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Intertek Issues First Zero Ozone Certification to RGF for Air Purification System (see page 8)



SFACA General Meeting and Virtual Happy Hour (see pages 6)



HARDI Releases Skilled Trades Documentary, Hot Commodity (see page B4)



Fujitsu Announces New Multi-Position Air Handler (see page B6)

ASHRAE Epidemic Task Force Releases Updated Building Readiness Guide



Jeff Schlichenmeyer
Publisher

ATLANTA (August 18, 2020) – As many buildings are preparing to reopen during this pandemic, the ASHRAE Epidemic Task Force has updated its reopening “Building Readiness” guidance for HVAC systems to help mitigate the transmission of SARS-CoV-2.

“The Building Readiness Guide includes additional information and clarifications so that owners can avoid operating their HVAC systems 24/7,” said Wade Conlan, ASHRAE Epidemic Task Force Building Readiness Team lead. “By rolling out this updated guidance, we are providing a more robust structure for building owners to complete the objectives of their Building Readiness Plan and anticipate the needs of building occupants.”

Specific updated recommendations to the building readiness guidance include the following:

Pre- and Post- Occupancy with Outdoor Air: The intent of this strategy is to ensure that infectious aerosol in the building at the end of occupancy is removed prior to the next occupied period. The building is flushed for a duration sufficient to reduce concentration of airborne infectious particles by 95%. For a well-mixed space, this would require three air changes (three times the building volume) of outdoor air (or three equivalent air changes including the effect of

filtration and air cleaners) as detailed in the calculation methodology. There is also guidance on methods to increase the quantity of outdoor air introduced by systems.

Energy Recovery Ventilation (ERV) Systems Operation: Guidance is provided to assist in determining if an energy recovery system using an energy wheel is well designed and maintained and whether it should remain in operation. Based on the assessment of ERV conditions, it may be possible to fix problems and return it to service.

Building Readiness Modes of Operation for the Building: These should include the following:

- Epidemic Operating Conditions in Place (ECiP)
- Occupied- at pre-epidemic capacity
- Occupied- at reduced capacity or Unoccupied temporarily
- Operation during building closure for indefinite periods
- Post-Epidemic Conditions in Place (P-ECiP)
- Prior to Occupying
- Operational Considerations once Occupied

The guidance still addresses the tactical commissioning and systems analysis to develop a Building Readiness Plan, increased filtration, air cleaning strategies, domestic and plumbing water systems, and overall improvements to a systems ability to mitigate virus transmission.

To view the complete ASHRAE Building Readiness guide and other COVID-19 resources, visit ashrae.org/COVID-19.

Bard HVAC Classroom Units May Help Reduce The Spread Of Airborne Diseases



A recently published ASHRAE technical paper was issued to inform and educate consultants, architects and facility managers on mitigating airborne infectious diseases in educational facilities / classrooms provides the following strategy for HVAC systems.

These guidelines are provided in an ASHRAE Position Documentation on Airborne Infectious Disease in HVAC Applications, August 2020 and ASHRAE Epidemic Task Force Schools & Universities (Updated July 17, 2020). These documents can be found at www.ashrae.org/covid19

Summary:

Infectious diseases are spread in three

different ways; direct (touching, hugging, etc.), indirect (surfaces, doorknobs, etc.) and airborne (coughing, sneezing, etc.). The focus of this article is to apply ASHRAE’s recommended mitigation strategy for a single HVAC unit design to reduce the spread via airborne transmission; to limit or reduce cross contamination of airborne particles, contaminants, VOC’s, germs, bacteria, mold, viruses, etc., it is necessary to utilize a design strategy



with a single, dedicated HVAC unit to serve a single space. Unlike a central rooftop unit, (RTU) or central air handler (AHU) that serves multiple classrooms a unit serving a single space must only provide supply air and return air from that space, while also being capable of providing temperature control, humidity control and code ventilation.

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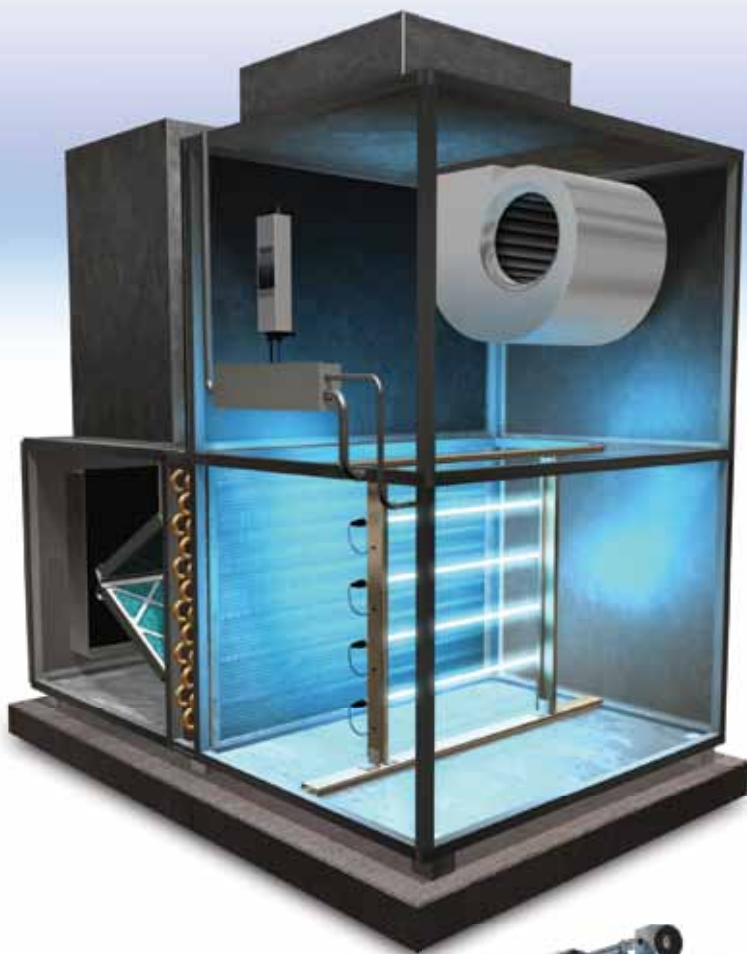


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¹ <https://www.ashrae.org/technical-resources/filtration-disinfection#uvc>

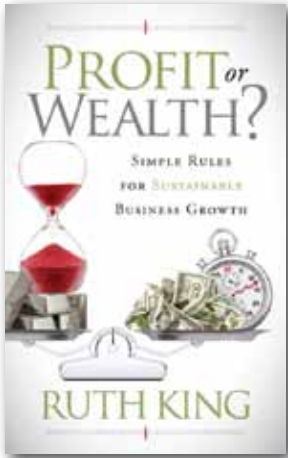
What Do You Think?

Ruth King's Contractors Cents



Industry expert Ruth King has helped contractors get and stay profitable for more than 25 years.

Reach her at ruthking@hvacchannel.tv.



In 2003 I wrote The Ugly Truth about Small Business. Recently I read the audio version of the book (which is now on Audible) and was reminded why we are entrepreneurs. I am reprinting my words here – in honor of World Entrepreneurs' Day, this Friday, August 21, 2020.

And...my new book, Profit or Wealth? will be released in October. I have copies now, if you'd like

one...or get it free. Details at the bottom of this Contractor Cents. Here's what I wrote...see if you agree.

Why We Are Entrepreneurs

In a word, passion. We have passion for what we do. There are many other reasons after passion. The overriding factor is that we love what we do. Education level doesn't matter. Funding doesn't matter. The fact that we entrepreneurs see a need, enjoy doing something, or want to do something and the only ways to get it done is through a business of our own.

Jeff Benjamin, CEO of Breakthrough Training, put it very succinctly. "I think one of the biggest things for me that has always kept me going is that I am so passionate about what I do so failing or not making it or not being successful is just not an option."

We don't fit the corporate world. So many of the entrepreneurs told me that they were tired of not being recognized for their accomplishments and that by starting their businesses they were perceived by their efforts. Some, like Christine Kloser, knew it from the time they were young and never tried to fit in. Others started in the corporate world and found it lacking. Some started in the corporate world and the corporate world found them lacking.

Another reluctant and surprised entrepreneur was told that he should have his own business because he didn't fit into the corporate mold. He was forced into the opportunity when he was fired from his job.

Others got the opportunity by accident. One of the entrepreneurs was told that if he didn't do a business by the time he was 35 he wouldn't get the opportunity to be successful. He was 34 and a situation arose where he had an opportunity to be on his own. With the support of his wife, he jumped into business.

Many, many failed in their first attempts. Some like Bob Breaux got a job to tide them over until they got the next opportunity. Others went searching from one business to another. All learned from their mistakes, continued on, and eventually had a successful business.

Still others have known from the time they were children that they would be in business. Even though I had my first "real business" at 22, I started selling things in my childhood. Many had paper routes. Many invested in stock markets. Most had made money as a child.

Despite all of the trials and tribulations, every entrepreneur who had been in the corporate world before starting or buying their business, says that being in business is better than being in the corporate world.

For those who have built multi-million dollar businesses, they've remembered what it was like for them and tried to create a business environment that is better.

Entrepreneurs become entrepreneurs because we have a passion for what we are doing. At times we are forced into business. Sometimes we make a conscious decision to be in business. We put up with the stress, the terror, the darkness because we are trying to make a difference in the world, each in our own way.

You are NOT Alone

Whether you are thinking about starting a business, are in the midst of running a business, or have discontinued a business you are not alone. There are millions of people who have gone through what you are going to go through, or are going through that can supply perspective, inspiration, and guidance. All you have to do is ask.

I know. Most business owners keep to themselves. We've trusted people with our problems and gotten hurt. As a result, we don't trust ourselves to talk about the reality of where we are...except perhaps to a few individuals who probably have never started or run a business.

People are willing to share. All you have to do is ask. I found this out when I was researching this book. Perhaps that's our greatest weakness as entrepreneurs.

We rarely share and we don't ask for help. After all, we know that we're right and will go through the terror to prove it. So where do you find someone you can trust?

