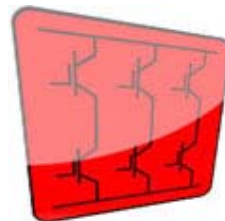


POWER DRIVE SERVICES

Electric Motor Control Specialists

Power Drive Services (UK) Ltd Unit 1 Victoria Street Ind. Est.
Victoria Street, Leigh, Greater Manchester, WN7 5SE, UK
Tel: +44 (1942) 260 206 Fax: +44 (1942) 260 525



A Beginner's Guide to Choosing a Soft Starter

Soft starters are pretty simple pieces of kit when compared to inverters; that's why they're cheaper – good times. However, since they aren't all singing, all dancing magic boxes you need to specify carefully what you need for your application; and that's where this guide comes in.

What is it doing?

Most manufacturers will offer heavy duty and light duty models or will give heavy duty and light duty ratings for their units, and remember that this only applies during start-up (including following an emergency stop) – what load is on the motor when you start it? Some applications may even require using the next size up, or the one after that. If you aren't too sure which you need here's a list of common applications;

| Super-Light | Light | Medium | Heavy |
|----------------------------|------------------------------|---------------------------|--------------------|
| Air Compressor | Agitator | Ball Mill | Centrifuge |
| Chillers | Fan - Low Inertia | Conveyor - Heavily Loaded | Fan - High Inertia |
| Conveyor - Lightly Loaded | Feeder - Screw | Crusher | Wood Chipper |
| Escalator | Pump - Positive Displacement | Grinder | |
| Lathe | Saw - Band | Hammer Mill | |
| Mixer - Lightly Loaded | Tumblers | Mixer - Heavily Loaded | |
| Plastic & Textile Machines | | Pelletisers | |
| Pump - Centrifugal | | Press, Flywheel | |
| | | Rolling Mill | |
| | | Saw - Circular | |
| | | Screen - Vibrating | |

How do you connect to your motor?

All modern three phase motors allow you to connect to in either star or delta configuration. Traditionally motors were wired in delta and the convention is mostly carried on, however, if you were to wire a motor in the star configuration you could start it with less current.

How often do you need to start it?

You'll also need to consider how often you need to start it. When you start up your machine the soft starter will heat up and there's only so much it can take before it blows, that's because a motor will take more current during start up than when running normally; soft starters will have information telling you how much current they can take and how often. If you need to start more times than the unit can handle you need to look at the next size up, but if your start up current is smaller a big size means you can start more often.

You may see some units that have an option for a bypass that are cheaper than without but you need to remember that these may not be able to handle as many starts.

You can also chose to bypass the unit yourself; i.e. make it switch to direct-on-line once it has started, so that you can use a small starter. Your decision here will depend on how often you start the motor and how much current it takes. Applications with a lot of stops and starts wouldn't typically be bypassed. If you have a bigger motor taking more current the contactor and its connections will be more expensive, and eventually will out-weigh the price of using a bigger starter.