



中国认可
国际互认
检测
TESTING
CNAS L0153

No.DY220095

TEST REPORT

Name of product SF6 Gas insulated switchgear

Type Specification CKFL-12/V630-25

Applicant ZHUHAI COMKING ELECTRIC CO., LTD.

Testing category Type test (Internal arc performance)



**GUANGDONG TESTING INSTITUTE OF PRODUCT QUALITY SUPERVISION
(GQI)**

DECLARATION

- 1. Tampering with this report in computer will be recorded by e-signature and shown that the report has been modified. And this report will be invalid. The test report is invalid if scribbled or altered. It is invalid without the official testing stamp of the institute. It is invalid without signatures or stamps of the testing, reviewed and approved persons.**
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Guangdong Testing Institute of Product Quality Supervision

TEST REPORT

Name of product	SF6 Gas insulated switchgear	Date of manufacturing / expiry	2021.6/ _____
Type, Specification, Trade mark, Class	CKFL-12/V630-25	Batch No.	KJ202106016/ _____
Inspected unit	_____	No. of testing / sampling plan	YZY22/000016/ _____
Address of inspected unit	_____	Testing category	Type test (Internal arc performance)
Applicant	ZHUHAI COMKING ELECTRIC CO., LTD.	Location of sampling	_____
Manufacturer	ZHUHAI COMKING ELECTRIC CO., LTD.	Basic quantity of sampling	_____
Address of Manufacturer	10th Floor, Building 1, No.6 futian Road, Xiangzhou, Zhuhai, China	Way of sample incoming Personnel performing sending / sampling	Customer Sampling sending(Wu Guocheng)
Quantity of sample	1PC	Date of receipt of sample / sampling	2022-01-14/ _____
Status of sample	Good condition	Date(s) of performance of tests	2021-06-24 to 2021-06-29
Testing reference	GB/T 3906-2020 Alternating-current metal-enclosed switchgear and controlgear for rated voltages above 3.6 kV and up to and including 40.5 kV		
Judgment reference	_____		
Conclusion	<p>The internal arc test was tested in this commissioned test. It was found to meet the testing references.</p> <p style="text-align: right;">Official testing stamp of the institute Date of issue 2022-01-26</p>		
Notes	The actual production address provided by the producer (manufacturer) is Building 3, No.9, Qixing Avenue, Fushan Industrial Park, Qianwu Town, Doumen, Zhuhai, China		

Approved by:

Reviewed by:

Tested by:

TEST REPORT**Main technical data assigned by the manufacturer**

Rated voltage (kV)	12	—
Rated current (A)	630	—
Rated frequency (Hz)	50	—
Rated short-time withstand current (Main circuit) (kA)	25	—
Rated peak withstand current (Main circuit) (kA)	63	—
Rated duration of short-circuits (Main circuit) (s)	4	—
Rated power frequency withstand voltage (kV)	42	—
Rated lightning impulse withstand voltage (kV)	95	—
Rated power frequency withstand voltage (across the open circuit-breaker) (kV)	48	—
Rated lightning impulse withstand voltage (across the open circuit-breaker) (kV)	110	—
IAC class	AFLR 25 kA, 1 s	√
Dimensions (W×D×H) (mm)	370×760×1640	
Technical data of the entrusted unit	KJ.490.244 CKFL-12/V630-25 SF6 Gas insulated switchgear technical specification	
	KJ.132.244 CKFL-12/V630-25 SF6 Gas insulated switchgear test program	
	KJ.069.424 CKFL-12/V630-25 SF6 Gas insulated switchgear drawing	

Note: “√” Means this rating has been proved by the tests of this test report.

TEST REPORT

Test items and results summary			
No.	Test items	Requirements	Test results
1	Internal arc test	IAC class: AFLR Cable compartment: 25kA 63kA (peak value) 1s Gas compartment: 25kA 63kA (peak value) 1s	Pass

TEST REPORT

The main parts of test object assigned by manufacturer

1—Circuit-breaker	
Type	CKV-12D/630-25
Rated voltage(kV)	12
Rated current(A)	630
Rated frequency (Hz)	50
Rated short-circuit breaking current (kA)	25
Rated short-circuit making current (peak)(kA)	63
Rated short-time withstand current (kA)	25
Rated peak withstand current (kA)	63
Rated duration of short-circuits (s)	4
Manufacture date	2021-05
Serial number	KJ20210526
Manufacturer	ZHUHAI COMKING ELECTRIC CO.,LTD.
2—Vacuum interrupter	
Type	HTD315BZS(ZKTD630/12-25)
Rated voltage(kV)	12
Rated current(A)	630
Rated frequency (Hz)	50
Rated short-circuit breaking current (kA)	25
Manufacture date	2021-03
Serial number	21030326
	21030426
	21030526
Manufacturer	HUBEI HANGUANG TECHNOLOGY CO.,LTD
3—Operating mechanism	
Type	Integrated with Circuit-breaker (power-operation or manual operation) /VKCT
Rated power of energy storage motor (W)	65
Rated closing coil voltage (V)	DC48
Rated opening coil voltage (V)	DC48
Manufacture date	—
Serial number	—
Manufacturer	ZHUHAI COMKING ELECTRIC CO.,LTD.

