



Networking. Education. Mentoring.

Empowering Women to Succeed Within Our Industry

Member Insider

Women in HVACR 3rd Quarter Newsletter

Presidents Corner:

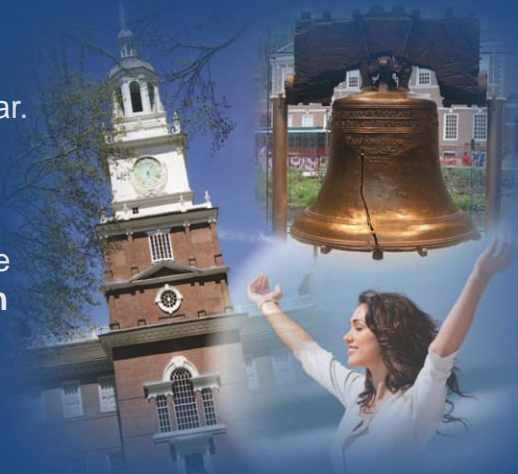


Patti Ellingson
– National Sales
Manager, Cooper
Atkins Corp

As the board and I prepare for the upcoming **10th Annual WHVACR Conference** I wanted to take this time to invite you personally to join us in Philly! As I contemplate this year's theme - **Philadelphia Freedom** - I think of the freedom we as women have to move towards our own success. I revel in the state of being free, because of the sacrifices of the women and men who have come before us to oppose the stereotypes put before us in life and in the HVACR industry. "Free your mind and the rest will follow..." this rings true no matter what your situation - if you open your mind to the possibilities you can achieve anything you set your mind to!

I am looking forward to this year's educational sessions and line-up of speakers. We have an exciting message of **"Moving Towards Success"** to share with you this year. Our speakers will share their knowledge on moving forward in your business through forward thinking, leadership and networking. I hope you will join us in Philly as we celebrate our **10th Annual Conference** and **11th year in existence**.

Patti Ellingson - WHVACR President



INDEX

- 2) 10th Annual Women in HVACR Conference, Sept. 16th & 17th
- 3) THANK YOU SPONSORS! 10th Annual Women in HVACR Conference Sponsors
- 4) Conference Speakers
- 5) Conference Schedule
- 6) Contracting Business, Woman of the Year – Laura DiFilippo
- 7) Women in HVACR Scholarship Award Winner – Stephanie Hallock
- 8) How to be a GREAT Service Technician – The New Flat Rate - Matt Koop
- 9) **Member Spotlight – Cliplight - Linda Appler**
- 10) The Dynamics of Central Returns and Dust Problems - NCI - David Richardson
- 11) Proper Air Flow - CPS Products, Inc. – Andy Potter
- 12) A New Way to Wire Mini-Split Systems – Southwire - Emily Goss
- 23) Play 10 Questions – Test Your Skill!
- 24) **Sponsor Spotlight – Safety Girl**



10th Annual WHVACR Conference

"Philadelphia Freedom"

September 16-17 * Philadelphia, PA



Mark your calendar for the
10th Annual Women in HVACR Conference!

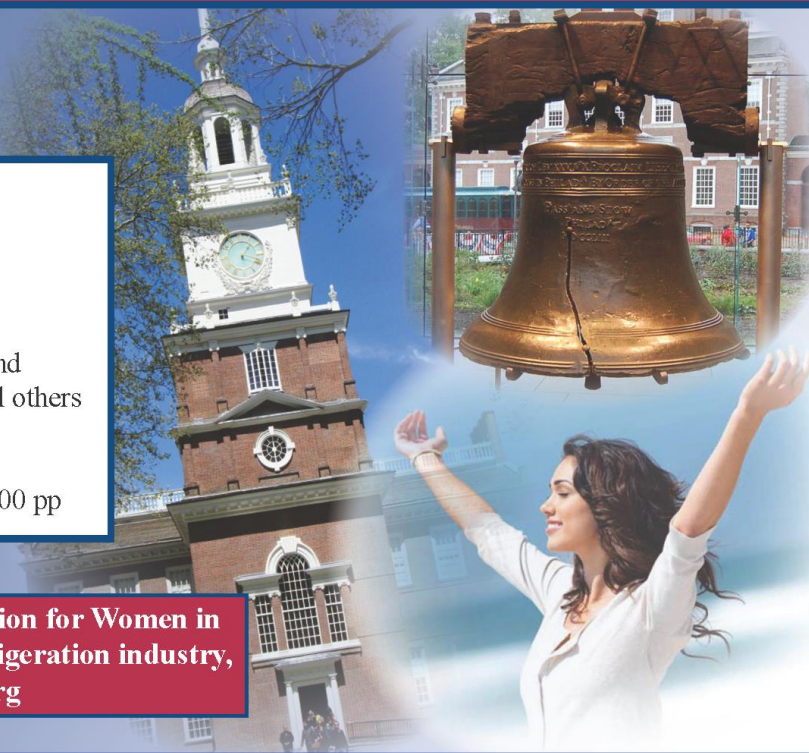
"Philadelphia Freedom"

September 16-17th, 2013
Philadelphia Convention Center
in conjunction with Comfortech 2013

Kick-Off Reception - Monday Sept 16th 6-9 pm
70's style reception with an Elton John Tribute Band
Free for HVACR Conference attendees - \$10.00 all others

Conference - Tuesday Sept 17th 7-5pm
Members - \$175.00 pp Non-members \$250.00 pp

Become a part of the first international organization for Women in the heating, ventilation, air conditioning and refrigeration industry, Women in HVACR! www.womeninhvacr.org



Register Today!

www.WomeninHVACR.org

We look forward to seeing you there!

