

NORTH HALL EXHIBITS
(N1000 - N12143)
ASHRAE COURSE REGISTRATION
STRAIGHT AHEAD TO:
SHUTTLE BUSES
TAXIS

Record Crowd Attends 2017 AHR EXPO

BRILLIANT^T

Meet the thermostat series
that fits your business to a ^T

T1 Pro

T4 Pro

T6 Pro

Lyric™ T6 Pro Wi-Fi



The Honeywell T Series is a new portfolio of non-connected and Wi-Fi connected thermostats that streamlines everything from selection and installation to connection and support. With a standard footprint and simple interface, the T Series will enhance the entire home comfort experience for you and your customers alike.

Discover all the ways the T Series fits your business to a T at [ForwardThinking.Honeywell.com/TSeries](https://www.honeywell.com/ForwardThinking.Honeywell.com/TSeries)

AHR Exhibitors Discuss The Show



AHR Attendees Share How the Industry Can Recruit New Talent



the **NEWS**

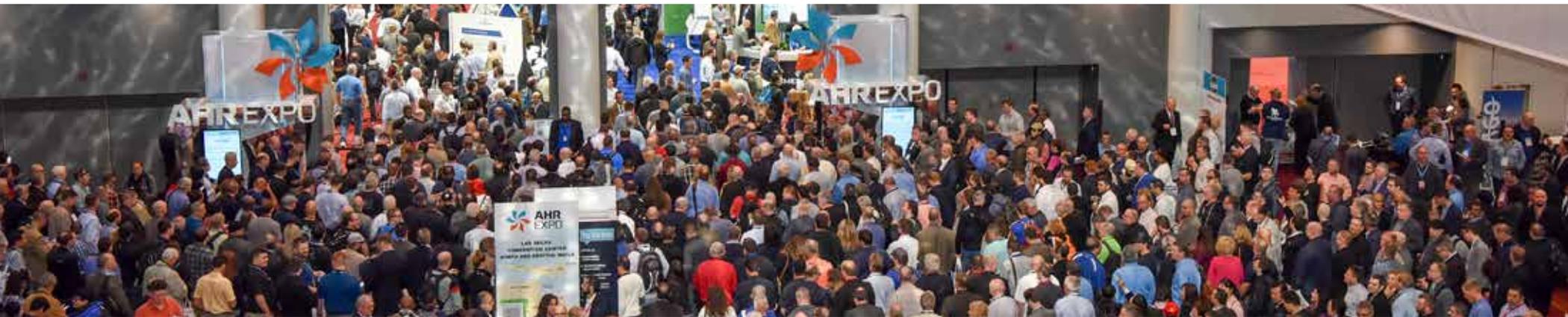
Air Conditioning | Heating | Refrigeration

Julie Decker

President, Women in HVACR

Contents

Chapter 1	2017 AHR Expo in Las Vegas Breaks Three All-Time Records.....	7
Chapter 2	Ductless HVAC in High Demand.....	16
Chapter 3	Smarter Thermostats Satisfy the Needs of Smarter Customers	23
Chapter 4	Efficiencies, Remote Capabilities Shape the Geothermal Market	28
Chapter 5	Efficiency, Internet of Things Influence Residential A/C Market.....	33
Chapter 6	Expect Another ‘Dynamic’ Year for HVAC Refrigerants.....	41



Published by The Air Conditioning, Heating and Refrigeration News, March 2017. Copyright © 2017, BNP Media. All Rights Reserved. No part of this book may be reproduced or used in any manner, except as permitted by the U.S. Copyright Act, without the express written permission of the publisher. Every effort has been made to ensure the accuracy of the information presented in this book. However, BNP Media does not guarantee its accuracy. Any error brought to the attention of the publisher will be corrected in a future edition.

Comfort-Care®

Century®



A complete line of residential and commercial equipment for heating and cooling

www.marsdelivers.com

MARS®
Delivering Confidence

2017 AHR Expo in Las Vegas Breaks Three All-Time Records

WESTPORT, Conn. — The International Exposition Co. announced that the 2017 International Air-Conditioning, Heating, Refrigerating Exposition (AHR Expo), held Jan. 30-Feb. 1 in Las Vegas, has officially broken three of the show’s all-time records.

With 68,615 attending the 2017 show, AHR Expo superseded its former all-time attendance record of 61,674 (set at the 2015 show in Chicago) by 11.2 percent. This number was also 28.7 percent greater than the overall attendance (totaling 53,324) at the last AHR Expo held in Las Vegas in 2011.

Additionally, the 2017 show’s exhibits occupied a total of 500,159 net square feet, breaking the AHR Expo all-time record set in 2015 in Chicago at 486,600 net square feet.

At 48,568, the total number of 2017 AHR Expo visi-

tors also surpassed the show’s all-time visitor attendance of 42,887, set in 2014 in New York, by 13.2 percent. This number also surpassed visitor attendance (33,612) at the last AHR Expo held in Las Vegas by 44.5 percent.

“We are beyond proud to see evidence that the AHR Expo continues to grow in both attendance and size, as well as in alignment with the HVACR industry at-large,” said Clay Stevens, president of International Exposition Co. “It’s such an exciting time for the industry right now, and that was prominently reflected in the level of enthusiasm and the wide scope of ingenuity seen on the 2017 show floor in Las Vegas. We look forward to our continued production of this premier platform for HVACR innovation, idea exchange and business development, and specifically to our 2018 show in Chicago.”

The 2017 show’s nearly 11.5 acres of exhibit space was occupied by 1,968 exhibitors, 259 of which participated

Introducing
AquaBalance™
by **WEIL-McLAIN®**



Condensing Combination Wall Mount Gas Boiler,
designed for home and domestic hot water heating

94.4% AFUE energy efficiency
155K heating input
4.0 GPM* at 70° rise minimum

Bringing heat and hot water into perfect Balance

For more information, visit www.aquabalanceboiler.com.

- **Stainless Steel Heat Exchanger** — durable 316L titanium infused design
- **Compact Size** — saves valuable space
- **Insulated Cabinet** — ensures whisper quiet operation
- **Removable Panels** — designed for easy maintenance
- **Multiple Vent Options** — accommodates different structure styles

*Gallons per minute

in the AHR Expo for the first time. A notable 20,047 exhibitor personnel staffed the exhibits in Las Vegas, representing a majority of the U.S. geographic landscape, as well as 32 outside countries.

A total of 14,825 international visitors attended the 2017 Show from 165 countries, along with 541 international exhibitors.

“We’ve been exhibiting at AHR Expo for more than 10 years — it has consistently proven to be a well-organized show and provides a good turnout of attendees,” said Mark DeNovellis, global product manager for Amphenol Advanced Sensors in St. Marys, Pennsylvania. “There was a really good mix of international visitors this year in particular, and I believe this is in part due to the fact that Las Vegas is a destination draw for international travelers. Overall there was lots of energy and excitement on the show floor.”

In addition, exhibitors at the 2017 AHR Expo underscored the importance of the show’s ability to facilitate face-to-face interaction as part of the annual exhibition experience.

“Participating as an exhibitor at this year’s AHR Expo gave us a lot of opportunities, the best of which was meeting customers we talk to all the time but never really get

to see in person,” said Kyle Cruise, outside sales for Connect-Air in Auburn, Washington. “Hands down, this was an event worth attending, and we already can’t wait for 2018.”

“This is a very large world, and yet we operate in a fairly intimate industry,” said regional sales leader Mike Stiltner of Haier in Wayne, New Jersey. “It’s so important to get in front of current and potential customers, while staying in touch with where the industry’s going. We participate in about six shows a year, and this is the best by far — the largest audience, the greatest mix of attendees, the broadest opportunity to compare our products to the competition.”

“I’d summarize my experience in two words — great conversations,” said Lindsey Ford, manager, multi-channel communications at Rheem Mfg. Co. in Atlanta. “We saw a broad mix of customers, and the conversations felt warm and engaging. My favorite part of this year’s show was the high energy level — the economy has really been picking up, and it definitely reflected on the AHR Expo floor. It was also rewarding to see attendees engaged in the hands-on interactive components of our booth’s product and prototype displays.”

“We really value the AHR Expo as an ideal place to



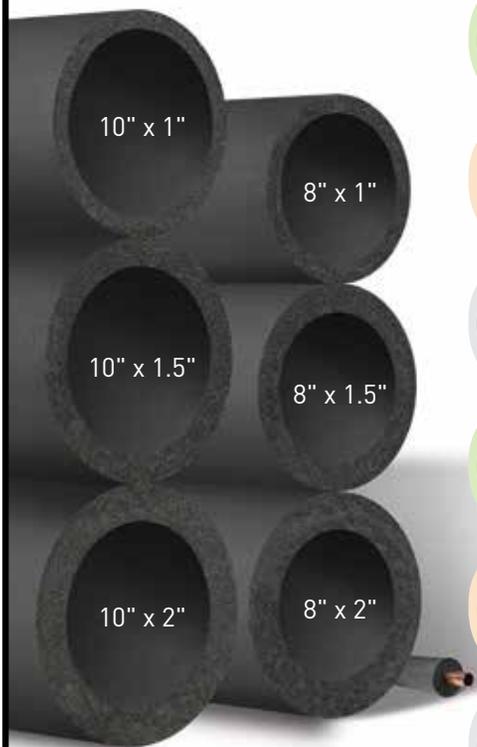
see customers each year,” said Dennis Jones, key account manager at Duluth, Georgia-based SWEP North America Inc. “We also appreciate how the show helps us generate quality leads. Having the show in Las Vegas was a great move on the part of show management as well.”

