

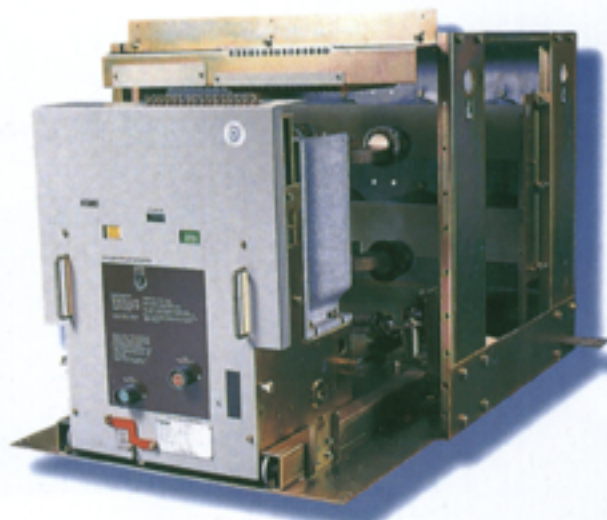


ISO9001 Certified and
fully type tested to ANSI and
IEC standards.

Medium Voltage Vacuum Circuit Breakers



K M E



7.2kV 2000A 31.5kA with "F" Compartment

KVA type KME VCBs provide all the features required indoor/ outdoor switching protection and control application. They are rated 3.6/7.2, 12/15, 24, 36/38kV 630-3150 amperes, with symmetrical interrupting capacity of 8,000-40,000 amperes, and equipped with MOC, TOC and auto control jack. Thousands of these breaker elements are in service and have established a proven reliability record domestically and in overseas.

Appplied Standard Type KVA Vacuum Circuit Breakers are available in a complete range of ANSI and IEC ratings:

- IEC 56 & ANSI C 37
- JEC 182/2300
- ESB 150 & DIN 150
- KSC 4611



24kV 630A 25kA Fixed type



24kV 630A 25kA with "F" Compartment

ISO Certified Facilities Type KVA Vacuum Circuit Breakers, including the vacuum interrupter, are assembled by KME in ISO 9001 certified facilities. The breakers are fully tested to ANSI and IEC standards and each is provided with its unique Quality Assurance Certificate that documents all tests and inspections performed.



User friendly, front panel controls and indicators are functionally grouped together for easy operation

KVA type KME VCBs offer these important features.

User friendly operation KVA type KME VCB and indicators are functionally grouped on front control panel: control position indicator, closing spring status, close and trip button, operating counter, and a manual charging handle.

The simplified design includes just four major components: vacuum interrupter pole unit, stored energy mechanism, push rod assembly and primary disconnecting contacts.

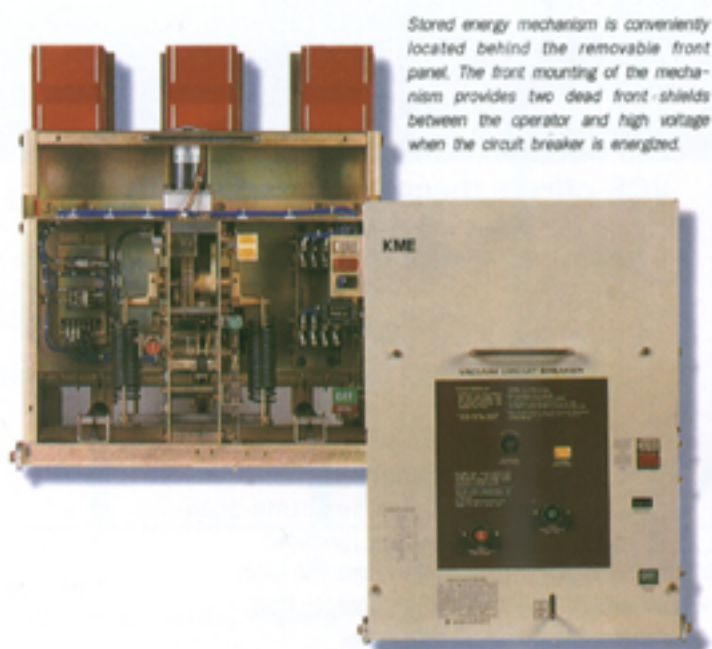
KME breaker mechanism can perform 10,000 opening-closing operations without changing any component. The mechanical life of the circuit breaker is minimum 20,000 operations. Switching of arc furnaces up to 100 operating cycles per day are required.

