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# Medium-voltage air-insulated switchgear

## GM-SG-AR, arc-resistant, 5 kV-15 kV, up to 63 kA drawout, metal-clad

### Features and benefits:

- Arc-resistant to ANSI/IEEE C37.20.7, up to 63 kA, 0.5 sec, accessibility type 2B
- Application flexible exhaust system
- Top-mounted pressure relief channel factory-installed for reduced installation time
- One-high or two-high construction
- Up to 100 full-fault interruptions
- Universal spare circuit breaker
- Interlocks permit insertion of higher rated vacuum circuit breaker into lower rated cell but not vice versa
- Closed door racking
- Front accessible circuit breaker operating mechanism for ease of maintenance
- Floor rollout circuit breaker in lower cell without a dolly
- Visible secondary disconnect
- Circuit breaker ships inside of cell, thus reducing installation cost and transit damage
- Instrumentation and controls located in a separate compartment isolated from all primary circuit elements
- Pair with Siemens protective relays to match any typical application
- Horizontal drawout type GMSG vacuum circuit breaker with type 3AH3 operating mechanism
- Uses the latest developments in vacuum interrupter technology
- Highly reliable vacuum interrupters - MTTF over 53,000 years
- Common type 3AH3 operator platform for all ratings
- Over 120,000 type 3AH3 operators produced since 1998
- 10,000 operations to overhaul
- Three-cycle interrupting time (optional)
- SIERS integrated electric-racking system available (option)
- Meets or exceeds the latest ANSI, IEEE and NEMA standards
- UL or C-UL Listing available.



### Type GM-SG-AR switchgear available as:

- Indoor (type GM-SG-AR)
- Outdoor walk-in Shelter-Clad NEMA 3R (type SGM-SG-AR)
  - Single-aisle (factory assembled aisle)
  - Factory insulated and assembled aisle (optional)
  - Shelter-Clad+ factory-assembled switchgear and aisle on common base with power equipment center type options.

[usa.siemens.com/mvswitchgear](http://usa.siemens.com/mvswitchgear)

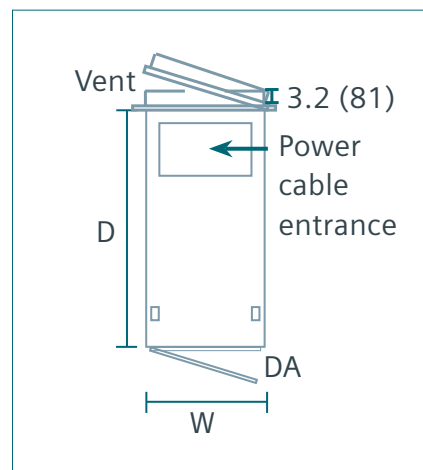
Type MSG circuit breaker ratings constant kA basis - ANSI/IEEE C37.06-2009<sup>1</sup>

Historic "MVA" class	Maximum design voltage kV	Rated interrupting rating kA	Maximum interrupting and short time kA	Voltage range factor	Continuous current <sup>2</sup>	Insulation levels dielectric		Close and latch kA	
						60 Hz	BIL	rms 1.55 KI	peak 2.6 KI
----	4.76	40	40	1.0	1,200, 2,000, 3,000	19	60	62	104
----	4.76	50	50	1.0	1,200, 2,000, 3,000	19	60	78	130
----	4.76	63	63	1.0	1,200, 2,000, 3,000	19	60	98	164
----	8.25	40	40	1.0	1,200, 2,000, 3,000	36	95	62	104
----	15.0	25	25	1.0	1,200, 2,000	36	95	39	65
----	15.0	40	40	1.0	1,200, 2,000, 3,000	36	95	62	104
----	15.0	50	50	1.0	1,200, 2,000, 3,000	36	95	78	130
----	15.0	63	63	1.0	1,200, 2,000, 3,000	36	95	98	164

**Footnotes:**

- <sup>1</sup> An exhaust system to direct arc-fault products outside the switchgear room is supplied with each lineup of equipment.
- <sup>2</sup> 4,000 A fan-cooled rating available using a 3,000 A circuit breaker together with a modified switchgear structure incorporating fan-cooling equipment.
- <sup>3</sup> No obstructions permitted within 10" (254 mm) of top of switchgear structure.
- <sup>4</sup> The switchgear must have at least 6" (152 mm) horizontal clearance:
  - From left and right sides to nearest wall or equipment, and
  - From rearmost extension of vents on rear to nearest wall or equipment
- <sup>5</sup> Add 9" (229 mm) to length of lineup for end trims.
- <sup>6</sup> Add 4.5" (114 mm) to depth for front and rear doors.
- <sup>7</sup> 72.0" (1,829 mm) aisle space recommended and allows room for interchange of circuit breakers. Minimum aisle space required for handling circuit breakers with lift truck is 65" (1,651 mm). Minimum aisle space required if all circuit breakers are at floor level is 55" (1,397 mm).
- <sup>8</sup> Add 1.0" (25 mm) for GM-SG-AR equipment rated 63 kA.

Dimensions in inches (mm)				
Type	Height (H)	Width (W)	Depth (D)	Drawout aisle (DA)
GM-SG-AR	116.4 (2,957) <sup>3</sup>	40.0 (1,016) <sup>4,5</sup>	102.8 (2,611) <sup>4,6,8</sup>	72.0 (1,829) recommended <sup>7</sup>
SGM-SG-AR	135.6 (3,444)	40.0 (1,016)	179.8 (4,566)	72.0 (1,829) included



Published by Siemens Industry, Inc. 2017.

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Article No. EMMS-T40006-01-4A00

Printed in U.S.A.

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