▼ TYPICAL SPECIFICATIONS

• GENERAL

Furnish and install where shown the Carnes Energy Recovery Ventilator, Model WE_C. Unit manufacturer shall have a minimum of 10 years experience in the design, application, and manufacture of Energy Recovery Wheels and associated air handling devices.

Option: Unit shall be ETL listed in Category 169 and Category 294 for Heating and Cooling Equipment in accordance with UL Standard 1995, Heating and Cooling Equipment, and CSA C22.2 No. 236.

• UNIT CASING

Unit casing shall be heavy gauge galvanized steel construction designed for outdoor installation; with unit base and internal components of heavy gauge galvanized or painted steel. Housing roof, sides, and internal partition shall be furnished with one inch foil faced fiberboard fiberglass insulation of minimum 4 pound density. 2 inch pleated, MERV7, disposable filters shall be provided in supply and exhaust air streams. Lifting points shall be provided. On outside mounted units, outside air intake and exhaust air outlet shall not be located on same side of unit.

Option: Double wall of galvanized sheet metal shall enclose insulation.

• ACCESS

Access shall be provided through removable access panels (Optionally with Security Cables) or hinged and latched double wall access doors.

• ENERGY RECOVERY WHEEL

Wheel shall be an enthalpy (sensible + latent) energy recovery rotor constructed of corrugated aluminum coated with a non migrating, water selective, permanently bonded, desiccant coating to permit sensible and latent energy transfer. Energy recovery ratings shall be in accordance with ASHRAE Standard 84, and performance certified to ARI 1060. Wheel media shall be independently tested in accordance with ASTM-E-87, and shown to conform to the requirements of NFPA-90A by documenting a flame spread of less than 25 and a smoke generations rating of less than 50.

Moisture transfer shall take place in the vapor phase and media shall remain dry to the touch in both summer and winter operation. A purge section shall be incorporated to limit carryover of exhaust air contaminants into the supply air. Rotor shall be driven by maintenance free speed reducer and welded urethane belt. Rotor shall require no cleaning under normal operating conditions. However, if cleaning should be required, the rotor shall be capable of being cleaned with vacuum, compressed air, dry steam, hot water, or light detergent.

The two faces of the energy recovery wheel shall be covered and sealed with an epoxy coating chosen for corrosion resistance.

Option: Economizer Mode - adjustable temperature or enthalpy controlled operate wheel for heating and cooling modes, and stops wheel for “free cooling” economizer mode.

Option: Rotation detector provides output signal for remote alarm (by others) upon rotation failure.

▼ TYPICAL SPECIFICATIONS

• FANS

Fans shall be double width, double inlet, forward curved type, with individual motors and adjustable belt sheaves to enable independent balancing of supply and exhaust air streams. All blower wheels shall be statically and dynamically balanced.

• MOTORS

Motors shall be permanently lubricated, heavy duty, sealed bearing type. Motors shall meet EPACT minimum efficiency standards. Fan/motor assembly shall be mounted on neoprene vibration isolators to unit base.

• ELECTRICAL

Electrical components shall be prewired to a single point power connection, complete with all required operating circuitry installed in an internal control panel, integral fuse protection, 24 volt control circuit, fan motor starters with overload protection, terminal strip connections, and externally mounted NEMA 3R disconnect as standard. External circuit connections to control unit on/off, and independently, recovery rotor on/off, shall be provided.

Option: Intake weather hood shall be complete with moisture eliminator. Exhaust weather hood shall contain an integral gravity backdraft damper or motorized damper.

Option: Gravity backdraft or motorized dampers shall be mounted in duct sleeves, weather hoods, or flush to cabinet exterior.

Option: Dirty Filter Sensors provide adjustable set point pressure drop indication for supply and exhaust air stream filters for alarm circuits by others.

Option: Painted cabinet is available.

Option: Airflow monitor gauges are available to set and ensure supply and exhaust airflows.

Option: 7 Day Programmable Time Clock mounted in internal control panel or remotely is available.

Option: Remote control panel of customer defined configuration may be provided.

Option: Electric Preheat Coil shall be weatherproof, of sufficient capacity to raise outside air from winter design to calculated frost formation potential temperature, and complete with supply air thermostat of appropriate temperature range. A separate electrical power circuit shall be provided to the preheat coil.

Option: Exhaust Fan Only Frost Control shall initiate field adjustable timed defrost cycle upon sensing low supply air temperature, shutting off supply blower momentarily for wheel defrost.

Option: Variable wheel speed defrost allows warm exhaust air to defrost the wheel.

Option: On/Off Frost Control will shut unit off when low outside air temperatures are sensed. Unit shall restart when outside air temperature rises above adjustable setpoint.

Option: Fan VFD for each fan to vary fan speed by external speed signal.

Option: 1 VFD to operate both fans with speed controlled by external speed signal.

Option: Digital electronic controller to monitor and control the ERV. BACnet and LonWorks communications.

• ROOF CURBS

Full perimeter prefabricated roof curbs of galvanized or galvalume construction with fiberglass insulation in standard 8 inch or 14 inch heights for outdoor installation shall be provided by the unit manufacturer.