

SINGLE PHASE SET UP FOR ANY V.F.D. MANUFACTURER

Single phase motors, up to 15 HP, have an actuator for the start switch. When attempting to control the speed of a single phase motor, any **V.F.D.** will have problems because the motor actuator will continually “kick” in and out. To our knowledge, there is not a variable frequency drive for single phase motors. Therefore, to obtain speed control, three phase motors are recommended.

The common way to obtain speed control, is with a V.F.D. and three phase motors. The V.F.D. can operate from single or three phase input. However, for single phase, the diodes and capacitors need to be 1/3 larger. I.e. 5 HP, 3 phase, 1200 RPM motor, at full load = 6.2 Amps. $6.2 \text{ Amps} \times 1.333 = 8.26\text{A}$ or $5 \text{ HP} \times 1.333 = 6.65 \text{ HP}$.

Therefore, you would require a V.F.D. that can handle 8.26A or 6.65 HP. In this example, Stellar Tech Systems Inc. would recommend the Magnum 500, 7.5 HP (9 amp) variable frequency drive.

SINGLE PHASE INPUT DRIVING THREE PHASE MOTOR

<u>Motor 3 Phase 1200 RPM</u>	<u>Magnum 500 VFD Size</u>
5 HP	7.5 HP (9 AMP)
7.5 HP	10 HP (15 AMP) **
10 HP	15 HP (19 AMP)
15 HP	20 HP (27 AMP)
20 HP	25 HP (34 AMP)

** $12 \times 1.33 = 15.96\text{A}$. If the motor is not loaded fully, the V.F.D. can exceed its rated current by 10% for a short period of time. Therefore, a 10 HP V.F.D. will work.

I.e. $15\text{A} \times 1.1 = 16.5\text{A}$