CHINA EMERSON CUP 2018

艾默生杯

工 程 项 目 应 用 大 赛

慧聚匠心 创多彩生活

China Emerson Cup

“慧聚匠心，创多彩生活”

2018年“艾默生杯”工程项目应用大赛全面升级。

本届“艾默生杯”围绕“优化环境舒适”和“护航食品安全”两大主题，设立两大类，十个奖项，分别从节能环保表现、舒适性、创新性等方面，对参赛作品进行评判。

希望通过对优秀产品及应用方案的推广，进一步提升用户体验，切实改善和提高生活品质。 同时，对行业内使用艾默生产品和解决方案的优秀工程项目，以及为技术和行业发展做出卓越贡献的企业及个人予以表彰。

近年来，随着国家节能减排、冬季清洁供暖计划的陆续出台，艾默生凭借创新技术和整体解决方案，推出一系列高效可靠的空调供热解决方案。 此外，艾默生一直致力于提供创新的冷链解决方案，保障食品品质及安全。 这些解决方案的落地，离不开经销商、工程商及终端用户的智慧和贡献，这正是举办本届“艾默生杯”的初衷。

自2003年首次举办以来，“艾默生杯”不仅将先进的技术带进中国暖通空调及冷链市场，更促进了这些技术的应用和普及，为行业发掘了大批优秀人才和项目。

我们相信在各界合作伙伴的支持与参与下，“艾默生杯”将始终以创新为导向，不断升级对参赛者和内容的研判，推选更优秀的应用项目，持续打造行业的赛事标杆。

Leveraging Ingenuity, Enriching Lives

China Emerson Cup 2018 Engineering Application Competition saw a complete revamp this year.

This year's Emerson Cup centered on the two major themes of "Optimizing Environmental Comfort" and "Safeguarding Food Safety". It was divided into two categories with a total of ten awards. The entries were judged based on criteria such as energy conservation performance, comfort, environmental protection performance, and innovativeness. Through the promotion of excellent products and applicable solutions, we hope to further improve user experience and improve quality of life. At the same time, we would like to commend the excellent engineering projects in the industry that utilize Emerson products and solutions, as well as the enterprises and individuals who have made significant contributions to the development of technology and industry.

In recent years, as China successively rolled out initiatives that focus on saving energy, reducing emissions, and clean winter heating, Emerson has leveraged its technological innovations and integrated solutions to launch a series of air-conditioning and heating solutions that are both efficient and reliable. Moreover, Emerson is committed to providing innovativecold chain solutions to ensure food quality and safety.

The successful implementation of these solutions would not be possible without the wisdom and contribution of our distributors, engineers and end users, which we want to honor in this year's Emerson Cup.

Since the first edition in 2003, the Emerson Cup has not only introduced advanced technologies into the markets of heating, ventilation, and air-conditioning (HVAC) and cold chain management in China, but also promoted the application and awareness of these technologies. In doing so, it has attracted a large number of outstanding talents to the industry and led to the development of numerous projects.

We believe that with the support and participation of partners from various industries, the Emerson Cup will stay true to being innovation-oriented and continue to raise the bar in the review process, so as to promote and identify even more excellent projects, and set the benchmark as the award of the industry.

欲知赛事详情，请访问
For more information, please visit
Emerson.com/EmersonCup

Judging Criteria

评审要求

Judging Criteria 评审要求

奖项组别	参赛对象	参赛作品主体要求
优化环境舒适奖项	空调制冷及供热领域的 经销商、工程商	1. 项目应用中使用艾默生产品或解决方案 2. 项目已投入运行 3. 同一参赛者可提交多份参赛作品
护航食品安全奖项	冷链（冷冻冷藏）领域的 经销商、工程商和终端用户	

Award Category	Candidates	Entry Requirements
Optimizing Environmental Comfort	Distributors and engineers in the field of heating, ventilation and air-conditioning	1. Applications must use Emerson products or solutions 2. The project must be in operation 3. Multiple entries can be submitted by the same candidate
Safeguarding Food Safety	Distributors, engineers and end-users in the field of cold chain (refrigeration) management	

The Jury

评审委员

马一太 先生

Mr. MA Yitai

1945年11月生于河北省唐山市，天津大学教授，博士生导师。

主要从事应用热力学研究，逆循环（制冷和热泵）节能技术的研究，混合工质节能及自然工质研究，太阳能、地热能等可再生能源利用研究等工作。

学术兼职：

- 中国制冷学会学术委员会副主任，资深会员
- 中国制冷空调工业协会专家委员会顾问
- 《太阳能学报》、《制冷技术》、《制冷与空调》等杂志编委
- 天津制冷学会副理事长

Born in November 1945 in Tangshan, Hebei, Ma is a Professor and Doctoral Supervisor at Tianjin University. He is mainly engaged in research of applied thermodynamics, reverse cycle (refrigeration and heat pump) energy saving technology, mixed working medium energy conservation and natural working medium, as well as the use of renewable energies such as solar energy, geothermal energy. Ma's academic appointments include Deputy Director and Senior Member of the Academic Committee of the Chinese Association of Refrigeration; Consultant of the Expert committee of the China Refrigeration and Air-Conditioning Industry Association; Editor of journals such as Acta Energiae Solaris Sinica, Chinese Journal of Refrigeration Technology, and Refrigeration and Air-conditioning; Vice President of the Tianjin Institute of Refrigeration.

