

## Upcoming Events!

Monthly Meeting -  
Wednesday,  
February 9th,  
2022

*February 2022 Edition*

## SWFL ASHRAE Chapter Meeting Announcement \*\*\*\*BIM Conference Night\*\*\*\*

**Date:** Wednesday, February 9th, 2022

**Location:** Crowne Plaza at Bell Tower Shops  
13051 Bell Tower Road  
Fort Myers, FL 33907

**Time:**

**5:30 - 6:30 - Networking**

**6:30 - 8:30 - Dinner and Main Program**

**In-Person Cost:** \$35.00 per attendee - Reservations are a must

**Virtual Cost:** No cost, donations to Research Promotion are encouraged. To donate please contact Gena Knight (gknight@bandiflorida.com).

### Virtual Instructions:

If you are planning on attending virtually, please RSVP using the link below. Be sure to indicate that you will be participating remotely. You will be provided a viewing link by 3pm on the day of the meeting, please check your email.

**No cost** for college students with a valid student ID.

**Pre-Pay** via [www.paypal.com](https://www.paypal.com) to swfl.ashrae@gmail.com.

**RSVP Link**

## Presentation: BIM Panel Discussion

**Presenter: David Moorhead**

Building Information Modeling (BIM) is the process of creating and managing information for a built asset. Based on an intelligent model and enabled by a cloud platform, BIM integrates structured, multi-disciplinary data to produce a digital representation of an asset across its lifecycle, from planning and design to construction and operations. This panel will give you insight on the pros/cons of using BIM from multiple perspectives of a project.

**Panel: Luke De Caires, Jovan Millet, Michelle Leonard**

Luke De Caires is a Mechanical Engineer at Matern Professional Engineering, a leading MEP firm in Florida. In this role, Luke is responsible for Mechanical Design as well as being the main Revit “Guru” in the South West branch of Matern Professional Engineering.

Jovan Millet A.I.A. is a Project Architect at Architecture Joyce Owens LLC, located in Fort Myers, Florida. In his role at Architecture Joyce Owens, he works on design and coordination of projects, and is leading the transition and development of Building Information Modeling software for the firm’s architectural work.

Michelle Leonard, Manager of Virtual Design and Construction, brings 7 years of industry experience to her role at Gilbane. She manages a team of 4, covering projects throughout the state of Florida. Michelle is a licensed architect and utilizes her passion for design and construction to manage the coordination and constructibility development of the virtual project.

## 2021-2022 SWFL ASHRAE Team

**President** - James Martin

**Vice President/Secretary/Refrigeration** - David Moorhead

**Treasurer** - Woody Wilson

**Research Promotion** - Gena Knight

**Membership Promotion** - Trey Dougherty

**Sustainability** - Justin Holland

**C.T.T.C.** - John Stischok

**Y.E.A.** - Dave Jaworski

**Student Activities** - Bill Boga

**Historian / Reception** - Sidney Feldman

**Honors and Awards** - Kathy Schmitt

**G.A.C. / B.O.G.** - Kathleen Simpson

**B.O.G.** - Pat Graef

**B.O.G.** - Bill Malphus

**B.O.G.** - Jason Hardman

**Newsletter/E.C.** - Tony Amitia

## *A Letter from President James Martin, PE*

Greetings SWFL Chapter,

We would like to take this opportunity to thank last months presenter, Mr. Tony Furst who gave a strong presentation about the preferred operating range of system pumps. We look forward to hearing more from Mr. Furst in the future.

For our February presentation we are stepping out of the mechanical room and into the office for a panel discussion about Building Information Modeling. We are fortunate to have four BIM experts who have donated their time to come and have a discussion with us about the current state, benefits, and future of BIM. Come with questions!

Thank you all again for your contributions,

James Martin, PE

SWFL Chapter President 2021-2022

## Refrigeration

**Immersive cooling tech could help Bitcoin mining go green by 2030**

Immersive cooling technology may help with the transition to zero-emission Bitcoin (BTC) mining, Hass McCook, a member of the Bitcoin Mining Council (BMC), told Cointelegraph. McCook, known online as Friar Hass, believes the industry is on track to have hit the goal by 2030.

Immersive cooling involves submerging Bitcoin mining ASICs into a specialized cooling fluid, which absorbs and recycles heat from the data center. This method of Bitcoin mining increases productivity.

Earlier this month, Bitcoin mining company Riot Blockchain announced it would be developing 200 megawatts of immersion-cooled Bitcoin mining infrastructure at its Whinstone Facility. Based on the company's preliminary immersion-cooling test results, it expects the hash rate to increase by 25% and ASIC performance to increase by up to 50%.

[Full Article](#)

## Research Promotion

**As ITER begins assembly HVAC becomes mission critical**

ITER ("The Way" in Latin) is one of the most ambitious energy projects in the world today. In southern France, 35 nations\* are collaborating to build the world's largest tokamak, a magnetic fusion device that has been designed to prove the feasibility of fusion as a large-scale and carbon-free source of energy based on the same principle that powers our Sun and stars.

The ITER Organization will contract for two temporary and independent HVAC systems that will be installed to support the assembly phase at ITER. One of the HVAC systems will serve Worksite 1, which includes the Assembly Building, the crane hall, and the Tokamak pit. The other will serve Worksite 2, also known as the Tokamak Complex, which includes the Tokamak, Diagnostic and Tritium buildings.

[Full Article](#)

**Sustainability****Global HVAC Systems Market Report 2022 - Pressing Need to Cut Energy Consumption and Operational Costs Impels Energy Efficient Systems**

Growth in the market is anticipated to be propelled by increasing demand for energy-efficient HVAC systems for reducing energy consumption and carbon emissions. Rising concerns over climate change, increasing energy prices and carbon emissions continue to push the adoption of HVAC systems in commercial spaces. The market is also set to gain from the increasing demand for energy saving products. Rebates for energy-efficient systems such as air conditioning and HVAC are encouraging commercial building users to implement and upgrade HVAC systems. In recent years the industry witnessed a sea of change in the technology employed largely as a result of consumers' desire to have advanced micro controls integrated into their systems, and also due to a spurt in demand for eco-friendly refrigerants.

[Full Article](#)**Editors' Choice****This stunning high-rise would absorb more carbon dioxide than it produces****Provided by Tony Amitia**

The concept, called Urban Sequoia, proposes a building with a physical form optimized to reduce energy requirements, coupled with building materials and systems that either sequester carbon dioxide or suck it out of the air. The towers the architects have designed to illustrate this concept have several cutting-edge elements. Wrapping the buildings are algae-filled facades that produce biofuels that can power the building. Inside, structural components made of biological materials and insulation made from hemp sequester carbon throughout the building's lifetime. Built-in direct air capture systems pull CO<sub>2</sub> out of the air and either store it or make it available for industrial use.

[Full Article](#)

**Government Activities****UK's Updated Building Codes on Ventilation****Provided by Kathleen Simpson**

On January 1, 2022, the UK's Department for Levelling Up, Housing, and Communities published a significant update to the country's building regulations with respect to ventilation. The proposed updates to the existing regulations, titled, "The Building Regulations 2010 - Volume 2: Buildings other than dwellings: - Requirement F1: Means of ventilation." The changes are intended to address airborne pathogens both now and in the future by requiring improved ventilation rates and addressing germicidal infection controls.

A major change brought in by the new building regulations is that certain types and sizes of rooms in new buildings should have a means of monitoring the indoor air quality, such as CO2 monitors and/or other air quality sensors.

[Full Article](#)**Government Activities****New Study Released on "Green Infrastructure" in U.S. Cities****Provided by Kathleen Simpon**

A new report from the Cary Institute of Ecosystem Studies found that cities are increasingly incorporating ideas for "green infrastructure" into their planning. The analysis of 122 plans from 20 major U.S. cities found that 39% of the cities' climate, sustainability, and strategic plans include plans for building green infrastructure. Green roofs, electric cars, and alternative energy sources are a few examples of city planners' definitions of green infrastructure. Cities also identified green infrastructure's range of potential benefits, including improved air and water quality, livability, and the ability to recover from extreme weather events. The study is part of a multi-year project assessing the role of green infrastructure planning in local government.

[Full Article](#)



## **SWFL ASHRAE Chapter MEETING ANNOUNCEMENT**

**DATE: Wednesday, February 9<sup>th</sup>, 2022**

**LOCATION: CROWNE PLAZA AT BELL TOWER SHOPS**

### **\*\*BIM CONFERENCE NIGHT\*\***

**TIME 5:30 – 6:30pm      NETWORKING**  
**6:30 – 8:00pm      DINNER MEETING AND MAIN PROGRAM**

**In-Person Cost: \$35.00 PER ATTENDEE – RESERVATIONS ARE A MUST**

**Online Cost: No cost, donations to RP are encouraged, contact [gknight@bandiflorida.com](mailto:gknight@bandiflorida.com)**

**If viewing online, you must RSVP using the link below and, indicate you will be attending online**

**A viewing link will be provided by 3PM on 9FEB22.**

**NO COST FOR COLLEGE STUDENTS WITH A VALID STUDENT I.D.**

**Pre-Pay via [www.paypal.com](http://www.paypal.com) to [swfl.ashrae@gmail.com](mailto:swfl.ashrae@gmail.com).**

**RSVP by 8FEB22 via the following link: <https://forms.gle/f3eBpBNYxLs5kueJ9>**

### **Main Program: BIM Panel Discussion**

Building Information Modeling (BIM) is the process of creating and managing information for a built asset. Based on an intelligent model and enabled by a cloud platform, BIM integrates structured, multi-disciplinary data to produce a digital representation of an asset across its lifecycle, from planning and design to construction and operations. This panel will give you insight on the pros/cons of using BIM from multiple perspectives of a project.

### **Presenter: Luke De Caires, M.E., Matern Engineering**

Luke De Caires is a Mechanical Engineer at Matern Professional Engineering, a leading MEP firm in Florida. In this role, Luke is responsible for Mechanical Design as well as being the main Revit “Guru” in the South West branch of Matern Professional Engineering.

Luke joined Matern in 2018 and is one of many mechanical engineers that Matern has on its roster. Luke specializes in mechanical design for Commercial buildings, Schools (K through 12 in addition to Higher Education) as well as Residential building applications. Luke holds a Bachelor of Science degree in Mechanical Engineering with a concentration in Clean Energy Systems from Embry Riddle Aeronautical University. In addition to completing his Engineering Degree in 2017, Luke was a part of Embry Riddle’s NCAA Tennis team for 4 years.

### **Presenter: Jovan Millet A.I.A., Professional Architect, Joyce Owens Architecture**

Jovan Millet A.I.A. is a Project Architect at Architecture Joyce Owens LLC, located in Fort Myers, Florida. In his role at Architecture Joyce Owens, he works on design and coordination of projects, and is leading the transition and development of Building Information Modeling software for the firm’s architectural work.

Jovan Millet graduated from Syracuse University in Upstate New York with a Bachelor of Architecture (B.Arch), is a Registered Architect in the States of Florida and Utah, and is an active member of the American Institute of Architects.

**Presenter: Michelle Leonard, VDC Manager, Gilbane Building Company**

Michelle Leonard, Manager of Virtual Design and Construction, brings 7 years of industry experience to her role at Gilbane. She manages a team of 4, covering projects throughout the state of Florida. Michelle is a licensed architect and utilizes her passion for design and construction to manage the coordination and constructability development of the virtual project. This process focuses on identifying and managing conflict resolution prior to field execution, aids stakeholders in visualizing their projects, enhances the communal recognition of the architect's design intent, increases productivity by validating sequence of work and logic behind project schedule, accelerates installation by enhanced opportunities for pre-fabrication, improves quality of end product and improves accuracy of as-built turnover packages.

Michelle is excited to continue to be part of the adoption of new technologies and innovative processes leading us into the building communities of tomorrow!

**Presenter: David Moorhead, BIM/VDC Department Manager, B&I Construction**

David Moorhead utilizes his over 20 years of trade knowledge to oversee multiple HVAC, VDC and BIM projects from Design Assist and coordination stages through shop fabrication and installation. Working with Architects, Engineers, and project trade partners to produce timely, accurate, LEAN coordinated shop drawings minimizing costly field conflicts and RFI's.

## **Directions**

**Crowne Plaza Fort Myers at Bell Tower Shops**  
**Shops 13051 Bell Tower Road**  
**Fort Myers, FL 33907**  
**(239) 482-2900**

The Crowne Plaza at Bell Tower Shops is located in the Northeast corner of the Bell Tower Shops, on the corner of US-41 and Daniels Parkway.

### **From Hwy I-75 North**

Head South on I-75. Take exit 131 for Daniels Pkwy. Turn right (West). Continue on Daniels Parkway for 4.6 miles. Turn right onto Bell Tower Dr. Continue on Bell Tower Dr. for 0.3 miles. Destination on right.

### **From Hwy I-75 South**

Head North on I-75. Take exit 131 for Daniels Pkwy. Turn left (West). Continue on Daniels Parkway for 4.6 miles. Turn right onto Bell Tower Dr. Continue on Bell Tower Dr. for 0.3 miles. Destination on right.

### **From Cleveland Ave (US-41) North**

Head South on US-41. Turn left onto Daniels Pkwy. Continue 0.2 miles. Turn left onto Bell Tower Dr. Continue on Bell Tower Dr. for 0.3 miles. Destination on right.

### **From Cleveland Ave (US-41) South**

Head North on US-41. Turn right onto Daniels Pkwy. Continue 0.2 miles. Turn left onto Bell Tower Dr. Continue on Bell Tower Dr. for 0.3 miles. Destination on right.





# ASHRAE Membership

[ashrae.org/benefits](http://ashrae.org/benefits)

## Your (NEW!) Membership Benefits

A NEW selection of complimentary ASHRAE products is now available to new and renewing, full dues paying Member and Associate grade members.

Full Members and Associates can now select

**1** of the following:

eLearning Course



**150** to select from

OR

ASHRAE Standard



**100+** to choose from

OR

ASHRAE Handbook



PDF version of the most recent Handbook

## Additional Member Benefits by the Numbers

**12**

month subscription to ASHRAE Journal

&

**25 %**

discount

On

**400**

publications in the Bookstore

&

**2000+**

free resources for members in the ASHRAE Technology Portal



## Get Discounted Pricing on:

**350+**



ASHRAE Learning Institute (ALI) Courses held annually

&

**7**



ASHRAE Certifications

&

**6+**



Conferences held annually

**50,000+**  
Members



**190+** Chapters **15** Regions across the world



# WE'D LOVE TO HEAR FROM YOU!

## YOUNG ENGINEERS IN ASHRAE (YEA)

### What is ASHRAE?

ASHRAE is a global technical society that provides essential resources for sustainable design, construction and operation of buildings and their systems. Our technical foundation is built by our 56,000+ volunteer members in over 130 countries who dedicate their time and knowledge to moving the industry forward. The Society's members influence the direction of HVAC&R technology by creating industry standards, recommending procedures and guidelines, and developing research.

### What is YEA?

To ensure a bright future for ASHRAE and the industry, the Young Engineers in ASHRAE (YEA) Committee was developed to create programs and develop a path for our young professional members. Any current ASHRAE Affiliate, Associate or Member who is 35 years of age or younger is considered a YEA member, and automatically has a wide variety of programs, events, and opportunities at their fingertips!



[ashrae.org/YEA](http://ashrae.org/YEA)



[Facebook.com/ashraeYEA](https://Facebook.com/ashraeYEA)



Young Engineers Group



[YoungEngineers@ashrae.org](mailto:YoungEngineers@ashrae.org)



(678) 539-1178



1791 Tullie Circle NE  
Atlanta, GA 30329



To join ASHRAE and become a YEA member,  
visit [www.ASHRAE.org/join](http://www.ASHRAE.org/join)



# FUN FACTS

56,000+  
members

190  
Chapters

130+  
Countries

YEA makes  
up 18% of all  
ASHRAE members,  
and that number  
continues to grow!

Some ASHRAE  
Chapter Boards are  
made up of all YEA  
members

YEA  
Leadership  
Weekend has  
hosted over 700 YEA  
members since its  
start in 2007

## What can YEA do for me? We're glad you asked!

### PROFESSIONAL GROWTH & EXPERIENCE

In addition to your technical expertise, we want to be sure you have the tools you need to succeed. The **YEA Leadership Weekend** and **YEA Leadership International** events focus on personal development and allow you to interact with YEA members from around the world. If you want to find out how an association like ASHRAE operates, the **Leadership U** program gives you the chance to shadow an ASHRAE Vice President at one of our conferences.

### TECHNICAL CONTRIBUTION

Getting involved with **ASHRAE Technical Committees (TCs)** provides you the opportunity to help guide the future of our industry. Find a TC that focuses on your area of interest, get involved, and help to make a difference! You can find a list of all TCs and a sign-up form at [ashare.org/TCs](http://ashare.org/TCs).

### EDUCATION & RECOGNITION

To make sure you've got the latest and greatest education, YEA offers 10 scholarships to the **ASHRAE HVAC Design Essentials Training**. And since you've put in the hard work, why not be recognized for it and apply for the **YEA Award of Individual Excellence** or the **Developing Leader Award**.

### NETWORKING

It's all about who you know, right?! Join us at our **YEA Hospitality Suite** at the ASHRAE Annual and Winter Conferences to meet fellow YEA members, as well as many ASHRAE leaders who stop by. And to keep you up to speed on all things YEA, we publish a quarterly **YEA Connections** e-newsletter that goes straight to your inbox.





Certified

# ASHRAE Certification

Advance Your Career Today!

**NEW!**  
**DIGITAL BADGING**

Helps you get the recognition  
you've earned.



With already more than 3,000 certifications earned to-date, ASHRAE programs were founded to meet the industry needs of today and provide value to thousands of built-environment professionals, employers and building owners.

[ashrae.org/certification](http://ashrae.org/certification)

2022 **AHR** EXPO

# Product Preview

## PRODUCT CATEGORIES

	Heating .....	1 - 6 →
	Cooling .....	6 - 9 →
	Refrigeration .....	10 - 11 →
	Ventilation .....	11 - 13 →
	Plumbing .....	14 - 15 →
	Indoor Air Quality .....	15 - 18 →
	Sustainable Solutions .....	19 →
	Tools & Instruments .....	20 - 22 →
	Building Automation .....	22 - 25 →
	Software .....	26 - 27 →



JAN 31-FEB 2 2022

CO-SPONSORS  

## HEATING

### Magnetic Filter

**ADEY Innovation LLC** / BOOTH N8909

The MagnaClean CMX™ range of 316L stainless steel side-stream filters deliver adaptive, market leading water system filtration, offering a completely flexible and unique approach to improving system efficiency and reducing maintenance and operational costs for commercial and industrial hydronic heating and cooling systems. Each model within the range provides magnetic or non-magnetic and combined, dual-filtration capabilities through the combination of powerful, neodymium magnets, superior spun-bonded filter cartridges and needlefelt bag filters. The filter also acts as a dosing pot for convenient water treatment dosing.

### Restrained Seismic Spring Mount

**ANDRE HVAC International Inc.** / BOOTH C2152

Restrained seismic spring mounts of type SSR-1 series are heavy duty steel spring isolators with built in all directional snubbing. The snubbing element



is a high-quality molded neoprene. The housing is made of steel construction with galvanized finish. The spring is made from steel wire with galvanized finish.

**SSR-1**  
ANDRE HVAC  
International Inc.

### Electric Storage Water Heater

**HTP Comfort Solutions LLC** / BOOTH N8312

HTP, an Ariston USA brand, has developed an innovative water heater to solve the challenge of meeting the high hot water demands of end users. The Champion 55-gallon electric water heater provides end users with the comfort of a traditional 80 or 100-gallon electric water heater in a compact package.



**HTP Everlast Champion 55-gallon Electric Storage Water Heater**  
HTP Comfort Solutions LLC

### Shutoff Valve and Motorized Actuator

**ASCO / Emerson** / BOOTH C3106



The ASCO Series 158 and 159 Safety Shutoff Valve and Motorized Actuator delivers the highest flow rate on the market, ensuring minimal pressure drop to meet boiler demands. Designed for burner-boiler applications, this new safety shutoff valve increases safety and reliability, enhances both flow and control and enables easy installation.

**Emerson ASCO Series 158 Safety Shutoff Valve and Series 159 Motorized Actuator**  
ASCO / Emerson

### Estimation Services to the Mechanical and HVAC Sectors

**Astra MEP Corporation** / BOOTH N11533

Introducing Astra's new estimating service for all your piping takeoff requirements.

### Condensate Neutralizer

**Axiom Industries Ltd.** / BOOTH N8735

Axiom Industries introduces the NC-1W, a Wall Hung Condensate Neutralizer designed to raise the pH of the acidic condensate generated by high-efficiency fuel-burning appliances. The NC-1W incorporates a vertical, two-chamber capsule with a patented built-in overflow bypass and magnetic float assembly that latches when condensate flow is restricted. Delivering superior performance in a small footprint, with ease of installation and serviceability, are key features that continue to differentiate Axiom products from others.

### Whip

**Bacchus Cellar Systems/ESP Company** / BOOTH C5936

Pre-wired switch box with an always powered GFCI plus 8' whip. Perfect for saving time and material when installing residential equipment. Easily power 120 V IAQ accessories.



**HVAC Service Center**  
Bacchus Cellar Systems/  
ESP Company

### Solar Digital Industrial Thermometer

**Blue Ribbon Corp.** / BOOTH N7206

Blue Ribbon's new BR9A35-SD thermometer has all its distributors and wholesalers excited! Features include versatility for use in heating, cooling, boilers, plumbing and any industrial construction; durable ABS case, digital readout, an accurate 1% Full Scale reading (°F or °C) by just hitting a switch, lightweight, standard multi-angle 3.5" stem for multi-positional installation, and works with existing 3.5" thermowells.

### Magnetic Filter

**Eclipse Magnetix** / BOOTH C6638

Introducing the BoilerMag BM/R – The Ultimate Filtration Solution for hydronics systems. Protect your system from "black sludge" with this tried and trusted patented magnetic technology, which ensures that virtually 100% of iron oxide and scale is removed on the first pass. Installing a

BoilerMag will increase efficiency, prolong boiler life, protect pipework, and reduce maintenance calls. BoilerMag BM/R is offered in 1" NPT or Press Connections and is the best value option – includes all necessary boiler filter components in one package.



**BoilerMag BM/R**  
Eclipse Magnetix

# HEATING

## Dirt Separator with Dual Magnets

**Caleffi Hydronic Solutions** / BOOTH N7930

Caleffi DIRTMAG® PRO is a powerful dirt separator for residential and light commercial hydronic systems. The DIRTMAG PRO efficiently removes ferrous and non-ferrous impurities such as magnetite, copper shavings, soil, silica, tape, and scale fragments to protect expensive heat exchangers, circulators, valves, and other system components from failure. The debris blow-down valve makes serviceability simple, keeping your hands clean.



**DIRTMAG® PRO**  
*Caleffi Hydronic Solutions*

## Controller for a Building Automation System

**Carrier** / BOOTH C1310

Previously, a wider operating range came at the expense of efficiency. The AquaEdge® 19MV water-cooled centrifugal chiller changes this paradigm. This next generation chiller combines best-in-segment efficiency for design and off design conditions, with the ability to operate at severe conditions due to unexpected building operation or extreme weather. Featuring an EquiDrive™ two-stage back-to-back compressor, now with magnetic bearings, for a wide, stable operating range supporting a variety of building conditions and initiatives.



**AquaEdge® 19MV Water-Cooled Centrifugal Chiller**  
*Carrier*

## Special Gas Vent Snorkel Termination

**Centrotherm Eco Systems** / BOOTH N8241

Centrotherm Eco Systems introduces The Snork, to help terminate special gas vent exhaust runs with one single convenient snorkel termination. The Snork and InnoFlue save time and money on every job.



**The Snork**  
*Centrotherm Eco Systems*

## Portable Heat Pump

**ClimaTemp Portables Inc.** / BOOTH C6543



The CPTH-12 (1 ton) portable heat pump provides heating and cooling from a single portable unit. It is the first heat pump to feature advanced IAQ options which include (NPBI) and HEPA filtration for advanced IAQ and air purification applications.

**CPTH-12 Portable Heat Pump**  
*ClimaTemp Portables Inc.*

## HVAC Coil

**Cooney Engineered Solutions** / BOOTH C3949

Stop worrying about freeze damaged HVAC coils! Freeze Block™ Coils help to reduce downtime, eliminate the need to repair or replace ruptured coils, all while providing peace of mind with a 30-month freeze protection guarantee. Available for fluid, steam, and face and bypass coils for both new air handlers and replacement coils.



**Cooney Freeze Block™ Coils**  
*Cooney Engineered Solutions*

## Scroll Compressor

**Copeland Compressors and Condensing Units / Emerson** / BOOTH C3106

The Copeland™ ZPSK7 scroll compressor is a product line of 1.5 to 5-ton two-stage compressors ideally suited for residential and light commercial HVAC applications. These compressors can operate at 100% capacity or as low as 65% capacity based on heating/cooling demand. When a partial load is needed, bypass ports inside the compression chamber open which partially unload the compressor.

## Gas-Fired Infrared Tube Heater

**Detroit Radiant Products Co.** / BOOTH C4717

Introducing the REV Series, a REVolution in infrared heating! Featuring customer-configurable variable geometry reflector, mounting glide tracks, 18 reverberatory reflector facets, and 300% greater wall thickness than standard reflectors, the REV Series is unlike anything the infrared market has seen. With one unit capable of either a single-pass or dual-pass design, its versatility for comfort and efficiency can't be beat.

## Low BTU Gas Furnace

**Dettson Industries / Ouellet** / BOOTH N9109

15K and 30K 2-Stage Gas Furnace is designed for tighter homes and smaller spaces. With low loads comes the need for low Btu.



**Chinook 15K/30K 2-Stage Gas Furnace**  
*Dettson Industries / Ouellet*

## Semi-Instantaneous Water Heaters

**Diversified Heat Transfer, Inc. (DHT)** / BOOTH C5803

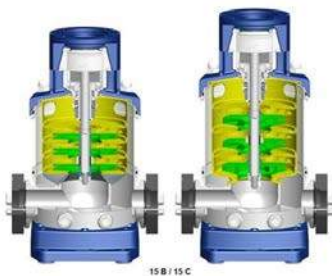


The ST Series new space-saving design offers a compact footprint, customizable leg heights, and vertical and horizontal configurations, providing customers an engineered solution with greater installation flexibility. The new Advanced Electronic PID controls has touchscreen user interface and is compatible with Building Management System via ModBus IP or built-in BacNet IP. The optional condensate sub-cooling increases the overall system efficiency above 90%, requiring less steam consumption than a standard unit.

**ST Series Semi-Instantaneous Water Heater**  
*Diversified Heat Transfer, Inc. (DHT)*

## Multi-Stage Pump

**DP Pumps USA** / BOOTH C6238



DP Pump USA offers an enhancement to its pumps with the upcoming “C” generation of pumps. The new generation is designed to increase pump efficiency as well as the development of Low-NPSH for larger frame pump assemblies.