Sometimes it is a stranger. You've read an article by a person who sounds like you. You send that person an email. Surprise, you get a response. And, that person is willing to help.

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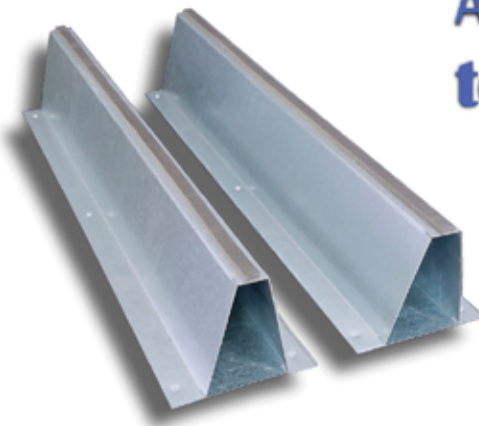
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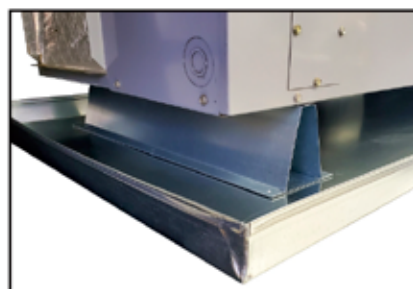
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SFACA & ABC Accelerated HVAC Apprenticeship Program



SFACA and Associated Builders and Contractors have partnered to develop a stronger skilled workforce by providing an accelerated apprenticeship education and practical learning classes for the HVAC trade. Apprenticeship classes will commence on September 9th. (subject to change due to the government's guidelines regarding Covid 19)

Please direct students to contact the ABCI administrative office to make an appointment for registration purposes. CareerSource Broward is providing employers a benefit (grant) by reimbursing 50% to 75% of the wages during the first period of learning, helping to offset some of the apprenticeship training cost, and add value to your company. For more information contact CareerSource Broward: Rob Evans, Business Services Manager - Phone: 954-202-3830 Ext. 3010, or

email: revans@CareerSourceBroward.com

The Specifics: 1. State of FL Accredited program with 2000 hours of annual education and on-the-job training. 2. 1-2 classes per week taught by experienced HVAC instructor. 3. On-The-Job training component required. 4. Apprentice program is in cooperation with the ABC Institute. 5. Department of Labor and Florida Department of Education Approved

Contractor Cost: Enroll 1-5 – \$880 annually per student. Additional Enrolled 6-10 – \$440 annually per student. Additional Enrolled 11 plus – \$300 annually per student.

Training centers located at ABC Institute, Coconut Creek FL (minimum of 15 enrollees per center required) Hurry ... deadline for application is September 30, 2020.

Ready To Begin? Contact SFACA Today!! Phone: (954) 281-5106 / Email: Director.sfaca@gmail.com An Equal Opportunity Training Provider.

The New Flat Rate's Danielle Putnam is Speaking at the Women in HVACR 17th Annual Conference (Virtual)



Danielle Putnam, president of The New Flat Rate, is a featured speaker at the Women in HVACR 17th Annual Conference, being held virtually for the first time this year, Sept. 9-10 from 11 a.m. to 4 p.m. EDT each day. Putnam's presentation on day two is called "Sales vs. Service," where she will

discuss the keys to the full-circle of efficient selling. She has worked with hundreds of HVAC, plumbing and electrical service providers, and has been a featured speaker at a variety of conferences and industry events discussing sales techniques for contractors. Her philosophy is to offer a solution with real value and position yourself as the expert. You'll have greater success selling value and expertise than selling a product.

"Selling is not in my DNA," Putnam said. "At The New Flat Rate, we've spent decades addressing how challenging sales can be for those who aren't natural salespeople. You can't make someone a natural salesperson. But with the right tools and a system that works for them, they can be effective in that position."

The New Flat Rate is a software-based menu pricing system that includes thousands of tasks and pricing pages set up for contractors so they no longer have to toil to build their own price-book. The system allows service businesses to increase sales without increasing pressure on technicians. The system provides technicians with five price point options for any diagnosed repair or replacement service so homeowners can select the option that's right for them.

"As a virtual event, this will be an entirely new experience compared to previous Women in HVACR conferences," Putnam said. "I'm looking forward to sharing new skills and learnings with other successful women in the industry and learning from their experiences. The HVACR field is undergoing an unprecedented transition right now, and it's critical to stay connected with your peers and industry thought leaders in order to thrive in today's unpredictable climate."

The Women in HVACR 17th Annual Conference will feature Putnam and seven other leading business and industry speakers, an interactive portal, a photo and social sharing board and three educational tracks.

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SFACA General Meeting & Virtual Happy Hour

SFACA conducted their third zoom meeting with their members at 6pm, on Wednesday, August 5th. There was no cost for this event and it was open to everyone. The meeting opened with a casual chat about how SFACA can better serve it's members like what topics are most important to you now and which benefits would best assist you and your company?

Also discussed was how to maximize the resources from FRACCA and Service Roundtable. The zoom meeting included guest speaker Matt Michel who gave a presentation on Training to Turbo Charge Your Technicians. Matt revealed how to build a year round training program and curriculum that will take your technicians to the next level.

Matt Michel is an internationally recognized and highly acclaimed motivational and informational speaker. He has spoken about marketing, branding,

sales, pricing, leadership, strategic planning, and goal setting from Istanbul to Australia and every place in-between.

Starting September 2020, SFACA will be enrolling students in the SFACA Apprenticeship Academy! Additional details will be announced in the upcoming weeks. Contractors can sponsor a student for a 2 year Florida state accredited program.

One of SFACA's goals has been to provide social networking opportunities with topical speakers and to provide beneficial programs direct to their members during their meetings.

Due to the current social distancing guidelines, this has been challenging to do. SFACA is working to find an alternative to dinners and events. The silver lining to these alternatives is that SFACA is preparing for potential future meetings as well as provide virtual opportunities to their members.



Interplay Learning, Leader in Online and Virtual Reality HVAC Training, Partners with NATE

HVAC training gets a big boost this month as the leader in virtual reality and simulation-based training joins forces with the leading HVACR certification organization in North America.

Austin, TX, July 8, 2020 – This month, North American Technician Excellence (NATE) and Interplay Learning are partnering to match up remote HVAC training with a new, alternative certification pathway for technicians.

With a growing shortage of skilled labor in the U.S. compounded by a global pandemic, traditional training programs are unable to meet industry demand for skilled workers. The collaboration of Interplay Learning and NATE – industry leaders in skilled trades online training and HVACR certification, respectively – signifies the readiness of the trades to move into the future of training, safely. Doug Donovan, CEO of Interplay Learning, says, “We are very excited to be partnering with NATE to help the HVAC industry train technicians more safely and effectively with online learning.”

The well-known format known as “micro-learning,” which is at the core of the Interplay SkillMill platform, is now directly linked with a NATE credentialing program – available as preparatory classes for NATE's new certification program. “Pushing the industry forward is a priority for the organization,” says NATE Director of Testing and Education, Anthony Spagnoli. He adds “Offering remote online learning with a direct pathway to certification gives us an opportunity to modernize and expand.” NATE's rollout of a new, alternative certification pathway, Certified HVAC Professional (CHP-5), allows users to attain a NATE certification through shorter, topic-focused exams. The CHP-5 offers a series of short, 30-question exams on functional areas of the trade as an alternative to the longer, more comprehensive, CORE and Specialty exams. While both programs cover the same material, this new offering provides technicians a more flexible path to training and earning certification.

The current collaboration is possible today because Interplay Learning's job-relevant virtual technical training aligns with NATE's goal to measure the on-the-job competency of technicians. Both organizations recognize that the intent is not to replace hands-on training, but to offer a model of learning that promotes skill advancement and measurement. Doug Donovan adds, “This flexible model supports hands-on training efforts and makes that time more valuable and efficient.” He explains, “In a simulated training, you can practice hundreds of in-the-field scenarios in one session that might take years to see in the field.” 3D simulations and VR-based training reinforce and add to hands-on training, yielding job-relevant skills that pave the path to certification.

Through the micro-learning format, Interplay's accessible online training puts technicians in control of advancing their careers. NATE's matching CHP-5 certification exam series allows technicians to build skills and ramp-up credentials at higher rates than the traditional pathways have allowed.

Founded in 1997, North American Technician Excellence (NATE) is the nation's largest non-profit certification organization for heating, ventilation, air conditioning and refrigeration technicians. As our business evolves to meet the growing demands of the HVACR workforce, the company's vision - to be the leader in developing and recognizing professional HVACR technicians - remains clear. Headquartered in Arlington, VA, NATE is the certification organization that was developed by, and has been supported by the entire HVACR industry for over 20 years.

NATE tests represent real-world working knowledge of HVACR systems. Developed by a committee of industry experts nationwide, our NATE certification exams represent HVACR topics pertinent to contractors, educators, manufacturers and utilities alike. NATE tests are rigorous, multiple-choice, knowledge-based tests which validate a technician's knowledge.

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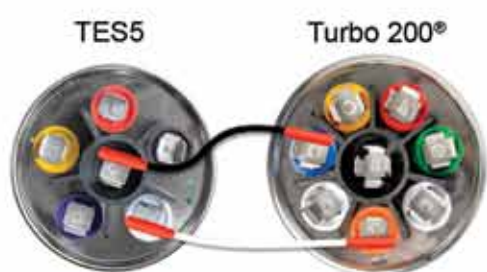
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Intertek Sustainability Issues First Zero Ozone Certification to RGF Environmental Group for Air Purification System

New program creates consumer confidence and product safety for air cleaning manufacturer

Kentwood, Mich. – Intertek, a Total Quality Assurance provider to industries worldwide, announces the first certification under its Zero Ozone Verification program, granted to RGF Environmental Group for their HALO-LED™ air purification system. The certification illustrates that the HALO-LED™ system complies with Intertek's stringent indoor air quality requirements for ozone emissions in North America.