董重成 先生
Mr. DONG Zhongcheng

哈尔滨工业大学建筑节能技术研究所所长、教授。

担任中国建筑学会暖通空调分会供暖专业委员会主任委员，中国建筑学会暖通空调分会理事，住房和城乡建设部专家委员会城镇供热组专家，中国建筑金属结构协会常务理事等职。

主要研究建筑节能与供热技术，供暖系统设计理论及应用技术等。

主持和参加国际合作、国家、省、部科研课题30余项，担任国家科技支撑计划重大课题负责人；5项科研成果达到国际领先水平，获省、部级科技进步奖14项；主编和参编教材、论著及专业设计手册9部；主编参编国家专业技术规范、行业标准33部；发表学术论文150余篇。

曾多次到美国、法国、德国、俄罗斯等国进行学术交流。

Dong is the Director and Professor of the Institute of Building Energy Saving, Harbin Institute of Technology, and also serves as the Director of the Heating Committee of HVAC Branch of the Architectural Society of China, Council Member of HVAC Branch of the Architectural Society of China, expert in the Urban Heating Group of Expert Committee of the Ministry of Housing and Urban-Rural Development, Standing Council Member of the China Construction Metal Structure Association, etc. His research is mainly in building energy conservation and heating technology, heating system design theory and application technology. He has presided over and participated in more than 30 international, national, provincial and ministerial scientific research projects, and served as the person-in-charge of major projects of National Science and Technology Support Plan; 5 of his scientific research achievements lead the industry internationally, and have won 14 provincial and ministerial Awards for Scientific and Technological Advancement; Chief Editor and Co-Editor of 9 textbooks, treatises and professional design manuals; Chief Editor and Co-Editor of 33 national professional and technical specifications and industry standards; he has published more than 150 academic papers. In addition to the above, Dong has been to the United States, France, Germany, Russia and other countries to engage in numerous academic exchanges.

杨一凡 先生

Mr. YANG Yifan

教授级高级工程师，现任中国制冷学会副秘书长。

第二-三届全国制冷标准化技术委员会（SAC/TC119）秘书长，第四届全国制冷标准化技术委员会（SAC/TC119）副主任委员。

《制冷学报》副主编。

1986年至2002年，于商业部设计院（现国内贸易工程设计研究院）从事制冷系统设计、工程承包及技术咨询等工作；先后被派往设备生产企业从事制冷产品监制、工程总承包等工作。曾主持工程设计、工程总承包等项目70余项；对所监制的制冷产品提出若干改进建议，并得以实施。主持起草《氨制冷系统安装工程施工及验收规范》行业标准。

2002年至今，主持编写《易腐食品冷藏链》系列标准、《冷库安全规程》、《冷藏陈列柜》、《制冰机》、《食品速冻装置》等国家标准、行业标准近20项。发表论文17篇。获全国商业联合会科学技术进步奖一、二、三等奖各一项。

A professor-level Senior Engineer, currently serving as the Deputy Secretary-General of the Chinese Association of Refrigeration, Yang was the Secretary General of the 2nd and 3rd National Technical Committee on Standardization of Refrigeration Administration in China (SAC/TC119), the Deputy Director of the 4th National Technical Committee on Standardization of Refrigeration Administration in China (SAC/TC119), and the Deputy Chief Editor of Journal of Refrigeration. He worked in the Design Institute of the Ministry of Commerce (now the Internal Trade Engineering Design & Research Institute) in the fields of refrigeration system design, engineering contracting and technical consulting. He has been delegated to the equipment production enterprises and engaged in refrigeration product supervision, engineering contracting, etc, while having also presided over more than 70 projects in engineering design and general contracting, put forward suggestions which have been implemented for the refrigeration products he managed. Additionally, he presided over the drafting of the "Ammonia Refrigeration System Installation Construction and Acceptance Specifications" industry standards. Since 2002, he has presided over the preparation of nearly 20 national and industrial standards, such as the “Series of Standards for Perishable Food Refrigeration Chain, “Safety Regulations for Cold Storage, “Display Refrigeration Cabinet, “Ice Maker and Device for Quick-Freezing of Food Items”. He has published 17 papers, and also the winner of the First, Second and Third prizes of National Business Federation Scientific and Technological Advancement Award.

孔繁彬 先生

Mr. KONG Fanbin

1976年～1978年 厦门水产学院教师。

1979年～1988年 山东省商业厅基建处技术科技术员、助工、工程师、副科长、科长、副处长。

1988年～1993年 山东省商业厅基建处工程师、高级工程师、副处长，山东省商业厅房地产开发公司总经理。

1993年～2004年 山东省商业厅设计院院长、高级工程师。

2004年～至今 山东省制冷学会常务副理事长、秘书长、高级工程师。

Kong was a teacher at the Xiamen Aquatic Products Institute from 1976 to 1978. Subsequently, he held different positions from 1979 to 1988, namely Technician, Assistant Engineer, Engineer, Deputy Section Chief, Section Chief and Head of Division of Technical Section, all with the Infrastructure Division of Shandong Provincial Department of Commerce. He went on to work as Engineer, Senior Engineer and Deputy Director of the Infrastructure Division of Shandong Provincial Department of Commerce, and also the General Manager of the Real Estate Development Company of Shandong Provincial Department of Commerce from 1988 to 1993. He was the Director and Senior Engineer of Shandong Department of Commerce Design Institute between 1993 and 2004. Dong is currently the Executive Vice President, Secretary-General and Senior Engineer of Shandong Refrigeration Association, positions he has held since 2004.

