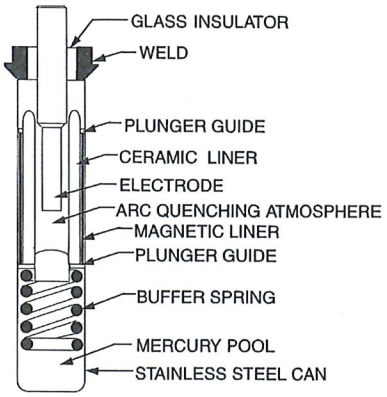
MDR SERIES

MERCURY DISPLACEMENT TUBE



PRINCIPLE OF OPERATION

The sectional view shows our normally open style Mercury Displacement tube with the plunger assembly floating on the mercury pool.
When the coil power is off, the mercury level is below the electrode tip. No electrical path exists between the electrode and mercury pool.
When coil power is applied, the plunger is drawn down into the mercury by the pull of the magnetic field. This action raises the mercury level, so it covers the end of the electrode closing the circuit.
When coil power is turned off, the buoyant force of the mercury causes the plunger assemble to rise, dropping the mercury level, and breaking the circuit.

APPLICATION DATA

Mercury Displacement relays are ideal for adverse environments-
....Where high inrushes are encountered
....Where hermetically sealed contact operation is required because of corrosive, dirty, or moist ambient conditions.
....Where use does not permit contact maintenance.
....Where reduced noise levels are required.
....where minimum weight and size are desired.

DESIGN FEATURES

Liquid Mercury Contact - provides a new contact surface with every actuation. Mercury is self-renewing and does not pit, weld, disintegrate or oxidize.
Hermetic sealing - provides internal and external protection from arcing.
Inert Gas atmosphere - contactor tube is evacuated, then pressurized with a combination of gases which extinguish arcing and contribute to long life. The pressurized gases provide for a high dielectric withstanding voltage between contact surfaces.
Low Contact Resistance - Large electrode and mercury volume creates low contact resistance and provides high in-rush current capability.
Quiet Operation - Switch clacking normally associated with conventional hard contactors, is eliminated with mercury displacement tubes and the buffer spring assembly.

APPLICATION OF "M" SERIES

The "M" series, which is our universal series, is rated to be used on all types of loads-resistive, tungsten, and motor for both AC and DC power.