Intertek Sustainability's Zero Ozone Verification program reaches beyond enforced limits to ensure that an air cleaner's ozone emission is below federal requirements in the United States, including those from the Food and Drug Administration, the California Air Resources Board, and the Environmental Protection Agency. Zero Ozone certification demonstrates a product meets emission concentrations of 0.005 parts per million (PPM) or less and illustrate a brand's commitment to safety and corporate responsibility—boosting consumer confidence in a highly technical market. RGF's HALO-LED™ is the industry's first in-duct LED whole-home air purification system which is both mercury-free and Zero Ozone certified. It is being certified following extensive testing by Intertek's experts in the air purification and

HVAC industry.

Brian Kneibel, Sustainability Certification Manager at Intertek: "Product transparency and safety have never been more important to consumers than now. We're proud to be offering this program at the height of consumer demand for indoor air quality



safety. The goal of our program is to eliminate consumer confusion around ozone emission—while providing the assurance of product safety from a trusted third-party. Congratulations to RGF Environmental Group for passing our stringent requirements and receiving the first Zero Ozone Verification mark; their hard work and dedication to sustainability is com-

mendable."

Walter Ellis, Executive Vice President of RGF Environmental Group, said: "Because advanced oxidation LED technologies are critical for the evolution of indoor air quality products, it is a major achievement to have Intertek certify the HALO-LED™. Consumers will see the Intertek Sustainability certification mark and feel confident our product has met the relevant safety standards and will perform as promised."

Zero Ozone Verification is one of many sustainability programs under Intertek's ever-expanding Sustainability business line. The Intertek Sustainability team works daily with experts, chemists, industry insiders, regulatory committees, and clients to address the growing expectations of consumers, as well as requests for industry transparencies. In a world that has an increasing demand for products and companies to "do better" and "do right," Intertek Sustainability is here to help make that happen.

For more information on Zero Ozone Verification and additional sustainability certification services from Intertek, visit intertek.com/sustainability/certification/

Bard HVAC Classroom Units May Help Reduce The Spread Of Airborne Diseases

(Continued from cover story)



In this article, we utilize the Bard I-TEC Indoor HVAC Unit to explain the execution of the ASHRAE guideline to reduce airborne transmission. The I-TEC is a single zone, unitary, packaged, vertical unit in AC or HP configuration (SPVU), certified and listed in AHRI's Directory.

Strategy:

Dilution Ventilation: *Per Wells-Riley equation, $C=S(1 - e^{-Iqpt/Q})$ the impact of Q (OA) decreases infectious particles by diluting it with infectious-particle free air. (CDC-2005)*

Bard I-TEC units offer various types of ventilation, up to 450 CFM of fresh air with exhaust. A typical 3.5-Ton classroom unit with 1300 CFM can achieve nine total air changes per hour (ACH) and three fresh air changes per hour. This HIGH application priority meets and exceeds any new ventilation requirement to mitigate airborne pathogens and reduce transmission risk.

Air Flush Daily: *Mechanical systems should be operated in occupied (including normal peak outside air rate introduced to each space) for a minimum of two hours prior to occupants reentering the building (classroom).*

Bard I-TEC units and other classroom units employ this sequence strategy of starting and running the classroom AC units at least two hours before classes start and going to setback mode about four hours after classes end. This strategy also to give teachers, custodians, and maintenance the extra time to perform work in comfort. This control strategy is per Bard's CompletStat or BrightStat controller scheduled set point set up.

Typical classroom occupied set points: 75F DB, 55% - 60% RH, OA per code

Typical classroom non-occupied (setback mode): 78F DB, 55% - 60% RH, NO OA

Temperature and Humidity: Classroom Design, ASHRAE Design 75F DB and 50% - 60% RH

Bard I-TEC units feature hot-gas reheat dehumidification (HGRH). The typical I-TEC classroom unit maintains these RH levels in a classroom with a dedicated, combination, programmable controller. Temperature, humidity, fresh air is controlled per specification and programmed schedule.

Personalized Ventilation: *Small particles may*

be transmitted through ventilation systems (ductwork), as has been documented for tuberculosis, Q-fever, and measles (Li et al. 2007). ASHRAE recommendation:

- **Supplying clean air to occupants**
- **Containing contaminant air and or exhausting it**
- **Diluting the air with clean air from outdoors**
- **Cleaning the air, filtration**

All of these requirements are achieved by the standard I-TEC classroom unit without any additional options or accessories.

Local Exhaust: Exhaust room air to the outside

The I-TEC model features various ventilation options with the ability to pressurize or to keep a negative pressure in the room. The optional energy recovery module (ERV) comes standard with a factory setting of 375 CFM outside air and 300 CFM of exhaust air.

Local Air Filtration: The I-TEC units are single zone, packaged units serving a classroom or a similar single space with their respective high efficient filters in each unit. (Miller-Leiden et al. 1996; Kujundzic et al. 2006)

I-Tec classroom units come standard with (2) 24" X 20" X 2" MERV-8 filters. Per ASHRAE and School Board Facilities recommendations, the I-TEC unit features optional MERV-13 filters without sacrificing airflow due the unit's evaporator ECM motor that compensates for the extra resistance or loading by adjusting its speed (CFM) to insure the correct, programmed airflows. The I-TEC's optional MERV-13 filter will on the average remove a minimum of 75% of particles size of 0.3 - 1.0 micron per these guidelines (ASHRAE).

Room, Duct or Air Handler UVGI: All UVGI depends on inactivation of disease transmitting organisms and it can be safely deployed in HVAC equipment and ductwork. (Nardell et. al. 2008).

Bard I-TEC units and other Bard models can accommodate these type of UV light accessory devices installed in the evaporator section of the unit. In addition, we also offer Bi Polar Ionization (BPI) that can easily be installed at the supply blower inlet that greatly reduce VOC's and all indoor contaminants.

In Room Flow Regimes: Ensure that airflow patterns in classrooms are adjusted to minimize occupant exposure to particles.

Bard I-TEC units come with three optional size acoustical supply plenum boxes. Each supply plenum features supply grilles on three sides, normally the unit sits in the middle of the classroom by an outside wall. The duct free plenum offers a way to evenly distribute the conditioned supply air with 4-way vertical and horizontal, adjustable deflectors. The deflectors allow the conditioned supply air to be directed to different areas in the room. The upward pitch on the linear slot allows air to be deflected upwards toward the ceiling and not on occupants.

Differential Pressurization: Room pressure differentials are important for controlling airflow between areas in a building (Siegal et al. CDC 2005). Adjust building (classroom) airflows to prevent negative pressure, per ASHRAE recommendation.

Normal non-isolation nursing offices in schools, nurse stations, isolation rooms and other potentially airborne infectious isolation rooms are to keep potential infectious agents within the room are kept at a negative pressure with respect to the surrounding areas.

Other areas like classrooms, halls, offices, etc. are to be kept at a positive pressure to limit infiltration of heat, humidity, VOC's and other possible contaminants.

Other important features of the Bard I-TEC unit that helps maintain a clean, safe and comfortable environment in educational and similar facilities:

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Trade Talk:

By **Tommy Castellano**
 Owner, **Castellano A/C Services**
 in Tampa, Florida



A New Best Practice for Starting and Staying in Business

A common denominator in all of the “how-to” guides I’ve read on starting a business is that of writing a plan. Ironically, this “start a business” best practice is also the best approach to staying in business. Does your business have a plan?

The most common complaint I hear from business owners is, “I’m having trouble growing my business.” My typical response is, “Why do you think your current plan isn’t working?” The typical answer is, “What plan?” I conclude with, “You just identified your problem!” Many of the businesses I meet with, regardless of how long they have been in business, do not have a documented strategic plan to direct their actions and resources. Businesses that have a plan know where to focus and rarely grapple with business decisions. It is a sequential approach developed called M.O.S.T. (Mission, Objectives, Strategies and Tactics). Once you have a mission, the planning process involves three steps.

Step 1: Develop objectives that articulate accomplishments toward advancing your mission. A well-crafted objective is specific, measurable, realistic and assigned. Example: Increase sales revenue in the Service Dept. 10% to \$1,000,000.00 by December 31, 2017, assigned: Service Manager/Business Owner.

Step 2: Create strategies that define a specific path or initiative designed to accomplish an objective. A well-crafted strategy defines a course of action to take as all or part of achieving an objective. Example: Establish a sales force to increase sales.

Step 3: Establish tactics to coordinate activities for each strategy. Tactics cover all actions, from

group projects to individual tasks, necessary to effectively implement a strategy. They define “who” does “what” by “when” and are based on your available human and financial resources.

Each level of planning—objectives, strategies and tactics—are aligned to the planning level above it, and strategies support an objective, and tactics support a strategy. One objective will be supported by one or more strategies, and each strategy will be supported by several tactics (which represent an action or work plan).

It doesn’t matter whether you are starting a new business or trying to grow an existing business, nor does it matter the size or sector of your business; strategic planning is a best practice that should not be overlooked.

Because of the flexible nature of plans, limit the number of objectives you want to accomplish, and keep to a short set of strategies for each. Otherwise, you may end up with too many actions to deal with...in strategic planning, less is more. You should also align the timing of your plan to your fiscal year to make budgeting easier. Use the M.O.S.T. planning process to make what many experience as an arduous undertaking far simpler.

This best practice will increase the likelihood of your success and longevity.

Staying in business is the objective and sticking to a plan takes discipline. But that is another subject.

Until next time.

Tommy Castellano

Cooper&Hunter Expands Hyper Heat Line, Catering To Cold Climates



Miami, FL, August 2020 – Since “hitting the shelves” in early 2020, Cooper&Hunter’s Hyper Heat mini split line has earned increased sales and positive reviews in cold states across the US. Now, the brand can offer even more flexibility in Hyper Heat applications with the addition of the 36K Hyper Heat condenser.

