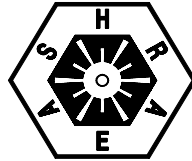


THE BADGERAIRE

AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR CONDITIONING ENGINEERS, INC.



Nov 17, 2011 Research Promotion

Wisconsin Chapter of ASHRAE and Student Chapter at MSOE
PRESENT THIS SEMINAR

THURSDAY, NOVEMBER 17, 2011 8:00 AM TO NOON

**MILWAUKEE SCHOOL OF ENGINEERING
CHECK IN AT THE LOBBY BY TODD WEHR AUDITORIUM
1025 N. Broadway, Milwaukee WI**

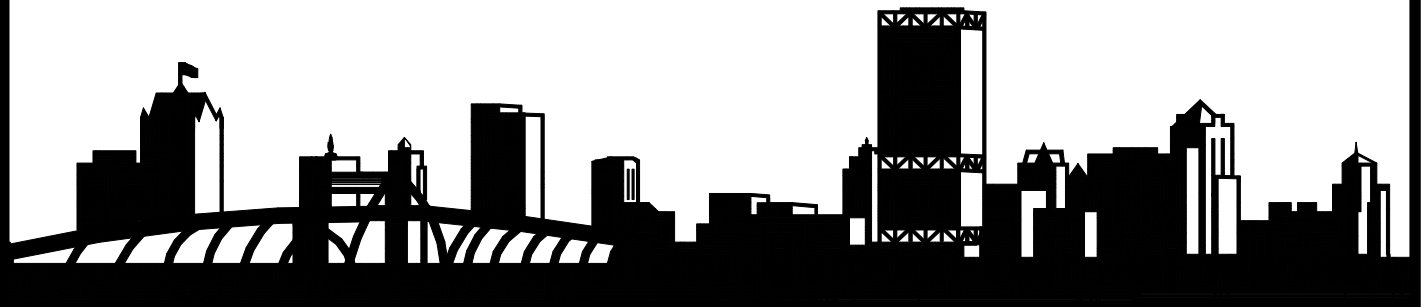
REGISTRATION 7:30 AM TO 8 AM
Coffee, water and juice available

Make your reservations at: <http://www.ashrae-wi.org/reservations.html>

**LUNCH IS FREE TO CURRENT CHAPTER MEMBERS AND STUDENTS
\$10.00 FOR GUESTS (1/2 PRICE THIS MEETING)**

Speaker will be Ron Michael, Northeast Regional Manager for Loren Cook Company will discuss a topic that he is frequently questioned about.

AMCA 205-10 "ENERGY EFFICIENCY CLASSIFICATION FOR FANS".



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SESSION 1A: 8:00 AM TO 9:45 AM ROOM CC-62

BASIC AND ADVANCED PUMP SELECTION:

Presented by Larry Konopacz, Manager of Training and Education for ITT Bell & Gossett's Little Red School House.

Sponsored by Hydro-Flo Corporation.

This presentation will begin with a quick review of centrifugal pumps; including how they operate and the common design types installed in HVAC Systems. It will cover basic open and closed loop system piping designs and how each influences the pump head requirements. He will construct system curves for closed and open loop systems and underscore the importance of an accurate system analysis and the impact it has on proper pump selection. Mr. Konopacz will then review key criteria and alternatives available to the designer when making a pump selection. He will continue on to discuss use and misuse of Variable Frequency Drives.

SESSION 1B: 10:00 AM TO 11:45 AM ROOM CC-62
CONSIDERATIONS FOR SELECTING AND APPLYING COOLING TOWER PUMPS: DEALING WITH HIGHLY AERATED WATER

Presented by Mr. William Armstrong, President of Fluid Handling.

Sponsored by Fluid Handling

Mr. Armstrong comes to us with unique pumping experiences that are very rarely discussed. It involves special considerations when handling highly aerated water, which is a consideration with every cooling tower. Nearly every serious pumping problem out there often involves cooling tower water and the problem always involves air. What air does is come out of solution at the lowest pressure point in the system, which is at the pump suction connection. The result is a phenomenon that acts like cavitation but is NOT true cavitation. Combining research from The Hydraulics Institute and information from the Cameron Hydraulic Data manual, Mr. Armstrong will provide us with an approach/presentation involving:

1. A review of true cavitation (resulting from water turning to vapor---steam--- at the impeller eye)
2. A review of air solubility in water and its reduced solubility at lower pressures---why air bubbles form at the pump suction with aerated water
3. How air bubbles act like steam bubbles to mimic cavitation
4. How air bubbles do not act like steam bubbles to mimic cavitation---it is not quite the same
5. The Hydraulic Institute approach to pump selection for aerated water based pump specific speed
6. A more practical approach to pump selection involving simple safety factors, for those who don't want to calculate pump specific speed (it is all an art anyway)
7. Indoor sump design and down comer design to allow air to escape.
8. Indoor sump design to break up vortices, which can further entrain air
9. Minimum water static height above the pump suction to eliminate vortex formation
10. Pump suction header design for multiple pumps
11. Review and lessons learned from two projects, Liberty Mutual and Harley Davidson: How the above principles resulted in erratic pump operation, and how application of these lessons solved those problems. (On the Liberty Mutual project, we verified our theory by making glass suction covers for the suction diffusers and witnessed pure froth at the pump suction. We also solved the problem by selecting different pumps).

