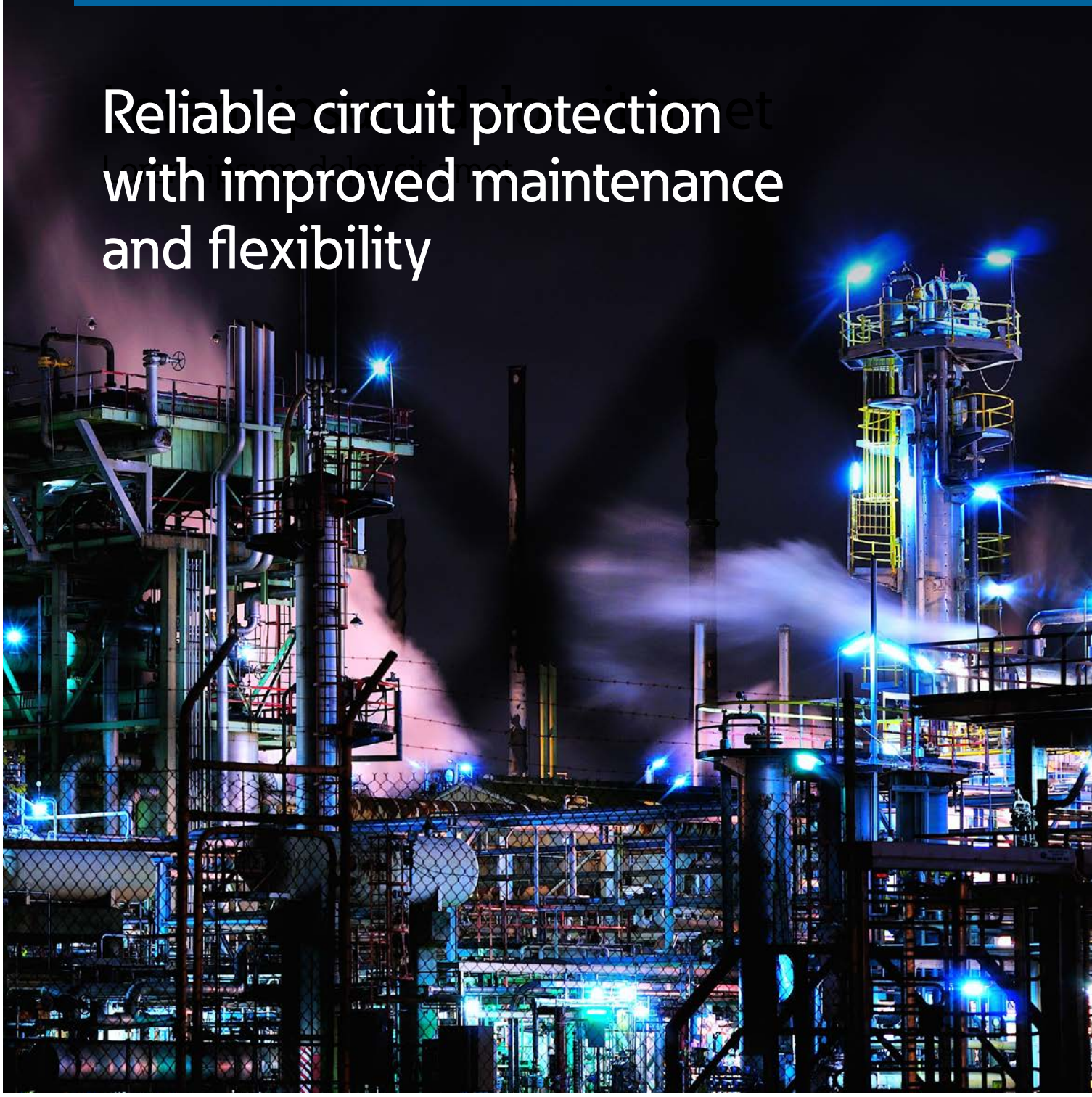
VCP-W
Medium-voltage vacuum circuit breaker

