

AIRREPS CIRCLE

ISSUE **2**
JULY 2022

Letter From AirReps Leadership: **Total Domination**



Looking forward, we at AirReps could not be more excited! We are focused on growing our business in a way that meets our customers' needs wherever they are. Not only are we hiring additional Account Executives to make sure that every customer receives the service that AirReps is known for, but we are also committed to stocking more parts and equipment so that no one can deliver what you need faster than we can. And that is just the beginning; trust me when I say that the plans we are executing now are going to blow you away.

In addition to our investments in new capabilities, we are also stepping into our busiest event season. If you have yet to experience an AirReps event, now is the time to find out what the hype is about. Our talented marketing team puts on the best events in the industry. The AirReps Expo & Golf Invitational on Friday, August 5, is an incredible opportunity for our customers to interact with our manufacturers, see live equipment at our trade show, and learn about current systems and code topics in our Engineering Summit. Who says HVAC isn't fun?

In addition, AirReps University (ARU) is committed to delivering the finest in HVAC education to

you through training programs, classes, and informative videos that bridge the gap bridge between college to learning on the job to continuing education that is engaging and relevant. Whether you just graduated or are an industry veteran, ARU has something for you.

AirReps will continue to innovate and invest in services, staffing, and processes to be your one-stop-shop for everything commercial HVAC and we look forward to showing you all that we can offer your projects.

All the best,

A handwritten signature in black ink, appearing to be 'JWinn', written in a cursive style.

James Winn
Chief Sales Officer, AirReps

Meet Our Engineering Experts



Ken Horsfall

Consultant (retired) and former Vice President of Engineering since 2002 • Bellevue, WA

Tell us more about your mechanical engineering background and experience.

I have 40+ years of experience including several years working for a design-build contractor. There I learned the importance of quick response and accurate information. I have carried this with me to AirReps where I worked from 2002 to the end of 2021. I am retired now but continue to work as a consultant for AirReps on an as-needed basis.

What do you do at AirReps?

I have been an engineering specialist for the last seven years and now help with various projects and train our younger engineers.

What is AirReps' engineering team's collective strength?

By handling the engineering tasks, we free up our outside sales engineers so they can continue with project acquisition. This also helps our timely and accurate response to our customers.

What makes AirReps' service different than other rep firms?

Most of the other rep firms in this area rely on outside sales engineers to provide the engineering

and customer response; however, they can be out of the office for extended periods of time resulting in costly delays for the customer.

What is something people in the HVAC industry must deal with that you want to fix?

Our customer's time is money. Anything we can do to reduce their time will increase their operating profit margins.

What is the future of the HVAC industry? What are the key challenges and opportunities for your customers?

We are in an exciting time in the HVAC industry. The importance of energy efficiency, acoustic performance, indoor air quality, and the move toward electrification create an opportunity for AirReps to provide additional value to our customers.

What is your favorite quote or life motto?

Our main job is to save our customers' time and protect their reputation.

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Dave Greenheck

Chief Engineer since 2019 •
Bellevue, WA

Tell us more about your mechanical engineering background and experience.

I came from the Navy where I served on ships and ran the engineering plants. They called me the Chief Engineer, so I use that terminology from time to time to describe what I do for AirReps. After the Navy, I came back home to Seattle and started a family as well as a career in HVAC. I have worked in HVAC for the past 26 years, and, like the Navy, it never gets old!

What do you do at AirReps?

My team and I engineer HVAC projects and find solutions for our customers. I am a player-coach, so I do tasks alongside my team members. I am lucky to have them, and they make my work fun.

What is AirReps' engineering team's collective strength?

We love to gain knowledge of math and science, which is the basis of engineering. We also love to serve others; it is a passion of ours.

What makes AirReps' service different than other rep firms?

We always strive to collaborate in the quest for the best solution to serve our customers.

What is something people in the HVAC industry must deal with that you want to fix?