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The main parts of test object assigned by manufacturer	
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4—Disconnector	
Type	CKG-12/630-25
Rated voltage(kV)	12
Rated current(A)	630
Rated frequency (Hz)	50
Rated short-time withstand current (kA)	25
Rated peak withstand current (kA)	63
Rated duration of short-circuits (s)	4
Manufacture date	2021-04
Serial number	KJ2021046
Manufacturer	ZHUHAI COMKING ELECTRIC CO.,LTD.
5—Earthing switch	
Type	Integrated with disconnector
Rated voltage(V)	12
Rated frequency (Hz)	50
Rated short-time withstand current (kA)	25
Rated peak withstand current (peak) (kA)	63
Rated duration of short-circuits (s)	4
Manufacture date	—
Serial number	—
Manufacturer	ZHUHAI COMKING ELECTRIC CO.,LTD.
6—Bus bar	
Specifications (mm×mm)	Bus bar:TMY-40×8
	Earthing bar:TMY-30×8

TEST REPORT**Contents, methods, conditions and prospective value of internal arc test**

Test item	Test position	Test times	Number of poles tested	Test method	Test voltage(kV)	Short-current(kA)		Duration of short-circuits(s)
						r.m.s value	Peak value	
Internal arc test	Cable compartment	1	3	Direct test	12	25	63	1
	Gas compartment	1	3	Direct test	12	25	63	1

TEST REPORT**Internal arc test**

Date of tests:2021-6-25/2021-6-28

Test item	Oscillogram	Test position	Applied voltage(kV)	Phase	Short-current(kA)		Duration of short-circuits (s)	Conditions of tested object
					Peak value	r.m.s value		
Prospective oscillogram	D21G-GY0342-Y1	—	12.0	A	46.4	25.3	0.11	—
				B	57.3	25.2		
				C	67.1	25.1		
Internal arc test	D21G-GY0342-S1	Cable compartment	12.0	A	55.3	25.1	1.03	Normal
				B	45.8	25.2		
				C	65.4	25.2		
Internal arc test	D21G-GY0342-S2	Gas compartment	12.0	A	44.2	25.1	1.02	Normal
				B	54.1	25.1		
				C	63.7	25.1		

Conditions of tested object before tests : Not maintained

TEST REPORT**Internal arc test**

1、 Arrangements of internal arc test:

Internal arc test was performed in simulated room.

The power supply enter line is from the bus bar at the top of the test object.

The lateral wall is placed at (800~900)mm from the left side of the test object. The rear wall leave a clearance of (800~900) mm from the rear side of the test object. Distance to ceiling is more than(200±50)mm.

Indicators are fitted vertically at all classified side of the test object up to a height of (2000±50)mm evenly distributed, arranged in a checkerboard pattern, covering 40% to 50% of the area. The mounting frame is 300mm longer than the accessible surface of the test object. The distance from the indicators to the test object is (300±30) mm.

Indicators is arranged horizontally at a height of (2000±50) mm above the floor and covering the whole area between (300±30) mm and (800±30) mm from the test object. The indicators is evenly distributed , covering 40% to 50% of the area.

The shell of the test object is connected to the ground point.

