



Product	Explosion Proof Pressure Switch
Application	Unloading Pump Shutdown
Industry	Chemical/Petrochemical Refining

Challenge Acids, caustics, and other dangerous chemicals are offloaded from a tank car by using a pump that discharges the chemical into a storage tank. This pump could be damaged if it is left on when the tank car has become empty. Any damage to the pump could be expensive and any leakage of dangerous chemicals could cause harm to employees.

Solution An SOR Explosion Proof Pressure Switch is used to monitor the discharge pressure of the pump. The SOR Pressure Switch's normally open connection is wired in series with the pump motor starter and its normally closed connection is wired in series with an alarm. The pressure switch is calibrated with a decreasing set point that is just above the no-flow discharge pressure (i.e. the tank car is empty). While the liquid is flowing the motor starter will be connected and the pump will be running, but when the pressure decreases to the pressure switch's set point then the motor starter is disconnected and the alarm circuit is closed, turning the alarm on. To restart the motor the operator manually actuates the motor starter and holds it in until the discharge pressure rises and the pressure switch normally open contact is closed, thus connecting the motor starter circuit again. This design allows the operator to perform his job more efficiently by attending to other duties without the need to worry about pump cavitation.