

TYPICAL SPECIFICATIONS

1. Supply and install, where shown on the plans, rotary air-to-air energy exchangers with thermal transfer media in accordance with the scheduled performance requirements. Unit manufacturer shall have a minimum of 10 years experience in the design, construction, and application of energy recovery wheels. Rotary energy exchangers shall be Model W__D Energy Recovery Wheel(s) as manufactured by the Carnes Company, Verona WI.
Option: Energy Recovery Wheel shall be ETL/CSA Listed.
2. Energy transfer media shall be a uni-directional fluted configuration to permit laminar flow minimizing cross contamination and pressure drop. Flute size shall permit the passage of particulates up to 500 microns in size. Media shall be non-asbestos, water resistant, bacteriostatic, fire retardant, and strengthened with internal radial reinforcements.
Option: Media shall be segmented and supported in a rotor assembly utilizing heavy gage steel spokes and hub.
Option: Media may be provided in segments for replacement purposes.
3. Enthalpy media (sensible + latent) shall be constructed of corrugated aluminum coated with a non migrating, water selective, permanently bonded, desiccant coating to permit sensible and latent energy transfer. Media shall be cleanable with vacuum, compressed air, dry steam, water, and light detergent with minimal loss of latent effectiveness. Moisture transfer shall take place in the vapor phase and media shall remain dry to the touch in both summer and winter operation. Energy transfer performance shall be independently tested in accordance with ASHRAE Standard 84 and ARI Standard 1060. The desiccant material shall not transfer pollutants typically encountered in indoor air comfort-to-comfort exhaust. Documentation shall be available upon request. Energy transfer media shall be independently tested in accordance with ASTM-E-87, and shown to have a flame spread of less than 25 and a smoke generation rating of less than 50.
Option: Media shall be acrylic coated for salt air corrosion protection and tested in accordance with ASTM B117 for salt spray protection.
Option: Media edges shall be epoxy coated for salt air corrosion protection.
4. Sensible only media shall be constructed of corrugated aluminum to permit sensible only energy transfer.
Option: Media shall be acrylic coated for salt air corrosion protection and tested in accordance with ASTM B117 for salt spray protection.
Option: Media edges shall be epoxy coated for salt air corrosion protection.
5. Rotor shall be supported in a formed and welded heavy gage steel frame by self-aligning sealed bearings equipped with grease fittings to permit lubrication. Adjustable nylon wiping seals shall be provided to minimize leakage. A field adjustable purge section shall be provided to limit carryover of exhaust air contaminants into the supply air to less than 0.04% by volume when the supply side absolute static pressure is 1 in. wg. or greater than the exhaust side.
Option: Wheel frame shall be internally insulated to prevent condensation formation on the frame.
6. Rotor shall be driven by fractional horsepower, totally enclosed AC electric motor and integral inline maintenance free speed reducer with sheave and belt around the rotor perimeter. Belt shall be welded urethane to eliminate belt tensioning adjustments. Dual drive belts shall be provided standard on wheel sizes 37 and 45.
Option: A spare belt shall be mounted on the wheel perimeter to be available for immediate use in case of primary belt failure.
Option: Dual drive belts and dual drive sheave shall be provided.
Option: Linked style belt(s) shall be provided for easy replacement and length adjustment.

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7. Rotor shall operate at a constant speed of 15 to 18 RPM for maximum energy transfer.

Option: Provide the following controls:

- a. Temperature controlled economizer controls with “free cooling” mode.
- b. Enthalpy controlled economizer controls with “free cooling” mode.
- c. Variable speed drive with speed signal provided from external circuit.
- d. Variable speed drive with speed signal provided from external circuit, plus pressure drop controlled defrost mode.
- e. Variable speed drive with integral thermostat control.
- f. Variable speed drive with integral thermostat control, plus pressure drop controlled defrost mode.
- g. Rotation Detector. External alarm circuit by others.