Convenient inspection

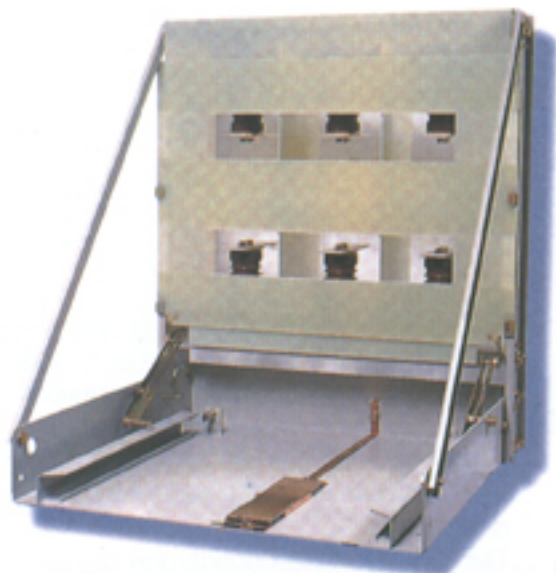
The breaker is withdrawn on removable inspection rails and no separate lifting device is required. There is no need to remove the breaker from the switchgear. Both stored energy mechanism and control are conveniently located behind the easily removed front panel.

Easy maintenance

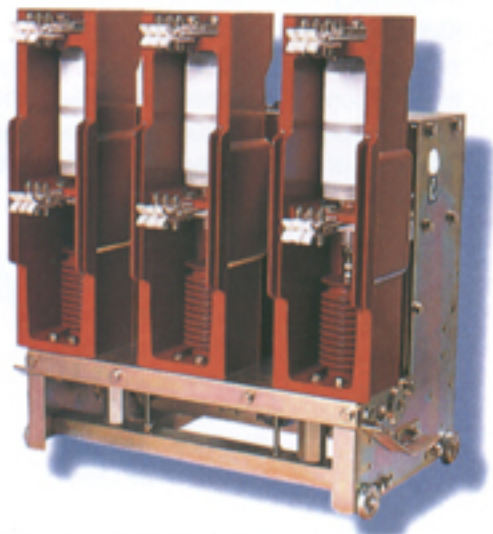
KVA type KME VCBs are easily maintained. The easy access mechanism and control components can be conveniently inspected and minor maintenance (such as lubricating the mechanism and replacing control components) is uncomplicated.



Stored energy mechanism is conveniently located behind the removable front panel. The front mounting of the mechanism provides two dead front shields between the operator and high voltage when the circuit breaker is energized.



