

# HVAC clips



Willis Haviland Carrier,  
 the inventor of air conditioning



The next time you rush indoors to find relief from the summer heat, you may wish to thank a century's worth of ASHRAE members for helping to make you comfortable. As we celebrate air conditioning's 100th anniversary this year, ASHRAE historian Bernard Nagengast explains a bit of air-conditioning history.

According to Nagengast, the term air conditioning was first used in 1906 by Stuart Cramer, a textile engineer from Charlotte, N.C., in a patent application and a subsequent paper. While technology had already been developed that would lead to modern comfort cooling methods, this was the first use of the actual phrase "air conditioning."

"Nowhere in the patent description or claims is there any mention of using it to cool air, but the methodology was used later for that purpose where precise humidity control was necessary."

Although it would be some years before air conditioning as we know it would become widespread, this patent marked the start of a new era of comfort cooling for buildings as new technology developed. That year also was the launch date of the first air-conditioned hospital, which happened to be a boat.

# 100<sup>th</sup> Anniversary of Air Conditioning

1906 also marked the year that a patent was filed by Willis Carrier, who is commonly called the father of air conditioning, for "Method of Heating and Humidifying Air."

His intention was to regulate humidity, but Carrier's method has a fortuitous side effect—comfort cooling.

"The significance of the patent is in accurately controlling humidity in conditioned air," said Nagengast.

The Boston Floating Hospital had been established more than a decade before, but had been occupying a rented boat and did not have inpatient services. In 1906, a permanent boat, complete with air conditioning, was created to house patients and be used as a teaching facility.

The hospital, now affiliated with Tufts University, has had a permanent home onshore since a 1927 fire caused the boat to cease operation.

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# Wilcon Builders Depot - Filinvest

Banking on the success of Wilcon Builders' Depot Las Piñas, Wilcon Builders Supply recently opened its Filinvest Builders Depot early September 2006. Conveniently located along the busy Alabang-Zapote Road, it is shaping up to be a major landmark in the Filinvest Alabang area.

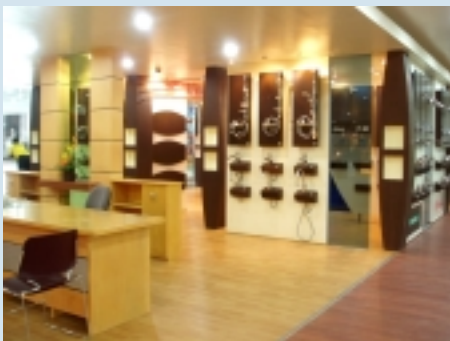


*The newest Wilcon Builders Depot branch in Filinvest, Alabang*

Existing and first time homeowners will find a wide choice of interior and exterior finishes, tiles, bathroom fixtures and accessories to suit all budgets. Top local and international brands such as Mariwasa, TenZen, Grespania, Rocersa, Bisazza, HCG, Toto, Kohler are available at Wilcon.

## One Stop Shop

Wilcon Filinvest is designed to be both a one-stop shop for homebuilders, architects, interior designers and contractors. It is a



showroom and hardware depot under one roof. Showrooms feature the latest in ceramic tiles, decorative stone works, bathroom and kitchen fixtures and accessories as well as contemporary furniture pieces.

Its hardware depot, also called the DIY section has everything you need from a hardware and then some more including an automotive section and even appliances to complete your dream house or flat.

With the variety of choices, homeowners, designers and builders can browse and shop in air-conditioned comfort from Carrier. Filinvest Builders Depot is fitted with 18 sets of 40RM & 38AKS Carrier commercial packaged equipment to cool its over 10,000 sq. meters of retail space spread over 2 floors.



*40RM Packaged Air Handling Unit*

## Riding the Construction Boom

With the building industry currently enjoying a surge in residential and office space

*Sales Engineer: Ariel Zaguirre  
Application Engineer: Alexander Sagum*



construction, Wilcon Builders' Supply, intends to be at the forefront by expanding its builders' depots in fast growing areas such as Central Luzon, South of Manila, and Visayas according to Wilcon Builders' Engineering Manager, Engr. Raimund Aspre. In the near future, expect to find a Wilcon Builders Depot near your area.



Currently, six (6) Wilcon Builders' Depot in Metro Manila serve customers in Libis, Mindanao Ave., Pasong Tamo, Balintawak QC, Las Pinas and Alabang.

