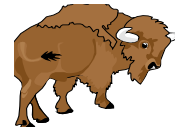




# **BUFFALO TALES**

**Newsletter of the Manitoba Chapter**

*The Manitoba Chapter of the American Society of Heating, Refrigerating and Air Conditioning Engineers was chartered in September 1935. It is the second oldest ASHRAE Chapter in Canada. ASHRAE Manitoba is part of ASHRAE Region XI and covers ASHRAE members in Manitoba and Northwest Ontario.*



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## **ASHRAE Dinner Meeting**

**April 12, 2007**

**Viscount Gort Hotel  
1670 Portage Avenue**

### **Evolution of Compressors for Industrial Refrigeration Charles Klockner**

5:00 pm – Social Hour  
6:00 pm – Dinner  
7:00 pm – Guest Speaker's Presentation

#### **Overview**

Charles Klockner, National Sales Manager with Vilter Manufacturing, will cover the evolution of industrial refrigeration compressors starting from the early 1880's. Compressor types covered are the first Horizontal and Vertical reciprocating with the transition to multi-cylinder reciprocating compressors, early rotary and rotary vane type compressors, then to the modern day twin and single screw compressors. The presentation will provide pictures showing the different types of compressor both external and internal, with descriptions of how each compressor type works along with their features.

Mr. Klockner holds a BS degree in Mechanical Engineering from the University of Illinois. He has worked for Vilter Manufacturing LLC for more than 30 years, and is currently Vilter's National Sales Manager.

He has been a member of ASHRAE since 1969, starting as a Student member while attending college. He has spoken at several ASHRAE meetings, RETA meetings and at IAR (International Institute of Ammonia Refrigeration), and has taught at several IAR Industrial Refrigeration Workshops. He is the past Chairman and a member of ASHRAE TC 10.1 Custom Engineered Refrigeration Systems, and is a member of the ASHRAE Refrigeration Committee.

## President's Message – Stirling Walkes, P.Eng.



The final ASHRAE Manitoba Chapter dinner meeting is here (not including our wind-up event). Our April 12<sup>th</sup> meeting will have a refrigeration theme with a presentation by Charles Klockner of Vilter Manufacturing.



The 12<sup>th</sup> of April will also see months of planning come to fruition with the ASHRAE hosted seminar on Building Commissioning. It will be a busy day, hopefully we'll see a lot of you at both events.

I would like to thank Russell Lavitt for his presentation on the James A Richardson International Airport at the March dinner meeting. It highlighted some of the challenges encountered by the design team. It was evident that working with a master architect like Cesar Pelli on a project of this scope was a unique experience for all on the design team. Once built, this structure will be a landmark that Winnipeg can be proud of.

At the end of May, I will officially pass the ASHRAE Manitoba Chapter banner and bell to 2007-2008 Manitoba Chapter President David Stones of Wardrop Engineering.

Hopefully we'll see you at the dinner meeting on April 12<sup>th</sup> and again at the wind-up in May.

## Coming Events

**Commissioning Green Buildings Seminar** – Thursday, April 12, 2007 ASHRAE Manitoba is bringing ASHRAE Distinguished Lecturer Ronald Wilkinson from Dome-Tech Commissioning in New Jersey to Winnipeg to lead the seminar. Fees are \$250 for ASHRAE Member and \$300 for a non-member. Registration forms were emailed to all members and registration deadline is April 6, 2007 (Good Friday).

**Indoor Environmental Design: Practical Solutions to Everyday Problems Broadcast/Webcast** - Wednesday, April 18, 2007. Specific solutions to the everyday challenges of achieving indoor environmental quality within real-world budget constraints will be presented by ASHRAE in a satellite broadcast/Webcast, from noon - 3 p.m., April 18. For details see the colourful notice elsewhere in this newsletter or go to [www.ashrae.org/iedbroadcast](http://www.ashrae.org/iedbroadcast)