"F" Compartment



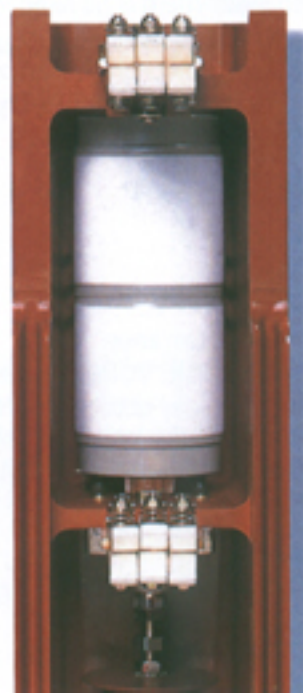
24kV 630A 12.5kA

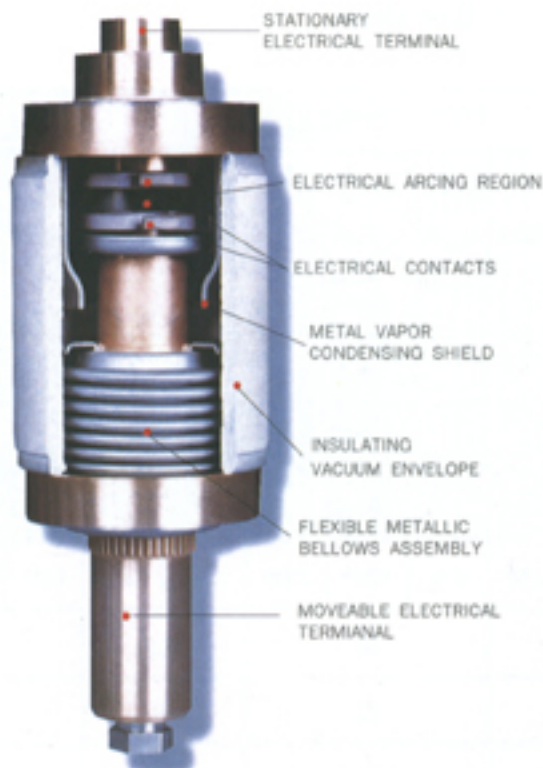
- ◆ The Vacuum interrupter for KVA type VCB offers these important features.

No contact maintenance
One set of contacts performs both main and arcing contact function. Maintenance is eliminated because the high vacuum environment isolates contacts from exposure to dirt moisture and other contaminations.

A standardized line
KVA type KME VCBs represent a standard line that utilizes common parts. Standardization provides for fewer total parts which, in turn, reduces and simplifies the spare parts inventory. KVA type KME VCBs of the same ratings are totally interchangeable between structures.

Compact design and light weight.
KVA type KME VCBs have simple and compact mechanism. Space saving of switch cubicle is realized.

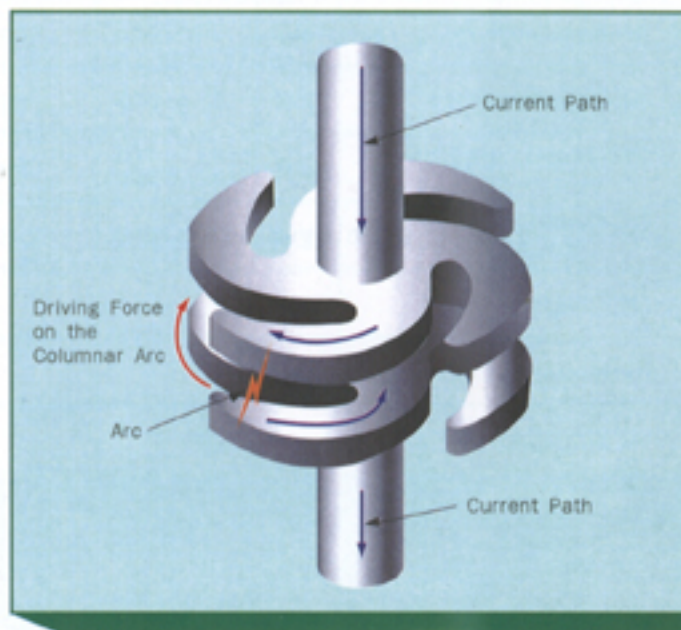




Reliable arc interruption
 Arc interruption typically occurs at the first current zero after contact separation. The high dielectric strength of the vacuum gap results in a short clearing. From a normal CLOSED position, the breaker can complete fault interruption in five(three)cycle.

