

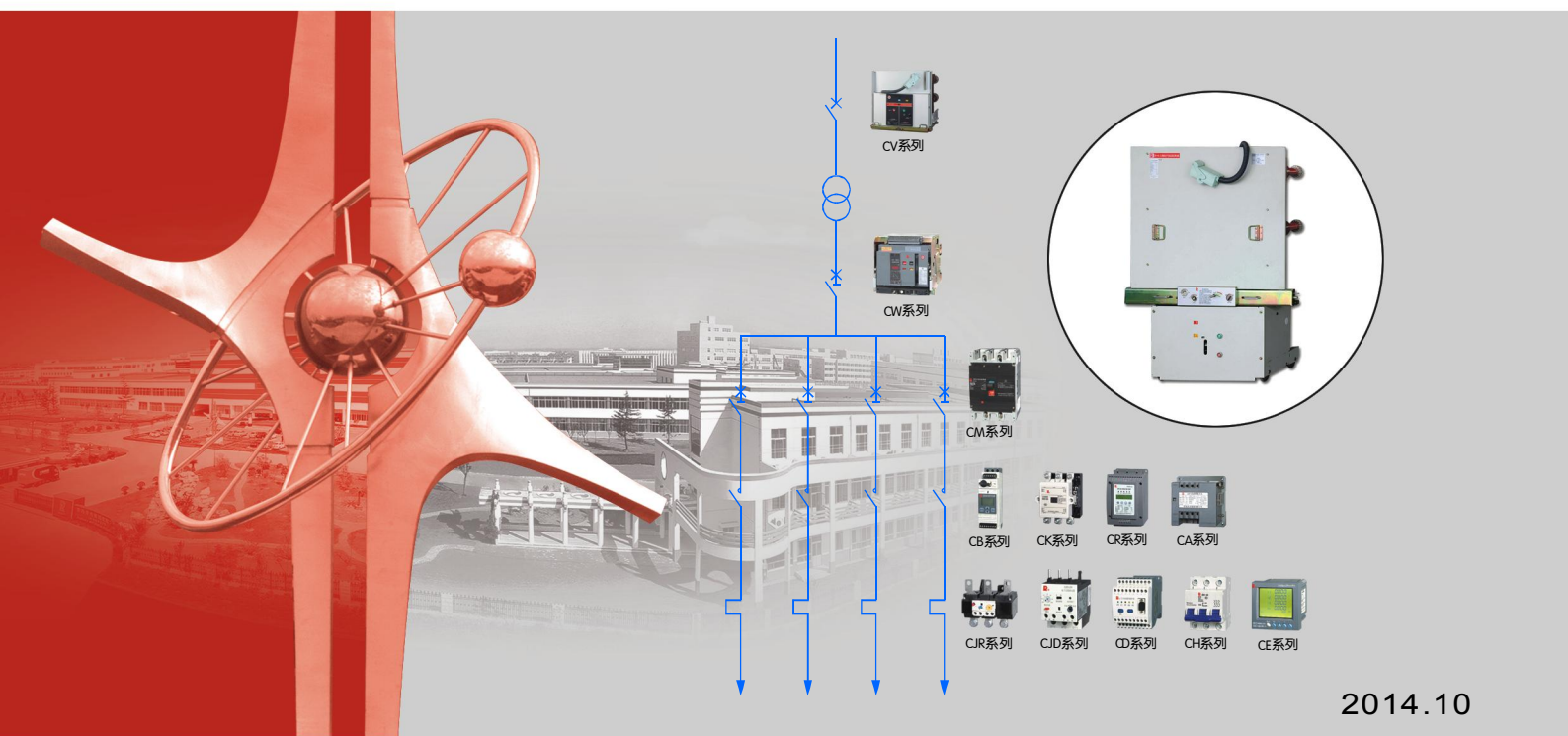


CV1-40.5 (ZN85A) 户内高压真空断路器 (绝缘筒式)

CV2-40.5 户内高压真空断路器 (固封极柱式)

CV1-40.5 (ZN85A) HIGH VOLTAGE INDOOR VCB (INSULATED TUBE)

CV2-40.5 HIGH VOLTAGE INDOOR VCB (SOLID-INSULATED-EMBEDDED POLE)



2014.10



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常熟开关制造有限公司
(原常熟开关厂)

CHANGSHU SWITCHGEAR MFG. CO., LTD.
(FORMER CHANGSHU SWITCHGEAR PLANT)



优秀特色

- 适用于KYN61A 型开关柜，也可安装于KYN61 型开关柜
- 额定工频耐受电压95kV/1min，断口可达118kV/min；额定雷电冲击耐受电压185kV，断口可达215kV
- 额定短路开断电流25kA ~ 31.5kA，额定短时耐受电流25kA ~ 31.5kA/4s
- 采用国内一流厂商真空灭弧室，少维护，可靠性高，适用于频繁操作或多次开断短路电流
- 产品通过西安国家高压电器质量监督检验中心全项目型式试验
- 严谨的工艺和检验作业程序，质量控制和管理手段先进，确保产品高质量
- 按GB 1984-2003 标准，具有延长电寿命E2级、延长机械寿命M2级和容性电流开合C2级

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CV1-40.5 (ZN85A) /CV2-40.5户内高压真空断路器（以下简称断路器）是本公司采用先进的CAD/CAM/CAE设计和制造技术，自行研制、开发的新一代高压电器产品。断路器用于交流50Hz，额定电压40.5kV及以下的电网中起控制和保护作用，广泛用于工矿企业、发电厂及变电站作为分合负荷电流、过载电流、故障电流之用。

- 断路器可安装于KYN61型、KYN61A型金属封闭开关设备。

- 断路器具有极高的操作可靠性与使用寿命，并适用于频繁操作的场合。

- 断路器符合以下标准：

IEC62271-1: 2007 GB/T11022-2011《高压开关设备和控制设备标准的共用技术要求》

IEC62271-100: 2001 GB 1984-2003《高压交流断路器》

JB/T 3855-2008 《高压交流真空断路器》

DL/T 402-2007《高压交流断路器订货技术条件》

DL/T 403-2000《12kV ~ 40.5kV 高压真空断路器订货技术条件》

- CV1-40.5 (ZN85A) /CV2-40.5 High Voltage Indoor Vacuum Circuit Breakers(hereafter simply referred to as VCB)are one of the new generation high voltage electric products, which have been developed by the company, taking use of the advanced CAD/CAM/CAE designing and manufacturing technology. In the circuit of AC50Hz, rated operational voltage 40.5kV(or below) electrical wire, the VCB take the role of controlling and protecting, and they are widely used in plant, power plant and substation to make/break load current,overload current and fault current etc.

- The VCB can be installed in the KYN61 and KYN61A type switchgear .

- The VCB have high reliability and usage life,can be used in frequent operation stations.

- The VCB comply with the demands of the following standards:

IEC62271-1:2007 GB/T 11022-2011《Common specifications for high-voltage switchgear and controlgear standards》

IEC 62271-100:2001 GB 1984-2003《High-voltage alternating-current circuit-breakers》

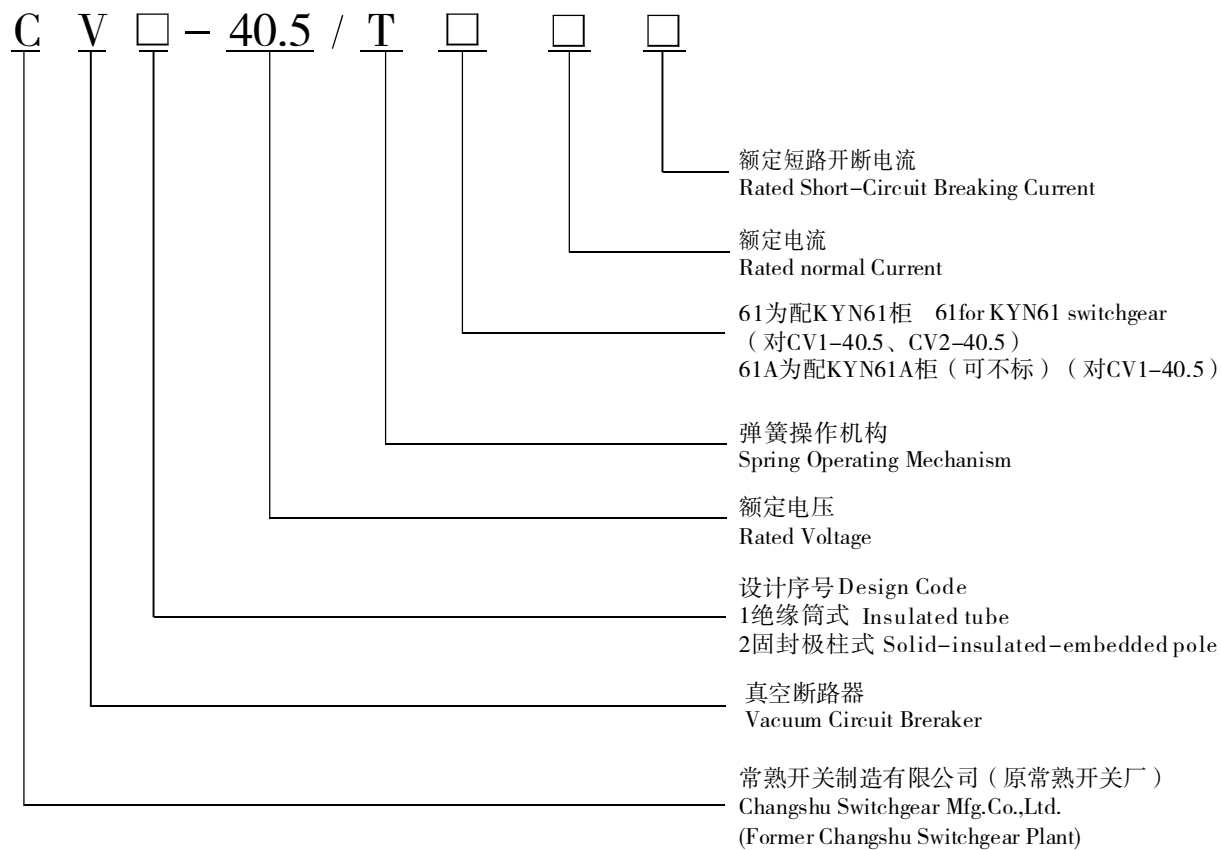
JB/T 3855-2008《high voltage alternating current indoor vacuum circuit breakers》

DL/T 402-2007《specification of high-voltage alternating-current circuit-breakers》

DL/T 403-2000《HV vacuum circuit breakers for rated voltage 12kVto 40.5kV》



型号及含义 TYPE DESIGNATION AND ITS MEANING





● 正常使用条件

● 环境温度:

最高温度+40℃

连续24小时测得的平均温度不超过+35℃

最低温度-5℃

● 海拔不超过1000m

● 周围空气没有明显地受到尘埃、烟、腐蚀性气体和/或可燃性气体、蒸汽和盐雾的污染

● 环境湿度

日平均相对湿度不超过95%

日平均蒸气压不超过 2.2×10^{-3} MPa

月平均相对湿度不超过90%

月平均蒸气压不超过 1.8×10^{-3} MPa

● 来自开关设备和控制设备外部的振动或地动可以忽略

特殊使用条件

● 若用户使用的工作条件与正常使用条件有差异，如安装在海拔超过1000m、周围空气温度超过正常适用条件规定的限值或高温易产生凝露等地方，请与本公司协商，并取得一致意见。

● Normal service conditions

● The ambient air temperature does not exceed 40℃ and its average value, measured over a period of 24 h, does not exceed 35℃. The minimum ambient air temperature is -5℃

● The altitude does not exceed 1000 m

● The ambient air is not significantly polluted by dust, smoke, corrosive and/or flammable gases, vapours of salt.