AND...don't miss the
70's style Opening
Reception with live
music & Elton John
Impersonator Lee
Alverson





10th Annual WHVACR Conference

"Philadelphia Freedom"

The success of WHVACR would not be possible without our network of Sponsors who have donated time, money and resources to our organization.

A Very Special Thank You!

Platinum Sponsor



Gold Sponsors



Silver Sponsors



Bronze Sponsors



Media and Organizational Sponsors:



Learn More



Philadelphia Freedom

Forward Thinking – Evolve & Move Towards Success

September 16th & 17th at the Philadelphia Convention Center, Philadelphia, PA

In Conjunction with **COMFORTECH™**
The HVACR Association's
Pursuing the Future of HVACR
2013



Patti Ellingson

Patti Ellingson- Women in HVACR President will kick off the event with an inspirational welcome message: **Personal Freedom. Followed by WHVACR Organizational details and update information.**



Laura DiFlippo

“Forward Thinking”

Laura DiFlippo- 2013 Contracting Business Woman of the Year and Vice President of DiFilippo's Service Company will share her personal and professional experiences and her story of “Always moving forward towards success.”



Rodney Koop

“Building a Better Culture with the Right Team” Right Brain, Left Brain, Who Cares! Forget the Psychology, Women Just Plain Get It Done! Rodney Koop, founder of The New Flat Rate; gives a hilarious account of how the influence of one particular woman forced him to always find a solution. Life doesn't hand out Lemons it only hands out opportunity!



Emily Saving

“M3- Mentoring & Managing Millennial' s” Of the roughly 312 million people living in America today, 80 million, or about 25% are Millennials, or Gen Y'ers. It is a unique generation, notable for its utter dependence on technology and its increasingly short attention span. Join Emily for her presentation where she will help you understand the defining characteristics of a Millennial, what he or she most values, and how to use this information to reach, attract and engage, manage and mentor a Millennial ... and lastly, why it's important for you to care. By attending this session, a participant will be better able to understand why it's important to develop engagement strategies specific to Millennials , and what some of those successful strategies might look like.



Mark Mattson

“Networking for Success” Key Note Speaker Mark Mattson is an inspiring speaker and the author of the international bestseller, *Freedom from Fear*. For over 20 years, Mark's positive humor and peak-performance tools have impacted organizations around the globe, igniting personal and professional success for tens of thousands of people. **He will share the keys to successful Networking, how to make the most of every opportunity and how to overcome your personal fears. Are you ready for a high-powered, highly entertaining message- Don't miss out!**



Carol Wallace

“The Benefits of Becoming a Certified Women Owned Business- Why Get Certified?” Carol Wallace CEO and Owner of Cooper-Atkins Corp will share her personal experience and the ultimate benefits of becoming a Certified Women Owned Business. Learn how to Make the most of your certification and increase access to business opportunities.



Matt Michel

“Brand You! Reaching the Ultimate Freedom of a Successful Business through Marketing”

If you fail to build a brand for your company, then your company becomes a commodity. Brands can carry a premium. Commodities are chosen on price and noise. So that's your choice: brand or commodity.

Which is it? Line up with a dozen competitors. How do you stand out? What makes you different? Unique? Memorable? Why would someone chose you over the eleven contractors shouting, “Oooh oooh oooh! Me too! Me too!” Come to Brand You and find out.



10th Annual WHVACR Conference

"Philadelphia Freedom"

September 16-17 * Philadelphia, PA




Conference Schedule

Monday, September 16

Time	Event	Room
6:00 p.m. to 9:00 p.m.	Welcome Reception- Elton John, 70's Disco Theme!	122B

Tuesday, September 17

Time	Event	Room
7:30 a.m. to 8:00 a.m.	Registration	122B
7:30 a.m. to 8:45 a.m.	Breakfast Buffet (<i>Sponsored</i>) Presidents Welcome -Patti Ellingson, WHVACR President	122B
Program will begin at 8:00 a.m.		
	Icebreaker Exercise – Networking -Ruth Ann Davis, Vice President	122B
8:45 a.m. to 9:30 a.m.	Key Note Speaker: "Forward Thinking" <i>2013 Contracting Business Woman of the Year</i> – Laura DiFilippo, DiFilippo's Service Company	122B
9:30 a.m. to 9:45 a.m.	Break – (<i>Sponsored</i>)	122B
9:45 a.m. to 11:00 a.m.	Business Workshop: "Building a Better Culture with the Right Team" –Rodney Koop, President/CEO-The New Flat Rate	122B
11:00 a.m. to 12:15 p.m.	Business Workshop: "M3 – Mentoring & Managing Millennials" -Emily Saving, Director of Education & Research Foundation- HARDI	122B
12:15 p.m. to 12:45 p.m.	LUNCH (<i>Sponsored by Ritchie Engineering</i>)	122B
12:45 p.m. to 1:30 p.m.	Key Note Speaker: "Networking for Success" -Mark Mattson, Best Selling Author, International Speaker, Peak Performance Consultant, Speaking coach	122B
1:30 p.m. to 2:45 p.m.	Business Workshop: Set Your Business Apart from the Rest, "The Benefits of Becoming a Certified WOB" -Carol Wallace, CEO, Cooper Atkins Corp	122B
2:45 p.m. to 3:00 p.m.	Break – (<i>Sponsored</i>)	122B
3:00 p.m. to 4:15 p.m.	Business Workshop: "Brand You! Reaching the Ultimate Freedom of a Successful Business." -Matt Michel, CEO of Service Round Table	122B
4:15 p.m. to 5:00 p.m.	Wine & Cheese Wrap Up and Networking Session - Sponsored by Emerson Climate	122B



Contracting Business 2013 Woman of the Year & Key Note Speaker at Women in HVACR Annual Conference



Laura DiFilippo
Vice President
DiFilippo's Service Company

Laura will join Women in HVACR on September 17th in Philadelphia, PA as a key note speaker at the 10th Annual WHVACR Conference. Laura will bring her message of **"Forward Thinking"**- something that has helped her in her career and personal life. Laura is a role model for other women in the industry "I realize how important it is for me to be a role model, as many great women in our industry have been role models for me. I am ready for whatever challenges lie ahead and look forward to interacting with the WHVACR membership and industry partners."