Several exhibitors underscored the benefit of the show’s location in Las Vegas this year, noting the region as an appealing draw in numerous respects.

“We’ve been AHR Expo exhibitors for many years now, and there was a noticeable advantage to us in its location in Las Vegas for 2017,” said key account manager, Chris Pence, of Fireye Inc., in Derry, New Hampshire. “This is the only show at which our company ex-

AP ARMAFLEX® LARGE ID TUBES

Now offering large size tubes.



 **Saves Time**
Easy-to-install tubes

 **Less Waste**
Reduce scraps from cutting sheet material

 **100%**
Fiber free and non-particulating

 **25/50**
ASTM E 84 flame and smoke rated

 **Condensation Control**
Reduces the chance of corrosion (CUI)

 **Microban®**
Antimicrobial Technology
GREENGUARD
Gold Certified

AP/Armaflex® INSTALL IT. TRUST IT. 

© 2017 Armacell LLC. Made in USA. MICROBAN is a registered trademark of Microban Products Company. Certified to GREENGUARD Gold standards for low chemical emissions into indoor air during usage. www.armacell.us | 800.866.5638 | info.us@armacell.com

hibits each year, so it's important we maximize our reach in as many ways as possible. Vegas provided a lively and unique venue for us to meet many of our customers face-to-face. They expect us to be at AHR Expo, and we feel like we were able to be here in a big way this year, in part thanks to the regional location of the show.”

Additionally, exhibitors commented on the value of new product introductions seen annually at AHR Expo.

“Introducing new products is one of the most important components of our exhibition strategy at AHR Expo,” said Davidson, North Carolina-based Trane’s director of marketing, Kevin Stamets. “We had 120 people from Trane working this year’s booth, and we needed every one of them. Attendance was strong, and booth traffic was steady.”

Numerous attendees echoed the enthusiasm of exhibitors at the 2017 AHR Expo in Las Vegas, and particularly noted its breadth of value in displaying new products and technologies, offering valuable education opportunities, and providing a unique opportunity for networking.

“This was my first time attending AHR Expo, and I had an amazing experience,” said Miami-based HVAC technician Felix Santos, of All Air Solutions. “I was impressed by the well-organized nature of the show overall,

as well as the knowledgeable booth staff. Our main goal in attending the AHR Expo was to see what's new in contractor tools, but the actual benefit went way beyond this. I enjoyed a variety of valuable presentations, found some great networking opportunities, and was even able to interact with our competitors. I'm new to the industry and can see right away that this is the place to be. I'll definitely attend the show next year in Chicago."

"I attended the last show in Las Vegas, and this year's was definitely even bigger," said Rocky Mountain Boiler Inc. vice president, John Beins, of Idaho Falls, Idaho. "It's great to view all the new technology on display and to have the opportunity to actually see and try out products in the manufacturers' booths. We've been in business for 24 years, but it's important to stay on top of what's new in the industry to maintain our success."

Like many exhibitors, attendees noted their enjoyment of the show's location in Las Vegas this year.

"I'll be honest, this was my first time in Vegas, so it was great to combine work and fun and be able to bring my wife along," shared John Hynak, owner of Hynak A/C & Refrigeration in Moscow, Pennsylvania. "There was a great deal to see on the show floor, and those manufacturers providing tool demonstrations in their booths re-



ally stood out to me. The mix of sales reps and engineers staffing the booths was also really helpful. I was able to take advantage of several educational classes during the week, including 'How to Grow Debt-Free While Generating Cash,' and 'Business UN-Complicated! Create the Business and Life You Want.' I'd say, without a doubt, that this year's AHR Expo was such an incredibly beneficial and enjoyable experience all-around."

Summarizing the success of the 2017 AHR Expo in Las Vegas, exhibitor Steven Santoro, senior sales manager at Woburn, Massachusetts-headquartered Vaisala Inc. shared, "The aisles were packed. Our booth was packed. We found ourselves not being able to leave the show floor,

Often Imitated Never Duplicated

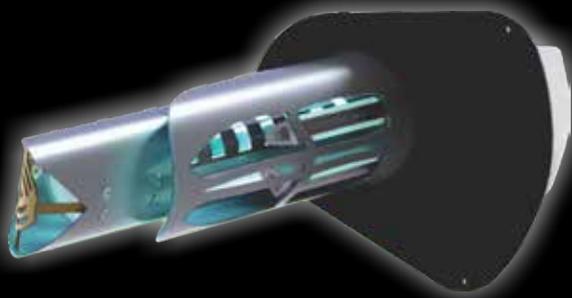
Bi-Polar Ionization + PCO + H₂O₂

All 3 Technologies Combined Into 1 Superior Unit

- **Enhanced Catalyst With Zinc For Faster Kill Rates**
- **Increased Ionized Hydro-Peroxide Output**
- **Easier, Faster, No Tool Cell Replacement**

REME • HALO®

In-duct Air Purifier



Winner of The News
Dealer Design Award
2013, 2014, 2015 and 2016

For continuous whole home and commercial air purification.
Proactively reduces bacteria, mold, odors, particulate, viruses and
VOCs anywhere in the conditioned space.



@RGFEnvironmental

RGF[®]
ENVIRONMENTAL GROUP, INC.

800.842.7771

www.rgf.com/air-purification



Gold Sponsor

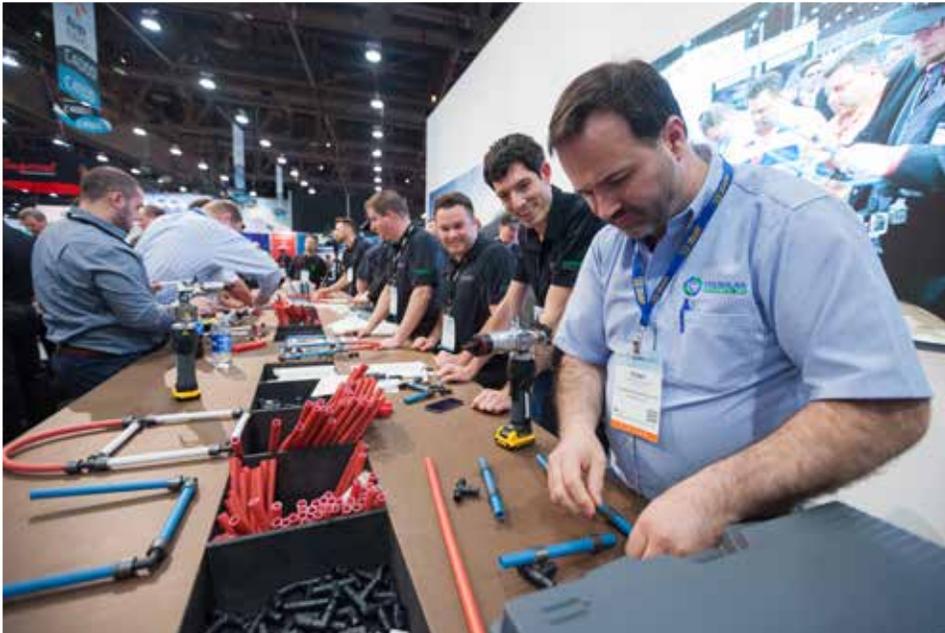


and wishing for more square footage.”

The next AHR Expo, co-sponsored by ASHRAE and AHRI, will be held Jan. 22-24, 2018 at McCormick Place in Chicago. For additional information, visit ahrexpo.com. 

Attendees Soak Up Knowledge at AHR EXPO







Introducing Daikin DOAS AHU, a breath of fresh air in building comfort

Daikin's new DVS Dedicated Outside Air System Air Handling Unit (DVS - DOAS AHU) is designed for integration with VRV outdoor units and controls to provide conditioning of 100% outside air. Configurable pre-treatment, cooling and reheat components exist in chassis sizes serving a nominal of 1,000, 2,000 and 3,000 CFM ventilation requirements to a wide variety of light and large commercial applications desiring the advanced features that VRV offers.

Our continuing commitment to quality products may mean a change in specifications without notice.
© 2017 **DAIKIN NORTH AMERICA LLC** · Houston, Texas · USA · www.northamerica-daikin.com



Learn more at daikincomfort.com

Ductless HVAC in High Demand

by Joanna Turpin of *The NEWS* Staff 

LAS VEGAS — Ductless technology has taken the industry by storm, racking up double-digit sales increases in the U.S. every year for the last five years. Even so, central air conditioning and heating systems still dominate the market. Manufacturers at the AHR Expo are hoping to flip that script by raising awareness of how advancements in ductless technology make it an option in just about any application or climate.

FLEXIBLE, EFFICIENT

One of the biggest challenges to widespread adoption of ductless technology is low consumer awareness, said Patrick Barry, senior manager of product development and planning, LG Air Conditioning Technologies. “Most homes in the U.S. aren’t built with this technology in place, so there’s a lack of homeowner awareness about the technology and its advantages.”