● The average value of the relative humidity, measured over a period of 24 h, does not exceed 95%;

The average value of the water vapour pressure, over a period of 24 h, does not exceed 2.2kPa;

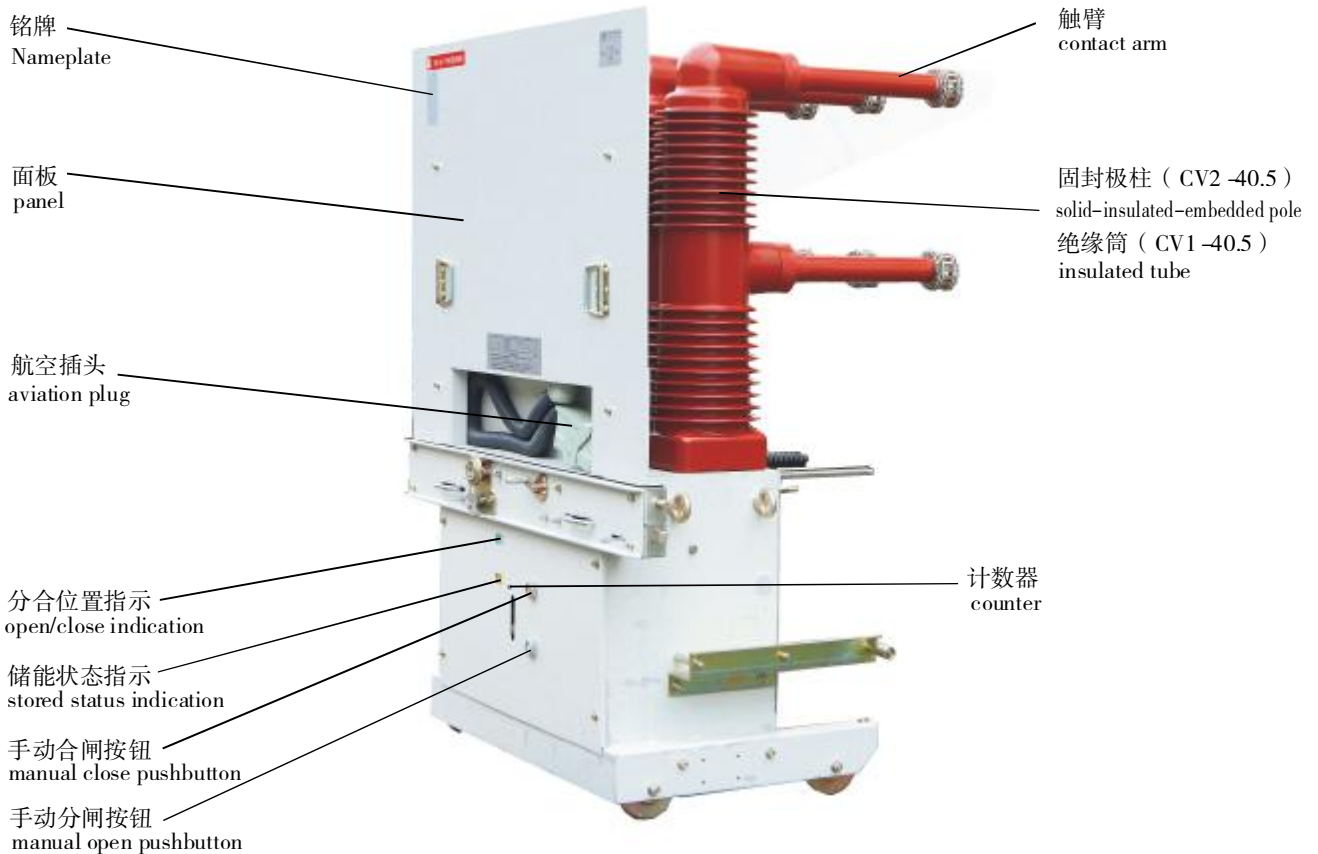
The average value of the relative humidity, over a period of one month, does not exceed 90%;

The average value of the water vapour pressure, over a period of one month, does not exceed 1.8 kPa.

● Vibration due to causes external to the switchgear and controlgear or earth tremors are negligible

Special service conditions

● If the service conditions are different from normal service conditions. For example: altitude is more than 1000 m、ambient temperature is more than limit value which prescribed in normal service conditions or dews on product surface due to high temperature, please consult with our company to acquire consistent opinion.



● 结构

断路器采用上下布置结构，有效地降低了断路器的深度。

断路器采用复合绝缘结构，三相真空灭弧室和一次导体由三只独立的环氧树脂绝缘罩壳相隔离。采用复合绝缘结构之后，断路器满足正常运行条件下的空气距和爬距要求，并有效地减小了断路器的体积，使相间距仅为300毫米。主回路电气连接全部采用固定连接，具有很高的可靠性。

操动机构采用专门为这种新型断路器设计的弹簧操动机构，安装在断路器框架内。其结构特点更适合断路器的上下布置形式。机构设计简单，输出曲线与灭弧室的要求配合良好。其性能更适合40.5kV真空断路器的特点和要求。

断路器布局合理、美观、简洁、体积小巧、操作灵活，具有电气性能可靠、使用寿命长、检修方便、机构免维护等特点。



- 工作原理

- 储能操作

断路器合闸所需能量由储能后的合闸弹簧提供。储能既可由储能电机电动实现，也可由储能手柄手动实现。

电动储能时，储能电机通过单向轴承向小链轮轴输入能量，经链条带动大链轮，大链轮转动时带动储能轴实现合闸弹簧储能。储能到位后，微动开关S1动作切断储能电机电源，同时大链轮和储能轴的转动脱离，从而保证储能装置安全。

手动储能时，将储能手柄插入手动储能操作孔中，上下操作手动储能杆，手动储能轴利用齿轮传动通过单向轴承向小链轮轴输入能量，经链条带动大链轮，大链轮转动时带动储能轴实现合闸弹簧储能。储能到位后，大链轮和储能轴的传动脱离，从而保证储能装置安全。

- Structure

The VCB adopted up-down layout, so it effectively shortened the depth of VCB.

The VCB adopted compound insulation structure. Three-phase vacuum arc extinguish chamber and simple-conductor are isolated by three independent epoxy insulating cover. After adopting compound insulation structure, it satisfied isolating distance and creepage distance under VCB's normal operating condition and decreased the VCB's volume. The space between phases is only 300mm. In the major loop, the electrical connection adopted fixed type, so it is very reliable.

The control mechanism adopted spring mechanism, it installed in VCB's frame, the architectural feature of control mechanism is fit for up-down layout of VCB. The mechanism designed simply. The coordination between output curve and request of arc extinguish chamber is good, so the performance is fit for characteristic and request of 40.5kV VCB.

The VCB has following virtues: logical layout、artistic、concise、small volume、agile operation、reliable electrical performance、long service life、convenient overhaul and non-maintain.

