



WHAT IS A SOFT START?

A "soft start" is a manner in which a motor will develop torque gradually, as compared to a standard on/off system that applies full motor torque immediately. A Variable Frequency Drive can be an economical alternative to Motor Starters and include many functions. Soft start (or ramping) is a standard feature in most drives.

WHAT ARE THE ADVANTAGES OF A SOFT START?

A soft start may prevent the following maintenance issues

- Couplings over-stressed
- Damage to drive sprockets
- Reduction in belt life
- Increase in keyway wear
- Belts disengaging from sprockets due to initial impact

In addition, a soft start may help reduce damage to conveyed product by allowing it to ramp up to speed, rather than jump to full speed instantly. A VFD (variable frequency drive) will also allow you to adjust the speed of a conveyor with relative ease. Unstable loads can convey in a manner which will assist with preventing spills.

HOW DO VARIABLE FREQUENCY DRIVES COMPARE TO MOTOR STARTERS?

Motor starters generally require assembly and configuration of multiple components to function properly, VFD's on the other hand can be used as a stand alone component that the user can directly mount to machinery (environmental ratings permitting). VFD's usually come with a start, stop, reverse, speed pot, digital read out, and overload protection. The physical size of a VFD compared to a motor starter is usually slightly taller, but can typically replace a motor starter of equal output on new or existing equipment. Installation time with a VFD is approximately the same as a motor starter, with parameters that can easily be adjusted to perform many functions.

ARE REMOTE CONTROL OPTIONS AVAILABLE?

The SMV drive has an optional HMI (human machine interface) module that can be located remotely and offers the user a full range of control options. Operator stations can be easily connected for forward, reverse, or jog options. The SMV drive also has an internal power supply of 12 VDC (50ma) available for external devices (i.e. proximity switches, photo eyes). Three programmable user inputs are included in the drive with a variety of functions, ranging from inducing an internal/external fault for emergency stop conditions to momentary/maintained startup inputs.

WHAT VOLTAGE AND HORSEPOWER CAN BE CONTROLLED?

The SMV drive package can be used to control the following voltages and horsepower ranges

- 115 VAC – 1 PHASE – 1/4 TO 1 HP
- 208 VAC – 1 PHASE – 1/4 TO 3 HP
- 230 VAC – 1 PHASE – 1/4 TO 3 HP
- 208 VAC – 3 PHASE – 1/4 TO 5 HP
- 230 VAC – 3 PHASE – 1/4 TO 5 HP
- 575 VAC – 3 PHASE – 1/4 TO 5 HP

The SMV drive is also available for the following environment requirements

- Nema 1 (standard)
- Nema 4x/12 (optional)