

SECTION 26 22 00.05 – DRY TYPE TRANSFORMERS

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:

HP	KVA
2	3
3	6
5	7.5
7.5	11
10	14
15	20
20	27
25	34
30	40
40	51
50	63
60	75
75	93
100	118
125	145

150	175
200	220
250	275
300	330
400	440
500	550

- 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