



ASHRAE TC 5.5 Air-to-Air Energy Recovery Meeting Minutes

DRAFT

2025 ASHRAE Annual Conference Hybrid

Events	Time	Location
TC 5.5 Air-to-Air Energy Recovery Subcommittees Meeting	Monday, June 2, 9 – 10 AM Mountain Time	Virtual
TC 5.5 Air-to-Air Energy Recovery	Tuesday, June 24 3:30 PM - 6 PM Mountain Time	Sheraton Phoenix Downtown Laveen B (Level 2)

Note: These draft minutes have not been approved and not the official, approved record until approved by the Technical Committee

TC 5.5 Full Committee Meeting Minutes

1. **Call to Order** Kristin Sullivan
Kristin Sullivan called the meeting to order at 3:30 PM MST
2. **ASHRAE Value Statement** Kristin Sullivan
Kristin Sullivan covered the ASHRAE Value statement as provided in the [meeting agenda](#).
3. **TC Scope** Kristin Sullivan
Kristin Sullivan covered the TC 5.5 scope as noted in the [meeting agenda](#).
4. **Introduction & Sign up (current email & updates)** All
5. **Roll call of Voting Members (exhibit 2)** Kristin Sullivan
Members present for roll call were: Kristin Sullivan (online), Paul Pieper (online), Moh Rafati (online), Marcus D'Arcy and Eric Erdman.
It was noted that Dr Onieluan Tamunobere had withdrawn his membership from the committee and the total number of voting members is 9.
6. **Agenda Review and Adoption**
Kristin Sullivan reviewed the agenda and GD Marther asked to be moved up in the agenda so he could present before needing to leave.
MOTION: Paul Pieper motioned to approve the meeting agenda. Moh Rafati seconded.
DISCUSSION: None
VOTE RESULTS: (5 -0- 0 -4-CV)
7. **Approval of Minutes** Kristin Sullivan
Kristin opened the February 11, 2025 Winter Conference meeting minutes for review.
MOTION: Paul Pieper motioned to approve the meeting minutes. Eric Erdman seconded.
DISCUSSION: None
VOTE RESULTS: (5 -0- 0 -4-CV)
8. **Chair's Report** Kristin Sullivan
Kristin covered leadership opportunities per the attached [meeting presentation](#).
9. **Handbook Subcommittee Report** GD Mathur
GD Mathur covered the required updates to Chapter 26 of the ASHRAE Systems and Equipment Handbook per the attached [meeting presentation](#).
REQUEST: Members review the chapter and provide updates.
VOLUNTEERS: Marcus D'Arcy, Mike Scofield, Alois Malik and Alkis Triantafyllopoulos
10. **ASHRAE Learning Institute Liaison Report** Paul Pieper
Paul Pieper reviewed updates to the scheduled Air-to-Air Energy Recovery Applications ALI course per the attached [meeting presentation](#).
11. **Program Subcommittee Report** Paul Pieper
Paul Pieper mentioned the success of the TC's past winter conference seminar and potential next seminar topics per the [attached meeting presentation](#).
 - The committee focused on developing the seminar concept entitled Practical Guide for Using AAERV in Healthcare Applications.
 - Eric Erdman volunteered to present on heat exchanger types and considerations.

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- It was suggested that the concept be co-sponsored by TC 9.6 and additional interested parties and presenters may come from that committee.
- Matthew Friedlander mentioned the pandemic guidelines from ASHRAE that could be presented on and see if applies to healthcare facilities. Several members of the TC were involved in the pandemic task force work group.
- Paul Pieper asked for a volunteer to chair the program chair. No members offered to be program chair but Moh Rafati offered to support developing the program.

Paul Pieper was willing to investigate the program further to try and keep it moving and will report back to the committee.

12. ASHRAE SSPC 90.1 Liaison Report

Marc Tardif

Marc reviewed SSPC 90.1 activities per the attached [meeting presentation](#). The following items were brought up in discussion of the presentation:

- Ronnie questioned if the 45% SERR noted on the Addendum bx slide was actually 50% based on his recollection.
- Marc noted addendum cy was proposed to align with 62.1 addenda k(?)
- Referring to 62.1 in its entirety in ASHRAE 90.1 would mean allowing the use of IAQP, as only the VRP method is allowed in ASHRAE 90.1. This decision will be very important to this committee, but this will not be discussed until after the 2025 standard is wrapped up.
- There was a question on whether the 90.1 committee would be considering additional CMPs for the 2025 90.1 standard version. Scott Forest noted that 90.1 is not considering any additional items after this meeting, which was confirmed by Drake Erbe.
- Matthew mentioned that 62.1 had provided calculators for VRP and IAQP so that any specifying engineer could use the method and an industrial hygienist wouldn't be required. Scott Forest noted that while the 62.1 calculation tools for IAQP exist, they have not been considered a certified tool at this time.
- Addendum dk allows CAN/CSA C439 to be used in all spaces with efficiency requirements. If there's a single comment it will not go into the 2025 standard. Matthew mentioned that the performance values from C439 may be fine, but it doesn't mean all residential products are acceptable in commercial applications.
- There was an in-depth conversation around the formal interpretation request on verification of efficiency. There were 3 hours of committee discussion to vote no to the interpretation. Drake mentioned that there were 7 requirements at the beginning of the mechanical section of the standard for efficiency verification and any one of the requirements can be satisfied to meet the requirement and that requiring 3rd party certification would be a restraint of trade issue. Kristin Sullivan advised the group that the debate should be had at the 90.1 mechanical sub-committee.

13. Standard 62.1 Liaison Report

Scott Forest

Scott covered the ASHRAE Standard 62.1 activities in Alkis' absence.

- Completing the 2025 version is the big discussion with many proposals coming out for PPR
- IMM mode from 241 is one of the big proposals and using it for emergency modes. When the building owner makes an emergency decision the control system must have a mode to comply with 241 IMM (change filters, bypass, etc.) quickly and operate
- Chris Wolgamott noted the UV lighting discussion presentation given during the 62.1 meeting. Scott Forest noted that it was an informational only presentation on a UW Madison study in classrooms based on a Chicago climate zone. Lower than 254 nm wavelength is safer for humans but creates ozone. The presentation covered efficacy and exposure times for these UV technologies. Presenters also noted that the ozone brought into the space by excess ventilation in IMM would be magnitudes higher than that created by the UV lighting technology. Moh Rafati noted that this wavelength does struggle to kill other particles/mold. Some thought this discussion was more appropriate for 241 since 62.1 is a ventilation standard.

14. Global Activities

Drake Erbe

Drake covered the plenary discussion on the scope of TC86 provided in the attached [meeting presentation](#).

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- In the existing scope of subcommittee 6, it covered heat recovery systems. It was recognized that the committee should cover energy in some way, and it was decided to include air-side energy recovery systems in scope. The modified and cleaned scopes were covered in the slide deck. This would cover some of the work that WG10 does and gets into restraint of trade issues.
- WG10 was working on various mechanisms for annual energy (sensible to start) with enthalpy second. An individual wanted to reconsider enthalpy recovery technology without engaging component and equipment stakeholders. The working group wanted to recredential the technology – Drake and the US contingent went against it because of laboratory testing issues. There's no business in trying to recreate the wheel. If they want annual energy factors it should be done in the same way sensible energy was done.
- The global technical interaction committee is moving fast in communicating internationally and have identified regional approved liaisons that allows them to communicate directly with ASHRAE committees.

15. Technical Activities Committee (TAC) Liaison Report

Kevin Mercer

Kevin Mercer, TAC Chair, presented Kristin Sullivan with a certificate of appreciation for her completed service as TC 5.5 chair.

Kevin also noted that TAC Section 8 head Kashif Nawaz had resigned and the TAC leadership has divided his duties for the time being. Kevin also provided an update on GTIC and expanded on Drake's global activities update.

16. ASHRAE 227P (Passive House) Liaison Report

Matthes Friedlander

Matthew covered the 227P updates per the attached [meeting presentation](#).

- The 227P committee is struggling mightily to get to a final draft.
- This TC should be aware that the program promotes energy recovery technology using several rating programs with a singular rating even though the ratings are not equivalent.

Members should pay attention to the PPR for 227P.

17. Research Report

Marc Tardif

Marc covered the research topic concepts per the attached [meeting presentation](#).

- The next deadline for RTAR submissions is December 15th

Matthew Friedlander and Eric Erdman discussed RP-1780 and the follow-up RTAR request from TC 9.10 that is being proposed to verify that the method of test is acceptable at different air velocities, lower (more realistic) tested concentrations, frosting conditions and saturation of desiccants.