Laura is the Vice President of DiFilippo's Service Company, and also the out-going Chairman of ACCA, she was the first woman to serve in this role. Showing that hard work, determination and knowing your business will always put you on the path to success.

DiFilippo's Service Company is a family owned and operated company serving Delaware, Montgomery and Chester Counties for over 40 years. "This company is built on the principles of ethical work, industry experts and cutting edge technology", says President Vince DiFilippo. Our experienced office staff is always here to take your call. When you call during business hours your get a live person. No long on hold times or voice mail prompts. Our staff is here to listen and find solutions to your questions or issues. Our state of the art system provides scheduled appointments for equipment tune ups. We understand that waiting around all day is no longer convenient in today's busy world. Our technicians go through rigorous on-going training and education. We are NATE (www.natex.org) certified along with Home Performance Practices, including Air Balance Diagnostics and Carbon Monoxide/Combustion Testing and Remediation. Each technician is equipped with state of the art tools and equipment and arrives at your home in a fully marked, fully stocked company vehicle.

"Family is what drives us" says Vice President Laura DiFilippo. "Our company strives to provide the families in our community the highest quality workmanship." We really believe in our company motto "Quality Service Has No Substitute", says Vince DiFilippo.



Women in HVACR Scholarship Program



Women in HVACR is Proud to Award our First recipient of the “Go-Vo Tech Career Launch Scholarship”



- **Stephanie Hallock**, a High School Senior from Cuddebackville, New York, is the recipient of the first \$500.00 WHVACR “Go Vo-Tech Career Launch” Scholarship.

(This scholarship was established to assist and recognize young women who are entering into the field of Heating Ventilation, Air Conditioning and Refrigeration directly from high school.)

- The WHVACR Board selected Stephanie based on her essay, her GPA, and her cover letter. Through her essay, Stephanie demonstrates the enthusiasm, drive and determination that WHVACR is looking to help mentor as we usher in the next generation of Women in HVACR into the field of HVACR.
- Stephanie is now a Student Member of WHVACR and Women in HVACR will continue to mentor her during her continued education and career.

Good Luck Stephanie and Congratulations!

- This scholarship was also matched by HVACRedu.net. Stephanie has her choice of online courses with them.
- If you are interested or know someone who is interested in applying for the 2014 Scholarship, please visit our webpage under education/scholarship for additional details on how to apply.



Continued on Page 13



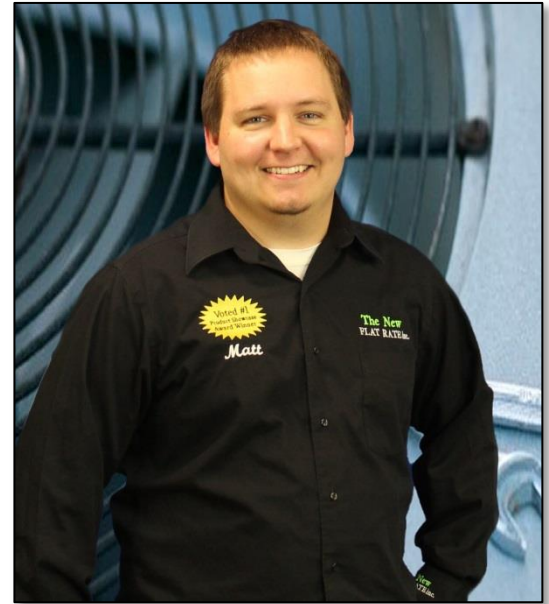
Now You See It. Now You Don't.

Matt Koop – Technical Trainer
The New Flat Rate



What does it mean to be a good service technician? Is it that you are able to average more dollars per call than the average technician does? Or is it when a technician can take their time and do a great job and give the customer a better warranty while building peace of mind with clients you are working for?

There are 2 ways to be a GREAT technician, and they are both equally important.



Non-Visual Skills

Non-visual skills mean that you are constantly improving your skills and learning how to make the systems you touch work better. Such as cleaning the coils, combustion calibrating and learning the physics behind super heat and sub cooling, etc...

Non-visual skills solve problems and are a necessity, but when your customer comes to inspect your work after you leave, they cannot see the added value you have given. If you take off the control panels to show them, then all they see are a couple of plastic parts you put on for no telling how much money.

So, how can you improve your non-visual skills? Here are a couple suggestions:

- Go to continuing education classes.
- Join online technical chat boards and do not be afraid to ask questions.
- Think outside the box, pay attention to the surroundings such as duct work and the building envelope and what it is going through on a daily basis.

Continued on Page 16



Member Spotlight

Linda Appler – Director of Sales & Marketing
Cliplight



1. What was your motivation to get into HVACR?

It was a natural fit. My father owned a plumbing and heating company. As a young child I grew up playing in my father's shop taking pieces of tin and using the shear, the metal break, and the roller to fabricate bracelets and dishes for my Barbies. Later on, both my father and brother joined together to step up the business to include: sales, installation, and servicing of air-conditioning units. That was the first time I heard the acronym "HVAC". Little did I know how it would play such a big part in my life. Many years later, my husband Paul and I would start a small distribution company which handled HVAC products. This venture, although minor, would one day develop into a strong partnership in 1999 with the Cliplight Manufacturing Co.

