

INDOOR COMFORT

OCTOBER 2022

THE VOICE OF THE INDUSTRY

www.indoorcomfortnews.com

NEWS

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

Viva

IHACI'S 42ND ANNUAL

HVAC/R/SM PERFORMANCE CONTRACTING PRODUCT
AND EQUIPMENT TRADE SHOW

HVAC!

TUESDAY,
NOVEMBER 15, 2022

PASADENA CONVENTION CENTER

11AM-7PM

IHACI

WELCOME
TO Fabulous
PASADENA
CALIFORNIA

3M
AC Pro
Action Duct Cleaning
A-Gas
Air Conditioning Trade Association
Airex Manufacturing, Inc.
Airzone
Albritton Company
Alliance Environmental Group
Apodr Inc.
AQC Industries
Benoist Company
Brownson Technical School
CalCERTS, Inc.
California Energy Commission
CHEERS
CI Web Group
Climatech International
CLEAResult Consulting, LLC
Coded Energy, Inc. / Kwik Model 3D
CoolAutomation
CY HVAC Supply
Danko Mechanical Sales Company
Denco
DiversiTech Corporation
Divvy
EGIA - OPTIMUS
and Contractor University

Emerson
Energy Code Ace
Energy Masters and Development, Inc.
ESCO Institute / HVAC Excellence
Ferguson HVAC
Fieldboss
Fieldpiece Instruments
Flaretite, Inc.
GE Appliances Air & Water Solutions
Global The Source
GoGreen Financing
GREE Electric
GRG Dispenser
Howard Industries
Hudson Technologies
Inaba Denko
Interplay Learning
iO HVAC Controls
iPermit
JB Warranties
JP Lamborn Co.
L. H. Dottie Company
LG Electronics USA, Inc.
M L Filters
Mainstream Engineering
MarketAir, Inc.
NEBB
National Comfort Institute (NCI)

North American Technician
Excellence (NATE)
Pacific Systems Group
Panasonic Life Solutions
Paradise Chevrolet Commercial Fleet
Particles Plus, Inc.
PHCC Los Angeles Training
R.E. Michel Company
Rapid Duct Testing
Resideo / Honeywell Home
Robertshaw
Rotobrush International
Rottiers Sales Associates
Royal Service Supplies
RSES/CARSES
Service Roundtable
Sigler Wholesale Distributors
Sirris Abatement
SoCal Pipe Trades / P.I.P.E.
SoCal Sheet Metal Apprenticeship
Local 105
Soleus Air West
Southern California Edison
Southern California Gas Company
Style Crest, Inc.
SUPCO (Sealed Unit Parts Co., Inc.)
TECH Clean California
Teslong

The New Flat Rate Company
Thermaflex
TrickleStar, Inc.
Trinity Warranty Solutions
TruTech Tools
Uniweld Products, Inc.
US Air Conditioning Distributors
Visual Service by IHACI (VS)

Walter's Mercedes-Benz Sprinter
of Riverside
Wright Sales Company
ZoneFirst

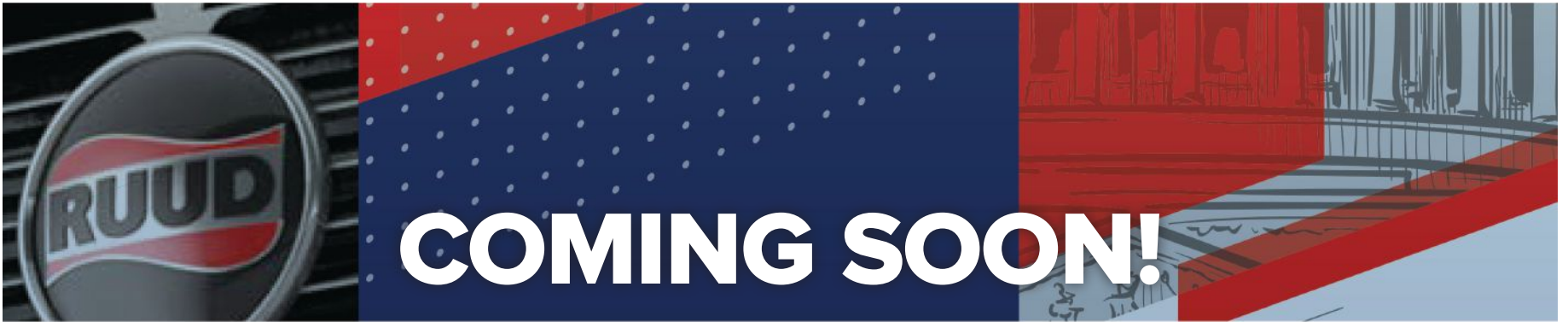
See PAGE 23 for Exhibitor
Descriptions

PAID
U.S. POSTAGE
PERMIT NO. 1884
LITTLE ROCK, AR

CHANGE SERVICE REQUESTED

454 W. Broadway
Glendale, CA 91204

INDOOR COMFORT NEWS



NEW 2023 RESIDENTIAL EQUIPMENT EFFICIENCY SOLUTIONS: INTRODUCING THE RUUD® ENDEAVOR™ LINE

ENDEAVOR™



The new **RUUD Endeavor Line** was developed in accordance with the Department of Energy's new testing procedure and meets the new efficiency standards that go into effect for all US regions on January 1, 2023.



R802V ACHIEVER PLUS® SERIES AND R801V ACHIEVER® SERIES 80% GAS FURNACE

- PlusOne™ Diagnostics with EcoNet®
- Dip Switch Free Installation Commissioning via Bluetooth Technology
- PlusOne™ Ignition System
- Constant CFM Motor

R801T ACHIEVER® SERIES 80% GAS FURNACES

- PlusOne™ Diagnostics
 - Industry-first 7-segment LED for quick and easy service
- PlusOne™ Ignition System
 - Proven Direct Spark Ignition (DSI) for reliability and longevity



U98MV AND U97MV ULTRA® SERIES MODELS, R962V ACHIEVER PLUS® SERIES MODEL AND R951V, R951T, R921V, R921T ACHIEVER® SERIES MODELS 90% GAS FURNACES

- PlusOne™ Energy Efficiency
 - Energy Star Certified
- PlusOne™ Diagnostics
 - Industry-first 7-segment LED for quick and easy service
- PlusOne™ Ignition System
 - Proven Direct Spark Ignition (DSI) for reliability and longevity
- PlusOne™ Water Management System
 - Exclusive patented blocked drain sensor that automatically shuts off the furnace when the drain is blocked and alerts the contractor via diagnostics code

**WATCH FOR OUR 2023 DOE
REGULATION TRAINING COMING
VIRTUALLY AND TO YOUR AREA.**

Scan here to view our calendar:



**WIN WITH RUUD AND FERGUSON
HVAC—BECOME A DEALER TODAY!**

Contact your Territory or Branch Manager, or
scan here to visit:



GET ALL OF YOUR 2023 REGULATION QUESTIONS ANSWERED.

Text us now at one of our locations for the answers you need. Monday–Friday, 7:00 a.m.–4:00 p.m.

ANAHEIM (CERRITOS), CA
(714) 520-6440

ANAHEIM (S. CLAUDINA), CA
(714) 520-0026

AZUSA, CA
(626) 969-1874

BAKERSFIELD, CA
(661) 335-7200

CATHEDRAL CITY, CA
(760) 770-6762

CHATSWORTH, CA
(818) 341-5200

EL CAJON, CA
(619) 258-9382

FRESNO, CA
(559) 538-6124

INDIO, CA
(760) 775-7400

LANCASTER, CA
(661) 945-6902

MANTECA, CA
(209) 239-6407

NEWBURY PARK, CA
(805) 376-3576

ONTARIO, CA
(909) 982-9699

PASO ROBLES, CA
(805) 434-3114

PITTSBURG, CA
(925) 778-1237

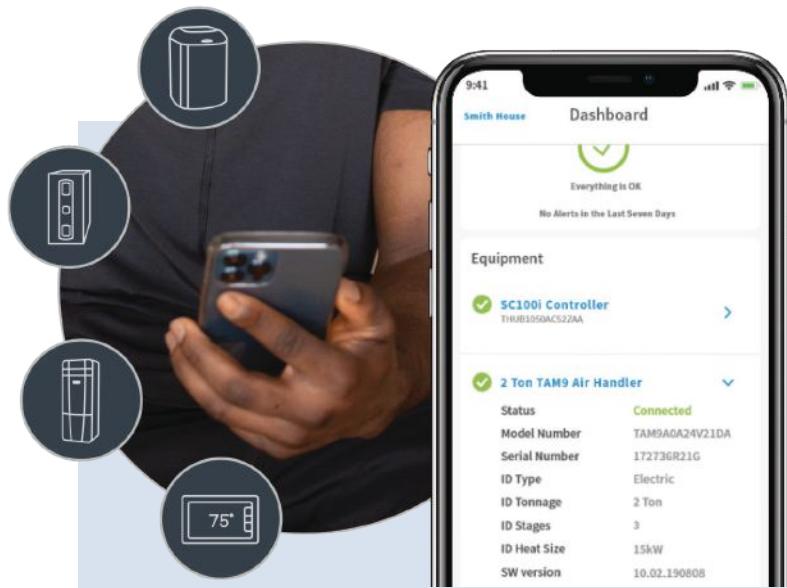
N. SACRAMENTO, CA
(916) 924-8661

S. SACRAMENTO, CA
(916) 210-7993

SAN GABRIEL, CA
(626) 458-2432

SAN JOSE, CA
(408) 271-1685

VAN NUYS, CA
(818) 779-0894



NEW!

Trane® Link™

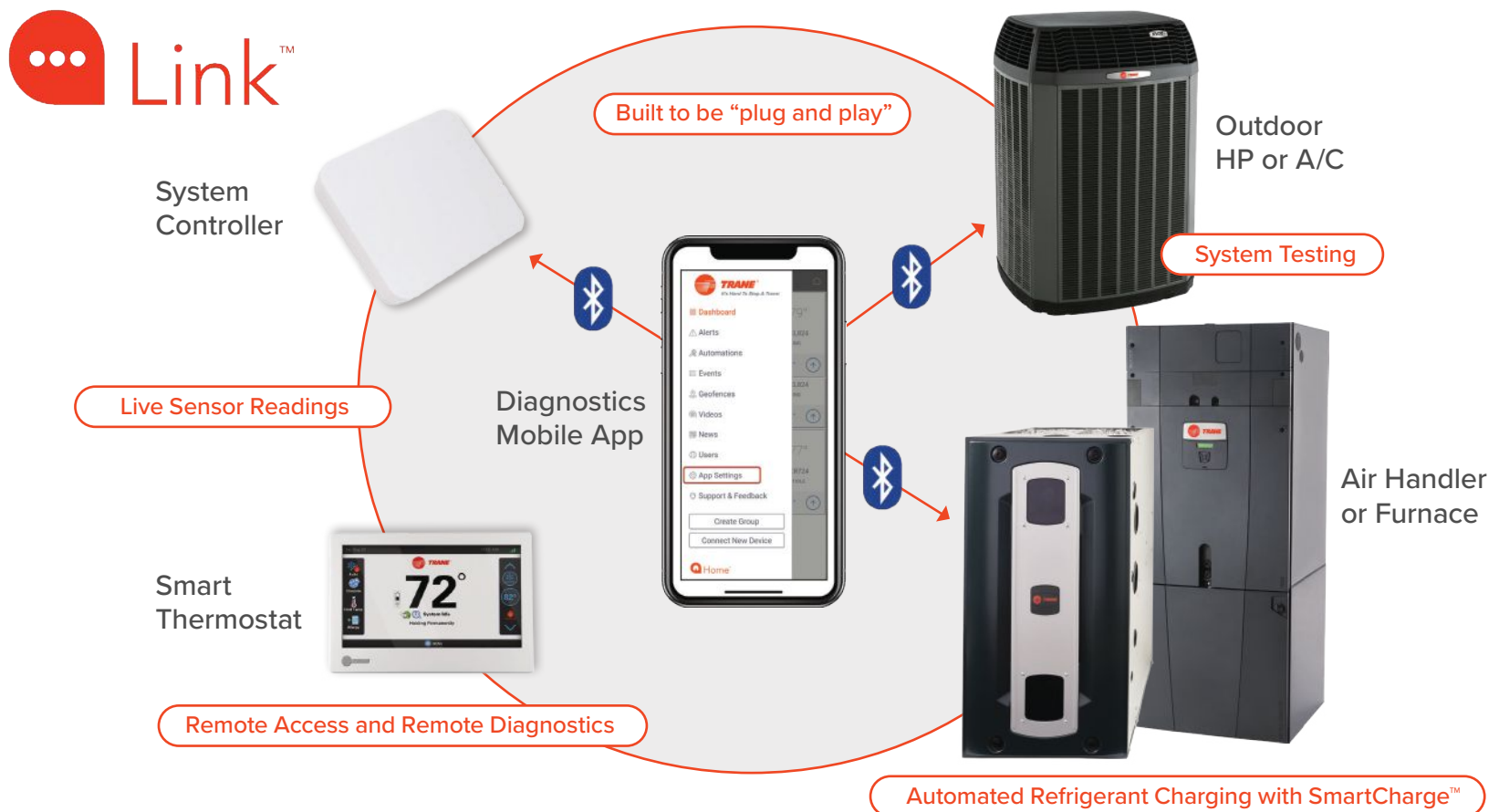
The Diagnostic Mobile App Makes Installation Easier



TRANE®

It's Hard To Stop A Trane®

Link™ is Trane's new state-of-the-art communicating technology inside their variable speed HVAC systems. It's designed to improve the way installation, commissioning and remote monitoring are performed. Sensors are embedded into equipment that monitor key homeowner diagnostics via a Bluetooth connection to the technician's smart device and smart thermostat.



BENEFITS OF DIAGNOSTIC INSTALLATION:

- ✓ Reduces jobsite parts runs
- ✓ Reduces commissioning time
- ✓ Reduces warranty costs
- ✓ Reduces callbacks
- ✓ Upgrades service contracts for increased dealer revenue

COMPATIBLE WITH: NEW UPCOMING 17–20 SEER VARIABLE SPEED SYSTEMS.

- TAMX Air Handler*
- TEMC*
- S8V2-C Furnace*
- S9V2-C Furnace*
- XV18
- XV20
- XV19*
- XV17*
- UV360 Smart Thermostat*
- SC360 System Controller*

*Coming 2023

GROW YOUR BUSINESS AND MAKE YOUR INSTALLATIONS EASIER WITH LINK BY TRANE.

CALL OR TEXT TODAY TO FIND OUT HOW TO GET LINK.

CALIFORNIA | NEVADA

ANAHEIM
(714) 520-6440

CATHEDRAL CITY
(760) 770-6762

CULVER CITY
(310) 391-2291

GILROY
(408) 846-6469

LANCASTER
(661) 945-6902

ONTARIO
(909) 969-2272

POMONA
(909) 517-3810

N SACRAMENTO
(916) 924-8661

LAS VEGAS, NV
(702) 260-9388

AZUSA
(626) 969-1874

CHATSWORTH
(818) 341-5200

EL CAJON
(619) 258-9382

HAYWARD
(510) 782-9820

MANTECA
(209) 239-6446

PASO ROBLES
(805) 434-3114

ROHNERT PARK
(707) 293-2652

S SACRAMENTO
(916) 210-7993

BAKERSFIELD
(661) 335-7200

CHICO
(530) 893-2114

FRESNO
(559) 538-6124

INDIO
(760) 775-7400

NEWBURY PARK
(805) 376-3576

PITTSBURG
(925) 778-1237

RIVERSIDE
(951) 784-0506

SAN JOSE
(408) 271-1685



Industry News



Grow Your HVAC Business with Heat Pump Water Heaters

Did you know HVAC contractors are an appropriate classification to install, service, and maintain heat pump water heater equipment? C20, C36, and B license contractors are confirmed by California's Contractors State License Board as allowed to install heat pump water heaters.

As an HVAC contractor in California, you are in an excellent position to grow your business by adding heat pump water heaters to your service offering. The market for energy-efficient HVAC and water heating is set to radically increase over the next 10 years, starting in 2023.

TECH Clean California is a statewide initiative aimed at accelerating the adoption of clean space and water heating technology. The program provides market incentives, workforce education, and training to make it easier for distributors and contractors to stock, sell, and install low-emissions heat pumps – delivering hot water to happy customers through better technology, significantly higher



energy efficiency, and lower carbon emissions.

In 2022, TECH Clean California funded over \$40 million in heat pump incentives. TECH will fund another 50 million in 2023, and in 2023 over \$83 million in funding from the Self-Generation Incentive Program (SGIP), tax credits from the Inflation Reduction Act, and other local utility incentives will be available to help Californians make the switch to heat pump technology.

TECH Clean California and the ENERGY STAR Manufacturers Action Council will be joining this year's IHACI Trade Show in Pasadena with an informational training session on heat pump water heaters – and how your business can take advantage of these new opportunities to grow by adding heat pump water heaters to your

products and services. This is a great opportunity to learn from AO Smith, Bradford White, ECO2 Systems, Nyle, and Rheem on how to incorporate heat pump water heaters into your existing offerings.

Join TECH and the ENERGY STAR Manufacturers Action Council for our seminar on Heat Pump Water Heater Technologies and be sure to stop by our booth to find out more about how heat pump water heating can help your business grow and create more happy customers. (Cool giveaways alert!)

The TECH Clean California team is led by Energy Solutions and partners with Ardena Energy, Association of Energy Affordability, Building Decarbonization Coalition, Electrify My Home, Frontier Energy, National Comfort Institute, Energy Outlet, Recurve Analytics, The Ortiz Group, Tre' Laine Associates, and VEIC. Find out more at www.techcleanca.com The TECH Clean California initiative is funded by California gas corporation ratepayers under the auspices of the California Public Utilities Commission.

CALIFORNIA



Rooter Hero Launches Podcast

Los Angeles, Calif. – Rooter Hero Plumbing & Air, a plumbing and HVAC company serving residential and commercial locations in California and Arizona, announced the launch of its podcast, HeroTalk, which will promote the home service trades and discuss hot topics and issues affecting the industry.

"We are excited to be able to offer our expertise on everything involving the home service industry from customer service to the work in the field to leadership and management," said John Akhoian, co-founder and CEO of Rooter Hero. "The topic list should appeal to anyone who works in the industry and to people who want to learn more about it."

Akhoian said Rooter Hero has aired podcasts in the past but not on a consistent basis. Hero-

Talk will air weekly on Thursdays.

The podcast features Rooter Hero Contact Center Manager David Powers and Social Media Coordinator Katherine "Kat" Conches. Powers and Conches have already interviewed several experts, including Akhoian and other Rooter Hero managers, and have discussed topics ranging from the power of positive reviews to time management.

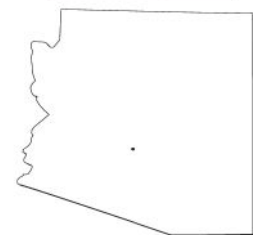
"We want this podcast to be as entertaining as it is informative," Powers said. "The topics are unique and delve into aspects of the home service trades that other podcasts don't investigate. We hope these new perspectives invite discussion with others in the industry and makes the listener think about things from a different angle."

The podcast is available on Google Podcasts, Amazon and Spotify.

Since 2011, Rooter Hero has been committed to providing the best in plumbing and drain services. With more than 90 years of plumbing experience, the Rooter Hero team prides themselves on creating a memorable experience for each customer.

The company provides solutions for both residential and commercial needs and offers 24/7 emergency service. Operating in service area locations throughout California and Arizona, Rooter Hero offers options such as HVAC service and installation in select areas. For more information, please visit <https://rooterhero.com> or call (844) 219-2215.