- It was noted that Matthew Friedlander did a great job defending that the testing of bio effluents should not be part of the RTAR as does not meet the intent of verifying the test procedure.
- Moh Rafati noted that outbreak management mode, the classification of air, and bypassing the energy wheel is something that could also be included in the RTAR. It was noted that this RTAR was focusing more on hazardous chemicals in labs as opposed to viruses.
- The possibility of field measurement capabilities with the test procedure was discussed.
- Drake Erbe noted that the RP-1780 report and research does not align with ASHRAE's comment on co-located ducts. Eric Erdman noted that the RTAR committee had commented that general lab spaces were considered class 2 air which seems incorrect and Moh noted that this could be addressing non-hooded spaces in labs.

Eric to review the RTAR proposals to understand more clearly the intent of the study and if it complies with ASHRAE recommendations and report back to the TC.

18. Standards Subcommittee Report

Matthew Friedlander

Matthew reviewed standards and guideline updates per the attached [meeting presentation](#).

- Marc Tardif had a question about unofficial interpretations that were brought to his attention on ASHRAE Standard 84. Drake Erbe provided clarification that since Standard 84 is not a continuous maintenance standard, the correct procedure would be an official request to TC 5.5.

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- Matthew noted that a guideline committee on frost prevention could start by reviewing existing literature which is typical for a guideline committee. Existing resources would include the ASHRAE handbook chapter, DOAS Design Guide and the ALI course. Matthew requested volunteers for the committee and is looking for proper committee balance.

Marc Tardiff, Eric Erdman and Chris Wolgamott volunteered.

- Chris Wolgamott mentioned that the research being done by Purdue on the CSA SPE-18 test standard verification is projected to be completed by October. The test results will be shared with TC 5.5 at the 2026 Winter Meeting and the results of the tests will be available to the public.

19. Website

Kristin Sullivan

Kristin shared the current website and updates that have been made by Melanie Fauchoux.

20. Revisited Membership Needs

Kristin Sullivan

Kristin Sullivan returned to the TC 5.5 committee leadership opportunities slide in the attached [meeting presentation](#).

Scott Forest volunteered to be the Standard 62.1 Liaison

Marc Tardif confirmed he was willing to continue as the SSPC 90.1 Liaison.

21. New Business

Kristin Sullivan

Marc Tardif shared that John Bade was concerned about how PNNL was performing frost analysis with Energy Plus. -The current analysis assumed a -10F frost threshold and the analysis would shut the unit off below that frost threshold temperature. John is looking for help from this committee.

- Drake Erbe noted that frost considerations are more of a system level conversation as opposed to a component conversation. He recommended that Marc Tardiff respond to John's request by pointing him to Chapter 26, the ALI course slides, and the previous seminar information presented by Ronnie Moffit.
- There were questions on whether the ALI presentation could be shared, but Paul Pieper may be able to share the relevant slides.

22. Next Meeting

Kristin Sullivan

Next face-to-face meetings will be at the 2026 Winter Meeting in Las Vegas

23. Adjournment

Kristin Sullivan

Multiple members motioned to adjourn and multiple members seconded.

Adjourned at 5:51PM MST

ASHRAE TC 5.5 Air-to-Air Energy Recovery
ASHRAE 2025 Annual Conference, Phoenix, AZ
June 24, 2025

Events	Time	Location
TC 5.5 Air-to-Air Energy Recovery Subcommittees Meeting	Monday, June 2, 9 – 10 AM Mountain Time	Virtual Join the meeting now
TC 5.5 Air-to-Air Energy Recovery	Tuesday, June 24 3:30 PM - 6 PM Mountain Time	Sheraton Phoenix Downtown Laveen B (Level 2) TC 5.5 Air-to-Air Energy Recovery - Details

Agenda TC 5.5 Full Meeting

Hybrid Meeting

1. If you are unable to attend in person you can join virtually by using the links above.

Launch [20 minutes total]

2. Call to Order / Welcome

ASHRAE Value Statement – *In ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, inclusiveness and respect for others, which exemplify our core values of excellence, commitment, integrity, collaboration, volunteerism and diversity, and shall avoid all real or perceived conflicts of interest. Our culture is one of inclusiveness, acknowledging the inherent value and dignity of each individual. We celebrate diverse and inclusive communities, understanding that doing so fuels better, more creative and more thoughtful ideas, solutions and strategies for the Society and the communities our Society serves. We respect and welcome all.*

3. TC Scope

TC 5.5 is concerned with air-to-air heat exchangers, their application and cost benefit relationship. It includes consideration of the needs and procedures for standardization and testing, rating and terminology applicable to air-to-air energy recovery.

