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SEPTEMBER 2020

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NEWS

THE WEST'S LEADING MONTHLY NEWSMAGAZINE FOR THE AIR CONDITIONING, HEATING, REFRIGERATION, SHEET METAL AND VENTILATING INDUSTRIES



Troubleshooting

This month's problem focuses on a 10-year-old split system that's sitting dead.

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Editorial Focus

What's new? Find out here as Indoor Comfort News spotlights the latest offerings in Performance Contracting, Geothermal and Heating Products.

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Indoor People

ICN puts the spotlight on the movers and shakers in the heating and air conditioning industry.

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Legislative Update

Prop. 15 on Nov. 3 Ballot Would Raise Business Property Taxes and Costs

By Ted Rieger
Northern California
Correspondent

Proposition 15 on the Nov. 3 California general election ballot would change property tax assessments on commercial and industrial properties in California from historic Proposition 13 assessment limitations dating back to 1978. If passed, new tax rates for commercial and industrial properties would be reassessed regularly based on the property's commercial market value rather than on the property's purchase price.

The measure would create a "split tax roll" assessment by which commercial and industrial properties are taxed differently than residential properties. The measure requires commercial and industrial properties to be reassessed at fair market value at least every three years, and reassessments would

be phased-in by local tax assessors beginning in fiscal year 2022-23. The measure would not affect taxation of residential properties, including single-family and multi-family residential rental properties.

Proposition 15, as described on the ballot: "Increases Funding for Public Schools, Community Colleges, and Local Government Services by Changing Tax Assessment of Commercial and Industrial Property. Initiative Constitutional Amendment."

The financial analysis and cost estimates by California's Legislative Analyst and the Department of Finance state: "Net increase in annual property tax revenues of \$7.5 billion to \$12 billion in most years, depending on the strength of real estate markets. After backfilling state income tax losses related to

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Inside

COVID-19 Update

ASHRAE Introduces Updated Reopening Guide

Task force offers guidance on operating HVAC systems as schools prep for fall academic year.

The ASHRAE epidemic task force has developed guidance on the operation of HVAC systems to help mitigate the airborne transmission of SARS-CoV-2 as schools prepare to reopen for the fall academic year.

The 41-page presentation includes convenient checklists

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As doors reopen for classrooms this fall, facility managers and administrators must work in lockstep to keep everyone safe.

Goodway Provides Tips on Proper Cleaning, Sanitation Steps

Whether businesses and facilities are preparing to reopen after the COVID-19 shutdowns, or they are performing ongoing efforts to keep their space as clean and sanitized as possible, Goodway Technologies is offering some tips to keep surfaces and the indoor

environment safer and cleaner for its occupants. Goodway, which manufactures specialized cleaning and sanitation equipment, has been implementing these steps as they continue to produce solutions for the wide array of industries seeking solutions to keep their employees, customers, and any building occupants safe and

healthy.

"Proper sanitation has never been more important than it is right now, and it's going to be a question that everyone asks themselves before they enter a facility," says Tim Kane, president, and CEO

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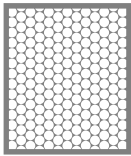

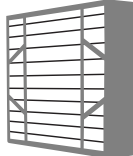




Painted Steel Metal Cabinet with heavy 18-gauge steel provides attractive and durable protection for electronics and filter components.

Reusable Collection Cells are precisely engineered to capture particles down to .1 micron, while still remaining easy to clean. Simply vacuum once or twice a year to make them like new.

Field Charger charges incoming particles so they adhere to the collection cells. This patented process is what allows CleanEffects to remove up to 99.98% of particles down to .1 micron that pass through it.

Clean Air Delivery Rate Industry Comparison

Typical In-room Appliance	Standard 1" Filter	Typical Room HEPA Appliance	Whole-House 5" Media Filter	Whole-House Electronic Air Cleaner	TRANE CleanEffects
					
Clean Air Delivery Rate: 10	Clean Air Delivery Rate: 12	Clean Air Delivery Rate: 150	Clean Air Delivery Rate: 240	Clean Air Delivery Rate: 660	Clean Air Delivery Rate: 1,200

Clean air delivery rate (efficiency times airflow rate) is recognized by the Federal Trade Commission (FTC) and the Environmental Protection Agency (EPA) as a fair and objective measure of various air cleaner technologies. Ratings reflect cubic feet per minute of clean air delivered for a typical 3-ton heating and cooling system: the higher the value, the more effective the air cleaner.



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MXZ OUTDOOR UNITS



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- 7 MXZ Standard Multiple Applications Options

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CALIFORNIA



CEC Awards \$2M to Nelumbo for Refrigeration Solution

Hayward, Calif. – Nelumbo, a pioneer in the field of advanced materials and surface modifications, announced that it has been awarded \$2 million in funding from the California Energy Commission (CEC) through their Electric Program Investment Charge (EPIC). The EPIC program invests in scientific and technological research to accelerate the transformation of the electricity sector to meet the state's energy and climate goals.

"The California Energy Commission is proud to provide EPIC funding to support entrepreneurs like Nelumbo that

are working to reduce energy use and provide benefits to ratepayers," said CEC Vice Chair Janea Scott. "Nelumbo has created an advanced anti-icing material to improve the energy efficiency of industrial refrigeration systems. Cutting edge technologies like Nelumbo's have the potential to create energy savings while advancing California's clean energy goals."

The purpose of this solicitation is to fund applied research and development projects that enable cost-effective decarbonization of California's food and beverage processing industry. Nelumbo has proposed to achieve this by advancing its anti-ice materials for deployment on industrial scale refrigeration systems.

Industrial refrigeration systems rely on refrigerants for air heat exchangers to create temperature-controlled space. In doing so, the evaporation of the refrigerant removes heat from the air resulting in condensate and frost formation on the heat exchanger coils. Ice and frost formation foul the coil and diminishes the ability of the coil to cool the air, necessitating the ice to be melted off by an energy-intensive defrost process which accounts for over 20 percent

of energy consumption of these refrigeration systems. These defrost cycles must occur though, or else temperatures will rise, and food quality will suffer.

"Recent events have highlighted exactly how critical the robustness of our food supply chain is," said Nelumbo CEO Liam Berryman. "We are pleased to work with the CEC to demonstrate a solution that can be impactful at any scale and to any system. We see this project as an expansion step into a range of new sustainable opportunities in cooling."

Nelumbo has already demonstrated its anti-ice materials on residential refrigerators as well as residential and commercial-scale heat pumps. With this funding, Nelumbo will optimize their materials for industrial substrates and scale manufacturing processes required for commercial adoption.

"The CEC has always been a leader in sustainability and energy innovation, and we couldn't be more excited to have their support on this project," said Cody Oliver, director of manufacturing at Nelumbo and project lead for this CEC solicitation. "Industrial refrigeration is a prime application for our materials and the massive,

complex components provide an opportunity for us to showcase the versatility and scalability of our manufacturing processes. With the provided funding we will be able to accelerate development and seize an opportunity to have a tremendous impact on the State's energy consumption, grid reliability, and greenhouse gas emissions while also improving food quality and reducing waste."

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ServiceTitan, Carrier Form New Collaboration

Los Angeles, Calif –

ServiceTitan has announced a new collaboration with Carrier. ServiceTitan has been designated the preferred field service contractor software vendor for the Carrier and Bryant HVAC brands in the U.S.

"This isn't just another collaboration announcement," said Ara Mahdessian, co-founder and CEO of ServiceTitan. "ServiceTitan, Carrier, and Bryant all have a passion for empowering contractors through innovation and exceptional relationships. By combining Carrier and Bryant's high-performing, energy-efficient equipment and ServiceTitan's commitment to bring those same, essential professionals technology that better ensures their success, we'll be providing our mutual customers with an opportunity to lead the industry into the future."

"As a world leader in heating and air conditioning, Carrier is focused on ensuring that our dealers and technicians have access to digital capabilities to help them grow and make their business more data driven," said Justin Keppy, president, North America Residential and Light Commercial HVAC, Carrier. "We are excited to work with ServiceTitan to collectively provide a platform for growth and best-in-class customer experience for our channel partners."

"Carrier is committed to delivering a premier digital experience for our channel partners," said Bobby George, senior vice president and chief digital officer, Carrier. "We're pleased to be collaborating with ServiceTitan to offer a seamless digital experience that will help our dealers and technicians become more productive and improve their win rate in the field."



TEXAS



Global, The Source Acquires American Radionic Co. Inc.

Universal City, Texas – Global, The Source (a dba of Vladmir Ltd.), a master distributor of HVACR components headquartered in Universal City, Texas, announced the acquisition of American Radionic Co. Inc. (dba, AmRad Engineering) of Palm Coast, Fla., effective July 1, 2020.

Originally founded in 1982, Global was purchased by CEO Dickie Sirotiak in 2001 and has flourished as a family owned business under the management of Dickie Sirotiak, president, Shaun Sirotiak, and vice president, Alison LeBleu.

"AmRad Engineering, founded in 1939, is the oldest film capacitor manufacturing company in the world that is still operated by the founding family," Dickie Sirotiak said. "Proud of their 'Made-in-America' heritage, the company has been an innovator in their field and has been awarded over 65 significant patents and trademarks across multiple industries, most recently more than nine patents for the Turbo® Series of universal capacitors."

"Global, The Source has played a huge part in our success," said AmRad President Robert Stockman. "Their dedicated and knowledgeable staff has effectively marketed our Turbo products to almost every HVACR wholesaler in the country and this new relationship will allow us to more effectively market some of our lesser-known products. There's a huge market out there and at the same time, we are looking to continue developing new products since our success has been based on innovation."

