天科工程有限公司	2885 1620	info@skyforce.com.hk	C
	Southa Technical Limited	南龍機電工程有限公司	2963 7175	www.southa.com	Sp
	Standard Refrigeration & Engineering Company Limited	立德工程有限公司	2781 0871	SRE@hklpg.com.hk	C S Sp
	Takasago Thermal Engineering (Hong Kong) Co., Ltd.	高砂熱學工業(香港)有限公司	2520 2403	sales@takasago.com.hk	C S
	Technicon Engineering Limited	得力確工程有限公司	3193 1300	technic@technicon.com.hk	C
	Welcome Air-Tech Limited	偉基空調有限公司	2806 8316	www.saiver-welaire.com.hk	M S Sp
	Westco Airconditioning Limited	威高冷氣工程有限公司	2426 3123	mandylo@scee.com.hk	C

Contracting · Manufacturing · Servicing · Supplier

	Company Name		Contact Number	Website / Email	Trade
ACRA Associate Members	ABB (Hong Kong) Limited		2929 3800	www.abb.com.cn	Sp
	Aeroseal (HK) Limited	亞樂斯(香港)有限公司	2511 2118	www.aerosealhk.com	C
	A-Gas Environmental Services HongKong Limited		3188 5078	www.agas.com	S
	A & R Engineering Company Limited	奇樂工程有限公司	2408 2960	general@arengco.com.hk	C
	Aires Engineering Company Limited	毅力機電工程有限公司	2658 8856	adrianwong@aires.com.hk	C
	Alfa Laval (China) Ltd.	瑞典阿法圖拉化伐(中國)有限公司	2589 3859	www.alfalaval.com	M S Sp
	Alpha Appliances Limited	第一電業有限公司	2529 7555	www.alpha-general.com	Sp
	Anway Engineering Company Limited	正佳工程有限公司	2598 4228	www.anway.com.hk	Sp
	Armacell Asia Limited	阿樂斯亞洲有限公司	2574 8376	www.armacell.com	M
	Arnhold & Co., Ltd.	安利有限公司	2807 9400	patricklai@arnhold.com.hk	Sp
	A Shing Engineering Company Limited	亞成冷氣工程有限公司	2537 1818	wilkiengan@ashing.com.hk	C Sp
	Associated HVAC Contracting Company Limited	華聯冷氣工程有限公司	2573 1716	aec@aechvachk.com	C S
	Auto Integrated Limited	奧力科技有限公司	2612 0758	rickie@autoinhk.com	M Sp
	BELIMO Actuators Ltd.	搏力謀執行器有限公司	2682 7837	www.belimo.com	M
	Bollfilter Hong Kong Ltd.	波勒過濾系統(香港)有限公司	2715 5000	www.bollfilterchina.com	M S Sp
	Biocline Healthcare Services Ltd.	新康醫療器材工程有限公司	2672 1111	bio@biocline.com	C Sp
	Bitzer Refrigeration Asia Limited	比澤爾制冷亞洲區有限公司	2868 0206	www.bitzer.de	Sp
	Brisky Limited	穿梭科技有限公司	2511 3161	tkwan@briskyltd.com	C S Sp
	Castco Testing Centre Limited	佳力高試驗中心有限公司	2597 8333	www.castco.com.hk	**Laboratory Testing**
	Centalink International Limited	信嘉國際有限公司	2626 1897	andy@centalink.com.hk	M Sp
	CDBM Engineering Consultant Company Limited	新雄力工程顧問有限公司	2598 1088	mail@cdbm.asia	C
	Cheung Kee Metal Company Limited	祥記五金有限公司	2393 1448	www.ckmetal.com	Sp
	Chi Yip Engineering Company	志業工程公司	3078 9984	canny@acmv-cy.com	C Sp
	Chin Tat Trading Company	展達貿易公司	3521 1589	www.chintat.com.hk	Sp
	Chit Tat Electrical Engineering Limited	捷達機電工程有限公司	2529 8888	www.chittat.com.hk	C M S
