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Company Spotlight

Johnson Controls Ducted Systems ramps up production to help support field hospitals in communities affected by COVID-19.

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Editorial Focus

What's new? What's been improved? Find out here as ICN takes a look at the latest offerings in Motors and Drives, Compressors and Controls.

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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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COVID-19 Update

U.S. Government Acknowledges HVAC as an "Essential" Service

As the Nation comes together to slow the spread of COVID-19, on March 16 the President issued updated Coronavirus Guidance for America that highlighted the importance of the critical infrastructure workforce.

The Cybersecurity and Infrastructure Security Agency (CISA) executes the Secretary of Homeland Security's authorities to secure critical infrastructure. Consistent with these authorities, CISA has developed, in collaboration with other federal agencies, State and local governments, and the private sector, an "Essential Critical Infrastructure Workforce" advisory list. This list is intended to help State, local, tribal and territorial officials as they work to protect their communities, while ensuring continuity of functions critical to public health and safety, as well as economic and national security. Decisions informed by this list should also

take into consideration additional public health considerations based on the specific COVID-19-related concerns of particular jurisdictions.

In this list, the HVAC industry is mentioned in two areas: Public Works and Infrastructure Support Services; and Hygiene Products and Services.

The listing is as follows:

Public Works and Infrastructure Support Services

- Workers who support the operation, inspection, and maintenance of essential public works facilities and operations, including bridges, water and sewer main breaks, fleet maintenance personnel, construction of critical or strategic infrastructure, traffic signal maintenance, emergency location services for buried utilities, maintenance of digital

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Industry News

Ferguson Expands Distribution Network in San Francisco Bay Area

By Gilbert Rivera
Indoor Comfort News
Editor

Leading wholesale distributor Ferguson HVAC / Trane has expanded into the San Francisco Bay Area, adding six locations to its rapidly growing California network.

The move now makes the company the sole distributor of Trane residential products in the entire state.

"We recognized the growing need to have better coverage to support the contractor base in the region interested in the Trane brand," said Steve Adams, Ferguson HVAC / Trane director of sales. "There is a very high demand for Trane products in the market, and this will help give availability much quicker to our customer



A photo of the Oakland Bay Bridge in the San Francisco Bay Area, where Ferguson has added six locations.

base."

Trane products are available immediately for both delivery and will call at branches in the cities of Dublin, Gilroy, Hayward, Pittsburg, San Jose, and San Rafael. The Pittsburg location will serve as

the region's main distribution hub and will have the ability and logistics to deliver anywhere within the populous Bay Area.

"This expansion will benefit

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HOW DOES SMARTSENSE[™] TECHNOLOGY WORK?

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SAVINGS



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- These condensers can be matched with a compatible indoor unit and work with most two-stage units.
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*Thermostat compatibility: The system is compatible with most thermostats. The communicating and self-configuring functions only work when used with the new Day & Night ION communicating wall control (thermostat).



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- Up to 19 SEER cooling / Up to 13 EER cooling
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- Wi-Fi® enabled remote access with the Ion™ System Control



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Industry News



CALIFORNIA



TEXAS



ServiceTitan Ranks in Magazine's Fastest Growing List

Glendale, Calif. – Inc. magazine has revealed that ServiceTitan is No. 59 on its inaugural Inc. 5000 Series: California list, a ranking of the fastest-growing California-based private companies. Born of the annual Inc. 5000 franchise, this regional list represents a unique look at the most successful companies within the California economy's most dynamic segment—its independent small businesses.

"This is well-deserved recognition for the hard work and passion that drive the ServiceTitan team every day," said Ara Mahdessian, co-founder and CEO of ServiceTitan. "Our growth is powered by our desire to be better and to continue improving the lives of the residential and commercial service contractors who are out there using ServiceTitan to keep the electricity on and the water running. The dedication and commitment of those contractors will always be our inspiration and the key to our success."

The companies on this list show stunning rates of growth across all industries in California. Between 2016 and 2018, these 250 private companies had an average growth rate of 422 percent and, in 2018 alone, they employed more than 49,000 people and added \$5.6 billion to the California economy. Companies based in the largest metro areas – Los Angeles, the Bay Area, and San Diego – brought in the highest revenue overall.

"The companies on this list demonstrate just how much the business sector impacts California's economy," said Inc. editor-in-chief Scott Omelianuk. "Across every single industry, these businesses have posted revenue and growth rates that are beyond impressive, further proving the tenacity of their founders and CEOs."

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Grundfos to Donate \$29M to Help Fight Coronavirus

Houston, Texas – In celebration of Grundfos' 75th anniversary, the Grundfos Foundation, owner of Grundfos, has expanded its budget for donations from planned \$18 million to \$29 million. The main donation areas remain water, research, and inclusion, but the Foundation will move its attention to the fight against COVID-19 this year.

The Poul Due Jensen Foundation has received the annual report from the Grundfos Group and greatly appreciates the historic levels of growth and profitability. The result increases dividends paid out to the Foundation whose primary purpose is to own and develop Grundfos. The Foundation also contributes to society through philanthropic donations within three strategic areas: Research and learning, Water and development, and Inclusion. The Foundation committed \$17 million to philanthropic projects in 2019.

"In 2020, Grundfos turns 75," said Kim Nøhr Skibsted, Grundfos Foundation executive director. "This is a good occasion for expanding the donation activities significantly, and we plan to commit \$29 million to donations this year. The funds will primarily support our existing donation areas where we support mission-driven research and learning, sustainable solutions, humanitarian aid through access to drinking water and inclusion of the socially vulnerable through public-private collaboration. There's plenty of worthy causes to support, and our donations should help bring about new, groundbreaking solutions."

In 2019, the Foundation celebrated completion of the Nyarugusu Refugee Camp water distribution system and bringing access to drinking water to over 200,000 people in Western Tanzania in partnership with the American NGO, Water Mission. The Foundation supports similar

projects in collaboration with UNICEF, Plan International, and Oxfam.

"There's a lot we can do with our knowledge, technologies and donations for people who are often overlooked," said Skibsted. "Water is a source of life and a prerequisite for improving quality of life and economic development. WASH (Water, Sanitation, Hygiene) is also a core tool to shield humans against the corona pandemic, and we are following the situation closely to see how we can be of assistance. Within research, we will support changed priorities that can help mitigate the consequences of the COVID-19 outbreak now and in future. We will remain true to our partnerships, but we will adapt to the new reality in Denmark, and globally."

.....

Hilti Expands Buys Concrete Tech Startup Assets

Plano, Texas – Hilti, a global leader providing innovative tools, technology, software and services to the commercial construction industry, has acquired substantially all of the assets of Concrete Sensors, a provider of connected (i.e., "smart") devices, software and services that help enable improved decision making and accelerated construction schedules through better understanding of the concrete curing process. This agreement extends Hilti's digital (IoT) portfolio into new and important applications and strengthens the brand's leadership as a provider of productivity solutions in the construction industry.

One of the most critical and time-consuming phases in the construction process is waiting on the poured concrete to develop strength, also known as the curing phase. Traditionally, monitoring this phase required the use of cumbersome laboratory equipment and involved considerable time delays. However, in recent years, new technology has emerged to help optimize this process. In 2015, Brendan Dowdall and Ryan Twomey founded Concrete Sensors to tackle this problem. The Boston-based company offers general contractors, concrete contractors and engineers a solution to help accurately measure and predict the performance of concrete. A

wireless sensor embedded into concrete works with the easy-to-use software to provide real-time data on the concrete as it cures and dries. The Concrete Sensors mobile app can quickly share the status of the concrete's estimated strength, temperature and relative humidity. Additionally, with a state-of-the-art in-house lab the exact concrete mix can be more accurately tested to better predict outcomes, therefore potentially saving days, possibly even weeks on the project.

In recent years, Hilti has made major investments to digitize the construction industry and simplify workflows for construction contractors and engineers with innovations including: easier tracking assets (ON!Track); improved methods for designing baseplates (PROFIS Engineering); fast and accurate solutions for taking BIM designs to the field (PLT 300) and the recently launched solutions to provide traceable fastenings (TraceFast). Hilti believes Concrete Sensors will be an excellent addition to its growing digital construction portfolio.

"This acquisition directly aligns with our strategic priorities to put a greater focus on IoT," said Martina McIsaac, President & CEO of Hilti North America. "Hilti is committed to supporting our customers' digital transformations. Beyond the strategic rationale and product offering, this is an ideal cultural fit. Hilti and the Concrete Sensors team share a customer-first approach, which is essential. We are impressed by Concrete Sensors' commitment to innovation and look forward to its continued growth under Hilti."

The entire Concrete Sensors team will join Hilti and will remain in office in Boston. Pricing, product and support procedures will remain unchanged for the foreseeable future.

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Service Nation Launches New Business Service

Coppell, Texas – Service Nation has launched a new General Business vertical membership. This launch means that Service Nation can now provide business owners in any industry with business tools, resources, and support to become more successful through its Service Roundtable membership.

