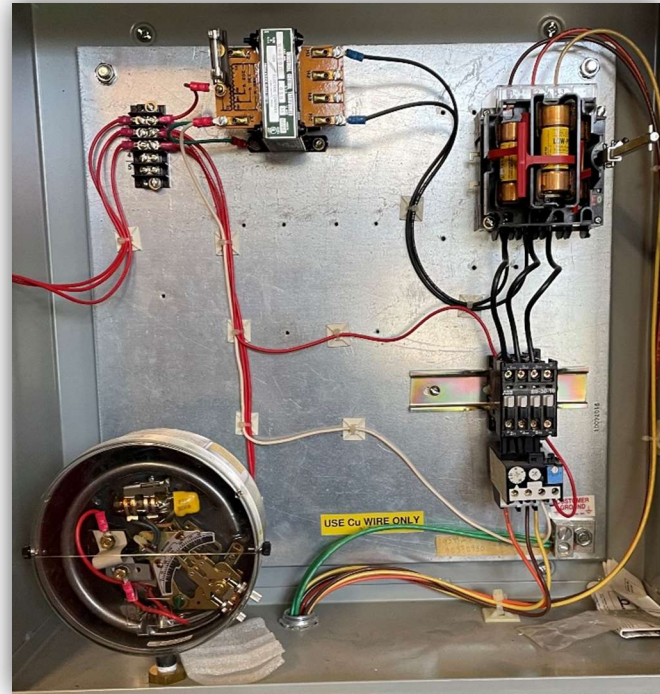

CASE STUDY

REPAIR OF YOUR JOCKEY PUMP CONTROLLER

To fix, or NOT to fix...



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Jockey Pump Controllers

What to do when a controller has failed.

Request for service: A customer calls and reports their jockey pump controller will not start on a pressure drop. This was discovered after the main fire pump started which created a false alarm situation causing the unnecessary evacuation of the building, and an unwelcomed visit by the fire department.

Our Response: We would be happy to repair your controller. However, it may be more cost efficient, and more prudent, to replace it with a new one.

Consideration:

A jockey pump maintains the desired pressure in a sprinkler system, so that when the main pump is started, the change in pressure (delta pressure) is not too great, thus reducing the water hammer effect in the hydraulic system.

Depending upon the age, size, and characteristics of the sprinkler system, the jockey pump may operate every few minutes, or every day or two. There is no “normal” for the frequency of operation of jockey pumps.

A Little History:

The original jockey controllers predominantly used Mercoïd bourdon tube style pressure switches. These were robust pressure sensing devices widely used by many manufacturers. The ***good*** news, is that they could switch voltages of up to 480vac, reducing the need for a control transformer, thus reducing the cost and complexity of the system. And the “deadband” (distance between on and off set points) was narrow.

The ***bad*** news is that the switching medium was a ball of mercury, which would close the electrical circuit, resulting in the starting of the motor.

Fast forward a few more years, and other types of pressure switches were utilized which required the introduction of a control transformer. This was done to reduce the physical size of the pressure switch, and to step the “working” voltage down to a safer level for operator’s devices; 115vac.

Other Components in a Jockey Controller:

Short circuit protection- Typically there is door interlocked disconnect switch which must be opened prior to opening the door. This handle and shaft operates either a fused disconnect or a circuit breaker. These devices provide short-circuit protection of the motor.

***Fused Disconnect
Switch***



Starting Contactor- A motor contactor opens and closes the power to the motor when needed to run. The coil can be either line voltage, or 115vac if a control power transformer is present.

Overload Device- Depending upon the vintage of the controller, overload protection is performed via the old fashioned “heater” type coils which are screwed into the

overload base, or a more modern thermal overload relay attached directly to the bottom of the starting contactor.

Motor Starting Contactor →

Motor Overload Relay →



<- Reset Pushbutton

Cost Considerations

Pressure Switch:

A new snap-action Mercoid pressure will cost almost \$500. By the time a service engineer makes a visit and installs a new switch, the final cost will probably be over \$1000. If you're lucky, there will be a transformer in the controller which reduces the pressure switch cost to about half.

Contactor and/or overload:

If either the contactor or overload has failed, more than likely both pieces will need to be upgraded because they are typically a "matched pair." Again, close to \$500 for parts alone.

New Controller:

List price on a Firetrol jockey pump controller is \$ 995

Pouring Good Money After Bad

Even after the successful repair of your old jockey pump controller, you're still left with obsolete components. Odds are that the parts will fail sooner rather than later, resulting in another service visit. It doesn't take long to realize that a new controller is the most prudent solution to a failed jockey system.

Additional Benefit

A bonus to installing an up-to-date controller, is the digital display of system pressure in the pump room. Customers find a digital display gives them more accuracy and repeatability when recording system pressure values during their routine testing.

Summary

Many factors enter into the decision to repair or replace. **Time.** If a new controller isn't available immediately, instant repair may be the quick solution. Also, the costs of a sprinkler contractor, an/or an installing electrician may influence the decision.

Contact Rosemont Engineering, Inc...

... to discuss which solution may be best for you!

Office – 978-453-9191 or sales@rosemonteng.com

Out With The Old, In With The New...



**Mercoid Pressure
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**New Firetrol
Jockey Pump
Controller**