2018
年度获奖作品

WINNING PROJECTS FOR 2018


智显菁英
慧聚匠心

优化环境舒适组

CATEGORY: OPTIMIZING ENVIRONMENTAL COMFORT

获奖项目 WINNING PROJECT

新绎·上水颐园 & 桐乡好来登花园空调系统

Xinyi Shangshui Estate & Tongxiang Haolaideng Estate Air-Conditioning System

机组品牌 UNIT BRAND	天加 TICA
机组名称 UNIT NAME	“冷焰”系列家用型直流变频多联机 "Cold Flame" Series Residential DC Frequency Conversion Multi System Unit
艾默生方案 EMERSON SOLUTION	VPW038直流变频压缩机 VPW038 DC Frequency Conversion Compressor
获奖单位 WINNING COMPANY	南京天加环境科技有限公司 Nanjing TICA Climate Solutions Co., Ltd

变容量技术

- 杰出应用奖 -

AWARD FOR OUTSTANDING APPLICATION OF MODULATING COMPRESSOR TECHNOLOGIES

项目简介

新绎·上水頤园项目规划占地3600亩，有汤泉叠墅、高层、合院、洋房等产品业态。项目一期安装有82套天加“冷焰”系列家用型直流变频多联机空调系统，室外机采用艾默生变频涡旋技术，-20℃制热不衰减，43℃制冷不衰减；室内机均配有天加独有的去除PM2.5、甲醛的回风净化单元，为业主提供舒适的温度体验和良好的空气质量，获得业主的一致好评。

好来登花园位于桐乡老城主轴庆丰路，是真正的法式低密花园式住宅小区。 项目配套总共使用400套天加“冷焰”系列家用型直流变频多联机空调系统，运行效果佳。

PROJECT OVERVIEW

The Xinyi · Shangshui Estate project covers 240 hectares, including hot spring deluxe villas, high-rise buildings, courtyard homes and houses. The first phase of the project involved the deployment of 82 sets of TICA’s “Cold Flame" series residential DC inverter multi-system air-conditioners, with the outdoor unit adopting Emerson Copeland ScrollTM Variable Speed Technologies, ensuring effective heating at temperatures of -20°C and effective cooling at temperatures of 43°C.

All indoor units are equipped with TICA’s unique return air purification unit to remove PM2.5 and formaldehyde, providing residents with comfortable indoor temperatures and good air quality, which has won unanimous praise from them.

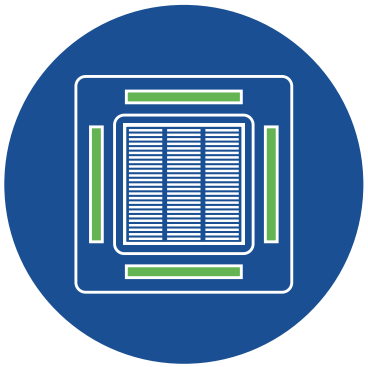
Haolaideng Estate is located along Qingfeng Road, the main axis of Tongxiang’s old town. It is a low-density garden-type residential area built in the French style. Four hundred TICA’s “Cold Flame” series residential DC inverter multi-system air -conditioners were deployed for the entire project.

专家评语

制冷制热两用空调系统，使用直流变频技术，适应极端天气变化，-20℃ 制热不衰减，43℃制冷不衰减，节能性好，容量调节效果优。

JURY COMMENTS

The cooling and heating air-conditioning system uses DC frequency conversion technology, which makes it adaptable to extreme weather with effective heating at -20°C, and effective cooling at 43°C. It also performs well in energy saving with optimal capacity adjustment capabilities.



高效商用空调项目

- 杰出应用奖 -

AWARD FOR OUTSTANDING APPLICATION OF HIGH-EFFICIENCY COMMERCIAL AIR-CONDITIONING PROJECT

获奖项目 WINNING PROJECT

沙特T3气候市场上的清真寺商用高效落地式单元机

High-efficiency commercial floor-standing units for use in mosques in Saudi Arabia with T3 climate

机组品牌 UNIT BRAND	海信 Hisense
机组名称 UNIT NAME	48K落地式单元机 48K Floor-standing Unit
艾默生方案 EMERSON SOLUTION	ZJ44压缩机 ZJ44 Compressor
获奖单位 WINNING COMPANY	海信（山东）空调有限公司 Hisense (Shandong) Air-conditioning Co, Ltd.

项目简介

该项目产品主要应用于沙特T3气候市场上的清真寺。清真寺属于公共建筑，具有人流量大，经常开关门的特点。

每个清真寺安装有6台落地式单元机，主要用途是为了给场所降温，使民众在清真寺内祷告或参与交流活动时，拥有一个凉爽舒适的环境。

该落地式单元机配置艾默生ZJ44KHE-PFB-502高效涡旋压缩机，室内机组为直流电机，室外机组为φ7.94内螺纹管、21.65宽翅片换热器以及二合一的高效换热流程，使得空调整机能效达到11.5(Btu/h)/W 以上，满足了当地市场的能效要求。2016年度和2017年度，海信（Hisense）在该市场共销售接近两万台落地式单元机。

PROJECT OVERVIEW

For this project, the products were mainly used in mosques in Saudi Arabia, which has a T3 climate. Mosques are public buildings with a large amount of human traffic. The entrance frequently opens and closes. Each mosque is deployed with six floor-standing units to cool the place, so that people have a cool and comfortable environment in which they can perform prayers or socialize.

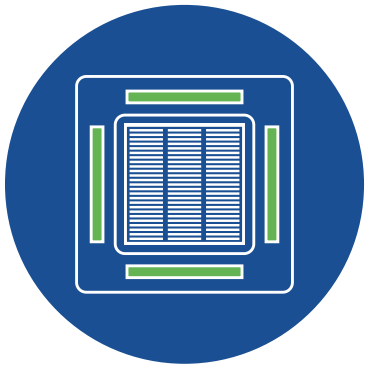
The floor-standing unit is equipped with the high-efficiency Emerson scroll compressor ZJ44KHE-PFB-502. The indoor unit is a DC unit, while the outdoor unit is a φ7.94 internal threaded tube, 21.65mm wide-fin heat exchanger and uses a two-in-one high-efficiency heat exchange process, allowing the energy efficiency of the whole air-conditioning system to exceed 11.5 (Btu/h)/W, which meets the energy efficiency requirements in the local market. In 2016 and 2017, Hisense sold nearly 20,000 floor-standing units in the Saudi Arabian market.