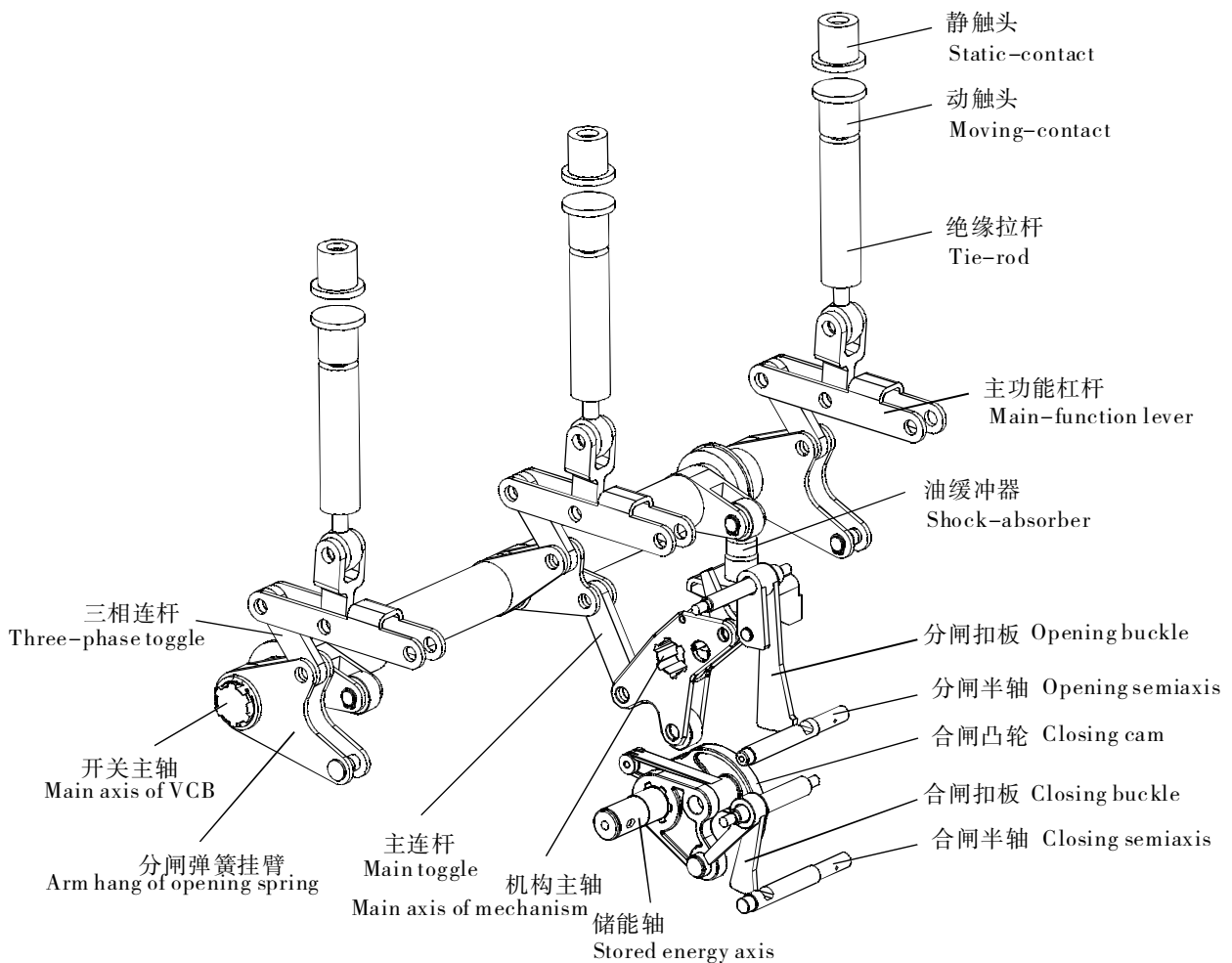
Operational principle

- Stored energy operation

- The energy for VCB closing is provided by closing spring's stored energy. The operation of stored energy can complete by motor or stored handle.

When the operation of stored energy is by motor, the motor inputs power to small-sprocket axis by unilateral bearing, then drives big-sprocket. Rotational big-sprocket drives driving claw to achieve stored energy of closing spring. When stored energy is complete, the driving claw puts up to disengage drive and the position switch acted to cut off motor's supply, consequently it ensured stored energy system safety.

When the operation of stored energy is by stored handle, insert the stored handle into the aperture to press up and down, then drives small-sprocket to input power to closing spring by unilateral bearing which on small-sprocket axis. When stored energy is complete, the driving claw puts up to disengage drive, consequently it ensured stored energy system safety.



● 合闸

当断路器处于储能、分闸状态时，合闸扣板在合闸弹簧力的作用下，紧扣合闸半轴，使断路器处于准备合闸状态。

在合闸操作时，不论手动按下断路器面板上合闸按钮或电气合闸操作使合闸脱扣器动作，均可使合闸半轴转动，释放紧扣的合闸扣板。此时合闸弹簧能量释放，带动凸轮轴转动，凸轮打击辊轮带动主轴、连杆、绝缘拉杆等使真空灭弧室的动触头运动至合闸位置。

在断路器合闸的同时，辅助开关QF动作切断合闸脱扣器HQ回路，分闸弹簧同时被拉伸，触头弹簧被压缩，分闸扣板紧扣分闸半轴，保持断路器处于合闸状态。

● Closing

When the VCB is on opening state, the closing buckle buttons the closing semiaxis under the energy storage spring force, and makes the breaker to be ready for closing.

When the VCB is on closing operation, whatever pressed "closing" button or by remote operation, the closing semiaxis can rotate to release the buttoned closing buckle. Then closing spring released the energy to drive cam axis, and the cam struck roller to drive main axis、pitman、insulated tiebar, so the moving-contact moved to closing position.

After the moving-contact has moved to closed position, the auxiliary switch QF acted to cut off closing release HQ loop, opening spring was stored energy, contact spring was compressed, opening buckle buttoned opening semiaxis, which ensure the VCB was on closing state.



● 分闸

当断路器处于合闸状态时，分闸扣板在触头弹簧及分闸弹簧的作用下，紧扣分闸半轴。

在分闸操作时，不论手动按下断路器面板上分闸按钮或电气分闸操作使分闸脱扣器动作，均可使分闸半轴转动，释放紧扣的分闸扣板。此时由触头弹簧和分闸弹簧储存的能量带动主轴、连杆、绝缘拉杆等使真空灭弧室的动触头与静触头分离。在分闸过程后段，由液压缓冲器吸收剩余能量并限定分闸位置

● 真空灭弧室的灭弧原理

由于真空灭弧室的静态压力极低，约 10^{-3} 至 10^{-5} Pa，所以只需相当小的触头间隙就可达到高的电介质强度，在分闸过程中由电流在分开的触头间隙中产生的真空电弧易被熄灭。分闸过程中的高温产生了金属蒸汽离子和电子组成的电弧等离子体，使电流将持续一段很短的时间，由于触头上开有螺旋槽，电流曲折路径效应形成的磁场使电弧产生旋转运动，由于阳极区的电弧收缩，即使切断很大的电流，也可避免触头表面的局部过热与不均匀的烧灼。

电弧的电流在第一次自然过零时就熄灭，残留的离子、电子和金属蒸汽只需在几分之一毫秒的时间内就可复合或凝聚在触头表面和屏蔽罩上，因此，真空灭弧室断口的电介质强度恢复极快。

对真空灭弧室而言，由于触头间隙小，由金属蒸汽形成的电弧等离子体的导电率高，电弧电压降低，另外，由于燃弧时间短，伴生的电弧能量极小，综上各点都有利于触头寿命增加，也有利于真空灭弧室性能的提高。

● 防误联锁

断路器具有完善的防误操作功能。

断路器合闸操作完成后，合闸联锁板使断路器未分闸时不能再次合闸。

断路器在未到试验位置或工作位置时，无法闭合保护门舌，由联锁辅助开关切断合闸回路，防止断路器处于合闸状态进入负荷区。

断路器在工作位置或试验位置合闸后，若要摇进摇出断路器，在打开保护门舌时机械联锁将使断路器分闸，防止在合闸状态推进或拉出负荷区。

● Opening

When the VCB is on closing state, the opening buckle buttons the opening semiaxis under the contact spring force and opening spring force.

When the VCB is on opening operation, whatever pressed "opening" button or by remote operation, the opening semiaxis can rotate to release the buttoned opening buckle. Then static-contact and moving-contact which on the arc extinguish chamber separated by the stored energy of contact spring and open position.

● Arc-extinguishing principle of vacuum arc-chutes

Because static pressure of arc-chutes is too low(10^{-3} Pa ~ 10^{-5} Pa), so only need quite small clearance between contacts can attain high dielectric strength. When the breaker opened, the vacuum arc which generate by current in clearance between contacts was extinguished easily. Because of high temperature when breaker opened, arc electron plasma which was made up of metal steam ion and electron made the current persist for short time, also because there was screw groove on contacts, magneticfield which formed by current made arc revolved, then anode region arc shrank, it can avoid contact's surface overheat and asymmetric cauterization even if cut off current was heavy.

Arc current extinguished when it is first nature zero crossing, residual ion、electron and metal steam compound or agglomerate on shielded enclosure of contact within one-several ms, hence dielectric strength of arc-chutes fracture recovers fast.

As for vacuum arc-chutes, because clearance between contact is small, so electric conductivity of arc electron plasma which generated by metal steam is high and arc voltage reduces. In addition, because electric arc burning time is short so associated arc energy is too small. The virtues mentioned above are in favor of extending contact longevity and improving vacuum arc-chutes performance.

● Prevent error interlock

The VCB has perfect misoperation.

When the VCB has been closed, closed interlocking-plate makes the non-opened breaker not closed again.

When the VCB isn't on "test" position or "operating" position, it can't close protective door tongue, but the interlocking auxiliary switch cuts off closed loop to prevent the closed VCB from coming into loading zone.

When the VCB has been closed on "operating" position or "test" position, if you want to shake-in or shake-out VCB, open protective door tongue, then open the VCB by mechanical interlocking to prevent the closed VCB from pushing into or pulling out loading zone.



● 主要规格及技术参数 Type and technical parameters

项目 Item		单位 Unit	数据 Value	
型号 type			CV1-40.5	CV2-40.5
额定电压 U_r Rated voltage		kV	40.5	
额定绝缘水平 Rated insulation voltage	I_{min} 工频耐压 U_d (有效值) Power-frequency withstand voltage in 1 minute (r.m.s.value)	对地、相间 Phase-to-earth、between phases	kV 95	
		断口间 across open switching device	kV 118	
	雷电冲击耐受电压 U_p (峰值) lightning impulse withstand voltage (peak value)	对地、相间 Phase-to-earth、between phases	kV 185	
		断口间 across open switching device	kV 215	
额定频率 f_r Rated frequency		Hz	50	
额定电流 I_r Rated normal current		A	630、1250、1600	630、1250
额定短路开断电流 I_{sc} (有效值) Rated short-circuit breaking current (r.m.s.value)		kA	25、31.5	
额定峰值耐受电流 I_p Rated peak withstand current		kA	63、80	
额定短路关合电流 Rated short-circuit making current		kA	63、80	
额定短时耐受电流 I_k (有效值) Rated short-time withstand current (r.m.s.value)		kA	25、31.5	
额定短路持续时间 t_k Rated duration of short-circuit		s	4	
额定短路电流开断次数 (DL/T 402-2007) Rated short-circuit breaking current breaking times		次 times	20	30
额定背对背电容器组开断电流 I_{bb} (有效值) Rated back-to-back capacitor bank breaking current (r.m.s. value)		A	400	
额定单个电容器组开断电流 I_{sb} (有效值) Rated single capacitors bank breaking current (r.m.s value)		A	630	
额定电缆充电开断电流 I_c (有效值) Rated cable-charging breaking current(r.m.s.value)		A	50	
额定操作顺序 Rated operaing sequence			自动重合闸: 0-0.3s-CO-180s-CO Automatic re-closing: 0-0.3s-CO -180s-CO 非自动重合闸: 0-180s-CO-180s-CO Non-automatic re-closing: 0-180s-CO-180s-CO	
机械寿命 Mechanical durability		次 times	10000	
分级: 机械寿命/电寿命/容性电流开断 Class: mechanical durability/electric durability/breaking capacitive current			M2/E2/C2	