2. How long have you been a part of the HVACR industry?

As I mentioned before really it has been my whole life, and now, formally with Cliplight, for 14 years.

3. What would you say has been your greatest achievement, AND what has been your greatest obstacle?

My previous involvement in HVAC was always on the contractor level, never in manufacturing. Cliplight already had a successful battery charger and automotive division but had never been involved in the HVACR market. So, coming into an industry as an unknown manufacturer with a product that sealed leaks in Air Conditioning and Refrigeration systems, without any harmful effects, was our greatest obstacle. We were breaking the golden rule that states: "only refrigerant and oil should ever go into an AC/R system". Prior to the launch of Cliplight Super Seal, there was no such category as refrigerant leak sealants. Today we sell our products around the globe and every wholesaler catalogue has a place for that classification.

Our greatest obstacle as the first innovator of refrigerant sealants is educating our industry on the differences between our sealants and copy cat products.



Continued on Page 17



The Dynamics of Central Returns and Dust Problems

David Richardson – Curriculum Developer
National Comfort Institute



Central returns installations have been around for years and can present numerous issues if the right conditions exist.

The return duct in a central return installation can be one of two types. The first type is a hard ducted single filter grille application. The next would be the equipment mounted on a stand, pulling free air from the bottom of the equipment, with the filter located internally to the equipment.

In both applications they are normally accompanied by a fairly extensive supply duct system with a supply register or two placed in every room.

Interior doors impact your system's effectiveness.

If the home has no interior doors and the duct system is perfectly sealed on both sides of the HVAC equipment, this has the potential of being a great system! The problem is there are very few homes that won't have interior doors, for privacy reasons. This is where the influences of a central return can start showing up.

When interior doors start getting closed off to bedrooms and the HVAC system is running, a competition for airflow begins. The more appropriate term for an interior door as we have been using it at National Comfort Institute is a ***conditioned space manual damper***, as this is exactly what it is from an HVAC standpoint.

Remember, the building itself is an extension of the duct system.

Interior doors play an important role in this dynamic. Each bedroom that has a supply register in it will now have no path back to the return side of the system, as the pathway that was being used (the interior door opening) is now blocked with the *conditioned space manual damper* being closed off.

The central part of the home will now be depressurized, while the rooms with any interior doors (*conditioned space manual dampers*) that are closed will be pressurized.

This can result in a serious issue with dust!

The depressurized areas of the home are now a driving force to draw particulates from wherever the path of least resistance dictates.

Continued on Page 20



Proper Air Flow

Andy Potter – 5-2-1 Technical Advisor
CPS Products, Inc.



Proper air flow falls in a category of problems that are often undiscovered by the technician. Many technicians believe that discovering improper air flow is the responsibility of an engineer. The technicians have been conditioned to believe that the air flow is designed by the manufacturers. When the units are installed according to the manufacturer's specifications then the air flow is what it should be.

Unfortunately the duct work is not part of the equipment manufacturers design.



Duct work is a separate layout from the equipment. The equipment is sized according to the design of the confined space. The duct work is laid out according to the design of the home. The duct work must be a balance with the confined space and equipment.

It has been very common to find duct work problems when a unit fails and must be replaced. I have always recommended that the technician thoroughly check out the duct work before making a final decision to replacing a failed system with a new mechanical system. It could be that the old system failed because of improper air flow and if it is not checked out the new unit could fail for the very same reason. The older equipment could have been capable of handling the weak duct work better than the new system would because they were built with greater tolerances than the new systems.

Lack of air flow or too much air flow can bring on their own set of problems.

Remember air flow is the carrier of heat to the evaporator. If the system does not receive enough heat or too much heat either way the improper heat to the evaporator will affect the super heat of the evaporator coil. Too much heat (increased air flow) will cause the system boil off the refrigerant sooner than it should and increase the superheat. This will cause the tech to want to add more refrigerant than is needed. Too little air flow will cause the refrigerant not boil off as soon as it should and lead the tech to undercharge the system. The super heat and sub cooling could be normal but because of improper duct work the true designed saturation temperatures cannot be achieved in the evaporator coil or condenser coil. When the coils are not at the proper temperature heat transfer volume is greatly affected.

Continued on Page 21



A New Way to Wire Mini-Split Systems

Emily Goss – Applications Engineer
Southwire Company



In an effort to improve this process, the Southwire team developed EZ-IN™ Mini-Split Cable. This new cable design consists of the same wires as traditional; however a strong, flexible armor is wrapped around the wires to protect the cable from damage as well as acting as a replacement for the conduit allowing the cable to be run without the use of conduit (NEC Article 330). EZ-IN™ Mini-Split Cable has been approved by Underwriter's Laboratory (UL) and can be installed according the NEC parallel to or through the framing of a house, similar to NM-B cables (NEC Article 330.10).

An overall PVC jacket is wrapped around the armor in order to protect it from the natural elements, which allows the cable to be installed outside where it is exposed to sunlight and water.

Additionally, Southwire's EZ-IN™ Mini-Split Cable has conductors rated for use up to 90°C in wet and dry locations and has undergone testing per UL standards in order to receive a cold rating of minus 40°C and a "Direct Burial" rating (UL 1569). These additional ratings allow for the cable to be installed in a variety of environments.

Southwire's EZ-IN™ Mini-Split Cable offers an all in one installation solution which eliminates the need to purchase different types of cables for outdoor and indoor use. The cable can be run continuously from the outdoor compressor to the indoor air handling unit safely and without the use of conduit, which will allow installers to efficiently wire more mini-split systems and save a significant amount of time and money. EZ-IN™ Mini-Split Cable is yet another result of Southwire's continued efforts to develop superior solutions for their customers.