**DP Pumps DPVF Multistage Pump**  
*DP Pumps USA*

## Electric Boiler

**Electro Industries, Inc.** / BOOTH C6615



The EZB Edge is a packaged electric boiler with air vent, relief valve, expansion tank and circulating pump designed with contractors in mind to save on valuable installation labor. It has a new touch screen display with dual temp, post purge, pump exerciser, optional 4 zone capability, and much more. Sizes range from 5-20kW. The EZB Edge is simple and the easiest boiler you will ever install!

**EZB Edge**  
*Electro Industries, Inc.*

## Heat Exchanger

**Energy Transfer: DuraFin Tube** / BOOTH C5700

Enhanced surface and fin tubing found in HVAC systems.



**Fin Tube Heat Exchanger**  
*Energy Transfer: DuraFin Tube*

## Water Heater

**ESSENCY** / BOOTH N10328

The Essency E55R On-Demand Tank Water Heater is a 55-gallon electric tank that packs the same punch as an 80-gallon. It delivers fresh water on demand with stable temperatures and a draw that won't quit. Built of a tough durable polymer material, the E55R connects to an app that puts control at the homeowner's fingertips. The patent-pending SmartCore Technology achieves an 80-Gallon FHR and high flow rates, offering all the advantages of tank and tankless systems in one.



**E55R On-Demand Tank Water Heater**  
*ESSENCY*

## Condensate Return Unit

**Fabtek Aero, Ltd.** / BOOTH C6517

Condensate is a valuable resource that can be reused. Fabtek's condensate units are designed to return accumulated condensate to the boiler feed tank. Condensate recovery is a process to reuse the water and sensible heat contained in the discharged condensate. Recovering the condensate instead of disposing of it can have substantial effects on commercial boiler applications.



**Stainless Steel Condensate Return Unit**  
*Fabtek Aero, Ltd.*

## Enterprise-Wide Wireless Thermostat Control

**H2O Degree** / BOOTH C981

Property owners can put management of thermostats in their tenants' hands. By configuring set points for the tenant thermostats, property managers can allow their tenants to adjust their own temperature within that range, this ensures that both tenants and property managers are able to make temperature adjustments that benefit all of their needs.



H2O Degree's flexible, easy-to-install wireless thermostat control system enables comfort for tenants, while managing and reducing overall heating/cooling costs in their facility.

**T1000 Wireless Thermostat**  
*H2O Degree*

## Metal Fiber Burner/Metal Fiber Fabric

**HUNAN HUITONG ADVANCED MATERIALS Co., Ltd** / BOOTH N10918

The main material used in metal fiber gas burners is special iron-chromium-aluminum fiber with a diameter of about 30-50μm. The fiber can be used for sintering or knitting to make a special transparent material with a three-dimensional network structure for metal fiber burner. Some special varieties can be used in the environment of about 1000 °C for a long time, and can withstand a temperature of 1300 °C for a short time.



**HT700 Metal Fiber Burner**  
*HUNAN HUITONG ADVANCED MATERIALS Co., Ltd.*

## High-Efficiency Integrated Boiler Controls System

**Hurst Boiler & Welding Co., Inc.** / BOOTH N8212

Offering integration and scalability, the new, high-efficiency Integrated Control Systems from Hurst Boiler for remote boiler room and combustion monitoring and communications provide advanced supervisory boiler controls for all new and legacy Hurst products. Hurst offers a full line of processor-based smart controls fully compatible with all Hurst designs including alternative fuel models.



**Hurst FireMaster**  
*Hurst Boiler & Welding Co., Inc.*

# HEATING

## Energy-Efficiency Label

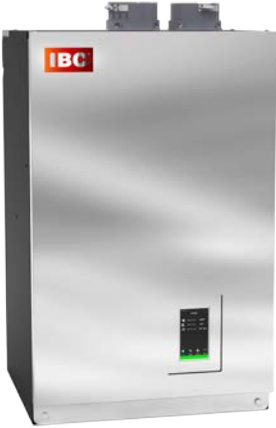
Hydraulic Institute / Pumps Systems Matter / BOOTH C6444

To drive the adoption of more efficient circulator pumps, Hydraulic Institute (HI), an industry association representing pump manufacturers, developed the Energy Rating label, which provides a clear and easy way to identify energy-efficient circulators inclusive of controls and indicates a range of possible power savings. The higher the energy rating, the more savings the circulator can provide. HI also maintains a database of rated circulators, which can be used by utility incentive programs as a qualified products list.

## Dual Condensing Combi Boiler

IBC Technologies Inc. / BOOTH N8513

SFC SUPERFLOW - Dual Condensing Combi Boiler is available in 3 sizes: 99/125/199. The dual condensing SFC SUPERFLOW is a simple, reliable and efficient combi boiler. With two independent copper waterways embedded in a cast aluminum block and only 5 moving parts, no combi has ever been easier to install and maintain. European design meets American serviceability!



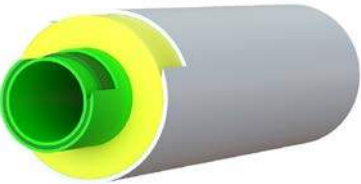
SFC SUPERFLOW Combi  
IBC Technologies Inc.

## Pre-Insulated PPRCT Piping System

Interplast SA / BOOTH C6740

Aqua Plus Prins is a pre-insulated PPRCT piping system. Designed for indoor, outdoor and underground installation. Insulation is made by an uniform closed cell PUR and chasing pipe is made by MPVC. Advantages of system: certified energy savings, durability over time, low weight, fast installation, unaffected by the mechanical loads, unaffected by the humidity, UV protected, small linear expansion, lead-free.

Application area: air-conditioning networks, heating and DHW, underground transport networks of hot and cold water, district heating and cooling networks, industrial cooling networks.



Aqua Plus Prins  
Interplast SA



## Floor Mounted Spring Restraint Isolator

ISOTECH Industries Inc. / BOOTH N11509

IPSSA offering quick and easy top adjustment on the spring using an impact wrench. Significant competitive advantage over other available spring mounts in the market. IPSSA are factory pre-compressed by 50%. Low profile design minimizes the seismic loads transmitted into concrete anchors or bolt attachment, allowing for high-seismic ratings. Available for 1" or 2" deflection springs and can go up to 4500 lbs capacity with minimum 1.6g rating for lateral load.

Seismically-Rated Floor  
Mounted Spring  
Restraint Isolator  
ISOTECH Industries Inc.



## B Series Asymmetric Brazed Plate Heat Exchanger

Kaori Heat Treatment Co., Ltd. / Kaori Thermal Products / BOOTH N8606

KAORI patented asymmetric plate design obtains optimal efficiency with much less refrigerant charge and lower water/brine pressure drop. It results in cost effective and reduced environmental impact. B Series is suitable with R290, R32, R454B and natural refrigerants. Under the same working condition it reduces maximum of 25% water pressure drop, reduces maximum of 44% refrigerant charge, and increases maximum of 19% water flow rate.

B Series: B050/B110  
Kaori Heat Treatment Co., Ltd. /  
Kaori Thermal Products



## Heat Pump

LG Electronics USA, Inc. / BOOTH N7906

LG Multi F MAX with LGRED® heating technology is a multi-zone heat pump system with single outdoor unit that can connect up to eight indoor units. LGRED designates high-heat technology that provides continuous heating down to -13°F and 100% of rated capacity at 5°F.

## Industrial and Commercial Burner

Limpsfield Combustion Engineering Co., Ltd. / BOOTH N7030

Limpsfield Combustion, a manufacturer of commercial and industrial burners aimed to meet, exceed and guarantee worldwide emissions standards, whilst at the same time offering exceptional fuel savings and carbon emission reduction. Limpsfield's Burners are designed to operate at 3% O2 and <10ppm of CO throughout the firing range.



Limpsfield Combustion  
Burner  
Limpsfield Combustion  
Engineering Co., Ltd.

## Condensing Boiler

Mestek, Inc. / BOOTH C1320

The KN-Series boilers are now available with VIRTUOSO<sub>2</sub> 10:1 High Turndown with O<sub>2</sub> monitoring. KN-Series boilers utilize a cast iron primary heat exchanger with full condensing capabilities and the industry's best 25-year warranty. Offered in sizes ranging from 200,000 - 4,000,000 BTUs, KN-Series boilers are AHRI Certified at 90% and the KN Series Plus is AHRI Certified at +96%. All KN-Series boilers come standard with HeatNet 3.0 integrated control platform with touchscreen with optional remote monitoring capability.



KN-Series Virtuoso<sub>2</sub>  
Mestek, Inc.

## HTD (High Turn Down) Burner

Midco International, Inc. / BOOTH C3315

Midco's new MHTD burners has three models ranging from 500 MBH to 2500 MBH. They're used in heat exchangers, boilers and industrial oven applications. Burners benefits are an easy setup with linkageless design, at least a 10:1 turn down, direct spark ignition and a flame safe guard with an alarm output and trouble-shooting codes. Also available with Modbus connectivity. There is a UL295 Listing pending. Available in 2022.



MHTD Series Burners  
Midco International, Inc.

## Modular Low Ambient Air Source Heat Pump

Motivair Corporation / BOOTH N9113



The Modular Low Ambient Air Source Heat Pump offers 260,000 BTU/H of 110°F hot water at an ambient of 5°F and 100°F hot water production at -5°F ambient. Expandable up to 8 modules, the heat pump meets future market demands for reduction of fossil fuel boiler systems.

Modular Low Ambient Air  
Source Heat Pump  
Motivair Corporation

## Expansion Tank Mounting Bracket

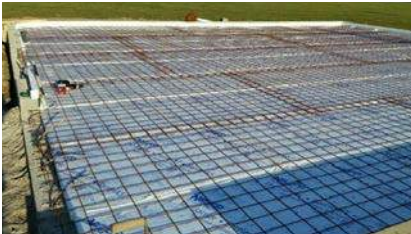
Nexus Valve, Inc. / BOOTH N9130

Introducing the Flexconsole, an expansion tank mounting bracket that provides great flexibility for tank placement in your system. The heavy duty Flexconsole provides a professional appearance in any installation and ensures a secure mount for your expansion tank.

## Under Slab Insulation

NOFP, Inc. / BOOTH N7128

The Barrier is a high-performing, flexible, walkable, under concrete insulation for Radiant Heat Floors. It comes in various thickness options in both rolls and sheets offering ease of installation and great insulatory values. NOFP, Inc. also offers a newly dsigned "Hook & Loop" system that makes installation a breeze.



Barrier Under Concrete  
Insulation  
NOFP, Inc.

## Unit Heater

Nortek Data Center Cooling Division / BOOTH C3129

Reznor® UDZ Unit Heaters use separated combustion to prevent contaminants from being burned, making it the ideal heating option for applications with dirt, lint or dust, such as manufacturing plants, workshops and garages. This new model is a part of Reznor's newly redesigned unit heater line that brings additional serviceability and installation features for contractors, increased monitoring capability for building managers and an aesthetically appealing design fit for any space.



UDZ Gas-Fired, Separated-  
Combustion Unit Heater  
Nortek Data Center Cooling Division

## Operating Electronic Control

OFP Enterprises, LLC / BOOTH N7310

OFP Plus is an operating electronic control with alarm buzzer and red flashing warning light that automatically shuts off the gas burner, water supply line to the boiler, furnace and hot water tank if it malfunctions due to carbon monoxide spillage, smoke in the boiler room, relief valve water dumpage, or if the systems crack a leak (boiler or hot water tank).



OFP Plus  
OFP Enterprises, LLC

## Heavy Duty Heat Transfer Fluid

Old World Industries / PEAK Commercial & Industrial / BOOTH C3747



THERMAL CHARGE® PGHD is an inhibited propylene glycol-based heat transfer fluid used in higher temperature applications and solar systems as well as HVAC applications because its inhibitor package offers additional corrosion protection for systems containing copper components. This heavy duty fluid provides boil-over and freeze protection and the florescent yellow dye assists in leak detection.

THERMAL CHARGE® PGHD  
Old World Industries / PEAK Commercial &  
Industrial

HEATING

Condensing Boiler

**Patterson-Kelley** / BOOTH C1520

The P-K SOLIS is a condensing firetube boiler. The newest addition to the PK family features a unique geometric design that optimizes heat transfer, resulting in efficiencies of 96%, 10:1 mechanical turndown, and ultra-low NOx emissions. The P-K SOLIS is available in sizes ranging from 1500 to 3000.



**P-K SOLIS**  
*Patterson-Kelley*

Condensing Commercial Gas Boiler

**PB Heat, LLC / Peerless® Boilers** / BOOTH C3924

Peerless® PUREFIRE® gas-fired condensing boilers are now available in seven commercial sizes with BTU's ranging from 399 to 1,500,000. Boilers have ETL certifications for U.S. and Canada and are ENERGY



STAR® certified! The PureFire® is environmentally friendly with LoNOx operation and has thermal efficiencies up to 98%. The direct-vent, sealed combustion boiler is cascade capable and features a one-year parts and labor warranty and a 10-year limited warranty on the heat exchanger.

**Peerless® PureFire® Commercial Condensing Boiler**  
*PB Heat, LLC / Peerless® Boilers*

Natural Gas Regulator

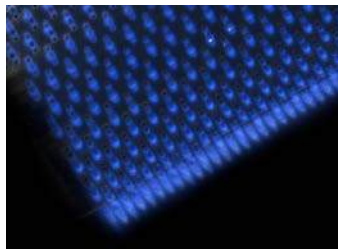
**Pietro Fiorentini USA** / BOOTH N9317

Pietro Fiorentini's GOVENOR family of line pressure regulators are designed for indoor and outdoor installations. Benefits: ANSI Z21.80/CSA 6.22 certified, approved ½" to 4" pipe sizes with integral vent limiter eliminating the need for vent lines\* (per local codes and standards), approved inlet pressure up to 10 PSIG and outlet pressure 4" W.C. to 2 PSIG.

Premixed Gas Burner

**Polidoro USA, Inc.** / BOOTH C5817

Combustion of low-carbon fuels: gas-fired appliances need low-carbon fuels to pave the way for a cleaner environment. Polidoro Combustion Research Center has been studying the theory behind hydrogen-enriched combustion over the last years, and is collecting knowledge on the impact of this kind of fuel on premixed devices, such as highly efficient condensing boilers. Thanks to these activities, Polidoro is studying innovative premix burners, suitable to burn hydrogen/methane mixtures as well as pure hydrogen.



**Low-Carbon Fuels Premixed Burners**  
*Polidoro USA, Inc.*

Modulating Oil Valve

**Power Flame Incorporated** / BOOTH C3721

K7 Series Modulating Oil Valve offers improved flow accuracy thanks to a single piece final assembly which over comes hysteresis. The valve also has the ability to operate in both a clock wise (CW) or counter clock wise (CCW) direction allowing it to be bi-directional. The valve will operate for #2 - #6 fuel oil, B20 – B100 bio-diesel, and liquid propane. The K7 Valve comes in two body sizes 3" and 4" in diameter. There are multiple sizes within each body size.

Condensing Boiler

**Raypak, Inc.** / BOOTH C2511

Raypak's latest innovation, XVers (Powered by KÖR), offers high-efficiency heating in a small footprint. As one of the most compact condensing fire tube boilers on the market, all models easily fit through a standard doorway for convenient installation. XVers (Powered by KÖR) also features Dynamic Protection, Raypak's new advanced, patented controls algorithm designed to optimize performance and protect your investment.

**XVers (Powered by KÖR)**  
*Raypak, Inc.*



Heat Pump

**RBI Water Heaters - A Mestek Co.** / BOOTH C1320

RBI has added an inverter air-to-water heat pump to their extensive line of products. Perfect for light commercial and commercial applications, the RBI heat pump encompasses all of today's hydronic equipment innovations.



The heat pump boasts heating capacities to 288 MBH and cooling capacities to 203 MBH. With an emphasis on green, environmentally friendly technologies that reduce overall carbon footprint, the RBI heat pump checks off all the boxes.

**Inverter Air-to-Water Heat Pump**  
*RBI Water Heaters - A Mestek Co.*

Heat Exchanger

**RECUTECH** / BOOTH N7127

RECUTECH's Counter-Flow Heat Exchangers are distinguished by their unique plate geometry, which has been developed in cooperation with specialists from the Technical University of Liberec, Czech Republic. As a result, these heat exchangers achieve maximum possible efficiency and low pressure drops.



**RSF+16**  
*RECUTECH*

Indirect Gas Water Heater

**Riello North America** / BOOTH C1113

ARRAY TH20 is a high-power indirect and instantaneous domestic hot water generator with 800÷1500 MBtu/h for systems serving large residential and commercial establishments. It ensures high turndown and continuity of service with its modular design, full redundancy multi-primary heat exchanger and double secondary plate heat exchanger. ARRAY TH20 offers high-performance, with the maximum efficiency and reliability.



**Array TH20**  
*Riello North America*

Wall Thermostat

**Robertshaw** / BOOTH C3518

Robertshaw® is back in wall thermostats with the simple, powerful, economical Pro-Series. With eight models, this thermostat line minimizes truck stock. Yet there's a model to suit nearly any HVAC system configuration—from single-stage non-programmable to 5-1-1 or 7-day programmable multi-stage heating and cooling. A WiFi model and Robertshaw's iOS or Android app offer smartphone control. Simple programming menus and a modern, user-friendly design provide simple, powerful control. An industry-leading 6-year warranty adds peace of mind.



**Robertshaw Pro-Series Wall Thermostats**  
*Robertshaw*

Gas Heat Pump

**Robur Corporation** / BOOTH C4909

Robur's GAHP-AR reversible gas-fired heat pump can achieve up to 140% heating efficiencies. Energy goals of today and tomorrow can be achieved, while reducing carbon emissions and utilizing an environmentally friendly natural refrigerant. The GAHP AR unit can provide 120,000 btu's of heating, 5 tons of cooling and supplemental DHW. Ambient Rating conditions: 120°F/49°C down to -20°F/-29°C.



**Model: GAHP AR Gas Heat Pump**  
*Robur Corporation*

Ball Valve High-Pressure

**RuB Inc.** / BOOTH N7513



S39 series hot-forged brass high-pressure micro ball valve up to 900 PSI sizes 1/8", 1/4", 3/8", 1/2" and 3/4" both female by female NPT threads or female by male NPT threads. 100% made in Italy.

**S39 series micro & mini ball valves**  
*RuB Inc.*

Commercial Electric Radiant Heater

**SOLAIRA HEATING TECHNOLOGIES** / BOOTH N7517

Solaira's new ICR Series offers high-performance, high output engineered shortwave heating technology. ICR SERIES heaters produce short infrared wavelengths which can convert greater than 85% of consumed energy into instant, controllable, directional heat. Radiant efficiency is maximized because heat generated by SOLAIRA heaters warms people and objects with limited warming of the air and is virtually unaffected by air current or breezes.



**Solaira ICR Series Electric Recess (Integrated) Radiant Heaters**  
*SOLAIRA HEATING TECHNOLOGIES*

Plate Heat Exchanger

**SonFlow A/S** / BOOTH N7320

SonFlow introduces the most efficient and modern Plate Heat Exchangers for industrial, HVAC, marine and sanitary applications. SonFlow's units are optimized to meet specific temperature demands and capacities. Depending on the quality of fluids, SonFlow Plate Heat Exchangers are available in a range of high-quality plate materials including stainless steel, titanium, and nickel, to ensure corrosion resistance.

Hydraulic Separator with Air Elimination and Dirt Separation

**Spirotherm, Inc.** / BOOTH N9220

The Spirovent Quad Magnet is a hydraulic separator that incorporates effective air elimination of a Spirovent plus adds powerful magnets surrounding the flow path to increase the efficiency of separating ferrous material from the circulating system. Available in all popular sizes with threaded, sweat and press fit connections.



**Spirovent Quad Magnet**  
*Spirotherm, Inc.*

Unit Heater

**Sterling HVAC Products - A Mestek Co.** / BOOTH C1320

Sterling's new "All Crossover Equipment" (AXE) series of unit heaters provide users with the option of either standard or separated combustion right out of the box with no need for extra conversion kits. AXE tubular unit heaters provide the ultimate in "off the shelf" application flexibility. All GG, XF and XC models featuring AXE come complete with a 10-year heat exchanger, flue collector and burner warranty. Units are available in size from 30,000 to 400,000 BTU/h.

**AXE Series**  
*Sterling HVAC Products - A Mestek Co.*



# HEATING

## Gas Furnace Replacement

Stone Mountain Technologies, Inc. / BOOTH N7310

SMTI introduces a high-efficiency alternative for gas furnaces and water heaters, without the cost and comfort disadvantages of electric heat-pumps in cool/cold climates. SMTI's 140% AFUE Thermally-Driven Heat Pump replaces gas furnaces, and also serves the home's domestic hot water needs. It generates comfortable heat on cold nights (even when minus 40F outside). It's a long-proven cycle, modernized for low-cost. It features immediate 30-50% reductions in operating cost (payback 3-6 years) and easy plug-n-play installation. Commercial water-heating applications are also available.



80,000 BTU/hr Thermally-Driven Heat Pump (AFUE 140% Gas Furnace Replacement)  
Stone Mountain Technologies, Inc.

## Solar Thermal Dual-Glazed Flat Plate Collector

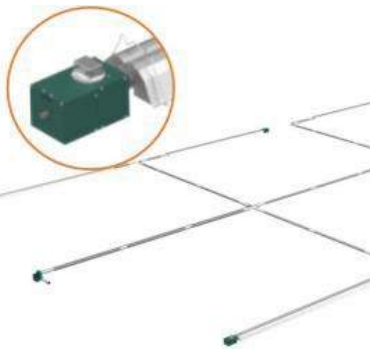
SunEarth, Inc. / BOOTH N10926

The newest improvement in SunEarth's quality solar thermal large format collector models allows engineers, architects and installers to lessen their load while ensuring a robust solar thermal collector array capable of withstanding the increasing demand of environmental forces. By utilizing a dual glazing construction, SunEarth models EP-40 and TRB-40 are now 5 lbs lighter while increasing the strength and durability of the collector frame.

## High E

Superior Radiant Products Ltd. / BOOTH C2327

The Series TVX negative pressure multi-burner system was designed to use two or more radiant tube heaters in a variety of applications.



Series TVX Negative Pressure Systems  
Superior Radiant Products Ltd.

## Brazed Plate Heat Exchanger (BPHE)

SWEP North America, Inc. / BOOTH C1740



SWEP Sealix® is a Brazed Plate Heat Exchanger (BPHE) range that features a protective layer on all inner surfaces of the BPHE, resulting in enhanced behavior in terms of scaling, fouling and corrosion while maintaining thermal and hydraulic performance. Sealix® is a revolutionary SiO<sub>2</sub>-based thin-film technology that increases corrosion resistance, decreases the tendency for fouling and scaling, and increases durability. Sealix® protects the surface of the heat exchanger and is very well suited for water-to-water applications.

SWEP Sealix® range  
SWEP North America, Inc.

## Heat Convector

Toyotomi USA, Inc. / BOOTH C6624

The HC-190 replaces up to 37 feet of baseboard and complements the highest efficiency, aquastatic controlled boilers that use low water temperatures. The internal thermostat control circuitry communicates with zone valve or boiler controller. It includes an easy to use LED display panel with built in thermostat that instructs boiler when the zone should come on or off based on desired comfort requirement, and heats an area of 300 to 1,000 square feet (heat output of 4,050 BTU per hour on low setting to 20,000 BTU per hour on high).



HC-190  
Toyotomi USA, Inc.

## Infrared Voltage Controller

TPI Corporation / BOOTH C3117

The VHC-66 (9.9KW) & VHC-99 (11.5KW) are 208/240 line voltage variable output SCR controllers for infrared heaters in an aluminized or gray powder coated NEMA 1 enclosure. An internal 3 second "soft start" ramp up function eliminates high-amperage inrush on power supply circuits. The user controls heat output by adjusting the included potentiometer (which may be remotely located for more convenience and aesthetics) to achieve a desired comfort level.



VHC-66 and VHC-99  
TPI Corporation

## Condensing Boiler

Triangle Tube / BOOTH C5315



The Instinct Floor Boiler comes loaded with features such as: a low loss header with dirt & air separator, Tsnyc Wi-Fi connectivity (for easy trouble shooting), an all stainless steel fire tube heat exchanger, industry leading 5+ GPM DHW and peace-of-mind 10 year warranty. Combi sizes are available in 155 and 199 MBH.

Instinct Floor Standing Boiler  
Triangle Tube

## Heat Exchanger Manufacturing

Tridan International / Innovative Automation / Livernois Engineering / BOOTH C2917

All heat exchanger types, all manufacturing processes, one company! Optimization of manufacturing operations requires experience and advanced technology. Tridan is the one company able to leverage years of experience in flat fin, rolled fin, and folded fin heat exchanger manufacturing. Cross utilization of techniques and methods allows for optimization of manufacturing processes, resulting in a competitive advantage. Unique tooling, equipment, prototyping, and R&D, all applied to your unique products and applications.



HX Manufacturing Optimization  
Tridan International / Innovative Automation / Livernois Engineering

## Condensing Boiler

U.S. Boiler Company / BOOTH C1830

U.S. Boiler company proudly introduces the Alta boiler. Available in heating and combi models, the all-new Alta offers next-generation gas adaptive technology, providing no touch 5-minute startup, automatic self-calibration, and sensor-less outdoor reset. A simple switch converts the Alta from gas to LP (no kits or tools required). Combi models offer a virtually instantaneous DHW response, selectable comfort/recirculation modes, and include an AltaFastPipe (primary/secondary manifold).



Alta Boiler  
U.S. Boiler Company

## Manifold Actuator System

Ultra-Fin / BOOTH C5349

Linear-X is the only system that simply and efficiently automates standard manifolds used for heating and cooling, combining both actuator and control panel into one. Linear-X is ON/OFF and does not require valves to be constantly energized for long hours to stay open. Linear-X installs in minutes and is plug and play. Linear-X is fast responding when opening and closing individual return valves and is not effected by high or low temperatures.



Linear-X Manifold Actuator System  
Ultra-Fin

## Off-Set Ball Joint

Universal Metal Hose / BOOTH C4406

Hyspan Barco ball joints are selected for the most demanding applications requiring the greatest reliability, system and personnel safety. Maximum total flex angles include 15° to 30° and 360° torsional rotation. The combination of ASTM rated internal and external bearings with TGO-50 GRAFOIL® packing in an adjustable tension structure, provides the greatest reliability available. Codes supported: ASME B31.1, B31.3, ABS, API, BV, FM, GOST, Lloyds, PED, & TUV.



Off-Set Ball Joint  
Universal Metal Hose

## Piping System

Urecon Ltd / BOOTH C4521

COOL-FIT® PE Plus is a pre-insulated piping system that minimizes maintenance and operational costs, has reduced weight and is rapidly installed. The system is not only ideal for air conditioning, but also for food and beverage production such as dairies, fruit and vegetable processors, breweries, and wineries, as well as refrigerated storage facilities and data centers. COOL-FIT efficiently conveys brine, glycol, ethanol, and chilled water in temperatures from -58°F to 140°F (-50°C to 60°C).



