



PT Guna Era Manufaktur

Catalogue 2015



GAE CLAD

Vacuum Circuit Breaker With Embedded Poles

Metal - Clad Switchgear

Up To 24 kV

General Description

Introduction

Gaeclad series is metal clad type switchgear, designed, assembled and tested to comply with the latest IEC standards. Gaeclad have been tested for resistance to internal Arc fault IAC AFLR as per IEC 62271-200.

Gaeclad have been designed and manufactured with functionality and safety in mind by using VCB that excel in breaking performance. The switchgear contribute to energy conservation in power receiving/distribution facilities of power generating station and their substation, industrial plants, building, and railway power.



Features

1. Modular design for easy interfacing with existing switchgear
2. Breaker can be operated in service position and test position
3. Circuit breaker mounted in withdrawable cassette
4. Mechanical interlock for safety operation
5. Long maintenance – free operating time

Technical Data

Electrical Data

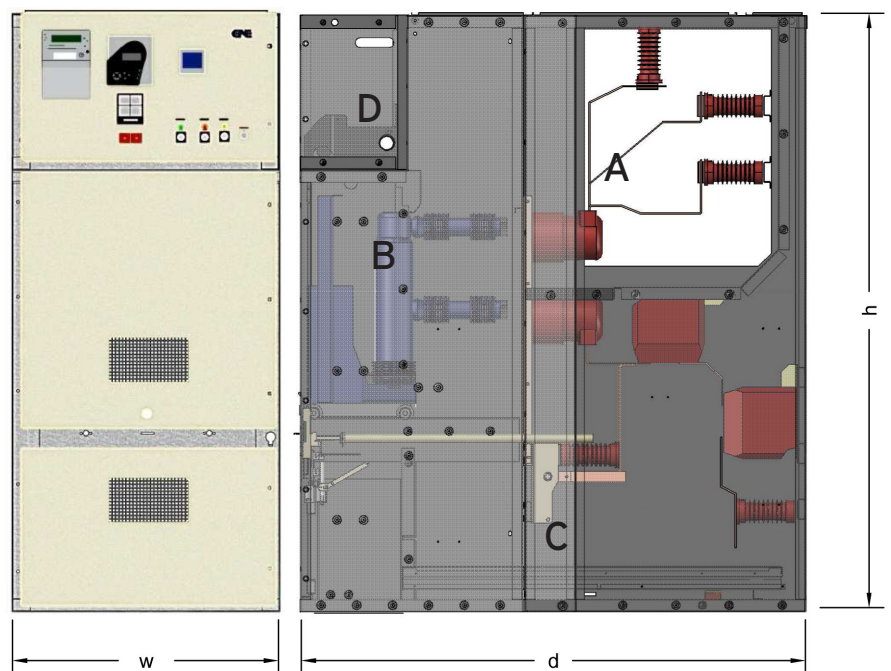
Description	Data	
	GAECLAD GC 630	GAECLAD GC 24
Switchboard	GAECLAD GC 630	GAECLAD GC 24
Type of construction	Metal-clad	Metal-clad
Rated voltage (kV)	24	24
Insulation levels (kV)	24/50/125	24/50/125
Rated frequency (Hz)	50÷60	50÷60
Rated main busbar current (40°C) (A)	630/1250/1600/2000/2500	630/1250/1600/2000/2500
Rated branch connection current (40°C) (A)	630	2000
Rated short time current (kA)	25	25
Arcing proof withstand current (kA)	25	25
Tested according to	IEC standards	IEC standards

Dimensions & Weights

Description	Data	
	GAECLAD GC 630	GAECLAD GC 24
Switchboard	GAECLAD GC 630	GAECLAD GC 24
Height mm (h)	2200	2200
Width mm (w)	1000	1000
Depth mm (d)	1900	1900
Weight (kg)	950	1250

GaeClad front & cross section view

A	Busbar compartment
B	Circuit Breaker compartment
C	Cable compartment
D	Low Voltage compartment



Vacuum Circuit Breakers

Introduction

The GV series embedded pole circuit breaker can be universally applied within suitable cubicles installed in power plants, substations, petrochemical plants, metallurgical industries, manufacturing industries, airports and residential areas.