专家评语

在沙特T3气候区域，应用于人流量大的清真寺，两年销售近两万台，EER可达3.5W/W，节能效果好，发挥空调热泵产品在一带一路中的作用。

JURY COMMENTS

In the T3 climate region of Saudi Arabia, the product was applied in mosques with high human traffic. Nearly 20,000 units were sold in two years, with the EER able to reach a maximum of 3.5W/W, with good energy savings. It played a positive role as an air-conditioning heat pump product in the Belt and Road Initiative.



高效商用空调项目

- 杰出应用奖 -

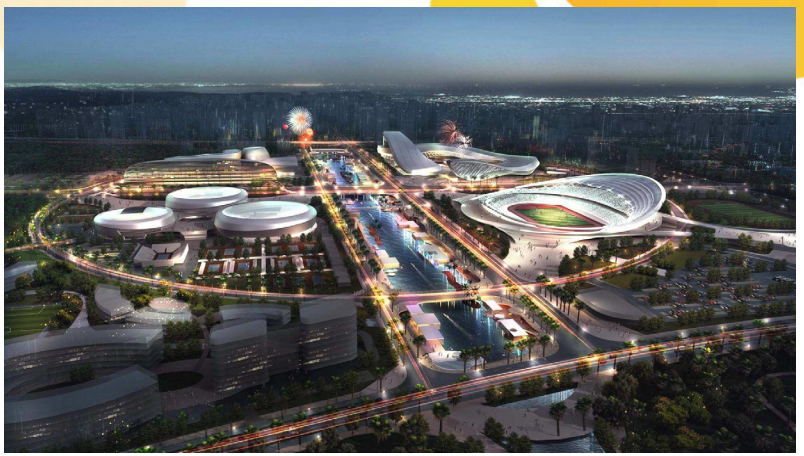
AWARD FOR OUTSTANDING APPLICATION OF HIGH-EFFICIENCY COMMERCIAL AIR-CONDITIONING PROJECT

获奖项目 WINNING PROJECT

海口绿地·五源河体育馆
Haikou Greenland Wuyuanhe Stadium

机组品牌 UNIT BRAND	麦克维尔 McQuay
机组名称 UNIT NAME	ECO Pro全变频多联式中央空调 ECO Pro Full Frequency VRF Centralized Air-conditioning
艾默生方案 EMERSON SOLUTION	JPV系列压缩机 JPV Series Compressor
获奖单位 WINNING COMPANY	深圳麦克维尔空调有限公司 Shenzhen McQuay Air-Conditioning Co, Ltd

项目简介



海南·五源河体育场面积约6万平米，可容纳4万人，是中国大型体育场馆之一。

作为一个现代化的体育场馆，不仅追求建筑外观美观大方，各种公共设施齐备完善，营造良好的室内人工环境亦不可或缺；还须保证规范所要求的温度、湿度、风速。

体育场馆层高很高，采用网架结构，空调系统的设计是一个难点。麦克维尔为该项目提供了全变频多联机室外机MDS·43台、超薄风管式室内机MCC·625台、天花嵌入四面出风室内MCK·102台，以及全热回收新风机。

PROJECT OVERVIEW

Spanning an area of 60,000 square meters and capable of accommodating 40,000 people, Hainan Wuyuanhe Stadium is one of the largest sports facilities in China. As a modern sports facility, apart from having a pleasing architectural exterior, well-equipped public amenities, and a quality artificial indoor environment, the stadium also needed to ensure that the temperature, humidity and wind speed in the venue meet the required specifications.

One of the design challenges was in the air-conditioning system because of the large height of each level, and the use of a spatial grid structure. For this project, McQuay provided 43 Full-frequency VRF outdoor MDS series units, 625 ultra-thin ducted indoor MCC series units, 102 ceiling embedded four-way air outlet indoor MCK series units, and full-heat recovery fresh-air machines.

专家评语

在海口地区大型体育馆，实现稳定的制冷制热效果，具有高舒适性体验，噪声低、节能环保，可实现多联机快速精确集中控制。

JURY COMMENTS

The product was applied in a major stadium in the Haikou area, and was able to achieve stable cooling and heating at a high degree of comfort. It was also energy-saving, environmentally friendly and had low noise levels. This made fast, accurate and centralized multi-connection control possible.

热泵集中供暖

- 杰出应用奖 -

AWARD FOR OUTSTANDING APPLICATION

OF HEAT PUMP DISTRICT HEATING

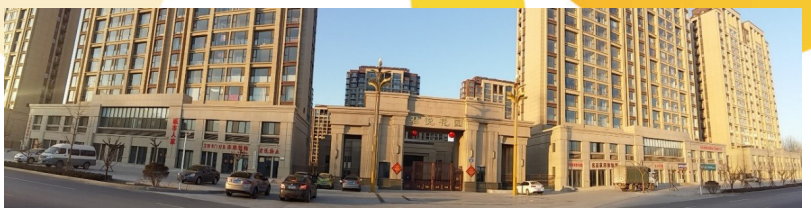
获奖项目 WINNING PROJECT

山东潍坊昌邑君悦花园小区供热项目

Shandong Weifang Changyi Junyue Estate District Heating Project

机组品牌 **UNIT BRAND**	约克 **YORK**
机组名称 **UNIT NAME**	模块式超低温风冷热泵机组 **Modular Ultra-low Temperature Air-cooled Heat Pump Unit**
艾默生方案 **EMERSON SOLUTION**	VPI144压缩机 **VPI144 Compressor**
获奖单位 **WINNING COMPANY**	江森自控楼宇设备科技有限公司 **Johnson Controls Building Technologies Co, Ltd.**

