

HIGH-PERFORMANCE HVAC TODAY™

If You Don't Measure, You're Just Guessing!™

Industry Influencers of High-Performance HVAC



Jim Davis, National Comfort Institute, Inc.



Steve Clinton, SCE Energy Education Center



Dave DeRose, Masterworks Mechanical



Tom Johnson, TM Johnson Brothers

ALSO IN THIS ISSUE:

Residential Air Balancing: Meet the Demands of the New Normal
Virtual High-Performance HVAC Sales

Contractor Spotlight: AC By J Has High-Performance in their DNA



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HIGH-PERFORMANCE HVAC TODAY™

10

COVER STORY:

High-Performance HVAC Industry Influencers

Welcome to the 2020 class who, through their selfless giving, work for the betterment of the Performance-Based Contracting™ community.



LEADERSHIP:

Residential Air Balancing: Meet the Demands of the New Normal

In this COVID-19 era, the safety and sanctity of people's homes is more important than ever. Rob Falke explores how residential air balancing helps you meet their needs.

DEPARTMENTS

Today's Word	4
High-Performance Products	5
Contractor Spotlight: AC By J, Scottsdale, AZ	6
Member Update	19

16



SALES:

Virtual High-Performance HVAC Sales

Virtual sales is the way to help customers buy the comfort they need without the fear of COVID exposure. David Holt explains.

Photo of the Month	20
HVAC Smart Mart	21
Ad Index	21
One More Thing	22

An Industry that Quickly Adapts to Change is One to be Proud of!



Mike Weil is editor-in-chief and director of communications and publications at National Comfort Institute, Inc. Contact him at MikeW@ncihvac.com

Everywhere you look these days the news is grim. Is anyone else as fed up with the COVID Pandemic reporting as me? As a member of the media, I cannot begin to tell you how tired I am of the sensationalist and irresponsible reporting I see on national television, in our newspapers, and especially via social media outlets.

Be that as it may, I have no doubt that this pandemic has changed our world and will leave its impact for a long time to come. It has changed the social discourse and created a fear ethos that impacts the service trades as a direct result.

But the good news is, at least in the HVAC Industry, we are fleet-footed and adaptable, and can quickly find ways to accommodate these changes for the betterment of our customers and our businesses.

Frankly, we have a history of this. Examples include finding alternative refrigerants in response to ozone depletion and global warming, overcoming oil market and housing crashes, and dealing with the after-effects of the 9/11 terrorist attacks.

Why should a pandemic be any different?

Despite the fear being caused by so much over-reporting of pseudo-facts, this industry immediately began finding ways to ensure consumer safety and at the same time, their comfort.

It's simply amazing how quickly the concepts of virtual service, sales, and the technology behind them have cropped up.

Most HVAC training organizations quickly embraced this and now offer contractors a variety of virtual technical and soft-skills training using current technologies. Contractors can now help keep employees and customers safe while still providing vital HVAC system maintenance and service.

My email inbox practically explodes each day with training opportunities from manufactur-

ers, VoTech schools, and other organizations.

In fact, in early April, National Comfort Institute (NCI) converted the Cleveland training center into a video studio in just a few weeks. It is complete with professional sound equipment and multiple cameras, most of which are pointed at hands-on setups that use working equipment and test instruments. It's all tied together with a robust on-line training platform.

NCI's curriculum development team simultaneously reconfigured several in-person classes into live-online classes, complete with quizzes and hands-on sections. NCI has been doing live-online training virtually every day since early April.

Does it work? Just based on NCI's experience, more than 80% of the participants said that while initially uncertain, some even fearful of the experience, they were pleasantly surprised by how much they learned. Most said they would gladly do it again.

All of this is really impressive and makes me proud to be a member of this industry.

Furthermore, it truly brings to light the importance of measuring, testing, diagnosing, and resolving comfort and energy issues in homes and businesses. Finally the world recognizes that the HVAC Industry is vital to people's lives and well being — a fact we've known all along.

So now is the time to communicate to customers how important your services are and what steps you take to protect them AND your co-workers as we move forward. The more you ease their minds, the easier it will be to get into their homes, measure their systems, and solve their comfort, health, and efficiency issues.

This is how we adapt and keep moving forward.

And that is why I feel this industry is one we all should be very proud of. 

Written By HVAC Professionals for HVAC Professionals

NCI's Heat Resistant Test Port Plugs

Who doesn't like cones? I mean come on, there are ice cream cones, pinecones, silicone, and traffic cones, right? OK, maybe not traffic cones.

But for the most part everyone loves cones. If you haven't been to the NCI store in a while, you will see coned-shaped test port plugs.

These are essential for use during carbon monoxide (CO) and combustion testing.

You may be wondering why you should use a cone-shaped test port plug. The answer is simple. In our combustion class the hardest thing for students to wrap their minds around is installing test ports into double-wall pipe. They fear it will destroy vent system integrity.

NCI has a test port plug that will keep the integrity of that double-wall pipe. With its tapered design going from .25" to .5", it assures a seal between the inner and outer jackets of the vent. Plus they are easy to insert and remove.

If you're worried about the test port plug melting, don't! This thing is rated for 600°F, which is 50° higher than the rating of double-wall pipe.

If this test port plug melts, you have bigger problems than a melted silicone plug. In addition to using them for double-wall pipe applications, they are more than adequate for single-wall and PVC venting.

They are also great for use when air testing rooftop units. Because of their heat rating, they won't become brittle and fall apart from long UV exposure.



They ship in 100-count bags. So head over to the NCI store and get your heat-resistant test port plugs today.

For more information or to purchase, go to ncilink.com/siliconeplugs.
— By Casey Contreras, National Comfort Institute Field Coach and Instructor

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AC by J: High-Performance Contracting™ is in their DNA

Some stories that spotlight Performance-Based Contractors start with second-generation offspring converting an old-school business approach to the Performance way. Others have to do with mergers and acquisitions.

