

SIEMENS

Ingenuity for life

Medium-voltage vacuum roll-in replacement circuit breakers

Ratings from 5–38 kV, 250-1,500 MVA,
1,200-3,000 amperes

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Roll-in replacement breakers provide a cost-effective way to upgrade to current vacuum technology while increasing equipment reliability and minimizing downtime. Siemens has designs for most major breaker models including:

| Manufacturer | Model |
|----------------------------|---|
| ABB/ITE | HV, HK |
| Siemens/ Allis-Chalmers | AM, MA, MB/MBV, MC/MCV, FA, FB, FC/FCV |
| Federal Pacific | DST2, MOP |
| General Electric | AM, AMH |
| McGraw Edison | PSD |
| Westinghouse | DH, DHP |

Why replacement breakers?

- Increased reliability and performance
- Reduced operating and maintenance expenditures
- Reduced downtime during upgrades
- Preserved investment in cubicles
- Improved employee and environmental safety

Why Siemens?

Long operational life – Siemens replacement breakers have an expected life of 30,000 mechanical operations and a maintenance interval of 10 years or 10,000 mechanical operations, which far exceeds most operational requirements in industrial and utility applications.

Direct interchangeability – Siemens replacement breakers, including those that utilize our patented MOC-Saver™ design, are interchangeable with no adjustments required from cubicle to cubicle, regardless of the number of MOC switch banks within the existing cubicles.

Extensive experience – Siemens has supplied thousands of medium-voltage replacement breakers from our manufacturing facility in Wendell, North Carolina, successfully completing over 1,000 projects since 1983. Over 800 breakers are located in nuclear Class 1E rated applications.



5-MSV (replacement for Allis-Chalmers MA)

Standardized design – Siemens utilizes the 3AH operator for our complete family of over 150 different medium-voltage replacement breaker designs, reducing spare parts and training requirements. Over 350,000 3AH series circuit breakers are in service worldwide.

3AH operator features:

- Spring charge motor mechanism – lifetime lubricated gear box
- Operating linkage – machine parts versus stamped metal
- Change-out of components – easily accessible
- Vacuum contact erosion – indication easily verifiable

MOC-Saver

The Siemens MOC-Saver system addresses the various operational issues associated with certain air-magnetic circuit breakers. The MOC-Saver controls the velocity operating the original cubicle MOC system, thus mitigating the increased forces that would be applied to the cubicle MOC system. The MOC-Saver provides positive MOC switch actuation in the open and close directions. The MOC-Saver includes a bi-directional stored energy mechanism (snubber) and a bi-directional hydraulic velocity controller.

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The following circuit breakers are available as pre-engineered designs.
Other manufacturers, models and ratings can be engineered by Siemens.

| Manufacturer | Model | kV | Rating MVA | Amp | |
|--------------------------------------|------------------|-------|---------------------|---------------------|---------------------|
| Allis-Chalmers (All air-magnetic) | AM | 4.76 | 150 | 1,200, 2,000 | |
| | | | 250 | 1,200, 2,000 | |
| | MB/MBV | 8.25 | 250 | 1,200, 2,000 | |
| | | | 500 | 1,200, 2,000 | |
| | | | 150 | 1,200 | |
| | MC/MCV | 15 | 250 | 1,200, 2,000 | |
| | | | 500 | 1,200, 2,000 | |
| | | | 750 | 1,200, 2,000, 3,000 | |
| | MA | 4.76 | 250 | 1,200, 2,000 | |
| | | | 350 | 1,200, 2,000 | |
| FA | 4.76 | 350 | 3,000 | | |
| | | 500 | 1,200, 2,000, 3,000 | | |
| FB | 8.25 | 500 | 1,200, 2,000 | | |
| | | 750 | 1,200, 2,000, 3,000 | | |
| FC/FCV | 15 | 500 | 1,200, 2,000 | | |
| | | 1,000 | 1,200, 2,000, 3,000 | | |
| Siemens | 3AF (2-High) | 4.76 | 250 | 1,200, 2,000 | |
| | | | 350 | 1,200, 2,000, 3,000 | |
| | | | 500 | 1,200, 2,000, 3,000 | |
| | | | 750 | 1,200, 2,000 | |
| | | | 1,000 | 1,200, 2,000, 3,000 | |
| GE (All air-magnetic) | Magneblast (AMH) | 4.76 | 250 | 600, 1,200, 2,000 | |
| | | | 100 | 600, 1,200, 2,000 | |
| | Magneblast (AM) | 2.4 | 150 | 600, 1,200, 2,000 | |
| | | | 100 | 600, 1,200, 2,000 | |
| | | | 4.76 | 150 | 600, 1,200, 2,000 |
| | | | | 250 | 600, 1,200, 2,000 |
| | | | | 350 | 1,200, 2,000, 3,000 |
| | | | | 500 | 1,200, 2,000, 3,000 |
| | | | 8.25 | 250 | 1,200, 2,000 |
| | | | | 500 | 1,200, 2,000 |
| | | | | 750 | 1,200, 2,000 |
| | | | | 1,000 | 1,200, 2,000, 3,000 |
| Westinghouse | DH | 4.76 | 150 | 1,200, 2,000 | |
| | | | 250 | 1,200, 2,000 | |
| | | | 350 | 3,000 | |
| | | | 500 | 1,200, 2,000 | |
| | | | 750 | 1,200, 2,000 | |
| | DHP | 4.76 | 8.25 | 1,000 | 1,200, 2,000, 3,000 |
| | | | | 250 | 1,200, 2,000 |
| | | | | 350 | 1,200, 2,000 |
| | | | | 500 | 1,200, 2,000, 2,500 |
| | | | | 750, 750C | 1,200, 2,000, 2,500 |
| ITE | HV | 4.76 | 100 | 600, 1,200 | |
| | | | 150 | 600, 1,200 | |
| | | | 250 | 600, 1,200 | |
| | HK | 4.76 | 8.25 | 250 | 1,200, 2,000 |
| | | | | 500 | 1,200, 2,000 |
| | | | | 500 | 1,200, 2,000 |
| | | | | 750 | 1,200, 2,000 |
| | | | | 1,000 (36" Cell) | 1,200, 2,000 |
| | | | | 250 * | 1,200, 2,000 |
| | | | | 500 | 1,200, 2,000 |
| Federal Pacific | DST2 | 15 | 500 | 1,200, 2,000 | |
| | | | 750 | 1,200, 2,000 | |
| | | | 1,000 | 1,200 | |
| | | | 27 | 1,000 | |
| McGraw Edison | MOP | 15 | 501 | 1,200 | |
| | | | 502 | 2,000 | |
| | | | 751 | 1,200 | |



Siemens HKR (replacement for ITE HK)



Siemens DHR (replacement for Westinghouse DH)



Siemens GER (replacement for GE Magneblast)