**BEMM Conference and Exhibition** - Wednesday, April 25th, 2007, The Victoria Inn, 1808 Wellington Avenue in Winnipeg. Manitoba's premiere event focusing on energy efficiency and sustainable design in new and existing commercial and institutional buildings is seeking sponsors and exhibitors. Showcase your products and services to various private and public decision-makers who are seeking energy management and sustainable design solutions for their new and existing commercial buildings. For information, visit [www.bemm.ca](http://www.bemm.ca), or contact Dara Maternick, (204) 654-3995, [dara@plannersplus.ca](mailto:dara@plannersplus.ca)

**Integrated Process for Mechanical Systems Design** – The Canadian Green Buildings Council is planning a one day workshop on an approach to HVAC systems design that lowers operational costs, improves occupant comfort and reduces environmental impacts. The workshop is geared to professionals wanting to better understand how HVAC Systems Design contributes to the integrated design process (IDP). For more information, visit [www.cagbc.org](http://www.cagbc.org) or call Belinda White at (613)241-1184 ext.22.

## **More Notes from the Winter Meeting in Dallas, January 2007**- Bert Phillips

Forum 6 was titled **Practical Approach to Green Water Systems: Avoiding Unanticipated Consequences**. The unanticipated consequence that got discussed in this forum was legionella, which is quite common in DHW systems, especially where water temperatures are turned down. Legionella will grow in water at 70 to 120°F (20 to 50°C) with the ideal temperature for growth being 80 to 95°F (27 to 35°C). Storage only hot water tanks with big stratification are a problem (i.e., in tanks in which water supply does not cause good mixing) because, even though much of the tank may be at safe temperatures, there may be some areas in the tank that are usually in the ideal temperature range for growth.

It is believed that there is no risk associated with drinking water with live Legionella organisms but there are risks if we breathe respirable particles with Legionella. It is believed that visible water droplets do not pose a risk, except that visible water droplets can evaporate while airborne into invisible drop sizes (which tend to stay airborne), and these smaller drop sizes have been identified presenting a health hazard. Thus, shower heads, faucet aerators, humidifiers, etc. can create legionella risks.

Flow restrictors in newer faucets are a laminar flow design with a number of discs, strainers and O-rings that trap and hold dirt and are very difficult to remove and clean. Aerators are a common location for legionella to incubate. Local water filters, especially activated carbon filters provide a very good growth media for legionella.

It was recommended that water sampling points be added into water systems so that it is easy/practical to monitor water quality on a regular basis. It was also recommended that small diameter piping be used to keep velocities high, thus reducing the amount of sedimentation in pipes. Not much dirt settles in vertical pipe runs so mild steel is acceptable for these applications, but horizontal pipe runs should be plastic or copper because these materials are not as conducive to corrosion and thus sedimentation and biological growth.

We know people with health problems are “at risk”, thus legionella monitoring/testing programs are very important for health care facilities. Many legionella cases and deaths occur in the general population showing that there are many “at risk” people in the general population as well. Based on analysis of health records of many (several??) legionella cases, one participant thought two major risk factors were smoking and diabetes. Dialysis and bone marrow transplant patients were also at very high risk.

Attending the forum got me thinking about the aerator faucet and under sink water filtration system I installed on my girlfriend's kitchen sink last year. I have been wondering whether it would be smarter to take out her filtration system or take out a life insurance policy on her.

Seminar 48 **Hospital Waiting Room Ventilation and Minimizing Risk of Airborne Infection** was also very thought provoking. Sidney Parsons is a South African engineer with lots of experience with health care facilities dealing with TB and AIDS victims. He pointed out that everyone sits together in the waiting room. Immune-compromised patients are there with persons with TB. These are dirty places that present a dilemma as to how to avoid cross contamination when you don't know who has what.

Relative humidity impacts the time that droplets hang in the air. Big drops fall out of the air, but if the air is very dry, big drops may evaporate to suspended size before they reach the floor and thus remain hazardous. This is probably one factor that makes people in dry environments more susceptible to colds, flues, etc. CDC has engineering data on TB.

Airflow patterns and traffic patterns in hospitals and hospital waiting rooms matter a lot. Rooms, corridors, wards and contents should be laid out to minimize movements of hazard through spaces and the exposure of persons in the spaces to hazards. Think about patient flow/movement.