4. Introduction & Sign up (current email & updates)
5. Roll Call of Voting Members (exhibit 2)
6. Agenda Review and Adoption
7. Approval of Minutes
 - a. Winter Meeting, Hybrid, February 11, 2025
8. Chair's Report

Liaison Reports [45 minutes total]

9. ASHRAE Learning Institute (Paul Pieper)
10. SSPC 90.1 (identify liaison)
 - a. SSPC 90.1 Activities –

- b. Compliance path for HVI certified ERVs in 90.1
- 11. Standard 62.1 (Alkis) – Is someone else available who can cover 62.1?
- 12. Global Activities (ISO, etc) (Drake)
- 13. ASHRAE 227P (Passive House) – Need Liaison (Matthew)
- 14. Standard 205 Working Group (Kristin Sullivan)
- 15. Technical Activities Council (TAC) Liaison Presentation [30 minutes]

Subcommittee Reports [45 min total]

- 16. Handbook (G.D. Mathur)
- 17. Program (Paul Pieper)
- 18. Research (Marc Tardif):
- 19. Standards (Matthew Friedlander)
 - a. Standard 84
 - b. Proposal for Best Practices for Frost Control
 - c. CSA SPE18 (Test procedure) (Chris Wolgamott)
- 20. Website <http://tc0505.ashraetcs.org/> (Melanie Fauchoux)
- 21. Membership (Chair)
 - a. Discuss having a dedicated membership chair
 - i. Ensure balance
 - ii. Seek out members to take on chair roles
 - iii. Help keep up with succession plan
 - iv. Does not need to be in person at every meeting

New Business

Discussion should be after a motion and second.

Next Meeting

Next face-to-face meetings will be at the 2026 Winter Meeting in Las Vegas

- Kristin Sullivan, Chair TC 5.5
11 February 2025

Exhibit 1:

ASHRAE Code Of Ethics

(Approved by ASHRAE Board of Directors January 30, 2013)

1.140.001.1 As members of ASHRAE or participants in ASHRAE committees, we pledge to act with honesty, fairness, courtesy, competence, integrity and respect for others in our conduct.

A. Efforts of the Society, its members, and its bodies shall be directed at all times to enhancing the public health, safety and welfare.

B. Members and organized bodies of the Society shall be good stewards of the world's resources including energy, natural, human and financial resources.

C. Our products and services shall be offered only in areas where our competence and expertise can satisfy the public need.

D. We shall act with care and competence in all activities, using and developing up-to-date knowledge and skills.

E. We shall avoid real or perceived conflicts of interest whenever possible, and disclose them to affected parties when they do exist.

F. The confidentiality of business affairs, proprietary information, intellectual property, procedures, and restricted Society discussions and materials shall be respected.

G. Each member is expected and encouraged to be committed to the code of ethics of his or her own professional or trade association in their nation and area of work.

H. Activities crossing national and cultural boundaries shall respect the ethical codes of the seat of the principal activity.

Exhibit 2: Voting Members and Officers as of June 2025

Full Name	Company	Position	Start Date	End Date
Ms Kristin Rice Sullivan	Trane Technologies	Chair	07/01/2023	06/30/2025
Mr Paul L Pieper, Eng, PE	The Master Group	Vice Chair	07/01/2024	06/30/2026
Dr Onieluan Tamunobere	Coilmaster Corporation	Secretary	07/01/2024	06/30/2025
Dr Gursaran D Mathur, PE	Ford Motor Company	Hndbk Subcom Chair	07/01/2020	
Mr Marc Tardif	Innogytech Inc	Resrch Subcom Chair	07/01/2024	
Matthew Friedlander	Renewaire LLC	Stds Subcom Chair	07/01/2024	06/30/2026
Dr. Melanie Fauchoux, PhD	University of Saskatchewan	Webmaster	02/11/2025	
Mr Marcus D'Arcy	Desert Aire	Member	07/01/2022	06/30/2026