● 标配附件 Normally-deployed accessories

a) 合闸脱扣器 (HQ) Shunt closing release

可实现远方控制断路器合闸 Can remote circuit breaker to close

额定电源电压 U_{op} (V) Rated supply voltage	AC 220	DC 220	AC 110	DC 110
动作电压 (V) Operating voltage	(0.85 ~ 1.1) U_{op}			
电流 (A) Current	0.96	0.96	3.33	3.33
合闸时间 (ms) Closing time	35 ~ 70			



b) 分闸脱扣器 (HQ) Shunt opening release

可实现远方控制断路器分闸 Can remote circuit breaker to open

额定电源电压 U_{op} (V) Rated supply voltage	AC 220	DC 220	AC 110	DC 110
动作电压 (V) Operating voltage	(0.65 ~ 1.2) U_{op}			
瞬时电流 (A) Instantaneous current	1.19	1.19	3.33	3.33
分闸时间 (ms) Opening time	15 ~ 50			



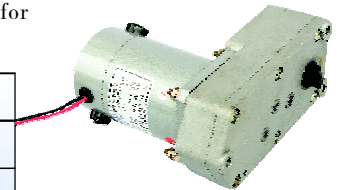
c) 储能电机 (M) Charging motor

储能电机能对断路器操动机构的合闸弹簧自动进行储能操作。当断路器合闸完成后，储能电机立即对合闸弹簧自动进行重新储能。

在失电或检修时，合闸弹簧可手动储能。

Charging motor can automatically charging for circuit breaker's operating mechanism closing spring. When circuit breaker finishing closing, charging motor once automatically re-charging for closing spring. when without electricity or repairing, closing spring may be charged by handle.

额定电源电压 U_{op} (V) Rated supply voltage	AC 220	DC 220	AC 110	DC 110
动作电压 (V) Operating voltage	(0.85 ~ 1.1) U_{op}			
额定功率 (W) Rated power	160		160	
瞬时电流 (A) Instantaneous current	1.6		3.2	
储能时间 (最大) (s) Charging time	15		15	



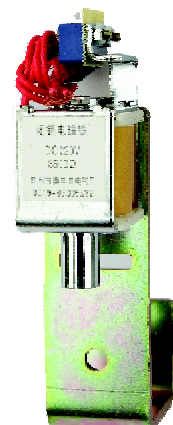
● 选择附件 Choice accessories

a) 合闸闭锁电磁铁 Closing locking magnet

只有当合闸闭锁电磁铁得电后，操动机构才允许合闸。

Only closing locking magnet with electricity, operating mechanism can be closed

额定电源电压 U_a (V) Rated Supply voltage	AC 220	DC 220	AC 110	DC 110
电阻 (Ω) Resistance	8600		4400	
额定功率 (W) Rated power	5.6		2.75	
电流 (mA) Current	26		25	

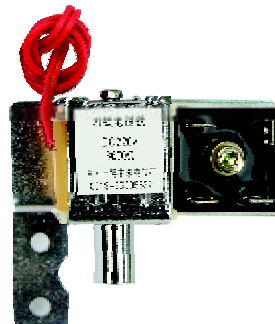




b) 推进装置闭锁电磁铁 Pulling device locking magnet

推进装置闭锁电磁铁是为防止控制电源未通电情况下断路器从试验位置摇进。该回路在控制电源通电时解除闭锁，在控制电源失电时闭锁。

Using pulling device locking magnet,can prevent breaker from testing position to racking into when control supply without electricity.when control supply with electricity,locking magnet can be unlocked and when without electricity,it's locking.



额定电源电压Ua (V) Rated Supply voltage	AC 220	DC 220	AC110	DC 110
电阻 (Ω) Resistance	8600		4400	
额定功率 (W) Rated power	5.6		2.75	
电流 (mA) Current	26		25	

c) 推进装置机械程序锁 Pulling device mechanical programmer lock

1. 实现两只断路器间的位置联锁，即两台断路器中一台可以摇至工作位置时，另一台只能处于试验位置。
2. 实现多台断路器间的多种位置联锁，一台断路器和另外两台断路器间实现互锁。多台断路器配相同的锁和钥匙，钥匙比锁少一个。

1.providing position interlocking of two breakers,when one of two breakers is racked to sevice position,also one is only testing position.

many breakers have the same keys and locks,but key number is less one to lock.

2.providing much position interlocking of many breakers,and one breaker is interlocked with other two breakers.