SESSION 2A: 8:00 AM TO 9:45 AM and SESSION 2B:
10:00 AM TO 11:45 AM ROOM CC-130

FAN TESTING AND SYSTEM EFFECT: Presented by Ron Michael, Northeast Regional Manager for Loren Cook Company.
Sponsored by Air-Flow, Inc.

System designers, mechanical contractors and fan manufacturers have often encountered problems with fans and systems. The question we all encounter is: ***“Why does a fan, which has been rated from laboratory tests in accordance with AMCA Standard 210, sometimes fail to perform up to rating when installed in a system?”***

The presentation will be based on AMCA Publication 201-02 “Fans and Systems”. This publication and the presentation will provide information on how fans are tested in a lab condition and how design engineers would apply that data to jobs. Mr. Michael will include a short explanation on understanding g fan curves and catalog tables from the lab data.

The balance of the presentation will attempt to answer the question as to why the fans sometimes fail to perform when installed in a system. The presentation will define: System Effect” and show proper inlet and outlet configurations explaining the importance of each to proper fan operation in addition to system effect factors.

The presentation will finish up with a video showing correct and incorrect connections to the fan with related performance. We will show inlet vortexes and swirling of air as well as uniform airflow.

SEMINAR COST:

\$50.00 per person (lunch included)

ALL FUNDS TO GO TO RESEARCH PROMOTION FUND IN YOUR NAME

12:00 NOON TO 1:00

Lunch and ASHRAE General Monthly Meeting

Speaker will be Ron Michael, Northeast Regional Manager for Loren Cook Company will discuss a topic that he is frequently questioned about.

AMCA 205-10 "ENERGY EFFICIENCY CLASSIFICATION FOR FANS".

LUNCH IS FREE TO CURRENT CHAPTER MEMBERS AND STUDENTS
\$10.00 FOR GUESTS (1/2 PRICE THIS MEETING)

REGISTRATION:

www.ashrae-wi.org
click on registration

President's Column

I want to thank you all for the great attendance at last month's meeting. We had 50 people attend the session at Joey Buona's! That is fantastic – they even had to set up extra tables. The topic was given by Kristan Kollevoll, president of BRD Noise and Vibration Controls, and he covered Acoustic Best Practices for the HVAC Engineer, as well as terminology, the four main questions for acoustic design, defined the low hanging fruit, and discussed evaluation of airborne and structural transmission.

I also want to thank Bill Armstrong and Fluid Handling for sponsoring the table top for Research Promotion. There are plenty of opportunities left to participate.

Our next meeting will be November 17th, and is a Research Promotion meeting, with a half day seminar starting at 8 am, and then a great lunch program at MSOW. Topics can be found in the news letter.

The holiday party is set for December 16th at Trinity in downtown Milwaukee, so look for the detail on that to be sent out shortly, and mark your calendars.

We are off to a great start, and I want to continue to encourage you to attend, and that you all continue your support of ASHRAE. Please consider making a donation to Research Promotion, and if you get a chance please read the October issue of ASHRAE magazine, as there are several great articles in there, including one on VAV high performance.

One sad piece of news, I ask you to please remember in your thoughts Lynn Bellenger, last year's President of ASHRAE, who passed away in late October. Her leadership was inspirational, and she had a great way of engaging anyone with whom she met. She was a strong example for women engineers, and anyone who was passionate about energy savings. A true example of leadership in our industry, she is a loss to the engineering and ASHRAE Community.

As always, if you have any questions, comments or concerns, please do not ever hesitate to contact me or any of the Board Members.

Best Regards,
Justin Patrick
President, ASHRAE - Wisconsin Chapter
justin.k.patrick@jci.com
414-524-7198

RESOURCE PROMOTION CAMPAIGN SETS ALL TIME RECORD!

We want to Thank our ASHRAE Honor Roll Investors from the Wisconsin Chapter for 2010-2011 that helped make this all possible.

First we want to Thank our Chapter Leaders, James Burke, Justin Patrick, Jason Leffingwell, Timothy Pann & Randy Sikkema for setting the lead by being Full Circle Chapter Award for all Contributing on an Honor Roll Level.

