



QUAKER CITY CLIMATE

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January Social Event

Facilities Tour & Social Outing at Xfinity Mobile Arena



Tuesday, January 20, 2026

Facility Tour

Arrival Time: 1:00 PM
Tour Starts: 1:30 PM
11th Street Entrance



Philadelphia 76ers vs Phoenix Suns

Game Time: 7:00 PM

Join the Philadelphia ASHRAE Chapter for an exclusive behind-the-scenes HVAC tour of Xfinity Mobile Arena (formerly Wells Fargo Center).

This unique, game-day program will provide members with the opportunity to explore the mechanical systems that support one of Philadelphia’s most iconic venues. The tour will highlight major central plant and arena systems, including chillers, thermal storage, dedicated outdoor air systems, pumping systems, heating systems, and selected air-handling units serving the seating bowl.

The program will also include a presentation covering the building’s history, original design considerations, recent upgrades, and its achievement of LEED certification.

The tour will take place on a Philadelphia 76ers game day, offering a unique opportunity to explore the facility during event-day operations. An ASHRAE meeting ticket also includes admission to the Philadelphia 76ers game versus the Phoenix Suns, with tip-off scheduled for 7:00 PM. Attendees should note that the group will exit the facility following the tour and return later for the game.

MEETING COSTS

Fees are based on online reservations and prepayment.

\$50 Member
(\$60 with late fee)

\$75 Guest
(\$85 with late fee)

Register before Sunday, January 18 to avoid late fees.

Location

Xfinity Mobile Arena
3601 South Broad Street
Philadelphia, PA 19148
<https://www.xfinitymobilearena.com/>

[Click here](#) for directions.

Tickets

\$50 Chapter Member (\$10 late fee)
\$75 Guest (\$10 late fee)
\$50 YEA Member (\$10 late fee)

[Click Here to Register](#)
Register before Sunday, Jan 18, 2026 to avoid late fees.

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2025-2026

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PRESIDENT'S MESSAGE

Dear Philadelphia ASHRAE Chapter Members,

Happy New Year! I hope everyone was able to enjoy some time over the holidays to rest, recharge, and spend time with friends and family. As we settle back into our routines, I'm looking forward to another active and engaging stretch for our Chapter.

In December, we wrapped up the year with a great technical presentation at the Union League focused on A2L refrigerants and their impact on VRF systems. Thank you again to our speaker, Martin Brinton, for sharing his expertise and helping us better understand the changes ahead as the industry continues to evolve.

Looking ahead, I'm excited to remind everyone about our upcoming social event and behind-the-scenes refrigeration tour on January 20th at the Xfinity Mobile Arena (formerly the Wells Fargo Center). Space for this event is limited, so if you're interested, be sure to register early. We're looking forward to a unique opportunity to see the facility up close and connect with fellow members in a more informal setting.

Thank you, as always, for your continued support and involvement. I appreciate the engagement we continue to see from our members and look forward to building on the strong momentum we've carried into the new year.

Sincerely,

Tyler A. Holland

Philadelphia Chapter President

c021@ashrae.net



**Join us at Caesar's Palace
for the
2026 ASHRAE Winter Conference.
January 31—February 4, 2026 | Las Vegas, NV**

[Click here to register.](#)

December Breakfast Meeting

“Understanding A2L Refrigerants and Their Impact on VRF Systems ”

presented by

Marty Brinton

LG Electronics



Government Affairs Committee News

Questions or comments? Contact:

Andrew Mondell, Government Affairs Committee Chair, Andrew.Mondell@AMZenergysystems.com
or Katherine Mahon, Government Affairs Committee Member, kem@ba-inc.com.

ASHRAE Participates in Congressional Data Centers Briefing

On December 8, Marcus Hassen, Chair of the ASHRAE Standard 90.4, *Energy Standards for Data Centers* Project Committee, presented at a Congressional briefing entitled “The Data Center Boom: Growth & Sustainability Considerations.” Hosted by the Green Building Initiative. The session explored the rapid growth of U.S. data centers, along with the economic opportunities, infrastructure challenges, and sustainability considerations shaping this critical sector. Hassen (seen at right outside of the Congressional briefing) discussed how ASHRAE Standard 90.4 and the resources of ASHRAE Technical Committee 9.9 have become foundational to how data centers are designed, operated, and optimized for resilience, sustainability, and performance, and in guiding stakeholders to navigate instances where tradeoffs around these issues emerge. More data center resources from ASHRAE are available [here](#).



