

## **Dust Collector Power Rating**

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The iVAC Pro Switch has been designed to control a workshop dust collector. The question is what power of dust collector can it control?

In reviewing the specifications of several dust collectors from various manufacturers, it is found that for units 1HP or less the motor is generally powered from 115Vac.

For 1.5 HP units the motor is rated at 115 Vac or 230Vac.

For 2HP and greater the motor is usually 230Vac single or 3 phase.

The iVAC Pro Switch S11520NA has a 20Amp circuit breaker and the ability to switch up to 40Amps. When considering the requirements for a motor, it will be seen that a 1HP motor will typically take 10Amps when up to speed and an initial start up current that will be in the order of 40Amps. These values vary, dependant on the design of the dust collector and the installation. However it can be seen that the iVAC Pro Switch S11520NA has the ability to control a 1HP motor.

There are several dust collectors in the 1.5HP range that are normally shipped wired for 115Vac operation, however are often recommended in the Manufacturer's User Guide to be connected through a 20Amp time lag fuse. This indicates a large start up current surge.

In these situations the running current is in the range of 15Amps at 115Vac, which is within the limit of the circuit breaker. The unspecified characteristic is the start up current which can vary between different models from the same manufacturer. We have tested dust collectors where the start up current rises to 60Amps for 2 seconds and this may be sufficient to trip the circuit breaker in the iVAC Pro Switch. More important is that this high start up current will eventually damage the power relay in the iVAC Pro Switch S11520NA.

There are two solutions. If possible, in these particular situations, it is recommended to operate the dust collector at 230Vac and use an iVAC Pro Switch S24020NA. At 230Vac the 1.5HP dust collector has a running current in the order of 7Amps and a start up current of 40Amps for less than 1 second.

If it is not possible to change to 230Vac operation then it is recommended that an iVAC Contactor be used since this has the ability to switch up to 150Amps of start up current and can control dust collectors up to 10 HP.

2HP dust collectors are usually wired for 230Vac operation and can be controlled from an iVAC Pro Switch S24020NA.

In the event that it is required to control dust collectors above 2HP and up to 10HP, then the iVAC Contactor should be used. This unit has the ability to switch voltages up to 600 Vac, at currents up to 150Amps and a carrying current of 40Amps.

The use of the iVAC Contactor will definitely increase the life of the iVAC Pro Switch and your satisfaction with the system.