Single & Multi Zone Hyper Series

While competitors are advertising -13°F operating temperatures as “Hyper Heat”, that only matches up to Cooper&Hunter’s standard Sophia heat pump series. The brand’s Hyper option, however, offers heavy duty heating in ambient temperatures as low as -22°F. Single Zone systems are available in 9K, 12K, 24K, 30K, and 36K Btu/h capacities, while multi zones can accommodate up to 5 zones with condensers ranging from 18K to 48K Btu/h. Both Single and Multi Zones are compatible with 5 indoor model types, including Wall Mounts, Ceiling Cassettes, Slim Ducts, Mini Floor Consoles, and Universal Floor & Ceiling.

Light Commercial Hyper Series

With dependable heating in ambient temperatures as low as -22°F, Cooper&Hunter’s Light Commercial Hyper Heat systems are more specialized for extreme climates than their standard counterparts. 24K, 36K and 48K Btu/h condensers can be combined one-to-one with Slim Ducts, Ceiling Cassettes, or Universal Floor & Ceiling types to offer a variety of Hyper Heat solutions.

Hyper Heat Features

Not only do C&H Hyper Heat units offer a single solution for both cooling and heating, but they also come equipped with innovative features like anti-corrosive GoldFin coating, Freeze Protection, Quiet Operation, and more. In addition to the entire series being AHRI Certified and ETL Listed, some combinations are NEEP-Listed and can qualify for cold state rebates.



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Message from FRACCA President Rick Sims



At the outset of the 2020 pandemic there were demand side shortages of toilet paper, cleaning/disinfecting products and PPE. We were assured that there was plenty of product but that the shelves were emptied as soon as restocked due to stockpiling and hoarding. Deeper into the summer of 2020 we are seeing supply side shortages for products that were not manufactured and components that never shipped during the lockdown. These shortages are the direct result of the national lockdown.

Many of us remember shortages after Katrina slammed the port of New Orleans. Other natural disasters have halted commerce in various ways, primarily in those regions directly affected. We have seen tariffs and other pressures on our supply chain drive price and availability of products. Unlike hurricanes or natural disasters, the pandemic lockdown was coast to coast and tested every industry. We see how fast a lack of production at an appliance manufacturing plant out of state can translate to equipment shortages in Florida. The summer rainy season for Climate Zone 1 and Climate Zone 2 is a real bad time for an air conditioner shortage and so HVAC contractors and suppliers are scrambling to fill orders.

As if they did not have enough problems in 2020; consumers may have fewer choices if they are in a hurry to replace their air conditioning equipment. Florida HVAC companies are picking through sparse inventories looking for immediate options. It is most definitely not the consumer's normal "good-better-best" equipment selection dilemma; it may be more about choosing something that's in stock to restore immediate summertime operation rather than shopping for the best long-term HVAC investment.

New construction is booming in Florida and may also encounter delays due to supply shortages

stemming from the lock-down. Schedules may be delayed due to back-ordered HVAC products or because shortages in another trade are delaying progress. We are all eager to see how fast manufacturing can bounce back to normal production rates.

None of us is surprised that IAQ products are backordered everywhere. This is different, this is an increased consumer demand rather than just a supply-side shortage. We are all getting more inquiries about various IAQ products. Consumers are more aware of what is in the air than ever and are seeking ways to stay healthy. Fear of contracting or spreading the disease is a powerful motivation. Your staff is no doubt answering lots of questions about viruses and filtration. Often consumers have seen an air purifying technology somewhere on the web and are seeking more information. Consumers are eager to buy things that can kill, trap or dilute. Shortages in the IAQ sector are organically driven as a direct consumer response to the disease itself rather than the production lock-down backlog.

Light commercial building owners that have ignored ventilation needs for crowded indoor spaces are finding themselves in a position that requires them to provide adequate ventilation to safely operate indoors without fear of liability or causing harm to occupants. I recently visited a movie theater with a DOAS (dedicated-outside-air-system) that has not been operable for quite some time; it is the only thing providing fresh air to the theater occupants and it hasn't worked for years.

The owner wants people to come back to the movies. Getting the ventilation back online has become more of a priority than it was before. Well ventilated indoor spaces are the next safest thing to being outdoors. This experience reminds us that ventilation is inadequate (or shut down) in too many Florida buildings.

AHRI Releases June 2020 U.S. Heating and Cooling Equipment Shipment Data

U.S. shipments of central air conditioners and air-source heat pumps totaled 1,113,049 units in June 2020, up 3.8 percent from 1,071,932 units shipped in June 2019. U.S. shipments of air conditioners increased 5.3 percent, to 754,433 units, up from 716,424 units shipped in June 2019. U.S. shipments of air-source heat pumps increased 0.9 percent, to 358,616 units, up from 355,508 units shipped in June 2019.

Year-to-date combined shipments of central air conditioners and air-source heat pumps decreased 4.4 percent, to 4,475,871 units, down from 4,681,655 units shipped during the same period in 2019. Year-to-date shipments of central air conditioners decreased 4.1 percent, to 2,856,097 units, down from 2,978,788 units shipped during the same period in 2019. The year-to-date total for heat pump shipments decreased 4.9 percent, to 1,619,774, down from 1,702,867 units shipped during the same period in 2019.

Preorder for International Code Council's 2021 I-Codes Now Available

Starting August 3, 2020, the International Code Council will be accepting preorders for the 2021 edition of its International Codes (I-Codes), the most widely used and highly regarded set of building safety codes in the world.

Each edition of the I-Codes goes through the Code Council's highly-respected consensus code development process that draws upon the expertise of hundreds of plumbing, building and safety experts making it possible for the use of new materials, methods and design.

The I-Codes provide a minimum safeguard for people at home, at school, at play, and in the workplace. Preorders of the 2021 I-Codes book are available now at shop.iccsafe.org. The Code Council will release its 2021 I-Codes in October 2020.

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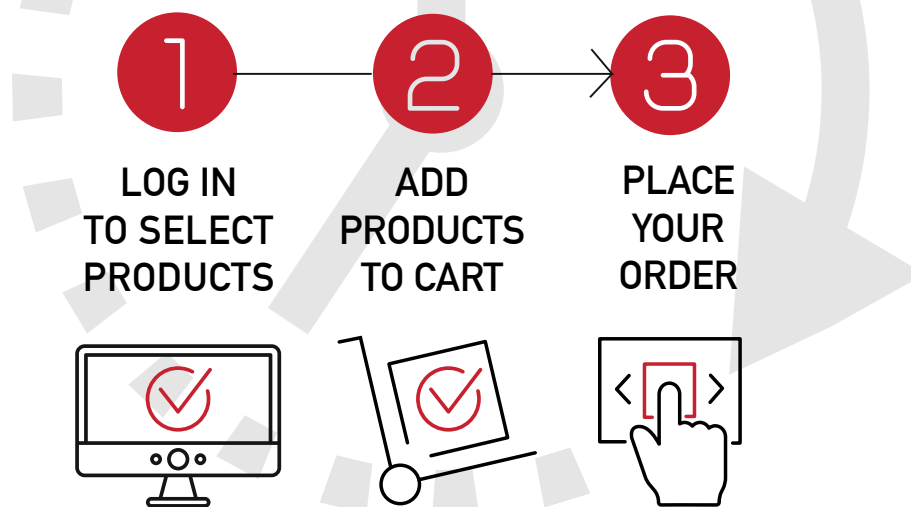


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“THE DUCT-FREE ZONE”

By Gerry Wagner, Vice President HVAC Technical Training
Tradewinds Climate Systems



You are either a good technician or a good businessperson... this has been a long-standing belief in HVAC contracting. The person who is both is a rare commodity who holds the keys to both personal satisfaction and financial success.

So, can you be both? Can you learn to be a good businessperson if you are a good technician and vice versa?

Well, in today's crazy, mixed up world of COVID, we all are scrambling to reinvent ourselves and find new avenues of revenue for ourselves and our businesses. We all have to be better businesspeople whether we own an HVAC business, or our business is our family and household.

...and yes, the sooner we understand that our family and household need to be operated like a business...I'm speaking solely financially, the better it will be.

I recently conducted a webinar with Cindy Metzler. Cindy is a marketing, PR, event, and training professional who helps me, Tradewinds Climate Control Systems and GREE mini split products maintain a media presence, increase our exposure and ultimately grow the GREE mini split business here in the United States.

The webinar was titled, *How to Grow Your Profits Using Reviews and Free Online Tools*.

I want to share with you some of the items Cindy and I talked about and how they can have a positive impact on your business, especially in these difficult times...

WEBSITES: Unless you have been living under a

rock for the last 30 years, I think its safe to say we all have realized the value of having an online presence. Websites and / or Facebook pages for our business have become common place and essentially made things like the Yellow Pages, obsolete.

The problem is many of us created a website, or had one created, and never looked back...

Stagnant websites with outdated information can hurt more than help. We need to keep our websites current and there are a number of ways to do that at little to no cost.

CUSTOMER REVIEWS: We should be soliciting customer reviews each and every time we complete an installation or service call. Don't be afraid of a negative review, its an opportunity to address your customer's dissatisfaction and turn a lemon into lemonade.

VIDEOS: We all have the ability to create a video with our phones and we don't have to be Martin Scorsese to make a good video. They say a "picture is worth a thousand words", well a video must be worth a million words!

EMAIL MARKETING: We should be getting an email address from every customer so we can send them notices of new products and / or services that your business is now offering, reminders of preventive maintenance, manufacturer and utility rebate programs and information about people in your company (anniversaries, technical classes they have taken, etc.) We need to train our employees to understand that getting an email address from the customer is as im-

portant as getting payment for the job!

BLOGGING: Don't be afraid, yes YOU can blog! You don't have to be Paris Hilton. Creating a space on your website for discussion of products, technologies and local community issues related to HVAC will engage your customer...engaged customers = repeat business.

You can watch Cindy and I discuss all these items and more for 1 ½ hour by visiting www.GREEdtraining.com Go to the TRAINING VIDEO LIBRARY and click on video #14,

ONLINE TOOLS TO GROW YOUR PROFITS. I also encourage you to get Cindy's book, *10 Essential Tools & Tips To Generate Leads Today* You can download it free of charge at ommmedia.com

Look, we are always going to be better at one aspect of our business than another but that doesn't mean we can't strive to improve, grow and reach for higher levels of success. These odd and unprecedented times we are living in right now can be an opportunity if we let it...an opportunity to examine our business...heck, an opportunity to examine ourselves and take steps to improve and grow both as technicians and businesspeople.

