Centrifugal Pumps Wearing Ring Review

**Centrifugal pumps** contain rotating impellers within stationary pump casings. To allow the impeller to rotate freely within the pump casing, a small clearance is designed to be maintained between the impeller and the pump casing. To maximize the efficiency of a centrifugal pump, it is necessary to minimize the amount of liquid leaking through this clearance from the high pressure or discharge side of the pump back to the low pressure or suction side.

Some wear or erosion will occur at the point where the impeller and the pump casing nearly come into contact. This wear is due to the erosion caused by liquid leaking through this tight clearance and other causes. As wear occurs, the clearances become larger and the rate of leakage increases. Eventually, the leakage could become unacceptably large and maintenance would be required on the pump.

To minimize the cost of pump maintenance, many centrifugal pumps are designed with wearing rings. *Wearing rings* are replaceable rings that are attached to the impeller and/or the pump casing to allow a small running clearance between the impeller and the pump casing without causing wear of the actual impeller or pump casing material. These wearing rings are designed to be replaced periodically during the life of a pump and prevent the more costly replacement of the impeller or the casing.