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FACULTY OF ENGINEERING & TECHNOLOGY

Electrical Machine-1

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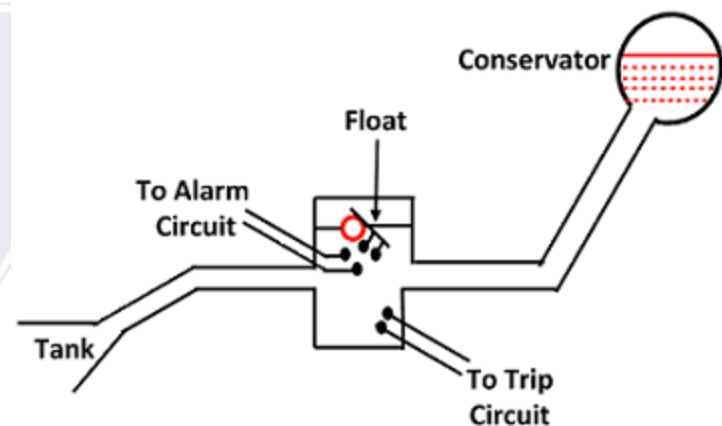
THREE PHASE TRANSFORMER

Buchholz Relay

The Buchholz relay protects the transformer from internal faults. It is the gas actuated relay. The Buchholz relay is placed between the main tank and the conservator. Such type of relay is used in the transformer having the rating higher than 500KVA. It is not used in small transformer because of economic consideration.

Working Principle of Buchholz Relay

When the fault occurs inside the transformer, the temperature of the oil increases. The oil evaporates in the form of the gas. The generation of the gas depends on the magnitude of the fault occurs inside the transformer. The internal failure occurs in the transformer either because of the insulation breakdown between the winding or the winding have the weak initial contact. The fault induces the arc which increases the temperature of the gas. The oil becomes evaporated and moves upwards. The Buchholz relay detects the failure and gives the alarm to the personnel. The transformer is disconnected from the main supply for maintenance.



Arrangement of Buchholz Relay

Circuit Globe

THREE PHASE TRANSFORMER

Construction of Buchholz Relay

The Buchholz relay has two hinged which is placed in the metallic chamber. This metallic chamber is connected through the pipe between the conservator and main tank.

The one of the hinged is placed in the upper portion of the metallic chamber along with the mercury switch. This mercury switch is used for activating the alarm. The other float is placed in the lower portion of the metallic chamber along with the mercury switch. The mercury switch is used for actuating the tripping circuit.