ABOUT THE AUTHOR: Gerry Wagner is the Vice President of HVAC Technical Training for Tradewinds Climate Systems. He has 38 years in the HVACR industry working in manufacturing, contracting and now training. You can contact Gerry by email: gwagner@twclimate.com and also please visit our website:www.twclimate.com



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WHY 55°F. LEAVING AIR TEMPERATURE?

WHY NOT 65°F.? OR 45°F.?

article by
Andrew C. Ask, P.E.



This month we are going to continue our discussion of airflow per ton, moisture removal, and dew point. In our cliff-hanger ending to the August column we left you with the thought that while 400 CFM/ton is “standard” airflow, it could be higher or lower. Picking up where we left off, how does coil leaving air temperature affect airflow?

The simple answer is that for 400 CFM to perform a ton of cooling on space that is 75 °F./50% rh and 75% Sensible Heat Ratio, it needs to cool the air 20.8 °F. ΔT . $75 - 20.8 = 54.2^\circ\text{F}$. required coil Leaving Air Temperature (L.W.T.) We usually round that up to 55, or in HVAC speak, 55 °F. L.A.T.

So that's the what but it doesn't answer the why. Why do we operate at 55? Of 55°F. L.A.T. or 400 CFM/ton, I'm not sure which is the chicken and which is the egg. Suppose it's 1950, we had never heard of 400 CFM/ton and we were trying to figure out a good coil temperature for keeping space at 75°F. and 50% rh.

Cooling air (or any fluid) requires heat transfer—from air to water or refrigerant—using a heat exchanger. Heat transfer, in turn, requires a temperature difference between the two fluids. Think of 10°F. ΔT (or approach temperature) as a reasonable difference: 45 °F. water cooling air to 55 °F. for example. If refrigerant cools the water, then it might have to be at 35 °F. Want 5°F. approach instead of 10 °F.? No problem; just buy more heat transfer surface. You might need an 8-row instead of a 4-row coil.

Our first try at air conditioning might be to run 55°F. well water through a chilled water coil. 65°F. L.A.T., 10 °F. ΔT , would be a reasonable expectation and doing 9,000 S-BTUH (one nominal ton of sensible cooling) would require:

$$75^\circ\text{F.} - 65^\circ\text{F.} = 10 \Delta T$$

$$9,000 \text{ S-BTUH} \div (1.08 \times 10) = 833 \text{ CFM/ton}$$

That's a lot of air—208% more than what we normally move—not to mention a minimum 65 °F. dp resulting in 70% rh. Willis Carrier and his cohorts' earliest attempts at dehumidification didn't do much better. I actually worked on a system like this in 1990 serving a department store in Minneapolis—pumped 58°F. water out of a deep well, once through the cooling coil, then drained to the Mississippi River one block away. Can you say dry coil, high rh?

Another place this strategy could be found up till 1960: homes in La Crosse, WI. Engineers from a local factory would bring home coils and attach them to the furnace and city water. The unsuspecting buyers of these homes wondered why their water bill was so high. The factory was called The Trane Company.

It would soon become apparent that air would have to be chilled at least to the room dew point or below, where that water vapor turns to liquid and condenses out of the air stream. For 75°F./50% rh air the dew point is 55 °F. Wait a minute. If we only cool to 55, isn't that neutral? Any moisture added to the space isn't going to be removed, is it? It turns out that we do get some condensation at 55 because the air leaving the coil isn't quite saturated with moisture. In the real world, we only get to about 85% rh leaving the coil, about 52 °F. dp, 56 grains, and that's dry enough to handle a moderate latent load—if the compressor runs for a long time.

So that's how 55 °F. air works. What if we cooled to 45 °F. instead? How would that work? We could move less air. $75 - 45 = 30$ °F. ΔT , a 50% increase and we would only need 2/3 as much air (20/30), 267 CFM/Ton, quite a savings in duct size and fan horsepower. We'd achieve about 25 Δ Grains, 2.5 times greater than at 55; but from 2/3 as much air. Dehumidification would improve by:

$$25 \text{ Gr}/10 \text{ Gr} \times 2/3 \text{ airflow} = 1.67$$

67% more dehumidification.

Those are big numbers: 2/3 as much air and 2/3 more moisture removal. Why aren't we doing that? Well, it has been done. But 45°F. air poses some problems. Instead of a 45°F. coil we now need a 35°F. coil—very close to freezing and very expensive to operate: maybe 8.0 SEER instead of 14? If we can't avoid duct condensation at 55, imagine what would happen with 45°F. air? We'd have to use R=12 duct, suspended in space, not touching anything.

But it also costs money to move air: fans, motors, ducts, space for the ducts; plus energy to run the fan, some .5-1.0 watt/CFM. Commercial systems operating at higher S.P. located in temperate climates where the fan but not the chiller runs all year long require more energy to handle air than to run the compressors. The 45°F. solution uses only 1/3 as much air as the 65°F. system. So 45°F. L.A.T. has enjoyed limited success in the north.

Closer to home, ice storage systems that inher-

ently have a 33°F. cooling medium can run at lower temperatures and lower CFM.

The practical range for air conditioning and dehumidification supply air is narrow, sandwiched between room dew point, normally 55°F., and the freezing temperature of water, 32°F. to avoid frost on the cooling coil. 32°F. refrigerant can cool the coil surface to 42°F. which in turn can cool air to 52°F. using moderate amounts of energy and equipment. But not much lower.

So maybe 55°F. L.A.T. is a pretty good number. Slow the fan down to 300 CFM/ton, see if you can get to 52°F., darn near double the grains depression, maintain a tight vapor barrier on the supply duct, don't let it touch anything, and you are good to go. Until next month then...stay tuned.

Andy Ask is a Ft. Myers HVAC Engineer and Building Science Consultant to Madison IAQ.

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Malco Products, SBC, Wins ACHR News 2020 Dealer Design Awards



Malco Products, SBC, one of the nation's leading manufacturers of high-quality, American-made tools for

professional use, was recognized for excellence in product design in the 17th annual Dealer Design Awards Program sponsored by The Air Conditioning Heating & Refrigeration News magazine, the leading trade magazine in the heating, ventilating, air conditioning and refrigeration industries. Malco's 5/16-in. and 3/8-in. C-RHEX Drivers earned Gold recognition in the Hand Tools category.

"These awards give us a unique opportunity to recognize the outstanding research and development efforts that go into many of the products serving the HVACR industry and the awards issue gives our readers an opportunity to read about innovative installation and service solutions," said NEWS Publisher Mike Murphy.

The Malco team spent two years developing, designing and manufacturing the C-RHEX solution so the final product would be easy to clean and easy to switch between sizes, while also being durable and long-lasting. C-RHEX drivers do double-duty with "2-EZ Technology" that ensure 5/16-inch and 3/8-inch hex drives are always at-hand, while the driver shank remains installed in the drill chuck. The "Easy Clean Magnet" eliminates troublesome buildup of metal shavings in the hex tip for easy cleaning with the swipe of a glove or shop towel.

"Malco's cleanable, reversible magnetic hex drivers were designed with HVAC professionals in mind and we are proud to have this innovative product recognized by ACHR News," said Mardon Quandt, Malco president and COO. "We embrace a culture of innovation at Malco by responding to the needs of technicians for new specializations and more customized products and services—and our C-RHEX drivers are a great example of that innovation."

Johnson Controls Commits To Solutions To Prevent Spread Of COVID-19 In Shared Spaces

As cities, states and countries begin to reopen, people that live and work in buildings will need assurance building owners and operators are taking every precaution to ensure health and safety, starting with the air they breathe. Though guidance around the transmission of COVID-19 continues to evolve, experts agree that indoor air quality should be a top priority. Johnson Controls is committed to helping create spaces that put people at ease.

A healthy and safe environment starts with a holistic approach that encompasses a building's heating, ventilation, and air conditioning (HVAC) infrastructure. To do this, Johnson Controls can help building owners and operators identify strategies to increase outdoor air circulation, filtration options to provide better air quality, optimal temperature settings to slow the flow of airborne pathogens and the use of ultraviolet C (UV-C) lighting solutions to kill viral organisms.

"Keeping people safe and secure in buildings has always been at the heart of our mission for 135 years, and as we look at a fundamental transformation how buildings operate, even the simplest of upgrades to full building retrofits will be important to reduce the transmission of disease," said Mike Ellis, executive vice president and chief digital & customer officer, Johnson Controls. "For more information on how we are helping reimagine buildings visit: <https://www.johnsoncontrols.com/campaigns/reopen-buildings>

The Palms Hotel & Spa, Miami Beach, Partners with RGF® Environmental Group to Provide Round-the-clock Premium Quality Air

Company Installed 320 RGF® Photohydroionization® In-Duct Air Purification Systems to Naturally Reduce Viruses, Bacteria and Odors for Optimal Guest and Staff Safety

Port of Palm Beach, Florida (August 12, 2020) – RGF® Environmental Group, Inc., a Florida-based environmental design and manufacturing company, announced today The Palms Hotel & Spa is now sanitizing the air for guests and staff through installation of RGF's PHI-Cell® in-duct air purification systems. Last week, the independently owned and managed luxury resort known for its green initiatives completed installation of 320 total 'PHI Package' units, enough for every guest room AC system, and all public and back-of-house areas including the lobby, gym, spa, kitchen, laundry room, and offices.

"We believe RGF has the safest and most environmentally-friendly product in the industry to clean both the air we breathe and also the surfaces," said Katja Janzon, The Palms Hotel Vice President. "By combining high-intensity UV light with an advanced all-natural oxidation technology, it is an all-natural approach to sanitizing, in line with The Palms' inspired-by-nature concept."