Most problems with equipment and systems stem from poor design or operation. These problems can be avoided with good design and a thorough understanding of how equipment and their systems are meant to operate. This is why engineering focuses on education; both for us and our customers.

What is the future of the HVAC industry? What are the key challenges and opportunities for your customers?

The future of HVAC is bright as our industry technology is currently advancing rapidly, and the importance of our industry to reducing global energy consumption is at an all-time high. There has never been a better time to be in this industry. The key challenge (and opportunity) for our customers is to deliver ever more efficient systems without compromising on their comfort, performance, or reliability.

What is your favorite quote or life motto?

As we said at the Academy, "knowledge is power."

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AirReps Announces Strategic Alliance With EcoChillers

You heard it here first! AirReps is thrilled to officially announce we are entering into a strategic, distinctive partnership with EcoChillers to co-produce, design, and launch a new and better version of an air source heat pump (ASHP) to introduce to the Pacific Northwest market!

ASHPs are an incredible source of free energy, and our team is working hard to improve and ensure equipment reliability. We estimate having a completed design in one month and a fully functioning unit, including customizable options, to unveil before the winter holidays.

EcoChillers is a chiller manufacturer based in Guadalajara, Mexico, that is seasoned in making chillers, including standard or modified to meet the application requirements. Within our collaboration, we aim to create a two-pipe ASHP from 50 to 300 tons with even larger plans in store for 2023.

Watch this space or contact your Account Executive for more details as they unfold!



All in at Muckleshoot Casino

AirReps played a big hand in a major HVAC system overhaul at Muckleshoot Casino in Auburn, Washington, helping our client bank a sizable cost-saving annually! The Muckleshoot Indian Tribe formed an agreement with AirReps to solve the maintenance challenges of an aging HVAC system, which had proved extremely costly and overwhelming to the casino's staff.

Read about how AirReps' Bellevue team devised and optimized the perfect turnkey results, and the right team, to design long-term solutions that positively impacted Muckleshoot's energy and operational cost savings!

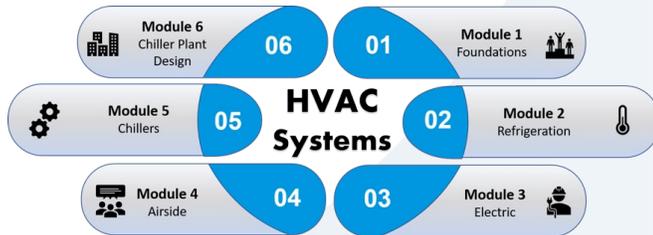
"AirReps has been an amazing partner to work with...they have helped make this complex transformation very smooth for my team."

**Jason Mezzano, Sr. Facilities Manager,
Muckleshoot Casino**



Register Now for Online HVAC Systems Training

It is not too late to enroll in our new HVAC Systems online program! Best of all, this training can be completed on your own time in the comfort of your home or office.



Our first series of self-paced modules begins on Monday, August 15, and is exclusively available to our customers and partners. HVAC Systems combines the knowledge and experience of Daikin's principles of HVAC, air systems design, refrigeration, chiller plant design, and building systems classes into one comprehensive program using a blended learning approach.

Learners will gain the expertise of Daikin's instructors through virtual sessions while enjoying the flexibility of self-directed online learning that can be completed at their own pace, within an allotted timeframe. The program equips sales and service professionals with industry knowledge of HVAC systems, such as:

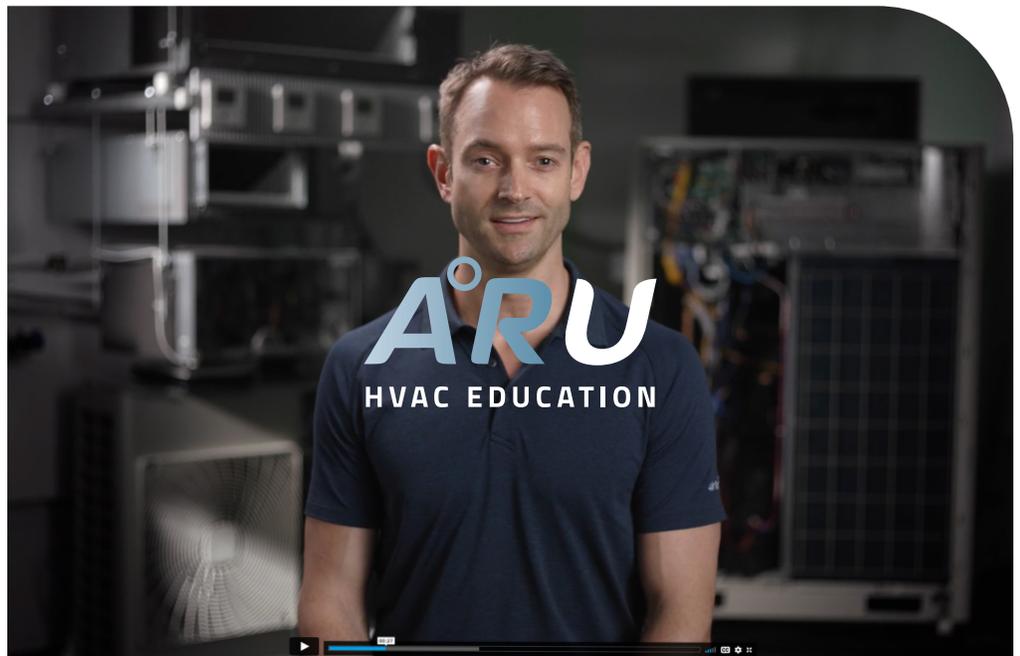
- Explaining how HVAC systems operate.
- Speaking knowledgeably about fundamentals when meeting with customers, contractors, and design engineers.
- Selecting the best solution for a given need.
- Identifying problems with HVAC systems.

We are excited to share this new educational opportunity with you! To learn more or to enroll in the program, contact your Account Executive.

ARU Made Just for YOU

Grab some popcorn and head to AirReps' YouTube channel for brand new, relevant content for modern engineers, filmed in-house at our Bellevue headquarters! In this latest round of AirReps University (ARU) videos, you can expect to learn more about sustainable building solutions, including electrification and inverterization, in just five minutes or less.

Our ARU videos seek to teach and inform 'forever students' on a wide variety of technical commercial HVAC systems and code topics in approachable and accessible formats. Whether it be equipment demos, short videos, or an extended interactive series, our video learning tools and resource library can help you reach your HVAC engineering education goals.



Head over to [YouTube.com](https://www.youtube.com) and subscribe to our AirRepsU channel to stay up to date with the latest in mechanical engineering!

Last Call! Don't Miss AirReps' Engineering Summit

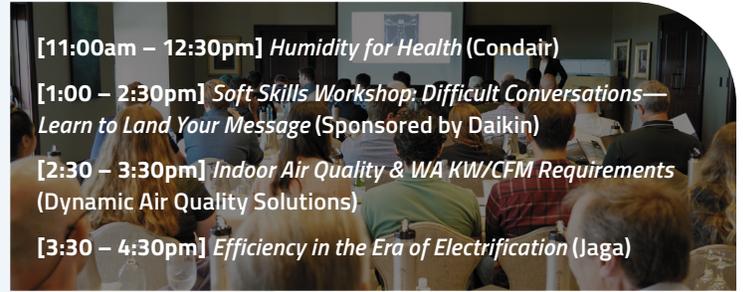
AirReps has joined with engaging speakers to offer dynamic, continuing education classes at this year's Engineering Summit at the 2022 AirReps Expo on Friday, August 5! Modern engineers will learn from experts about the latest innovations in HVAC while enjoying scrumptious meals over stunning views at Newcastle Golf Club. You will not want to miss this! Head over to AirRepsExpo.com to [learn more about our diverse speaker panel and reserve your seat today!](#)

[11:00am – 12:30pm] *Humidity for Health* (Condaire)

[1:00 – 2:30pm] *Soft Skills Workshop: Difficult Conversations— Learn to Land Your Message* (Sponsored by Daikin)

[2:30 – 3:30pm] *Indoor Air Quality & WA KW/CFM Requirements* (Dynamic Air Quality Solutions)

[3:30 – 4:30pm] *Efficiency in the Era of Electrification* (Iaga)



Big Win at Spirit Mountain Casino



The AirReps team in Portland played their cards over multiple bids and prevailed in a substantial replacement project at Spirit Mountain Casino in Grand Ronde, Oregon!