ARIZONA



QuickFrames USA Named Again to Fastest-Growing List

Mesa, Ariz. – QuickFrames USA, the leader in engineered structural roof frames, announces its inclusion in the 2022 Inc. 5000 list of Fastest-Growing Private Companies in America, making the list for the third year running.

The manufacturer of bolt-on, adjustable structural roof frames

Find the GOLD KEY and UNLOCK a PRIZE

Somewhere hidden inside the pages of Indoor Comfort News lies a golden key ! If you've discovered it, please email us the page number and location (e.g., page 4, inside USACD advertisement). The first correct email will receive a prize, courtesy of Indoor Comfort News!

Email your response to:
advertising@indoorcomfortnews.com

Note: Winners cannot win more than once in 12 months.



Continued on Page 6

California Dreaming



REME-HALO[®]zero

With aGHP-Cell™ Technology
Whole Home Air Purification System

- APPROVED FOR SALE IN CALIFORNIA
- Reduces bacteria, viruses, odors, and mold spores along with allergens and dust
- Verified zero ozone (UL 2998)
- Installs into existing air conditioning or heating system air ducts
- Actively purifies air pollutants at the source using aGHP™ technology
- Recreates nature's process of purifying the air
- 5 year limited warranty



VERIFIED
ZERO OZONE

MEETS UL 2998
DOES NOT EMIT MORE THAN
0.005 PPM AS TESTED
PER UL 867



Clean Air is Life[™]

LET US HELP PROTECT YOURS

RGF[®]
ENVIRONMENTAL GROUP, INC.

WWW.RGF.COM

Continued from Page 4

ranked at #2,060 with 290% growth over the three-year period. QuickFrames roof frames have become known as the industry standard in rooftop unit structural support for new construction, renovation and tenant improvement (T.I.) projects across commercial and industrial construction.

“My partners and I want to thank our customers and commend our team members for their important part in this honor,” says Bob Hasulak, partner & director of operations, QuickFrames USA. “The last year has been full of challenges across every industry, and we applaud all the businesses that have pushed through every obstacle they’ve encountered. We’re proud of our own strength and grit, and will continue to intentionally wow our

customers and grow even more in the coming year.”

The companies on the 2022 Inc. 5000 have not only been successful, but have also demonstrated resilience amid supply chain woes, labor shortages and the ongoing impact of Covid-19. “The accomplishment of building one of the fastest-growing companies in the U.S., in light of recent economic roadblocks, cannot be overstated,” says Scott Omelianuk, editor-in-chief of Inc. “Inc. is thrilled to honor the companies that have established themselves through innovation, hard work and rising to the challenges of today.”

Complete results of the Inc. 5000, including company profiles and an interactive database that can be sorted by industry, region, and other criteria, can be found at www.inc.com/inc5000.

• • • • •

TEXAS



Meridian Adhesives Acquires Design Polymerics

Houston, Texas – Meridian Adhesives Group (Meridian) announced the acquisition of Design Polymerics, a manufacturer of sealants, adhesives, insulation mastics, and indoor air quality products. Design Polymerics was acquired by Lyle Davis in 1993 and the company has grown steadily over the past three decades.

“We are very excited about joining the Meridian team,” said Davis. “We believe Design Polymerics found the perfect partner to continue its growth and technical experience in our industry. We look forward to implementing manufacturing capabilities throughout the United States to better serve our customers while introducing new, innovative products to remain a leader in the HVAC, insulation, and IAQ industries.”

Design Polymerics will join Meridian’s Industrial Product Assembly Division alongside American Sealants Inc.

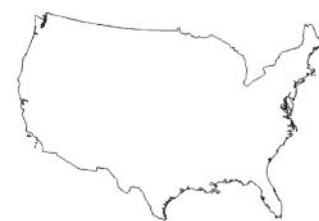
“We are thrilled to have Design Polymerics join the Industrial Product Assembly Division of Meridian,” said Andrew Zaremba, president of the division. “We are looking forward to adding their proven product line to our port-

folio and extending our reach into the HVAC market through Design Polymerics’ reputation as an industry leader in this space.”

This addition brings Meridian’s portfolio to 17 acquisitions and comes a day after American Securities’ announcement of the acquisition of Meridian from Arsenal Capital Partners.

“Design Polymerics is an excellent addition to our portfolio,” said Daniel Pelton, CEO of Meridian. “Management has built a solid adhesives company with a proven track record in the HVAC market, and I am excited to have Design Polymerics on board as we extend the Meridian footprint into new markets. This is the first of a new series of acquisitions to come with our new ownership American Securities, and we are thankful for their support as we continue to aggressively advance in the adhesives market.”

NATIONAL



Carrier to Partner with NFL QB Russell Wilson

Palm Beach Gardens, Fla. – NFL Super Bowl-winning quarterback Russell Wilson is partnering with Carrier Global Corporation, a global provider of healthy, safe, sustainable, and intelligent building and cold chain solutions, to help launch solutions critical to healthy and sustainable buildings and homes. As health and physical well-being are paramount to Wilson’s high-performance career, the Denver Broncos quarterback will partner with Carrier to introduce customers to differentiated offerings for healthy indoor air quality and sustainable solutions.

As co-founding partner of Abound Ventures, Wilson will focus on Carrier’s new Abound platform and its range of air purifiers. Abound is a digital platform that enables healthy indoor air quality and drives reduced carbon emissions from buildings, with a wide range of applications including commercial real estate, education,

Continued on Page 8



IN STOCK!



- Built to the highest standards for the American market
- One year product replacement should a major component fail
- 10-year all-parts warranty & 90-day labor policy
- A coast-to-coast support network for installing contractors
- Up to 96% efficiency
- Every product is triple-checked during assembly then 100% computer tested
- Durable appliance-grade jackets and cabinets
- Marketing programs & incentives to grow your business
- Reliable components and proven technology
- Full selection of OEM parts in stock
- Locally stocked inventory tailored to your business
- Factory trained TSAs in your local market to support you
- Ultra low NOx units available for Southern California and San Joaquin AQMD areas



distributed exclusively by

R.E. MICHEL COMPANY

WHOLESALE DISTRIBUTORS • AIR CONDITIONING • HEATING • REFRIGERATION
PROPANE • EQUIPMENT • PARTS • SUPPLIES

— Since 1935 —

We're Open Every Saturday Morning!

remichel.com

Connect with us on



GILBERT, AZ
480-571-3710

MESA, AZ
480-968-0168

PEORIA, AZ
602-269-0300

PHOENIX, AZ
602-841-7385

SCOTTSDALE, AZ
480-725-9928

TOLLESON, AZ
(SW Phoenix)
602-973-8063

TUCSON, AZ
520-795-1484

YUMA, AZ
928-248-2576

ANAHEIM, CA
714-635-5956

EL CAJON, CA
619-449-9550

ESCONDIDO, CA
760-291-4745

FRESNO, CA
559-459-0100

IRVINDALE, CA
626-962-0286

LONG BEACH, CA
562-200-0089

ONTARIO, CA
909-987-4207

PASO ROBLES, CA
805-434-1460

POMONA, CA
909-392-5626

RIVERSIDE, CA
951-271-8290

SAN JOSE, CA
408-477-1799

SANTA MARIA, CA
805-621-7070

TEMECULA, CA
951-308-2661

THOUSAND PALMS, CA
760-343-0754

UNION CITY, CA
510-483-8031

VAN NUYS, CA
818-781-3123

ALBUQUERQUE, NM
505-884-2660

LAS VEGAS, NV
702-733-7230



SOCALGAS RESIDENTIAL REBATES

Offer customers generous rebates on high efficiency equipment and installations.

Rebates include:

- Up to **\$4500** rebate on ENERGY STAR® certified solar thermal water heater with gas back-up.
- Up to **\$1000** rebate on ENERGY STAR® certified natural gas furnaces.
- Up to **\$1000** on qualifying ENERGY STAR® certified natural gas tankless water heaters.



Learn more at: socalgas.com/rebates

This program is funded by California utility customers and administered by Southern California Gas Company under the auspices of the California Public Utilities Commission. Program funds, including any funds utilized for rebates or incentives, will be allocated on a first-come, first-served basis until December 31, 2022 or until such funds are no longer available. This program may be modified or terminated without prior notice. The selection, purchase, and ownership of goods are the sole responsibility of customer. SoCalGas makes no warranty, whether express or implied, including the warranty of merchantability or fitness for a particular purpose, of goods selected by customer. Customers who choose to participate in this program not obligated to purchase any additional goods offered by manufacturer, vendor, service provider, or any other third party. Eligibility requirements apply; see the program conditions for details.

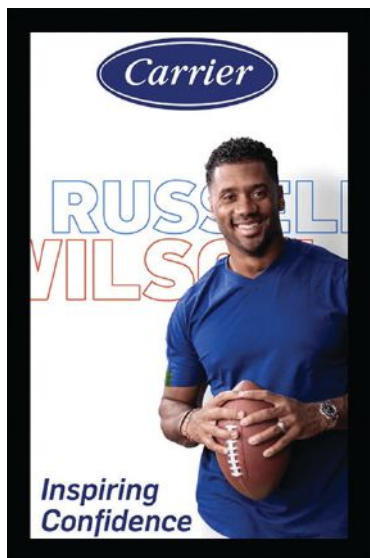
©2022 Southern California Gas Company. Trademarks are property of their respective owners. All rights reserved. N22G008A



Continued from Page 6

healthcare, hospitality, retail, and sports and entertainment facilities. Carrier's smart air purifier with HEPA filter includes an air quality monitor and offers a cost-effective way to improve indoor air quality and create a healthier building, room by room, utilizing three different filtration technologies. Carrier's air purifiers are in demand for many applications, from homes to classrooms to coffee shops and dental offices.

"Russell is a remarkable talent and businessman and we are thrilled to partner with him to more broadly introduce world-class solutions to some of the most critical challenges facing people and our planet," said David Gitlin, chairman and CEO, Carrier. "In addition to having nine Pro Bowl and two Super Bowl appearances, Russell is a deeply passionate visionary of developing solutions



that impact the lives of others and the future of our planet. Carrier could not be more excited to partner with him to help grow our digital platform Abound and our room air purifier line – focused on creating healthy and sustainable indoor environments."

"I am excited to partner with

Carrier, a company providing real solutions to issues that matter, including the vital role indoor air quality plays in human health and productivity," said Wilson. "As a professional athlete, but more importantly as a father, I am acutely aware of the value of health and wellness. As Ciara and I settle into our new home in Denver with our children, we are incredibly focused on the importance of healthy indoor environments. We have long admired the work Carrier is doing through Abound and its Healthy Buildings Program and are thrilled to do our part."

.....

Pro Refrigeration Wins EnVisioneer of the Year Award

Baltimore, Md. – Danfoss has named Pro Refrigeration, Inc., as its 13th EnVisioneer of the Year. The Washington-based manufacturer

and supplier of chillers for the industrial and beverage processing market, and a longtime customer of Danfoss, used Danfoss components to develop its PROGreen CO2 Chiller system that brought big dividends to a California dairy farm and ultimately, to the environment.

Launched in 2010, the annual EnVisioneer of the Year award competition recognizes North American original equipment manufacturers, building owners, municipalities, contractors and end users that have introduced a new product, opened a new facility or invested in a building or system upgrade in the past 18 months using Danfoss products or solutions to realize significant energy and environmental savings.

With the approaching HFC phasedown, the demand for environmentally friendly cooling systems is driving chiller manufacturers to innovate. Since CO2 is a natural refrigerant with a GWP rating of 1, not only does it have zero impact on global warming, it also allows refrigeration systems to recover 100% – three times that of chillers using synthetic refrigerants – of the heat rejected from their systems, generating hot water at up to 200 degrees. For Pro Refrigeration, heat recovery capability is an essential product feature, as beverage plants, dairy farms in particular, use a high amount of natural gas or propane to heat water for sanitizing and wash-down. Heat recovery technology lowers both their costs and climate impact.

The Danfoss components utilized in the PROGreen CO2 Chiller include the AK-SM850A system manager, AK-CC 750A case controller, AK-PC781A pack controller, as well as the CCM 20 and CCMT 30 electric regulating valves, BC 5100 pressure switches, pressure and temperature sensors, and other accessories such as AK-PS 250 power supply and GDC gas detector. All of the parts work together to monitor the cooling system, gather data from the sensors, control when the compressors cycle on and off and ensure the fans and expansion valves are working correctly.

"The Danfoss components provide the brains of the system," explained Jim VanderGiessen, Pro Refrigeration's co-founder and CEO. "They keep the system running in an optimal manner." As part of its constant monitoring and adjustment to external conditions, the system manager generates alerts and alarms, so that the facilities staff can immediately identify and address potential mechanical problems. The refrigeration control system also allows Pro Refrigeration

engineers to access the data remotely for improved customer support and troubleshooting capabilities.

.....

ACCA Achieves NFPA Exemption for Equipment

Alexandria, Va. – The Air Conditioning Contractors of America (ACCA) announced that it has achieved the National Fire Protection Association (NFPA) exemption of all outdoor HVAC equipment from the 2020 and 2023 National Electrical Code (NEC) Ground Fault Circuit Interrupter (GFCI) protection. The exemption is in place until September 2026.

This achievement stems from a two-year-long campaign of proposals and appeals submitted to the NFPA Standards Council by ACCA, Leading Builders of America (LBA), and the Air-Conditioning, Heating, and Refrigeration Institute (AHRI).

"It has been a long battle trying to convince the NFPA to exempt all outdoor HVAC from the NEC's GFCI protection," said David Bixby, ACCA manager of codes and standards. "It was critical to expand the exemption for all equipment until September 1, 2026. This will give the industry time to research the reasons behind the nuisance trips and develop technical solutions for the applicable appliance standard. This code change would have crippled our industry. Thanks to a concerted effort between ACCA members, its committees and Allied Contracting Organizations (ACOs), and our trade association allies, we were able to help educate the NFPA on a better course of action."

On August 10, 2022, Ed Lehr, president, Jack Lehr Heating, Cooling, & Electric in Allentown, PA testified on behalf of ACCA at an NFPA Standards Council hearing. He was joined by representatives from LBA and AHRI. Lehr's testimony proved to the Council that the current code requirement would cause excessive nuisance trips for the HVACR industry, wasting thousands of hours for technicians and putting customers in harm's way if they tried to reset or bypass the GFCI device to keep equipment operative.

Continued on Page 10



Now Available

Low-GWP Refrigerants Certification Exam



Low GWP Refrigerants

The Industry's Refrigerant Certification



NORTH AMERICAN TECHNICIAN EXCELLENCE

Study Guide Available in the NATE Online Store

WWW.NATEX.ORG

Looking for an easy and affordable replacement for R-22 units?

Save money with Guardian's R-407C unit.

We will match any competitor's written pricing!



GAW • 14 SEER • R-407C • 1 PHASE

LX SERIES 14 SEER CONDENSING UNIT

Model Number	Nom. Ton	Nom. Seer	Width	Height	Length	Weight
GAW14L18C21S	1.5	14	29-1/4	30	29-1/4	135
GAW14L24C21S	2.0	14	29-1/4	30	29-1/4	135
GAW14L30C21S	2.5	14	29-1/4	36-1/4	29-1/4	150
GAW14L36C21S	3.0	14	35-1/4	33-1/4	31-3/4	195
GAW14L42C21S	3.5	14	35-1/4	33-1/4	31-3/4	195
GAW14L48C21S	4.0	14	38	36-1/4	34-1/4	200
GAW14L60C21S	5.0	14	38	42-1/4	34-1/4	215

GUARDIAN
Always on Duty.

Reduce labor costs by replacing old R-22 condensing units with the Guardian alternative refrigerant unit. Compatible with R-22 coils and linesets!

Easy Changeout and Installation

- Independent panels provide quick access for unit setup
- Installation time is reduced by easy power and control wiring access
- Factory installed filter-drier means less time spent brazing and charging the system
- Small base dimension and reduced unit clearances make for easier retrofits

Quality Construction and Durability

- Coated steel wire fan guard, coated external fasteners, and pre-treated G90-equivalent galvanized steel chassis components resist corrosion and rust creep
- Powdercoat paint further protects external panels
- Louvered coil protection – Two stamped steel louvered panels protect the coil from mechanical damage
- High efficiency micro channel aluminum coil is manufactured using an improved material
- Compressors are protected internally by a high pressure relief valve and a temperature sensor, and externally by the system high pressure switch
- Liquid line filter-drier is factory installed to protect the compressor against moisture and debris
- Warranty: 5 year limited parts and compressor warranty

Shipped with a holding charge. Agency listed - UL 1995 / CSA 22.2
Performance certified to ANSI/AHRI Standard 210/240.

GET THE US AIR ADVANTAGE

- Free Next Day Delivery
- Refrigerant Cylinder Exchange Program
- Real Time Delivery Tracking at www.us-ac.com
- One-stop HVAC Supply Shop
- Online Services – <http://online.us-ac.com/>
- Most Stores Open on Saturdays
- Crane Lift Services

For more information, contact your local US Air branch today.

Not all services available at all locations

YORK

SAMSUNG
HVAC. Built brave.

US Air conditioning
DISTRIBUTORS

GUARDIAN
Always on Duty.

QuietCool
ADVANCED WHOLE HOUSE FANS

www.us-ac.com • [f](#) [i](#) [t](#)

800/937-7222

ARIZONA
Avondale
602/572-2953
Deer Valley
623/580-4101
Fort Mohave
928/768-2197
Gilbert
480/813-4628

Peoria
623/334-8302
Phoenix
602/253-2771
Tucson
520/903-3117

CALIFORNIA
Anaheim
714/776-3170
Bakersfield
661/322-7222
Burbank
818/840-0089
Cathedral City
760/770-4520

Chatsworth
818/678-1750
City of Industry
626/854-6868
Concord
925/349-3712
El Cajon
619/258-0672

El Centro
760/370-5530
Escondido
760/291-1281
Fairfield
707/424-6050
Fresno
559/266-8169

Hesperia
760/948-8045
Lake Forest
949/837-8104
Lancaster
661/726-5106
Los Angeles
323/897-6969

Modesto
209/577-2335
Newbury Park
805/376-1723
North Highlands
916/482-3572
Ontario
909/987-5016

Oxnard
805/988-3650
Palm Desert
760/200-5225
Paso Robles
805/238-9353
Redding
530/722-0144

Riverside
951/786-3500
S. San Francisco
650/871-8100
San Bernardino
909/885-3206
San Diego
858/279-9750

San Jose
408/278-1555
San Leandro
510/618-2300
Santa Barbara
805/962-2999
Santa Fe Springs
562/801-5432

Santa Rosa
707/566-9810
Signal Hill
562/981-2010
Stockton
209/466-4153
Temecula
951/296-6557

Valencia
661/666-9544
Van Nuys
818/464-3387
West Los Angeles
310/928-6660

IDAHO
Boise
208/672-1244
or 800/727-9936
Idaho Falls
208/542-5270

NEVADA
Sparks
775/329-3455
UTAH
Salt Lake City
801/485-8071
or 800/333-8436

Continued from Page 8

“Thanks to the group effort, ACCA succeeded in leading the charge to rewrite this bad code,” said Barton James, ACCA president and CEO. “This code was already negatively impacting contractors, their customers, and the entire HVACR Industry in states that had adopted it. Its impact would have only been compounded with future adoptions. ACCA is thrilled to announce the success of this campaign.”

Air Pros USA Buys CM Heating

Hollywood, Fla. – Air Pros USA announced the acquisition of CM Heating, a residential heating and air conditioning company that has been serving Washington across the Snohomish, South Skagit, and North King County regions since 1983. CM Heating will benefit from full operational and sales integration with the Air Pros USA platform to leverage expanded resources and continue building on nearly 40 years of service.

“CM Heating has built one of the strongest reputations on their high standards and character. Together we’re going to deliver

dynamic solutions and unmatched customer satisfaction,” said Anthony Perera, founder and chief growth officer of Air Pros USA. “It is not just an aggregation of our two teams, it is an integration of our strengths and shared goals to deliver quality care to every customer we serve.”