Mr Drake H Erbe	Airxchange Inc	Member	07/01/2022	06/30/2026
Mr Eric Erdman	Greenheck Fan Corporation	Member	07/01/2024	06/30/2028
Dr Mohammad Rafati		Member	07/01/2021	06/30/2025
Dr Carey J Simonson	University of Saskatchewan	Member	07/01/2024	06/30/2028
Mr Triantafyllos Andreas Triantafyllopoulos		Member	07/01/2022	06/30/2026
Mr. Andy Kebernik	Tempeff Inc	Rolling on as VM	07/01/2025	6/30/2029
Mr. Chris Wolgamott	Northwest Energy Efficiency Alliance	Rolling on as VM	07/01/2025	6/30/2029



TC 5.05

Air to Air Energy Recovery

June 24th, 2025

Launch – ASHRAE Value Statement

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Launch

- Scope
- Introduction & Sign Up
- Roll Call of Voting Members (establish quorum)
- Agenda Review and Adoption
- Approval of Minutes



Chair's Report

- Kristin's last meeting as chair
- Committee Leadership opportunities:

Role	Experience Level	Commitment
Vice Chair	Experienced	4 years, 2 hrs/month
Program	Some	
62.1 Liaison	None	Attend 62.1 & TC 5.5
Membership	None	<1 hr/month

ASHRAE Learning Institute Liaison Report :: Paul Pieper

- ***Air-to-Air Energy Recovery Applications: Best Practices*** has been re-scheduled (from March due to low registration) to **August 20, 2025, from 10:00 to 13:00.**
- Instructor-led training: <https://www.ashrae.org/professional-development/all-instructor-led-training>



90.1 Report

- Addendum aj ASHRAE 90.1-2022: Indoor Pool Dehumidification Energy Recovery and Exhaust Air Energy Recovery
 - Ready for staff publication
- Addendum bk ASHRAE 90.1-2022: Space Heating Heat pump Primary
 - Second Public Review. End June 30th.
 - Secondary Space heating allow to compensate primary space heating not able to reach required thermostat setting. (6.5.12.2)
 - Exception for outside and return air pre-heat. (Exception 4 & 5)



90.1 Report

- Addendum bx ASHRAE 90.1-2022: Laboratory Systems
 - The addendum essentially expands the VAV and/or heat recovery options to require both VAV and heat recovery (with some exceptions).
 - Minimum 10000 cfm
 - Strike 2022-6.5.7.3 and replace it with requirements of 45% SERR sensible energy recovery in heating season except in zone 0-1-2 and 35% SERR cooling season except zones 3C, 4C, 5B, 5C, 6B, 7, and 8
 - Intension is to use technologies like run-around loop, but no restriction implemented.
 - 25 comments from 1st Public Publication Review. Reaction from TC 9-10.
 - Under rework following comments and TC 9-10 intervention.



90.1 Report

- Addendum cy ASHRAE 90.1-2022: Dehumidification Limits
 - This addendum is in part to address how to efficiently meet the humidity limits
Minimum 10000 cfm
 - First Public Review. End June 30th.



90.1 Report

- CMP To add an exception at section 6.5.6.1.2
 - No ERV necessary when gas phase air cleaning is used as it reduce the ventilation rate by 50% according the IAQP.
 - CMP have been withdrawn.
- CMP To refer to Standard 62.1 in its entirety as with Other Standards
 - Will make IAQP an acceptable method for Ventilation Rate.
 - No discussion at committee yet.
- CMP To include CAN/CSA C439 for other space than non-transient dwelling unit
 - Accepted basically as it is and been transferred as addendum dk.
 - Addendum dk as been approved for 1st Public Review
 - Include a new provision to use C439 into all space with efficiency requirement.
 - Modified table 11.5.2.2.6 in the energy credit section.



90.1 Report

- Continue Interpretation request (formal) – Section 6.4.1.4 Verification of Efficiency (Nazme Mohsina)
 - MSC was to vote Yes on the interpretation. This will have required that all products must have been tested under a certification program or a third-party lab if no certified program existed.
 - Laura Petrillo-Groh have made compelling argument to the committee to vote No.
 - An addenda will be made to clarify the language
- 90.1 2028-2031 Workplan by AES
 - Due for the winter meeting in Las Vegas.
 - Nothing set. Separate 90.1 in two sections:
 - Energy Reduction Standard based on energy cost justification
 - Carbone Neutral Standard



62.1

- Scott Forest volunteered to serve as liaison

Global Activities

1) The scope with track change

Standardization for the performance of air conditioning systems and heat pumps, ducted and ductless, including [air-side energy](#) ~~heat~~ recovery ventilation systems. Both heat source and sink include air and liquid (water including ground source). The performance evaluation targets capacity, input, and energy efficiency at full load conditions as well as part load conditions to calculate seasonal efficiency. Test conditions, test methods, and calculation methods are specified for these products and evaluations. SC6 also specifies performance mapping methods of these products for building simulation.

