



TC 8.10 - Mechanical and Desiccant Dehumidification Equipment, Heat Pipes and Components Main Committee Meeting Minutes for ASHRAE Annual Conference Meeting 2022 In Person and Virtual

Date: Tuesday – June 28, 2022

Place: Sheraton – Davenport (4)
Virtual- Link TBD

Time: TC 8.10 Main Committee Meetings – 1:00 PM to 3:00 PM EST

Note: TC 8.10 Sub-Committee Meetings – Tuesday, June 21, 2022 3:00 – 5:00 PM EST

Items: Related to TC 8.10:

SPC 198 Method of Test for Rating DX-Dedicated Outdoor Air Systems for Moisture Removal Capacity and Moisture Removal Efficiency, Monday, June 27th 2:30 to 4:30 PM EST Sheraton – Forest Hill (4) and Virtual

Note: Within TC 8.10, we discuss research, handbook, and program activities during one combined subcommittee meeting. Voting members are strongly encouraged to attend the subcommittee meeting. Corresponding members and guests are welcome.

Scope of TC 8.10: is principally concerned with mechanical and solid/liquid desiccant dehumidification equipment and heat pipes and their design performance, applications engineering, related load calculations, commissioning, operation, and maintenance.

Call to order & Introductions: Chair, David Baird

1. Meeting called to order at – 1:00PM EST
2. Brief introductions
 - a. Ben Heyser – AHRI
 - b. Tam
 - c. Randy S.
 - d. Ronnie Moffit – Trane
 - e. Craig Burg – DesertAire
 - f. Peter Luttik – Emerson
 - g. David Baird – Dristeam
 - h. Kevin – Intertek
 - i. Kevin Muldoon – KCC
 - j. Jim bogart – JCI
 - k. Jim Piscopo
 - l. Darrell Sandlin – CHP
 - m. Jason Freudigmann – Greenheck
 - n. Jason Woods – NREL
 - o. Shirley Hall – Renewair
 - p. Jessica DeWitt – Cadeo Group
 - q. Tim Clark



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ASHRAE Code of Ethics, Chair, David Baird

“In this and all other ASHRAE meetings, we will act with honesty, fairness, courtesy, competence, integrity and respect for others, and we shall avoid all real or perceived conflicts of interests”.

ASHRAE Commitment to Care

“The health and safety of all ASHRAE conference attendees is a top priority. Out of respect for our fellow attendees, we commit to wear masks indoors, monitor our health, seek medical attention if symptoms develop and adhere to all ASHRAE Commitment to Care protocols. We are committed to the well-being of one another.”

Determination of Quorum - Chair, David Baird

1. Majority of voting members must be present
 - a. 7 of 11 VM present

Membership/Roster: Webmaster/Membership Subcommittee Chair, Gayle Davis

1. Leadership: 9 voting, 2 non-voting
 - a. 4 voting members ended term 6/30/21
 - b. 3 voting ends 6/30/22
2. 104 total members, 83 corresponding (14 provisional), Miscellaneous Others: 6
 - a. To become a provisional corresponding member - please sign-up online
 - b. Chair has discretion to convert a provisional corresponding member to a corresponding member before 2 years

Request for Approval of Annual 2021 Minutes – Secretary, Kevin Muldoon

1. Modifications - NONE
 - a. Darrel moved to approve Minutes from W22 (Vegas/Virtual), Alois second
 - 1) 6-0-3
 - 2) PASSED

Request for Any Additions to Current Agenda

- a. None

Section 8 Meeting Report - Chair, David Baird, Vice-Chair, Peter Luttkik

1. Discussion of items from meeting to occur
 - a. Document of running hybrid meetings to be published.
 - b. Decarbonization
 - c. Ensure diversity on TC
 - 1) Producer vs. consumer vs. general interest
 - d. New ASHRAE rules of order
2. When “Awards Nominations” are due
3. Deadlines for programs discussed and addressed in Programs report
4. TC opportunities for tracks



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Liaison Reports:

Section Head	Kevin Mercer
TAC Chair	Dustin Meredith
Handbook	
Research	Christopher Seeton
Standard	Srinivas Katipamula
Staff	Steven Hammerling

As Liaisons might not be available at the beginning of the meeting, we will provide them the opportunity to address as they enter following the item on the agenda.

1. Section Head
 - a. Updated rosters beginning in July are in process and to be reviewed
 - b. No concerns at this time

Subcommittee Reports:

Programs – Program Sub-Committee Chair, Onieluan (Tam) Tamunobere

1. Review proposals for future meetings
 - a. Atlanta Winter meeting submissions opens due by 8/9/22
 - 1) Fundamentals and Applications
 - 2) HVAC&R Systems and Equipment
 - 3) Refrigerants and Refrigeration
 - 4) Grid Resilience and Thermal Storage
 - 5) Pathways to Zero Energy Emissions and Decarbonization
 - 6) Multifamily and Residential Buildings
 - 7) Operations and Maintenance
 - 8) Building Simulations and Virtual Design in Construction
 - 9) Mini Track – Innovative responses to supply chain challenges
 - b. Seminar submission for High performance HVAC systems for CEA – 23 Winter Atlanta – 9.8 and 2.2 co-sponsorship
 - 1) Moved: Darrell S. Seconded: Peter L.
 - 2) VOTE: 6-0-3
 - c. Annual 23 meeting – Tampa
 - 1) Decarb and HP in DOAS equipment – Ronnie M.

