



# COMFORT ENERGY SAVING ENVIRONMENTAL PROTECTION

舒適 節能 環保



燕通科技（香港）有限公司

AirStar Air Conditioning Technology Group (HK) Ltd.

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燕通科技（香港）有限公司

AirStar Air Conditioning Technology Group (HK) Ltd.



## OVERVIEW of the Company 公司概况

Located in the Hong Kong Science and Technology Park, AirStar Air Conditioning Technology Group (HK) Ltd was formed in 2010 by the AirStar Environment Technology Group Ltd.

AirStar Air Conditioning Technology Group (HK) Limited is a world leader in innovative air-conditioning technologies and real-world solutions. Its international team of experts embodies the company's values in energy conservation and advanced technology research, design, development and implementation. It is these corporate principles that have led to such breakthroughs as AirStar's patented Radiant Ceiling and Fresh Air System (RCF) technology, which is registered worldwide, including in mainland China, Hong Kong, Japan, Singapore, Australia, and across the American and European continents.

2010年，思達環境科技集團有限公司創立燕通科技(香港)有限公司，並選址香港科學園。

今天，燕通科技(香港)有限公司於創新空調技術以及現實世界解決方案領域上，已是全球領導者。來自世界各地的專家團隊，專注於節能與高級科技之研發、設計及實施應用，秉承一貫創新的價值觀，燕通科技更成功取得《輻射天花和新風系統技術》(簡稱RCF技術)的突破性專利成就，並已於中國內地、香港、日本、新加坡、美國、澳洲及歐洲等地註冊。





The world today is faced with the very real challenge of energy shortage, and every country is now involved in carbon footprint reduction. Thankfully, AirStar's RCF technology is capable of saving at least 40% energy, while attaining the same or better comfort level (based on the ASHRAE 55-2010 standard) compared with traditional air-conditioning systems. Excellent results are being achieved every day with AirStar's technologies in installations throughout China and Hong Kong.

AirStar is confident that its unique technology is on track to eventually dominate the world market, and revolutionize not just environmental conservation but also health. Because the AirStar system does not require air recirculation, it is ideal for deployment in high density buildings where reduction or elimination of cross infection (especially in a pandemic scenario) is a top priority. In addition to hospitals, the company's RCF technology can be applied to airports, subway transport, hospitals, hotels, schools, office buildings, electronic factories and many other sites.

**能源危機**，乃當前世界一大難題，有鑑於此，全球各國均致力於節能減排。憑藉燕通科技RCF技術，未來得以重燃希望 — 較之傳統空調系統節省至少40%能源，舒適度亦有過之而無不及（根據ASHRAE 55-2010標準），難怪在中國與香港，採用日益廣泛，成效彰彰。

我們深信，獨一無二的RCF技術，不單掀起環保革命，對健康亦大有裨益。因為，有關係統毋須再循環室內的空氣，極適合配置於醫院、機場、等人口密度高的建築群中，大大降低甚或避免流行病期間的交叉感染。RCF技術還可應用於地鐵、酒店、學校、寫字樓、電子工廠等建築中。毫無疑問，發展勢將一日千里，領據市場主導之位，指日可待。

Hong Kong Aircraft Engineering Company Limited (HAECO)  
香港飛機工程有限公司

Saving energy while improving QUALITY OF LIFE  
Building a better environment for future generations

較少的能源，創造更好的舒適度！  
為後代保護環境資源！



## 公司自主知識產權

# Company independent intellectual property rights

知識產權署專利註冊處  
Patents Registry  
Intellectual Property Department



香港特別行政區政府  
The Government of the Hong Kong  
Special Administrative Region

### 批予標準專利證明書

(專利條例) (第 514 章)

CERTIFICATE OF GRANT OF STANDARD PATENT  
Patents Ordinance (Chapter 514)

茲證明下列標準專利已予批予。  
I hereby certify that a standard patent with the following particulars has been granted today:

專利所有人姓名或名稱及地址 Name and Address of Proprietor:

嚴耀光  
中國內地深圳  
廣東省南山區山景路 92 號  
廣大商業中心 901 室  
YAN, Jiguang  
CHINA

專利編號 Patent No: HK1138348 申請編號 Application No: 10102396.0

發明名稱 Title of Invention:

輻射熱交換系統及輻射熱交換天花板的空氣  
RADIATION HEAT EXCHANGING AIR CONDITIONING SYSTEM AND  
RADIATION HEAT EXCHANGING CEILING THEREOF

標準專利有效期 (在符合續期的規定下) Term of Standard Patent (subject to renewal):

由 10.07.2008 起計 20 年  
Twenty years commencing on 10.07.2008



THE REGISTRY OF PATENTS  
SINGAPORE

THE PATENTS ACT  
(CHAPTER 221)

### CERTIFICATE OF GRANT OF PATENT

In accordance with section 35 of the Patents Act, it is hereby certified that a patent having the P-No. 168095 [WO 2010/00378] has been granted in respect of an invention having the following particulars:

Title : RADIATION HEAT EXCHANGING AIR  
CONDITIONING SYSTEM AND RADIATION  
HEAT EXCHANGING CEILING THEREOF  
Application Number : 201100115-3  
Date of Filing : 09 July 2009  
Priority Date : 10 July 2008 - PATENT APPLICATION NO.  
200810629359.6 (CHINA)  
Name of Inventor(s) : YAN, JIGUANG  
Name(s)  
and Address(es) of  
Proprietor(s) of Patent : YAN, JIGUANG  
ROOM 901 DONGDA COMMERCIAL CENTER  
92, JINGSHAN ROAD ZHUHAI GUANGDONG  
519014  
CHINA  
Date of Grant : 15 November 2011

Dated this 15th day of November 2011.

Tim Yeh Sun  
Registrar of Patents  
Singapore





## RADIANT CEILING and FRESH AIR SYSTEM 輻射供冷系統

- The environment is made more comfortable via the radiant heat exchange mechanism. Chilled panels (such as on the ceiling) decrease the surface temperature of walls, floors and the furniture, achieving absorption of the heat load from human bodies and the ambient environment. The heat load is conveyed to chilled water which flows through copper pipes behind the ceiling panels.
- Furthermore, the indoor ambient latent load is removed by highly dehumidified fresh air, via a patented PAU, while the CO<sub>2</sub> level is kept within excellent IAQ standards by an exhaust air system.
- 冷凍天花板與周圍環境和人體的熱交換是以輻射傳熱的方式進行的。冷凍天花板以輻射方式直接吸收人體、周圍環境的熱負荷，冷凍水帶走了天花板從環境中吸收的熱量。冷凍天花板也降低了牆板、地面以及傢俱的表面溫度，降低了溫度的各個表面與輻射天花板綜合作用於人體，使人體獲得好的舒適度。
- 此外，透過專利新風處理機組（PAU），將經過高度除濕的新風送入室內，從而吸收環境中的潛熱；於此同時，通過排氣系統將二氧化碳排出室外，確保絕佳的室內空氣品質（IAQ）。

Overall energy saving exceeds 40% due to:

- Radiant heat transfer much more direct and efficient.
- 2°C designed room temperature rise yet maintaining same comfort level.
- Energy saving on fans power used for air distribution.
- Cooling capacity reduction due to heat dissipation from fan motors are eliminated.
- RCF technology using 7°C cold water condensation, and has a strong ability of radiation heat transfer.