Continued on Page 22



Scholarship Award Winner

Stephanie Hallock - Scholarship Entry Letter



Continued from Page 7



My name is Stephanie Hallock and I am striving towards my goal of working in the Plumbing/HVACR career field. I attend the Career and Technical Education Center CTEC at Orange Ulster BOCES in Goshen, New York. In June I will be graduating with a regent's diploma from my home school in Port Jervis, New York. I will receive an NCCER Certificate from CTEC upon graduation.

Also, during our first year we took OSHA classes and we were rewarded with our OSHA 10 hour safety card. Another certificate that we were able to receive was for air conditioning. In my second year I received my Universal Air Conditioning Certification while still learning about A.C. in class. So many individuals ask me "What is like to be women in this field?"

I answer by saying that it wouldn't be any more or less challenging than if I were a male. I enjoyed writing this essay due to the fact that there were no questions pertaining to my gender. Everyone would like to believe that they are being recognized for their hard work and determination.

What is motivation? Motivation is what drives us to try harder, to reach or exceed our goals. My motivation was my own lack of knowledge and experience.

My room is in the basement, so the boiler room is right on the other side of the wall in my room. One day I woke up and there was a quarter of an inch of water on my floor, realizing it was coming from the boiler room I went to see what had went wrong.

The boiler was still operating but hot water was coming out of an open piece of copper on the side of the boiler. I placed a bucket under the copper pipe hanging down and had to siphon the water out every morning. Not understanding what was wrong with it and being helpless made me so frustrated. At the time I was taking a fashion/interior design class at my home school and had been planning to take fashion/interior design at CTEC.



Scholarship Award Winner

Stephanie Hallock - Scholarship Entry Letter



Interior Design and Fashion weren't challenging though, so I decided that instead of designing and decorating the interior of a home I could install and repair the interior parts of a home to help it run properly. I then enrolled in the Plumbing/HVAC course at CTEC. Even though I knew nothing about HVAC and had the least experience there I still became top in my class both years. This is when my motivation came in handy. What I lacked in experience and knowledge I made up for with hard work and determination.

After acquiring the knowledge and experience, I repaired my boiler. The problem was with my expansion tank, there was a leak in the internal bladder. The bad expansion tank leads to excess pressure in the system which blew the pressure relief valve. After that incident I had an epiphany, my new motivation became solving the challenging problems that arose when servicing and installing HVAC systems.

My long-term goal is a little different than my motivation to push myself forward. My long term goal is to simply continue learning. For one to push themselves to learn as much about a single industry as possible, one must think long term. After high school I am planning to attend SUNY Delhi State University of New York for two years. Following Delhi I will then transfer to another school for the remaining two years so I can receive my Bachelor's Degree in HVAC.

My plan post college is to then join a company or a union. I find the challenge of servicing residential work exciting, but the complexity of installing commercial work is enriching.

Having a career in HVAC could influence my future goals.

There are more opportunities related to this profession than people may think. HVAC includes the obvious heating, ventilation and air conditioning. HVAC also contains plumbing, refrigeration and DWV. This field having so many opportunities could change my career path many times over.

Some career paths related to HVAC are pipe layers, pipe fitters, steam fitters, boiler makers, electricians, sheet metal workers, stationary engineers and boiler operators. This field is a logical choice simply because of the vast amount of career paths that can branch off from HVAC. Especially in today's society, HVAC is a necessity.

Continued...





Scholarship Award Winner

Stephanie Hallock - Scholarship Entry Letter

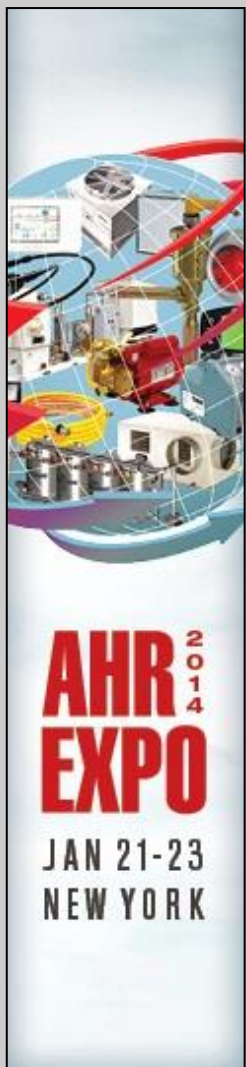


Every home needs heating and plumbing. Refrigeration is necessary to have in supermarkets, hospitals, restaurants, and morgues. Aside from the obvious fact that HVAC service technicians and installers are always in need, today's society is expecting more from this field. With rising oil costs and the depletion of the ozone layer heating and A.C. systems need to be more eco-friendly and efficient. Refrigeration and A.C. systems also have stricter codes to follow.

The reason for stressing the HVAC industry like this is to hopefully push individuals to create more efficient and environmentally safe systems. Aside from the systems themselves, another problem facing this field is with residential calls. Service calls are dwindling because of the fact that home owners are getting charged by the hour and not by the work performed.

Many individuals don't want to call a service technician because they don't want to pay \$50 for a guy to tell them that a wire nut fell off. I also feel that some supervisors do not enforce some laws, such as the fact that the only release of refrigerant into the atmosphere that is legal is de minimis.

No matter which path I choose to take in the future, right now is what matters most. That's why I have and will continue to work hard. At first I didn't believe that I could do this, especially when it came to air conditioning, but after studying at home and getting my Universal A.C. Certification, I realized that I can succeed but I have to do it on my own. Someone won't always be there to push you in the right direction, sometimes one must figure out what is right on their own and make a move based on their own personal judgment. Continuously learning, failing and achieving is not something that I want just for my career, I want to do the same in life.