COOL-FIT® PE Plus Pre-Insulated Polyethylene Piping System  
Urecon Ltd

## Condensing Combi Boiler

Velocity Boiler Works, LLC / BOOTH C1836

The Phantom Combi II is a gas fired stainless steel combi boiler with an adaptive combustion system. The adaptive combustion system allows for simple boiler start up and field conversion from natural gas to LP without the need of a conversion kit. Additional features include 95% AFUE with 10:1 turndown, up to 3.7 GPM of domestic hot water and a selectable economy or comfort recirculation mode. A low loss header and 2" venting are standard. Additional models coming in 2022.



Phantom Combi II  
Velocity Boiler Works, LLC

## Ignition Module

White-Rodgers / Emerson / BOOTH C3106

The White-Rodgers All-Spark universal ignition module from Emerson replaces over 800 24V intermittent pilot (IP) and direct spark ignition (DSI) part numbers in the HVAC market for ultimate jobsite readiness.



This breakthrough product features near-field communication (NFC) capability, simplifying configuration and diagnostics through the White-Rodgers Connect mobile app.

White-Rodgers All-Spark Universal Ignition Module  
White-Rodgers / Emerson

## HEATING

### Fan Coil

**Williams Furnace** / BOOTH C4137

This basic low-static with ultra low profile horizontal (LH-X) is ideal for multiple applications. It's slim, compact design is well suited for drop ceiling, closet, hallway and other concealed applications where its horizontal basic (LH-B) dimensions are not adequate. The LPH Series fan coils come with a powder coated epoxy drain pan with a wide range of coil, motor and controls options.



**Low Profile Horizontal Fan Coil with Return Air Plenum**  
Williams Furnace

### Fastening ClipRail

**Winkler Technik GmbH** / BOOTH C6334

An alternative to u-shaped mounting rails for tubes with an OD of 1/2" integrated fastening barbs, extremely low design - 7/8" tube distance 2" available in 3 1/4 ft or 6 1/2 ft (with hinge) length.



**FlipRail XCS1617**  
Winkler Technik GmbH

### Variable Speed ECM Smart Circulator

**Xylem** / BOOTH N9509

The newest generation variable speed ECM smart circulator, ecocirc® 20-18 from Bell & Gossett provides a superior product for both heating and cooling as well as potable water, and allows for wireless connectivity directly to the MY ecocirc® app (applicable to the + model only) on your mobile device for full control.



## COOLING

### Air Conditioner Condenser & Evaporator

**Air-Con International, Inc.** / BOOTH N7026

The Air-Con SD Premium Ducted Unit provides optimal performance for residential applications. With cooling and heating capabilities, the SD Premium is ideal for various climates and locations. The energy efficient inverter technology and space saver side discharge outdoor units are attractive features for potential customers. The SD Premium series is available in 2, 3 and 5 ton units with 24K, 36K and 60K BTU and efficiency up to 18 SEER.

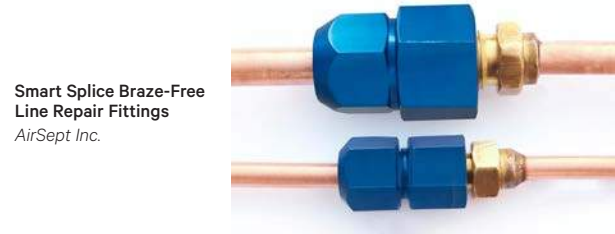


**Model ASDCI4H4S & ASDEM4H4S SD Premium**  
Air-Con International, Inc.

### Smart Splice Braze-Free Line Repair Fittings

**AirSept Inc.** / BOOTH N8813

Smart Splice's patented sealing technology is the new, flame-free alternative for any line repair. No brazing, welding and line marking is required and it installs in five minutes with an open-end wrench. No need for bulky, expensive tools, no adhesives, and a spotter is not required. Smart Splice is burst resistant to 2600 PSI and compensates for out of round tubing. Works on all copper lines.



**Smart Splice Braze-Free Line Repair Fittings**  
AirSept Inc.

### Wall-Mount Air Conditioner

**Bard Manufacturing Company, Inc.** / BOOTH C1726

The MEGA-TEC is a multi-stage 15 ton wall-mount high capacity sensible cooling system. It features redundant refrigeration circuits with three stages of cooling. When paired with the Bard LC6000 control, it can link to BardLink™ data management systems and control up to 14 units in three zones. Also leverages favorable weather conditions with optional free cooling economizer.

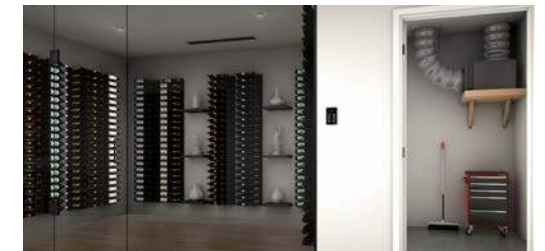


**Bard 15 ton MEGA-TEC Wall-Mount Air Conditioner**  
Bard Manufacturing Company, Inc.

### Wine Cellar Cooling System

**CellarCool** / BOOTH C6834

Custom wine cellars come in various shapes and sizes. When a cooling system is required, you need a high-quality product designed specifically for wine cellars. CellarCool delivers exceptional commercial grade cooling systems for HVACR technicians to install in private wine cellars, restaurants, and winery projects. The new 220v high-efficiency condensers provide quiet operation in extreme environments, with versatility in ducted and ductless split system options.



**CellarCool**  
CellarCool

### Energy-Saving Air Conditioner and Dehumidifier

**AirGreen** / BOOTH C3748

AirGreen, an emerging CleanTech company, introduces a new desiccant-based cooling and dehumidification technology designed to improve indoor air quality, significantly reduce energy costs, and eliminate airborne pathogens, including the COVID-19 virus. The patented technology provides reliable and economical temperature and humidity control while saving up to 50-60% in energy costs when compared to traditional mechanical cooling systems, particularly in applications where humidity control is critical, such as schools, indoor agriculture, grocery stores, bio-pharma, and LEED facilities.



**AirGreen 2000 CFM Desiccant Cooling and Dehumidification Unit**  
AirGreen

### Plumbing and HVAC Piping System

**Asahi/America, Inc.** / BOOTH N9226

Asahi/America's Asahitec™ PP-RCT plumbing and HVAC piping systems can be pre-fabricated and modularized to maximize quality control, system accuracy, and speed-of-installation. Asahi/America's two fabrication facilities, located in Lawrence, MA and Grammercy, LA, house state-of-the-art fusion equipment, combined with the most up-to-date design and graphic technologies. Asahi's experienced manufacturing and engineering team are ready to support designers and contractors in their next piping system installation from concept to completion. Field training and education are also available.

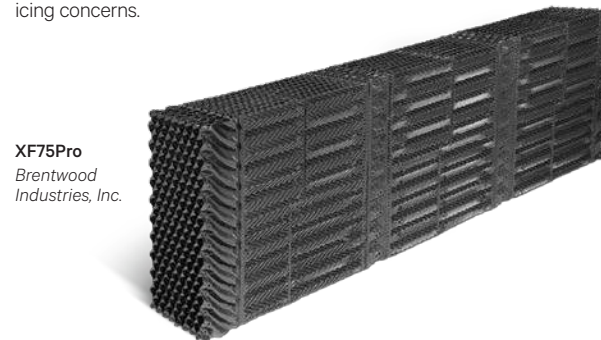


**Pre-Fabricated Asahitec™ PP-RCT Piping Systems Solutions**  
Asahi/America, Inc.

### Fill Media

**Brentwood Industries, Inc.** / BOOTH N10409

AccuPac® XF75Pro Crossflow Fill combines a proven herringbone surface design with new, patent-pending features to provide superior thermal and structural performance over first-generation crossflow film fills. For tower designs without integral louvers in the packs, the enhanced design of the XF75Pro greatly reduces the splashout and water face loading seen with the first generation of crossflow products, which can cause water loss and icing concerns.



**XF75Pro**  
Brentwood Industries, Inc.

### Low Global Warming Potential Refrigerant

**Chemours** / BOOTH C2116



Opteon™ XL41 (R-454B) is a non-ozone depleting, low global warming potential refrigerant developed to replace R-410A in residential, commercial air conditioning and scroll chiller applications. It offers similar capacity, discharge temperature and pressure while providing better efficiency to R-410A. Opteon™ XL41 was recently SNAP listed by the US EPA as approved in residential and light commercial air conditioning and heat pumps for new equipment and adopted by several OEMs globally over the past few years.

**Opteon™ XL41 (R-454B)**  
Chemours

## COOLING

### Fan Powered Terminal Unit

**ClimateMaster** / BOOTH C1121

IEC's HFY Series Fan Powered Terminal Unit is the premium indoor air quality solution, delivering the right amount of preconditioned outdoor air at the lowest sound levels. The ability to offer both sensible and latent cooling is critical to the overall building HVAC design by allowing further dehumidification to pre-conditioned air when required. Performance ranges from 600-2000 nominal CFM. IEC's integrated DDC Controls System provides all the necessary controls and sensor solutions for application flexibility.



HFY Series  
Fan Powered  
Terminal Unit  
ClimateMaster

### EC Backward Curved Composite Impeller

**ebm-papst Inc.** / BOOTH C3324

RadiPac EC centrifugal fans are direct-drive, single inlet centrifugal fans with backwards-curved high-performance centrifugal impellers made of composite material. Based on a GreenTech EC external rotor motor with integrated control electronics, the RadiPac C performs at higher efficiency levels. Greater speeds ensure higher air flow and higher pressures. The static pressure increase is over 2000 Pa and noise generation has decreased further; depending on the operating point, the noise level is reduced by between 3 and 7 dB(A) compared to the predecessor series.



RadiPac C  
ebm-papst Inc.

### Scroll Chiller, Inverter

**Ecochillers, Inc. / American Chillers** / BOOTH C1935

Air-Cooled Full Inverter Full Heat Recovery Scroll Chiller 280 Ton, Condensers include copper tubes and copper fins; stainless steel tubes and stainless fins option; heat recovery brazed plate and titanium option; evaporator shell and tube; copper tubes; titanium option; or a custom made foot print.

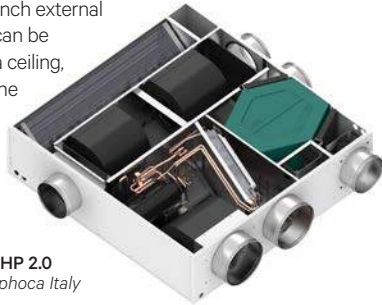


ECTLA0280A46ST4VE Inverter Scroll Chiller  
Ecochillers, Inc. / American Chillers

### Heat Pump

**Ephoca Italy** / BOOTH N7006

Flexible, modular, and innovative, VHP 2.0 is a single package, variable refrigerant flow heat pump with an integrated ERV/HRV, providing efficiency, comfort, and air quality with MERV 13 filters. There is no outdoor unit or lines sets - just two 8-inch external vents. The compact cabinet can be mounted horizontally above a ceiling, or, vertically inside a closet. The supply and return can be ducted to multiple rooms including a bathroom exhaust. Made in Italy. 1 0-year limited warranty.



VHP 2.0  
Ephoca Italy

### Alkaline Coil Cleaner

**ERRECOM USA LLC** / BOOTH C3345

SGP Cleaner is the ultimate alkaline coil cleaner developed by Errecom to remove dirt and contaminants quickly and easily from evaporators and condensers. With its powerful yet gentle action, SGP Cleaner restores the original shine of systems, enabling them to increase their efficiency too. Its biodegradable formulation makes the cleaner safe for both system components and the operator.

### Mini Split

**Everwell Parts, Inc.** / BOOTH C6010

Daizuki is committed to providing eco-friendly, high-energy efficient, quality air-conditioning. Everwell's mini splits are the perfect choice for owners who seek to enhance their comfort with the power of flexile zoning; when individual ambiances can be conditioned to different temperature needs. The DXTH-20 Series features Full DC Inverter technology, Heating-Cooling capabilities, remote app control through WiFi connection, Noiseless and BlueFin technology, R410a refrigerant, AHRI and ETL certified for quality assurance. Limited warranty available.



Daizuki Mini Split DXTH-20 Series  
Everwell Parts, Inc.

### Data Center Cooling

**Excool** / BOOTH N7741

The Excool Zero is the latest in low energy data center cooling technology. The Excool Zero is an indirect evaporative cooling solution with the smallest footprint versus other IDEC solutions. The solution offers significant reduction in water usage with the option to run 100% water free. All water treatment, storage and filtration is built into the unit, removing the need to keep chemicals on site. This eliminates external water treatment plants such as reverse osmosis systems.

Excool Zero - Advanced  
Data Center Cooling  
Excool

### Vacuum Pump

**Fieldpiece Instruments, Inc.** / BOOTH C5320

Fieldpiece entered the vacuum pump market with one goal: to provide the best possible solution. The new 10 CFM Vacuum Pump, VPX7 does just that. This latest innovation in the vacuum pump market cuts evacuation time so you can complete more jobs per day. It features four in-line ports as well as the RunQuick™ Oil Change System that makes oil changes a breeze on the fly.



10 CFM Vacuum Pump - VPX7  
Fieldpiece Instruments, Inc.

### Industrial Flow Control Valves

**Flo-Tite Valves and Controls Inc.** / BOOTH C6712

Flo-Tite and Max-Seal Valves used in the HVAC industry have newly enhanced design features which increase the performance and reliability of its products. Some of these features, such as triple stem packing and locking handles, come standard, while you will pay extra for these features with other valve companies.

### Air-Cooled Turbocor Chiller

**Geoclima USA, Inc.** / BOOTH N7535

The Circlemiser series is characterized by incomparable performance and high-efficiency levels, with an increase in EER up to + 15%, improving the already very high-efficiency of the standard Turbocor chiller. The technological innovation of Circlemiser is in the design and development of special cylindrical microchannel condensers, and the installation of cascade flooded evaporators.



Circlemiser  
Geoclima USA, Inc.

### Circulation Pump

**GRI Pumps** / BOOTH C6034

Equipped with an integrated brushless-DC motor (manufactured in-house), with voltage ranges of 12-24, 36 and 48 volts, these seal-less, magnetically driven centrifugal pumps offer a safe and efficient solution to moving fluid in high tech equipment. The INTG8's performance is controlled through a proprietary algorithmic code customized for each OEM customer. This



gives GRI the ability to customize pumps to meet an OEM's specific flow and pressure performance requirements. Control options include PWM and CAN-Bus.

Integrity Series INTG8  
Circulation Pump  
GRI Pumps

### Thermostat

**Hessaire Products, Inc** / BOOTH C6749

Hessaire's line voltage stat is the only evaporative cooler thermostat that offer's wifi and is compatible with all residential coolers. This product mounts to a single gang switch box for ease of installation and freatures a large digital display, background light and auto-dim, 115/230V compatible, 2-speed motor control, along with humidity sensing readout.



Evaporative Cooler Thermostat  
Hessaire Products, Inc

### Chemical Tool

**Highside Chemicals, Inc.** / BOOTH C4824



Leak Lock 2.0 Advanced. Designed to be the ultimate thread sealant for mini split system and for all flare fittings and compression fittings. Threaded connections coated with Leak Lock 2.0 will form a chemical hydraulic seal to prevent high pressure leaks. O-Rings, schraeder valves, ball valves, or other internal system components can be coated with Leak Lock 2.0 to create a permeant seal and will never contaminate a system as it is infinitely soluble in oil and is non-toxic.

Leak Lock 2.0 Advanced  
Highside Chemicals, Inc.

### AC Interface for BACnet Systems

**HMS Networks** / BOOTH C980

This product allows you to integrate AC units into BACnet systems. This can reduce the energy consumption of buildings while contributing to environment protection. You can control the main AC functions such as operating mode, fan speed, temperature setpoints and also monitor errors, alarms, and some internal variables.



BACnet Gateways for  
Air Conditioners  
HMS Networks

### Wall-Mounted Outlet for Ductless Mini Split

**Inaba Denko America** / BOOTH C6136

Inaba Denko's LineGate Cover System provides an aesthetically pleasing lineset entry point protection, while adding a sleek finishing touch to any HVAC project. This elegant solution hides and protects unsightly refrigeration pipes, especially on mini-split AC installations. Constructed from high-grade, weather-resistant, and UV-stabilized materials for



maximum protection. LineGate is available in ivory and silver colors to easily match your building's appearance. LineGate can be combined with the Slimduct SD Flexible Ell to make any installation look its very best.

LineGate  
Inaba Denko America

# COOLING

## Smart Wire Module

**iO HVAC Controls/Specified Controls** / BOOTH C1259

The UT-SWM Smart Wire Module is a 2 to 5 wire adapter which allows a contractor to add up to 5 additional outputs over a single pair of wires between two locations such as a thermostat and HVAC system. The UT-SWM supports both conventional and heat pump systems and is compatible with virtually all major thermostat brands. The UT-SWM consists of a compact sender module and relay receiver.



Universal Thermostat  
Smart Wire Module  
iO HVAC Controls/  
Specified Controls

## Portable Air Conditioner

**KOLDWAVE Div. of Mestek** / BOOTH C1320

Koldwave has added two new industrial portable air conditioners to their line. Unit capacities are 60,000btuh, 230-1-60 volts (5 ton) and a 144,000btuh (12 ton) with 2 voltage options, 230-3-60 and 460-3-60. As with all Koldwave equipment, units are easy to install for both temporary or spot cooling installations. Integral controls, high static blowers and camlock electrical connectors are just a few of the standard features. All products are ETL Certified and available for indoor and outdoor applications.



6HK60, 6HK144  
KOLDWAVE Div. of Mestek

## Ultra-High Efficient Rooftop Unit

**Lennox International Inc.** / BOOTH C3329

The ultra-high efficiency Model L packages rooftops with ratings up to 22.5 SEER, 23.3 IEER, and 15 EER feature gas/electric and electric/ electric units with nominal cooling capacities from 3-25 tons. The Model L variable-speed cooling platform provides best-in-class comfort and a lower operating cost. The Lennox® CORE Control System utilizes optional wireless sensors, a mobile service app, and a built-in wireless gateway to deliver the lowest cost of ownership in the industry.



Model L Ultra-High Efficient Rooftop Unit  
Lennox International Inc.

## Coil Guard

**Linea Screens by ModWerks** / BOOTH N7014

HardGard coil guards are all aluminum, corrosion resistant accessories, easy to field install onto almost any equipment. Primarily for VRF units (even mini-splits), HardGard can custom build guards for small commercial RTU's and CU's as well.

## Equipment Screen

**Linea Screens by ModWerks** / BOOTH N7014

Linea Screens by ModWerks are the most versatile equipment screens available. Linea's screens are specifically designed to fit your building and your equipment. Tons of paneling colors and patterns to choose from. Installation is included.

## Insulated Lineset

**Marmon Group Refrigeration** / BOOTH C6106

Cerro Black Shield copper linesets feature high-quality thermal insulation that is moisture-resistant and UV-resistant – with an added durable protective jacket. This tough outer coating can withstand damage often caused by challenging installations, and can also stand up to extreme heat, cold and sun/UV exposure. These linesets meet IECC code requirements for outdoor insulation, as well as code requirements for installation in plenums. Available in diameters from 1/4" to 1-1/8", with insulation wall thickness from 1/2" to 1".



Black Shield  
Insulated Lineset  
Marmon Group  
Refrigeration

## Coil Technology

**Marmon Group Refrigeration** / BOOTH C6106

We live in a world where we are expected to accomplish more with less. Coilmaster has dedicated its research and development resources to produce a coil technology that allows a smaller fan motor to achieve the same cooling capacity. With their new oval tube technology, Coilmaster is able to reduce the air-side pressure drop of coils in an innovative way, resulting in considerable savings for a myriad of establishments, from data centers and hospitals to universities and shopping malls.



Oval Tube Technology  
Marmon Group Refrigeration

## Coatings for Corrosion Protection

**Metal Processing International L.P.** / BOOTH N9219

Exciting news, Finkote2 is now NSF 51/61 certified. Food processing facilities, medical labs and chemical refineries are all areas where there is a requirement for NSF 61 approval. Water and wastewater markets need NSF 61 & 51 certified solutions as well. The Finkote brand continues to pursue & qualify the most advanced materials and application techniques available today.

## Server Rack A/C

**MovinCool / DENSO Products and Services Americas, Inc.** / BOOTH N10113

EdgeCool by DENSO transforms your server rack into a portable, energy-saving server room. The revolutionary, patented solution is the only split system designed for self-contained operation. The powerful evaporator and condenser units require no additional floor space and work with any new or existing server rack. Cool the rack, not the room, and get optimal cooling performance and energy savings. Designed with DENSO dependability, Edgecool delivers continuous year-round reliability for primary, supplemental, or backup cooling.



EdgeCool Server Rack A/C  
MovinCool / DENSO Products  
and Services Americas, Inc.

## The NEW Universal® A-Coil

**MRCOOL, LLC** / BOOTH N7113

Designed as a perfect match for Mr. Cool's Universal® Condenser, the Universal® A-Coil can be paired with an existing furnace or modular blower already in your home. Ready to upgrade? Make it a complete system



by pairing with the Signature Series Modular Blower or Signature Series 95% AFUE Gas Furnace for maximized efficiency. The installation can be quick and easy when you leverage the flexibility of the optional MRCOOL No-Vac® Quick Connect® line sets.

The NEW Universal® A-Coil  
MRCOOL, LLC

## Suction Heat Exchanger

**Onda USA LLC** / BOOTH C4744

The iX-Box is a liquid - suction vapor internal heat exchanger, that will boost a chiller performance in a range of 10 – 30 %, reduce refrigerant volumes, and improve dry expansion evaporator technology making it competitive to other technologies such as flooded evaporators. The iX-Box achieves greater evaporator and condenser performance, reduces the approach temperatures of the fluids, resulting in an impressive impact on seasonal chiller efficiency (ESEER).

iX-Box  
Onda USA LLC



## Intelligent Fan Coil

**POLAR GLOBAL ASIA HVAC SYSTEMS** / BOOTH N10326

The HVAC industry has acknowledged the problem of low Delta T for a long time. Polar Air Intelligent Fan Coils are a new fan coil generation conceived as an individual intelligent point of control, designed to manage airflow and water flow parameters to ensure optimum unit performance and maximize comfort needs. Polar's control manages the Delta-T through autodynamic balancing systems, improving the overall system efficiency while reducing installation costs.

## Evaporative Media

**Portacool** / BOOTH N7135

Kuul Control PowerTech™ is a unique evaporative cooling technology that is intended for use in direct and indirect cooling systems where space and energy consumption are the driving factors for design. This compact evaporative media is for gas turbine, HVAC, and data center industries. Kuul Control PowerTech™ delivers higher cooling performance with a smaller footprint thanks to a technological design that reduces pressure drop, thereby lowering energy consumption via less material composition that reduces environmental impact.

## Centrifugal Separators

**Puroflux Corporation** / BOOTH N8626

The Puroflux PF-64 separator is designed specifically to remove dirt, sand, silt, precipitates, and suspended solids from process fluids. The PF-64 package is user-friendly with low-maintenance and will remove unwanted contaminants resulting in better system efficiency and decreased operating costs.



PF-64 Series  
Hydrocyclone  
Separator  
Puroflux Corporation

## Modulating Capacity Control Device

**Rawal Devices, Inc.** / BOOTH C1041

The APR Control is an external compressor unloading device, providing continuous capacity modulation for any standard DX system. It solves many issues that come with commonly oversized systems. The APR Control makes any standard A/C DX unit a variable-capacity system, extending its cycle of operation and continuously matching system capacity to the ever-changing load and space requirements. Overall, the APR creates optimized, energy-efficient A/C systems with the benefit of greater system and compressor reliability.



APR Control  
Rawal Devices, Inc.

# COOLING

## Compressor Drive

**Regal® / BOOTH C3113**

Genteq® Fronteer™ compressor drive is an innovative variable speed solution that controls the compressor and outdoor fan operation to achieve at least 2+ SEER improvements over a standard system. Fronteer™ Drive enables customers to comply with the U.S. DOE's SEER 2023 regulations by using a cost-effective single-stage PSC compressor and vary its speed. Homeowners will experience enhanced Comfort with Fronteer™ Drive's softer start, reduced cycling, and load matching resulting in tighter temperature and humidity control.

## Customizable Line of Packaged HVAC Systems

**Rheem Manufacturing Company / BOOTH C2511**

The Renaissance™ 15 to 25 ton cabinet is a new, compact, cost-effective design with a convertible footprint that directly replaces other manufacturer's units. Renaissance includes convertible airflow capabilities, making it suitable for both horizontal and downflow applications. This cabinet incorporates a patent-pending cooling system and the patented Velocifin™ Heat Exchanger that results in higher part-load efficiency and performance and PlusOne® ServiceSmart™ features like hinged access panels, Qwik-Clean Drain Pan, and Qwik Slide Blower Assembly.



**Commercial Renaissance™ HVAC Packaged System (15 to 25 tons)**  
Rheem Manufacturing Company

## Indirect-Direct Evaporative Cooler

**Seeley International Americas / BOOTH N11514**

The CW3 offers hyper-efficient indirect-direct evaporative cooling with a cutting-edge Micro-Core™ heat exchanger. CW3's cooling performance increases when the heat load is low. As the fan decelerates, it provides an increased EER up to 68 with input power of 300W, improving IAQ while supplying 100% fresh, outdoor air. CW3 utilizes water and electricity to operate, its cost-saving capabilities increase as temperatures rise. In contrast to refrigerated ACs, where cooling and efficiency decrease as ambient temperatures soar.



**Climate Wizard™ CW3 Indirect-Direct Evaporative Cooler**  
Seeley International Americas

## Air-to-Water Heat Pump

**Spacepak - A Mestek Co. / BOOTH C1320**

SpacePak's Solstice Split System Inverter Air-to-Water Heat Pumps (SIS) incorporates ultra-high efficient inverter technology. SIS heat pumps use EVI inverter compressors for optimum performance at temperatures down to -20°F. Its split-type construction provides installers with the flexibility to eliminate the use of glycol in the hydronic loop and the convenience of simple piping similar to typical residential wall-hung boilers. SIS units seamlessly adjust output for specific load matching through modulation while maintaining precision temperature control.



**Solstice SIS Inverter Split System**  
Spacepak - A Mestek Co.

## Cooling Tower Basin Filter

**SPX Cooling Technologies / Marley / BOOTH C1510**

The Marley® BasinGard™ Filter is a patent-pending filtration system to factory-assembled crossflow cooling towers with or without nozzle cups. The patent-pending filter contains antimicrobial properties and is held in place by a 304 stainless steel grid. By capturing mineral scale, pipe rust, fibers and other debris in the hot water basin, the BasinGard Filter extends equipment life by preventing debris from reaching other components downstream – including cooling tower fill, pump impellers and heat exchangers.



**Marley BasinGard Filter**  
SPX Cooling Technologies / Marley

## Concealed Wall Mount Air Handler

**Summit Residential Coils / BOOTH C2543**



Designed for use up to 3 tons of cooling. The AHW wall unit is heat pump ready with optional electric heat available up to 10KW. Optional hot water heating is also available. Available in 208/230/1/60 or 115/1/60.