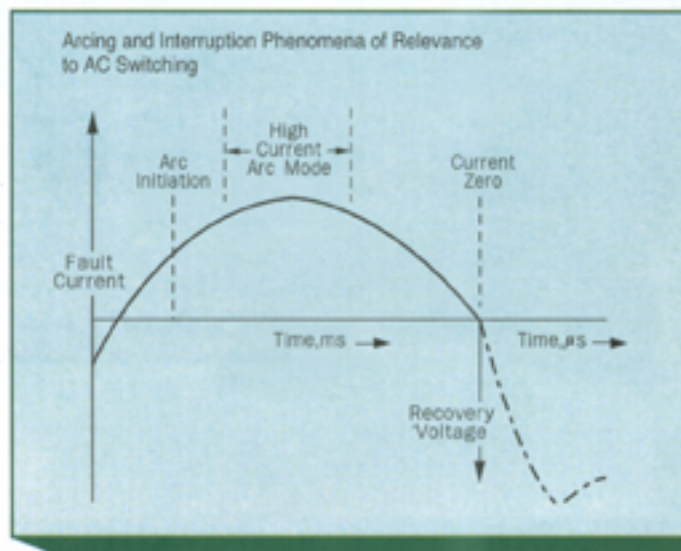
Arcing and interruption in Vacuum

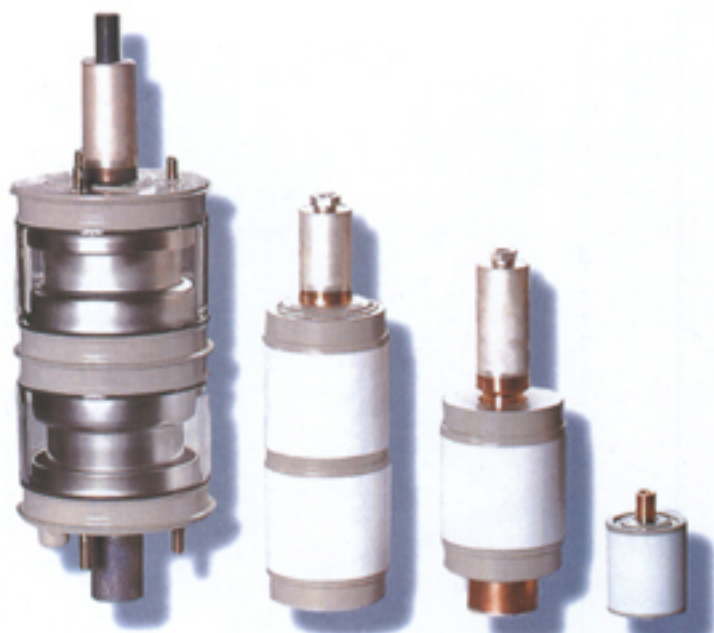
Inside the vacuum bottle, the spiral contact design configuration provides a self-induced magnetic effect that moves the arc root around the contact periphery. This type of arc control prevents hot spot formations and minimizes electrode erosion. The low resistance of the spiral design results in less heat to dissipate, providing the smallest possible envelope size.



Arcing and interruption Phenomena of Relevance to AC Switching

The important arcing interruption phenomena that occur during fault current interruption in a vacuum are depicted above. These phenomena influence the design of the interrupter, particularly its size, configuration, and material of the contacts. Full dielectric strength is re-established to withstand transient recovery voltage (TRV) within a few micro-seconds, the fastest available.





Quiet operation

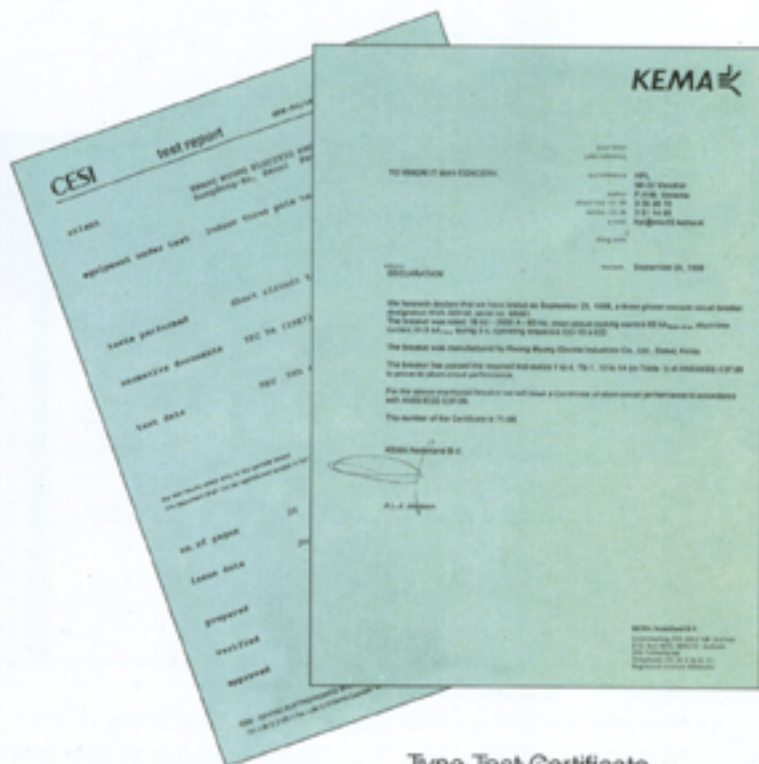
Arc extinction is silent, and the sound level of the mechanism is low. Quiet operation is particularly desirable near hospitals, residential areas and shopping centers.