CM Heating will continue to operate under their recognized brand as an Air Pros USA Company.

“Our customers trust us with their homes and comfort, so finding the right culture fit in a partner was a critical element for us,” said John Giacomi, co-owner and general manager of CM Heating. “We felt that was secure when we partnered with Air Pros USA. They are an involved community member and most importantly, never sacrifice quality in their work.”

Air Pros USA strengthens its local presence across Washington, having entered the Spokane market in 2020. Air Pros USA now adds multiple new service locations including Everett, Bothell, Mount Vernon, and Anacortes.

“It takes a special team to achieve what CM Heating has. We are so excited to welcome them into the Air Pros USA family,” said Robert DiPietro, CEO of Air Pros USA.

Nationally, Air Pros USA has over 650 vehicles, 800 technicians and staff, and serves over 500,000 customers. Air Pros USA operates in eight states and more than a dozen metro areas including Miami, Orlando, Dallas, Atlanta, Colorado Springs, Mobile, and Spokane.

The sell-side was represented by Meridian Capital, a Seattle-based leading middle market investment bank and M&A advisory firm.

EPA Proposes New Refrigerants to SNAP Program

Washington, D.C. – The Environmental Protection Agency (EPA) has proposed adding several new low-GWP refrigerants to its Significant New Alternatives Policy (SNAP) program for some comfort cooling and refrigeration equipment.

SNAP Rule 25 is proposing to find HFC-32, HFO-1234yf, and the four refrigerant blends, HFO-1234yf, R-454A, R-454B, and R-454C, acceptable subject to use conditions as substitutes in certain types of chillers. This proposed listing for the four blends applies to all compressor types of chillers, i.e., centrifugal and positive displacement (including reciprocating,

screw, scroll, and rotary) chillers, while the proposed listing for HFC-32 and R-452B applies to only scroll and rotary chillers.

The proposed listings are for comfort cooling applications of such chillers under EPA’s proposed use conditions, including but not limited to use in commercial air conditioning and industrial process air conditioning. These refrigerants may be used only in new equipment designed specifically and clearly identified for the refrigerant – none of these substitutes may be used as a conversion or “retrofit” refrigerant for existing equipment.

For residential dehumidifiers, the proposed listing is for HFO-1234yf, HFC-32, R-452B, R-454A, R-454B, and R-454C as acceptable, subject to use conditions, for use in new residential dehumidifiers end-use. For non-residential dehumidifiers, the proposed listing is for HFC-32 as acceptable, subject to use conditions, for use in new non-residential dehumidifiers end-use.

For residential and light commercial air conditioners and heat pumps, the proposed listing is for HFC-32 as acceptable, subject to use conditions, for use in new self-contained room air conditioner and heat pump end-use. EPA previously listed HFC-32 as acceptable, subject to use conditions, in new self-contained room air conditioners and heat pumps in SNAP Rule 19. Under the most recent rulemaking, EPA is proposing to update those use conditions to be consistent with use conditions applied to other refrigerants with lower flammability as finalized in SNAP Rule 23. The proposed use conditions would be required on all such equipment manufactured on or after the effective date of the final rule and would not apply to or affect equipment manufactured before the effective date of the final action and manufactured in compliance with the SNAP requirements applicable at the time of manufacture.

For very low-temperature refrigeration (VLTR), the proposed listing is for R-1150 as acceptable, subject to use conditions and narrowed use limits, for use in VLTR end-use.

Winsupply Opens Center for HVAC Innovation

Moraine, Ohio – Winsupply Inc., an HVACR distributor, opened its new Richard W. Schwartz Center for Innovation on August 25. The 28,000-square-foot building, located near Winsupply’s support

services campus in Moraine, Ohio, will also serve as the new headquarters of Winsupply of Dayton.

The arrangement gives support services teams the ability to work alongside a successful local company to quickly develop, test, and refine innovations. These innovations include everything from IT solutions, inventory management, warehouse operations, merchandising and product deliveries, customer communications, vendor marketing, and showroom displays. Upon testing, these innovations can then be rolled out nationwide to help every local Winsupply company become more competitive.

“The ability for our support services teams to work side by side with an operating local company will be invaluable and will actually help speed up the time-to-market for our newest services. I thank the leadership team for naming the facility in the spirit of what I believe in,” said Rick Schwartz, Winsupply’s board chairman, for whom the Center for Innovation is named.

“This will allow my company to try out new services and technology that will help us better serve our customers,” said Jeff Williams, president and owner of Winsupply of Dayton. “Our team will be able to provide feedback before the services are expanded to all local companies.”

Winsupply Inc. owns a majority equity stake in more than 640 local distribution companies across the U.S., including Win-branded locations, the Noland Co., Carr Supply, Security Plumbing & Heating Supply, APCO, and other regional suppliers. The companies distribute supplies and materials for the HVACR, plumbing, electrical, waterworks, and other industries.

Tecogen Expands Tax Credits

Waltham, Mass. – Tecogen Inc., a clean energy company providing ultra-efficient and clean on-site power, heating and cooling equipment, is pleased to confirm that the increased and expanded tax credits available under the Inflation Reduction Act of 2022 apply to systems incorporating certain low emission technology.

Continued on Page 12

Commercial HVAC Installers: Need An Assist with Energy Code Compliance Forms?

The Energy Code Ace Virtual Compliance Assistant guides you through filling in nonresidential forms and even verifies compliance!



Find it and much more at
www.EnergyCodeAce.com
offers no-cost Tools ♠ Training ♠ Resources
to help you decode Title 24, Part 6 and Title 20

SCAN
to download our HVAC Brochure!



This program is funded by California utility customers and administered by Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E) and Southern California Edison Company (SCE) under the auspices of the California Public Utilities Commission.

LEARN THE LATEST ENERGY-SAVING TECHNOLOGIES

We offer free HVAC/R online courses to help you maximize your customer's system performance and stay up to date with your certification.



IHACI NATE Certification Training Series – Core

October 12 & 13 | 6 p.m. – 8 p.m.

IHACI NATE Certification Training Series – Gas Heating

October 19 & 20 | 6 p.m. – 8 p.m.

IHACI NATE Certification Training Series – Air Conditioners and Heat Pumps

November 2 & 3 | 6 p.m. – 8 p.m.

IHACI NATE Certification Training Series – Air Distribution

November 9 & 10 | 6 p.m. – 8 p.m.

ItsAboutQ.net On-Demand HVAC/R Programs & Courses

Available 24/7, 365 days a year



Register to take our classes and see all our HVAC/R offerings at **on.sce.com/hvac** or scan the QR code.

Continued from Page 10

gies, including Tecogen’s combined heat and power (CHP) equipment. The Inflation Reduction Act increased tax credits, including the investment tax credit (ITC), up to thirty percent (30%) of the project cost for projects incorporating certain low emission technologies, including CHP equipment, that begin construction before January 1, 2025, provided that the taxpayer satisfies requirements relating to the payment of prevailing wages and the use of apprentices. It is important to note that there is a project size threshold of 1 MW before the prevailing wage requirements are triggered, which would not apply to the vast majority of Tecogen’s projects, allowing owners more flexibility with regard to system installers. The tax credits may be increased by an additional ten percent (10%) if the taxpayer satisfies additional requirements relating to domestic content. Certain tax credits also apply to microgrid projects beginning construction before January 1, 2025, as well as a variety of low or no emission technologies including solar, wind, hydrogen, biomass, and other technologies. State and local governments and tax-exempt entities may also benefit from certain tax credits through direct payments or transfers of tax credits to unrelated third parties. This particular new direct pay option is especially impactful given the fact that many ideal facilities for CHP systems are not-for-profit, including many healthcare and hospital facilities, schools and universities, as well as recreation centers. These customers historically have not been able to benefit from previous iterations of the ITC, so the company is hopeful that it will see increased uptake in

these market verticals. Under the federal definition for CHP systems, all the Company’s products, including our air-conditioning and refrigeration models (Tecochoill and Tecofrost) qualify for the tax credit when heat recovery is incorporated into the system design. “We are pleased that the tax provisions in the Inflation Reduction Act recognize the benefits available from CHP equipment and provide incentives for incorporating CHP equipment into HVAC systems,” noted Benjamin Locke, Tecogen’s CEO. “We believe that the expanded and increased tax credits provide meaningful incentives for purchases of our CHP equipment, and we look forward to working with customers who wish to take advantage of significantly improved economics associated with an investment in Tecogen cogeneration equipment and chillers that provide energy cost savings, near zero emissions, and increased resiliency to grid power shortages, outages, and demand charges.”

.....
NSI Industries Acquires SUPCO
Huntersville, N.C. – NSI Industries LLC, a provider of electrical, HVAC, and building technology product solutions for more than 45 years, announced that it has acquired Allenwood, N.J.-based Sealed Unit Parts Co. Inc. (SUPCO), a designer, manufacturer, and distributor of high-performing parts, components, test instruments, and tools. SUPCO broadens and strengthens NSI’s products offering in these growing

categories. “SUPCO has been a leader in HVAC for more than 75 years and has built a tremendous reputation with its customers over the years in not only providing first in class products, but also as a collaborative, forward thinking organization which puts the customer first,” said Rob Hennessy, NSI’s HVAC division leader. “By leading with these attributes, SUPCO naturally aligns itself with NSI and its approach to the marketplace. We welcome the entire SUPCO team to the NSI family and look forward to increasing SUPCO’s HVACR and appliance market share with the added strengths that comes with being a part of the NSI platform.”

SUPCO engineers invented the patented Bullet Line Tap valve in the 1960s, discovered the PTC technology behind the company’s two-wire air conditioning and refrigeration hard start kits, and manufactured an electronic vacuum gauge in the 1990s. Today, SUPCO operates manufacturing facilities in New Jersey, the Midwest, and abroad, maintaining a worldwide network of sales representatives and distributors to serve both domestic and international industries as well as an in-house engineering team. Within the past 15 years, SUPCO’s strategic growth has included acquisitions of Climate Technology Corporation (CTC), A-1 Components, Cam-Stat, NAPCO, and Aqua-solve Chemical Company. “When customers see the SUPCO brand, they can expect technician-focused innovation at value-driven prices, and a commitment to integrity, flexibility, and partnership when it comes to how we do business with our customers,” explained SUPCO CEO Chris Mancuso. “NSI Industries and its brands also share these ideals so we are excited to broaden and strengthen our position in the HVACR and appliance parts industries as part of the NSI family.”

.....
Register Early for 2023 ASHRAE Winter Conference
Atlanta, Ga. – Registration is now open for the 2023 ASHRAE Winter Conference, February 4-8 in ASHRAE’s global headquarters city, Atlanta, Georgia. Registration for the conference provides entry to the co-sponsored AHR Expo, held February 6-8 at the Georgia World Congress Center. “Each year, the ASHRAE Winter Conference and AHR

Expo provides built environment professionals with industry-leading events and experiences and the best resources and presenters to deliver cutting-edge knowledge to address today’s challenges,” said 2022-23 ASHRAE President Farooq Mehboob, Fellow Life Member. “Attending the Winter Conference and AHR Expo provides a wonderful opportunity to reconnect with colleagues, make new professional connections and inspire innovation thinking. We are thrilled to return to our global headquarters city and look forward to a successful event.” The ASHRAE Winter Conference Technical Program will offer more than 80 technical sessions, within nine tracks. Professional development hours can be earned for all sessions and most online sessions upon successfully completing a short quiz. The complete technical program will be available in the fall. Tracks include:

- Fundamentals & Applications
- HVAC&R Systems and Equipment
- Refrigerants and Refrigeration
- Grid Resilience and Thermal Storage
- Pathways to Zero Energy Emissions and Decarbonization
- Multifamily and Residential Buildings
- Operations and Maintenance
- Building Simulation and Virtual Design in Construction
- Innovative Responses to Supply Chain Challenges (mini track)

In addition to the technical program and AHR Expo, attendees can look forward to updates from Society leaders, general and technical tours around Atlanta and social events including the Welcome Party at the Georgia Aquarium. Leading up to and during the conference, ASHRAE will also conduct business, committee and technical meetings. President Mehboob will provide an update on the 2022-23 Society theme, “Securing Our Future.” Members will be recognized for their industry and Society accomplishments. Major contributors to ASHRAE will also be recognized. The cost to attend the conference in-person is \$680 for ASHRAE members (\$935 for non-members, which includes an ASHRAE membership for one year). Early bird discounts are available for registrations completed prior to Oct. 30. The cost to attend the conference virtually is \$410 for ASHRAE members (\$460 for non-members, which includes an ASHRAE membership for one year). Company packages are avail-

able. Please check the conference webpage for additional pricing. All registered attendees, both in-person and virtual, will have access to the virtual conference platform during the conference and 12 months post-conference. To learn more about the 2023 ASHRAE Winter Conference and to register, visit ashrae.org/2023winter.

.....
REHAU Earns “Great Place to Work” Certification
Leesburg, Va. – REHAU is proud to announce that seven countries operating within its Americas region individually achieved Great Place to Work Certification™. The prestigious award is based entirely on what current employees say about their workplace experience in the Great Place to Work® global employee survey platform. REHAU companies in Argentina, Brazil, Canada, Chile, Mexico and the United States earned the certification for the first time in 2022. Colombia became the first Great Place to Work-Certified™ country in the REHAU Group worldwide in 2021 and earned re-certification in 2022. While the company’s employees in Peru were included in the overall survey results, operations there do not meet the minimum size for country certification. Great Place to Work® is the global authority on workplace culture, employee experience and the leadership behaviors proven to deliver market-leading revenue, employee retention and increased innovation. This global recognition considers the extent to which employees trust leaders, the respect with which people are treated, the fairness of workplace decisions, and the feelings of pride and camaraderie among team members. “Great Place to Work Certification™ isn’t something that comes easily – it takes ongoing dedication to the employee experience,” said Sarah Lewis-Kulin, vice president of global recognition at Great Place to Work. “It’s the only official recognition determined by employees’ real-time reports of their company culture. Earning this designation means that REHAU companies in the Americas are among the best companies to work for in their countries.” “We are honored that seven countries in our region have now joined the ranks of manufactur-

WANT TO SAVE ON CRANE COST?

PRO-LIFT

LIGHTWEIGHT
AIRCRAFT
ALUMINUM

PATENT
PENDING

EASY TO OPERATE
BATTERY
OPERATED



CALL TODAY (972) 939-3231 • WWW.PRO-LIFT.COM

AAON, Inc. Zero Degree Heat Pump



AAON, Inc., a leading manufacturer of heating and cooling products, announces its zero degree cold climate air-source heat pump packaged rooftop unit is now available from 2-30 tons. This product line is a critical solution that meets the increasing demand for building decarbonization in cold climates.

Traditional air-source heat pump products have limitations that prevent heating operation at low ambient temperatures. With the optimization of variable speed compressors, variable speed outdoor fans, and advanced AAON controls, the zero degree cold climate air-source heat pump enhances compressorized heat pump heating application into a wide range of climate zones, down to 0°F. Research and development is already underway at AAON for expanding the product line into larger capacity equipment, as well as expanding the operating range down to even lower ambient temperatures.

“We are excited to provide our customers with this innovative product that meets their requirements for building electrification and decarbonization,” said Gary Fields, AAON President and CEO. “This AAON innovation is a direct result of our investment in research and development, and its high efficiency performance has been tested and verified down to zero degrees in our NAIC (Norman Asbjornson Innovation Center) laboratory.”

More information: www.aaon.com.

.....

Daikin ATMOSPHERA

Delivering outstanding efficiencies, Daikin ATMOSPHERA is North America’s first home comfort product featuring R-32, a refrigerant with one-third the Global Warming Potential of USA’s and Canada’s most used refrigerants. A pure, single-component refrigerant, R-32 is easy to top off, clean and reuse on-site, or reclaim and recycle.



A single-zone, ductless system, the new Daikin ATMOSPHERA features impressive ratings up to 13.8 HSPF, 16.3 EER and 27.4 SEER for ultra-efficient heating and cooling. Daikin ATMOSPHERA provides up to 100% rated heating capacity at 5°F WB and confirmed continuous operation as low as -13°F WB, with up to 100% rated cooling capacity at 115°F DB.

Heating Products

New hybrid cooling technology efficiently controls humidity, even in low-cooling loads, maintaining dehumidification effect after reaching target temperatures. A novel “CLEAN” operation dries the indoor unit’s interior, reducing condensation; a detachable drain pan provides easy cleaning. Indoor units include built-in WiFi for control via Daikin Comfort Control App.

More information: www.daikin-atmosfera.com.

.....

Facilities Resource Group TTS Synergy Series

Facilities Resource Group, LLC (FRG), a leading provider of single-source, turnkey commercial domes-



tic hot water solutions, recently unveiled the TTS Synergy Series to help engineers, contractors and commercial facility owner-managers streamline and accelerate the process of changing out a centralized water heating system.

The result is a powerful, high-performance, tankless rack solution with a turndown ratio of 66:1 that will provide more than 1,600 gallons of hot water per hour, yet

is compact enough to fit through a standard mechanical room doorway. Most importantly, TTS systems are pre-engineered and prefabricated to install quickly and without complications, minimizing costly downtime for commercial operators.

One Point of Connection: The most compelling aspect of this total tankless solution, which made its debut at the recent AHR Expo in Las Vegas, is its dynamic, One Point of Connection feature. TTS multi-unit assemblies are designed and built at FRG’s Michigan facilities, and then shipped to the job site fully assembled.

The standard package consists

Continued on Page 14

ARKEMA

FORANE® REFRIGERANTS

A bright idea for our future.
Discover the benefits of R-32.

Forane® 32 refrigerant is your replacement solution—bridging the present with the future—under the global HFC phasedown. With global acceptance, R-32 has been used in over 100 million units, providing the HVAC industry a lower cost and lower GWP alternative.

- ✦ Higher capacity and efficiency vs. R-410A
- ✦ Potential to reduce system size, with a lower charge amount
- ✦ Single component refrigerant, with zero glide and easier maintenance

Learn more about our R-32 refrigerant product by visiting our website: ark.ma/in-co-oct-r32

Forane is a registered trademark of Arkema.
© 2022 Arkema Inc. All rights reserved.
UL® is a registered trademark of Underwriters Laboratories, Inc.

forane.com | 800-245-5858

Heating Products

Continued from Page 13

of an aluminum frame rack holding from two to six Noritz NCC199CDV Commercial Condensing Water Heaters with maximum inputs of 199,900 Btu/hour and maximum flow rates of 11.1 gallons per minute. Also included are the system controller, water and gas manifolds, expansion tank, breaker box with circuit breakers, digital pump controller with timer, surge protector, building recirculation pump and isolation valves – all pre-installed and pre-piped to the attached water heaters.

The prefabrication is so extensive, the installer needs to make only a single connection apiece for the water, power, gas, vent, condensate drain and building-recirculation lines. These half dozen connections are a small fraction of the numerous, complex hookups technicians would need to make, were they to build the system from scratch.

To further speed installation, the TTS offers a wheel kit option with commercial-grade casters to facilitate moving the rack from shipping crate to its final location. Measuring 80-inches high and 31.5 inches wide, regardless of the number of tankless units incorporated, the compact TTS rack will easily pass through a standard, mechanical-room doorway. Whether two, four or six heaters are combined, the multiple tankless units are carefully positioned within the aluminum frame to

conserve space while maintaining all the necessary clearances for service.

More information: <https://webfrg.com>.

Mitsubishi Electric Trane HVAC US Intelli-HEAT



This new **Mitsubishi Electric Trane HVAC US (METUS)** solution connects with any thermostatically controlled furnace. The dual fuel system empowers homeowners with a gas furnace to improve their home's comfort and sustainability by using an energy-efficient, all-electric heat pump as their primary heating source.