Reliable circuit protection with improved maintenance and flexibility



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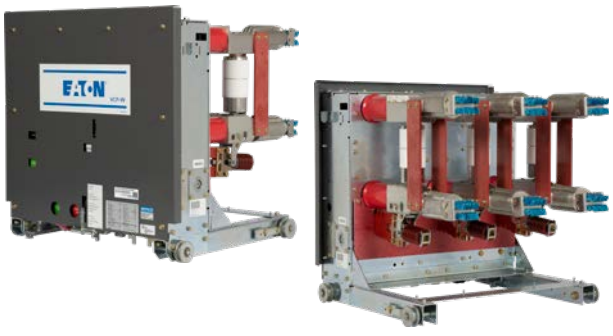
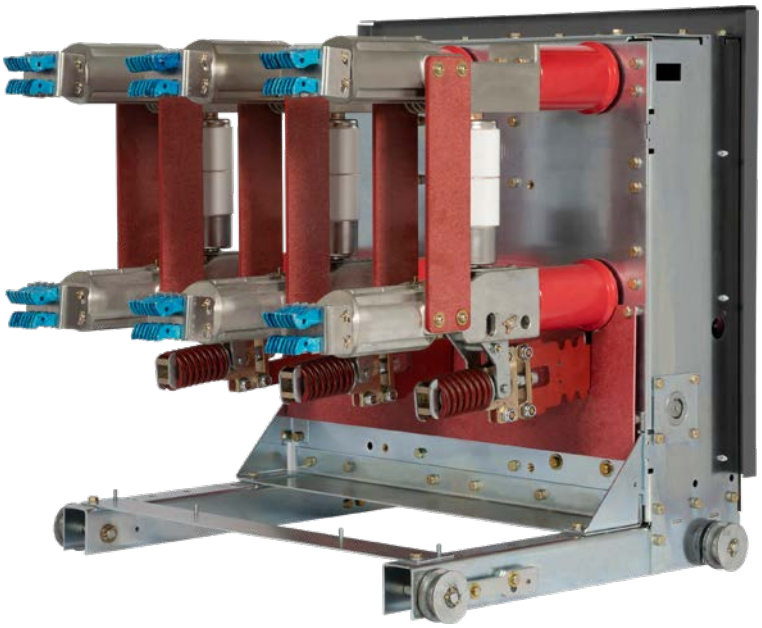




Improved medium-voltage protection

VCP-W vacuum circuit breakers

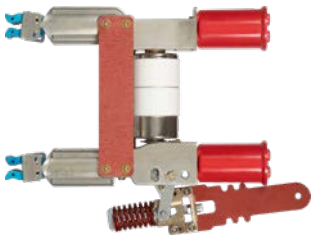
The Eaton medium-voltage VCP-W circuit breaker is renowned for its ease of handling and maintenance. This OEM-friendly product is ideal for short-circuit protection and has numerous design variations to ensure all possible applications are supported. Eaton's patented flexible conductor system features fewer moving parts, which reduces friction and wear associated with rolling/sliding designs, and increases product lifespan. The VCP-W circuit breaker is the standard in reliability, control and protection for electrical equipment and circuits.

New features

- Drop-in replacement for current VCP-W circuit breaker
- Simplified pole unit design with 89% fewer parts
- Partial discharge free
- Longer vacuum interrupter life (over 30K operations)

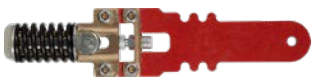
Standards

- IEEE® C37.04-2018
- IEEE C37.09-2018



Improved pole unit design

Eaton's simplified pole unit design incorporates patented conductors and has 89% fewer parts than the legacy VCP-W. The vacuum interrupters can be replaced in the field without special tooling or having to change the entire pole unit, thus reducing maintenance and labor costs.



Improved drive rod design

Eaton's adjustable drive rod design enables the quick modification of vacuum interrupter compression in the field and eliminates the need to replace pole units that exhibit low compression due to contact erosion from high mechanism operations.

Standard features

- C2 class capacitor switch ratings
- Tin-plated pole units for resilience in harsh environment applications
- Maintenance-free Eaton vacuum interrupters with visual contact erosion indicators
- Glass polyester insulators
- Epoxy insulators (included with type VCP-WSE breakers)
- Trip-free interlocks that prevent moving a closed circuit breaker into or out of the connect position
- Provisions for manual charging of closing spring
- Operations counter
- Closing spring charged/ discharged indicator
- Circuit breaker open/closed indicator
- Spring charging motor, close coil, trip coil, latch check switch, and anti-pump relay
- Cut-out visual wipe spring indicator
- Primary and secondary fully automatic disconnects
- Ground contact finger assembly
- Auxiliary switch with 2A/3B spare contacts

Benefits

- Premium control wires and terminals provide reliable control and protection for electrical equipment and circuits, and are capable of being operated manually under full load conditions
- Front-accessible mechanism allows for easy access to the mechanism and user-friendly control components
- Unlike sliding or rolling designs, Eaton's flexible conductors have no moving parts to wear out and are maintenance-free—resulting in longer circuit breaker life
- Spiral contact design provides a self-induced magnetic effect that moves the arc root around the contact periphery, preventing hot spots and minimizing contact erosion
- Mechanically and electrically trip-free stored energy mechanism design ensures breaker contacts will not close or touch during a trip or close command; for added user safety, the closing springs will discharge automatically when the breaker is withdrawn from or inserted into its compartment

Order entry

VCP-W circuit breakers are now fully configurable with a 15-digit catalog number and will come with a QR code that can be used to view breaker-specific information online.

