



**SIEMENS**

*Ingenuity for life*

# Distribution circuit breakers

## SDV7 non-arc-resistant SDV7-AR arc-resistant 15.5 kV, 27.6 kV and 38 kV

### Type SDV7 distribution circuit breaker family includes:

- Type SDV7-SE: type SDV7 non-arc-resistant with stored-energy operator
- Type SDV7-MA: type SDV7 non-arc-resistant with magnetic-actuator operator
- Type SDV7-SE-AR: type SDV7-AR arc-resistant with stored-energy operator
- Type SDV7-MA-AR: type SDV7-AR arc-resistant with magnetic-actuator operator.

### Type SDV7 enclosure types offered:

- Standard: non-arc-resistant enclosure
- Optional: arc-resistant, accessibility type 2B, tested to ANSI/IEEE C37.20.7.

### Stored-energy operator features:

- Time-proven type 3AH3 operator derived from operators introduced in 1977 (over 120,000 produced)
- Common operator for all ratings
- Design tested to ANSI/IEEE C37.09.

### Magnetic-actuator operator features:

- Design adapted from type 3AH3 stored-energy operator configuration
- High-voltage compartment configuration identical to stored energy version
- Design tested to ANSI/IEEE C37.09
- Built-in fast discharge circuit for electronic controller power capacitors
- Manual opening handle requires very modest force for operation
- Electronic controller life estimated at 30 years.

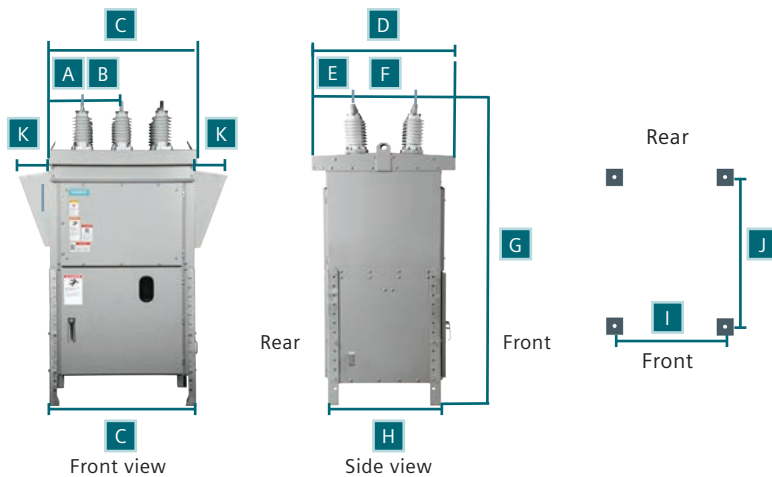
### Other features and benefits include:

- Extended capacitor switching (optional)
- Tested for out-of-phase switching ratings (ANSI/IEEE C37.09)
- Large relay and control compartment
- Stainless steel exterior hardware
- Porcelain dry-type bushings with extended creep
- Highly reliable vacuum interrupters - MTTF over 53,000 years
- Pair with Siemens protective relays to match any typical application
- Moderate and high seismic qualification (Zones 1-4) available
- Meets or exceeds the latest ANSI, IEEE and NEMA standards
- ANSI/IEEE "rain tested" enclosure (ANSI/IEEE C37.20.2).



Technical ratings										
Circuit breaker type SDV7	Rated maximum voltage	Rated withstand voltages		Rated short-circuit and short-time current	Rated interrupting time <sup>1</sup>	Rated continuous current	Rated transient recovery voltage <sup>2</sup>		Rated permissible tripping delay time $\gamma$	Rated closing and latching current
		Lightning impulse (BIL)	Power frequency				$u_c$ TRV peak value	$t_3$ time to voltage $u_c$		
	kV, rms	kV <sup>3</sup>	kV	kA, rms	ms/cycles	A, rms	kV	$\mu$ s	sec	kA, peak
15.5-20	15.5	110/142	50	20	50/3	1,200, 2,000	29.2	32	2	52
15.5-25	15.5	110/142	50	25	50/3	1,200, 2,000	29.2	32	2	65
15.5-31.5 <sup>4</sup>	15.5	110/142	50	31.5	50/3	1,200, 2,000, 3,000	29.2	32	2	82
15.5-40 <sup>4</sup>	15.5	110/142	50	40	50/3	1,200, 2,000, 3,000	29.2	32	2	104
27.6-20	27.6	150/194	60	20	50/3	1,200, 2,000	52.1	45	2	52
27.6-25	27.6	150/194	60	25	50/3	1,200, 2,000	52.1	45	2	65
38.0-20 <sup>4</sup>	38.0	200/258	80	20	50/3	1,200, 2,000	71.7	59	2	52
38.0-25 <sup>4</sup>	38.0	200/258	80	25	50/3	1,200, 2,000	71.7	59	2	65
38.0-31.5 <sup>4</sup>	38.0	200/258	80	31.5	50/3	1,200, 2,000, 2,500	71.7	59	2	82
38.0-40 <sup>4</sup>	38.0	200/258	80	40	50/3	1,200, 2,000, 2,500	71.7	59	2	104

Dimensions in inches (mm)												
Rating	A	B	C	D	E	F	G	H	I	J	K <sup>5</sup>	
15.5 kV, 1,200 A-2,000 A	10.7 (272)	13.0 (330)	47.1 (1,197)	44.5 (1,130)	12.4 (315)	19.8 (503)	92.0-116.0 (2,337)-(2,945)	36.1 (918)	31.3 (794)	42.7 (1,084)	10.3 (260)	
15.5 kV, 3,000 A	12.3 (312)	16.0 (406)	56.5 (1,435)	52.8 (1,340)	15.9 (403)	21.0 (534)	96.0-120.0 (2,438)-(3,048)	44.2 (1,123)	39.4 (1,001)	52.0 (1,321)	11.4 (290)	
27.6 kV, 1,200 A-2,000 A	12.3 (312)	16.0 (406)	56.5 (1,435)	49.8 (1,265)	14.4 (366)	21.2 (538)	96.0-120.0 (2,438)-(3,048)	44.2 (1,123)	39.4 (1,001)	52.0 (1,321)	11.4 (290)	
38.0 kV, 1,200 A, 2,000 A, 2,500 A	13.4 (340)	19.5 (495)	67.8 (1,723)	63.0 (1,600)	20.4 (518)	22.2 (563)	120.5-144.5 (3,060)-(3,670)	55.6 (1,413)	50.9 (1,294)	63.1 (1,604)	16.7 (424)	



**Footnotes:**

- <sup>1</sup> 83 ms/five-cycle optional for stored-energy operator.
- <sup>2</sup> TRV values are in accordance with ANSI/IEEE C37.06-2009 TRV peak value  $u_c$  roughly equal to historic  $E_2$  value in ANSI/IEEE C37.06-2000. Value  $t_3$ , time to voltage  $u_c$  is approximately 1/1.138 times  $T_2$  value in ANSI/IEEE C37.06-2000.
- <sup>3</sup> 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.
- <sup>4</sup> Magnetic-actuator availability to be announced for these ratings. Consult factory.
- <sup>5</sup> Arc-resistant only.

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