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## Message from the President



Ir C. F. Wu  
President

In summer, trees absorb energy of the sun, grow quickly and desperately, and flowers bloom like a piece of brocade with luxuriant foliage, what a vibrant scene! With continuous support from the industry, we are glad to see the foundation of ACRA has been further reinforcing by over 180 members as well as the encouraging progress of ACRA Youth Committee in this summer. The Youth Committee was set up last year comprising of young representatives from ACRA members, it is aimed to nurture young practitioners as future leaders of the association, industry and community at large. Also, it encourages views from young practitioners to be shared in different dimensions along with the successive development of ACRA. Since the formation, Youth Committee has put abundant effort to serve in various areas and has become sustainable resource of ACRA to meet the elevating demand of industry in respect of daily operation as well as the challenges ahead.

Fire safety has always been the top priority in the industry. In late 2017, ACRA's representative has successfully become one of the nominees by the Hong Kong Federation of Electrical and Mechanical Contractors (HKFEMC) joining the Fire Safety Standards Advisory Group (FSSAG) of Fire Services Department (FSD). Making the best use of this platform, views and concerns from members can be reflected and reviewed critically in the core of FSD. Moreover, in Jan 2018, ACRA received FSD's invitation for views on the consultation paper briefing the implementation details of the Registered Fire Engineer (RFE) Scheme. In the reply to FSD, ACRA emphasized the current role of Registered Specialist Contractor (Ventilation) should not be undermined by the scheme, also grandfather route to RFE (Vents) should be established for eligible experienced practitioners.

As a main bridge between the government and the industry, ACRA has been sharing both intensity and timely the latest marketing information, the technology development, as well as the local business environment and concerns. In the past months, ACRA joined various liaison groups, working groups and taskforces organized by the Government and other bodies for matters including Development Bureau (DevB) Security of Payment Legislation, DevB Management of Contractor List, Architectural Services Department (ArchSD) Liaison Group, Electrical and Mechanical Services Department (EMSD) Mandatory Implementation of Building Energy Codes (MBEC) Technical Taskforce, EMSD Government and Trade Liaison Group for Next Generation Refrigerant, Construction Industry Council (CIC) BIM Working Group, and CIC Steering Committee for Consultancy Study on Improving the Environmental Performance of Hong Kong Construction Industry.

Working hand in hand with EMSD, HKFEMC, VTC and other institutions, ACRA has been taking an active role in organizing and supporting different kinds of events to promote the industry including the Education & Career Expo 2018 at HKCEC in Feb 2018, Worldskills Competition HK 2018, members offering placement for EMSD/ VTC various training schemes in addition to organizing various training courses for members.

Oversea technical visit is one of the most important annual events in ACRA for years, members would be able to share the latest technology development as well as keep close contact with counterparts in the world. This year, ACRA received overwhelmed support from members as well as ASHARE – HK Chapter, Hong Kong Association of Energy Engineers (HKAEE) and Hong Kong Registered Ventilation Contractor Association (HKRVCA), a joint delegation of 36 persons was formed joining the Technical Visit to China Refrigerant Expo 2018 Beijing in April. Also, ACRA delegation extended their arm and reached Europe this year, a delegation of 19 persons was formed joining Technical Visit to Expo in Milan and Factory Visit in Venice in March 2018. Not just the technical aspect, but also the cohesiveness between members has been building stronger.

Recently, we heard members would like to know more about the HK\$1 billion Construction Innovation and Technology Fund as proposed by the Financial Secretary in his 2018-2019 Budget delivery which aiming to boost the capacities of enterprises and practitioners in the construction industry to adopt new technology and support the industry to harness innovative technology. As discussed at the various stakeholder engagements organized by CIC & DevB, eligible contractors can apply for financial support from the Fund to acquire the software and hardware as well as to nurture the expertise required for using local and overseas innovative construction technologies, such as Building Information Modelling (BIM), steel reinforcing bar products produced in local prefabrication yards and Modular Integrated Construction (MiC) when carrying out construction projects. We look forward to receiving the implementation arrangements from CIC for effective use of the Fund to meet the industry's need.

Taking this opportunity, we would like to express our gratitude to members and friends for their efforts and contributions. Happy summer!

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# Tax Concession and Funding for Improving Energy Efficiency

According to the Electrical and Mechanical Services Department (EMSD), with effective from 1 Jan 2018, all types of new and existing buildings achieved energy performance outperform the minimum statutory requirements under the Buildings Energy Efficiency Ordinance (BEEO), with obtaining certificates of good building energy performance through the BEAM Plus Assessment System ("BEAM Plus") managed by the Hong Kong Green Building Council (HKGBC); or other internationally recognized building environmental assessment systems, can apply for the Energy Efficiency Registration Scheme for Buildings (EERSB) to enjoy the possible tax concession.

In other words, capital expenditure incurred on the construction of energy efficient building installations including air conditioning systems, lighting, electrical installations and so on registered under EERSB may be eligible for accelerated tax deduction.

## **Tax Deduction will be Claimed in Full in 1 Year by Procuring Eligible Installations**

Regarding energy efficient systems, a number of centrifugal chillers and air-cooled chillers available in Hong Kong now are rated Platinum from HK G-PASS issuing by HKGBC. This proves that from energy efficiency, operating noise, eco-friendly refrigerant, refrigerant leakage rate, environmental management system to recyclability, these chillers achieve an extraordinary standard.

Most vital of all, as mentioned in the 2018-19 Budget, the Government will enhance tax concessions for capital expenditure incurred by enterprises in procuring eligible energy efficient building installations and renewable energy devices by allowing tax deduction to be claimed in full in 1 year instead of the current time frame of 5 years.

Hence, procuring "Green and Efficient" Air-conditioning Systems means that the enterprise will not only enjoy a combination of high-efficiency operation and lower operational costs, but also have the capacity to apply for tax concessions by getting a desirable level under the "BEAM Plus" for buildings or interiors.

For ease of reference, the followings are highlights of basic requirements for obtaining the certificate of EERSB:

- i) Overall final assessment rating at the "Bronze" level or above under the "BEAM Plus" for buildings or interiors as promulgated by the HKGBC, or
- ii) Individual aspect scoring (final assessment stage) at the "Bronze/Satisfactory" level or above under Energy Use (EU) category in any "BEAM Plus" for buildings or interiors as promulgated by the HKGBC, or
- iii) The minimum award grading (or above) in other internationally recognized building environmental assessment system for buildings or interiors. Applicant shall provide necessary supporting documents for justifying the compliance with the energy efficiency performance under this Scheme.



### CLP Eco Building Fund

CLP has established the Eco Building Fund since 2014 to provide financial assistance to eligible residential buildings and their nearby ancillary facilities (e.g. clubhouse, podium, property management office) to implement energy efficiency improvement works. From 1 October 2018 onwards, the scope of the Fund will be extended to cover eligible commercial buildings, industrial buildings and composite buildings and their nearby ancillary facilities by carrying out retrofitting projects for improving energy efficiency in communal areas.

The installations may include any of the followings:

- Lighting
- Air-Conditioning
- Lift and Escalator
- Electrical installation (e.g. water pump)

Despite retrofitting projects, the following projects will also be supported by the Fund:

- Retro-commissioning (Open for application at a later date)
- Implementation of smart technologies in building

### Funding Mechanism

The amount of funding for retrofitting projects will be around 10% to 50% of the actual project expenditure, depending on the type of building, the type of installation and project duration. Project expenditure shall restrict to the cost of energy efficiency installations and the cost of Qualified Service Provider appointment and accounting audit where necessary. The amount of funding for retro-commissioning and implementation of smart technologies in building will depend on the amount of the energy saving and project duration. The more energy the project will save and the sooner the project will be completed, the more funding will be granted. The funding will be disbursed to applicants in the form of reimbursement, i.e. the applicant has to settle the payment on its own before seeking reimbursement from the Fund.

For more detailed information, please visit the following link at

**<https://www.clp.com.hk/en/community-and-environment/community-funds/eco-building-fund>**.

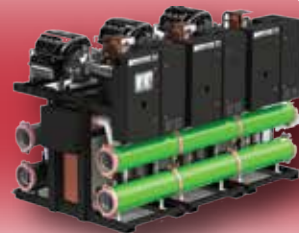


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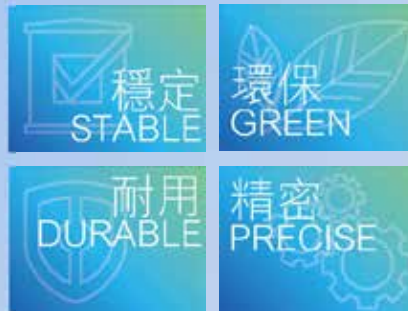
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## People Interview

with **Mr. Vincent TSE**

### 謝錦泉先生

今期我們很榮幸邀請到在屋宇設備工程行業擁有多年經驗的謝錦泉先生 (Mr. Vincent Tse) 接受本會訪問

Vincent現任 (WSP) 中國區、機電部董事總經理，曾任HKIE BSE主席，ASHRAE HK Chapter主席及歷界ASHRAE Board of Governor，亦曾參予協助撰寫第一版香港消防局的COP，在屋宇設備顧問工作了超過40年期間，處理過的項目多不勝數，包括灣仔會展中心、新世界中心、星加坡會展中心及澳門金沙酒店、威尼斯及巴黎人酒店、地鐵上蓋項目及各公私立醫院等，成績超卓，且難得仍懷一片謙虛的心。