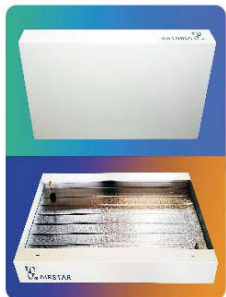
整體節約逾40%能源，因為：

- 輻射轉熱更直接更高效。
- 室內設計溫度可以提高2°C，但室內舒適度保持不變。
- 節省送風風扇所需之電力。
- 風扇電機的能量損失減少，從而減少所需的製冷量。
- RCF技術使用7°C的冷水不結露，而且具有很强的輻射傳熱能力。

40%



## AIRSTAR PATENTED RADIANT PANEL 專利輻射板

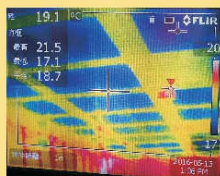


- Smart Structure for High Capacity and High Efficiency of Heat Transfer  
大容量、高效傳熱的智能結構

- Elegant Appearance and a Variety of Finishings Available  
外觀優雅，多種款式悉隨選擇

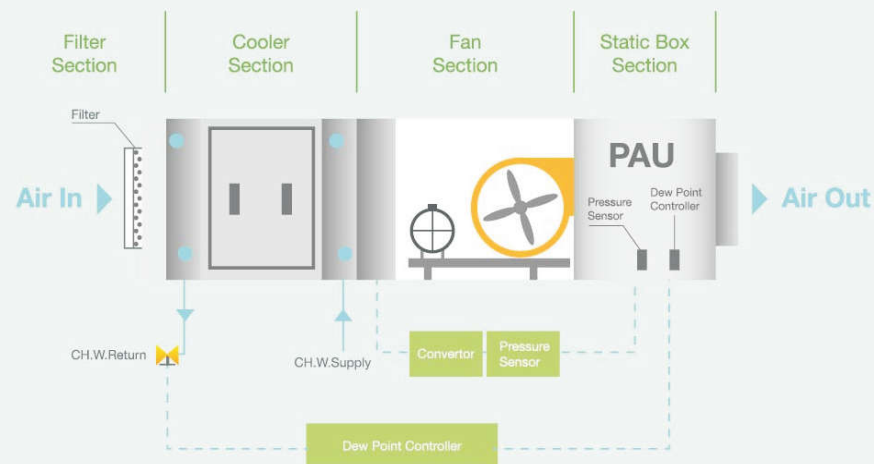


- Even Temperature Distribution 溫度均勻分布
- Simple Installation 安裝簡易
- Less Maintenance Effort 保養簡便



## AIRSTAR PATENTED PAU 專用新風處理機組

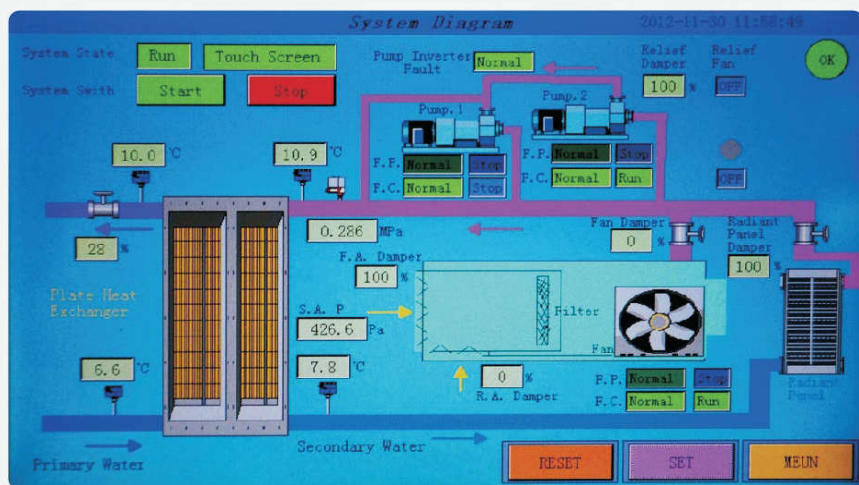
### Two-Stage Cooler Air Flow Scheme



- Patented Technology 註冊專利技術
- Effective Air Treatment 高效空氣處理能力
- Super Dehumidification Capacity 極強除濕能力
- Able to Work with Higher Water Temperature (such as 10°C) and Provide 12°C Off-Coil Air Temperature  
可使用於較高水溫（例如 10°C），出風溫度為12°C
- Intelligent and Compact Design 智能緊湊型設計