	Chong Kin Air-Condition Trading Engineering Co., Ltd.	創建冷氣貿易工程有限公司	2307 5159	www.chongkinaircon.biz.com.hk	C Sp
	C.J. Wishing International Limited	惠生電業有限公司	2799 9797	cjwish@cjwish.com.hk	Sp
	CLPe Solution Limited	中電源動有限公司	2678 7900	www.clpesolutions.com	C S
	Clydeman Engineering Limited	佳電工程有限公司	2332 3591	daniel@clydeman.com	C S Sp
	CMA Testing & Certification Laboratories Limited	廠商會檢定中心	2698 8198	www.cmatesting.org	**Laboratory Testing**
	Crowntin Limited	冠殿有限公司	8202 0830	clchoy@crowntingrp.com.hk	C Sp
	CYH Limited	仲賢行有限公司	2967 3999	www.cyhltd.com.hk	Sp
	Delta Pyramax Company Limited	佳澤科技有限公司	2511 2118	www.deltapyramax.hk	Sp
	Dictson Engineering Ltd.	迪迅工程有限公司	2891 8070	lui@dictson.com.hk	C S
	Dynalink International Technology Limited	匯能國際科技有限公司	3955 0203	www.di-technology.com	C S Sp
	Eaxon International Company Limited	恩索有限公司	3590 4656	gamescheung@eaxon.hk	M S Sp
	ebm-papst Hong Kong Limited	依必安派特香港有限公司	2145 8678	info@hk.ebmpapst.com	M Sp
	Electrodrive Engineering Limited	高宜工程設備有限公司	2573 7211	info@electrodrive-eng.com	Sp
	Enviro-Tech Engineering Company Limited	鷹達工程有限公司	2827 0688	steveli@envirotech.com.hk	Sp
	Ever Cool Refrigerating & Air-Conditioning Co., Ltd.	嘉毅冷凍空調設備有限公司	2356 8598	info@evercoolhk.com	M Sp
	Evergreen Environmental Technology Company Limited	冬青環保科技有限公司	2562 3331	www.evergreen-environmental.com	Sp
	Extensive Trading Company Limited	精基貿易有限公司	2889 1681	www.extensive.com.hk	Sp
	Far East Engineering Services Limited	遠東工程服務有限公司	2898 7331	www.fareast.com.hk	C S
	Fortune Links Hong Kong Limited	鑫力香港有限公司	2562 9399	info@fortunelinks.com.hk	M S Sp
	GTECH Services (Hong Kong) Limited	英國通用工程(香港)有限公司	2123 0888	www.gtechservices.com.hk	C
	GELEC (HK) Limited	香港通用電器有限公司	2919 8383	hq@gelec.com.hk	Sp
	Gether-Force Air-Conditioning Engineering Co., Ltd.	群力冷氣工程有限公司	2890 2622	getherforce@hknet.com	C
	Getwick Engineers Limited	佳域工程有限公司	2893 3600	getwick@getwick.com	C
	Glory Air-Conditioning Limited	天恩空調有限公司	3487 9092	wallace@gloryacltd.com	C S Sp
	Golden Leaf International (Hong Kong) Limited	金葉國際(香港)有限公司	2648 1000	info@glint.com.hk	C S
	Goodway Electrical Engineering Limited	佳濤電業有限公司	2405 0888	www.goodwaygrille.com	M Sp
	Gotop Engineering (HK) Limited	高陞工程(香港)有限公司	2459 3038	gotopco@yahoo.com.hk	C
	Great Top Engineering Limited	宏鋒工程有限公司	2345 2219	general@greattop.com.hk	C
	Greentech Engineering Limited	堅迪工程有限公司	2776 3128	www.hk-greentech.com	C
	GRUNDFOS Pumps (Hong Kong) Ltd.	高福水泵(香港)有限公司	3540 0300	www.grundfos.com	M
	Hensen System Engineering Limited	豪信系統工程有限公司	2884 9001	cecil@hensen.com.hk	Sp