项目简介



君悦花园小区建筑面积共140000㎡，共16栋居民楼，每栋楼18层，共784户。

该小区离市区较远，城市集中管网无法覆盖。该项目共配置了82台约克品牌模块式低温风冷热泵机组为整个小区提供冬季采暖热源，解决了没有城市集中供暖的小区分布式供热问题，极大改善了小区居民的冬季采暖居住环境。

户内采暖形式为地板辐射采暖。 该项目于2016年11月15日正式进行供热运行，迄今已累计运行两个采暖季，运行效果良好，室内温度普遍维持在22-24度左右。

PROJECT OVERVIEW

Junyue Garden Estate has a building area of 140,000 ㎡, with a total of 16 residential buildings, each with 18 floors, making a total of 784 households. It is located far away from the urban area, which means that the urban centralized pipe network cannot cover it. In this project, a total of 82 York Modular Ultra-low temperature Air-cooled Heat Pump Units were configured as heat sources for winter heating in Junyue Garden, thereby solving the problem of distributed heating in the community without any urban central heating, and greatly improving the living environment for the community in winter.

Indoor heating takes the form of floor radiant heating. The project was officially put into operation on 15 November 2016, and has run for two heating seasons so far. The results have been good, with indoor temperatures generally maintained at about 22-24°C.

专家评语

该项目为14万平方米住宅小区利用空气源热泵进行供暖，摈弃了传统的城市集中高温供热管网系统带来的大幅度管网衰减问题，解决了没有城市集中供暖的小区分布式供热问题。具有一定示范性。

JURY COMMENTS

This project uses air source heat pumps to provide heating for 140,000 square meters of residential estate, and has avoided the problem of large pipe network attenuation resulting from traditional urban centralized high temperature heating pipe network systems. A good reference example, this project solves the problem of distributed heating in a residential estate without urban central heating.

热泵户式供暖

- 杰出应用奖 -

AWARD FOR OUTSTANDING APPLICATION
OF HEAT PUMP IN HOUSEHOLD HEATING

获奖项目 WINNING PROJECT

北京延庆2017年农村电代煤改造工程

2017 Rural Improvement Project to Substitute Coal with Electricity in Yanqing, Beijing

机组品牌 UNIT BRAND	天舒 Tenesun
机组名称 UNIT NAME	低环境温度变频热泵机组 Low Ambient Temperature Variable Frequency Heat Pump Unit
艾默生方案 EMERSON SOLUTION	ZWW050直流变频压缩机整体解决方案 ZWW050 Compressor and full set of Variable Speed Control System
获奖单位 WINNING COMPANY	江苏天舒电器有限公司 Jiangsu Tenesun Electric Appliance Co, Ltd.

项目简介

此项目应用于北京延庆2017年农村电代煤改造工程户内取暖，建筑总面积为176m²，采暖面积为136m²，末端采用暖气片进行采暖，需求供水温度为55度。

该建筑配置一台天舒超低温空气源变频热泵机组进行采暖，该机组搭载艾默生谷轮涡旋™ ZWW050压缩机及全套变频控制系统。 机组工作环境温度范围为-25°C~45°C。此项目通过远程监控观察机组的所有运行数据，经验证，在-30°C时，机组都能保证室内的采暖效果，同时运行费用相比同类设备节约明显，产品运行稳定，噪音低。

产品运行效果非常好，因此在2018年河北保定顺平的煤改电招标中成功中标，并且已经批量进行安装。

PROJECT OVERVIEW

This project revolved around the replacement of coal with electricity for indoor heating in the rural area of Yanqing, Beijing in 2017. The total building area is 176m², while the heating area is 136m² Radiators are the main source for heating at the end-point, with the required water temperature being 55°C. The building is equipped with a Tenesun ultra-low temperature air source variable speed heat pump unit for heating, which is equipped with Emerson Copeland Scroll™ ZWW050 Compressor and a full set of variable speed control system. The unit's working temperature is -25°C to 45°C.

Through remote monitoring, it was verified that the unit can ensure effective indoor heating even at - 30°C, with the operating cost significantly lower than that for similar equipment. The product was stable and generated minimal noise. The results were so good that the product was key to the successful bid in another rural improvement project to substitute coal with electricity in Shunping, Baoding City, Hebei province in 2018, and has been deployed in batches.

专家评语

在北京山区应用低环境温度空气源热泵，工作范围可至-25°C。名义工况下，IPLV(H) ≥2.4，COP≥2.17。-20°C时，COP＞1.6。可推广至其他寒冷地区进行户式供暖。

JURY COMMENTS

This project involved the application of low-temperature air source heat pumps in the mountainous area in Beijing, with a working temperature reaching -25°C. Under nominal operating conditions, IPLV(H) ≥2.4, COP≥2.17. At -20°C, COP＞1.6. This project can be extended to other cold areas for household heating.

热泵节能

- 杰出应用奖 -

AWARD FOR OUTSTANDING APPLICATION
OF HEAT PUMP ENERGY CONSERVATION

获奖项目 WINNING PROJECT

长春市中医院双阳区节能改造项目

Changchun Shuangyang Hospital of Traditional Chinese Medicine
Energy Conservation Retrofit Project

机组品牌 UNIT BRAND	麦克维尔 McQuay
机组名称 UNIT NAME	“骄阳”系列空气源高温热泵机组； “MAC-XE”低环温空气源热泵机组 "Hot Sun" Series Air Source High-temperature Heat Pump Unit; "MAC-XE" Low Ambient Temperature Air Source Heat Pump Unit
艾默生方案 EMERSON SOLUTION	ZW154和VPI122压缩机 ZW154 and VPI122 Compressor
获奖单位 WINNING COMPANY	深圳麦克维尔空调有限公司 Shenzhen McQuay Air-Conditioning Co, Ltd

项目简介

长春市双阳区中医院是一所集医疗、预防、教学、科研于一体的综合性医院，占地面积15000m²，建筑面积7000m²。

项目采用麦克维尔（McQuay）“骄阳”系列空气源高温热泵机组MAC340DR5HW 12台“MAC-XE” 低环温空气源热泵机组MAC450DR5LH 2台，替换原有电锅炉采暖，解决医院夏季空调、冬季采暖需求，应用于病房、诊疗室区域。

2018年5月到货安装，6月份投入使用。 目前已经使用过一个空调制冷季，制冷效果非常好。同时，9月开始进入制热采暖，制热同样效果甚好。

PROJECT OVERVIEW

Changchun Shuangyang Hospital of Traditional Chinese Medicine is a comprehensive hospital that integrates medical treatment, prevention, teaching and scientific research. It covers a floor space of 15,000m² and a building area of 7,000m².