AmRad President Robert Stockman will be assuming a consulting role. Current Vice President Rich Stockman and all members of management along with AmRad's employees will continue working with Global.

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Continued on Page 6



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Industry News

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Grundfos to Unveil 'Walk for Water' Online Broadcast

Houston, Texas – Water technology company Grundfos will host the Grundfos Virtual Walk for Water on Sept. 26 and 27, 2020 – the 10th annual walk in support of the fight against the global water crisis.

The Grundfos Walk for Water is an annual fundraising event held for Water Mission, a non-profit engineering organization that designs, builds and implements sustainable safe water solutions around the world. Participants walk 3.5 miles (5.6 km), the average distance that millions of women and children make each

day to retrieve water that is often contaminated.

"Imagine going through this pandemic with no clean water," said Dieter Sauer, Grundfos regional managing director for the Americas. "We wash our hands without thinking. What happens when there's no soap and the water is filled with bacteria that causes waterborne diseases? This is the reality for billions of people around the world. We're partnering with Water Mission to help solve these water and climate challenges."

Open for everyone in the world to participate, the walk will take place virtually this year due to public health concerns during the COVID-19 pandemic. Grundfos and Water Mission are encouraging participants to follow their government's health and safety guidelines. Registration is free. The

fundraiser's goal is \$140,000 in donations.

A virtual broadcast kick-off will bring awareness of the 2.2 billion people who live without safely managed drinking water. The Grundfos Virtual Walk for Water Kick-Off will be broadcast on Sept. 25, 2020 on global platforms including: LinkedIn, Facebook and YouTube.

"Grundfos is a leader in our global effort to end the global water crisis," said Water Mission CEO, George C. Greene IV, PE. "The annual Grundfos Walk for Water plays a critical role in helping us to expand our safe water and sanitation solutions to thousands of people around the world."

Since 2007, more than 1.8 million people around the world have received safe water as a result of the Water Mission and Grundfos

partnership. Grundfos Walk for Water funds have directly funded and served communities in Haiti, Uganda, Kenya, Malawi and Tanzania.

Solar pumping solutions from Grundfos have made a lasting impact on refugees, internally displaced persons and survivors of natural disasters. In Northern Uganda alone, Water Mission has installed Grundfos pumps serving 300,000 people. Due to an increase in demand for safe water, many systems have been upgraded to larger Grundfos pumping solutions using renewable solar energy.

"Grundfos strives to reduce energy consumption, provide clean water and improve the quality of life for people," said Jonathan Hamp-Adams, president of Grundfos USA. "We are committed in our long-standing partnership

with Water Mission to ensure a high-quality engineered water solution is delivered to the next community they reach."

Commitments from supporters and corporate partners will go to Water Mission to provide sustainable safe water, sanitation and hygiene (WASH) solutions for people in developing countries and disaster areas who do not have access to these basic needs.

For more information about the Grundfos Virtual Walk for Water, visit events.watermission.org/GrundfosWalk20 and follow Grundfos on Facebook, LinkedIn, Instagram and YouTube using #GrundfosWalk4Water.

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Service World Expo Moves to Virtual Event

Coppell, Texas – Service World Expo is making a major pivot, company officials announced. The show is still on, but based on the responses of a survey of prior attendees, the show will not be physical.

"In 2020, people have become so accustomed to virtual meetings that they are now boring, passé," said Service Roundtable president, Matt Michel. "That will not be the case with Service World. This will not be a glorified webinar. It is not another Zoom call. It is a true virtual event. As such, it will be virtually unlimited. It will be science fiction virtual. It will be like something you would expect from a video game or from a movie. It will be unlike any virtual show seen in the service trades to date. Service World Expo is making a major investment to bring contractors and exhibitors the industry's most exciting event in 2020."

Each day will start with a general session and a keynote speaker. The keynotes are Phoenix contractor Lou Hobaica; motivational speaker, Kevin Brown; and Service Roundtable president, Matt Michel. Breakouts follow the general session. The trade show follows the breakouts. The same speakers who were lined up for breakouts in the physical show will give the breakouts for the virtual event. Each speaker will go to a virtual room after the presentation to answer

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Continued from Page 6

questions.

A number of booths at the trade show will be able to use virtual reality and augmented reality. Attendees will be able to immerse themselves in one of these booths and get a 360-degree panorama. They will be able to see products in three dimensions and walk around them, just like a real show.

Show attendees can talk with key personnel manning a booth in one-on-one situations to learn more about products and services that can help them make more money. Or, if the queue is too long, they can set an appointment for later. Time is reserved in the afternoons for appointments.

An exhibitor can build a portal into a booth that takes people directly to the factory. Step through,

and look around the factory in real time.

After hours events are being created that contractors will want to attend. They will have the opportunity to meet virtually with others in a similar way to a physical show. Of course, attendees will need to provide their own adult beverages.

Building the virtual show will take the next two months. Each booth must be uniquely designed. The show will be held September 22-24.

Click the link for an example of the virtual booths to hear more from Liz Patrick as she would appear in augmented reality. Registration also available. Since the show is virtual, registration is free: <https://bit.ly/2CDfmYE>

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Steve's Plumbing, Shafer Services Form Partnership

San Antonio, Texas – Two of San Antonio's oldest home services companies – Shafer Services Plus and Steve's Plumbing – are joining forces to become one of the area's largest and most experienced plumbing and HVAC businesses. The catalyst for this partnership is the upcoming retirement of Steve's Plumbing founder, Robi Jalnos, who has served San Antonio for more than 40 years. Robi started Steve's Plumbing out of his mother's garage in 1978, naming the business after his father, Stephan Jalnos, a Holocaust survivor and plumber who passed away when Robi was a young man.

Since then, Steve's Plumbing has grown to become one of San Antonio's premier plumbing contractors currently serving some 4,500 customers throughout the area. Robi has become a plumbing leader, not just locally but regionally, serving on the Texas State Board of Plumbing Examiners where he was Chairman of the Examination, Medical Gas, Water Supply Protection Specialists, and Personnel Committees for seven years. Robi also serves as an expert witness on plumbing-related matters across the country. He's considered a national plumbing expert in all aspects of plumbing installation and products, holding a Green Plumbers Certification and is an expert in solar water heating.

"For decades, our teams have had a mutual respect for one

another's history, skills, and dedication to putting customers first – so you can imagine our delight in uniting to become San Antonio's preferred option in plumbing and HVAC services," said Chase Anderson, President and CEO of Shafer Services Plus.

Shafer Services Plus is San Antonio's oldest plumbing company. They added HVAC services to their offerings upon the invention of air conditioning in the early 1900s. Since then, the Shafer team has built much of San Antonio's residential and commercial infrastructure including installing the first commercial air conditioning in a high-rise office building in the United States at San Antonio's own Milam Building in the heart of downtown. Today, Shafer serves more than 6,000 residential and commercial customers, and is consistently rated among San Antonio's best plumbing and HVAC contractors.

"It has been my honor to serve San Antonio for the past 40 years," said Robi Jalnos, founder of Steve's Plumbing. "This has been more than a job for me. It's my life's work. That's why I wanted to partner with the Shafer Services Plus team to ensure that my employees and customers will continue to be cared for like family for generations to come."

"The Shafer and Steve's Plumbing teams are not satisfied with marginal service," added Chase Anderson. "We are committed to bringing value and world class service to everything we do because it is an honor to be invited to work in someone's home, an honor that we will continue to earn for generations to come."


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SkillCat Hosts National Online HVAC Career Fair

Houston, Texas – SkillCat, a Stanford led team, is organizing a nationwide online HVAC career fair. SkillCat will provide free training for all workers attending this event. The event will be free for workers/ companies to address HVAC worker shortages.

Due to a lack of trained workers, 75 percent of companies cannot fill their open trade positions. To fill this gap,





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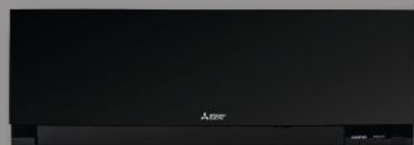


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Continued from Page 8

SkillCat is organizing an online career fair to attract more talent to the HVAC industry.

SkillCat will provide free training to all workers who register for the event. It will be using an assessment that includes animations and simulations to test workers on their HVAC knowledge. Recruiters can view worker test scores to verify their job skills.

The event will take place on Sept. 15, 2020, from 9:00 a.m. to 3:00 p.m. PST. Find more information here:

Worker website: <https://www.skillcatapp.com/online-hvac-career-fair-technicians>

Company website: <https://www.skillcatapp.com/online-hvac-career-fair-companies>

NATIONAL



ASHRAE Postpones IAQ '20 Conference

Atlanta, Ga. – ASHRAE has announced that the IAQ 2020 Conference in Athens, Greece, will be postponed until September 13-15, 2021. A new call for papers also has been announced for the conference. The deadline for abstract submissions is December 21.

Organized by ASHRAE and the Air Infiltration and Ventilation Centre (AIVC), the theme of the conference, "Indoor Environmental

Quality Performance Approaches," focuses on the metrics, systems, sensors, and norms necessary to implement performance approaches.

"Indoor Air Quality (IAQ) has been the core of ASHRAE's IAQ series of conferences for the past 30 years," said Max Sherman, co-chair of IAQ 2020. "This conference has expanded from only covering indoor air quality concerns, to exploring indoor environmental quality which includes indoor air pollution, thermal conditions, acoustics, and illumination and their interactions."

.....

Resolute Acquires DriExpress and Empire Holdings

Indianapolis, Ind. – Resolute Industrial Holdings LLC announced that it has acquired the assets of DriExpress LLC and

Empire Holdings LLC. Terms of the transaction were not disclosed.