As contractors become better versed on the benefits

of ductless technology, they play a key role in educating homeowners as to why duct-free technology may be a better solution in terms of efficiency and design flexibility. “That flexibility can be seen in our new wall-mounted, extended-piping, duct-free units, which allow for longer pipe length and feature built-in Wi-Fi connectivity. The new extended pipe units also work with LG’s new Smart-ThinQ™ smart home technology, which allows consumers to control all their compatible LG devices, including kitchen and laundry appliances with an intuitive smart phone app.”

Awareness of ductless technology is definitely a challenge for both homeowners and contractors, said T.J. Wheeler, vice president of marketing and product management, Friedrich Air Conditioning Co. This is why Friedrich is making an aggressive effort to conduct in-person training through the company’s Advantage program. “Last year, we trained more than 1,000 contractors

What if... ...the odds were in your favor?

With unmatched expertise, exclusive products, digital tools and drop-in efficiency, you win with the innovative brands of Regal.

Visit us at:
Regalbeloit.com

Regal, Browning, DEC Star, Fasco, Gentec, Marathon, SyMax, Tempo-Sir, and UtemAX are trademarks of Regal Beloit Corporation or one of its affiliated companies.
©2016 Regal Beloit Corporation. All Rights Reserved. MCAD1605E • Form MB001E

throughout the country on our ductless system technology,” Wheeler said.

That is necessary because ductless technology is still relatively unknown, even though it has been around for years in places like Europe, said Wheeler. “Since ductless systems deliver room-by-room comfort where homeowners need it most, rather than imprecise whole-house cooling, the market is just now waking up to the fact that ductless is a smart, less wasteful alternative.”

At the AHR Expo, Friedrich officially launched its VRP® (variable refrigerant packaged) heat pump system, which is designed for lodging applications, specifically full and select service properties, where maximum comfort, quiet, and interior design are top priorities. Friedrich’s patented VRP system combines variable refrigerant flow (VRF) technology with the convenience and simplistic design of a closet-mounted, single-packaged unit, said Wheeler. “The system utilizes a precision inverter compressor that gives it exceptional performance and reduces sound. The variable capacity matches the unit’s output to actual demand for increased comfort, which provides lower energy consumption and improved humidity control.”

Consumers absolutely want more energy-efficient systems as well as the ability to control their systems re-

motely, which is why many manufacturers, such as Fujitsu General America Inc., are offering Wi-Fi-enabled ductless systems. “Our new Wi-Fi-enabled, wall-mounted, ductless split heating and cooling systems have efficiencies up to 33 SEER,” said Erin Mezle, director of marketing, Fujitsu General America Inc. “All Wi-Fi-enabled systems offer remote operation using a smartphone or tablet as the remote control, and one mobile device can control several indoor units. All of the inverter wall-mount systems are available as single-zone split-system heat pumps with nearly full heating capacity down to minus 5°F ambient and cooling operation down to 14°.”

Fujitsu General also added to its J-Series Airstage VRF line with the introduction of its smaller J-IIS Series. “The J-IIS utilizes VRF technology for smaller residential, multi-housing, and light commercial uses with equipment now available in 3- and 4-ton sizes,” said Mezle. “The J-IIS’s shorter height provides easy installation in smaller spaces or when condensing units are stacked vertically. Also, the J-IIS Series is highly efficient.”

Flexibility is the name of the game when it comes to Carrier Corp.’s new Toshiba Carrier Single-Phase VRF Heat Recovery System, which offers twinning capability to achieve greater capacity. “We’re seeing a massive de-



SMALL SIZE: Brendan Casey, commercial product manager, variable refrigerant flow, Fujitsu General America Inc. showcases the petite J-IIS Series.

mand increase for VRF technology that allows engineers and architects to provide climate control with greater flexibility, zoning options, and energy efficiency,” said Meredith Emmerich, managing director of ductless and VRF solutions, Carrier Corp. “This single-phase system is a game changer because it is capable of providing simultaneous cooling and heating and can handle the comfort demands of an entire home.”

Carrier also launched a new VRF two-pipe heat pump and heat recovery systems line that features a small footprint, allowing greater flexibility to consumers. “Our 20-



Specifically designed for HVAC/refrigeration

Features

- MEMS sensing
- High Accuracy
- Long Life
- Wide Temp Range
- Outdoor Use
- 1-5V, 0-5V, 0-10V, 4-20mA & Ratiometric

Applications

(Commercial/Residential)

- HVAC
- Refrigeration
- Heat Pumps
- Dehumidifiers

DunAn Sensing Pressure Transducers are specifically designed for HVAC/refrigeration applications where high accuracy, long term reliability, long life and low cost are needed.

LP & HP Series are for use in measuring refrigerant pressure on the low and/or high pressure side of any HVAC/refrigeration application.

DunAn
SENSING

408-613-1015

Fax: 408-503-6308

info@dunansensing.com

www.dunansensing.com



ton heat recovery system has a very small footprint, which saves space and reduces structural design costs for our customers,” said Emmerich. “The systems are available in multiple styles of indoor units with a variety of controls offerings.”

Controls are a big selling point, especially in commercial applications, where there is more demand for control over many different functions (e.g., energy allocation, lighting, HVAC, and other mechanical systems) all through one interface, said Kevin Miskewicz, director of commercial marketing, Mitsubishi Electric US Inc. Cooling & Heating Division. “We have a centralized controller that can serve those needs. The commercial channel is also excited about our new PLFY ceiling cassette indoor unit, which features the 3D i-see Sensor™. The sensor continuously analyzes the thermal profile of a room by performing 360-degree scans and identifying cool and warm spots — a feature that can be customized to sense occupancy and direct air in the necessary direction.”

On the residential side, Mitsubishi Electric launched several new products, including the MSZ-EF Designer Series multi-zone indoor units, which come in three color options (black, white, and silver). “These units, which have been quite successful, give homeowners the flexibil-



Check Out Opteon™ XP40.

Your Low GWP Refrigerant Solution to Replace R-22 and R-404A – the Optimal Balance of Performance, Sustainability, Safety, and Cost.

No need to shop around, start using XP40 today!



To learn more about our full portfolio of Low GWP refrigerants, visit Opteon.com



© 2017 The Chemours Company FC, LLC. Opteon™ and any associated logos are trademarks or copyrights of The Chemours Company FC, LLC. Chemours™ and the Chemours Logo are trademarks of The Chemours Company.

ity to incorporate their systems into interior designs,” said Miskewicz. “Also new is our completely redesigned MFZ-KJ floor-mounted indoor unit, which boasts an upgrade in its exterior design and new multi-flow vane heating technology, a process that significantly reduces the time it takes to heat a room.”

MOVING NORTH

While ductless systems are becoming more popular across the U.S., some question whether they can be used in colder parts of the country. But manufacturers are allaying these concerns by introducing ductless units that are designed to keep occupants warm in the coldest of climates.

LG Electronics announced it is optimizing its cold climate products by launching new models of the Art Cool™ Premier, featuring LG RED° powerful heating technology. “Products with LG RED° are engineered to provide superior heating performance — 100 percent heating capacity down to 5° and continuous heating operations down to minus 13°F,” said Barry. “This increased performance not only delivers heat when traditional models are unable to but also operates with incredible efficiency.”

On the commercial side, LG’s new Multi V™ 5 VRF

system features LG intelligent heating technology that works to prevent frosting and defrosts as needed rather than responding once frost has reached a preset point. On top of active response capabilities, the Multi V 5 also features a new biomimetic fan design that enables the unit to operate more efficiently and increases airflow while reducing the perceived noise level.

Bosch Thermotechnology Corp. introduced its Climate 5000 ductless mini-split heat pump systems, which are designed for residential heating and cooling up to 48,000 Btuh and are available for single- or multi-zone applications. “These ultra-quiet, inverter-driven heat pump systems function properly across an extended operating range from minus 13° to 122° with indoor sound levels as low as 20 dBA in silent mode, which is quieter than a whisper at a library,” said Lyndal Moore, national sales manager for air conditioning and geothermal products, Bosch Thermotechnology Corp.

These mini-split systems offer SEER ratings of up to 22, and installation is simple with easy mounting of the indoor air handler and quick connection of the refrigerant lines and electrical connections, said Moore. “The unit requires only a 3-inch-diameter or smaller opening to run the entire line set. No ductwork is required, making the

system perfect for tight spaces or areas where technicians cannot install ductwork, which helps to eliminate potentially messy renovation work.” ■

Up to
70%

of chiller
components to help
meet regulations

ENGINEERING TOMORROW

is building a **higher standard**
for energy efficiency

From hospitals and data centers to offices and apartments, Danfoss is helping to develop energy-efficient cities — one building at a time. Providing the industry's broadest portfolio, Danfoss' component innovations improve system efficiency, reliability and performance, and enable chiller manufacturers to reduce total cost of ownership and energy consumption for more efficiently cooled buildings. And with unparalleled air-conditioning systems expertise, Danfoss comfortably helps you exceed the most rigorous efficiency standards.

