

# INDOOR COMFORT

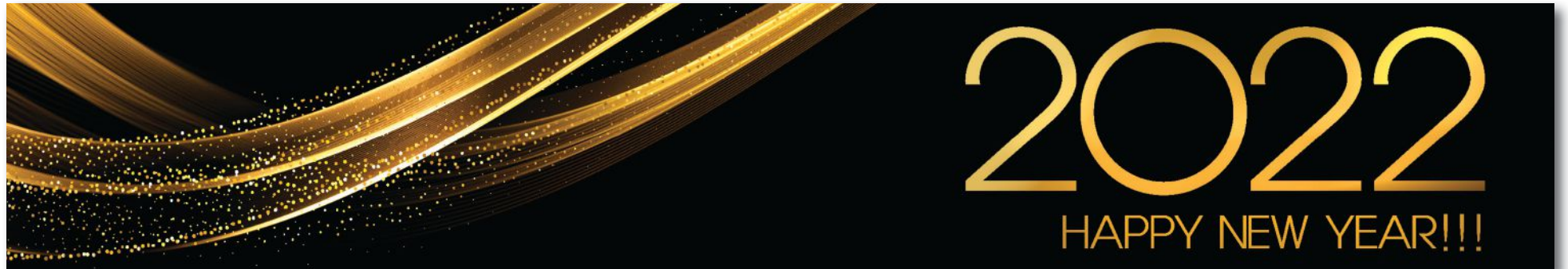
JANUARY 2022

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## NEWS

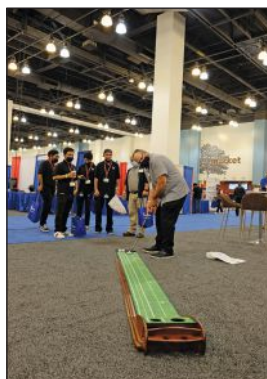
THE WEST'S LEADING MONTHLY NEWSMAGAZINE FOR THE AIR CONDITIONING, HEATING, REFRIGERATION, SHEET METAL AND VENTILATING INDUSTRIES



### Industry Events

## IHACI's Annual HVAC/R/SM Trade Show Pictorial

ICN takes a look back at last November's big industry event.



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**IHACI**

### 2022 Training Classes

Keep your skills up-to-date!  
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for more information.



## AHR Expo Announces 2022 Innovation Award Winners

Companies named in 10 industry categories to represent the most innovative products hitting the market.



DANFOSS' TURBOCOR® VTCA400 COMPRESSOR CAPTURED THE TOP PRIZE IN THE COOLING CATEGORY.

The AHR Expo (International Air-Conditioning, Heating, Refrigerating Exposition) recently announced the winners of the 2022 AHR Expo Innovation Awards. Each year, winners are chosen in ten industry categories to represent the most innovative products and technologies hitting the market in the coming year.

"This past year was a challenge for everyone, and in unique ways, the HVACR industry," said Show Manager, Mark Stevens. "Our industry was called to the front lines to put our very best products and technologies to the test. The Innovation Awards purpose is to honor those that are pushing the bar to create innovative solutions to difficult problems. We are thrilled to celebrate this year's winners and what they bring to the industry, as well as to continue to champion

innovation among our professionals."

The Innovation Awards encourage exhibitors to submit new products and technologies for recognition via review and selection by a panel of third-party judges made up of distinguished ASHRAE members. Entrants are evaluated based on overall innovative design, the creativity of the product or service offered, application, as well as potential market impact.

The Innovation Awards program serves as a metric to see the year-to-year growth in the

industry. While the Awards officially recognize only a select few, the Show floor is a robust example of how manufacturers are growing the industry in exciting ways.

"AHR Show Management would like to formally congratulate each of our 2022 AHR Expo Innovation Award winners, as well as finalists and all our entrants, for their continued leadership and contribution to HVACR," said Stevens. "We look forward to

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# Industry News



## CALIFORNIA



### CoolSys Acquires Triangle Refrigeration

**Brea, Calif.** – CoolSys announced it has acquired Triangle Refrigeration, a provider of commercial HVAC, refrigeration, plumbing, and monitoring services in Pennsylvania, Maryland, New Jersey, and New York. With this acquisi-

tion, CoolSys expands its market presence throughout the Northeast and Mid-Atlantic regions.

“As CoolSys continues to grow its market presence across the country, we’re excited to have Triangle Refrigeration join our other CoolSys companies in the Northeast and Mid-Atlantic regions,” commented Anesa Chaibi, CEO of CoolSys. “A market leader in its region, Triangle Refrigeration and its management team have developed a strong reputation built on industry expertise, operational efficiency, and excellent customer experience, which are values integral to us at CoolSys.”

Based in Leola, Pennsylvania, Triangle Refrigeration provides

maintenance, repair, and installation services to supermarkets, industrial customers, convenience stores, and other retailers.

“Our goal has always been to provide service that exceeds expectations and provides the greatest value to our customers,” commented Cleo Weaver, founder and owner of Triangle Refrigeration.

“We’re looking forward to joining CoolSys where our team can continue to service our customers at an outstanding level, while bringing them new resources and capabilities from a national service provider,” added Dan Harris, president of Triangle Refrigeration.

• • • • •

### Fieldpiece Forms Partnership with SkillsUSA

**Orange, Calif.** – Fieldpiece Instruments announced it has joined forces with SkillsUSA to present \$25,000 in scholarship opportunities as a way to give back to the industry it serves.

SkillsUSA, a consortium of students, teachers, and trade industries working together to ensure America has a skilled workforce, has long had an aim to close the skills gap in the U.S. labor market by sponsoring HVACR scholarships for trade and technical students. Thanks to the new grant from Fieldpiece

Instruments, ten SkillsUSA students studying HVACR in their junior or senior year of high school, or as college or postsecondary students, will receive a \$2,500 #MasteroftheTrade scholarship to continue their education in a college or postsecondary HVACR technology program.

“Fieldpiece’s dedication to this field extends well beyond just equipping field professionals with the highest quality and most innovative tools so they can do their jobs faster, easier and better,” said Rachel Newport, director of marketing at Fieldpiece Instruments. “Fieldpiece is also committed to supporting the next generation of up-and-coming HVACR professionals in this fantastic trade. We’ve recently launched free online training resources via Fieldpiece University, an online platform designed to keep industry professionals at the top of their game; and today, we are delighted to announce the Fieldpiece and SkillsUSA #MasteroftheTrade scholarship to further give back to the industry.”

Through the partnership, Fieldpiece Instruments is addressing a shortage of trained labor in the HVACR industry. According to an article published by HVACR Business in September, “80,000 HVACR technician jobs are currently unfilled – representing 39% of the total industry workforce. At the same time, the industry is losing an estimated 20,000 technician jobs per year due to the retirement of an aging workforce or basic career attrition rates.”

“We sincerely thank Fieldpiece Instruments for supporting America’s future skilled workforce,” said Chelle Travis, executive director at SkillsUSA. “There is a critical need for more HVACR technicians. We are rolling up our sleeves every day to provide career and technical education, and to forge meaningful partnerships between education and industry that result in a better-trained HVACR workforce and a shrinking skills gap. Working together with Fieldpiece Instruments, we can make this happen.”

To apply for the #MasteroftheTrade Scholar-



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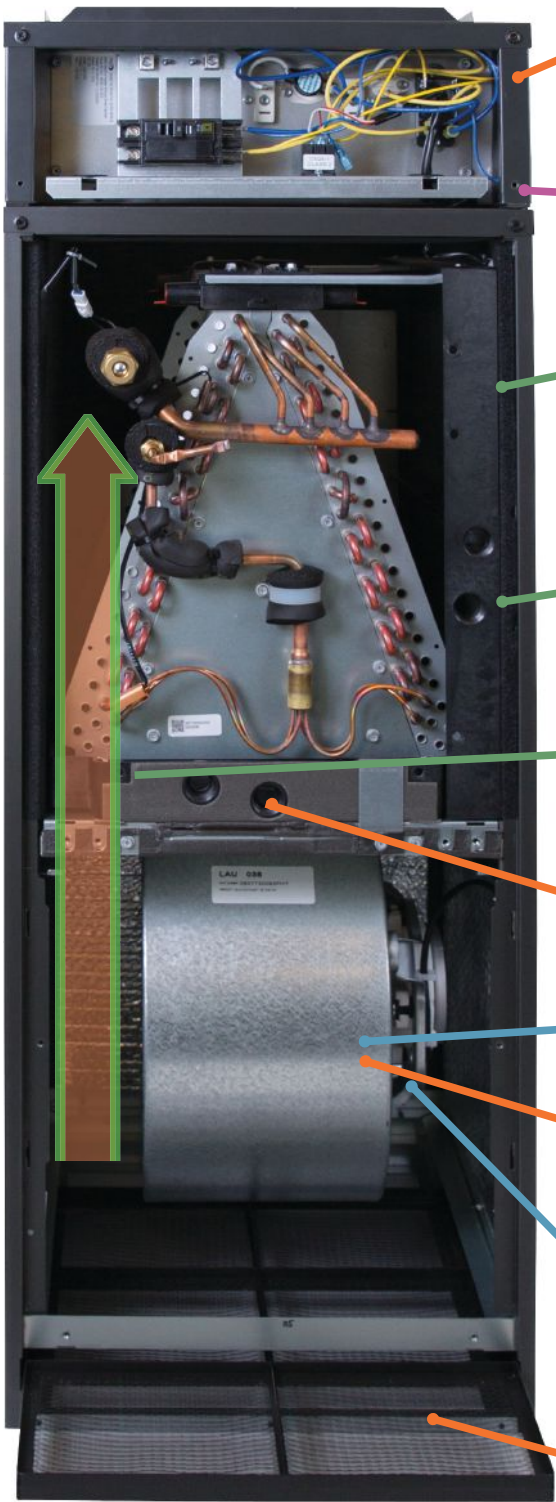
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Continued from Page 4

ship, applicants must be SkillsUSA members enrolled in its HVACR or general construction programs who plan to study HVACR at the college or postsecondary level in the 2022-23 (high school seniors) or 2023-24 school year (high school juniors). The scholarship application must include a résumé and either an essay (300 words or fewer) or a video (1-3 minutes) answering the question: "Why have you chosen a career in HVACR?" The scholarship opened Dec. 1, 2021 and applications must be submitted by March 1, 2022. Scholarship recipients will be announced on May 16, 2022.

Scholarships will be awarded based on the merit of the application including the essay or video and the proficiency of the

SkillsUSA Framework skills demonstrated in the application materials. To receive the funds, scholarship recipients must provide an acceptance letter from their postsecondary education program or their first semester tuition invoice. The funds will be distributed directly to the school.