### 童年夢想 翱翔天空

與其他男孩子一樣，Vincent童年對飛機有著濃厚的興趣，所以進入香港理工學院時揀選了機械工程，1975年完成高級文憑課程後順理成章進入了香港飛機工程公司，但幾個月後發覺理想和現實有很大的出入，剛巧英國有一個訓練計劃，Vincent就參加了，其後進入了University of Manchester Institute of Science and Technology修讀屋宇設備工程碩士課程。完成課程後，便回香港投入工程界，加入J. Roger Preston (JRP)，工作兩年多後Vincent渴望有更大的發展空間，遂加入了當時規模較小的Parsons Brinckerhoff Asia (PBA)，負責當時新世界中心及麗晶酒店的節省能源項目，奠下其後謝先生與新世界有長久合作的根基。接着更擴充業務至星加坡及中國內地。

### 因緣際遇 奠下基石

雖然Vincent帶領過的項目繁多，但令他領悟最深的是一座位於灣仔的教堂連辦公室大樓。因他和家人都是該教堂的教友，他並義不容辭負責有關機電系統設計。工程順利接近尾聲，但就在開幕崇拜前的數天，調試過程中發現冷氣設計出現問題。在開幕前一天，由於是公眾假期及完全不能聯絡上其他工作同事。猶幸得景福潘大來先生臨危協助，冷氣問題在幾經辛苦下，漸見曙光，但還未來得及開心時，禍不單行，竟然發覺教堂又發生水浸問題，真是晴天霹靂。感謝得神的憐憫寬恕，教堂開幕典禮得以順利完成。

謝先生因為設計這禮拜堂與獲得關永康建築師的賞識，有機會與關永康建築師及Percy Thomas Partnership共同設計靈實醫院及香港大學醫學院大樓，這機會亦給Vincent另一人生工作轉捩點，奠下醫院的設計根基令港九公私營醫院項目的合約接踵而來。

另一轉捩點是在2001年，業務出現停滯不前，因緣際會下，又得神的憐憫及協助，Vincent有機會投標並取得高度330米的北京國貿中心。這項目的經驗造就了其後PBA在超高層（高於300米）及極高層（高於600米）的大廈的優勢，而世界最高的二十幢大廈中，Vincent及其團隊參與了其中十三幢的機電及垂直升降系統設計或審核，Vincent努力不懈、創新嘗試的個性幫助他將業務推到一個又一個的高峯。



### 待人謙虛 勇於認錯

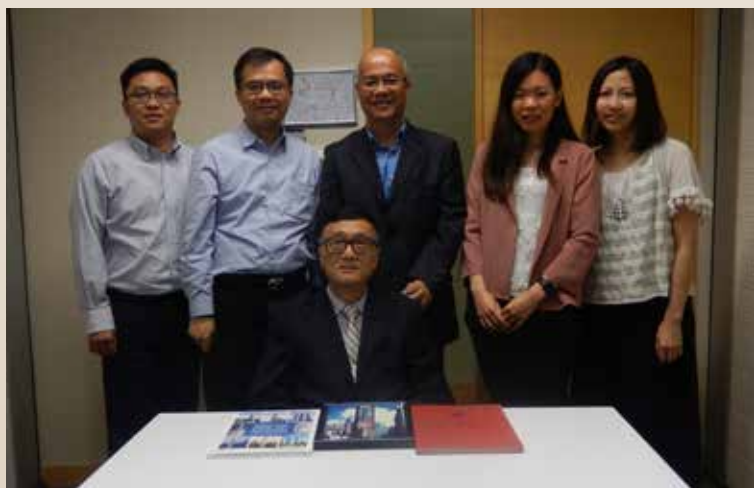
雖然在別人眼中，Vincent是一個很能幹的人，但他仍很謙虛說很多人比他更“叻”，他認為做人切不要驕傲，因為驕傲會產生競爭和妒忌，以自我為中心的結果最後是一個輸家。他認為如做錯事而不認，便不會在從中找出改善的方法及自己的弱點，只會一次又一次再犯上同樣的錯誤。為了加深及瞭解自己的信仰，Vincent百忙之中還抽時間去修讀了三年的神學課程，為自己的心靈加添養料。

### 管理哲學 看別人比自己強及多顧別人的事

Vincent身處高層多年，管理心得是要多幫助下屬而不是管或罵。他曾以“為甚麼上司多有自閉症？”為題作講座，其中自閉症的徵狀大都出現於上司身上，例如以自我為中心、無聆聽技巧、完美主義、自私等。而嫉妒、仇恨、驕傲等更使人產生焦慮、憤怒和自責，甚至生病，對自己或團隊都並沒有好處。作為管理人員應以人為中心，以謙卑感恩之心，對下屬寬恕包容忍耐，創造一個和平喜樂的工作氣氛。但知易行難，Vincent偶然也被下屬氣得怒火中燒，但心情平伏後，仍繼續幫助下屬解決問題。他以聖經浪子回頭的故事，說明如果一個人做錯事而能真心悔改，再犯錯的機會較少，比從沒做錯的人更來得矜貴。要做一個好上司，首先要均衡生活，將職業、個人、家庭、經濟等等分優先次序，以“開公感恩信望愛”七個好心再加上“眼耳口鼻身心靈”七個好器官的配合，必能身體健康，事事順利。雖然Vincent經常幫助下屬，但仍經常提醒自己即使幫了人，亦切記不可在別人面前領功，因為這是責任和使命。Vincent重視培訓，現有的團隊大部份都是自己親手培訓出來，工作上合作無間，即使轉到其他工作崗位或在其他公司有更好發展，但仍能夠保持對Vincent心存感激。

### 香港未來 優質創新

Vincent覺得現有的工程界要繼續創新，加強培訓人材從而保持香港的優質服務才可對抗其他地方在量和價格的優勢。最後，他忠告後輩切記不要驕傲，要事事虛心勤奮及常以助人為樂，施比受更為有福。







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# Sustaine



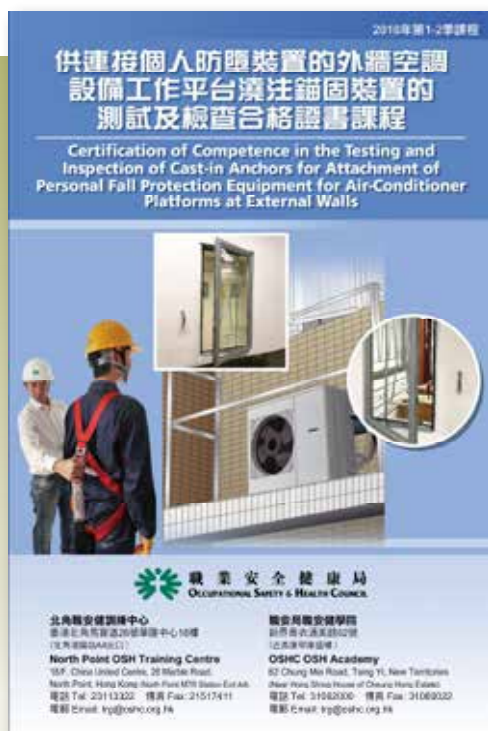
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## **Our Projects:**

- \* Public Indoor Swimming Pool: Kennedy Town; Kwun Tong; Tuen Mun (NW); Tung Chung
- \* Public Facility: Tsing Yi Sport Centre; Hong Kong Sport Institute; Yuen Long Library; Macpherson Indoor Stadium; Ko Shan Theatre; TKO Velodrome; Shatin Yuen Chau Kok Sport Centre; TKO Sport Centre & Public Library; Environmental Hygiene Offices; Sham Tseng Sewage Treatment Works; Stonecutter Sewage Treatment Works; Yuen Long Sewage Treatment Works
- \* School: ISF Academy; Malvern College; Canadian International School; French International School; Diocesan Girl School; Shrewsbury International School; Hang Seng Management School; University of Hong Kong; TKO Fire Services Training School
- \* Hotel: Grand Hyatt; Marco Polo; Shangri-La; SJM Grand Lisboa; Ocean Park Marriot; Disney's Hollywood; YMCA; Holiday Inn Express; Dorsett; Hotel COZI; Wharney Gaungdong
- \* Commercial & Residential Clubhouse: Cathay Pacific Airways - The Pier & The Bridge; Leighton Hill; Pavilia Hill; Vineyard; Harbor One; Parc Inverness; Sky Park; Park Signature; TKO Plaza; Capri; M Residence; Nova City; Deep Water Bay 8-12; Kai Tak 6541/6525/6527; Ho Man Tin 11227/11228; Shatin 56A/579; TMTL 423
- \* Data Centre & Laboratory: HSBC Data Centre; Equinix; Hong Kong Science Park; Macau Grand Prix Control Room; Public Works Central Laboratory Building



# 高處工作安全



## 外牆設備維修安全推廣活動



沒有周詳的設計，維修人員需踏上冷氣散熱器作為出入平台通道。澆注錨固裝置更在難以測試及扣上的位置。機疊機更令維修難上加難。

高處工作已成空調設備工程的一部份，例如安裝和維修窗口式或分體式空調機工程。為進行有關工程，工人需在外牆空調設備工作平台進行高處工作。今期分享近月有關高處工作安全的消息：

