HEDRICK ASSOCIATES OF GRAND RAPIDS

West Michigan's Factory Representative

2016 Heat Transfer Design Seminar and Product Show

Topics Include Design and Application of Cooling Towers and Fluid Coolers, Heat Exchangers, Process Pumping, and Design and Benefits of Filtration and Chemical-Free Water Treatment

Hedrick Associates is happy to welcome Marley Cooling Technologies, Lakos, Alfa-Laval, Flo-Fab, Flow-Tech, Mitsubishi, and Hydron to West Michigan for two design seminars and product shows. At these seminars, you will learn the latest industry trends and best practices for designing heat transfer systems, including cooling towers, heat exchangers, water filtration, chemical free water treatment, and process pump designs. Each event will feature multiple, technical breakout sessions, and will be presented by industry expert representatives from our manufacturers. Products will be on display for evaluation and demonstration. Please see the following pages for presentation overviews and company background profiles. See page 7 for additional seminar details and registration.

~ Seminar 1 ~

June 22, 2016
Lansing, MI
MSU University Club
3435 Forest Road
Seminar Registration @ 9:00am
Lunch Served at 12:00pm
Seminar Concludes @ 3:30pm

~ Seminar 2 ~

June 24, 2016
Grand Rapids, MI
Thousand Oaks
4100 Thousand Oaks Dr NE
Seminar Registration @ 9:00am
Lunch Served at 12:00pm
Seminar Concludes @ 3:30pm

Hedrick Associates
2360 Oak Industrial Dr. N.E.
Grand Rapids, MI 49505
(616) 454-1218 Fax: (616) 454-5336

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This seminar and product show will consist of four morning breakout session choices in a two hour time slot. Attendees will have the option of choosing two of the four sessions. Following the second breakout slot, lunch will be served and there will be opportunity to see product demos. After lunch, there will be four more breakout session choices in another two hour time slot, which will conclude the seminar portion of the event. Demonstrations will continue for the next hour, at which time the event will end. See below for breakout session details!!

BREAKOUT SESSION 1: EVAPORATIVE COOLING PRODUCTS

Evaporative Cooling Product Choices
Crossflow vs. Counterflow
Open circuit vs. Closed circuit
Product Illustrations

Evaporative Cooling Product Application
Application Benefits of Product Choice
Site Specific Application Considerations
Maintenance Considerations
Optimizing Product Longevity

BREAKOUT SESSION 2: COOLING TOWER PERFORMANCE

Cooling Tower Overview
Tower Configurations
Applications
Optimizing Cooling Tower Selection

Cooling Tower Performance
Maximizing Operational Efficiency
Winter Operation
Variable Flow Applications

About SPX / Marley,...

Visit our web page at www.marleyct.com

Evaporative cooling equipment is available in several types and sizes and understanding the various products, along with their advantages and limitations is important when determining the right application for your project. As the only full-line cooling product manufacturer, SPX Cooling Technologies is uniquely qualified to provide the best possible products and services for your application. From field erected cooling equipment for large power plants to factory-assembled products for light industrial or HVAC duty, this approach allows each customer the same dependability and quality regardless of size.

Field erected induced draft counterflow cooling tower

Field erected natural draft counterflow cooling tower

Field erected induced draft crossflow cooling tower

Packaged induced draft crossflow cooling tower

Packaged induced draft counterflow cooling tower

Packaged forced draft counterflow cooling tower

Packaged induced draft fluid cooler

Packaged forced draft fluid cooler

ClearSky – Proprietary Plume Abatement Solution

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SESSION 3: HEAT EXCHANGER AHRI CERTIFICATION

Heat Exchanger Fundamentals
What is a Heat Exchanger?
Types of Heat Exchangers
Terminology and Components

AHRI Certification Overview
Why Is It A Good Thing?
How Does It Affect Selections?
What Does It Mean For You?

About Alfa Laval,...

Visit our web page at www.alfalaval.com

Planning a cooling system can be a complex task, considering the many factors involved in a successful solution. Alfa Laval supplies a comprehensive range of high-quality heat exchangers and components for cooling applications, and applies knowledge and experience gained from numerous completed projects around the world.