**ASHRAE Research Promotion Update** - Peter Gryc, P.Eng.

The 2006/07 ASHRAE Manitoba Research and Promotion campaign is now at **92%** of the Chapter's goal of raising **\$7,900**. We are welcoming two new Major Contributors, Manitoba Hydro and E.H. Price who generously donated \$2,000 and \$1,000 respectively in April. Our Research and Promotion Committee will be contacting you soon to ask you for a donation for ASHRAE Research. Listed below are this year's donors.

<b>2006-2007 Campaign Progress – April 2007</b>		
Chapter's goal	Donations up-to-date	Percentage of goal
<b>\$7,900.00</b>	<b>\$7,387.00</b>	<b>94%</b>

**Major Contributors**

Manitoba Hydro	\$2000
<b>E.H. Price</b>	<b>\$1000</b>
<b>Tom Beggs Agencies</b>	<b>\$1000</b>
<b>BEMM</b>	<b>\$1000</b>
<b>Midwest Engineering Ltd.</b>	<b>\$1000</b>

**Honour Roll and Other Contributors**

(Honor Roll \*- at least \$100 personal or \$150 corporate)

M2 Engineering*	Dieter Bartel*	Bert Phillips*
HydronAire*	Peter Gryc*	David Stones*
Sergio Almeida*	George Marchildon*	Stirling Walkes*
Corey Nation*	Bruce Menlove*	Russell Lavitt*

**Indoor Environmental Design:  
Practical Solutions to Everyday Problems  
SATELLITE BROADCAST/WEBCAST**

**Wednesday, April 18, 2007  
1:00 p.m. – 4:00 p.m. Eastern Daylight Time**

**I N D O O R  
E N V I R O N M E N T A L  
D E S I G N**  
**PRACTICAL SOLUTIONS  
TO EVERYDAY PROBLEMS**

This **free** broadcast will provide specific solutions to the everyday challenges of achieving acceptable indoor environmental quality within real-world budget constraints. The program will benefit designers, building owners, architects and contractors who are faced with the daily engineering challenge of specifying systems that maximize IAQ, thermal comfort and noise control. This program is sponsored by ASHRAE's Chapter Technology Transfer Committee. For complete details, visit our website at [www.ashrae.org/iedbroadcast](http://www.ashrae.org/iedbroadcast).

**How to Participate**

- You may host a Satellite Broadcast site for your colleagues
- You may register to view with others at a site near you
- Or, you may register to view the Webcast on your PC

**PDH Credits**

Three (3) Professional Development Hours or three (3) AIA Learning Units will be awarded to viewers who complete the "Participant Reaction Form" following the program.

**About the Presenters**

(Visit [www.ashrae.org/iedbroadcast](http://www.ashrae.org/iedbroadcast) for complete details)

- Hoy R. Bohanon, Jr.
- Willian J. Coad
- Lew Harriman
- Daniel In-Hout
- Christopher O. Muller

**Join ASHRAE Now and Save \$50!**

Viewers who are not currently ASHRAE members are cordially invited to join ASHRAE at a special introductory rate (**\$50 off**) for the first year of membership. A special membership application will be available by request at satellite broadcast sites or by request at [membership@ashrae.org](mailto:membership@ashrae.org) after March 1, 2007. [Click here](#) for information about ASHRAE member benefits.

**To Register or For More Information**

Online registration for Site Coordinators and Webcast viewers will begin March 1, 2007, at <http://www.ashrae.org/iedbroadcast>. Satellite broadcast participant registration will begin March 15, 2007. **There is no fee for registration.**

If you have any questions, call us at 678-539-1139 or email us at [ashrae-satellitebroadcast@ashrae.org](mailto:ashrae-satellitebroadcast@ashrae.org).

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**1791 Tullie Circle  
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## **MANITOBA CHAPTER OFFICERS and COMMITTEE CHAIRS**

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Refrigeration	Asitha Gajaweera	Pace Industrial	582-4620	<a href="mailto:asithag@paceindustrial.com">asithag@paceindustrial.com</a>

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ASHRAE, founded in 1894, is an international organization of 55,000 persons. Its sole objective is to advance through research, standards writing, publishing and continuing education the arts and sciences of heating, ventilation, air conditioning and refrigeration to serve the evolving needs of the public.

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