### 1. 外牆設備維修安全推廣活動

近年樓宇興旺，住宅單位落成量持續處於高水平，新穎樓宇外形設計更顯特色，但卻衍生外牆設備，例如分體冷氣機，喉管等維修時的安全問題。雖然新落成大廈都設有吊船作維修之用，但位置及載重量的限制，對冷氣維修人員都構成一定的風險，加上昂貴的租用及保險費用，亦令小業主及維修承辦商產生不必要的誤會。屋宇署在2016年12月發出「建築物外部高處空調機保養及維修通道及安全設施設計」指引，雖然增大擺放分體冷氣機散熱器的平台面積，但在樓宇設計時每每未有周詳的考慮及徵詢前線維修人員的建議，甚或將冷氣機散熱器安裝在隱蔽的位置或「機疊機」情況。隨著設備的老化，增加了對維修的需求，以上問題日趨嚴重。因此，業界一群集商界、勞工界及專業界發起以「齊推安全，共享平台」的理念，在2018年5月7日舉辦了一個『外牆設備維修安全推廣活動』。

活動分兩部份，該日上午，有關政府部門代表，立法會議員、勞工界及專業界代表出席會議，交流在外牆設備維修安全的意見，勞工界代表亦表達對現行情況的憂慮及無奈。令人意外的是外牆設備維修加重了消防處高處拯救隊（High Angle Rescue Team）的工作量。該隊需除出動拯救外牆拯救遇險的維修人員外，亦需定期演習在高層樓宇拯救工作，新建樓宇外形款式層出不窮，更增加消防員的拯救難度。同日下午，百多名業界人士參加了主題研討會，透過討論，加深與會人士對外牆設備維修安全的認識及了解設計安全（Design for Safety）立法的迫切性。

研討會後，各與會人士亦參觀1:1模擬實境，體驗到依據同一指引，但周詳的設計和擺放設備位置，可減低工作風險。另外，場內亦設有一部可升降的吊船，令嘉賓可親身體驗在吊船伸手不能觸到冷氣機的無奈及半空搖晃「吊吊掬」的感覺。本會作為業界的重要持份者，會長胡志輝先生亦有出席研討會，與其他嘉賓交流意見。





相同的面積，相同冷量。良好的設計，維修人員可安全出入平台，測試及扣上澆注錨固裝置。足夠位置維修冷氣機、水管及氣喉



多款式的澆注錨固裝置，可應付各類型的要求。

示範吊船並不可完全應付維修外牆設備的需要，更經常「吊吊掬」。

希望政府能正視這個問題，能制定法例規管設計新建樓宇時能考慮外牆維修的安全，而對現有樓宇的維修能提供切實可行改善的方案。這個活動是一個開始，業界爭取外牆維修安全的努力將會繼續。

## 2. 高處工作安全概覽

勞工處曾印製了多本有關離地工作 / 高處工作的刊物，讓持責者了解進行相關工作應注意的風險和採取的安全措施。為進一步讓持責者了解進行相關工作的風險及安全預防措施，在2018年3月出版《高處工作安全概覽》，簡介一般離地工作/高處工作的安全資料及重點，第一部分介紹一般適用於在離地面少於2米之處工作的工作台須注意的相關安全事項；第二部分涵蓋在離地面等或高於2米之處工作應採取的安全措施，包括使用竹棚架、金屬棚架、懸空式竹棚架、吊船、動力操作升降工作台等。其中關於冷氣行業的部份在6.6.2項的“曾接受職業安全健康局專業訓練的「合資格人士」，可對澆注錨固裝置進行檢查及測試”。雖然只有小部份現有樓宇的冷氣機平台設有此項裝置，但隨著有關部門的推廣及更多款式的選擇，相信發展商都樂意在新建樓宇加設此裝置。

## 3. 錨固裝置 (Cast-in Anchor) 裝置測試及檢查課程

職業安全健康局特別為冷氣從業員舉辦澆注錨固裝置 (Cast-in Anchor) 裝置測試及檢查課程 (課程編號 CACP)，內容包括3小時理論及4小時實習，考試合格者，可成為檢查及測試澆注錨固裝置的「合資格人士」。詳情可登入職業安全健康局網頁

<https://eform.oshc.org.hk/course/tchi/course/ListCourse.asp?TopicID=3> 查詢

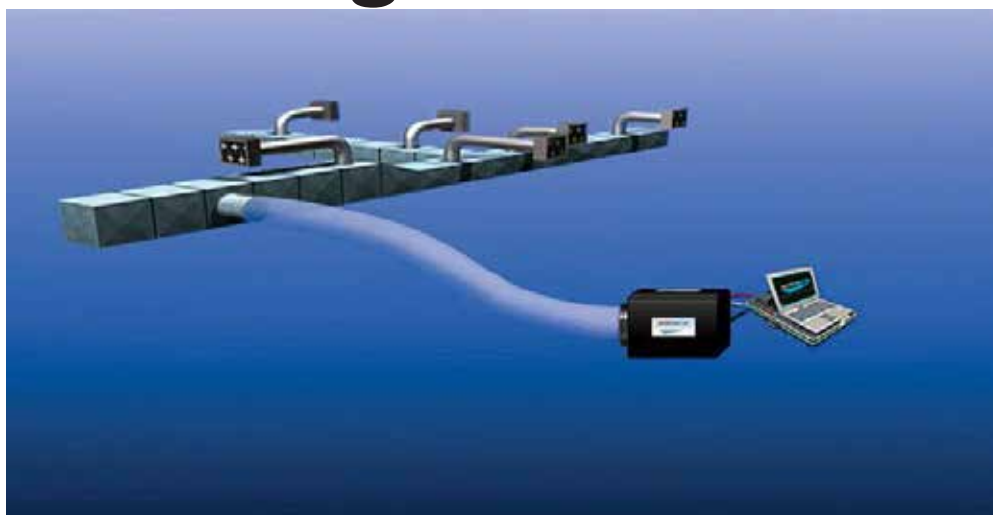


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## Wire Hanging System

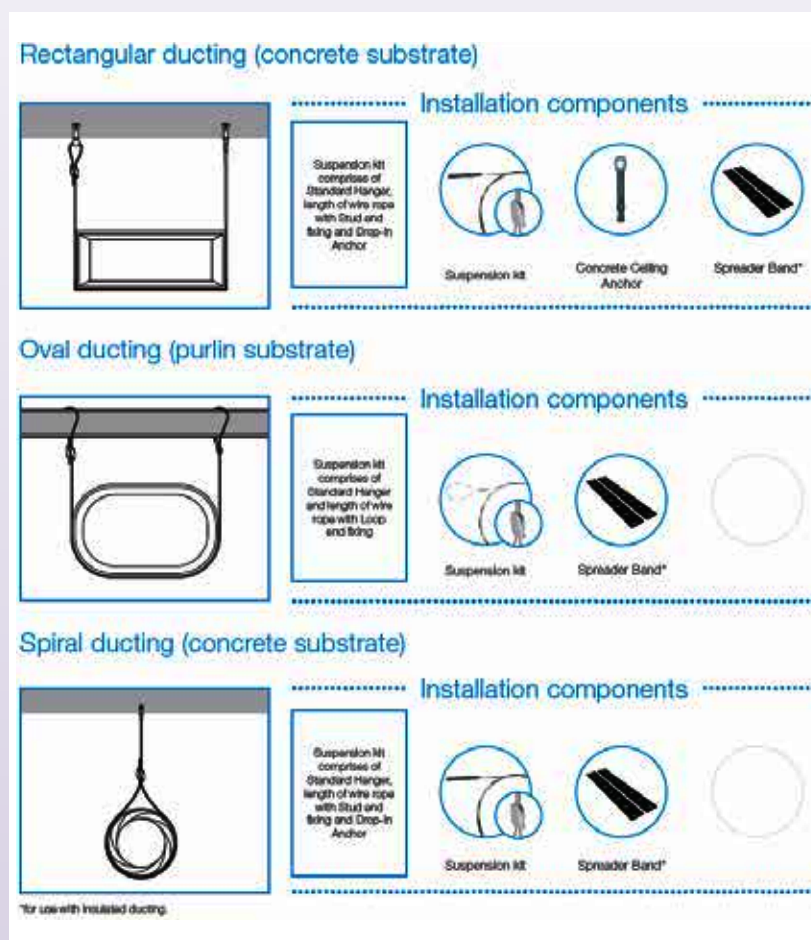
### Introduction

For the past 15 years, an alternative method for the suspension of HVAC systems has been gaining in popularity around the world. Wire hanging system offers a fast and lightweight alternative to traditional heavy and cumbersome threaded rod and chain solutions.

Wire hanging system is typically supplied as complete suspension kit, comprising of a hanger and a high-tensile wire rope with a choice of fixing attached to it. The hanger incorporates a self-locking fastener mechanism that not only secures the wire rope, but also allows adjustment of the installation height.

Wire hanging system is ideal to enable quick and easy installation of a variety of MEP (mechanical, electrical and plumbing) services, HVAC, signage, acoustic baffles and much more. For HVAC applications, versatile wire hangings system can be used to suspend rectangular ducting, spiral ducting, oval ducting, PI foam ducting, fabric ducting, swirl diffusers plenum boxes, air conditioning units, refrigerant pipes and condensate pipes.

The diagram below details example installation methods using wire:



### Wire Hanging System vs. Traditional Method

One of the main advantages of wire hanging system is that it is typically supplied in a 'made to measure' kit, with the correct length of wire for the application and dimensions of drop that are required, and the finished product is supplied cut-to-length with all of the materials required for completing a job. This contrasts with threaded rod, which is supplied in bulk and cut to length generating waste on each rod.