2) The clean scope

Standardization for the performance of air conditioning systems and heat pumps, ducted and ductless, including air-side energy recovery ventilation systems. Both heat source and sink include air and liquid (water including ground source). The performance evaluation targets capacity, input, and energy efficiency at full load conditions as well as part load conditions to calculate seasonal efficiency. Test conditions, test methods, and calculation methods are specified for these products and evaluations. SC6 also specifies performance mapping methods of these products for building simulation.



227P PPR coming soon

- The issues of concern for TC5.5 are:
 - ERV MEPs are proposed in a standard that is intended for adoption in codes or incentive programs.
 - Metrics are taken from AHRI 1060, HVI, PHI, Eurovent and other certification or rating programs.
 - Ratings of the same product under different programs are not necessarily equivalent.
- SPC 227P needs specific responses to the PPR to correct any disparities between defined metrics and the rated minimum performance values.
- Workgroups at HVI and AHRI are expected to work on specific responses.
- Recommended actions for the TC:
 - Members are alerted to pay attention to the PPR



- No update

TAC

- Update from Section Head

ASHRAE 2024 Handbook – Systems & Equipment

Chapter 26 – Air-to-Air Energy Recovery Equipment (June 24th, 2025)

- 2024 ASHRAE Handbook – HVAC Systems & Equipment:
 - Published in June 2024 (before Indianapolis meeting); Next Publication: June 2028
- Request to members: Need feedback from the members
 - Currently have 39 pages in handbook for the energy recovery systems currently in production
 - Good basics of heat and moisture transfer equations including fan power with 8 examples, Frost control strategies, Performance rating – based on ASHRAE standards, Economics
 - Review the chapter and see what can be added or deleted or updated
 - For electronic version:
 - Can we add excel files that can be used by practicing engineers?
 - Animated system operation as energy transfers from one point to the other including psychrometric process?
 - A brief section on emerging technologies
- The updated chapter will be published in June 2028.
- However, for important updates we can request ASHRAE to update the electronic version at any time.



ASHRAE 2024 Handbook – Systems & Equipment

Chapter 26 – Air-to-Air Energy Recovery Equipment (2028 HB)

Request to members: Please review Chapter 26 and provide feedback

- i. Complete review and provide feedback to me by the end of Phoenix meeting (June 2025). **Have not received any comments to date.**
- ii. Finalize chapter by Las Vegas meeting (June 2026)
- iii. I want to complete the chapter end of 2026 with approvals.
- iv. Submission to ASHRAE with approvals by 7/4/2027 (right after New Orleans Meeting)

We have approx. 2 years for review, approval and submission.

I am going to start monthly meetings with the TC members interested in supporting to accomplish the above activity.



TC 5.5 ASHRAE Handbook Sub Committee Meeting

ASHRAE Summer Annual Meeting, Phoenix, June 24th

- Handbook SC Chair: G.D. Mathur
- SC members:
 - Marcus D'Arcy
 - Mike Scofield
 - Alkis Triantafyllopoulos

Please contact me if you wish to help in updating the handbook chapter.



Program Discussion and Updates :: Accepted Seminar

Our Program was accepted as: **Seminar 42** (co-sponsored with TC 7.4 Exergy Analysis for Sustainable Buildings), ***The Wonderful World of Dedicated Outdoor Air Systems (DOAS) and Energy Recovery Equipment*** and presented on Tuesday, February 11, 2025, at 9:45am to 10:45am, EDT



Upcoming Conferences

Future Winter Conferences	Future AHR Expos	Future Annual Conferences
Feb. 8-12, 2025 – Orlando, FL	Feb. 10-12, 2025 – Orlando, FL	June 22-26, 2024 – Indianapolis, IN
Jan. 31-Feb. 4, 2026 – Las Vegas, NV	Feb. 2-4, 2026 – Las Vegas, NV	June 21-25, 2025 – Phoenix, AZ
		June 27-July 1, 2026 – Austin, TX