Service Roundtable membership provides business owners with content, community, and cash. The General Business membership includes over 250 pieces of customizable downloadable business tools including flyers, direct mail, financial calculators, hiring tools, and more, with additional content being added every week. Members can also participate in the idea exchange where business owners can share ideas and recommendations helping one another improve sales, marketing, operations, and profitability. Finally, members have access to the Roundtable Rewards program, through which business owners earn cash rebates on everyday business expenses. Membership is a profit center for many companies.

"We have been serving residential contracting business owners in the HVAC, plumbing, electrical, and remodeling industries for close to two decades," said Liz Patrick, vice president of Strategic Alliances for Service Nation. "We came to realize that all businesses could benefit from membership in Service Roundtable. Our members have achieved amazing results with our resources and training. The average Service Nation member grows three times faster than the published industry averages. We think every business owner, no matter the industry, can achieve similar results with our membership benefits."

ARIZONA



Goettl Gifts More Than \$1.5M for Employees' Health and Safety

Phoenix, Ariz. – CEO Ken Goodrich of Goettl Air Conditioning and Plumbing, a leading provider of HVAC and plumbing services in the Southwest United States, announced he is spending \$1.5 million to install Ultra Violet (UV) germicidal lights in the homes of more than 600

Continued on Page 6

GUARDIAN® R-407C

The High-Value, Minimal-Contact Replacement for R-22 Air Conditioners



The Guardian® GAW air conditioner is a high-value solution for homes that require a cost-effective R-22 retrofit with minimal customer contact. These high EER models are designed for use with R-407C refrigerant and are compatible with many existing R-22 components. They feature industry-leading warranties and meet installation requirements across the U.S. and Canada.



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- R-407C currently not on any EPA phase-out lists
- JCI granted long-term waiver from the US Department of Energy to manufacture Guardian® R-407C Air Conditioners¹

¹ See Notice of Decision and order from the Department of Energy Central Air Conditioners and Heat Pumps Test Procedure, 84 Fed. Reg. No. 191 [52489], (October 2, 2019), available at: <https://www.govinfo.gov/content/pkg/FR-2019-10-02/pdf/2019-21437.pdf>

² Time in home varies and is dependent on contractor verifying component compatibility, existing component condition and functionality. Contractor is also responsible for conducting standard acceptable refrigerant and installation practices.

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Not all brands available at all locations

Continued from Page 4

employees. Deemed an essential business during an unprecedented time in our nation, Goettl's HVAC and plumbing technicians have continued to work tirelessly to ensure their community is receiving essential life systems and services throughout the COVID-19 pandemic. To show appreciation for their hard work and dedication, Goodrich is giving each Goettl employee a new UV germicidal light that will be installed into their personal HVAC system.

"Our technicians are putting their own well-being and safety second to serve their communities," said Goodrich. "I want them to know how much we appreciate their unwavering dedication and bravery by giving them a product that will hopefully provide their own families with invaluable peace of mind during these uncertain times."

The UV germicidal light, which mimics natural sunlight, uses ultraviolet radiation to drastically decrease indoor germs such as mold, fungi and bacteria. Additionally, the UV radiation destroys the nuclei of each contaminant preventing it from reproducing. Proven to kill viruses of many strains, this type of UV

light is also used in hospitals and food processing plants nationwide. The safety and well-being of Goettl employees is top priority for Goodrich and his executive team. As technicians are a critical resource for essential home services, Goodrich is committed to doing as much as possible to help ensure they stay safe and healthy during this public health crisis. "At Goettl, we believe in doing things the right way, not the easy way and what's right is keeping our employees safe and as healthy as possible so that they may continue to serve their beloved communities," Goodrich continued.



Carrier Becomes Publicly Traded Company

Palm Beach Gardens, Fla. – Carrier Global Corporation debuted as an independent, publicly traded company after successfully completing

its separation from United Technologies. Shares of Carrier, a global leader in creating building and refrigeration solutions that matter for people and our planet, will begin "regular-way" trading on the New York Stock Exchange (NYSE) at market open under the symbol "CARR." A leading provider of innovative heating, ventilating and air conditioning (HVAC), refrigeration, and fire & security technologies, Carrier's products and services are essential for modern life, particularly in today's global environment. The company has an extensive global footprint with approximately 53,000 employees, offering solutions in more than 160 countries. Carrier has leading positions in critical segments, including North American residential HVAC, commercial HVAC equipment in major markets, global fire detection and suppression, global access controls for security systems, and refrigerated equipment for the North American and European truck trailer and container businesses. "Against the backdrop of unprecedented global uncertainty, Carrier and its employees remain focused and continue to solve critical challenges – from improving indoor air quality, protecting the world's food and pharmaceutical supply and keeping people safe and secure. I am honored to lead this fantastic

company and now, more than ever, I am incredibly proud of the perseverance and resiliency of our talented workforce," said Carrier President & CEO Dave Gitlin. "For more than a century, Carrier has been a symbol of excellence, and today, as a standalone company, we have defined our own strategy, vision, culture and priorities. We have an unmatched legacy and look forward to delivering sustainable long-term growth to our shareowners and other stakeholders." As an independent company, Carrier will have greater focus and enhanced agility based on its own distinct operating priorities and strategies for long-term growth and profitability, including strengthening and growing its core businesses, extending its product range and geographical coverage, and expanding service and digital offerings. The company is well-positioned with strong megatrends driving sustained industry growth, leading positions with significant installed base, a disciplined operating system, and an unwavering commitment to innovation. Carrier will continue to contribute meaningfully to communities around the world through employee volunteerism and environmentally responsible operations, products and services. Carrier's recent \$3 million, three-year donation to The Nature Conservancy will help cities better prepare for climate change and support the development of online STEM education for children around the world, and is a testament to Carrier's commitment to environmental leadership. "We are a world leader in providing energy-efficient solutions for buildings around the world. We are deeply committed to driving a leadership position in sustainable solutions for the planet and for future generations. Strengthening our global community makes us a stronger company, creating shared value for our business and society," said Gitlin. "As a standalone company, we have the ability to leverage our legacy of industry leadership and sustainability to address the challenges of today and tomorrow while executing our vision and growth strategy." Learn more about the new Carrier at www.Carrier.com.

Bryant Announces 2020 Medal of Excellence Winners

Indianapolis, Ind. – In recognition of outstanding customer service and an unwavering commitment to excellence, Bryant Heating & Cooling Systems is honored to present its 2020 Medal of Excellence winners. The 21 dealers were honored for unparalleled customer service, sales and loyalty to the Bryant brand, and this award reflects their business acumen and ability to deliver value for their customers and the brand. Bryant, a leading supplier of heating, ventilating and air conditioning (HVAC) equipment, is a part of Carrier, a leading global provider of innovative HVAC, refrigeration, fire, security and building automation technologies. "Bryant dealers are some of the most skilled and dedicated professionals in our industry, and they are constantly helping to evolve our industry," said Chris Nelson, president, HVAC, Carrier. "Our Medal of Excellence winners truly help raise the bar, and serve as ideal examples for other Bryant dealers of how to run a successful business and do Whatever It Takes® to care for its customers." The 2020 Medal of Excellence Winners are:

- AGS HVAC Services Westport, Massachusetts
- Air Tech Heating, Inc. Fond du Lac, Wisconsin
- Chadds Ford Climate Control Chadds Ford, Pennsylvania
- Chapman Heating | Air Conditioning | Plumbing Indianapolis, Indiana
- Complete Comfort Omaha, Nebraska
- Cosby Heating Mount Vernon, Ohio
- D. McKeon Heating & Air Conditioning Kennesaw, Georgia
- Design Air, Inc. Missoula, Montana
- Efficient Comfort Westminster, Colorado
- Evergreen Gas Heating & Cooling Sherwood, Oregon
- Family Heating and Air Pensacola, Florida
- Gag Sheet Metal and Roofing New Ulm, Minnesota
- Haley Comfort Systems Rochester, Minnesota
- IERNA'S Heating & Cooling, Inc. Lutz, Florida
- M & W Heating and Air Lizella, Georgia
- Peterman Heating, Cooling, Plumbing, Inc. Indianapolis, Indiana

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• Sparks Maintenance Contracting & Htg/Clg Bowling Green, Missouri
• Valley Comfort Heating & Air Santa Rosa, California
• Waychoffs Heating & A/C Jacksonville, Florida

For more information about Bryant, visit www.bryant.com.

AdvantaClean Introduces New Building Sanitizing Services

Huntersville, N.C. – AdvantaClean, the nation's leading franchised provider of Light Environmental Services, has responded to the spread of the COVID-19 virus by offering new sanitizing services for businesses, property managers and residential homeowners to reduce the risk of exposure to the virus.

The indoor air quality provider has implemented preventative and decontamination services as part of its sanitizing protocol. AdvantaClean uses the best available technology and EPA-approved materials that are known to have removed prior strains of the virus.

AdvantaClean offers Preventative cleaning services for areas with no known exposure to the virus, and Decontamination services for areas known or suspected to have come in contact with the virus.