## AIRSTAR INTELLIGENT AUTOMATION SYSTEM 全自動智能系統



- Excellent IAQ 極佳室內空氣品質
- Comfort level can be individually adjusted 個人化房間舒適度調節
- Intelligent control technology for the fresh air system 新風系統智能控制技術
- System cooling capacity can be optimally controlled 供冷能力優化控制
- Remote monitoring and control of the operating system via IP address 透過IP地址遙控監測系統





## RADIANT CEILING and FRESH AIR SYSTEM other ADVANTAGES

### 輻射供冷系統 — 其他優點

#### Excellent Applications 卓越性能

- High Capacity 容量高
- Significantly More Comfortable 更舒適
- No Condensation 絕無結露現象
- Suitable for a Variety of Applications 適合不同場所
- No Noise 寧靜舒適

#### Minimal Space Required 僅需極小空間

- No large supply/return air ductwork in the void, no fan coil unit needed, minimal space required for ceiling panel's installation.  
冷凍天花系統不附帶大型送風/回風管道，毋須另置風機盤管，僅需極小安裝空間。

#### Silent Environment & Excellent IAQ 締造寧謐環境與絕佳室內空氣品質

- No moving parts, higher IAQ due to sufficient fresh air supply  
室內沒有會產生噪音的運作零件運作，加上新風供應充足，保持室內優質空氣。

#### Sick Building Syndrome Relief 遠離「寫字樓綜合症」

- The system uses a fresh-air process without requiring a return air system, thus limiting the spread of airborne disease caused by dirty ducts.  
系統採用新風處理系統，毋須再循環室內的空氣，從而減少因不潔淨管道系統而導致之疾病傳播。



#### Simple & Easy Routine Maintenance & Longer Operating Life 日常保養簡便、使用期限更長

- Maintenance is simplified because there are no moving parts.  
系統不牽涉運作零件，保養更輕鬆簡單
- Metal ceiling panels with copper pipes are made from non-corrosive materials, thus no maintenance work is required for the panel(s).  
金屬天花板與銅管，均以非腐蝕材料製成，不需任何保養
- At least 50% of maintenance effort and cost is reduced compared with traditional air-conditioning systems.  
較傳統空調系統節省至少50%保養費用
- Operating life expectancy exceeds 20 years.  
使用壽命超過20年



# Customers to use evaluation

## Air Star 國際專利中央空調技術

與傳統空調相比，電費降低 **40%** 以上

營造優良的室內 **空氣品質**

更容易為您取得 **LEED 認證**

### 客戶評價

20 December 2011  
Ref: 20.09.11.0.0

To whom it may concern,

#### Cathay Pacific Cargo Terminal

As one of the regional Asia's companies, energy saving is a major concern of HAECO for years. Along with further saving in our new offices, we have installed AirStar® "radiant ceiling system" in our new office on 20<sup>th</sup> June 2011. After 7 months' operation, management and most users have positive comments to this system. It was considered that the temperature is stable and even in the office, the air quality and noise level is much lower comparing to existing fan coil system and even more so comparable with this system, and there is no condensation problem.

This new system achieved 40% energy saving and 90% maintenance cost saving in one of our meeting offices with similar operation pattern with fan coil units. This system is worthy of my recommendation.

Sincerely yours,

  
Victor W. T. Ho  
Head of Office  
(Facilities Projects & Maintenance)  
Facilities Development Department  
Phone: 2767028  
Mobile: 9228967



HAECO Sustainability Development Report 2011

### CEO's Message



This is the first HAECO Group sustainable development report covering three of its major operating companies: HAECO, TACCO and HASEL. In this report, we aim to provide stakeholders with an overview of the Group's strategies, activities and performance related to sustainable development over the past year, as well as future plans.