Long service life

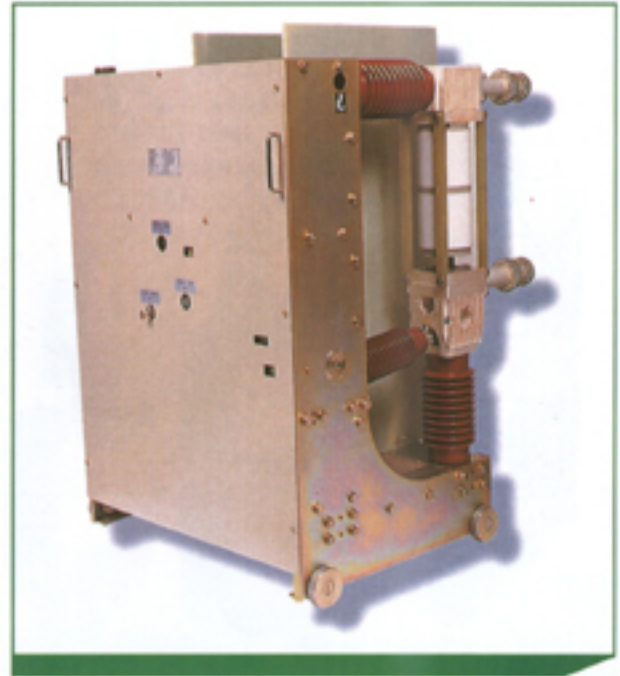
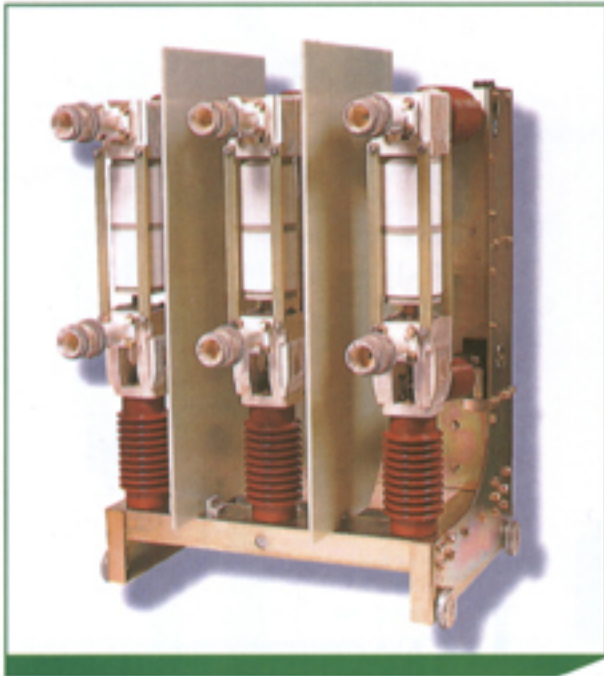
KVA interrupters experience no significant contact erosion during normal duty. They are designed and tested to meet or exceed performance requirements of applicable ANSI, and IEC standards.



Outdoor Type



Type Test Certificate



38kV/ 31.5kA 2000A

Ordering Information

KVA

N

6

4

08

S

Installation Class	Rated Voltage	Rated Current	Rated Breaking Current	Operation Mechanism
N : Fixed	6 : 3.6/7.2kV	4 : 400A	08 : 8kA	S : Solenoid
E : Drawable type with E cradle	1 : 12/15kV	6 : 600/630A	13 : 12.5kA	M : Motor
F : Drawable type with F cradle	2 : 24/25.8kV	1 : 1200/1250A	20 : 20kA	
G : Drawable type with G cradle	3 : 36/38kV	2 : 2000/2500A	25 : 25kA	
X : Out door		3 : 3000/3150A	31 : 31.5kA	
			40 : 40kA	