**AHW Series Wall Mount Air Handler**  
Summit Residential Coils

## Air Flow Test Bench

**Tescor, a Link Group Company / BOOTH C6806**

Tescor's custom-built test benches provide precision measurement of fan performance and air side enthalpy in heat exchangers. With the ability to provide solutions ranging from small and basic to large and complex, Tescor's air flow test stands can be built to your specifications and are available with fully automatic data acquisition and control systems. Applicable across numerous industries, they provide excellent airflow measurement and testing capabilities. Only Tescor can offer the best solutions available.



**Tescor Custom-Built Test Bench for Precision Air Flow Measurements**  
Tescor, a Link Group Company

## Water Source Heat Pump

**The Whalen Company / BOOTH C2937**

This product utilizes a compact cabinet, making this heat pump system the perfect solution for commercial retrofit or new construction applications. Hot Gas Reheat is used for humidity control and for occupant comfort. When zone cooling loads are low and the space humidity is high, conventional systems often over-cool the occupied space in an attempt to remove excess humidity. By redirecting exhaust heat from the compressor to the reheat coil, the system can operate to remove unwanted moisture.



**Closetline® Packaged Water Source Heat Pump - Hot Gas Reheat**  
The Whalen Company

## Closed Circuit Cooling Tower

**Tower Tech / BOOTH C4121**

Tower Tech, a leading manufacturer of engineered value solutions for the heat transfer industry, announces a new closed circuit cooling tower.



The new model will feature the same industry-leading benefits as the current line of open-circuit fiberglass cooling towers, making them the most sustainably efficient cooling towers available. The new model will be available in various sizes as a dry cooler, evaporative condenser, and hybrid cooling tower to meet most thermal capacity requirements.

**Closed Circuit Cooling Tower**  
Tower Tech

## Vibration Dampers

**VECAMCO US Corp / BOOTH C3749**

Vibration damper with lower and upper support in reinforced thermoplastic material; deformable relief surfaces for correct positioning, central spring in harmonic steel with silicon and carbon with protective cataphoresis treatment. The vibration dampers are produced with different sizes of the spring section corresponding to different hardnesses (shore) in order to cover the widest range of applications. It is resistant to weathering, UV rays, and temperatures from -50°C to +120°C.



**Susta**  
VECAMCO US Corp

## Pressure Differential Monitor

**Westermeyer Industries Inc. / BOOTHS C2210, C2311**

When the filter element of a coalescing oil separator is contaminated, it negatively affects performance of the oil separator and of the entire system. The RDP-01 Differential Pressure Monitor is used to visually and electronically monitor when the filter is contaminated and needs replacing. Features include an LED readout, analog output for remote monitoring, and heavy-duty pressure transducers matched and calibrated to the device using a patent-pending process.

## Thermostat

**Xiamen Meihuashun Imp. & Exp. Co., Ltd. / BOOTH N7510**

Xiamen Meihuashun Imp. & Exp. Co., Ltd. introduces its 2H/2C auto changeover thermostat for high-efficiency, multiple-stage and/or commercial multiple compressor systems.

## Portable Evaporative Cooler

**Ya Suh Dar Co., Ltd. / BOOTH C6526**

Ya Suh Dar Co., Ltd, a fan manufacturer based in Taiwan, aims to supply power-saving fans and motors with high quality and outstanding performance. Ya Suh Dar's portable industrial evaporative coolers have a new additional feature: the UVC light.



**M703-COOL-UV Water Cooling Fan**  
Ya Suh Dar Co., Ltd.

# REFRIGERATION

## Working Fluids

**Climalife Galco** / BOOTH C4337



Greenway® Neo N, a renewable plant-based coolant formulated to protect against freezing and the formation of deposits in the system, is registered in the HT1 category on the official NSF list and can be used as a heat transfer medium in circuits presenting a risk of accidental contact with food.

**Greenway® Neo N**  
Climalife Galco

## Semi-Hermetic CO2 Compressor

**DORIN USA** / BOOTH C1736

A new compressor platform packed with automotive engineering solutions: many design principles used in passenger vehicle combustion engines have been implemented in order to cope with the very challenging operating conditions imposed by CO2 industrial refrigeration systems. Six cylinders, 110 hp and 4200 cfm displacement, with the greatest powers currently available on the global market and the highest levels of efficiency and reliability. UL and cUL listed.



**CD6 901-99 B**  
DORIN USA

## Scroll Compressor

**Emerson** / BOOTH C3106

The Copeland™ horizontal variable speed scroll compressor answers the call for more sustainable compression technology within the commercial refrigeration sector. For manufacturers of self-contained, reach-in coolers and freezers, display cases and walk-in coolers, this low-profile, variable speed solution delivers an ideal combination of energy efficiency, low global warming potential (GWP) refrigerant options, reliability and design flexibility.



**Copeland™ Horizontal Variable Speed Scroll Compressor for Refrigeration (1 to 4 HP)**  
Emerson

## Energy Recovery Device

**Energy Recovery, Inc.** / BOOTH C6810

Energy Recovery's new PX G1300 energy recovery device makes the transition to CO2 refrigeration an easy choice. The PX G can reduce the energy consumption and operating costs of CO2 systems, making the switch to CO2 refrigeration systems financially attractive by recycling otherwise wasted pressure energy and returning it to the CO2 system. The PX G1300 helps future-proof refrigeration operations accelerating sustainable and affordable refrigeration.



**PX G1300**  
Energy Recovery, Inc.

## Electronic Expansion Valve

**Full Gauge Controls, Ltd.** / BOOTH C5343

An integrated instrument that offers a complete configurable solution for controlling various models of EEV, in addition to superheating, room temperature, defrost, pressure, ventilation, lighting and alarms control.



In other words, it replaces the thermostat in the installation. It has a serial communication for connection to Sitrad Pro, the remote management system. Due to its innovation, international patent (PCT) was required this year.

**VX-1025E plus (EEV)**  
Full Gauge Controls, Ltd.

## All Aluminum Heat Exchanger Coil

**Indus International FZC** / BOOTH N10335

Indus International's 5mm, 1/4" (6.35mm) & 7mm all Aluminum Tube-Fin Coils & Copper Tube-Fin Coils with compact geometry are applicable for low-GWP refrigerants such as R290, R32, R449A, R1234ze, and R1234yf. Using enhanced fins for improved efficiency and low-refrigerant charge with corrosion resistant coating (i-Coat), it is ideal for use in severe environment conditions.



**Coils for Low GWP Refrigerants**  
Indus International FZC

## Quiet, Compact Refrigeration Duty Condensing Unit

**KeepRite Refrigeration / National Refrigeration and Air Conditioning Canada Corp.** / BOOTH C4734

KeepRite Refrigeration has recently upgraded their award-winning Quiet Condensing Unit. The KQ2 is a new and improved unit which is still quiet, compact and efficient, but now offers enhanced communication and control. Designed with two-way communication capabilities in mind, and an upgraded electronic system, the KQ2 is stronger, quieter, and smarter than ever before. This outdoor condensing unit is perfect for restaurants



and refrigeration professionals looking for an energy efficient, quiet unit in a compact package.

**KQ2 - Quiet Refrigeration Duty Condensing Unit**  
KeepRite Refrigeration / National Refrigeration and Air Conditioning Canada Corp.

## Capacitor Motor Start

**LM Caps** / BOOTH N9307

The enhanced E.xxx series of LM Caps motor start capacitors is newly designed to answer more industrial applications at extreme temperatures. It is a completely new design and the most recent internal components.

## HVAC/R Press Fittings

**M&M Manufacturing Company** / BOOTH C6106

Rapid Locking System's XL line offers an industry exclusive size range for refrigerant press fittings. The XL annealed soft copper fittings come in sizes 1-5/8" and 2-1/8". This enlarged size offering will allow press to be used in industrial and commercial refrigeration spaces. Contractors and engineers will be able to work more efficiently, quickly, and safely in environments such as grocery stores, data centers, and office buildings without the use of fire hazards.

## Variant Refrigerant Flow Expansion Joint

**Metraflex Co.** / BOOTH C2017

Introducing the new Variable Refrigerant Flow (VRF) Metraloop. The VRF Metraloop, rated for 700 psi @ 300° F, has been specifically designed by Metraflex to handle the demanding conditions of a VRF system. The VRF Metraloop can be used for other applications, however, there are other Metraloops that may be better suited. The VRF Loop consists of two parallel sections of corrugated stainless-steel hose and braid, with stainless steel elbows with the Metraflex Exclusive Copper to Stainless Steel Conversion Fitting.



**VRF Metraloop**  
Metraflex Co.

## Freon Pump

**MTH Pumps** / BOOTH C2941

The new HP41 Series hermetically sealed, regenerative turbine pump from MTH Pumps is designed to pump freons and other non-conductive, non-corrosive fluids to capacities of 45 GPM at as high as 450 feet of head.



**HP41 Hermetically Sealed Regenerative Turbine Freon Pump**  
MTH Pumps

## A2L Refrigerant Leak Sensor

**N.e.t. Srl** / BOOTH C1350

The new low-cost, high-performance NDIR sensor from NET adds new A2L gases to its detection range. Now available in LFL range: 0 - 14.4%vol R32, 0-6.3%vol R454A, 0-7.7%vol R454B, 0-6.2%vol R454C, 0-6.2%vol 1234YF and 0-6.5%vol 1234ZE. Also now available in ppm (0-5000ppm and 0-10000ppm) range: R32, R134a, R410a, R1234yf, R1234ze, R407c and R404a.



**IREF LITE**  
N.e.t. Srl

## PressACR Copper Press Fittings

**NIBCO INC.** / BOOTH C2139

PressACR brings press joinery technology to air conditioning and refrigeration systems and features a patent pending interior groove design on the copper press fitting and a unique crimp design that supports the high pressure requirements of 700 PSI for air conditioning and refrigeration systems. It also utilizes a gray HNBR seal that has a unique formulation that is approved for use with refrigerants and lubricants used in ACR systems. PressACR is UL 207 recognized to 700 PSI.



**NIBCO PressACR Copper Press Fittings**  
NIBCO INC.

## Copper Tube

**Nungwon Metal Ind. Co., Ltd.** / BOOTH C2210, C2311

Applicable in various industries including Plumbing, Oil & Gas, HVAC and Sanitation with capacity of the most various sizes in the world up to 12"ID (307mm) in compliance with international standards such as ASME/ ASTM (Worldwide, especially America), BS EN (Europe), JIS (Japan), AS (Australia) certified by ISO 9001/14001, NSF, UPC, UL, CSA, Warnock Hersey, ROHS, KITE, DVGW, and Watermark.



**LWC, Soft Coils, IGT, Straight Tube**  
Nungwon Metal Ind. Co., Ltd.

## Three Phase Digital Phase Monitor with ModbusRTU

**R-K Electronics, Inc.** / BOOTH C6710



The DPM-MRTU is an all digital phase monitor that displays the actual line voltages and can communicate all of the line voltage information via ModbusRTU to controllers and building automation systems. The DPM-MRTU also has built-in contacts to disconnect equipment directly. DPM-MRTU - Digital Phase Monitor with ModbusRTU.

**DPM-24A-MRTU Phase Monitor with ModbusRTU**  
R-K Electronics, Inc.

## REFRIGERATION

### Electronic Expansion Valves and Pressure Transducers

**Saginomiya America, Inc.** / BOOTH C6321

Saginomiya introduces a new smaller version of its popular UKV EXV series and 0 to 4.5VDC output pressure transducers. As demand for inverter compressor systems continues to rise in the US, Saginomiya's EXVs and pressure transducers remain reliable sources in terms of quality and delivery.

### PROMAX - S

**SCHENCK - AGRAMKOW** / BOOTH C6310

Evacuation and Charging Station for hazardous refrigerants, incorporating the groundbreaking "No-Zone" concept. Developed to significantly reduce the total cost of your charging setup, with minimal requirements for changes in your existing production layout such as expensive ventilation setups, knee wall, or other safety installations. Achieving reduced energy consumption in your charging area by up to 90%!

**PROMAX - S**  
*SCHENCK - AGRAMKOW*



### Water-Cooled Condenser

**Standard Refrigeration - a Subsidiary of Multistack** / BOOTH N9613

Standard Refrigeration's CRF Condenser is a high-efficiency shell and tube condenser for freshwater, river water, and sea-water applications. Utilizing the most current enhanced heat transfer tubing, these condensers offer the most compact heat rejection capacity capabilities in an accessible/cleanable construction. Dual circuit option exists (2 condensing circuits in one vessel). These condensers are customizable and can be configured to specific design/installation needs. Connection sizes, connection locations, mounting options, and lifting accessories may be specified on a per job basis.



**Standard Refrigeration CRF Condenser**  
*Standard Refrigeration - a Subsidiary of Multistack*

### Refrigerant

**T.T. International Co., Ltd.** / BOOTH C2022

Ac Flush is designed to replace HCFC-141b, and is also developed for precision cleaning. It is a near azeotropic, non-flammable and environmentally-compatible solvent. It has advantages such as fast drying with non-residue, low temperature and excellent toxicity characteristics, etc.

### Reciprocating Compressor

**Tecumseh Products Company LLC** / BOOTHS C2210, C2311

The AL Series compressor for R-290 is next in Tecumseh Products Company's long line of legendary compressors. It's up to 15% more energy efficient and is packed in a footprint that is roughly 5% shorter in height compared to competitive products. AL Series models provide up to 20cc displacements and are designed specifically for L/MBP applications in light commercial refrigeration. The expanded L/MBP operating range allows standardized use across display cases, reach-in coolers and ice machines applications.



**AL Series Compressor**  
*Tecumseh Products Company LLC*

### Oil Level Regulator

**Teklab S.r.l.** / BOOTH N10722

TK4 is designed to control the oil level in compressor crankcase, to avoid the compressor running without oil, therefore improving the lifetime of the system. A plug & play product, the TK4 integrates a wireless communication interface to allow the user to collect and customize various information about functioning conditions of the system (n° of alarms, working time, oil filling conditions). TK4 is also available with MODBUS Connection.



**TK4 Oil Level Regulator**  
*Teklab S.r.l.*



## VENTILATION

### Access Door

**A.J. Manufacturing Inc.** / BOOTH N10119



The SST door is a 100% stainless steel door assembly, designed and required for many corrosive and demanding environments. Available in 304 or 316 stainless steel, and in 1" or 1.7" thickness. Featuring welded miter corners, EPDM gasket, Cakepan design with overlapping steel sheets that bond with the polyurethane foam insulation for a seamless, rigid panel.

**100% SST Access Door**  
*A.J. Manufacturing Inc.*

### Constant Airflow Regulator

**Aldes** / BOOTH C2734

CAR3® offers industry-leading adjustability and range in addition to continued excellence in performance and design. Dual-side airflow adjustment dial and CFM indicator allows you to set or change the airflow quickly, in supply or exhaust applications, without removing the CAR3 from the duct. Each CAR3 is made in the U.S. using a proprietary blend of amorphous thermoplastic resin treated with antimicrobial, anti-static, and flame-retardant materials to provide reliability and industry leading seven-year warranty.

**CAR3® - Next Generation in Precise Airflow**  
*Aldes*



### Fan Filter for Control Panel & Electrical Enclosure

**Ariel Technology Inc.** / BOOTH C6717

The FTEC-32G, a 12" Fan Filter with a powerful airflow of 625 CFM and exhaust filter, is designed to supply forced convection filtered air for enclosures and electrical panels. Using the unique filtering and cooling features, FTEC will cool down the inside of enclosures to a desired temperature, protecting the electrical and electronic parts against heat.



**12" Fan Filter**  
*Ariel Technology Inc.*

### Marine Fire Damper

**BETEC CAD Industries FZC.** / BOOTH N7313

BETEC CAD Marine Fire Dampers are designed to provide high-level fire integrity. The Fire damper holds AO-A60 Type Approval Certification for fire conditions. US Coast Guard (USCG), ATEX approval and Marine Equipment Directive (MED) certifications are under the process of approval. Suitable for a range of use cases including in-duct, bulkhead, and deck installations and can be operated with electric or pneumatic actuators. These marine fire dampers can be used in both safe and hazardous areas and are fully customizable based on the requirement.

**BETEC CAD Marine Fire Damper**  
*BETEC CAD Industries FZC.*



### Energy Recovery Plate

**Airxchange, Inc.** / BOOTH C3731

Airxchange's Energy Recovery Plate (ERP) provides air-to-air energy recovery at the highest level and is now available with washable media, making it the perfect solution for small and medium air volumes in residential, institutional, industrial or commercial applications.



**Airxchange Washable Acadia Plate Series**  
*Airxchange, Inc.*

### Control Panel Climate Control Solutions

**Ariel Technology Inc.** / BOOTH C6717

Control panel thermostats, hygrostat, exhaust filters, fan filters, thermoelectric cooling units, heaters, axial fans, and all related accessories.



**Climate Control Solution**  
*Ariel Technology Inc.*

### Lint Trap

**Atmosphere Inc.** / BOOTH C6006

The LTE4 is equipped with a 4-inch sliding window allowing energy savings from the recovery of clean, heated and humid air during the cold season. The LTE4 is also fast and easy to install and is supplied with a nice finishing frame. The galvanized steel box is powder coated with 4-inch adapters.



**LTE4**  
*Atmosphere Inc.*

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# VENTILATION

## Automated Fresh Air System

**Broan-NuTone** / BOOTH C3740

Overture™, the first fully-automated fresh air system, uses sophisticated sensor technology to monitor your home's indoor air quality. When it detects a rise in indoor air pollution caused by increased humidity, VOCs, smoke, carbon dioxide and small particles (PM2.5), the system will automatically turn on the nearest ventilation fan to eliminate the pollutant



while simultaneously bringing in fresh, clean air from outside. The whole system is easily set up and controlled from an app.

**Overture**  
*Broan-NuTone*

## HVLS Fan

**Continental Fan Manufacturing Inc.** / BOOTH N7701

Continental Fan's New Comfort Max Fans are designed to redistribute heated or cooled air to floor level. These high volume, low speed fans eliminate temperature layers in the ceiling space and create a more comfortable environment inside a building. When a Comfort Max Fan is integrated with an HVAC system, the net result is energy savings and CO2 emission reduction.

**Comfort Max HVLS Fan**

*Continental Fan Manufacturing Inc.*



## Slot Linear Diffuser

**Dayus Register & Grille Inc.** / BOOTH C4746

The Dayus Slot Linear (DASL) uses aerodynamic ice-tong controllers made from extruded aluminum for quieter, superior performance, while maintaining an attractive appearance. The DASL is available in custom sizes up to 1/16" and longer continuous sections compared to competitors (up to 84"). The quality aluminum material provides corrosion resistance and a sturdy, lasting construction. With a simplified ordering process, the DASL is available on Dayus Register & Grille's 3-Day lead time.



**DASL Slot Linear**

*Dayus Register & Grille Inc.*

## Dryer Venting Product

**Dundas Jafine, Inc.** / BOOTH C2015



Provides a heavy duty solution to laundry room space issues. This product allows the dryer to be pushed up against the wall of the laundry room, saving valuable inches of space. It also completely protects the duct from being crushed and lint build-up is minimized due to the limited kinks and duct bends. The Metal Recessed Dryer Vent Box is made of steel and can be used in both 2" x 6" as well as 2" x 4" in-wall applications.

**Metal Recessed Dryer Vent Box**  
*Dundas Jafine, Inc.*

## Fabric Air Dispersion System

**Durkee America Inc. (NanoSox fabric ducts)** / BOOTH N7530

DurkeeSox fabric air duct system is a revolutionary end air dispersion system. It replaces traditional ductwork, insulation, diffusers, dampers, with more even airflow, better energy efficiency, lower cost, easier installation and maintenance. DurkeeSox provides the best value among the top quality product offerings, with the best product warranty in the industry.



**NanoSox Fabric Air Dispersion System**  
*Durkee America Inc. (NanoSox fabric ducts)*

## AD/DC External Rotor Fans, Bus Evaporative Fans, Pumps, etc.

**Fans-Tech Electric Co., Ltd.** / BOOTH C6331



High efficiency, energy saving fans application in ventilation, air conditioner, cold chain, IT communication, vehicles and vessels, etc.

**Centrifugal Blower Backward Curved**  
*Fans-Tech Electric Co., Ltd.*

## Fire Resisting Ductwork

**Firesafe Fire Rated Ductwork Limited** / BOOTH N10706

CASWELL FIRESAFE® is an international brand of fire resisting ductwork tested to meet British, European & International Standards. Fire rated up to 4 hours for Stability, Integrity & Insulation, this non-coated product offers proven passive fire protection solutions for Smoke Control, Pressurisation and general Ventilation systems. Firesafe – Queen's Award for Enterprise in International Trade winners and Member of the International Code Council (ICC) – licenses the manufacture and certification of CASWELL FIRESAFE® to Partners worldwide.



**CASWELL FIRESAFE®**  
*Firesafe Fire Rated Ductwork Limited*

## Constant Flow Regulator

**Goveco** / BOOTH N10442

The flow regulator RDR is an element placed inside the duct in order to obtain a constant flow within a pressure range from 150 to 600 Pascals. It is used in air conditioning or ventilation systems either in extraction or blowing mode.

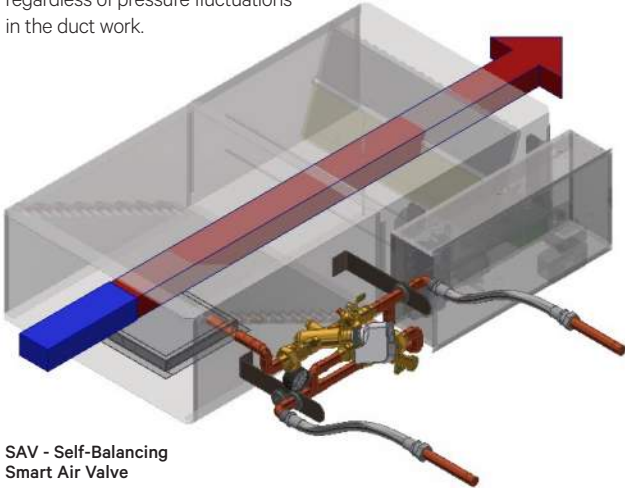


**RDR HP - Constant Flow Regulator**  
*Goveco*

## Self-Balancing Smart Air Terminal

**HVAC Manufacturing and Technology Inc.** / BOOTH C1688

Patented self-balancing SAV-Smart Air Valve obsoletes air terminal devices in the commercial and life sciences markets. The SAV is the most economical way to measure and control low air flows over a wide range. A single size unit replaces multiple size air valves. The technology features up to 300-1 turndowns with a ±3% airflow accuracy and self-balances regardless of pressure fluctuations in the duct work.



**SAV - Self-Balancing Smart Air Valve**  
*HVAC Manufacturing and Technology Inc.*

## Air Destratification & Mixer Fan

**IMPRESIND SRL** / BOOTH N11612

IMPRESIND (N 11612) presents the new ELITURBO I-TRONIC air destratification and mixer fan. Thanks to its special impeller (patented), ELITURBO I-TRONIC draws in the air from the upper part of the building and mixes with that drawn in from below to then distribute it radially at 360° without annoying drafts, making uniform the indoor microclimate and reducing the costs for heating.

**ELITURBO I-TRONIC Destratification & Mixer Fan**  
*IMPRESIND SRL*



## Airflow Measurement System

**KMC Controls, Inc.** / BOOTH C1444

The KMC Conquest Airflow Measurement System was developed to address irregular, deficient, or wrong outdoor airflow measurements. The KMC Conquest AFMS puts the current leading solution accuracy to shame. It's reliable in inclement weather, consistently produces more accurate, reliable numbers and is thousands of dollars cheaper than its competitors.

## Mechanical Identification Products

**Kolbi Pipe Marker Co.** / BOOTH C6115

Kolbi's New Plenum Rated Pipe and Duct Markers are constructed of 2 mil aluminum foil and adhesive backing designed to stick to ducts and pipes within the plenum. Kolbi has launched this new product due to the increasing instances of engineers specifying labels installed in the plenum to comply with ASTM E 84 and NFPA 101 "Life Safety Code for Class A materials."

## Ceiling/ Wall Fan

**Ortech Industries Inc.** / BOOTH C6017

The new Ortech ECM motor continuous multispeed super slim fan is capable of both wall and ceiling mounting. Ortech's new ECM technology allows for efficient comfort and ventilation even at high static pressures. A humidity controlled version is also available. Optional accessories include: fire damper, LED gill, metal grille, and a Bluetooth speaker grille (coming soon).



**ODDSS-100-3 Super Slim ECM Fan**  
*Ortech Industries Inc.*

## Dedicated Outdoor Air System

**Oxygen8 Solutions, Inc.** / BOOTH C6927

Ventum, Oxygen8's new high-efficiency indoor DOAS with counter-flow heat exchanger features intelligent controls with CO2 sensors allowing for demand controlled ventilation, integrated bypass for free-cooling, variable speed ECM fans, and MERV13 filtration. With an airflow range of 400 - 3000 cfm, coupled accessories, and Daikin VRV integration, Ventum's low-profile design makes it the perfect solution for both retrofit and new construction projects.

## Dedicated Outdoor Air Systems

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**Ventum, High-Efficiency Counter-flow Core DOAS**  
*Oxygen8 Solutions, Inc.*



# VENTILATION

## Energy Recovery Ventilator

**Panasonic Life Solutions Company of America /**  
**BOOTH C1733**

Intelli-Balance 200 with BOOST is a powerful, high-performance, high-efficiency, Energy Recovery Ventilator (ERV) designed to meet ASHRAE 62.2 requirements. This unique and cost-effective ERV was engineered for total versatility and installation flexibility, in any climate zone. Built-in controls minimize the time it takes to determine desired airflow, as well as verify and maintain performance. Intelli-Balance™ 200 allows you to simply design and specify your ventilation system requirements, improving IAQ and reducing ventilation costs.



**Intelli-Balance™ 200**  
*Panasonic Life Solutions  
Company of America*

## Ventilation Using Energy Recovery Technology

**RenewAire LLC / BOOTH C1132**

One principal mode of SARS-COV2 exposure is inhalation of fine droplets and aerosols carrying virus. Improper ventilation results in pathogen buildup, while increased ventilation dilutes them continuously. Upgrade your ventilation strategy with RenewAire energy recovery ventilation (ERV). RenewAire's ERVs increase ventilation while reducing ventilation energy costs by reusing otherwise-wasted energy to temper the incoming outdoor air. Available in many sizes/configurations RewnewAire's offering includes

EC Fans, boost-mode for on-demand increased ventilation and controls (CO2, IAQ and PM2.5).



**HE Series Energy  
Recovery Ventilator**  
*RenewAire LLC*

## HVAC Evaporator Fans

**Rosenberg USA, Inc. / BOOTH C4128**

Rosenberg's new backward curved fans with Gen 3+ EC motors give you more HVAC power and design flexibility. The 560-mm models create 6000 CFM @ 6" of pressure and 8000 CFM @ 4". The 500-mm models deliver 8011 CFM @ 4" at 460V or 6004 CFM @ 4" at 230V. While previous EC motors were designed for either 200-230 or 380-480-VAC input, this new motor automatically adjusts to the actual input power.