Discover how we're Engineering Tomorrow at chillers.danfoss.com

ENGINEERING
TOMORROW

Danfoss

Smarter Thermostats Satisfy the Needs of Smarter Customers

by **Samantha Sine** of *The NEWS* Staff 

LAS VEGAS — The thermostat market has evolved to cater to modern customers’ ever increasing needs. Today, people look to their smartphones for nearly everything, including banking, home security, and, of course, the ability to manage their indoor comfort levels.

Many manufacturers showcased their latest thermostats and smart controls and explained how these intelligent devices meet the needs of their customers at the AHR Expo.

BEYOND TEMPERATURE

Thermostats are no longer just white boxes or gold circles on walls.

The KONO-Smart from Lux Products Corp. offers a new take on thermostat design. Featuring different, interchangeable color and design swatches to customize the appearance of the thermostat, the KONO-Smart can be

an attractive part of a home’s décor.

“When something is displayed so prominently in your house, you need to have something that can either blend, contrast, or complement the décor,” said Rob Munin, CEO and president, Lux Products. “It’s our belief that a lot of the smart thermostats look like hi-fi devices, and we wanted to make it a little more personal.”

LG Electronics USA Inc. has developed an intuitive control panel with a customizable screen and configurable functionality to meet the requirements of each installation with its new LG MultiSITE thermostat.

According to Kevin McNamara, senior vice president, air conditioning technologies, LG Electronics USA Inc., this thermostat’s “LG MultiSITE Communications Manager integrates the power of LG VRF [variable refrigerant flow] technology into an existing third-party building management system. This controls framework directly in-

Fleet Intelligence For Your HVAC Business



VEHICLE & EQUIPMENT TRACKING SOLUTIONS

Call today to find out what makes **GPS Insight** different from every other GPS tracking company -or- visit our website to see how we will **make your job easier.**

📞 877-477-2690 🌐 GPSINSIGHT.COM

tegrates with a VRF system, which eliminates the need for a gateway. LG MultiSITE VM3 is a building management solution that maximizes the sophistication of control in each building system for cohesive building operation and synergistic performance.”

Wi-Fi connectivity has become almost a necessity for new thermostats entering the market.

According to Ed Blittschau, vice president of marketing, White-Rodgers, Emerson, “Smart home products were a key theme at the 2017 Consumer Electronics Show and mainstream consumers are increasingly looking for opportunities to make their first smart home purchases. Due to their attractive features and benefits as well as successful history, Wi-Fi thermostats are the gateway to the smart home for many consumers.”

The Sensi thermostat from Emerson includes detailed in-app instructions, contractor branding, and precision temperature control. Additionally, the unit integrates with smart home platforms, such as Wink and Amazon Echo.

“We continue to add compatibility as these smart ecosystem platforms come out,” said Blittschau. “We just won a J.D. Power Award for a smart thermostat, and we are really proud of that.”

Beyond Wi-Fi, being able to connect with the thermo-

stat throughout the home is also a new trend that Honeywell Intl. Inc. is capitalizing on with its Lyric T Series of thermostats. With the Lyric app, homeowners are able to control comfort levels and no longer have to be in the room with the thermostat to do so. Furthermore, it utilizes geofencing technology, which allows users to set home and away settings.

“When a homeowner leaves the home and crosses the geofence, the thermostat will go into energy savings mode and return to the preferred setting when the homeowner returns,” said A.J. Smith, vice president and general manager, Honeywell Intl. Inc.

Ecobee Inc. unveiled its ecobee3 lite. The unit uses the outside temperature to always keep customers comfortable in their homes. It adjusts to a preferred “away” setting, when the user leaves the house.

SIMPLIFYING INSTALLATION

Furthermore, many new thermostats are looking to ease the installation and sales process for customers.

Johnson Controls Inc. unveiled the York touchscreen thermostat that provides early indicators of system faults or potential issues that assist in educating and identifying where efficiency losses in the system may be occurring.



NEWEST THERMOSTAT: The RS456 is Robertshaw Climate’s newest Wi-Fi thermostat.

“Traditional big-box, off-the-shelf thermostats simply send one-way signals to equipment and make assumptions from there. If your system is operating in a fault condition, or not operating at all, a noncommunicating thermostat doesn’t have the intelligence required to know and react. The best and only way to get full integration of the most important system in the home is with communication. The York touchscreen thermostat provides the true integration required to get the most reliable, comfortable, and efficient use of your system,” said Jedidiah Bentz, director, advanced systems, controls, and technology, unitary products group, Johnson Controls Inc.

ALAN
Manufacturing Inc.

Specializing in custom damper/duct products

Wireless Remote Controlled Damper
~Remote is capable of controlling 32 dampers individually~

Duct Silencer

Cable Operated Damper

Round Retrofit Damper

Ph: 800.435.ALAN (2526)
Fx: 877.333.ALAN (2526)
Em: alansteel@alanmfg.com
www.ALANmfg.com

Robertshaw Climate is looking to ease the sales process for contractors when it comes to selling smart thermostats.

“Our new RS456CONNECT Wi-Fi module gives contractors the ability to sell a Robertshaw Climate RS4000, RS5000, or RS6000 Series thermostat and offers customers an on-the-spot upgrade to Wi-Fi connectivity. There are no separate set of SKUs to clutter up an already full service truck, just one module does it all,” said John Brower, general manager, Robertshaw Climate.

Overall, connectivity was key in the thermostat market this year, and each company provided its own take on the trend.

“Interconnectivity with smart products within the home continues to be a major trend for the HVAC community. Contractors and wholesalers alike need to be a part of this Internet of Things (IoT) trend, otherwise they risk the chance of losing relevance and revenue. More than ever, homeowners have a connection to their comfort, and this opens up a massive opportunity for HVAC professionals — one that will also shut them out if they don’t offer smart solutions,” said Munin. 

MEET ZOOMLOCK THE 10-SECOND REFRIGERANT FITTING.



ZoomLock Flame-Free Refrigerant Fittings

MAKE MONEY USING

ZoomLock[™]

- Ten-Second Leak-Proof Refrigerant Fitting
- Reduced labor cost by 60%
- No brazing. No flame. No fire spotter.
- Only available at Parker and Sporlan distributors.

Visit www.parker.com/zoomlock to calculate how much money ZoomLock Flame-Free Refrigerant Fittings will put on your bottom line and to get a free 10-second demo. Labor and time saving solutions from Parker Sporlan - helping your business do **MORE** business.

parker.com/zoomlock



ENGINEERING YOUR SUCCESS.

Efficiencies, Remote Capabilities Shape the Geothermal Market

by Nick Kostora of *The NEWS* Staff 

LAS VEGAS — The geothermal sector of the HVAC industry is currently entering a bit of uncharted water, or, at least, water that hasn't been charted since the 30 percent residential and 10 percent commercial geothermal tax credits went into effect in 2008.

“The expiration of the federal tax credits is inspiring contractors to work hard to sell without that incentive out there,” said Tim Litton, director of marketing communications, WaterFurnace Intl. Inc. “With them gone, we are retraining a lot of contractors to sell geothermal based on its traditional benefits, which are less noise, being more comfortable, its energy efficiency, and having less maintenance.”

Shilai Xie, director of A/C product management, Bosch Thermotechnology Corp., said although geothermal is not a newer technology, it has the proven performance and capabilities to help accelerate the growth of smart and zero-

net-energy buildings.

“Geothermal is truly a game changer and is also uniquely positioned to support the traditional comfort and efficiency requirements of heating and cooling systems, while also supporting the goals of utilities and governments to reduce greenhouse gas emissions, loads on the electric grid, and ensure resiliency across the country,” said Xie.

CAN YOU TAKE ME HIGHER?

Efficiency was on everyone's mind in Las Vegas.

“It seems the efficiency levels continue to climb periodically to meet demand and energy cost reduction,” said Rick Posey, product manager, MARS. “There is a real possibility of local utility companies, counties, and/or states initiating rebate programs to help ease the burden of excessive energy usage.”

RECOVER, EVACUATE and CHARGE with just one wireless tool



67023 ManTooth® Wireless Pressure/
Temperature/Vacuum Gauge

- Free downloadable ManTooth® app calculates and displays the system's actual readings on your Smartphone
- **Lighten your load** - replace your gauges, hoses **and** vacuum gauge
- Eliminates cross contamination of refrigerants
- Charge directly through the ManTooth
- Minimize potential for leaks
- Includes 100+ refrigerants
- Not pressure specific



Purchase a
67020, 67021 or 67023
ManTooth®
before May 31, 2017
and receive a
\$25 Visa Gift Card
*For more details, visit
yellowjacket.com/mantooth25



NEW
WIRELESS VACUUM
GAUGE!

Jesse Robbennolt, product manager, Modine Building HVAC Systems, added that manufacturers continue pushing efficiency through new component technologies and innovative designs.

Modine Mfg. Co. is launching a vertical high-efficiency water-to-air unit, the Premium Vertical Unit, which is equipped with patented counterflow (CF) microchannel air coils. The air coils are in place for increased efficiency and lower refrigerant charge volumes. The product's patent pending casing design with vertical control panel is separated into low- and high-voltage sections with a high degree of serviceability and standard-sized, 4-inch-thick air filters. A Genteq DecStar integrated ECM fan motor and blower is included for quiet and efficient airflow while packless green surface coaxial coils offer increased efficiency and reduced refrigerant charges.