MEMBERSHIP LIST

ACRA Associate Members

Company Name		Contact Number	Website / Email	Contracting	Manufacturing	Servicing	Supplier
Hilti (HK) Limited	喜利得(香港)有限公司	2773 4705	www.hilti.com.hk		●		
Hofmann Construction Material Ltd.	香港好夫曼建材有限公司	3157 1841	www.hofmannhq.com				●
Honest Air Conditioning Limited	明發冷氣有限公司	2396 8108	www.achonest.com	●			●
H.W. International Air Conditioning Limited	豪華國際空調有限公司	2796 8888	info@hooair.com		●		
IES Engineering (Hong Kong) Limited	恒豐工程(香港)有限公司	2992 0830	www.ieshk.com.hk			●	●
InnoTec Engineering Ltd.	科技工程有限公司	3706 6333	info@innoteceng.com	●			
Integral E&M Contracting Limited	宏高機電安裝有限公司	2272 3690	www.buildking.hk	●			
Intelligent Technologies Limited	毅智科技發展有限公司	2301 4868	info@intelligent-net.com				●
JC (HK) Engineering Limited	悅峰工程有限公司	2898 9885	jc.hk.eng@gmail.com	●	●	●	●
Jetford Engineering & Trading Company Ltd.	捷科工程有限公司	3101 2323	www.jetford.com.hk	●		●	●
J & J Network Engineering Company Limited	信卓網絡工程有限公司	3579 5263	www.jjnetwork.com.hk				●
Johnson Controls-Hitachi Air Conditioning Trading (Hong Kong) Limited	江森自控日立空調貿易(香港)有限公司	2590 0012	www.jci-hitachi.com		●		●
Joneson Environmental Technologies Limited	忠誠環保科技有限公司	2889 8220	jet@fsenv.com.hk	●	●	●	●
Join Rich Engineering Limited	億聯工程有限公司	3153 2048	www.joinrich.com.hk	●			
Jinchat Engineering (HK) Company Limited	正卓工程(香港)有限公司	2687 1755	jyin@jinchat.com		●	●	●
Jun Feng Company Limited	駿峯有限公司	2782 2620	www.junfeng.com.hk			●	●
Kamui Cold Chain Engineering & Service Limited	淦鎧冷鏈工程服務有限公司	2688 7778	compassengltd@yahoo.com.hk	●		●	
Keio Engineering Company Limited	京王工程有限公司	2695 8872	www.keio.com.hk	●			
Kembla (Hong Kong) Limited	金特霸(香港)有限公司	2528 0999	www.kembla.com.hk				●
Kin Wo A/C Engineering Limited	健和冷氣工程有限公司	2398 0157	kw@kinwo.com.hk	●			
Kinetics Noise Control (Asia) Limited	建力聲震控制(香港)有限公司	2191 2488	www.kineticsnoise.com		●		●
Kings View Airconditioning Engineering Co., Ltd	景匯空調工程維修有限公司	2796 2417	admin@kingsview.com.hk	●			
Kitz Hong Kong Company Limited	香港開滋有限公司	2728 2199	matthew.fung@kitzhongkong.com		●		●
K-Flex (Hong Kong) Insulation Company Limited	凱門(香港)保温材料有限公司	2668 5202	www.k-flex.com		●		
KSB Limited	凱士比有限公司	2147 1226	philip.chow@ksb.com.hk		●		
K.Y.H. Steel Company Limited	金源行鐵倉有限公司	3473 2332	www.kyh.com.hk				●
Laser Resources (Asia) Company Limited	全美(亞洲)有限公司	2516 7500	laasiahh@netvigator.com		●		●