The Preventative service includes sanitization and mechanical cleaning of horizontal surfaces and common touchpoints such as doorknobs, computer keyboards and plumbing fixtures. This process uses microfiber cloths and an EPA-approved disinfectant solution.

The Decontamination service includes sanitizing the duct system, fogging the "hot zone" with an EPA-approved disinfectant to force airborne contaminants to precipitate from the air and the same mechanical cleaning included in the Preventative service.

"AdvantaClean is committed to protecting the health of our community and that comes through providing the highest level of safety and sanitization in homes and commercial

spaces," said Bryan Bennett, President of AdvantaClean. "It is our top priority to keep America's work and home environments healthy and sanitized."

AdvantaClean can only perform sanitization services in a facility when personnel are not present, typically after standard business hours or while all employees are working remotely. OSHA certified AdvantaClean professionals wearing proper safety gear, including PPE and respiratory masks, will come to the building to execute the cleaning. The application does not leave a chemical footprint and people can return to the building within several hours of service completion.

For more information about AdvantaClean and its sanitization services, please visit www.advantaclean.com.

Aircuity Celebrates 20-Year Anniversary

Newton, Mass. – Aircuity, (www.aircuity.com), creator of measurably better environments, announced that 2020 marks the company's 20-year anniversary. Over the last 20 years, Aircuity has evolved from being a pioneer of indoor environmental quality (IEQ) monitoring to become the industry leader in accurate measurement and control while providing unique analytics utilized to drive core business outcomes.

"Our founder, Gordon Sharp, is truly an industry pioneer and was ahead of his time when creating Aircuity in 2000," said Aircuity CEO, Dan Diehl. "We thank our progressive and demanding clients who believed in Aircuity early on and who have helped us continually evolve and improve."

Today, Aircuity is installed in more than 100 million square feet across 17 countries. Equally as extraordinary is the impact that the company is having on the environment. To date, Aircuity has sequestered 9.2 billion lbs. of CO₂; the same amount saved by 5.4 million acres of forest – roughly the size of New Jersey.

Aircuity is continuing to innovate and has exciting new products and platform enhancements planned for release this year. A few of these items include: a new mobile application, a refreshed UI analytics platform and new and improved sensor technologies. "We must continue to invest and innovate to keep leading in this rapidly expanding market," said Diehl. "We have always believed that accurate, reliable

and integrated IEQ measurement will be ubiquitous in the built environment."

Aircuity's current growth trajectory is being fueled by fundamental market drivers, such as WELL, RESET, carbon taxes, wildfire impacts along with the link between air and cognitive function improvements. The company is also fortunate to serve a diverse set of vertical markets, be a part of many net zero buildings and partner with workspace leading clients.

"We want to give special thanks to all our current and past employees, our partners and owners who have made this possible, through steadfast belief and the desire to improve the planet and the indoor

Continued on Page 8

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environment,” stated Diehl. “Everyone at Aircuity is excited to begin our next 20 years.”

For additional information on the company and its solutions, please visit: www.aircuity.com.

Danfoss Accepting Entries for Annual EnVisioneer of Year

Baltimore, Md. – Danfoss, a leading manufacturer of high-efficiency electronic and mechanical components and controls for air-conditioning, heating, refrigeration, industrial, and water systems, is accepting entries for its 11th annual EnVisioneer of the Year award competition.

Launched in 2010, the

competition recognizes North American original equipment manufacturers (OEMs), building owners, municipalities, contractors and end users that have introduced a new product, opened a new facility, or invested in a building or system upgrade in the past 18 months using Danfoss products or solutions to realize significant energy and environmental savings.

Interested participants may enter the competition by submitting an application by July 15, 2020. Applications will be reviewed and selected by a panel of third-party judges representing various disciplines.

In 2019, Danfoss recognized Arctic Chiller Group as the winner of the EnVisioneer of the Year award program. Arctic Chiller Group is using Danfoss Turbocor® oil-free magnetic bearing centrifugal compressors in the development of its air- and

water-cooled chillers with new Arctic Boost option to dramatically reduce first costs of equipment as well as energy consumption. Specifically, in a Washington, DC, office building, the technology enabled the building owner to quickly benefit from energy savings and reduce system complexity and total lifecycle costs.

For more information about the EnVisioneer of the Year award competition, read about previous winners, or submit an entry, please visit <https://www.danfoss.com/en-us/about-danfoss/insights-for-tomorrow/envisioneer-of-the-year/>.

LG Honored as 2020 Energy Star Partner of the Year

Washington, D.C. – LG Electronics has been named 2020 ENERGY STAR® Partner of the Year by the



U.S. Environmental Protection Agency (EPA). The Sustained Excellence award recognizes LG's continued leadership in protecting the environment through high-performing, energy efficient products loved by millions of consumers across the country.

“Responsible innovation is the foundation of creating Innovation for a Better Life,” said Thomas Yoon, President and CEO, LG Electronics North America. “With ENERGY STAR, LG is helping consumers make a difference – with products that deliver energy savings to help save money and the planet without sacrificing performance or style.”

Bolstered by its leadership in ENERGY STAR promotions last year, LG helped educate millions of consumers about energy efficiency while increasing sales of ENERGY STAR certified products. The 2020 award recognizes a number of key LG accomplishments:

- American consumers purchased 3.7 million LG ENERGY STAR certified products in 2019. All told, LG's sales of ENERGY STAR certified products exceeded \$2 billion.

- Heeding the EPA's call for increased attention to ENERGY STAR Most Efficient, LG's unit sales of Most Efficient products increased 27 percent to over 750,000 units.

- More than 80 percent of LG product models across various categories were ENERGY STAR certified in 2019.

- The number of LG ENERGY STAR models increased by 70 percent for mini-split air conditioners, 31 percent for refrigerators, 25 percent for clothes dryers and 12 percent for washing machines.

- LG raised consumer awareness of ENERGY STAR benefits through retail promotions, social media engagement and advertising on its Times Square billboard in New York.

- Commemorating ENERGY STAR Day, LG partnered with Lowe's on efficiency upgrades (with LG refrigerators, washers and dryers) for deserving families in Charlotte, N.C.

First recognized as ENERGY STAR Partner of the Year in 2012, LG consistently demonstrates “exemplary commitment and dedication to leadership in energy efficiency and the ENERGY STAR program,” according to Ann Bailey, chief of the EPA's ENERGY STAR

Product Labeling Branch.

“LG continues to be a leader in its commitment to ENERGY STAR as seen by its ever-expanding ENERGY STAR product offerings. EPA applauds LG for participating extensively in our campaigns, exposing millions of consumers to the value of ENERGY STAR,” she said.


Greenheck Ramping Up Production to Fight Global Pandemic

Schofield, Wisc. – As multiple state and government agencies have limited travel and ordered people to shelter in their place of residence, essential businesses like Greenheck Group are addressing new challenges resulting from the COVID-19 pandemic. Greenheck Group, a global leader in the engineering and manufacture of HVAC equipment and headquartered in Schofield, Wisc., continues to support ongoing building construction around the world, especially in needed industries such as healthcare and digital infrastructure.

“As an essential business, we are committed to stay open for business, operating our manufacturing facilities throughout the country under CDC and CISA government guidelines to mitigate the risk to our team members while supporting the urgent needs of our customers,” stated Jim McIntyre, president and CEO of Greenheck Group. “Our first concern is the health and safety of our team members, their families and the communities in which we operate. We have implemented comprehensive procedures to ensure their well-being and reduce the risk of infection. In addition, all equipment orders supporting healthcare receive the highest urgency.”

Greenheck Group manufactures a wide variety of commercial air movement, control, and conditioning equipment, including ventilation, exhaust, and damper products that are necessary to create safe environments for healthcare workers and patients in hospitals, surgical suites, laboratories, and senior care centers. Hospitals across the





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Like you, Mitsubishi Electric Trane HVAC US is deeply concerned about the impact of COVID-19 on our industry. We understand the important role you as Contractors play in our economy and the comfort solutions you provide all Americans. We know the hard work and time you put into earning your Diamond Contractor® status for 2019 and here is what we will offer you going forward.

OUR COMMITMENT TO DIAMOND CONTRACTORS

- ▶ Your DC/DP status Elite, Preferred, or Standard (earned in 2019) will continue through 2021, renewal will not be necessary*
- ▶ All Diamond Points you have earned will not expire
- ▶ Our leads program will continue to drive quality leads to grow your business
- ▶ We will offer special financing programs that include 0% for 18, 36, 48, or 60 months**
- ▶ Our inventory position remains strong and we have key products you need now
- ▶ Our sales team remains ready to assist with virtual training options for you
- ▶ Our regional and national marketing teams will continue to provide support as needed
- ▶ We will continue with our planned Diamond Contractor Conferences in Dallas and Indianapolis in the Fall. More details to follow.

* All standards of becoming a DC/DP still must be met such as: adhering to the Code of Conduct, training, and all Balanced Scorecard requirements

** At zero or minimal cost to a Diamond Contractor, depending on DC/DP status

Below are some resources and information to help you get through this uncertain time. Our Distributors and sales teams stand ready to help you. Please contact us should you need anything.



