

NOVELAIRE TECHNOLOGIES

Energy Conservation Wheel Specification (Enthalpy)

Wheel Media: The ECW or enthalpy wheel shall be constructed of corrugated synthetic fibrous media, with a desiccant intimately bound and uniformly and permanently dispersed throughout the matrix structure of the media. Rotors with desiccants coated, bonded, or synthesized onto the media are not acceptable due to delamination or erosion of the desiccant material. Media shall be synthetic to provide corrosion resistance and resistance against attack from laboratory chemicals present in pharmaceutical, hospital, etc. environments as well as attack from external outdoor air conditions. Coated aluminum is not acceptable. Face flatness of the wheel shall be maximized (+/- 0.032 in) in order to minimize wear on inner seal surfaces and to minimize cross leakage. Rotor shall be constructed of alternating layers of flat and corrugated media. Wheel layers should be uniform in construction forming uniform aperture sizes for air flow. Wheel construction shall be fluted or formed honeycomb geometry so as to eliminate internal wheel bypass. Wheel layers that can be separated or spread apart by air flow are unacceptable due to the possibility of channeling and performance degradation. The media shall be in accordance with NFPA or UL guidelines. The minimum acceptable performance shall be as specified in the drawings/submittal. The ECW or enthalpy wheel shall be ARI certified in accordance with standard 1060 and carry the ARI certification stamp.

Desiccant Material: The desiccant material shall be a molecular sieve, and specifically a 4A or smaller molecular sieve to minimize cross contamination.

Wheel Media Support System: The wheel frames shall consist of evenly spaced galvanized steel spokes, galvanized steel outer band and rigid center hub. The wheel construction should allow for post fabrication wheel alignment.

Wheel Seals: The wheel seals shall be a contact brush seal on both the periphery of the wheel and the face. Seals should be easily adjustable.

Wheel Cassette: Cassettes shall be fabricated of heavy duty reinforced galvanized steel or welded structural box tubing. Cassettes shall have a built in adjustable purge section minimizing cross contamination of supply air. Bearings shall be inboard, zero maintenance, permanently sealed roller bearings, or alternatively, external flanged bearings or pillow block. Drive systems shall consist of fractional horsepower A.C. drive motors with multilink drive belts.