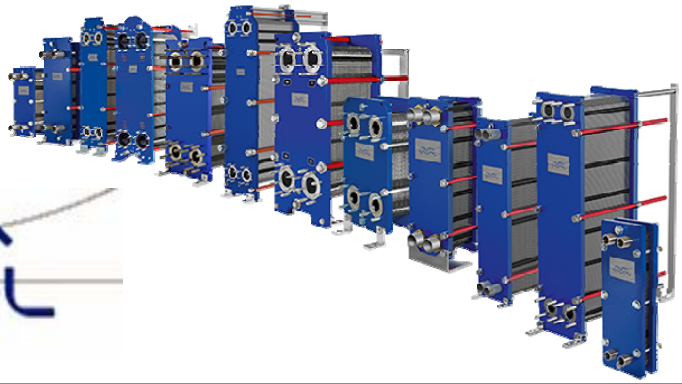
AHRI Certification Background:

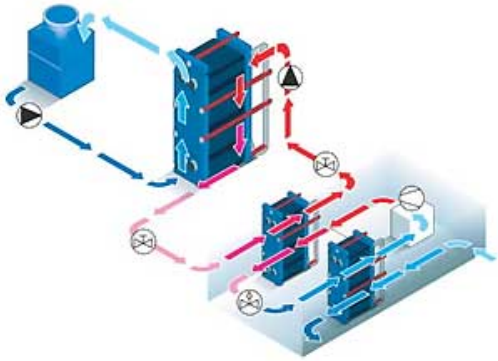
When suppliers of heat exchangers apply large sizing tolerances, it creates uncertainty about heat exchanger performance. However, there is a solution that can remove this uncertainty – AHRI performance certification – the only global third-party performance certification for plate heat exchangers.

For many years it has been a common practice in the plate heat exchanger industry to "adjust" or tweak heat duty calculations. Manufacturers manipulate calculations so that component costs can be minimized and a smaller plate heat exchanger can be offered at an attractive price. However, the result is that end customers get under-dimensioned heat exchangers, leading to higher system-wide energy use, higher operating costs and compromised environmental performance.

These "recalculations" makes it harder to choose a heat exchanger that will provide the required performance and increases the risk that it will underperform. It creates uncertainty for everyone involved in recommending, selecting and using heat exchangers – consultants, specifiers and end customers – and undermines confidence in the industry as a whole. The degree of under-dimensioning has been growing year by year and it has become the plate heat exchanger industry's biggest problem.

There is one sure way to ensure certainty right from the start – AHRI performance certification.
The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) is the only independent organization that certifies the performance of liquid-to-liquid heat exchangers globally. AHRI is a non-profit organization.
The AHRI Liquid to Liquid Heat Exchangers (LLHE) Certification Program provides third-party verification of thermal performance – it gives independent assurance that the plate heat exchanger will perform in accordance with the manufacturer's published ratings.





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SESSION 4: FILTRATION SYSTEM DESIGN AND APPLICATION

Hydronic System Solids Filtration
How Solids Enter Cooling Systems
Filtration and the Heat Transfer Coefficient
How Clean is Clean Enough?

Filtration Application
Types of Filtration Equipment
Filtration Application Options
Maintenance Impact of Filtration Choice

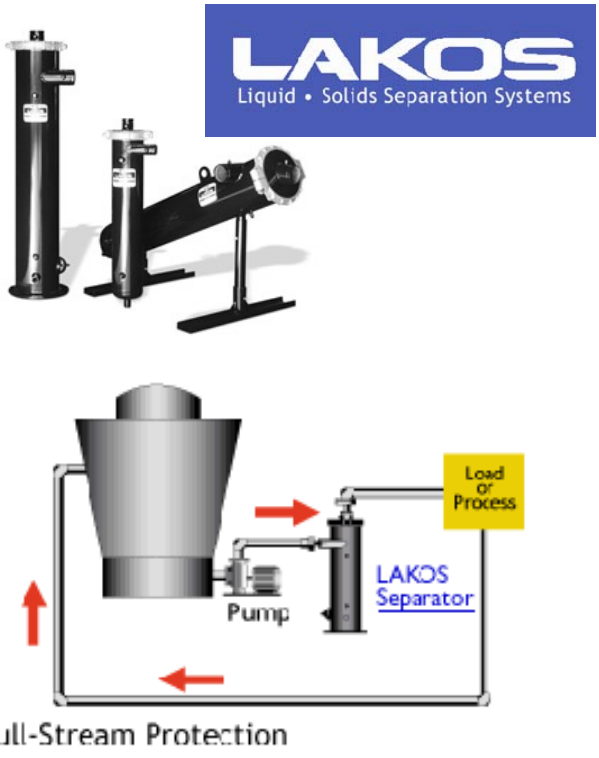
About Lakos,...