This method of supply for the wire hanging system contributes in time-saving associated with the traditional suspension installation, as all materials are provided and to hand. It also indicates that there is no wire wastage on site and throughout manufacturing since lengths of wire do not need to be cut to fit and it is cut into length from reels respectively. As such, the wire hanging system can achieve an optimum and more sustainable use of raw materials.

Other Advantages of Wire Hanging Systems include:

- Efficient and Cost-effective
  - Up to six times faster for installation compared with threaded rod and chain suspension system leading to less time required for project completion
- Lightweight
  - With 150 lengths of 3 m M10 threaded rod weighing 225 kg, the similar wire hanging kits weighs only 9.7 kg which means less weight of the building structure benefiting the handing health and safety matters



- Environmentally-friendly
  - Fewer components leading a reduction in embodied CO2 of up to 97%
- Strong and Versatile
  - System has designated safe working loads. Unlike threaded rod, wire can be hung at angles up to 60° from vertical (i.e. the safe working load is reduced as the angle increases)
- Global Standards Approved System
  - Holds worldwide certification – SMACNA, UL, DW144, TUV, Lloyds Register, and ISO9001 offering safety, quality and durability assurances
- Supplied in Ready-to-Use Kits
  - No hot works and cutting required on-site, easier site deliveries and less compulsory on-site storage space

### Examples

#### Component Reduction

Wire Hanging System	Traditional Method
1 x suspension kit 1 x concrete anchor	2 x drop-in anchor 2 x cut lengths of channel 2 x bolts 2 x cut lengths of rod 6 x nuts 6 x washers 2 x channel nuts

#### Weight Minimization

Wire Hanging System				Traditional Method	
Qty of Wire Hanging Kits (nos.)	Length (m)	Total Length (m)	Total Weight (kg)	Equivalent Length in T. Rod (m)	Rod Weight (M10 with no additional fittings) (kg)
1,600	4	6,400	161	6,400	3,200
600	4	2,400	128	2,400	1,200
<b>Total Weight of Suspension Products (kg)</b>			<b>289</b>	<b>/</b>	<b>4,400</b>

#### Time-Saving

Activity (per support)	Total Time Taken (minutes)	
	Wire Hanging System	Traditional Method
Mark, measure, drill 2 holes and install anchors	4	4
Cut 1 piece of channel	N/A	3
Cut 5 pieces of M8 threaded rod	N/A	5
Make up pair of 5 drop rod and channel support arrangements	N/A	20
Lift and install 450 mm duct to support arrangement	7	6
<b>Total Time Taken (minutes)</b>	<b>11</b>	<b>38</b>

### Limitations

There are some limitations to the wire hanging system. It can only be used in dry and air-conditioned environments while it is inappropriate to apply in chlorinated or chemically corrosive atmospheres. Stainless steel hangers can be considered for high to saturated humid environments after validation by a competent person. In addition, wire hanging system is not suitable for swimming pools as well as lifting either by crane or as part of a pulley system which should be used to suspend static loads only. Another limitation is that hangers should not be painted prior to installation.

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## Xiqu Centre at West Kowloon Cultural District, Hong Kong



**Project Name** : Xiqu Centre at West Kowloon Cultural District

**Member's Role in the Project** : Installation of a Technologically Advanced Ventilation / Air- Conditioning System

**ACRA Member** : Skyforce Engineering Limited

### Project Overview

Xiqu Center is a traditional Chinese opera theatre at West Kowloon Cultural District, Hong Kong, which is an 8-storey building with a total floor area of 13,800 m<sup>2</sup>. It comprises of a Grand Theatre with 1,073 seats, a Tea House Theatre with 200 seats, eight professional studios and a seminar hall, all of which are specially designed in terms of temperature, humidity and acoustic control in order to meet the stringent requirements specified for a variety of functions and activities.

### Challenges of Installation for Ventilation / Air-Conditioning System

Cutting-edge designs and installation methods have been extensively and prudently applied to overcome many of the various challenges encountered in the course of installation and subsequent operations.

### Centralized Chilled Water Plant

A closed loop chilled water piping system is provided to distribute chilled water to the air handling unit, primary air handling units and fan coil units located in various areas of the development. Two variable speed drive (VSD) water-cooled chillers rated at 2,400kW (683TR) and one continuous water-cooled chiller rated at 800kW (228TR)

are provided at the Chiller Plant Room situated at Level B2/F. The larger chillers operate as duty during daytime, and act as back-up during night operation. The smaller chiller provides cooling for night time operation and essential load back-up for the data centre and other essential loads. The main chilled water system is comprised of five variable flow primary chilled water pumps (3 duty and 2 standby) to serve the chillers and will be arranged to meet the duty/standby operation arrangement as described earlier. Each chilled water pump is provided to complete with variable speed drive (VSD). Water treatment plant is provided via a chemical dosing system for the chilled water. The chilled water distribution from the central water-cooled chiller plant works on single loop with differential by-pass with variable primary flow principle and that each chiller is included with a chilled water pump and VSD. The chilled water pumps is operated with time leading its associated chiller and cut-out when the associated chiller is turned off. In brief, the chilled water is distributed to the centralized air conditioning system of the entire building and the amount of chilled water supply is varied in accordance with the actual cooling demand.

### Heat Rejection System

The condensing water system includes two evaporative induced type cooling towers each rated at 3250kW (925TR) are located within an external compound at Level 5/F. Every cooling tower has sufficient heat rejection capacity to reject heat from an individual chiller to atmosphere through the condensing water reticulation system. The heat rejection system embraces three variable flow primary condensing water pumps (2 duty and 1 standby) to circulate condensing water between the chiller condensers and the cooling towers to reject heat from the chilled water to atmosphere. Two variable flow primary condensing water pumps (1 duty and 1 standby) circulates condensing water between the smaller chiller condenser and the cooling towers to reject heat from the chilled water to atmosphere. The condensing water pumps is located within the Chilled Water Plant Room at Level B2/F. The frequency of the pump motor is controlled to keep the temperature difference of the entering and leaving condenser water in order to reduce energy consumption of pumps. The system cooling demand is calculated by a stand-alone DDC controller utilizing input data such as the chilled water flow rate, supply and return chilled water temperature. The chilled water plant operates under the control of the Building Management System (BMS). The cooling tower plant is provided with adequate noise treatment (i.e. mounted on anti-vibration mounts for isolation from the building structure in order to achieve the acceptable noise level (ANL) in the area).





## Atrium

The main entrance of the Centre leads directly to a circular atrium through a large podium, where there are shops and music as well as exhibitions offered occasionally.

A natural ventilation system is put in place inside the atrium for serving two purposes –provides thermal comfort condition and reduces energy consumption. The mechanical ventilation system is installed at the high side wall to provide natural fresh air circulation creating a comfortable environment to visitors.

The adoption of a natural ventilation system has given rise to challenges in the installation of the smoke extraction system. A number of precise adjustments are required in the course of installation to meet the statutory requirements as well as the design computational fluid dynamics (CFD) model. In addition, the unusually high ceiling of the atrium, where the smoke extraction system is installed, increases the difficulty level for the installation

process. To overcome this, specific installation strategy is planned along with well-coordination with other trades to conduct installation with a smooth working sequence.



## Grand Theatre

Located at the 4<sup>th</sup> floor of the Centre, the Grand Theatre offers a world-class venue with an elegant and streamlined design. The theatre is fitted with avant-garde flying and lighting systems, both tailor-made for the requirements of different performances. All seats are designed in angled so as to give the audience the best eyesight to enjoy the performance from all settings of the theatre. Going to the backstage, there are six individual dressing rooms for each of the main Xiqu roles, and three large communal dressing rooms with amenities for 20 to 30 people, which are perfectly suited for all types of program.

A control room is uniquely positioned inside the Grand Theatre allowing precise control of sound production for performances of all kinds. In order to reduce undesirable noises, an air conditioning system, complemented with acoustic treatment, has been installed. Air distribution/cooling devices are placed at the flat roof of the Centre to ensure that the noise source is remote from the theatre, thus its impact on performances inside the theatre is minimized. In addition, specific acoustic accessories such as acoustic enclosures and attenuators are provided to reduce the transmission of noise into the theatre through the air ductwork. To provide an air motion characteristic with acoustic features, the air-flow distribution system is equipped with floor-mounted outlets, instead of the traditional ceiling mounting. Air supply is permeated from the air plenum installed under the seat platform while the return air inlets are placed about 15 metres above the seat platform. Such arrangement not only meets the acoustic requirements but also improves the efficiency of air circulation as compared with the traditional method.

Last but not least, smoke ventilation shall be provided to stage area, theatre auditorium and Main Theatre lobby in conjunction with a proscenium fire curtain to prevent smoke spread into the auditorium seating areas.



