Viber ® Electric Motor Extension Cord Recommendations

Motor Model	VMK-1500	VMK-2750 VMK-2500	VMK-3500	VMK- 1500	VMK-2750 VMK-2500	VMK-3500
Voltage	120	120	120	240	240	240
Max Amps	10	15	20	5	7.5	10
Cord Length	**Wire Size (Gauge)**					
Up to 50'	#14	#14	#12	#14	#14	#14
50' - 100'	#14	#12	#10	#14	#14	#14
100' - 150'	#12	#10	#8	#14	#14	#14
150' - 200'	#10	#8	#8	#14	#14	#14
200' - 250'	#10	#8	#6	#14	#14	#12
250' - 300'	#8	#8	#6	#14	#14	#12
300' - 400'	#8	#6	#4	#14	#12	#10
400' - 500'	#6	#4	#4	#12	#12	#10

The voltage drops along the length of an extension cord because of the resistance of the wire. This voltage drop is important to consider because as the voltage drops the motor slows down and has less power. This can lead to decreased performance. More importantly, however, the power drop causes the motor to pull more current. The temperature of the motor windings increases proportionally with the current squared. This combined with the slower speed, which greatly reduces the effect of the cooling fan, can cause the winding temperatures to exceed the rating of the insulation. Break down of the insulation is commulative. You might not use the motor very often, but if you overload it each time it can fail after just a few uses. A motor can normally withstand about a 10% voltage drop without too many problems. Unless you know for sure what your supplied voltage is (i.e. you have actually measured it while the motor is running), assume that you have a 5% less source voltage than stated. For 120 volts, assume you have only 114 volts. For 240 volts, assume you have only 228 volts.

Therefore, to protect your motor and to maximize its performance, use a heavy enough extension cord to prevent the voltage from dropping more than 6 volts (12 volts for 240V systems) over the length of the cord. The table above shows the proper gauge of wire to use for various lengths of extensions cords. The smaller the number the heavier the cord. Never use a lighter weight cord than specified. If you are connecting two or more extension cords, you must use the total length of cord being used when determining the proper sized wire.