

Groundbreaking Eaton Vacuum Interruption Technology

For Circuit Breakers Protection You Can Count On

Eaton is a worldwide leader in the design, manufacture and sale of vacuum interrupters used in medium voltage circuit breakers, supporting:

- **Commercial**
High-rise convention centers, airports
- **Industrial**
Automotive, petrochemical, pulp and paper, utility
- **Institutional**
Universities, hospitals

Reliable Operation, Enhanced Safety

Vacuum interrupters reliably switch high-currents. With Eaton vacuum interruption technology, circuit breakers provide numerous safety features to maximize protection.

Sustainable Design

Providing reliable switching performance, Eaton's vacuum interrupters are sustainable by design.

- Unlike traditional insulation technology that relies on Sulfur Hexafluoride (SF6) gas, Eaton vacuum interrupters are made of ceramic, stainless steel, copper and copper-chromium – and have a low environmental impact over the entire product lifecycle
- In contrast, SF6 gas is a potent greenhouse gas and poses both environmental and safety concerns – during maintenance and ultimately at the end-of-life

The Eaton Family of Vacuum Interrupters for Medium Voltage Circuit Breakers



The Challenge

A circuit breaker is a complex electrical switching device designed to protect electrical power circuits.

- Circuit breakers are engineered to carry large currents continuously for years.
- Circuit breakers break short circuit currents in milliseconds to prevent or minimize damage in the connected circuit and equipment.
- Circuit breakers energize circuits and can immediately open to break the circuit when a dangerous overload current is present.

Eaton's vacuum interrupters used in circuit breakers are engineered to last and meet the most demanding electrical and mechanical requirements.



Powering Business Worldwide

Benefits

- Built and tested to meet IEEE-ANSI, IEC and GB-DL standards
- Vacuum technology provides a long mechanical and electrical life with little maintenance
- Compact design, when space is at a premium
- Vacuum technology operates with no greenhouse gases
- Eaton vacuum interrupters can be designed and manufactured to meet specific customer requirements
- Reliable, maintenance-free operation: Eaton vacuum interrupters are incorporated into circuit breakers that exceed typical mechanical life requirements of 10,000 operations and need virtually no maintenance over the product life
- Sustainable, environmentally-friendly design: with a minimal environmental footprint
- Enhanced safety for applications requiring the global standards: Eaton vacuum interruption technology is incorporated into circuit breakers that are used in global applications

Features

- Rated line-to-line voltages from 3.6 to 40.5 kV
- Rated continuous currents from 630 to 5000A (higher with forced cooling)
- Rated short circuit currents from 12.5 to 80 kA
- Eaton provides over 400 distinct designs of vacuum interrupters, encompassing the most widely used electrical ratings

Typical Applications for Vacuum Circuit Breakers

- **Commercial**
High-rise convention centers, airports, shipping facilities
- **Industrial**
Automotive, petrochemical, pulp and paper
- **Utility**
Indoor and outdoor substations, wind, solar, hydro and small turbine generator
- **Institutional**
Universities, hospitals
- **Government**
Water treatment, federal buildings, defense installations
- **Transportation**
Rail in trackside and locomotive top locations, ships
- **Mining**
Mining and earthmoving equipment

Examples of Medium Voltage Vacuum Circuit Breakers using Eaton Vacuum Interrupters



An encapsulated vacuum circuit breaker



An air circulated vacuum circuit breaker

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