## Fieldwire Joins Hilti for Jobsite Management

**San Francisco, Calif.** – Hilti Group, a global leader in innovative tool and fastening solutions, technology, software, and services for the commercial construction industry, has entered into an agreement to acquire Fieldwire, a San Francisco-based construction technology company for an approximate \$300 million. The strategic acquisition will bring together Fieldwire's best-in-class product and Hilti's global brand and market reach to help drive productivity at contractors and on construction sites. Fieldwire provides a leading platform for jobsite management that powers more than a million jobsites worldwide.

Founded in 2013, Fieldwire has built a strong presence in North America and managed to expand internationally into Europe and Asia Pacific, while building market-specific features that enable customers to improve field productivity. The San Francisco based company is presently supporting thousands of clients to better manage their jobsites digitally by offering a software solution that is reliable, easy to use, has a wide range of features and is also device-agnostic. It is used by general and specialty contractors alike and is known for its field-first approach to productivity.

"The acquisition of Fieldwire will accelerate Hilti's capability to deliver productivity to our customers through software solutions. Since digitalization has become a major driver of productivity in construction, Hilti has been investing in digital solutions for construction professionals. This acquisition will strengthen our software portfolio and is a logical step towards our vision of becoming the leading digitalization partner for our customers. We intend to continue investing

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Continued from Page 6

in the platform to create the next market leader in construction project management software.” said Christoph Loos, CEO of the Hilti Group.

With Hilti’s support, the team at Fieldwire will expedite the work on building the preferred digital solution for construction professionals in the market. Not only will all current Fieldwire team members be invited to stay with Hilti Fieldwire under the continued leadership of the two founders, Yves Frinault and Javed Singha, but additional efforts will also be made to significantly grow the team.

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## The SEER Group Acquires Stake in Brower Mechanical

**Rocklin, Calif.** – The SEER Group LLC announced its 17th acquisition, a majority stake in Brower Mechanical in Rocklin, Calif. This is the second acquisition for The SEER Group LLC in California after its acquisition of Breeze Air Conditioning in Palm Desert, Calif. in 2018.

Founded in 1979, Brower Mechanical has served the residential and commercial heating, cooling, and air needs of the greater Sacramento region for over 40 years. The company will continue to be led by Partner and General Manager Duane Knickerbocker at its Rocklin, Calif. headquarters.

“We are thrilled to have Brower Mechanical joining our group and look forward to working with Duane as our newest partner as he continues to guide and manage the business,” states Darrin Erdahl, CEO and founder of The SEER Group LLC.

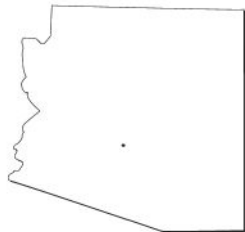
This acquisition highlights The SEER Group’s commitment to expanding in California while continuing to grow nationally.

“When evaluating a potential partnership opportunity, we look for market-leading brands with a strong company culture and that’s exactly what we found with Duane’s team at Brower Mechanical,” says Eric Beardemphl, president and partner of The SEER Group LLC. “Duane has taken a very innovative approach with Brower and it has allowed him to create value for customers while also building a culture supportive of continual development in his team members.”

“With all of the uncertainty in the HVAC world, I was looking to partner with a company that could help manage and hopefully

lower our overhead,” says Brower Mechanical GM, Duane Knickerbocker. “That, and the ability for our department managers to learn from department managers of outside companies that are also part of The SEER organization is very unique in this industry.”

### ARIZONA



## Phoenix to Host First-Ever Solar Forum Jan. 24-25

**Phoenix, Ariz.** – The Air Conditioning Contractors of America (ACCA) has teamed up with Pearl Certification to present The Solar Forum – the nation’s first-ever event to specifically address the challenges and opportunities that HVAC contractors face from the rapid adoption of solar, storage, and connected home devices. The event takes place January 24-25, 2022 at the Crowne Plaza, Phoenix, Ariz.

At The Solar Forum, HVAC contractors will learn strategies to expand into other home services like demand response systems, EV chargers, and home electrical upgrades. Contractors will also learn how homes with solar and batteries can impact the design and sales process and drive adoption of higher-efficiency heating and cooling equipment. New refrigerants and a push to electrify heating will lead to more system changeouts. Increased adoption of variable speed compressors, whole-house ventilation systems, and other IAQ products, along with smart thermostats and other new technologies, add to the complexity of HVAC work – even as designers and technicians are in short supply.

Sessions include:

- HVAC, Solar, & SMART Technologies
- Alternative Business Models for HVAC & Solar Contractors
- Are Your Clients Richer When You Leave Their Home?
- Are You Taking Advantage of Legislative Dollars that are Available to You for Renewable Energy?

“For HVAC and solar contractors, past strategies for success can no longer predict future good fortune,” said Barton James, president and CEO of ACCA. “The quicker change occurs, the more likely the old ways of doing business will

fail.”

“For contractors who want to stay ahead of the curve, it’s vital that they understand the intersection of efficient HVAC and solar. When it comes to generating leads and revenue from new lines of business, few opportunities are as rich as the convergence between these two home improvements,” said Cynthia Adams, CEO of Pearl Certification.

“Changing consumer preferences (and limited pocketbooks) will reward contractors who understand, communicate, and deliver lifetime value to their homeowner customers,” said Casey Murphy, vice president of Customer Solutions at Pearl Certification and The Solar Forum’s education director. “Likewise, contractors who understand how homes create, distribute, and use energy will be best positioned to succeed in the future.”

### TEXAS



## Daikin Strengthens Presence in Pacific Northwest

**Houston, Texas** – Daikin North America LLC (Daikin) has continued its ambitious customer-focused growth with the acquisition of Washington state companies Thermal Supply, Inc. and AirReps, LLC.

“We have been very intentional in working toward becoming the clear leader in indoor air comfort solutions in North America,” said Takayuki (Taka) Inoue, Executive Vice President and Chief Sales and Marketing Officer. “We will continue our progress through strategic growth and a concentrated, holistic approach focusing on excellence in all areas from production, sustainability, innovation and quality to exceptional customer service.”

Headquartered in Seattle, Wash., Thermal Supply is the largest distributor of residential and light commercial Daikin, Goodman®, and Amana® brand products in the Pacific Northwest. Founded in 1947, Thermal Supply has sold Goodman brand products since 2001 and Daikin brand products since 2014 in 24 locations located in Alaska, Idaho, Montana, Oregon, and Washington.

AirReps, based out of nearby

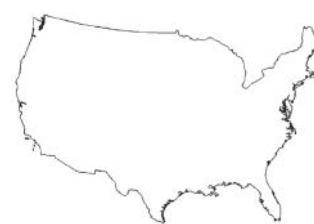
Bellevue, Washington, is the largest and most tenured manufacturer’s representative firm for premium HVAC equipment in the Pacific Northwest. Primarily serving commercial, industrial, and institutional sectors, AirReps was founded in 1950 and provides sales, warranty service, support and customer training focused on Daikin VRV and applied products.

“Bringing outstanding, knowledgeable, and reliable companies such as Thermal Supply and AirReps into Daikin Group will augment our presence and service in the region from residential to commercial projects,” Inoue said.

Jeff Drees, EVP Sales, Marketing and Aftermarket, Daikin Applied, added that creating an exceptional customer experience is at the heart of our strategy. “We’re piloting many different go-to-market models to ensure we bring the best that Daikin has to offer to our customers. Only by putting customers first will we build our leadership position in North America.”

The acquisitions are the latest in a period of high-growth activity for Daikin that began in November 2020 with the acquisition of Stevens Equipment Supply, LLC. In January of 2021, Daikin announced the acquisition of Robinson Plumbing & Heating Supply Co., Inc., and the acquisition of the largest HVAC distributor in the New York metropolitan area, ABCO HVACR Supply + Solutions.

### NATIONAL



## ACCA Announces 2021 Service Manager of the Year

**Alexandria, Va.** – The Air Conditioning Contractors of America (ACCA) announced that Michael Barone of Encon Mechanical in Ocean Township, N.J., has been named ACCA’s 2021 Service Manager of the Year, sponsored by XO Technologies.

“XO Technologies is proud to present the ACCA 2021 Service Manager of the Year to Michael Barone of Encon Mechanical,” said Aaron Salow, XO founder and CEO. “Michael was nominated by his peers for his outstanding character, performance, and leadership. As XO Technologies continues to provide service teams

with quality solutions, we are honored to recognize those who go above and beyond for their customers and each technician. Congratulations to Michael and Encon Mechanical for such an outstanding accomplishment.”

“This is a special moment for me. When I found out that I was nominated, I was honored. When I found out that I had actually won, I was completely humbled,” said Barone. “I want to pay homage to all of the service managers out there, because it encompasses a lot of different professions. Sometimes we’re a lawyer, an editor, a meteorologist, or technical supervisor. A lot of times, we’re a therapist. This award is for all of the service managers out there.”

The Service Manager of the Year award was presented to Barone during ACCA’s 2021 Fall Meetings in New Orleans, La., which took place November 1-3, 2021. Though Barone could not attend the meetings in-person, he accepted his award via video.

“It is important for us to recognize the outstanding and dedicated professionals we have in the field,” said Barton James, ACCA president and CEO.

“We received a multitude of wonderful nominations for this award, and Michael has shown that he is truly the best of the best.”

“When we put his name into the arena for the award, we were super honored to be a part of it and to be considered,” said David Indursky, Encon Mechanical president. “Michael is really the glue that holds our service group together.”

For more information about ACCA, visit [www.acca.org](http://www.acca.org).

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## Emerson Launches First Educator Resources Platform

**St. Louis, Mo.** – Emerson announced the launch of its first HVACR Educator Resource platform designed to provide industry educators with access to tools, training, and educational materials to enhance learning for the next generation of HVACR professionals.

For those who register, there are exclusive HVACR educational tools and a curriculum for educators that offers training kits, causes and prevention of compressor failure curriculum, a compressor multiples technology E-learning module, and HVACR career recruitment materials.

Continued on Page 10



# The York® HMM7 Horizontal Discharge Heat Pump:

**2-5 Ton • Standard 24 Volt Controls • Works With Conventional Air Handling Units and Evaporator Coils • Price Competitive With Standard Heat Pumps**



- Up to 18 SEER/10.5 HSPF
- 40% smaller footprint compared to traditional vertical discharge units
- 36% quieter operating sound; as low as 54 dBA
- Capable of dual-fuel operation when paired with an existing or new furnace, using a Venstar thermostat
- Inverter system and modulating technology
- Modulating technology maintains exact temperatures by operating from 35-100% capacity
- 40% more compact than standard heat pump units and can be installed in tighter spaces – ideal for high-density areas
- No unique installation procedures required
- Long line set length (up to 246 ft)
- Designed to work with standard ECM indoor air handlers
- Includes a standard 10-year Compressor Limited Warranty and 10-year Parts Limited Warranty; extended warranties available for a full system replacement (product registration required)

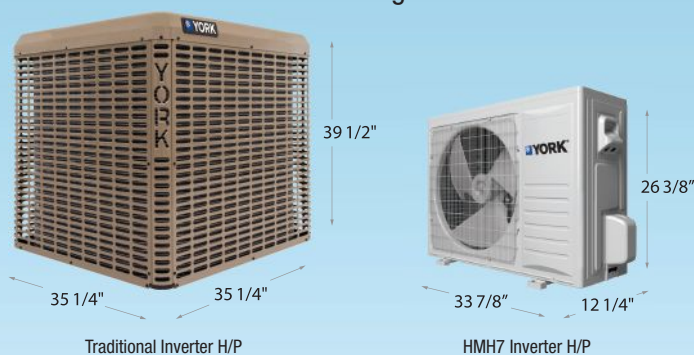
The YORK® HMM7 Heat Pump is designed to provide all the comfort and technology of a high efficiency unit at the cost of a base-tier vertical unit for residential customers. It's an ideal solution for homes that require a compact design and comes in several models and tonnages with flexible installation options and innovative features.