American Lung Association Recommends ASHRAE Standard 62.1 in Schools IAQ Report

In early December, the American Lung Association [issued a report](#) on state policies regarding indoor air quality (IAQ) in schools. The report provides a summary of current policies as well as recommendations for state and local governments, and public health officials. The recommendations include the adoption of ASHRAE Standard 62.1, [Ventilation and Acceptable Indoor Air Quality](#), for use in all schools, along with a comprehensive IAQ plan and other actions to mitigate exposure to pollutants and contaminants in school buildings.

Nonprofit Launches Refrigerant Workforce Development Initiative in California

The North American Sustainable Refrigeration Council, a nonprofit organization working with grocery stores to facilitate the transition to lower-global warming potential refrigerants, [recently announced](#) a new workforce development initiative in California. This F-gas Reduction Incentive Program is focused on addressing the shortage of qualified refrigeration technicians in the state by providing funding and technical support for school programs, equipment, training courses, and a new online platform for technical resources. The council is also planning multiple recruiting events and workshops in 2026.

Become a 2025-2026 Corporate Sponsor of the Philadelphia Chapter

Your firm's participation in this program would enable us to make a donation to ASHRAE's Research Promotion which includes over \$1.9 million in local research funding.

Some of the benefits your company will enjoy as a Corporate Sponsor includes a listing on the Chapter's website with a link to your own website, five free log-ins to the Digital Directory, a \$100 discount on an advertisement in the Digital Directory, and tickets to attend our dinner meetings which include quality educational programs.

Future City Philadelphia

The Philadelphia Chapter of ASHRAE is a proud sponsor of this event!

When: Saturday January 24, 2026

Where: Archbishop Carroll High School
211 Matson Ford Road, Radnor, PA 19087

Future City Competition Theme: Farm to Table

The Students' Challenge:

Design a city that eliminates food waste from farm to table and keeps your citizens healthy and safe.

Visit <https://www.futurecityphilly.org> for more information and to volunteer (engineers preferred).



Our Chapter Digital Directory is available!

The link to the Directory of Manufacturers' Representatives in the Philadelphia Area is on our [home page](#) on the website, or you may [click here](#) to advertise or purchase access to the directory!





The Philadelphia Chapter
of the
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our web site at:

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forbidden without official Chapter
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not speak or act for the Society.
Any member with material to
submit for inclusion in the
Climate can send the information
to:

Cindy Cornish
P 610-971-2169
cindy@mmco1.com

Material can include letters to the
editor, member news, upcoming
events, comments on chapter
programs or issues, etc.

New Philadelphia Chapter Members

Kawsar Ahmed	Travis McCormick
Layne Blavier	Rodney McKenna
Mark Boccella	Nathan McMinn
Joshua Cai	Matheus Moreira-Lima
Lawrence Custis	Malissa Pumpuckdee
Clark Faggioli	Andrew Romano
Zachary Heilman	Jacob Schragger
Christa Heyward	Adam Syarief
Andrew Langenau	Elin Verghese

What are the benefits of paying Philadelphia Chapter *dues** ?

Discounts:

- \$200 Discount for Basic HVAC Design Class
- Discounts on Monthly Chapter Meetings
- Free access to the Digital Directory
- And much more!

***Note that Philadelphia Chapter Membership Dues are \$50/year.**

To receive discounts, please remit your Chapter dues when renewing online or applying for a new membership. Feel free to upgrade online by clicking [here](#) or contact c021@ashrae.net for assistance.

Membership Advancement

If you are currently an ASHRAE Associate Member, becoming a full Member is easier than you think! The following count toward the required **12 points** to advance to full membership status. You must update your ASHRAE online biography and send an email to membership@ashrae.org to advance.

Non-accredited degree = 4 points
PE = 4 points

Accredited degree = 6 points
Industry experience = 1 point/year

13 Considerations to Write Better CDU Specifications for Liquid-Cooled Systems

As data centers evolve to support AI, HPC, and other compute-intensive workloads, thermal management has reached a breaking point. Traditional precision air cooling simply isn't enough. Liquid cooling has emerged as a critical necessity. Central to many of these systems are Coolant Distribution Units (CDUs), which act as the control hub for technical cooling system (TCS) loops in direct-to-chip cooling systems.