*E cradle : including metal frame

*F cradle : including metal frame(E cradle)and safety shutter

*G cradle : including metal frame(E cradle)safety shutter and Insulating bushing

Type and Specifications of Vacuum Circuit Breaker

		Indoor type														
Type		KMV □ 1084S	KVA □ 6613S	KVA □ 6408M	KVA □ 6613M	KVA □ 6220M	KVA □ 6120M	KVA □ 6625M	KVA □ 6125M	KVA □ 6225M	KVA □ 6131M	KVA □ 6231M	KVA □ 6140M	KVA □ 6240M	KVA □ 6340M	
RATINGS	Voltage (kV)	3.6/7.2														
	withstand Voltage (kV)	Power frequency(rms)	20													
		Impulse (1.2 X 50µs)	60													
	Frequency (Hz)	50/60														
RATINGS	Current (A)	400	630	400	630	630	1250	630	1250	2000	1250	2000	1250	2000	3150	
	Breaking current (kA)	8	12.5	8	12.5	20		25			31.5		40			
	Making current (KA _r)	20	31.5	20	31.5	50		63			80		100			
	Short time current (kA/3sec)	8	12.5	8 (2sec)	12.5 (2sec)	20		25			31.5/2sec		40/2sec			
	Breaking capacity (MVA)	50/100	80/160	50/100	80/160	125/250		160/320			195/390		250/500			
	Opening time (sec)	0.03														
	Breaking time (cycle)	5		3			5									
	Closing time (sec)	0.15			0.05											
Operating duty	CO-15sec-CO		O-0.3sec-CO -3min-CO		CO-15sec-CO O-3min-CO-3min-CO											
Operating Mechanism	SOLENOID		By spring with electric motor reloading													
Rated control and Operating voltage (V)	DC 110		DC 110 or 125													
Rated control and Operating current (A)	50		5													
Trip control current (A)	5															
Weight (Kgs)	54	57	54	57	90	94	98	102	112	105	114	270	285	310		
Auxiliary switch	4a4b		4a4b			6a6b						6a6b				
Installation class	N.E.F.G															
Applicable standard	IEC 56											IEC 56, ES 150				

Indoor type													Outdoor type					
KVA □ 1140M	KVA □ 1240M	KVA □ 1340M	KVA □ 2613M	KVA □ 2113M	KVA □ 2625M	KVA □ 2125M	KVA □ 2225M	KVA □ 2131M	KVA □ 2231M	KVA □ 3131M	KVA □ 3231M	KVA □ 3140M	KVAX 2625M	KVAX 2125M	KVAX 2225M	KVAX 2240M	KVAX 2340M	
					Type test No.2425M													
12/15					24			36/38					25.8					
36					50			80					60					
95					125			170					150					
50/60					50/60			60					60					
1250	2000	3150	630	1250	630	1250	2000	1250	2500	1200	2000	2000	600	1200	2000	2000	3000	
40			12.5		25			31.5		31.5		40		25			40	
104			31.5		63			82		85		104		63			104	
40			12.5		25			31.5		31.5/3sec		40/1sec		25			40	
1050			520		1040			1310		2100		2630		1040			1800	
0.03					0.03			0.06					0.05					
5					5			5					5					
0.05					0.05			0.05					0.05					
O-0.3sec-CO-3min-CO CO-15sec-CO O-3min-CO-3min-CO				O-0.3sec-CO-3min-CO CO-15sec-CO O-3min-CO-3min-CO				O-0.3sec-CO-3min-CO CO-15sec-CO										
By spring with electric motor reloading																		
DC 110 or 125																		
5																		
5																		
350	370	390	105	110	105	110	125	350	370	550	550	1000	1020	1060	1200	1200		
6a6b			6a6b						6a6b			12a12b						
N.E.F.G																		
IEC 56				IEC 56					ANSI C37		IEC 56		IEC56, ES 150					

The logo for VITZRO TECH features the word "VITZRO" in a bold, sans-serif font above the word "TECH" in a similar font. A small square is positioned to the left of the "I" in "VITZRO", and a vertical line extends upwards from the top of the "I".

VITZRO
TECH

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