But when it comes to a one-time small, family-owned HVAC contracting business in Scottsdale, AZ, the journey to performance took a slightly different route. AC by J was founded in late 1983 by a father and son who worked out of their residential garage.

THE BACK STORY

During that first year in business, they hired their first employee, a young man named Bryce Johnson, who admits that his original plan was to move to Arizona with his car and about \$500 in his pocket. When the money ran out, it was time to get to work and he took a job with AC by J.

Not long after he joined, the owner suffered a heart attack on the job and passed away leaving Bryce and Jay's son, Brad, in charge of a company they knew nothing about operating.

"It was an interesting time," Bryce says. "Neither the owner's son nor I had any experience running a business and had to figure everything out for ourselves."

AVERTING DISASTER

He says they did something to avert disaster that, in hindsight, not many companies do. They turned to their

suppliers – the manufacturers and distributors – for help.

"It was a blessing in a weird way," Bryce explains. "We didn't learn any bad habits. We took guidance from the people who build the equipment. That meant doing load calculations and using proper installation techniques very early in our careers."

Fast forward a few years and Jay's son Brad decided to leave. So Bryce bought him out and then began the process of growing the business slowly.

THE COMPANY TODAY

Today AC By J is a \$10 million residential/light commercial service and replacement company serving the HVAC and plumbing marketplace throughout the *Valley of the Sun*. Bryce says the company is on track to hit more than 20% growth in 2020, despite the challenges surrounding the pandemic. In fact, he says 20% growth has been the norm for years.

Today the company employs 45 co-workers and fields 18 HVAC service vehicles plus eight plumbing trucks. And the entire operation is managed by Bryce's business partner and wife Kelly Johnson.

"She is the face and voice of AC By J," he says. "She is the president and is a big reason we are successful. We promote the fact that we are a female-owned and operated business."

STEERING CLEAR OF NEW CONSTRUCTION

In addition to Kelly's management, Bryce attributes the company's success to their decision, early on, to steer clear of the new construction market.

"New construction was never in our DNA," he explains. "We did do some, but much of it surrounded a patent I had on some hybrid geothermal technology to make systems work in the desert Southwest."

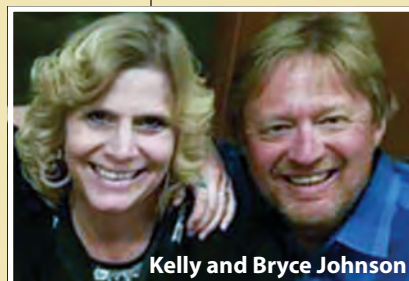
"We also took the route of private labeling HVAC equipment. AC By J held patents on hybrid systems and was in a position to work with the mechanical engineers, but still retain control of everything from cradle to grave."

The company's success revolves around its residential focus. Bryce says 25% of their total revenue is derived from res-

idential HVAC service, 50% from replacement, and another 25% from the plumbing service.

FOCUSING ON BLOCK-AND-TACKLING

With the onslaught of the Coronavirus, the world changed, and Bryce says that has forced him to look at their processes and their systems and focus on getting back to basics – business fundamentals.



Kelly and Bryce Johnson

Kelly Johnson is not only the president of this family-owned business, but she is also its public "face."

"To be honest," he explains, "it isn't all due to the virus outbreak. I belong to an ACCA (Air Conditioning Contractors of America) MIX (Management Information Exchange) Group. They provide tough love and point out missed opportunities."

"But then the shutdowns began and the world changed. I definitely wanted to batten down the hatch and focus on improving the fundamentals."

OPPORTUNITIES ABOUND

According to Bryce, despite the bad news, there are a ton of opportunities for the HVAC Industry that should help companies keep the lights on and provide essential services to people who are spending more time in their homes than ever before.

"With the shelter-at-home orders around the country, many companies are struggling because they lack customers due to their fear of being exposed to the virus."

"But it is also a terrific opportunity to pick up training and certification for your entire team," he says.

"We have always focused on training technically as well as on the soft skills side of the business. We consistently work towards greater understanding of the impact overall system performance makes. We are now trying to take that to the next level."

He explains that this happens in a variety of ways. One of them is very unique: Bryce founded a state-accredited trade school called the Better Tech Institute (BTI) last year which is now licensed in post-secondary education. The school can provide diplomas to graduates.



ADVANTAGES OF BTI

Bryce adds, "When you take the overhead from the school and cross-pollinate those instructors into continuing education for the team at AC By J, that creates a huge opportunity to step up our game."

That opportunity extends beyond just the HVAC team. It is product related as well. Bryce says that recently, due to the climate and concern in the marketplace, plus the growing consumer awareness of everything from IAQ to how germs are spread, they are researching and exploring the entire family of Indoor Air Quality (IAQ) products and sharing that information with the entire company.

"Not just with the HVAC service techs," says Bryce, "but with our plumbers and the office team as well. The idea is to get everyone onto the same page so we are all talking the same language when we make recommendations and provide advice to our clients and the community."

GEARING UP THE TEAM

Another opportunity that Bryce sees is to further enhance an initiative that creates clearly defined career paths for AC By J installers and service technicians. In the AC By J Service Tech Pathway, there are five career steps.

"A level five is the top technician: the guy you wish all your techs would aspire to be," Bryce says. "Each level requires a number of certifications to

be achieved and has a compensation range that the techs can expect. Each has requirements for the types of tools they carry and their knowledge of how to use them. It is a pathway they can use to accelerate their career."

PERFORMANCE-BASED CONTRACTING™

Bryce says that he met Rob Falke very early in his career. In fact, he met Rob before National Comfort Institute was born.

"Remember, as a relatively new business owner, I knew very little and turned to the manufacturers and distributors for training. But I also turned to people like Rob, as well as the membership organizations I joined, like ACCA, to help me learn every aspect of operating a business successfully and doing the right things technically for customers."

"I became Rob's first customer when we hired him to come to Scottsdale to teach a class. My wife, Kelly, and I invited him to stay with us and we held that first class in our home as well. We were sheltering in place before it was a national trend!"

