

EATON

Cutler-Hammer

Vacuum Circuit Breakers

Product Focus

T-VAC Drawout Medium Voltage Vacuum Circuit Breakers

Up to 17.5 kV
Up to 25 kA



Next Generation Technology

Eaton's Cutler-Hammer® T-VAC incorporates many proven design features coupled with over 70 years of power circuit breaker design and manufacturing experience.

- Three-position drawout (Disconnect, Test, Connect).
- Environmentally compatible vacuum switching.
- Steel safety barrier (earthed) between mechanism and primary conductors.

- Two-step stored energy mechanism.
- O – 0.3s – CO – 15s – CO.
- Spring-loaded multi-finger primary disconnects.
- Silver-plated fixed primary cassette stabs.
- Automatic steel primary safety shutters (earthed).
- Certified to IEC 62271-100 for 50 Hz and 60 Hz.
- Cassette tested and certified to IEC 60298.

Small Without Compromise

Introducing the T-VAC drawout medium voltage circuit breaker and cassette. Designed for use where space is at a premium, T-VAC is ideal for applications such as power houses, shipboard use, engine generators, restricted access locations, and low profile areas.

- 60% smaller than comparable breakers.
- 50% lighter than comparable breakers.
- One compact footprint through 17.5 kV.
- Reduction of installed space.
- Reduced material and shipping costs.
- Reduced installation space and weight.
- Installation/startup time savings.
- 50 ms interrupting time.
- Mechanical endurance up to 20,000 operations.

Value-Added Flexibility

The T-VAC design offers unmatched flexibility, even after installation. T-VAC simplifies design, installation and use.

- Through-the-door or closed door operation.
- Common family of accessories.
- Field-installable accessories.

- Labeled and dedicated secondary contacts.
- Clear and concise operating panel.
- Front access to mechanism/accessories.
- Visible contact erosion indicator.
- Optional integral trip unit.
- One compact drawout cassette size.

Optional Digitrip™ Protective Relays

- rms sensing.
- Microprocessor-based.
- Self-powered.
- Local testing.
- Model 520V.
 - Basic protection (LSIG)
- Model 1150Vi.
 - Advanced protection (LSIG)
 - Metering and communications



