

U.S. Fire Administration / National Fire Academy

*Coffee Break Training***Topic: Pressure Maintenance (Jockey) Pumps**

Learning objective: The student shall be able to explain the purpose of a fire protection jockey pump.

Most stationary fire pump assemblies are installed with devices that automatically sense a pressure loss in a fire protection system, and start running to supply water or boost pressure in that system. From time to time, though, small water leaks, unwanted pressure drops, or even temperature changes may “fool” the fire pump into starting when it isn’t needed.

To prevent these false starts and maintain the fire pump’s life expectancy, small pressure-maintenance or “jockey” pumps like the one pictured are installed to maintain a relatively constant pressure on the fire protection system. A jockey pump should be sized to make up the allowable leakage rate within 10 minutes or 1 gpm (3.8 L/min), whichever is larger.

Although a centrifugal-type pressure maintenance pump is preferred, NFPA 20, *Standard for the Installation of Stationary Pumps for Fire Protection* allows a domestic water pump in a dual-purpose water supply system (domestic and fire protection) to function as a pressure maintenance pump.

To assure that the fire pump runs when it is supposed to, and the jockey pump won’t interfere with fire protection, the fire pump sensing system should be set up in this arrangement:

- 1) The jockey pump stop point should equal the pump churn pressure plus the minimum static supply pressure.
- 2) The jockey pump start point should be at least 10 psi (0.68 bar) less than the jockey pump stop point.
- 3) The fire pump start point should be 5 psi (0.34 bar) less than the jockey pump start point. When additional fire pumps are installed in series, use 10 psi (0.68 bar) increments for each additional pump.



For additional information, refer to NFPA 20, *Standard for the Installation of Stationary Pumps for Fire Protection*.