SECTION 15058

COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section

1.2 SUMMARY

A. Section includes general requirements for single-phase and 3-phase, general-purpose, horizontal, small and medium, squirrel-cage induction motors for use on ac power systems up to 600 V and installed at equipment manufacturer's factory or shipped separately by equipment manufacturer for field installation

1.3 COORDINATION

A. Coordinate features of motors, installed units, and accessory devices to be compatible with the following
   1. Motor controllers
   2. Torque, speed, and horsepower requirements of the load
   3. Ratings and characteristics of supply circuit and required control sequence
   4. Ambient and environmental conditions of installation location

PART 2 - PRODUCTS

2.1 GENERAL MOTOR REQUIREMENTS

A. Comply with requirements in this Section except when stricter requirements are specified in HVAC equipment schedules or Sections

B. Comply with NEMA MG 1 unless otherwise indicated

2.2 MOTOR CHARACTERISTICS

A. Duty: Continuous duty at ambient temperature of 40 deg C and at altitude of 6000 feet above sea level

B. Capacity and Torque Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, at installed altitude and environment, with indicated operating sequence, and without exceeding nameplate ratings or considering service factor

2.3 3-PHASE MOTORS

A. Description: NEMA MG 1, Design B, medium induction motor

B. Multispeed Motors: Variable torque

1. For motors with 2:1 speed ratio, consequent pole, single winding
2. For motors with other than 2:1 speed ratio, separate winding for each speed

C. Bearings: Regreasable, shielded, antifriction ball bearings suitable for radial and thrust loading

2.4 SINGLE-PHASE MOTORS

A. Motors larger than 1/20 hp shall be one of the following, to suit starting torque and requirements of specific motor application:

1. Permanent-split capacitor.
2. Split phase.
3. Capacitor start, inductor run.
4. Capacitor start, capacitor run.

B. Motors 1/20 HP and Smaller: Shaded-pole type

C. Thermal Protection: Internal protection to automatically open power supply circuit to motor when winding temperature exceeds a safe value calibrated to temperature rating of motor insulation. Thermal protection device shall automatically reset when motor temperature returns to normal range

PART 3 - EXECUTION (Not Applicable)

END OF SECTION