Fig 1.26A: VFD Wiring 115V 1 Phase   **Fig 1.26B: VFD Wiring 208/230V**   **Fig 1.26C: VFD Wiring 460V**
        220/230V 1 Phase   **3 Phase**
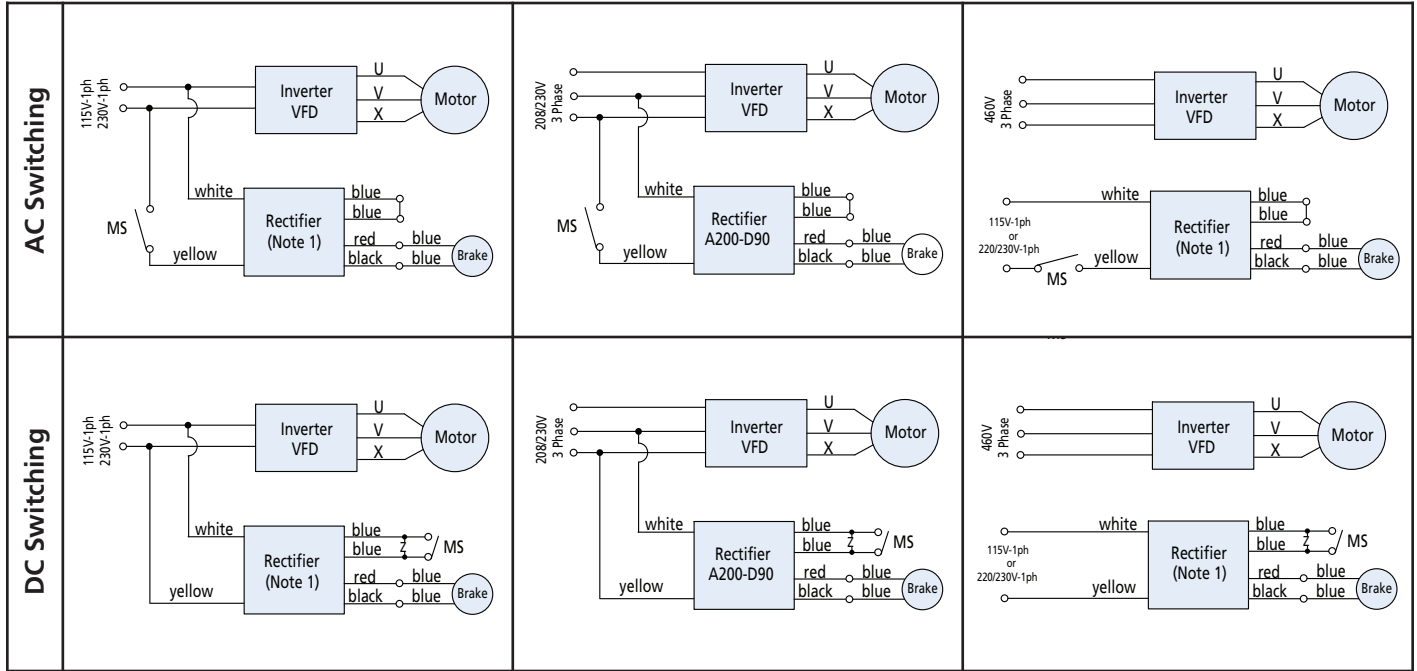
Note: If the input power is 115V 1 phase, use Rectifier A100-D90. If the input power is 220/230V 1 phase, use rectifier A200-D90. (Input power to the brake is 90vdc)
      MS: Magnetic Switch (not supplied by Brother)   Z : Surge Suppressor. Optional Part OP-ENE471D-10A

Fig 1.27 Speed/Torque with a VFD (1/8, 1/4, 1/2 Hp, 1, 2, 3 Hp)
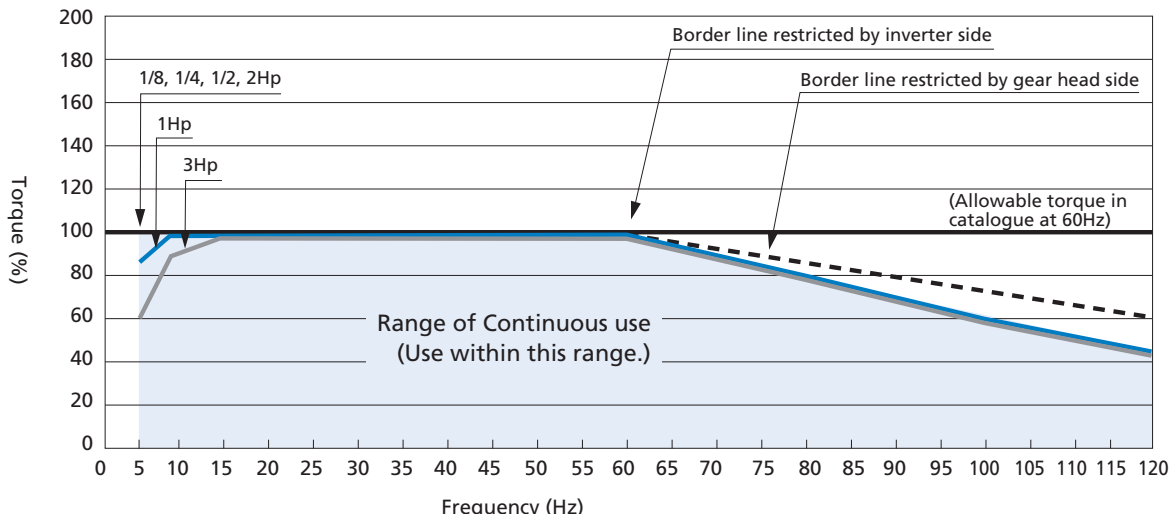
Cautionary Notes for Use with a VFD:

1. In general operation from 5~120 Hz ia allowed if the torque capacity can be handled.

2. In applications requiring operation above 60 hz, vibration and noise will increase. The life of the oil seal will also be reduced due to increased circumferential velocity.

3. In low speed operations the effect of the cooling fan decreases. Be sure to check the motor temperature rise remains below allowable limits.
The surface temperature of the motor should not exceed 176°F (80°C).

4. The torque characteristics of the motor differ according to the VFD brand and type used. The above speed/torque curves were generated using a commercially available Volts/Hertz VFD. You should test the brand you use to confirm the performance.

5. When using a brake equipped motor, be sure to bypass the VFD and power the rectifier on the input side. Powering the rectifier using the output wires from the VFD to the motor will result in motor and/or brake failure.

6. When operating a VFD at 400~480V a repetitive surge voltage may arise and weaken the insulation of the motor causing premature failure. There are two ways to supress surge voltage…
    A. **Output Reactor:** may be effective if the lead wires are reletively short. Install it on the inverter output side.
    B. **Output Filter:** install it near the inverter output side.

The remedies A and B may be effective. However, we recommend you consult the inverter manufacturer for more detailed recommendations as the inverter settings, lead length, etc effect the recommendation.