The furnace remains available as a heating source for extreme cold conditions. Intelli-HEAT connects to single-zone P-Series cooling-only or heat-pump units and multi-zone MXZ heat-pump units. Hyper-Heating Inverter (H2i) models are available for both single- and multizone systems.

The available H2i models provide 100% heating capacity down to 5°F outdoor ambient temperature and guaranteed operation down to -13°F.

More information: www.mitsubishicomfort.com.

Midea EVOX Heat Pump

Available in six sizes from 18,000-60,000 BTUs, many of **Midea's** EVOX Heat Pumps are Energy Star compliant and hold high COP, HSPF, and SEER ratings. These side discharge outdoor units support heat pump and dual-fuel heating capabilities, are up to 36% quieter, are less prone to natural debris, and require less rear clearance (12 inches vs. standard 24 inches). They are up to 50% smaller than conventional units, making them useful for limited installation spaces. For colder months or optimizing operational cost, EVOX systems can also be paired with existing gas furnaces to provide a reliable source of heat under the most extreme climates.

More information: www.midea.com.



Full Set of EVOX

Therma-HEXX ThermaPANEL

Therma-HEXX, the North American leader in modular radiant heating and cooling systems, announces



the launch of high-performance **ThermaPANEL** modular hydronic radiant heating and cooling systems for new and refurbished residential, commercial and industrial applications.

The new interior system is environmentally friendly, improves efficiency and saves space and money just as architects, contractors and developers are facing mounting pressures to employ strategies that reduce fossil fuel consumption and control overall project costs.

The system is built upon the proven **ThermaPANEL**, which has evolved into a reliable and durable product over 13 years in extreme exterior applications.

Evenly distributed heating and cooling is achieved through low-profile panels located in the ceiling, or in the floor when used for heating-only applications. Coupled with a high-efficiency electric heat pump, hydronic fluid is evenly and turbulently distributed throughout the individual panels in integrated, thermoformed micro-channels that enable even cooling and heating that is superior to traditional tubing-based systems. The breakthrough technology provides approximately 30% greater efficiency than forced air systems.

Made in the USA, the patented aluminum **ThermaPANEL-TRAK™**

system offers an easy, snap-together installation for any surface, framing system or suspension system, and provides for the direct attachment of drywall or other surfaces.

The patented **ThermaPANEL** allows for highly efficient, two-way transfer of energy, making it capable of radiantly heating and cooling indoor spaces with a single system.

- Reduces heating and cooling operating costs by as much as 30% when used with a heat pump.

- Significantly reduces space required for duct work.

- Modular slim profile requires only 1.5 inches of ceiling installation space, allowing flexibility around lights, sprinklers and other fixtures.

- Highest fluid-to-surface area ratio on the market allows for rapid demand response.

- Eliminates drafts, noise, and hot or cold spots.

- Enables temperature-controlled zones throughout multiple spaces or within one space.

- Virtually eliminates distribution of dust, allergens, contaminants and airborne diseases.

- Easy to transport and install with minimal maintenance.

More information: www.therma-hexx.com.

UNICO, Inc. Cocoon



Unico, Inc. the leading manufacturer of small duct central heating and air conditioning systems, has added a new technology to its product line with the introduction of a thermal mass furnace for efficient, comfortable central heating.

Cocoon is an electric furnace that uses a solid ceramic thermal mass which produces heat in the infrared spectrum. Cocoon furnaces use up to 41% less electricity to produce heat than standard electric furnaces, feature a compact modular footprint and high-quality construction, and

Outcomfort the competition

STAND OUT AS A LEADING HVAC EFFICIENCY CONTRACTOR.

Build your reputation for efficient HVAC solutions that bring comfort, energy savings and healthy indoor air quality to your commercial and residential customers. Comfortably CA is a statewide program that offers:



Incentives on qualified equipment



No-cost trainings and marketing resources



High-efficiency systems to help grow your business



Comfortably CA

Join the network

Get details and find participating distributors at ComfortablyCA.com or call 855-700-4651.

IHACI Trade Show

Visit us at booth #119



Continued on Page 18

Further your energy career with online training



Access no-cost classes from the comfort of your home or office



OCTOBER CLASSES

2-PART SERIES

IHACI - Boiler Module

October 4 & 11 | 6 p.m. - 8 p.m.

2-PART SERIES

IHACI - Commercial Refrigeration Module

October 18 & 25 | 6 p.m. - 8 p.m.

2-PART SERIES

HVAC - Energy Management Systems

October 18 & 20 | 5 p.m. - 7 p.m.

2-PART SERIES

HVAC - Introduction to HVAC

October 25 & 27 | 5 p.m. - 7 p.m.

ON-DEMAND

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

hvacredu.net/sdgetraining

ON-DEMAND

D&R International - Commercial Heat Pump Water Heating Online Education

learn.drintl.com/commercial-hpwh-training-sdge

ENERGY CODE ACE

Codes & Standards - 2019 Title 24, Part 6 Essentials

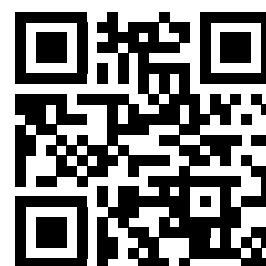
energycodeace.com



Reserve your seat today and check out other classes at **seminars.sdge.com** or simply scan the QR code.

Some programs are funded by California utility customers and administered by San Diego Gas & Electric® under the auspices of the California Public Utilities Commission.

© 2022 San Diego Gas & Electric Company. All copyright and trademark rights reserved. S2270070 0922



Introducing the New intelli-HEAT™ Product Line

Mitsubishi Electric has launched a new product series - intelli-HEAT™. The intelli-HEAT Dual Fuel System provides cost-effective, efficient, and environmentally friendly cooling and heating all year round. intelli-HEAT mounts in-line with an existing thermostatically controlled furnace* and ductwork. During periods of extreme cold, intelli-HEAT switches to the current gas furnace based on capacity and economic balance points, creating a true dual fuel system.



Cold Climate heat pump with furnace integration



Superior efficiency AC replacement solution



Intelligent comfort control manages operation between heat pump and furnace



Reduces fossil fuel consumption and emissions to align with greenhouse gas reduction goals



Compatible with single or multi-zone systems which provides a true zoning solution



Blending of technologies for comfort, cost effectiveness and environmental benefit

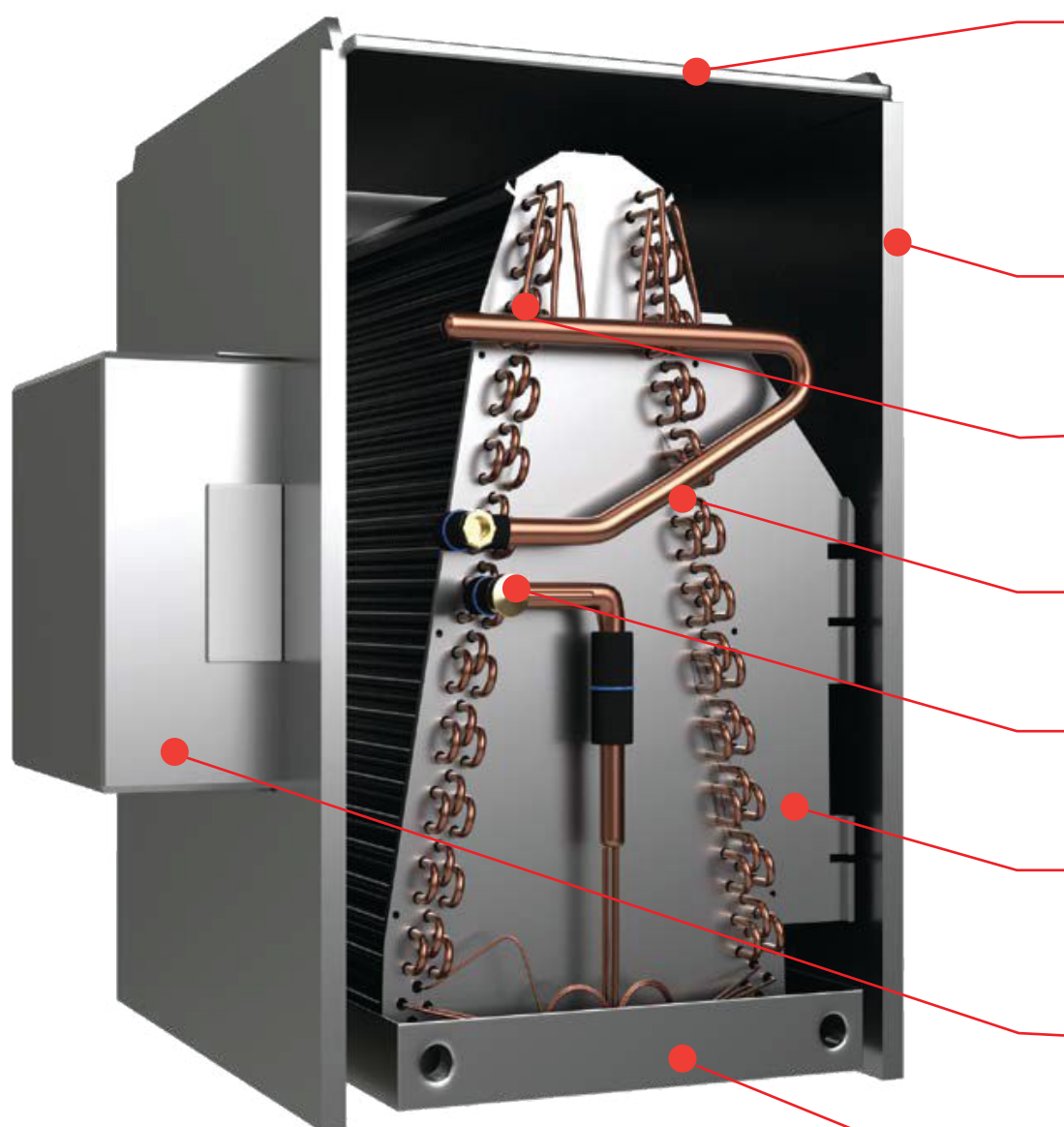


Compatible with thermostatically controlled furnaces*

*Mitsubishi Electric air conditioner and heat pump systems should only be connected with ANSI-Z21.47/CSA2.3 certified furnaces

intelli-HEAT

Key Benefits and Features



Available in multiple sizes and capacities:

- 18, 24, 30 kBtu/h | 14.5", 17.5" wide | 26.4" height
- 36, 42 kBtu/h | 17.5", 21" wide | 31" height

Single-zone: PUY, PUZ, and PUZ H2i

Multi-zone: MXZ, MXZ H2i, MXZ-SM, and MXZ-SM H2i

Flexible Installation:

- Vertical, downflow and horizontal left/right
- Control box can be mounted anywhere

Oxygen-free copper coils provide up to six times the longevity of standard copper coils

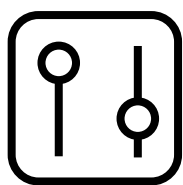
Smaller tube diameters with grooved design technology provide a higher heat transfer efficiency

Flare piping connections for quick, clean, and simple installations with no need for brazing

Best in industry condensation management

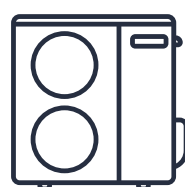
Intelligent comfort control system automatically switches between heat pump and furnace operation to ensure comfort and maintain efficiency

High quality drain pan material with low moisture absorption and high heat capability



Optimum Switchover Control

Economic and capacity balance points ensure homeowner comfort by automatically switching between heat pump and furnace operations as needed.



Single and Multi-Zone Options

New and unique whole-home solution when combined with single or multi-zone heat pumps.



Hyper-Heating Options

intelli-HEAT™ is the only dual fuel system available capable of maintaining 100% of heat pump heating capacity down to 5°F with hyper-heating heat pumps.

New Police Headquarters in Alaska Features IAQ Efficient HVAC Systems

Engineer's ERV static-plate enthalpy cores specification eliminates need for conventional defrost systems and saves city energy and maintenance costs.

The new \$12 million Wasilla (Alaska) Police Station employs many innovative HVAC designs that will save the city energy and provide occupants with unprecedented indoor air quality (IAQ).

The recently completed 20,000-square-foot building designed with aesthetic post-modern industrial architecture by MCG Explore Design, Anchorage, doubles the police department's previous building, which was an old, converted bank. The sustainable mechanical HVAC design features dedicated outdoor air systems (DOAS) with energy recovery, hydronic radiant floor heating and packaged rooftop units (RTU) with heat recovery that all contribute to energy efficiency.

For example, ERVs were specified without defrost coils, which are commonly used for Alaska's frigid winters, but are costly in upfront capital, operational and maintenance costs. Instead, DN Series DOAS units manufactured by RenewAire, Waunakee, Wis., use static-plate enthalpy cores. The units are designed to operate down to -10°F ambient temperatures without requiring defrost cycles, because they don't transfer H₂O between supply and exhaust air. If temperatures drop lower (Wasilla temperatures rarely drop below -20°F), the DN-Series' on-board controller activates a bypass damper and introduces space heat to prevent heat exchanger frost accumulation, if needed, according to Christian Dougherty, P.E., mechanical engineer and the project's manager at consulting MEP engineering firm, AMC Engineers, Anchorage, Alaska.

"The energy recovered by the DOAS units, and the fact they don't require conventional defrost



AN EXTERIOR VIEW OF THE WASILLA POLICE STATION.

cycles and equipment, is saving the city a large amount of money," said Dougherty, whose firm has specified core-based units on previous projects. "We've had mixed results in the past with energy recovery alternatives, such as enthalpy wheels, that require defrost cycles and maintenance for moving parts that cores don't require."

"Cores aren't subject to cross contamination, which is potentially problematic in critical spaces, such as garages and evidence rooms, where contaminants can potentially infiltrate occupied spaces," added Jordan Privoznik, systems sales leader at Trane, Anchorage, Alaska. "DOAS units with static-plate cores are often an ideal solution in our environment as they can be more reliable than other energy recovery methodologies due to less moving parts, while still achieving very high efficiencies."

Installed by project mechanical contractor Mechanical Specialists Inc., Wasilla, Alaska, the two DN Series ERVs provide 3,000-CFM and 1,700-CFM of 100% outdoor air in the facility's 3,100-square-foot garage and the 750-square-foot evidence room, respectively. Both spaces are under negative pressure to prevent garage vehicle emissions and evidence room odors, such as bodily fluids or confiscated drug off-gassing, from infiltrating common walls

shared with occupied spaces. The two units are also outfitted with sensors, an onboard controller, a manual wall switch and a smoke detector, the latter which complies with Alaska building code. The facility's building management system (BMS), a Trane Tracer Control System, monitors the ERVs.

While evidence material off-gassing was the prime motivation, 100% outdoor air will also dilute any airborne contaminants that could degrade stored evidence. The evidence room is also closely monitored to minimize any potential degradations from wide temperature and humidity variances.

The garage's 100% outdoor air is critical in preventing CO and NO₂ accumulation and maintaining indoor air quality for employees using and servicing city vehicles. The ERV uses energy recovery to help maintain a year-round 70°F set point. On extreme cold days, which according to ASHRAE guidelines is -23°F locally, the ERV can preheat air to as high as 40°F. A 70°F leaving air temperature can be reached on extreme days by using the integral hydronic reheat coil supplied by the boiler circuit's glycol heat exchanger.

Other project equipment includes a 25-ton, 8,500-CFM Trane Intellipak™ RTU that supplies the building and includes



THE RENEWAIRE DN SERIES DOAS UNIT MOUNTED ON THE ROOFTOP.

DX cooling, hydronic heat, and variable airflow, serving several Trane variable air volume (VAV) boxes with hydronic reheat coils to provide precise zone control. A 15-ton, 5,000-CFM Trane Voyager™ RTU was also specified. Radiant floor heating, and snow melt duties are provided by a 2Mbh gas-fired boiler manufactured by Riello, Mississauga, Ontario. Secondary glycol heat exchangers for air handlers were provided by Bell & Gossett, Morton Grove, Ill.

Additional efficiency was created by a Dougherty and Privoznik collaboration that configured the radiant floor heating into zones (rooms) controlled by the Trane BACnet Building Automation System. While VAVs and radiant heating can operate concurrently, there exists a challenge when combining VAV technology's quicker space comfort achievement with radiant tubing embedded in a thermal mass that takes longer to react. "Meticulous programming and strategic commissioning were required to ensure both systems operated seamlessly and synergistically," explained Privoznik. "This process, combined with Trane's advanced Trim and Respond control strategies as prescribed in ASHRAE Guideline 36, allowed us to maximize energy efficiency, maintain control stability and achieve optimal space comfort for the occupants."

Another energy efficient design

was Dougherty's collaboration with Trane for designating one air handler for operation only during standard business hours, while the other unit operates for 24/7 occupied areas. When a large portion of the building is unoccupied, and outdoor air isn't required, the less efficient VAV System is disabled and space temperature is maintained solely thru radiant floor heating.

Although the project didn't apply for Leadership in Energy and Environmental Design (LEED®), Dougherty said the HVAC design would have significantly helped the building accumulate enough credits if the city had chosen certification.

Regardless, the police station is delivering 21st century comfort, IAQ and energy savings, within a strict construction budget.

For more than 35 years, RenewAire® has been a pioneer in improving human health, cognitive function, productivity and wellbeing by enhancing indoor air quality via energy recovery ventilation technologies. This is accomplished energy-efficiently, cost-effectively and sustainably with fifth generation static plate enthalpy core energy recovery ventilators and dedicated outdoor air systems.

For more information, visit www.renewaire.com, email: ra-marketing@renewaire.com or call (800) 627-4499.

Editorial Focus

Continued from Page 14

uses a multi-stage variable speed electronically commutated blower motor – which is highly efficient and provides better air flow. The Cocoon furnace does include smart control that optimizes the heating and blower operations. Like The Unico System, the fur-

naces are modular, quick, and easy to install, and come in two model sizes: THRMS1800 for spaces up to 1,800 sf, and THRMS3200 for areas up to 3,200 sf.

"We are very pleased to offer our installers and end users this revolutionary, new method of central heating," said Shannon Intagliata, Sales Manager for Unico, Inc. "HVAC contractors now have another tool in their arsenal and

homeowners a new, highly efficient and economical way of achieving superior indoor comfort – all from a trusted name in the industry."

Intagliata states that installing contractors interested in adding the Cocoon furnace to their product offerings should contact their local Unico System expert, found in the following directory.

"Our installing contractors are the best in the industry." Intagliata

adds, "They are the early adopters of innovative, highly efficient technologies that ecologically conscious homeowners increasingly demand, so we know our excitement will extend to them in making the Cocoon furnace available to their customers."

The Unico System is a small duct central heating and air conditioning system manufactured by Unico, Inc. Ideal for custom

and new home construction, older home retrofits and historic preservation, as well as commercial applications, The Unico System takes less than one-third the space of a traditional HVAC system. Unico, Inc. is an active member of the U.S. National Trust for Historic Preservation.

More information: www.unico-system.com.

Service Management Excellence: Part 2

By Jim Johnson
Contributing Editor

A woman sits on the beach, watching her grandson playing next to the water. Suddenly, a towering wave breaks onto the shore, then rushes back out, taking the boy out to sea.

“Please God”, the grandmother pleads. “Save my grandson! Please bring him back!”

Just as suddenly as the first wave arrived, another huge wave crashes to shore, washing the boy back onto the beach...sitting there on the sand, somewhat dazed, but good as new.

She looks up to the heavens and says, “He was wearing a hat!”

Sometimes it seems that some customers, no matter how hard you work to please them, will never be satisfied. But that doesn't change the fact that customer service is what it's all about for any business. And a service manager's task is to make sure that all the people they lead never forget that, and that they maintain a culture of customer service every time they deal with a customer, whether it's verbally or via text on the phone, by email, or in person.