The U.S. Small Business Administration is offering assistance to small businesses as part of the stimulus program. Please go to <https://www.sba.gov> to get information on how you can apply for loans to help your business. Some of these loans may be forgiven.



The U.S. Chamber of Commerce has a great resource guide for small businesses. Go to <https://www.uschamber.com> to read more.



HARDI has excellent resources on industry best practices. They also have a template that you can use to create a travel authorization letter for your employees. Visit <https://hardinet.org> to read more.



Google is offering ad credits for customers that have an active account. Please go here to read how you can participate in their small business marketing program. <https://support.google.com/google-ads/answer/9803410>

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U.S. are asking contractors to build more patient isolation rooms and testing facilities to accommodate the increasing number of COVID-19 patients.

In March, urgent orders for Greenheck Group products have been received from around the country, and the company responded quickly. Some examples include:

- Greenheck was engaged by hospitals in California and Virginia to provide Vektor® and FumeJet® lab exhaust equipment for new patient isolation rooms. Typically, this equipment requires weeks to manufacture and ship. Greenheck expedited the orders for 10-day shipping.
- A south Florida hospital is converting a patient space into a COVID-19 ICU. Airflow is critically important. Greenheck's Kentucky plant manufactured a vital louver product in one day and airfreighted it to the job site.
- A medical supply company is retrofitting a facility for production of hand sanitizer in response to COVID-19. The company placed an order for a Greenheck damper Wednesday afternoon at 3:46 PM. The damper was manufactured at Greenheck's Wisconsin operations, and it was shipped Thursday at 10:30 AM.
- A major web service provider requested assurances that Greenheck Group would remain open as an essential business. Data centers provide essential infrastructure to healthcare, government, telecommunication, and emergency services. Greenheck Group's equipment and services are necessary to support ongoing operations in digital warehouses.

National HVACR Educators and Trainers Conference is Postponed

Las Vegas, Nev. – Due to the World Health Organization declaring the COVID-19 global pandemic, HVAC Excellence postponed the 2020 National HVACR Educators and Trainers Conference, March 23-25, 2020, at the South Point Hotel in Las Vegas, Nevada.

HVAC Excellence has decided to postpone this event, until March 29-31, 2021, at the Marriott Marquis, in Atlanta, Georgia.

We recognize that this decision is an inconvenience,” said Howard Weiss, executive vice president of HVAC Excellence. “However, we made this decision out of the concern we have for the health and safety of everyone who participates in this event.”

Paid registrants for the 2020 conference will automatically be registered for the 2021 conference, at no additional charge. However, if attendees prefer a credit toward the future purchase of products or exams, email the request, with name and organization to conference@escogroup.org, no later than June 31, 2020.

Winsupply Buys May Supply

Dayton, Ohio – Winsupply Inc. has closed on the purchase of assets of May Supply, a wholesale and retail distributor of plumbing and water system materials, and kitchen and bath design and fixtures, serving customers throughout west central Virginia from two

locations. The company has its primary location in Harrisonburg, Virginia, and a second location in Ruckersville, Va.. Details of the purchase were not disclosed.

May Supply has been incorporated as Winsupply of Harrisonburg Va., but will continue to do business as May Supply. The company becomes part of the Winsupply Family of Companies.

Charles “Chuck” May, a second generation owner, becomes president of May Supply and is purchasing equity in the company under Winsupply’s shared ownership business model. May was formerly operations manager.

“May Supply is well-known for outstanding service that includes the best solutions, product selection, and knowledge base throughout its market,” said Monte Salsman, president of Winsupply Acquisitions Group.

“We are all excited to be part of a larger organization, but still be able to operate independently,” said Chuck May. “Winsupply gave the stockholders a fair deal and treated the new employees to more opportunity.”

In the Winsupply business model, Winsupply is the majority owner of its companies, reflecting its shared-ownership business model in which local entrepreneurs have autonomy to decide how best to serve their customers, and to share in the financial risks and rewards of ownership.

NAVAC Launches New Promotion

Lyndhurst, N.J. – NAVAC, the world’s largest supplier of HVAC vacuum pumps in addition to a wide array of tools, gauges, charging machines, recovery units and other industry-specific items, is launching a seasonal promotion providing HVAC professionals with two free evacuation tools with the purchase of a qualifying vacuum pump. The Need for Speed promotion runs May 1 – August 31 and offers unprecedented value for the company’s premium HVAC equipment.

The terms are simple: by purchasing one of five vacuum pumps, customers can select two of three available evacuation tools. Qualifying vacuum pumps include:

- The market’s first smart vacuum pumps, the NRP8Di and NRP6Di have digital control interfaces for unsurpassed intuitiveness, and offers features such as task reminder, extended

evacuation for improved vacuum, and precision vacuum measurement technology with display. An automatic solenoid valve prevents oil back flow and reduces vacuum decay during a power outage or accidental shut off. An ultra-efficient yet powerful DC Inverter makes it approximately 20% lighter than other units in its class.

- The NP4DLM Cordless Vacuum Pump features a high-performance lithium battery capable of up to one hour of continuous running time. At 15.4 pounds, the unit is exceedingly efficient and easy to carry and store. Twin-cylinder operation provides high vacuum down to 15 micron, and a check valve prevents backflow. Other highlights include an isolation valve, a lifting hook and a gas ballast for better moisture handling.

- Weighing just 8.4 lbs. (including battery) with dimensions of only 9.2”x3.5”x7.5”, NAVAC’s NP2DLM Cordless Vacuum Pump is convenient to carry for technicians and ideal for applications where power supply access is an issue. The dual-stage rotary vane pump can reach an ultimate vacuum level down to 23 microns, and its lithium-ion battery can operate up to one full hour. The unit has an air flow capacity of 2cfm, and features a shut-off valve for system isolation.

- NAVAC’s NP12DM Vacuum Pump features an industrial-grade design for a rare blend of robustness, speed and power. The unit offers an impressive flow rate of 12cfm for fast, heavy duty performance, and its brushless DC-motor technology maintains peak efficiency while yielding a superior starting performance under low starting amperage and soft-starting down to 30°F. The NP12DM’s two-stage functionality and precision manufacturing provide an industry-leading ultimate vacuum down to 5 microns.

The promotion’s three evacuation tools, from which customers may choose two for free, include the NHB1 “Big-Boy” Evacuation Hose; the NHB2 “Big-Boy” Evacuation Hose; and the NVR1 “2-in-1” Valve Core Removal Tool.

“As we continue to meet the HVAC/R industry need for user-friendly equipment and tools that are less complicated and save time – both of which are crucial to busy technicians charged with conducting efficient yet exacting service – we’re looking for ways to deliver even more

value from an equipment investment standpoint,” said Stephen Rutherford, VP of HVAC Tools Business for NAVAC. “The Need for Speed promo pairs our premium vacuum pumps with fast efficient evacuation tools in an attractive combo package.”

Comprising a full lineup of tools, gauges, detectors, charger and vacuum pumps, among other solutions, NAVAC’s product portfolio is designed with one overarching concept in mind: user-friendliness. The company seeks to meet a need for simpler, lighter, faster solutions that expedite service without sacrificing accuracy. For more information, www.navacglobal.com.

RP Fedder Donates Materials to Help Build Sewing Masks

Rochester, N.Y. – RP Fedder Industrial LLC, a filter solution supplier, donated a roll of filter media valued at \$1,000 to a group of volunteers sewing masks for healthcare workers throughout the Rochester region, where the company is headquartered.

“RP Fedder has a longstanding relationship with healthcare providers in this community and appreciates the tremendous efforts they’re all putting toward patient care at this critical time,” said Joseph Pennise, vice president of RP Fedder, who coordinated the donation for the company. “When we received the request from a volunteer, we jumped at the chance to be able to help provide an added measure of safety for local healthcare professionals.”

Sewers have been purchasing or receiving donations of household filters and tearing them apart to get to the filter media they need for the masks. This effort presents challenges, as filters are heavily glued and have a layer of sharp, metal mesh to break through before sewers could get to the material they needed. Additionally, many volunteers ran out of filters. RP Fedder’s donation provides them with the stand-alone filter media they need so they don’t have to disassemble anything to get to it.

“This will make the process go so much faster and make so many more masks,” said one volunteer working for the group. The RP Fedder donation is enough to complete 2,000 masks.

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CLEAResult is a SoCalGas authorized contractor responsible for administering the Residential HVAC Program through December 31, 2020.

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Amid Pandemic, Federal Government Acknowledges HVAC as an “Essential Service”

Continued from Page 1

systems infrastructure supporting public works operations, and other emergent issues.

- Workers such as plumbers, electricians, exterminators, builders, contractors, HVAC Technicians, landscapers, and other service providers who provide services that are necessary to maintaining the safety, sanitation, and essential operation of residences, businesses and buildings such as hospitals, senior living facilities, any temporary construction required to support COVID-19 response.

- Workers who support, such as road and line clearing, to ensure the availability of and access to needed facilities, transportation, energy and communications.

