



Lab Name: China National Centre for Quality Supervision  
and Test of Electrical Apparatus Prpducts

No: 13Q0681-S

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## TEST REPORT

Product Type: MASS-24(C)/T630-20

Name of Product: Gas-insulated Metal –enclosed Ring Main Unit  
(Ring Main Circuit Breaker Module)

Client: Shenzhen Feiyue Switchgear Co., Ltd

Test category: Type Test

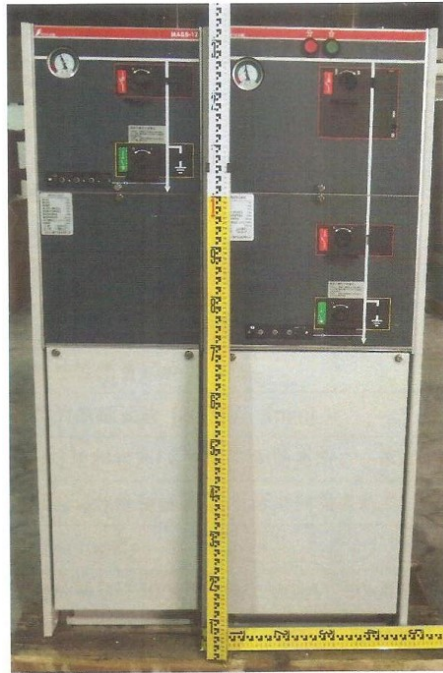
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China National Centre for Quality Supervision and Test of Electrical Apparatus Prpducts	<b>TEST REPORT</b>	MASS-24(V)/T630-20 Gas-insulated Metal – enclosed Circuit Breaker Module Ring Main Unit
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<b>SUMMARY</b>					
Test Category		Type Test			
Product type		MASS-24(V)/T630-20 Gas-insulated Metal –enclosed Ring Main Unit			
Client		Shenzhen Feiyue Switchgear Co., Ltd (add. Tel...)			
Address		Room 101 floor 1 of 19 industrial zone DAKAN YOUNGMAN YILI south of shenzhen			
Manufacturer		Shenzhen Feiyue Switchgear Co., Ltd			
Address		Room 101 floor 1 of 19 industrial zone DAKAN YOUNGMAN YILI south of shenzhen			
Date of manufacture, Code		2012 - 12 1212680			
Main Technical data of the sample, provided by the manufacturer	Rated Voltage (kV)	24	Main circuit Resistance (μΩ)	<200	
	Rated Current (A)	630			
	Rated Frequency (Hz)	50	Operating voltage closed		DC242/220/187
	Rated breaking current for cable charge (A)	20	high/even /low		
	Rated short-circuit making current (kA)	50 <sup>peak</sup>	Operating voltage cutting high/even /low		DC242/220/143
	Duration of rated short-circuit time (main loop/ Earthing switch) (s)	4	Rated SF6 gas operating pressure (Mpa)		0.045
	Rated short-time withstand current (kA)	20			
	Rated peak withstand current (kA)	50			
	Rated short-time power frequency withstand voltage (kV)	65			
	Rate lightning impulse withstand voltage (across isolating distance) (kV)	125			
	Rate short-time power frequency withstand voltage (across isolating distance) (kV)	79			
	Rate lightning impulse withstand voltage (across isolating distance) (kV)	145			
	Sequence of norm operation		O - 0,3s – CO – 180s - CO		
Technical Information guaranteed by client	MASS 2013 002V MASS-24(V)/ T630 – 20. Gas-insulated Metal –enclosed Ring Main Unit				
	MASS 2013 001V MASS-24(V)/ T630 – 20. Gas-insulated Metal –enclosed Ring Main Unit				
	MASS 2013 002V MASS-24(V)/ T630 – 20. Complete assembly diagram				
Representative of the client: YIN LI					
Date of Test		from 2013-4-13 to 2013-4-30			