DriExpress and Empire, founded in 2008 and 2015, respectively, have served the U.S. market with operations in the Northeast, Gulf Coast and Southeast, Midwest, and West Coast.

William Leo, the owner of Empire, and a team of project managers have joined Resolute and will continue to serve their customers. Pete Miko, the owner of DriExpress, will continue to support Resolute as an independent sales representative for new projects.

"DriExpress and Empire strongly complement our growing rental fleet and service offerings, allowing us to better serve our customers," said Mike McGraw, CEO of Resolute. "With this acquisition of over 5,000 assets, we have expanded our rental

division to include Mobile DRI – Disaster Resource Solutions, while increasing our geographic coverage and specific expertise in a fragmented and rapidly evolving restoration services industry. We welcome William and his team, who are incredible additions to our Company."

"Joining Resolute is an exciting next step for our customers and employees," said Leo. "With access to Resolute's financial and operational resources and support, we look forward to continuing our track record of growth and customer excellence. We are pleased to share a bright future with our new team."

.....

John Betlem HVAC Wins 2020 Carrier Award

Rochester, N.Y. – John Betlem Heating and Cooling Inc. recently announced that it was chosen as a 2020 Carrier President's Award recipient for the third year in a row.

The Carrier President's Award recognizes Carrier dealers who exemplify leadership and management, customer satisfaction, expertise, business growth, and operational excellence. The annual award is the company's highest dealer honor. It is designed to encourage self-analysis and commend individuals who have exceeded high expectations, not only as a Carrier dealer, but also as a Carrier Factory Authorized Dealer.

John Betlem offers a number of services from repairing and installing furnaces, generators and A/C units, to performing home energy assessments and offering preventive maintenance programs. They provide their customers with Carrier heating and cooling products, and are a Carrier Factory Authorized Dealer. The company also expanded last year to include an electrical division that offers a variety of complete electrical services.

John Betlem founded John Betlem Heating and Cooling Inc. in 1941. Today, the company remains fourth generation family-owned and operated, serving all of Rochester and Monroe county, as well as parts of Wayne, Ontario, Genesee, Livingston, and Orleans counties.

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Melink Solar & Geo Awarded Grant from DOE

Cincinnati, Ohio – Melink Solar & Geo Inc. has been awarded grant funding by the United States Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE). This funding will enable Melink to accelerate the research and development of its hybrid geothermal HVAC system, which stores energy using thermal batteries. The system can potentially reduce the installation costs of geothermal heat pump systems, which represent a significant energy savings opportunity for the U.S. with widespread implementation. The system's prototype is currently heating and cooling Melink's new Net-Zero Energy HQ2 facility in Milford, Ohio.

"Our company is developing a hybrid geothermal HVAC system to minimize the need for expensive ground loops. Instead, we are mimicking the thermal energy storage capacity of the water inside such ground loops with phase change materials (PCM)," said Steve Melink, founder and CEO. "Melink is piloting the first prototype at our Net-Zero Energy headquarters, and we are now developing next-generation prototypes for eventual commercialization. With our third U.S. Department of Energy grant, we are committed to mainstreaming this technology for the benefit of the entire HVAC industry."

The funding is part of an ongoing innovation project with the DOE, which encourages small businesses to advance innovation at federal agencies. Melink received the recent funding because its hybrid geothermal HVAC system demonstrated technical feasibility during the first phase of research. Melink Solar & Geo's team of engineers, designers, and researchers have worked collaboratively with the University of Dayton, Oak Ridge National Laboratory, and industry partners to design a more cost-effective energy efficient HVAC system.

"This funding from the DOE is the result of a multi-year effort wherein a group of intelligent and highly dedicated people have proven that the system has merit, and

I'm excited to say that the hybrid geothermal HVAC system is just one part of our growing platform of Net-Zero products," said Seth Parker, vice president and general manager of Melink Solar & Geo.

The two-year funding awarded by the DOE will be used to finalize engineering and early commercialization of the hybrid geothermal HVAC system.

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National HVACR Educators, Trainers Conference Goes Online for 2021

Las Vegas, Nev. – HVAC Excellence is pleased to announce the 2021 National HVACR Educators and Trainers Conference will be held online, making it

simple, affordable, and safe for all to attend.

Over the past few months, the HVAC Excellence executive board has been closely monitoring the COVID-19 situation, CDC guidelines, and the valuable feedback and input we received from those who participate in, and support, our annual event. After carefully evaluating all the data available to date, the board has unanimously decided to move forward with a virtual event for 2021.

Many of our trusted industry partners, participating organizations and attendees have expressed concerns regarding their desire and/or ability to travel based on a variety of personal, organizational, and/or medical issues. HVAC Excellence, in part by convening its annual conference, knows that

our industry's educators reap great value from the training sessions, comradery and partnerships that are forged and strengthened by the event. HVAC Excellence also realizes that significant benefits can be realized by our educators and trainers regardless of where the event is convened or how the valuable content is delivered.

When the pandemic reared its ugly head, many who were teaching live classes one day, found themselves learning, very quickly, how HVACR training could be offered differently. Blended, remote and distance learning, once thought to be options to support live training, are now taking the lead in terms of content delivery. These instructional methods are forging the path toward a new normal in education. Even after a vaccine for the virus is found,

proven and readily available, it is highly unlikely that the delivery of HVACR training will return as we knew it in our pre-COVID world. With that in mind, HVAC Excellence concluded that there is no better way to conduct the event than in a manner that closely mirrors the face of today's training.

Participating organizations will be able to conduct training programs from their facilities, allowing them to showcase technologies not readily available at an event conducted at a hotel or convention center. A face-to-face conference typically runs for a few days, offering many concurrent sessions, forcing attendees to ultimately select one session over another. The 2021 conference format ensures that all attendees

Continued on Page 12

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Continued from Page 11

will have the opportunity to attend ALL sessions and learn about ALL the companies that make the event possible. How? All sessions will be available not for two or three days, but for 120 days! This format will allow ALL attendees to attend EVERY session as they are broadcast beginning March 15, 2021, watch them again and again, or show them to students if they so choose. Upon completion of a session, attendees will be prompted to download a continuing education certificate, which they can print or file electronically.

The \$129.95 conference registration will include: access to all sessions as broadcast, access to all sessions post conference for 120 days, the opportunity to learn about industry partners that can strengthen and support your program and earn continuing education units that directly relate to the content being offered. Those who have previously registered will receive an account credit to compensate for any difference between the registration fee paid and the new registration fee. This account credit can be used for HVAC Excellence or affiliate examinations, publications or elearning products.

Understanding that instructors

must request permission to participate in training events such as this one at the beginning of the academic year, it is imperative that a schedule of offered sessions be readily available to them early on. As such, HVAC Excellence has already begun to reach out to our educational partners about the sessions they may present during the event and hopes to have a list of sessions available by the end of August.

Learn more by visiting <https://www.escogroup.org/hvac/>.

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SMACNA, New Horizons Issue Report on Impact of COVID-19

Chantilly, Va. – The Sheet Metal and Air Conditioning Contractors’ National Association (SMACNA), the leader in promoting quality and excellence in the sheet metal and air conditioning industry, announced its member foundation and premier research entity, the New Horizons Foundation, has issued a new project study addressing the productivity impact of the coronavirus (COVID-19) across the sheet metal and HVAC industry.

Before New Horizons Foundation issued its findings, no specific resource and data existed to aid contractors in quantifying the cost impacts of lost productivity working under pandemic-driven work protocols.

“The report highlights important data that can help our members better understand quantitative impacts of the pandemic, accurately advise their customers, and adjust their future project bids as needed, ensuring members have a best practices approach to working in the new normal,” said Guy Gast, Chair of the New Horizons Foundation and President - Iowa Division at The Waldinger Corporation.

Through data collection focused on two key areas: 1) mitigation tracking (the added time on site access, fit-for-duty, personal protective equipment, cleaning and protocols); and 2) productivity benchmarking (lost time in actual performance of the work) of industry professionals, New Horizons Foundation and its partners quantified the magnitude of time invested in pandemic-related productivity losses. Key findings include:

- Based on information collected from sheet metal, HVAC and mechanical contractors, 8.7% of hours available on projects

to do productive work are lost due to mitigation requirements such as personal protective equipment management, cleaning and disinfection, access rules, and extra administration time.

- There is a 9.2% average productivity impact – time lost in installation labor – and an 8.7% mitigation impact on sheet metal, HVAC and mechanical contractor productivity as a result of the pandemic, resulting in 17.9% productivity impact.

- There are 85 minutes of lost productivity per day per employee’s 8-hour work period.

- The financial impact of productivity losses can take as long as three to six months to fully play out in a company’s finances.

In addition to highlighting the quantitative impact of the pandemic, the report also includes a roadmap to help members adapt to the new industry landscape – noting that companies with pandemic mitigation processes in place saw lower productivity losses.

The report is a joint effort between SMACNA’s New Horizons Foundation and ELECTRI International, the National Electrical Contractors Association’s (NECA) foundation. The Executive Summary of the report can be found at www.newhorizonsfoundation.org.

Questions regarding this New

Horizons Foundation project and report should be directed to Thomas Soles, Executive Director, New Horizons Foundation. He can be contacted via email, tsoles@smacna.org. For more information, visit www.SMACNA.org.

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SpeedClean, Distributors to Offer NATE-Approved Courses

Stamford, Conn. – SpeedClean is collaborating with HVAC School, a leading professional education site for HVACR contractors, to offer NATE-approved programming to educate contractors on proper mini-split maintenance and coil cleaning practices. SpeedClean’s trained staff will partner with distributors to plan, promote and conduct the seminar.