- **Next Conference:** 2025 ASHRAE Annual Conference, June 21-25, 2025 | Phoenix, AZ
- **Upcoming Deadlines and Conference Tracks:** <https://www.ashrae.org/conferences/2025-annual-conference-phoenix/2025-annual-conference-technical-program>
 - Friday, January 3, 2025 | Website Opens for Extended Abstracts and Seminar, Workshop, Forum, Debate and Panel Proposals
 - Wednesday, February 26, 2025 | Debate, Panel, Seminar, Forum, Workshop, and Debate Proposals Due



Upcoming Deadlines



>> Upcoming Deadlines

- **Wednesday, November 20, 2024** | Conference Paper Abstracts and Paper Session Requests Due
- **Friday, December 13, 2024** | Conference Paper Abstract Accept/Reject Notifications
- **Friday, January 3, 2025** | Website Opens for Extended Abstracts and Seminar, Workshop, Forum, Debate and Panel Proposals
- **Wednesday, February 26, 2025** | Debate, Panel, Seminar, Forum, Workshop, and Debate Proposals Due
- **Wednesday, March 5, 2025** | Conference Papers and Extended Abstracts Due
- **Wednesday, April 2, 2025** | Conference Paper Accept/Revise/Reject Notifications
- **Wednesday, April 2, 2025** | Extended Abstract Accept/Reject Notifications
- **Wednesday, April 9, 2024** | Revised Conference Papers Due
- **Friday, April 11, 2025** | Debate, Panel, Seminar, Forum, Workshop Scheduling Notifications
- **Wednesday, April 23, 2025** | Conference Paper Final Accept/Reject Notifications

Potential Topic Discussion :: Available Tracks

Research Summit

Workforce
Development

Onsite Energy
Storage

HVAC&R Systems
and Equipment

Industrial Ventilation,
Refrigeration,
Air-Conditioning and
Energy Utilization

Heat Pumps,
Refrigerants
and Decarbonization

Fundamentals and
Applications

PROGRAM POTENTIAL TOPICS

1. **HEAT PUMPS, REFRIGERANTS, AND DECARBONIZATION:**

- Combining ERV/HRV and Heat Pump Systems – we need ERV/HRV manufacturer support
- What other ways can we use AAERV to meet decarbonization goals

2. **HVAC&R SYSTEMS AND EQUIPMENT**

- MURB Designs and Strategies – ideally, we would like consulting engineering perspective

3. **FUNDAMENTALS AND APPLICATIONS**

- Frost Control – How does it work and how do you maximize performance?
- Other control topics (reach out to GPC 36 and/or similar)
- Healthcare applications and the use of AAERV (see Mo, Carey)
- See Research for new topics

4. **INDUSTRIAL VENTILATION, REFRIGERATION, AIR-CONDITIONING AND ENERGY UTILIZATION**

- Highlight recent updates to ~~Standard 84~~ Standard 84? Expand on new technologies introduced? Any other key updates (new definitions)?
- 241 (i.e. COVID Pandemic Standard)?
- What metrics are various codes / standards using?
- Passive House -> need liaison, lead to potential seminar?
- Overview of H/ERV (AHRI-1060, ERR and RER definitions, etc.)
- ASHRAE Standards 55, 62 and 90 require many things – some of which seem to be in conflict with each other



Research Report

- **RTAR**

- Sub-committee met January 22nd to review a list of possible projects and new suggestions. After discussion of all the projects a survey was send to participant to evaluate the interest and feasibility of the projects.
- Last TC 5.5 meeting, research sub-committee will start working on “Onset of frost”
- Will schedule a sub-committe meeting to work on the RTAR after the summer conference.



Research Report

- **FOLLOWING RP-1780, TC-9.10**
 - Matthew Friedlander and Eric Erdman have been appointed to represent TC 5.5 on the new RTAR.



Standards SC

- Standards SC:
 - Alkis Triantafyllopoulos
 - Andy Kebernik
 - Carey Simonson
 - Drake Erbe
 - Jaime Yeh
 - Matthew Friedlander (Chair)
 - Ronnie Moffitt
- Responsible for a single Standard:
Standard 84-2024 Method of Testing Air-to-Air Heat/Energy Exchangers
- Working on proposal for:
Guideline for Best Practices in Frost Control



Standard 84-2024 Method of Testing Air-to-Air Heat/Energy Exchangers

- AHRI Standard 1060-2023 refers to ASHRAE 84 as the test method
 - 1060 is AHRI's certification program for ERV exchangers and packaged units (typically non-residential) using those exchangers
- Publication date April 30, 2024
- Available in the bookstore and in the members-only free previews (<https://www.ashrae.org/technical-resources/standards-and-guidelines/read-only-versions-of-ashrae-standards>)
- No active plan for next revision cycle.
 - To reaffirm, TC will need to take action at the 2028 summer meeting
 - To revise, TC will need to initiate at the 2026 summer meeting



Possible additions to the next edition of Standard 84

Normative section on Field testing

This section of 84 is not normative, we see this as a gap.