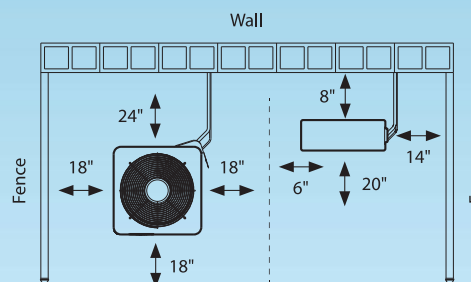
Model	Tons	SEER	HSPF	Height (Inches)	Width (Inches)	Depth (Inches)	Operating Weight (Lbs)	Sound Range (dBA) Low-High*
HMM72B241S	2	17.5	9.0	26 3/8	33 7/8	12 1/4	112	54-65
HMM72B361S	3	18.0	10.5	33	37 3/8	13 3/8	155	56-68
HMM72B481S	4	18.0	9.5	54 5/8	37 3/8	13 3/8	227	62-69
HMM72B601S	5	17.0	10.0	54 5/8	37 3/8	13 3/8	251	62-73

\*High sound rated in accordance with AHRI Standard 270.

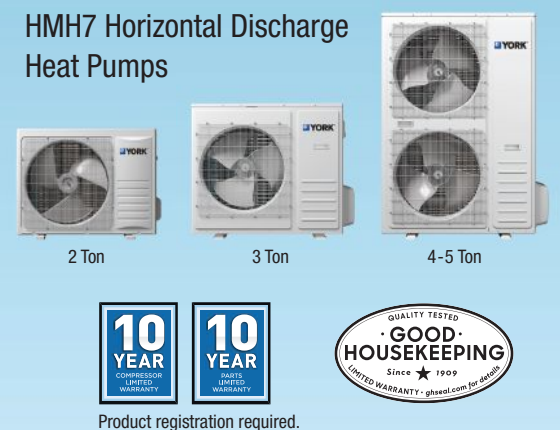
40% smaller footprint compared to traditional vertical discharge units



Traditional, Vertical Unit Minimum Clearances vs. HMM7 Minimum Clearances



HMM7 Horizontal Discharge Heat Pumps



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Continued from Page 8

Within the HVACR Educator Resource site, there is a wide range of educational features including a Copeland™ scroll compressor training kit. This kit offers a detailed look inside a scroll compressor, through a torn-down model from Emerson's lab, offering a hands-on approach to learning the fundamentals of compression technology. The kit also includes custom safety equipment, supplemental learning materials, and interactive digital content to provide a comprehensive educational experience.

"The industry continues to face challenges that come with the skilled trades gap, and it is more important now than ever to support the educators helping to overcome that gap," said Brent Schroeder, group president of HVACR Technologies for Emerson. "This new website provides easy, centralized access to a wealth of educational resources to help educators teach the next generation of HVACR professionals."

Emerson has recently donated a number of resources, including compressor training kits, RIDGID® tool kits and more, to support skilled trades education and recruiting the next generation of technicians for careers in the HVACR industry. The HVACR Educator Resource site serves as the next phase of industry education support.

Exclusive access to all materials is available once registration is complete.

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HARDI Files Suit Against EPA

Washington, D.C. – Heating, Air-conditioning & Refrigeration Distributors International (HARDI) has filed a petition for judicial review in the United States Court of Appeals for the District of Columbia against the Environmental Protection Agency (EPA). The petition asks the court to overturn the ban on single-use cylinders and cylinder tracking requirements contained in the recently finalized rule, Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program under the AIM Act. HARDI is joined in the petition by Air Conditioning Contractors of America (ACCA), and Plumbing-Heating Cooling Contractors National Association (PHCC).

HARDI believes EPA exceeded their authority granted by the American Innovation and Manufacturing Act (AIM Act, which

empowers EPA to create a program to phase-down the use of HFC refrigerants through limits on production and consumption. By exceeding their authority, EPA has finalized a rule that will increase costs on the HVACR wholesale distribution and contracting industries and could potentially cause major disruptions that will affect consumers. HARDI and the rest of the HVACR industry supported passage of the AIM Act and a majority of the finalized rule including the allocation of allowances for companies to continue to produce and import HFC refrigerants in compliance with the phase-down.

"HARDI was disappointed by EPA's overreach in banning single use cylinders and establishing an overly-complicated cylinder tracking system. HARDI and the rest of the industry want to work with EPA to successfully phase-down the use of HFCs, however we cannot stand by as the agency exceeds its authority," said HARDI CEO, Talbot Gee. "We believe filing this lawsuit will help to set a boundary that will stop the agency from going too far in the future. HARDI's Board of Directors set up the legal defense fund with this situation in mind and we are happy to be joined by ACCA and PHCC in the lawsuit to show the broad opposition to these parts of the final rule," Gee continued.

In anticipation of this and other potential legal issues, the HARDI Board of Directors established a legal defense fund designed to fight against regulations that will have a negative impact on HVACR wholesale-distribution. This litigation is the first use of funds from the legal defense fund.

The U.S. Department of Justice must now work with the EPA to determine if it will defend the provisions of the final rule in the D.C. Circuit Court of Appeals or allow the court to enjoin disputed the provisions.

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ISH China, CIHE Returns Next May

SH China & CIHE – China's leading international trade fair for Heating, Ventilation, Air-Conditioning, Sanitation & Home Comfort Systems will take place from May 9-11, 2022 at the New China International Exhibition Center in Beijing. The 2022 edition will focus on three primary themes: Energy, Water, and Life – which are in line with China's national development strategies. Covering trend setting HVAC, plumbing, smart heating,

and home comfort technologies and products in the Chinese and wider Asian markets, the fair is expected to welcome over 1,300 exhibitors to showcase their latest innovations across eight halls spanning a total of 106,800 sqm.

Since the introduction of the Chinese government's "carbon peak" and "carbon neutral" policies, the country's HVAC market is currently undergoing drastic energy reforms which pose many challenges as well as opportunities. At the same time, to adhere to the government's strict green initiatives, manufacturers have actively responded by developing energy efficient HVAC solutions which meet the stringent carbon emission regulations. Consequently green and intelligent HVAC technologies continue to be key development focuses for manufacturers.

Organised by Messe Frankfurt (Shanghai) Co Ltd and CIEC GL Events (Beijing) International Exhibition Co Ltd, ISH China & CIHE 2022 will focus on the latest trends of the HVAC industry.

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Thermostat Recycling Names Off the Planet Contest Winners

New York, N.Y. – Thermostat Recycling Corp. (TRC) announced that Johnstone Supply, Famous Supply and Geary Pacific are the 2021 Banish Mercury Off the Planet (BMOP) winners.

The annual competition among Heating Air-conditioning and Refrigeration Distributors International (HARDI) members recovered 239 pounds of mercury from 70 member companies, increasing more than 16 pounds from last year, despite the COVID-19 pandemic. In addition, more than 380 branch locations returned collection bins during the contest period, from May 1 to Oct. 31, 2021.

"Our distributor partners never stopped collecting and safely recycling mercury-containing thermostats despite all the difficulties during the coronavirus pandemic," said Danielle Myers, operations & compliance manager, TRC. "They have demonstrated good business awareness and sound environmental practices year after year. In the collection of mercury-containing thermostat recovery, there is no equal to HARDI distributors."

TRC released the names of the BMOP winners during HARDI's Annual Conference, Dec. 6, 2021.

Distributor Prize Winners are:  
• Johnstone Supply recycled the most pounds of mercury at 87.8.

• Famous Supply recycled the highest average pounds of mercury with 3.0 pounds.

• Geary Pacific had the highest participation rate of 34%.

Top 3 Branches for Recycling:  
Geary Pacific, Riverside, Calif. – 8.816 pounds  
G. W. Berkheimer Co., Aurora, Ill. – 8.525 pounds  
R.E. Michel, Norristown, Penn. – 7.948 pounds

Thermostat Recycling Corporation (TRC) is a nonprofit stewardship organization that facilitates and manages the collection and proper disposal of mercury-containing thermostats. Originally founded in 1998 by Honeywell, White-Rodgers, and General Electric as a voluntary venture, it was established to promote the safe collection and proper disposal of mercury-containing thermostats. Today, 30 manufacturers support the program. Its members' continuing financial support demonstrates their commitment to a cleaner environment, with a simple, collective goal: Keep mercury out of the waste stream in order to protect the environment.

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Air Pros USA Teams Up with Florida Gators Football

Gainesville, Fla. – Florida Gators Sports Properties and Air Pros USA, a leading residential and commercial air conditioning service company and the official Air Conditioning partner for Gators football, demonstrated gratitude for Veterans at the Florida Gators 'Saluting those Who Serve' football game which took place on Saturday, Nov. 13, 2021.

As part of the Saluting those Who Serve game at Ben Hill Griffin Stadium, Air Pros CEO Anthony Perera was recognized on the field and surprised the five local Veterans highlighted for their service earlier in the game with a free air conditioning unit.

"Air Pros USA is committed to the honor and recognition of our Veterans and will continue to give back to those who have given so much to our country," says Anthony Perera, founder of Air Pros USA. "We are proud to present this small gesture of appreciation to these Veterans and thank the Florida Gators' for including us in their ongoing dedication to the Veteran community."

During the game, the Gators also showed a touching video of decorated Veteran, Eddie Thomas, who was recognized for his sacrifice to the country and awarded a new A/C unit by Air Pros USA.



AIR PROS USA FOUNDER ANTHONY PERERA SURPRISED FIVE VETERANS AT THE FLORIDA GATORS GAME.

Thomas served in the United States Air Force from 1954-1958, as well as during the Korean War. His service included overseeing security at his base in Germany and K-9 units. During active-duty, Thomas earned a Good Conduct Ribbon, Overseas Service Ribbon, Outstanding Unit Award, Small Arms Expert Award, the National Defense Medal, the Korean Defense Service Medal, as well as the United Nations Service Medal. Thomas, who is legally blind, still volunteers and serves on the Korean War Veterans of America Color Guard at Veteran events and funerals.