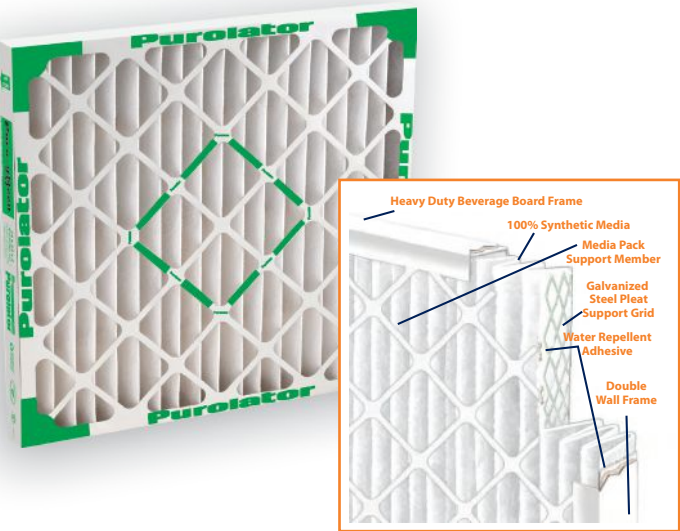
The seminar focuses on providing education and data to help contractors communicate the importance of coil cleaning and overall HVAC maintenance. The content will include a step-by-step guide to mini-split maintenance and coil cleaning and an overview of the resources and equipment available to help with the process. SpeedClean will provide demonstrations of its innovative solutions that are designed to make it easier for contractors to perform mini-split maintenance and coil cleaning.

It will also showcase actual in-the-field data that demonstrates the impact cleaning coils has on reducing system overload, increasing efficiencies, and lengthening the lifespan of HVAC equipment. Participants will receive one NATE continuing education credit.

“This is an opportunity for HVACR professionals to learn more about the importance of mini-split maintenance and coil cleaning and best practices that help make their jobs easier and increase effectiveness,” said Mike Hardy, vice president of SpeedClean. “We look forward to partnering with distributors to bring this educational offering to their customers.”

Visit www.speedclean.com for more information or to view the list of distributors.

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ENGINEERING YOUR SUCCESS.

Proposition 15 on November 3 Ballot Would Raise Business Property Taxes, Costs

Continued from Page 1

the measure and paying for county administrative costs, the remaining \$6.5 billion to \$11.5 billion would be allocated to schools (40 percent) and other local governments (60 percent)."

The measure is also known as, "The California Schools and Local Communities Funding Act of 2020," and is intended to generate more revenue to fund California public K-12 schools, community colleges and local governments. The "Yes on 15 Schools and Communities First" campaign lists supporters that represent education associations, school districts, labor, city and county government leaders, and housing advocacy groups. The yes campaign is led by the California Teachers Association,

and the Service Employees International Union (SEIU) California State Council.

Businesses, companies and individuals who own commercial and industrial properties would be directly impacted by increases in property tax rates. In addition, these tax increases would likely lead to rent and lease cost increases for businesses who rent commercial and industrial property. Opponents argue that Prop 15 has a number of inherent flaws related to inadequate and poorly written language, and could result in unintended consequences even for property owners supposedly "excluded" under the measure.

Although language in the initiative excludes commercial and industrial properties valued at less than \$3 million, this would not necessarily apply if one of the owners of one property had other properties that in combination

had a total value of more than \$3 million. Business leaders and organizations opposing Prop 15 are concerned that even with a \$3 million commercial/industrial property value exemption, a tax increase would still impact many small businesses and jobs that have already been significantly impacted by business shut-downs related to COVID-19 restrictions. Opponents say the measure would increase the cost of living for all Californians, as costs are passed along through the economy from businesses to consumers.

A coalition of California business organizations has formed, "Californians to Save Prop 13 and Stop Higher Property Taxes," to campaign against Proposition 15. Rob Lapsley, president of the California Business Roundtable and a leader in the opposition coalition

has stated, "We are going to have the largest tax increase in California history at exactly the wrong time in our economy to be able to afford it."

Other associations opposing the measure who are members of the coalition include: California Chamber of Commerce, California Business Properties Association, California Taxpayers Association, the California Building Industry Association, Cal SMACNA, Plumbing Heating Cooling Contractors (PHCC) of California, and the National Federation of Independent Business – California.

The California Assessors Association, whose members in county assessors' offices will be tasked with implementing new tax assessments should the measure pass, has announced its opposition to Prop 15 and stated it would be "impossible" to implement.

Implementing the measure, and its requirements for more frequent assessments would require more government employees and resources, thus offsetting tax gains that could be applied to schools and other community services.

Lapsley noted that Prop 15's proponents are having difficulty getting support from some groups that may benefit from higher taxes, due to flaws in the initiative and its timing. Some groups that would be more likely to support a tax increase under normal circumstances, believe with the current economic problems related to COVID-19 shut downs, that it is poor timing and ill-advised to implement tax increases now.

Information about the opposition campaign, its members and arguments are available at <https://noonprop15.org>.

ASHRAE Guide

Continued from Page 1

to prepare educational buildings to resume occupancy such as starting up HVAC systems as well as checks and verifications to maintain during the academic school year. The guidance is meant to provide practical information to school districts and university campus environmental health managers, facility managers, administrators, technicians, and service providers.

"As schools prepare to reopen for the fall academic semester, it's important to keep children and school staff safe," said 2020-21 ASHRAE President Charles E. Gullledge III, P.E. "ASHRAE's school reopening guide will serve as a resource to school leaders as they work in lockstep with health experts to finalize plans to keep everyone safe."

The guide includes the following topics:

- Determining Building Readiness
 - Equipment & System Specific Checks & Verifications During the Academic Year
 - New/Modified Facility Design Recommendations
 - Filtration Upgrades
 - Operations of Occupied Facilities
 - Controlling Infection Outbreak in School Facilities
 - Higher Education Facilities Recommendations
- Also included is guidance

formulated to help designers retrofit and plan for the improvement of indoor air quality and to slow the transmission of viruses via the HVAC systems as well as new guidance on student health facilities, laboratories, athletic facilities, residence halls, and large assemblies, lectures, and theaters.

"School and university officials are challenged with making very difficult decisions on how to best protect both students and staff as education facilities reopen, said Corey Metzger, ASHRAE epidemic task force schools team lead. "This guidance offers a solid framework on ventilation control, filtration and maintenance that can be applied to different climate zones, building types and HVAC systems."

ASHRAE, founded in 1894, is a global society advancing human well-being through sustainable technology for the built environment. The Society and its members focus on building systems, energy efficiency, indoor air quality, refrigeration and sustainability within the industry. Through research, standards writing, publishing and continuing education, ASHRAE shapes tomorrow's built environment today. ASHRAE was formed as the American Society of Heating, Refrigerating and Air-Conditioning Engineers by the merger in 1959 of American Society of Heating and Air-Conditioning Engineers (ASHAE) founded in 1894 and The American Society of Refrigerating Engineers (ASRE) founded in 1904.



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Cover Story

Goodway Provides Tips on Implementing Proper Cleaning as Companies Get Back to Business

Continued from Page 1

of Goodway Technologies. "It is the responsibility of the building owners, maintenance personnel, and leadership to make sure every step is being taken to maintain a healthy environment."

The first thing to keep in mind is the difference between cleaning, disinfecting, and sanitizing. According to the Centers for Disease Control and Prevention (CDC), cleaning removes germs and dirt from surfaces and objects, while disinfecting uses chemicals to kill the germs to lower the risk of spreading infection. Sanitizing goes a step

further to bring the number of germs to a safe level according to public health standards. When using sanitizing and disinfecting products, Goodway recommends making sure they are EPA registered and then reading the label in its entirety, paying careful attention to any surface contact times required to kill certain germs and viruses. Using a product in a manner different from its labeling may reduce its efficacy dramatically.

Perform Deep Cleaning and Sanitation

Cleaning may be an obvious step to prepare for opening a business back up or keeping up

with the current sanitation needs and standards; however, it's critical to conduct a thorough cleaning and sanitation to help keep employees and customers safe.

Here are Goodway Technologies' recommendations for achieving a complete cleaning:

- Get behind production and packaging machinery, tool chests, and storage areas as these areas can develop a buildup of fluids, garbage, and other debris.
- Clean the walls to remove residual dust and residue. Buildup on walls can reduce indoor air quality and impact the quality of products being produced.
- Make sure to clean the top of

the lighting fixtures and remove residual dust.

- Drains are an area where bacteria can collect and should be included with a deep cleaning. The best solutions for cleaning drains include chemicals or using steam solutions.

- All surfaces (both top and underneath) in breakrooms or high traffic areas should be cleaned.

- Any electronics that are generally not deeply cleaned or sanitized due to their sensitivity need special attention. These are best cleaned and sanitized using alcohol-based products, which are quick drying.

Don't Forget About Your HVAC System

HVAC systems can often be overlooked, but they are a vital part of indoor environmental health. Indoor air quality refers to the air quality within and around buildings and structures. Proper maintenance, cleaning, and sanitizing of a building's HVAC equipment is a significant component of helping to reduce the risk of reduced indoor air quality or pollution.

Here are some things to keep in mind when conducting the cleaning and maintenance of your HVAC system:

- **Coil Cleaning:** Without proper cleaning, air conditioning coils in the air handlers can become a hot spot for mold and mildew growth. Both of these are culprits for poor indoor air quality.
- **Air Duct Cleaning:** Since duct surfaces are typically hidden, they are easy to forget. This means they often accumulate dust, pollen, mold, and more, and this debris can collect on coils and recirculate into the air. There are several tools available for duct cleanings such as vacuums, agitation devices, and duct isolation equipment.
- **Cooling Tower Cleaning:** Cooling towers can also be a breeding ground for Legionella and other harmful bacteria. If a tower is infected with bacteria, it can spread to indoor air through ventilation and doorways/entrances and could impact the outdoor air quality in the surrounding area. Cleaning the cooling tower helps to prevent sediment, scale, and slime buildup, which can be cleaned with specialized cooling tower vacuums to avoid shutting down or draining the system.

