

# Retrofitting

## Solutions for HPA circuit breaker in Safesix enclosures



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01 ABB VD4-HPA  
vacuum retrofit  
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02 ABB HD4-HPA  
SF<sub>6</sub> retrofit

Retrofit stands for the replacement of phased-out devices by current production circuit breakers, which are mechanically and electrically adapted for the existing engineering. It enables for life extension, reduced maintenance and improved functionality. This includes upgrades and modernization of basic equipment and accessories. The modified switchgear offers far greater system reliability and performance, enhanced safety and long term availability of spares with minimal investment and downtime.

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

Circuit breaker retrofit is a cost-effective alternative to complete switchgear replacement. The foremost advantage of retrofitting a circuit breaker in switchgear is that the required specifications are met with the latest technology at only a partial cost of replacing the equipment. Retrofitting helps in saving up to 60% of the cost of new equipment

### Benefits

#### Reliability

- Significant life-time extension
- Less maintenance
- Long-term availability of spare parts

#### Safety

- Considerable reduction in the risk of faults

#### Technology

- Latest generation apparatus
- Retrofit solution designed according to IEC 62271-100 standard
- Type Tested and certified replacement product

#### Project

- Rapidly executed replacements
- Minimum switchgear downtime
- Simple plant activities

#### Investment

- Limited capital investment
- Minimization of further maintenance costs
- Retrofit package covered by warranty



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Original HPA breaker

### Facts

HPA is the family name of a wide range of SF6 gas circuit breaker manufactured by ABB. They were not only manufactured for fitting their own panel type and cassette but also delivered to panel builders in both fixed and withdrawable versions and are widely present in the network.

The original design was based on SF6 puffer technology. Specific handling procedures shall be applied during maintenance and performed by certified operators according to EU Regulation 517/2014 and SF6 gas has to be treated as per EC Regulation 842/2006 in those countries complying with.

### Technical data

A full range of replacement solutions have been developed based on ABB gas and vacuum circuit breakers. Please contact ABB for fused VRC vacuum contactor replacement solution.

ABB proposal provides the best fit for purpose apparatus for each switchgear unit, depending on the complete network, equipment conditions and the specific feeder operational characteristics. The following basic details are necessary for providing standard replacement solutions:

- Rating plate data and serial number
- Original apparatus 4 side photos
- Switchgear compartment inner photos
- Existing panel schematic diagram

### Ratings

Type in Safesix enclosure	Rated and insulation voltage [kV]	Rated normal current (40 °C) [A]	Rated short-circuit current [kA]
HD4-HPA	12	1250...3150	Up to 40
HD4-HPA	24	1250...2500	Up to 25
VD4-HPA	12	1250...3150	Up to 40

HD4-HPA gas retrofit of conventional HPA  
VD4-HPA vacuum retrofit of conventional HPA

### Options

- **Swicom** switchgear monitoring and diagnostic
- **MyRemoteCare** cloud based services
- **Power Care** customer support agreement

For more information please contact ABB at:



More product information:

[abb.com/mediumvoltage](http://abb.com/mediumvoltage)

Your contact center:

[abb.com/contactcenters](http://abb.com/contactcenters)

More service information:

[abb.com/service](http://abb.com/service)

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