

## **VACUUM CIRCUIT BREAKER**

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The aim of the paper is to describe what vacuum circuit breaker is. It is a high voltage switch in which vacuum is used to extinguish the electric arc. The vacuum switch is designed for switching electrical current-rated and short-circuit currents in electrical installations [1].

Vacuum circuit breakers are divided into four groups. The first is vacuum circuit breakers up to 35 kV. The second is vacuum switches above 35 kV. The third is vacuum load break switches and the last is vacuum contactors up to and exceeding 1000V.

Vacuum circuit breakers consist of fixed contact, moving contact and arc shield mounted inside a vacuum chamber. The movable member is connected to the control mechanism by stainless steel bellows. This enables the permanent sealing of the vacuum chamber to eliminate the possibility of a leak. A glass vessel or ceramic vessel is used as the outer insulating body. The arc shield prevents the deterioration of the internal dielectric strength by preventing metallic vapours falling on the inside surface of the outer insulating cover [2].

The principle of operation is that electric strength of vacuum is many times greater than the dielectric strength of air at normal conditions. After the contact opens in the arcing chamber of the vacuum switch when the first current flows through zero, the arc is extinguished, the dielectric strength of the gap is restored.

To sum up, it's necessary to describe the benefits and implications of vacuum switch. The benefit is the service life of vacuum circuit breaker which is much longer than other types of circuit breakers. There is no chance of fire hazards as oil circuit breaker. They are much more environmentally friendly and etc. The implications are the following: relatively small nominal currents and off, and small resource interrupter device, short-circuit currents.

### **REFERENCES**

1. <http://electrical4u.com/vacuum-circuit-breaker-or-vcb-and-vacuum-interrupter/>
2. <http://www.studyelectrical.com/2014/11/vacuum-circuit-breaker-vcb-working-construction.html#ixzz3WGVaeQou>

## **MODERN METHODS IN PERSONNEL MANAGEMENT**

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A personnel management system plays a key role in the development of the company's long-term period. That's why there is a problem, which consists in qualitative use methods in personnel management. It is significant the methods will