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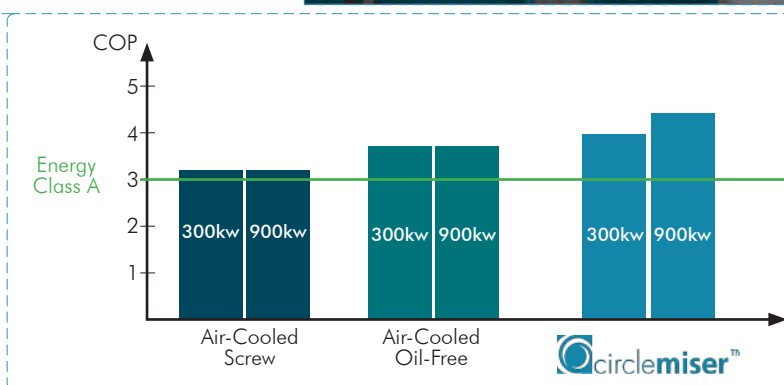
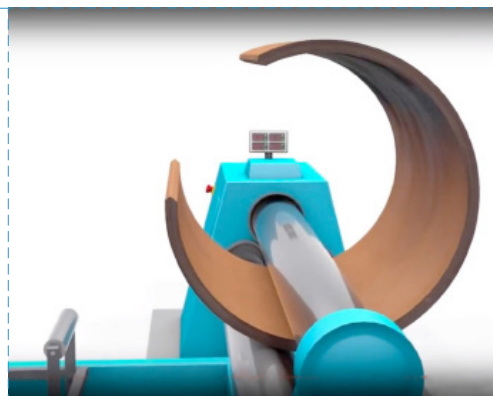
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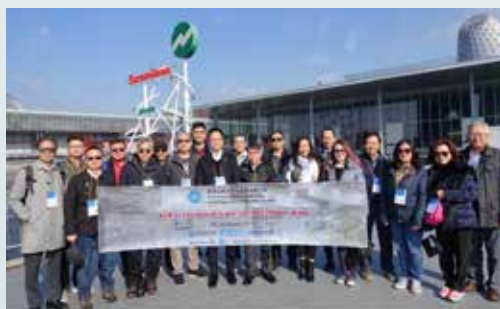


## ACRA Oversea Trip - Visiting MCE Milan, Italy

As the world aims for a more comfortable living, efficient, integrated and eco friendly environment, our HVAC&R industry is trying our best to adopt these demands. The first ACRA's trip to Europe hosted from 10th to 18th March 2018 visited one of the most important HVAC&R exhibitions, the **MCE Italy (International Exhibition on Heating, Air-Conditioning, Refrigeration, Plumbing Technology, Water Treatment and Bathroom Fittings)** which was sponsored by our member – **WELCOME AIR-TECH LTD**. The delegation for this technical visit was formed by almost twenty of our members to acquire the latest information and technology for the HVAC&R industry from the exhibition as well as visiting several manufacturers of related equipment and materials.

### MCE - Mostra Convegno Expocomfort

Devised in 1960 as Italy's first trade exhibition, Mostra Convegno Expocomfort is the world's leading biennial international exhibition dedicated to residential and industrial installations: heating, air-conditioning, refrigeration, hardware, valves, sanitary technology, bathroom, water treatment, tools, renewable energy sources and services. Our delegation was pleased to participate in the visit to this MCE located in the central of Milan comprising of over 2,400 exhibitors from all around the world.





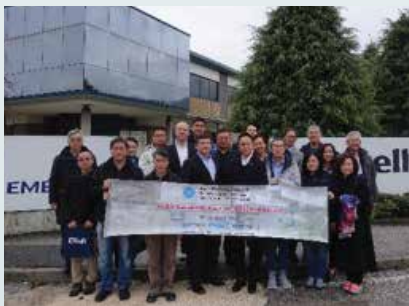


### Automation Manufacturing of Air Handling Unit (AHU)

The delegation made a factory visit to an AHU manufacturer located in Busnago near to Milan of Italy. It is an advanced production plant equipped with automation manufacturing process. Besides the headquarter in Italy, they also have several production plants all over the world including China and Malaysia, which are serving the Asian Market. In the past 30 years, their AHUs have been installed in Hong Kong & Macau, China with wide range of application such as Data Centre, Hospitals, Casino, Pharmaceutical Factories, Government and other Commercial Buildings.

### Air Conditioning & Chiller System

Another plant that our delegates visited was the Chiller factory at Ronchi dei Legionari next to Venezia. They focused on designing and developing special chillers having high quality and efficiency with environmental sustainability concern. In Hong Kong, they already have quite a lot of job references such as Hospital, Food Industry, University and Institution, Government and Commercial Buildings. The Asian market is mostly serviced by their Thailand factory and they just launched their ultra-high efficiency air cooled oil-free chiller which is able to achieve COP up to 4.35.



### Refrigeration Control Solution

The last stop of the trip was at the plant for Refrigeration Control Solution in Refrigeration, Conditioning and Cooking fields at Venice. Introducing their research in the session of HVAC and refrigerant application, briefing their ongoing research projects and latest product ranges. The factory visit and seminar discussion facilitated knowledge sharing between the manufacturer engineers and our members, which was really a wonderful learning experience for our delegation team.

Taking this opportunity, we would like to express our sincere gratitude to our sponsor **WELCOME AIR-TECH LTD.** for their generous sponsorship on this trip to Italy which undoubtedly allowed our members to broaden their perspective from this valuable experience outside of Asia.



## 中國制冷展 2018

第二十九屆中國制冷展，於2018年4月9日至11日在北京中國國際展覽中心（新館）隆重舉行。作為多年的支持者，香港空調及冷凍商會，香港能源工程師學會，香港註冊通風系統承建商協會和美國ASHRAE香港分會受到中國制冷學會的邀請組織了一行三十多人的代表團出席了這次盛會。

中國制冷展現已成為全球暖通制冷空調領域規模最大的展會之一，本屆參展單位超過1,400家。有來自全球30多個國家和地區的行業相關企業和機構參與展覽，匯聚了全球制冷暖通空調行業的各大知名品牌紛紛亮出最耀眼的產品和最前沿的技術，其中包括美國，歐洲，韓國，印度的國家參展團，吸引了有近六萬名來自全球100多個國家和地區的專業觀眾和用戶前來參觀洽談。

今年的主題是“提質增效，平衡發展，不忘初心，共創未來”，契合我國目前的政治經濟形勢。圍繞該主題，在展會期間還舉辦了很多內容豐富的主題論壇，專題研討會和多場技術交流會，全面解釋國家相關政策，關注行業熱點問題，行業技術創新情況和未來發展方向。本屆展會還繼續開展“中國制冷展創新產品”推薦活動，臭氧氣候技術路演及圓桌會議，另外還開辟相關產品及技術方案專區，組織目標觀眾參觀，開展深度交流互動等諸多展會活動。



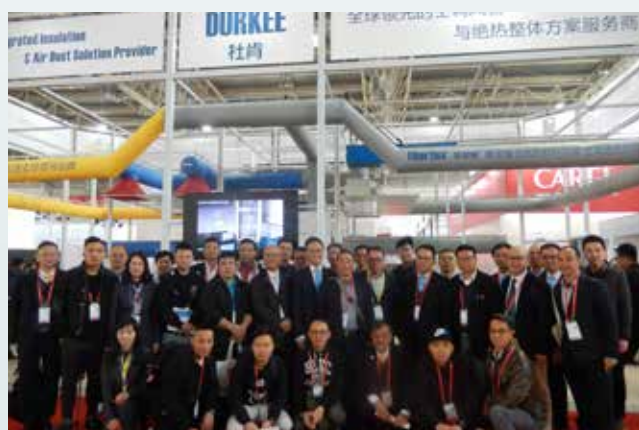


現在讓我們一起回顧一下，看有哪些展台和哪些展品驚艷了你！

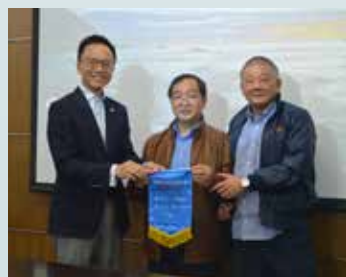
開展首日中國三大品牌各有特色。“格力”全球首發 GMV6 人工智能多聯機，通過人工智能技術，提供待機低能耗，位置自適應和機組自診斷三大能力，離心式冷水機組則採用R1233zd (E) 新型環保冷媒。而“美的”中央空調在展會正式發佈了“全屋智慧環境系統解決方案”、“空氣源熱泵4+2全變頻戰略”和“M-BMS智慧樓宇應用實例”三大戰略。另外，“海爾”中央空調攜手中國移動推出全球首個雲平台行業解決方案，全球首發風冷熱泵磁懸浮中央空調，將磁懸浮中央空調應用到制熱領域。

在美國品牌方面“開利”和“特靈”都沒有參展。“江森自控”則展示了新冷媒YZ變頻磁懸浮離心式冷水機組，而“麥克維爾”則推出新冷媒雙級壓縮磁懸浮變頻離心式冷水機組，並展示了多款模塊機組和全系列家用中央空調。

其它方面，“天加”特色產品有“潔淨中央空調系統”、“一體化節電空調”和“冷熱電聯產系統”。另外，參展的香港廠家有“明新”水塔，“Smardt”新的1,000冷噸水冷式變頻磁懸浮離心式冷水機組等等。



除了參觀制冷展外，團隊在十號早上兵分兩路，一部份團友參加了美國ASHRAE香港分會在北京臨空皇冠假日酒店舉行的半天研討會——“樓宇校驗與運維管理”；另一部份團友則參觀北京科技大學韓靜濤教授的實驗室。下午時份，大家再集合在一起參觀北京方圓大廈全工況高效冷站。翌日早上，團隊參觀了剛於舊年底才開幕位於王府井大街的“中環、皇府”，下午乘直航機回到香港。到此，四日三夜的北京中國制冷展之旅在一片依依不捨的氣氛中順利完成。





## ACRA 56<sup>th</sup> Anniversary Dinner

Our largest event of the year, the 56th ACRA Anniversary Dinner has been hosted at the InterContinental Hong Kong on 27 November 2017 to celebrate the accomplishments ACRA has made for the industry. We are grateful to have invited Mr. SIT Wing Hang, Alfred, JP, Director of Electrical and Mechanical Services Department as our Guest of Honour to deliver us a professional and informative speech regarding the subject of air conditioning industry. The event received overwhelming response with over 650 industry insiders joining to witness the success of ACRA.