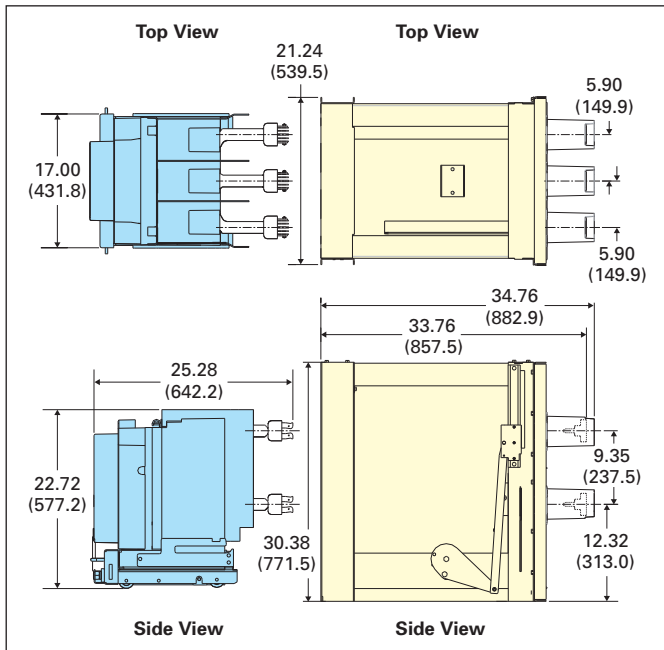
T-VAC FEATURES

■ AVAILABLE

| Feature | Standard | Optional |
|--|----------|----------|
| Steel Safety Barrier ① | ■ | |
| Spring-Loaded Primary Finger Disconnect | ■ | |
| Silver-Plated Primary Cassette Stabs | ■ | |
| Manual Charging ② | ■ | |
| Electrical Motor Charging ③ | | ■ |
| Integral Charging Handle | ■ | |
| Auxiliary Switch (5a/5b) ④ | ■ | |
| Mechanical Operations Counter | ■ | |
| 24, 48, 125 & 250 Vdc, 120 & 240 Vac Control | ■ | |
| Shunt Trip | ■ | |
| Shunt Trip (2nd) ⑤ | | ■ |
| Spring Release ⑤ | | ■ |
| Undervoltage Release ⑤ | | ■ |
| ON and OFF Pushbuttons | ■ | |
| ON and OFF Pushbutton Cover ⑥ | | ■ |
| Prevent Close Cover ⑦ | | ■ |
| Key Interlock (Ronis, Castell, Kirk) ⑧ | | ■ |
| Integral Lifting Means ⑨ | ■ | |
| Through or Closed-Door Operation | ■ | |
| Identified/Dedicated Secondary Contacts | ■ | |
| Secondary Umbilical Cord | ■ | |
| Two-Step Stored Energy Mechanism | ■ | |
| 0 – 0.3s – CO – 15s – CO | ■ | |
| Anti-Pump | ■ | |
| Trip Free | ■ | |
| Latch Check Switch | ■ | |
| Visible Contact Erosion Indicator | ■ | |
| Visible Contact Wipe Indicator | ■ | |
| Drawout (Disconnect, Test and Connect) | ■ | |
| Interlock 2 and 3 Breakers | | ■ |
| Integral Microprocessor-based Trip Unit | | ■ |

- ① 3mm earthed steel barrier between mechanism and primary conductors.
- ② Includes shunt trip.
- ③ Includes shunt trip and spring release, field installable.
- ④ Heavy-duty, double break, wipe type for customer use.
- ⑤ Field installable, viewed through viewing window, maximum 3 devices — any combination.
- ⑥ Limits access to pushbuttons, metal or plastic.
- ⑦ Prevents access to ON pushbutton — used in conjunction with pushbutton cover.
- ⑧ Prevents breaker from closing.
- ⑨ Used with standard lifting sling.

T-VAC DRAWOUT BREAKER AND CASSETTE DIMENSIONS IN INCHES (MM)



50 HZ AND 60 HZ T-VAC BREAKER RATINGS CERTIFIED TO IEC 62271-100

Identification Rated Values

| Circuit Breaker Type | Voltage kV rms | Insulation Level Withstand Voltage | | | Normal Current (In) Amperes | Short Circuit Breaking Current (Isc) kA rms | Short Circuit Making Current kA Peak | Mech. Endurance C - 0 Operations | Approx. Weight (kg) |
|----------------------|----------------|------------------------------------|--|-----------------------------|-----------------------------|---|--------------------------------------|----------------------------------|---------------------|
| | | Power Voltage kV rms | Lightning Impulse Frequency (Uw) kV Peak | Normal Current (In) Amperes | | | | | |
| 72 T-VAC16 | 7.2 | 20 | 60 | 630 | 16 | 42 | 20,000 | 107 | |
| | | | | 1250 | | | 10,000 | 108 | |
| 72 T-VAC20 | 7.2 | 20 | 60 | 630 | 20 | 52 | 10,000 | 110 | |
| | | | | 1250 | | | 10,000 | 111 | |
| 72 T-VAC25 | 7.2 | 20 | 60 | 630 | 25 | 65 | 10,000 | 113 | |
| | | | | 1250 | | | 10,000 | 114 | |
| 120 T-VAC16 | 12 | 28 | 75 | 630 | 16 | 42 | 10,000 | 108 | |
| | | | | 1250 | | | 10,000 | 109 | |
| 120 T-VAC20 | 12 | 28 | 75 | 630 | 20 | 52 | 10,000 | 111 | |
| | | | | 1250 | | | 10,000 | 112 | |
| 120 T-VAC25 | 12 | 28 | 75 | 630 | 25 | 65 | 10,000 | 113 | |
| | | | | 1250 | | | 10,000 | 114 | |
| 175 T-VAC16 | 17.5 | 38 | 95 | 630 | 16 | 42 | 10,000 | 108 | |
| | | | | 1250 | | | 10,000 | 109 | |
| 175 T-VAC20 | 17.5 | 38 | 95 | 630 | 20 | 52 | 10,000 | 111 | |
| | | | | 1250 | | | 10,000 | 112 | |
| 175 T-VAC25 | 17.5 | 38 | 95 | 630 | 25 | 65 | 10,000 | 114 | |
| | | | | 1250 | | | 10,000 | 115 | |

⑩ Also 3-second short time current rating.

Eaton Corporation
 Electrical Group
 1000 Cherrington Parkway
 Moon Township, PA 15108
 United States
 877-ETN-CARE (877-386-2273)
 Eaton.com

Cutler-Hammer is a federally registered trademark of Eaton Corporation.



© 2007 Eaton Corporation
 All Rights Reserved
 Printed in USA
 Publication No. SA01301003E / Z6326
 November 2007