The group worked with the casino owners' design engineers and mechanical contractors to closely match existing requirements while bringing the units up to current equipment standards.

Combining Nortek AHUs with plate energy recovery cores and evaporative cooling sections with Daikin Applied RTUs allowed them to accomplish more than a Daikin Applied stand-alone unit due to the required high outside air.

The Nortek units temper the outside air through the plate energy recovery cores prior to reaching the Daikin Applied units. During summer (cooling operation), the evaporative cooling section will pre-cool the exhaust air prior to the core to further support the tempering process.

In addition to the RPS120s and Nortek units, the AirReps team also tackled a rooftop recirculation filter. They decided to replace this unit with a RAH-77 at 44,000 CFM and field-install Dynamic filters in an angled array to increase the face area and keep the pressure drop within limits.

Portland's in-house AirReps technicians completed the Nortek units' startups while Daikin Applied Service performed startup on the Daikin Applied equipment.



Electrifying News

Energy codes and owner requirements are pushing more projects toward low EUI targets and net-zero energy. In our latest electrification publication, we will examine the difference that distributed fan power consumption can make when designing an ultra-efficient building. The results may surprise you!

■ **AirReps Electrification Series #4**

AirReps
AirReps Electrification Series
 Publication #4
 May 3, 2022

Distributed Fan Energy Consumption

In the last publication, we discussed code changes related to fan power usage in DOAS units. The codes are also reducing distributed fan power usage. In addition, many new construction designs target low energy use intensity (EUI), which is a key building performance metric for benchmarking. EUI is also used to determine if zero-energy construction (or net-zero) is achievable.

Energy use intensity (EUI) is a building's energy use as a function of its size and is measured in kBtu/ft²/year. EUI varies dramatically based on building type and usage. A hospital will have a much higher EUI than a commercial office. Energy Star lists median EUIs by building type on its website.

High-end EUI target for Climate Zone 4C (Western US) is 12.2 kBtu/ft²/year for Climate Zone 4B (Western US) is 11.8 kBtu/ft²/year.

Net-zero energy describes a building that produces as much energy as it consumes over the course of the year. This is typically achieved with low energy consumption combined with on-site solar photovoltaic (PV). For a building to be net-zero, the energy generated must be greater than or equal to the energy consumed.

In December 2021, Washington Governor Jay Inslee proposed that all new construction shall be net-zero ready by 2035 in the state. LRN.

To achieve low EUI targets or net-zero energy, all devices that consume energy are important. Distributed fans may seem like small consumers, but large quantities add up to large consumption.

Fan horsepower is a function of total static pressure (internal and external) and CFM. Decreasing the static or CFM will reduce fan power consumption. Reducing the power consumption at design conditions will decrease the building EUI as well as the electrical service required.

Codes That Impact Fan Energy: 2019 WSEC
 CEC 5.2.3 Heating/cooling systems fan controls, heating and cooling equipment fans, heating and cooling circulation pumps, and terminal unit fans shall cycle off and terminal unit primary cooling air shall be shut off when there is no call for heating or cooling in the zone. **EXCEPTION:** Fans used for heating and cooling using less than 0.2 watts per cfm may operate when space temperatures are within the approved deadband/Section CEC 5.1.2 to provide dehumidification and air mixing in the space.