Toasting by Council Members and Guest of Honour



Mr. CF Wu – President of ACRA delivered the welcome speech

Mr. Franklin Lau, Chairman of ACRA delivered the vote of thanks



Mr. SIT Wing Hang, Alfred, JP, Director of EMSD – Guest of Honour elaborated a professional speech

Singing performer of the night – Ms. Moon Lau





# The Caring Company Partnership Expo 2018

Over the years, ACRA has been participating in different caring events accountable for the corporate social responsibility in Hong Kong. On 16 March 2018, The Hong Kong Council of Social Service has organized The Caring Company Partnership Expo 2018 at HKCEC which once again awarded ACRA the Caring Company logo given our unquestionable contribution to the community for 8 consecutive years.



## ACRA Spring Dinner 2018

ACRA is privileged to present our one of the most amusing events of the year - Spring Dinner 2018 which was held at Tsim Sha Tsui on 9 March 2018 gathering our members and professionals in the industry to indulge the delicacies while reveling Chinese New Year. The event was commenced with all council members participating in the opening game to show the longevity of our association. Every participant was enthusiastic with the casual networking, drink, fun games and lucky draw offered that night. Special thanks to the Organizing Committee led by Ms. Fanny Chan, and the assistance of ACRA Youth Committee for the success and gratification of the event. We look forward to seeing you next year.



## The Education & Career Expo 2018

### 「機電新力量」

Embraced with E&M industry insights, ACRA has always tried its best effort to attract new blood. During the Education & Career Expo 2018 at HKCEC from 1<sup>st</sup> to 4<sup>th</sup> February 2018, ACRA was represented by the council



members and youth committee members to promote the benefits and details of joining the air conditioning industry to the visitors and interested parties by sharing their own experience and knowledge. It created a good exposure of ACRA allowing more individuals to comprehend our air conditioning industry.

## Revision Course for Training for Workers in Handling HFC & Blend Type Refrigerants for ArchSD Contracts

ACRA is dedicated to provide comprehensive training to all levels of industry insiders to keep up with the skills and knowledge in order to cope with the latest market trend. On 20 January 2018, a half day revision course was organized for the registered workers in handling HFC & Blend Type Refrigerants for ArchSD contracts at IVE Morrison Hill. The course has deliberated the update of the current development of refrigerants and review of training materials.



## ACRA Year End Party

ACRA organized its blissful Year End Party on 19 Dec 2017 at the venue supplied by Winston Air Conditioning & Engineering (Hong Kong) Company Limited. The place was congregated with participants ranging from council members to youth committee members for celebrating the achievements completed of the entire year. It was definitely an enjoyable night complemented with the old-school Hong Kong snacks in addition to the most exciting



“Doll Grabbing Machine” with dolls sponsored by Daikin which attracted the members to recall their



childhood and give it a shot. The event was simple yet filled with laughter along with scrumptious food and beverages.



# Caring Event 關懷社區活動 2017



## Joyful Lunch 長者萬歲午宴



Jointly with Open Door Ministries (開心社區服務), ACRA has organized the Joyful Lunch for the eighth year that was held at Lam Tin on 9 December 2017. Our volunteering team of 40 passionate persons from our company members participated at the event to serve approx. 200 low-income elderlies of the district to celebrate Winter Solstice Festival. Our ACRA Caring Committee Chairman, Mr. Raymond Synn, would like to express our sincere appreciation to Open Door Ministries, 19 generous sponsors and all volunteers for their support on this event which has completed in great success with compliments received from the elderlies. ACRA will continuously be devoted in organizing and participating in various caring activities so as to provide boundless effort to better serve our community.



## ACRA Golf Day – WEG Motor CUP 2017



The 2017 ACRA Golf Day – WEG Motor Cup has been held at Phoenix Hill on 1 December 2017 with sponsorship by Ritech Engineering & Supply Co. Ltd. This tournament attracted a total of 40 golfers from our prestige members to illustrate their exceptional golfing skills for competing the champion of different category. The participants had a delightful day to enjoy golfing while connecting with individuals from the industry.

## CIC Sports Day

Organized by CIC, the CIC Sports Day has been held in Shatin on 5 November 2017 to encourage the enjoyment from sports benefiting health for practitioners within the construction industry. With the support of ACRA youth committee, we have formed some groups for participating in various sport games to demonstrate our well cohesiveness representing the air conditioning industry. It was a rewarding experience for all of the youth committee members cooperating with one another to achieve the same goal.





A central graphic consisting of five hexagonal images arranged in a circular pattern around a central orange hexagon. The images show: 1) A modern building with a glass facade. 2) A large industrial facility with multiple buildings and a prominent cylindrical tank. 3) A server room with a person standing next to rows of server racks. 4) A modern building with a glass facade. 5) A large industrial facility with multiple buildings and a prominent cylindrical tank.

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## NEW MEMBER

1	Associate Member	Castco Testing Centre Limited	Jan-18
2	Associate Member	Paul Y. (E&M) Contractors Limited	Jan-18
3	Associate Member	Golden Leaf International (Hong Kong) Limited	Jan-18
4	Associate Member	Shun Hing Electric Service Centre Limited	Jan-18
5	Associate Member	Tesa Tape (Hong Kong) Limited	Jan-18
6	Associate Member	United Controls (Hong Kong) Ltd.	Feb-18
7	Associate Member	CLP Power Hong Kong Limited	Mar-18
8	Associate Member	Tung Shing Hardware Co., Ltd.	Mar-18
9	Associate Member	Yuen Fong Air-Condition Products (HK) Limited	Mar-18





