

Medium-voltage replacement circuit breakers

VR-Series⁺

A powerful enhancement
of a proven technology



Available for vintage Westinghouse, General Electric, Allis-Chalmers (Siemens-Allis), ITE (BBC, ABB), and Federal Pacific Electric power circuit breakers

EATON

Powering Business Worldwide

A brand new replacement vacuum circuit breaker

Just like our VR-Series, all VR-Series⁺ vacuum replacement circuit breakers are brand new from the ground up. These breakers are not “retrofits”, and do not use any parts from the original air-magnetic circuit breakers. They are designed to replace the existing air-magnetic circuit breakers with little or no cell modifications, which, if required, are kept to a minimum and are reversible. VR-Series⁺ circuit breakers take performance and reliability to new levels by incorporating a utility hardened mechanism and advanced lubrication and come with a **standard three-year warranty**.

Reduce maintenance costs and downtime with reliable vacuum technology

Most power circuit breakers require maintenance and lubrication every two years and proper maintenance can require 6–8 man-hours per circuit breaker. Thanks to our advanced lubrication system that creates a protective layer between wearing surfaces, we have taken maintenance intervals to the next level. Coupled with our utility hardened mechanism and applied in normal applications as defined by IEEE Std C37.04™-1999, the VR-Series⁺ circuit breaker will only require maintenance once every **10 years or 10,000 operations**, whichever comes first. Both the mechanism and control components can be easily maintained and can take as little as an hour to service.

Solve parts availability issues

Replacement parts for old air-magnetic circuit breakers are becoming harder to find and may not comply with the original manufacturer’s specifications. VR-Series⁺ mechanism and control components are compatible with Eaton’s VCP-W and VR-Series breakers and are current production items. This means that **replacement parts are in stock and available**, saving you time and money, should you ever need them. Additionally, spare parts inventory is considerably reduced because VR-Series⁺ breakers have 50% fewer parts than traditional air magnetic breakers.

Increased interrupting capability

Power demands may have increased your available short current beyond your existing switchgear’s capabilities. VR-Series⁺ circuit breakers along with the appropriate bus bracing upgrades can increase your switchgear’s interrupting capabilities in the same space as your original air-magnetic circuit breakers. This provides **a cost-effective alternative to a complete switchgear replacement**.

Eliminate arc chutes

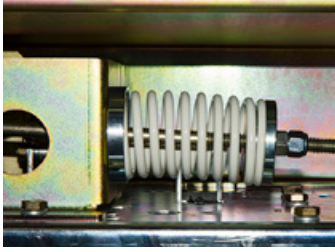
Arc chutes degrade with usage and must eventually be replaced. VR-Series⁺ breakers use sealed vacuum interrupters and do not require arc chutes. Arc chutes raise environmental and legal issues due to asbestos.

Designed and tested to exceed current IEEE/ANSI standards

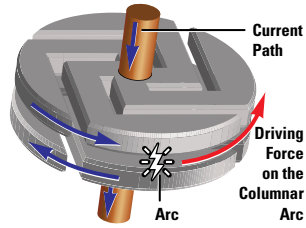
All VR-Series⁺ medium-voltage circuit breakers are designed and tested to meet or exceed IEEE/ANSI C37.59™-2018 standards. This assures compatibility with existing installations and IEEE/ANSI application guidelines. IEEE/ANSI certification and certified factory production test reports are available.

Eaton's dedicated engineering team and continuous improvement processes have increased the circuit breaker's reliability for optimum performance and reduced maintenance intervals. Each VR-Series+ circuit breaker is equipped with a robust operating mechanism and reliable vacuum interrupter technology; built to exceed expectations.

Key features



SURE CLOSE MOC operator: Guaranteed not to stall the circuit breaker during closing and prevents damage to the existing cell MOC components



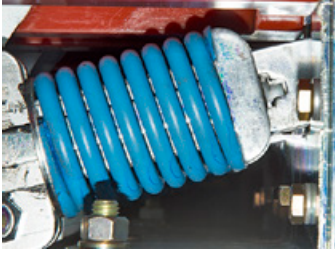
Reliable TMF vacuum technology with copper-chromium contacts: This minimizes contact erosion and hot spots



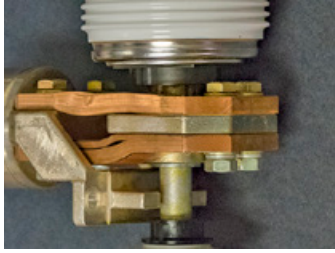
Enhanced motor disconnect cut-off cam: Allows positive initiation of the limit switch and prevents damage to the switch, increasing breaker reliability



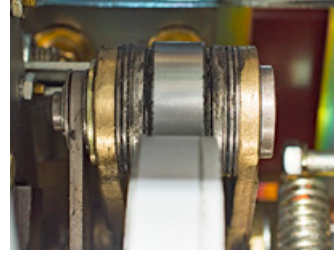
Insulated ring tongue terminals: On all wiring points with no splices for added reliability and ease of maintenance



T-cutout wear and wipe indicator: Requires no specialized tools to check for potential contact erosion



Non-sliding conical current transfer: Eliminates Holm Effect and reduces hot spots



63kA closing system: Hardened main-link roller and cam with a sealed aircraft grade bearing to ensure long life



CloSure™ mechanism health check: A simple yet extremely effective test used periodically to monitor mechanism's health



Solid spring disk: A robust design that eliminates lamination spread on the anti-reverse system and maximizes circuit breaker service life



Remote rotary racking system: Remote power racking devices, like Eaton's RPR-2.1, may be used on circuit breakers with screw racking mechanisms to remove the operator from the arc-flash boundary



Assembled and tested in an ISO 9001:2015 certified facility: Ensuring the highest production quality for all VR-Series+ circuit breakers

About Eaton's Electrical Engineering Services & Systems

Eaton's Electrical Engineering Services & Systems is one of the largest and most experienced industrial service organizations in North America. With more than 1500 highly trained professionals in 60 engineering service locations throughout the U.S. and Canada, Eaton's Electrical Engineering Services & Systems has complete local, national and international capabilities to provide a full range of electrical, civil and mechanical equipment services.

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