The project deployed 12 McQuay "Hot Sun" series MAC340DR5HW air source heat pump units and two “MAC-XE" MAC450DR5LH low-ambient temperature air source heat pump units to replace the original electric boiler heating system, and was able to meet the hospital’s needs for air-conditioning in summer and heating in winter for the wards and consultation rooms. The products were delivered and installed in May 2018 and put into operation in June. At present, the project has been in operation for one season, and has shown very good cooling effects. And at the start of the heating season in September, the project has also shown very good heating effects.

专家评语

应用于严寒地区对机组性能要求较高的医院，替换原有锅炉，解决夏季空调、冬季供暖的需求，最低环境运行温度可达-30°C。在-12°C环温、60°C出水温度时COP>2.01，节能效果好。

JURY COMMENTS

The project was applied to a hospital in a cold region, which has higher performance requirements. The original boilers were replaced, and the project was able to meet the requirements of air-conditioning in summer, and heating in winter, with ambient temperatures dipping to -30°C. At an ambient temperature of -12°C, and a water temperature of 60°C, COP was more than 2.01, demonstrating good energy savings.

获奖项目 WINNING PROJECT

重庆市彭水县润溪烤烟工厂烤烟房
Chongqing Pengshui Runxi Flue-cured Tobacco Factory Tobacco Drying Room

特别应用项目
- 杰出应用奖 -

AWARD FOR OUTSTANDING SPECIAL APPLICATION PROJECTS

机组品牌 **UNIT BRAND**	正旭 **Zhengxu**
机组名称 **UNIT NAME**	12HP烤烟机型 **12HP Flue-cured Tobacco Model**
艾默生方案 **EMERSON SOLUTION**	ZW72压缩机 **ZW72 Compressor**
获奖单位 **WINNING COMPANY**	东莞市正旭新能源设备科技有限公司 **Dongguan Zhengxu New Energy Equipment Technology Co, Ltd.**

项目简介

重庆市彭水县润溪烤烟工厂原采用传统的制热工艺来烘烤烟叶，由于市场对烟叶产品质量要求的提高，润溪烤烟厂需要更好的的解决方案。

经过考察，先试用了两台正旭12HP空气源热泵烤烟机组。正旭烤烟机组搭载艾默生谷轮ZW热泵专用压缩机，烘干最高温度达到68度。 经过了一个烤烟季的使用，两台机组烤出的烟叶非常好。

由于热泵烤烟机组全自动运行，节省人工成本，烟叶烘烤质量得到提升，且综合运行成本比传统工艺低，因此后续润溪烤烟工厂增订50台机组。

PROJECT OVERVIEW

Runxi Flue-cured Tobacco Factory in Pengshui County, Chongqing City, used trad -itional heating techniques to cure tobacco leaves in the past. Due to more stringent quality requirements for tobacco leaves, the factory required better solutions.

Following investigations, two Zhengxu 12HP air source heat pump tobacco flue-cured units were first tried out. The Zhengxu tobacco-curing unit is equipped with the Emerson Copeland Scroll™ ZW Compressor for heat pumps, and is able to achieve a maximum drying temperature of up to 68°C.

Over the tobacco flue-curing season, the tobacco leaves processed by the two units were of premium quality. With full automatic operation of the heat pump tobacco flue-curing unit, not only were there savings in labour costs, but the quality of tobacco leaves produced also improved, and the overall cost of operation was lower than that incurred when using the traditional process.

This led to Runxi Flue-cured Tobacco Factory ordering 50 units following the project.

专家评语

将热泵技术用于烤烟，进行热泵烘干，替代传统燃煤木炭，提高烘干品质，节能环保，扩宽热泵应用场合，具有行业示范性。

JURY COMMENTS

Heat pump technology was applied to the tobacco flue-curing process, replacing traditional methods that use coal. The quality of tobacco after curing was improved, while achieving energy savings and being environmentally friendly. This has expanded the application of heat pumps, and is an exemplary project for the industry to follow.


多彩生活
携手共拓

护航食品安全组

CATEGORY: SAFEGUARDING FOOD SAFETY

物流中心解决方案

- 杰出应用奖 -

AWARD FOR OUTSTANDING APPLICATION OF LOGISTICS CENTER SOLUTIONS

获奖项目 WINNING PROJECT

白沙洲增益冷链二期月台降温工程

Baishazhou Zeny Cold Chain Platform Cooling Project Phase II

机组品牌 UNIT BRAND	南极 NANJI
机组名称 UNIT NAME	三并联中高温涡旋机组 Triple-parallel Scroll Rack, Medium-high Temperature
艾默生方案 EMERSON SOLUTION	ZB220涡旋压缩机 ZB220 Scroll Compressors
获奖单位 WINNING COMPANY	武汉市南极冷气设备工程有限公司 Wuhan Nanji Cooling Equipment Engineering Co, Ltd.

