

# *Variable Speed Controllers*

## *- At a Glance -*

### **UL Listed / FM Approved, Invented by Master Control Systems**

#### **Eliminating PRVs:**

PRVs were once the standard method of reducing over-pressure in systems...but no more! Variable Speed Controllers can vary the speed of the motor based on what pressure you desire. Need 170 psi? Done with the press of a button. 171? No problem. We can hold the pressure to within 1 psi exceedingly accurately. And on top of this, you can eliminate drain risers and make your building PRV free at long last.

#### **Large Loop Systems:**

When covering a large area, there are often pressure problems at the farthest point from the pump that require large piping. Variable Speed can not only solve your pressure problems at no flow, (again, by varying the speed of the motor) but it can allow engineers to design the system with smaller piping!

#### **Dual Water Supply Systems:**

In a system where the water supply changes drastically, say from a tank to city water, the pressure changes can be tremendous. For example, we had a job with a tank at 0 psi that needed 150 psi at design, with a 50 psi rise to shutoff from the pump, as well as a 100 psi static city water supply: add it up and you get 300 psi no-flow. Variable Speed was able to run the motor at ¼ speed from the city water supply and reduce this pressure to 150 psi. Also, it was able to adjust from the tank to city water supply in less than 1 second!

#### **Poor Water Supply:**

Imagine that you have a city water supply of 65 psi, but when it flows it drops to 26 psi! This large difference in pressure would normally require your entire building to be laced with PRVs, which turns out to be quite expensive both in terms of initial and future costs.

Fortunately, with the advent of Variable Speed Fire Pump Controllers, all you need to do now is set the pressure you desire on the VFD drive and you're done. Our Variable Speed Controllers flawlessly handle the steep transition by varying the speed of the motor.

#### **High Rise Buildings:**

High Rise buildings are perfect for Variable speed. By using a Variable Speed in this application, you can eliminate PRVs, reduce the number of zones, and even eliminate a storage tank. These changes can save you from installing drain risers, decrease design time, and decrease initial / future testing costs.

#### **Foam Systems:**

Used on Military bases across the country to protect fighter jets, our Variable Speed Controller eliminates all pressure problems, as well as handling very large, rapid changes in water supplies. The biggest benefit though, is the ability to prevent overpressure at the no-flow condition while eliminating large pressure relieve and regulating valves.

#### **Eliminating Water Hammer:**

Have an older building that you are concerned about Water Hammer breaking pipes? Variable Speed eliminates water hammer problems and keeps the system pressure down, which is exactly why it was used by a large insurance company.

**For any questions or inquiries, call Master Control Systems at:  
(847) 295-1010**