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No. Georgia Tech College Granted HVAC Excellence Accreditation

Mount Prospect, Ill. – HVAC Excellence announced that the HVACR training program at North Georgia Technical College in Clarksville, Ga. has been granted accreditation.

Established 1943, North Georgia Trade and Vocational School (now North Georgia Technical College) accepted its first students in February of 1944. While a great deal has changed in the last 75 years, its mission to provide higher education and serve the workforce development needs of the community remain steadfast. As such, they voluntarily chose to accredit their HVACR program to make certain it has the resources to meet the ever-changing needs of the industry it serves.

Programmatic accreditation is an independent, third-party review of an educational program, comparing it to established, industry-accepted standards. These standards are designed to ensure that the future workforce receives the quality training required for success in the HVACR industry.

Continued on Page 12



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Continued from Page 10

## Service Experts, Contractor Commerce Launch Online Program

**Cincinnati, Ohio** – Service Experts Heating & Air Conditioning (“Service Experts”), North America’s leading HVAC service and repair company, is teaming up with Contractor Commerce™ to launch the largest Ecommerce Pilot Program of its kind. Contractor Commerce™ has developed a plug-and-play online store solution that will allow Service Experts customers to shop for fully-installed HVAC systems on Service Experts company websites.

As part of its Ecommerce Pilot Program, Service Experts locations across the United States will be launching online stores powered by Contractor Commerce™ technology. These stores will be added to Service Experts’ existing websites, allowing their customers to shop with ease and feel confident in the products and services offered by the expert contractors they know and trust.

“At Service Experts, we take great pride in taking care of our customers. We also believe that the next great idea can come from anywhere and anyone, which is why

we’re excited to be teaming up with Contractor Commerce™ on this transformative project,” says David Moody, Vice President of Marketing and Customer Engagement at Service Experts. “Our company has always been focused on innovating and delivering the best service possible to our customers. This Ecommerce Pilot Program is a natural extension of the work we’re already doing to build transparency and trust with our customers, and we believe it’s where the industry is headed.”

With such a large footprint across the United States and Canada, Service Experts’ adoption of e-commerce has the potential to spark a massive shift in the industry as a whole, especially when combined with the Service Experts Advantage Program. The Advantage Program subscription from Service Experts allows customers to get brand-new equipment with no money down or installation charges, and includes all future repairs and planned maintenance in one low monthly payment. The choice by Service Experts to harness the transparency and convenience of online shopping through their partnership with Contractor Commerce™, combined with the ease and affordability of the Advantage Program, further demonstrates their commitment

to customers and their leadership position in the industry.

“Service Experts sells, services, and repairs thousands of heating and air conditioning systems every day. Their realization that e-commerce is the future of the trades highlights a tipping point in the HVAC industry,” says Will Housh, President and Founder of Contractor Commerce™. “Our team believes whole-heartedly that online shopping and pricing transparency is the future of HVAC, but it’s partnering with leaders like Service Experts that makes this vision a reality. The shift to selling HVAC products and services online is happening now, and it’s happening quickly.”

## Florida Journal Names RGF Business of the Year

**Palm Beach, Fla.** – RGF® Environmental Group, Inc., a leader in environmental design and manufacturing, announced that it has been named the 2021 Company of the Year by the South Florida Business Journal (SFBJ).

The Business of the Year award, now in its 24th year, recognizes South Florida’s most dynamic companies that excel in their commit-

ment to professional excellence, growth and community.

“South Florida is our headquarters and home, so I am incredibly proud of this award. Our advances in technology and manufacturing methods have allowed us to quickly adapt to changing markets. We have always been a pioneer and will continue to be a leader in this industry. I am pleased that we are able to make such a positive impact on South Florida,” said RGF® CEO Ron Fink.

The 2021 winners were announced Thursday, Oct. 21, at Jungle Island Events in Miami, Fla.

## Congressman Visits APR Supply Distribution Center

**Lebanon, Penn.** – APR Supply Co. recently hosted Congressman Lloyd Smucker of the 11th District at their new 350,000 square-foot distribution center and corporate headquarters on Joel Drive in Lebanon.

The Congressman toured the new distribution facility and was one of the first to see APR’s latest implementation of warehouse automation. While on site, Congressman Smucker took time to address the APR warehouse first shift teammates, along with the corporate and leadership teams.

Throughout conversations with APR President and CEO Scott Weaver on leadership and company policies, Smucker shared that he understands “how important the APR teammates are to the success of the company, and that what we do as leaders not only affects the company, but every person, and their family, working for APR.”

After the tour, the Congressman and his team spent time with the senior leadership

team to gain insights on how the company strives to be innovative in applying the latest in technology to better serve APR customers each day.

## Wrench Group Acquires Buckeye Heating & Cooling

**Columbus, Ohio** – Wrench Group, LLC (“Wrench”) announced it has acquired Buckeye Heating & Cooling (“Buckeye”), a provider of air conditioning and heating services in the Columbus area since 1948.

Worthington, Ohio-based Buckeye becomes the 24th company in the Wrench family of brands and represents Wrench’s expansion into its 18th market nationwide and its fourth market in the Midwest. Wrench has now added 14 home services brands to its roster since March, 2020.

Buckeye will operate under the service umbrella of Williams Comfort Air, an Indianapolis-based home services company with locations in Indiana, Kentucky, and Ohio. Williams Comfort Air joined the Wrench family in 2021 as its Midwest flagship.

“Columbus is a growing market, and Buckeye is a growing business to match it,” said Ken Haines, CEO of the Wrench Group. “Everything from their service approach to their name embodies the spirit and traditions of the city. We’re excited to have them on board, as it will allow us to continue to grow and expand across the Midwest.”

“We are thrilled to be joining Wrench Group under the Williams Comfort Air banner, which has built a reputation for outstanding customer service among homeowners in the Midwest and aligns with our values as a company,” said Brad Wentz, president and owner of Buckeye Heating & Cooling. “This partnership will allow us to continue to deliver the same great experience our clients have come to expect, while adding the technology, supply chain, and operations support to foster our growth into the future.”

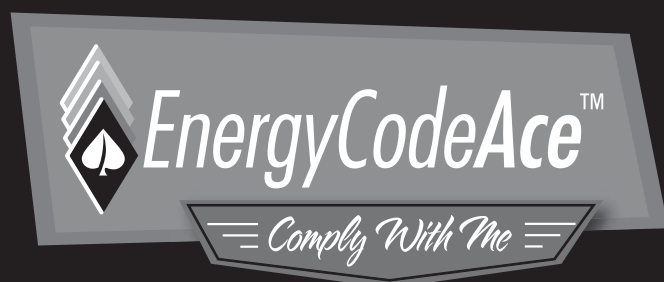
A player in the market for over 70 years, Buckeye Heating & Cooling specializes in heating, air conditioning, and indoor air quality services, solutions, and products. The company offers 24-hour emergency repair services and backs its work with quality guarantees.

Terms of the transaction were not disclosed. Buckeye will retain its local leadership and manage-



CONGRESSMAN LLOYD SMUCKER AND APR PRESIDENT AND CEO SCOTT WEAVER.

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ment, and continue to operate under its current brand. They currently have approximately 35 team members, and serve thousands of customers across the Columbus area.

## Trane Accepting Scholarship Applications

**Davidson, N.C.** – Trane®, by Trane Technologies, is accepting applications for the 2022-2023 Trane Technician of the Future Scholarship through March 1, 2022.

The Trane Technician of the Future Scholarship provides essential financial support for aspiring HVAC or controls technicians launching their career, and will engage a diverse pool of students from across the United States and Canada.

The scholarship, now in its second year, supports students seeking a technical education as they prepare to enter the HVAC or building automation fields. A minimum of 14 recipients will be selected on the basis of academic performance, leadership and participation, long-term career and educational goals, financial need, and other criteria. Recipients enrolled part-time receive \$2,500 each and recipients enrolled full-time receive \$4,000 each. Awards may be used for all education-related expenses.

“We need more qualified technicians and operators who will grow and sustain the dynamic HVAC industry in the years to come,” said Donny Simmons, president, Commercial HVAC Americas, Trane Technologies. “Last year, we were able to help 21 aspiring HVAC and controls technicians

kickstart their careers. We look forward to awarding additional scholarships that make a difference for our industry and the deserving recipients.”

“Every day, I wake up trying to break the generational cycles and provide my family with a much better life,” said Desmon Merchant, 2021 scholarship recipient. “Going to school full time and working full time has been a challenge but one that I accept with great pride knowing that I am able to provide a life for my daughter and wife. With the help of Trane’s scholarship, I will be able to not only graduate but start my own career and make my family proud.”

Details and eligibility requirements can be found on the application site at <https://learnmore.scholarsapply.org/TraneTechnician/>.

## TECH Clean California Incentives of up to \$6,600 for Heat Pump Installations – Now Available Statewide

TECH Clean California rewards contractors for recommending and installing heat pumps in California homes. When you install a heat pump water heater or heat pump HVAC system in your eligible customers’ homes, you can earn up to \$6,600 in incentives for each unit.

TECH Clean California is a statewide initiative designed to accelerate the adoption of clean space and water heating technology across California homes. The initiative is designed specifically to help contractors keep up



**TECH** CLEAN CALIFORNIA

with the market and policy shift towards new technologies.

With over \$120 million in funding, TECH Clean California can:

- Offset installation costs with incentives paid directly to you
- Offer the chance for bonus incentives and a free heat pump water heater
- Provide you with technical and sales training facilitated by indus-

try recognized organizations

If you are a licensed General B, C20 or C36 contractor serving residents in California, you are eligible for TECH Clean California.

To learn about the initiative, available incentives, and to sign up visit [www.energy-solution.com/tech](http://www.energy-solution.com/tech) or call us at (833)256-0560.

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### IHACI – Gas Heating Module

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January 12 & 13 | 6 p.m. – 8 p.m.

### ITsAboutQ.net – Online Training Program - Technician Education & Certification

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[hvacredu.net/sdgetraining/](http://hvacredu.net/sdgetraining/)

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▶ Reserve your seat today or check out other classes at [seminars.sdge.com](http://seminars.sdge.com).

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# Cover Story

Continued from Page 1

seeing these innovators in the marketplace in the coming year, and in-person on the Show floor in 2022.”

The 2022 AHR Expo Innovation Award Winners and finalists were selected in 10 industry categories, including building automation, cooling, heating, indoor air quality, plumbing, refrigeration, software, sustainable solutions (formerly green building), tools and instruments, and ventilation.

## Building Automation

Winner: iSMA CONTROLLI S.p.A., iSMA-B-MAC36NL Hybrid IoT Controller powered by Niagara Framework

Innovation: The iSMA-B-MAC36NL master application controller family provides an all-in-one solution for mini-BMS. Created visualization can be displayed and controlled via HDMI output and 2 USB ports that enable connection of a mouse/keyboard or dedicated touch for the HMI panel. No PC, additional licenses, or additional costs are required. As MAC controllers are based on the Niagara Framework, it enables the integration of almost any existing protocol on the building network. The onboard M-Bus port, 2 ethernet ports, and the RS485 port can be integrated with just one device. Finally, the controller has an onboard dip and rotary switches that can be used as a part of the application. All of the features of the controller are managed by dedicated modules in Niagara Framework to accelerate the installation process and thus reduce labor costs.