VCP-W circuit breakers—one of the **most trusted** medium-voltage breakers for over 50 years

Technical data

5/15 kV VCP-W vacuum circuit breaker types rated on symmetrical current rating basis, per ANSI standards

Identification	Rated values ❶❷													
				Insulation level			Short-circuit ratings (reference C37.04-2018 and C37.09-2018 except where noted)							
	Maximum voltage (V)	Nominal three-phase MVA class	Rated voltage range factor	Power frequency withstand voltage (1 min.)	Lightning impulse withstand voltage (1.2 x 50 µs)	Rated continuous current at 60 Hz	Symmetrical interrupting current (I)	%dc component	Asymmetrical interrupting current (It)	Closing and latching current	Short-time withstand current	Interrupting time	Interrupting time (cycles at 60 Hz)	No-load (mechanical endurance)
Drawout circuit breaker type	kV rms		K	kV rms	kV peak	A rms ❸	kA rms sym	% ❹	kA rms asym total ❹	kA peak ❺	kA rms ❻	ms	Cycles ❼	❽
5VCP-W25	4.76	N/A	1	19	60	1200	25	43	29	65	25	83/50	5/3	10,000
	4.76	N/A	1	19	60	2000	25	43	29	65	25	83/50	5/3	10,000
	4.76	N/A	1	19	60	3000	25	43	29	65	25	83/50	5/3	10,000
5VCP-W32	4.76	N/A	1	19	60	1200	31.5	43	37	82	31.5	83/50	5/3	10,000
	4.76	N/A	1	19	60	2000	31.5	43	37	82	31.5	83/50	5/3	10,000
	4.76	N/A	1	19	60	3000	31.5	43	37	82	31.5	83/50	5/3	10,000
5VCP-W40	4.76	N/A	1	19	60	1200	40	43	47	104	40	83/50	5/3	10,000
	4.76	N/A	1	19	60	2000	40	43	47	104	40	83/50	5/3	10,000
	4.76	N/A	1	19	60	3000	40	43	47	104	40	83/50	5/3	10,000
5VCP-W50	4.76	N/A	1	19	60	1200	50	43	58.5	130	50	83/50	5/3	10,000
	4.76	N/A	1	19	60	2000	50	43	58.5	130	50	83/50	5/3	10,000
	4.76	N/A	1	19	60	3000	50	43	58.5	130	50	83/50	5/3	10,000
50VCP-W63 (9)	4.76	N/A	1	19	60	1200	63	55	80	164	63	83/50	5/3	10,000
	4.76	N/A	1	19	60	2000	63	55	80	164	63	83/50	5/3	10,000
	4.76	N/A	1	19	60	3000	63	55	80	164	63	83/50	5/3	10,000
8VCP-W40	8.25	N/A	1	36	95	1200	40	43	47	104	40	83/50	5/3	10,000
	8.25	N/A	1	36	95	2000	40	43	47	104	40	83/50	5/3	10,000
	8.25	N/A	1	36	95	3000	40	43	47	104	40	83/50	5/3	10,000
8VCP-W50	8.25	N/A	1	36	95	1200	50	43	58.5	130	50	83/50	5/3	10,000
	8.25	N/A	1	36	95	2000	50	43	58.5	130	50	83/50	5/3	10,000
	8.25	N/A	1	36	95	3000	50	43	58.5	130	50	83/50	5/3	10,000
15VCP-W25	15	N/A	1	36	95	1200	25	43	29	65	25	83/50	5/3	10,000
	15	N/A	1	36	95	2000	25	43	29	65	25	83/50	5/3	10,000
	15	N/A	1	36	95	3000	25	43	29	65	25	83/50	5/3	10,000
15VCP-W32	15	N/A	1	36	95	1200	31.5	43	37	82	31.5	83/50	5/3	10,000
	15	N/A	1	36	95	2000	31.5	43	37	82	31.5	83/50	5/3	10,000
	15	N/A	1	36	95	3000	31.5	43	37	82	31.5	83/50	5/3	10,000
15VCP-W40	15	N/A	1	36	95	1200	40	43	47	104	40	83/50	5/3	10,000
	15	N/A	1	36	95	2000	40	43	47	104	40	83/50	5/3	10,000
	15	N/A	1	36	95	3000	40	43	47	104	40	83/50	5/3	10,000
15VCP-W50	15	N/A	1	36	95	1200	50	43	58.5	130	50	83/50	5/3	10,000
	15	N/A	1	36	95	2000	50	43	58.5	130	50	83/50	5/3	10,000
	15	N/A	1	36	95	3000	50	43	58.5	130	50	83/50	5/3	10,000
150VCP-W63 ❾	15	N/A	1	36	95	1200	63	55	80	164	63	83/50	5/3	10,000
	15	N/A	1	36	95	2000	63	55	80	164	63	83/50	5/3	10,000
	15	N/A	1	36	95	3000	63	55	80	164	63	83/50	5/3	10,000