NCI RELATIONSHIP

"From that point forward, we cemented our relationship with Rob and Dominick Guarino, ultimately becoming the very first contractor to join the NCI membership," he says.

Bryce also says it was in those ear-

ly years that his philosophy on training zeroed in on investing as much as possible into the entire AC By J team.

“We believe that if we are to present ourselves in the marketplace as professionals, then we need to be professionals. This means we need to continuously train and get certified in the disciplines that make us pros. In my mind, there is no going around that.

“Training is one of the most critical aspects of running this organization. I don’t know how else to run a business.”

SYSTEM RENOVATIONS AND AIR UPGRADES

According to Bryce, the company has a substantial maintenance agreement client list and a very structured process when it comes to how they

communicate with customers.

Because of multi-tiered career levels, maintenance is typically done by a lower level technician. If they encounter an issue beyond their scope, they call in the higher level techs to double-check and confirm the issue.

Says Bryce, “We have a list of what we call mandatory second-opinion conditions. If we find things going on with the system that present opportunities that the customer needs to be aware of, we send a higher-level tech out to verify the findings.

“The person who comes in for the second opinion usually has a broader level of training, experience, and understanding of potential solutions and options. We like this two-step approach because it lets us offer clients educated

opinions and professional advice as to what they should consider.

“I want us to live up to the standard that pound-for-pound we are the best HVAC and plumbing contractor in our marketplace,” Bryce continues.

He calls this operating in performance mode and says it starts with understanding the customer and how they use their home, what their plans are, and what they do and don’t like about their comfort throughout the house.

“Our techs ask leading questions like, ‘what is the most uncomfortable area in your house? We use that conversation as a guide, along with all the information we gather technically through testing and measuring to find all the opportunities that might be there.

“We also use the best technology



AC By J service technician in action.

Why? Because the Phoenix area has many excellent HVAC and plumbing contractors who do some testing and measuring and talk with clients about more meaningful things. Bryce says that makes for a more educated client base and that is a good thing.

A PHILOSOPHY TO LIVE BY

According to Bryce Johnson, if you were to ask anyone who works at AC by J what the purpose of the company is, they will tell you that “we exist to improve the quality of the lives of other people. That starts with our clients.”

Bryce’s other rule to live by is having a passion for the business.

“We see passion from the people we train with. NCI trainers are so pas-

sionate about what they teach. It’s infectious,” he continues.

“Everything NCI teaches is very relevant to running a performance-based contracting business. Furthermore, the HVAC business is an essential business. It always has been, but now more than ever. Consumers are realizing it. The government certainly has finally recognized it.

“This business can be really wonderful and a fantastic career. But only if you approach it with passion. Those who do have passion can take their business anywhere they want.”

It is for these and many other reasons that **High-Performance HVAC Today** has shined the spotlight on **AC By J**. Congratulations to Bryce and Kelly Johnson and their entire team.

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High-Performance HVAC Industry Influencers

Every industry is served by people who greatly impact it — whether it is from the invention of technology or processes, or from sales and/or marketing techniques. These are people who; because of their experience, knowledge, position in that industry, and relationship to others; impact its development. They make a difference in the industry's direction and ultimately, it's future. The performance-based segment of the HVAC Industry is no different.

These influential people are not only members of the Performance-Based Contracting™ community, they also work to help others be more successful. In fact, by their actions, they contribute to the High-Performance HVAC Industry's growth and acceptance throughout the greater HVAC Industry and among consumers as well.

They believe in education and training and always seek better ways of doing things. They lead by example. They take what they learn and implement it successfully into their businesses, then take the time to share what they learn during that process with others.

How did they make our list? Over the years, members of the NCI team have traveled the country, visiting and working with many contracting firms, manufacturers, distributors, utilities, and trade associations. They worked together on ways to evolve away from just selling equipment, to an approach that sees a system as much more than a set of boxes.

The NCI team met people who believe in the tenets of testing duct systems, equipment, even the overall building itself. They measure airflow, temperature, and more, then calculate their impact on delivered comfort and energy efficiency.

The following are four such “influencers” of this industry. But they are not alone. We plan on featuring new influencers each year. The time or era in which they served is not considered — we look at what they have done or are doing and the impact of those efforts on the industry.

If there is someone you think should be added,

let us know who they are and why they are influencers. Send your “nomination” to me at mikew@ncihvac.com.

Here are four influencers who have had a direct impact on the High-Performance HVAC Industry:

JIM DAVIS, NATIONAL COMFORT INSTITUTE, CLEVELAND, OH

Jim has a long and storied career in the HVAC Industry. That career began back in 1971 when he went to work for an HVAC contractor before moving on to work for an HVAC distributor in 1977. That is where he became involved with selling the first digital combustion analyzers.

He will be the first to tell you that back in the day there was a general lack of knowledge, including his own, on how to interpret combustion readings and overall mechanical operation of industrial, commercial, and residential systems. This is something that still plagues the HVAC industry today.

So, Davis set out to learn and ended up dedicating himself to increasing this knowledge by spending thousands of hours in the field with customers collecting data. Eventually those customers asked him to write down what he knew to share with them. They also wanted him to TEACH them by conducting training classes.

As a result, Davis developed the first combustion testing protocols and field diagnostics using a digital combustion analyzer. He began teaching in 1983



Jim Davis, National Comfort Institute, Inc.

and joined forces with the National Comfort Institute (NCI) in 2000.

Jim says he is fortunate and grateful that NCI embraces the same values and allows him to continue his “combustion crusade.” All combustion classes taught at NCI are based on hands-on field experience and actual results.

NCI President Rob Falke describes Jim as being driven by curiosity — the kind “most often found in those who believe that truth may be discovered through experiment and observation of the outcome.”