Our vision is to become a world-class Aircraft Maintenance, Repair and Overhaul (MRO) service provider. We believe that the Group's ability to create long-term shareholder value depends on the sustainable development of our businesses and the communities in which it operates. The Group's sustainable development policy recognizes this and commits the Group to managing the environmental, health and safety, employment, community and supply chain issues which our operations affect. The policy also commits the Group to working with others to promote sustainable development in the industries in which it operates.

The Group monitors and tries to reduce the impact of our operations on the environment. To facilities incorporate systems intended to minimize impact on the environment. Reducing energy consumption and greenhouse gas emissions is a key environmental aim for the Group. In 2011, a "radiant-cooling ceiling" air-conditioning system was installed in HAECO's administration building, which reduced energy consumption by 40% when compared to traditional systems. 7,800 square meters of solar panels, which are capable of generating 1.39 million kilowatt-hours of clean and renewable energy per year, were installed at TACCO. HASEL explored the use of facilities for engine testing.

### HAECO Sustainable Development Report 2011 | ENVIRONMENT

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### Climate Change and Energy Management

We are keenly aware that greenhouse gas (GHG) emissions from our business operations contribute to global warming and climate change. Therefore, reducing GHG emissions has become our top priority.

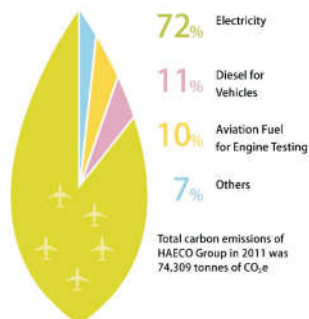
Our carbon footprint is made up of a number of major GHG sources: electricity consumption accounts for 72% of the total, while aviation fuel for engine testing and diesel for vehicles account for another 21%. In light of these figures, improving the energy efficiency of our operations has become a key priority.

Investing in the latest energy-saving equipment is one of our main strategies. As long as it is commercially viable and practicable to do so, we

will adopt the most energy efficient systems in our operations. In 2011, a new "radiant-cooling ceiling" air-conditioning system, the first of its kind in Hong Kong, was installed in our administration building at HAECO. Although the purchase cost was 2.8 times higher than traditional air-conditioning systems, the 40% savings in carbon emissions and electricity consumption make it a sound investment. Thanks to other energy saving initiatives, 94,059 kilowatt-hours of electricity were saved by HAECO in 2011.

As a result of these efforts, the carbon intensity of our operation has dropped 2% from 5.96 kg CO<sub>2</sub>e per man-hour sold in 2010 to 5.85 kg CO<sub>2</sub>e per man-hour sold in 2011.

### Composition of HAECO Group's Carbon Footprint in 2011



**Radiant Cooling Ceiling System**  
— a 40% more energy efficient air-conditioning system compared to traditional one.

Our Ref: GHJV-J5204 -Letter-000129

26 June 2010

To Whom It May Concern  
(c/o Yantong Technology Company Ltd)

### Cathay Pacific Cargo Terminal Hong Kong International Airport Re: Site Offices for CX Cargo Terminal Main Contract Pilot Project in Hong Kong for Usage of Radiant Air Conditioning System

In the first pilot project of this nature in Hong Kong, we have employed Yantong Technology Company Limited to install their Direct Radiant Air-Conditioning system in our construction site offices for Cathay Pacific's Hong Kong Airport Cargo Terminal project.

This AC system comprises radiant ceiling panels which are manufactured under the patent held by Zhu Hai Yantong Environmental Technology Development Company Limited.

The approximate area of our project office employing this system is 680 m<sup>2</sup>. The office is constructed using with 50mm thk. Insulated steel panels and normal sliding glass windows. The area in question is designed for 75 people, and has been designed to provide no less than 10 litres/second per person of fresh air supply. Two nos. Heat Pumps (10 TR), each with twin compressors have been installed.