The PHI-Cell® Package unit, which uses RGF's patented technology, fits inside existing air conditioning ducts to purify every cubic inch of air throughout the conditioned space. It effectively reduces odors and air pollutants, various bacteria and viruses including H1N1, MRSA, Norwalk, e-coli, and others. The unit works by sending out very low levels of airborne hydrogen peroxide into a room, which effectively kills contaminants in the air and on

surfaces, while being safe for the building occupants.

"We're thrilled to supply The Palms Hotel with PHI-Cell® units for their on-going efforts to help cleanse their indoor air for maximum guest comfort and safety," said Larry Fletcher, RGF's Director of Commercial Air Products. "During these uncertain times, businesses are looking for simple and efficient ways to reduce airborne pathogens and provide some reassurances to their guests."

In addition to the complete installation at The Palms Hotel, RGF's PHI-Cell® and REME HALO® products are also installed at many global hotels and resorts, national chain restaurants, as well as various schools, office buildings, medical and dental offices. Many Fortune 500 companies utilize RGF's proprietary technologies for use in health care, food processing,

military, government, marine, hospitality, residential and commercial applications. Over four million PHI Cell® products are installed worldwide.

The Palms Hotel & Spa combines genuine service, laid-back sophistication and oceanfront serenity into a 251-room destination where complete wellness and environmental awareness are at the center of each experience. Privately owned and managed by The Krause family, who also own just a few blocks away the 97-room boutique-style Circa 39 Hotel at 3900 Collins Avenue in Miami Beach, An AAA Four-Diamond rated hotel, The Palms Hotel & Spa is a member of Preferred Hotels & Resorts.



HARDI Releases Skilled Trades Documentary, Hot Commodity

COLUMBUS, Ohio, July 23, 2020 – Heating, Air-conditioning & Refrigeration Distributors International (HARDI) is pleased to announce the release of their feature-length film, Hot Commodity. A behind-the-scenes look at young people finding success in an industry that provides much more than comfort.

The film Hot Commodity showcases the lives of different individuals that are currently working in the HVACR industry and tells their stories on how they found their way to it. The film also highlights the demand for skilled people to enter the workforce and highlights the vast array of careers that are present in the indispensable industry.

"I believe this film can be pointed toward parents, who a majority still believe success is defined by going to college when there are so many other great career paths that don't need a college degree. Even having conversations with my parents now, they regret telling me college was my only path," says Jessie Suriano, Director and Producer of the film.

The film features interviews with different industry leaders and employees, who share personal stories on their career path, the growing demand for new talent to the industry, and the limitless pos-

sibilities that can come with a decision to enter the industry. Hot Commodity aims to combat stigmas surrounding skilled labor and trade professions and highlights this alternative path as a very viable option for people to consider when making decisions for their future.

"Our goal was to shift the conversation. There is a notion that college equals success. This isn't always the case. There are a lot of opportunities in the HVAC industry and the trades as a whole," says HARDI Director of Marketing, and film Executive Producer, Chris DeBoer. "We wanted to bring awareness that there is a solid career to be had, with less debt and the same, if not more, opportunity as someone who completed

a 4-year degree."

The primary intent is to reach an audience of curious individuals that are constantly scouring streaming platforms, eager to learn about things that they may be unfamiliar with. HARDI also plans to slice and dice the film into shorter bits that can be used in different ways, to different target audiences.

Hot Commodity is now available to stream on Amazon Prime and HARDI Hub. Learn more about the film at <http://hotcommodityfilm.com/>.



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RGF® Environmental Group Announces the Hiring of James Marsden, PhD as the Executive Director of Science and Technology

Port of Palm Beach, Florida, (August 24, 2020)- Dr. James Marsden joined RGF® Environmental Group Inc as the Executive Director of Science and Technology. Dr. Marsden was first introduced to RGF® in 2001 when he was hired as a consultant by The BOC Group (British Oxygen Corporation), one of the world's largest industrial food and medical gases companies, to evaluate RGF® technology. Along with two other PhD professors, Dr. Marsden validated RGF's proprietary technology and has been an independent industry associate of RGF® ever since. Dr. Marsden's addition to the team in this critical role, during this unprecedented period of growth, will ensure continued technological advancements, support our valued customers, and maintain RGF's leadership position in the air, food, and water purification industry.

With over forty years in the food industry, numerous scientific publications, and the development of several antimicrobial interventions, Dr. James

Marsden joined Chipotle in 2016 as Executive Director of Food Safety and continues to serve on its Advisory Council.

An expert in working with government officials and regulators, he has advised the White House on food safety and testified on numerous occasions to the United States Congress, the US Food and Drug Administration (FDA), and the US Department of Agriculture (USDA). He was also an official adviser during the development of the Hazard Analysis and Critical Control Point (HACCP) Food Safety Regulation. After working for several food and technology providers, he served as Vice President for Scientific Affairs at the American Meat Institute and President of the AMI Foundation. In 1994, he became the Regent's Distinguished Professor of Food Safety and Security at Kansas State University. Dr. Marsden is an invited member of The New York Academy of Sciences, one of the oldest scientific societies in the United States.



Ron Fink, CEO, welcomes Dr. James Marsden to RGF Environmental Group

Fujitsu Announces New Multi-Position Air Handler

Fujitsu General America has introduced new multi-position air handler units that combine Fujitsu's inverter heat pump technology and revolutionary side discharge outdoor units with a modular design indoor unit. The result is high efficiency, space saving, and quiet single-zone systems without compromise.

Available in four sizes from 24,000 to 48,000 BTU/H, the new systems feature all-aluminum indoor unit coils, high static pressure capability, indoor sound levels as low as 24 dBA and adaptive fan motor control for optimum comfort.

Minimal clearance is needed on three sides of the indoor unit, with only 21 inches clearance needed in the front for service. Down-flow and horizontal right kits come standard with each system. Field-installed electric heat kits up to 15.5kW are factory provided. External input/output interface for third-party systems is optional.

WiFi compatibility is also optional so that systems can be controlled remotely through Fujitsu's FGLair mobile app, and smart home services such as Amazon Echo or Google Home.

Optional accessories include wired remote controller, simple remote controller, wireless LAN interface, third-party thermostat converter, external input and output PCB, external connect kit, electric heater kit, combustible floor base, and an external filter box.

For more information, please visit www.FujitsuGeneral.com



Joanne Gunning Named General Manager of Royce Company

The Royce Company, a fabricator of HVAC duct components, specialty metal roofing, and other metal products, is pleased to announce that Joanne Gunning has joined the company as General Manager of the Davenport location. Since leaving upstate New York 7 years ago, Joanne has enjoyed working in the Florida HVAC market and brings over 20 years' experience in entrepreneurship, aca-

demia, and manufacturing. Joanne said she is "excited to join a company who shares her values and vision. Royce is an exceptional company that embraces innovation and progress while creating a company culture that truly values its' employees and customers alike. I am incredibly happy to be part of the Royce family." Joanne can be reached at jgunning@roycecompany.com or 863-632-7867.

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INFICON Introduces D-TEK® 3 Refrigerant Leak Detector



The new INFICON D-TEK® 3 Refrigerant Leak Detector provides service technicians fast, accurate leak detection that minimizes the cost and environmental impact of escaping refrigerants. D-TEK 3 is built on the proven technology and unparalleled performance of the company's D-TEK Select Refrigerant Leak Detector that is a market-leader for refrigeration and air conditioning service worldwide. D-TEK 3 can quickly and reliably locate CFCs, HCFCs, HFCs and HFOs, blends (including A2Ls). In addition, with the optional CO2 sensor, this hand-held unit can also detect CO2 leaks making it a cost-effective alternative for service technicians that traditionally must carry two separate instruments to cover this range of gasses.

HARDI Distributors Report 24.3% Percent Revenue Increase in June

COLUMBUS, Ohio, July 30, 2020 – Heating, Air-conditioning & Refrigeration Distributors International (HARDI) released its monthly TRENDS report, showing the average sales performance by HARDI distributors was an increase of 24.3% percent during June 2020. The average annual sales growth for the 12 months through June 2020 is 3.4 percent.

“The strong report this month was as expected and a welcome relief after two very challenging months,” said HARDI Market Research & Benchmarking Analyst Brian Loftus. “We were hoping for a gain in the 20s because this month had two extra billing days than June 2019 when five of our seven regions had fewer than normal cooling degree

days and two important markets struggled with very heavy rain. Even after adjusting for the number of billing days and comparing the year-to-year cooling degree days per region, the report looks like a solid start for cooling season.

The Days Sales Outstanding (DSO), a measure of how quickly customers pay their bills, is now at 42 days. “The DSO had increased by a couple days this spring which would be consistent with an economic slowdown,” said Loftus. “The DSO is now at or below where it was during June 2018 and June 2019. Maybe the increase this spring had more to do with COVID-19 operational disruptions than economic weakness or fatigue.”

“This week we see GDP is down by -33% and HARDI distributors sales growth is 24%. That is quite a contrast,” said Loftus. “Both these numbers are exaggerated by special factors. Both were as expected and that is a relief. Both numbers will remain under pressure while the COVID-19 risk persists. That uncertainty will suppress confidence, demand and employment, GDP growth and HARDI distributor sales.”

HARDI members do not receive financial compensation in exchange for their monthly sales data and can discontinue their participation without prior notice or penalty. Participation is voluntary, and the depth of market coverage varies from region to region. An independent entity collects and compiles the data that can include products not directly associated with the HVACR industry.

HARDI (Heating, Air-conditioning and Refrigeration Distributors International) is the single voice of wholesale distribution within the HVACR industry.

HARDI members market, distribute, and support heating, air-conditioning, and refrigeration equipment, parts and supplies. HARDI Distributor members serve installation and service/replacement contractors in residential and commercial markets, as well as commercial/industrial and institutional maintenance staffs.

HARDI proudly represents more than 480 distributor members representing more than 5,000 branch locations, and close to 500 suppliers, manufacturer representatives and service vendors.

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Performance Pointers

by David Richardson



Consider These Three Airside Specifications Before Sizing Ducts

Rule-of-thumb duct design has been around for a long time in our industry and it makes a lot of assumptions. Unfortunately, these assumptions can set up a system for failure before you install the first duct.

