AHRI Standard 1061 (SI)

2013 Standard for

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

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Note:

This standard supersedes AHRI Standard 1060-2011.
For I-P ratings, see AHRI Standard 1060 (I-P)-2013.

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PERFORMANCE RATING OF AIR-TO-AIR HEAT EXCHANGERS FOR ENERGY RECOVERY VENTILATION EQUIPMENT

Section 1. Purpose

1.1 *Purpose*. The purpose of this standard is to establish for Air-to-Air Heat Exchangers intended for use in Air-to-Air Energy Recovery Ventilation Equipment: 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 Heat Exchangers for use in Air-to-Air Energy Recovery Ventilation Equipment 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 Wikipedia website (http://wiki.ashrae.org/index.php/ASHRAEwiki) 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 Heat 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 Heat/Energy Exchanger (hereinafter "Exchanger")*. A device that transfers heat from an exhaust airstream to a separated supply airstream. Air-to-Air Heat 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 with no moving parts. This exchanger 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 Supply Airflow (OA)*. The supply airstream (outdoor air) before passing through the Exchanger, also referred to as outdoor air, indicated in Figure 1 as Station 1. Sometimes referred to as the outdoor Airflow.

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