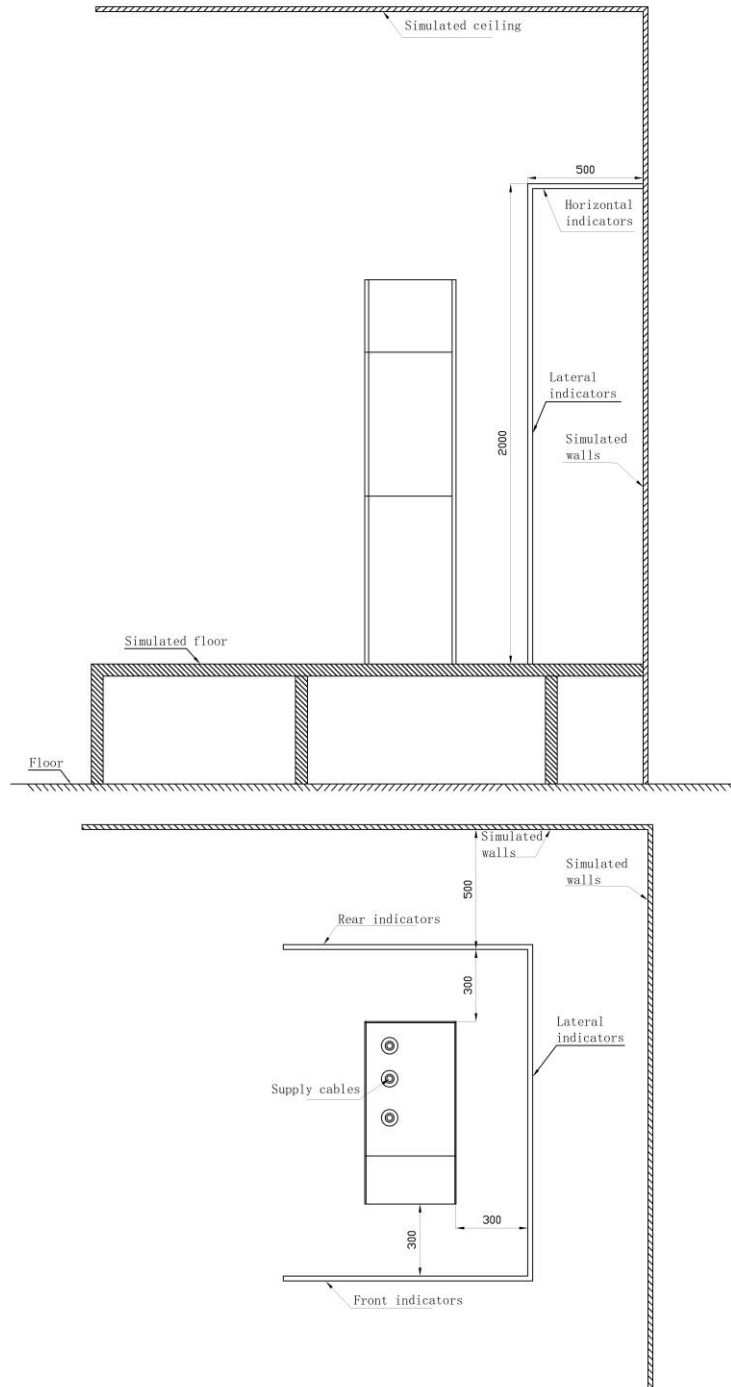
The arc is initiated between all the phases of the test object by means of metal wire of about 0.5mm in diameter, within the cable compartment and the gas compartment.

2、 Number of oscillograms: D21G-GY0342-Y1、 D21G-GY0342-S1、 D21G-GY0342-S2。

TEST REPORT

Internal arc test

Position of indicator and room simulation:



TEST REPORT**Internal arc test**

The test object conditions after internal arc test:

Cable compartment

Criteria	Test condition
1. Correctly secured doors and covers do not open.	Complied
2. No fragmentation of the enclosure occurs.	Complied
3. Arcing does not cause holes by burning through in the classified sides up to a height of 2000mm.	Complied
4. Indicators do not ignite due to the effect of hot gases or burning liquids.	Complied
5. The enclosure remain connected to its earthing point.	Complied

Gas compartment

Criteria	Test condition
1. Correctly secured doors and covers do not open.	Complied
2. No fragmentation of the enclosure occurs.	Complied
3. Arcing does not cause holes by burning through in the classified sides up to a height of 2000mm.	Complied
4. Indicators do not ignite due to the effect of hot gases or burning liquids.	Complied
5. The enclosure remain connected to its earthing point.	Complied

TEST REPORT

Appendix

1.General assembly drawing

KJ.069.424 CKFL-12/V630-25 SF6 Gas insulated switchgear drawing

2.Photos of test object

12 photos in total.

