6 Reasons Your Motor is Overheating
January 7, 2016

Selecting the right motor can be a challenging task, and finding a motor that matches your speed, torque and power requirements is not enough. There are many factors that need to be taken into consideration when choosing a motor that matches your application requirements. This list will provide you a few checks you can do to prevent your motor from overheating, saving you time and money on replacement motors. If you have are currently having issues with your motor overheating, we hope this checklist can help you determine the cause.

There are many factors that cause motor issues, but here are six reasons your motor may be overheating:

1. **MOTOR IS TOO SMALL FOR THE APPLICATION**
   It is important to make sure the motor you are using has been properly sized for the application, environment and duty cycle it will be performing in. A motor that is too small will not be able to dissipate heat quickly enough, and the motor will overheat.

2. **HIGH AMBIENT TEMPERATURES**
   If a motor is running in a much warmer environment than it was designed for, it can overheat because the ambient temperatures will make it more difficult for the motor to cool down properly. Check the insulation class of your motor (found on the motor’s nameplate).

3. **RUNNING AN INTERMITTENT DUTY MOTOR CONTINUOUSLY**
   It is important to run motors that are rated for intermittent duty applications at or below their duty cycle. In order for the motor to run at its rated performance specs, it needs to have time to cool down completely between cycles. If the motor is run more frequently than it is supposed to, the motor will still be warm and will become increasingly hotter with each cycle, eventually overheating the motor.

4. **HIGH OR LOW VOLTAGE SUPPLY**
   Power supply may be insufficient due to amp draw. In order to overcome load or inertia at a stand-still, the motor’s running current will be much too high under load. Incorrect voltage supply will make the motor work harder and could cause it to overheat.

5. **HIGH ALTITUDE**
   Motors cool less efficiently at higher elevations due to the thinner air. If you are at a higher elevation—1000 meters (3300 ft.) above sea level, talk to the manufacturer and make sure your motor is rated accordingly.
6. **BLOCKED VENTILATION HOLES**

This may seem obvious, but the ventilation holes on your motor must be open to allow heat to escape. Check and make sure nothing is blocking them.

If you continue to have issues with your motor overheating, and have checked these common causes, call the manufacturer of your motor and see if they can help you troubleshoot the issue further.