Now You See It. Now You Don't.

Matt Koop - Technical Trainer
The New Flat Rate



Continued from Page 8

Then, once you begin solving problems, focus on how can we get a, **“WOW!”** reaction from the customer. So, how do you get the **“WOW”**?

Simple, with skill #2:

Visual Skills

Visual skills are those extra things that make the customer say, **“WOW!** I can see you are really good at what you do.” They are those things that make your customer tell their friends about you. And they are those things that when their neighbor says, “I saw the A/C guys over there yesterday what did they do?” Visual Skills will cause the responses like, “Come on over and I’ll show you!”

Now of course there are always the small visual skills like wearing shoe covers, using drop cloths, and not making a mess, but what are some things you can do that will cause more of a **“WOW”** type response?

- How about washing and waxing the outside of an a/c system.
- Painting the covers of an older unit that might have rust or deck paint on it.
- Repairing the insulation on a line set that has sun damage.
- Putting down nice gravel around an outdoor unit to keep the weeds off.
- Even labeling different types of equipment and disconnects for easier maintenance.
- And these are just a few ideas; the list goes on and on.

Find something that you can do in your market to make the customer say, “WOW! I’m so impressed!” At the end of the day, a good service technician is one that will take the time to do a better job both visually and non-visually.





Member Spotlight

Linda Appler – Director of Sales & Marketing
Cliplight



Continued from Page 9

4. How would you sum up your experience in the industry?

My experience has been positive. I find the vast majority of the men and women working in the HVACR industry to be hard working, self motivated, generous and kind people. They are the type of people who make up the back bone of Canada and the USA and who help fuel our two great nations. When you get to work with good people you enjoy the ride.

5. What benefits do you feel being a woman in the HVACR industry has had for you?

If you are willing to work hard, know your job and enjoy meeting people, a woman can earn a wage and the respect, equal to any man.

6. Tell me about your company and your role within the company, how has that changed over the years?

Cliplight Manufacturing Co. out of Toronto Canada was founded in 1976. It has grown into an innovator and manufacturer of products in three global markets: Automotive | Heavy-Duty, HVACR, and Battery Chargers. The company began its efforts on a single SKU, the Cliplight Worklight, which remains tried and trusted today. The HVACR division was launched in 1999 and after years of research we invented the first AC/R sealant. More than a decade later, Cliplight remains the leader in sealants and continues to develop industry-best chemical technologies.



As director of sales and marketing for the HVACR division I was initially jointly responsible, with product developer Paul Appler, for the building of this division from the ground up. This included set up of production, product packaging, marketing supports, the assembling and training of a North American wide team of manufacturers reps, setting up wholesale partners and create a distribution chain in the HVACR channel.



Member Spotlight

Linda Appler – Director of Sales & Marketing
Cliplight



Three years after the 2003 North American launch of product we set our sights on the European market and began the whole process there as well. We also trained and set up distribution with our partners in Australia which also handles the market in Asian and the Middle East.

The biggest change from the early days of setting up a new division and launching our flag ship product Super Seal is my involvement in the ongoing effort to expand our product offering. I work very close with the product development team to help determine the viability of proposed projects. In addition I work closely with our customer service and tech support to make sure our customers on the wholesale and contractor level are serviced and supported.

7. What would be your advice to a female new to our industry?

Know your job, do it with excellence, and be willing to do more than is expected of you. Keep your word, and be kind and generous to everyone you meet. Lastly, always smile when a well meaning contractor tells you: “Hey, you really know a lot for a girl”. Don’t take offence they are really trying to give you a complement.

Some sage advice from Mark Twain: ***“Keep away from people who try to belittle your ambitions. Small people always do that, but the really great make you feel that you, too, can become great.”*** Fortunately, we have a lot of great people in this industry!





Member Spotlight

Linda Appler – Director of Sales & Marketing
Cliplight



8. Tell me about yourself personally- Hobbies, Family, Sports, How do you stay grounded.

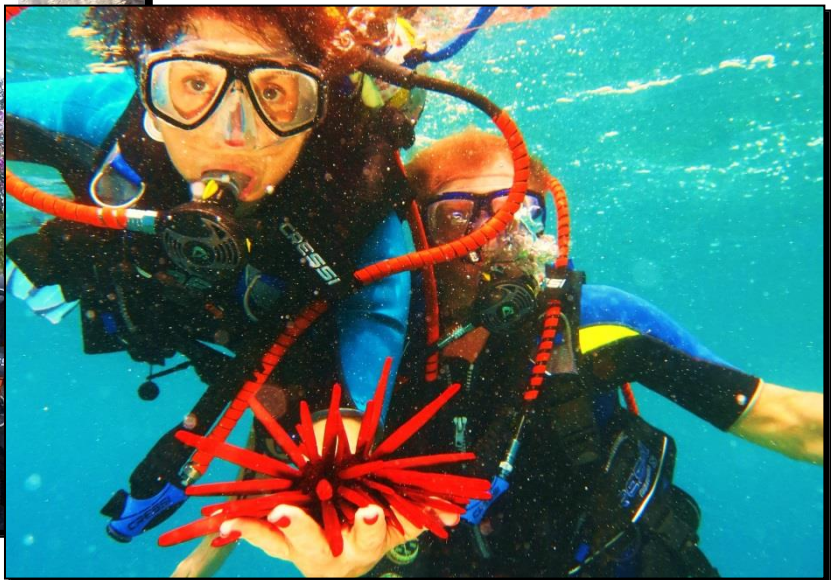
I am married to a great partner in life and in business, Paul, my husband of 31 years. We have 4 sons and one daughter, ages 29 to 18. For recreation I love to garden, cycle, walk, boat, and play tennis. My greatest joy is spending time over a good meal and great conversation with our kids.