**Rosenberg Gen 3+  
Backward Curved Fans**  
*Rosenberg USA, Inc.*

## Dryer Exhaust Duct Power Ventilator

**Soler & Palau Ventilation Group, North America /**  
**BOOTH C1132**

The PV-DEDPV is a cULus 705 listed Dryer Exhaust Duct Power Ventilator. It effectively helps multi-family/residential clothes dryers overcome the high-static pressure caused by long duct runs between the dryer and wall or roof cap. This inline fan will increase safety and will allow architects/designers to locate the laundry room interior to the dwelling (instead of limiting them to only exterior walls) and still meet the International Mechanical Code (IMC).



**PV-DEDPV Dryer Exhaust  
Duct Power Ventilator**  
*Soler & Palau Ventilation  
Group, North America*

## Sheet Metal HVAC Fitting

**Stamped Fittings, Inc. / BOOTH C1010**

Die-stamped elbow for spiral pipe HVAC.



**Flangeless Elbow**  
*Stamped Fittings, Inc.*

## Pre-Insulated Duct for Air Transport

**Stiferite SpA / BOOTH C5945**

From STIFERITE's experience comes ISOCANALE, the system for cold and hot air transport in indoor and outdoor environments for residential, commercial, industrial and medical purposes. The panels, core of the system, are made of polyiso foam coated with aluminium. Accessories and tools which simplify the installation, complete the system. PIR panels are UNI EN 14308 certified and comply with the international directives LCA and EPD.

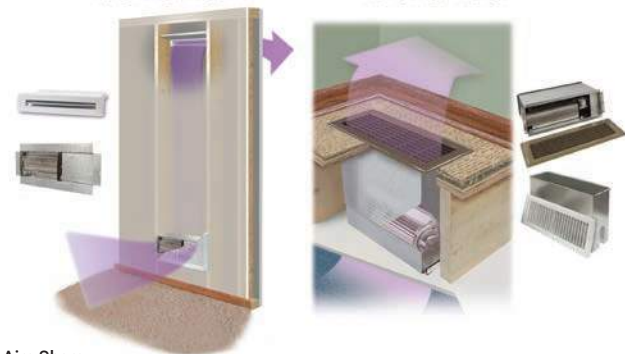


**ISOCANALE**  
*Stiferite SpA*

## Room to Room Fan

**Tjernlund Products, Inc. / BOOTH C5706**

The AS1 ventilators provide homeowners with an unobtrusive, cost-effective way to circulate heated or cooled air from fireplaces, stoves, electric baseboards, split system "ductless" A/C and window A/C units to uncomfortable rooms. The net result is extended comfortable living space from existing heating or cooling equipment. Established in 1938, Tjernlund is a leading manufacturer of problem-solving products for residential, commercial and industrial ventilation applications.



**Aire Share**  
*Tjernlund Products, Inc.*

## Chemical Fume Hood

**Triatek / BOOTH C1336**

The FlowSafe Stable Vortex™ II is different from conventional fume hoods. It controls the airflow pattern within the hood instead of the air velocity speed entering the sash opening. This patented technique provides a more stable level of containment, resulting in a safer, quieter fume hood. A byproduct of the design is that it requires significantly less energy to properly contain, resulting in significant energy savings.



**FlowSafe Stable  
Vortex™ II Fume Hood**  
*Triatek*

## Rooftop Ventilator

**Ventland Co. / BOOTH N9136**

Ventland's Ventilator is a better replacement for a turbine rooftop ventilator. Its stacks of cones create a negative pressure by the Venturi Effect, which causes air current to flow out of the chimney. No longer will you have issues with a frail ventilator body, bearing problems, or rain/snow indoor infiltration.



**Ventilator**  
*Ventland Co.*

## Air Handling Unit

**ZIEHL-ABEGG, Inc. / BOOTH C1525**

Bionic, free-running impeller, with optimized design and diffusor effect, made of the high-performance composite material ZAmid for new standards in performance. The GR module is ideal for compact installation. Adapted for intelligent ECblue motor technology for maximum system efficiency in applications such as wind energy, AC/AHU, data centers, ships, containers, device cooling technology, etc. Volume flow rates of up to 19,000 m3/h free blowing, maximum static pressure increase of up to 1,800 Pa possible.



**ZAbbluefin GR module  
with ECblue**  
*ZIEHL-ABEGG, Inc.*



## PLUMBING

### Gas Condensing Water Heater

**AERCO, a Watts Brand** / BOOTH N9926

PVI Conquest is a condensing, semi-instantaneous, fire-tube water heater constructed from AquaPLEX® duplex stainless steel. It's corrosion-resistant in potable water at any temperature – no linings or anodes required. Conquest is 96%-efficient, less than 20 ppm NOx and is available in 399, 500, 600, 700, 800, 900, 1000 MBH with 100 and 130 gallon storage tanks. Conquest provides 3-5 times the typical industry warranty featuring a 15-year tank and heat exchanger warranty.



**PVI Conquest**  
*AERCO, a Watts Brand*

### Domestic Hot Water Wellness Solution

**AERCO, a Watts Brand** / BOOTH N9926

Lync's Element Q provides safe and reliable domestic hot water, energy and water efficiency, improved water quality and more in an ultra-compact, fully designed water wellness solution. Element Q sustainably mitigates waterborne pathogens, such as Legionella, as well as provides real-time data reporting across devices. Element Q fits through a standard doorway decreasing a mechanical room footprint by up to 75%. It simplifies installation, operation and maintenance, and reduces installation time by up to 65%.



**Lync Element Q**  
*AERCO, a Watts Brand*

### Tankless Indirect Water Heater

**AERCO, a Watts Brand** / BOOTH N9926

With an ultracompact 24" x 32" footprint, vertical piping connections and capacities up to 4500 MBH and 300 PSIG, AERCO's SmartPlate EV indirect water heaters offer greater design flexibility for standard and high-pressure systems. Easy to install and service, SmartPlate EV can utilize boiler water as little as 5°F above the required potable water temperature to minimize radiation losses and maximize boiler efficiency. SmartPlate EV easily integrates with AERCO's Benchmark boilers for a powerful combination system.



**AERCO SmartPlate EV**  
*AERCO, a Watts Brand*

### Insulation

**Aerofoam USA LLC** / BOOTH C6625

Aerofoam® XLPE Polyolefin Insulation Tubes are long-lasting closed cell thermal insulators with very low thermal conductivity. The closed cell cross-linked polyolefin insulation foam structure controls condensation, has high thermal efficiency and sound absorption. In addition to the dimensional stability, the insulation tubes have a 'memory effect' that enables them to spring back to their original shape. The polyolefin insulation tubes are thick which match most of the usual pipe sizes up to 40 inches and can be coated with foil or can be plain.



**Aerofoam XLPE - Tubes, Rolls and Sheets**  
*Aerofoam USA LLC*

### Stainless Steel Press Fittings and Valves

**Apollo Valves** / BOOTH C1530

Apollo SmartPress® is an innovative press system designed for joining ½"-2" ASTM A-312 schedule 5/10s stainless steel pipe (304/304L and 316/316L). Apollo SmartPress® fittings and valves offer end-users a complete solution with maximum coverage of applications requiring HNBR, EPDM, or FKM sealing elements for operating pressures up to 500 psi. Unique features including color-coded press indicators, patented sealing elements and silicone-free production make Apollo SmartPress® the 'smart' choice.



**Apollo SmartPress®**  
*Apollo Valves*

### Hot Water Recirculation Kit

**AquaMotion Inc.** / BOOTH C5244

Aqua-Shield™, the first outdoor pump, is used with outdoor installed tankless heaters. Eliminates expensive air intake/exhaust piping. Kit includes AM7-SU1LXZT1 Stainless Union Circulator, 3/4" Tailpieces, outdoor enclosure is water, sprinkler, bug, freeze protected, has anti-tampering locking device, built-in timer, 10 ft. line cord, checks, flow control, hose, bypass Tee 3/4". AMK-ODR bypass valve kit: valve, hose, Tee. Valve maintains 95° F. Installs under sink on the cold angle stop. Power not required under sink. Patented.

### In-Line Check Valve

**Bonomi North America, Inc.** / BOOTH C6131

Bonomi's S250 series stainless steel in-line check valves are NSF 61/372-certified for potable water and lead-free applications. Available in six sizes from 1/2" to 2", Bonomi S250 series check valves feature a cold-formed 316 stainless steel body that gives users the highest Cv at the lowest cost. The metal forming process allows an improved flow profile inside the valve body to minimize head loss. It also eliminates machining for reduced manufacturing cost.



**Bonomi S250 Series Stainless Steel Check Valve**  
*Bonomi North America, Inc.*

### Pressure Boosting Unit

**Grundfos Commerical** / BOOTH C3928

Grundfos SCALA1 is a compact, fully integrated, all-in-one, self-priming, pressure boosting unit with a high-efficiency motor and hydraulics with low noise operation for domestic water supply and light commercial applications. This includes garden irrigation, greenhouses, car wash, and supermarket produce sections or pressure boosting to one and two-family houses and apartments. Built-in bluetooth communication gives you complete control over the pump using the Grundfos GO REMOTE, also for twin pump operation.



**Grundfos SCALA1**  
*Grundfos Commerical*

### Heat Pump Water Heater

**Eco2 Systems LLC** / BOOTH C1100

ECO2 Systems SANCO<sub>2</sub> Heat Pump Water Heater (HPWH) provides Efficiency and Performance using a natural refrigerant, CO<sub>2</sub>, the lowest GWP of all refrigerants. The system has a COP (Coefficient of Performance) of 5.5 and will produce the 150°F hot water in ambient temperatures down to below -26°F. The SANCO<sub>2</sub> Heat Pump is designed for external installation and tank size selected should be installed inside the building.



**SANCO2 Heat Pump Water Heater**  
*Eco2 Systems LLC*

### Rooftop Support

**Green Link, Inc.** / BOOTH N7238

MetalHead is Green Link's latest patent-pending, innovative support system, designed to significantly outperform reclaimed rubber-based, block-type support products. MetalHead is an extremely strong and durable support system for pipes, cable management, ducts and HVAC/R equipment. The aluminum extrusion design provides a sturdy triangular base with the strut channel incorporated, which allows attachment of all standard strut hardware. Made in the U.S.A.



**MetalHead**  
*Green Link, Inc.*

### High Performance Butterfly Valve

**Jomar Valve** / BOOTH C4343

The newly upgraded Jomar High Performance Butterfly Valve - now with metal and fire safe seat options (RPTFE Standard). With a unique and durable single stem design, a double offset disc, 150 ANSI Class carbon or stainless steel body, 2"-24," ISO 5211 mounting pad, this BAA approved valve meets HVAC, commercial plumbing, and industrial application needs.



**HPBFV-600-CS-150 & HPBFV-600-SS-150 High Performance Butterfly Valve**  
*Jomar Valve*

### Flow Diverting Valve

**Kemper Water Control Systems, Inc.** / BOOTH N10729

The Kemper Flow-Splitter is the plumbing designer's best solution for Energy Code and FGI Guideline compliance for reducing non-circulating pipe lengths. Additional benefits include minimizing stagnation, biofilm growth and bacteria growth in hot and cold potable water systems. The Flow-Splitter can also contribute to significant energy and water savings while providing hot water at the tap, immediately.



**Kemper Flow-Splitter**  
*Kemper Water Control Systems, Inc.*

### Tankless Hot Water Heater

**Navien, Inc.** / BOOTH C3142

Navien NPE-A2 is the next generation of advanced tankless water heater offering high efficiency condensing technology with Navien's exclusive built-in recirculation system, an industry first multi-line text control panel with startup wizard and ability of 2" venting for up to 75', making this the obvious choice for water heating needs.



**NPE-A2 and NPE-S2 series**  
*Navien, Inc.*

### Hose

**NEOPERL, Inc.** / BOOTH N9228

NEOPERL manufactures a wide selection of high-quality hoses with worldwide approvals for countless applications. Now available for the US market, NEOPERL offers a range of hoses for high-pressure and hot water applications, including its super flexible PLATINOX SLP®, meeting the requirements of various certification systems that cover the spectrum to DN 52. From faucets and shower handles to pumps and industrial systems, NEOPERL has a hose to suit every need.



**Neoperl PLATINOX SLP®**  
*NEOPERL, Inc.*

## PLUMBING

### Heat Pump Water Heater

**Nyle Water Heating Systems, LLC / BOOTH N8400**

Nyle Water Heating Systems' e-Series product line augments the company's C-Series product lineup of commercial heat pump water heaters



(HPWHs) which has been available since 2010, offers enhanced output with a COP up to 4.0 and operates in extreme cold conditions down to 10F. Nyle's e-Series HPWHs utilizes a new refrigerant which has a low-global warming potential making these HPWHs some of the first to be offered in North America utilizing a more environmentally friendly refrigerant.

**NWHS e-Series Heat Pump Water Heaters**  
Nyle Water Heating Systems, LLC

### PEX Hand Tube Cutter

**Oetiker, Inc. / BOOTH N10728**

Highly-accurate, straight clean cuts with easy operation are imperative for installing PEX plumbing systems. Oetiker's Pro Spec Hand Tube Cutters (HTC) 500 | 504 are spring-loaded with ergonomically curved handles featuring soft molded grips for ease of use. With its replaceable blades to increase the tool's longevity and lockable jaws to avoid injuries, it will soon become your trusted tube cutter.



**Pro Spec Hand Tube Cutter**  
HTC 500 | 504  
Oetiker, Inc.

### Insulation Foam Tape

**Otte Endustriyel Izolasyon Matbaa Kagit Ve Kimyevi Maddeler San. Ve Tic. Ltd. Sti. / BOOTH N10917**

Otte is manufacturer of adhesive tapes, technical insulation foams, rubbers and nonwovens to Automotive, White-Goods Appliances, Construction & Building, Machinery, Marine and HVAC industries to meet the requirements of vibration, damping, sealing, thermal and humidity insulations, noise absorption etc.



**Insulation Foam Tape**  
Otte Endustriyel Izolasyon Matbaa Kagit Ve Kimyevi Maddeler San. Ve Tic. Ltd. Sti.

### Gasket and Thread Sealant

**Refrigeration Technologies / BOOTH C5806**

Nylog White is a proprietary blend of silicone polymers and PTFE. The product is a non-hardening, non-drying assembly lubricant for sealing



gaskets and threaded connectors on gas fired appliances, water, glycol and compressed air systems. Ideal for use on any metal or plastic fittings and compatible with most rubber O-rings and composite material. Nylog White can withstand high pressures and wide temperatures, -50 to +500F. NSF registered K1 for incidental food contact and can be use on drinking water systems.

**Nylog White**  
Refrigeration Technologies

### Press Tool

**RIDGID / Emerson / BOOTH C3106**

An advanced, long-running press tool built for the most demanding jobsites, the RIDGID RP 350 press tool gives tradespeople even more options for connecting pipe quickly, safely and with less fatigue. Featuring an industry-first 360-degree swivel, the RP 350 has an advanced brushless motor known for maximizing tool longevity, efficiency and durability. It also comes paired with brightest-in-class LED lights to let users access tight spaces and see them more clearly in low-light applications.



**RIDGID RP 350 Press Tool**  
RIDGID / Emerson

### Tankless Water Heater

**Rinnai America Corporation / BOOTH N7941**

For over 100 years, Rinnai has set the standard for innovation. The advanced line of non-condensing tankless water heaters raises the bar and is unlike anything on the market, delivering a level of installation ease, serviceability, reliability and usability never before seen. All with an eye toward helping you work smarter, faster, and more profitably. Rinnai is the first major brand manufactured in the U.S., and continues to create jobs, boost the local economy and break new ground in tankless water heating.



**RE Series**  
Rinnai America Corporation

### Pipe System

**The Pipe Company / BOOTH C3549**



New pre-insulated pipe system with Bi Layer HDPE outer jacket offering better advantages such as: UV protection, maximum thermal efficiency, impact resistance, weather proofing, zero condensation, wide range options, energy savings and installation costs, longer useful life, used for heating systems, process network, commercial and industrial refrigeration network. Selected products are in stock ready to ship.

**Pre-Insulated Pipe System, with New HDPE Bi Layer Outer Jacket**  
The Pipe Company

### Combination Booster Pump and Backflow Platform

**Towle Whitney LLC / BOOTH C6808**

The GEN-5 PLATFORM is already impacting the way engineers, architects, and contractors approach mechanical room design. Labor, material, and



space are all saved when booster pumps, RP backflow prevention, pump bypass, and flood control are incorporated on a single platform. The bottom line, the GEN-5 Platform is a logical way to save client's money while increasing ASHRAE 188 compliance.

**GEN-5 Platform**  
Towle Whitney LLC

### PPR Pipes for Hot and Cold Water

**World Plastics for Construction Industries / BOOTH N10906**

Polypropylene Random Copolymer (PPRC) pipes & fittings are manufactured according to German standards DIN 8077 and 8078, manufactured from high quality raw material. Certified by SKZ mark. Applications include: Domestic hot and cold water networks, radiator heating system, compressed air lines, production lines of chemical industries, production lines of food industries, and production lines of pharmaceutical industries.



**THERMOPIPE**  
World Plastics for Construction Industries

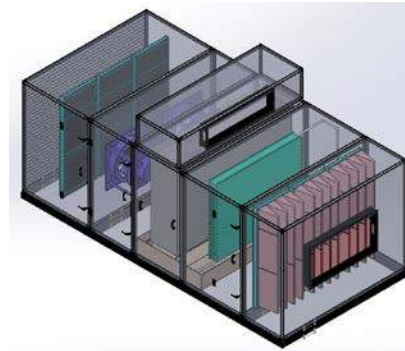
## INDOOR AIR QUALITY

### DOAS (Dedicated Outdoor Air System)

**A.T.E. Inc. / BOOTH N11026**

The HMX-DOAS is an efficient, treated fresh air system based on HMX's extensively proven Indirect Evaporative Cooling (IEC) technology. HMX's technology can reduce up to 35% of the total fresh air load of a centrally air-conditioned building.

At the heart of HMX-DOAS is DAMA (Dry Air Moist Air) – a cross flow plate type sensible heat exchanger, optimized for Indirect Evaporative Cooling. DAMA is robust and fouling resistant.



**HMX DOAS**  
A.T.E. Inc.

### Portable Air Purification System

**AAF Flanders / BOOTH C3715**

This portable air purification system offers a portable, plug-and-play solution to improve indoor air quality in applications such as healthcare facilities, school classrooms, and commercial real estate. It boasts unique features such as high-efficiency two-stage filtration; an advanced, lockable interface; an EC motor for energy efficiency and quiet operation; and embedded PM and PD sensors that allow tracking of reduction of particulates. Product is ETL listed.



**AstroPure™**  
AAF Flanders

### Air Purification

**ActivePure / BOOTH N10522**

The ActivePure Medical Guardian is an FDA Class II medical device designed to reduce pathogen contamination in the air and on surfaces in healthcare settings. Featuring ActivePure Technology, with origins in NASA research, with ionization and HEPA filtration, the Medical Guardian provides best-in-class purification in real time.

### Indoor Air Quality Monitor

**Airthings / BOOTH N7417**

View Plus is the most comprehensive indoor air quality monitor to complement Airthings' Business Solution. View Plus monitors for particulate matter, airborne chemicals, CO<sub>2</sub>, humidity, light, noise, virus risk and more, providing facility managers with complete control over their air quality, enabling them to foster healthy, productive, energy-efficient indoor environments.



**Airthings View Plus for Business**  
Airthings

# INDOOR AIR QUALITY

## IAQ Facilities Monitoring System

**Antrum** / BOOTH C1071

AntrumX™ monitors the Indoor Air Quality of up to 32 spaces from a single location. The patented centralized sensing technology guarantees more accurate and more consistent data, leading to a healthier and more efficient building. AntrumX is also scalable, so as the science of Indoor Air Quality evolves, your building can too. Currently, AntrumX monitors the following IAQ parameters: CO2, RH, TVOC, PM2.5, and PM10.



**AntrumX**  
*Antrum*

## Water-Based Anti-Viral Coating

**Aqua Aero Coatings** / BOOTH C2448

Aqua Aero waterbased Anti-Viral Coating, AMPower® Coat, is used to protect indoor air quality related HVAC&R equipment from the growth of microorganisms, viruses, and bacteria. These unwanted microbes will cause a bad smell often referred to as 'dirty sock syndrome.' The use of AMPower® Coat will reduce the amount of cleaning cycles.



**Aqua Aero AMPower® Coat, Antiviral**  
*Aqua Aero Coatings*

## Water-Based Anti-Viral Coating

**Aqua Aero Coatings** / BOOTH C2448

Aqua Aero AMPower® Coat is a water-based Anti-Viral coating that protects the coated surface from the growth of yeast, mildew, fungi, bacteria and viruses without the use of biocides or pesticides. The specific properties are enhanced by desiccation that comes from the extreme hydrophilicity of the coating layer.



**Aqua Aero AMPower® Coat, Antiviral**  
*Aqua Aero Coatings*

## Automated Fresh Air System

**Broan-NuTone** / BOOTH C3740

Fresh, clean air is essential to a healthy home. So, Broan-Nutone has created the first, fully and easily integrated cloud-connected whole home indoor air quality monitoring and ventilation system. Overture automatically engages the homes ventilation systems to eliminate polluted air while simultaneously bringing in fresh, clean air from outside via the homes fresh air system taking that vital task off of the homeowner's hands.

## Custom Air Handling Unit

**Buffalo Air Handling** / BOOTH C1029

Buffalo Air Handling offers custom air handling systems to address specific project requirements. The units are ETL rated and IBC certified with AMCA, ARI and UL rated components. Buffalo offers all aluminum construction with injected foam panels, multiple fans, IAQ drain pans, factory testing, stacked units, knock-down (KD) construction, SolidWorks, 3D modeling and field services.



**Aluminum Big Buffalo AHU**  
*Buffalo Air Handling*

## Desiccant Dehumidifier

**Climate by Design International** / BOOTH N10110

The Dry Climate is a compact pre-engineered desiccant dehumidifier with stainless steel construction that performs in commercial and industrial applications. Dry Climate has multiple supply voltage options and features continuous modulating reactivation heaters to maintain peak efficiency. It is available with BMS communication, filter monitoring, VFD control, electric or gas reactivation heaters, cooling options, etc.



**Dry Climate Dehumidification Series**  
*Climate by Design International*

## High-Performance Air Filter

**CMS Global** / BOOTH C6415

Excelair High Performance Filters in V-cell and Panel-type frames. The V-Cell Synthetic filters utilize highly-uniform and durable media which allow extremely low-resistance and high-dust holding capacities leading to a long service life. The ultra low initial resistance to airflow of the filter reduces energy cost drastically. Panel filters are available in 2" & 4" depth and can be made in plastic, die-cut frames or even metal frames. These filters are tested by an independent lab in the United States.



**Excelair High Performance Air Filters**  
*CMS Global*

## Carbon Dioxide IAQ Monitor

**CO2Meter** / BOOTH C1174

The Aranet4 PRO Indoor Air Quality Monitor is a sleek, modern, wireless, desktop device designed to measure and detect carbon dioxide, temperature, relative humidity, and barometric pressure across multiple indoor environments.



**Aranet4 PRO Indoor Air Quality Monitor**  
*CO2Meter*

## Self Contained Ceiling Mounted Evaporative Humidifier

**Condair [Nortec Humidity]** / BOOTH C4706

The TE Series (Tile Evaporative) is a self-contained ceiling mounted humidifier designed for small to medium spaces, fitting in most suspended or open ceilings. When compared to steam humidifiers, this low-energy consuming unit decreases energy costs by 95%. It has an integrated humidistat which draws dry air from the environment and passes it through a wetted media, allowing it to evaporated into the air stream in a hygienic, and discrete manner.

**Condair TE Series Ceiling Mounted Evaporative Humidifier**  
*Condair [Nortec Humidity]*



## Indoor Air Quality

**CPS Products, Inc.** / BOOTH C4720

The IAQ PRO SmartAir sets a new standard for professional indoor air quality meters. HVAC technicians can now quickly measure and record the quality of indoor air, identify problem causes and share solutions. The IAQ PRO SmartAir provides technicians with professional results and the opportunity for new revenue streams! Combined with using the CPS Link app, the technicians can instantly document and share results, as well as leverage these results to sell additional products and services to their customers.



**IAQPRO SmartAir**  
*CPS Products, Inc.*

## HVAC/R IAQ Monitor & Controller

**Cubic Sensor and Instrument Co., Ltd.** / BOOTH C1080

The Cubic S&I AM6108B is a wall-mount IAQ monitor that can deliver critical air quality data to building automation systems via an integrated BACNET RS-485 interface. The RESET Grade B compliant AM6108B monitors PM2.5, CO2, VOC, temperature & humidity in real-time!

## Portable Air Purifier

**Daikin Applied** / BOOTH C3915

The Daikin Air Purifier is designed to improve IAQ by reducing particulates in the air. There are two models of the portable purifier, premium and economy, each with different capacity ranges and levels of air-purification technology — from HEPA filtration to MERV 13 filters. The units are delivered fully assembled, ready to plug into a standard outlet and run. They can be set up in minutes and used by virtually anyone.



**Daikin Air Purifier**  
*Daikin Applied*

## HEPA Filtration Tower

**DuraVent** / BOOTH C4710

DuraVent's medical grade HEPA filtration is extremely effective at removing particles the human eye can't see. In fact, tests show medical grade HEPA filters are effective down to .01 microns. Why is that so important? Because pathogens like COVID-19 can float in the air for hours after an infected person occupies the space. Scrubbing the air with medical grade HEPA filtration is a highly-effective way to reduce risks. Available in multiple finishes!



**DuraVent Hepa Filter Tower**  
*DuraVent*

## Diffuser

**EffectiV HVAC Inc.** / BOOTH N9641

UV Diffusers combine filtration, UV-C disinfection and improved air mixing. UV Diffusers act as a shield removing pathogens and allergens from the air coming from the ventilation system before it enters the room. The purified air is then mixed in the room with high-efficiency in order to quickly reduce the concentration of contaminants in the room. Single-pass neutralization of SARS-CoV-2 can surpass 99.99% efficiency. Tested with the real virus.

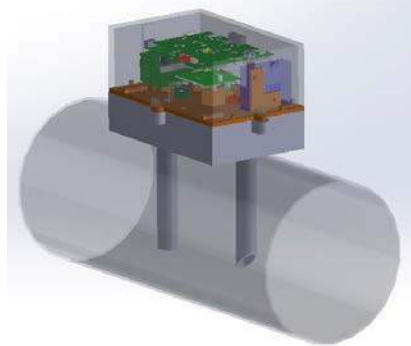


**UV Diffusers**  
*EffectiV HVAC Inc.*

## In Air Duct IAQ Monitoring Station

**ETHERA** / BOOTH C985

Fully equipped indoor air quality monitoring station designed for measuring air quality in air duct. The station has flexible sensor range including temp, RH, CO2, VOC, PM 1-2.5-10, NO2/O3, and radon. Modbus wired or NB-IoT connected to its cloud-based algorithm, to manage (or help to manage)



air treatment systems (HVAC, ventilation, air purifiers, etc.)