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Photo of laboratory sample



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<b><u>Testing conclusion</u></b>		
Client:	Shenzhen Feiyue Switchgear Co., Ltd	
Product type:	MASS-24(V)/T630-20	
Name of product	Gas-insulated Metal –enclosed Ring Main Unit	
Manufacturer	Shenzhen Feiyue Switchgear Co., Ltd	
Test items of carried out	Check on degree of Protection (enclosure: IP3X)	Pass
	Tightness test (air leakage rate <0.05% / year)	Pass
	Measure on main circuit Resistance (< 200μΩ)	Pass
	Temperature rise test (1.1 x 630A)	Pass
	Test on mechanical endurance (Circuit breaker 10.000 times)	Pass
	Mechanical properties test and mechanical manipulation	Pass
	Insulation test for auxiliary circuit and control (2000V-1min)	Pass
	Test for power frequency withstand voltage (phase/earth)	Pass
	On lightning impulse withstand voltage: 125kV (peak) 145kV (across)	Pass
	Test of partial discharge (≤ 10 pC)	Pass
	Test the switching capacity T100s [24kV 20 kA 50 kA (Peak)]	Pass
	T100a [24kV 20 kA DC 45%]	Pass
	On Short-time withstand current & peak withstand current	Pass
	Main circuit 4s 20kA 50kA (peak)	Pass
	Earth circuit 4s 20kA 50kA (peak)	Pass
	2s 17,4k 43,5kA (peak)	Pass
In accordance with	GB 3906-2006 (3.6kV - 40.5kV switchgear / control device) GB 1964 – 2003 (Hight voltage Cicuit-Breaker)	
Testing conclusion	Through testing equipment: Gas-insulated Metal–enclosed Ring Main Unit Ltd MASS-24(V)/T630-20 of Shenzhen Feiyue Switchgear Co., according to the standard criteria are concluded to be standard.	
Date of Test	from 2013-4-20	to 2013-4-30

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<b>Technical data of main components fitted on H.V Switchgear</b>	
<b>1. Circuit Breaker</b>	
Model	LBS-24(V)/T630-20
Rated voltage (kV)	24
Rated current (A)	630
Rated Frequency (Hz)	50
Rated short-time withstand current (kA)	20
Rated peak withstand current (kA)	50
Duration of rated short-time withstand current (ring main switch) (s)	4
Sequence of norm operation	O - 0,3s – CO – 180s - CO
Product release date	12 - 2012
Product code	1212677
Manufacturer	Shenzhen Feiyue Switchgear Co., Ltd
<b>2. Disconnecter</b>	
Model	Combine with the circuit breaker
Rated voltage (kV)	24
Rated short-time withstand current (kA)	20
Rated peak withstand current (kA)	50
Duration of rated short-time withstand current (ring main switch) (s)	4
Name, type of operation mechanism	Combination electric spring
<b>3. Vaccum Interrupter</b>	
Model	DT25-12/630/-20
Rated voltage (kV)	24
Rated current (A)	630
Rated Frequency (Hz)	50
Rated short-time withstand current (kA)	20
Product release date	12 - 2012
Product code	A1212212; B1212213; C1212214
Manufacturer	Han Quang - Ha Bac Science and Technology Joint Stock Company
<b>4. Operation mechanism</b>	
Model	TCO – Full set with circuit breaker
Voltage and current of the coil V/A	DC220/ closed coil
Voltage and current of the coil V/A	DC220/ cut coil

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<b>5. Eathing switch</b>	
Model	Full set with circuit breaker
Rated voltage (kV)	24
Rated short-time withstand current (kA)	20
Rated peak withstand current (kA)	50
Duration of rated short-time withstand current (ring main switch) (s)	4
Rated short-circuit making current (kA)	50peak
Operation mechanism	Full set with circuit breaker
<b>4. Busbar</b>	
Spec. & Size (mm x mm)	Copper TMY – 40 x 8