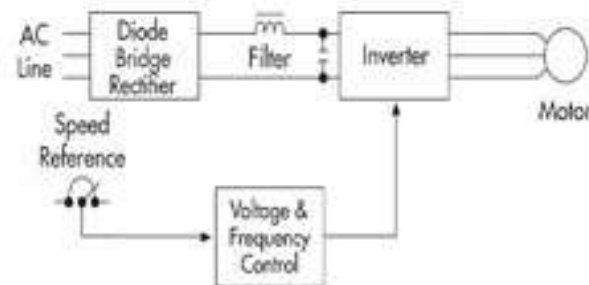


VARIABLE FREQUENCY DRIVE

- A Variable Frequency Drive (VFD) is a type of motor controller that drives an electric motor by varying the frequency and voltage supplied to the electric motor.
- Other names for a VFD are variable speed drive, adjustable speed drive, adjustable frequency drive, AC drive, Microdrive, and inverter.
- If an application does not require an electric motor to run at full speed the VFD can be used to ramp down the frequency and voltage to meet the requirements of the electric motor's load.

HOW DOES A VARIABLE FREQUENCY DRIVE WORK?

- The first stage of a Variable Frequency AC Drive, or VFD, is the Converter.
- They allow current to flow in only one direction shown by the arrow in the diode symbol. For (ex) whenever A-phase voltage is more positive than B or C phase voltage, then that diode will open and allow current to flow.
- When B-phase become more positive than A-phase then the B-phase diode will open & the A-phase diode will close
- When we close one of the top switches in the inverter that phase of the motor is connected to the positive dc bus & the voltage on that phase becomes positive.
- When we close one of the bottom switches in the converter, that phase is connected to the negative dc bus and becomes negative.
- We can make any phase be positive, negative, or zero.



WHY SHOULD I USE A VFD?

1 - Reduce Energy Consumption and Energy Costs	2 - Increase Production Through Tighter Process Control	3 - Extend Equipment Life & Reduce Maintenance
<p>If you have an application that does not need to be run at full speed, then you can cut down energy costs by controlling the motor with a VFD, which is one of the benefits of VFD's.</p>	<p>By operating your motors at most efficient speed for your application, fewer mistakes will occur, and thus, production levels will increase, which earn your company higher revenues.</p>	<p>Your equipment will last longer and will have less downtime due to maintenance when its controlled by VFDs ensuring optimal motor application speed.</p>