

52STA MOC Actuator

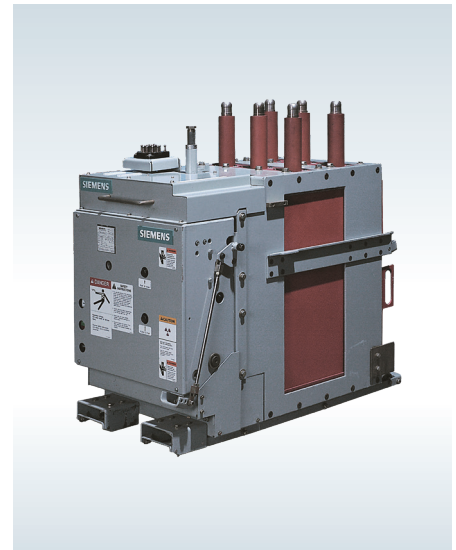
For GE Vertical Lift Magna-Blast Switchgear

Siemens provides replacement vacuum circuit breakers for all ratings of GE Vertical Lift Magna-Blast legacy switchgear in the US. This switchgear often includes a 52STA MOC Actuator assembly that consists of the cubicle MOC switches (mechanism-operated cell switches) mounted to the 52STA MOC actuator. The 52STA MOC actuator rod is driven by the circuit breaker via a plunger mounted on the top of the circuit breaker. When the circuit breaker is closed, the plunger on the breaker engages and displaces the 52STA actuator mechanism rod upward, resulting in a change of state of the MOC switches. The switches are held in this state until the breaker is opened. When the circuit breaker is opened, the breaker plunger moves downward, allowing the 52STA switch mechanism actuating rod to reset to its original position allowing the MOC switches to change state.

Binding occurs in original MOC actuator

The 52STA actuator originally supplied with the legacy switchgear was designed to absorb the output forces generated by the legacy circuit breakers stored energy mechanism and protect the MOC switches. Unfortunately, after years of use, the original 52STA actuator may develop a tendency to bind and not reset the MOC switches as required. This binding, along with the significant force that is generated in the stored energy mechanism of modern circuit breakers, can be a problem for equipment owners.

Fortunately, Siemens has developed replacement 52STA actuator mechanisms to prevent potential problems associated with these known issues and incorporated it in their replacement breakers for legacy GE Magne-Blast switchgear in the US market.



Siemens GER
(replacement for GE Magna-blast AM)

52STA MOC actuator

Features of the Siemens 52STA MOC actuator

- Actuated by the Siemens replacement breaker in the same manner as the legacy equipment.
- Mounts in the same manner and location in the switchgear as the legacy actuator mechanism.
- Works in conjunction with the GE Type SBM Auxiliary switch for all ratings.

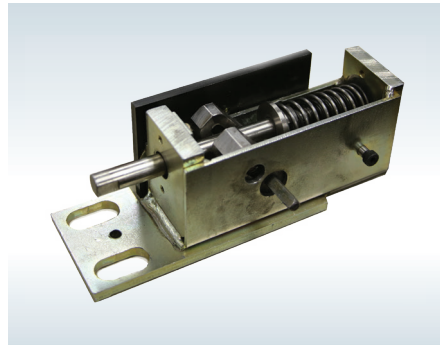
Improvements to the 52STA MOC actuator

- Designed to provide a direct vertical movement of the mechanism actuator rod, thus making it less likely to bind like the original design.
- Nylon bearings at critical pivot and guide points result in a smoother operation and longer life of the mechanism assembly.
- Standoff spacers between the mounting surface of the auxiliary switch and the mating surface of the 52STA mechanism housing prevent binding of the auxiliary switch rod at the point which it enters the 52STA mechanism housing.

Variation is key

In addition to the key differences mentioned, Siemens offers a standard and hi-force design for the 52STA MOC actuator mechanism, allowing the various breakers to perform optimally.

The differentiation between the two types of MOC actuator designs results in longer life of both the 52STA actuator mechanism, as well as the associated auxiliary switches. More importantly, the two designs help to reduce the likelihood of a breaker failure due to the associated components needed to open or close the breaker as required.



Siemens 52STA MOC Actuator

The standard design is to be used with replacement breakers that provide lower output force to the actuating plunger based on the stored energy mechanism. The Hi-Force design is to be used with those breaker ratings that provide higher output forces to the mechanism actuating rod based on the stored energy mechanism and has the following features:

- Heavier compression springs to absorb the higher impact forces generated by the higher MVA class circuit breakers.
- The hi-force mechanism has a full width, heavy duty, pivot block associated with the actuator rod to absorb and distribute the impact force generated by the higher MVA class circuit breakers.

Both Siemens 52STA MOC actuator mechanism styles can be supplied with or without new auxiliary switches per customer request.

Siemens 52STA MOC Actuator Designs	
Standard Design	Hi-Force Design
5kV - 250MVA	5kV - 350MVA
7.2kV - 500MVA	15kV - 750MVA ("Super 750")
15kV - 500MVA	15kV - 1000MVA
15kV - 750MVA (Standard)	

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