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SDV-R non-arc-resistant and SDV-R-AR arc-resistant circuit breakers

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A medium-voltage outdoor distribution circuit breaker ideal for renewable applications.

The new types SDV-R™ non-arc-resistant and SDV-R-AR™ arc-resistant medium-voltage circuit breakers are an extension of the reliable SDV outdoor distribution circuit breaker family.

They have an integral mechanically-interlocked, fast-acting grounding switch that can reduce total project cost, physical footprint, and environmental impact.

Operator safety can be improved with the arc-resistant option tested to ANSI/IEEE C37.20.7, accessibility type 2B.

Key features:

- Optimal solution for renewable energy applications
- Fast switching time to ground, which limits transient voltage excursion to low levels, eliminates the need for grounding transformers saving installation and maintenance costs and physical space, and removes the risk of transformer oil spills
- SDV-R-AR arc-resistant to ANSI/IEEE C37.20.7, accessibility type 2B
- Time-proven stored-energy operator design tested to IEEE C37.09-2018
- Highly reliable vacuum interrupters with MTTF over 53,000 years
- Moderate and high seismic qualification (Zones 1-4) available
- Porcelain dry-type bushings with extended creep
- Meets or exceeds the latest ANSI, IEEE, and NEMA standards
- UL Listing will be available
- Installation and commissioning, aftermarket parts, and 24/7 emergency services.



Types SDV-R and SDV-R-AR ratings

Circuit breaker type	Rated maximum voltage kV, rms	Rated withstand voltages		Rated short-circuit and short-time current kA, rms	Rated interrupting time ms/cycles	Rated continuous current A, rms	Rated transient recovery voltage ¹		Rated permissible tripping delay time Y sec	Rated closing and latching current kA, peak
		Lightning impulse (BIL) kV ²	Power frequency kV				u _c TRV peak value kV	t ₃ time to voltage u _c μs		
38.0-25	38.0	200/258	80	25	50/3	1,200, 2,000	71.7	59	2	65
38.0-31.5	38.0	200/258	80	31.5	50/3	1,200, 2,000	71.7	59	2	82
38.0-40	38.0	200/258	80	40	50/3	1,200, 2,000	71.7	59	2	104

Additional key ratings for SDV-R and SDV-R-AR:

- Rated closing time <45 ms
- Rated opening time <30 ms
- Rated mechanical switching time (vacuum circuit breaker open to ground switch close) 12-16 ms
- Grounding switch rated short-time current 12.5 kA
- Grounding switch rated closing and latching current 32.5 kA.

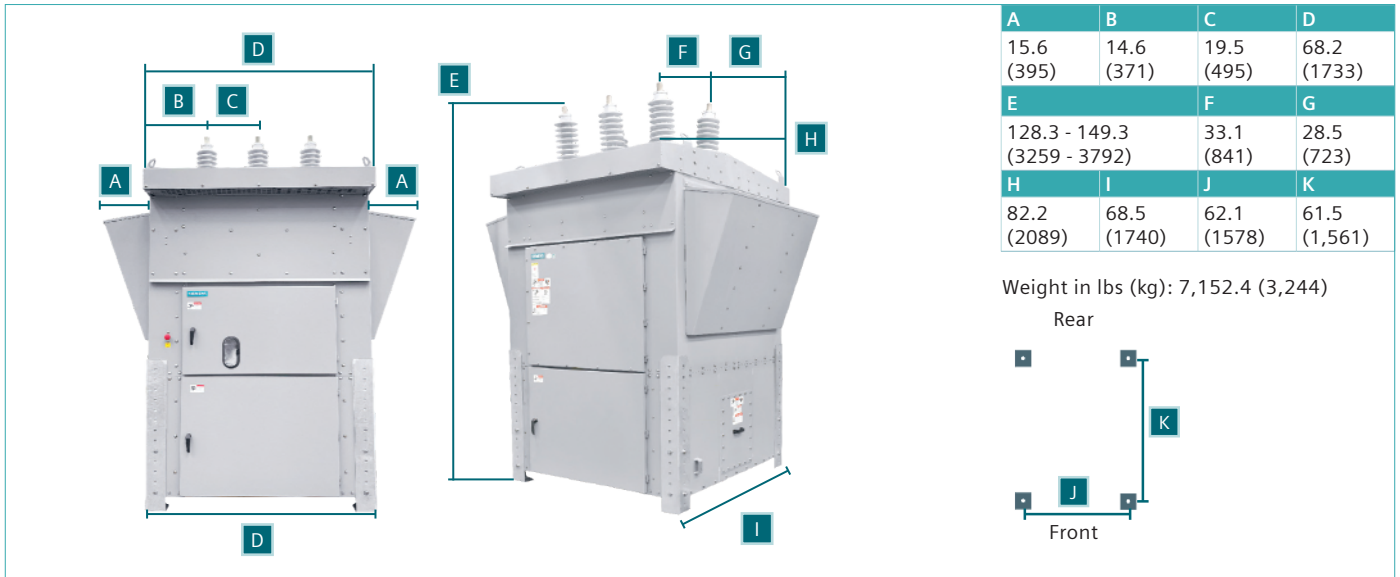
Additional key ratings for SDV-R-AR:

- Rated accessibility type 2B
- Rated internal arcing short-circuit current 25, 31.5, or 40 kA
- Rated arcing duration 0.5 s.

Footnotes:

1. TRV values are in accordance with ANSI/IEEE C37.04-2018
2. First value is full-wave impulse withstand circuit breaker open or closed. Second value is chopped-wave impulse withstand, applicable only with circuit breaker closed.

Dimensions in inches (mm) for SDV-R-AR 38.0 kV, 1,200 A-2,000 A arc-resistant circuit breaker



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Siemens Industry, Inc.
7000 Siemens Road
Wendell, North Carolina 27591

For more information, including service and parts,
please contact our Customer Support Center.
Phone: +1 (800) 333-7421

usa.siemens.com/sdv

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