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AirReps Electrification Series | Publication #4

on allows fans using less than 0.2 W/CFM to continuous operation while in deadband, and is used in its sensible-cooling terminal units, active chilled fan coils.

ing systems have gained popularity due to performance and adaptability. This topic will be more detail in a future publication.

caption shown above is commonly addressed being decoupled systems. But, what about the fan operation during heating and cooling to reduce total fan power?

FCU and VAV terminals have been placed outside of space or above ceilings due to acoustical concerns, requiring external static capabilities. Jaga Static Fan Coils (HS) discharge sound power of 57 dBA and radiated sound power of 40 dBA (largest unit). 200's fan speed are quiet enough to be in the space. The above zero static installations, decreasing energy consumption. Jaga FCUs with a traditional high-efficiency 4-pipe fan coil.

With static, and without static, the Jaga units consume significantly less power. The Jaga can handle up to 0.6" ESP at reduced airflow.

Unit	ESP	Flow (CFM)	Power (W)	Power (kW)	Power (HP)	Power (BTU/hr)
1000	0.6"	1000	12.2	0.0166	0.0223	56.2
2000	0.6"	2000	48.8	0.0667	0.0911	225
3000	0.6"	3000	107	0.145	0.197	500
4000	0.6"	4000	194	0.266	0.359	900
5000	0.6"	5000	311	0.423	0.569	1430

For an example of a high-rise office, or net-zero ready, or cooling load? This example, we use Jaga 2000's with a savings of 10%.

FCU (or VAV) terminals are not running at full load 8 hours per day. Hourly: 2000 (1000) = 0.24 kW (0.32 hp)

This building needs to be net-zero ready, let us help you save energy consuming renewable energy, with commercial solar PV panel producing 300W.

2000 (1000) = 1000 (500) needed = 2,000 (1000) PV panels

As this example shows, these small power consumers add up to large power demand.

The Jaga can also be optimized to reduce water flow, saving on pump energy. A future publication will dive deeper into the importance of water flow management with regard to electrification.

Another unique product from Jaga is the **Class Canal Trench FCU**.

These units are used for perimeter heating and cooling. The table below compares two sizes of Class Canal units with a series FFARU with HW heating another system frequently used to handle perimeter loads.

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Mark Your Calendar

- Flow Control Factory Tour & BBQ
July 21, 2022, in Woodinville, WA
- BAC Series 3000 Cooling Tower Exhibition
August 3, 2022, in Spokane, WA
- AirReps Expo & Golf Invitational
August 5, 2022, in Newcastle, WA
- BAC Series 3000 Cooling Tower Exhibition
August 9, 2022, in Portland, OR
- BAC Series 3000 Cooling Tower Exhibition
August 10, 2022, in Eugene, OR
- Oktoberfest
October 14, 2022, at AirReps HQ
in Bellevue, WA

20th Annual AirReps Golf Invitational
 Friday, August 5th, 2022 • Newcastle Golf Club

AirReps expo 2022
 Register at www.AirRepsExpo.com

BAC Series 3000 Cooling Tower Exhibition

AirReps BAC

Flow Control Factory Tour & Wine Tasting

Join us for a quintessential summer meal: a BBQ with our partners at Flow Control! This informational, open house style tour of the Flow Control factory will be hosted on July 21, 2022, from 12:00 – 3:00 pm, in Woodinville, Washington. Guests will learn about how the best pressure independent valves in the business can help make hydronic systems the most efficient in the industry with the Delta P guarantee on temperature differential. Call your Account Executive for more details.



20th Annual AirReps Expo

The AirReps Expo is back and bringing you the best in HVAC on Friday, August 5, 2022, at Newcastle Golf Club! You will not want to miss this dynamic trade show of HVAC manufacturers and suppliers, a continuing education Engineering Summit, and delicious food and beverages on-site! For more information, including Engineering Summit registration details, visit www.AirRepsExpo.com.



Stay up to date with more AirReps news, job opportunities, and updates by following us on [LinkedIn](#), [Facebook](#), [Instagram](#), [YouTube](#), and our [Careers](#) page.