According to preliminary testing and commissioning on 20<sup>th</sup> June, 2010:

- 1) Ambient Temperature was 33.6°C dry bulb, 28°C wet bulb
- 2) Panel surface temperature was set at 18°C,
- 3) Indoor air temperature noted at 22 to 23.5°C in different areas.

Cathay Pacific Cargo Terminal

We have begun a detailed performance monitoring period for July and August 2010. So far, the operations this week has been satisfactory.

In comparison to the typical usage of unitary type AC units in site offices, we have installed only about 60% of total system AC capacity (in TR) had we installed unitary air conditioning units (i.e. split units and wall mounted AC units).

To our knowledge, we believe our Pilot Project is the first system of its type employed in Hong Kong.

Yours faithfully,

  
Brian Luk Tam  
MHS/MEP Manager  
GAMMON-HIP HING JOINT VENTURE

BLT/tt

## 辐射空调评价报告

我司研发中心办公室，是由旧工厂改造，楼层高5M，吊顶高3M，外墙上下设两排外窗，为普通玻璃窗，外墙为普通180mm厚砖墙，保温基本无保温，原使用的旧风机盘管空调系统，噪声大，夏季温度高，舒适度差。

珠海海通环境科技有限公司使用专利辐射空调系统，对空调进行了改造，该系统辐射板是由珠海海通环境科技有限公司专利技术制造，空调系统和自控系统由海通公司设计、安装和调试。为了对比，改造前为研发中心的一半，另一半为原有风机盘管系统，中间无分隔。

设计装机容量65W/M<sup>2</sup>（含新风），新风采用普通专利新风机送入，可根据室内湿度调节新风量，最小新风量为30M<sup>3</sup>/H，人员，系统开机，运行，调节完全自控，室内湿度调节可以前世界采用普通空调调节，完全无噪声，无吹风感。

夏季实测：辐射板表面温度21℃，空气温度24.5℃，相对湿度56%，进风温度30℃，回水温度14℃，预热时间回水温度17℃，预热时间回水温度30分钟。

员工现场舒适度很好，原设计系统冬季温度27℃的热水，员工反映非常舒适，考虑节能的问题，后来取消了冬季供热的功能。

冷辐射板在干燥天较多开窗开启时，表面会有起雾，但开窗关闭后30分钟后会消散，恢复正常湿度。

我司对该系统评价为：优秀，是十级推广的新技术。

珠海海通环境科技有限公司  
二〇一〇年四月二十三日

## 珠海市金湾区政府投资建设工程管理中心

### 辐射和新风技术（RCF）技术的用户报告

由我中心负责建设的珠海市金湾区航空新城规划展览馆是按照国家绿色建筑标准建设的公共建筑，本建筑使用了多项绿色技术，其中制冷系统采用了珠海海通环境科技有限公司开发的“辐射和新风技术（RCF）”。

一、建筑概况：

四、结构：钢结构与钢筋混凝土混合结构，建筑面积约6050平方米，其中展厅约1800平方米，配套辅助用房4250平方米。

二、具体设计参数如下：

1、室内运行舒适度参数

夏季室内平均辐射温度25℃，相对湿度50%~55%，CO<sub>2</sub>浓度800PPM以下。

2、按照暖通负荷设计软件计算，应该安装制冷主机约1048KW，按照RCF技术计算，安装制冷主机453KW，根据计算由于空调主机容量的减少，空调装机容量减少了50%。