Lap Kei Engineering Company Limited	立基冷氣工程有限公司	2798 8210	www.lapkeieng.com	●		●	
LeBlanc Water Treatment & Chemicals Limited	利邦化工水處理有限公司	2408 2000	www.leblanc.com.hk			●	
Lee Tack Engineering Company Limited	李德工程有限公司	2305 3111	ltec@leetack.com.hk	●			
Lee Yip Metal Products Compnay Limited	利業金屬有限公司	3651 2698	www.leekeegroup.com				●
Legend Engineering Company Limited	卓越聲控工程有限公司	2815 0928	info@legendjt.com.hk	●	●		●
Lifa Air Limited	麗風空氣有限公司	2511 7076	www.lifa-air.com			●	●
Life Air IAQ Limited	活力空氣品質科技有限公司	3527 0106	winston@lifeairiaq.com		●		●
Link The Best Company Limited	必發(香港)有限公司	2568 4092	sales.linkthebest.com.hk		●		●
Luen Fat Air Condition (Holding) Trading & Engineering Co., Ltd.	聯發冷氣(集團)貿易工程有限公司	2345 0280	www.luenfat.com				●
Luen Ming E & M Engineering Ltd.	聯明機電工程有限公司	3619 9186	info@luenmingem.hk	●			
Luen Ming Pengshan Air Conditioning Factory Ltd.	聯明坪山冷氣製品廠有限公司	2797 2168	www.luenming.com				●
Man Tung Air-Conditioning E & M Ltd.	萬通冷氣機電有限公司	3165 8698	www.manshungroup.com.hk	●			
Mason Industries (HK) Limited	梅森實業有限公司	2967 9639	www.mason-hk.com				●
Maxwell Electrical Asia Ltd.	美基電器亞洲有限公司	3583 5088	www.maxwell-asia.com		●	●	
Mesan Fiberglass Engineering (International) Limited	明新玻璃纖維工程(國際)有限公司	2787 5717	www.mesanct.com		●		
Mitsubishi Electric (Hong Kong) Limited	三菱電機(香港)有限公司	2887 4575	www.mitsubishi-ryoden.com.hk				●
NAP Acoustics (Far East) Limited	NAP 聲學工程(遠東)有限公司	2866 2886	www.napacoustics.com.hk	●	●	●	●
Nanofil Filtration Technology Limited		3708 1838	https://nanofil.com.hk		●		
Nation Engineering Company	力信工程公司	2728 2955	info@nec-hk.com	●	●	●	●
New Way Engineering Company Limited	新法機械有限公司	2325 6892	www.newway.com.hk				●
O-Link Limited	奧聯(國際)有限公司	2619 8888	www.o-link.com.hk		●		
Oxprime (International) Limited	鑫輝(國際)有限公司	2590 8088	info@oxprime.com				●
Pacific Sense Enterprises Limited	栢昇企業有限公司	3749 5272	www.pacificsense.com.hk	●			●
Paul Y. (E&M) Contractors Limited	保華機電工程有限公司	2831 8338	www.pyengineering.com	●			
Pekko Engineers Limited	柏高工程有限公司	3973 0698	www.leightonasia.com	●			
PowerTech IPC Company Limited	科力發展有限公司	3105 3928	www.powertechipc.com			●	●
Powers Technical Services Limited	寶華技術服務有限公司	2770 2110	powers.pts@gmail.com	●			
Practical Engineering (Hong Kong) Company Limited	百利高工程(香港)有限公司	2402 2772	practical@practical.hk	●			●
Pyrofoe Engineers Limited	衛安工程有限公司	2388 8038	www.pyrofoe.com.hk	●			

