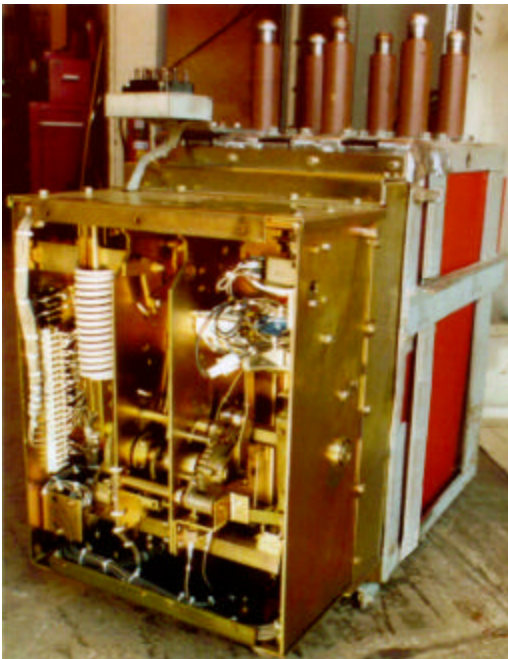


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Power/Vac[®] "VL" Replacement Breakers for Type GE Magne-Blast Breakers

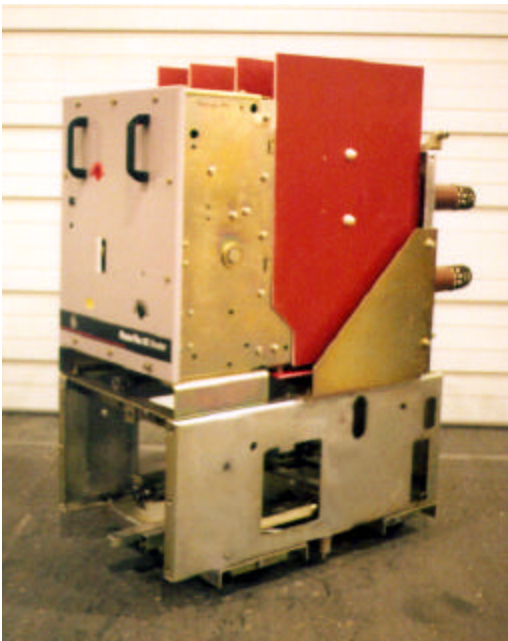
5 kV for TYPE AM



15 kV for TYPE AM



5 kV for TYPE AMH



*NO KITS . . . no guessing . . . no used parts
Just the high performance, reliability and
safety you need and expect from the original
manufacturer.*

Why upgrade your existing GE Magne-Blast equipment with Power/Vac® VL?

- Extend the useful life of your existing GE Magne-Blast equipment.
- Decrease cause of failures due to normal wear and aging of contacts, mechanisms, insulation and arc chutes.
- Your electrical distribution system may have grown over the years, leaving existing equipment under rated.
- Elimination of the asbestos arc chutes prevents environmental issues.
- Save up to **70%** on breaker maintenance costs.
- Easy replacement--avoids costly downtime.

Replacement with a GE Power/Vac® VL Breaker provides the following:

- **Direct replacement with minimal downtime**

All components of the GE VL Breaker are new, there are no reused or reconditioned parts.

The VL Breaker is complete and ready for immediate insertion into the existing AM switchgear.



- **Extends useful life of present GE Magne-Blast Switchgear**

The majority of wear considerations of Switchgear is related to the drawout breaker which encompasses the interrupters, primary bushing, and operating mechanism.

By replacing the breaker and conducting an inspection of the equipment, the useful life span of the switchgear can be greatly extended, along with the life of the new breaker.

- **Uses the fixtures and tooling designed from original GE documentation**

All breakers are assembled using fixtures and tools made from the original documentation for the GE Magne-Blast breakers.

By properly gauging the interlocks and primary and secondary disconnects at the factory, installation problems associated with breaker misalignment are minimized. In addition, the gauges assure the breaker is interchangeable between equally related compartments.