“Serviceability is becoming more and more of a concern as HVAC units and the technologies embedded in them become more complex and smarter,” said Robbennolt. “Customers are demanding unique, thoughtful products that are more efficient and smarter than ever.”

Xie said buying trends are moving toward high-efficiency HVAC in most segments as well as toward connected devices. “Contractors can now partner with util-

ity providers, third parties, or both, opening the door for cost-effective ways to install these energy-efficient, environmentally sensitive heating and cooling systems.”

GOING GEOTHERMAL

MARS has kept busy over the past year in both the commercial and residential spaces, introducing the commercial HB Series with an ECM motor as well as a residential split system (HZS).

“The HB Series has an innovative cabinet design, which means there are models to fit just about any existing location,” said Posey. “Available in vertical and horizontal applications, they can be ordered in a variety of configurations with many options to cover all applications.

“The HZS is a digital indoor split geothermal heat pump that delivers the ultimate in efficiency for the homeowner, comfort, reliability, and serviceability,” Posey continued. “[It features] communicating control, two-stage compressor, and internal variable water flow components.”

Enertech Global’s Compact Horizontal Packaged system is available in 2- through 6-ton models. Per the company, the ZT models offer a high-strength, galvanized-steel cabinet and high efficiencies. The all-aluminum micro-channel air coil and brazed-plate heat exchanger (BPHX)



CONNECTION COMING: Tim Litton, director of marketing communications, WaterFurnace Intl. Inc., said connection to voice-enabled controls, like the Amazon Echo and Google Home, will be the next step for geothermal products industrywide.

allow for reduced refrigerant charge and increased efficiency. The brazed-plate heat exchangers are built with asymmetrical passages to reduce fouling.

In August 2016, WaterFurnace Intl. Inc. introduced the 5 Series 500W11 single hydronic heat pump, which is an upgrade to the Envision® NSW unit. Like other 5 Series units, the 500W11 features Aurora base communicating controls with optional advanced controls, performance monitoring, and refrigeration monitoring. All fault conditions are monitored by the controller to ensure safe, reliable operation. Scroll compressors, R-410A refriger-

325 SERIES

FOR 2 AND 5 PSI SYSTEMS

325-11L
LINE PRESSURE REGULATORS

BY **MAXITROL**

MAXITROL BREAKS CAPACITY RECORD!!

NOW WITH A CAPACITY OF **4.45 MILLION** BTU/hr

THIS IS THE HIGHEST CAPACITY LINE REGULATOR MAXITROL HAS EVER PRODUCED!

PIPE SIZES...

325-11L ... 2" AND 2.5"
325-11L210G ... 2" AND 2.5"

OPD COMING SOON!!

CATCH THE NEXT EPISODE ON ... MAXITROL.COM!

ant, and oversized heat exchangers combine to provide the hydronic heat pump with an EER of 14-17.5 and a coefficient of performance of 2.9-3.1, depending on the model. The unit's wide range of operating temperatures, compact size, and reversible control box and piping enable the 500W11 to be used in a variety of heating-only or heating and cooling applications. Fabricated from heavy-gauge steel, the 500W11 cabinet is finished with a corrosion-resistant polyester coating.

As far as what is coming next, Litton said to keep an eye on voice-enabled controls.

"The next steps in geothermal will be communication with devices like Google Home and Amazon's Echo," he said. "That type of connection is happening throughout the industry and will happen with geothermal, too." ■

SYSTEMS SAVINGS SOLUTIONS

SMART³

Over 70 years of industry experience refined by a progressive attitude towards innovative and emerging technologies have combined to create KeepRite Refrigeration's award winning Smart³ suite of Systems Saving Solutions. Designed to meet the needs of today's refrigeration professional, these technologies are the next evolution in system modifications and enhancements that allow you to reduce environmental impact, reduce energy use, increase system efficiency and more.

DC DEFROST CONTROL
TECHNOLOGY

EC EC SHAFTED
MOTOR TECHNOLOGY

DS DISTRIBUTED
REFRIGERATION SYSTEMS

LOW GWP
REFRIGERANTS

**ACHIEVE EXCEPTIONAL PERFORMANCE
AND OPTIMAL EFFICIENCY**

SMARTSPEED™

FAN MOTOR TECHNOLOGY

**INNOVATIVE • COST EFFECTIVE •
ENERGY EFFICIENT**

Simple, innovative EC motor technology offers significant energy savings through an award winning patented system configuration.



**SMARTSPEED NOW
AVAILABLE FOR
CONDENSING UNITS!**

LIMITROL+

FLOATING HEAD PRESSURE CONTROL SYSTEM

**THE NEXT GENERATION OF
RESPONSIVE TECHNOLOGY**

Limitrol+ combines various technologies into a responsive system that floats head pressure, saving energy and reducing environmental impact.



QUIETUNIT

REFRIGERATION DUTY CONDENSING UNITS

The award winning Quiet Unit tackles space limitations, energy efficiency and sound levels.



LINK/LINK+

MULTI-COMPRESSOR REFRIGERATION SYSTEM

Evolution in centralized systems allowing for maximized merchandizing space.

CHECK OUT OUR VIDEOS

Watch our video to learn more about the versatility and convenience of Keeprite Refrigeration's Smart³ suite of Systems Saving Solutions.

www.k-rp.com/s3



KEEPRITE REFRIGERATION

159 Roy Blvd. • Brantford • Ontario • Canada • N3R 7K1
Phone: (519) 751-0444 or 1-800-463-9517 • Fax: (519) 753-1140

www.k-rp.com

The Right Choice For The Refrigeration Professional

KeepRite®
REFRIGERATION

Efficiency, Internet of Things Influence Residential A/C Market

by Nicole Krawcke of *The NEWS* Staff 

LAS VEGAS — Energy efficiency, the growing popularity of ductless and variable refrigerant flow (VRF), the evolution of heat pumps into whole-home solutions, and the Internet of Things (IoT) are a few of the major trends influencing products in the residential air conditioning market. Manufacturers materialized these trends on the exhibition floor at the 2017 AHR Expo.

DUCTLESS ACCEPTANCE GROWS

One of the biggest trends in North America for the HVAC industry in 2017 is the rising popularity of ductless systems, according to T.J. Wheeler, vice president of marketing and product management, Friedrich Air Conditioning Co.

“There are plenty of good reasons why more residential and commercial customers are adopting ductless sys-

tem solutions,” he said. “Ductless systems offer major advantages and unbeatable performance when it comes to conditioning air faster, maintaining more accurate temperatures, and reducing energy costs. Ductless systems also provide a scalable solution for additions, retrofits, and renovation projects, where complicated ductwork installation or re-routing is not feasible.

“Multifamily residential projects are becoming more efficient and feature easier-to-install-and-maintain options that deliver maximum comfort and style,” Wheeler said. “That’s what makes Friedrich’s VRP® [Variable Refrigerant Packaged] heat pump system so exciting. It’s a total HVAC solution that delivers exceptional heating and cooling efficiency and sound levels, easy installation, conditioned fresh air, and true humidity control while maintaining low upfront and operational costs.”

Friedrich’s VRP system is a total HVAC solution that



CRACK. PEEL. APPLY.

HAVE YOU TRIED AF 100 WITH EASYPEEL®?

Forget hard-to-start liners on HVAC tape. Get a smooth start for a fast finish with AF 100 UL 181A-P/B-FX Listed foil tape with EasyPEEL® split liner technology. It's the same code compliant tape that delivers airtight performance, now also available with a crack and peel liner that is quick and easy to start – even while wearing work gloves.

EASY PEEL
SMOOTH START. FAST FINISH.

Shurtape
TRUE TO YOUR WORK®

SHURTAPE.COM
1.888.442.TAPE

PSTC
RESPONSIBLE
TAPE MANUFACTURER

* While supplies last.
© 2017 Shurtape Technologies, LLC

? HAVE YOU TRIED EASYPEEL?
VISIT SHURTAPE.COM/EASYPEEL TO REQUEST A SAMPLE.*

also incorporates patent pending make-up air and humidity control. The system utilizes a Precision Inverter compressor that gives it exceptional performance and reduces sound. It combines variable refrigerant flow (VRF) along with the convenience and simplistic design of a closet-mounted single packaged unit.

“VRP is efficient at automatically adjusting its capacity to meet specific cooling needs,” Wheeler said. “It also delivers efficiencies of up to 20 SEER and 13 EER. VRP also features exceptional low-ambient heat pump operations down to 0°F, potentially saving hundreds of dollars per year. Plus, it reaches desired temperatures faster than conventional systems by exceeding the capacity when needed, unlike single-speed units.”

Brian Bogdan, director of engineering, air conditioning systems, LG Electronics USA Inc., said the biggest trend he is seeing in the market currently is the increasing demand for VRF due to its energy efficiency, cost effectiveness, and design flexibility.

“This demand is largely driven by customers’ desires to reduce operating costs and to do so with minimal interruption to operations and modifications to the building structure. For these reasons, we are seeing VRF chosen more and more as a basis of design.”

