

Live-tank circuit breaker parts and service

Service solutions for your T&D infrastructure

The Siemens Energy type LPO and 3A-family live-tank high voltage circuit breakers have offered dependable service for the past 30 years. As the supplier of OEM parts for your Siemens Energy high voltage circuit breakers, we are committed to supporting you with qualified parts and factory trained field service support throughout your circuit breaker's life cycle.

Field service

Siemens Energy provides technical field assistance, turnkey maintenance, testing, and project management services. Project engineers strictly follow OEM guidelines to minimize downtime and maximize circuit breaker reliability and performance.

Customer benefits include:

Siemens Energy live-tank circuit breaker parts and service customers benefit from:

- Improved outage planning and support
- Comprehensive project management with access to OEM engineering departments
- Most advanced equipment available
- Extended circuit breaker service life
- Reduced ongoing maintenance costs.

Maintenance training

When combined with a scheduled maintenance outage, circuit breaker technical field assistance and onsite training provides the following hands-on experience for maintenance crews:

- Maintenance and repair sequencing
- Factory adjustment procedures and tolerances
- Part identification
- Troubleshooting
- Failure analysis.

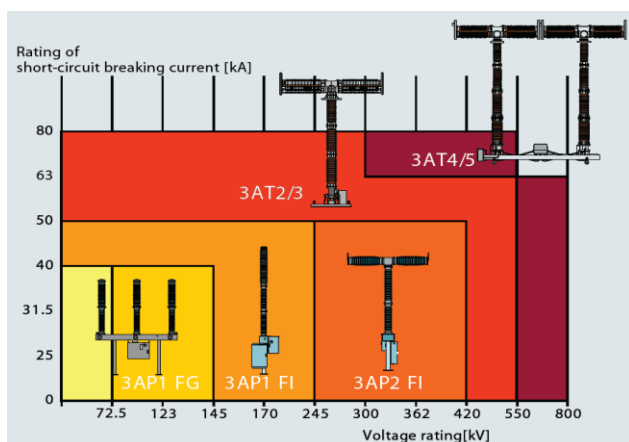


Figure 1 Rating of short-circuit breaking current (kA)

Major maintenance program (20+ years)

Performing major maintenance on Siemens Energy high voltage circuit breakers enables reliable service for an additional 20 years or more.

Operation	Major inspection	Major maintenance
	10 years	20 years
Circuit breaker		
Visually inspect breaker externally	X	X
Measure SF ₆ gas pressure	X	X
Remove SF ₆ gas		X
Check contact system, black cylinder		X
Visually inspect bell crank mechanism parts and locking devices		X
Replace seals		X
Refill breaker with SF ₆ gas		X
Check response time and synchronization	X	X
Hydraulic control		
Visually inspect hydraulic system	X	X
Replace hose between monitoring unit and the oil pump		X
Drain oil, inspect tank, replace with new oil and filter	X	X
Vent oil-pump, hydraulic system	X	X
Measure nitrogen pre-charge pressure	X	X
Measure operating value of safety valve	X	X
Inspect hydraulic system for internal leaks, measure oil pressure	X	X
General		
Measure operating values of SF ₆ density monitor, oil pressure switches	X	X
Check breaker pressure gauge for SF ₆ and pressurized oil		X
Inspect anti-condensation heaters	X	X
Functional checks	X	X
Measure SF ₆ gas humidity content, SF ₆ gas-air content		X

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