That curiosity led him to study, practice, and to measure everything he encountered. Early on he realized test instruments were woefully inaccurate and that led him to eventually become involved with a manufacturer in designing the first CO analyzers. Read more about Jim in a biography written by Rob Falke at ncilink.com/CaptCO.

Besides teaching thousands of HVAC professionals in the classroom, Jim also is a nationally recognized writer and speaker who is notably one of the foremost authorities on combustion and carbon monoxide.

He has written national protocols for CO testing and operating guidelines for proper combustion and mechanical operation of fuel-burning appliances. To this day he continues to research new information and feed-back from the field on the combustion process. This contributes to the continual update of knowledge to be shared with everyone.

DAVE DEROSE, MASTERWORKS MECHANICAL, INC., CRAIG, CO

DeRose founded Masterworks Mechanical in Craig, CO in 1988. He took it from a one-man service shop to a

full-service company with a team of skilled professionals. Though he retired (sort of) from Masterworks in 2015, he laid the foundation that helped the company continue to grow into a primary plumbing, heating, cooling, and commercial refrigeration company serving Northwest Colorado.

He grew the company over the years and eventually sold it to employees Victor and Amy Updike in 2015. Dave remains active in and as a servant leader for the HVAC Industry, particularly the High-Performance Contracting segment.

He always looks to serve his customers, his team, and his community — whether it is through delivering the very best in service via plumbing or HVAC contracting, to serving as the Mayor of the city of Craig, [sitting on various boards of directors](#), or the organizer of [after-school programs for young children](#).

He even helped NCI in the early years by securing a grant in Colorado where the state paid for 25 technicians to be trained in carbon monoxide and combustion efficiency testing.

In a company profile written back in 2011, DeRose credits NCI “for helping to teach me to think out of the box. It’s a philosophy as much as it is a set of skills. It’s the way I have learned to approach a system knowing that performance can be improved, that makes all the difference,” the article quotes him.

He has been able to blend his staunch commitment to outstanding customer service, a great enthusiasm for giving back to the community, and a strong dedication to creating a quality work-

place into a winning formula for business and life success.

Having retired from running the day-to-day operations of Masterworks, Dave DeRose dedicates some of his time to giving back through training with NCI to help other HVAC contractors become performance-based.

And Dave’s commitment to training extends beyond just his own company. He also helps arrange training for other businesses, and personally mentors many of them.

Dave and Masterworks received the NCI National Training Excellence Award in 2013. They were also recognized at the Summit for their dedication to Performance-Based Contracting™, in particular for their efforts towards training not only their own people, but many other contractors in their community.



Dave DeRose, Masterworks Mechanical

STEVE CLINTON, SOUTHERN CALIFORNIA EDISON ENERGY EDUCATION CENTER

When it comes to High-Performance HVAC Training, there are few trainers outside of National Comfort Institute (NCI) who put their entire support into promoting and teaching the performance testing, measuring, and diagnostics methods that are the backbone of Performance-Based Contracting™. But one such trainer, Steve Clinton of Southern California Edison’s Tulare Energy Education Center, is such a person.

For years Steve has been a huge supporter of HVAC technician training in general and NCI training in particular. It makes a lot of sense. He is a technician at heart. His background as a field

tech on the refrigeration side of the business enables him to relate well to the needs of technicians across the entire spectrum of the HVAC Industry.

"His focus has always been laser-focused on customer satisfaction as well," says Mel Johnson, a former director at Edison who worked closely with Steve for years.

Johnson, who is vice president of utility programs for NCI, describes Clinton as a boots-on-the-ground technical trainer who was hired in 2009 by Edison to run the training at the Tulare training center. Then, the mission of Edison was to train HVAC contractors using programming that more closely aligned with their Workforce Education and Training efforts.

Once Clinton attended an NCI class, according to Johnson, he saw their training approach and methodology focused on the technician. It was a grass-roots, down-to-earth training approach where trainers worked alongside technicians, which was what he loved to do. He was all onboard.

Says Johnson, "Because he came from the field, people knew him and trusted him. He would go to his distributors with class information and get them to promote NCI classes. He knew so many contractors throughout the area because of his background and they trusted him. So he convinced many of them to attend.

His success grew and in the process the Tulare center helped to train hundreds, if not thousands in the techniques of Performance-Based Contracting in Southern California. Two years ago, Edison promoted Clinton to program manager. Now he is both a tech-

nical trainer and he manages the overall training program.

"Steve has always been a key to success with performance because he be-



lieves it. He advocates it for doing what is right. To his credit, not only does he believe in it, but he embraces it and puts performance into practice for himself.

"From my perspective,

this enables the contractors whom he serves through Edison to be successful as well," Johnson concludes.

For these reasons, we are pleased to recognize Steve Clinton as an influencer in the High-Performance HVAC Industry.

TOM JOHNSON, TM JOHNSON BROTHERS, INC., CAMBRIDGE, MN

Tom Johnson is a third-generation plumber and HVAC contractor who is also a strong supporter of the Performance-Based Contracting™ model. Not only has he trained his team in the science of airflow and combustion testing, but he has led his company to implement these practices both internally and externally. Today his technicians test every piece of equipment they touch!

He takes his customers' and his employees' safety very seriously. Over the years Tom has become an outspoken leader in combustion safety and carbon monoxide testing. He believes it is every contractors' job to teach their technicians the vital importance of this and to practice it every single day. To do that requires education and Tom Johnson is a huge

believer in that as well.

So much so, that he has taken training himself and gives back to the industry by teaching classes with NCI on combustion analysis and safety. He has written articles on the subject (ncilink.com/COSafety) as well as on the myths surrounding CO (ncilink.com/CO-Myths). And he has been recognized for his many achievements in the High-Performance HVAC Industry, including Contractor of the Year from both NCI and PHCC.

You might even say that Tom has become a CO evangelist (ncilink.com/CO-Expert) who practices, speaks about, and "preaches" his idea that "every technician who works on fuel-burning appliances (furnaces, boilers, water heaters, gas dryers, gas stoves, etc.) should have extensive training in combustion and carbon monoxide."