All mechanical interlocks conform to ANSI standards. All interlocks are designed and built to conform with original GE documentation. All interlocks are fixtured and checked in master fixtures built per original documentation to assure minimal interface issues in the field.

- **No replacement of existing cables and wiring**

GE Power/Vac® VL Breakers are a direct roll in replacement to your existing GE Magne-Blast Vertical Lift equipment. Reusing the original switchgear equipment reduces overall cost and downtime.

- **Surge Suppressors**

Surge suppressors are not required for general applications. In applications with large motors or dry type transformers, consideration should be given to their application based on the electrical system parameters.

GE Burlington Switchgear Operation

USES PROVEN POWER/VAC® MECHANISM DESIGN

- **15 KV "VL" Breakers use the ML-18 Mechanism**

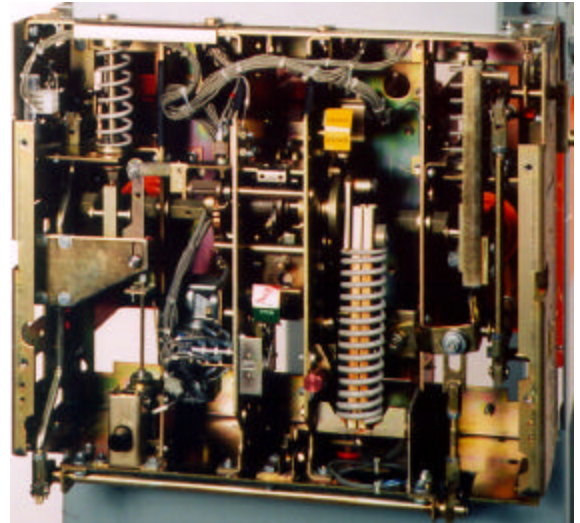
The ML-18 is the proven Power/Vac® mechanism in use since the mid 1980's.

Vacuum breakers are simpler in design and provide the user with greater reliability and reduced maintenance.

- **Mechanism and Breaker Maintenance**

The GE Power/Vac® VL Breaker has no suggested maintenance below 10,000 no-load operations, 5,000 load operations, and 15 full rated fault current operations.

Long life and low maintenance save up to **70%** on maintenance costs over that of Magne-Blast designs.



ML-18 Mechanism

- **5 KV Breakers use the ML-19 Mechanism**

The GE ML-19 Mechanism builds off the platform of the time proven Power/Vac ML-18 Mechanism.

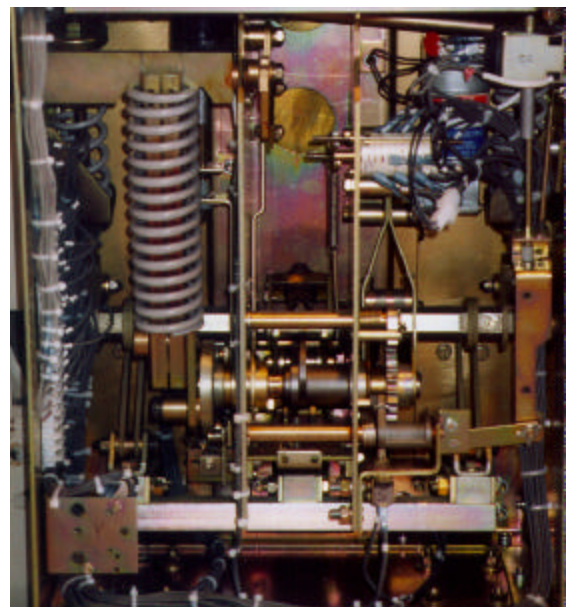
The ML-19 Mechanism is used in the 5 kV vacuum breakers for replacement of both the AM and AMH type Magne-Blast breakers.

The ML-19 retains 65% of the existing parts used in the ML-18 Mechanism.

- **All 5 & 15 Breakers are ANSI tested to: C37.06, C37.09, and C37.59.**

Testing to the ANSI standards ensures safety and reliability. Conformance test reports are available.

In addition, to the required ANSI production tests, each breaker is operated 300 plus times to ensure quality.