LG expanded its Multi V S line to include a 2-ton heat pump and 5-ton heat recovery model, which debuted at the AHR Expo. The new products are designed to provide excellent energy efficiency and the versatility of simultaneous heating and cooling, even in the most extreme weather. The system utilizes single-phase power, so it can be used in a wide range of building types from schools to single-family homes, making the LG Multi V S a great solution for any application. The Multi V S requires little or no ductwork resulting in smaller space requirements for piping to maintain the integrity of the exterior of buildings.

“With the addition of 2- and 5-ton Multi V S models, LG now offers homeowners and business owners across the country more energy-efficient air conditioning options than ever before,” said Bogdan.

WHOLE-HOME SOLUTIONS

According to Brian O’Connor, sales director for Samsung HVAC, higher efficiency demands from the U.S. Department of Energy (DOE) have driven more single- and multi-zone mini-split unit installations in the residential air conditioning market.

“Mini-split air conditioners used to be perceived as



VARIABLE CAPACITY: The York Affinity Series 20 SEER Variable Capacity Air Conditioner and Heat Pump qualifies for Energy Star’s Most Efficient recognition. The unit is expected to hit the market this spring.

single-zone air conditioners that weren’t designed to condition an entire house, nor for heating,” O’Connor explained. “Now, more and more people are finding mini-split units are capable of cooling and heating entire houses extremely efficiently. The mini-split market is growing at an extremely fast rate.”

Victor Flynn, senior product manager, Panasonic Appliances Air Conditioning North America, agreed, saying heat pumps are among the most popular options in the residential air conditioning market.

“As inverter-driven, variable-speed compressor tech-



ADAPTABLE, FLEXIBLE AND INNOVATIVE

WE MANUFACTURE OUR PRODUCTS TO FIT YOUR PROJECT

Too often, manufacturers mass produce units in fixed sizes or configurations that limit customer choices. At The Whalen Company, we listen carefully to our customers and manufacture units to your individual specifications. The results are building designs that fit the aesthetic and economic priorities of the owners, not the limitations of an HVAC unit.

The Whalen Company

Don't settle for a standard unit that requires extra installation labor and coordination costs. Since we offer many customization opportunities, your Whalen unit will be installed and operating in significantly less time. In these and other ways, Whalen saves you time and money on your project.

Find out more at WhalenCompany.com/Project

Flexible, Comfort Solutions Provided With Pride From Our Family to You

nology continues to improve, we see a market transformation where mini-split air-source heat pumps are specified and installed as primary heating equipment in cold-climate northern homes,” Flynn said. “Cold-climate air-source heat pumps continue to provide heating capacity when outdoor temperatures drop and are being incentivized by utility, state, and municipal building programs to promote strategic electrification of home heating space reducing greenhouse gases.”

Panasonic launched the latest entry in its Exteriores line of ductless mini splits, the Slim-Ducted Heat Pump. The versatile system provides heating and cooling solutions for the entire home. The Slim-Ducted Heat Pump assumes a low profile, as they can be hidden in floors or ceilings without disrupting the look and feel of a room. Additionally, the product is highly efficient in both the winter and summer, regardless of the function being performed. This commitment to energy efficiency is reflected in the inverter-driven compressor and the DC fan motor, both of which allow for high efficiency and consistent performance. The system will be available in 5,000-7,000 Btu for a multi zone and 9,000-12,000 Btu for single and multi-zone HVAC solutions. The unit is also capable of highly efficient operation at temperatures down to minus

15° F and includes a base pan heater. the Exteriores XE can consistently run all winter long in some of the coldest climates in North America.

SMARTER PRODUCTS

Along with a renewed interest in IAQ, Kelly Hearnberger, vice president of residential product marketing, Daikin North America LLC, said he is seeing a trend toward smarter products.

“Internet of Things [IoT] is still the big buzzword,” Hearnberger said. “And, of course, it means something different to each company. What it really means for us is opportunity. We think the IoT presents contractors with the opportunity for better relationships with consumers. I think there’s an opportunity for more intelligent equipment. And this is common with other manufacturers, too.”

Daikin showcased its new EMURA wall-mounted indoor heat pump at the AHR Expo. The EMURA offers smart technology within a sleek, curved silhouette. Inside the understated exterior is a highly intelligent system that can be controlled with a standard wireless (infrared) remote or via the Daikin Comfort Adapter and mobile app through a Wi-Fi network.



EXTREME WEATHER SOLUTION: Aush Suri, a rep with LG Electronics USA Inc., discusses the new LG Multi V S 2-ton heat pump and 5-ton heat recovery models at the 2017 AHR Expo in Las Vegas. The new products are designed to provide excellent energy efficiency and the versatility of simultaneous heating and cooling, even in the most extreme weather.

EMURA offers efficiencies up to 18.9 SEER and 12.5 HSPF with a wide operating range from minus 14° to 115° for cooling and minus 4° to 75° for heating. Additionally, the EMURA is extremely quiet with sound levels down to 19 dBA. An intelligent-eye sensor monitors the room for occupancy and can adjust to an energy-savings mode when unoccupied for 20 minutes. The intelligent eye also monitors movement in the room to provide Comfort Air-flow technology that minimizes direct airflow on occupants.

Made Right the First Time!



**SEISMIC/WINDLOAD RATED
CUSTOM CURBS**

Thybar designs and manufactures seismic/ windload rated roof curbs that resist the effects of site-specific forces determined by IBC codes. Curb walls are heavy gauge galvanized steel construction & thickness is determined by analysis of curb wall stresses caused by the rooftop unit. Calculations will be signed and sealed by PE registered in project's state. Available in insulated, non-insulated, and vibration isolation styles.

Licensed P.E. on Staff!



thybar
CORPORATION
*Thybar makes it right the first time,
every time*

www.thybar.com
info@thybar.com

Illinois	800-666-CURB
Ohio	800-837-CURB
Texas	800-777-CURB
Kentucky	800-993-CURB
Nevada	866-917-CURB

SIMPLIFYING SERVICEABILITY

According to Matt Barga, portfolio leader, product management, Trane, an Ingersoll Rand brand, customers are becoming better educated when it comes to making purchasing decisions.

“Better educated customers also are driven more by comfort options,” he said. “Previously, customers typically made decisions based on need and energy efficiency, or a utility subsidy often helped drive the energy-efficient selection. Today, more customers are choosing solutions that also address greater comfort. Their increased knowledge has given them information about variable-speed solutions, for example, and the temperature consistency, humidity control, and reduced sound that an option like that can provide.”

In addition to comfort, customers want smarter products with remote monitoring capabilities.

“Trane’s Nexia™ Diagnostics allow contractors to remotely monitor the home’s heating and cooling system using real-time performance data, ensuring the highest level of customer service,” Barga said. “The Nexia Diagnostics dashboard provides dealers with a host of real-time and diagnostic data, so the health of the system can be quickly diagnosed and an accurate course of action can be iden-

tified. These solutions provide the increased comfort and connected options that today's more educated consumers are seeking.”

Simplifying serviceability by adding remote diagnostics is a big trend in the industry, noted William Ken Ely, product manager, heat pumps and air handlers, unitary products group, Johnson Controls Inc.

“Our 20-SEER A/C and heat pump has some game-changing features,” he said. “The unit has Charge Assurance, so when techs are installing the system or doing annual maintenance, the system will tell them how it's charged. The screen on the unit tells the contractor the superheat, subcooling, engine pressure, and suction pressure. And, we kept it simple. If everything is good, it displays a smiley face; if it's bad, it displays a frowny face. Think about the simplicity of that. Unfortunately, in our industry, we're not getting the level of technicians we really need, so we have to keep it simple. This also minimizes the time for contractors on job sites and makes them more profitable as a result.”

The York Affinity Series 20-SEER Variable Capacity Air Conditioner & Heat Pump is Energy Star Most Efficient qualified and will be launched in the spring.

“We're seeing a lot of variable capacity — some people



HIGH EFFICIENCY: Panasonic Corp. of North America recently launched the latest entry in its Exteriores line of ductless mini splits, the Slim-Ducted Heat Pump. The versatile system provides heating and cooling solutions for the entire home and assumes a low profile as it can be hidden in floors or ceilings without disrupting the look and feel of a room.

call it modulating — but it's the ability for the system to adjust to precisely meet the comfort needs of the space,” Ely said. “Comfort requirements change with more sun or windows and doors opening. The system has to be able to adjust to precisely meet those changing comfort requirements. That helps lower consumers' energy bills and it's also able to deal with temperature and humidity much better.”

Ryan Teschner, assistant product manager, residential



Your body's temperature is regulated by water.

The Earth's temperature is regulated by water.

Shouldn't your home's temperature be regulated by water?

The comfort of radiant meets the efficiency of geothermal

Geothermal heat pumps circulate water underground to provide the ultimate in energy-efficient heating and air conditioning. Radiant systems circulate water under the floors to provide the ultimate in luxurious comfort. WaterFurnace's new HydroLogic radiant panel married to our 5 Series OptiHeat unit is simply the easiest way to combine the two worlds. Your customers will love their warm, toasty floors—and you'll love how easy it was to install.



WaterFurnace Smarter from the Ground Up™

visit waterfurnace.com/water

WaterFurnace is a registered trademark of WaterFurnace International, Inc. ©2017 WaterFurnace International Inc.

products, Rheem Mfg. Co., agreed, saying built-in diagnostics are becoming more popular in the residential market.