The in-person and phone discussion issues are often considered to be the easiest ones for service managers to establish and convey policy because most people learned about that kind of interaction via the Kindergarten Rules that taught us to be polite, honest, and kind to others. That being said, one simple tool a service manager can employ to convey how important customer service is to the lifeblood of a business is the Two-Part Customer Service Policy, and there's an old school approach you can take in getting the point across to the technicians who report to you.

At your next staff meeting, hand out 3 x 5 index cards. Explain that you want to present a simple, down-to-earth way to look at taking care of your customers by breaking the procedure for the process down into two parts.

Have everyone write on one side of their index card, the following:

- “Part One: Provide Outstanding Customer Service.”
- Then, have them flip the card over and write:
- “Use Your Own Best Judgment In Any Situation.”

What you have accomplished in less than two minutes is establishing your “Policy Manual” that outlines the procedures that are to be followed when any customer situation comes up. This simplified, two-part Customer Service Policy Manual isn't designed to replace your company policy manual since it isn't a document that lists specific job descriptions or detailed procedures. Instead, it expresses a philosophy into a simple, workable mission statement.

To put your customer service policy to work, remember Part One of the mission...

“Provide Outstanding Customer Service”.

In any situation in which a

technician is either on the phone with a customer, or in person explaining what your service pricing structure is about, detailing the service that will be provided, or following up with the service, Part One of the mission is the basis for every procedure.

And, if, in the process of accomplishing any of the things mentioned above, the customer needs more information, then Part Two of the customer service policy manual is the procedure.... “Use Your Own Best Judgment In Any Situation.”

Then, at this point in the meeting, be prepared to hear some “Yeah-Buts”. What are “Yeah-Buts”?

They go something like this: “Yeah,

Continued on Page 22

Industry News

Continued from Page 12

ing companies who are Great Place to Work-Certified™,” said Monika Irchenhauser, vice president of human resources. “We are also very pleased that our employees, including the 80 percent who work in our eight manufacturing plants, say that REHAU is a great place to work. Customers can be assured that no matter the origin of their REHAU product, it comes from employees who are proud of the company and of the work that they do.”

As a manufacturing company, jobs at REHAU entail

all the challenges that come with developing, producing and distributing products in a global economy. Employees at all levels are encouraged to take the lead and make something better every day. Assuming responsibility for the work that needs to be done, jumping in to lend a helping hand to a team member and celebrating wins together is engrained in the company's culture. As confirmed by the survey, 89 percent of employees affirm that “When I look at what we accomplish, I feel a sense of pride.” and 84 percent agree that “I can be myself around here.”

ARE YOU #2023READY?

Here's What's Changing

The Department of Energy (DOE) is increasing the minimum efficiencies for central air conditioners and heat pumps. The testing procedures for determining those efficiencies are changing as well.

What you need to know

Are you ready for the new Department of Energy Changes?



Dealers and contractors who install non-compliant equipment will be required to replace the equipment and face fines of up to \$503 per unit, per day.



Train your technicians now on the new compliance standards.



Scale down current inventory now to prepare for the new regulations and product launches.





Split System Air Conditioner Sample Label



Split System Heat Pump Sample Label



Small Packaged Product Sample Label



Stay in the know at Bakerdist.com/doe-regulations

www.indoorcomfortnews.com

ICN OCTOBER 2022 19

Troubleshooting

An Uncomfortable Building

By Jim Johnson
Contributing Editor

In this month's troubleshooting situation, the customer's complaint is that the temperature in the building is far from comfortable. When they called for service, they said that they can "hear something running, but it isn't doing any good at all."

When you arrive, you confirm that the indoor segment of the equipment is operating, and that temperature in the building is near to the outdoor ambient. A check of the filter in the indoor air handler shows no problem,

and the thermostat is correctly set.

Your first observation of the outdoor equipment is that the outdoor fan motor (See the schematic in **Figure One** and legend in **Figure Two**) is operating. You also find that the compressor is hot and not running, and that the start components used by the manufacturer in this equipment are the potential relay and start capacitor.

After disconnecting the power supply, you accomplish the following tests:

...Potential relay ohmmeter test



FIGURE TWO

from 2 to 5, 2,100 ohms.

...Potential relay ohmmeter test from 1 to 5, continuity.

...Start capacitor test, 260 microfarads.

...Dual capacitor test from C to H, 65 microfarads.

...Dual capacitor test from C to F, 15 microfarads.

And, after allowing time for the compressor to cool, you find the following:

...Test from C to S, 3.4 ohms.

...Test from C to R, 2.3 ohms.

Your two-part troubleshooting question: Why was it necessary to wait for the compressor to cool down, and what is the next step that you need to take to get this equipment back online?

If you believe you have the correct answer to one of Jim Johnson's Troubleshooting Problems, please submit it by email to Jim Johnson at icntroubleshooting@techtrain-assoc.com or by U.S. Mail to: Technical Training Associates, PO Box 2259, Green Valley, AZ 85622-

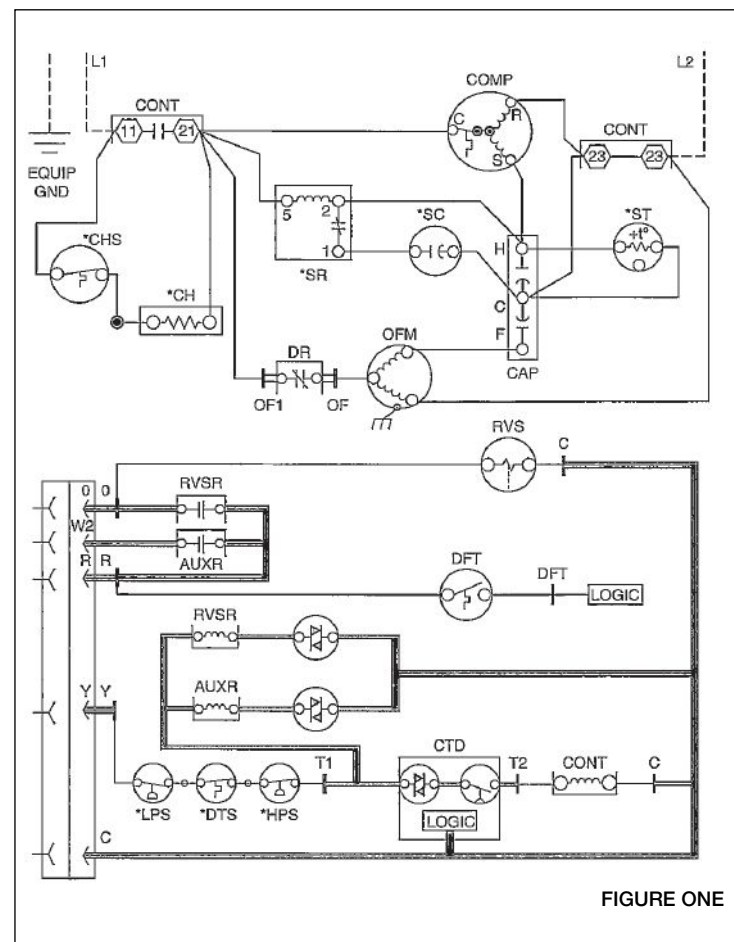


FIGURE ONE

2259.

In your email subject line please include "Troubleshooting Answer" and indicate which month the question you are responding to was published.

Correct answers will be entered into a drawing and will be eligible to receive a copy of Jim Johnson's video "Evaluating Refrigeration Systems: Troubleshooting & Identifying Problems."

Answer to Last Month's Problem

The underlying cause of the poor performance of this equipment is the presence of non-condensable gases in the system. At a stable ambient of 76-degrees, R-134A pressure should be 80 PSIG.

The winner of last month's Troubleshooting is:
Christopher Cacares

Product Spotlight

The New Flat Rate Enters Virtual Reality

The New Flat Rate, a price generating software for home service contractors, is diving into the realm of VR by being one of a limited number of vendors to have a booth inside the new Daikin Comfort Technologies virtual training portal.

As part of the experience, contractors will be able to enter the booth with a virtual reality headset or a connected device – such as a laptop or desktop – and discover tools that can help them grow and thrive within the HVAC industry.

"The HVAC industry is changing every day, as are the demands of our members," said Danielle Putnam, president of The New Flat Rate. "Advanced technology and connectivity are the way of the

future, and the Daikin Comfort Technologies virtual training portal is an innovative tool to help us take the next step – this virtual platform allows the contractor to remotely experience The New Flat Rate. Daikin has truly led the way and we expect virtual reality platforms to become more common in the industry. This opportunity positions us ahead of the curve."

With the Daikin Comfort Technologies portal, which takes the contractor inside a virtual HVAC unit, The New Flat Rate explains how menu pricing has increased the average ticket of HVAC service and equipment sales across North America. Contractors can

experience the power of menu pricing at their own pace.

"Every day, contractors are leaving money on the table when trying to sell HVAC services," Putnam said. "Our pricing software provides a variety of menus that instantly give prices for repairs and equipment replacement while giving the customer multiple options to choose from. This not only decreases stress for the technician by removing the sales pressure, but it also helps increase customer satisfaction and adds profit for the contractor. The Daikin Comfort Technologies virtual portal gives us an additional platform to educate contractors on our pricing software."

Fieldpiece

OUR NEWEST HEAVYWEIGHT CHAMPION



Wireless Refrigerant Scale, SR47

- 13" platform to fit larger tanks and integrated bumpers for increased durability
- Strong enough to hold a maximum load of 252 lbs
- Lightweight. Total weight of scale and remote is ~7 lbs
- Connects to the Job Link System App with 1000' wireless range and Digital Manifolds SM480V & SM380V



Learn more at www.fieldpiece.com

SAMSUNG

Welcome to the future of comfort innovation.

DVM S2 | WindFree™
Digital Variable Multi Compatible



DVM S2

DVM S2 is the latest generation of Samsung VRF systems boasting industry leading efficiencies and heating and cooling performance.

Features:

- 6, 8, 10, 12, 14, 16, 18 and 20 ton modules
- Connect up to 3 units for system capacities up to 40 tons
- Heat pump and heat recovery models in 208-230V / 60Hz / 3 Ø and 460V / 60Hz / 3 Ø
- Wide operating range from 122°F (50°C) ambient to as low as -22°F (-30°C)
- Design combination ratio of 50 -184%**
- Simplified chassis design and integral inverter check function for easier serviceability.
- Advanced flash injection technology provides increased heating performance in low ambient conditions and expanded frequency range for improved efficiency and performance. In addition, 13% larger scroll displacement provides the same capacity at lower RPMs compared to previous models.
- Extended piping length up to 722 ft., vertical separation up to 361 ft., and 164 ft.³ between the highest and lowest indoor units. Conditions apply.



Active Artificial Intelligence (AI) Technology:

AI Defrost

Learns and trends fan motor current to detect ice formation on the condenser coil during heating operation. This also detects temperature in order to increase heating operation duration between defrost cycles to reduce overall defrost cycle duration.

AI Low Refrigerant Monitoring

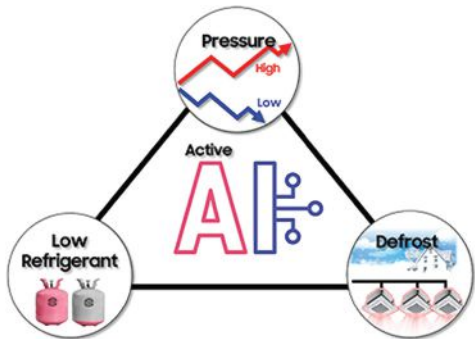
Uses data from various sensors embedded in indoor and outdoor units to determine the amount of refrigerant required to maintain the system and ensure the best performance². The system also monitors the refrigerant volume in real time during operation and displays a warning code for checkup on the outdoor unit PCB and in central controls.

AI High and Low Pressure Control

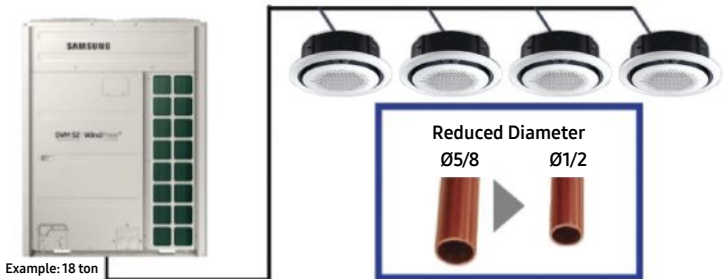
Learns the recent cooling operation pattern¹ so that the memory cycle status can help reach a targeted low pressure to create the cooling environment desired by the user. To control high pressure, the system automatically recognizes the installed system pipe length and vertical separation and adjusts the target high pressure and reduces unnecessary high pressure, thereby reducing the energy used by the compressor by up to 15%¹.

Refrigerant Volume Reduction

High performance sub-cooling control allows reduction of the main liquid pipe diameter from the outdoor unit to the first HR MCU or Y-joint to reduce overall system charge by an average of over 30%. Accordingly, the installation site can reduce not only the cost of refrigerant, but also the cost of piping and insulation. Conditions apply.



Outdoor Capacity (tons)	Liquid Pipe				Difference per Foot
	Standard Diameter (in.)	Additional Refrigerant	Reduced Diameter (in.)	Additional Refrigerant	
6	3/8	0.645 oz./foot	N/A	N/A	
8					
10					
12	1/2	1.344 oz./foot	3/8	0.645 oz./foot	52%
14					
16	5/8	1.935 oz./foot	1/2	1.344 oz./foot	31%
18					
20					



**Restrictions apply.
¹Conditions apply. Refer to technical documents for more information.
²Requires an initial dedicated refrigerant check function during commissioning.
³Applies to heat pump models. Heat recovery models provide 131 ft. between the highest and lowest indoor units.



SAMSUNG
HVAC. Built brave.
www.samsunghvac.com

800/937-7222

ARIZONA Avondale 602/572-2953 Deer Valley 623/580-4101 Fort Mohave 928/768-2197 Gilbert 480/813-4628	Peoria 623/334-8302 Phoenix 602/253-2771 Tucson 520/903-3117	CALIFORNIA Anaheim 714/776-3170 Bakersfield 661/322-7222 Concord 925/349-3712 Burbank 818/840-0089 Cathedral City 760/770-4520	Chatsworth 818/678-1750 City of Industry 626/854-6868 Concord 925/349-3712 El Cajon 619/258-0672	El Centro 760/370-5530 Escondido 760/291-1281 Fairfield 707/424-6050 Fresno 559/266-8169	Hesperia 760/948-8045 Lake Forest 949/837-8104 Lancaster 661/726-5106 Los Angeles 323/897-6969	Modesto 209/577-2335 Newbury Park 805/376-1723 North Highlands 916/482-3572 Ontario 909/987-5016	Oxnard 805/988-3650 Palm Desert 760/200-5225 Paso Robles 805/238-9353 Redding 530/722-0144	Riverside 951/786-3500 S. San Francisco 650/871-8100 San Bernardino 909/885-3206 San Diego 858/279-9750	San Jose 408/278-1555 San Leandro 510/618-2300 Santa Barbara 805/962-2999 Santa Fe Springs 562/801-5432	Santa Rosa 707/566-9810 Signal Hill 562/981-2010 Stockton 209/466-4153 Temecula 951/296-6557	Valencia 661/666-9544 Van Nuys 818/464-3387 West Los Angeles 310/928-6660	IDAHO Boise 208/672-1244 or 800/727-9936 Idaho Falls 208/542-5270	NEVADA Sparks 775/329-3455 UTAH Salt Lake City 801/485-8071 or 800/333-8436
--	---	--	---	---	---	---	---	--	--	---	--	--	---

Growing Green Technicians Part 156: Relative Humidity, Wet Bulb Depression, Dew Point

By Jim Johnson
Contributing Editor

In the previous segment in this series, our focus was on the fundamental approach to plotting a state point on a psychrometric chart in order to determine whether or not a comfort cooling system was operating properly and removing both sensible and latent heat at a correct ratio, achieving not only a standard of approximately 75° F dry bulb, but also a relative humidity near the 45 to 50 percent level.

In this issue, we'll look further into the processes of dry bulb and wet bulb temperatures, through a concept that applies to calculating relative humidity, known as Wet Bulb Depression. This is another method of referring to determining temperature difference between a measured dry bulb temperature and a measured wet bulb temperature, and with the two temperatures confirmed, employing a chart such as the one shown in **Figure One** to calculate relative humidity.

With accurate temperature readings accomplished, we can plug the numbers into the chart. For example, consider that we found a 70-degree dry bulb temperature and a wet bulb temperature of 58 degrees, and applied the fundamental arithmetic:

70 – 58 = 12

When applying these numbers to the chart by locating the dry bulb listing on the left, and the calculated temperature at the top of the chart, we find the humidity level under these conditions would be 48%. When we employ the concept of wet bulb depression, it's simply applying an alternate process, described as accomplishing a test that results in determining the extent to which the

temperature recorded by a wet bulb thermometer falls below the dry bulb temperature.

Which brings us to another concept that goes hand in hand with the proper level of humidity (and proper air flow) Dew Point which is illustrated in **Figure Two**.

In this illustration of a standard psychrometric chart, we employ the curved humidity lines to show both the wet bulb temperature of air, and the dew point, while the wet bulb temperature lines run at an angle off horizontal on the chart, the dew point lines are horizontal. Applying a dry bulb reading and a wet bulb reading to the chart to find relative humidity, plotting to the left on a horizontal line from the intersecting point on the relative humidity line will show dew point.

The concept that these lines represent is that when the dew point temperature is reached, moisture will condense out of the air. When a cooling coil is considered to have reached this point in temperature, it can be referred to as reaching apparatus dew point. The idea to keep in mind here is that while apparatus dew point is the objective of a comfort cooling system when we are cooling the air and removing moisture, other components of the equipment, such as sheet metal ductwork or un-insulated suction lines, should not reach dew point.

When taking a green approach to evaluating system performance and applying a fundamental understanding of dew point, technicians can advise customers of issues such as potential moisture damage, mold, and indoor air quality problems that can result when poorly insulated ducts or un-insulated refrigerant lines sweat in the event that they reach their dew point temperature.

Dry-Bulb Temperature °F	Temperature Difference Between Dry-Bulb and Wet Bulb Temperature °F								
	4°F	5°F	6°F	7°F	8°F	9°F	10°F	11°F	12°F
	Relative Humidity								
40°F	68%	60%	52%	45%	37%	29%	22%	15%	7%
50°F	74%	67%	61%	55%	49%	43%	38%	32%	27%
60°F	78%	73%	68%	63%	58%	53%	48%	43%	39%
70°F	81%	77%	72%	68%	64%	59%	55%	51%	48%
80°F	83%	79%	75%	72%	68%	64%	61%	57%	54%
90°F	85%	81%	78%	74%	71%	68%	65%	61%	58%

FIGURE ONE

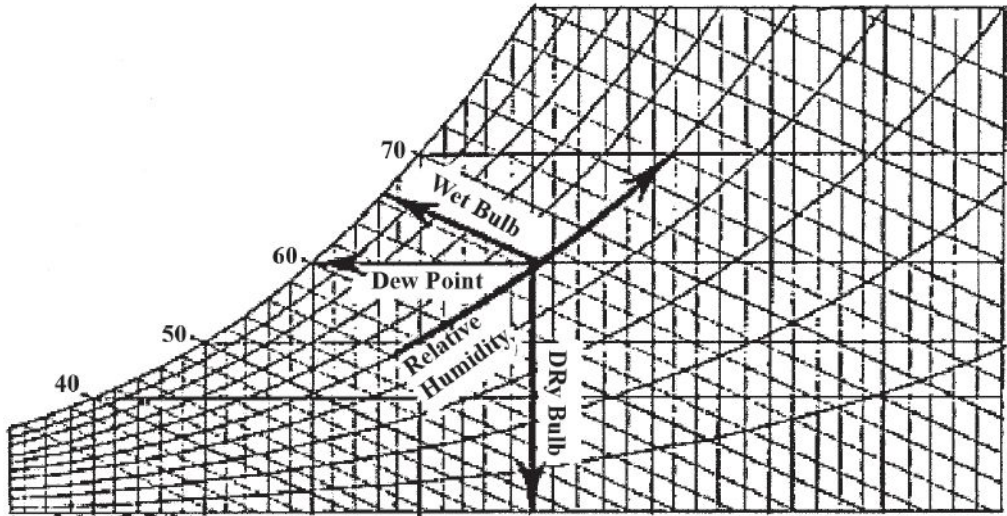


FIGURE TWO

We are saddened to report that we have lost a true visionary and a pioneer in the HVAC industry. On August 20, 2022, **Terry Youngblood** lost his bravely fought battle to cancer.