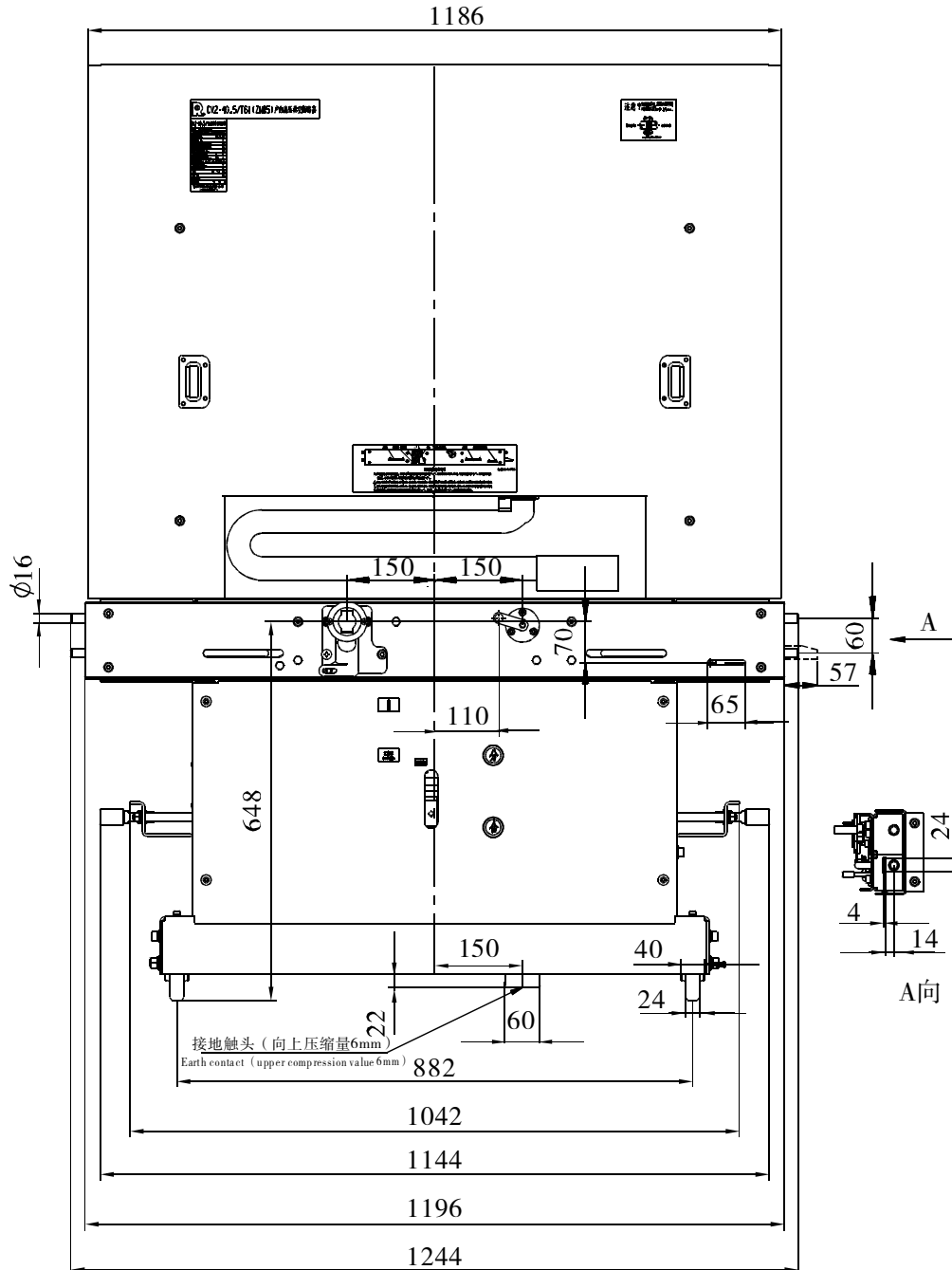
机械程序锁
Mechanical programmer lock



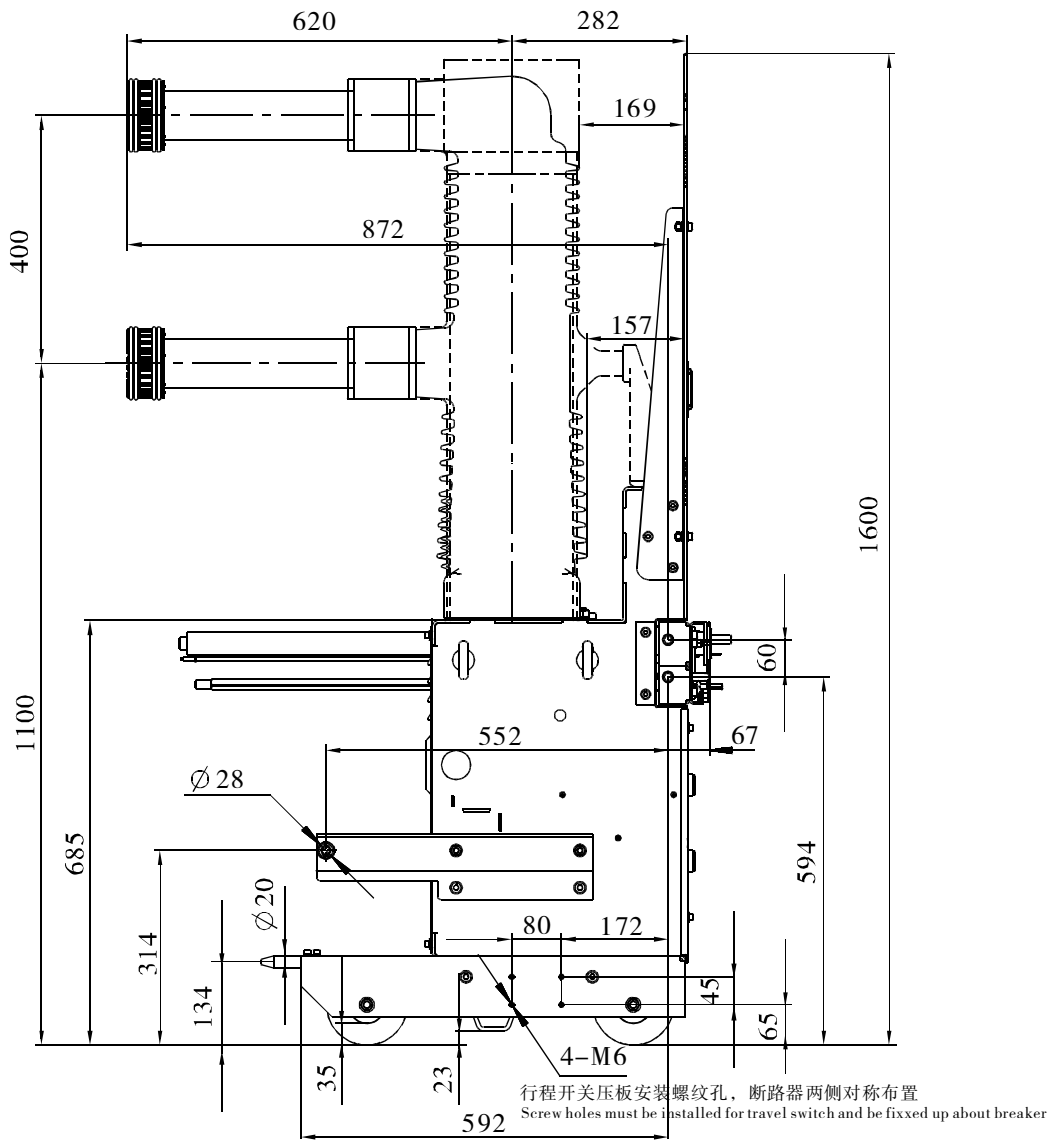
机械程序锁
Mechanical programmer lock



- CV1-40.5/T61、CV2-40.5/T61 断路器 VCB
适合柜型：KYN61（断路器推进行程610mm） Suit for KYN61 switchgear(pulling distance of VCB is 610mm)



注：接地触头左、右侧均可以安装，左侧安装关于上图中心对称。
Note: earth contact may be installed at left and right side, it is installed at left side about upper diagramer central symmetry.



CV1-40.5/T61 (ZN85A)、CV2-40.5/T61，相间距300mm—适合柜型KYN61。

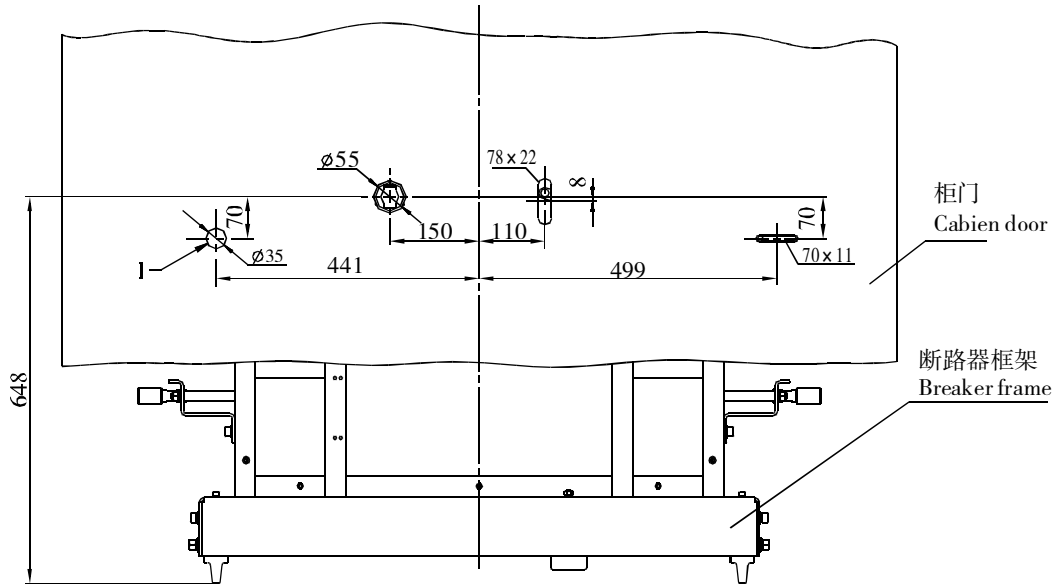
上图虚线结构为CV1-40.5/T61 (ZN85A) 户内高压真空断路器绝缘筒外形。

Phase-to-phase distance of CV1-40.5/T61 and CV2-40.5/T61 is 300mm, it is suit for KYN61 cabinet.

The dotted line structure is suit for CV1-40.5/T61 (ZN85A) breaker's outline.

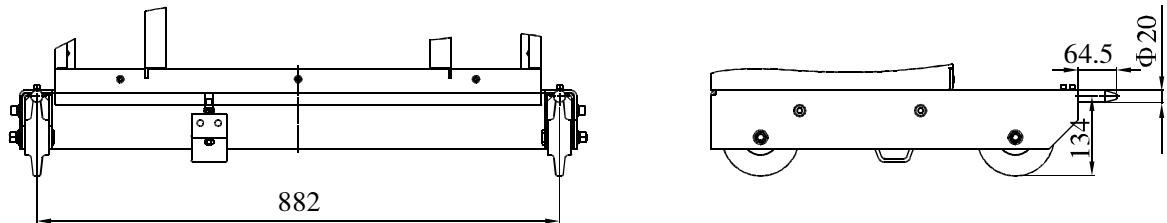


CV1-40.5/T61、CV2-40.5/T61 断路器柜门推荐开孔位置尺寸 *Holing dimensions for VCB door frame*
 适合柜型：KYN61 *Suit for KYN61 switchgear*

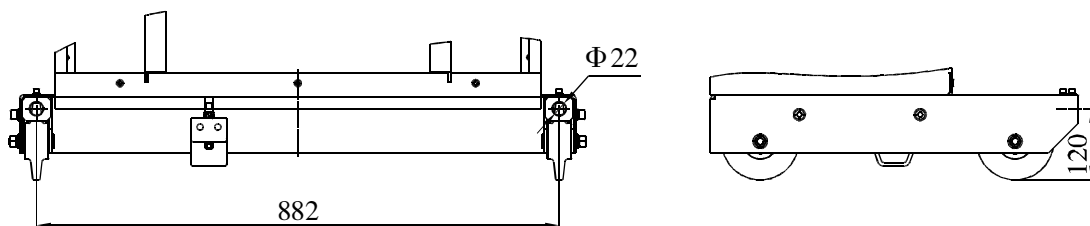


注：I孔为当断路器推进装置需要安装机械程序锁时推荐的开孔，未安装则框门上不需要此开孔。
 note: I hole is cutout for pulling device mechanism sequene lock, otherwise isn't cutout.

