



# Dave's Corner

## Fan Speed Controls

**R**adon fans are rated for use with speed controls. There are, however, two questions regarding the use of speed controls on radon fans; what type should you use and should you use them at all?

The two types of speed controls are Switched Capacitor and Solid State. A light dimmer switch should never be used to speed control a motor.

The Switched Capacitor or “Hum Bucker” speed controls provide a High, Medium and Low speed switch. A capacitor is switched in series with the fan motor that lowers the voltage applied to motor. These controls do not generate a hum in the motor being controlled but because they are designed for ceiling paddle fans the low speed setting may not work on a radon fan. Or worse, the low speed setting may work sometimes but not allow the fan to restart after a power outage.

The Solid State speed control chops the AC voltage applied to the motor. They are infinitely variable and have a minimum setting adjustment to guarantee start up after a power outage. But because they chop up the voltage applied to the motor they can cause a motor to speed search and make a humming noise.

Should you use a speed control on a radon fan? That depends on your reasons for wanting to use a speed control. Speed controls will marginally reduce the power consumption of the fan but many fans use less than 60 watts and cost less than \$6.00 a month to operate. How much can you save? Speed controls can also be used to reduce the airflow noise in a system but they may introduce a different hum that can be even more disturbing. A better choice would be to select the fan model that will give you the proper airflow for a given system or consider a muffler on the pipe. Finally, if the goal is to reduce the radon levels as low as possible a speed control is likely to work against you in that regard. When you reduce the speed of the fan you are likely to reduce the overall effectiveness of the radon system.