## Cooling

Winner: Danfoss, Danfoss Turbocor® VTCA400 Compressor

Innovation: The new VTCA400 from Danfoss offers improvements on traditional centrifugal compressor designs that are large in physical size and footprint, which ultimately lead to higher cost and space constraints for the end user. The VTCA400 solves this problem by using a patent-pending hybrid compression design that uses a combination of mixed flow and radial impellers enabling both high-performance and a compact footprint. In this design, the first stage impeller uses a mixed flow impeller with both axial and radial components while the second stage impeller uses a radial design. The hybrid compression design allows for a compressor footprint that is half the physical size and weight of a conventional radial-only design. It also maintains high efficiency levels – a 10% improvement in full load efficiency and 30% improvement in IPLV above ASHRAE 90.1-2019 minimums when considering a three (3) compressor, 1200-Ton system.

## Heating

Winner: Carrier, Infinity® 24 Heat Pump with Greenspeed® Intelligence

Innovation: The Infinity® 24 Heat Pump with Greenspeed® Intelligence is Carrier's highest-efficiency and most advanced heat pump with up to 24 SEER and 13 HSPF for premium energy savings, extremely quiet performance and premium comfort features. The unique, variable speed compressor of this unit allows it to adapt its output to the needs of the home with infinite adjustments between 25 - 100% capacity. The heat pump offers excellent humidity control



CARRIER'S INFINITY 24 HEAT PUMP WON IN THE HEATING CATEGORY.

and is capable of removing up to 400% more moisture than standard systems. Based on Carrier testing, all data was run with the systems cycling once they met the assumed home load. The assumed load at AHAM conditions (80/70, 80) is the capacity of the variable-speed running continuously in dehumidification mode. The difficult conditions load was determined by a Wrightsoft® load calculation for a home in Florida at 69 OD 72/63 ID. This condition was provided by a customer in Florida as “worst case.”

## Indoor Air Quality

Winner: Antrum, AntrumX™ IAQ Facilities Monitoring System

Innovation: AntrumX is a patented centralized sensing technology. AntrumX monitors IAQ for 32 spaces from a single location, using one sensor for every 16 rooms. Consolidating one centralized sensor for multiple spaces increases sensor accessibility while ensuring better overall control. Centralized sensing ensures better overall control because the data from 16 spaces comes from a single source, allowing building managers to optimize their ventilation strategy, and save energy without sacrificing IAQ. Additionally, the AntrumX has the ability to transport air without moving parts. Leveraging the building's pressure differential between supply and exhaust, AntrumX is able to move air samples from each space to the Sensor Pack without adding energy to the system.

The Sensor Pack also monitors multiple data points across multiple rooms. Using over-the-air software updates and a state-of-the-art hardware design, the Sensor Pack can be customized to sense what's required today and be easily exchanged or updated as requirements change over the life of the building.

## Plumbing

Winner: Franklin Electric / Little Giant, Inline SpecPAK, Multi-Pump Pressure Boosting System

Innovation: With only 14.5 inches deep, its unique smaller footprint

makes the Franklin Electric Inline 1100 SpecPAK Pressure Boosting System small enough to be hung in a small utility closet or wall hung to preserve critical floor space. The system's Inline 1100 constant pressure pumps are quiet, compact, self-contained, and versatile. Powered by water-cooled motors, it delivers quieter operation versus traditional air-cooled motors.

The self-contained design delivers a “plug and play” solution that is part of a complete package centered around easy installation, operation, and durability. The ability to expand is a foundational and distinctive benefit. Both the suction and discharge headers are sized to accommodate the flow rate from the maximum speed of four pumps. Quick and easy disconnects to the main panel allow customers to disconnect each pump individually with minimal system disruption.

## Refrigeration

Winner: ebm-papst Inc., AxiEco 630-910 Axial Fan

Innovation: The AxiEco 630-910 incorporates new impeller geometry with a rotating diffuser and optimized blade design in order to reach a low noise level and high-efficiency. The steep air performance curve provides a pressure increase of more than 700 Pa, which is extraordinary for axial fans. With a maximum air flow of up to 30,000 m³/h the AxiEco 630-910 covers a wide range of different applications, especially those where high-efficiency and high back pressure are key. The integrated commutation electronics with an active PFC (power factor correction) as an option enables the fan to be used in applications with low harmonics requirements, without any external filtering measures.

## Software

Winner: Bluon, Inc., Bluon Support Platform

Innovation: The Bluon Support Platform is a mobile application that becomes a centralized hub for HVAC technicians. Bluon was built for technicians, by technicians, and provides detailed system information, just-in-time training, best practices and 24/7 live tech support. The app's most important function is its ability to make the lives of technicians easier by providing a single, trustworthy source of detailed HVAC system information, along with live

tech support when needed in the field. The main features of the free app include: a comprehensive unit database of 40,000 HVAC model numbers spanning 75+ brands, with 75,000+ original manuals, troubleshooting guides, wiring diagrams, and technical specifications; best practices known as “pro-hacks” for a wide-range of situations; easy to use calculators for SH/SC, airflow, pressure setpoints, TXV sizing, etc.; HVAC training videos and tools that techs can use on the job; a revolutionary HVAC forum that gets techs the info they need when they need it; 24/7 live tech support; and a replacement parts identification tool cross-referenced by model numbers and compatible part numbers.

## Sustainable Solutions

(formerly Green Building)

Winner: Enginuity Power Systems Inc, E/ONE Home Power System

Innovation: Enginuity's E/ONE Home Power System is a modern rethinking of a classic combined heat and power system. Using clean and plentiful natural gas, the E/ONE produces both electricity and heat for homes or businesses. Since the E/ONE is capable of making more power than the home or business requires, the additional power can be sold back to the grid, generating income for the E/ONE's owner. In addition, the E/ONE leverages the reliability of the natural gas distribution network to replace conventional backup generators. E/ONEs easily produce all the electricity needed to operate homes or businesses, therefore the periodic blackouts such as those recently seen in Texas and California will not affect the product's ability to function.

## Tools & Instruments

Winner: Fluke Corporation, Fluke 378 FC Non-Contact Voltage True-rms AC/DC Clamp Meter with iFlex

Innovation: The Fluke 378 FC true-rms clamp meter uses FieldSense technology to make testing faster and safer, all without contacting a live conductor. The meter measures accurate voltage and current measurements through the clamp jaw. It works by clipping the black test lead to any electrical ground and putting the clamp jaw around the conductor which results in reliable, accurate voltage and current values on the display. The 378 FC clamp meter includes a unique PQ function that senses power quality issues automatically. When making FieldSense measurements, the 378 FC will

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Continued on Page 17





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## HVAC Business & Contractor Technologies/Green Technologies/Heating Products

### Carrier Transicold App



Carrier Transicold has consolidated its two popular mobile device apps for container refrigeration systems into a single app.

Available as a free downloadable update for both iOS and Android devices, Carrier Transicold's ContainerLINK app for service technicians now offers wireless connectivity previously only available in the DataLINE Connect app.

By incorporating functionality from the legacy DataLINE Connect app, ContainerLINK now enables ship personnel and technicians to wirelessly interact with refrigerated containers using Carrier Transicold's Micro-Link 5 controller for better insight into equipment operation.

The app features access to operation and service manuals for NaturaLINE, PrimeLINE, and ThinLINE container refrigeration units, the EverFRESH and Xtend-FRESH controlled atmosphere systems and PowerLINE generator sets. It also features a "technician's toolbox" with temperature and pressure conversion calculators as well as refrigerant calculators that display saturation pressure based on temperature for R-134a, R-

513A, and R-744.

Users can also use an alarm lookup and warranty lookup. Optical character reader technology automates serial number entry processes, using the mobile device's camera to minimize the risk of error from manual entry. There is also a wireless display of operating settings, system status, and sensor readings, plus wireless downloads of unit data.

**More information:** [www.carrier.com](http://www.carrier.com).

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### Daikin One Cloud Services



Using the newly launched **Daikin One Cloud Services**, Daikin Comfort Pro contractors can grow their business and connect with their customers using a cloud-based tool that allows them to configure, monitor, diagnose and adjust the performance of Daikin systems remotely, potentially eliminating the need to send a truck and technician to a home.

Daikin One Cloud Services – developed by Daikin North America LLC (Daikin), a subsidiary of Daikin Industries, Ltd. (DIL), the world's largest manufacturer of heating, cooling, and refrigerant products – brings contactless service to a new level. Using it, Daikin

Comfort Pros (DCPs) can literally engage with their customers on visualized comfort issues and then take action.

Exclusively available to DCPs, Daikin One Cloud Services is a cloud-based portal for office computers and a mobile web app for smart devices. DCPs who have been given permission by the customer can remotely monitor system data ranging from temperatures, humidity, and indoor air quality to heating and cooling demand, plus critical and minor errors. Technicians can access not only current, live data but also history back to the day the system was cloud-connected.

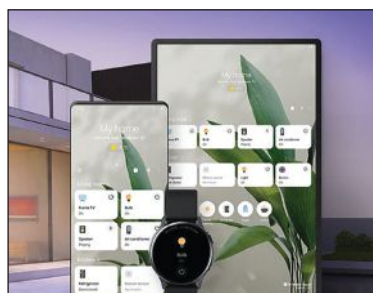
Homeowners choose what level of access to give technicians, who can be granted complete 24/7 monitoring and adjustment access, to 24/7 monitoring settings only coupled with limited two-hour access windows. Permissions can be changed at any time. If the homeowner shares complete system access, technicians can not only see and monitor the system, but also make adjustments via thermostat menus, including the installer setup menu – all without having to go to a customer's home.

Daikin One Cloud Services requires a Daikin One+ Smart thermostat. Homeowners need an active Daikin One Home app on their smart device that's connected to their system via the Daikin Cloud. The service is compatible with conventional split systems, Daikin Fit, mini- and multi-split systems, VRV and VRV LIFE systems.

**More information:** <https://daikinone.com/cloudservices>.

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### Samsung SmartThings Energy



**Samsung SmartThings Introduces SmartThings Energy:** A new way to reduce energy bills and increase sustainability.

The new, first-of-its-kind solution gives consumers another reason to invest in IoT, and empowers existing users to make smarter, greener decisions with real-time data that

monitors energy usage patterns and lowers energy bills

Samsung SmartThings, the premier technology enabling connected living, has announced the release of SmartThings Energy, a new service within its app that allows consumers to take control of their energy consumption with monitoring, target-setting, and notifications of their Samsung appliances and Samsung HVAC systems. By improving consumers' household energy IQ, SmartThings Energy has the power to reduce monthly energy bills and contribute to a lower carbon footprint.