“Serviceability is something we see as a strong point for us to work on,” said Teschner. “Our products feature new, innovative technology as well as feedback from our contractors. A new trend and feature for us is built-in diagnostics. Contractors get an email that says exactly what is wrong with the unit so they can send a tech out to fix it immediately. We’re trying to find out how to build in diagnostics without overdesigning the product.”

Rheem’s Prestige Series EcoNet-enabled Variable Speed Heat Pump was displayed in its trailer at the AHR Expo. The product also features a minimum of 20 SEER and up to 11 HSPF system performance; expanded valve space provides a minimum working area of 27 square inches for easier access; and triple service access — 15-inch-wide corner service — which provides for easier, faster repairs.

“Another trend is obviously energy efficiency,” Teschner added. “This product is highly efficient and will qualify for any regional rebate, including in the higher standard states like California.”

Expect Another ‘Dynamic’ Year for HVAC Refrigerants

by Ron Rajeki of *The NEWS* Staff 

LAS VEGAS — The refrigerant industry is no stranger to change, and the changes will keep coming in 2017.

The continuing phaseout of R-22, the impact of the Kigali Amendment to the Montreal Protocol, the phasedown of hydrofluorocarbons (HFCs), the updated Significant New Alternatives Policy (SNAP) program delistings and Section 608 refrigerant management guidelines from the U.S. Environmental Protection Agency (EPA), and the unknowns associated with the new administration in Washington all ensure that this will be another — to use a charitable word — dynamic year in the world of refrigerants.

Front and center among the changes will be R-22, said Taylor Ferranti, vice president of refrigerants, A-Gas Americas. Virgin R-22 allocations will be reduced from 17.6 million pounds in 2016 to 13.2 million pounds in 2017.

“This illustrates the importance of proper recovery and reclamation,” Ferranti said. “A-Gas Americas is committed to ensuring our partners’ supply through recovery, separation, and reclamation.”

HERE WE GO AGAIN

The trends in 2017 will revolve around reclamation, product shortages, rising prices, and phaseouts. That’s the word from Jay Kestenbaum, senior vice president, sales and purchasing, Airgas Refrigerants Inc.

Kestenbaum noted that the 13.2 million pounds of U.S. R-22 production in 2017 represents an 87 percent reduction from 2011. Prices for a 30-pound cylinder of R-22 have doubled in a year, with significant shortages already occurring, and those shortages are going to get worse. Why? “Because we are nowhere near the EPA estimate of 25 million-plus pounds of reclaimed R-22 a year,”



Smart.Connected.Tools™

GET IT ON Google Play | Download on the App Store



Wireless Vacuum Gauge
Use with or without app



Wireless Pressure and Temperature Gauge
Use with or without app



Innovative Airflow Tools



**Compute-A-Charge®
110 lb Capacity Refrigerant Charging Scale**



BlackMax® Hydraulic Tube Expander



**Compute-A-Charge®
220 lb Capacity Refrigerant Charging Scale**



CPS Global Headquarters
1010 East 31st Street, Hialeah, Florida 33013 USA
For more information call: In the U.S.A. (800) 277-3808 In Canada (905) 358-3124
In Europe +323 281 30 40 In Australia +61 8 8340 7055

cpsproducts.com

Kestenbaum said. “Industry estimates put reclamation at less than half of that. Customers who return more recovered product have the clout to demand that they should be able to purchase more R-22. That incentive should be front and center.”

In addition to the R-22 numbers, the anti-dumping petition against R-134a imported from China will be decided before summer with preliminary anti-dumping duties of 232 percent, and the Kigali Amendment calls for a 2019 HFC cutback of 10 percent.

“All of this will increase the pressure on phasing out HFCs and spur interest in the lower GWP [global warming potential] new alternatives we’re selling, such as R-448A, R-449A, R-450A, and R-513A,” Kestenbaum said. “Phaseouts are not new in our industry. It’s here-we-go-again time.”

A SENSE OF URGENCY

Stefanie Kopchick, North America marketing manager, refrigerants, The Chemours Co., said she expects contractors working in commercial refrigeration to feel an urgency to reduce their dependence on R-22 and continue transitioning customers to solutions that not only help them incrementally get past the regulations but also



the choice is yours.

Choice
REFRIGERANT
R-421A

**MATCHES R-22's
PRESSURE & TEMPERATURE
PROPERTIES**

**NO FLAMMABLE
COMPONENTS**

Choice
Refrigerants

Choice™ R421A is the only R22 replacement that is a 2-component refrigerant blend with performance temperature ranges that closely match R22. R421A is non-flammable and requires no unit modification or oil change* (usable with Mineral, AB or POE). Usable in a wide variety of applications, *Choice™ R421A* is non-ozone depleting, contains NO hydrocarbons and EPA SNAP approved. Dynatemp's ECO-SERIES® family of refrigerant products allow for quick and easy conversion to save you time and money.

Toll-Free Technical Support Hotline
(855) GET-421A

The Most Environmentally Friendly Refrigerants on Earth.
www.dynatempintl.com



Dynatemp
International



Stefanie Kopchick, North America marketing manager, refrigerants, The Chemours Co., said R-22 dependence will diminish in 2017.

provide longer-term, low-GWP, and energy-efficient solutions.

Technicians working in comfort cooling should also expect to see the pressure of a decreasing R-22 supply, Kopchick said.

“If they haven’t already, [contractors and technicians] should develop a plan for retrofitting equipment to field-proven and cost-effective solutions, such as Freon™ MO99 (R-438A), or converting to a new R-410A system if the equipment has passed its useful life,” Kopchick told *The NEWS*.

She added that since the 2016 AHR Expo, Chemours



Haier Ductless
Higher Comfort, Haier Living

**Heat or Cool
Any Space in your Home**

Industry Leading Performance.
Arctic Series keeps 100% heating capacity at 5°F and toasty warm air at -22°F.

World-Class Quality and Design, Built and Manufactured by Haier

Easy installation USB Wi-Fi module Connects to Smart Air App

  **Most Efficient 2017**
ENERGY STAR www.energystar.gov

©2017 Haier Group Corporation. The Haier logo is a trademark of Haier Group Corporation. All rights reserved. Reproduction in whole or in part without written permission is prohibited.

f HaierDuctlessAir | www.haierductless.com

has seen a large increase in the demand for Opteon™ XP40 (R-449A) in the U.S. and abroad, as contractors and supermarket retailers in the commercial refrigeration sector look for a nonflammable, energy-efficient, low-GWP solution to replace both R-22 and R-404A in their existing equipment.

“XP40 allows end users to achieve the lowest level of GWP attainable (approximately 67 percent lower than R-404A) while remaining nonflammable and closely matching the performance characteristics of R-404A and R-22,” Kopchick said. “Retailers have also experienced up to 12 percent energy-efficiency gains when converting their existing systems over to XP40.”

She added that to support the growth of the low-GWP Opteon portfolio of refrigerants, Chemours is investing \$230 million into an R-1234yf manufacturing facility in Ingleside, Texas, which is expected to start up in the third quarter of 2018.

NEW ALTERNATIVES GAIN POPULARITY

Changes in 2017 will range from the types of refrigerants used to how they are managed in existing equipment, said Matt Ritter, global business director,

NEW

RECTORSEAL
A CSW Industrials Company

AC LEAK FREEZE PRO

Single Use Disposable Injector w/ AC Leak Freeze

OEM APPROVED

Non-flammable
Non-toxic

**Ready to Use
Polymer Free**

Compatible with all refrigerants

Permanently seals leaks

RectorSeal® 2601 Spenwick Drive - Houston, TX 77055 800-231-3345 rectorseal.com A CSW Industrials Company



FEWER REGULATIONS: Bruce Campbell (left), national account manager, United Refrigeration Inc., and Maureen Beatty (right), executive vice president, National Refrigerants Inc., hope fewer refrigerant regulations are introduced in 2017.

fluorochemicals, Arkema Inc.

“Much of the change in 2017 is due to domestic regulatory actions that restrict R-404A and R-507A in new supermarket installations and limits remote condensing units in 2018,” Ritter said. “So, the use of these materials in new equipment will decline.”

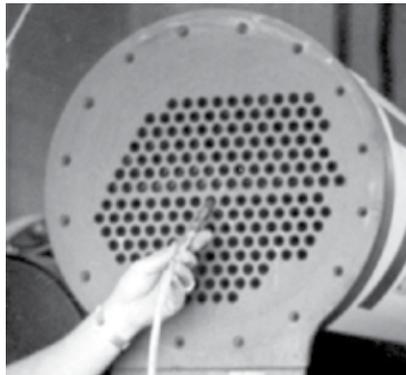
He added that Forane® 407A refrigerant, Arkema’s alternative to R-404A, R-507A, and R-22 in refrigeration applications, can continue to be used in supermarket systems and remote condensing units for both new equipment

HEAT EXCHANGER SERVICES NATIONWIDE SPECIALIZING IN CHILLER RETUBING

- ▼ Eddy Current Analysis
- ▼ Video Probe Inspection
- ▼ Complete Chiller Retubing
- ▼ ASME Repair Tubesheet & Support Replacement
- ▼ Thousands of Tubes in Stock
- ▼ Protective Epoxy Coatings
- ▼ Tube Plugs - All Alloys and Sizes

We are the #1 West Coast Stocking
Distributor of Goodway Tube
Cleaning Systems

Call us Toll-Free at
1-800-356-1932
www.ccs-tubes.com
E-mail: chiller@cyberg8T.com



Condenser & Chiller Services Inc.

and retrofits. He also noted that within all these applications, installed systems can continue to be serviced with their existing refrigerants, even R-404A or R-507A.

