PART 1 - GENERAL

1.1 THE REQUIREMENT

A. The CONTRACTOR shall provide dry-type transformers, complete and operable, in accordance with the Contract Documents.

B. Single Manufacturer: Like products shall be the end product of one manufacturer in order to achieve standardization of appearance, operation, maintenance, spare parts, and manufacturer’s services.

1.2 CONTRACTOR SUBMITTALS

A. General: Submittals shall be in accordance with MASS Section 10.05 Article 5.6 and Section 26 05 00 – Electrical Work, General.

B. Shop Drawings
   1. Transformers
      a. Dimension drawings
      b. Technical certification sheets
      c. Drawing of conduit entry/exit locations
      d. Transformer ratings, including:
         1) Voltage
         2) Continuous current
         3) Basic impulse level for equipment over 600 volts
         4) kVA
      e. Descriptive bulletins
      f. Product sheets

PART 2 - PRODUCTS

2.1 GENERAL

A. Transformers
   1. The transformers shall be dry-type, designed, manufactured, and tested in accordance with the latest applicable standards of ANSI and NEMA.
   2. Transformers shall be UL-listed and bear the UL label.

2.2 TRANSFORMERS

A. Ratings
   1. kVA and voltage ratings shall be as indicated.
2. Transformers shall be designed for continuous operation at rated kVA, for 24 hours a day, 365 days a year operation, with normal life expectancy as defined in ANSI C57.96 - Guide for Loading Dry Type Distribution and Power Transformers

3. Transformer sound levels shall not exceed the following ANSI and NEMA levels for self-cooled ratings:
   - Up to 9 kVA 40 db
   - 10 to 50 kVA 45 db
   - 51 to 150 kVA 50 db

B. Construction

1. Insulation Systems
   a. Transformers shall be insulated as follows:
      1) 2 kVA and below: 150 degrees C insulation system based upon 80 degree C rise.
      2) 3 to 15 kVA: 185 degrees C insulation system based upon 115 degrees C rise. 15 kVA and above: 220 degrees C insulation system based upon 150 degrees C rise.
   b. Required performance shall be obtained without exceeding the above indicated temperature rise in a 40 degrees C maximum ambient.
   c. All insulation materials shall be flame-retardant and shall not support combustion as defined in ASTM D 635 – Test Method for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position.

2. Transformer windings shall be copper.

3. Transformers shall have four 2-1/2 percent taps, two above and two below 480 volts.

C. Drive Isolation transformers shall be sized per the table below:

<table>
<thead>
<tr>
<th>HP</th>
<th>KVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
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<tr>
<td>3</td>
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<td>75</td>
<td>93</td>
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<tr>
<td>100</td>
<td>118</td>
</tr>
<tr>
<td>125</td>
<td>145</td>
</tr>
</tbody>
</table>
D. Manufacturers: Transformers shall be floor- or wall-mounted type by **General Electric, Cutler-Hammer, Square D**, or equal.

**PART 3 - EXECUTION**

**3.1 GENERAL**

A. All WORK of this Section shall be installed as indicated in Section 26 05 00 – Electrical Work, General.

**END OF SECTION 26 22 00.05**