ACRA Associate Members

Company Name		Contact Number	Website / Email	Contracting	Manufacturing	Servicing	Supplier
Ready Electrical Metal Work Limited	全達電器金屬製品有限公司	2898 8623	kw_leung@ready-group.com	●	●		
REC Green Technologies Company Limited	盈電環保科技有限公司	2619 8817	www.yaulee.com			●	●
Ritech Engineering & Supply Company Limited	偉達工程材料有限公司	2410 1819	www.ritech-hk.com				●
San Yik Air Conditioning Engineering Company Limited	新益冷氣工程有限公司	3565 5812	www.sanyikgroup.com	●		●	●
Sanby Trading Company Limited	聖備貿易有限公司	2573 4219	www.sanby.com				●
Samsung Electronics H.K. Company Limited	三星電子香港有限公司	2862 6300	www.samsung.com.hk		●		
Satchison Engineering Limited	長和工程有限公司	2357 9382	ray@satchison.com.hk				●
Savills Engineering Limited	第一太平戴維斯設備工程有限公司	2508 4668	chytsang@savills.com.hk	●		●	
Shenling Environmental Systems (Hong Kong) Ltd.	申菱環境系統(香港)有限公司	2603 0002	www.shenling.com				●
Shun Hing E & M Engineering Limited	順興機電工程有限公司	2387 2882	project@shunhingeng.com	●			●
Shun Hing Electric Service Centre Limited	信興電器服務中心有限公司	2406 5333	www.shunhing-service.com			●	
Shun Hing Electronic Trading Co. Ltd.	信興電器貿易有限公司	2733 3888	www.shunhinggroup.com	●			●
Shun Tung Engineering Company Limited	順通冷氣電機工程有限公司	2633 6866	gabriel@shun-tung.com	●			
Sing Kin Limited	陞建有限公司	2333 1518	singkin@gmail.com	●			
Smartech HVAC & Engineering Limited	智能空調工程有限公司	2521 9768	info@smartech-hvac.com.hk				●
Southa Engineering Limited	南龍工程有限公司	2963 7241	www.southa.com	●			
Stars (Hong Kong) A/C & R Company Limited	恆星(香港)冷熱設備有限公司	6116 7832	stanley_yuen@hstars.com.cn		●		
Sun Chun (E & M) Engineering Limited	新駿(機電)工程有限公司	3613 0755	info@sunchuneng.com	●			
Sun First International Limited	昇福國際有限公司	2807 7888	www.sunfirst.com.hk				●
Sun Yu Chau Engineering Company Limited	新宇宙工程有限公司	2345 9355	www.sycengg.com.hk	●			
Sunny Fire Engineering Ltd.	華輝建材有限公司	2395 6766	sunnyfireengltd@gmail.com	●			
Sun Ying Prefab Products Limited	新鷹預製件有限公司	2547 7877	www.sunying.com.hk		●	●	●
Superpower Pumping Engineering Company Limited	力霸水泵機械工程有限公司	2745 3562	www.sppump.com				●
Sustainable Energy Limited	恒澤節能有限公司	2332 3077	www.sustaine.com.hk		●	●	
Tak Cheong Air-Con. Equipment Supply Co., Ltd.	德昌冷氣設備供應有限公司	2310 0011	info@tcaircon.hk			●	●
Target Energy Solutions Limited	達標能源管理有限公司	2345 0298	www.targetensol.com			●	
Teembase Development Limited	天基發展有限公司	2554 6263	www.teembase.com				●
The Hong Kong & China Gas Company Limited	香港中華煤氣有限公司	2963 3368	www.towngas.com				●
Tinwood Pacific Limited	天匯太平洋有限公司	6325 1197	www.sinro.com		●		
Tom's Equipment Company Limited	義隆設備有限公司	2757 5539	tom@toms-equipment.com				●
TICA-SMARDT Hong Kong Limited	天加思茂特香港有限公司	2772 8448	hk.info@smardt.com				●
Tin Sing Chemical Engineers Ltd.	天成化工有限公司	2619 8858	tsc@rec-eng.com			●	●
TROX Hong Kong Limited	妥思香港有限公司	2861 2261	www.troxapo.com				●
Tung Shing Hardware Company Limited	東成五金有限公司	2626 9983	www.tungshinghardware.com.hk				●
Union (Luen Hop) Refrigeration Co., Ltd.	聯合冷氣工程有限公司	2627 4600	unionlh@bizentvigator.com	●			
United Controls (Hong Kong) Limited	統一儀器(香港)有限公司	2556 1001	www.ucl668.com			●	●
Victaulic Hong Kong Ltd.		6898 6823	www.victaulic.com		●	●	●
Victory Engineering Service Company Limited	維陞工程有限公司	2979 4068	pamela@ves.hk				●
Viewco Building Services & Engineering Co., Ltd.	偉保工程有限公司	2543 0610	engineering@viewco.com.hk	●			
Vircon Limited	雲建有限公司	2617 2770	www.vircon.com.hk	●		●	●
Wai Luen Air Conditioning Limited	偉聯空調設備有限公司	2890 9321	garychan@wailuenhk.com	●			
Wardson Engineering Limited	華順工程有限公司	2329 8268	wsengltd@yahoo.com.hk	●			
White Hippo Limited	白河馬企業有限公司	2303 1318	www.kshop310.hk				●
Wilco Engineering Limited	駿陶工程有限公司	2344 7725	info@wilcoenghk.com	●			
Wing Shing Air-Flow Company Limited	永盛風咀製品廠有限公司	2792 6331	accounting@wingshing-hvac.com		●		●
WinTech Century Company Limited	宏達世紀有限公司	2760 4883	www.tanda.info	●	●	●	●
Wo Lee Steel Company	和利鋼鐵有限公司	2393 0131	www.wolee.com				●
Wolter Asia Limited	華德亞洲有限公司	2456 0198	info@wolter.com.hk		●		●
Wysermann Company Limited	威士文有限公司	2614 2213	wysermann@wysermann.com.hk		●		●
Yin On Trading Limited	賢安建材貿易有限公司	2572 7110	office@yinon.com.hk				●
Yordland Engineering Limited	日島工程有限公司	2362 2186	www.yordland.com	●		●	●
York Choi Industrial Limited	旭彩實業有限公司	2795 8286	www.yorkchoi.com		●		
Yuen Fong Air-Condition Products (HK) Limited	圓方空調設備製品(香港)有限公司	2880 5880	yuenfongaircondition@hotmail.com				●
Zenith International Enterprise Ltd.	盛豐國際企業有限公司	2815 5852	www.ebara.com.hk				●