Staying grounded, I have found, is a difficult balance of body, mind, and spirit. In order to achieve this one must keep moving forward and growing in all these areas. Growing will require you to do things that may scare you. But, the more you exercise the discipline of pushing beyond your boundaries the more confidence you will build. This will enable you to explore other areas, grow without limits, and stay grounded.

- ***“Life is like riding a bicycle. To keep your balance, you must keep moving.”*** - Albert Einstein
- ***“Do one thing every day that scares you.”*** - Eleanor Roosevelt

9. Where did you go to school? Degree?

I earned my diploma in Fashion merchandising, advertising and design from Niagara College, in Welland, Ontario Canada.





The Dynamics of Central Returns and Dust Problems

David Richardson – Curriculum Developer
National Comfort Institute



Continued from Page 10

If the interior air barrier (typically drywall) is not continuous and has gaps in it, any porous forms of insulation such as cellulose or fiberglass can become airborne. When this particulate becomes airborne it will typically fall and settle on surfaces in the home while rarely making it back through the return system of the HVAC system.



There are HVAC contractors across the country today who are being blamed for dust issues due to this very cause and effect reaction taking place in a home.

Most contractors looking for answers typically blame the filter type or the filth of the customer when in reality it is usually neither of those.

How can you determine the cause of dust?

Take your finger and wipe it across a piece of dusty furniture, if the dust balls up in between your fingers, there is a good possibility it is a form of insulation and not dust. Check the interior door jambs in the home also; they will collect the particulate as air entrained with the fibers moves from higher pressure to lower pressure.

Had any dust complaints lately? Is it possible that conditioned space manual dampers could be causing your dust problems?

There are various methods that can be used to solve this issue. Some of these methods actually work, while others just sound good on paper. The real key is having the proper training and real world knowledge to diagnose and correct these problems. This will enable you with the ability to provide solutions that will delight your customers and increase your ability to move beyond your competition!

Submitted by:

David Richardson
Curriculum Developer & Instructor
National Comfort Institute, Inc.





Proper Air Flow

Andy Potter – 5-2-1 Technical Advisor
CPS Products, Inc.



Continued from Page 11

Heat transfer is what makes the units operate with efficiency. The term SEER is based on BTUs per Watt of power. All of the energy should be used in transferring heat (BTUs); not overcoming poor system designs.

Outdoor temperature changes causes the energy used to vary with varying temperatures. When the duct work is poorly designed the energy used is often wasted overcoming the poor design and in many cases the poor design can not be overcome.

CPS Manufacturing produces instruments that allow the technician to test the static pressure of the duct work as well as the wet and dry bulb temperatures of the air flowing through the duct work. After proving the system is properly installed these readings can be taken and the tech can be satisfied the performance of the mechanical activity and the air flow through the duct work is acceptable.

Improper air flow can mislead a technician if he does not truly understand the interpretation of the instrument readings.

In residential systems the static pressure should be as near as possible to .5 inches W. C. and the wet bulb temperature difference from the return and supply should be within 8 to 10 degrees. The dry bulb temperature difference from the return and supply should be 15 to 18 degrees in more moist climates. Dry climates will have a small wet bulb change and the dry bulb change will be over 20 degrees difference. The static pressure in dry climates should be .5 inches W.C. as well.

Does Air Flow affect performance?

Yes; just look at air flow for the air conditioning system the same as air flow for your body. Hold you nose and mouth closed for a few minutes and the importance of air flow will come to you. I'm just having fun with that one. However it just happens to be true.





A New Way to Wire Mini-Split Systems

Emily Goss – Applications Engineer
Southwire Company



Continued from Page 12

Southwire is excited to introduce their EZ-IN™ Mini-Split Cable to the HVAC market. This new cable design will allow contractors to route electrical wiring for mini-split systems faster and more cost effectively.



Mini-split heating and cooling systems are becoming increasingly popular in homes across America. These systems are easy to install as they do not require existing duct work and their versatility make them a great option for heating and cooling your home. A mini-split system is primarily made up of two main components: the indoor air handling unit that heats or cools the room and the outdoor compressor that powers the indoor unit by way of a complicated system of electrical wiring. This wiring system typically consists of multiple wires twisted together with an overall PVC (polyvinyl chloride) jacket and then installed in conduit as required by the National Electric Code (NEC) in an effort to prevent damage to the cable (NEC Article 300.4). Damage to the jacket or insulation caused from nails or other objects that could puncture the cable can lead to fires or electrical shock to a person handling the wire. However, routing the conduit through the house and then pulling the wire through the conduit can be costly and time consuming for the contractor.





10 QUESTIONS!

Test Your Knowledge – NAFA IAQ



Every good filter person has to pay attention to the small details. After all, we are always dealing in micrometers.

See how you do with the following quiz on air filter details.

(See answers and details on page 26.)

True or False?

1. MERV is the ANSI/ASHRAE single number rating system for air filter efficiency on particle size.
2. Gaseous compounds with a molecular weight above 300 are strong odors.
3. Immunosuppressed patients in a hospital must be kept in negative pressure rooms and patients with infectious diseases must be kept in positive pressure rooms.
4. The most penetrating particle size for any media varies with media density.
5. One of the changes of ASHRAE 52.2 over 52.1 is the ASHRAE Test Dust used.
6. Media velocity and face velocity are the reciprocal of one another in a flat panel-type filter.
7. Dipole Moment describes the moment at which electron, protons and neutron in a molecule are equally dispersed in their orbits.
8. In a cabinet designed to retain Level 3 biological hazards, HEPA filters with pinhole leaks must be replaced.
9. Activated carbon is one of the best universal gas-phase absorbents known.
10. OSHA's NAAQS sets quality standards for outdoor air.