与柜配合通过断路器销定位
Matching switchgear by VCB's pins

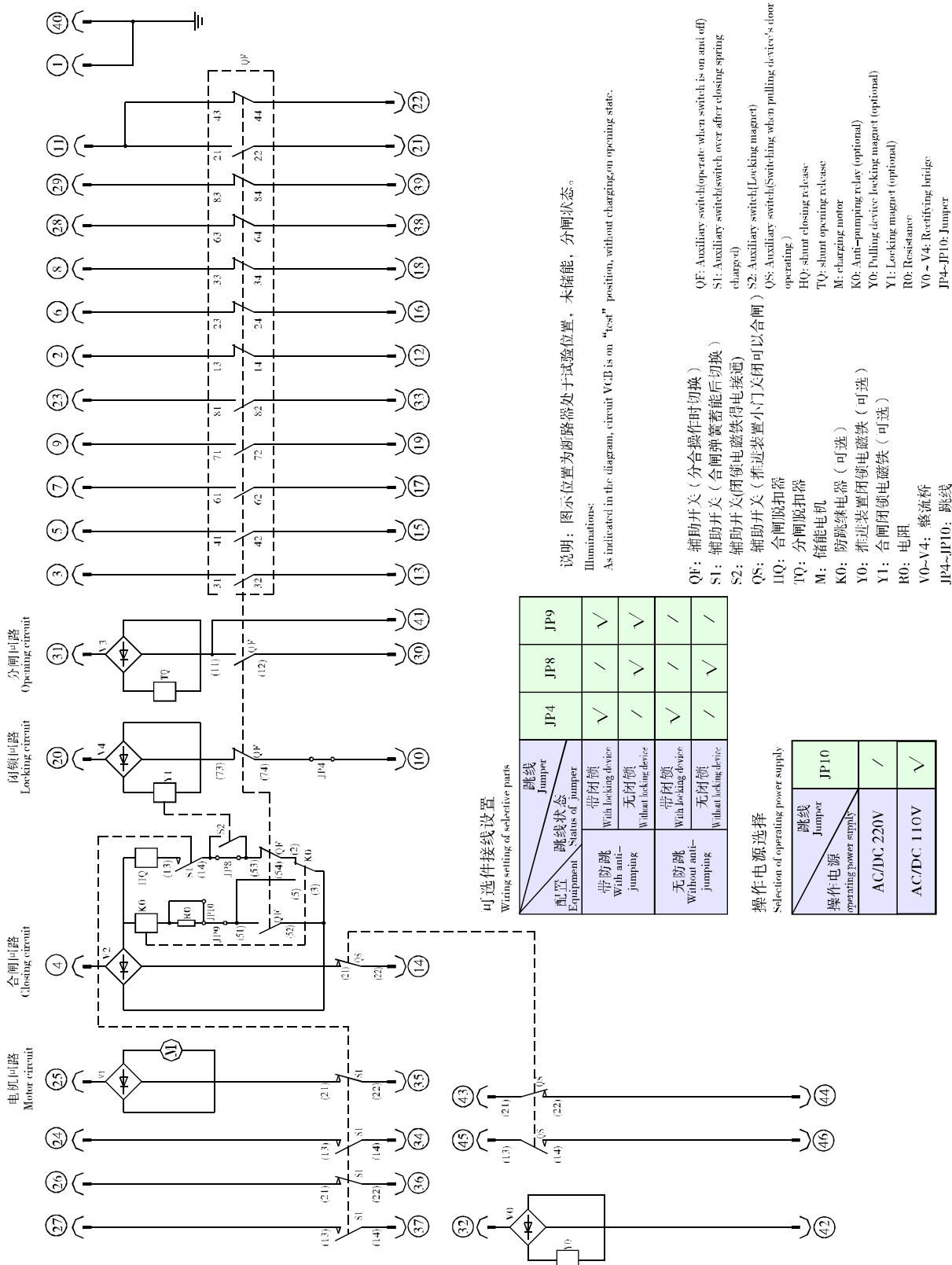


与柜配合通过断路器孔定位
Matching switchgear by VCB's holes





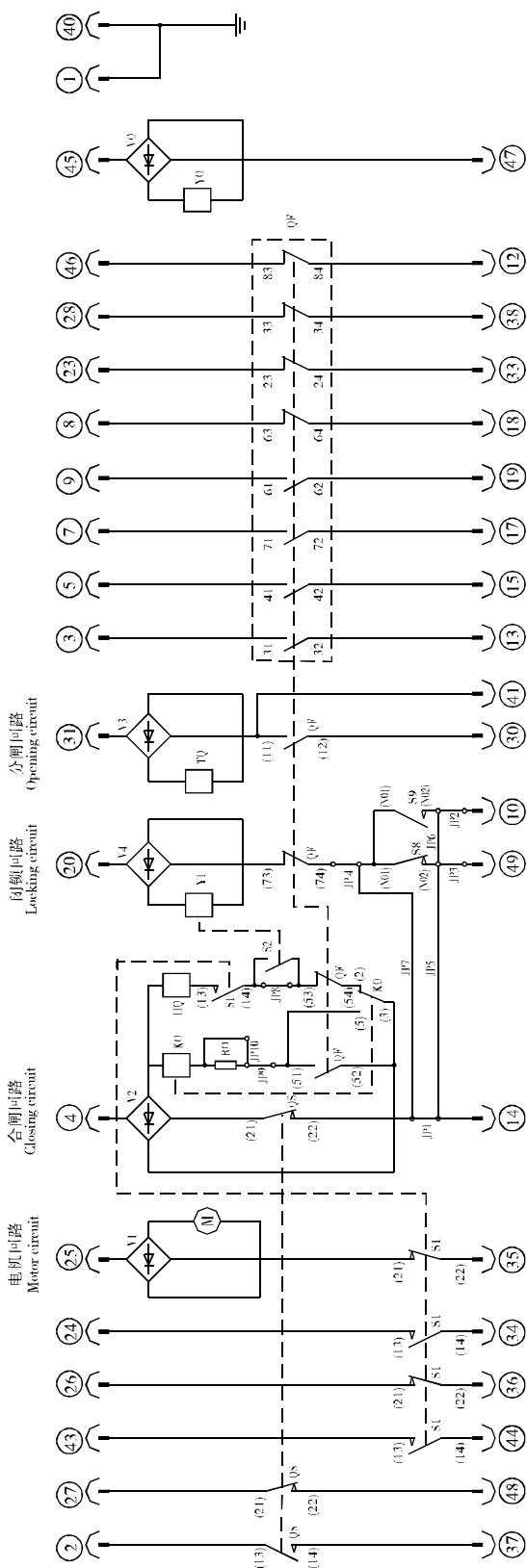
CV1-40.5/T61、CV2-40.5/T61 标准方案电气原理图-适合柜型KYN61 Standard scheme electric circuit diagram-for KYN61 switchgear



注: " / " 表示断开; " ✓ " 表示连接。
Note: " / " is disconnection and " ✓ " is connection.



CV2-40.5/T61 非标准方案电气原理图-适合柜型KYN61 Non-standard scheme electric circuit diagram-for KYN61 switchgear



QF: 辅助开关 (分合操在时切换)
 S1: 辅助开关 (合闸弹簧蓄能后接通)
 S2: 辅助开关 (合闸弹簧蓄能后切换)
 Q5: 辅助开关 (推进装置小门关闭时可以合闸)
 S8: 辅助开关 (当断路器在试验位置时切换)
 S9: 辅助开关 (当断路器在工作位置时切换)
 HQ: 合闸闭锁器
 TQ: 分闸闭锁器
 M: 储能电机
 K0: 防跳继电器 (可选)
 Y0: 非装置闭锁电磁铁 (可选)
 Y1: 合闸闭锁电磁铁 (可选)
 R0: 电阻
 V0-V4: 整流桥
 JP1-JP10: 跳线

QF: 辅助开关(operate when switch is on and off)
 S1: Auxiliary switch(switch over after closing spring charged)
 S2: Auxiliary switch(Locking magnet)
 Q5: Auxiliary switch(Switching when pulling device's door operating)
 S8: Auxiliary switch (switch over when breaker is testing position)
 S9: Auxiliary switch (switch over when breaker is working position)
 HQ: shunt closing release
 TQ: shunt opening release
 M: charging motor
 K0: Anti-pumping relay (optional)
 Y0: Pulling device locking magnet (optional)
 Y1: Locking magnet (optional)
 R0: Resistance
 V0-V4: Rectifying bridge
 JP1-JP10: Jumper

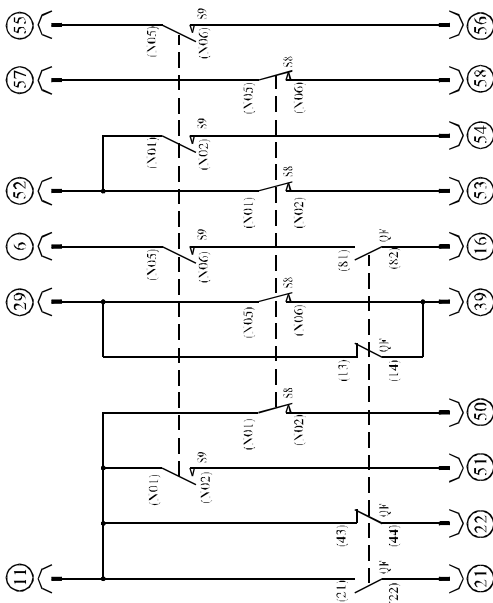
说明: 图示位置为断路器处于试验位置, 未储能, 分闸状态。
 Illuminations:
 As indicated in the diagram, circuit VCB is on "b.st" position, without charging on opening state.

可选件接线设置
 Wiring setting of selective parts

配置 Equipment	带闭锁 With locking device	无闭锁 Without locking device	带闭锁 With locking device	无闭锁 Without locking device	JP1	JP2	JP3	JP4	JP5	JP6	JP7	JP8	JP9	JP10
带闭锁 With anti-jumping	√	/	√	/	√	√	√	√	√	√	√	√	√	√
无闭锁 Without anti-jumping	/	√	/	√	/	/	/	/	/	/	/	/	/	/

操作电源选择
 Selection of operating power supply

操作电源 operating power supply	JP 10
AC/DC, 220V	/
AC/DC 110V	√



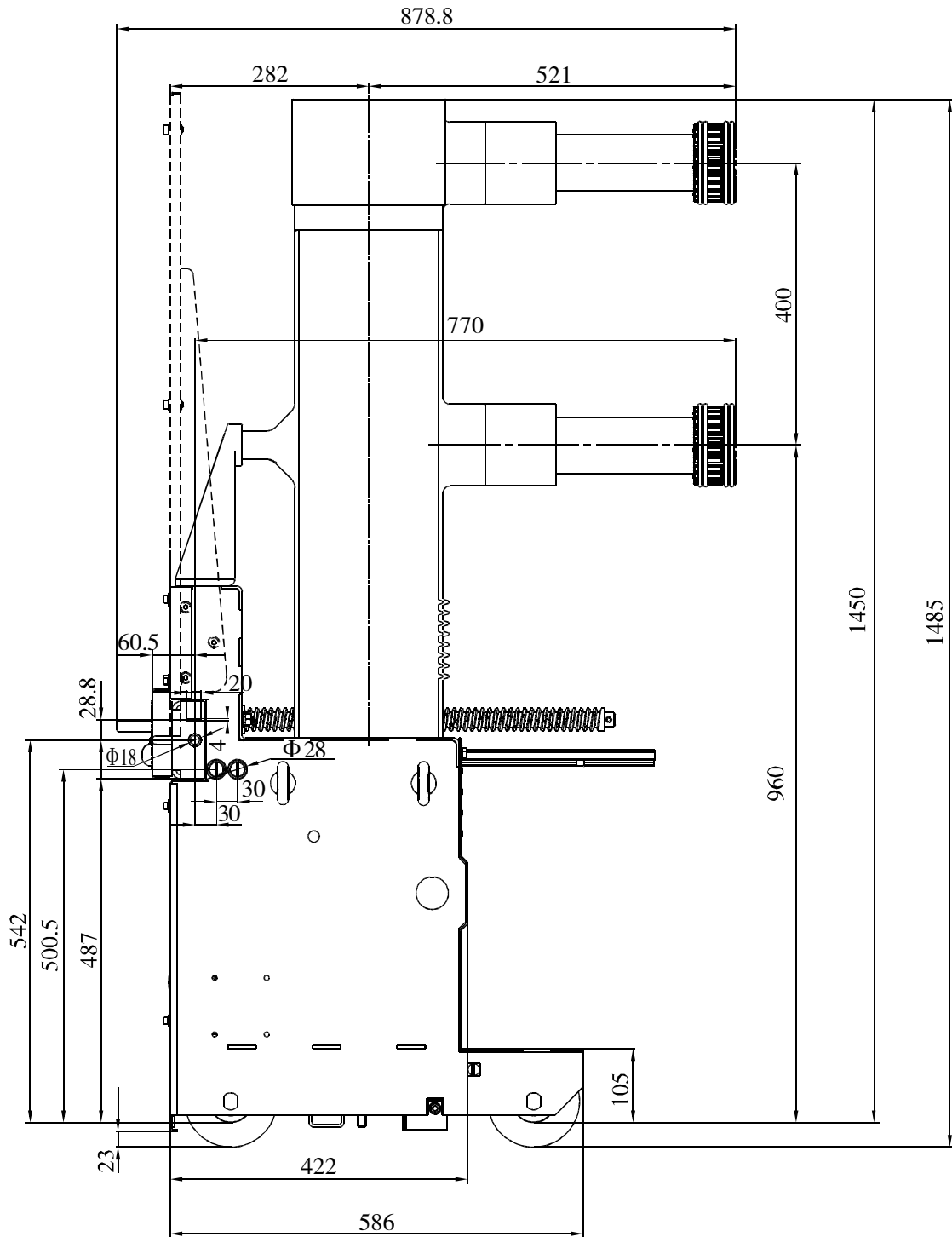
注: "√"表示断开, "∨"表示连接。
 Note: "√" is disconnection and "∨" is connection.