Mr. Youngblood had proudly been in the business for over 50 years.

Terry started his HVAC career in 1968 working for his brother-in-law, Byron Burnett, at Texas Improvement Company and started his own business, Year-Round Comfort, in 1971.

Over the years, he was awarded many accolades, awards, and received countless vacations for being "salesman of the year."

Terry and his business partner,

In Memoriam



Jerry Jackson, co-invented the first-to-market filter base that changed the standard in the HVAC industry. In 1988, they co-founded E-Z Filter Base Manufacturing, Inc.

Their slogan for the 32 years in the E-Z Filter Base business never changed, "Homeowners convenience / Dealers Success / Saving Time & Money".

Terry was admired and respected by both business colleagues and family members. He will be remembered for his honesty and work ethic and was a true entrepreneur. He was gracious and generous to all family and friends and will be missed dearly.

A joyous celebration of life was held in September. Donations in Terry Youngblood's name may be sent to the American Cancer Society.

Service Management

Continued from Page 19

but what if the customer wants....", or, "Yeah, but what if the customer says...."

Your response? Have the person asking the question read Part One. Then, when you get another "Yeah-But" have them flip the card over and read Part Two.

Then, when you get another "Ye-

ah-But" have them flip the card over and read Part One again.

Through this interaction, what you will be able to explain is that your customer service policy doesn't mean that a technician is out there all alone, suddenly responsible for making every decision in every situation. Part Two of the policy could involve contacting you for guidance on how to handle a

specific situation.

Or, because you've created a situation in which technicians have been empowered to use their own judgement when it's appropriate in a given situation, they can act accordingly by following part one of your policy.

"We cannot teach people anything; we can only help them discover it within themselves." – Galileo Galilei

Duct Leakage Testing?



www.VentCapSystems.com

IHACI Trade Show Exhibitors

3M

Booth(s) 510

Extreme weather. Stricter code requirements. Difficult deadlines. It's clear your job is more challenging than ever – but problem-solving is 3M's business. We make smart solutions by applying the best of materials science to your toughest HVAC and refrigeration challenges.

AC Pro

Booth(s) 617

AC Pro is a family-owned wholesale distributor that has been delivering outstanding customer service while supplying HVAC equipment, parts, and supplies to Southern California, Nevada, Arizona, and Utah for over 30 years. Our unwavering commitment to add value drives us to launch products, services, and locations to help your business grow. We provide the latest technologically advanced equipment and product, easy returns, instant warranty credits, extended hours at no charge, custom sheet metal, and free trash drop off. At AC Pro, we are committed to integrity, quality craftsmanship, and long-term relationships with our customers. Visit acpro.com for more details!

Action Duct Cleaning

Booth(s) 404

Action Duct Cleaning has provided meticulous HVAC cleaning services for thousands of industrial, commercial, and residential clients since 1978, with the most tenured, conscientious foremen in the business. Our President is a former NADCA board member and has served as Chairman of the Ethics Committee. Contact us: 800-371-2284 or actionduct.com.

A-Gas

Booth(s) 304

A-Gas excels at providing complete lifecycle management for your refrigerants including on-site recovery, reclamation, recertification, and destruction on a full range of refrigerants to build a more sustainable future.

Air Conditioning Trade Association (ACTA)

Booth(s) 308

Air Conditioning Trade Association (ACTA) is a non-profit, contractor member association. We specialize in training in the HVAC industry through our state and federally approved Sheet Metal Apprenticeship Programs, Service Technician

Training, and other industry related training...for both contractor employees and individuals.

Airex Manufacturing

Booth(s) 417, 419, 518

Airex Manufacturing designs unique aesthetic component products for the outdoor HVAC equipment piping area, designed, and engineered to support sustainable energy efficient system performance. We provide and educate the building industry on implementing our optimum solution products that improve the indoor environment, reduce energy consumption, and reduce carbon footprint.

Airzone

Booth(s) 303

As Airzone our second time at IHACI with our integrated HVAC

control & zoning solutions compatible with the latest BMS/HA technologies. We are an industry leader in sustainable Inverter/VRF market and currently expanding our national rep network with exclusive rights. Come check us out and let's talk business! www.airzonecontrol.com; Contact: azna-staff@airzonecontrol.com.

Alliance Environmental

Booth(s) 403

For over 25 years, Alliance Environmental has been a leader and trusted partner for environmental remediation and indoor air quality services. Our highly trained and certified technicians are committed to providing exceptional customer service while delivering quality workmanship. Now with locations in California, Arizona, Nevada, Oregon, and Washington.

ApooDr Inc

Booth(s) 413

ApooDr Inc. is a manufacturer and wholesaler of air conditioners in California, specializing in the production and sales of mini split air conditioners, packaged terminal air conditioner and new-style central air conditioners in the United States. ApooDr has ENERGY STAR® products and is an advocate of high efficiency and energy conservation.

Website: www.apoodr.com Sales Email: sunny@apoodr.com

AQC Industries

Booth(s) 305

AQC Industries has revolutionized underground air-duct systems for use in residential, commercial & industrial applications. The Blue Duct® pre-insulated &

complete Duct Systems offer faster/easier installation, energy & labor savings, corrosion avoidance, and leak-testability prior to backfill. AQC consistently provides high-quality products, CAD & quotation services, and direct contractor sales/training/webinars.

Benoist Co.

Booth(s) 106, 108, 110

• Mason Industries Inc., for over 60 years has created "The Standard" in vibration control products for the HVAC industry. See our live demonstration on how Mason products can quiet down disturbing vibration problems. Also see our other products such as rubber flexible connectors, braided stainless steel hoses and seismic

Continued on Page 24



THIS CODE UNLOCKS YOUR POTENTIAL



For quick, easy, and direct on-line enrollment, simply **open your Smart Phone Camera** and **hover over the QR code** and **type IHACI** in the search bar to access PG&E class registration.



PG&E offers **free** HVAC/R training courses designed to advance your skills.

Get started with advanced learning today!

www.pge.com/hvactraining

Pacific Gas and Electric Company is pleased to offer the following HVAC/R training courses specifically designed to advance the skills of HVAC/R professionals.

OCTOBER 2022

NATE Core and Gas Heating Training (Four-Night Class)

Instructor: Mitch Bailey
Mon., Oct. 10 – Part 1
Tues., Oct. 11 – Part 2
Mon., Oct. 17 – Part 3
Tues., Oct. 18 – Part 4

NOVEMBER 2022

NATE AC/HP Refrigeration & Air Distribution Training (Four-Night Class)

Instructor: Mitch Bailey
Mon., Nov. 7 – Part 1
Tues., Nov. 8 – Part 2
Wed., Nov. 16 – Part 3
Thurs., Nov. 17 – Part 4

DECEMBER 2022

System Diagnostics Module (Four-Night Class)

Instructor: Mitch Bailey
Wed., Dec. 7 – Part 1
Thurs., Dec. 8 – Part 2
Wed., Dec. 14 – Part 3
Thurs., Dec. 15 – Part 4

Exam: Saturday, 11/19/2022 @ 7:30 am

All classes are currently scheduled as Webinars held 6:00 pm to 8:00 pm. Webinars are FREE of charge and online registration is required.

You can register online by visiting: pge.com/hvactraining. Attendees must register for each night separately and registration is on a first-come, first-served basis. "PG&E" refers to Pacific Gas and Electric Company, a subsidiary of PG&E Corporation. ©2022 Pacific Gas and Electric Company. All rights reserved. These offerings are funded by California utility customers and administered by PG&E under the auspices of the California Public Utilities Commission.



IHACI Trade Show Exhibitors

Continued from Page 23

restraints.

- ATCO Rubber Products Inc. is the world's largest manufacturer of flexible air ducts used for heating, ventilating, and air conditioning systems for residential systems and commercial applications.

- Sterling HVAC Equipment- A division of Mestek, has been a leading producer of quality engineered and manufactured HVAC equipment for over 40 years.

- Reflectix is the Industry Leader we manufacture the highest quality, most extensively tested, readily available, reflective-based insulations and radiant barriers in the world! R4.2, 6 and 8 available.

- McDaniel Metals manufactures Filter Housings, Economizers, Power Exhaust, Roof Curbs, Curb Adapters, Plenums, Transitions and Drain Pans and various other products.

Brownson Technical School Booth(s) 410

Brownson Technical School has offered hands-on HVACR training for 38 years. HVAC/R training is 1040 hours and one of only four HVAC Excellence schools in California and one of two schools offering training and testing for Mechanical Acceptance Test Technicians which became mandatory in 2021. (800) 799-9891 or visit: www.brownson.edu.

CalCERTS Booth(s) 102

Visit CalCERTS Booth #102 to learn about CalCERTS HERS Rater Training for Title 24 compliance including EPA, HERSH20 and BPI programs. CalCERTS' Training is based on HVAC best practices and CalCERTS provides the largest, most comprehensive data registry for HVAC contractors to easily complete compliance forms. For more information: www.calcerts.com.

California Energy Commission (CEC) Booth(s) 202

The California Energy Commission updates the Energy Code (Title 24, Part 6) every three years. The 2022 Energy Code encourages efficient electric heat pumps, strengthens ventilation standards, increases equipment efficiencies, adds requirements for electric-ready, DOAS, fans, indoor horticulture, and more. The 2022 Energy Code takes effect on January 1, 2023.

CHEERS Booth(s) 411

CHEERS is the online registry

where HVAC contractors register Title 24 alteration & new construction jobs. Contractors register their ALT-02 for FREE. Trades always use CHEERS at no cost. See why more projects are registered with CHEERS!

CI Web Group Booth #208

A digital marketing agency with 20 years of experience, CI Web Group specializes in getting businesses found on Google! When a business's website isn't on page 1, they're not an option for prospects. However, through our 12-Step Roadmap, we provide a results-driven plan of action to increase leads and profitability.

CLEAResult Consulting, Inc. Booth(s) 119

Comfortably CA is a statewide program offering incentives to distributors and contractors for selling and installing high efficiency residential and commercial HVAC equipment.

Golden State Rebates is a statewide program offering instant rebates on high-efficiency smart thermostats, heat pump water heaters, gas water heaters and room air conditioners to residential customers.

Climatech International Booth(s) 619

Climatech (Clim) has been the largest European manufacturer of accessories and rooftop support systems for the Hvac and Insulation industries since 1985. Our products follow SMACNA standards, with UL/NFPA 701 certification. Large stock in the USA available.

Our featured product at the IHACI show will be the battery-operated F-100 Cordless Portable Stud Welder machine, an AHR Expo 2022, Tool Category Innovation Awards finalist. Contact us at americas.sales@climatech.be or at (516) 250-4100.

CoolAutomation Booth(s) 307

CoolAutomation is the industry leader of local & cloud-based control, monitoring, and analysis for VRF & mini-splits. We offer integration via BACnet, Modbus and natively into home automation platforms – including SnapOne, Lutron, Crestron, and others. Our best-in-class cloud-based professional & consumer software is the industry's sole-solution for universal VRF diagnostics.

CY HVAC Supply Booth(s) 204, 206

CY HVAC Supply is the first stop for all your HVAC needs. CY

HVAC strived to provide the best HVAC equipment on the market. We carry various products such as Ductless Mini-Split, Central Air Conditioners, Linesets, Metal fittings, Condensate Pumps, Thermostats, and the list goes on. Website: cyhvac.us; Email: cyhvac888@gmail.com; Phone: 626-905-0248.

Danko Mechanical Sales Company Booth(s) 521, 523, 525, 527

- Booth 521: RenewAire

Indoor air quality has always been critical, as it impacts health, cognitive function and productivity. Amid the COVID-19 pandemic, increased ventilation has been paramount in creating a safe environment. Cognizant authorities recommend increased ventilation as a mitigation strategy. Energy recovery ventilation can provide increased ventilation without increasing ventilation energy costs.

- Booth 523: RGF

RGF® was incorporated in 1985 for the purpose of designing, engineering & manufacturing total turnkey environmental systems to provide the world with the safest air, water and food without the use of chemicals. We at RGF® strive to make the world a safer, cleaner and better place to live for us, our children and the next generation.

- Booth 525: Cool Air Products, LLC

Cool Air Products is a producer of chemical solutions AC and refrigeration. Our unique products solve problems common in the field, and serve a specific purpose, with unique features and benefits. We have stringent manufacturing standards that are backed by a technical staff and a R and D laboratory.

- Booth 527: The Delta Breez

The Delta Breez FRS200 is a new fresh air ventilation system featuring an HVI airflow rating of 30-200 CFM with an ENERGY STAR-qualified ECM motor that runs continuously. Using only 33W at 200 CFM, homeowners can reduce their energy costs and carbon footprint.

Denco

Booth(s) 221, 222, 223, 224, 225, 226, 227

Denco Manufacturing Representatives is Proud to Represent:

- Samsung HVAC – Superior Quality Mini Splits including Residential, Light Commercial & VRF. Come check out our working trailer.

- Yellow Jacket – Serving the industry for over 70 years with High Quality Service tools including hoses, gauges, manifolds, vacuum

pumps, recovery units and so much more. Live demonstrations showing off the newest in wireless technology.

- Blue Diamond – Condensate removal pumps and accessories for use in air conditioning and refrigeration. We pride ourselves in being one of the quietest in the market.

- Lucas Milhaupt – Innovative Metal Joining Solutions to connect the world around us. Come see live brazing demonstrations by Bob the Brazer

- Phenomenal Air - Plasma generators, cold plasma generator technology which kills viruses, bacteria, mold spores, fungus spores, eliminates allergens, odors and more.

- PDM – High Quality Polyethylene Preinsulated Linesets made in the USA.

- Eco2 – Heat Pump Water Heaters

DiversiTech Booth(s) 405

DiversiTech is the leading supplier of parts and accessories to the HVAC industry. We support our distributors and contractors with complete training programs offered through DiversiTech University. We offer more than 100 training modules on the complete range of DiversiTech product categories including Equipment Mounting, Condensate Management, Electrical, Chemicals, Tools, Indoor Air Quality and more.

Divvy Booth(s) 310

The Divvy Visa® Business Card is the smarter, simpler way to manage business expenses. With Divvy's free, card-plus-software solution, small and medium-sized businesses save time and money by automating expense reports, setting budgets, and processing reimbursements — all in one place. Track company spend in real-time, and never have to save a receipt again.

EGIA - OPTIMUS and Contractor University Booth(s) 517

Contractor University Powered by EGIA is the leading provider of training – on-demand online systems plus in-person and virtual workshops & conferences – along with discounted products & services, giving home services contractors the knowledge they need to sustainably grow and build the businesses they've always dreamed of. Learn more at MyContractorUniversity.com.

OPTIMUS Financing is the home services industry's first consumer financing program that features every loan type for every

job and every credit profile – prime and near-prime to subprime and lease – all in one simple platform. No more waterfalls: Know before you go. Learn more at OPTIMUS-Financing.com.

Energy Code Ace Booth(s) 402

EnergyCodeAce.com is a "one-stop shop" offering no-cost tools, training and resources to help decode the requirements of California's Title 24, Part 6 building energy code and Title 20 appliance standards. It's funded by utility customers under the auspices of the CPUC and implemented by PG&E, SDG&E and SCE.

Energy Masters Booth(s) 808

Energy Masters HERS Testing is focused primarily on helping contractors receive accurate and passing testing and balancing results for commercial and residential HVAC systems. From same to next day testing available, competitive pricing, and trained technicians we will have the job done yesterday! Visit our IHACI booth or visit www.energymastersinc.com.

ESCO Institute/ HVAC Excellence Booth(s) 807

New equipment utilizing slightly flammable and flammable refrigerants will be arriving soon. New protocols require a well-ventilated cage to store them, and they must be transported upright. To help you transition from legacy refrigerants, ESCO Institute has a Low GWP training program to help you. Learn more at escogroup.org.

Ferguson HVAC® Booth(s) 201

Ferguson® has supported HVAC Contractors and Dealers with new HVAC technologies and innovations at the Annual IHACI Tradeshow for over 40 years. We are an industry leader and national distributor of residential and commercial heating and cooling equipment, systems, parts, and supplies. At Booth #201, we're showcasing premier HVAC brands, launching the latest equipment and ductless systems, Connected SmartHome and IAQ products. Contractors can enter to win one of three promotional giveaways at 12pm, 2pm, 4pm. Easily scan our QR Codes to access trade resources, events, training calendars that will help you stay up to date with changing HVAC market conditions, M1, AQMD, Utility trends, and how we're growing. Contractors can get access now to premier residential and commercial equipment brands- Day &

IHACI Trade Show Exhibitors

Night®, Trane®, RUUD®, Mitsubishi Electric Ductless®, VRF systems from local stocking branches in CA, AZ, NV. Start today: <https://www.hvacbusinessresourcecenter.com/>

Ferguson HVAC® Booth(s) 301

Ferguson® has supported HVAC Contractors and Dealers with new HVAC technologies and innovations at the Annual IHACI Tradeshow for over 40 years. We are an industry leader and national distributor of residential and commercial heating and cooling equipment, systems, parts, and supplies. At Booth #301, we're showcasing premier HVAC brands, launching the latest equipment and ductless systems, Connected SmartHome and IAQ products. Contractors can enter to win one of three promotional giveaways at 12pm, 2pm, 4pm. Easily scan our QR Codes to access trade resources, events, training calendars that will help you stay up to date with changing HVAC market conditions, M1, AQMD, Utility trends, and how we're growing. Contractors can get access now to premier residential and commercial equipment brands- Day & Night®, Trane®, RUUD®, Mitsubishi Electric Ductless®, VRF systems from local stocking branches in CA, AZ, NV. Start today: <https://www.hvacbusinessresourcecenter.com/>

Fieldboss Booth(s) 209

Fieldboss is an end-to-end HVAC contractor management software built within Office 365, Dynamics 365 Sales, Service, Business Central, and Power BI. It's a job costed based service, maintenance, and project system that enables you to accommodate customers, better control your business, and deliver a familiar Microsoft experience to your staff.

Fieldpiece Instruments Booth(s) 317

At Fieldpiece, we didn't start with the goal of leading an industry but with the idea that every HVACR professional in the field needs the best tools possible. It's a simple premise, and one that we've held tightly to as we've grown into a best-in-class innovator of industry-leading tools for HVACR pros. Our suite of products is designed, tested, and built for HVACR professionals. From digital manifolds to multi-meters; vacuum pumps to recovery machines; pipe clamps to tool bags; and now combustion analysis, Fieldpiece has a full range of products to get the job done right easier, faster, and better.

Flarete, Inc. Booth(s) 117

Refrigeration Seals: The Ultimate Solution for Eliminating Leaks!

- Copper stamping with Loctite coating
 - Fits all 45° SAE flared fittings
 - Compatible with all common refrigerants
 - Great for installing ductless systems
 - Slash the cost of downtime and Service
- Clip the Drip!! Made in USA.

GE Appliances Air & Water Solutions Booth(s) 529

GE Appliances Air & Water Solutions is dedicated to serving the unique needs of IHACI members with unmatched service and support. Visit us at booth #329 to experience our pro-centric lineup of water heating, water filtration, and residential/light commercial HVAC solutions, including a new GE Unitary line.