项目简介

白沙洲增益冷链二期，5万冷吨大型冷冻库附属月台项目改造，响应国家节能环保号召，进一步完善全程冷链，将原来敞开式月台改造成缓冲月台。

客户原计划采用90匹单机螺杆压缩机，考虑到进出货量的多少，负荷变化，最终选择了涡旋并联机组。 并联机组能根据客户负荷大小自动调节冷量输出，高效节能，提高部分负荷效率，且涡旋机组噪音低，体积小，易于安装，便于维护保养，售后成本远低于螺杆机组，客户非常满意。

PROJECT OVERVIEW

The Baishazhou Zeny Cold Chain Phase II Project involved the transformation of the platform affiliated to a 50,000 RT freezer, which was implemented in response to the national call for energy and environmental conservation. This was done by further improving the entire cold chain, restructuring the original open platform into a buffer platform.

The customer originally planned to use 90 HP single screw system, but finally chose the scroll compressor rack after taking into account the number of incoming shipments, and frequent load changes. The parallel units can automatically adjust the output of the cooling capacity according to the customer's actual load. It is highly efficient and energy-saving and can improve the efficiency of partial load.

Apart from that, the scroll unit produces lower noise, and is smaller in size, easy to install and maintain. Its after-sales cost is much lower than that of the screw system, thus ensuring customer satisfaction.

专家评语

冷链需要全程温度控制。该项目采用并联压缩冷凝机组用于业主敞开式冷库月台改造，为物流中心冷链全程温控保证食品品质安全创造了基础条件。该机组并可用于高温冷藏库食品冷却及冷藏降温，一机多用，便于业主按需调配冷量，节能运行。

JURY COMMENTS

A cold chain requires temperature control throughout. This project adopted a multiple compressor condensing unit for the owner's open-type cold storage platform transformation, which creates the basic conditions for the temperature control of the entire cold chain in the logistics center to ensure food quality and safety. The unit can also be used for food cooling at high temperatures and cold storage. One machine can be used for multiple purposes. It is also convenient for the owner to adjust the cooling capacity as required, realizing energy savings during operation.

全寿命周期

- 杰出应用奖 -

AWARD FOR OUTSTANDING APPLICATION
OF FULL PRODUCT LIFE CYCLE SOLUTIONS

获奖项目 WINNING PROJECT

沃尔玛惠选黄金广场店
Walmart “Smart Choice” Golden Plaza

机组品牌 UNIT BRAND	艾默生 EMERSON
机组名称 UNIT NAME	灵动™风冷室外型冷凝机组 Copeland Scroll™ Air-cooled Outdoor Condensing Unit
艾默生方案 EMERSON SOLUTION	ZXD和ZXLD系列风冷冷凝机组及Dixell远程监控系统 ZXD & ZXLD Condensing Units, Dixell Remote Controller
获奖单位 WINNING COMPANY	深圳艾恩制冷设备有限公司 Shenzhen Ice Age Cooling Equipment Co, Ltd.

项目简介

沃尔玛首家智能门店“惠选”超市位于深圳宝安区新安五路黄金广，店内营业面积约1200m²，将传统大型商超数以万计的商品，精选至8000多种，其中生鲜高达750多种。

冷藏蔬菜、生鲜水果或速冻食品类，均前置在门店最显著的区域，进店可见。 配合沃尔玛惠选超市的智能化、数字化管理理念以及对生鲜产品新鲜优质的要求，惠选超市选择了具有多项世界级领先技术的艾默生灵动™系列风冷冷凝机组及Dixell专业的冷冻控制系统，可实现设备的远程智能管理，保障食品新鲜安全。

PROJECT OVERVIEW

Walmart's first smart store, "Smart Choice (Huixuan)" supermarket, is located at Golden Plaza, Xin'an 5th Road, Bao'an District, Shenzhen. With a retail area of about 1,200m², the supermarket offers a premium selection of 8,000 products from the tens of thousands of products available in traditional large supermarkets, including more than 750 kinds of fresh products.

Fresh vegetables, fruits or frozen foods can be found in the most prominent area of the store, making them clearly visible to the customers when they step into the store. In line with the concept of intelligent, digital management and the requirements for high-quality fresh produce, “Smart Choice” supermarket chose Emerson Copeland Scroll™ Air-cooled Condensing Unit which comes with many world-class advanced technologies and Dixell professional refrigeration control system. Thus, remote smart management of the equipment can be achieved, keeping the food fresh and safe for consumption.

专家评语

该项目针对商超货物管理复杂、用冷需求不一，进行全寿命周期设计。灵动™风冷室外型冷凝机组，配置智能化控制，故障自动诊断显示，以特有的Emerson控制理念，为客户打造了超市全寿命周期管理与运行的解决方案。

JURY COMMENTS

This project is designed for the entire life cycle of products, taking into account the complex management of supermarket goods, with different cooling demands. The Copeland Scroll™ Air-cooled Outdoor Condensing Unit is equipped with intelligent controls, automatic issue diagnosis and display. Based on Emerson control concept, the condensing units proprovided the customer with an integrated solution for supermarket life cycle management and operation.

节能技术

- 杰出应用奖 -

AWARD FOR OUTSTANDING APPLICATION
OF ENERGY-SAVING SOLUTIONS

获奖项目 WINNING PROJECT

真宇盛食品有限公司 - 凤爪精加工后段速冻降温方案

Zhenyusheng Food Co, Ltd. – quick freezing of processed chicken feet

机组品牌 **UNIT BRAND**	富胜 **FORTUNE**
机组名称 **UNIT NAME**	六并联低温涡旋机组 **Six-parallel Scroll Rack, Low-temperature**
艾默生方案 **EMERSON SOLUTION**	ZFI68涡旋压缩机，机组控制器和流体控制产品 **ZFI68 Scroll Compressors, Dixell Rack Controller & Flow Controls**
获奖单位 **WINNING COMPANY**	广州市富胜制冷设备工程有限公司 **Guangzhou Fortune Cooling Equipment Engineering Co, Ltd.**