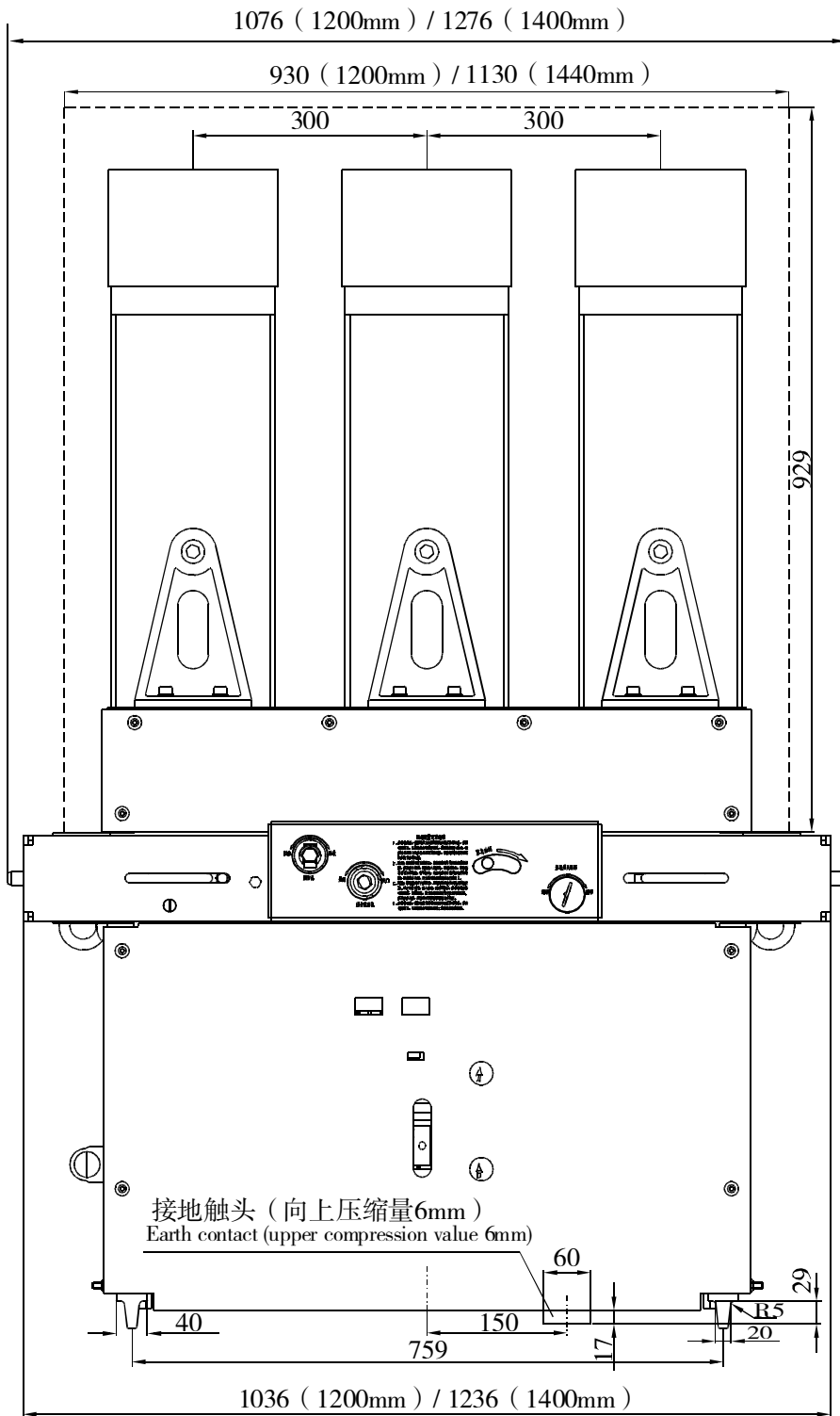


CV1-40.5/T61A外形尺寸及安装尺寸 *OUTLINE DIMENSIONS AND MOUNTING DIMENSIONS*

● CV1-40.5/T61A断路器 VCB

适合柜型：KYN61A（断路器推进行程510mm） Suit for KYN61A switchgear(pulling distance of VCB is 510mm)





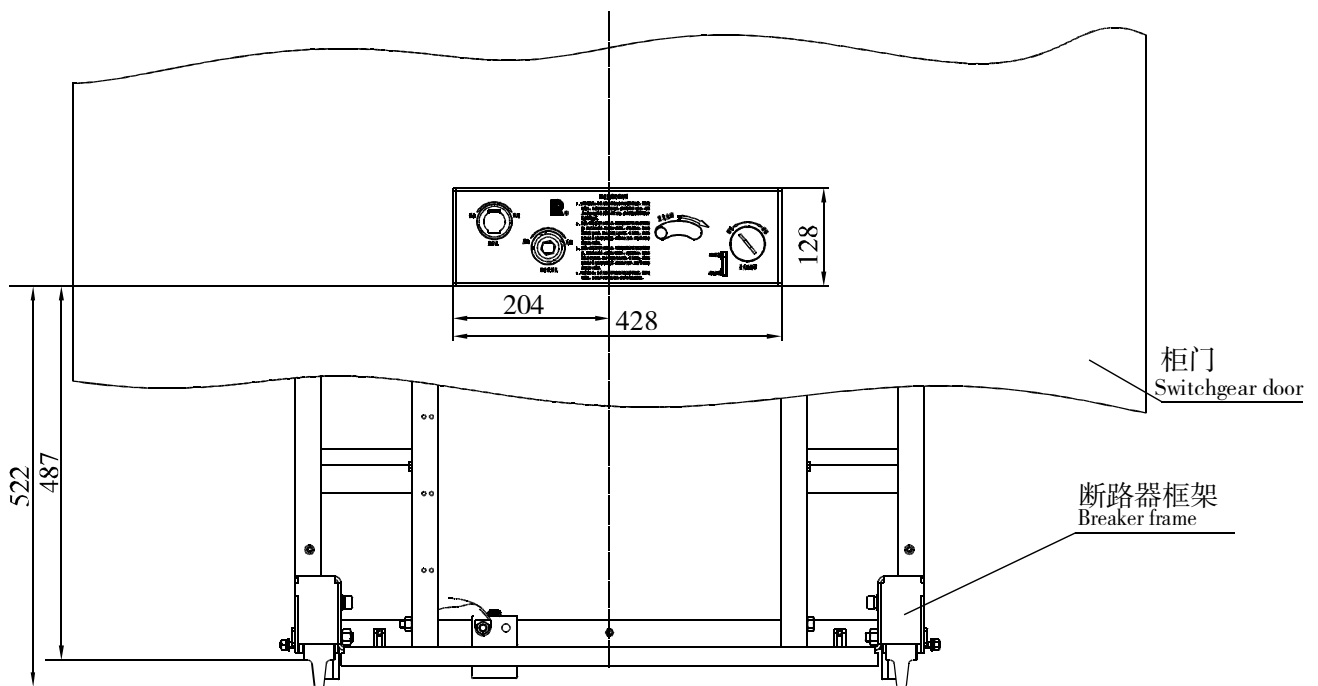
注：接地触头左、右侧均可以安装，左侧安装关于上图中心对称。
 Note: earth contact may be installed at left and right side, it is installed at left side about upper diagram central symmetry.