- **Cooling Tower Water Treatments:** The outside air that is drawn into the tower can be contaminated with pollutants, which can increase bacterial growth. Chemical water treatments can protect against these issues and control the growth of harmful bacteria; however, they should be used in conjunction with mechanical cleaning methods.

For more information on the steps your business or workplace can take during COVID-19, Goodway recommends visiting the CDC's website for additional resources on planning and responding.

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As Generation Z Students Graduate, Some See Air Duct Cleaning as a Career Path

It's back-to-school time, and thanks to the COVID-19 pandemic, things look a lot different than years past. As parents and students grapple with this "new normal," many are questioning what's next from an education standpoint. Some recent high school graduates, all part of Generation Z, are exploring opportunities they may not have considered before – careers in the skilled trades.

According to two recent studies by ECMC Group, a nonprofit corporation focused on helping students succeed, Generation Z (born between 1995 and 2015, and nearly 74 million strong in the U.S.) has expressed interest in the skilled trades. While American teenagers consistently believe that higher education plays a key role in their future success, Gen Z is considering different paths to take after high school vs. previous generations. In fact, more than half are open to something other than a four-year degree.

It's no secret that America is facing a critical skilled labor shortage – and has been for some time. For almost a decade, the trade skills deficit has gained more and more attention.

According to the Bureau of Labor Statistics, there are currently more than seven million jobs available across the country; the majority of which don't require a four-year degree. In addition, a recent survey by the Associated General Contractors of America (AGC) found that 74% of contractor firms predict a shortfall of qualified skilled trade workers; and a Deloitte study found that the skills gap may leave an estimated 2.4 million positions unfilled between 2018 and 2028. On top of that, other studies show that during the next five years, 40% of the skilled labor force will retire. Yikes!

Worth noting, those alarming statistics are pre-pandemic!

Yet, despite millions of available blue-collar jobs, there's no one to fill them. Why?

There are a variety of reasons young adults aren't entering the trades as they once did. Over the last several decades, most Americans have simply turned their backs on the skilled trades, and careers in the trades

are no longer seen as desirable. Parents push for higher education and expensive university degrees rather than community college or trade schools. Community colleges, trade schools, and even on-the-job apprenticeship programs are seen as alternatives to education, and even the most well-intentioned parents and high school guidance counselors see apprenticeships and on-the-job training opportunities as "consolation prizes" only suited for kids who somehow aren't cut out for those expensive four-year degrees. In addition, most high schools nationwide no longer offer vocational or shop classes or any type of skilled trade training opportunities that our grandparents were excited about.

Unfortunately, there is a widespread stigma against skilled labor. And now, the skills gap is wider than it's ever been, with no end in sight.

But the simple fact is that many people enjoy working with their hands, and the thought of spending the next 45 years stuck behind a desk and/or computer screen isn't where they see themselves. For some, college just isn't a good fit.

While it seems all the focus these days is on Millennials and their avocado toast, perhaps it's Generation Z who will change the course? Some recent studies are finding that students are becoming more excited about joining a skilled trade.

Filling all those jobs in the skilled

trades won't happen overnight. Pretty serious cultural shifts will need to occur, and students need to be aware that there are lots of opportunities in the skilled trades that pay well and don't require a college degree. While many of these jobs require some degree of training through trade schools, others require skills that can be learned on the job.

For instance, air duct cleaning is a growing industry, and air duct cleaning technicians are in demand. These days indoor air quality (IAQ) is top-of-mind for both homeowners and facility managers.

According to the US Census Bureau, the US population as of July 1, 2019 was 328,239,523, with 119,730,128 households.

That's a lot of air ducts! Not to mention all of the manufacturing facilities, educational institutions, hospitals, office building, etc. that have HVAC systems and air ducts.

It's easy to get started as a HVAC systems/air duct cleaning technician. Not only does the job pay well, skills are usually learned on-the-job. NADCA offers a low-cost Ventilation Maintenance Technician (VMT) online training program that's designed to help new HVAC cleaning technicians develop experience and skills necessary for the job. The VMT is delivered online, making it convenient for technicians to work at their own pace, with no

Continued on Page 20

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ICN SEPTEMBER 2020 15

Growing Green Technicians Part 131: More On Air Flow, Blower Performance Charts

FIGURE 1

TABLE 12
AIR FLOW PERFORMANCE – (-)801T & (-)80MSX SERIES MODELS

Model	Motor HP Blower Size IN.	CFM Air Delivery External Static Pressure, " W.C.									
		Speed Tap	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
(-)801TA050314MSA (-)80MSX050A30SA	1/2 11 x 6	Low	894	775	655	595	533	496	462	423	357
		Med. Lo	971	912	875	839	804	758	713	684	644
		Med.	1117	1081	1051	1024	995	973	938	908	878
		Med. Hi	1326	1291	1275	1240	1204	1171	1144	1114	1077
		High	1440	1432	1405	1382	1353	1322	1305	1272	1251
(-)801TA075417MSA (-)80MSX075B40SA	1/2 11 x 7	Low	1208	1141	1103	1057	1008	966	916	869	818
		Med. Lo	1363	1318	1275	1230	1189	1129	1091	1053	1012
		Med.	1447	1417	1366	1329	1288	1250	1215	1176	1137
		Med. Hi	1553	1521	1478	1444	1407	1372	1332	1295	1264
		High	1616	1574	1547	1508	1478	1438	1402	1375	1341
(-)801TA100521MSA (-)80MSX100C50SA	3/4 11 x 10	Low	1277	1211	1164	1103	1035	967	861	800	740
		Med. Lo	1556	1498	1456	1409	1353	1308	1254	1198	1125
		Med.	1644	1597	1554	1511	1463	1400	1358	1304	1253
		Med. Hi	1879	1842	1785	1729	1692	1674	1621	1579	1537
		High	2071	2025	1992	1948	1902	1872	1840	1795	1750
(-)801TA125524MSA (-)80MSX125D50SA	3/4 11 x 10	Low	1398	1338	1278	1232	1177	1130	1041	975	909
		Med. Lo	1593	1546	1495	1454	1414	1342	1304	1251	1190
		Med.	1878	1844	1807	1753	1714	1675	1634	1578	1536
		Med. Hi	2025	1967	1931	1886	1856	1812	1748	1721	1668
		High	2165	2124	2082	2047	2012	1973	1934	1894	1859

FIGURE 2

BLOWER SPEED SELECTIONS

The UT Electronic Controls control boards have four quick connect terminals for connecting the motor speed leads. These are:

- 1. FAN SPEED* — motor runs on this speed when the thermostat is in the "FAN" position.
- 2. COOL — connect desired cooling speed.
- 3. HEAT — connect desired heating speed.
- 4. HEAT/COOL* — connect desired speed when heating and cooling speed are the same.

FIGURE 3

CAUTION

DO NOT CONNECT ANY MOTOR SPEEDS TO "HEAT" OR "COOL" IF YOU USE THE "HEAT/COOL" TERMINAL. DOING SO WILL DAMAGE THE BLOWER MOTOR. UNUSED MOTOR WIRE TAPS MUST BE CONNECTED TO PARKING TERMINALS M1 AND M2 OF THE IFC, OR PROPERLY INSULATED.

By Jim Johnson
Contributing Editor

In the August issue we discussed the fundamentals of air flow performance charts relative to PSC motors from the perspective of a generic chart that displayed the TESP (Total External Static Pressure) in a duct system with a given amount of air flow with the motor operating on a given speed. In this segment we'll move on from a simplified generic chart to an example of a manufacturer's chart found in an installation manual. (See Figure One)

As you can see, one of the particulars of this specific type of chart is that it can provide information on a variety of models within a manufacturer's series of products. It lists the horsepower of the motor along with the blower size. With the first step of identifying the specific model being serviced, the technician can use this chart in the same way we discussed in the last segment in this series using a generic chart as an example to determine what the static pressure should be in a given mode of equipment operation of the equipment when the motor is operating on a specific speed.

Another point to keep in mind about manufacturer's charts is that they will often show a default speed of the motor for a given mode. These segments are often shown as shaded (highlighted in our example, showing a heating mode tap) so the technician can easily determine how the motor is wired from the factory.

When it comes to blower speed selections, that's a process that requires the technician to follow

the specific instructions from the manufacturer. Figure Two is one example of the steps a manufacturer will list in the installation guide.

Here, you'll note that the manufacturer describes the procedure for changing motor speeds if necessary, noting that the UT (United Technologies....a major manufacturer of microprocessors for HVAC equipment) electronic control board used in this equipment has four quick connect terminals.

And, in addition to following the instructions when selecting the proper motor speed, technicians also need to be certain that they follow additional instructions the manufacturer may provide. (See Figure Three)

In addition to specific instructions regarding wiring connections and cautions to ensure that the equipment is wired properly to prevent motor damage, other information provided by the manufacturers along with their air flow performance charts will often note additional procedures. One common instruction that may be included relates to performing temperature rise tests when a motor speed is selected for the heating mode. In this case, a follow up procedure is not only ensuring that the equipment is operating efficiently, but also that the maximum outlet air temperature specified for the unit won't be exceeded.

