

## Retrofit

# ABB solutions for ABB VZ1 breakers

ABB's circuit breaker retrofit service is a cost-effective alternative to the complete replacement of switchgear. ABB Service experts conduct site audits on existing installations to assess the condition of the equipment and recommend the ideal solution to ensure the optimum return on investment.

The retrofit service covers the replacement of phased-out devices by circuit breakers that are currently available, and adapting them both mechanically and electrically to suit the existing engineering. The result is a major improvement in reliability, safety, maintenance needs and performance.

ABB Service is a full system provider for retrofit solutions, from the initial recommendation and design, through manufacturing and testing, up to installation and commissioning.

### Retrofit solutions for VZ1 circuit breakers

ABB has built on its extensive experience in retrofit projects to develop tailor-made solutions for VZ1 breakers. VZ1 was the first generation of vacuum circuit breakers, but service is now discontinued. Retrofitting a new generation circuit breaker is therefore an efficient solution to secure future ABB support for your switchgear.

ABB offers retrofit solutions for the now technically outdated VZ1 breaker equipped with vacuum or gas circuit breaker technology. ABB retrofit solutions feature embedded poles manufactured using the latest manufacturing techniques that guarantee process stability and quality and reduced environmental impact. Embedded poles provide optimum protection for the vacuum interrupter from moisture, dust and external damage.

All of the ABB retrofit solutions for the exchange of VZ1 breakers are customized to the specific installation. That way we can guarantee that only a short downtime is required.



Vacuum Breaker VZ1



Retrofit solution equipped with VD4

### Benefits

#### Reliability

- Significant life time extension
- Lower maintenance requirements
- Long time availability of spare parts

#### Safety

- Strong fault risk reduction
- Additional embedded safety features
- Improved operator protection

#### Technology

- Latest generation apparatus
- Designed according to IEC 62271-100 Standard
- Tested and certified products

#### Project

- Short implementation time for replacement
- Minimum shutdown of the switchboard
- Smooth site activity

#### Investment

- Limited capital investment
  - Minimization of further maintenance costs
- Warranty on the conversion work

### Certification

ABB will recommend the most appropriate apparatus for each switchgear unit, according to the conditions of the complete network equipment and the specific feeder operational characteristics.

The following basic details are necessary for providing standard retrofit solutions:

- Technical information and serial number from the data label.
- Pictures from all four sides.
- Compartment inner pictures.
- Existing panel schematic diagram.
- Generator data for the relevant feeders.

**Ratings of Retrofit solutions with VD4 breaker:**

Standards		VDE 0670, part 10/IEC 60694 and VDE 0671, part 100/IEC62271-100 and IEC60068-2-30				
Operating Sequence		O – 0,3 s – CO – 3 s – CO				
Rated Frequency fr (HZ)		50 / 60				
Impulse Withstand Voltage UP (kV)		95				
Type	Rated Current Ir (A)	Rated Voltage Ur (kV)	Impulse Withstand Voltage Up (kv)	Rated Breaking Capacity ISC (kA)	Making Capacity Ip (kA)	Rated Short time Current Ik (kA) 3 sec
VD4	630 ... 4000	12	75	16 ... 40	40 ... 100	16 ... 40
VD4	630 ... 4000	17,5	95	16 ... 40	40 ... 100	16 ... 40
VD4	630 ... 2500	24	125	16 ... 25	40 ... 63	16 ... 25

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