In fact, according to Jim Davis, NCI's resident combustion and CO expert, "Tom is as committed to and passionate about it as anyone I've ever met. He refuses to let his guys go into the field until they attend CO training, no matter where that training is held.



"He has implemented performance into his company and says it has made a major difference in his success," Davis continues. "Tom told me that he doesn't know where his company would be today had he not attended the combustion training from NCI."

This dedication gives Tom a "WOW" factor that cannot be denied and it is for these reasons that **High-Performance HVAC Today** magazine recognizes him as an industry influencer.



Residential Air Balancing: Meet the Demands of the New Normal



Two months of stay-at-home orders have generated demand for specific services that few HVAC companies are prepared to offer. Let's take a look at unique COVID-19-related residential air balance solutions you can offer to permanently satisfy what many of your customers want.

Currently, quick-fix, plug-and-play IAQ (Indoor Air Quality) solutions bombard our industry. Web searches filled with conflicting claims confuse your customers. Combine this with promises of complete protection from dreaded viruses and they are unable to distinguish between what is real and what may not be. Eventually, they drown in information overload.

AIR BALANCING CERTIFICATION

Commercial air balancers are the only professionals certified to test, adjust, and certify building airflows and pressures to meet strict job specifications and industry standards. National Comfort Institute's (NCI) Residential Air-Balancing Certification is the only certification supporting professionals who test and verify these requirements are met in homes.

Unlike ineffective silver-bullet cures, you can offer and deliver system solutions in homes that meet commercial building specifications.

HOME IS SUPPOSED TO BE A SAFE PLACE

Being confined to home almost 24 hours per day, week-after-week, while immersed in Covid-19 information overload, has forced many homeowners to take a hard look at their HVAC systems. Many question their HVAC systems' effectiveness and impact on their health.

They also know summer is on the way. They have increased concerns that problems noticed during mild weather will worsen as the outdoor temperature rises.

Given legitimate solutions to increase home health, many homeowners are far more likely to choose higher-level system upgrades than ever before. Your abil-

ity to deliver increased personal safety, health, comfort, and energy efficiency has a broader appeal now than ever before.

The pending relief from current government-imposed health regulations will more than likely increase the chances of homeowners coming into direct contact with viruses. This can further increase the demand and value of a safe and healthy indoor environment at home.

EXPLORE YOUR CUSTOMER NEEDS

Chances are that few people will call your office asking you to make positive pressure in their homes and a negative pressure room for an infected family member. However, if you listen carefully, you will recognize many homeowners have safety or health concerns that only balancing solutions will effectively cure.

Your opportunity to serve is based on your ability to diagnose their problem, help them understand the proposed solution, and deliver the results they want. Here are the top four air-balance solutions you can offer.

INCREASE HVAC SYSTEM CAPACITY

Comfort, temperature, and humidity are the foundational principles of IAQ. If the home's HVAC system cannot provide these basics, it's doubtful the system can adequately maintain a safe and healthy indoor environment.

Trying to assure a healthy and safe home when the system is operating at half capacity won't get the job done. The first step is to test, diagnose, and prescribe system repairs so it functions as it should.

Typical system repairs that reduce risks associated with COVID-19 are often addressed while improving system performance. This includes:

- Evaluating air filtration which will improve as system performance increases
- Measuring fan capacity helps you engineer the

Trying to assure a healthy and safe home when the system is operating at half capacity won't get the job done.

maximum filter resistance, which reveals whether the fan and system can handle higher efficiency filters

● Simply installing a higher-efficiency filter on an existing system often reduces system capacity.

Remember: overly restrictive filters may reduce system airflow and shorten equipment life. When you replace air filters that serve a suspected infectious environment, be certain to use personal protection equipment (PPE) and follow all applicable protocols.

Lower humidity significantly reduces the life span of viruses. Dehumidification increases as system cooling capacity increases. You can lower total airflow through the coil to improve the system's latent removal capacity and provide a drier, healthier environment.

Air-balance test methods identify these system problems and verify repairs have the desired outcome.

IMPROVE VENTILATION AND AIRFLOW

Until you measure and evaluate the home's airflow and ventilation rates, you won't have the right information to properly adjust and correct negative impacts on the system.

When infection spread is suspected in a medical facility, balancers are often the first team called in to discover and identify defects causing it. In many cases, the balancer's information is what directs industrial hygienists toward solutions. Air is the medium that often moves a virus throughout a building. The same principle applies to homes.

CREATE POSITIVE BUILDING PRESSURE

An HVAC system adjusted to create positive pressure (picture air pressure inflating a balloon) will constantly purge indoor air, forcing it out of the home. The heating and cooling system pulls outside air into the building to replace polluted air.

Did you know that supply duct system leakage negatively affects building pressures? Plus, bath, kitchen, and other exhaust fans also negatively affect a home's pressure.

Building pressure is caused by air movement in a building that is not widely understood outside the HVAC industry. But it makes a measurable difference in building pollutants. Building pressures are measured and document-

ed by air balancers and may be included in an additional report to authenticate the performance and health of the home.

In some commercial buildings, constant ventilation is specified to keep building pressures safe. When prescribing this method for use in homes, educate homeowners regarding the cost to maintain constant pressure.

Added heating or cooling capacity may be needed to offset outside air brought into the home. It could cause the heating or cooling system to run longer. Also, ducts located in unconditioned spaces pick up the additional temperature and deliver it into the house.

NEGATIVE PRESSURE ROOMS


When an occupant in a home is sick, you can employ a method used to pro-

tect healthy people in health care facilities to protect the rest of the family. Place an exhaust fan in the room and operate it continuously. This negative room pressure prevents air from being pushed out into other rooms. You can use similar strategies in a home.

Ideally, you should design the room airflow for 12 air changes per hour. Room supply airflow should be measured and compared to exhaust airflow as a separate backup verification method.