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Troubleshooting

A 10-Year-Old Split System That's Sitting Dead

By Jim Johnson
Contributing Editor

In this month's troubleshooting situation you have been called on to service a 10-year-old 2 ½ -ton split system, and the customer's complaint is that the unit is "blowing warm air" when it's supposed to be cooling. The customer also reports that there have been three previous service calls on this equipment throughout the summer in which the responding technicians replaced a blown fuse.

Upon your arrival, you confirm that the indoor fan motor is running and that the temperature in the house is far above the thermostat set point. You also confirm that the air flow through the indoor air handler is normal. Moving to the outside, as you approach the condensing unit sitting next to the building, your sense of smell alerts you to a problem. It's obvious that something has burnt.

When you lift the cover of the fused disconnect, remove the connecting blade, and then remove the plastic protective cover, you find that one of the cartridge-type fuses (see **Figure One**) has not just opened, but it has a burnout near one end.

You troubleshooting question:

What factors do you need to consider regarding the operation of this specific equipment before you replace the fuse?

If you believe you have the correct answer to one of Jim Johnson's Troubleshooting Problems, please submit it by email to Jim Johnson at icntroubleshooting@techtrainassoc.com or by U.S. Mail to: Technical Training Associates, PO Box 2259, Green Valley, AZ 85622-2259.

In your email subject line please include "Troubleshooting Answer" and indicate which month the question you are responding to was published.

Correct answers will be entered into a drawing and will be eligible to receive a copy of Jim Johnson's video "Evaluating Refrigeration Systems: Troubleshooting & Identifying Problems."

Answer to Last Month's Troubleshooting Problem

Our troubleshooting tests and calculations using a T/P chart proved the presence of non-condensibles in the refrigeration system.

The winner of last month's problem is:
Chris Stauch



FIGURE 1



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Performance Contracting, Geothermal and Heating Products

Berner International
PureAir Package



Berner International, New Castle, Penn., a leading air curtain manufacturer and innovator, has developed the PureAir Package, an air purification system for air curtains to help buildings combat the COVID-19 pandemic while supporting sustainability goals. The Berner PureAir Package complements the built environment's indoor air quality (IAQ) and disinfection efforts by deactivating viruses, killing

bacteria, and neutralizing a space's airborne volatile organic compounds (VOC), as well as allergens and other biological contaminants such as mold spores. This is the industry's first air curtain to include needlepoint bipolar ionization (NPBI) technology, enabling users to safely disinfect and purify the air in the space, beginning at the doorway. The PureAir Package is currently available on Berner's popular Architectural High Performance 10 (AHD10) air curtain, designed for separating environments at main entrances in retail, restaurants, hospitality, healthcare, education and other commercial and industrial applications. The PureAir Package includes the NPBI module; a washable one-inch-thick (25-mm) aluminum mesh MERV-8 particulate filter; a 10-speed

1/2-hp electronically commutated (EC) motor; and a factory-installed Intelliswitch with Pure Mode operation. During periods when the door is open, the air curtain operates as both an air curtain and an air purifier. When the door closes for longer than 60 seconds, the air curtain automatically transitions to Pure Mode for continuous NPBI ion distribution throughout the space with one of its lowest, quietest speeds. The Pure Mode setting distributes a minimum ion density of 787 ions/inch² (2,000 ions/cm²) within a minute for reliable pathogen disinfection of the space. On Pure Night mode, to provide optimum ion density, the air curtain runs at a powerful high speed, de-stratifying the air in the room and purifying it prior to occupancy periods.

NPBI has been third-party surface tested by Innovative Bioanalysis, Cypress, Calif., to neutralize airborne viruses, including the source of COVID-19 disease, SARS CoV-2, at a 99.4-percent success rate during 30-minute exposures. NPBI also disinfects mold, mildew, allergens, bacteria and other biological contaminants using an ionization process that's Environmental Claim Validated through UL-2998 for zero ozone emission and byproducts free. **More information:** www.berner.com.

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Bosch Split WSHP



Bosch Thermotechnology announced the proactive streamlining of the Split WSHP Air Handling Unit (AHU) product lines for its geothermal SM and LM split systems, making it dramatically easier for contractors to fulfill ordering needs for specific projects and installations.

The consolidation reduces the total number of configurations and parts for Bosch's SM and LM Split systems from thousands to 84 and 32, respectively. A new simplified product portfolio provides the perfect balance of flexibility and simplicity, in contrast to the build-to-order approach that was required of contractors in the past. Now, they can select the appropriate product from the manufacturer's array of residential and commercial water loop or ground loop applications based on proven pre-configured systems; sparing them the hassle of needing to customize a system from the ground up.

The move offers relief and dramatic time savings for system installers who are seeing rapid growth in split geothermal projects. With local, state and federal incentives providing reduced initial costs for geothermal system installations, residential and commercial building owners are quickly realizing that split water source heat pumps are among the most efficient heating and cooling

options available. Specific changes to the parts lineup include new AHU and case coil pairings; utilizing the air source heat pump BVA2.0 air handler and BMAC cased coil units to the water source heat pump portfolio. Bosch Thermotechnology now offers three options for AHU's: square box style (for tight spaces), rectangular multi-positional (only 4 SKU's), and cased coils for dual fuel applications with furnaces. The new organization of the SM and LM split systems complement a laundry list of other unique benefits. Bosch currently boasts one of the highest performance efficiency ratings in the industry, according to the Air-Conditioning, Heating, and Refrigeration Institute (AHRI). **More information:** <https://www.bosch-thermotechnology.us/us/en/>.

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Carrier EcoBlue

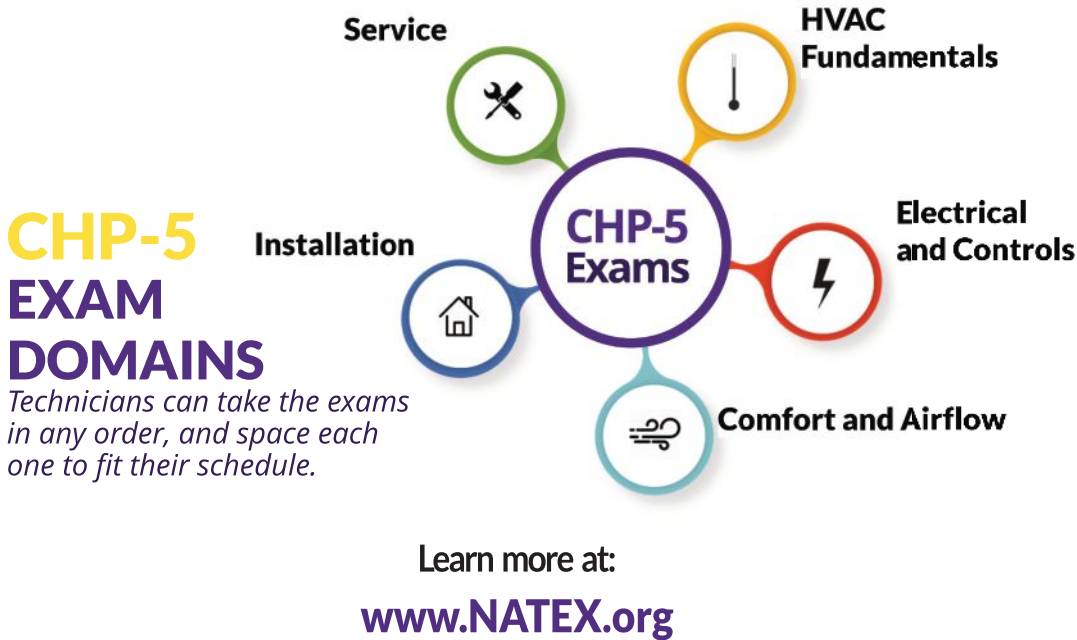
Carrier is pleased to announce that its innovative EcoBlue Technology is now available in its Weather Series packaged rooftop heat pump units. These products join the popular gas and electric heating products already available with EcoBlue Technology, completing a full line of EcoBlue products for customers to choose from.

EcoBlue Technology is now available in the WeatherMaster® 50GCQ models from 3- to 5-tons and can achieve a SEER rating up to 16.2. This technology is also available in the WeatherMaker® 50FCQ models from 3- to 6-tons. In models ranging from 3- to 5-tons, these units achieve SEER ratings up to 14.3 and the 6-ton model reaches an IEER rating of up to 15.0. These new units will replace the current Weather Series heat pump offerings and provide customers with the features and benefits of EcoBlue Technology found in the other Weather Series rooftop units, as well as an increase in efficiency ratings from the equivalent previous offerings.

Most notable of EcoBlue Technology's many features is the exclusive beltless direct-drive vane axial fan system – an industry first for rooftop units when introduced in 2018. This patented technology replaces traditional belts and pulleys with a simpler, more compact design, all with 75% fewer moving parts. The outdoor fan system's high-density composite blade fan is also an exclusive design. Both

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CERTIFIED HVAC PROFESSIONAL (CHP-5)
A new way for technicians to earn their NATE Certification

With the **Certified HVAC Professional (CHP-5)**, technicians can now earn their **NATE certification** while training in the field. The CHP-5 certification pathway is a series of 5 short exams that NATE created to mesh **technician's on-the-job training** with their test preparation. Each exam domain is designed to group together content areas in ways that make test preparation mirror a technician's work experience. Technicians can take the CHP-5 exams in our traditional in-person formats, as well as with NATE's new remote **live online proctoring**.



NATE is the leader in **developing** and **recognizing** professional HVACR technicians. North American Technician Excellence (NATE) is the largest non-profit certification organization for heating, ventilation, air conditioning and refrigeration technicians. **CUSTOMER SERVICE:** 877-420-6283 | **EMAIL:** asknate@natex.org





JOSEPH KLOPE

HVAC Excellence announced that it has bestowed the title of Certified Master HVACR Educator “CMHE” upon Professor **Joseph Klope** of Waubensee Community College in Sugar Grove.

