* 1. Energy Recovery Wheel (Desiccant)
1. General Specifications
2. Furnish and install the DES energy wheel as shown in the schedule, to be manufactured by Novelaire.
3. The media shall be in accordance with NFPA or UL guidelines. The minimum acceptable performance shall be as specified in the drawings/submittal.
4. The NovelAire ECW is AHRI certified using the 84-2020 ASHRAE Standard (Method of Testing Air-to-Air Heat/Energy Exchangers) and AHRI Standard 1060-2018 (Performance Rating of Air-to-Air Exchangers for Energy Recovery Ventilation Equipment) and carries the AHRI certification stamp.
5. Product Specifications
6. The DES 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.
7. Rotors with desiccants coated, bonded, or synthesized onto the media are not acceptable due to delamination or erosion of the desiccant material
8. Face flatness of the wheel shall be maximized (+/-0.032 in) to minimize wear on inner seal surfaces and to minimize cross leakage.
9. Rotor shall be constructed of alternating layers of flat and corrugated media.
10. Wheel layers should be uniform in construction forming uniform aperture sizes for air flow. Wheel construction shall be fluted or formed honeycomb geometry.
11. The minimum acceptable performance shall be as specified in the drawings/submittal.
12. The desiccant material shall be specifically designed for low temperature regeneration isotherm properties to provide excellent dehumidification and regeneration characteristics when cycled between a saturated air stream and an unheated or moderately heated regeneration air stream.
13. The wheel frames shall consist of evenly spaced steel spokes, galvanized steel outer band and rigid center hub. The wheel construction shall allow for post fabrication wheel alignment.
14. The wheel diameter seals sealing between the two air streams shall be full contact silicone bulb seals with a graphite friction barrier to minimize leakage at operation up to 10” w.c. differential pressure. Outer peripheral seals shall be full contact nylon brush seals or equivalent. All seals shall be easily adjustable. Any form of non-contact seal, including labyrinth seals, is not acceptable due to the inherently greater leakage potential.
15. Cassettes shall be fabricated of heavy duty reinforced galvanized steel or welded structural box tubing. Bearings shall be inboard, zero maintenance, permanently sealed roller bearings, or alternatively, external flanged or pillow block bearings. Drive systems shall consist of fractional horsepower A.C. drive motors with multi-link drive belts.
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17. Optional VFD can be provided to modulate wheel speed.