

SECTION 16170

CIRCUIT AND MOTOR DISCONNECTS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. The work of this section consists of providing labor, materials, tools, appliances and miscellaneous accessories associated with the circuit and motor disconnect switch work indicated herein and on Drawings and schedules.
- B. Types of circuit and motor disconnect switches in this section include the following:
 - 1. Equipment disconnects.
 - 2. Appliance disconnects.
 - 3. Motor circuit disconnects.

1.2 RELATED DOCUMENTS

- A. Drawings.
- B. General provisions of Contract, including General and Supplementary Conditions.
- C. Division 01 - Specification Sections.
- D. Section 16010 - General Electrical Provisions.

PART 2 - PRODUCTS

2.1 **MANUFACTURERS:** Subject to compliance with requirements, provide products of one of the following (for each type of switch):

- A. General Electric Co.
- B. Siemens
- C. Square D Company
- D. Cutler-Hammer.

2.2 **FABRICATED SWITCHES**

- A. General-Duty Disconnect Switches: Provide surface-mounted, general-duty type, sheet-steel enclosed switches, of types, sizes, and electrical characteristics indicated, horsepower rated for 240 volts, up to but excluding 200 amperes, AC, 60 hertz, with 2 or 3-blades, 2 or 3-poles, as required, incorporating spring assisted, quick-make, quick-break switches which are so

- constructed that switch blades are visible in OFF position with door open. Equip with operating handle which is integral part of enclosure base and whose position is easily recognizable, and is capable of being padlocked in OFF position. Construct current carrying parts of high-conductivity copper, with silver-tungsten type switch contacts, and stamped enclosure knockouts. For interior use only.
- B. Heavy-Duty Safety Switches: Provide surface-mounted, heavy duty type, sheet-steel enclosed safety switches, of types, sizes and electrical characteristics indicated, horsepower rated above 240 volts or 240 volts and 200 amperes or larger, 60 hertz, 3-blades, 4-poles, solid neutral, incorporating quick-make, quick-break type switches; so construct that switch blades are visible in OFF position with door open. Equip with operating handle which is integral part of enclosure base and whose position is easily recognizable, and is padlockable in OFF position; construct current carrying parts of high-conductivity copper, with silver-tungsten type switch contacts, and positive pressure type reinforced fuse clips.
- C. Fusible switches shall include the following features:
1. All fusible switches shall accept Class R fuses and have provision for field installation of U.L. listed rejection feature.
 2. The U.L. listed short circuit rating shall be 100,000 symmetrical amperes when Class R fuses and fuse kits are installed.
 3. All switches shall be U.L. listed for use with copper or aluminum wires (60 or 75 C.).
 4. All switches shall be listed per U.L. Standard 98; comply with Federal Specifications W-S-865; comply with NEMA KS-1.
- D. Type of Enclosure for the Different Locations:
1. NEMA Type 1: Indoor use, for protection against contact with enclosed equipment.
 2. NEMA Type 3R: Outdoor use, for protection against falling rain, sleet, and external ice formation.
 3. NEMA Type 4: Indoor and outdoor use, for protection against windblown dust and rain, splashing water, and hose-directed water.
 4. NEMA Type 12: Indoor use for providing degree of protection against dust, falling dirt and dripping non-corrosive liquids.

PART 3 - EXECUTION

3.1 INSTALLATION OF CIRCUIT DISCONNECT SWITCHES

- A. Install disconnect switches where indicated, complying with manufacturer's written instructions, applicable requirements of NEC, NEMA, and NECA's "Standard of Installation", and in accordance with recognized industry practices to ensure that products fulfill requirements.
- B. Coordinate circuit disconnect switch installation work with electrical raceway and cable work, as necessary for proper interface.
- C. Installs disconnect switches used with motor-driven appliances, and motors and controllers within sight of controller position unless otherwise indicated.

- D. Provide and install fuses where applicable and/or shown on the Drawings.

END OF SECTION