PHENOTHERM®
聚溫® 環保泡酚
CFCs & HCFCs Free Phenolic Foam Insulation (Zero ODP)

FM Approvals
GREEN

www.phenotherm.com
ISO 9001:2015 CERTIFIED

Phenotherm® Class '0' RIGID Phenolic Foam Insulation is the PROFESSIONAL'S CHOICE for Ductwork & Pipework in HVAC/R System

Application : Sheet Metal Ductwork Insulation

Application : Chilled Water Pipework Insulation

Duct & Pipe Support Insulation

Load-Bearing Insulation, fit for Various Insulation material & perfect the Whole Insulation System

VARIOUS colour vapour barrier surface, fit for VARIOUS design environment / purpose
HEAVY DUTY DSF Aluminium Foil Facing : Aluminium bright / Black matt / White antiglare & etc...

Easy & Fast Installation
Apply adhesive + Snap insulation + Seal with Tape

2022 onward...
*Major Job Reference

Hong Kong Palace Museum
West Kowloon Cultural District,
Year of Completion : 2022

M+ Museum
West Kowloon Cultural District,
Year of Completion : 2020

CUHK Medical Centre
Year of Completion : 2020

MTR Express Rail Link,
West Kowloon Terminus
Year of Completion : 2017

Passenger Clearance Building, Hong Kong Boundary Crossing Facilities,
Hong Kong-Zhuhai-Macao Bridge.
Year of Completion : 2018

Liantang / Heung Yuen Wai Boundary Control Point
Year of Completion : 2020

Fire and Ambulance
Services Academy
Year of Completion : 2015

Nina Tower
Year of Completion : 2007

International Financial Centre
Phase I (IFC-I)
Year of Completion : 1998

Court of Final Appeal, Central
Year of Completion : 1996

General Cancer Centre,
Prince of Wales Hospital
Year of Completion : 1994

Central Mail Centre
Year of Completion : 2013

SOLE AGENT/STOCKIST :

福隆(香港)有限公司
Fook Loong (HK) Ltd.
香港九龍旺角塘尾道18號嘉禮大廈19字樓
19/Fl., Skyline Tower, 18 Tong Mi Road, Kln., HONG KONG.
Email : flhk@flhk.com.hk ✆ 2393-7773
www.flhk.com.hk FAX : (852) 2390-6377