The GV series is available in a nearly complete series for medium voltage and for all commonly used rated currents, from 630A to 4000A, and for rated breaking current of up to 50 kA.

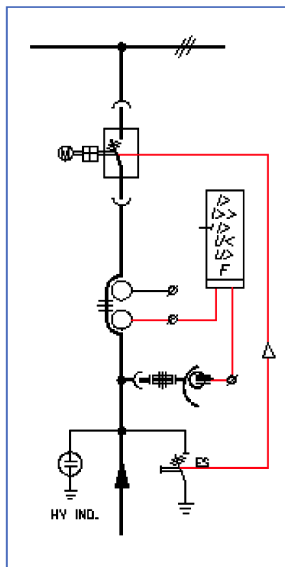
The embedded poles of the GV series are manufactured only with high-grade epoxy resin, using APG casting technology. Thus, the vacuum interrupter is totally separated from all environmental hazards, which gives the circuit breaker its high level of operational safety, even under adverse conditions. Embedding in epoxy resins also help to reduce dimensions and so saves space.

Technical Data of Vacuum Circuit Breakers

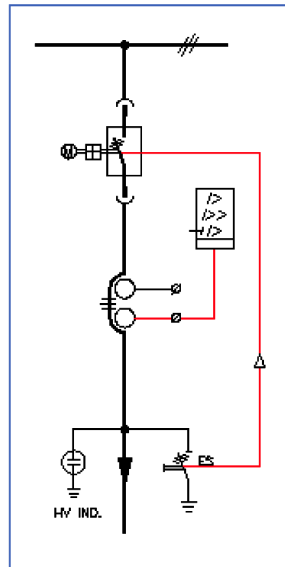
Description	Unit	Parameter	
Rated voltage	kV	12	24
Rated short time power frequency withstand voltage (1min)		42	65/50
Rated lightning impulse withstand voltage (peak)		75	125/125
Rated Frequency		50/60	50/60
Rated current	A	630/1250/1600/2000/2500/3150/4000	630/1250/1600/2000/2500/3150
Rated short circuit breaking current	kA	20/25/31.5/40	20/25/31.5
Rated short time withstand current		20/25/31.5/40/50	20/25/31.5
Rated peak withstand current		50/63/80/100/125	50/63/80
Rated short circuit making current (peak)		50/63/80/100/125	50/63/80
Rated short circuit duration time	s	3	3
Mechanical endurance	op	30.000/20.000	10.000
Rated capacitor bank making surge	kA	12.5 (frequency ≤ 1000Hz)	12.5 (frequency ≤ 1000Hz)
rated single/back to back capacitor bank breaking current	A	630 / 400	630 / 400
Rated electrical endurance		Compliance with Class E2	Compliance with Class E2
Secondary circuit power frequency withstand voltage	V	2000	2000
Rated operating voltage		AC220, AC110, DC220,DC110	AC220, AC110, DC220,DC110
Rated operating sequence *		0-0.3s - CO - 180s - CO	0 - 0.3 s - CO - 180 s - CO
Charging time	s	≤ 15	≤ 15
Contact distance	mm	9 ± 1	13 ± 1
Contact travel		3 ~ 5	3 ~ 5
Central distance between phases		150 ± 1.5, 210 ± 1.5, 275 ± 1.5	210 ± 1.5, 275 ± 1.5
contact bounce at closing	ms	≤ 2	≤ 2
3-phase opening/closing simultaneity		≤ 2	≤ 2
Average opening speed	m/s	1.~1.5	1.2~1.7
Average closing speed		0.6~1.0	0.7~1.1
Closing time	ms	30 ~ 60	30 ~ 60
Opening time		20 ~ 50	20 ~ 50
Contact bounce at opening	mm	≤ 3	≤ 3
moving/fixed contact abrasion		3	3