**Air Duct Nemo**  
*ETHERA*

## Air Filtration Unit

**Excel Air Systems** / BOOTH N8834

The CleanAir Filtration Unit is capable of scrubbing the world's harshest organic environments. Designed to remove odor, filter particulate and can even be integrated with UV-C protection to kill airborne bacteria and spores.

## INDOOR AIR QUALITY

### Single Package Heat Pump & Outside Air System

**Friedrich Air Conditioning Co.** / BOOTH N8322

VRF performance and single-package simplicity come together in the Friedrich VRP, and now, the all new VRP Studio. Developed for applications in the hospitality and lodging markets, the award-winning plug & run product delivers the same benefits of the VRP line - variable speed cooling, low ambient heating, make-up air, and IAQ ready - with a smaller footprint, and cooling capacity ranging from 3,800 to 10,000 Btus. VRP Studio is an ideal HVAC solution for standard guestroom applications.



**VRP Studio**  
Friedrich Air Conditioning Co.

### Air Ionization System

**Global Plasma Solutions** / BOOTH N8741

The DM-2S air ionization system is the latest auto-cleaning, lightweight, needlepoint bipolar ionization (NPBI™) system from GPS designed to be duct-mounted. The single maintenance-free unit offers unprecedented levels of flexibility to fit any standard metal duct diameter in shape and size - no additional adapters required.

### UVGI Air Disinfection System

**Heraeus Noblelight America** / BOOTH C6943

Soluva UV air disinfection devices provide effective and reliable air purification to protect occupants from infectious aerosols now and into the future. Available as self-contained wall-mounted or ceiling-mounted in-room devices or in-duct systems for easy installation into existing buildings. Improves IAQ without the expense of fan upgrades or increasing outside air. High intensity, long-life lamps ensure effective germ load reduction verified by scientific studies. Ideal for commercial buildings such as offices, schools, and senior living.



**Soluva UVGI Air Disinfection**  
Heraeus Noblelight America

### Indoor Air Quality Monitor

**Macurco Gas Detection** / BOOTH C2158

The IAQ Series monitors carbon dioxide (CO2), volatile organic compounds (VOCs), temperature, and humidity in indoor applications. The Macurco IAQ product family ensures you Know Your Air™ and is an essential tool for maintaining adequate indoor air quality while aiding with energy savings and mitigating stale or polluted air.



**IAQ Series**  
Macurco Gas Detection

### Air Purifier

**Marmon Group Refrigeration** / BOOTH C6106

CerroZone is a best-in-class, continuous air handler that has proven 99.75% - 99.974% reduction on LIVE Covid-19 in under 14 seconds at accredited bio-level 4 laboratories. CerroZone uses O3 gas and new-to-the-world intellectual property to eliminate the ozone after it has inactivated and/or killed the pathogens. The product will initially be available in both mobile and wall unit configurations. FDA 510(k) certification and proven effectiveness on the Delta strain on COVID-19, pending as of Aug 2021.



**CerroZone Mobile Unit**  
Marmon Group Refrigeration

### Air Curtain

**Mars Air Systems** / BOOTH C4815



Mounted vertically across a doorway, the Air Wash System consists of a dual sanitizing design that deodorizes and disinfects airborne pathogens and virus' with a built in UVC light bulb and HEPAC filter and also removes particles from the air through electrostatic attraction using its built in Ionizer.

**Air Wash System**  
Mars Air Systems

### Air Filter

**Pamlico Air** / BOOTH N10613

The Prime8 is a medium efficiency pleated air filter, created to provide high-efficiency, high-dust holding capacity and low-pressure drop. The Prime8 is available in standard and high-capacity. As an extended surface air filter, the Prime8 performs at superior levels in comparison to standard pleated filters. The Prime8 should be used anywhere a higher level of indoor air quality is required. Applications that would benefit from Prime8 filters include schools, hotels, commercial office buildings, labs and other facilities.



**Prime8 Pleated Air Filter**  
Pamlico Air

### Air Quality Monitor

**Particles Plus, Inc.** / BOOTH C6410

The Particles Plus 9000 Series Air Quality Monitors measures PM1, PM2.5, PM5 and PM10 particle mass concentration, temperature, relative humidity, CO, CO2 and TVOC values and stores up to 65,000 sample records. This wall-mounted instrument is the most versatile air quality monitor available and provides up to 30 particle size channels from 0.3 µm to 10 µm. The units come standard with WIFI for easy integration.

### Air Curtain

**Powered Aire, Inc.** / BOOTH C3341

Whether indoor, outdoor, delivery or curbside, the dining and shopping experience has certainly changed over the past two years. With new door openings and new uses for existing door openings put in place to meet health and safety guidelines, Air Curtains by Powered Aire are a viable option to prevent infiltration of outside air, block entry of unwelcome flying insects, replace a vestibule and for air purification.



**Model BCT Air Curtain**  
Powered Aire, Inc.

### PM2.5 Sensor

**Prodrive Technologies** / BOOTH C1155

The dual-channel PM2.5 sensor features highly accurate and fast PM2.5 measurements in two separate air-channels, allowing the user to compare the interior with exterior air quality. This device enables optimal air conditioning strategies such as filter performance monitoring, preventive maintenance and ventilation on demand. Prodrive Technologies is a first-tier supplier with long-term experience in the medical, semiconductor and automotive industries.

**Dual-Channel PM2.5 sensor**  
Prodrive Technologies



### Whole House Air Purification System

**QwikProducts™ / Mainstream Engineering** / BOOTH C2915

Industrial Grade, advanced Triple Protection whole house air purification system providing three proven methods to sanitize air: UV-C Light, Photocatalytic Oxidation and Activated Carbon/Potassium Permanganate (AC/PP) Purifier



**TripleGuard™**  
QwikProducts™ / Mainstream Engineering

### High Intensity UVGI Air & Coil Disinfection System

**Respicare** / BOOTH C6143

Respicare BioClean™ is a high intensity UVGI Coil & Air disinfection system designed for demands of commercial and industrial heating/cooling environments. With the BioClean Smart Rack™, you can outfit any RTU & AHU system up to 100 Tons. The BioClean™ is engineered to help control & inactivate surface and airborne pathogens & optimize energy costs. It features the 1st in the industry Telescoping Bars, magnetic configuration & clever mounting design for fast installation.



**BioClean™ UVGI Air & Coil Disinfection System**  
Respicare

### Whole Home Air Purification System

**RGF Environmental Group, Inc.** / BOOTH N9831

The HALO-LED™ by RGF is the industry's first LED UV in-duct indoor air purification system that is both mercury free and zero ozone compliant. The HALO-LED™ utilizes RGF's patented PHI-CELL® and REME® technologies to provide superior indoor air purification throughout the entire air-conditioned space, reducing airborne and surface contaminants and pollutants.

**HALO-LED™ by RGF**  
RGF Environmental Group, Inc.



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# INDOOR AIR QUALITY

## Air Curtain

**Rosenberg Fans Canada Ltd.** / BOOTH C5800

As the favorite choice of many architects, ZEN air curtains offer infinite possibilities for customization. Side panels can incorporate logos, signs, infographics, visual designs, or even clocks or lighting. With its contemporary and minimalist design, this model is ideal for blending with any building's internal or external aesthetics. The ZEN model, built with EC motors, is a new introduction. New EC models are very efficient, reducing energy consumption up to 67% compared to standard AC versions.



**ZEN Air Curtain**  
Rosenberg Fans  
Canada Ltd.

## Indoor Air Quality Sensor Combo Module

**Sensirion, Inc.** / BOOTH C1768

Sensirion's SEN55 environmental node is an all-in-one sensor solution perfect for easy integration into air quality products. It accurately measures particulate matter, volatile organic compounds (VOCs), oxidizing gases (NOx and O3) as well as humidity & temperature. This compact module has optimized arrangement of multiple sensing parameters which allows OEMs to save R&D, BOM and assembly costs in the race to provide end customers with greater awareness of their surroundings and improve health and comfort.



**SEN5x Environmental  
Sensor Combo Node**  
Sensirion, Inc.

## Indoor Air Quality Sensor

**Senva Inc.** / BOOTH C1170

Senva's TotalSense™ is a multi-sensor solution facilitating healthy indoor air quality (IAQ) and environments. It's the industry's only IAQ sensor incorporating up to eight sensing technologies, including PIR motion detection, which can be used to deliver fresh air upon occupancy, eliminating lag response in typical demand control ventilation schemes.



**TotalSense Indoor  
Air Quality Sensor**  
Senva Inc.

## In-Duct Humidification System

**Smart Fog Manufacturing** / BOOTH C6429

Smart Fog offers a non-wetting in-duct humidification system that atomizes the water droplets entirely in the duct and does not require droplet screens or drains. The Smart Fog TS100 in-duct system is easy to install and requires little to no maintenance.



**TS100 In-Duct  
Humidification System**  
Smart Fog Manufacturing

## Humidifier

**steamOvap technologies inc.** / BOOTH C6343

steamOres is a residential or light commercial steam humidifier using resistive heating element to produce pure and sterile steam on demand. steamOres humidifier is using a thermally insulated permanent stainless steel cylinder that is forever lasting. Service for cleaning is done in minutes without the need for tools or consumables. Steam production is fully proportional. steamOres is supplied with all the required installation accessories in one box.

## Air Cleaner

**Tri-Dim Filter Corporation** / BOOTH N7706

The TRI-KLEEN device is more than capable of combatting airborne pathogens given it is a hospital-grade, portable air filtration machine with a built-in HEPA filtration and UV system to provide the most effective purification available. The HEPA filter removes potentially dangerous particles from the exhausted air at peak efficiency, while the UV disinfection stage helps inactivate the virus contained in the filter elements. An optional exhaust grille creates negative pressure for the containment of harmful airborne viruses.



**TRI-KLEEN 500**  
Tri-Dim Filter  
Corporation

## Indoor Air Quality Monitoring & Controls

**TZOA** / BOOTH C6743

The HAVEN ecosystem monitors IAQ, automates HVAC equipment, and leads to additional equipment solutions through ventilation, filtration and comfort control. This dynamic new product provides homeowners with 24/7/365 air quality insights via the IAQ App, and allows HVAC Pros the ability to provide clean-air services year-round.

## Full Range IAQ Improvement

**Ultravation, Inc.** / BOOTH C1025

An Ultravation® SOLARIS multi-component IAQ system is centrally-powered and monitored, with multiple "components" or devices each designed to improve a specific area of air contamination, from particulates to bacteria/viruses to VOCs and odors. Completely flexible in design, custom systems are formed by creating component combinations as needed, which are then strategically placed in an HVAC system/airstream. The components form a single, integrated and efficient IAQ system, centrally controlled, for comprehensive indoor air improvement.

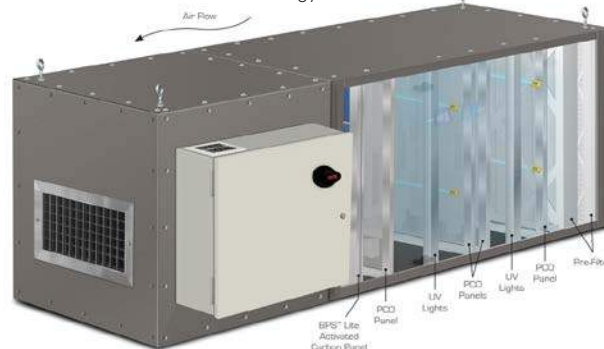


**Solaris Custom Component IAQ systems**  
Ultravation, Inc.

## UV-C Air Purification and Disinfection

**UltraViolet Devices, Inc.** / UVDI / BOOTH C5540

UVDI V-PAC® PRO provides advanced UV-C Air Purification and Disinfection in system flexibly installed outside of the HVAC system. V-PAC® PRO utilizes V-MAX™ technology proven to eliminate 99.9% of SARS-COV-2, provides highly effective air purification and contaminant removal with multi-stage filtration technology and reduces smoke and odors with advanced PCO technology.



**UVDI V-PAC® PRO Advanced UV-C  
Air Purification and Disinfection**  
UltraViolet Devices, Inc. / UVDI

## UVGI Fixture

**UV Resources** / BOOTH C6315

The DLX-N™ high output, dual lamp ultraviolet NEMA-4 fixture from UV Resources efficiently disinfects HVAC/R airstreams, cooling coils and drain pans halting infectious diseases such as the SARS-CoV-2 virus. UV lamps are inserted inside the duct "spear-style" through two 3/4-inch holes, while the fixture is installed and serviced from an exterior supply, return or exhaust plenum or duct. The new UV-C fixture offers facility managers and HVAC contractors a versatile means of inactivating airborne pathogens on almost any inside or outside duct.



**DLX-N™ High  
Output NEMA-4  
Ultraviolet Fixture**  
UV Resources

## Environmental Sensing System

**VOC Instrumentation** / BOOTH C6349

Prosense is designed for residential, commercial, and industrial applications (offices, meeting rooms, and other public spaces like school classrooms), where air quality influences occupant's well being and health, with a direct impact on performance and productivity. Prosense is designed to be compliant with the main green building certifications like LEED, Well, and Fitwel.



**Prosense Environmental  
Sensing Technology**  
VOC Instrumentation

## Dedicated Outdoor Air System (DOAS)

**WaterFurnace International** / BOOTH C4544

The indoor Versatec DOAS efficiently cleans air and transfers heat and moisture. Since it's a modular indoor unit with integrated controls, the Versatec DOAS has an increased life expectancy, is easier to maintain, and reduces costs compared to rooftop installations. The indoor DOAS unit is small enough to fit through 36-inch doors and standard elevators and ships in easy to assemble modules to further simplify delivery. Easy plug-and-play technology allows for installations in under two hours.



**Versatec Indoor DOAS**  
WaterFurnace International



## SUSTAINABLE SOLUTIONS

### Heat Pipe Heat Exchanger

**Advanced Cooling Technologies, Inc.** / BOOTH N8706

The 2020 AHR Green Building category winning product now includes the option for all-season pumping with compensation accumulators to allow for more efficient refrigerant delivery to the energy recovery coils and facilitates much longer runs of piping, enabling even more flexibility in AHU installation. The accumulators have been fitted with level sensing equipment to accurately control the flow of refrigerant and accommodate zero and partial loading conditions while maintaining optimal energy transfer.



**Pump-Assisted Split Loop Energy Recovery Heat Exchanger**  
Advanced Cooling Technologies, Inc.

### Air to Water Heat Pump

**Colmac WaterHeat** / BOOTH C4834

Colmac WaterHeat's model CxV-5 air to water heat pump water heater is an energy-efficient machine utilizing R-410A refrigerant, a 5hp compressor, 316L stainless steel double wall brazed plate condenser and vapor injection technology to output 140°F potable hot water in a single pass at 10°F. The unit operates down to -4°F, producing 120°F potable hot water. Certifications include NSF61 and UL 1995.



**CxV-5 Air to Water Heat Pump Water Heater**  
Colmac WaterHeat

### Variable Frequency Drive

**Danfoss** / BOOTH C3906

VACON® NXP DCGuard™ is a variable frequency drive that enables fast disconnection and full selectivity between DC grids. The drive protects the surrounding equipment and can connect two DC grids with voltage differences. It isolates the faulty part of the system within 5 microseconds, protecting the surrounding equipment and ensuring uninterrupted operation. It also has a sophisticated short-circuit safety protection which prevents accidents or injuries.



**VACON® NXP DCGuard™**  
Danfoss

### Spray Foam Insulation

**DAP Inc.** / BOOTH C4244

Dap HVAC Spray foam is an air and moisture barrier that seals the duct work and eliminates condensation. The rigid foam also eliminates air leakage so 100% of the air goes to the family room, kitchen, etc. This will allow your unit to run less, resulting in energy savings. Dap



HVAC Spray foam is a labor savings tool. An example of this is instead of 10 minutes to wrap a boot, this product can seal it to the floor in under 30 seconds.

**Dap HVAC Spray Foam Insulation**  
DAP Inc.

### Distributed HVAC Pumping

**Grundfos Commerical** / BOOTH C3928

Grundfos Distributed Pumping is a paradigm shift in hydronic system design that optimizes the entire HVAC system while improving occupant comfort. It replaces energy wasting balance and control valves in HVAC systems with intelligent, reliable and maintenance free pumps that generate pressure only when and where it's needed.



**Grundfos Distributed Pumping**  
Grundfos Commerical

### Energy Simulation Software

**E.I.Engineering Co., Ltd** / BOOTH N11628

Enepro21 World Edition is a simulation software that allows you to design centralized heat source facility that is optimal for heat load characteristics, accurately reproduces the annual operation of existing facility, and significantly reduces CO2 through energy saving and renewal studies. It is a general-purpose technology software that anyone related to energy can easily use.

### Water Treatment Equipment

**General Water Systems** / BOOTH C6645

GWS' Wave 3.1 Chemical-free Water Treatment System prevents scale, corrosion, bacteria growth, and fouling. All are key components for a smoothly operating cooling system. Wave 3.1 produces dramatic water usage efficiency, discharge water cost reductions. All while excluding the introduction of harmful chemicals into our surface water and waterways.



**Wave 3.1**  
General Water Systems



### Smart Thermostat

**Google** / BOOTH N10735

The Google Nest thermostat is Google's most affordable smart thermostat yet. It offers energy saving features, remote controls all at a lower price. It's design is beautifully simple with a mirrored finish. And its compatible



with 85% of 24V systems, including 2H/1C or 1H/2C conventional and heat pump systems. Three year extended warranty with professional installation.

**Google Nest Thermostat**  
Google

### Air-to-Air Energy Recovery

**Heat Pipe Technology, Inc.** / BOOTH N8517

Heat Pipe Technology's (HPT) SMART Water-Glycol Energy Recovery System can now recover energy between up to 18 combined exhaust and supply airstreams, with up to 60% sensible effectiveness. It is used in laboratories, and other zero cross contamination applications. HPT's unique approach to system selection and design reduces the workload on the design engineer. Installation on site is also simplified since all main hydronic components and controls are preassembled on a skid.



**SMART Water-Glycol Energy Recovery System**

Heat Pipe Technology, Inc.

### DCKV Demand Control Kitchen Ventilation

**Intellinox Technologies Inc.** / BOOTH C1470



The industry's most efficient demand control kitchen ventilation, the evolved ecoAzur system, is efficient and enduring.

**ecoAzur IB**  
Intellinox Technologies Inc.

### Fabricating Coil Line

**ISM Machinery** / BOOTH C1330

The Iowa Precision Pro Fabriduct HVAC Duct Fabricating Coil Line has been enhanced to produce full width longitudinal seams which can create less chance of leakage in duct systems.



**Iowa Precision Pro Fabriduct Coil Line with Full Width Longitudinal Seam Production**  
ISM Machinery

### Motor and Drive Solution

**Lafert North America** / BOOTH N8935

Lafert's High Performance product family revolves around permanent magnet (PM) synchronous motors achieving IE5 ultra premium efficiency levels. This is offered as a standalone motor (HPS), integrated Motor and drive (HPI), and now a motor and drive package (HP COMBI) targeted at variable and constant torque loads, with a specific focus on air and water movement applications on HVAC equipment. It's dedicated and optimized drive platforms deliver maximum energy cost savings and system performance.



**HP Range**  
Lafert North America

### BIM Services

**Uponor, Inc.** / BOOTH C4731

Uponor BIM Services is the superior solution for high-quality models to maximize efficiencies and sustainability in construction. Services include 3D modeling and coordination, laser scanning, BIM coordination management, training, onsite collaboration, template development, and workflow optimization. The service features all pipe types, including PEX, PP-RCT, CPVC, carbon steel, copper, stainless steel, and cast iron. Applications include domestic water, drain waste and vent, gas, med gas, ducting, refrigerant systems, hydronic heating, and chilled-water systems.



**Uponor BIM Services**  
Uponor, Inc.

## TOOLS & INSTRUMENTS

### Multi-Circuit Power & Energy Submeter

**Accuenergy (Canada) Inc.** / BOOTH C1284

The AcuRev 2100 is an advanced, multi-circuit submeter designed for revenue-grade measurements in high-density or multi-tenant applications. New, innovative SnapOn CT technology ensures fast, error-free sensor installation while support for a wide variety of industrial protocols accelerates integration with any energy management system. Its WiFi connectivity plus dual Ethernet ports provide unparalleled remote data access. Simultaneously, the built-in 8GB of memory delivers critical real-time energy & PQ data logging capabilities. UL Listed, Measurement Canada Approved.



**AcuRev 2100 Series  
Multi-Circuit Submeter**  
*Accuenergy (Canada) Inc.*

### Vacuum Hose

**Accutools** / BOOTH C5937

The TruBlu hose has a 3/4 in. internal diameter delivering 16 CFM of conductance speed at 1,000 microns. Evacuate 80x faster than 1/4 in. I.D. hoses and up to 6x faster than other “vacuum rated” hoses on the market today.



**TruBlu Evacuation Hoses**  
*Accutools*

### Innovative Mobile Brazing Kit

**Ambro Controls** / BOOTH N10829

The Oxyset is a lightweight, portable brazing system that uses disposable gas cylinders. If you've ever carted a full oxy-acetylene kit up a ladder, then you will love this! Now featuring an upgraded caddy design for improved mobility, the Oxyset is ideal for highly-mobile contractors or for working in hard-to-reach areas. The lightweight, portable design and small size of the Oxyset, combined with excellent flame performance, make it an ideal solution for working in tricky locations. Cylinders not included.



**Oxyset Mobile Brazing  
& Soldering Kit**  
*Ambro Controls*

### Boring and Cutting Bit

**Bad Dog Tools** / BOOTH N8907

Re-vamped Rover Bits are proof that you can teach an old dog new tricks! Combining the “best” qualities of forstner, auger, and spade bits, Rover Bits drill vertically and cut horizontally. Made with a proprietary mix of carbide that resists chipping, Rover Bits can handle the occasional nail when powering through a stud or beam. A new sharpening technique makes Rover Bits cut and drill more quickly, and, coupled with an improved size range, you'll always have the right Rover Bit in your tool box!



**Rover Bits Standard and Extended Range**  
*Bad Dog Tools*

### Flow Meter

**Badger Meter** / BOOTH C4828

HVAC applications often result in limited pipe runs to install flow meters. When there is minimal space, the ModMAG® M2000 Electromagnetic flow meter from Badger Meter is an ideal solution—delivering accuracies of ±1% with zero straight run required or ±0.2% with appropriate straight run. The M2000 meter effectively measures water, wastewater, water-based fluids and other liquids at facilities such as hospital and healthcare systems, data centers and universities.



**ModMAG® M2000  
Electromagnetic Flow Meter**  
*Badger Meter*

### Protective Safety Gear

**Black Mamba Gloves** / BOOTH C1937

Black Mamba's NEW Orange Torque Grip gloves are now available in the toughest Nitrex® polymer yet. These unique gloves boast raised torque grips on the surface of the gloves for unsurpassed grip strength.



**Orange Torque Grip Nitrile Gloves**  
*Black Mamba Gloves*

### Manufacturing Equipment

**COE Press Equipment** / BOOTH C6930

Cut-to-Length (CTL) lines from COE Press Equipment bring cost-savings to air conditioning and heating system fabricators through in-house blanking. A CTL line provides better production control, enabling companies to run the metal blank sizes they need when they need them. This reduces inventory and scrap, eliminates toll processing fees, streamlines operations and improves quality. HVAC manufacturers processing a mix of blank sizes of steel or aluminum can save, or even make money, by bringing blanking operations in-house with their own CTL line.



**Cut-to-Length Blanking Line**  
*COE Press Equipment*

### Data Logger

**DORIN USA** / BOOTH C1736

The Bluetooth-enabled HOB0 MX Multi-Channel data logger works with mobile devices or Windows computers running Onset's free HOB0connect app – for convenient wireless setup and easy data offload. This highly flexible logger features four inputs that accept Onset sensors for temperature, carbon dioxide, AC voltage & current, DC current, and air pressure and velocity, as well as sensors with 4-20mA or DC voltage outputs. The MX Gateway can be added for remote internet access to the data.



**HOB0 4-Channel  
Analog Data Logger**  
*DORIN USA*

### Evacuation/Vacuum System for Refrigeration Systems

**FasTest Inc.** / BOOTH N9342

FasTest's vacuum pump cart system assures the shortest possible evacuation time prior to refrigerant charging. It monitors/controls the evacuation process in real time, performing a vacuum decay test, and generating data files for IIoT documentation/analysis. The OPTIMIZED, turn-key package is fully customizable and is compatible with all access valve styles commonly used today. Contact FasTest to see how the CoreMax® Vacuum Cart will help you OPTIMIZE system evacuation times and reduce costs.

### Central Heating Water Quality Test Kit

**Fernox** / BOOTH C6134

The Express Inhibitor Test is a 50-piece dip-test, designed to make on-site annual testing of central heating system water quicker and easier for installers. It will check for the presence of any molybdate based inhibitor within system water in seconds, saving valuable installer time. If a test fails, there is no requirement for a repeat site visit as installers can re-dose the system instantly using Fernox Express inhibitor products, maximising productivity and minimising customer disruption.



**Express  
Inhibitor Test**  
*Fernox*

### Compact Torch

**Genstar Technologies Co., Inc. (GENTEC)** / BOOTH C6438

Gentec® Compact Torch™ gets you into tight spaces and allows you to do more precise work than any other torch on the market! The Compact Torch's small size, chrome plated brass torch handle with stainless steel internal tubing and copper tips provides the durability you need. The easily maneuverable 12-foot extra flexible hose has “B” fittings for larger regulator connections. The Compact Torch™ is perfect for soldering and brazing jobs in HVAC & Plumbing industries.



**Oxy-Acetylene  
& Oxy-Fuel Kits**  
*Genstar Technologies  
Co., Inc. (GENTEC)*

### Bracket

**Gripple, Inc.** / BOOTH C6312

Gripple Universal Brackets are designed for quick & easy trapeze support and racking of HVAC, piping, and plumbing services, and are used in the same manner as strut. Available in 8 stocked sizes from 17” up to 61”, no cutting or filing is required. All four sides can be used with Gripple Quick Twist Clamp accessories, including a strut return channel that's also compatible with all traditional strut accessories. ICC-ESR-4622 and IAPMO approved; MFMA compliant.

**Universal  
Bracket**  
*Gripple, Inc.*



### Water Gas Generator

**H2O Weld LLC** / BOOTH N9611

Oweld Water Gas Generator obtains gas from water through electrolysis of water, making the system safe; there is no risk of explosion, no fumes or toxic gases, nor optical radiations (flame spectrum is infrared). It improves quality because the flame produced is automatically perfectly regulated, concentrated and heat is localized. It is cost saving as it works on water and eco-friendly (no acetone or toxic additive). No skilled operator is required.



**Oweld Water Gas Generator**  
*H2O Weld LLC*

### Gas Control System for Handheld Production Brazing

**Harris Products Group** / BOOTH N9917

An engineered solution, the Perfect Flame® delivers consistent results for repetitive, high-volume handheld brazing applications. The innovative system, which recently became CE compliant, includes torches, tips, flow control devices and software that work together to improve and produce consistent joint quality. This process results in better flame control which leads to overall better brazing quality; fewer leaks and rejects; and reductions in operational costs related to labor, training and gas.