You can prevent this problem with a little research on the air-handling equipment you install. Let's look at three airside specifications to check before you use any duct design method.

Blower Capacity

The number one item a rule-of-thumb assumes is that the blower in the air handling equipment is strong enough to move the proper amount of air through the duct system.

Manufacturers design most residential blowers to operate below a maximum-rated TESP (total external static pressure) of .50 in. w.c. (inches of water column). The typical piece of air handling equipment can't move the needed airflow when operating TESP exceeds this rating.

However, some blowers cannot move the required airflow, even if they operate below the maximum-rated TESP. The only way to find them is to do the research. Start with the blower performance tables for the air handling equipment you plan to use and see how much airflow it can handle at the maximum-rated TESP.

Weaker blowers can barely handle the addition of a coil and filter. If you add a rule-of-thumb duct system to this combination, you set up an HVAC system for premature failure.

Coil Pressure Drop

Higher efficiency indoor coils have more fins per inch across the coil's surface and thicker slabs. This results in coils that are restrictive to airflow. So much so that sometimes operating TESP exceeds 200% of maximum-rated TESP. Because of this, equipment airflow could be less than half of what it should be

because of excessive coil resistance.

To prevent this problem, refer to manufacturer coil pressure drop data before you randomly size your ducts. Look for the coil's wet/dry condition and desired fan airflow. From this information, you can determine if the coil pressure drop will be within an acceptable range. Ideally, coil pressure drop should not exceed .20 to .30 in. w.c. If it does exceed this range, find a different coil model with less resistance.

Filter Size and Media Type

Many filters are undersized or too restrictive. A rule-of-thumb duct design does not consider this. You can keep yourself safe when sizing filters if you keep the filters face velocity below manufacturer recommendations. One value many filter manufacturers use is 300 fpm (feet per minute). However, you may need to size more restrictive filters for use at a lower velocity. This assures the filter is large enough and won't restrict airflow.

If you're lucky enough to find the filter manufacturer's pressure drop tables, it's ideal if filter pressure drop does not exceed 20% of the maximum-rated TESP at required airflow. If filter pressure drop is higher, consider increasing the filter size or look for a less restrictive media.

Look to Manufacturer Specifications

As you can see, it's a good idea to look at manufacturer specifications for the equipment and components you plan to use. While you review these specifications, pay special attention to the coil pressure drop rating and blower capacity. Filter pressure drops, while harder to find, are just as valuable.

Consider these questions when you look at air handling equipment fan performance tables:

- What is the blower airflow capacity at various total external static pressures and fan speeds?
- Do I have extra blower capacity if I need it?

• Can the blower move required airflow through the coil and filter I plan to use?

• Is there a better equipment choice that will provide me with more airflow?

Consider these questions when you look at manufacturer coil data:

• What is the pressure drop over the coil at the required airflow?

• How much of the fan's capacity is this coil going to use up?

• Is there a better coil selection that may have a lower pressure drop?

Consider these questions when you look at manufacturer filter data:

• What is the pressure drop over the filter at the required airflow?

• Do I need to go with a larger filter size to keep the pressure drop low?

• Should I use multiple filters to achieve a lower pressure drop?

When you consider these variables, you can save yourself a lot of trouble by heading off problems before they ever occur. Take a few minutes to investigate your airside component selection to discover any problems before you install them.

David Richardson serves the HVAC industry as a curriculum developer and trainer for the National Comfort Institute, Inc. (NCI). NCI specializes in training focused on improving, measuring, and verifying HVAC and Building Performance.

If you're an HVAC contractor or technician interested in learning more about airside testing, contact David at davidr@ncihvac.com or call him at 800-633-7058. NCI's website www.nationalcomfortinstitute.com is full of free technical articles and downloads to help you improve your professionalism and strengthen your company.

It's Hurricane Season... Power Outages Now Become a Fact of Life!

You never know when they will hit, or how long they will last. But you do know this: unless you have a backup generator, your AC (or heating) is not going to work while the power is out, and not everybody can afford or has the room for a whole house generator.



Electrical codes require all condensers to be fitted with a disconnect switch, and this is the primary function of the DSS Switch.

What makes the DSS Switch truly unique is that it incorporates a standby generator switch as well. In the event of a power outage, any portable generator can quickly and easily be connected directly to the AC system, enabling it to continue operating in cooling or heat pump mode until the outage is over.

Fully assembled in the USA from UL listed components, the DSS Switch conforms to all current code requirements. It toggles easily between main panel off position and generator on position. The DSS switch incorporates 2 LED lights to notify the user of the power supply status.

Whole house generators are costly and often are not permitted or face challenges from zero lot line restrictions, so in many cases they are simply not a viable option. Initially designed for energy efficient ductless systems and small ducted systems as well, the DSS Switch bypasses the main panel. This provides an easily installed economical method to allow a single circuit appliance to run independently direct from a generator.

- Available in 3 sizes to handle a 120 volt system rated at 15 Amps or a 240 volt system rated up to 30 Amps.
- Suitable for ductless or ducted systems in cooling or heating mode.
- 3 position switch toggles easily between off, house power and generator positions.
- Includes 2 LED'S to indicate system power status.
- Quick and easy to install.
- Plug n play wiring.
- Fully assembled in the USA.
- All components are UL listed.
- Code conformant.

THE NEW DSS DISCONNECT/STANDBY SWITCH

quickly and easily allows you to run your AC system during a power outage using only a small portable generator. The compact DSS switch replaces the disconnect on your condenser and provides an easily accessible port for you to plug in your small generator and be up and running in just a few minutes. There's no need for expensive whole house generators with complicated transfer switches.



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Connecting Transformers in Parallel

By Bryan Orr



Bryan Orr

I had an old-timer tell me that you can never connect two transformers together because they will “fight one another”.

If you are anything like me (and heaven help you if you are), whenever someone says something

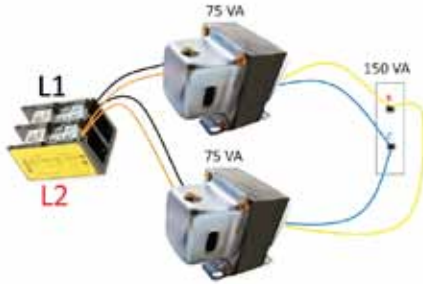
like that, a cartoon in your head starts playing.

In this case, I imagine two transformers with boxing gloves on duking it out to see which one “wins”.

The truth is you can connect two transformers together so long as you are careful, but you need to know why you're doing it and then do it properly.

Transformers have a VA (Volt-amps) rating that dictates how many volt-amps (volts x amps, which is watts simplistically but there is a more complicated reason it is called VA in transformers that we won't

get into here) the transformer can handle on the secondary



Above we show two 75VA transformers with 24V secondary windings.

$$75VA \div 24V = 3.125A$$

So with a 75VA transformer, you can run a maximum of 3.125 Amps, if you needed more power you would need to either go get a larger, more expensive transformer or... you could connect another identical one in parallel. If you connected two 75VA transform-

ers in parallel you would then have 150VA of secondary capacity which can be necessary in some cases with multistage commercial units or some large accessories.

In this case, parallel simply means connecting the two primary and secondary windings together in the exact same way as we show above... Pretty easy

It is SUPER important to get the polarity exactly the same and use two transformers with identical winding turns in the primary and secondary and identical secondary coil impedance (resistance).

In fact, it is so important that I advise that you only do this if you have two identical model transformers.

To be even safer, connect the primary windings first and check the secondary's against one another with a voltmeter before actually connecting them to the system. For a typical 24v secondary you can connect the two common wires to ground to act as a stable reference first then check the two R or Hot side leads to one another and then to common. They should read 0v to one another and 24v to common. If you get anything other than 0v from hot to hot then you want to recheck your primary wiring and ensure that they are exactly the same.

— Bryan

Regional Distributor Service Coordinator of the Year

Jousep Sadurni, Gemaire Distributors



Jousep Sadurni

Due to the unprecedented impacts of COVID-19, Rheem Air Conditioning made the tough decision to cancel the Distributor Service Coordinator Meeting scheduled for this year. While we will not have the honor to meet in person, we felt it very important to continue our tradition of recognizing our Distributor Service Coordinators of the Year and extend the awards for their outstanding contributions and efforts.

For the Rheem Florida Region, Mr. Jousep Sadurni has been selected as the Distributor Service Coordinator of the Year. Jousep was selected for his tremendous passion and work ethic going above and beyond in assisting customers and is always well-prepared when reaching out to the technical support team for the Rheem. He is recognized as a Distributor Service Coordinator who manifest his knowledge of product, installation/application requirements, operations and troubleshooting. This relates to well-documented history of providing important and thorough quality reports from the field, along with recommendations on design enhancements.

Jousep embraces our training activities and is always present to assist in educating contractors and distributor personnel on basic and advanced air-conditioning systems. He is a valuable resource to his contractor community in the South Florida market having an impeccable reputation for knowledge of the products and communications with his contractors in addressing their questions.

Jousep is recognized as a role model and servant-leader who extends his knowledge not only within his organization and customer base, but to other Distributor Service Coordinators within the region, or even nationally.

Distributor Service Coordinators of this caliber are a tremendous asset to the distributor, contractor base and serve as true brand ambassadors for the Rheem family of heating and air conditioning products.

Rheem Air Conditioning would like to thank Jousep and every Distributor Service Coordinator for their tremendous efforts and support.



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- 3/8" Square Drive for use with cordless electric drill for faster flaring - drill & socket adapter not included.
- Eccentric off center cone that spins on an axis and rolls out a perfectly uniform 45° flare with a burnished flare surface.
- Self-Centering Clamping Dies for 8 Tube Sizes: 1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 5/8, 3/4 Inch O.D.
- Patent Pending

Mini Split A/C units are becoming increasingly popular, and require flare connections on each end of the line set to connect the evaporator and condenser. Since R-410A is a much higher-pressure refrigerant, Mini Split manufacturers established R-410A flaring specifications that require a larger diameter, deeper flare for more surface area to seal against the male flare fitting and produce a stronger connection. Uniweld's Deluxe Flaring Tool features a built-in tube stop height gauge that makes a perfect R-410A flare without the guess work. Specifically designed to meet R-410A flaring specifications and can also be used on all 45° flares for Soft Copper, Brass and Aluminum Tubing.