# MEMBER LIST



	Company Name	Contact Number	Website / Email	Trade			
ACRA Fellow Members	ATAL Engineering Limited	安樂工程有限公司	2565 3399	www.atal.com.hk	●	●	●
	Carrier Hong Kong Limited	開利 (香港) 有限公司	2694 5618	www.carrier.com.hk	●		●
	Krueger Engineering (Asia) Limited	高雅機電工程有限公司	2860 7333	www.krueger.com.hk	●		
	Newland Engineering Limited	新隆工程有限公司	2967 8620	moshiu@newland.com.hk	●		
	REC Engineering Company Limited	盈電工程有限公司	2619 8888	www.rec-eng.com	●	●	
	Shinryo (Hong Kong) Limited	新菱工程香港有限公司	2237 8624	www.shinryo.com	●		
	Shun Hing Engineering Contracting Company Limited	信興機電工程有限公司	2419 8282	www.shecon.com	●		
	The Jardine Engineering Corporation Limited	怡和機器有限公司	2807 4511	www.jec.com	●	●	●
	Trane Hong Kong	特靈香港	3128 4756	www.tranehk.com	●	●	●
	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	●	●	●
	York International (Northern Asia) Limited	約克國際 (北亞) 有限公司	2590 0012	www.johnsoncontrols.com	●	●	●
	Young's Engineering Company Limited	景福工程有限公司	2235 0900	www.youngs.com.hk	●	●	●
ACRA Ordinary Members	Alliance Contracting Company Limited	聯和承造有限公司	2891 9083	www.alcc.com.hk	●		
	Analogue Technical Agencies Limited	安樂科技有限公司	2565 3399	www.atalbs.com.hk	●		●
	ATAL Building Services Engineering Limited	安樂機電設備工程有限公司	2561 8278	www.atalbs.com.hk	●	●	●
	Bun Kee (International) Limited	彬記 (國際) 有限公司	2748 9319	www.bunkee.com	●		●
	BYME Engineering (Hong Kong) Limited	嘉福機電工程有限公司	2881 6690	www.bymehk.com	●	●	
	Carewin Engineering Limited	嘉榮行工程有限公司	2898 2183	carewin@on-nets.com	●	●	
	Chevalier (E & M Contracting) Limited	其士 (機電工程) 有限公司	2111 4811	www.chevalier.com	●		
	China State Mechanical & Electrical Engineering Limited	中國建築機電工程有限公司	2823 7888	www.cohl.com	●		
	Chun Wo E & M Engineering Limited	俊和機電工程有限公司	3758 8007	www.chunwo.com	●		
	Efatar Environmental Protection Equipment Limited	怡輝環保器材有限公司	2606 6922	www.coldmagicefatar.com.hk	●	●	
	Daikin Airconditioning (Hong Kong) Limited	大金冷氣 (香港) 有限公司	3966 9402	www.daikin.com.hk	●		
	EMR (Asia) Limited		2866 3108	www.EmersonClimateAsia.com	●	●	●
	Fook Loong (HK) Limited	福隆 (香港) 有限公司	2393 7773	www.flhk.com.hk	●		●
	Gammon E&M Limited	金門機電工程有限公司	2516 8823	www.gammonconstruction.com	●		
	Gate Way Valve & Fitting Limited	基法水管配件有限公司	2688 2666	www.gatewayv.com.hk	●		●
	Honeywell Limited	霍尼韋爾 (香港) 有限公司	2331 9133	www.honeywell.com	●	●	●
	Hsin Chong Aster Building Services Limited	新昌亞仕達屋宇設備有限公司	2579 8238	www.hcaster.com	●		
	Johnson Controls Hong Kong Limited	江森自控香港有限公司	2590 0012	www.johnsoncontrols.com	●	●	●
	K-Thorn Engineering Company Limited	旗鋒工程有限公司	2481 2918	main@k-thorn.com	●		
	Lik Kai Engineering Company Limited	力佳工程有限公司	2611 4501	ericzung@likkai.com.hk	●		
	Lucky Engineering Company Limited	運通冷氣電業有限公司	2780 5285	general@luckyeng.com.hk	●		
	McQuay Air-Conditioning Limited	麥克維爾空調有限公司	2893 6261	www.mcquay.com.hk	●	●	●
	MECO Engineering Limited	德寶工程有限公司	2774 8200	meco-engltd@yahoo.com.hk	●		
	Midea Electric (Hong Kong) Limited	美的電器 (香港) 有限公司	3669 4888	www.midea.hk	●	●	●
	Quad-Tech Engineering (Hong Kong) Company Limited	高得工程有限公司	2573 1832	quadtech@hkstar.com	●		
	Raising Engineering Limited	威信工程有限公司	2395 6081	simonsiu@raising.com.hk	●		
	Ryowo (Holding) Limited	菱和 (集團) 有限公司	2391 8381	www.ryowo.com	●	●	
	Siemens Limited	西門子有限公司	2107 6506	andy.wong@siemens.com	●		●
	Skyforce Engineering Limited	天科工程有限公司	2885 1620	info@skyforce.com.hk	●		
	Southa Company Limited	南龍有限公司	2963 7175	www.southa.com	●		●
	Standard Refrigeration & Engineering Company Limited	立德工程有限公司	2781 0871	SRE@hkllpg.com.hk	●	●	●
	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	●	●	
	Technicon Engineering Limited	得力確工程有限公司	3193 1300	technic@technicon.com.hk	●		
	Welcome Air-Tech Limited	偉基空調有限公司	2806 8316	www.saiver-welaire.com.hk	●	●	●
	Westco Air Conditioning Limited	威高冷氣工程有限公司	2426 3123	mandylo@scee.com.hk	●		
ACRA Associate Members	A & R Engineering Company Limited	奇樂工程有限公司	2408 2960	general@arengco.com.hk	●		
	Aires Engineering Company Limited	毅力機電工程有限公司	2658 8856	adrianwong@aires.com.hk	●		
	Air Master International Limited	雅士 (國際) 空調有限公司	2764 0307	winston@airmaster.com.hk	●	●	
	Air Star Air Conditioning Technology Group (Hong Kong) Limited	燕通科技 (香港) 有限公司	2607 4131	www.yantong.cn	●	●	●
	Alpha Appliances Limited	第一電業有限公司	2529 7555	www.alpha-general.com	●		●
	Anway Engineering Company Limited	正佳工程有限公司	2598 4228	www.anway.com.hk	●		●
	Armaceil Asia Limited	阿樂斯亞洲有限公司	2574 8376	www.armacell.com	●	●	
	Arnhold & Co., Ltd.	安利有限公司	2807 9400	patricklai@arnhold.com.hk	●		●
	A Shing Engineering Company Limited	亞成冷氣工程有限公司	2537 1818	wilkiengan@ashing.com.hk	●		●
	Auto Integrated Limited	奧力科技有限公司	2612 0758	rickiewong88@gmail.com	●	●	●
	BELIMO Actuators Limited	捩力謀執行器有限公司	2687 1716	www.belimo.com	●	●	●
	Biocline Healthcare Services Limited	新康醫療器材工程有限公司	2672 1111	bio@biocline.com	●		●
	Bitzer Refrigeration Asia Limited	比澤爾制冷亞洲區有限公司	2868 0206	www.bitzer.de	●		●
	Brisky Limited	穿梭科技有限公司	2511 3161	tkwan@briskyltd.com	●	●	●
	Castco Testing Centre Limited	佳力高試驗中心有限公司	2597 8333	www.castco.com.hk	●		●
	Centalink International Limited	信嘉國際有限公司	2626 1897	andy@centalink.com.hk	●	●	
	CDBM Engineering Consultant Company Limited	新雄力工程顧問有限公司	2598 1088	mail@cdbm.asia	●		
	Chi Yip Engineering Company	志業工程公司	3078 9984	canny@acmv-cy.com	●		●
	Chin Tat Trading Company	展達貿易公司	3521 1589	www.chintat.com.hk	●		●
	Chit Tat Electrical Engineering Limited	捷達機電工程有限公司	2529 8888	chittat@yahoo.com.hk	●	●	●
	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.J. Wishing International Limited	惠生電業有限公司	2799 9797	cjwish@cjwish.com.hk	●	●	●
	CLP Power Hong Kong Limited	中華電力有限公司	2678 7350	www.clpgroup.com	●	●	●
	Clydeman Engineering Limited	佳電工程有限公司	2332 3591	daniel@clydeman.com	●	●	●
	Compass Engineering Limited	康柏工程有限公司	2688 7778	compassengltd@yahoo.com.hk	●		●
	Crownin Limited	冠嚴有限公司	8202 0830	clchoy@crowntingrp.com.hk	●		●
	Dah Chong Hong (Engineering) Limited	大昌貿易行工程有限公司	2768 3595	www.dch.com.hk	●		
	Delta Pyramax Company Limited	佳澤科技有限公司	2511 2118	www.deltapyramax.hk	●		●
	Dynalink International Technology Limited	匯能國際科技有限公司	3955 0203	www.di-technology.com	●	●	●
	Eaxon International Company Limited	恩索有限公司	3590 4656	gamescheung@eaxon.hk	●		●
	ebm-papst Hong Kong Limited	依必安派特香港有限公司	2145 8678	info@hk.ebmpapst.com	●	●	●
	Electrodrive Engineering Limited	高宜工程設備有限公司	2573 7211	info@electrodrive-eng.com	●		●
	Enviro-Tech Engineering Company Limited	廣達工程有限公司	2827 0688	stevell@envirotech.com.hk	●		●
	Ever Cool Refrigerating & Air-Conditioning Co., Ltd.	嘉毅冷凍空調設備有限公司	2356 8598	info@evercoolhk.com	●	●	●
	Evergreen Environmental Technology Company Limited	冬青環保科技有限公司	2562 3331	www.evergreen-environmental.com	●		●
	Extensive Trading Company Limited	精基貿易有限公司	2889 1681	www.extensive.com.hk	●		●
	Far East Engineering Services Limited	遠東工程服務有限公司	2898 7331	www.fareast.com.hk	●	●	●
	Fortune Links Hong Kong Limited	鑫力香港有限公司	2562 9399	info@fortunelinks.com.hk	●	●	●
	Fungs E & M Engineering Company Limited	馮氏機電工程有限公司	2682 7200	fungscww@netvigatator.com	●		
	GTECH Services (Hong Kong) Limited	英國通用工程 (香港) 有限公司	2123 0888	www.gtechservices.com.hk	●		
	GELEC (HK) Limited	香港通用電器有限公司	2919 8383	hq@gelec.com.hk	●		●
	Gether-Force Air-Conditioning Engineering Co., Ltd.	群力冷氣工程有限公司	2890 2622	geforce@hknet.com	●		



