PART 1 - GENERAL

1.01 Variable Frequency Drives (VFD), also known as adjustable frequency/adjustable voltage drives, control variable torque loads driven by standard NEMA B design squirrel cage motors.

1.02 VFD designed and selected for, and totally compatible with, the specific motor and associated mechanical load controlled.

1.03 Protection against input undervoltage, input overvoltage, input phase loss, output short circuit, output ground fault, and overtemperature. The VFD shall display all faults in plain English. Codes are not acceptable.

1.04 VFD capable of catching a rotating motor, operating forward or reverse, and bringing it up to full speed in the forward direction.

1.05 Provide hand, auto, start, stop switches to start and stop the VFD and keypad arrows to determine speed reference.

1.06 Provide digital keypad/display to set parameters and faults, and to indicate output frequency.

1.07 Provide speed control via analog input signal such as 4-20 ma or 0-10 VDC and a digital input for an enable signal.

1.08 The VFD shall include capability to communicate with Siemens Floor Level Network.

1.09 VFD shall function with front keypad removed.

1.10 Provide manual electric bypass for each VFD unless otherwise noted.

1.11 Fuse protection of the VFD shall limit the available fault current to factory recommendations to protect the control circuit from damage.

1.12 For critical equipment, provide redundant drives in single VFD controller. Discuss critical equipment (e.g. fans for animal quarters, fume hood fans, heating pumps) with FS/DDC

PART 2 - PRODUCTS

2.01 Acceptable variable frequency drives and manufacturers:

A. ABB ACH 550 Series.

B. Danfoss Graham VLT 6000 Series.

C. Yaskawa drives.

D. Allen Bradley Power Flex 400