Handbook - Handbook Sub-Committee Chair, Ralph Kittler

1. Handbook Chapters responsible for:
 - a. HVAC Systems & Equipment (2020):
 - 1) Desiccant Dehumidification and Pressure-Drying Equipment (Chapter 24)



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- a) Being evaluated by several members
 - 2) Mechanical Dehumidifiers and Related Equipment (Chapter 25)
 - a) Minor changes expected
 - 3) Dedicated Outdoor Air Systems (Chapter 51)
 - a) Ready for vote after completed draft
 - b. Fundamentals (2021):
 - 1) Sorbents and Desiccants (Chapter 32)
 - a) Being worked on by several committee members
- 2. Design Guide responsible for:
 - a. Dedicated Outdoor Air Design Guide
 - 1) At the TC meeting in February 2021, the TC chair appointed John Murphy to lead a subcommittee to revise the *ASHRAE Design Guide for Dedicated Outdoor Air Systems*. Kevin Muldoon, Peter Luttik, and Svein Morner (original author) volunteered to help. On 27 May 2022, the subcommittee voted unanimously to approve the revision for publication. Via letter ballot dated 3 June 2022, TC 8.10 affirmed the subcommittee's decision (9-0-0-1-CV). The revised version has been submitted to ASHRAE Publication Staff for layout and publication, hopefully later this year.

Research - Research Sub-Committee Chair, Alois Malik

- 1. RP 1566 - "Equations to Estimate Evaporation Rates from Wetted Surfaces"
 - a. This is in the queue for bid but has not been released yet as awaiting funding
- 2. Co-sponsorship with TC 2.2 on Determination of Latent Loads for Crops
 - a. No update available
- 3. Test standards for liquid desiccants proposed at summer meeting
 - a. Recommended to wait until after the handbook chapter is completed to determine need.
- 4. Benefits of pressurizing residential homes discussed at summer meeting
 - a. On hold at this time
- 5. Impact of variables loads for full dehumidification equipment potential RTAR
 - a. This was submitted to RAC but returned with comments regarding scope and funding
 - b. Additional committee members volunteered to assist with the revision
- 6. 1865-RP – "Optimizing Supply Air Temperature Control for Dedicated Outside Air Systems"
 - a. Back in April 2019, the TC voted to co-sponsor
 - b. John Murphy agreed to serve on the PMS as the representative for TC 8.10. The project was sent out for bid in late 2019, and the PMS selected Texas A&M as the approved bidder. Due to limited funding during the pandemic, the project did not start until April 2022. The first PMS meeting was held on 27 June 2022.
- 7. Research proposal discussed for wrap-around heat pipes to support potential future standard
 - a. Further discussion to occur



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8. TC 1.4 working on research proposal regarding maximum humidity levels in heating mode for heat pumps
 - a. Potential co-sponsorship in the future

Standards - Standards Sub-Committee Chair, Craig Burg

1. ASHRAE Standard 198-2013, Method of Test for Rating DX-Dedicated Outdoor Air Systems for Moisture Removal Capacity and Moisture Removal Efficiency
 - a. **SPC 198** Method of Test for Rating DX-Dedicated Outdoor Air Systems for Moisture Removal Capacity and Moisture Removal Efficiency, is meeting Monday, June 27th 2:30 to 4:30 PM EST Sheraton – Forest Hill (4) and Virtual.
 - b. We are still in draft, although the committee is now substantially complete with general markup and revisions. An interim working group meeting was held between the Winter meeting and the annual meeting. Mike Stem from Stem Integration had offered to complete a comparison of the latest AHRI 920 Appendix C to the draft ASHRAE MOT. He may need some assistance. Any members or interested parties are encouraged to help spend some time offline with Mike if they are able.
2. ASHRAE Standard 174-2018, Method of Test for Rating Desiccant-Based Dehumidification Equipment
 - a. TC 8.10 voted on 8/10/21 to reaffirm the standard. There were no comments from the committee members on a need to revise or update the standard. Unless there is an immediate need to revise, the date the committee will need to review and reaffirm in early 2025. Those committee members interested in desiccants specifically are encouraged to review.
3. ASHRAE Standard 139-2019, Method of Testing for Rating Desiccant Dehumidifiers Utilizing Heat for the Regeneration Process
 - a. TC 8.10 voted on 8/10/21 to reaffirm the standard. There were no comments from the committee members on a need to revise or update the standard. Unless there is an immediate need to revise, the date the committee will need to review and reaffirm in early 2025. Those committee members interested in desiccants specifically are encouraged to review.
4. ASHRAE Standard 190-2020, Method of test for Rating Indoor Pool Dehumidifiers
 - a. The three-year date for Standard 190-2020 is 7/31/2023. We have been asked to start the review process, including a review for mandatory language. I am suggesting a review committee be formed to briefly review the standard and make a recommendation to TC 8.10. Alternatively, I can complete this myself. Since this was recently revised and there have been no modifications to AHRI 910 since that time, it is unlikely that there are any significant technical changes.
5. AHRI performance standard for wrap-around heat pipes
 - a. AHRI is in review of the existing and pending standards there. They estimate that close to ½ of the standards need significant updates or are not widely used. In general, there is an effort to focus attention on those standards that are active. Members who believe that this standard is important are encouraged to reach out to AHRI to voice support for the development of this standard. Benjamin Heyser



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from AHRI may be at the committee meeting to discuss this. I (Craig Burg) am also part of the SSC - Applied Standards Subcommittee and can be contacted with comments.

TC Web Site – TC Webmaster, Gayle Davis

1. Website is current.

Other Business

1. None.

Motion to Adjourn – 2:58PM EST

DRAFT