Global The Source Booth(s) 302

Global is a leading master distributor of HVAC/R components to wholesalers throughout the United States, offering superior products and outstanding service. Our line offering continues to broaden, featuring an array of products including our exclusive line of USA Made Capacitors and Turbo200 products, relays, transformers, contactors, disconnects, whips and more.

GoGreen Financing Booth(s) 708

Administered by the State of California with support from utilities, GoGreenFinancing.com is where California contractors go to find attractive financing options for their energy upgrade customers. GoGreen Home and GoGreen Business help contractors increase sales through quick approvals and flexible project scopes while customers enjoy exceptional rates and terms. Visit GoGreenFinancing.com for details.

Google Nest Pro Booth(s) 811

Join Google Nest Pro at booth 811 to explore our products and learn more about how you can grow your business by becoming a Nest Pro. Earn amazing rewards and get access to exclusive products, deals, and

stay connected to your customers all year with HVAC monitoring. Sign up now at g.co/nestpro.

GREE ELECTRIC Booth(s) 503

GREE is:

- Is the number one brand of air conditioners in the world in 2021
- 1 in 3 of all the world's air conditioners are made by Gree
- Efficiency leader in the ductless market, up to 38 SEER

GRG Dispenser Booth(s) 311

GRG Dispenser prioritizes your safety and convenience as a contractor. Our patented GRG Dispenser N30 and P23 models are the world's first dispensers that house sharp metal hanger straps used in HVAC and plumbing work for easy, safe dispensing. Both dispensers feature a handle and belt loop for easy transport. Website: www.GRGdispenser.com; Email:

George@GRGdispenser.com

Hudson Technologies Booth(s) 103

Hudson Technologies is committed to providing products and services that reduce greenhouse gas emissions, increase energy efficiency, and promote sustainability to ensure future generations inherit a healthy planet. We accomplish this through reclaiming, recertifying, and reusing refrigerants. This process helps create maximum economic value for used refrigerants.

Inaba Denko America Booth(s) 513

Inaba Denko America supplies HVAC accessories engineered by Inaba Denko of Japan and provides support for distributors and contractors throughout North America. For over 40 years we've been manufacturing and


providing the best quality products worldwide. Our products consist of insulated linesets, commercial and residential lineset covers, drain hoses and more.

Slimduct SD Lineset Cover is the ideal solution conceal, protect, and beautify exposed linesets. Easy to install Slimduct SD is available in four colors and three sizes. Stop by booth #513 for a chance to win a Slimduct SD Black residential lineset cover kit!

Institute of Heating & Air Conditioning Industries, Inc. / Indoor Comfort News Booth(s) 625





The Institute of Heating and Air Conditioning Industries, Inc. (IHACI) is a nonprofit trade organization dedicated to the advancement of heating and air conditioning professionals throughout

Continued on Page 27



Chevrolet Commercial Vehicles


Your One Stop Shop for Light & Medium Trucks and Vans



If We Don't Have It... We'll Build It for You

Just ask for Commercial Trucks
877.278.0333 or 626.932.5652

Sierra Truck Center | www.SierraTruckCenter.com
721 East Central Avenue, Monrovia, CA



LET'S DO GREAT THINGS TOGETHER.



STRENGTH IN NUMBERS.



BECOME AN IHACI MEMBER TODAY.

For quick, easy, and direct on-line enrollment, simply **open your Smart Phone Camera** and **hover over the QR code** to access the membership application.

IHACI Trade Show Exhibitors

Continued from Page 25

California. Membership benefits and services include free education and training opportunities, legislative advocacy, and business/professional referrals, just to name a few. IHACI produces the West's leading trade show of the HVAC/R/SM Performance Contracting industries, now in its 42nd year of production.

IHACI also owns and publishes Indoor Comfort News, the West's leading news magazine of the HVAC/R/SM Performance Contracting Industries. Incorporated in 1948, IHACI/ICN remains progressive in representing the needs of the heating and air conditioning industry. For information, contact IHACI/ICN at (818) 551-1555 or visit www.ihaci.org.

Interplay Learning Booth(s) 809

Interplay Learning is the world's leading, always-on immersive learning solution for HVAC professionals and other skilled trades, delivering a growing catalog of courses and a comprehensive suite of measurement and engagement tools for businesses and educators. Interplay Learning makes training efficient and scalable while saving you time and effort.

iO HVAC Controls Booth(s) 309

iO HVAC Controls manufactures unique, state-of-the-art controls built with technicians in mind. They're established to serve wholesale distributors across the country. From the brand-new CO2 Temperature and Humidity Monitor to the trusted and award-winning Universal Smart Wire Module, iO carries the best product solutions for the job.

iPermit Booth(s) 704

iPermit is the industry leader in providing testing and permit services to HVAC Contractors in California! Our team members are strategically placed throughout the State to meet the needs of our customers quickly and efficiently! Go to our website for information and reviews from satisfied customers! www.iPermitERaters.com.

J.B. Warranties Booth(s) 802

The Nation's leading provider of HVAC and Plumbing extended warranties, JB has a

dedicated sales, support, and claims staff across the country. We thrive on supporting our dealers and look forward to helping them increase revenues, guarantee service calls, and ensure additional sales opportunities in the home for years to come.

JP Lamborn Booth(s) 505

JP Lamborn knows the value of a good reputation and excels at providing service and quality of the highest level. When you select JPL flexible ductwork, you can always trust your choice. Stop by Booth 505 to learn more about our company, quality products, and creative ways to enhance your business.

Kwik Model 3D Booth(s) 104

Kwik Model with Energy Gauge

Loads is an award-winning new 3D residential HVAC design software. It combines our innovative 3D user interface, Kwik Model, with Florida Solar Energy Center's (FSEC) ACCA approved EnergyGauge Loads. Fast, simple, and intuitive. Free training available. Visit Booth #104 for a live demo.

LG Electronics, USA Booth(s) 501

As a leading player in HVAC, LG offers a range of innovative products that deliver whole-home comfort, efficiency, and control. LG residential and light commercial HVAC products comprise of cutting-edge technologies contributing to their efficiency, quality, and performance. From the impressive Art Cool™ Series of duct-free products to the advanced heating capabilities of LGRED°

Technology to the connectivity of LG ThinQ, LG offers numerous possibilities for comfort and design. And, with ducted and duct-free options available in single and multi-zone configurations, LG's HVAC works to customize and maintain a temperature that's most comfortable for the occupant, no matter the room.

L.H. Dottie Company Booth(s) 710

Since 1965 L.H. Dottie's mission has been to exceed the expectations of our customers. Thus, year after year, that quest has led to new innovative products, packaging, merchandising, print media and a brand recognized across North America. Our product continues to be used on the largest construction projects in the country.

MarketAir, Inc. Booth(s) 229

MarketAir, Inc. continually develops products for the professional installation and service of both ducted and ductless AC systems. This includes RoughinBox™ for protecting linesets in minisplit rough in jobs, SuperSleeve for minisplit retrofits, Easy Bend line-set bending tools and Pipe Prop® rooftop support for piping and many other unique products.

ML Filters Booth(s) 105

You can count on M L Filters to manufacture and supply the highest quality air filtration products available for all your needs. We provide custom air filtration prod-

Continued on Page 29

ALL-NEW DIRECT DRIVE MODEL HAS ARRIVED. SMARTER, BEASTIER, & MORE POWERFUL!

PATENT PENDING, DR SMART TECHNOLOGY

The BrushBeast DR features a newly designed direct drive system which has eliminated the need for pulleys and has an auto stop feature which helps reduce tension on drive cables. The DR is also equipped with speed rotation settings allowing for more control over the machine.

POWERFUL ENERGY SAVING VACUUM MOTORS

The unbelievable BrushBeast DR uses less energy but produces more power. When compared to the original BrushBeast, the DR produces 20% more vacuum power and uses 20% less energy.

REMOVABLE POD + SPEEDTRAY CARRIER

Rotobrush is the only duct cleaning equipment manufacturer that features a removable pod. The signature removable pod allows operation by a single technician. Paired with the SpeedTray Carrier, the portability and power of the BrushBeast DR is unmatched. Magnets on the front of the carrier allow you to easily attach your brushes while built-in holders house your vacuum accessories, drill, and fogger. Easily carry everything you need and access is within arm's reach.



1-800-535-3878 | sales@rotobrush.com | www.rotobrush.com

INSTITUTE OF HEATING AND AIR CONDITIONING INDUSTRIES, INC. PRESENTS 2022 TRAINING CLASS SCHEDULE

CALIFORNIA QUALITY INSTALLATION, QUALITY MAINTENANCE AND QUALITY SERVICE
(CAQI/QM/QS) & NORTH AMERICAN TECHNICIAN EXCELLENCE (NATE)

SOCALGAS, DOWNEY

OCTOBER

NATE AC/HP Refrigeration & Air Distribution Training

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

Wed., Oct. 5 – Part 1

Thurs., Oct. 6 – Part 2

Wed., Oct. 12 – Part 3

Thurs., Oct. 13 – Part 4

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

SOUTHERN CALIFORNIA EDISON, IRVINDALE

OCTOBER

AC/HP Refrigeration Module

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

Wed., Oct. 19 – Part 1

Thurs., Oct. 20 – Part 2

Wed., Oct. 26 – Part 3

Thurs., Oct. 27 – Part 4

NOVEMBER

System Diagnostics Module

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

Wed., Nov. 9 – Part 1

Thurs., Nov. 10 – Part 2

Wed., Nov. 16 – Part 3

Thurs., Nov. 17 – Part 4

SOUTHERN CALIFORNIA EDISON, TULARE

OCTOBER

NATE CORE & Gas Heating Training

(Two-Night Class) Instructors: Mitch Bailey / TBA

Wed., Oct. 12 – Part 1

Thurs., Oct. 13 – Part 2

Wed., Oct. 19 – Part 3

Thurs., Oct. 20 – Part 4

NOVEMBER

NATE AC/HP Refrigeration & Air Distribution Training

(Two-Night Class) Instructors: Mitch Bailey / TBA

Wed., Nov. 2 – Part 1

Thurs., Nov. 3 – Part 2

Wed., Nov. 9 – Part 3

Thurs., Nov. 10 – Part 4

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

PACIFIC GAS AND ELECTRIC COMPANY, STOCKTON

OCTOBER

NATE CORE & Gas Heating Training

(Four-Night Class) Instructors: Mitch Bailey / TBA

Mon., Oct. 10 – Part 1

Tues., Oct. 11 – Part 2

Mon., Oct. 17 – Part 3

Tues., Oct. 18 – Part 4

NOVEMBER

NATE AC/HP Refrigeration & Air Distribution Training

(Four-Night Class) Instructors: Mitch Bailey / TBA

Mon., Nov. 7 – Part 1

Tues., Nov. 8 – Part 2

Wed., Nov. 16 – Part 3

Thurs., Nov. 17 – Part 4

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

DECEMBER

System Diagnostics Module

(Four-Night Class) Instructors: Mitch Bailey / TBA

Wed., Dec. 7 – Part 1

Thurs., Dec. 8 – Part 2

Wed., Dec. 14 – Part 3

Thurs., Dec. 15 – Part 4

SAN DIEGO GAS & ELECTRIC

OCTOBER

Boiler Module

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

Tues., Oct. 4 – Part 1

Tues., Oct. 11 – Part 2

Commercial Refrigeration Module

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

Tues., Oct. 18 – Part 1

Tues., Oct. 25 – Part 2

NOVEMBER

NATE CORE & Gas Heating Training

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

Mon., Nov. 21 – Part 1

Tues., Nov. 22 – Part 2

Mon., Nov. 28 – Part 3

Tues., Nov. 29 – Part 4

DECEMBER

NATE AC/HP Refrigeration & Air Distribution Training

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

Mon., Dec. 5 – Part 1

Tues., Dec. 6 – Part 2

Mon., Dec. 12 – Part 3

Tues., Dec. 13 – Part 4

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

All Classes Are Being Offered as Webinars

Classes begin at 6:00 PM Pacific Time and are subject to change
Register at www.ihaci.org (Training)

Note: When registering for a training class please make sure you honor that commitment and show up on time and prepared. If you cannot attend, please call (818) 551-1555 and cancel in ample time. Thank you.

COSPONSORED BY: Institute of Heating and Air Conditioning Industries, Inc., Southern California Gas Company, San Diego Gas & Electric, Southern California Edison and Pacific Gas and Electric Company



Class 6:00pm • 2021 Training Class Schedule (Subject to Change)

© 2022 IHACI Trademarks belong to their respective owners.

IHACI Trade Show Exhibitors

Continued from Page 27

ucts with the latest in technology for Commercial, Industrial and Residential Heating, Ventilation and Air Conditioning (HVAC) applications. Corporate contact information: M L Filters 13891 Oaks Ave Chino, CA 91710 (909)627-3635 info@mlfilters.com.

NEBB

Booth(s) 520

Building owners are concerned about the cost-effective performance of the environmental systems within their buildings. This "green" goal can be best accomplished by having a building's environmental system properly tested, balanced and/or commissioned by a NEBB Certified Professional. Find out how we can help you at nebb.org.

National Comfort Institute, Inc. (NCI)

Booth(s) 511

The National Comfort Institute (NCI) and Southern California Edison are partnering to bring contractors cutting-edge training on how to perform higher quality installations and service on residential and commercial HVAC systems. Come visit NCI at Booth #511 to learn how to take advantage of this advanced training. 800-691-1690 / www.NationalComfortInstitute.com.

North American Technician Excellence (NATE)

Booth(s) 702

North American Technician Excellence (NATE) is the largest nonprofit certification organization for heating, cooling, ventilation, air-conditioning, and refrigeration (HVACR) technicians. NATE exams represent real-world working knowledge of HVACR systems and validate the competency of service and installation technicians. Leading contractors, manufacturers, distributors and educators partner with NATE to develop skilled, certified technicians.

Pacific Systems Group

Booth(s) 703, 705

Pacific Systems Group is an adaptive partner that assists consulting engineers, distributors, mechanical contractors, and building owners in designing HVACR systems, providing efficient and cost effective indoor environmental solutions.

Manufacturers Represented: Carrier Ductless, Toshiba-Carrier VRF, Carrier VRF, Magic Aire, iAire, Aldes, Beckett, HMAX and Hi-Velocity. Contact: www.psg-h-

vac.com; (888) 909-HVAC; info@psghvac.com.

Panasonic Life Solutions

Booth(s) 113

Panasonic Life Solutions is committed to providing high quality ventilation products to meet constant changing codes. Performance driven ventilation is a key path to a better living environment and a unique must-have value. By helping improve indoor air quality, let's address a major health issue facing our industry together.

Paradise Chevrolet Commercial Fleet

Booth(s) 717, 719, 721, 723, 725, 727, 729, 826, 824, 822, 820, 818

Paradise Chevrolet Cadillac located in Temecula, Ca received their 8th Consecutive Business Elite Dealer of the Year Award and is ranked #2 in the US for dealer fleet sales and #1 in Small Business sales in the Western US.

Terry Gilmore, Paradise Chevrolet Cadillac's Owner/President comments, "We want to thank our customers for their loyalty. I am very proud of our Business Elite team for their efforts in making our dealership one of the best in the United States. It is due to their commitment and dedication to excellence that Paradise Chevrolet Cadillac holds this prestigious award."

AJ Hewitson, Paradise Chevrolet Cadillac's Commercial & Fleet Vehicles Sales Manager says, "Our Goal is to provide the best fleet management experience from the small mom and pop business all the way up to large scale corporations." The mission statement for the Commercial & Fleet Vehicle Division is and has always been, "We Bring the Dealership to You."

Particles Plus

Booth(s) 813

Particles Plus offers a line of advanced-technology particle counters, air quality monitors, and sensors. As the most vertically integrated particle counter manufacturer and technology licensing company in the industry, Particles Plus engineers and manufactures its own sensor technology. We deliver products with superior performance, extended features, accuracy, reliability, and value.

PHCC

Booth(s) 507

Since 1968, the Plumbing Heating Cooling Contractors of the Greater Los Angeles Area has been providing skilled personnel for the PHC industry. Call today for hands-on training in Plumbing,



HVAC, and Backflow. We offer several seminars throughout the year to meet the demands of today's job market. PHCC Los Angeles Training Program is a NCCER and DOL accredited program. www.phccglaa.org, 323-913-7335

QwikProducts® by Mainstream Engineering

Booth(s) 801

QwikProducts® will be showcasing:

- QwikSwap® X1, X3 & V3 Universal ECM replacement boards
- QwikPad® for Generators and QwikPad® for Condensers
- Qwik System Flush® for line set clean-outs
- QwikLug® compressor terminal repair kits
- QwikCheck® 2-second refrigerant acid test kit
- QwikShot® Refrigerant and Oil Treatment
- Qwik608® EPA Section 608 Training/Certification
- QwikBright® Coil Cleaner and Protectant

Please stop by Booth #801 to see the QwikPads in person!

Rapid Duct Testing

Booth(s) 509

Need HERS testing or Air Balancing at an affordable rate? Rapid Duct Testing opened its doors 16 years ago and has grown simply by putting the customer needs first. No job is too small or too big. Greet us at our booth or call 818-552-2050 to discuss our services.

R.E. Michel Company

Booth(s) 601

The R.E. Michel Company was founded in Baltimore, Maryland in 1935. Over the past 87 years, we have grown to be one of the largest distributors of HVACR and propane equipment, parts, and supplies. With over 300 locations operating in 31 states, we are the largest privately held HVACR/Propane distributor in the nation. Our branches stretch from coast to coast and individually tailor their

inventories for their local markets. Visit us today to experience our commitment to industry leading customer service, robust inventory, and cutting-edge technology!

Resideo

Booth(s) 219

Resideo is a leading global manufacturer and distributor of technology-driven products and solutions that provide comfort, security, energy efficiency and control to customers worldwide. Our lineup includes, Smart thermostats, combustion, water, IAQ, and even security. Stop by and see our newest and most innovative product offerings for your Residential and Commercial comfort needs.

Robertshaw®

Booth(s) 804

Robertshaw® offers the highest-quality residential and commercial HVACR controls through trusted brands including Robertshaw, Ranco®, Paragon®, Ranco® Rocket™, Robertshaw® IgnitorPro™ and partnership brands including Mersen, Skytech, Kidde, Tork, and Fenwal. Our portfolio includes new Pro-Series wall thermostats (industry-leading 6-year warranty) and Ranco Refrigeration System Solutions. Visit Robertshaw at booth #804.

Rotobrush

Booth(s) 100

Expand your opportunities with Air Duct Cleaning & Rotobrush. Stop by booth #100 to check out the new BrushBeast DR! The DR is the future of the air duct cleaning industry and features a direct drive system, more vacuum power, speed rotation settings, and more!

Rottiers Sales Associates

Booth(s) 213

DuraVent is a California vent manufacturer. Engineered Excellence, consistently first to the market with new innovations in venting systems.

Polyken/Nashua tapes offer a

complete line of UL181 listed tapes.

Modine is a manufacturer of unitary Make-up Air units, Duct Furnaces and Unit Heaters.

PRO1 IAQ is a thermostat company designed for the professional trade. Color coded terminal blocks, large ease to read displays and a free private label color badge program.

UEI Test Instruments offers a complete line of test instruments. The new HUB series will eliminate gauges. Rethink Combustion – Flue Gas Analyzer with direct CO2 measurement.

Smartlock is a manufacturer of a cutting-edge metal to metal sealing technology. These fittings eliminate brazing and flaring without leaks and no special tools required.