3.Test Circuit figure

Internal arc test circuit

4.Typical oscillogram

Number: D21G-GY0342-Y1、 D21G-GY0342-S1、 D21G-GY0342-S2。

TEST REPORT

Photos of test object



Shape size



Internal structure 1

TEST REPORT

Photos of test object



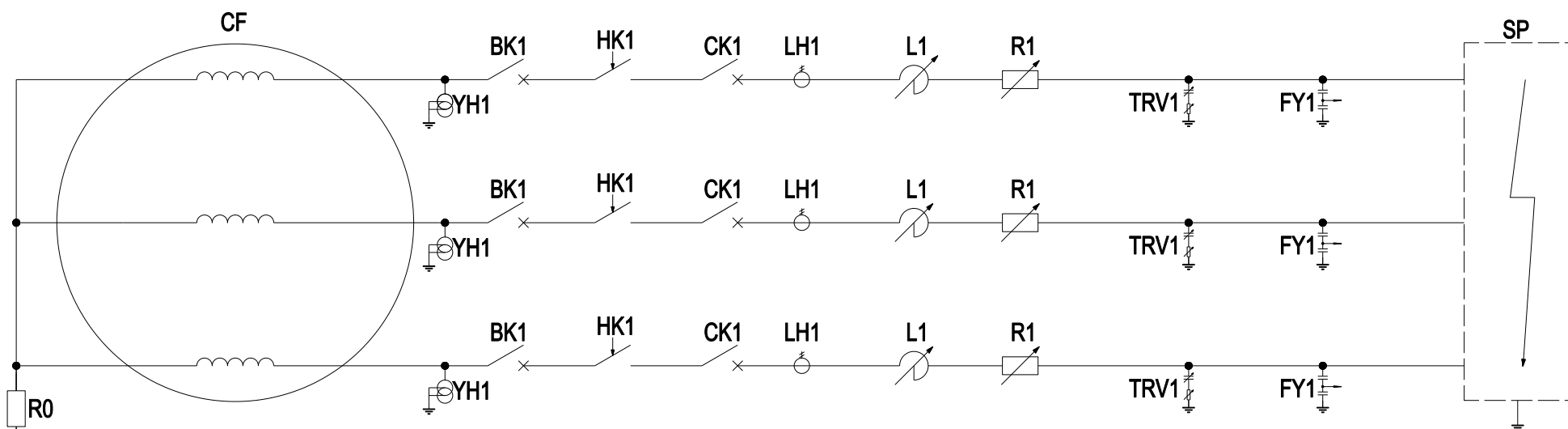
Internal structure 2



Nameplate

TEST REPORT

Internal arc test circuit



CF——冲击发电机(Impact generator breaker)

R0——接地电阻器(Earthing resistor)

YH1——电压互感器(Voltage transformer)

BK1——保护断路器(Protective circuit breaker)

CK1——操作断路器(Operation circuit-breaker)

HK1——合闸开关 (making switch)

LH1——电流互感器(Current transformer)

L1——限流电抗器(Current-limiting reactor)

R1——限流电阻器(Current-limiting resistor)

TRV1——瞬态恢复电压调节装置(Transient recovery voltage regulator)

FY1——分压器(Potentiometer)

SP——试品(Test specimen)

TEST REPORT

Notions:

1. Testing location/ address: No.68, XiHu East Road, ShiLong Town, Dongguan City, Guangdong Province, China

2. Address of applicant: 10th Floor, Building 1, No.6 futian Road, Xiangzhou, Zhuhai, China

3. Environmental conditions (if applicable):

Temperature (29.8~31.4) °C, Humidity 67%~77%, Other _____

4. Sampling procedure (if applicable): _____

5. The interpretation of the deviation(s) from standard method(s) (if applicable): _____

6. The interpretation of the measurement uncertainty of the result(s) (if applicable): _____

7. Subcontract items and subcontractor (if applicable): _____



广东产品质量监督检验研究院

GUANGDONG TESTING INSTITUTE OF PRODUCT QUALITY SUPERVISION

Guangdong Testing Institute of Product Quality Supervision (In Short GQI), also called Guangzhou Electrical Safety Testing Institute, Guangdong Testing and Certification Institute, was set up in September, 1983. It is a public institution affiliated to Guangdong Administration for Market Regulation (Administration for Intellectual Property).

GQI is a legal third party institute specializing in product testing, inspection and certification; it is subordinate to Guangdong Administration for Market Regulation (Administration for Intellectual Property); it is a national-level testing and inspecting organization accredited by China National Accreditation Service for Conformity Assessment (CNAS); it is an international CB testing laboratory recognized by International Electrotechnical Commission System for Conformity Assessment Schemes for Electrotechnical Equipment and Components(IECEE); it is the national compulsory CCC testing organization designated by Certification and Accreditation Administration of the People's Republic of China(CNCA).

GQI currently undertakes commitment of 10 national testing and inspection centers, which are:

- ▼ China National Quality Testing and Inspection Center for Safety of Electrical Products
- ▼ China National Quality Testing and Inspection Center for Furniture (Guangdong)
- ▼ China National Quality Testing and Inspection Center for Smart Grid Transmission and Distribution Equipment (Guangdong)
- ▼ China National Quality Testing and Inspection Center for Paintings and Dopes (Guangdong)
- ▼ China National Quality Testing and Inspection Center for Food (Guangdong)
- ▼ China National Quality Testing and Inspection Center for Machinery Safety
- ▼ China National Quality Testing and Inspection Center for Fire Fighting Products (Guangdong)
- ▼ China National Quality Testing and Inspection Center for Solar Energy Photovoltaic Products (Guangdong)
- ▼ China National Quality Testing and Inspection Center for Cables and Wires (Guangdong)
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The Mark of Conformity



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