项目简介

该项目涉及两个冷库：其一为急冻冷库（10mX10mX3m），客户要求每天每班次19吨凤爪，在30分钟内由常温+30°C降至-5°C，持续开机16小时内，中心温度达到-18°C；其二为储存库（20mX20mX4.5m），客户要求温度-18°C。

基于实际使用需求以及对成本的考虑，客户最终采用艾默生ZFI低温涡旋压缩机为制冷系统核心主机，部分主机共用，并且采用艾默生并联机组控制器以及油位管理装置。具体设备配置为2套90HP（艾默生ZFI68KQEx6）六并联低温风冷机组。

项目在2018年8月22号施工，10月26号正式使用至今。经过客户实际验证，该项目达到设计目标，合格交付使用。

PROJECT OVERVIEW

The project involved two cold storages: One is for the blast freezing cold room (10mx10mx3m), which should be able to quickly freeze 19 tons of chicken feet in 30 minutes from a room temperature of +30 °C to -5 °C. After 16-hour storage, the temperature at the center of the product should be -18°C. The second is for the storage room (20mx20mx4.5 m), which should be at a temperature of -18 °C.

Based on practical needs and cost considerations, the customer finally adopted Emerson ZFI scroll low temperature compressor as the core mainframe of the refrigeration system, which was shared by some units in the meantime. They also deployed Emerson Dixell Rack Controller and oil level controls. The equipment is specifically configured as two sets of 90HP (Emerson ZFI68KQEx6) with Six-parallel Low-temperature Air-cooled units. The project was initiated on 22 August 2018 and has been in operation since 26 October 2018. Following the customer's verification, the project has fulfilled the design goal and is qualified for delivery.

专家评语

该项目在短时间内将高温货物降至冰点以下，机组需要面对大幅度的工况变化，大冷量的机组配置。“六并联低温风冷压缩冷凝机组”以多机头并联配置，针对用冷需求逐台启动，稳定运行，并针对项目用热需求，在制冷的同时进行热回收，提升了用户综合用能效率，节能效果显著。

JURY COMMENTS

In this project, high-temperature cargo is cooled to below freezing point in a short time. The unit needs to be configured with a large cooling capacity, in the face of drastic temperature changes. "Six-parallel Low-temperature Air-cooled Condensing Units" are configured in parallel with multiple heads, which can start up one by one according to the cooling demand at stable operations. It can also conduct heat recovery at the same time based on the heat demand of the project, thus improving the comprehensive energy efficiency for users and achieving remarkable energy savings.

创新技术

- 杰出应用奖 -

AWARD FOR OUTSTANDING APPLICATION
OF INNOVATIVE TECHNOLOGY

获奖项目 WINNING PROJECT

桂林市农科院农产品保鲜冷库

Guilin Academy of Agricultural Sciences Fresh Produce Cold Storage

机组品牌 UNIT BRAND	冰峰 BINGFENG
机组名称 UNIT NAME	三并联中高温涡旋机组 Triple-parallel Scroll Rack, Medium-high Temperature
艾默生方案 EMERSON SOLUTION	ZB130涡旋压缩机 ZB130 Scroll Compressors
获奖单位 WINNING COMPANY	桂林市冰峰制冷设备工程有限公司 Guilin Bingfeng Cooling Equipment Engineering Co, Ltd.

项目简介

桂林市农科院农产品保鲜冷库项目，规格为53.3m*13.7m*4.9m(隔为3间)，保温材料选用聚氨酯双面彩钢板，厚度100mm。

冷库使用温度0-8℃。冷库需要解决日进出量为35吨、总容量为588吨的马铃薯保鲜保质问题。经过比较，最终确定选用艾默生大ZB 20匹三并联机组一套（ZB130KQ*3）。

自2018年6月5日竣工使用至今，设备运行稳定，温度、湿度达到使用要求，产品色相及质量良好，冷库自动化程度高，维护简便，建设成本和管理费用低，采用一套机组轮流打三个冷库的解决方案，与其它同类冷库相比用电量大幅减少，满足客户需求与期望。

PROJECT OVERVIEW

The Guilin Academy of Agricultural Sciences agricultural product preservation cold storage project has the specification of 53.3mx13.7mx4.9m (divided into 3 rooms), with insulation material made of polyurethane double-sided color steel plate at a thickness of 100mm. The operating temperature of the cold storage ranges between 0 and 8℃. The cold storage needs to handle the challenges of ensuring the freshness and quality of potatoes with a daily incoming and outgoing quantity of 35 tons and storage capacity of 588 tons.

After comparison, Emerson ZB 20HP three-parallel unit (ZB130KQ*3) was finally selected. Since the completion of the project on 5 June 2018 until today, the equipment has been operating smoothly, with temperatures and humidity levels of the cold room meeting the requirements. The product quality is good. The cold room has a high degree of automation with easy maintenance, low construction cost and management cost. By using only one unit to power three cold storage rooms, power consumption has been greatly reduced in comparison with other cold storages, and the Academy of Agricultural Sciences is satisfied with the solution.

专家评语

该冷库工程项目采用艾默生大冷量ZB130KQ(20匹)涡旋三并联水冷冷凝机组，分别用于不同冷库的降温，提高了机组的利用率。采用智能化控制，运行安全可靠，管理维修便捷。与其他同类型冷库相比更具示范性、创新性，且节能效果显著。

JURY COMMENTS

This cold storage project adopted Emerson large cooling capacity ZB130KQ (20 HP) Scroll in Triple-parallel Water-cooling Condensing Unit, which is used for cooling multiple cold rooms, and has improved the utilization rate of the unit. The project adopted intelligent control which enabled the cold room to operate safely and reliably, and allowed for convenient management and maintenance. Compared with other cold storages of the same type, it is innovative and achieves significant energy savings.


EMERSON
TM