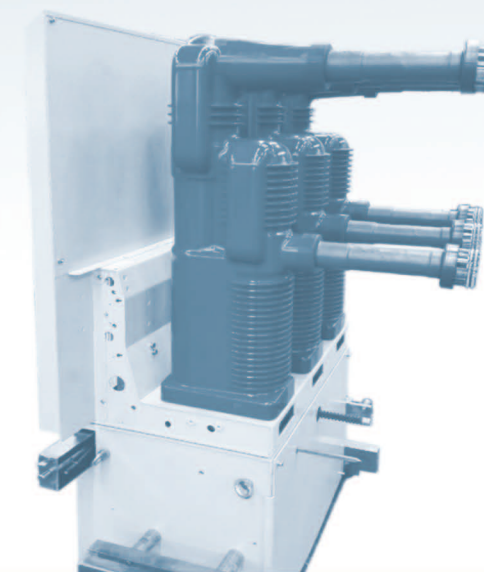


2.9

DQV-40.5C 户内双断口高压真空断路器

DQV-40.5C INDOOR DOUBLE-BREAK HIGH VOLTAGE VACUUM CIRCUIT BREAKER



总则 / GENERAL

江苏大全高压开关有限公司为了解决40.5kV真空断路器开断电容器组重击穿率高的问题，采用多断口串联技术研发了DQV-40.5C户内双断口高压真空断路器，满足真空断路器投切单个、背靠背电容器组极低重燃率的目标，其中，投切单个电容器组电流达800A，背靠背电容器组电流达630A。

DQV-40.5C户内串联双断口真空断路器适用于三相交流50Hz，额定电压为40.5千伏户内高压开关设备。作为电网设备、工矿企业动力设备的保护和控制单元，该断路器可在工作电流范围内进行频繁的操作或多次开断短路电流，并适用于重合闸操作且具有极高的操作可靠性与使用寿命。

For the purpose of solving the issue of high restrike probability of 40.5kV vacuum breaker's cut-off capacitor bank, Jiangsu Daqo High Voltage Switchgear Co., Ltd. has done researches and developed the DQV-40.5C indoor double-break HV vacuum breaker by using the multiple-break tandem technology, which has achieved the goal of hitting extremely low rekindling rate for switching single and back-to-back capacitor banks. For the switching single capacitor banks and back-to-back capacitor banks, the current can be as high as 800A and 630A respectively.

DQV-40.5C indoor tandem double-break vacuum breaker is applicable to 3-phase AC 50Hz indoor HV switchgears with a rated voltage of 40.5kV. As a protection and control unit for power grid devices and power equipment units of industrial and mining enterprises, this breaker can be operated frequently within its working current range or with its short-circuit current cut off and switched on for multiple times. It is also applicable to reclosure operations and with an extremely high reliability and a very long service life.

标准 / STANDARDS

DQV系列真空断路器完全符合最新中国国家标准GB1984-2014《高压交流断路器》及中国电力部相关标准DL/T403等要求，同时还满足国际电工标准IEC62271-100:2001和德国标准DIN VDE0670的标准规范要求，可在世界各地稳定可靠的运行。

DQV vacuum circuit breaker fully complies with the latest version of GB1984-2014 High-voltage Alternating-current Circuit-breakers and relevant standard of China's Ministry of Electric Power DL/T403 as well as requirements of IEC62271-100:2001 and DIN VDE0670. It can steadily run all around the world.

应用范围 / RANGE OF APPLICATION

DQV系列真空断路器要广泛应用于电厂、电网、冶金、石化、城市基础设施建设如机场、楼宇、地铁等项目。DQV系列真空断路器在配电系列中，可适用于控制和保护电缆、架空线、变压器、电动机和电容器组。

DQV vacuum circuit breaker is widely used for power plants, power grids, metallurgy, petrochemical industry and urban infrastructure construction of the airport, buildings, subway and other projects. In the power distribution, the DQV vacuum circuit breaker is applicable to control and protection cables, overhead lines, transformers, electric motors and capacitor banks.

试验 / TEST

型式试验：工频耐压、雷电冲击耐压、温升、短时和峰值耐受电流、短路电流开合能力、机械寿命试验、投切电容器组试验、高海拔试验。

出厂例行测试：机械特性测试、主回路工频耐压试验、辅助和控制回路绝缘性能试验、主回路电阻测试、联锁操作试验、机械和电气操作试验。

Type tests: power frequency withstand voltage test, lightning impulse withstand voltage test, temperature rise test, short-time and peak withstand current test, short circuit current switching capacity test, mechanical endurance test test for switching capacitor set and high-altitude test. Routine factory test: mechanical characteristic test, main circuit power-frequency withstand voltage test, dielectric test of auxiliary and control circuit, main circuit resistance test, interlocked operation test and mechanical and electrical operation test.