* Rated short-circuit breaking current <40kA, =0.3s ; Rated short-circuit breaking current ≥40kA, =180s

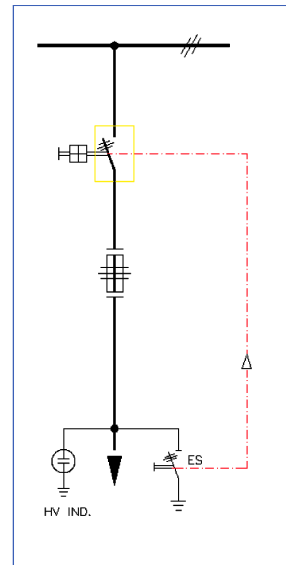
Single Line Diagram of Typical Units



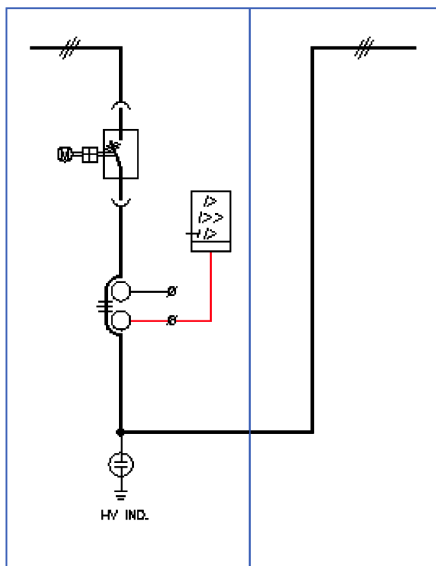
Incoming



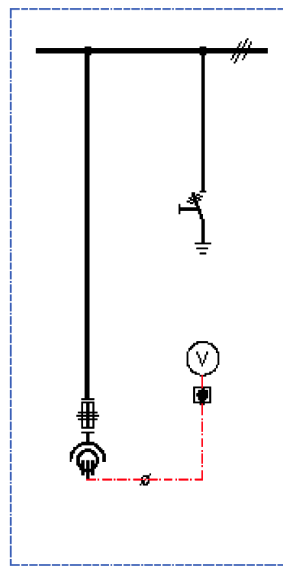
Outgoing



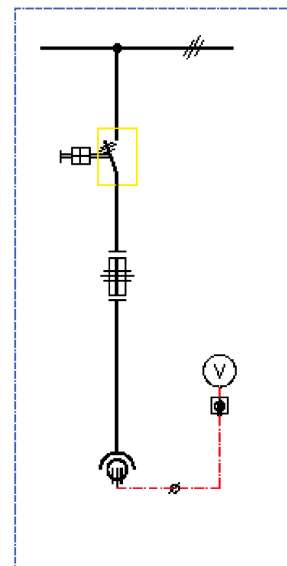
Outgoing LBS Fuse



Coupler



Bus VT & ES



Bus VT

Certificates



SPM GAECLAD 630



SPM GAECLAD GC24



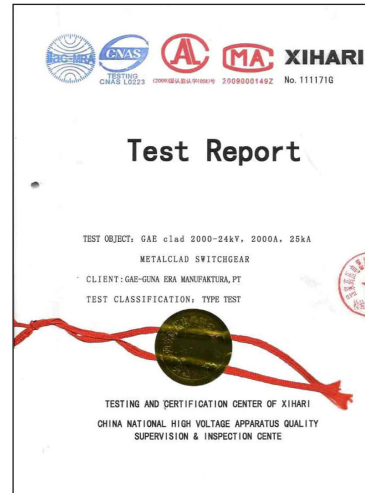
ISO 9001:2008



ISO 14001:2004



OHSAS 18001:2007



INTERNAL ARC REPORT



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