- Support to ensure the effective removal, storage, and disposal of residential and commercial solid waste and hazardous waste, including landfill operations.

- Workers who support the operation, inspection, and maintenance of essential dams, locks and levees.

- Workers who support the inspection and maintenance of aids to navigation, and other

government provided services that ensure continued maritime commerce.

Hygiene Products and Services

- Workers who produce hygiene products.

- Workers in laundromats, laundry services, and dry cleaners.

- Workers providing personal and household goods repair and maintenance.

- Workers providing disinfection services, for all essential facilities and modes of transportation, and supporting the sanitation of all food manufacturing processes and operations from wholesale to retail.

- Workers necessary for the installation, maintenance, distribution, and manufacturing of water and space heating equipment and its components.

- Support required for continuity of services, including commercial disinfectant services, janitorial/cleaning personnel, and support personnel functions that need freedom of movement to access facilities in support of front-line employees.

The list is advisory in nature. It is not, nor should it be considered, a federal directive or standard.

Additionally, this advisory list is not intended to be the exclusive list of critical infrastructure sectors, workers, and functions that should continue during the COVID-19 response across all jurisdictions. Individual jurisdictions should add or subtract essential workforce categories based on their own requirements and discretion.

The advisory list identifies workers who conduct a range of operations and services that are typically essential to continued critical infrastructure viability, including staffing operations centers, maintaining and repairing critical infrastructure, operating call centers, working construction, and performing operational functions, among others. It also includes workers who support crucial supply chains and enable functions for critical infrastructure. The industries they support represent, but are not limited to, medical and healthcare, telecommunications, information technology systems, defense, food and agriculture, transportation and logistics, energy, water and wastewater, law enforcement, and public works.

State, local, tribal, and territorial governments are responsible for

Workers such as plumbers, electricians, exterminators, builders, contractors, HVAC Technicians, landscapers, and other service providers who provide services that are necessary to maintaining the safety, sanitation, and essential operation of residences, businesses and buildings such as hospitals, senior living facilities, any temporary construction required to support COVID-19 response.

implementing and executing response activities, including decisions about access and reentry, in their communities, while the Federal Government is in a supporting role. Officials should use their own judgment in issuing implementation directives and guidance. Similarly, while adhering to relevant public health guidance, critical infrastructure owners and operators are expected to use their own judgement on issues of the prioritization of business processes and workforce allocation to best ensure continuity of the essential goods and services they support. All decisions should appropriately balance public safety, the health

and safety of the workforce, and the continued delivery of essential critical infrastructure services and functions. While this advisory list is meant to help public officials and employers identify essential work functions, it allows for the reality that some workers engaged in activity determined to be essential may be unable to perform those functions because of health-related concerns.

CISA will continue to work with our partners in the critical infrastructure community to update this advisory list if necessary as the Nation's response to COVID-19 evolves.

Should you have questions about this list, please contact CISA at CISA.CAT@cisa.dhs.gov.

Ferguson Expands Distribution Network in San Francisco Bay Area, Adds Six Locations

Continued from Page 1

contractors and dealers in the surrounding markets with more points of distribution of Trane equipment inventory, parts, and supplies,” Adams said.

Additionally, Ferguson HVAC / Trane will provide resources at the new locations to help support local

contractors. Turnkey advertising and marketing training such as the company's Trane Comfort Specialist (TCS) program will be offered to help customers grow their businesses. Technical training – conducted by veteran Technical Service Advisors – on a wide variety of HVAC topics will also be offered, including virtual live and recorded

webinars on-demand.

“We have everything a customer needs to start and finish any residential or commercial project,” Adams said.

With the expansion, the company now boasts 27 Trane distribution branches across California. Ferguson HVAC / Trane plans to add two to three new strategic locations in the near future, Adams said.

The company also announced

its co-branded dealer program that aligns both its Mitsubishi Electric Cooling and Heating and Trane brands into one joint venture. Dubbed “Ductless Pro,” contractors will have the ability to leverage both brands under Trane's TCS program as well as the Elite Mitsubishi Diamond Contractor program.

Ferguson HVAC, a business of Ferguson Enterprises, is the nation's third-leading distributor

of HVAC residential and commercial heating and cooling equipment, parts, and supplies. Trane, a leading manufacturer of HVAC systems and building management systems and controls, was recently named America's Most Trusted HVAC Brand for the sixth year in a row, according to a 2020 survey by Lifestory Research.

For more information, please visit www.tranefergusonbayarea.com.

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Company Spotlight

Johnson Controls Helps U.S. Military Combat COVID-19

Johnson Controls Ducted Systems teams continue to work quickly and efficiently in the fight against the fast-spreading novel COVID-19 pandemic that is severely affecting people across North America and the world. Most recently, the United States Military and local governments combined efforts to build field hospitals to aid local communities in response to the global health crisis. The field hospitals use either existing buildings, such as local convention centers or large tents that are erected in open areas such

as athletic fields.

HVAC is a critical component to these temporary structures providing comfort to patients in their time of need. In order to meet the demand for the equipment, the Johnson Controls Ducted Systems team in collaboration with the Residential manufacturing facility located in Wichita, Kan. have partnered with the distributor and contractor network to ensure these urgent needs are met.

“Our factory built sixty 5-ton,



A Johnson Controls heating and cooling package unit ready for shipment at the company's Wichita, Kansas plant.

Continued on Page 13

Troubleshooting

An Air Conditioning System That's Not Performing

By Jim Johnson
Contributing Editor

This month's troubleshooting situation involves a 4-ton split system, and the customer's complaint is that the house "just isn't as comfortable as it used to be." And, when they called for service, they asked for an estimate of what it would cost to get a "Freon" charge because they knew that the system had never been serviced since it was installed. They also told the dispatcher that the day before, they found that the filter was very dirty and they replaced it, but the house still didn't cool down.

When you arrive, you confirm that the equipment is not able to maintain an acceptable comfort level in the building. Based on the information from the customer that no maintenance had been performed on this system since its installation, you begin your evaluation by performing a dry bulb temperature test of the air entering and leaving the indoor coil at points A and B. (See

Figure One)

The results of your temperature check leads you to perform a static pressure test across the coil, providing the results shown.

Your troubleshooting question: *What is the next step you need to take in servicing this equipment?*

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

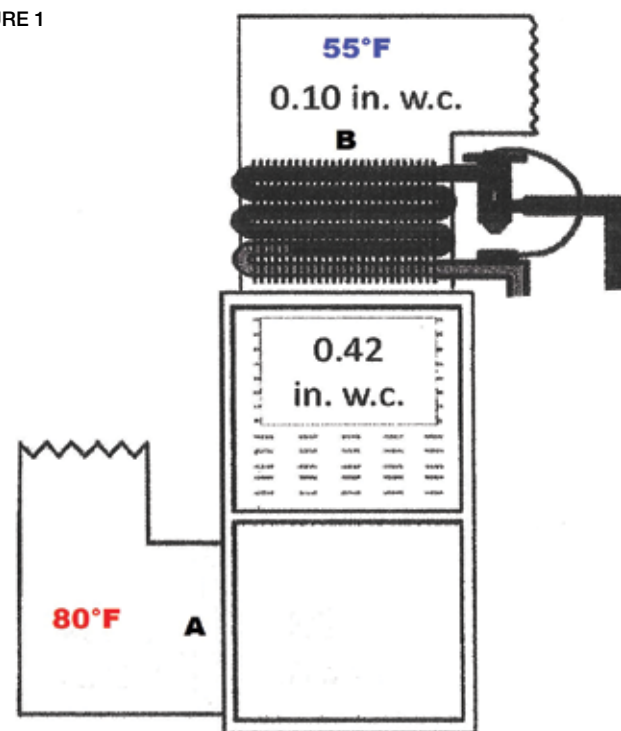
into a drawing and will be eligible to receive a copy of Jim Johnson's video "Evaluating Refrigeration Systems: Troubleshooting & Identifying Problems."

Answer to Last Month's Problem

The technician found that the material in the molecular sieve drier, due to a break in the drier screen, had been forced through the liquid line, causing a restriction at the 90-degree ell near the fixed bore metering device.

The winner of last month's troubleshooting is:
Val Rael
Littlerock, CA

FIGURE 1



Johnson Controls

Continued from Page 12

14 SEER Package Heating and Cooling Units for these field and pop-up hospitals around the world," said Randy Wyngard, regional account manager, Johnson Controls. "It's important that we pivot with our production schedule and ensure the people in need are getting great comfort and reliability coming from our manufacturing facility in Wichita. Our hearts and thoughts are with the healthcare workers on the front lines who are making adjustments around the country to fight COVID-19."

The product orders were shipped to field hospitals across multiple channels in early April.

For more information, please visit www.johnsoncontrols.com.