Both lab experts and field-testing experts would be needed.

Large energy performance contractors have been suggested as a source for expertise.

EN308 has some material.

Pressure Drop Variation as a function of Static Pressure Differential

At this time there is no apparent market demand for a metric → AHRI-1060 participants were not interested

Normative or Informative on Determination of Frosting Threshold

NOT a method of test for defrost or frost prevention systems ← these are unit-level issues

Work to develop the Proposed Guideline for Best Practices in Frost Control could help determine whether there is sufficient basis to add anything to the standard.



Standards SC Project in progress

Guideline: “Best practices for frost prevention or recovery in air-to-air energy recovery systems for ventilation”

We believe the state of the art allows for a guideline to be written today (see RP 543, RP 544, ALI Courses and manufacturer recommendations).

- ➔ TC recommended the SC draft a Title, Purpose and Scope (TPS) and then form a Guideline Project Committee
- ➔ SC has generated a draft TPS and is working on the Guideline Proposal form
- ➔ SC needs to propose a GBC roster in order to complete the Proposal ➔ *Need volunteers!*



CSA C439-2024 Laboratory methods of test for rating the performance of heat/energy-recovery ventilators

- Method of test used by HVI and NRCan for whole-unit performance testing, rating and certification
 - First published in 1985.
 - The C439 metrics are referenced by a number of codes and standards, including I-codes and 90.1.
 - Testing and certification is theoretically applicable to any stand-alone HRVs or ERVs.
 - However, the third-party lab used for HVI certification is functionally limited to residential-size heat or energy recovery ventilating units (i.e. <300 cfm).
 - I believe HVI membership is uninterested in expanding certification to larger HRVs or ERVs.
 - The standard includes the world's most stringent extreme cold weather testing.



CSA SPE-18:2024

- Title: Load-based and climate-specific testing and rating procedures for seasonal performance of heat recovery and energy recovery ventilators (HRVs and ERVs)
 - Not a standard and not formally reviewed by a CSA Technical Committee
 - Supported by Canadian utilities, NEEA, and Quebec Ministry of Environment
- Intended to determine seasonal efficiency of HERVs
 - Incorporates C439 methods and metrics
 - Requires testing at three airflows
 - Requires testing at (2) heating and (2) cooling conditions, and at (1) or (2) below freezing temperatures if needed for the climate
 - Results of tests are interpolated for application to annual weather data in (16 to 31) bins
- Laboratory work is now underway to validate the procedures
- We have a speaker to update us.



Global Standards with Similar Scope

- ISO 21773:2021
 - Patterned on ASHRAE 84, method of laboratory test for exchangers (not ventilators)
- ISO 16494-1: 2022 Second edition
 - Method of laboratory test for complete ventilators with heat/energy recovery
 - Minor updates and clarification published 2022-06-14
 - 16494-2:2019 Guidance on uncertainty analysis
- EN308:2022 Heat exchangers — Test procedures for establishing performance of air to air heat recovery components
 - Method of test for exchangers (not industrial heat recovery):
 - in labs
 - in units
 - in the field
 - Structured for use in the European system of Energy Performance of Building Directive
 - Partially aligned with ASHRAE 84 and ISO 21773



ASHRAE's Global Technical Interaction Committee (GTIC)

Be responsible for harnessing the technical resources of ASHRAE to influence International Standards and maximize global impacts of such Standards and other technical work products on the practice of HVAC&R and the built environment.

This includes developing, implementing and managing processes that enable information flow and coordination between chapters, technical committees, standard project committees and international technical advisory groups.

Drake Erbe is a member of GTIC and I invite him to comment.



Website

- [Index | ASHRAE 5.5 Air-to-Air Energy Recovery](#)
- Website Chair: Melanie Fauchoux



Membership

Role	Experience Level	Commitment
Vice Chair	Experienced	4 years, 2-3 hrs/month
Program	Some	
62.1 Liaison	None	Attend 62.1 & TC 5.5
Membership	None	<1 hr/month