Company Name	Contact Number	Website / Email	Trade
Getwick Engineers Limited	2893 3600	getwick@getwick.com	Contracting
Golden Leaf International (Hong Kong) Limited	2648 1000	info@glint.com.hk	Contracting
Goodway Electrical Engineering Limited	2405 0888	www.goodwaygrille.com	Contracting
Gotop Engineering (HK) Limited	2459 3038	gotopco@yahoo.com.hk	Contracting
Great Top Engineering Limited	2345 2219	general@greattop.com.hk	Contracting
GRUNDFOS Pumps (Hong Kong) Ltd.	3540 0300	www.grundfos.com	Contracting
Hang Ji Industries International Co., Ltd.	2721 6129	www.hangji.com	Contracting
Hensen System Engineering Limited	2884 9001	cecil@hensen.com.hk	Contracting
Hilti (HK) Limited	2773 4705	www.hilti.com.hk	Contracting
Hi Tak Thermal & Acoustic Insulation Eng. Limited	2770 7703	www.hitakinsul.com	Contracting
Hofmann Construction Material Ltd.	3157 1841	www.hofmannhq.com	Contracting
Honest Air Conditioning Limited	2396 8108	aircond@netvigator.com	Contracting
H.W. International Air-Conditioning Limited	2796 8888	info@hooair.com	Contracting
IES Engineering (Hong Kong) Limited	2992 0830	www.ieshk.com.hk	Contracting
Intelligent Technologies Limited	2301 4868	info@intelligent-net.com	Contracting
Jade Star Engineering Limited	3998 3256	jadestark@yahoo.com.hk	Contracting
JC (HK) Engineering Limited	2898 9885	jc.hk.eng@gmail.com	Contracting
J & J Network Engineering Company Limited	3579 5263	www.jjnetwork.com.hk	Contracting
Jinchat Engineering (HK) Company Limited	2687 1755	jjin@jinchat.com	Contracting
Jun Feng Company Limited	2707 3088	www.junfeng.com.hk	Contracting
Keio Engineering Company Limited	2695 8872	www.keio.com.hk	Contracting
Kembla (Hong Kong) Limited	2528 0999	www.kembla.com.hk	Contracting
Kin Wo A/C Engineering Limited	2398 0157	kw@kinwo.com.hk	Contracting
Kinetics Noise Control (Asia) Limited	2191 2488	www.kineticsnoise.com	Contracting
Kings View Airconditioning Engineering Co., Ltd.	2796 2417	admin@kingsview.com.hk	Contracting
K-Flex (Hong Kong) Insulation Company Limited	2668 5202	www.k-flex.com	Contracting
KSB Limited	2147 1226	philip.chow@ksb.com.hk	Contracting
K.Y.H. Steel Company Limited	3473 2332	www.kyh.com.hk	Contracting
Laser Resources (Asia) Company Limited	2516 7500	laasiahh@netvigator.com	Contracting
LeBlanc Water Treatment & Chemicals Limited	2408 2000	www.leblanc.com.hk	Contracting
Lee Tack Engineering Company Limited	2305 3111	ltec@leetack.com.hk	Contracting
Legend Engineering Company Limited	2815 0928	info@legendjt.com.hk	Contracting
Lifa Air Limited	2511 7076	www.lifa-air.com	Contracting
Life Air IAQ Limited	3527 0106	winston@lifeairiaq.com	Contracting
Link The Best Company Limited	2568 4092	sales@linkthebest.com.hk	Contracting
Luen Ming Pengshan Air Conditioning Factory Ltd.	2797 2168	www.luenming.com	Contracting
Mason Industries (HK) Limited	2967 9639	www.mason-hk.com	Contracting
Maxwell Electrical Asia Ltd.	3583 5088	www.maxwell-asia.com	Contracting
Mesan Fiberglass Engineering (International) Limited	2787 5717	www.mesanct.com	Contracting
Mitsubishi Electric (Hong Kong) Limited	2887 4575	www.mitsubishi-ryoden.com.hk	Contracting
NAP Acoustics (Far East) Limited	2866 2886	www.napacoustics.com.hk	Contracting
New Way Engineering Company Limited	2325 6892	www.newway.com.hk	Contracting
Oxprime (International) Limited	2590 8088	info@oxprime.com	Contracting
Pacific Sense Enterprises Limited	3749 5272	www.pacificsense.com.hk	Contracting
Paul Y. (E&M) Contractors Limited	2831 8338	www.pyengineering.com	Contracting
Peterson Engineering Limited	2365 0372	stso@peterson.com.hk	Contracting
PowerTech IPC Company Limited	3105 3928	www.powertechipc.com	Contracting
Powers Technical Services Limited	2770 2110	powers.pts@gmail.com	Contracting
Practical Engineering (Hong Kong) Company Limited	2402 2772	practical@practical.hk	Contracting
Program Contractors Ltd.	2326 8020	program@program.com.hk	Contracting
Pyrofoe Engineers Limited	2388 8038	www.pyrofoe.com.hk	Contracting
Ready Electrical Metal Work Limited	2898 8623	kw_leung@ready-group.com	Contracting
REC Green Technologies Company Limited	2619 8817	www.yaulee.com	Contracting
Regin Controls Hong Kong Limited	2407 0281	saleshk@regin.se	Contracting
Ritech Engineering & Supply Company Limited	2410 1819	www.ritech-hk.com	Contracting
San Yik Air Conditioning Engineering Company Limited	3565 5812	www.sanyikgroup.com	Contracting
Sanby Trading Company Limited	2573 4219	www.sanby.com	Contracting
Savills Engineering Limited	2534 1688	pwong@savills.com.hk	Contracting
Shenling Environmental Systems (Hong Kong) Ltd.	2603 0002	www.shenling.com	Contracting
Shun Hing E & M Engineering Limited	2387 2882	project@shunhingeng.com	Contracting
Shun Hing Electric Service Centre Limited	2406 5333	www.shunhing-service.com	Contracting
Shun Tung Engineering Company Limited	2633 6866	gabriel@shun-tung.com	Contracting
Sing Kin Limited	2333 1518	singkin@gmail.com	Contracting
Smartech HVAC & Engineering Limited	2521 9768	info@smartech-hvac.com.hk	Contracting
Southa Engineering Limited	2963 7241	www.southa.com	Contracting
Stars (Hong Kong) A/C & R Company Limited	6116 7832	stanley_yuen@hstars.com.cn	Contracting
Superpower Pumping Engineering Company Limited	2745 3562	www.sppump.com	Contracting
Sustainable Energy Limited	2332 3077	www.sustaine.com.hk	Contracting
Target Energy Solutions Limited	2358 9903	www.targetensol.com	Contracting
Teembase Development Limited	2554 6263	www.teembase.com	Contracting
Tesa Tape (Hong Kong) Limited	2583 9980	www.tesa.com	Contracting
Thermtech Building Products Limited	2756 3837	thermbpl@netvigator.com	Contracting
Trisun Air Conditioning System Limited	2377 1618	enquiry@trisun.com.hk	Contracting
Tinwood Pacific Limited	6325 1197	www.sinro.com	Contracting
Tomi Fuji EMC Limited	2432 0170	www.tomifuji.com.hk	Contracting
Tom's Equipment Company Limited	2757 5539	tom@toms-equipment.com	Contracting
TROX Hong Kong Limited	2861 2261	www.troxapo.com	Contracting
Tung Shing Hardware Co., Ltd.	2626 9983	www.tungshinghardware.com.hk	Contracting
Union (Luen Hop) Refrigeration Co., Ltd.	2627 4600	unionlh@bizentvigator.com	Contracting
United Controls (Hong Kong) Limited	2556 1001	www.ucl668.com	Contracting
Victory Engineering Service Company Limited	2979 4068	pamela@ves.hk	Contracting
Viewco Building Services & Engineering Co., Ltd.	2543 0610	engineering@viewco.com.hk	Contracting
Wai Luen Air Conditioning Limited	2890 9321	garychan@wailuenh.com	Contracting
Wardson Engineering Limited	2329 8268	wsengltd@yahoo.com.hk	Contracting
White Hippo Limited	2303 1318	www.kshop310.hk	Contracting
Wing Shing Air-Flow Company Limited	2792 6331	accounting@wingshing-hvac.com	Contracting
Wo Lee Steel Company	2393 0131	www.wolee.com	Contracting
Wolter Asia Limited	2456 0198	info@wolter.com.hk	Contracting
Wysermann Company Limited	2614 2213	wysermann@wysermann.com.hk	Contracting
Yin On Trading Limited	2572 7110	office@yinon.com.hk	Contracting
Yordland Engineering Limited	2362 2186	www.yordland.com	Contracting
York Choi Industrial Limited	2795 8286	www.yorkchoi.com	Contracting
Yuen Fong Air-Condition Products (HK) Limited	2880 5880	yuenfongaircondition@hotmail.com	Contracting
Zenith International Enterprise Ltd.	2815 5852	www.ebara.com.hk	Contracting



# Phenotherm<sup>TM</sup> Class '0' Rigid Phenolic Foam Pipe, Pipe Support & Board Insulation



Sheet Metal  
Ductwork Insulation



Chilled Water  
Pipework Insulation



Cutted 90° Pipe Elbow  
Insulation



Duct Support Insulation (DSI)



Pipe Support Insulation (PSI)



Insulation Slab for Raised-floor



Goldin Financial  
Global Centre



Year of Completion : 2015

SHENG KUNG HUI  
HOLY CROSS PRIMARY SCHOOL



Year of Completion : 2016

PO LEUNG KUK  
STANLEY HO SAU NAN  
PRIMARY SCHOOL



Year of Completion : 2016

Central Police Station  
Revitalisation  
(Tai Kwun)



Year of Completion : 2016

## Phenotherm<sup>TM</sup> Rigid Phenolic Foam Insulation is the **PROFESSIONAL'S CHOICE** for Pipework & Ductwork in HVAC/R System

- ★ Rigid insulation ensure the final performance, **NO COMPROMISE ON WALL THICKNESS** as other flexible insulation materials.
- ★ Pipe insulation **WALL THICKNESS IN SINGLE LAYER** from 15~150mm.
- ★ **NO AIR-GAP** after proper installation, insulation ID cut to top-fit pipe OD.
- ★ **PERFECT HARMONY** with pipe support in same materials.
- ★ **OPTIONAL SURFACE COLOUR** such as Aluminium, White or Black, can match colour with most of the insulation materials in market.
- ★ **EASY & FAST INSTALLATION** (As Easy As ABC)
  - A. Apply adhesive.
  - B. Snap-on Pipe Support/Pipe Insulation.
  - C. Seal with Aluminium Tape.

**ADVANTAGE**  
Labour saving + Time saving  
= Money saving !

2018 onward...

**EASY JOB**

1994



General Cancer Centre,  
Prince of Wales Hospital  
Shatin, N.T.  
Year of Completion : 1994



International Financial Centre  
Phase I (IFC-I)  
South West Tower at  
Hong Kong Station, H.K.  
Year of Completion : 1998



Nina Tower  
Tsuen Wan, N.T.  
Year of Completion : 2007



Central Mail Centre  
Kowloon Bay, KLN.  
Year of Completion : 2013



Yuen Long Leisure and  
Cultural Building  
52 Ma Tin Road,  
Yuen Long, N.T.  
Year of Completion : 2017

SOLE AGENT :



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