

Medium Voltage Vacuum Replacement Circuit Breakers

Increase safety and reliability while reducing maintenance costs

Challenge

Obsolete air magnetic circuit breakers can present issues with reliability, parts availability, increased maintenance costs, and environmental safety. Installation of a modern, currently manufactured vacuum breaker device combats parts availability problems prevalent with old air magnetic circuit breakers. In addition, replacing the original air breaker technology eliminates arc chutes that may contain asbestos, resolving current and future environmental issues.

Solution

Installation of the Eaton vacuum replacement circuit breaker will offer increased reliability while reducing maintenance costs and downtime. Fewer moving parts means simplified maintenance, saving you time and money.

Framatome has delivered approximately 900 Eaton vacuum replacement circuit breakers of various models to the nuclear industry over the past several years. Through the course of delivering these breakers to the industry, Framatome has qualified numerous Eaton breaker designs for safety-related applications.

Get More Miles Out of Your Circuit Breakers

Framatome offers customers brand new replacement vacuum circuit breakers — not a retrofit re-using the old circuit breaker. All circuit breakers are designed and tested to IEEE/ANSI standards with increased interrupting capability models available for the changing needs of your system. All breakers have been qualified and go through a robust commercial dedication program ensuring their performance in safety-related applications. In addition, Framatome's support goes beyond the supply of the circuit breakers. Our approach includes the development of our Maintenance Interval and Life Extension Solutions Program. Encompassing all aspects of a comprehensive equipment qualification program, the program includes enhancements to breaker design, material aging tests and analyses, maintenance programs and life extension methodology to maximize the value of your assets, including new breakers, refurbishments and parts kits.

Customer benefits

- Improves system reliability
- Combats obsolescence
- Reduces maintenance costs
- Increases fault capability
- Supports plant life extension



Your performance
is **our** everyday **commitment**

Framatome has established a comprehensive preventative maintenance approach through analysis of wear items on nuclear installed breakers from multiple utilities. Framatome has extended our program to simulate 25 years of circuit breaker aging. Framatome's circuit breakers lubricated with advanced synthetic grease maintained consistent and acceptable functional test results throughout 25 years of simulated aging. When supplied with our certification, circuit breakers carry justification for extending maintenance intervals and achieving related cost savings, while improving overall safety and equipment reliability.

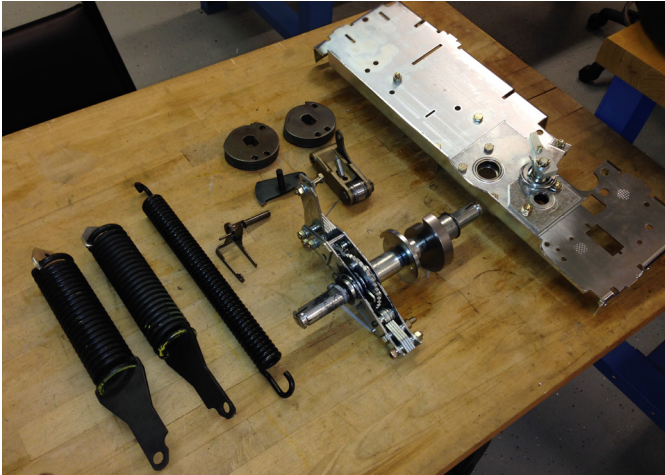
Framatome will work with you to customize a Training Program for your plant personnel at the manufacturing training facility or at your site. Framatome will also supply all piece parts and kits required to complete the job.

Featuring Patented Sure-Close MOC Technology

The most important reliability feature of the Eaton vacuum replacement circuit breaker as compared to other vacuum or SF6 replacement breakers is the Sure-Close "un-coupled" MOC Operator. This patented Sure-Close mechanism is extremely effective in slowing the interface speed down to acceptable velocities as well as ensuring proper breaker operation irrespective of the loading by the cell auxiliaries. This device ensures that the MOC operator cannot stall a breaker or cause contacts to weld. It minimizes mechanical wear of your MOC cell switches and linkage plus reduces contact bounce to eliminate false indication.

Engineering Solutions to Improve Performance

The ability to coordinate, support, and complete major circuit breaker replacement projects is vital to your plant. The experience and support by our team are unmatched, and we are ready and capable to partner with you to ensure that every step of this important equipment transition runs smoothly and successfully. With U.S. market leadership and global resources, Framatome delivers integrated engineering solutions to improve your plant's performance.



Parts, Reconditioning and Training

Framatome's capabilities range from parts supply to performance of complete reconditioning, repair, and failure analysis of breakers shipped from plant sites. For customers that opt to recondition in-house,



ITE 5kV HK-VR



Westinghouse 5kV
DHP-VR



GE 13.8kV AM-VR



GE-AMH-VR



Allis-Chalmers 5kV
MA-VR

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