**Perfect Flame®**  
*Harris Products Group*

### Shaft Voltage Testing Mobile App

**Helwig Carbon Products, Inc.** / BOOTH N11226

The world's only shaft voltage testing mobile app, the BPK-Probe™ DataLink was designed to pair with the BPK-Probe™ via Bluetooth® technology and effortlessly record shaft voltage results from VFD-driven motors to determine the risk to the motor bearings. The mobile app stores facility, motor, customer and test data for record maintenance, while recorded data is easily exported into a palatable PDF report for distribution or internal reference.

### Hot Melt Adhesive and Sealant Dispensing System

**Hot Melt Technologies, Inc.** / BOOTH C6819

HMT ProFlex® and Benchmark® Hot Melt Systems dispense a variety of hot melt adhesives and sealants for many HVAC applications. Insulation attachment, seam sealing and filter assembly are a few of the applications that can be accomplished quickly using 100% thermoplastic hot melt adhesives. There are many additional applications where a hot melt adhesive and HMT can provide a solution.



**ProFlex® and Benchmark®  
Dispensing Systems**  
*Hot Melt Technologies, Inc.*

## TOOLS & INSTRUMENTS

### Leak Detector

**INFICON / BOOTH C3631**

D-TEK Stratus® Refrigerant Leak Detector and Portable Monitor is a handheld solution to help RAC technicians find expensive refrigerant leaks faster than ever. Three leak detection modes and interchangeable sensors allow for fast and reliable detection of virtually any refrigerant leak. The quick-charging lithium ion battery and micro USB charging minimizes downtime for maximum efficiency.



**D-TEK Stratus®  
Refrigerant  
Leak Detector &  
Portable Monitor**  
*INFICON*

### Insulation Pin Welder

**International Welding Technologies (IWT STUD WELDING) / BOOTH C4949**

Stud welder for welding cupped head pins and insulation nails in 10ga, 12ga and 14ga.



**LYNX4 Quickshot**  
*International Welding  
Technologies  
(IWT STUD WELDING)*

### Truck with Enclosed Service Body

**Isuzu Commercial Truck of America, Inc. / BOOTH N1113**

The reliable and powerful Isuzu NPR-HD is the perfect chassis for Plumbing and HVAC servicers. The class-leading turning radius and superb visibility are among the favorite benefits that drivers enjoy. As an owner, you'll enjoy a low cost of ownership and the durability of an Isuzu truck.

### Capacitor Tester

**J2I Development / BOOTH N9307**

The new CT-30 Tester is a full plug and play device for testing and evaluating motor start and motor run capacitors. It displays and records all electrical parameters. It has been designed for engineering, quality departments. For the evaluation of the AC capacitors accurately and safely.

### Rotating Vane Anemometer

**Kanomax USA, Inc. / BOOTH C2039**

The Anemomaster™ Rotating Vane 6820 Series of anemometers offers a range of highly-accurate airflow measuring devices. Models include industrial grade enclosure and probe. They automatically calculate volume flow in CFM (cubic feet per minute) or CMH (cubic meters per hour). When measuring ducts dimensions are stored in memory on turn-off and do not need to be re-entered.



**Rotating Vane  
Anemometer -  
6820 Series**  
*Kanomax USA, Inc.*

### Screwdriver for HVAC Applications

**Klein Tools, Inc. / BOOTH C4906**

The 14-in-1 HVAC Adjustable Screwdriver features 12 of the most commonly used HVAC driver bits and two nut drivers in one tool. Flip socket on end of blade has three positions for multiple functions. Impact rated blade can be removed for use in an impact drill. Great for tight spaces and long reach applications.



**14-in-1 HVAC  
Adjustable  
Screwdriver**  
*Klein Tools, Inc.*

### High Precision Charging Scale

**Mastercool Inc. / BOOTH C3040**

Mastercools high precision charging scale accurately measures small cans of refrigerant for charging systems that need a precise charge. Specially designed for R600a and R290, the unit includes a hex cylinder adapter for easy attachment of refrigerant cylinder to scale. The built-in check valve will hold any remaining refrigerant within the 36" nylon tube. The unit charge is in grams or ounces with a one touch tare weighing function, with a charging capability up to 1 gram accuracy.

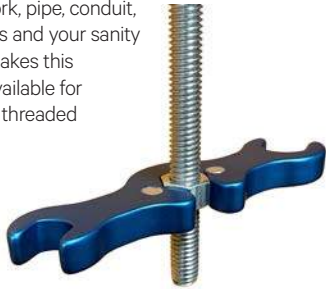


**High Precision  
Scale**  
*Mastercool Inc.*

### Hand Tool

**Midwest Tool - Midwest Snips® / BOOTH C5511**

The gravity-defying GRVTY™-WRENCH is the quicker way to run nuts up a threaded rod. Time studies have shown 27%-to-30%-time savings per foot. If you are hanging ductwork, pipe, conduit, or Unistrut all day, both your fingers and your sanity get tired. The GRVTY-WRENCH makes this mundane task easier and faster. Available for 3/8" (9/16" hex) and 1/2" (3/4" hex) threaded rod sizes. Made in the U.S.A.



**GRVTY™-WRENCH**  
*Midwest Tool - Midwest Snips®*

### Power Tubing Expander

**NAVAC Inc. / BOOTH N10331**

The new NAVAC NTE11L BreakFree Power Tube Expander quickly and effectively allows you to get the job done. In only 10 seconds you can expand a copper tube just by pressing one button. Tubing size ranges from 3/8" to 1-1/8". With the included long-lasting rechargeable lithium battery you are able to complete up to 85 jobs with a single charge, and it's also compatible with NAVAC's NEF6LM BreakFree Power Flaring Tool.



**BreakFree  
Power Tube  
Expander**  
*NAVAC Inc.*

### Refrigerant Gas Sensor

**Nissha FIS, Inc. / BOOTH C1151**



Gas Sensor Module for refrigerant leak detection. The new model maintains the price competitiveness of MOS type gas sensor, but with additional features such as 10 sec less rapid detection, less false alarm, and >10 years of long life.

**FIS5000 Series**  
*Nissha FIS, Inc.*

### Push-to-Connect Refrigerant Fittings

**Parker Hannifin, HVAC Filtration Division, Sporlan Division - Aftermarket AC and Refrigeration / BOOTH C2518**

Parker's ZoomLock® PUSH push-to-connect refrigerant fittings allow contractors to make leak-free connections. No brazing torch or press tools and jaws. ZoomLock PUSH eliminates risks associated with installing traditional HVAC/R fittings. Changing out equipment got more accessible and more efficient. ZoomLock PUSH increases the technician's productivity. In seconds, connect the hard and soft copper refrigerant pipe with a simple push. After all, your time is valuable, and saving time impacts your company's bottom line.



**ZoomLock PUSH  
Push-to-Connect  
Refrigerant Fittings**  
*Parker Hannifin, HVAC  
Filtration Division,  
Sporlan Division -  
Aftermarket AC  
and Refrigeration*

### Portable Pipe Vise

**Pipe Vise Tool Company / BOOTH N10438**

Tired of fighting two pipe wrenches to assemble piping and fittings? The Roughneck portable pipe vise makes pipe assembly safe, fast, and easy. The spring loaded jaws grip everything from pipes, fittings, and valves all the way to nuts, bolts, and hydraulic lines. The compact design of the Roughneck fits in most any tool bag and eliminates the need for a chain vise in most applications.

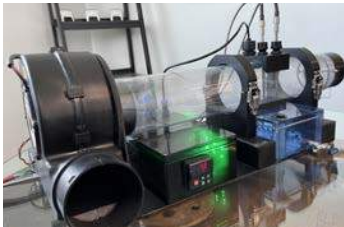


**Roughneck (Model APV02)  
Portable Pipe Vise**  
*Pipe Vise Tool Company*

### Temperature & Humidity Measurement Device

**Q Corporation / BOOTH C5611**

Q Psychrometer is built for the evolving ASHRAE 41 test standards. There are options, including 3 models of varying length (24", 30" & 42") for placement within test chambers, damper boxes, code testers, etc. Features include integrated hotwire anemometer; red and green LED visual airflow confirmation; secondary block mount assembly for additional probe placement; motor control board for precise blower speed command; upgraded polycarbonate air tube construction; integral o-ringed aircraft



connectors assuring electrical box waterproofing; and marine grade blower. Can be a standalone device or integrate within a fully-automated HMI.

**Q Psychrometer – wb/db  
Measurement Device**  
*Q Corporation*

### Gas Leak Detection Instrument

**REFCO Manufacturing US Inc. / BOOTH C5520**

The Tritector is the only leak detector in the market with three exchangeable sensor nozzles for the detection of refrigerants (including A2L's), combustible gases and tracer gases. Because of the exchangeable and replaceable sensors you have one leak detector for all applications. The adjustable sensitivity levels find even the smallest leaks and the ambient concentration is continuously compensated automatically, or can also be set to compensate manually. Intelligent electronics automatically detect the connected sensor. The Tritector can be powered by AA batteries or USB.



**TRITECTOR**  
*REFCO  
Manufacturing  
US Inc.*

### Aluminum Foil Tape

**Shurtape Technologies, LLC / BOOTH C2515**

Aluminum foil HVAC tape for joining and sealing joints, connections and seams on rigid fiberglass ductboard and flexible air duct, and as a UL 181A-P listed product, can also be used in place of mechanical fasteners on rigid ductboard. UL 181A-P/B-FX Listed and printed, AF 099 delivers full system closure by forming airtight bonds on joints and seams in temperatures ranging from -20 F to 260 F and in humid conditions.

### HVAC Duct Construction Standards

**SMACNA - Sheet Metal and Air Conditioning Contractors' National Association / BOOTH C5306**

Building on a history of duct construction standards nearly 100 years old, the flagship SMACNA HVAC Duct Construction Standard – Metal & Flexible, 4th edition represents the state of the art in the sheet metal duct fabrication and installation requirements. Significant changes for the 4th edition include; flat oval tables for positive/negative pressure applications; spray and aerosolized duct sealants; non-fiberglass duct liner applications; added information on spiral duct fittings; updates to duct hanger requirements; flexible duct hanger spacing and support bracing.

### HVAC/R Fitting

**SmartLock / BOOTH N10820**

Elbow Swage Unions (ELSW) fitting are designed to connect swage valve to copper/aluminum tubes at a 90-degree angle without the need for brazing or special tools. ELSWs are useful in situations where units are located in tight or limited spaces. SmartLock's metal to metal sealing

technology allows for a secure seal with zero annual leakage rate and the highest pressure range on the market (1/4" : 1700psig to 7/8" : 960 psig).



**Elbow Swage  
Union (ELSW)**  
*SmartLock*

## TOOLS & INSTRUMENTS

### Ultrasonic Leak Detector

**Superior Signal Company LLC / BOOTH C1926**

Hear the leaks with Superior AccuTrak® VPE-GN Ultrasonic Leak Detector. It is simple to distinguish from other noises. The new 3rd Generation AccuTrak® VPE-GN featuring all-new digital circuitry offers 20% greater sensitivity to find even smaller refrigerant and gas leaks. Perfect for hard-to-reach places, the new AccuTrak® VPE-GN helps find any refrigerant, gas and compressed air with greater shock resistance for the most reliable AccuTrak® VPE-GN ever. Offered in a variety of kits to meet all professional requirements.



3rd Generation AccuTrak® VPE-GN "Gooseneck" Ultrasonic Leak Detector  
Superior Signal Company LLC

### Datalogger

**T&D Corporation / BOOTH N11609**

The TR-7A Dataloggers are all new battery powered temperature and humidity loggers with integrated Wi-Fi and Bluetooth capability that support automatic uploads to TandD's FREE cloud based WebStorage Service. TandD's FREE ThermoWEB App also supports direct logon to the device via Bluetooth for data downloading and display with iOS and Android mobile devices.



TR7A Wireless Dataloggers  
T&D Corporation

### Deluxe Flaring Tool

**Uniweld Products, Inc. / BOOTH N9409**

Electric/manual ratchet and clutch flaring tool - Designed to meet R-410A flaring specifications and all 45° flares for soft copper, brass and aluminum tubing. Internal break away clutch that disengages when flare is completed. Auto tube stop height gauge. 3/8" square drive for use with cordless electric drill for faster flaring. Eccentric off center cone that spins on an



axis and rolls out a perfectly uniform 45° flare with a burnished flare surface.  
#UDFT

#UDFT - Uniweld Deluxe Flaring Tool  
Uniweld Products, Inc.

### Wheeled Tool Backpack

**Veto Pro Pac / BOOTH N9935**

The TECH PAC WHEELER is a rolling version of the best-selling TECH PAC backpack tool bag. Featuring additional volume capacity & Veto Pro Pac's proprietary V-SWAP™ system that offers the back meter panel



to be swapped out with optional laptop or bulk storage panels (both sold separately), the TECH PAC WHEELER provides a versatile tool transport system functioning as both a wheeled and backpack tool bag.

Tech Pac Wheeler  
Veto Pro Pac

### SMART Transmitters

**Winters Instruments / BOOTH C2247**

WinSMART™ family of pressure, differential and temperature smart transmitters offer a powerful combination of analogue and digital communications. The LY16 offers pressure ratings from compound up to 14,500 psi, with all SS wetted parts with pressure monitoring. The LY36 is the differential transmitter rated from inches of water to 1,450 psi with differential pressure monitoring. The TY52 is the temperature transmitter with a PT100 RTD sensor. All configurations include 4/20mA, 4/20mA + HART, 1/5VDC or MODBUS communication options.



Winters WinSMART™ Family of SMART Transmitters  
Winters Instruments

### Refrigerant Recovery Machine

**YELLOW JACKET® Products Division - Ritchie Engineering Co., Inc. / BOOTH C4912**

The TurboRecover™ Refrigerant Recovery Machine is the best recovery machine in the market for HVAC & refrigeration systems, including A2L's. The powerful 1.25 hp brushless DC motor and twin-cylinder compressor provide fast recovery. It features automatic shut-off when recovery is



complete and a purge function to prevent cross-contamination. The user interface is simple with a single control valve and easy-to-read high/low gauges. The lightweight design and included shoulder strap ensure easy carrying and transport.

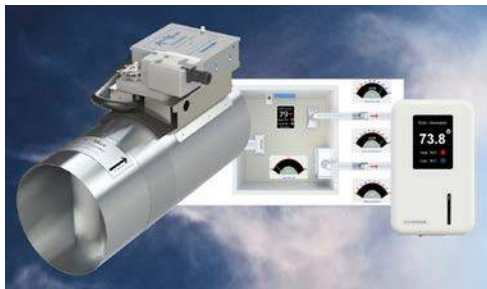
TurboRecover™ Refrigerant Recovery Machine  
YELLOW JACKET® Products Division - Ritchie Engineering Co., Inc.

## BUILDING AUTOMATION

### Room Temperature and Airflow Tracking Control System

**Accutrol, LLC / BOOTH C1572**

The Accutrol AVR Room Temperature and Airflow Tracking Control System provides the next evolution for critical environment control in laboratory, healthcare, and research facilities. The AVR is the first product that builds room temperature control and high accuracy airflow tracking control directly into the airflow control valve. Simple configuration through the intuitive Accutrol Insight software eliminates the need for complicated menu driven instructions and complicated temperature controllers.



Accutrol AVR Room Temperature and Airflow Tracking Control System  
Accutrol, LLC

### Smart Thermostat Integration HUB for VRF

**Airzone North America Corporation / BOOTH C6917**

Aidoo Pro Controller is a full integration solution to control individual inverter units remotely. Designed for ducted and ductless HVAC units, it integrates with any HA/BMS system via local/Cloud API, Modbus protocol (MODBUS RTU) or BACnet MSTP. It is compatible with 3rd party smart thermostats with dry-contact input and integrable with third party Cloud ecosystems. It features the Aidoo App and Airtools: the smart remote diagnostics with readings of the manufacturer's unit warnings and errors.



Aidoo Pro  
Airzone North America Corporation

### Gas Detection Instrument

**Armstrong Monitoring / BOOTH C1250**

Armstrong Monitoring's AMC-UTX Series transmitter represents a paradigm shift in how gas detection equipment is designed and used. Designed to enhance safety, reliability, serviceability, and user experience, the AMC-UTX-M-400 is the ideal solution for parking garages, municipal works facilities, warehouses, or other vehicle exhaust applications. The integral sensor module(s) are easily changed, and are eligible for the EZ Cal™ service program taking the work and risk out of maintaining your gas detection system.



AMC-UTX-M-400 Gas Sensor/Transmitter  
Armstrong Monitoring

### BAS Controller

**Automated Logic Corporation / BOOTH C1117**

The OptiFlex™ Advanced VAV Controller is ideal for zone level temperature and air quality control applications and comes equipped with a bright rotating light. Technicians have the capability to turn on the controller's light via an app to verify the controller's location and damper rotation from a distance. This feature minimizes the need to be in front of the electrical panel or the air stream to assess the controller location or operation of the damper.



OptiFlex™ Advanced VAV Controller  
Automated Logic Corporation

# BUILDING AUTOMATION

## Building Automation Software

**BACnet International** / BOOTH C1850

BACnet/SC is a secure, encrypted datalink layer in the BACnet specification. The BACnet/SC Reference Stack is a Java implementation of BACnet/SC, which includes a sophisticated Test Bench that enables rapid creation of multiple nodes and hubs to simulate complex network environments. In an effort to accelerate the adoption of BACnet/SC for the greater good of the building automation industry, BACnet International created the community-vetted implementation for BACnet/SC. This implementation is licensed for modification and production.

## Pressure Independent Valve

**BELIMO Americas** / BOOTH C1258

The new range of Belimo Energy Valve™ integration with the Thermal Energy Meter provides energy measure and control, Delta T management, power control, and IoT-enabled billing in one device. It offers seamless and direct integration to the BMS or IoT-based monitoring platforms.



The Energy Valve is designed to EN1434/MID standards allowing for transparent tenant billing.

**Belimo Energy Valve™ with integrated Thermal Energy Meter**  
BELIMO Americas

## Sheet Metal Clinching Presses

**BTM Company** / BOOTH C6249

Your go-to-source for clinching, specialty press & work holding equipment that improves your productivity. BTM's HHP hand-held pneumatic clinching presses provide best-in-class performance & reliability combined with unmatched support & service. HHPs address a broad range of metal joining applications while maximizing operator efficiency & automation capabilities. HHPs have reversible tooling, jaws engineered for increased part clearance, integral ball bearing gyro ring for ergonomic positioning & grips contoured for operator comfort.



**HHPs Hand-Held Pneumatic Clinching Presses**  
BTM Company

## Smart Thermostat

**Cielo WiGle Inc.** / BOOTH C1181

Introducing Cielo Smart Thermostat: Loaded with state-of-the-art technology, this smart thermostat helps you save money on your energy bills without any compromise on your convenience. Aesthetically pleasing and superlative in functionality. Quickest possible installation, simple setup, and feature-rich mobile app ensure that everything is in your control without any hassle. The box includes the Cielo Smart Thermostat, wall plate, free C Wire adapter, and free presence and environment sensor. A smart thermostat at its very best.



**Cielo Smart Thermostat**  
Cielo WiGle Inc.

## Direct Digital Controller (DDC)

**Computrols, Inc.** / BOOTH C1058

The LX Controller (BTL Listed) is the most versatile BAS controller and protocol gateway in the building automation industry. Capable of exposing over 25 proprietary and open communication protocols via BACnet, this rugged controller boasts the industry's only lifetime warranty. The LX comes in four sizes (8, 16, 32, 64 points), each point being software-programmable universal I/O.



**LX Controller**  
Computrols, Inc.

## CO & NO2 Detector

**Conspec Controls** / BOOTH C1957

Conspec controls and their new "Optio V" Multi-gas detector for parking garages is the perfect solution for contractors and engineers who struggle with timely installations, confusing system setups, and complicated calibrations. No need for expensive controllers or individual CO, NO2, H2 or CH4 detectors as this unit can support up to 6 sensors.



**OPTIO V**  
Conspec Controls

## Edge Controller

**Contemporary Controls** / BOOTH C974

Don't miss the new BASiot-Edge, a BACnet controller with drag/drop programming and IoT capabilities that bring energy management and optimization to the Edge by delivering BACnet client/server communication over Ethernet and MS/TP with cloud connection to Azure, Google Cloud, and AWS. These robust controllers have built-in 12-points of IO, realtime clock, eMMC Flash and wide-temp operation. Designed for building automation, users can easily develop customized and modern HVAC sequences with no licensing restrictions.



**BASiot-Edge Controller**  
Contemporary Controls

## AC Current Sensor

**Continental Control Systems, LLC** / BOOTH C1067

Continental Control Systems, LLC features the improved revenue-grade (ANSI C57.13 Class 0.6 and Class 0.3) ACTL split-core current transformers, (0.2% and 0.3%) and new line of flexible Rogowski coils with integrated signal conditioning for easier installation.



**AC Current Transformers, Split, Solid and Flexible**  
Continental Control Systems, LLC

## Software

**CUBE USA** / BOOTH C951

CUBE Edge provides complete estimating and engineering software tools for controls contractors. For years, there has been frustration of not having the correct tools to make controls companies more efficient. CUBE USA has created CUBE Edge, a revolutionary platform that will help companies become more efficient. CUBE USA believes that life is too short to waste time using inefficient tools.

## Critical Room Status Monitor

**Dwyer Instruments, Inc.** / BOOTH C1452

The RSMC StabiliSENSE™ Critical Room Status Monitor provides long term stable pressure measurement for isolation rooms, nurses offices, pharmaceutical facilities, and other critical environments. It provides color changing status indication (green, yellow, red) for up to 4 parameters on the display and the edge light which is visible from a long distance down a corridor.

## Pressure Independent Control Valve and Flow Meter

**Flow Control Industries, Inc.** / BOOTH C1159

The NDP Series DeltaPValves provide flow measurement and pressure independent control for heat exchangers, chillers and cooling towers. Available in 10" – 16" [250-400 mm] sizes for precise control up to 5,500 GPM [347 LPS], each valve includes a touchscreen display for flow readout and local operation, with no straight run or balancing devices required. This new technology enables redefining central plant design with lower cost, less equipment and a smaller footprint.



**10"-16" NDP Series DeltaPValve**  
Flow Control Industries, Inc.

## Power Savings Device

**Fluidyne International Corp. / Fluid Exponents Inc.** / BOOTH C5350

The Fluidn/NetRED Magenergetic Power Generators would save every building from 40%-60% electricity bill and are designed to correct power factor. It could be run on-grid or off-grid, with combined power starter from Solar, Wind and storage batteries. Available from 25 KW to 500 KW in 110/220/460/575V.

## IAQ Sensor

**Greystone Energy Systems Inc.** / BOOTH C1569

The IAQ Sensor is a real-time total indoor air quality monitor and simultaneously senses temperature, humidity, CO2, particulate matter, volatile organic compounds, and formaldehyde and provide a BACnet® or Modbus output for network communications. The IAQ Sensor incorporates a configurable touch LCD that provides a local display and is built on a powerful platform to meet the demand for accurate indoor air quality monitoring in education & healthcare facilities, cleanrooms, office buildings and other public spaces.



**IAQ Sensor**  
Greystone Energy Systems Inc.

## Chlorine Water Analyzer

**Heyl Brothers North America L.P.** / BOOTH N8619

The Testomat® Modul CL is an affordable online monitor which monitors free or total chlorine in water. It covers a range from 0.00 - 5 ppm. The Testomat® Modul CL sends the measurement result to a PLC via 4-20mA output. Additionally, the measurement results can be saved on a SD-Card.



**Testomat Modul CL**  
Heyl Brothers North America L.P.

## BUILDING AUTOMATION

### IEC Contactor

**Hongfa America, Inc.** / BOOTH C1680

Newly released IEC Contactors by Hongfa America. The UEC1 series of contactors has rated currents up to 95A under the AC-3 utilization category and can be driven by both 50Hz and 60Hz. They can be combined with Hongfa's modular accessories, such as auxiliary contacts and thermal protection relays, which can be mounted as per individual needs. All UEC1 models can be mounted by screw or by 35mm DIN rail; models from 40A can also utilized 75mm DIN rail.

**UEC1 Series AC Contactor**  
*Hongfa America, Inc.*



### Multi-Interface Serial Communication Gateway

**Industrial Control Communications, Inc.** / BOOTH C1750

The BTL-listed Mirius is a multi-protocol/multi-interface serial gateway for RS-485, RS-232, UART, and physical I/O applications. Protocols supported include Modbus RTU, BACnet MS/TP, Metasys N2, Siemens FLN, Generic Serial, and more. Three separate layers of galvanic isolation ensure reliability in extreme environments. All protocol drivers are included, configuration is via USB, and OEM versions are available.

### Building Automation Software

**Innotech Controls America** / BOOTH C1650

NeoView is a powerful building automation platform that allows real-time data from your built environment and business systems to be connected via a centralised, online, graphical interface. By integrating diverse systems or geographic locations. NeoView can assist you to improve operational efficiency, while advanced analytics highlight opportunities to reduce energy usage, improve building performance, and achieve cost savings and profitability gains.

**NeoView Building Automation Software**  
*Innotech Controls America*



### Innovative Building Technologies

**Intellihot Inc.** / BOOTH N9507

The telliBot water heater forecaster is easily connected to your existing water heaters, any make, and model. Using advanced intelligence and sensors to gather data-based on the flow rates, temperatures, firing rate, and more to accurately predict the remaining useful life of your systems. Allowing you to plan for replacements before a hot water disaster.

### Software Framework Application Suite

**J2 Innovations, Inc.** / BOOTH C6610

Until now, fully featured building management systems have been too complex and costly for smaller or less complex buildings. Combining the power of FIN Framework and Haystack tagging, FIN microBMS application suite delivers the benefits of a BMS without the cost and complexity to make your buildings smart, connected, comfortable and efficient. Whether a small retail or a school building, FIN microBMS provides the right functionality. Wizards and templates allow for plug'n'play engineering for deskilled installation.

### Building Automation Fault Detection & Diagnosis Software

**Key2Act** / BOOTH N11617

BOB is the world's first Building Optimization Broker that harnesses the power of big data and IoT to give you eyes into the buildings you service like never before. BOB is a fault detection and diagnosis (FDD) software platform that combines building analytics with service workflow automation and energy benchmarking to identify problems in a building's HVAC system and provide proactive solutions with system effects and a recommended fix.

**BOB, the world's first Building Optimization Broker**  
*Key2Act*



### AC Power & Energy Metering

**Measurlogic, Inc.** / BOOTH C1150

Measurlogic DTS AC meters are available with either 333mV or 5A CT inputs. The 333mV CT versions can now accommodate both 333mV OR flexible Rogowski CTs. All DTS meters are now shipped with both BACnet and Modbus protocols pre-loaded. For RS-485 meters the user selects BACnet MS/TP OR Modbus RTU. For Ethernet meters BACnet/IP AND Modbus TCP can be used simultaneously. These field-settable features significantly simplify installations, reduce inventory and lowers overall project costs.

