SECTION 262923 - VARIABLE-FREQUENCY MOTOR CONTROLLERS

1.1 SUMMARY

A. Solid-state, PWM, VFDs for speed control of three-phase, squirrel-cage induction motors.

1.2 PRODUCTS

A. Approved manufacturers:
   1. ABB
   2. Yaskawa
   3. Square D

B. Variable Frequency Controllers: NEMA ICS 2, IGBT, PWM, VFC for 3-phase, premium efficiency induction motors.

1. Output Rating: 6 to 60 Hz.
2. Input AC Voltage: [208volts/460 volts] V.
3. Input Frequency: 50 to 60 Hz, plus or minus 6 percent.
4. Minimum Efficiency: 96 percent at 60 Hz, full load.
5. Minimum Displacement Primary-Side Power Factor: 96 percent.
6. Overload Capability: 10 percent for 60 seconds; 100 percent for 3 seconds.
7. Starting Torque: 100 percent.
8. Speed Regulation: Plus or minus 1 percent.
9. Isolated control interface allows controller to follow control signal over an 11:1 speed range.
10. Multiple-motor capability.
11. Automatic reset/restart.
13. Torque boost.
14. Motor temperature compensation at slow speeds.
15. Input line conditioning.
16. VFC output filtering.
17. Door-mounted LED status lights.
19. Meters or digital indicating devices.
20. Control signal interface.
   a. Electric input signal interface.
   b. Pneumatic input signal interface.
   c. Remote signal inputs.
   d. Output signal interface.
   e. Remote indication interface.
23. Bypass controller.
24. Integral disconnecting means.
25. Isolating switch.
26. Minimum 3% impedance series reactor in its AC power input connection (this is a qualifier for NYSERDA rebates)

C. Accessories:
   1. Push-button stations, pilot lights, and selector switches.
   2. Stop and lockout push-button station.
   3. Control relays for time delay.
   5. Historical logging information and displays.
   6. Current-sensing, phase-failure relays for bypass controller.

1.3 FIELD QUALITY CONTROL

   A. Testing: By Contractor-engaged agency.

END OF SECTION 262923