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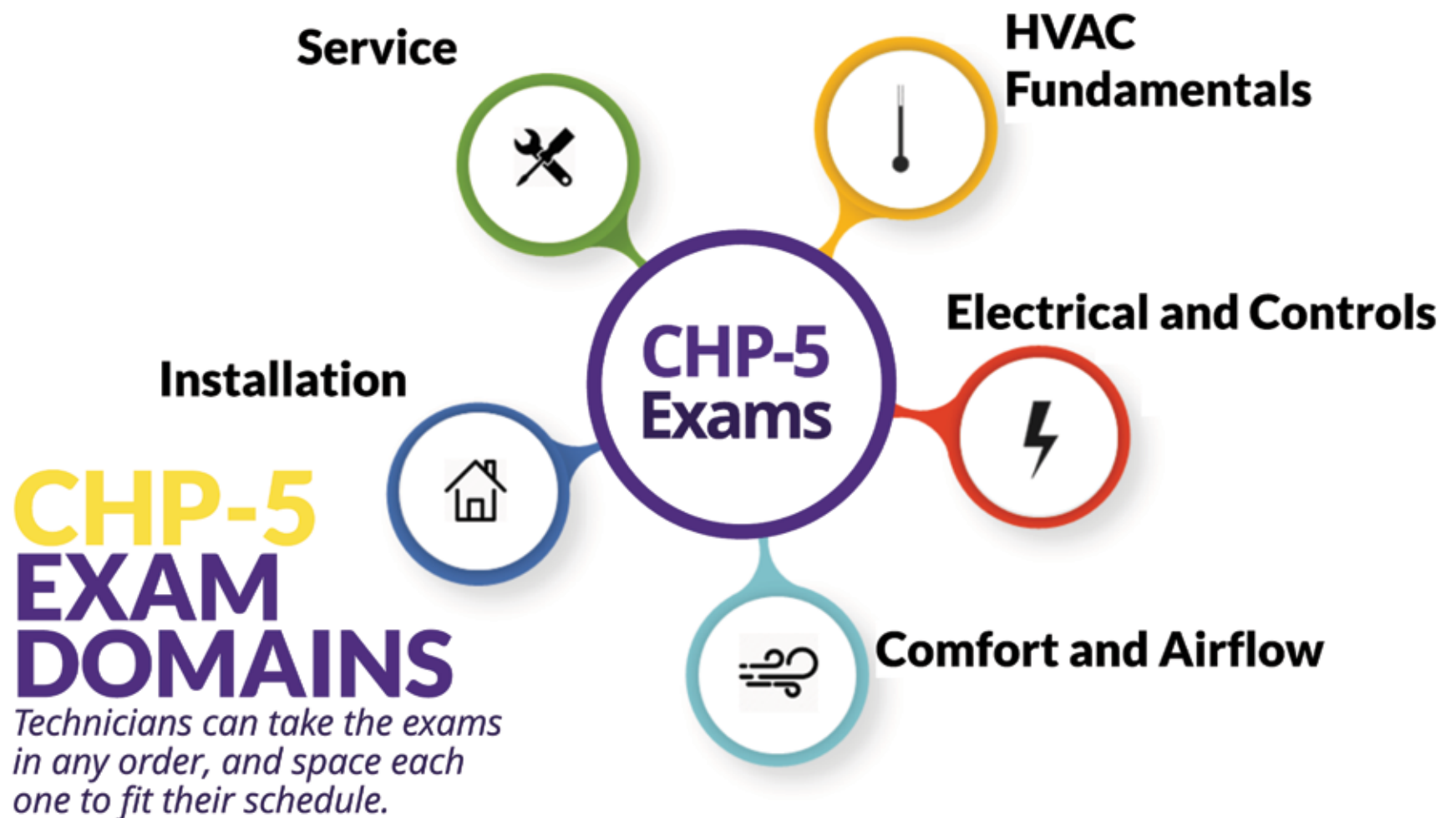
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HVAC Excellence

HVACR Industry Unites to Help Educators

The pedagogical requirements of preparing students for success were steadfast proven methods for many years in the United States. These tried and true teaching methods were turned upside down when the World Health Organization (WHO) declared a pandemic early this year.

Instructors found themselves teaching face-to-face one day and online the next. Across the United States, leaders are trying to find new ways to re-open this fall. While these individuals, who represent both government and education departments, debate the merits of face-to-face, online, and blended learning options, all while social distancing, one must first realize there is no one size fits all solution.

Where can HVACR instructors go to get the answers they need? The answer is simple, its the HVAC Excellence, National HVACR Educators and Trainers Conference. Despite the pandemic, industry-leading organizations are still uniting to create a professional development event for those involved in teaching within the HVACR industry.

The 2021 conference will be an event unlike any before! A face-to-face conference typically runs for a few days, offering many concurrent sessions, forcing attendees to ultimately select one session over another. The 2021 conference format ensures that all attendees will have the opportunity to attend ALL sessions and learn about ALL the companies that make the event possible.

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

Participating organizations will be able to conduct training programs from their facilities, allowing them to showcase technologies not readily available at an event conducted at a hotel or convention center. A large focus of this event will be aiding HVACR educators and trainers in new methodologies for teaching in this new blended environment.

With no travel, hotel, or meal costs to consider, professional development for HVACR instructors has never been easier. We invite you to learn more by visiting escogroup.org.

Cyrus Gardner Joins HVAC RepCo



Cyrus Gardner

MEMPHIS, TN – Cyrus Gardner has joined HVAC RepCo as a Territory Manager for Central and South Florida. Cyrus previously worked as a Field Service Technician for Siemens Industry, and as a Service Manager for ESSi. He is a U.S. Navy veteran, where he graduated from Submarine School and served as an Electronic Technician.

Based in the Fort Myers, Florida area, Cyrus pursued his studies in Business Administration at Pensacola Christian College and Liberty University. He holds a Private Pilot's license, and is a First Lieutenant in the Civil Air Patrol.

"I am proud to join the successful team at HVAC RepCo," says Gardner. "The opportunity to represent best-in-class manufacturers such as Siemens, Sanhua, Koldwave and Cozy is exciting and I'm up for the challenge."

"We are pleased that Cyrus has decided to join our team," says Tom McCrory, president of HVAC RepCo. "His experience, work ethic and technical product knowledge will make an immediate impact on the success of our product lines in Florida."




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Air Duct Cleaning As A Career Path

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

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

It's no secret that America is facing a critical skilled labor shortage – and has been for some time. For almost a decade, the trade skills deficit has gained more and more attention. According to the Bureau of Labor Statistics, there are currently more than seven million jobs available across the country; the majority of which don't require a four-year degree. In addition, a recent survey by the Associated General Contractors of America (AGC) found that 74% of contractor firms predict a shortfall of qualified skilled trade workers; and a Deloitte study found that the skills gap may leave an estimated 2.4 million positions unfilled between 2018 and 2028. On top of that, other studies show that during the next five years, 40% of the skilled labor force will retire. Yikes!

Worth noting, those alarming statistics are pre-pandemic! Yet, despite millions of available blue-collar jobs, there's no one to fill them. Why?

There are a variety of reasons young adults aren't entering the trades as they once did. Over the last several decades, most Americans have simply turned their backs on the skilled trades, and careers in the trades are no longer seen as desirable. Parents push for higher education and expensive university degrees rather than community college or trade schools. Community colleges, trade schools, and even on-the-job apprenticeship programs are seen as alternatives to education, and even the most well-intentioned parents and high school guidance counselors see apprenticeships and on-the-job training opportunities as "consolation prizes" only suited for kids who somehow aren't cut out for those expensive four-year degrees. In addition, most high schools nationwide no longer offer vocational or shop classes or any type of skilled trade training opportunities that our grandparents were excited about.

Unfortunately, there is a widespread stigma against skilled labor. And now, the skills gap is wider than it's ever been, with no end in sight. But the simple fact is that many people enjoy working with their hands, and the thought of spending the next 45 years stuck behind a desk and/or computer screen isn't where they see themselves. For some, college just isn't a good fit.

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

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

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

According to the US Census Bureau, the US population as of July 1, 2019 was 328,239,523, with 119,730,128 households. That's a lot of air ducts! Not to mention all of the manufacturing facilities, educational institutions, hospitals, office buildings, etc. that have HVAC systems and air ducts.

It's easy to get started as a HVAC systems/air duct cleaning technician. Not only does the job pay well, skills are usually learned on-the-job. NADCA offers a low-cost Ventilation Maintenance Technician (VMT) online training program that's designed to help new HVAC cleaning technicians develop experience and skills necessary for the job. The VMT is delivered online, making it convenient for technicians to work at their own pace, with no need to travel. Plus, the VMT program content is consistent with NADCA standards and guidelines, ensuring technicians learn how to do the job right. The VMT program consists of five modules that cover topics like HVAC ductwork and access openings, basic safety, containment, cleaning methods, and equipment.

Certifications are a must to be successful in the industry. Only NADCA offers the industry's leading certifications, the landmark Air Systems Cleaning Specialist (ASCS) certification and Certified Ventilation Inspector (CVI) certifications. Skilled labor is not a fallback position, and air duct cleaning is a great career choice, with good pay and ample opportunities.

The HVAC Inspection, Cleaning and Restoration Association, otherwise known as the National Air Duct Cleaners Association (NADCA), was formed in 1989 as a non-profit association of companies engaged in the cleaning of HVAC systems. NADCA's mission is to represent qualified companies engaged in the inspection, cleaning and restoration of HVAC systems, promote source removal as the only acceptable method of cleaning, establish industry standards for the association, and assist NADCA members in providing high quality service to their customers. With approximately 1,200 members, NADCA is made up of a diverse group of HVAC industry professionals, including air systems cleaning specialists, mold remediators, and HVAC inspectors. To learn more about NADCA, visit www.nadca.com.

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