AHRI Standard 1061 (SI)

2018 Standard for

Performance Rating of Air-to-Air Exchangers for Energy Recovery Ventilation Equipment

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IMPORTANT

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Note:
This standard supersedes ANSI/AHRI Standard 1061 (SI)-2014.
For I-P ratings, see AHRI Standard 1060 (I-P)-2018.

Price $10.00 (M) $20.00 (NM)
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PERFORMANCE RATING OF AIR-TO-AIR EXCHANGERS FOR ENERGY RECOVERY VENTILATION EQUIPMENT

Section 1. Purpose

1.1 *Purpose*. The purpose of this standard is to establish for Air-to-Air Exchangers intended for use in Air-to-Air Energy Recovery Ventilation Equipment (AAERVE): definitions; test requirements; rating requirements; minimum data requirements for Published Ratings; marking and nameplate data; and conformance conditions.

1.1.1 *Intent*. This standard is intended for the guidance of the industry, including manufacturers, designers, installers, contractors and users.

1.1.2 *Review and Amendment*. This standard is subject to review and amendment as technology advances.

Section 2. Scope

2.1 *Scope*. This standard applies to factory-made Air-to-Air Exchangers for use in Air-to-Air Energy Recovery Ventilation Equipment (AAERVE) as defined in Section 3.

2.2 *Exclusions*. This standard does not apply to the rating and testing of heat exchangers joined by circulated heat transfer medium (run-around loop). A run-around loop employs liquid-containing coils connected in a closed loop and placed in each of two or more airstreams.

Section 3. Definitions

All terms in this document will follow the standard industry definitions in the *ASHRAE Terminology* website (https://www.ashrae.org/resources--publications/free-resources/ashrae-terminology) unless otherwise defined in this section.

3.1 *Air-to-Air Energy Recovery Ventilation Equipment (AAERVE)*. Energy recovery components and packaged energy recovery ventilation units which employ Air-to-Air Exchangers to recover energy from exhaust air for the purpose of pre-conditioning outdoor air prior to supplying the conditioned air to the space, either directly or as part of an air-conditioning (to include air heating, air cooling, air circulating, air cleaning, humidifying and dehumidifying) system.

3.2 *Air-to-Air Exchanger (Exchanger)*. A device that transfers heat/energy between an exhaust airstream and a separated supply airstream. Exchangers are also referred to as energy recovery components.

3.2.1 *Heat Pipe Heat Exchanger*. A device employing tubes charged with a fluid for the purpose of transferring sensible energy from one airstream to another. Heat transfer takes place through the vaporization of the fluid exposed to the warmer airstream and condensation of the fluid in the cooler airstream.

3.2.2 *Plate Heat Exchanger*. A device for the purpose of transferring energy (sensible or total) from one airstream to another without moving parts. The design may incorporate parallel, cross or counter flow construction or a combination of these to achieve the energy transfer.

3.2.3 *Rotary Heat Exchanger*. A device incorporating a rotating cylinder or wheel for the purpose of transferring energy (sensible or total) from one airstream to the other. It incorporates heat transfer material, a drive mechanism, a casing or frame, and includes any seals which are provided to retard the bypassing and leakage of air from one airstream to the other.

3.3 *Airflow*.

3.3.1 *Entering Exhaust Airflow*. The exhaust airstream (indoor air) before passing through the Exchanger, indicated in Figure 1 as Station 3, expressed in L/s of Standard Air. Also referred to as return air (RA).

3.3.2 *Entering Supply Airflow*. The supply airstream (outdoor air) before passing through the Exchanger, indicated