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FIGURE 1

Temperature (°F)	Pressure, psig	
	R-410A	R-22
41	120	70
42	123	72
43	125	73
44	127	75
45	130	76
108	354	220
112	374	233
116	395	246
118	406	253

Growing Green Technicians Part 127: More on Comfort Cooling System Coil Temperature

By Jim Johnson
Contributing Editor

In our last installment in this series, our discussion centered on low ambient conditions that can occur in the spring and early summer, and the effect those conditions can have on comfort cooling system coil temperature. As a follow-up in this issue, we'll consider what technicians may encounter in the event they are evaluating system performance of equipment that has been checked during low ambient conditions, and refrigerant was unnecessarily added due to a misdiagnosis.

The underlying cause behind this problem is the misinterpretation of a suction side pressure reading that appears lower than normal, leading to the incorrect conclusion that "adding a little gas" will bring the operation of the equipment to a higher level of performance. However, when refrigerant is added to a system without considering factors such as low ambient conditions that could affect the low-side pressure reading, the performance and efficiency of the equipment is affected.

From a simple perspective, a refrigerant overcharge wrecks the balance that needs to be maintained between the operation of the refrigeration system, the rate at which it absorbs heat, and the volume and velocity of the air flow through the indoor coil.

One way to understand this is to consider the general approach of actual coil temperature and how it relates to what your gauges should show when you check a low side pressure. Generally, when considering the fundamental design of a tube and fin coil, it is common to find that the average temperature of the coil is about 5-degrees warmer than the refrigerant in the coil.

What this comes down to is this: If a technician performed a simple temperature test of a comfort cooling system indoor coil at an approximate mid-way location with an accurate digital device, and the result was a 50-degree coil, the actual refrigerant temperature should then be 45-degrees. In **Figure One**, we're showing the pressures that would result in both an R-410A and R-22 system with the 45-degree temperature we calculated.

From a theoretical point of view, this simple example explains the process of temperature affecting pressure. If the heat load in the building was found to be minimal once an accurate temperature was recorded, a lower suction pressure

FIGURE 2

Temp, °F	Pressure, psig	
	R-410A	R-22
10	62.2	32.8
11	63.7	33.8
12	65.2	34.8
13	66.8	35.8
14	68.3	36.8
15	69.9	37.8
16	71.5	38.8
17	73.2	39.9
18	74.9	40.9
19	76.6	42.0
20	78.3	43.1
21	80.0	44.2
22	81.8	45.3
23	83.6	46.5
24	85.4	47.6
25	87.2	48.8
26	89.1	50.0
27	91.0	51.2
28	92.9	52.4
29	94.9	53.7
30	96.8	55.0
31	98.8	56.2
32	100.9	57.5
33	102.9	58.8
34	105.0	60.2
35	107.1	61.5
36	109.2	62.9
37	111.4	64.3
38	113.6	65.7
39	115.8	67.1
40	118.1	68.6
41	120.3	70.0
42	122.7	71.5
43	125.0	73.0
44	127.4	74.5
45	129.8	76.1
46	132.2	77.6
47	134.7	79.2
48	137.2	80.8
49	139.7	82.4
50	142.2	84.1
51	144.8	85.7
52	147.4	87.4
53	150.1	89.1

would be expected. And, a higher-than-normal heat load would result in a higher indoor coil (and subsequently, refrigerant) temperature, which, in the end would result in an increase in suction pressure. The point to keep in mind is that a properly charged refrigeration system in conjunction with correct air flow will allow the equipment to operate at the evaporating and condensing temperatures necessary for the efficient transfer of heat out of the building. The partial temperature-pressure chart in **Figure Two** explains this point further.

When we apply the 5-degree rule, and consider a 45-degree coil in a situation in which the air flow is correct, we arrive at the conclusion that a suction pressure of 118.1 could be expected for an R-410A system. And, considering R-22 equipment, the suction pressure could be as low as 68.6 PSIG.



Taking a green approach to accomplishing PM on a comfort cooling system, then, means that we can consider the temperature-pressure information above before performing a simplified evaluation of air flow performance of the equipment, a topic we'll consider in our next installment.

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WWW.ARSNET.COM

Motors and Drives, Compressors and Controls

Bosch Thermotechnology BCC50



Bosch Thermotechnology announced an expansion to its connected thermostat portfolio with the new Bosch Connected Control BCC50 Wi-Fi Thermostat. The BCC50 is a Bosch connected thermostat that is affordable while still providing high-end features

such as smart device compatibility, remote programming and easy integration with HVAC systems.

The BCC50 offers a 2.8-inch color screen with five illuminated touch buttons, a minimalistic design, and voice control via Amazon Alexa- or Google Assistant-enabled devices.

Users can integrate smart home apps with the BCC50 to remotely turn their thermostats on and off, change the temperature, and review current conditions and settings. Alexa or Google will recognize the device by its name, which users can customize in the Bosch Connected Control

smartphone app.

They can also access intuitive functions such as app alerts, auto-on safety controls, and system air filter replacement reminders. Users can even set a schedule to ensure their Bosch Connected Control BCC50 meets specific heating and cooling needs.

“Our goal with the BCC50 is to combine Bosch’s cutting-edge technology with an affordable price point,” said Joey Sung, senior project manager at Bosch Thermotechnology. “Users should not have to break the bank to enjoy comfort and quality.”

Whether through the app or device, itself, users can lock the thermostat to prohibit changes; manipulate temperature set points or modes; and monitor run times for the heating or cooling equipment, air filter, and water pad. HVAC professionals can leverage the advanced settings for better control and improved performance of the heating and cooling units and access to device logs.

The BCC50 retails for \$120 and can be used in both residential and commercial settings. The thermostat comes with a three-year limited warranty.

More information: www.boschheatingandcooling.com.

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Emerson Copeland Speed Scroll Compressors



Emerson has launched a new line of Copeland™ fixed speed scroll compressors for commercial applications designed for lower GWP refrigerants and with a flexible product platform to reduce customer applied costs and complexity. The new commercial compressor line will help Emerson customers meet Department of Energy (DOE) 2023 regulations as well as California Air Resources Board (CARB) refrigerant regulations.

Copeland’s next-generation fixed speed scroll compressors launched with 12-15 ton models in February with the full lineup of 6-40 tons incrementally releasing over the next two years. These compressors are regulation-ready and optimized for the following refrigerants: R410A

(ZPKZ models), R32 (YPK1/KA models), and R454B (YAK1 models).

“Meeting upcoming regulations, including higher efficiency levels and lower GWP refrigerant capability in products, presents a challenge for our customers,” said Mark Bills, vice president and general manager for Commercial Air Conditioning, Emerson. “This innovative compressor lineup has been carefully designed for industry-leading efficiency and reliability and is suitable for our customers and end-users to apply across a wide array of commercial applications including rooftops, splits, chillers and reversible systems.”

Emerson’s Next-Generation Fixed-Speed Scroll Compressors offer the following New Features:

- New scroll design, replacing a 20-year-old scroll platform
- New hermetic motor redesigned to maximize efficiency
- Unique scroll discharging valve to reduce over-compression at light loads, optimizing performance over a range of applications
- Oil-injection (certain models) to mitigate heat in the scrolls thereby increasing the operating envelope
- Plug-n-play electronics to prevent customers from redesigning their system controllers
- Harmonized external features to reduce the footprint and simplify tandem designs
- Tandems and multiples (limited models) will be available shortly following the February launch
- Manufactured on a new, state-of-the-art, automated assembly line in Lebanon, Mo.

Copeland fixed speed scroll compressors for commercial applications achieve as much as 8% higher system-level IEER and IPLV efficiencies than legacy models, without compromising ease of system installation and servicing.

More information: Climate. Emerson.com.

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Danfoss DSH Scroll Compressors

Danfoss has qualified its range of DSH scroll compressors for use with R454B and R452B refrigerants, giving OEMs “ultimate flexibility” when offering alternatives to R410A.

Already a popular option for commercial chillers and rooftop systems using R410A, with Intermediate Discharge Valve (IDV) technology to



enhance seasonal part-load cooling efficiency, the DSH scroll compressors now support R454B and R452B refrigerants. The option to use new, lower-GWP refrigerants was prompted by the EU’s ongoing phase-down of high GWP refrigerants, limiting availability and increasing the price of R410A.

Meanwhile, in countries where refrigerant GWP is already taxed, switching to R454B or R452B will provide savings on the tax value up to 78% and 67% respectively.

The compressors’ multi-refrigerant compatibility, along with similar drop-in performance versus R410A, is designed to make refrigerant transition as easy as possible for OEMs without the need to make radical system alterations, thus accelerating time to market, both for cooling and reversible systems altogether.

The changes also enable OEMs to make late line customizations and reduce stock inventories, which increases overall flexibility and ease of stock management.

Benefits of the new, enhanced compressor range include:

- Drop-in multi-refrigerant support for R454B and R452B, offering late line customization and reduced inventory with minimal redesign effort,
- Danfoss IDV technology to enable higher part-load efficiency,
- 10 models from 7.5 to 40 TR and a wide range of manifold options,
- Operating maps to fit a wide range of applications, both reversible and cooling only, including chillers and rooftop units.