三、使用状况

该建筑2013年10月竣工，经过一年的使用，用户反映良好，目前本建筑正在申报国家绿色建筑三星的认证标识，具体数据正在统计中。

珠海市金湾区政府投资建设工程管理中心  
二〇一四年十月四日

## 首都机场集团公司专题会议纪要

首都机场专题会议纪要〔2016〕14号

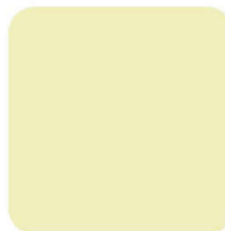
### 首都机场试用辐射空调现场勘察会议纪要

2016年1月25日上午，集团公司常务副总经理王星实地勘察了首都机场试用辐射空调运行现场，并在T3国内要客室主持召开了专题会议。集团公司经营管理部、机场建设部、股份公司、新机场指挥部、空调厂商等相关人员参加了会议。会议听取了股份公司关于辐射空调运行情况的汇报，明确了下一步工作要求和部署。现将主要内容纪要如下：

一、前期试点工作成效明显

一是项目选择。旅客登机桥在机场炎热、制冷方面存在着薄弱环节，本次试点选用新技术和新工艺，主要着眼于解决机场运行中的实际问题。

## RCF技术适用于很多行业 APPLICATIONS



Commercial buildings  
商業樓宇



Airports  
機場



Subway transport  
地鐵



Electronic factories  
電子工廠



Hospitals  
醫院



Schools  
學校





## 部分樣板工程展示

# Part of the model project



**香港恒生銀行：** 建築面積28000平方，RCF系統面積21000平方，功能為綜合辦公，設計總冷量僅為1575KW；（香港恒生銀行總行正在聯合設計中）

**Hongkong Hang Seng Bank:** construction area of 28000㎡, RCF system area of 21000㎡, function for the office, the total design of the cold is only 1575KW (Hongkong Hang Seng Bank head office is in joint design)



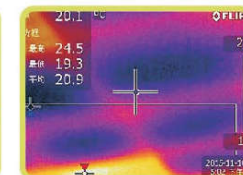
**香港國泰航空貨運站及香港飛機工程公司：** 採用RCF空調系統面積約5000平方，功能為會議和辦公，設計冷量僅為100W/m<sup>2</sup>，並獲得當年香港政府“環保優異獎”、港機工程集團“年度報告顯示RCF技術節能40%”等高度評價。

**Hong Kong Cathay Pacific freight station and Hong Kong Aircraft Engineering Co., Ltd.:** the RCF air conditioning system with an area of about 5000㎡, function for the meeting and office, design of cooling capacity is only 100W / m<sup>2</sup>, and access to the Hong Kong government "Environmental Excellence Award", Port Engineering Group "annual report shows RCF technology energy-saving 40%" etc.



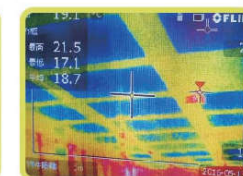
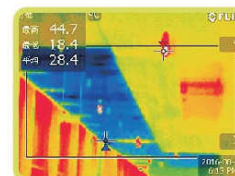
**廣州地鐵廣佛線與1號線西朗站接駁轉乘通道地鐵站：** 人流密集型公共場所，相對之前設計的大風量空氣換熱系統，取得了超低能耗運行效果；同時驗證了RCF技術，高效的換熱能力和防結露能力。

**The interchange between Guangfo line and 1 line connecting Xilang station of Guangzhou subway:** Subway station, crowded public places, obtained a super low energy consumption operation effect when compared to the previous design of air for thermal system; That also verified the RCF technology has more efficient ability of change heat and condensation prevention.



