

# Retrofitting ANSI OneFit: the hard-bus retrofill concept

Circuit-breaker retrofitting is a cost-effective alternative to complete switchgear replacement. ABB Service experts conduct site audits on existing installations to assess the condition of the equipment, recommend the most suitable solution and technically support the most appropriate investment.

Retrofill is one of the retrofit technical solution used by ABB. OneFit is the latest ABB hard-bus retrofill design concept, containing an integrally safe plug-in technology in order to easily connect the new breaker to a wide range of existing panels.

## Concept

OneFit is comprised of a frame that hosts a standard ANSI VM1 circuit-breaker with a magnetic actuator connected to the existing switchgear bushings by an additional power circuit that also acts as an internal interface with the new breaker. The adaptation system (OneFit kit) allows a completely standard ABB withdrawable apparatus to be fitted to the old panel. Both the horizontal drawout and the vertical lift breaker designs are available in the OneFit range.

The result is a great improvement in reliability, safety, maintenance and performance.

ABB Service is a complete system provider of retrofitting solutions, from proposal to design, manufacturing and testing, down to installation and commissioning.

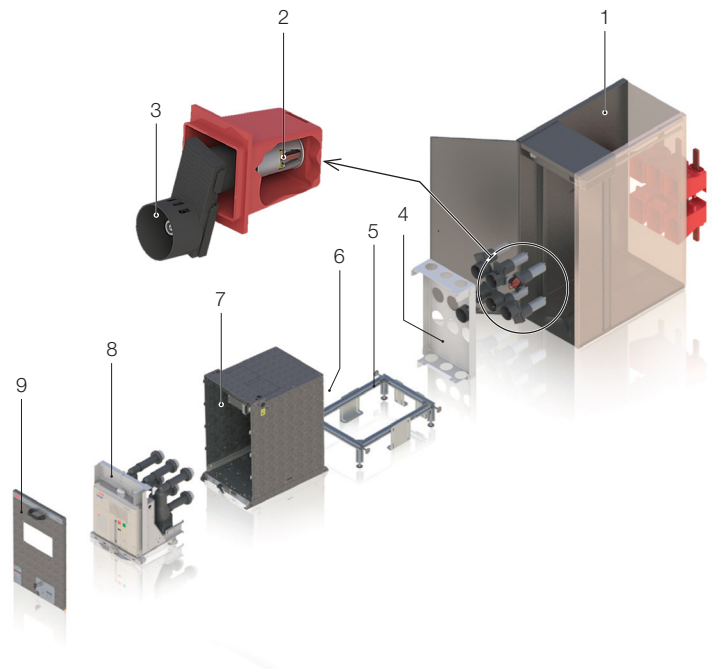
## Benefits

### Maintenance and repair

- the new circuit-breaker mounts all standard spare parts with all the benefits in terms of delivery time and price
- ANSI VM1 circuit-breaker is equipped with a maintenance free magnetic actuator mechanism

### Safety

- the original shutter system and all the relevant interlocking are replaced with new standard ones installed from the factory on the OneFit system
- automatic shutter system and circuit-breaker movement are interlocked to enable all necessary safety features
- the dielectric properties are increased thanks to the installation of a new insulation plate
- depending on which OneFit package is chosen, apparatus racking behind a closed door and remote racking are available



1. Existing non-ABB panel
2. Copper adaptation system
3. Insulating shell
4. Insulating plate
5. Basement
6. Shutter
7. Frame
8. ABB ANSI VM1 circuit breaker
9. Door (on request)

## Standards

- OneFit is type tested according to the latest IEEE Standards:
  - C37.20.2 Standard for Metal Clad Switchgear
  - C37.04 Rating structure of high voltage circuit breakers
  - C37.59 Requirements for conversion of power switchgear equipment
- OneFit is also type tested according to latest IEC Standards: 62271-1 (for the frame), 62271-100 (for the circuit-breaker) and 62271-200 when the original panel is provided to perform the tests.

### Designs available for:

ANSI OneFit can be used for any switchgear rated up to 15kV, 2000A, 40kA.

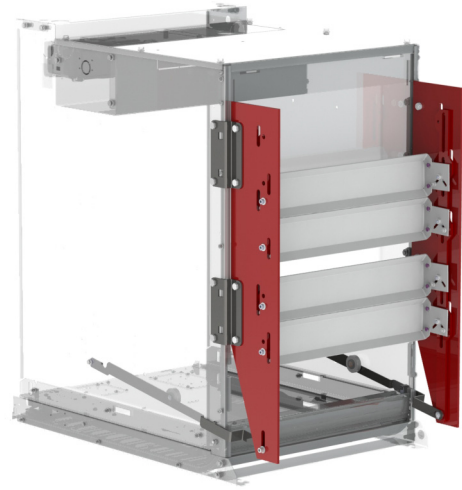
Among others, designs are available for all common manufacturers of medium voltage equipment:

- Allis-Chalmers
- Siemens
- Westinghouse
- GE
- Federal Pacific
- McGraw Edison
- ITE
- Powell

### Packages

The OneFit range is made up of four packages with progressively increased technological content targeting personnel safety and switchgear renewal

- **OneFit:** the true retrofitting solution, new apparatus racking system, racking system, new integrated metallic isolating shutter system and state of the art interlocking system
- **OneFit Safety:** increased personnel protection providing closed-door operational mode preventing accidental electrical contact injuries
- **OneFit Safety Plus:** a new operational safety level, remote racking to provide a safer operating environment for personnel through the proven method of adding distance between the operator and arc flash incident energy at the switchgear site
- **OneFit eSafety Plus:** the integration of protection relay and measuring sensors gives a new life to switchgear, combining all the benefits of the previous packages with an integral equipment revamping.



Automatic shutter for ANSI OneFit (frame)

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OneFit webpage:



Keep the original standard ... increase the personal safety ... renew the switchgear

OneFit packages

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