使用环境 / OPERATING ENVIRONMENT

海拔高度：1000m以下
环境温度：上限+40℃；下限-30℃
储运温度：-40℃
相对湿度：日平均值≤95%
月平均值≤90%
地震烈度：不超过8度
无火灾、爆炸、严重粉尘、化学腐蚀及剧烈振动场所

Altitude: below 1,000 m
Ambient temperature: the upper limit of + 40 °C; the lower limit of - 30 °C
Storage and transportation temperature: -40 °C
Relative humidity: daily average value ≤95%
Monthly average value ≤90%
Seismic intensity: M8 or below
No fire, explosion, serious dust hazard, chemical corrosion or excessive vibration.

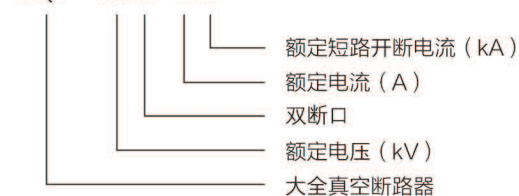
安全运行 / SAFE OPERATION

DQV系列真空断路器拥有完善的机械和电气联锁装置，同时具有较高的操作可靠性和使用寿命，配合相适应的开关柜可完成安全的配电功能，确保操作者和设备的安全。

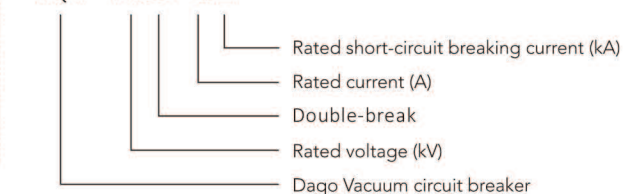
DQV vacuum circuit breaker is equipped with sound mechanical and electrical interlocking devices and has extremely high operation reliability and long service life. It could be equipped with an appropriate switch cabinet to perform safe distribution function and ensure safety of operators and equipment.

型号及含义 / MODEL AND MEANING

DQV-40.5C/□□



DQV-40.5C/□□



技术参数 Technical Parameters

外形尺寸 Overall Dimensions

DQV-40.5C 产品技术参数 Technical Parameters of DQV-40.5C Product

Overall Dimensions of DQV-40.5C

DQV-40.5C 外形尺寸

项目 / ITEM	单位 / UNIT	技术数据 / TECHNICAL DATA	
额定电压 / Rated Voltage	kV	40.5	
额定频率 / Rated Frequency	Hz	50	
额定电流 / Rated Current	A	630	630
		1250	1250
额定短路开断电流(有效值) / Rated Short-Circuit Breaking Current (Effective Value)	kA	25	31.5
额定短路关合电流(峰值) / Rated Short-Circuit Making Current (Peak)	kA	63	80
额定短路电流开断次数 / Rated Short-Circuit Current Breaking Times	次 / Times	30	
1min工频耐受电压 / 1min Power Frequency Withstand Voltage	kV	95	
雷电冲击耐受电压 / Lightning Impulse Withstand Voltage	kV	185	
额定热稳定时间 / Rated Thermal Stability Time	s	4	
额定单个电容器组开断电流 / Rated Breaking Current of Simple Capacitor Bank	A	800	
额定背对背电容器组开断电流 / Rated Breaking Current of Back-to-Back Capacitor Bank	A	630	
额定操作顺序 / Rated Operating Sequence		0-0.3s-CO-180s-CO	
触头开距 / Clearance Between Open Contactors	mm	13±1	
接触行程 / Contacting Travel	mm	3.5±0.5	
触头合闸弹跳 / Contact Closing Bouncing	ms	≤2	
三相不同期 / Three-Phase Asynchronous	ms	≤2	
平均分闸速度(0~10mm) / Average Breaking Speed (0 to 10mm)	m/s	1.3-1.8	
平均合闸速度(10~0mm) / Average Closing Speed (10 to 0mm)	m/s	0.6-1.0	
分闸时间(额定电压) / Breaking Time (Rated Voltage)	ms	20~40	
合闸时间(额定电压) / Closing Time (Rated Voltage)	ms	30~60	
机械寿命 / Mechanical Life	次 / Times	10000	
分/合闸脱扣器额定操作电压 / Rated Operating Voltage of Breaking/Closing Release	V	AC110/AC220 DC110/DC220	
分/合闸脱扣器功率 / Power of Breaking/Closing Release	W	<300	
储能电机额定功率 / Rated Power of Energy Storage Motor	W	90	
储能时间 / Energy Storage Time	s	≤15	
动、静触头允许磨损累计厚度 / Gross Thickness of Allowable Wear for Dynamic and Static Contacts	mm	3	
主回路电阻 / Main Circuit Resistance	μΩ	≤60	
分闸触头反弹幅值 / Rebound Amplitude of Breaking Contact	mm	≤3	
断路器重量 / Weight of Circuit Breaker	kg	300	