Ritter said Arkema continues to be committed to developing sustainable and efficient refrigerants for the future. The company's efforts include the following:

- Over the next several years, Arkema's global refrigerant solutions will move to very low-GWP products across all refrigeration and HVAC markets. According to Ritter, Forane 457A refrigerant has a very low GWP (less than 150) and is capable of offering higher efficiency when replacing R-404A or R-22 in HVACR applications;
- Forane ARM-42 refrigerant is designed to replace R-134a. According to Ritter, RM-42 has a GWP of 131, near zero glide, and is compatible with R-134a equipment with nearly the same efficiency and capacity; and
- For R-410A replacements, Forane 459A (ARM-71) is compatible with existing equipment, has a GWP of 461, and delivers better efficiency than R-410A, including at high ambient, Ritter said. ARM-20b, which has an even lower GWP (approximately 250), has been demonstrated in industry testing as an alternative to R-22 in air conditioning, Ritter said.

LOW GWP AND ENERGY EFFICIENCY

David Cooper, global business director, Honeywell Refrigerants, said he sees supermarkets accelerating conversion to refrigerants with lower GWPs to achieve global greenhouse gas reduction targets and benefit from improved energy efficiency. As a result, the company has seen wide adoption of its Solstice® N40 (R-448A) as an HFC and hydrochlorofluorocarbon (HCFC) retrofit refrigerant solution.

“More than 2,000 supermarket installations have been completed with Solstice N40,” Cooper said. “And, as a result of customer demand for this solution, we project that use of Solstice N40 will more than double over the next year.”

In commercial buildings, the increasing cost of energy usage has customers looking at their chillers as a new opportunity to reduce costs, added Cooper.

“A growing number of global companies are adopting Solstice refrigerants for use in low- and medium-pressure chillers, and more than 15 chiller OEMs have launched models based on Solstice refrigerants,” he said.

SHORT- AND LONG-TERM CHANGES

The industry will have to deal with both short- and long-term trends in 2017, according to Steve Mella, CEO, ComStar Intl. Inc. Mella said a longer-term trend will be equipment OEMs continuing to work on equipment design and building code changes for the natural refrigerants — hydrocarbons (HCs), ammonia, and CO2 — that eventually will create new challenges for the HVACR service community. The more immediate trend for the HVACR service community will be an urgent rush away from existing R-22 systems of all kinds.

“With the high prices and tight supply of R-22 kicking in during 2016, companies that manufacture R-22 alternatives saw the beginning of the swing away from R-22 in 2016,” Mella said. “In 2017, it will be a stampede.”

WHICH WAY WILL WASHINGTON GO?

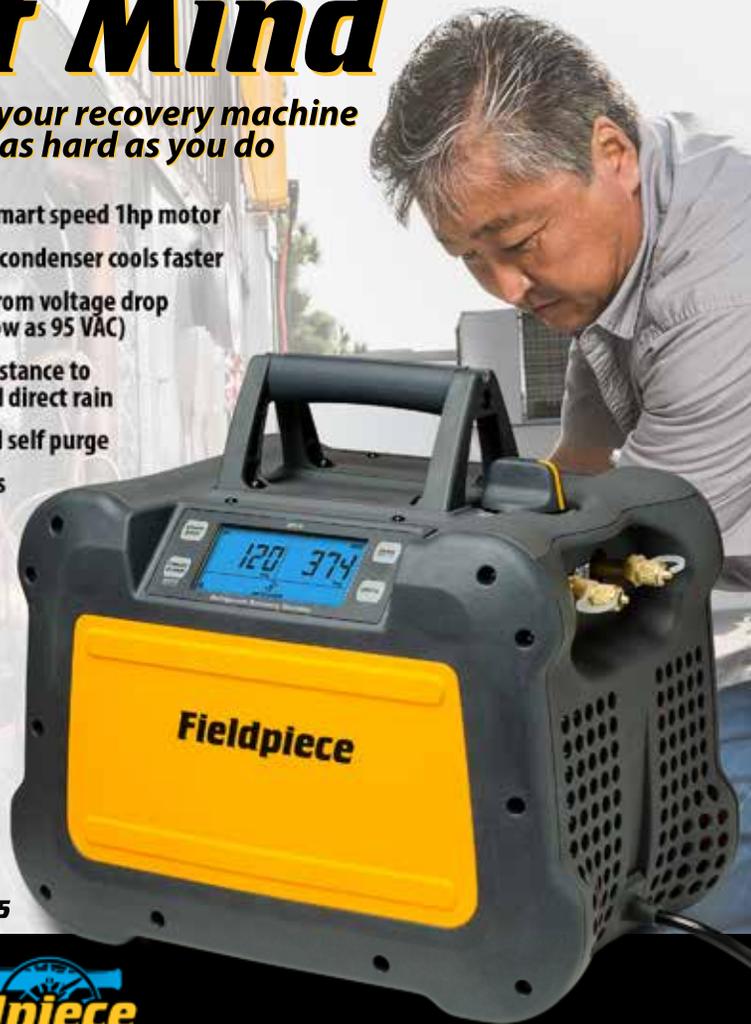
Brad Kivlan, vice president of operations, Dynatemp Intl. Inc., said the transition of power in Washington has raised the level of uncertainty with regards to EPA policy. At question now is the U.S. level of commitment to phasing out HFCs in adherence to the schedule expressed in the Kigali Amendment.

“Transition within the EPA and Congress will likely delay both the ratification of the Kigali Amendment and

Fieldpiece Of Mind

When your recovery machine works as hard as you do

- Variable smart speed 1hp motor
- Oversized condenser cools faster
- Protects from voltage drop (runs as low as 95 VAC)
- Water resistance to withstand direct rain
- Single dial self purge
- Only 22 lbs



MR45

Fieldpiece

Tools HVACR Pros Trust

www.fieldpiece.com

the EPA rulemaking that determines the mechanism(s) used by the EPA to ensure the phaseout meets predetermined milestones,” Kivlan said. “These mechanisms often have the greatest impact on supply and pricing in our marketplace.”

He added that since the election, it appears the Trump administration is edging toward the center and becoming more amenable to the prospects of supporting climate change regulations that were gaining momentum prior to the election.

Gordon McKinney, vice president and COO, Icor Intl., noted that 2016 was a busy year for the EPA, as the agency — acting on President Obama’s Climate Action Plan — rushed through several regulatory changes focused on reducing greenhouse gas emissions.

“It appeared as if the phasedown of HFC refrigerants was inevitable, and even on a fast track,” McKinney said.

He added, however, that “elections have consequences,” and noted that President Donald Trump is filling his administration with opponents of the man-made climate change movement.

“Trump’s nomination of Oklahoma Attorney General Scott Pruitt, a highly vocal climate change critic, to head up the EPA, puts all previous and future actions to phase-

down HFCs in serious question,” McKinney said.

A WISH FOR SOME CERTAINTY

Maureen Beatty, executive vice president, National Refrigerants Inc., expressed hope that 2017 will be devoid of any new regulations, so the industry can focus on compliance with the SNAP and Section 608 regulations that went into effect Jan. 1. She added that the industry must prepare for the additional Section 608 regulations scheduled to take effect in 2018 and 2019.

Beatty expects to see a significant increase in R-22 retrofit activity as the supply continues to dwindle and prices increase. She hopes this will result in an increased amount of R-22 returned to EPA-certified reclaimers. Subsequently, reclaimers should expect to see more recovered HFCs returned for reclamation.

“As an industry, we will see the continued development and introduction of lower-GWP refrigerants,” Beatty added. “And while a new administration in Washington brings a bit of uncertainty to the regulatory landscape, as an industry, we are hopeful the advances we have made to secure some certainty in regard to the continued supply of HFCs will be maintained.” 

ADVERTISERS INDEX

Advertiser Name	Page No.
Alan Manufacturing	26
Armacell LLC	10
Chemours	20
Condenser & Chiller Services	46
CPS Products	42
Daikin North America	15
Danfoss	22
DunAn Sensing	19
Dynatemp	43
Fieldpiece Instruments	48
GPS Insight	24
Haier	44
Honeywell	2
Keeprite Refrigeration	32
Mars Comfort Aire/Century	6
Maxitrol Company	31
Parker Hannifin	27
RectorSeal	45
Regal Power Transmission	17
RGF Environmental	12
Shurtape Technologies	34
The Whalen Company	36
Thycurb	38
WaterFurnace	40
Weil-McLain	8
Yellow Jacket	29

the **NEWS**

2017 AHR EXPO

Video Booth Tours

The NEWS is bringing our AHR Expo video booth tours to you. Just click on the videos below to learn more about some of the new products that were introduced at the show. No registration required. We at *The ACHR NEWS* hope you are enjoying your subscription. Visit us online at achrnews.com for daily news updates, the latest product information, technical articles and much more!