R454B and R452B refrigerants are classified as A2L (mildly flammable) and are regulated under EN378 and IEC60335-2-40. OEMs therefore need to take the appropriate compliance measures in certain applications.

More information: www.airconditioning.danfoss.com.

.....

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*Dual measurements available at launch. Up to 8 measurements available Summer 2020.

Motors and Drives, Compressors and Controls

Greenheck Inverter Compressors



Greenheck Dedicated Outdoor Air Systems (DOAS) now feature inverter compressors on select RV and RVE models offering 5 to 30 tons PDX cooling capacity. New models RV-110 and RVE-180, which can provide 30 tons to 70 tons of cooling, also accommodate inverter compressors. Inverter compressors provide precise temperature and humidity control and operate at reduced sound levels. They also help save energy by improving part load efficiency. Inverter compressors typically achieve 15%-20% higher IEER compared to digital scroll compressors.

Greenheck pre-engineered rooftop units are specifically designed for dedicated outdoor air and high-percentage outdoor air applications making them ideal for schools, hotels and government buildings. All units are factory-tested and can be specified with energy recovery and a variety of options. With performance capacities from 800 cfm to 18,000 cfm and up to 1200 mbh heating, Greenheck's comprehensive line of DOAS units can meet a wide range of heating, cooling, dehumidification and ventilation requirements.

More information: www.greenheck.com.

Regal Beloit Corporation Perceptive Technologies

Regal Beloit Corporation, a leading manufacturer of electric motors, electrical motion controls, power generation and power transmission components, announced the introduction of new solutions for wireless vibration and temperature monitoring. The Perceptive Technologies® wireless monitoring system provides 24/7 services to help detect abnormalities in equipment before they become problematic.

At a fraction of the cost of a wired system, this new Regal Perceptive Technologies wireless monitoring system eliminates the need to be near operating equipment and is adaptable to any industry. Monitoring can be

performed on-site or from a cloud platform on equipment like fans, pumps, motors and blowers.

Regal's wireless monitoring system allows users to take advantage of the extensive industrial experience of the Perceptive Technologies team to monitor and analyze machinery remotely, helping to improve reliability and maximize production.

"Unlike other wireless systems that provide only basic diagnostic data, the Perceptive Technologies wireless monitoring system delivers complete raw and analyzed data to help manage assets and provide flexibility," said Daniel Phillips, director, reliability and maintenance – CMRP for Regal. "Users receive easy-to-understand, actionable information without the need for manual diagnosis."

The Regal team can configure, install and commission a system tailored to a company's specific needs. Expert analysis is also available, if needed, to provide recommendations for improved equipment reliability.

More information: www.regalbeloit.com/Brands/Perceptive.



Sensata Technologies Crydom DRMS Series

Expanding on its extensive product line for motion control applications, **Sensata Technologies** (NYSE:ST) released the Crydom DRMS Series hybrid motor starters.

These new hybrid starters integrate the benefits of both solid state and electromechanical relay technologies to produce a compact device that can control electrical power delivery to motors as large as 4kW. Suitable applications range from access control, packaging equipment, lifts and escalators to industrial process control and machine tooling systems.

Unlike many motor starters of similar size, the DRMS Series offers features such as soft start, soft stop and an internal



mains disconnect relay in case of a fault. The starter's soft start/soft stop function allows for the gradual increase or decrease of power control, thereby extending motor life.

Built-in overload protection eliminates the extra cost and space otherwise needed for an additional overload relay. Other performance characteristics include forward/reverse, adjustable settings for starting/deceleration torque,

starting/deceleration ramp, nominal motor current and a convenient reset button on the front of the unit for external manual reset.

The compact 22 mm wide DIN Rail mount motor starter package features an output rating of 9 Amps at 480 VAC, 24 VDC control voltage and four easy-to-see LED status indicators.

More information: www2.sensata.com/drms.

tekmar Control Systems Zone Valve Control

tekmar Control Systems has announced the addition of four new switching relay and zone valve control models to their existing line of zone control solutions.

tekmar now offers 2-zone pumps, 3-zone pumps, 3-zone valves, and 5-zone valves. The newly added



switching relays and zone valve controls are compatible with all low-voltage thermostats and offer a variety of benefits for homeowners. These include unlimited expansion; exercising, which prevents pumps from seizing during the summer; zone priority; and priority override to protect homes from freezing over the winter months.

The switching relays and zone valve controls also send out a RoomResponse™ signal to automatically adjust boiler temperatures to improve comfort, conserve energy and save money.

More information: www.tekmarcontrols.com.



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MAY

CAQI/QM/QS System Performance Module

(Four-Night Class)

Instructors: John Dalton / Dave Highland

Wed., May 20 – Part 1 • **TBD**

Thurs., May 21 – Part 2 • **TBD**

Wed., May 27 – Part 3 • **TBD**

Thurs., May 28 – Part 4 • **TBD**

JUNE

Chiller Module

(Two-Night Class)

Instructor: John Dalton

Wed., June 10 – Part 1

Thurs., June 11 – Part 2

Commercial Cooling Tower Module

(Two-Night Class)

Instructor: John Dalton

Wed., June 17 – Part 1

Thurs., June 18 – Part 2

SEPTEMBER

CAQI/QM/QS Air Distribution Module

(Four-Night Class)

Instructors: Mike Griffin / Dave Highland

Wed., Sept. 2 – Part 1

Thurs., Sept. 3 – Part 2

Wed., Sept. 9 – Part 3

Thurs., Sept. 10 – Part 4

OCTOBER

 **NATE Training**

(Four-Night Class)

Instructor: John Dalton

Wed., Oct. 21 – Part 1

Thurs., Oct. 22 – Part 2

Wed., Oct. 28 – Part 3

Thurs., Oct. 29 – Part 4

Sat., Oct. 31 - NATE Exam, 7:30 a.m.

MAY

CAQI/QM/QS AC/HP Refrigeration Module

(Four-Night Class)

Instructor: John Dalton

Wed., May 6 – Part 1 • **TBD**

Thurs., May 7 – Part 2 • **TBD**

Wed., May 13 – Part 3 • **TBD**

Thurs., May 14 – Part 4 • **TBD**

JUNE

 **NATE Training**

(Four-Night Class)

Instructor: Mike Griffin

Wed., June 3 – Part 1

Thurs., June 4 – Part 2

Wed., June 10 – Part 3

Thurs., June 11 – Part 4

Sat., Jun. 13 - NATE Exam, 7:30 a.m.

SEPTEMBER

System Diagnostics Module

(Four-Night Class)

Instructor: John Dalton

Wed., Sept. 2 – Part 1

Thurs., Sept. 3 – Part 2

Wed., Sept. 9 – Part 3

Thurs., Sept. 10 – Part 4

OCTOBER

Chiller Module

(Two-Night Class)

Instructor: John Dalton

Wed., Oct. 7 – Part 1

Thurs., Oct. 8 – Part 2

Commercial Cooling Tower Module

(Two-Night Class)

Instructor: John Dalton

Wed., Oct. 14 – Part 1

Thurs., Oct. 15 – Part 2

NOVEMBER

Non-Residential Acceptance Testing

(Two-Night Class)

Instructor: Bill Brown

Wed., Nov. 4 – Part 1

Thurs., Nov. 5 – Part 2

2019 Non-Residential Title 24

(Two-Night Class)

Instructors: Mike Griffin / Jayme Carden

Wed., Nov. 18 – Part 1

Thurs., Nov. 19 – Part 2

MAY

CAQI/QM/QS Air Distribution Module

(Four-Night Class)

Instructors: Mike Griffin / Dave Highland

Wed., May 20 – Part 1

Thurs., May 21 – Part 2

Wed., May 27 – Part 3

Thurs., May 28 – Part 4

JUNE

CAQI/QM/QS AC/HP Refrigeration Module

(Four-Night Class)

Instructor: John Dalton

Wed., June 3 – Part 1

Thurs., June 4 – Part 2

Wed., June 10 – Part 3

Thurs., June 11 – Part 4

SEPTEMBER

System Diagnostics Module

(Four-Night Class)

Instructor: John Dalton

Wed., Sept. 2 – Part 1

Thurs., Sept. 3 – Part 2

Wed., Sept. 9 – Part 3

Thurs., Sept. 10 – Part 4

OCTOBER

CAQI/QM/QS Air Distribution Module

(Four-Night Class)

Instructors: Mike Griffin / Dave Highland

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 Class)

Instructor: John Dalton

Wed., Nov. 4 – Part 1

Thurs., Nov. 5 – Part 2

Wed., Nov. 11 – Part 3

Thurs., Nov. 12 – Part 4

Sat., Nov. 21 - NATE Exam, 7:30 a.m.

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.