Royal Service Supplies

Booth(s) 618

Contact Royal Service Supplies for high-quality HVAC products. We provide support, value-design and engineering, manufacturing, quality assurance, and business solutions. We provide industry-leading innovation on our products, including variable air volume zone diffusers and packaged BACnet line of VAV controls operating on BACnet TCIP network systems. We stock VAVs with/without DDC controls. Our mechanical CAVC-controlled regulating volume dampers satisfy Title 24-Compliance. Our popular stainless steel 304 exterior ventilation caps are an excellent alternative for custom homes and multifamily complexes. They are easily installed for fresh-air, bathroom, kitchen, and dryer ventilation terminations. For more information about our products, please visit: royalservicesupplies.com.

RSES / CARSES

Booth(s) 504

RSES is the world's leading education, training and certification association for heating, ventilation,

Continued on Page 30

IHACI Trade Show Exhibitors

Continued from Page 29

air conditioning and refrigeration professionals. RSES credentials include its Certificate Member and Certificate Member Specialist categories, as well as one of the largest EPA Section 608 certification programs in the industry. Local chapters meet monthly with free educational topics. Visit www.carses.com for details. For more information call 310-600-8800.

Sealed Unit Parts Co. (SUPCO) Booth(s) 112

Technician Focused Always. Since day one it's been SUPCO's mission, and we are proud to showcase new products that continue make technicians' jobs easier. Explore the Pipe Vise™ brand of premium pipe tools, Solderweld brazing and soldering products, and our exclusive TradeFox product line that brings technicians' inventions to life.

Service Roundtable Booth(s) 502

Build your residential service business faster with Service Roundtable. A network of successful contractors, equipment and service providers help you tackle the everyday problems of owning a business. Plus, earn rebates and receive downloadable custom marketing material to make your phone ring! Join today at www.ServiceRoundtable.com.

Sigler Wholesale Distributors Booth(s) 701

This year we celebrated the 120th anniversary of modern air conditioning thanks to Willis Carrier. As times have changed, Carrier and Bryant have continued to be in the forefront of new developments as consumer needs and government guidelines evolve. At Sigler, we are proud to partner with the industry leader.

Sirris Abatement Booth(s) 306

Sirris Abatement provides services for private residences, multi-housing complexes, commercial facilities, public utilities, and governments.

Working closely with homeowners, HVAC contractors, building management, engineers, architects and government agencies, Sirris Abatement ensures strict compliance with regulations and provides the highest standard of control methods when dealing with asbestos and lead.

SoCal P.I.P.E. Trades HVAC/R Booth(s) 313

Piping Industry Progress and

Education Trust Fund (P.I.P.E.) is the Labor-Management cooperation committee and trust fund for the unionized plumbing, piping and HVACR industries in Southern California. We are the vehicle through which union contractors and union pipe trades workers advance the industry. Call (800) 457-7473 or go to www.pipe.org.

SoCal Sheet Metal Local 105 Booth(s) 508

The Southern California Sheet Metal JATC is an apprenticeship program training sheet metal workers.

We offer free training and job placement to persons meeting our qualification standards. We also provide manpower to today's HVAC contractor who is signatory to Local Union 105 and to non-signatory contractors on prevailing wage jobs helping them reach their 20% requirement.

Soleus Air West Booth(s) 101

Soleus Air "Saddle" air conditioner is one of the coolest solutions in this category due to its internal pump progressive cooling cycle. Ultra-quiet, safe and easy "over the sill" installation, still keeps the window fully operational with the outside view. Soleus Air new addition to the line is a powerful 10,000 BTU with heat pump suitable to work all year around.

Also available its Window kit accessory which enables the "Saddle" AC to be used with Horizontal Sash Windows, slides side-to-side, without limiting to Vertical Sliding Window. Visit us at Booth 101 at IHACI Show and www.soleusair-west.com.

Southern California Edison Booth(s) 407, 409

Southern California Edison's (SCE) Energy Education Centers (EEC) in Irwindale and Tulare offer a wide range of resources and courses to teach you how to make better energy decisions for your home or business. View our class calendar for a full list of online and in-person offerings at sce.com/classes.

Southern California Gas Company Booth(s) 803

With over 150 years of service, SoCalGas® proudly delivers affordable, reliable, clean, and increasingly renewable natural gas service to 21.8 million customers across 24,000 square miles of Central and Southern California.

We understand the importance of caring for the environment while looking out for our customers.

That's why we're working hard to ensure California's clean energy future maintains a balanced strategy—one that achieves greenhouse gas reductions while keeping energy affordable for families and businesses. SoCalGas offers energy efficiency programs that provide customers with incentives for making significant upgrades to their homes as well as buying more efficient appliances. For more information visit socalgas.com/upgrade.

Style Crest Booth(s) 203

Manufactured housing HVAC is a distinct animal all its own and is once again a rapidly growing market which shouldn't be ignored by an HVAC contractor. Untap these market opportunities to grow your business with Revolv HVAC products, uniquely designed for manufactured housing and exclusively available from Style Crest.

TECH Clean California Booth(s) 408

TECH Clean California offers contractors valuable benefits for installing residential Heat Pump HVAC and Heat Pump Water Heaters. It's a hub for training and contractor support and aims to accelerate the adoption of heat pumps for space and water heating in residential buildings across California.

Teslong Booth(s) 220

Teslong's mission is to solve problems fast and make your job easier! Inspection cameras from Teslong feature high resolution color screens, long lasting batteries, rugged housings, durable probes, and multiple lens options. Teslong inspection cameras are simple to operate and quickly pay for themselves. See the solution, with Teslong!

The New Flat Rate Booth(s) 211

Imagine making more money with happier customers. The New Flat Rate can do that for you! We offer done-for-you menu-pricing and training for technicians and owners. Watch the power of the menu at work as your customers buy more from you than you could ever sell! Visit The New Flat Rate at Booth 211. www.thenewflatrate.com. 706-259-8892.

Thermaflex Booth(s) 608

Thermaflex is built stronger to last longer. When you choose Thermaflex, you're backed by a company with more than 60 years of flexible duct experience. We offer the most comprehensive product

line of flexible duct products, ideal for offices, schools, hospitals, and other commercial installations.

TrickleStar Booth(s) 207

The TrickleStar Wi-Fi Smart Thermostat and Electric Water Heater Controller provide demand response capability for two of the most energy-intensive applications in most households namely, HVAC and water heating. Both provide industries first with multiple features in design, functionality, remote and energy management. Raffle: Tricklestar Wifi Smart Thermostat & Tricklestar Water Heater Controller. Contact: Salem. hamidi@tricklestar.com.

Trinity Warranty Booth(s) 519

Trinity Warranty is a leader in Extended Warranty solutions for HVAC & Refrigeration industries, helping contractors protect their customers after the OEM warranty expires. We offer 1/2/3/5/10 year Parts/Labor options and cover all brands/sizes of residential & commercial equipment. We work with multiple insurance companies to better protect our customers.

TruTech Tools Booth(s) 406

TruTech Tools is your online source for HVAC Test and Measurement tools. We carry everything from Fieldpiece Vacuum Pumps and Digital Manifolds to NAVAC Cordless Flaring and Tube Expanding Tools and more.

Visit our booth at this year's Trade Show and enter our giveaway and get a special discount!

Uniweld Products, Inc. Booth(s) 613

Since 1949 Uniweld has employed over 300 workers who help design, manufacture, and distribute quality U.S. made products! Stop by the Uniweld booth to see their HVAC products: New MaxEvac Evacuation Kit, Electric/Manual Ratchet + Clutch Flaring Tool and Take the EZ-Turn Challenge! Sign up for a free hat.

US Air Conditioning Distributors Booth(s) 401

US Air Conditioning Distributors is your One-Stop-Shop for equipment, compressors, supplies and parts for all brands of HVAC equipment. With 50 locations in California, Nevada, Utah, Idaho and Arizona, US Air Conditioning Distributors is one of the largest HVAC distributors in the country. At the show we will feature York, Luxaire, Guardian, Samsung and

Eubank equipment; Source 1 Parts, QuietCool fans, and supply lines such as Modular Metals, Diversitech, Nu-Calgon, Malco, Venstar and Hart & Cooley. Count on US Air to have what you need, when you need it, with free next-day delivery, crane service, incredible inventory selection and experienced, friendly personnel. Booth #401.

Visual Service by IHACI (VS) Booth(s) 621

Visual Service by IHACI (VS) is a contractor service platform that provides for live system documentation and live mentoring of entry level apprentices by senior technicians. VS guides technicians through different stages of HVAC troubleshooting from basic triage to pressure profiles of duct systems and airflow calculations. Using Bluetooth tools and live video, VS provides a platform for proper supervision, commissioning, and certification of HVAC systems. Customer reporting provides a clear path to explaining and documenting the current status of an HVAC system. Come visit our booth to see the future of our industry!

Walter's Mercedes-Benz Sprinter of Riverside. Booth(s) 129

More Professionals choose Walter's Mercedes-Benz Sprinter of Riverside.

Walter's Mercedes-Benz Sprinter of Riverside is an authorized dealer of Sprinter Vans. We're dedicated to the needs of heating, ventilation, and air conditioning professionals. We are proud to display at this year's IHACI Trade Show. Visit us at Booth #129, or contact our Sales Manager, Isaid Barragan IBarragan@waltsmb.com. We are family-owned and operated, celebrating over 50 years of selling and servicing Mercedes-Benz vans. As a leading provider of the Sprinter brand, you can be sure to get the finest in customer service at Walter's Mercedes-Benz Sprinter of Riverside. www.WaltersMercedes-BenzSprinter.com.

Wright Sales Company Booth(s) 602, 603, 604, 605, 606, 607, 610 & 611

Wright Sales Company is an industry leading manufacturer rep agency representing top manufacturers in the pacific western states of CA, AZ, NV, HI, NM & ELP. Stop by our isle 602-611 for giveaways, raffles and demonstrations!

• Owens Corning From Duct Liner and Wrap to Duct Board and more – Owens Corning has

Continued on Page 31

For Sale

Business for Sale

Small Residential/Light Commercial Service and Installation company serving San Gabriel Valley and North Orange County, California. Excellent customer base, 5 Star Yelp, Quickbooks Pro with online pay and billings. 2 Vehicles Great addition to existing business or for home base business. \$650K in service and installations. \$195,000 call or text 626-484-7199

NEW IHACI MEMBERS

- **Air Conditioning Trade Association**
Manteca, CA 95336
- **Google Nest**
Scottsdale, AZ 85254
- **iO IHVAC Controls**
Indianapolis, IN 46237
- **Surface Igniter LLC**
Maryville, TN 37801
- **Linda Souza**
Sacramento, CA 95815
- **Vanessa Zamarripa**
Northridge, CA 91324

IHACI Exhibitors

Continued from Page 30

an extensive portfolio of solutions to meet all of your air distribution needs. Put more money in your pocket with ProCat® Professional Loosefill Insulation System. It is designed for contractors for use in open attic and closed cavity applications – AOR or RNC.

- Navac is a manufacturer of

GOLD KEY Contest Winner

The winner of last month's ICN Gold Key contest is:



Suzanne Lee
Johnstone Supply

Lee is the winner of a \$50 Amazon gift card, courtesy of ICN. Congrats!

HVAC/R tools committed to technical innovation and R&D to deliver solutions that have taken over HVAC/R social media platforms. So, swing by for hands-on tool demonstrations and training with NAVAC_TOOL_GUY (IG) to see why NAVAC dares to be different.

- Purolator is a premier source for HVAC air filtration for home, commercial, industrial and institutional applications. With MERV ratings from MERV 4 to HEPA, the Purolator comprehensive line offers products in every category from disposable panel filters and pleated filters to high efficiency extended surface filters, including a wide variety of specialized applications.

- Dust Free® is a family owned and operated business headquartered in Royse City, TX, east of downtown Dallas. Dust Free® was established in July of 1982 as a manufacturing company specializing in air filtration equipment designed to benefit allergy patients who needed a clean indoor environment.

- RectorSeal is home to some of your favorite brands, Aspen Pumps, AC Leak Freeze, Slimduct, RSH Surge Protection, Safe-T-Switch, Novent Locking Caps, ProFit Quick Connect and more. Stop by the booth to spin the sample wheel and win while learning more about how to stock your trucks to make

money.

- TRUAire manufactures the highest quality, most affordable residential and commercial grilles, registers and diffusers. Stop by our booth to see the difference that our 100% Powdercoat coverage, Smooth glide technology, Zinc-coated rivets, and no spotweld marks make on your next job.

- Gastite/Python is the leader in Corrugated Stainless-Steel Tubing (CSST) flexible gas pipe. Python is a new, innovative industry changing, flexible plastic line set (PERT). You want to be the first to check it out!

- Modine Coatings - there are no more recognizable names in protective coatings than Electro-Fin® E-Coat and Insitu® Spray Applied Coating by Modine. These two names are synonymous with quality and service.

ZONEFIRST Zone Controls Booth(s) 609

ZONEFIRST's Award Winning Bliss Zoning System with the world's first combination Light Switch and Thermostat eliminating thermostats. Perfect for zoning both new and existing homes and getting a WiFi thermostat in any room with a light switch. Duct sensors control zone dampers and monitor duct temperature and pressure.

Advertiser Index

ADVERTISER.....	ICN PAGE
Arkema Inc.	13
Baker Distributing Company	19
CLEAResult	14
Energy Code Ace.....	10
Ferguson HVAC - RUUD.....	2
Ferguson HVAC - TRANE	3
Fieldpiece Instruments.....	20
Howard Industries	32
IHACI Membership Ad	26
Mitsubishi Electric	16, 17
NATE.....	8
Pacific Gas & Electric (PG&E)	23
Pro Source	12
RGF Environmental Group, Inc.....	5
R.E. Michel Company	6
Rotobrush International	27
San Diego Gas & Electric (SDG&E).....	15
Sierra Chevrolet	25
So Cal Edison.....	11
So Cal Gas	7
USACD.....	9, 21
Vent Cap Systems	22

ADVANCE YOUR TECHNICIAN'S SKILLS WITH THIS TRAINING BUNDLE!

Check out our HVACR Troubleshooting Fundamentals: Refrigeration and Airflow Systems Training Package

for HVACR Educators, Service Managers and Lead Technicians

This training package includes:

- One (1) Student Textbook
- One (1) Instructor Guide, print copy with answers to student workbook pages
- One (1) Instructor Guide PowerPoint with answers to student workbook pages & End-of-Course Exam
- One (1) PowerPoint: HVACR Troubleshooting Fundamentals: 15 Refrigeration & Airflow Troubleshooting Scenarios
- One (1) DVD/Video: Refrigeration Fundamentals for HVACR Technicians (Run Time: 90 Minutes)
- One (1) DVD/Video: Evaluating Refrigeration Systems (Run Time: 60 Minutes)
- One (1) bonus Facilitator's Guide that will provide any instructor or trainer a detailed breakdown on utilizing all the resources in this package in a training program.



A \$270 value for \$215.00 (Includes Shipping & Handling)

Purchasing this combined resource package saves you 20%!

Order today at <https://techtrainassoc.com> or call 520-625-6847



Technical Training Associates
Skill Development Through Specialized Training



The Institute of Heating and Air Conditioning Industries publishes
INDOOR COMFORT NEWS

IHACI OFFICERS

Dean Gilford, President
Kilowatt Heating, A/C & Electric

Steve Adams, Vice President
Ferguson HVAC

Bob Wiseman, Secretary/Treasurer
Canoga Park Heating & Air Conditioning

Mark Ramirez, Past-President
Comfort Climate Control

BOARD OF DIRECTORS

Mitch Bailey
Bailey's Heating & Air, Inc.

Jim Batts
Lifetime Board Member

Harvey Bringas
Southern California Gas Company

Lawrence Castillo
Brody-Pennell Heating & Air Conditioning

Steve Clinton
Southern California Edison

Tyler Keene
LADWP

Lyman Lockwood
George Haney & Son, Inc.

Jeb Ball
Fieldpiece Instruments

Eugene Silberstein
ESCO Group

Penny Yonan-Padgett
US Air Conditioning Distributors

IHACI

Carlos Ruiz
Executive Director

Mary Ann Garcia
Program Assistant

Bonnie Moreno
Kaye Weiss
Program Coordinators

Summer Aguilar
Membership and Events Coordinator

Debbie Thompson
Accountant

INDOOR COMFORT NEWS

Gilbert Rivera
Editor

Karina Ball
Sales Account Executive

Ted Rieger
Northern California Correspondent











Jim Johnson
Contributing Editor

Rick Torres / Calavera Graphics
Pre-Press Consultant

INDOOR COMFORT NEWS is not responsible for unsolicited materials. Although every precaution is taken to ensure the accuracy of statements, IHACI assumes no responsibility.

Postmaster: Send address changes to
INDOOR COMFORT NEWS
454 W. Broadway, Glendale, CA 91204
Phone (818) 551-1555



AccuComfort™ Platinum 20		
 AccuComfort™ Platinum 20 21 SEER / 10 HSPF	 Platinum 19 Side Discharge UP TO 19.5 SEER / UP TO 12 HSPF	 Communicating 21 SEER / 10 HSPF 
 Platinum 18 18 SEER / 10 HSPF	 Gold 17 17.5 SEER / 9.60 HSPF	 Silver 16 Side Discharge UP TO 16.75 SEER / 10 HSPF
 Silver 16 17 SEER / 10 HSPF	 Silver 15 16 SEER / 9.50 HSPF	 Silver 14 UP TO 15 SEER / 9 HSPF

PLATINUM SERIES

During warm months, a heat pump works as an air conditioner, and when the weather's cool, it runs in reverse to provide heat—making it an excellent choice for mild climates. Our most efficient model, American Standard Heating and Air Conditioning Platinum series, includes innovative AccuLink technology to control all of the system components. The Duration variable-speed compressor runs at lower speeds for longer periods of time, with up to 750 speeds to provide optimal temperature control and ultra-quiet operation.

GOLD SERIES

Equipped with Duration two-stage compressors, American Standard's Gold heat pumps operate at high or low speeds to ensure even heating and cooling depending on demand. Similar to the Platinum line, high-quality components include our proprietary Spine Fin coils for efficient heat transfer and outstanding long-term durability.

SILVER SERIES

American Standard's Silver heat pumps pair hardworking, single-stage Duration compressors with Spine Fin coils, offering an excellent balance of affordability, efficiency and year-round comfort. For tight spaces and zero-lot-line applications, our ENERGY STAR qualified Silver 16 low-profile heat pump makes a perfect match.

AWARD-WINNING EXCELLENCE.

2021

Top Tier Owner Satisfaction for Central Air Conditioning "A National Product Testing and Research Magazine"

In a survey based on the proportion of members who are extremely likely to recommend their central air conditioning system to friends and family found American Standard Central Air Conditioning Systems' to be Top Tier in 2018 and 2020 Summer Surveys of 23,997 central air conditioning systems, owned by members who installed a new system between 2005-2020.

2019

Top Tier Owner Satisfaction for Gas Furnaces "A National Product Testing and Research Magazine"

In a 2018 Winter Survey & 2019 Summer Survey of 48,318 subscribers, American Standard gas furnaces rated Top Tier in Owner Satisfaction for new units purchased between 2003 & 2019.

Top Tier Owner Satisfaction for Heat Pumps "A National Product Testing and Research Magazine"

In a 2018 Winter Survey & 2019 Summer Survey of 12,463 subscribers, American Standard heat pumps rated Top Tier in Owner Satisfaction for new units purchased between 2003 & 2019.



Anaheim
600 E Cerritos Ave,
Anaheim, CA 92805
(714) 991-4441

Culver City
8855 Washington Blvd.
Culver City, CA 90232
(310) 837-9100

Downtown LA
1514 Maple Ave.
Los Angeles, CA 90015
(213) 747-5121

Escondido
960 S Andreasen Drive #C
Escondido, CA 92029
(760) 743-7300

Riverside
2000 Spruce St #2649
Riverside, CA 92507
(951) 784-8800

Van Nuys
7500 Van Nuys Blvd.
Van Nuys, CA 91405
(818) 782-3600