### Snow Sensor with B.M.S. Interface

**Meitav - tec** / BOOTH C1271

Snow Sensors - Aerial, Ground and Gutter models. 24VAC operated with auto-detection protocol and baud rate for BACnet and MODBUS over RS485 lines (A/B). Simple integration to Building Automation System or Smart-Home PLCs. Just "Plug & Play"

**Snow Sensor - PYROSENSE-AB**  
*Meitav - tec*

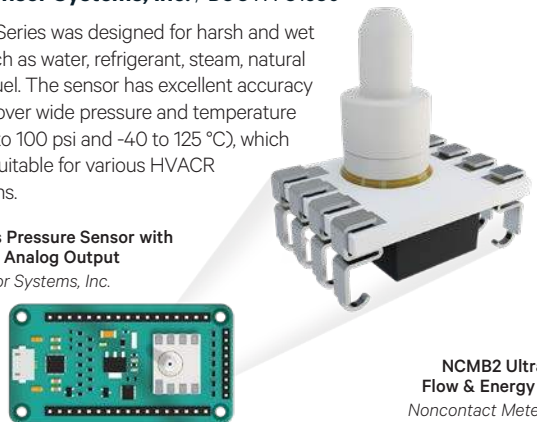


### Pressure Sensor

**Merit Sensor Systems, Inc.** / BOOTH C1580

The HTS Series was designed for harsh and wet media, such as water, refrigerant, steam, natural gas, and fuel. The sensor has excellent accuracy (1.0 %FS) over wide pressure and temperature ranges (1 to 100 psi and -40 to 125 °C), which makes it suitable for various HVACR applications.

**HTS Series Pressure Sensor with Digital and Analog Output**  
*Merit Sensor Systems, Inc.*



**NCMB2 Ultrasonic Flow & Energy Meter**  
*Noncontact Meters, Inc.*

### Control Platform for Hydronic Systems

**Messana Radiant Cooling** / BOOTH C1076

The Messana mBox10 is a control module for residential hydronic systems with radiant cooling, heating, and fan-coils powered by different energy sources (HPs, boilers, chillers). The mBox10 can control up to 10 independent zones, mechanical ventilation (IAQ, dehumidification and HRV), and DHW. The mBox10 works with the Messana mControl software platform with remote monitoring, historical data and system performance analysis through a powerful and user-friendly iOS and Android app. Easy setup through the wizard configuration tool.

**mBox10**  
*Messana Radiant Cooling*



### Variable Frequency Drive

**Mitsubishi Electric Automation, Inc.** / BOOTH C1566

The FR-E800-HVC VFD is designed to help HVAC OEMs meet the new energy regulations that take effect in 2023, as well as meet the UL 60335-2-40 standards. The wiring terminals on this drive use a straight forward plug-in connector to streamline equipment installation, reduce labor costs, and eliminate wiring errors. With auto-tuning capability for both induction and permanent motors, it is the ideal drive to be used with air handling units and compressor control.



**FR-E800-HVC**  
*Mitsubishi Electric Automation, Inc.*

### Cloud-Based Monitoring and Control System for Zoning Application

**Neptronic** / BOOTH C2130

The Neptronic Zoning System leverages the power of the cloud to provide a flexible and user-friendly interface to control the HVAC system in a building. Contractors, installers and end-users can use Neptronic's zoning system to commission, balance and manage equipment to achieve significant cost savings and effective return on investment. Scalable from a single site to a portfolio of buildings, the system facilitates equipment configuration, firmware updates, schedule and alarm management for a seamless experience.

**Neptronic Zoning System**  
*Neptronic*



### Ultrasonic Flow Meter

**Noncontact Meters, Inc.** / BOOTH C1173

The Noncontact Meters Inc NCMB2 Series non-invasive clamp-on ultrasonic transit time flow meter is the latest technology for monitoring your hydronic systems flow or BTU with communication to integrate with your BAS for optimum control. Features a display of flow rate, Total & BTU with a variety of communications. Clamp-on transducers and RTDs for pipes ½ to 100 inches.



### Ultrasonic Flow and Energy Instrumentation

**ONICON Incorporated** / BOOTH C1552

ONICON's F-4300 Clamp-on Ultrasonic Thermal Energy Measurement System is the non-invasive approach to highly-accurate hydronic flow and energy measurement. The time-tested design incorporates matched transducers and easy-to-use mounting hardware, making it ideal for installation in systems where shutdowns are impractical. Provided with a BTU meter option, the F-4300 becomes a complete hydronic energy measurement system.

**F-4300 Clamp-on Ultrasonic Thermal Energy Measurement System**  
*ONICON Incorporated*



### Leak Detection

**Preferred Utilities Manufacturing Corporation** / BOOTH N8806



The advanced Vacuum Leak Detection System continuously monitors the interstitial area around double-walled piping, enclosures, tank walls, etc. The controller creates a vacuum in the interstitial space and if it senses a significant pressure drop for a specific amount of time, the controller alerts the operator of a leak. The system also alerts the operator to whether the leak is oil or water. Vacuum leak detection gives significant benefits of early alerts even before liquid is present.

**Vacuum Leak Detection System**  
*Preferred Utilities Manufacturing Corporation*

### Fan Coil Unit Controller

**Prolon Controls** / BOOTH C1057

Prolon is introducing a Fan Coil Unit (FCU) controller to join its already impressive light commercial building automation product portfolio. This new model can tackle 2-pipe, as well as 4-pipe hydronic heating and cooling units, with optional reheat and multiple fan speeds. Available on the M2000 as well as brand new C1050 hardware platform (pictured), the Prolon FCU controller offers automation level performance at down-to-earth price and simplicity.

**PL-C1050-FCU Controller**  
*Prolon Controls*



### High-End 3D Equipment Graphics

**QA Graphics** / BOOTH C1381

The 3D Equipment Library provides realistic representations of equipment from various product lines. The graphics include detailed cutaways of mechanical equipment with more animations & details than typically



provided with BAS software. Users can maintain their existing BAS software & use the 3D images to create system graphics that realistically represent the equipment in place.

**HVAC Equipment Library**  
*QA Graphics*

## BUILDING AUTOMATION

### Supervisory Control

Retail Solutions / Emerson / BOOTH C3106

The Lumity E3 supervisory control — designed to provide complete connectivity and control of building and system management for refrigeration, HVAC, lighting and more for retailers — combines the form, fit and function of Emerson's popular E2 with a new software platform and user interface, for the best in next-generation facility controls.



Lumity™ E3 supervisory control  
Retail Solutions / Emerson

### Stairwell Pressurization Control

RM Manifold Group, Inc. / BOOTH C3847

RM Manifold Group's ACSP System is the most effective method of controlling the spread of smoke in stairwells and elevator shafts for high-rise applications, saving lives, and protecting property.



Active Compensated Stairwell Pressurization (ACPS)  
RM Manifold Group, Inc.

### Economizer Controller

Siemens Smart Infrastructure / BOOTH C1540

Siemens Climatix ECO allows a cooling system to supply outdoor air to reduce or eliminate mechanical cooling during ideal conditions. A properly functioning economizer reduces energy consumption and increases the lifespan of expensive rooftop unit compressors and condensers. Easily configured with the Climatix mobile app, the easy to commission Climatix ECO Title 24 compliant controller, combined with reliable sensors, damper actuators and thermostats provide a cost-effective bundle for retrofit and new rooftop units.



Climatix ECO  
Siemens Smart Infrastructure

### Variable Frequency Drive

SmartD Technologies / BOOTH C2164



SmartD's Clean Power Variable Frequency Drive changes the motor control landscape. By delivering a clean, sinusoidal signal it improves motor system efficiency by up to 6% and extends motor lifetime in a compact footprint that can be deployed without ancillary filters.

SmartD Clean Power VFD  
SmartD Technologies

### NSF Rated Globe-Style Control Valve

Spartan Peripheral Devices / BOOTH C1466

Spartan Peripheral Devices is proud to present their new NSF Rated, UL certified, globe-style control valve. Cast from C87850 EcoBrass, dezincification resistant, lead-free brass. The VN series also features a G-type connection compatible with quick connect unions from leading manufacturers, to reduce labor and simplify installation. Spartan PD is designing, casting and assembling the VN series in North America. The VN series maintains compatibility with all Spartan PD actuators. Spartan PD: As easy as 1-2-3.



VN Series NSF Rated  
Globe-Style Control Valve  
Spartan Peripheral Devices

### Balancing Damper

Specified Controls / BOOTH C1259

The SC-BAL is a remote powered balancing damper designed to balance air flow in a HVAC ducted system. The SC-BAL is available in both round and rectangular damper configurations and is used with a hand-held remote control positioner equipped with a 9-volt power supply that operates a factory mounted, gear driven, fail in place damper actuator with dual RJ11 connectors.



The positioner comes with a 7' RJ11 cable that can be plugged into an optional wall box, round ceiling plate or diffuser connector.

Electronic Balancing Damper  
Specified Controls

### Light Commercial Controls System

Strato Automation / BOOTH C1588

Strato SLC has a full portfolio of BTL® Listed Building Automation ASC Controllers and SLC Software with a FREE UI and Integrated Toolsets. With the Strato SLC TDK (Test Drive Kit), Strato trains your team in few hours on the SLC platform and they are ready to take on a project. Strato Light Commercial (SLC) can be deployed as a "standalone" solution for small to mid-size projects or integrated into any Enterprise BACnet Platform. SLC is simple to install by any controls, or HVAC contractor.



Strato Light Commercial  
Strato Automation

### BACnet Room Controller

TCS | The Genius of Simple / BOOTH C1158

The UbiquiSTAT 4100 Series of advanced, wifi-communicating controllers are used for a wide variety of HVAC applications using BACnet. This series of controllers can be configured for most conventional, heat pump, and modulating control applications in a commercial environment. The UbiquiSTAT's ability to use WiFi to securely communicate to the TCS Ubiquity Cloud, or other open protocol systems, make it a flexible option for contractors and building owners.



UbiquiSTAT  
Advanced 4100  
WiFi Series  
TCS | The Genius  
of Simple

### BACnet Snow Melting Sensor Interface

tekmar Control Systems, a Watts brand / BOOTH N9926

The BACnet Snow/Ice Sensor Interface 681 automatically detects snow or ice through tekmar sensor technology. It interfaces with a Building Automation System via BACnet MS/TP to automate the start and stop and slab temperature operation of snow melting equipment.



BACnet Snow/  
Ice Sensor Interface 681  
tekmar Control Systems,  
a Watts brand

### Cellular Pressure & Temperature Sensor for Refrigerant Monitoring

Transducers Direct / BOOTH C5346



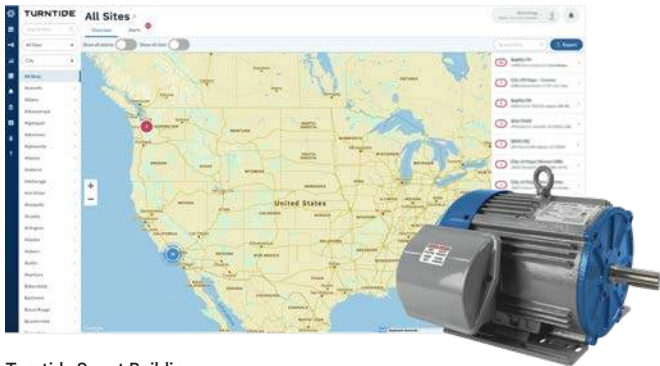
The TDWLB-LCC Series breaks new ground as the World's-First Pressure & Temperature Transducer with integrated Cellular communication. Revolutionizing remote refrigerant monitoring, there is no need for an intermediate device or internet connectivity in order to receive email and text alerts that your system is in need of immediate attention. Now you can ensure your AC system is running efficiently or guard the perishables in your refrigeration system, 24/7, with this groundbreaking sensor!

Cellular Pressure & Temperature Sensor  
for Remote Refrigerant Monitoring  
Transducers Direct

### Building and HVAC Automation and Equipment

Turntide Technologies / BOOTH N8535

Turntide Smart Building is an open, turnkey solution with Technology for Sustainable Operations™ built to help facility managers optimize their equipment, assets, and building portfolios. Designed with Turntide's Smart Motor System™ which reduces HVAC energy consumption by an average of 64%, it merges with the Turntide App and Turntide Edge to offer automation, cloud insights, and controls to optimize HVAC energy use, improve Indoor Air Quality (IAQ), boost bottom lines, and strengthen brands.



Turntide Smart Building:  
Technology for Sustainable  
Operations  
Turntide Technologies

### Sensors and Controls with New WiFi and Ethernet Options

Vector Controls LLC / BOOTH C970

The TRI2 is a programmable controller and sensor with communication capabilities. Each control loop may use 2 PI sequences and 2 binary stages.



TRI2-FU-TH-221.202C  
Vector Controls LLC

### Internet-Enabled Wireless Thermometer

Weksler Glass Thermometer CORPORATION / BOOTH C5334

Each wireless thermometer sends a temperature reading to the Cirrus gateway once per minute and the gateway sends the data to The Cloud (hosted by AWS) via WiFi.

The app allows you to monitor temperatures on your smartphone and receive alarm notifications 24/7 if the temperature of your HVAC system gets too high or low. There is no need for an expensive Building Management System!



Cirrus Wireless  
Thermometer System  
Weksler Glass Thermometer  
Corporation

### Variable Speed Drive

Yaskawa America, Inc. / BOOTH C1358

The latest HVAC industry offering from Yaskawa is the HV600 Type 12 Narrow Package. Vertically designed for space savings to fit your building automation application needs, it is available in bypass or configured models for three phase 208 or 480 VAC. It is easy-to-integrate and the UL Type 12 certification enables the product to be applied in environments subject to dust and moisture where Type 1 would not be allowed.

### Wireless/Wi-Fi Combination Thermostat and Light Switch

ZONEFIRST / BOOTH C2010

BLISS by ZONEFIRST is the world's first combination light switch and thermostat that provides Wi-Fi temperature control at any light switch. It is perfect for zoning and VAV systems by using switch outlets for power and eliminating the needs to wire separate thermostats. BLISS is combined with zone damper air sensors to monitor air temperature, pressure and humidity and system operation and performance. The system can provide alerts and can be remotely controlled from any smart device.



BLISS - Wireless / Wi-Fi Zone  
Temperature Control  
ZONEFIRST

## SOFTWARE

### Selection, Configuration, Pricing, Quoting Software

**BCA Technologies, Inc.** / BOOTH N11626

Designed specifically for HVAC manufacturers, eRep CPQ is a selection, configuration, pricing, and quoting platform, that gives your sales teams the guided selling tools they need to quote faster and sell smarter while collaborating with distributors, engineers and contractors. eRep makes quoting and ordering complex AC equipment and systems a breeze. Get even more benefit when integrating with your ERP and CRM systems.

### Platform Enabling Local Distributor Transactions

**Bluon, Inc.** / BOOTH C6617

BluonLive expands upon their powerful HVAC mobile app and support platform - currently used by 75,000 technicians and growing. BluonLive connects the aggregated demand of these technicians to a network of local distributors by first enabling rapid part identification for specific models, then quote and availability, resulting in order facilitation and delivery all through the local distributor. Bluon seeks to empower both the local distributor and the contractors they service by making the part purchasing process more effective and efficient.

### Artificial Intelligence for Commercial HVAC

**BrainBox AI** / BOOTH C1788

BrainBox AI is a technological solution to excessive energy consumption in commercial buildings. Working with existing HVAC systems, BrainBox AI draws on untapped efficiency gains through deep learning, cloud-based computing, and proprietary processes. The autonomous device analyzes internal and external data to predict future temperatures within each zone of a building, allowing it to pre-emptively adjust according to desired setpoints. All this allows for more consistently comfortable temperatures while reducing emissions and lowering energy bills.



**BrainBox AI**  
BrainBox AI

### Management Software for Commercial Contractors

**BuildOps** / BOOTH N11737

BuildOps is the only all-in-one management software purpose-built specifically for the commercial specialty contractor, combining service and projects under one roof. The cloud-based software allows contractors to consolidate their tech stack and rely on fewer systems to more efficiently run their business. BuildOps enables contractors to increase revenue by getting paid faster, access reliable data to make better business decisions, and build standard technician workflows to drive down call-backs and increase pull-through work.



**BuildOps**  
BuildOps

### Accounting and Project Management Software for Construction

**CMiC** / BOOTH N11420

Regardless of the type of speciality contractor you are, integrating your back-office functions is mission critical to completing your construction projects successfully. CMiC's construction ERP can help you improve job costing, contract development, resource planning, forecasting, productivity tracking & analysis, document management, and customer management. Explore how key applications—from accounting/project controls to asset management to procurement—can help you optimize operations and maximize margins.



**CMiC Enterprise**  
CMiC

### Power Consumption Distribution Measurement

**CoolAutomation** / BOOTH C860

Many multi-space building managers want to measure the HVAC energy consumption of every apartment, and improve operational performance and accurate tenant billing. With CoolAutomation Power Consumption Distribution (CAPD), building managers can remotely and easily access the HVAC energy consumption data from anywhere. CAPD provides them with the ability to deliver accurate measurement of usage per HVAC indoor unit, for multi-dwelling habitats - and bill them accordingly. CAPD supports multiple VRF systems and mixed VRF brand topologies.

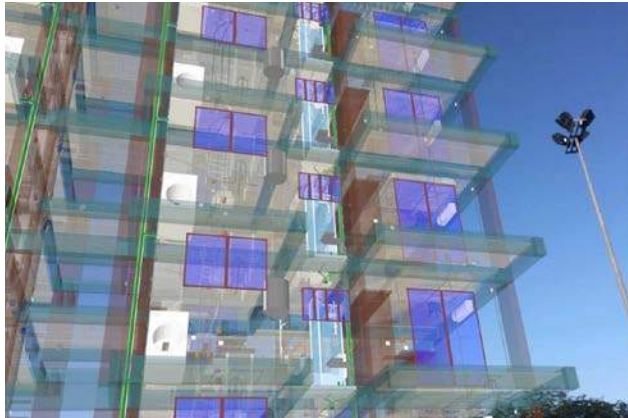
**CoolAutomation**  
Power Distribution  
(CAPD) Solution  
CoolAutomation



### Thermal and Energy Analysis of Buildings

**CYPE Software** / BOOTH N11431

Software for calculating thermal loads, energy simulation, regulatory justification and sizing of HVAC installations. Along with generating bill of quantities and possible improvement measures, all with traditional or Open BIM Workflow and connected with Augmented and Virtual Reality



**CYPETHERM & MEP Suite**  
CYPE Software

### Business Analytics Software for Service & Construction

**Data-Basics, Inc.** / BOOTH N11632

DBAnalytics™ real-time business analytics when used with SAMPro Enterprise for faster, more collaborative decision-making and real-time assessments of the viability, stability, and profitability of the entire organization. DBAnalytics measures service management aspects such as committed cost, cash-flow, change order status, profit and loss, over/under billings, cost by category, accounts receivable analysis and more,



allowing companies to identify profit-sabotaging trends so they can take action to ensure success.

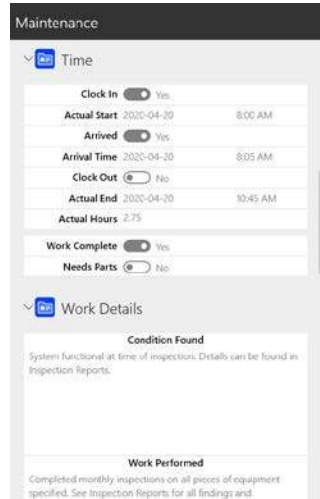
**DBAnalytics™**  
Data-Basics, Inc.

### HVAC Contractor Management Software

**FIELDBOSS** / BOOTH N11421

FIELDBOSS HVAC Contractor Management Software, built within Microsoft Dynamics 365, is a scalable, flexible, and configurable platform specifically for the HVAC industry. FIELDBOSS is unique as it is designed for both large organizations looking for an end-to-end custom software while also suited to smaller contractors who are looking for a fast, budget-friendly, implementation. The result is a platform that is flexible to meet your unique needs, and position you to grow your business.

**FIELDBOSS HVAC Contractor**  
Management Software  
FIELDBOSS



### System Desgin Software

**HVAC Solution, Inc.** / BOOTH N9906

HVAC Solution with its Revit Add-in will import load information from industry standard load programs, then automatically build and model simple and complicated air, hydronic, VRF, plumbing and control systems in new or existing buildings. Automatically preform ASHRAE 621 and ASHRAE 170 calculations using your model. Save time, reduce errors, and increase project and company profits when you take the time to model your systems with Revit Add-in.

### Building Modeling Software - Loads & Energy

**IES Ltd.** / BOOTH N11629

Building Energy Modeling software (IESVE 2022) provides energy code compliance solutions for ASHRAE Standard 90.1-2019 and Title 24-2019 in California. The modeling software comes with a range of decarbonization features which include heat-recovery chillers, VRF heat pumps, ceiling fans, PV and battery-storage systems. A new CFD Simulation mesh is also available for detailed airflow simulation.

### Building Analytics & Automated Field Service Workflows

**Key2Act** / BOOTH N11617

Diagnose building HVAC issues with root cause diagnosis. Meet BOB + Signature Field Service Action with the world's first Building Optimization Broker that prioritizes issues and automates service workflows to schedule service with root cause diagnosis.

### Energy Modeling Software for LEED

**NEO | Net Energy Optimizer®** / BOOTH N11419

NEO | Net Energy Optimizer delivers customized, real-time energy and financial analyses for commercial buildings. The new NEO v3.8 provides building designers a schedule of existing units and/or a schedule of new potential system designs for their energy models and illustrates lifecycle costs to support customers' equipment decision-making. For the LEED Optimize Energy Performance credit category, they've worked with GBCI to perfect an automated report, making energy modeling accessible, affordable, and accurate for all projects.



**NEO | Net Energy**  
Optimizer® v3.8  
NEO | Net Energy  
Optimizer®

### BACnet Network Monitoring Software

**Optigo Networks Inc.** / BOOTH C1576

Transform JACE controllers into powerful tools for network monitoring, with Visual BACnet. Visual BACnet allows users to capture BACnet traffic from their JACE controller, 100% remotely. BACnet data will automatically upload to Visual BACnet for analysis. No additional hardware is required, unlocking all-new potential in thousands of JACE controllers.



**JACE**  
Wiretap  
for Visual  
BACnet  
Optigo  
Networks  
Inc.

### Business Management Software

**Payzer, LLC** / BOOTH N11917



Built for contractors, Payzerware is the all-in-one tool that brings together software and support to help you grow your business. The platform provides over 20 applications in one streamlined workflow, allowing you to simplify operations, sell more, and improve collections with ease. Plus, Payzer's top-rated customer support helps you get up and running quickly!

**Payzerware**  
Payzer, LLC

## SOFTWARE

### Flat Rate Pricing and Sales Software

**Profit Rhino powered by Callahan Roach** / BOOTH N11738

Profit Rhino's flat rate pricing products allow residential electrical contractors to easily manage pricing, profitability and sales presentation. Backed by 30 years of experience, Profit Rhino has designed an easy-to-use and professional mobile sales tool that makes selling in the field easy. It comes equipped with the most concise and customizable visual flat rate book platform on the market.



### Estimating Software

**Sheet Metal Connectors, Inc.** / BOOTH C4936

PriceDuct is the easiest way to quote and order duct, period. PriceDuct allows you to bid and purchase your job from anywhere you have internet on any device. Print and share bids and reports quickly between the field and the office, and place orders with just the click of a button. See how the first and only FREE estimating system for the HVAC industry can remove the guesswork for your company. PriceDuct, bid with confidence, buy with ease.

### Sales and Customer Service Support

**Slingshot** / BOOTH N7230

Slingshot is the modern sales and customer support solution for HVAC companies. With 25% of sales calls happening after-hours or during weekends, Slingshot's HVAC trained agents are there to sell your services including: furnace checks, repairs, installation, and maintenance around the clock. They can also manage scheduling, payments and customer support including emergency dispatch. Answer First. Answer Fast. With Slingshot.

### Residential HVAC Remote Fault Detection

**SmartAC.com, Inc.** / BOOTH N11723

SmartAC.com is a simple, cost-effective HVAC fault detection product to boost customer acquisition & retention while offering an unparalleled experience for homeowners. The platform allows contractors a low-cost way to become the HVAC/Plumbing provider of record, even when contract maintenance is declined. The mobile app digitizes the experience for homeowners, while the robust partner dashboard generates outbound lead opportunities to drive efficiency and profitability. With implementation you can increase your business footprint without being constrained by HR.

**SmartAC.com Sensor Kit**  
*SmartAC.com, Inc.*



### Business Management Software

**SuccessWare, Inc.** / BOOTH N11437

Successware is a premium operations and mobile field software for the home services industry. Successware Office offers integrated accounting, dispatch, marketing, and more all from one platform. Successware Mobile seamlessly connects to its back-office platform, allowing your technicians to receive job details, create invoices and forms, and more directly in the app. SuccessWare's new Success Tools by Successware features online appointment booking, mobile timecard management, a communications queue, a reporting dashboard, and online payment functionality.

### Cloud Based Diagnostics Software

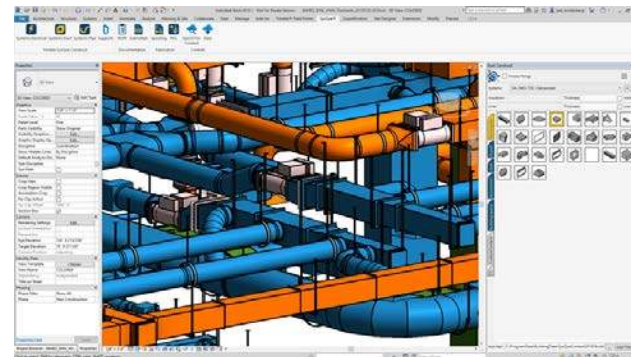
**T-DRILL Industries, Inc.** / BOOTH C1136

TD-Vault is an integrated part of the Industry 4.0 ecosystem with smart factory connections, data transparency as well as information visualization for proactive and optimized operations. When your T-DRILL machine is linked to TD-Vault, you will get a real-time overview of production details, piece counters, performance, overall equipment effectiveness. Customizable, to best fit your needs.

### Design/Detailing Software

**Trimble** / BOOTH N9922

Now everything you need to plan, design, collaborate, procure and fabricate from real-world constructible models comes in one subscription. Trimble introduces the VDC Pro+ Solution, the all-in-one design/detailing subscription for detailers who want the ultimate flexibility in the detailing platform and the diversity of constructible content they use. Combining Trimble's industry-leading design and detailing software, Trimble-managed manufacturer content, collaboration tools, and insights, VDC Pro+ provides everything you need to plan and build constructible models and empower the project team.



**Trimble VDC Pro+ Solution**  
*Trimble*

### SaaS

**Vitality Energy** / BOOTH C1385

Vitality is the leading platform for today's smart buildings which encompass an array of data sources, including Building Automation Systems, Energy Management Systems, Weather Data and Security. Vitality Energy's all-in-one platform is able to centralize all of this data into one easy to use solution. Vitality customers better manage their energy and make their buildings intelligent via smart meters, other smart devices, and data analytics all visualized on the Vitality central front-end platform.