Energy efficiency has become one of the most sought after smart home features. SmartThings Energy, which supports Samsung home appliances and Samsung HVAC systems, delivers on this need by offering users a real-time view of actual energy consumption data, analysis and cost estimates, allowing homeowners to monitor their usage and control costs. SmartThings Energy is the latest addition to the family of SmartThings services, joining SmartThings Cooking and SmartThings Clothing Care, which debuted earlier this year.

For years, Samsung has offered ENERGY STAR certified appliances and HVAC systems that are efficient and provide energy-saving benefits. Earlier this year, Samsung was presented with the rare ENERGY STAR Corporate Commitment Award for its longstanding commitment to demonstrating leadership and partnership with ENERGY STAR.

Now, SmartThings Energy is taking those efforts a step further by empowering consumers to view and control their energy usage and take actions that generate economic and environmental savings. SmartThings Energy is unique because it offers the most comprehensive real-time energy consumption data on the market and addresses challenges related to major energy consuming appliances like air conditioners and home appliances, head-on.

Through the new SmartThings Energy service, users can easily switch between viewing all their devices together and viewing individual device consumption and cost estimates.

**More information:** [www.samsunghvac.com](http://www.samsunghvac.com).

### The Whalen Company Whisperline VD Series



**The Whalen Company**, a pioneering manufacturer of HVAC vertical stack riser heat-exchanger fan coil units and water-source heat pumps, announces the Whisperline® VD Series, the first 2 stage water source heat pump on the market.

The Whisperline VD is a highly efficient unit that provides an ideal solution for high performing buildings. The VD Series includes a two-stage scroll compressor and an ECM Motor (electronically commutated) resulting in superior efficiency and comfort.

Available in 2 through 3-ton capacities, the units are engineered to provide energy-efficient heating and cooling as part of either boiler/cooling tower or geothermal applications. This series offers customers best-in-class comfort, efficiency and low noise levels along with a wide range of available options. The Whisperline® VD incorporates a number of features and options that provide maximum comfort and performance to users and maximum flexibility to engineers and architects.

Since Whalen offers one of the smallest footprints in the industry along with customization capabilities including cabinet height, riser locations, handing and discharge arrangements and sizes, Whisperline® units can be installed and operating in significantly less time. By utilizing a set of vertical risers, Whisperline® units are able to stack from floor to floor, thereby simplifying the installation.

The chassis, which includes the complete refrigerant circuit, slides into the cabinet after the construction debris has been removed to ensure trouble-free operation at start up. When a chassis requires service, it can be quickly replaced in a matter of minutes by sliding the existing chassis out and sliding a spare chassis in its place.

**More information:** [www.whalencompany.com](http://www.whalencompany.com).

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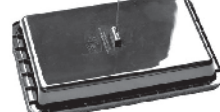
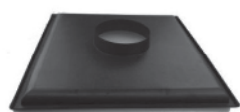
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SAFER



FASTER



[www.VentCapSystems.com](http://www.VentCapSystems.com)



# Indoor People



MIKE DEVITO

Air Comfort Corporation announced **Mike Devito** as the company's new president. The company also launched a new nationwide partnership with Orion HVAC Services, marking Orion's third investment in family-owned businesses in the commercial HVAC industry.

Devito's experience in the HVAC industry began in the United States Navy when he maintained his ship's refrigeration and mechanical systems. From there, he was hired in the parts department at Air Comfort, then expanded his role into the Chicago Pipefitters Local 597 union. His 30-year tenure with the company gradually expanded his responsibilities as he worked his way from service technician to sales engineer to vice president.

"Being named company president is a result of all the hard work I've put in through the years, and I'm grateful for this opportunity," Devito said. "I look forward to leading Air Comfort's future as one

of the largest mechanical contractors in the Chicagoland area. After 86 years in business, I plan to focus on continued growth and providing quality solutions for our clients. We invest 5,000 hours each year in training with our field employees to give them the tools they need to be the best problem solvers, and back up every solution with exceptional customer service."

The ECCO Group announced the appointment of **Kevin Haine** as division vice president, leading ECCO Sales and Distribution, USA.

"We see an incredible need in many parts of the United States for the quality products and reliable support that ECCO has become known for over the last 60 years," said Bill Davis, vice president and general manager of The ECCO Group. "I am so pleased that Kevin will be heading the US Division. His exten-



KEVIN HAINE

use with a basic filter, and when using a MERV13 or HEPA filter, the airflow is reduced significantly.

"It's always exciting to follow along as these products and services come to life in the marketplace," said Stevens. "What's more, is to see others work to keep pace with innovation and develop new solutions. We are thrilled to be back in-person and headed to Las Vegas for a return to business. We hope you'll join us and these winners in action on the Show floor before they hit the market."

Funds raised from the entry fees of the Innovation Awards competition will be donated to a Vegas-area charitable cause. More information to follow.

Registration for the 2022 AHR Expo is free until January 30, 2021, and can be completed on [ahrexpo.com](http://ahrexpo.com).

The Show, co-sponsored by ASHRAE and AHRI, will be held Jan. 31 – Feb. 2, 2022, in Las Vegas, and is held concurrently with ASHRAE's Winter Conference.

sive knowledge and expertise will help further grow the ECCO brand across the USA and I look forward to working closely with him as he executes his strategy to help ECCO become a leader in HVAC and building products across North America."

Since joining ECCO in 2005 as a territory manager and more recently as director of manufacturing sales, Haine has contributed significantly to the expansion of the ECCO brand in Western Canada, and in the USA.

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, has promoted **Andrew Greaves** to Director of Education & Customer Experience. In his new position, he will oversee NAVAC's

tools and services education curriculum, which is conducted both online and in-person. He also will elicit and report customer input pertaining to product development and channel services.

Greaves' first major project in his new role is developing NAVAC's education offerings on BlueVolt, a platform that allows tools manufacturers, distributors and contractors to connect with a network of channel partners, providing access to the latest sales-centric product knowledge.

Previously Greaves, who joined NAVAC in 2019, served as the company's Northern Regional Sales Manager. In that role, he helped develop and nurture relationships with distribution channels in his territory while managing the company's broad representative network.

A former Marine, Greaves is a KY Master Licensed HVAC Mechanic with extensive experience in the HVAC service industry. Prior to join-



ANDREW GREAVES

ing NAVAC, he worked as a factory-trained service mechanic at Johnson Controls, where he conducted maintenance on a wide spectrum of equipment ranging from VRF systems to centrifugal chillers.

While employed as an HVAC technician, Greaves also operated his own YouTube Channel, AK HVAC, which provides insight into the HVAC trade and advice for young people interested in joining the field.

## Cover Story

Continued from Page 14


detect and display power quality issues, relating to current, voltage, power factor or any combination of the three. This allows for quick determination if an upstream supply problem exists, or if there is a downstream equipment problem.

### Ventilation

Winner: Aldes, InspirAIR® Fresh Innovation: The InspirAIR® Fresh contains new innovative design features. A newly developed counterflow enthalpic core and unique fan scrolls ensure 75% sensible recovery efficiency at 32F as tested to the new CSA 439 standard required as of October 2020.

Occupants can also expect to get ample fresh filtered air due to variable speed EC motors that adjust speed to changes in pressure due to stack effect and filter loading. The InspirAIR® Fresh is designed to provide optimal fresh air, regardless of filter type.





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# IHACI'S 41<sup>ST</sup> ANNUAL HVAC/R/SM PERFORMANCE CONTRACTING PRODUCT & EQUIPMENT TRADE SHOW

NOVEMBER 16, 2021, PASADENA, CA



AERUS ENTERPRISE SOLUTIONS: DAN CLAPPER (LEFT) AND MARK GRIJALVA.



VANDERBILT MORTGAGE AND FINANCE: LANDON RABY (LEFT) AND DAVID WIEDENBECK.



QWIK PRODUCTS: BOB SCARINGE (LEFT) AND MIKE BELLINO.



SIGLER WHOLESALE DISTRIBUTORS: THOMAS ELLROTT (LEFT) AND STEVE GAARDSMOE.



AC PRO (FROM LEFT): ARA ABARIAN, MELISSA MEDINA, AND ROY GIST.



VISUAL SERVICE BY IHACI (FROM LEFT): DON LAABS, ROBERT SCOTT, AND CHARLES NANCE.



THE R.E. MICHEL COMPANY BOOTH.



PHCC LOS ANGELES: HEIDI MORENO (LEFT) AND SANDI SOLETA.



NORM REEVES FORD: ENRIQUE COVARRUBIAS (LEFT) AND JORGE VELAZQUEZ.



THE FERGUSON HVAC BOOTH.



US AIR CONDITIONING DISTRIBUTORS (FROM LEFT): KARINE LEBLANC, JOHN STAPLES, AND MONICA STAPLES.



FIELDPIECE INSTRUMENTS (FROM LEFT): RUBEN DUARTE, PAULA GRANADO, TIFFANY ALVANO, AND RYAN CUNNINGHAM.





ENERGY MASTERS AND DEVELOPMENT (FROM LEFT): NELSON GUTIERREZ, MAOR AIZENKUT, AND EDEN SHITRIT.



AEROSEAL: DOMINIC BROWN.



THERMAFLEX (FROM LEFT): PAMELA HAMILTON, CINDY BRASE, AND BLISS CAIN.



3M (FROM LEFT): VINCENT MANNINO, CINDY BRASE, AND KEVIN BRAY.



AMERICAN COIL: VICTOR PRECIADO.



UNIWELD PRODUCTS: JEFF BOTTIGER (LEFT) AND EARL MILLER.



GEARY PACIFIC SUPPLY: TIM TEETERS (LEFT) AND MIKE SCHENK.



ARZEL ZONING: DAVID DOMANICK.



ORATEC: BRIAN EBRAHIMI (LEFT) AND ALEX GOLD.



TRUTECH TOOLS (FROM LEFT): GREG BOKAN, MADELYN HENDRICKSON, KYAL FLECK, AND BILL SPOHN, SR.



MARK RAMIREZ (LEFT), PRESIDENT OF IHACI; AND BILL BROWN, BROWNSON TECHNICAL SCHOOL, AT THE COMMERCIAL ACCEPTANCE TESTING SEMINAR.



RAPID DUCT TESTING: MIKE TOROSYAN (LEFT) AND SARO JANKOZIAN.



LOOK FOR MORE PHOTOS IN UPCOMING ISSUES!  
SEE YOU NEXT YEAR NOVEMBER 16, 2022!