These CDUs are the beating heart of liquid cooling infrastructure. They regulate flow, temperature, cleanliness, and even system intelligence. Yet surprisingly few engineering teams have access to solid, public guidance on how to specify them effectively.

Here, we break down the essentials of writing clear and comprehensive CDU specifications. By drawing on current ASHRAE guidelines and proposed rating conditions, including insights from the TC 9.9 committee, we highlight thirteen key areas every engineer and specifier should address.

Why Good CDU Specs Matter

Poorly defined specs can lead to misaligned expectations between engineers and vendors, performance shortfalls, and costly field failures. Writing precise, requirement-driven specs ensures:

- Consistent vendor proposals
- Proper integration with IT systems
- Reliable cooling performance under load

Whether you're designing a next-gen AI cluster or retrofitting a facility for liquid cooling, the following considerations will set your CDU project up for success.

13 Key Areas for CDU Specification

1. General Construction

What to specify: Mounting style (skid, rack, or industrial rail), materials (steel gauge, powder coating), and NEMA enclosure rating.

Why it matters: These choices affect durability, environmental resistance, and maintenance access.

2. Thermal Requirements

What to specify: TCS supply/return temperatures, flow rates (e.g. 1.5 L/min/kW), approach temperature (typically $\leq 3^{\circ}\text{C}$), and fluid properties.

Why it matters: Ensures compatibility with IT equipment and enables apples-to-apples comparisons between vendors.

3. Heat Exchangers

What to specify: Type (e.g., plate-and-frame), material (e.g., stainless steel), pressure drop, and performance curves.

Why it matters: Drives heat transfer efficiency and supports longevity of the cooling loop.

4. Pumps

What to specify: Type (centrifugal), VFD support, operating pressure, efficiency at load points, and N+1 redundancy.

Why it matters: Ensures stable coolant flow even under changing loads or component failure.

5. Electrical Design

What to specify: Voltage, frequency, dual power feeds, SCCR rating, and harmonic filtering (IEEE 519 compliance).

Why it matters: Prevents shutdowns, supports electrical safety, and minimizes harmonic noise in facility power.

13 Key Areas for CDU Specification—*Continued*

6. Wetted Materials

What to specify: Approved materials for coolant contact (e.g., stainless steel, PEX), no dissimilar metals without isolation.

Why it matters: Prevents corrosion, particulate shedding, and cold plate fouling.

7. Filtration

What to specify: Micron rating (commonly 25µm or finer), filter cartridge type, and pressure drop monitoring.

Why it matters: Keeps fine particles out of cold plates and exchangers reducing clogging risk.

8. System Controls and Sequence of Operations

What to specify: Startup/shutdown sequences, setpoints, alarms, and sensor integration.

Why it matters: Supports safe, stable operation and quick response to thermal or flow anomalies.

9. HMI (Human-Machine Interface)

What to specify: Touchscreen interface (IP65), remote access, alarm history, and data logging.

Why it matters: Makes monitoring easier and speeds up fault diagnostics.

10. Chemistry and Cleanliness

What to specify: Shipment condition (dry, nitrogen-charged), flushing requirements, and coolant quality monitoring.

Why it matters: Clean systems last longer, and clean fluid protects IT equipment.

11. Telemetry

What to specify: Required I/O points and supported protocols (e.g., Modbus, BACnet, SNMP).

Why it matters: Enables integration into building or DCIM systems for remote management and alerting.

12. Sensor and Accuracy Expectations

What to specify: Required sensors (temperature, pressure, flow), with general accuracy expectations and calibration needs.

Why it matters: Inaccurate or unreliable sensor data leads to poor control and troubleshooting delays.

13. Failover Strategy

What to specify: N+1 pump configuration, switchover logic, dual power handling, and manual fallback modes.

Why it matters: In high-density environments, even a few seconds without flow can result in permanent damage.

Wrap Up

The rise of AI and accelerated computing is pushing infrastructure design into uncharted territory. Liquid cooling is now rapidly becoming more mainstream, and CDUs are the backbone of these systems.

Writing great specifications won't just improve procurement and vendor alignment. It ensures long-term performance, protects valuable compute assets, and gives engineers the confidence that their system will operate reliably under pressure.

Need a more detailed CDU specification guide? [Watch our deep dive webinar on demand here!](#)