

SERVICE MEDIUM VOLTAGE

## Circuit-breaker retrofit

### Retrofit for ASEA HKK breaker with PT1 pole parts



01 ABB HKK retrofit solution using VD4 with PT1 pole parts

ABB retrofit solutions for the technically outdated oil circuit-breaker are equipped with VD4 vacuum circuit breaker with PT1 poles. This latest manufacturing method for poles guarantees process stability and quality at reduced environmental stress. It provides optimum protection for the vacuum interrupter from moisture, dust and external damage by the same time environmentally friendly production, operation and disposal. The production of embedded poles PT1 reduces emissions of CO<sub>2</sub> by more than 50% in comparison with similar poles based on epoxy resin. Also higher mechanical performance can be reached by increased mechanical strength and improved low temperature behavior. The PT1-poles are fully tested according to IEC and GB-standards and are manufactured under constant quality checks and a high control production process.

Based on the long time experience and know-how, ABB developed retrofit solutions especially tailored to ASEA HKK minimum oil circuit-breakers. As a result, ABB can offer the opportunity of eliminating oil insulation through the use of vacuum interrupting technology. Retrofit stands for the replacement of phased-out devices by components which are mechanically and electrically adapted for the existing engineering. The result is a deep improvement on reliability, safety maintenance and performance.

All of the ABB retrofit solutions for the exchange of ASEA HKK minimum oil circuit breakers are customized. That way we can guarantee that the bushings and the truck of the retrofit solution match the existing panel on the customer site and only a short downtime for the exchange will be required.

Circuit breaker retrofit is a cost-effective alternative to the complete switchgear replacement. ABB service experts conduct site audits on existing installations to assess the condition of the equipment, recommend the proper solution and support the right investment decision.

## Benefits

### Reliability

- Significant life time extension
- Lower maintenance costs
- 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 proposal provides the best fit for purpose apparatus for each switchgear unit, depending of the complete network equipment conditions and the specific feeder operational characteristics.

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

- Data label technical Information and serial number
- Four sides pictures
- Compartment inner pictures
- Existing panel schematic diagram
- Generator data for the relevant feeders

ABB Service Power Technologies is a full system provider for retrofit solutions and can support you from the proposal and design, through the manufacturing and testing, up to the installation and commissioning of the project.