# INSTITUTE OF HEATING AND AIR CONDITIONING 2022 TRAINING CALENDAR

CALIFORNIA QUALITY INSTALLATION, QUALITY MAINTENANCE AND QUALITY SERVICE

## SOCALGAS, DOWNEY

### **JANUARY**

#### **NATE HVAC/R Support Training**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Mon., Jan. 3 – Part 1  
Tues., Jan. 4 – Part 2  
Mon., Jan. 10 – Part 3  
Tues., Jan. 11 – Part 4

### **FEBRUARY**

#### **Gas Heating Module**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Mon., Feb. 7 – Part 1  
Tues., Feb. 8 – Part 2

### **MARCH**

#### **System Diagnostics Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Mon., March 21 – Part 1  
Mon., March 28 – Part 2

### **APRIL**

#### **System Diagnostics Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Mon., April 4 – Part 3  
Mon., April 11 – Part 4

### **MAY**

#### **System Performance Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Mon., May 2 – Part 1  
Tues., May 3 – Part 2  
Mon., May 9 – Part 3  
Tues., May 10 – Part 4

### **JUNE**

#### **Air Distribution Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Mon., June 6 – Part 1  
Tues., June 7 – Part 2  
Mon., June 13 – Part 3  
Tues., June 14 – Part 4

### **JULY**

#### **Chiller Module**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Tues., July 5 – Part 1  
Tues., July 12 – Part 2

### **AUGUST**

#### **Commercial Cooling Tower Module**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Tues., Aug. 2 – Part 1  
Tues., Aug. 9 – Part 2

### **SEPTEMBER**

#### **NATE CORE & Gas Heating Training**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., Sept. 7 – Part 1  
Thurs., Sept. 8 – Part 2  
Wed., Sept. 14 – Part 3  
Thurs., Sept. 15 – Part 4

### **OCTOBER**

#### **NATE AC/HP Refrigeration & Air Distribution Training**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., Oct. 5 – Part 1  
Thurs., Oct. 6 – Part 2  
Wed., Oct. 12 – Part 3  
Thurs., Oct. 13 – Part 4

**Sat., Oct. 15 - NATE Exam, 7:30 a.m.**

## SOUTHERN CALIFORNIA EDISON, IRVINDALE

### **JANUARY**

#### **Gas Heating Module**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Wed., Jan. 19 – Part 1  
Thurs., Jan. 20 – Part 2

#### **2019 Title 24 Standards Training**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Wed., Jan. 26 – Part 1  
Thurs., Jan. 27 – Part 2

### **FEBRUARY**

#### **Electrical Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., Feb. 9 – Part 1  
Thurs., Feb. 10 – Part 2  
Wed., Feb. 16 – Part 3  
Thurs., Feb. 17 – Part 4

### **MARCH**

#### **NATE CORE & Gas Heating Training**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., March 2 – Part 1  
Thurs., March 3 – Part 2  
Wed., March 9 – Part 3  
Thurs., March 10 – Part 4

### **APRIL**

#### **NATE AC/HP Refrigeration & Air Distribution Training**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., April 6 – Part 1  
Thurs., April 7 – Part 2  
Wed., April 13 – Part 3  
Thurs., April 14 – Part 4

**Sat., April 16 - NATE Exam, 7:30 a.m.**

### **MAY**

#### **Chiller Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., May 4 – Part 1  
Thurs., May 5 – Part 2

#### **Commercial Cooling Tower Module**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Wed., May 11 – Part 1  
Thurs., May 12 – Part 2

### **JUNE**

#### **System Performance Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., June 1 – Part 1  
Thurs., June 2 – Part 2  
Wed., June 8 – Part 3  
Thurs., June 9 – Part 4

### **SEPTEMBER**

#### **Air Distribution Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., Sept. 21 – Part 1  
Thurs., Sept. 22 – Part 2  
Wed., Sept. 28 – Part 3  
Thurs., Sept. 29 – Part 4

### **OCTOBER**

#### **AC/HP Refrigeration Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., Oct. 19 – Part 1  
Thurs., Oct. 20 – Part 2  
Wed., Oct. 26 – Part 3  
Thurs., Oct. 27 – Part 4

## **NOVEMBER**

#### **System Diagnostics Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., Nov. 9 – Part 1  
Thurs., Nov. 10 – Part 2  
Tues., Nov. 15 – Part 3  
Thurs., Nov. 17 – Part 4

## SOUTHERN CALIFORNIA EDISON, TULARE

### **JANUARY**

#### **AC/HP Refrigeration Module**

(Four-Night Class)

Instructors: Mitch Bailey / Jeff Painter

Wed., Jan. 12 – Part 1  
Thurs., Jan. 13 – Part 2  
Wed., Jan. 19 – Part 3  
Thurs., Jan. 20 – Part 4

### **FEBRUARY**

#### **Gas Heating Module**

(Two-Night Class) Instructors: Mitch Bailey / Jeff Painter

Tues., Feb. 1 – Part 1  
Wed., Feb. 2 – Part 2

#### **2019 Title 24 Standards Training**

(Two-Night Class) Instructors: Mike Griffin / Jayme Carden

Wed., Feb. 23 – Part 1  
Thurs., Feb. 24 – Part 2

### **MARCH**

#### **Boiler Module**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Wed., March 16 – Part 1  
Thurs., March 17 – Part 2

#### **Chiller Module**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Wed., March 23 – Part 1  
Thurs., March 24 – Part 2

### **APRIL**

#### **Air Distribution Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., April 20 – Part 1  
Thurs., April 21 – Part 2  
Wed., April 27 – Part 3  
Thurs., April 28 – Part 4

### **MAY**

#### **System Diagnostics Module**

(Four-Night Class) Instructors: Mitch Bailey / Jeff Painter

Wed., May 11 – Part 1  
Thurs., May 12 – Part 2  
Wed., May 18 – Part 3  
Thurs., May 19 – Part 4

### **JUNE**

#### **Electrical Module**

(Four-Night Class) Instructors: Mitch Bailey / Jeff Painter

Tues., June 7 – Part 1  
Wed., June 8 – Part 2  
Tues., June 14 – Part 3  
Wed., June 15 – Part 4

### **SEPTEMBER**

#### **System Performance Module**

(Four-Night Class) Instructors: Mitch Bailey / Jeff Painter

Tues., Sept. 13 – Part 1  
Wed., Sept. 14 – Part 2  
Tues., Sept. 20 – Part 3  
Wed., Sept. 21 – Part 4

**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.

## All Classes Are Being Offered

Classes begin at 6:00 PM Pacific Time and class

Register at [www.ihaci.org](http://www.ihaci.org)