5/15 kV VCP-W vacuum circuit breaker types rated on symmetrical current rating basis, per ANSI standards (continued)

Identification	Rated values ❶❷													
				Insulation level			Short-circuit ratings (reference C37.04-2018 and C37.09-2018 except where noted)							
	Maximum voltage (V)	Nominal three-phase MVA class	Rated voltage range factor	Power frequency withstand voltage (1 min.)	Lightning impulse withstand voltage (1.2 x 50 µs)	Rated continuous current at 60 Hz	Symmetrical interrupting current (I)	%dc component	Asymmetrical interrupting current (It)	Closing and latching current	Short-time withstand current	Interrupting time	Interrupting time (cycles at 60 Hz)	No-load (mechanical endurance)
Drawout circuit breaker type	kV rms		K	kV rms	kV peak	A rms ❸	kA rms sym	% ❹	kA rms asym total ❹	kA peak ❺	kA rms ❻	ms	Cycles ❼	❽
5VCP-W250	4.76	250	1	19	60	1200	36	43	34	97	36	83/50	5/3	10,000
	4.76	250	1	19	60	2000	36	43	34	97	36	83/50	5/3	10,000
	4.76	250	1	19	60	3000	36	43	34	97	36	83/50	5/3	10,000
5VCP-W350	4.76	350	1	19	60	1200	49	43	48	132	49	83/50	5/3	10,000
	4.76	350	1	19	60	2000	49	43	48	132	49	83/50	5/3	10,000
	4.76	350	1	19	60	3000	49	43	48	132	49	83/50	5/3	10,000
8VCP-W500	8.25	500	1	36	95	1200	41	43	39	108	41	83/50	5/3	10,000
	8.25	500	1	36	95	2000	41	43	39	108	41	83/50	5/3	10,000
	8.25	500	1	36	95	3000	41	43	39	111	41	83/50	5/3	10,000
15VCP-W500	15	500	1	36	95	1200	23	43	21	62	23	83/50	5/3	10,000
	15	500	1	36	95	2000	23	43	21	62	23	83/50	5/3	10,000
	15	500	1	36	95	3000	23	43	21	62	23	83/50	5/3	10,000
15VCP-W750	15	750	1	36	95	1200	36	43	33	97	36	83/50	5/3	10,000
	15	750	1	36	95	2000	36	43	33	97	36	83/50	5/3	10,000
	15	750	1	36	95	3000	36	43	33	97	36	83/50	5/3	10,000
15VCP-W1000	15	1000	1	36	95	1200	48	43	43	130	48	83/50	5/3	10,000
	15	1000	1	36	95	2000	48	43	43	130	48	83/50	5/3	10,000
	15	1000	1	36	95	3000	48	43	43	130	48	83/50	5/3	10,000

❶ All circuit breakers are tested at 60 Hz and cannot be applied at 50 Hz per C37.09-2018. If 50 Hz is required, use VCP-W Legacy breaker offering. Contact Eaton for required ratings.

❷ All breakers in this chart are UL Listed.

❸ 3000 A rated breakers can be fan-cooled for use in 4000 A rated switchgear.

❹ All breakers tested to C37.09-2018 meet the requirements for the last pole to clear during asymmetrical T100a tests defined by Table 3 of the standard, and can safely be applied at the rated asymmetrical interrupting current and %dc offset as calculated by the equations within C37.09-2018 and C37.04-2018. Ratings are based on a dc time constant of 45 ms (corresponding to X/R of 17 for 60 Hz) and determined using the circuit breaker minimum opening time plus the assumed minimum relay time of 1/2 cycle (8.33 ms for 60 Hz).

❺ These breakers were tested to (2.6 * I) for close and latch.

❻ Duration of short-time current and maximum permissible tripping delay are both 2 seconds for all circuit breakers listed in this table, as required in C37.04-2018 and C37.09-2018.

❼ All circuit breakers are available as 3 or 5 cycle breakers.

❽ Each operation consists of one closing plus one opening.

❾ These circuit breakers do not come with the upgraded pole units and were tested to earlier versions of the IEEE standards and can be applied at 50 Hz with no derating.

We make what matters work.*

* At Eaton, we believe that power is a fundamental part of just about everything people do. Technology, transportation, energy and infrastructure—these are things the world relies on every day. That's why Eaton is dedicated to helping our customers find new ways to manage electrical, hydraulic and mechanical power more efficiently, safely and sustainably. To improve people's lives, the communities where we live and work, and the planet our future generations depend upon. Because that's what really matters. And we're here to make sure it works.

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