So for your next home or office improvement project, be sure to check out the latest building materials at Wilcon Builders' Depot near your area! ■

The four-day technical training on Commercial Systems Design Course module 1 was held last August 1-4, 2006 at The Palms Country Club, Alabang, Muntinlupa City. The technical training intends to develop the knowledge in air conditioning system to effectively design, specify, sell or apply HVAC equipment in commercial application.



Lim Chin Huat, who has been working with Carrier Corporation for 25 years, stood as the CSDC 1 Speaker. He is currently the Senior Regional Manager at Carrier Building Systems and Services. Participated by CCAC Sales/Service Engineer, dealers/installers, end-users, the training involves the Air Conditioning Overview, Psychrometric Theory, Load Estimating, Commercial Load Estimating Using E20-II Program, Air Cooled Chillers, Air Cooled Condensers, Water Piping and Pumps and Carrier Air Cooled Chillers Familiarization.

## CSDC Module 1 Technical Training Held

At the end of the training, the Speaker conducted Course Assessment and Summary and distributed certificates to 25 students. ■



*Photo shows successful students of Commercial Systems Design Course Module 1 with the Speaker, Lim Chin Huat.*

## ASHRAE President Visits Philippine Chapter

The Philippine Chapter of the American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc. (ASHRAE) hosted a forum on the “Sustainable Energy Design” last September 4, 2006 at the Formoso Hall of the Architectural Centre Club, Inc, Makati City.

Terry E. Townsend, P.E., ASHRAE President delivered the main presentation as part of his tour of ASHRAE’s Asian Chapters. Discussions on the new series of ASHRAE documents entitled “Advanced Energy Design Guides” dominated the lecture.

ASHRAE acknowledges the impact of global warming on the earth’s climate and subsequently on HVAC design & practice. The goal of the Advanced Energy design guides is to obtain a “Net Zero Energy Buildings” by the year 2025. The first versions of the design guides are geared towards 30% savings in total building energy use vs. ASHRAE 90.1-1999 standards, using existing technologies. As energy efficient technologies and practices become widely available and affordable, future versions of the design guides will aim for a 50%, 70% and 100% energy savings by 2025.



*ASHRAE President, Terry E. Townsend as he presents the ASHRAE - Philippine Chapter Forum.*

Participants included the selected industry representatives, professional and student chapters of ASHRAE Philippines from Mapua & Dela Salle University. Mark Faulkner & Luci Limson represented CCAC during this event. To learn more about sustainable energy design, visit [www.engineeringforsustainability.org](http://www.engineeringforsustainability.org) ■

## 38MSC Low Profile Multi-Split Condensing Unit

The 38MSC Low Profile multi-split is designed to give you great flexibility implementing cooling systems into your project.

The Carrier 38MSC condensing unit's low profile perfectly blends with your building's aesthetic design. It is easy to conceal the 38MSC within the architectural treatments or grilles that you have already designed into your buildings exterior. Special alcoves and other treatments may be integrated into your building exterior to house the 38MSC while acting as design accents to the exterior.



The Carrier 38MSC line includes a range of multi-split condensing units that allow you to match 2 fan coils with a single condensing unit. This makes it deal for single bedroom residential or multi-room units with savings on installation space and cost that only a multi-split system can give.

With a multitude of installation and retrofit options, the 38MSC gives you the power to design your condominium project the way you want and the confidence of using the experience and leading edge technology that Carrier brings.

### Perfect Match

Match the 38MSC Low Profile condensing units with the ideal hi-wall or underceiling console fan coil unit.

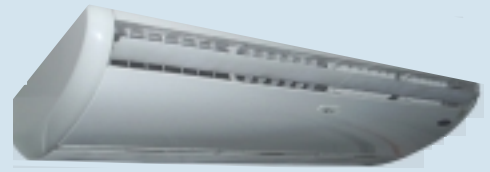


Specifically designed for high rise applications, the 38MSC uses centrifugal discharge fans that can withstand strong wind velocities typical at high elevation installations in modern condominiums.



### 42EXP Xpression Hi-Wall

The Carrier Xpression Hi-Wall fan coil unit features the latest in flat panel grille design giving your project an air of elegance only a Carrier air conditioner can give.



