SECTION 16220CPPR – MOTORS

PART 1 - GENERAL

1.1 REQUIREMENTS

A. Motors 3/4 hp and larger: Three-phase required.
C. Motors with variable load over 7.5 hp shall have VFD.
D. Motors 25 HP and above shall have reduced voltage starter.
E. Motors shall be tagged with their panel location and starter.
F. Motors shall earn highest rebate available under utility company rebate program (See related section 01351CP).

PART 2 - PRODUCTS

2.1 PRODUCT REQUIREMENTS FOR MOTORS FURNISHED WITH EQUIPMENT

A. Motors shall meet performance requirements for motors furnished loose.
B. Equipment submittals to include motor specifications and performance data.

2.2 MOTORS FURNISHED LOOSE

A. Three-Phase Motors: NEMA MG 1, Design B, energy-efficient squirrel-cage induction motor, with windings to accomplish starting methods and number of speeds as required.
B. Voltage: As applicable, volts, three phase, 60 Hz.
   1. Service Factor: 1.15 or higher as required for service.
   2. Enclosure: Meet conditions of installation.
   3. Design for continuous operation in 40 degrees C environment, with temperature rise in accordance with NEMA MG 1 limits for insulation class, service factor, and motor enclosure type.
   4. Insulation System: NEMA Class F minimum or, in applications with VFD, suitable for operating at 6 hz.
   5. Motor Frames: NEMA Standard T-Frames of steel, aluminum, or cast iron with end brackets of cast iron or aluminum with steel inserts.
6. Bearings
   a. Anti-friction ball bearings rated for minimum ABMA 9, L-10 life of 200,000 hours.
   b. Provide grease lubricated bearings with housings equipped with plugged provision for relubrication, where available in motor size, to be compatible with Brown University preventive maintenance standard grease. Provide grease vent plug – no sealed plugs allowed.
   c. Calculate bearing load with NEMA minimum V-belt pulley with belt centerline at end of NEMA standard shaft extension.
   d. Stamp bearing sizes on nameplate.

7. Sound Power Levels: Conform to NEMA MG 1.

C. Single Phase Motors:
   1. Permanent split-capacitor type where available, otherwise use split-phase start/capacitor run or capacitor start/capacitor run motor.
   2. Voltage: As applicable, volts, single phase, 60 Hz.

D. Wiring Terminations: Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated.

E. Manufacturers:
   1. Baldor Electric Co.
   2. General Electric Co.
   3. Magnetek
   4. Toshiba
   5. U.S. Motors

PART 3 – EXECUTION

3.1 REBATES
   A. Contractor shall assist in completing required rebate filing forms.

END OF SECTION