Major Donors of \$1,000 to \$2,499
Desert Aire Corporation

Investors of \$500 to \$999
Plumbing & Mechanical Contractors Association of Milwaukee and SE Wisconsin
Sheet Metal & Air Conditioning Contractors Association of Milwaukee
Milwaukee Stove and Furnace Supply Company
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Investors of \$250 to \$499
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Timothy Pann
Justin Patrick
Bernard Radoszewski
Earl Vorpapel Jr.

**TO ALL DONORS AND
VOLUNTEERS...THANK YOU!**

Membership Promotion Committee

The Membership Promotion Committee is looking for a few new volunteers. The committee has no formal meetings. Participants need only an email address they check regularly and some good ideas for promoting membership in ASHRAE. Please contact the Membership Promotion Chair, Joe Carmichael, at jcarmichael@mastershvac.com for more information.

You are encouraged to advance your membership grade.

Do you have your PE? Have you worked in the HVAC industry for at least 12 years? Answering "YES" to either of these questions means that you should qualify for a membership upgrade!

Any person having 12 equivalent years of Society-approved experience qualifies for the "Member" membership grade. College and PE count towards those equivalent years, so you may not need 12 working years to qualify. Check your membership status online at www.ashrae.org. If you are still listed as "Associate", "Affiliate" or even "Student", it's time to upgrade! While logged into your ASHRAE home page, click on "Update Your Bio" in the Member Central menu on the left side of the page. Go through each of the tabs to enter all of your relevant history. That's it!

For those of you who answered "No" to both of the questions or are unsure what qualifies as experience in the HVAC industry, here's a list of qualifying experiences:

- One and one-half years of credit for each year of completed education for graduates of approved technical curricula (ABET accredited colleges or universities).
- One year of credit for each year of education for non-graduates who have completed at least two years of approved technical curricula.
- One year of credit for each of completed education for graduates of colleges or universities which do not have accreditation. Those holding associate degrees from technical institutions shall also be credited for one year for each year of education.
- One year for each year of qualifying work experience in the performance of duties in work related to ASHRAE fields of interest and shall have included research, teaching, design, contracting, engineering sales or engineering management.

- Three years of credit for professional registration or license issued by a legally authorized body in engineering or related fields, the requirements of which as to education, examination, and active practice are satisfactory to the Board of Directors.

A quick example of how you could be eligible for a "Member" upgrade is a 4-year degree from an accredited college and 6 years of industry work experience (1.5 years for each year of college and 1 year for each year of work experience).

To advance from Associate to Member, you must update your ASHRAE bio online, and notify membership@ashrae.org you have an updated bio and wish to be considered for grade advancement.

Membership Roster Updates

Delinquency in Society dues is very high. Please remember that dues should be paid in August. We understand that historically, dues were paid at the end of the year so please update whomever is responsible for submitting your dues to the national chapter so that they are aware of the August due date. If you are no longer a member and do not wish to be, please update your bio online and alert the National Chapter. Delinquency reflects poorly on the rest of the chapter, so please, pay your dues or formalize your departure from ASHRAE.

YEA Social Event at Spin

Milwaukee's Third Ward on Tuesday, November 29th. The event starts at 7:00 PM. Food and beverage will be provided by the local chapter. Stop on out and play some pong!

Upcoming Chapter Meetings-Mark Your Calendars!

MEETING DATE / TIME	LOCATION/TIME	TOPIC	SPEAKER
November 17, 2011	MSOE 7:30AM-1:00PM	½ Day Seminar on Fan Laws, Pumping apps, Fan System Effect (See previous page)	See previous page
YEA Meeting November 29 th , 2011 7:00 PM	Spin 233 East Chicago Street	Food and beverage will be provided by the local chapter.	Stop on out and play some pong!
December 16, 2011	Trinity- downtown Milwaukee	ASHRAE Holiday Party	

Other Chapters

For details regarding *surrounding chapter* meetings see:

- o Northeast Chapter <http://www.newisconsinashrae.org/>
- o Madison <http://www.ashraemadison.org/>
- o Illinois [www.illinoisashrae.org.](http://www.illinoisashrae.org/)

Wisconsin Chapter Officers and Committee Chairs

President	Justin Patrick
Vice President	Tim Pann
Secretary	Jason Leffingwell
Treasurer	Jason Nenonen
Refrigeration Chair	Phil Golden
Membership	Joe Carmichael
Research and Promotion Chair	Randy Sikkema
Student Chapter Coordinator	Ryan McNally
Historian	Maggie Roll
Newsletter Chair and Editor	Brian Lynch
Website, Badgeraire Distribution	Steve Hagman
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Governor at Large	Bill Armstrong

Wisconsin Chapter of ASHRAE