EDUCATE YOUR CUSTOMERS

We often communicate the air balance principles mentioned here in a language that customers rarely understand.

Your challenge is to patiently teach customers, in a language they CAN understand, the why's and how's of each system improvement and its health benefit to them. Once you do this, they will see past the silver-bullet IAQ solutions and have confidence that their heating and cooling system contributes to their healthy home. 



Rob "Doc" Falke serves the industry as president of National Comfort Institute, Inc., an HVAC-based training company and membership organization. If you're an HVAC contractor or technician interested in a free test procedure to calculate room air changes, contact Doc at rob@ncihvac.com or call him at 800-633-7058. Go to NCI's website at nationalcomfortinstitute.com for free information, articles, and downloads.

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The Importance of Virtual High-Performance HVAC Sales

This year will go down as a significant turning point in our history. The COVID-19 pandemic has turned the world as we knew it upside down, sideways, and inside out!

Many of you have experienced significant personal and financial loss due to the novel coronavirus outbreak and our hearts break for you. We will never be the same. Neither will our customers. The fear associated with this pandemic is real and it is changing the way we serve our clients.

NEVER WASTE A GOOD CRISIS

A former pastor of mine regularly reminded us to “never waste a good crisis.” I’m not sure where he got that quote, but it is wise counsel indeed. When my wife was diagnosed with cancer, we were told to “watch for the blessings along the way.”

While it seemed like crazy advice at the time, we set out on our cancer journey with expectant hearts, searching for the blessings. We were blown away by the many positive experiences we had on the path.

When we approach life with a more positive outlook and expectation, our results are typically more positive. Your mindset plays a major role in how you get through any crisis. Is your mindset positive or negative? If you want better results, it all starts with a better mindset.

POSITIVE PANDEMIC RESULTS

How in the world can you find anything positive about this global pandemic? While this experience

has been devastating to many people around the world, there are many positive things we have learned within the HVAC industry.

First, the world learned that the HVAC industry is an “essential business.” We already knew that, but it’s great that the rest of the world is finally acknowledging our importance!

In fact, a handful of HVAC-related actions are suggested in an article titled “[Guidance for Building Operations During the COVID-19 Pandemic](#),” written by Lawrence J. Schoen, P.E., in the ASHRAE Journal Newsletter, March 24, 2020 ([ncilink.com/COVIDGuidance](#)). Some of these include:

- Increase outdoor air ventilation (use caution in highly polluted areas). With a lower population in the building, this increases the effective dilution ventilation per person.
- Disable demand-controlled ventilation (DCV)
- Further open minimum outdoor air dampers, as high as 100%, thus eliminating recirculation (in the mild weather season, this need not affect thermal comfort or humidity, but clearly becomes more difficult in extreme weather)
- Improve central air filtration to the MERV-13 or the highest compatible with the filter rack, and seal edges of the filter to limit bypass. (He didn’t mention static pressure issues but that does need to be considered, too!)
- Keep systems running longer hours, if possible 24/7, to enhance the two actions above
- Consider portable room air cleaners with HEPA filters
- Consider ultraviolet germicidal irradiation, protecting occupants from radiation, particularly in high-risk spaces such as waiting rooms, prisons, and shelters.

While these recommendations target commercial buildings, many of them can be applied in residential applications as well.

These are just some of the good things we’ve learned since this outbreak began. If we apply these lessons, our world will be better off.

SOCIAL DISTANCING ... BLESSING OR CURSE?

Probably the best thing we’ve learned in the past several months is the basic principles of social distancing include surface cleaning, disinfection, hand-washing, and other strategies of good hygiene. These are important tools for fighting the spread of COVID-19.

A simple definition of social distancing is “a set of non-pharmaceutical interventions or measures taken to prevent the spread of a contagious disease by maintaining a physical distance between people and reducing the number of times people come into close contact with each other.”

However, many people are so frightened of the Coronavirus that they are practicing “extreme social distancing” — they don’t want anyone to enter their home or office! Can this social distancing practice really be a blessing if you can’t get in front of customers face to face? It all depends on your mindset.

TECHNOLOGY TO THE RESCUE

In the past three months, we’ve learned that existing technology can play a huge role in the HVAC sales process during the COVID-19 pandemic. When customers are practicing extreme social distancing, you can offer to perform much of the sales process from the comfort of your office via the Internet. Here’s how:

1. Initial Online Research. You can gain a significant amount of information about a person’s home from

public records freely available on the Internet. Many communities have tax records online. Real estate services like Zillow offer lots of intel but it may not be as reliable as you’d like. Google maps are an incredible source, especially in satellite view.

Do your initial research online, then verify what you learned when you speak to your customer in the next step.

2. Customer Surveys Via Video Chat. Nobody knows more about the comfort of their home than the people who live there. While you may have earned every NCI certification offered and you own a whole truck full of test instruments, there is no way you can know what the house feels like at 2:00 pm on the hottest day of the year.

Your customer’s experience is invaluable, and you can certainly perform a Home Comfort Analysis Customer Survey with them right over the Internet using something like FaceTime, Zoom, or Google Duo. This initial survey takes 10-15 minutes to complete.

The information gained is the very foundation for the best high-performance sales calls — virtual or in-person.

3. Technical Survey via Customer Photos and/or Video Chat. Based on what you learn in your initial customer survey, you can ask them to be your “eyes” as you learn more about their home and their HVAC system. You’d be amazed how much information you can acquire by having them take pictures of the equipment and duct system, then emailing or texting them to you.

Even better, have them take you on a “guided video tour” of their home using their cell phone or tablet.

“Mrs. Smith, first, I’d like you to take me to your thermostat. That’s

great. Can you open the front door so I can see what programming options you have?”

As they take you around their home, you can capture screen shots of what you see along the way.

4. Brief “Measure Call” with Extreme Social Distancing. Based on what you learned in the previous three steps, you may need to make a brief visit to the home for final measurements (It will be really tough to get your customer to take static pressure measurements via video chat).