# IONING INDUSTRIES, INC. PRESENTS CLASS SCHEDULE

## SERVICE (CAQI/QM/QS) & NORTH AMERICAN TECHNICIAN EXCELLENCE (NATE)

### OCTOBER

#### **NATE CORE & Gas Heating Training**

(Two-Night Class) Instructors: Mitch Bailey / Jeff Painter

Wed., Oct. 12 – Part 1

Thurs., Oct. 13 – Part 2

Wed., Oct. 19 – Part 3

Thurs., Oct. 20 – Part 4

### NOVEMBER

#### **NATE AC/HP Refrigeration & Air Distribution Training**

(Two-Night Class) Instructors: Mitch Bailey / Jeff Painter

Wed., Nov. 2 – Part 1

Thurs., Nov. 3 – Part 2

Wed., Nov. 9 – Part 3

Thurs., Nov. 10 – Part 4

**Sat., Nov. 12 - NATE Exam, 7:30 a.m.**

**PACIFIC GAS AND ELECTRIC COMPANY,  
STOCKTON**

### JANUARY

#### **Gas Heating Module**

(Two-Night Class) Instructors: Mitch Bailey / Jeff Painter

Wed., Jan. 26 – Part 1

Thurs., Jan. 27 – Part 2

### FEBRUARY

#### **NATE HVAC/R New Hire Training**

(Four-Night Class) Instructors: Mitch Bailey / Jeff Painter

Wed., Feb. 16 – Part 1

Thurs., Feb. 17 – Part 2

Wed., Feb. 23 – Part 3

Thurs., Feb. 24 – Part 4

### MARCH

#### **NATE HVAC/R Support Training**

(Four-Night Class) Instructors: Mitch Bailey / Jeff Painter

Wed., March 2 – Part 1

Thurs., March 3 – Part 2

Wed., March 9 – Part 3

Thurs., March 10 – Part 4

### APRIL

#### **Electrical Module**

(Four-Night Class) Instructors: Mitch Bailey / Jeff Painter

Wed., April 6 – Part 1

Thurs., April 7 – Part 2

Wed., April 13 – Part 3

Thurs., April 14 – Part 4

### MAY

#### **AC/HP Refrigeration Module**

(Four-Night Class) Instructors: Mitch Bailey / Jeff Painter

Wed., May 25 – Part 1

Thurs., May 26 – Part 2

### JUNE

#### **AC/HP Refrigeration Module**

(Four-Night Class) Instructors: Mitch Bailey / Jeff Painter

Wed., June 1 – Part 3

Thurs., June 2 – Part 4

#### **Air Distribution Module**

(Four-Night Class) Instructors: Mitch Bailey / Jeff Painter

Wed., June 22 – Part 1

Thurs., June 23 – Part 2

Wed., June 29 – Part 3

Thurs., June 30 – Part 4

### AUGUST

#### **System Diagnostics Module**

(Four-Night Class) Instructors: Mitch Bailey / Jeff Painter

Wed., Aug 31 – Part 1

### SEPTEMBER

#### **System Diagnostics Module**

(Four-Night Class) Instructors: Mitch Bailey / Jeff Painter

Thurs., Sept. 1 – Part 2

Wed., Sept. 7 – Part 3

Thurs., Sept. 8 – Part 4

### OCTOBER

#### **NATE CORE & Gas Heating Training**

(Four-Night Class) Instructors: Mitch Bailey / Jeff Painter

Mon., Oct. 10 – Part 1

Tues., Oct. 11 – Part 2

Mon., Oct. 17 – Part 3

Tues., Oct. 18 – Part 4

### NOVEMBER

#### **NATE AC/HP Refrigeration & Air Distribution Training**

(Four-Night Class) Instructors: Mitch Bailey / Jeff Painter

Mon., Nov. 7 – Part 1

Tues., Nov. 8 – Part 2

Tues., Nov. 15 – Part 3

Wed., Nov. 16 – Part 4

**Sat., Nov. 19 - NATE Exam, 7:30 a.m.**

**SAN DIEGO GAS & ELECTRIC**

### JANUARY

#### **2019 Title 24 Standards Training**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Wed., Jan. 5 – Part 1

Thurs., Jan. 6 – Part 2

#### **Gas Heating Module**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Wed., Jan. 12 – Part 1

Thurs., Jan. 13 – Part 2

### FEBRUARY

#### **NATE HVAC/R New Hire Training**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Mon., Jan. 31 – Part 1

Tues., Feb. 1 – Part 2

Wed., Feb. 2 – Part 3

Thurs., Feb. 3 – Part 4

### MARCH

#### **Non-Res ATE Training**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Tues., March 1 – Part 1

Tues., March 8 – Part 2

#### **Non-Res MATT Training**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Tues., March 15 – Part 1

Tues., March 22 – Part 2

### APRIL

#### **Electrical Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Tues., April 5 – Part 1

Tues., April 12 – Part 2

Tues., April 19 – Part 3

Tues., April 26 – Part 4

### MAY

#### **AC & HP Refrigeration Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., May 18 – Part 1

Thurs., May 19 – Part 2

Wed., May 25 – Part 3

Thurs., May 26 – Part 4

### JUNE

#### **Air Distribution Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., June 15 – Part 1

Thurs., June 16 – Part 2

Wed., June 22 – Part 3

Thurs., June 23 – Part 4

### JULY

#### **System Diagnostics Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., July 6 – Part 1

Thurs., July 7 – Part 2

Wed., July 13 – Part 3

Thurs., July 14 – Part 4

### AUGUST

#### **System Performance Module**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Wed., Aug. 3 – Part 1

Thurs., Aug. 4 – Part 2

Wed., Aug. 10 – Part 3

Thurs., Aug. 11 – Part 4

### SEPTEMBER

#### **Chiller Module**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Tues., Sept. 6 – Part 1

Tues., Sept. 13 – Part 2

#### **Commercial Cooling Tower Module**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Tues., Sept. 20 – Part 1

Tues., Sept. 27 – Part 2

### OCTOBER

#### **Boiler Module**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Tues., Oct. 4 – Part 1

Tues., Oct. 11 – Part 2

#### **Commercial Refrigeration Module**

(Two-Night Class) Instructors: Mike Griffin / John Dalton

Tues., Oct. 18 – Part 1

Tues., Oct. 25 – Part 2

### NOVEMBER

#### **NATE CORE & Gas Heating Training**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Mon., Nov. 21 – Part 1

Tues., Nov. 22 – Part 2

Mon., Nov. 28 – Part 3

Tues., Nov. 29 – Part 4

### DECEMBER

#### **NATE AC/HP Refrigeration & Air Distribution Training**

(Four-Night Class) Instructors: Mike Griffin / John Dalton

Mon., Dec. 5 – Part 1

Tues., Dec. 6 – Part 2

Mon., Dec. 12 – Part 3

Tues., Dec. 13 – Part 4

**Sat., Dec. 17 - NATE Exam, 7:30 a.m.**

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This program is funded by California utility customers under the auspices of the California Public Utilities Commission.



# Troubleshooting

## A Gas Furnace That's Not Heating

By Jim Johnson  
Contributing Editor

Your troubleshooting situation this month involves an 80% single stage gas furnace that has been in service approximately eight years.

When you respond to the customer's complaint of "no heat" you find that the thermostat is set correctly, and the fault code signal from this unit's control system (see the pictorial diagram in **Figure One**) is showing "7 Red" flashes.

After disconnecting the power supply, checking all connections you determine that they are OK. Consulting the manufacturer's service information and determining a "Failed to light burners" condition, you decide to begin your troubleshooting procedure by attaching your voltmeter at connections 2 and 4 of the HSI circuit on the S2 segment of the control.

When you restore power and initiate a call for heat, you note the following:

1. The IDM starts and operates normally.
2. Your voltmeter reads 0-Volts.
3. The fault signal repeats.

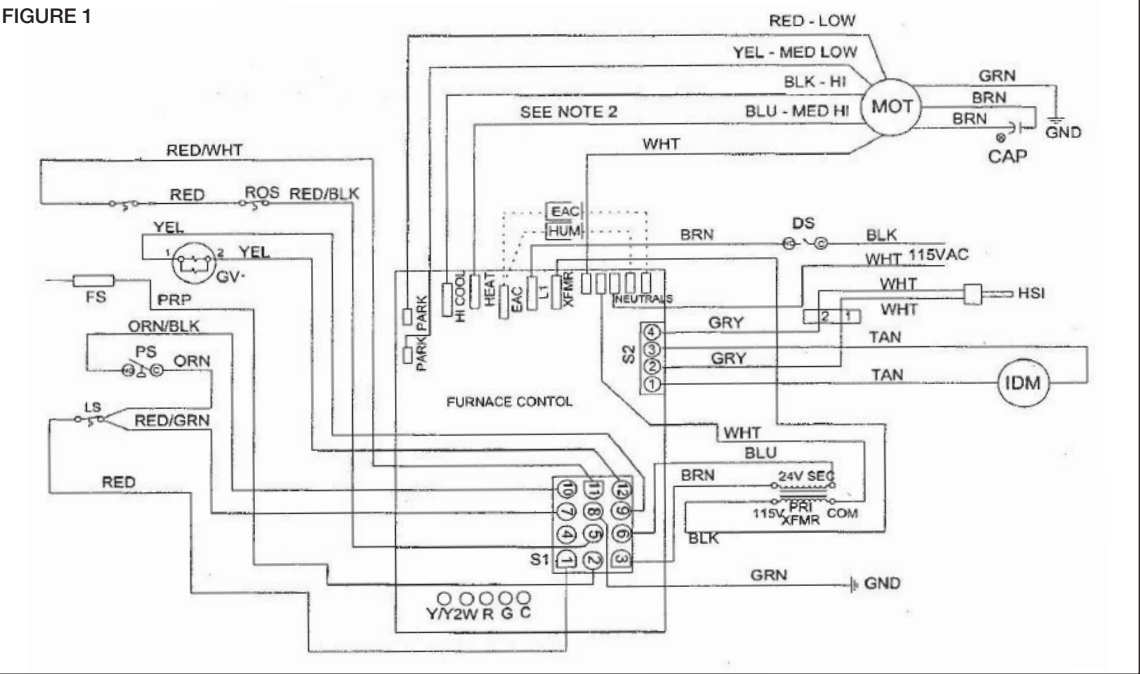
Your troubleshooting question: *What is the next step you need to take to get this furnace back on line?*

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](mailto: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."

FIGURE 1



### Answer to Last Month's Troubleshooting Problem

The next step is to replace the contactor. Our voltage checks at the contactor coil and at the line connections of the contactor proved that although 24-volts was applied to the coil, the contactor was not pulling down to enable the operation of the compressor.

# Technical Training

## Growing Green Technicians Part 147: Proper Soldering Techniques for Split System Installations

By Jim Johnson  
Contributing Editor

It almost goes without saying that the installation of a split system air conditioner, when done right, two things must be considered:

1. That there is proper air flow through an indoor and outdoor air handling systems.
2. That the necessary steps to ensure that superheat and subcooling checks are accomplished so that the two systems within the equipment (air flow + refrigeration) will be able to work in balance with each other to ensure efficient operation of the equipment.

And, of course, we need to make sure that these two segments of an HVACR system are installed in a building that is properly sealed and insulated, and that there is an effective fresh air management system, as simple or complex as it must be in any given situation. It's what being a green technician is all about.

However, there's another important aspect to being green, which is making sure that when a sealed system is installed, the proper processes regarding soldering and/or

brazing are being followed. As an example, consider the simple split system shown in **Figure One**.

From an installation perspective, experienced HVACR system evaluators and raters know the host of problems that can occur with the indoor air flow system.....returns that are too small, flex-duct that's not properly installed, joints not properly sealed improper transitions from a main plenum, etc.... and once those mistakes have been corrected, it's a safe bet that the system (providing the building itself is proper) will perform according to required standards.

But, if we fast forward a couple of years, and investigate a customer performance complaint, one of the reasons for it could be the fact that when the installation was accomplished, while the following normal procedures were followed:

- .... Tubing pulled and insulated at the proper stage of building construction.
- .... Indoor air handler and coil in place.
- .... Outdoor unit set, piping connected, system pressure-tested, properly evacuated and charged
- ... One thing that didn't happen

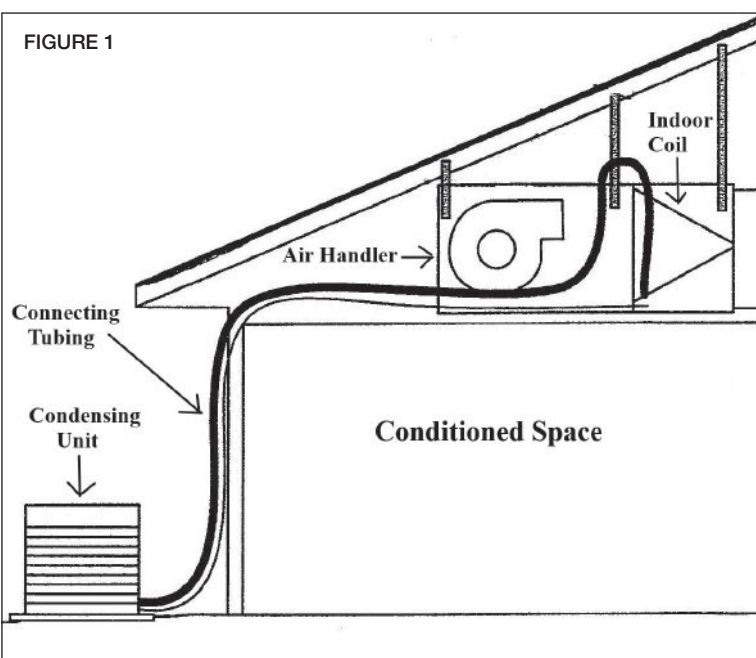
was the use of nitrogen during the soldering/brazing process.

The simple fact is that when nitrogen is not used as a purge agent while a torch is being used to heat the tubing hot enough for the solder to melt, the oxygen inside the tube is causing an oxide formation inside the tube. It's the same ugly, flaky, black scale that you see on the outside of the tubing after you complete a joint and pull your torch away. Technically speaking, at the beginning of the formation cycle, the stuff is referred to as cupric oxide, which becomes the flaky stuff after the tubing cools.

An important factor to consider about this process of formation is that R-410A systems are very good at getting these flakes that are now on the inside of the tube to fall off and circulate through the system. This is because a synthetic oil has more of a solvent tendency than mineral oil, which means that this situation has become even more prevalent with the introduction of HFC refrigerants.

And, the reason these chunks of contaminants are behind our performance complaint, is, of course, because they get caught in

FIGURE 1



the smallest orifice in the refrigeration system, the metering device. And without proper metering into the indoor coil, the previously mentioned balance between the air flow and refrigeration systems is lost, and equipment performance is affected.

In the case of a split system installation, purging with nitrogen during brazing may not be easy in some cases, but it is simple. Once your piping is in place, you'll need to use an access valve with its core removed to run the nitrogen into the piping at a pressure of no more

than 2 PSI (any higher and you may risk a high rate of flow that can make your joints difficult to make due to the heat being carried away by the flow), and a second access valve without a core to allow the nitrogen to vent during the soldering process.

Another factor to consider is that in the event of a repair, the access valves already installed will make your task of purging the system with nitrogen easier. In either case, it's worth the effort to prevent the formation of contaminants in the refrigeration system.



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**Company Overview:**  
The R.E. Michel Company 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.  
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Cantrell is the winner of a \$50 Amazon gift card, courtesy of ICN. Congrats!

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