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**SoCA EDISON,
ENERGY EDUCATION CENTER, TULARE**

SOCALGAS, CHATSWORTH

MAY
Distribution Module
(Four-Night Class)
Instructor: Mike Griffin / Jayme Carden
Wed., May 13 – Part 1 • **TBD**
Thurs., May 14 – Part 2 • **TBD**
Wed., May 20 – Part 3 • **TBD**
Thurs., May 21 – Part 4 • **TBD**

JUNE
Refrigeration Module
(Four-Night Class)
Instructor: Jeff Painter
Wed., June 3 – Part 1
Thurs., June 4 – Part 2
Wed., June 10 – Part 3
Thurs., June 11 – Part 4

SEPTEMBER
System Diagnostics Module
(Four-Night Class)
Instructor: Mike Griffin
Wed., Sept. 16 – Part 1
Thurs., Sept. 17 – Part 2
Wed., Sept. 23 – Part 3
Thurs., Sept. 24 – Part 4

OCTOBER
System Performance Module
(Four-Night Class)
Instructor: Mike Griffin / Jayme Carden
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 Class)
Instructor: Jeff Painter
Wed., Nov. 4 – Part 1
Thurs., Nov. 5 – Part 2
Wed., Nov. 11 – Part 3
Thurs., Nov. 12 – Part 4
NATE Exam, 7:30 a.m.

MAY
System Diagnostics Module
(Four-Night Class)
Instructor: Mitch Bailey
Wed., May 13 – Part 1 • **TBD**
Thurs., May 14 – Part 2 • **TBD**
Wed., May 20 – Part 3 • **TBD**
Thurs., May 21 – Part 4 • **TBD**

JUNE
CAQI/QM/QS System Performance Module
(Four-Night Class)
Instructors: Mike Griffin / Jayme Carden
Tues., June 9 – Part 1
Wed., June 10 – Part 2
Tues., June 16 – Part 3
Wed., June 17 – Part 4

SEPTEMBER
Chiller Module
(Two-Night Class)
Instructor: Mitch Bailey
Tues., Sept. 22 – Part 1
Wed., Sept. 23 – Part 2

Commercial Cooling Tower Module
(Two-Night Class)
Instructor: Mitch Bailey
Tues., Sept. 29 – Part 1
Wed., Sept. 30 – Part 2

OCTOBER
 NATE Training
(Four-Night Class)
Instructor: Mitch Bailey
Wed., Oct. 14 – Part 1
Thurs., Oct. 15 – Part 2
Wed., Oct. 21 – Part 3
Thurs., Oct. 22 – Part 4
Sat., Oct. 24 - NATE Exam, 7:30 a.m.

NOVEMBER
2019 Non-Residential Title 24
(Two-Night Class)
Instructors: Mike Griffin / Jayme Carden
Tues, Nov. 3 – Part 1
Wed., Nov. 4 – Part 2

Non-Residential Acceptance Testing
(Two-Night Class)
Instructor: Bill Brown
Tues, Nov. 17 – Part 1
Wed., Nov. 18 – Part 2


APRIL
CAQI/QM/QS AC/HP Refrigeration Module
(Four-Night Class)
Instructor: Mike Griffin
Wed., April 22 – Part 1 • **POSTPONED**
Thurs., April 23 – Part 2 • **POSTPONED**
Wed., April 29 – Part 3 • **POSTPONED**
Thurs., April 30 – Part 4 • **POSTPONED**

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

MAY
CAQI/QM/QS Air Distribution Module
(Four-Night Class)
Instructors: Mike Griffin / Jayme Carden
Wed., May 6 – Part 1 • **TBD**
Thurs., May 7 – Part 2 • **TBD**
Wed., May 13 – Part 3 • **TBD**
Thurs., May 14 – Part 4 • **TBD**

JUNE
CAQI/QM/QS AC/HP Refrigeration Module
(Four-Night Class)
Instructor: Dave Highland
Wed., June 3 – Part 1
Thurs., June 4 – Part 2
Wed., June 10 – Part 3
Thurs., June 11 – Part 4

SEPTEMBER
System Diagnostics Module
(Four-Night Class)
Instructor: Dave Highland
Wed., Sept. 2 – Part 1
Thurs., Sept. 3 – Part 2
Wed., Sept. 9 – Part 3
Thurs., Sept. 10 – Part 4

OCTOBER
 NATE Training
(Four-Night Class)
Instructor: Dave Highland
Wed., Oct. 7 – Part 1
Thurs., Oct. 8 – Part 2
Wed., Oct. 14 – Part 3
Thurs., Oct. 15 – Part 4
Sat., Oct. 17 - NATE Exam, 8:00 a.m.

LOCATIONS

SoCal Edison
Energy Education Center - Tulare
3136 Boeing Way
Tulare, CA 93274
www.socaledison.com

Pacific Gas and Electric Company
Energy Training Center - Stockton
3136 Boeing Way
Stockton, CA 95206
www.pge.com

San Diego Gas & Electric
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Schedule (Subject to Change)
(Training)

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CHERYL MERCHANT

The Taco Family of Companies Executive Chairman and owner John Hazen White, Jr. has announced the promotion of **Cheryl Merchant** to Chief Executive Officer of the 100-year old, third generation family-owned company. Merchant, who joined Taco in 2019, was previously President of Global Operations. “During her time at Taco, Cheryl has proven herself a capable and talented leader. I feel confident

that our company will continue to move in a positive direction under her leadership. This promotion demonstrates the full confidence and trust that the White family has in her,” said White. White added, “I will remain actively involved in the company. This executive transition will allow me to focus on global growth of the company as well as continue to nurture and strengthen the crucial relationships we have with our employees, reps, suppliers, customers, and the communities where we work.” Prior to joining Taco, Merchant spent the last 19 years as the President and CEO of Hope Global Industries, based in Cumberland, Rhode Island. Danfoss Drives has named **Ian Barrie** as its new Head of Sales for the Americas. In this position,



IAN BARRIE

Barrie will continue to build and develop strong regional sales channels and verticals for Danfoss Drives’ business within North America and Latin America. Previously, Barrie was Head of Global Key Accounts for Danfoss Drives. He has an extensive 25-year history with Danfoss, wherein he has held several regional and global positions in sales, marketing, and business development. He will be based out of the

Danfoss Drives’ Loves Park, Illinois, facility. Barrie succeeds Santiago Martin, who has held the position since 2016. Martin plans to relocate to Europe, where he will assume a new position in Danfoss Cooling.

Smart Care Equipment Solutions announces the transition of **Justin Verke** from vice president of service to vice president of transformation. In this new role, Verke will work closely with the mergers and acquisition team performing operational integration and process implementation. This role is vital to accommodate the growth Smart Care has experienced with four acquisitions since November of 2017 and will enable their ability to scale faster to meet their customers’ needs and remain the leading independent commercial kitchen repair provider in the US. Any future acquisitions by Smart Care will report to Verke immediately upon close until they are fully integrated into Smart Care.



JUSTIN VERKE

REED Manufacturing welcomed **Shannon Lessner** as its new regional manager for the Midwest markets. Shannon will serve key REED accounts, work with manufacturer’s reps, and focus on developing new business in this 11-state area. Before joining REED, Shannon gained experience in durable goods with time at Werner Company, Spectrum Brands, and Fiskars & Gerber. She brings a background in strong customer partnerships, rep agency management, plus strategic vision to drive successful sales and marketing programs with the REED distributor network. Shannon is looking forward to meeting and providing outstanding service to current customers, plus introducing new customers to the scope and quality of the REED product line.



SHANNON LESSNER

Johnson Controls International PLC announced the appointment of **Ganesh Ramaswamy** as vice president and president, Global Services & Transformation. In this new role, Ramaswamy will serve as an officer of the Company and will provide leadership for the global service business with revenue of \$6.3 billion, which is a critical part of Johnson Controls’ growth strategy. In a combined service and transformation role, Ramaswamy will drive to improve consistency of fundamentals across the company’s global direct channels, leverage infrastructure and investments, and work closely with regional leaders to execute on strategic priorities. Ramaswamy comes to Johnson Controls from Danaher, where he most recently served as group executive and vice president with responsibility over four operating companies in the product identification space. He started his career at Danaher as the senior vice president of High Growth Markets for Beckman Coulter Diagnostics. “As we have completed our transformation to a pure-play building technologies and solutions provider, Ganesh will have a tremendous opportunity to strengthen our core service business while building and deploying new service solutions leveraging our digital capabilities,” said George Oliver, chairman and CEO for Johnson Controls. Ramaswamy holds an M.B.A. from the University of Wisconsin and a Ph.D. in Mechanical Engineering from the University of Pennsylvania.



GANESH RAMASWAMY

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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
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- Water Towers
- Refrigeration Systems
- Water Source Heat Pumps
- Fan Coils & Air Handlers

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Help Wanted

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.

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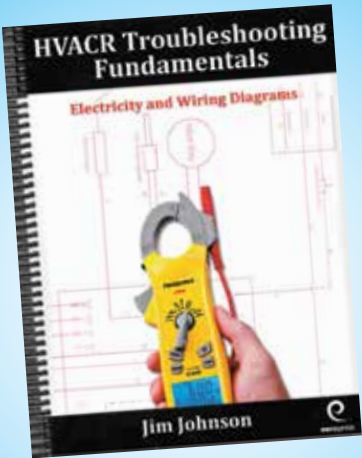


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