You can explain to them that this phase will only take about 15 to 20 minutes and you will call them when you arrive at their home. All they need to do is unlock the front door, then go sit on the back porch while you get your final measurements.

Assure them that you will be wearing appropriate personal protective equipment and that you will wipe down anything you touch while in their home.

Once you are done, tell them you will lock the front door behind you and call them from your truck as you sit in the driveway to discuss any questions you or they have.

5. Findings & Recommendations via Screen Share/Video Chat. Once you are ready to discuss your findings and recommendations, you can reconnect with them via a screen share/video chat service. In this phase, you “connect the dots” you discovered in the first four steps above.

Always be sure to personalize your recommendations (“... to alleviate Steven’s allergies, I’d recommend that you install this high-efficiency air filtration system”) so they know that you are addressing the concerns they shared with you during the customer survey.

“We’ve learned that existing technology can play a huge role in the HVAC sales process”



6. Scope of Work, Pricing, Financing, and Scheduling via Screen Share/Video Chat. In this last phase of the virtual sales call, you can once again engage with them via video chat to finalize the scope of work, pricing, financing, and scheduling details.

When you do everything right in the first five phases, this step is a breeze! All the images, videos, and notes you've taken along the way are sure to make the job go smoother, assuming you share the appropriate information with your installation crew.

In our **Performance-Based Selling Online Live** class, we do a live demonstration of this process. In less than 30 minutes, students witness this approach in a live demonstration (minus the "Measure Call") and gain confidence in their ability to expand their high-performance sales powers through this virtual method.

GETTING YOUR TEAM ONBOARD

A great way to get the rest of your team exposed to this high-performance sales approach is to practice it with them at their own home following this simple plan:

- Set your teammate up in ComfortMaxx Air™ as a new customer and enter a typical "high-static" sample test.
- Print the ComfortMaxx Air visual report.
- Personalize and print an "Important Test Results" (ITR) letter.
- Put a copy of the ITR letter, the ComfortMaxx Air™ visual report, and a **"Static Pressure - Why Does It Matter?"** Home Comfort Report flyer into the letter.
- Put the words "Important Test Results Enclosed" on the front of the envelope and drop it in the mail.

■ Tell them to read the material when they receive it and respond as if they were a real customer.

■ Perform the six high-performance virtual sales call steps described above with them so they understand the process.

This approach is a triple win! First, your teammates better understand how this powerful method works and will be better equipped to share the concept with your customers.

Second, you get more practice which will develop your trust and confidence in leading your future customers through the process.

Third, your customers will be much better off because you are well prepared to serve them, whether virtually or in person.



GET THE WORD OUT!

Once you are comfortable with your new process, be sure to let the world know about this innovative service you provide.

Post images on your social media platforms and create a page on your website describing your "virtual sales visit" process.

Fellow NCI member, Tom Kohberger, with Comfort Control Heating & Air in Buford, Georgia has taken this approach very seriously.

On their website, customers can schedule a "Virtual Service Technician" or a "Virtual HVAC Replacement Specialist" appointment with the click of a mouse!

Check it out on their [webpage](#) or [Facebook](#) page to see how they are getting the word out.

IS THIS (OR SHOULD THIS BE) THE NEW NORMAL?

How cool would it be if you could do all your sales calls like this? Imagine how many more sales you could make if you didn't have to waste so much time driving to and from prospect locations all day. Wouldn't that be great?

There are HVAC contractors who were doing this type of selling even before COVID-19 hit. Why? Because they live in major metropolitan areas where travel is measured in hours, not miles.

These progressive contractors figured out ways to perform sales calls "virtually" because they were wasting too much time sitting in traffic or trying to find an expensive parking space.

Instead of beating their truck horn trying to get to the next call, they are beating their competition and doubling or even tripling their sales because they are much more productive. And, the customers love it too!

So, can social distancing be a blessing? You bet it can... you just have to look at ways to make it work for you and your customer.

Be safe and successful out there with this high-performance selling approach. 



David Holt joined NCI in 2011. He is the director of national accounts and also is responsible for the content development for a number of the classes NCI develops. In addition, David, a former HVAC business owner and current NCI business coach, teaches that content for the company's in-person training events. He can be reached at DavidH@ncihvac.com.

New Online Live Airflow Testing and Diagnostics Course

National Comfort Institute (NCI) recently added a new **Online Live version of their Airflow Testing and Diagnostics Course** to their Distance Learning series.

Now you can get in on the ground floor and offer HVAC Performance Solutions that work with NCI's simple Air Upgrade approach!

This live online course provides technical training on performing static pressure testing, correctly installing static pressure test ports, and measuring and interpreting static pressures.

Air Testing and Diagnostics is ideal for HVAC contracting firm owners, managers, and technicians. It is a two-day program where attendees will learn how to:

- Identify fan types and speeds
- Locate and use fan tables to plot airflow
- Diagnose and perform Air Upgrades on HVAC equipment AND duct systems.

This class can only be taken by qualified HVAC professionals. The training also qualifies for NCI Residential Air-side Recertification.

So, stop guessing and start measuring! Learn how to add \$2,000 to \$3,000 to most residential installations at incredible 60 to 70% gross profit margins!

Go to ncilink.com/ATDOL to learn more. Or click ncilink.com/ATD-OLReg to register for this training right now.

Important Note: To participate in NCI Online recertification classes, you must already be NCI certified. As a member, you qualify for a discount on this training, and you can apply NCI Bucks, or earn them.

For more information on exactly what Distance Learning Courses are available to you, just go to ncilink.com/DistLearn.

Your June 2020 PowerPack is Available!

NCI Membership offers so many benefits that it is simply overwhelming! The Monthly PowerPack is one of these. The PowerPack includes items curated just for members to help you as you grow your High-Performance HVAC business.

Each month we include some tools that may not be normally accessible with your current membership subscription package. However, you will be able



to access these tools through this PowerPack portal during the current month.