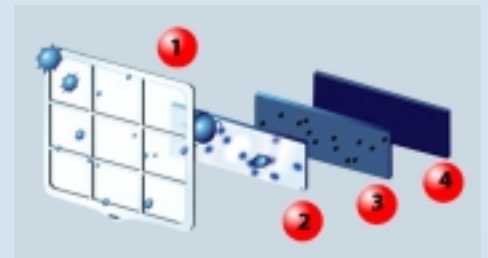
### 42XQA Underceiling Console

The 42XQA underceiling console fan unit can install as an underceiling or console unit This gives you great flexibility in designing the air conditioning system to be nearly invisible to the user.

### Carrier Advanced Air Cleansing Filter System

Both Xpression and 42XQA feature Carrier's 4-stage filter system to provide a clean air environment for their users.

1. Washable anti-mold filter
2. Electrostatic dust collector
3. Photo-catalytic filter
4. Activated carbon filter





# Safety First!

by: Jomel Abalos

*Concepcion Carrier Air conditioning Company (CCAC) is committed to provide its employees a work place safe from recognized Occupational Health & Safety hazards and ensuring adequate protection of the natural environment.*

## HAZARD identification

On September 22, 2006 Mr. Duncan Gillis (Carrier-Asia Pacific Operations President) visited the Philippines and held several meetings with the different departments. During his brief stay, a casual caucus with the employees was organized in Alabang.

Queries were raised regarding Residential Light Commercial Industries' (RLCI) performance, the challenges ahead, what the areas we need to focus on especially with regard to Environmental Health and Safety in Asia Pacific Region.



*From left to right: Mark Faulkner – Applied Sales & Service Director, Raul Joseph Concepcion- Chief Operating Officer, Duncan Gillis- President Asia Pacific Operation. Photo taken during Mr. Gillis' visit in service and distribution in Alabang.*

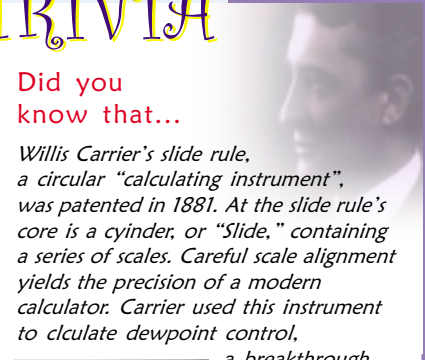
Right after the meeting, Mr. Gillis together with Mr. Raul Joseph Concepcion (Chief Operating Officer) and several other top management personnel went to see the renovations being done in the administration office. He later proceeded in the factory located in Cabuyao, Laguna to meet and speak with the personnel there. When the discussion with the departmental staff was finished, an EHS walk around was conducted. With him were Joey Turano (Plant manager), line supervisors and Mr. Ver Dayanghirang EHS-Engineer).



Though there were issues on machine guarding, Mr. Gillis' overall evaluation was good and congratulated the team for keeping the workplace clean and safe. Before departing the site, he reminded that an EHS assurance audit will be conducted in the factory by five (5) Environmental Safety and Health professionals from different operations early next year.

Concepcion Carrier Air Conditioning Company like other operations world wide will stop at nothing to protect our employees, the environment, improve our products, and services. It is Carrier's responsibility and our way of life. ■

# TRIVIA



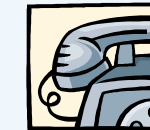
## Did you know that...

Willis Carrier's slide rule, a circular "calculating instrument", was patented in 1881. At the slide rule's core is a cylinder, or "Slide," containing a series of scales. Careful scale alignment yields the precision of a modern calculator. Carrier used this instrument to calculate dewpoint control,



a breakthrough that was the foundation for Carrier's invention of modern mechanical air conditioning.

We welcome clients' comments on this newsletter, including other aspects of Concepcion-Carrier Air Conditioning Co. products and services. If you wish to comment or to share your own experiences with us,



please contact the Editor-In-Chief at the Editorial Office. We look forward to hearing from you.

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• volume 2 number 3 •

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Briefly describe your feedback by ticking the box  of your choice. Kindly complete and fax this form at 809-9979.

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 Informative       Somewhat boring       Tedious

Which section in this e-newsletter do you find best and interesting?  
 Cover feature       Case Study       Special events  
 EH & S Corner       Product / Project feature       Trivia

What other topics do you want us to feature in our next e-newsletter?  
 \_\_\_\_\_

Which Carrier product would you like to know more about?  
 Window Room Air Conditioners  
 What specific type: \_\_\_\_\_  
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To know more about the product, would you like us to:  
 Send product brochures via:       Email       Fax       Hand-carried  
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Kindly indicate your complete contact details below and we'll get back to you soon. Thank you.

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