CV1-40.5/T61A外形尺寸及安装尺寸 *OUTLINE DIMENSIONS AND MOUNTING DIMENSIONS*

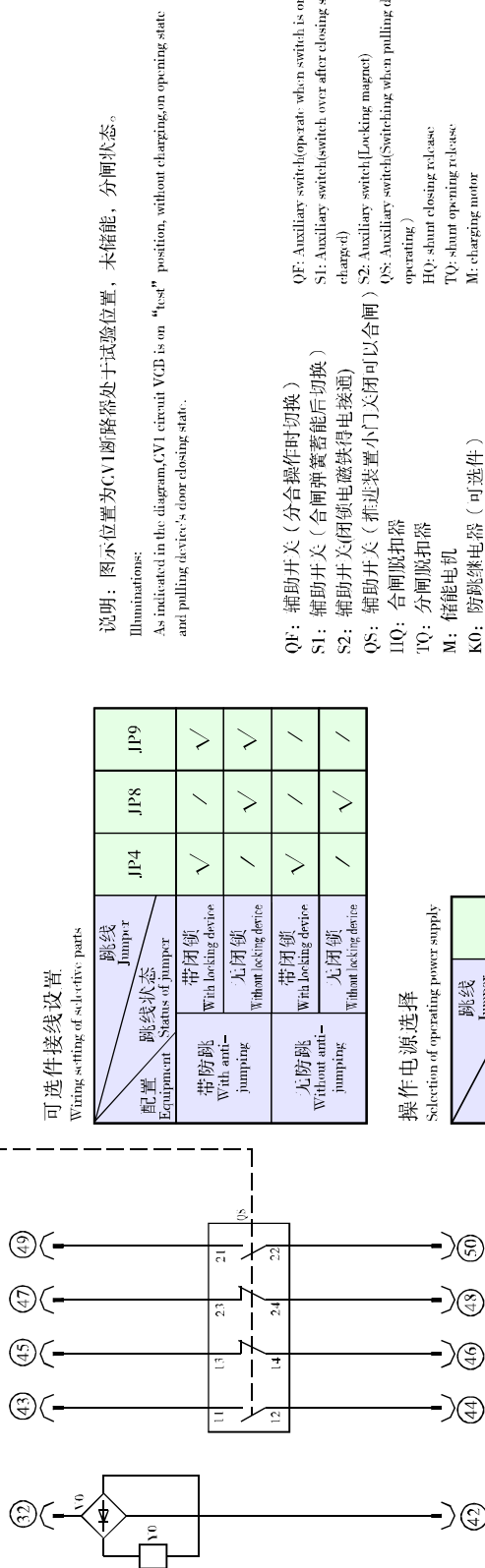
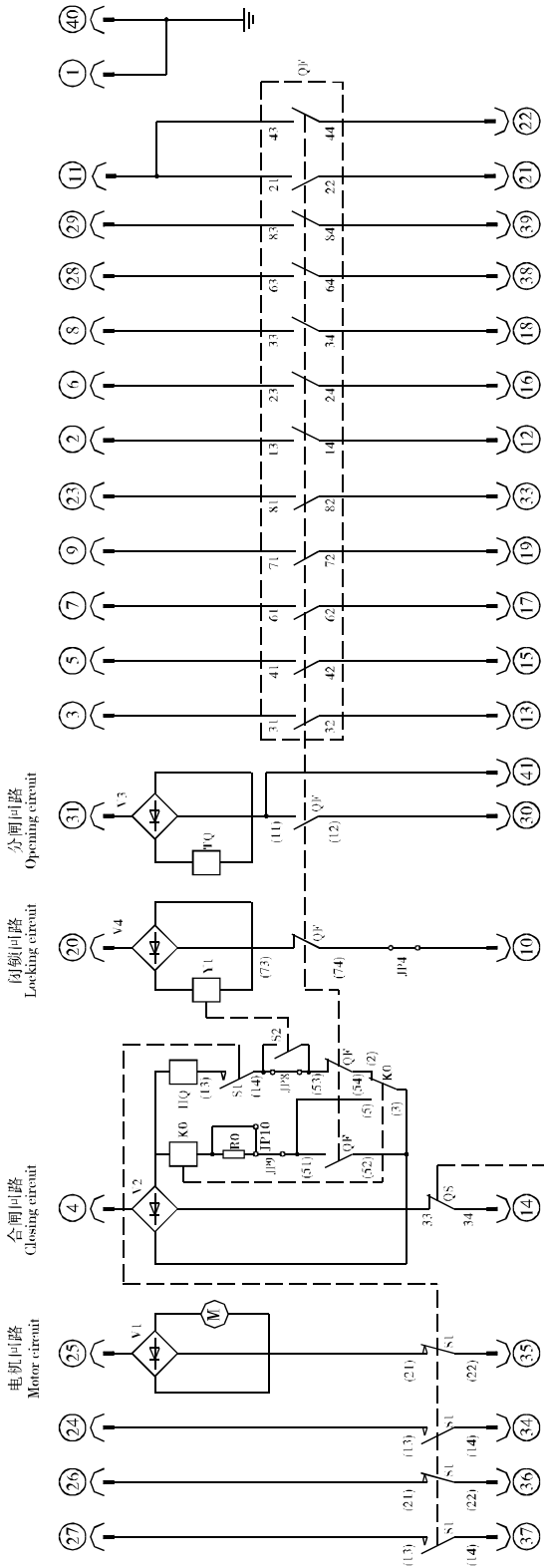
CV1-40.5/T61A 断路器柜门推荐开孔位置尺寸 Holing dimensions for VCB door frame

适合柜型: KYN61A Suit for KYN61A switchgear





CV1-40.5/T61A 电气原理图-适合柜型YKN61A
Electric circuit diagram-for KYN61A switchgear



可选件接线设置
Wiring setting of selective parts

配置 Equipment	带防跳 With anti-jumping	无防跳 Without anti-jumping	带闭锁 With locking device	无闭锁 Without locking device	跳线 Jumper	JP9	JP8	JP4	JP10
带防跳 With anti-jumping	√	/	√	/	√	√	/	√	√
无防跳 Without anti-jumping	/	√	√	√	/	/	√	/	/

操作电源选择
Selection of operating power supply

操作电源 operating power supply	AC/DC 220V	AC/DC 110V	跳线 Jumper	JP10
AC/DC 220V	√	/	√	√
AC/DC 110V	/	√	/	/

说明：图示位置为CV1断路器处于试验位置，未储能，分闸状态。

Illustrations:
As indicated in the diagram, CV1 circuit VCB is on "test" position, without charging, on opening state and pulling device's door closing state.

- QF: 辅助开关(operate when switch is on and off)
S1: 辅助开关(operate over after closing spring charge)
S2: 辅助开关(Locking magnet)
QS: 辅助开关(Switching when pulling device's door operating)
HQ: 分闸脱扣器
TQ: 分闸脱扣器
M: 储能电机
KO: 防跳继电器 (可选件)
Y1: 合闸闭锁电磁铁 (可选件)
Y0: 推进装置闭锁电磁铁 (可选件)
V0-V4: 整流桥
R0: 电阻
JP4-JP10: 跳线

注: "/"表示断开; "√"表示连接。
Note: "/" is disconnection and "√" is connection.



断路器动静触头配合尺寸 MATCHING DIMENSIONS OF MOVING AND STATIC CONTACTS

- CV1-40.5/T61、CV1-40.5/T61A、CV2-40.5/T61断路器动静触头配合尺寸
Matching dimensions of moving and static contacts

额定电流 (A) Rated normal current	630		1250		1600	
额定短路开断电流 (kA) Rated short circuit breaking current	25	31.5	25	31.5	25	31.5
推荐配合静触头直径 (mm) Dimensions of matching fixed contacts	φ 49		φ 49		φ 79	



断路器操作及状态 OPERATION AND ITS STATE

操 作 Operation	操 作 后 状 态 States after operation		可后续的操作 Next operation
	分合指示 Indication of opening/closing	储能情况 Status of stored energy	
原始状态 Original state	0	未储能 Discharged	—
接通储能电动机储能 Stored energy by charging motor	0	已储能 Charged	合、合—分 Closing、closing-opening
断路器合闸 Closing	1	未储能 Discharged	分闸 Opening
断路器合闸后自动储能 Automatic stored energy after Closing	1	已储能 Charged	分闸、分—合、分—合—分 Opening、opening-closing、opening-closing-opening
断路器分闸 Opening	0	已储能 Charged	合、合—分 Closing、closing-opening
自动重合闸顺序 分 Automatic reclosing sequence opening 通过保护系统操作 0.3s合 Operate by protection system 0.3s closing 分 Opening	0 1 0	已储能 charged 未储能 discharged 未储能 discharged	合、合—分 Closing、closing-opening
自动储能 Automatic stored energy	0	已储能 charged	



用户务必确认对本产品技术资料已有详细了解，并根据产品将来使用的场合按“订货规范”表订货

Users should make sure of their detailed acquaintance of the products' technological materials and make ordering by the "ordering notice" in terms of future applicable situations of the breakers.

订货规范

Ordering form

请在□内打√
Please mark √ in □

用户单位 Name				订货日期 Order date			订货台数 Order number		
适用柜型 applied switchgear		KYN61			KYN61A				
				柜宽 (1200mm) Switchgear width		柜宽 (1400mm) Switchgear width			
型号 type		CV1-40.5/T61	CV2-40.5/T61		CV1-40.5/T61A		CV1-40.5/T61A		
		规格 specification	规格 specification		规格 specification		规格 specification		
		<input type="checkbox"/> 630-25	<input type="checkbox"/> 630-25		<input type="checkbox"/> 630-25		<input type="checkbox"/> 630-25		
		<input type="checkbox"/> 630-31.5	<input type="checkbox"/> 630-31.5		<input type="checkbox"/> 630-31.5		<input type="checkbox"/> 630-31.5		
		<input type="checkbox"/> 1250-25	<input type="checkbox"/> 1250-25		<input type="checkbox"/> 1250-25		<input type="checkbox"/> 1250-25		
		<input type="checkbox"/> 1250-31.5	<input type="checkbox"/> 1250-31.5		<input type="checkbox"/> 1250-31.5		<input type="checkbox"/> 1250-31.5		
		<input type="checkbox"/> 1600-31.5				<input type="checkbox"/> 1600-31.5		<input type="checkbox"/> 1600-31.5	
必 选 配 置 Necessary Accessories	合闸脱扣器电压 Voltage of shunt closing release	<input type="checkbox"/> AC110V		<input type="checkbox"/> AC220V		<input type="checkbox"/> DC110V		<input type="checkbox"/> DC220V	
	分闸脱扣器电压 Voltage of shunt opening release	<input type="checkbox"/> AC110V		<input type="checkbox"/> AC220V		<input type="checkbox"/> DC110V		<input type="checkbox"/> DC220V	
	储能机电电压 Voltage of charging motor	<input type="checkbox"/> AC110V		<input type="checkbox"/> AC220V		<input type="checkbox"/> DC110V		<input type="checkbox"/> DC220V	
	接地触头安装位置 Earth contact installed position	<input type="checkbox"/> 左侧 left side				<input type="checkbox"/> 右侧 right side			
	专用必配件 Special necessary accessories	与柜定位配合方式 Type of matching switchgear			<input type="checkbox"/> 断路器销定位 By breaker's pins <input type="checkbox"/> 断路器孔定位 By breaker's holes				
可 选 配 置 Optional Accessories	<input type="checkbox"/> 防跳继电器 (KO)* Anti-pumping relay								
	<input type="checkbox"/> 合闸闭锁电磁铁 (Y1+S2) Locking magnet	<input type="checkbox"/> AC110V		<input type="checkbox"/> AC220V		<input type="checkbox"/> DC110V		<input type="checkbox"/> DC220V	
	<input type="checkbox"/> 推进装置闭锁电磁铁 (Y0) Pulling device locking	<input type="checkbox"/> AC110V		<input type="checkbox"/> AC220V		<input type="checkbox"/> DC110V		<input type="checkbox"/> DC220V	
	CV1-40.5/T61 专用选配件 Special optional accessories	推进装置机械程序锁 Pulling device mechanism sequence lock			<input type="checkbox"/> 两锁一钥匙 Two locks one key		<input type="checkbox"/> 三锁二钥匙 Three locks two key		
CV2-40.5信号输出非标准方案 Signal output non-standard scheme				<input type="checkbox"/> 增加S8、S9辅助开关 Adding S8,S9 auxiliary switch					
备注 Note									

带*可选配置附件需要断路器和开关柜配合安装使用，若需选择此类附件请在订货前务必与本公司协商，并取得一致意见。
Optional accessories with * are used by VCB and switchgear matching,if selecting this accessories,please consulting with our to acquire consistent opinion..



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