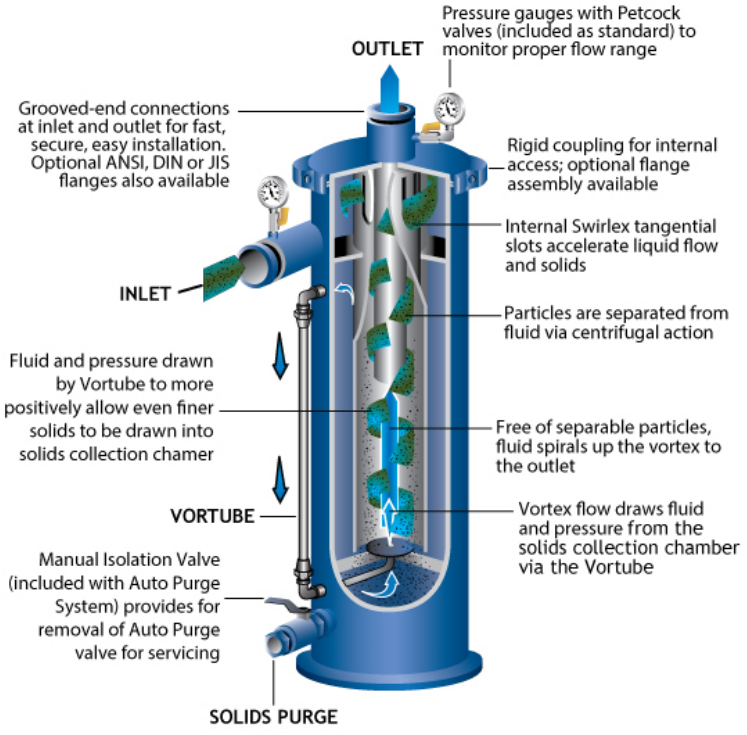
Visit our web page at www.lakos.com

Featuring innovative and adaptable solutions for specific filtration problems for over 40 years, LAKOS Separators and Filtration Solutions has become a world leader. The company operates from a 100,000+ square foot manufacturing, sales, marketing and engineering headquarters in Fresno, California. A worldwide network of technically trained distributors extends the company's reach, with applications around the globe. Originally designed for groundwater and agricultural uses, LAKOS Separation and Filtration products are now targeted to key industrial markets as well, and our products for cleaning Cooling Tower basins and Heat Exchangers is our fastest-growing market.

Airborne debris and other suspended particles in cooling tower water negatively affect heat transfer efficiency through the creation of deposits, which result in scale, corrosion, fouling, and biological activity. This leads to reduction in heat transfer design efficiencies and an increase in system operating costs.

LAKOS Centrifugal Separators and Filtration Solutions help remove suspended particles from cooling water thus helping maintain design efficiencies and extending the life of cooling towers, heat exchangers, chillers, and evaporative condensers.





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SESSION 5: CHEMICAL-FREE WATER TREATMENT

Who is Flow-Tech?
Company Background

Water Treatment Essentials
Pulsed AC Current
Corrosion Control
Biological Control
Scale Control

Performance Studies
Third Party Case Studies

Why Consider Flow-tech?
Economic Evaluation
Environmental Responsibility

Flow-Tech Product
Component Overview

Industry Trends
Green Building
LEED Opportunities

About Flow-Tech HVAC...

Visit our web page at www.flowtechsystems.com

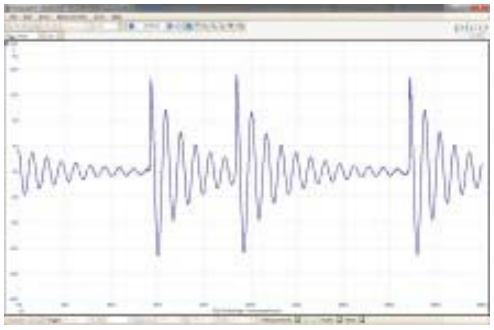
Using technology derived from years of research and development by a team of petrochemical engineers and scientists, Flow-Tech Systems has created the most technologically advanced chemical free water treatment system available on the market today.

The team of physical water treatment specialists at Flow-Tech Systems, with over 50 years combined experience, has designed a system which increases operational efficiencies by reducing microbial contamination, potential health and safety problems, corrosion and scale deposition. Flow-Tech is the ultimate green choice.

The Flow-Tech water conditioning system uses state-of-the-art technology. It couples time tested proven science with an innovative proprietary induction method that allows facilities to eliminate the need for ion exchange water softeners and other chemical treatment programs. The Flow-Tech system conditions (it does not soften) or temporarily alters the ionic makeup of the water which disallows the formation of encrusted lime scale, when super-saturation occurs.

