

This article was published in ASHRAE Journal, December 2019. Copyright 2019 ASHRAE. Posted at www.ashrae.org. This article may not be copied and/or distributed electronically or in paper form without permission of ASHRAE. For more information about ASHRAE Journal, visit www.ashrae.org.

AAON Opens Lab, Sound Test Chamber

TULSA, OKLA.—From snow to high winds to freezing temperatures, HVAC equipment can be put through the ringer at AAON's new laboratory.

AAON celebrated the grand opening of its Norman Asbjornson Innovation Center (NAIC) in October. The 65-foot (19.8 m) tall and 134,000 ft² (12 449 m²) lab has 10 testing chambers specializing in both acoustics and thermal performance. It can test up to a 300 ton (1055 kW) air-conditioning system, up to a 540 ton (1899 kW) chiller system and up to 80 million Btu (19 GJ) of gas heating test capacity, according to AAON.

AAON says this is the only lab in the world that measures the supply, return and outside sound testing at actual load conditions

It is home to the largest sound test chamber in the world, which is the only one that can test for both sound and thermal performance, said Mark Fly, P.E., Fellow ASHRAE, executive director of the NAIC.

"This is a very unique test facility," he said.

The lab's environmental application testing capabilities span -20°F (-28.9°C) to 140°F (60°C), up to 8 in./h (203 mm/h) rain testing, up to 2 in./h (51 mm/h) snow testing and up to 50 mph (80 km/h) wind testing. The



ASHRAE JOURNAL/MARY KATE MCGOWAN

The sound chamber at AAON's new lab tests sound and thermal performance. AAON says it is the largest sound test chamber in the world.

testing chambers allow AAON to meet and maintain AHRI and DOE certification, according to the company.

At the grand opening event, Norman Asbjornson, P.E., Member ASHRAE—the founder of AAON and the namesake of the new facility—said AAON has used the lab already to test products for prospective clients.

"That's going to give us further insurance and viability for AAON now and in the future," he said. ■

ASHRAE, UNEP Announce Low-GWP Awards Projects

ROME—From a CO₂ transcritical refrigeration system in Thailand to packaged chillers with integrated air-handling units in Saudi Arabia, the 2019 ASHRAE-UNEP OzonAction Lower GWP Refrigeration and Air-Conditioning Innovation Awards project selections exhibit innovation and advancement.

ASHRAE and UN Environment Programme announced the project selections in November. The award program recognizes innovative design, research and practice of those who have developed or used lower global warming potential refrigerants in refrigeration and air-conditioning applications in developing countries. ■

Meet the Winners

Residential Applications

Project Team | Rajesh Kumar N, D. Mohan Lal and Kamalakannan: *Low Charge Ammonia Vapor Compression Refrigeration System for Residential Air-Conditioning implemented in India*

Project Team | Zhang Jianjun, Guo Zhikai, Zhang Lei, Zhang Mingjie and Xie Pinzan: *HFC-161 Application Technology Development for High Cooling Capacity Household Air Conditioners implemented in China*

Commercial/Industrial Applications

Project Team | Samir Hamed Alfetiany, Husam Quedan and Samer Hamed Alfetiany: *Packaged Chillers with Integrated Air Handling Units Using HFC-32 and HC-290 implemented in Saudi Arabia*

Project Team | Warot Lamlertpongpana, Wallop Lamlertpongpana, Jittakorn Sukjareon and Kittitach Chumnarnwat: *The Crocodile Project CO₂ Transcritical Refrigeration System for a Hot-and-Humid Region implemented in Thailand*

Project Team | Rogério Marson Rodrigues, Ivair Lucio Soares Junior, Gustavo Galdi Heidinger, Cassio Lucio Simonetti and Edgard Soares Pinto Neto: *Low Charge Propane Chiller for a Supermarket Commercial Refrigeration System implemented in Brazil.*

INDUSTRY ROUNDUP

Water Battery Powers HVAC Systems

SUNSHINE COAST, AUSTRALIA—A three-story “water battery” is producing enough energy to power a university’s air-conditioning systems, which is reducing its reliance on the grid by more than 40%. The water battery is a thermal energy storage system that uses energy generated by a 2.1 MW photovoltaic system to cool 4.5 megaliters (1.2 million gallons) of water resting inside a three-story tank. The campus’ air-conditioning systems use the cooled water.

The system came online in September and is estimated to prevent more than 92,000 tons of CO₂ emis-



The water battery is helping the university achieve its goal of being carbon-neutral by 2025.

sions over the next 25 years.

Qatar Installs AC Outdoors

AL WAKRAH, QATAR—Qatar, the site of the 2022 World Cup, has installed outside air conditioning in locations such as streets, outdoor markets and one of the World Cup stadiums. To increase thermal comfort in the competition, one stadiums has small grates that push out cool air. ■

Errata

As published in the October 2019 Journal, the ASHRAE Honor Roll of Donors 2018-19 contained the following errors and omissions:

On page HR30, donor contributions to Research Endowments named for Austin Chapter Past Presidents Mike Davidson, Wes Goodwin, and Jim Ruth were incorrectly listed as memorial gifts and should have been included under Honorariums on page HR31.

Honorariums also omitted a gift made by Bill Klock in honor of Lilas Pratt.

ASHRAE RP Staff regret the errors.

Advertisement formerly in this space.