The HVAC Excellence Certified Subject Matter Educator “CSME” credentialing exams validate if an HVACR instructor has mastered the subject matter to teach the competencies in each subject area taught, or if they need additional training in that area. Passing any one of the nine exams offered would be quite an accomplishment. However, to earn the title of Certified Master HVACR Educator,

an HVACR instructor must pass seven specific CSME exams with a score of 80 percent or higher. The exams are teaching methodologies – principles and practices, electrical, air conditioning, light commercial air conditioning, light commercial refrigeration, electric heat, and one of the following: gas heat, oil heat, or heat pumps.

The exams create a nationally recognized benchmark that aid school administrators in selecting qualified professionals to lead their HVACR programs. The exams also provide HVACR instructors the tools to validate where professional development may be needed. Instructors who earn the title of Certified Master HVACR Educator validate that they have the retained knowledge necessary to prepare their students for success in most entry level jobs in the HVACR industry.

Greenheck recently announced that **Matt Spink** has been named to the new position of Managing Director, Mechanical Rep Sales. In



MATT SPINK

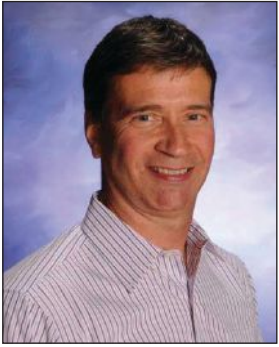
this new role, Spink will have overall sales and customer management responsibility for Greenheck product sales through its mechanical rep channel in the United States and Canada markets. He will lead a team of six regional managers as well as the customer care department.

Spink brings 12 years of experience to his new role. He currently serves as general manager of the Precision Coils business unit and previously served as a Greenheck HR recruiting manager, regional sales manager, product manager and application engineer. He holds a bachelor’s degree in civil engineering from the University of Minnesota.

Meier Supply announced **Michael F. Meier** as the newly appointed president and CEO of Meier Supply Co. After 25 years of leading the company, Frank A. Meier turns the reins over to his brother Michael Meier.

Michael Meier has been with Meier Supply for 33 years and during that time has learned and led every facet of the company. Most recently, he was the chief operating officer.

“I step aside knowing that the company is in great hands and that Mike has the ability to take us to new heights,” said Frank



MICHAEL F. MEIER

Meier, chairman of Meier Supply.

Michael Meier is involved in numerous community and HVAC organizations, such as Heating, Air-Conditioning and Refrigeration Distributors International (HARDI), the Young Men’s Christian Association (YMCA), Refrigeration Service Engineers Society (RSES), Humane Society, Binghamton Chamber of Commerce, Toastmasters, and more.

Michael Meier’s wife, Holly, and their two daughters, Nicole and Trish, work at Meier Supply.

Kathy Dregler, Greenheck Group vice president of human resources, has announced her retirement effective Oct. 2, 2020, after a 34-year career at Greenheck. Carrie Strobel, human resources director for Greenheck, has been promoted to replace Dregler.

“Kathy has had an incredible impact on so many areas of Greenheck during her career,” said Jim McIntyre, Greenheck Group president and CEO. “She was involved in the recruitment, selection, training, and development of thousands of Greenheck Group team members and served as the first female leader on our Greenheck Group executive committee. In addition, she provided significant leadership in our community.”

Prior to joining Greenheck, Dregler worked as a senior accountant for Krause, Howard & Company, CPAs of Wausau. She earned a BS in managerial accounting from the University of Wisconsin–Stevens Point and an MS in training and development from the University of Wisconsin–Stout. She is also a certified public accountant (CPA).

Dregler’s community involvement includes serving as a director of the Wausau/Marathon County Workforce Development Board, a member of the University of Wisconsin–Stevens Point Chancellor’s Advisory Council, and a board member of the NTC Foundation. She also provided many years of service to Junior Achievement of Wisconsin.



KATHY DREGLER

Air Duct Cleaning
Continued from Page 15

need to travel. Plus, the VMT program content is consistent with NADCA standards and guidelines, ensuring technicians learn how to do the job right. The VMT program consists of five modules that cover topics like HVAC ductwork and access openings, basic safety, containment, cleaning methods,

and equipment.


Certifications are a must to be successful in the industry. Only NADCA offers the industry’s leading certifications, the landmark Air Systems Cleaning Specialist (ASCS) certification and Certified Ventilation Inspector (CVI) certifications.

Skilled labor is not a fallback position, and air duct cleaning is a great career choice, with good pay and ample opportunities.

The HVAC Inspection,

Cleaning and Restoration Association, otherwise known as the National Air Duct Cleaners Association (NADCA), was formed in 1989 as a non-profit association of companies engaged in the cleaning of HVAC systems. NADCA’s mission is to represent qualified companies engaged in the inspection, cleaning and restoration of HVAC systems, promote source removal as the only acceptable method of cleaning, establish industry standards for

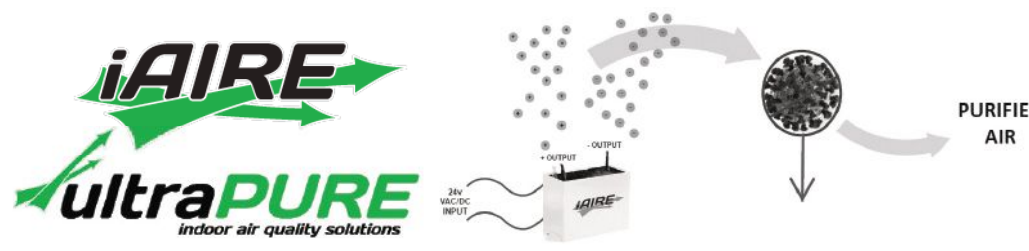
the association, and assist NADCA members in providing high quality service to their customers. With approximately 1,200 members, NADCA is made up of a diverse group of HVAC industry professionals, including air systems cleaning specialists, mold remediators, and HVAC inspectors. To learn more about NADCA, visit www.nadca.com.



Pacific Systems Group

What is Bi-Polar Ionization and How Does it Work?

Bi-Polar ionization is a NON-Ozone producing process that is used to purify AIR.



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ultraPURE is an environmentally friendly solution for purifying air in interior spaces, especially adept at eliminating viruses, mold, smoke, pollen, dander and bacteria. As the number of cases of COVID-19 continues to grow and with the threat of a second wave developing in the fall; federal, state, and local governments are mandating health policies to keep the people of America safe by preventing the spread of COVID-19. The compact ion generator is a great solution for cleaning air in multiple rooms. The best part? It does not produce nasty ozone, making it safe to use in occupied spaces. Whether you put ultraPURE in your home or use it to remediate problem areas, you can rest easy knowing that you are not generating harmful ozone while purifying the air.

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Due to COVID-19 restrictions, the training class schedule is changing. All remaining classes have been converted to Webinars.
We encourage students to verify class offerings/schedules with the IHACI office or IHACI and/or Utility websites.
We look forward to your continued participation when classes are available.

SOCALGAS, ERC, DOWNEY

SEPTEMBER

CAQI/QM/QS System Performance

(Four-Night Webinar Class)

Instructors: John Dalton / Mike Griffin

Wed., Sept. 2 – Part 1

Thurs., Sept. 3 – Part 2

Wed., Sept. 9 – Part 3

Thurs., Sept. 10 – Part 4

System Diagnostics Module

(Four-Night Webinar Class)

Instructors: John Dalton / Mike Griffin

Wed., Sept. 16 – Part 1

Thurs., Sept. 17 – Part 2

Wed., Sept. 23 – Part 3

Thurs., Sept. 24 – Part 4

OCTOBER

CAQI/QM/QS Air Distribution Module

(Four-Night Webinar Class)

Instructors: John Dalton / Mike Griffin

Wed., Oct. 7 – Part 1

Thurs., Oct. 8 – Part 2

Wed., Oct. 14 – Part 3

Thurs., Oct. 15 – Part 4

NOVEMBER

NATE Training

(Four-Night webinar Class)

Instructors: John Dalton / Mike Griffin

Wed., Nov. 4 – Part 1

Thurs., Nov. 5 – Part 2

Wed., Nov. 18 – Part 3

Thurs., Nov. 19 – Part 4

NATE Exam • TBD • Further information to follow

SOCA EDISON, ENERGY EDUCATION CENTER, IRWINDALE

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SAN DIEGO GAS & ELECTRIC, ENERGY INNOVATION CENTER (EIC)

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Instructors: John Dalton / Mike Griffin

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Wed., Sept. 23 – Part 3

Thurs., Sept. 24 – Part 4

OCTOBER

CAQI/QM/QS Air Distribution Module

(Four-Night Webinar Class)

Instructors: John Dalton / Mike Griffin

Wed., Oct. 21 – Part 1

Thurs., Oct. 22 – Part 2

Wed., Oct. 28 – Part 3

Thurs., Oct. 29 – Part 4

NOVEMBER

Boiler Module

(Two-Night Webinar Class)

Instructors: John Dalton / Mike Griffin

Tues., Nov. 3 – Part 1

Tues., Nov. 10 – Part 2

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(Two-Night Webinar Class)

Instructors: John Dalton / Mike Griffin

Tues., Nov. 17 – Part 1

Tues., Nov. 24 – Part 2

DECEMBER

NATE Training

(Four-Night Webinar Class)