Unlike other chemical and physical water treatment systems on the market, Flow-Tech Systems has invented a proprietary method of treating all of the water throughout your plumbing system—whether the water is moving or not. generates a pulsed AC current. This electric field is induced into the water loop header and throughout the piping network to form homogeneous calcium seed crystals that simply remain in suspension. These suspended seed crystals will eventually settle out or pass through the system without adhering to the heated surfaces. Flow-Tech is the only system on the market that maintains measurable signal strength throughout your entire plumbing system, regardless of flow.

FLOW-TECH HVAC WATER TREATMENT SYSTEMS



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SESSION 6: ADVANTAGES OF WATER-SOURCED VRF OVER UNITARY HEAT PUMPS

Intro to VRF Heat Recovery vs Heat Pump
Theory of Operation
Indoor Components
Outdoor Components

Total Cost Of Ownership Advantages
Superior Efficiencies
Reduced Installation Costs
Application Examples

VRF Application and Operation Advantages
Small Size
Ease of Install
Comfortable Zone Control
Integrated Controls
Water Source VRF Design Options

Design Tools and Capabilities
Design Assist Tools
Supporting Data Options
Design to Implementation Support

About Mitsubishi...

Visit our web page at http://www.mitsubishipro.com/

For the past 30 years, Mitsubishi Electric Cooling & Heating (Mitsubishi Electric), a division of Mitsubishi Electric & Electronics USA, Inc., has enhanced people's lives by improving comfort, conserving energy, and promoting environmental sustainability.

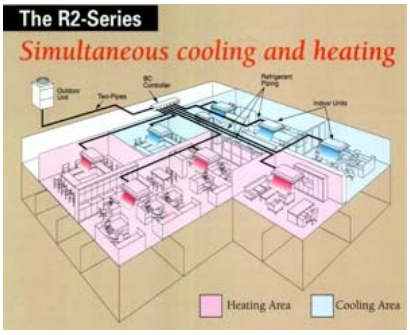
Mitsubishi Electric is a leading marketer of variable refrigerant flow (VRF) zoning and split-zoning air-conditioning systems for both commercial and residential installations. VRF systems, which are highly efficient and can dramatically cut energy costs, are one of the fastest growing segments of the American air-conditioning and heating market.

Based in Suwanee, GA, Mitsubishi Electric provides training and product support to contractors, engineers and distributors across the country. The training programs are certified by the International Association for Continuing Education and Training (IACET) and conform to the guidelines of the American Institute of Architects (AIA).

Mitsubishi Electric's Diamond Alliance™ ties together a network of distributors, contractors and design-engineering firms committed to building brand loyalty and delivering exceptional customer service.

Mitsubishi Electric is a manufacturer member of the U.S. Green Building Council (USGBC), the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), the Air Conditioning Contractors of America (ACCA), and the Air Conditioning, Heating, and Refrigeration Institute (AHRI). Mitsubishi Electric recently worked with the AHRI to pass Standard 1230, which established a new category for VRF multi-split systems.

MITSUBISHI ELECTRIC
COOLING & HEATING



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THIS SEMINAR IS FREE FOR ATTENDEES AND LUNCH IS PROVIDED

NAME _____

COMPANY _____

ADDRESS _____

PHONE NO. _____

EMAIL ADDRESS _____

SCHEDULE

9:00AM:	REGISTRATION
9:30AM - 10:30AM:	BREAKOUT 1 (2 CHOICES)
10:30AM - 11:30AM:	BREAKOUT 2 (2 CHOICES)
11:30AM - 12:00PM:	DEMOS AND NETWORKING
12:00PM - 12:45PM:	LUNCH
1:00PM - 2:00PM:	BREAKOUT 3 (2 CHOICES)
2:00PM - 3:00PM:	BREAKOUT 4 (2 CHOICES)
3:00PM - 3:15PM:	PRODUCTS / RAFFLES
3:15PM - 4:00PM:	DEMOS AND NETWORKING

CHOOSE A SESSION

JUNE 22ND IN LANSING
MSU University Club ☐

JUNE 24TH IN GRAND RAPIDS
Thousand Oaks Golf Club ☐

Registration Begins at 9:00AM for Both Seminars

PLEASE REGISTER BY JUNE 15TH

FAX OR E-MAIL THIS CONFIRMATION SHEET TO
TESKE HOFFMEISTER AT HEDRICK ASSOCIATES

FAX: 616.454.5336
EMAIL: HOFFMEISTERT@HEDRICKASSOC.COM

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