ML-19 Mechanism

GE VACUUM BREAKER REPLACEMENT RATINGS

Identification		Rated Values							Related Required Capabilities				
Nominal Voltage Class kV,rms	Nominal 3-phase mVA Class	Voltage		Insulation Level		Current		Rated Interrupting Time Cycles	Rated Permissible Tripping Delay, Y sec	Rated Maximum Voltage Divided by K kv, rms	Current Values		
		Rated Maximum Voltage kV, rms	Rated Voltage Range Factor, K	Rated Withstand Test Voltage		Rated Continuous Current at 60 Hz amp, rms	Rated Short-circuit Current (at Rated Max kV) kA, rms				Maximum Symmetrical Interrupting Capability	3 Sec Short-time Current Carrying Capability	Closing and Latching Capability 1.6 K Times Rated Short-circuit Current kA, rms
				Low Freq. kV, rms	Im-pulse kC Crest								
4.16	250	4.76	1.24	19	60	1200	29	5	2	3.85	36	36	58
4.16	250	4.76	1.24	19	60	2000	29	5	2	3.85	36	36	58
4.16	*350	4.76	1.19	19	60	1200	41	5	2	4.0	49	49	78
4.16	*350	4.76	1.19	19	60	2000	41	5	2	4.0	49	49	78
4.16	*350	4.76	1.19	19	60	3000	41	5	2	4.0	49	49	78
7.20	500	8.25	1.25	36	95	1200	33	5	2	6.6	41	41	66
7.20	500	8.25	1.25	36	95	2000	33	5	2	6.6	41	41	66
7.20	500	8.25	1.25	36	95	2500	33	5	2	6.6	41	41	66
13.8	500	15	1.30	36	95	1200	18	5	2	11.5	23	23	37
13.8	500	15	1.30	36	95	2000	18	5	2	11.5	23	23	37
13.8	500	15	1.30	36	95	2500	18	5	2	11.5	23	23	37
13.8	750	15	1.30	36	95	1200	28	5	2	11.5	36	36	58
13.8	750	15	1.30	36	95	2000	28	5	2	11.5	36	36	58
13.8	750	15	1.30	36	95	2500	28	5	2	11.5	36	36	58
13.8	1000	15	1.30	36	95	1200	37	5	2	11.5	48	48	77
13.8	1000	15	1.30	36	95	2000	37	5	2	11.5	48	48	77
13.8	1000	15	1.30	36	95	3000	37	5	2	11.5	48	48	77
13.8	1000	15	1.30	36	95	4000	37	5	2	11.5	48	48	77
13.8	1000	15	1.30	36	95	**5000	37	5	2	11.5	48	48	77

NOTE: * For 350 MVA quotations, Consult GE Burlington Customer Service
 ** 5000A breaker is fan cooled

- Improved Interrupting Rating Time:**

The original GE Magne-Blast type AM and AMH breaker interrupting time was 8-cycles. By converting to GE Vacuum Breakers, interrupting time for all breakers will be 5-cycles.

- Where is the 4000A and 5000A Breaker Used?**

The 13.8-1000 MVA, 4000A and 5000A breakers were not original Magne-Blast breakers. With the advent of vacuum, we are now able to offer this rating for use in normal generator applications, where this high rating is needed.

The 4000A breaker is a standard designed vacuum breaker. The 5000A vacuum circuit breaker is forced air-cooled. Both are available for inclusion in existing cubicles, modified to the new ratings.

- Upgrade of MVA Ratings:**

In many cases, the GE Vacuum Breaker can be upgraded at the time of order. Cubicle modifications can be made to upgrade the GE Magne-Blast switchgear as required. As an example, in most cases to upgrade the switchgear from 13.8-500 MVA to 13.8-750 MVA requires only minor modifications.

- The Complete GE Solution:**

GE not only offers the parts and kits necessary to successfully upgrade your existing equipment, but can also provide complete turnkey solutions. Please contact your local GE sales office for information on how the GE **FAS** team or other electric maintenance organizations can be used to provide assistance for your project.

- Ordering Information:**

For equipment identification and ordering information refer to Application Guide, DET-198 and VL Specification Guide, DET-098 R01.



GE Industrial Systems