**廣東省中醫院總院骨科門診：** 門診面積為630m<sup>2</sup>，設計僅負荷：70KW；正常人員150人左右，高峰期間超過200人，而且為高衛生標準全新風運行；系統精心設計克服了人員流動性大，空調區域與非空調區域無隔斷等因素影響。

**The Orthopaedics Clinic of the traditional Chinese hospital institute in Guangdong province:** The area of Outpatient service is 630m<sup>2</sup>, designed cooling load: 70 kW; Normal staff of people is about 150, during the peak of more than 200, and for all fresh air operation in high hygiene standards; The system is carefully designed to overcome the staff mobility, no partition of the air conditioning area and non air conditioning area and other factors' influence



**首都機場T3-E530登機橋固定端+二機場指揮中心：** 標準大型登機橋固定端，無遮陽玻璃幕牆鋼結構建築物。去年底試點將原有26臺風機盤管系統，改造成金屬天花輻射冷暖系統，運行效果有明顯改善，能耗相比還大幅下降。

**The Capital Airport T3-E530 boarding bridge fixed end and the second airport command center:** Standard large scale boarding bridge fixed end, non shaded glass curtain wall steel structure building. At the end of last year, the original 26 fan coil system had be transformed into a metal ceiling radiant cooling system, the operating results are significantly improved, and the energy consumption compared to a substantial decline.





**金灣航空規劃展覽館:** 面積6000平方, 功能為公共展覽和辦公, 設計總冷量僅為460KW;  
**Jinwan Aviation Museum:** planning area of 6000 m<sup>2</sup>, designed for public exhibition and office, total cooling capacity is 460KW.



**橫琴金融商務區華發服務中心(10號樓):** 面積3000平方, 功能為商務會場, 全鋼構玻璃式建築, 設計總冷量360KW;  
**The Huafa Service Center (No. 10) in Hengqin financial business district:** planning area of 3000 m<sup>2</sup>, designed for business meeting, steel glass architecture, total cooling capacity is 360KW.

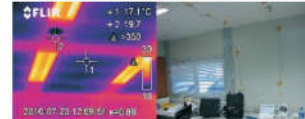


**麗珠製藥(珠海)有限公司:** 2期總部辦公樓、健康元、疫苗、單抗等子公司辦公大樓, 面積近20000方, 功能為辦公及會議, 空調冷負荷僅為96W/m<sup>2</sup>;  
**vzon Pharmaceutical Co., Ltd. (Zhuhai):** the second headquarters office, Jincare, iccines, monoclonal antibody and other subsidiaries of office building, area of nearly 20000 m<sup>2</sup>, designed for the office and meeting, and air-conditioning cooling load is only 96W/m<sup>2</sup>.

## 權威檢測報告 Authoritative test report



Cathay Pacific Airways  
Cargo Terminal  
H K Airport



Chilled Ceiling Trial  
Interim Data / Preliminary Report

Rev.0

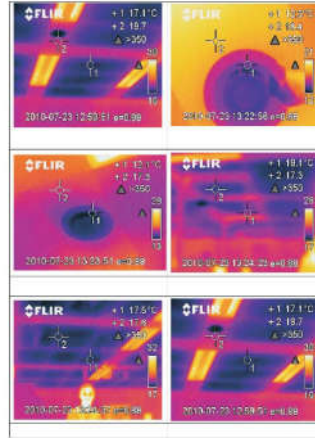
3rd August 2010

By:-

Phil Healey B.Eng., B.Sc., M.Sc., C.Eng., M.ASME, M.I.E.E., M.E.I., A.M.I.A.S.E. 1971



Appendix- Infra-Red Images



THE UNIVERSITY OF HONG KONG

DEPARTMENT OF MECHANICAL ENGINEERING

B.Eng. Final Year Project Report  
2011-2012

Project Title:	Thermal Comfort and Energy Performance of Chilled Beam and Ceiling Systems
Student Name:	
University No.:	2009563350
Degree Programme:	BEng - ME (RSE)
Supervisor:	
Moderator:	
Date:	30th April, 2012

BRSR2002 Applied Research Project Leung Yuk Chun (2009563350)



Figure 5.2 - Floor plan of office in Hengqin 30 East Annex 2/F

Figure 5.3 shows the infra-red photo taken from HAECO office. It can be observed that the surface of chilled ceiling panels was around 23°C and 23°C depending on the local temperature setting.



Figure 5.3 - infra-red photos taken from office in HAECO