So, without further ado, let's drill down and take a look at the June 2020 Power-

Pack, which focuses on the importance of taking and interpreting static pressure measurements:

- **Static Pressure Diagrams** (Download)
- **Measuring Total External Static Pressure** (Article)
- **Static Pressure - Why Does It Matter?** (Download)
- **How to Plot Fan Airflow** (Article)
- **Measuring Static Pressure** (Online Training).

Be sure to share your June PowerPack with your entire team! Go to ncilink.com/PwrPak. If you have any questions, or if you are unable to access any of the tools in this program, please contact your Customer Care team at 800-633-7058.

NCI Bucks Are A Mighty Membership Tool!!!

Do you know that when you buy products and services through NCI's TIPP (Training Incentive Partnership Program) partners, you earn NCI Bucks on every purchase?

Do you know that those Bucks are very valuable? They can be used by you to help pay for NCI training, attendance to special events like the Annual **High-Performance HVAC Summit**, and more? Learn more about TIPP at ncilink.com/TIPP.

Do you know that you can use separate membership discounts WITH your earned Bucks to get advantageous prices on all the courses in **NCI's Online University** (ncilink.com/OnlineU)?

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Questions? Call 800-633-7058 today and ask for one of our Customer Care representatives.



Interested in NCI Membership?

Click here or go to www.NCIMembership.com



“What the Heck?”

— John Kelley, Ten Point Mechanical LLC, Pottstown, PA

How creative!! This is an 80% AFUE furnace vented with PVC. It just had to be a What-the-Heck entry.

John Kelley from Ten Point Mechanical is the June 2020 winner of our Photo-of-the-Month contest, as voted on by the subscribers to High-Performance HVAC Today magazine (ncilink.com/HToday) and visitors to the website. He will receive a \$25 gift card.

You can too – submissions are always welcome. If you’d like to submit a photo for consideration in our Photo-of-the-Month contest, go to ncilink.com/POMSubmit and fill out the information as requested.

THE JULY CONTEST OPENS ON JUNE 8, 2020.

That gives you plenty of time to submit something in any of our three categories: **The Good, The Bad, and WTH (What the heck).**

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AD INDEX

Advertiser Index

Arzel Zoning Technology, Inc. www.arzelzoning.com	5
Baker Distributing Company www.BakerDist.com	8
Duct Saddles www.DuctSaddles.com	9
Goodman Manufacturing www.GoodmanMfg.com	2
Lazco Corp. www.LazcoCorp.com	14
R.E. Michel Company www.REMichel.com	15
The New Flat Rate www.TheNewFlatRate.com	21
To Your Success ToYourSuccess.com	21
United Refrigeration Inc. www.uri.com	20

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Publisher
Dominick Guarino

**Editor-in-Chief and
Associate Publisher**
Mike Weil

Art Director
Connie Conklin

Online Development Director
Brian Roseman

Circulation Manager
Andrea Begany- Garsed

Editorial Assistant
Marge Smith

Email us at contactus@hvactoday.com with your comments and questions.

Offer Customers Innovative Solutions for the New Normal



Dominick Guarino is publisher of *High-Performance HVAC Today* magazine and CEO of National Comfort Institute, Inc. He can be reached at domg@ncihvac.com

During these challenging times, it's important we find new creative ways to package and offer products and services that address people's concerns stemming from COVID-19 and social distancing.

We are learning from our members and students about many innovative ways they are retooling existing products and services, and offering new ones to improve air quality, health, and safety in customers' homes and businesses.

After millions of people began working from their homes during the first two months of the shutdown, large companies and small have been rethinking the workplace, and are encouraging many employees to continue working from home where it makes sense.

Spare bedrooms, finished attics, and basements are now the new work environment. Let's take a look at some of the innovative approaches residential HVAC companies are using to help improve the safety, health, comfort, and productivity of these spaces as well as the entire home:

IAQ & HUMIDITY CONTROL

Obviously people are more concerned about the air they breath. Aren't you? Today there are many new products to help improve overall Indoor Air Quality and humidity control. Better air filtration is an obvious one, but you have to be careful not to restrict airflow. Having more surface area is the key to using high-efficiency filters.

By introducing more outside air, you can better pressurize a home, which also reduces dust and other contaminants. A combination of targeted dehumidification and humidification can keep the Relative Humidity (RH) in a home within the healthy range of just enough humidity.

One key often-missed factor is making sure the system has proper airflow and minimal duct leakage so that these devices can work properly.

BETTER BALANCED HOMES

Air balancing is an important aspect of even comfort throughout a home. Of course, you need

the proper total airflow for balancing to work. Replacing restrictive filters, and cleaning coils and blowers are also important steps.

Sometimes additional duct runs, registers, and return grilles are necessary to provide the right airflow to each room. Once you test airflow to every space, you'll have the intel you need to provide great solutions.

BETTER COMFORT CONTROL


More precisely controlling comfort is very important, especially when using spaces differently than originally intended. Long-term home officing is an example of this.

Zoning can be the perfect solution for optimum temperature control. There are a number of "retrofit" zoning systems that can help accomplish this, even when the ductwork is not as easy to access.

Noise control is also important. Noisy systems can often be fixed when airflow is sufficient and well balanced. One of the keys is having lower air velocities. In some cases replacing grilles and registers can make a huge difference. Another key contributor to more comfortable and healthier air is having more Air Changes per Hour (ACHs).

I'm sure there are many contractors out there, especially those who test and verify performance, coming up with creative solutions every day. If you are one of these innovators, we would love to hear from you. Please feel free to email me – we are always looking to publish great ideas. Click here (DomG@ncihvac.com) to send me an email.

One last, very important thought. Just having the technical ability to do all these great things is only 50% of the equation. What is equally important is your ability to communicate what you can do for your customers.

Think of creative ways to package these solutions, not focusing on the detailed features of what you can do, but rather the benefits your customers can enjoy from the innovative improvements you can offer them to improve the safety, health, comfort, and energy efficiency of their homes. 

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