Instructors: John Dalton / Mike Griffin

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Thurs., Dec. 3 – Part 2

Wed., Dec. 9 – Part 3

Thurs., Dec. 10 – Part 4

NATE Exam • TBD • Further information to follow

PACIFIC GAS AND ELECTRIC COMPANY, ENERGY TRAINING CENTER, STOCKTON

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(Four-Night Webinar Class)

Instructors: Mitch Bailey / Jeff Painter

Wed., Sept. 9 – Part 1

Thurs., Sept. 10 – Part 2

Wed., Sept. 16 – Part 3

Thurs., Sept. 17 – Part 4

OCTOBER

CAQI/QM/QS System Performance Module

(Four-Night Webinar Class)

Instructors: Mitch Bailey / Jeff Painter

Wed., Oct. 7 – Part 1

Thurs., Oct. 8 – Part 2

Wed., Oct. 14 – Part 3

Thurs., Oct. 15 – Part 4

NOVEMBER

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(Four-Night Webinar Class)

Instructors: Mitch Bailey / Jeff Painter

Tues., Nov. 24 – Part 1

Wed., Nov. 25 – Part 2

Tues., Dec. 1 – Part 3

Wed., Dec. 2 – Part 4

NATE Exam • TBD • Further information to follow

SOCA EDISON, ENERGY EDUCATION CENTER, TULARE

SEPTEMBER

Chiller Module

(Two-Night Webinar Class)

Instructors: Mitch Bailey / Jeff Painter

Tues., Sept. 22 – Part 1

Wed., Sept. 23 – Part 2

Commercial Cooling Tower Module

(Two-Night Webinar Class)

Instructors: Mitch Bailey / Jeff Painter

Tues., Sept. 29 – Part 1

Wed., Sept. 30 – Part 2

OCTOBER

System Diagnostics Module

(Four-Night Webinar Class)

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Thurs., Oct. 22 – Part 2

Wed., Oct. 28 – Part 3

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seminars.socalgas.com

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www.sce.com/workshops

Southern California Gas Company
9400 Oakdale Avenue
Chatsworth, CA 91311
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San Diego Gas & Electric
Energy Innovation Center (EIC)
4760 Clairemont Mesa Blvd.
San Diego, CA 92117
seminars.sdge.com

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Energy Education Center - Tulare
4175 S. Laspinas St.
Tulare, CA 93274
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Pacific Gas & Electric Company
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3136 Boeing Way
Stockton, CA 95206
www.pge.com

Register at www.ihaci.org (Training)

Note: When registering for a training class please make sure you honor that commitment and show up on time and prepared. If you cannot attend, please call (818) 551-1555 and cancel in ample time. Thank you.

COSPONSORED BY: Institute of Heating and Air Conditioning Industries, Inc., Southern California Gas Company, San Diego Gas & Electric, Southern California Edison, Pacific Gas and Electric Company, and Sacramento Municipal Utility District



Class 6:00pm • 2020 Training Class Schedule (Subject to Change)

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Help Wanted



Institute of Heating and Air Conditioning Industries, Inc. (IHACI) Commercial HVAC Instructors Wanted

IHACI is looking for qualified Commercial HVAC/R/SM instructors to join its education team. These are evening classes (typically 4 nights/4 hrs. per night.) Locations: Chatsworth, Downey, Irwindale, San Diego, Stockton, and Tulare, CA. We offer competitive hourly rates, mileage reimbursement, hotel/meal accommodations when needed. Previous training experience very helpful.

HVAC/R/SM disciplines – Candidates should indicate all applicable areas of expertise.

- HVAC/R/SM Industry Certifications
- Commercial Components and Applications
- Boilers
- Chillers
- Water Towers
- Refrigeration Systems
- Water Source Heat Pumps
- Fan Coils & Air Handlers

Help Wanted

1. Instructors should have a minimum of twenty (20) years of actual field experience in the HVAC/R/SM industry.
 2. Instructors should have recognized HVAC/R/SM industry certifications.
 3. Instructors should have the ability to teach face-to-face, HVAC/R/SM material as determined by the IHACI Education Committee (typical 80 to 160 seminar attendees).
 4. Instructors should have minimum computer skill sets to present existing and future formatted IHACI curriculum.
 5. Instructors should be able to pass HVAC/R/SM work history and security background checks.
 6. Instructors should be able to travel as needed to the different training venues.
 7. Instructors must be able to attend required education and training meetings.
- Interested instructor candidates should submit their resumes to the IHACI office for review and evaluation by IHACI's Education Committee. Please send resumes to: s.evans@ihaci.org or fax to 818-551-1115.

Help Wanted

Hiring Outside Sales Professionals
AT OUR LOCATIONS IN CALIFORNIA
Escondido, El Cajon, and Union City

Responsibilities include:

- Calling on accounts
- Developing and building strong customer relationships

Minimum Qualifications:

- 3 years sales experience required
- Knowledge or experience in HVACR required
- Valid Driver's License and reliable vehicle is a must
- Excellent people, communication and computer skills

Benefits include:

- Competitive salary with an incentive program
- Expense reimbursement
- Medical, dental, disability, 401K, life, and more



Company Overview
The R.E. Michel Company

Help Wanted

was founded in Baltimore, Maryland in 1935 as a supplier to the home heating oil burner industry. Still family owned and operated, we have grown to be one of our nation's leading wholesale distributors of HVACR equipment, parts and supplies and we have more than 250 locations nationwide.

For consideration and to apply online please visit our website at <https://www.remichel.com/WebServices/WebContent/start/jobs>
REMICHEL.COM

.....

Northern California Walk In Cooler Manufacturer
Rudy's Commercial Refrigeration Inc.

Rudy's designs, fabricates, installs and services walk in coolers and freezers.

Is looking for a person who has experience in Quickbooks, Service Titan, Auto Cad, sales and service and who has managed. Please send resumes to ben@rudysrefrigeration.com or call 510-376-9163

The Institute of Heating and Air Conditioning Industries publishes
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BUNDLE UP FOR SAVINGS

NOW THROUGH SEPT. 30, 2020

14 SEER ENTRY LEVEL

ULTRA-LOW NO_x BUNDLES INCLUDE:

- R410A Condenser
- 80% Ultra-Low NO_x Furnace
- Multi-Position Coil (ADP)



SIZE	PRICE
1.5 TON	\$1,868
2.0 TON	\$1,884
2.5 TON	\$1,953
3.0 TON	\$2,020

SIZE	PRICE
3.5 TON	\$2,290
4.0 TON	\$2,363
5.0 TON	\$2,587

14 SEER ENTRY LEVEL

FER COMPLIANT BUNDLES INCLUDE:

- R410A Condenser
- 80% Furnace
- Multi-Position Coil (ADP)



SIZE	PRICE
1.5 TON	\$1,534
2.0 TON	\$1,550
2.5 TON	\$1,619
3.0 TON [‡]	\$1,686 [‡]

[‡]Southern California market only

SIZE	PRICE
3.0 TON [*]	\$1,734
3.5 TON	\$2,024
4.0 TON	\$2,062
5.0 TON	\$2,297

^{*}Northern California market only

16 SEER ENTRY LEVEL

ULTRA-LOW NO_x BUNDLES INCLUDE:

- 16 SEER R410A Condenser
- 80% Furnace (N80ESU)
- Multi-Position Coil (ADP)



SIZE	PRICE
1.5 TON	\$2,332.41
2.0 TON	\$2,432.41
2.5 TON	\$2,451.41
3.0 TON	\$2,611.97

SIZE	PRICE
3.5 TON	\$3,011.26
4.0 TON	\$3,386.59
5.0 TON	\$3,677.59

16 SEER ENTRY LEVEL

FER COMPLIANT BUNDLES INCLUDE:

- 16 SEER R410A Condenser
- 80% Furnace
- 13 EER Multi-Position Coil (ADP)



SIZE	PRICE
1.5 TON	\$1,998.41
2.0 TON	\$2,098.41
2.5 TON	\$2,215.32
3.0 TON	\$2,324.97

^{*}While supplies last. Offer valid at participating Ferguson HVAC stores. Must take delivery by Sept. 30, 2020. No substitutions allowed. Pricing subject to change without notice. Taxes not included.

Pick-Up Your Order Fast.

Text your requests for curbside pick-up directly to our product experts at the participating locations highlighted below.

Monday – Friday, 7:00 a.m. – 4:00 p.m.

ARIZONA | NEVADA

GILBERT (480) 824-4250	W PHOENIX* (623) 474-7200
GLENDAL (602) 246-6982	PRESCOTT (928) 759-0222
MESA (480) 832-3438	NW TUCSON (520) 670-1100
NE PHOENIX (480) 308-8200	YUMA (928) 329-6420
S PHOENIX (602) 438-8945	LAS VEGAS, NV (702) 260-9388

CALIFORNIA


ANAHEIM (714) 520-0026	DUBLIN (925) 828-4875	INDIO (760) 775-7400	PASO ROBLES (805) 434-3114	S SACRAMENTO (916) 210-7993	SANTA CLARITA (661) 287-3142
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^{*}W. Phoenix number applies to all Arizona Locations | Gilbert and W. Phoenix are open on Saturday.

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	ANX14	APC14H APC14M	AMES80
	ASX13	APH14H APH14M	ACES80
	ANX13	APD14 APG16M	AMES80-U**
	ASZ14	APG14M	
	ANZ14		

**California only

*Complete warranty details available at www.amana-hac.com. To receive the 2-Year Unit Replacement, online registration must be completed within 60 days of installation. Online registration is not required in California or Quebec.



For years, Amana brand has been recognized as one of America's most respected brands and a leader in Limited Warranty* coverage. And now, Amana brand is offering added peace of mind with the addition of a 2-Year Unit Replacement Limited Warranty* for select air conditioners, heat pumps, gas furnaces, and packaged units.

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