If there was any question about any of the answers...you need to join with over 650 of your fellow air filter professional who share the same vision and purpose – to promote the value of clean indoor air through air filtration as a health and safety priority:



National Air Filtration Association
Serving the interests of the air filter
industry – worldwide.

www.nafahq.org

757-313-7400





Are You a "SAFETY GIRL"
 WHVACR members receive a 10% discount
Order Yours Today!



SafetyGirl™

TOUGH CLOTHES THAT LOOK GREAT.



A. PINK GARDENING GLOVE
 by Womanswork
 WW502
\$15.79

B. TUFF CHIX FLEECE GLOVES
 by Ironclad
 DSGICSMTC
\$19.99

C. TUFF CHIX GLOVES
 by Ironclad
 DSGICTCX
\$18.99



D. STEEL TOE ATHLETIC SHOES
 by Nautilus
 CSGBOOT1000007321
\$65.99

E. PURPLE RAIN BOOTS
 by Puddletons
 NO64517
\$34.99

F. PINK KNEE RAIN BOOTS
 by Norcross
 NO18823
\$23.99

G. STEEL TOE WORK BOOTS
 by Safety Girl
 CSGBOOT1000003853
\$23.99



CANVAS COTTONWOOD JACKET
 by DRI DUCK
 CGDD9011
\$45.99



INSULATED BIB OVERALLS
 by Walls
 CSGOVWL1000012751
\$59.99



H. PYRAMEX MINI ZTEK - MIRROR
 PS2580SN
\$2.09

I. EVA SAFETY GLASSES
 UA250-11
\$5.49

J. SAFETY GIRL NAVIGATOR
 SFTEYSG1000021196
\$1.49

K. MOXIE TRADES
 MX30123
\$16.99

L. PYRAMEX MINI ZTEK-PINK
 GRLSGTL1000021977
\$2.09

**A****B****C****D****E****F****G****H****I****J****K****L**

SELF DEFENSE



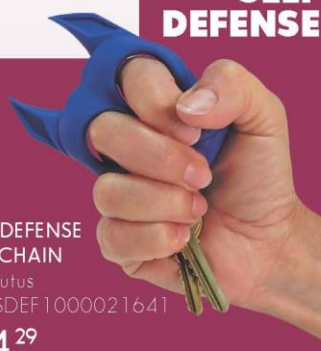
LIPSTICK PEPPER SPRAY
SFTPPRS1000004830
\$6.99



STUN GUNS
by SHURE
GRLPPRS1000022605
\$36.99



SELF DEFENSE
KEY CHAIN
by Brutus
GRLSDEF1000021641
\$24.29



A. PINK FLASHLIGHT
by Maglite
SGR687
\$12.00

B. 39 PIECE PINK TOOL KIT
by American Fulfillment
SGDT9706P
\$24.49

C. 18 PIECE GARDEN TOOL KIT
by Apollo
APDT3795P
\$19.50

D. LEATHER TOOL BELT
by Safety Girl
CGBTLCP-19LP
\$17.99

E. TOOL BELT KIT W/ MSA HARD
HAT
KSG/MSAPHTE
\$27.85

F. 8 PIECE TOOL KIT
by Apollo
APDT1043NP
\$24.29

G. PURPLE LEATHER TOOL POUCH
by Safety Girl
CGBTLNB-25LPUR
\$14.99

H. 4.8V RECHARGEABLE
SCREWDRIVER
by Apollo Tools
APDT0421P
\$35.99

I. V-GARD FAS-TRAC
SLOTTED CAP
by MSA
SFTTHMS1000022956
\$12.99

J. GO PRO-GIRL SAFETY HARNESS
1 D RING
by Norguard
SNGNPH28
\$65.99

K. GO PRO-GIRL LANYARD -
SINGLE LEG
by Norguard
SNL01PW01
\$35.95

L. GO PRO-GIRL LANYARD
W/ LOCK SNAPS - SINGLE LEG
by Norguard
SFTFALL1000009206
\$41.99

Online Stores, Inc.
1000 Westinghouse Drive, Suite 1
New Stanton, PA 15672
sales@onlinestores.com

OnlineStores

VISIT OUR OTHER STORES!

CONSTRUCTIONGEAR.COM
DISCOUNTSAFETYGEAR.COM



All prices subject to change without notice.



ANSWER KEY to 10 QUESTIONS!

Test Your Knowledge – NAFA IAQ



Continued from Page 23



**AHR
EXPO**
2014
JAN 21-23
NEW YORK

1. MERV stands for minimum efficiency *reporting* value – it is not a rating and ASHRAE bylaws specifically prohibit them from rating products.
2. The bigger the molecule, the less odors tend to be detected.
3. Just the reverse.
4. Velocity of the air determines the MPPS – this is why it is critical to operate filters at their rated capacity...that is how they are tested.
5. No – same Test Dust is used...the challenge is different – Potassium Chloride instead of outdoor air.
6. They are the same, not the reciprocal.
7. Concentrated at one end or the other...not evenly distributed.
8. Actually, pinhole leaks can be detected using cold DOP or equivalent challenge and a photometer, then repaired using an RTV-type silicone material.
9. OK, we are getting picky – actually activated carbon is an adsorbent, not an absorbent so the answer is false. There is a big difference!
10. It is EPA that sets and measures the National Ambient Air Quality Standards, not OSHA.

All of the questions hinge on a micrometer detail.

