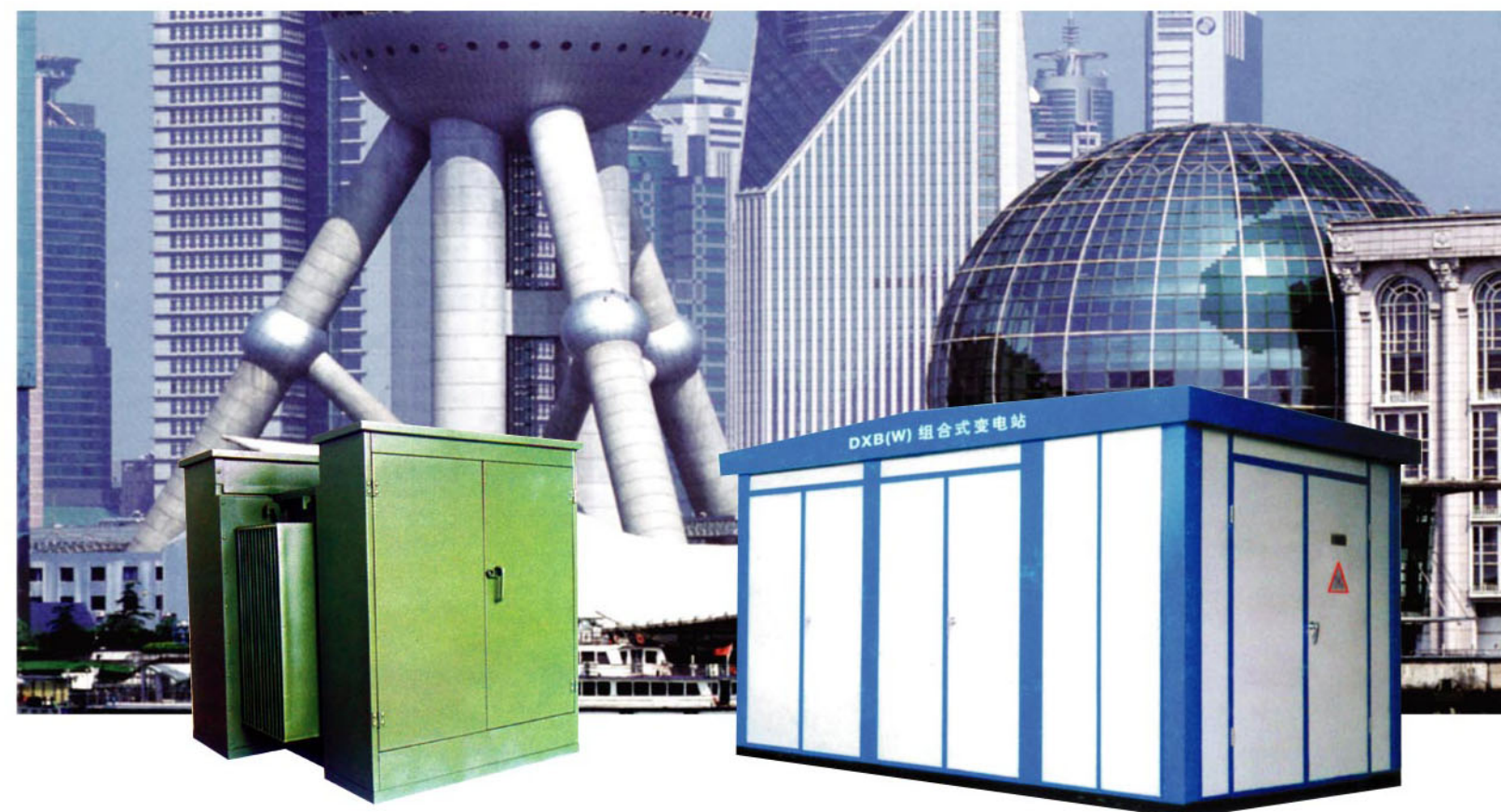




预装式变电站 (欧式、美式) Pre-assembled Substation (European/American Type)

电缆分接箱 Cable Branch Box



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中国·上海中科电气集团
SHANGHAI CHINA-SCIENCE ELE.GROUP, CHINA

上海人民电力设备股份有限公司
SHANGHAI RENMIN ELECTRIC POWER EQUIPMENTS CO., LTD.

预装式变电站（欧式） Pre-assembled Substation (European Type)



DXB(W)-10

产品用途

组合（箱式）变电站系三相交流50Hz，6~35kV的户外组合式变配电成套装置。符合GB/T17467-1998《高压/低压预装式变电站》标准。产品以合理的设计手段，使高压开关设备、变压器、低压电器无件有机地组合在一个或几个箱体内，该产品可适用于城市的生活小区、工矿企业、矿山、油田、码头、机场。也可以作为各种建设工地的临时性代电设备可实现环网或终端型供电方式。

产品结构

- ◆ 变电站骨架结构采用槽钢及角钢制造，有较高的机械强度，外壳采用金属钢板或铝合金板等材料制造，表面光滑平整，产品美观大方，且具有较好的防腐性能。非金属箱体框架用型钢和特种预制水泥混凝土制作，并加以防腐处理，其外形尺寸根据箱体大小及变压器容量而定。箱体及顶盖均采用特种水泥及其它复合材料制作。外隔门运用彩镀复合板、玻纤混凝土浇注及喷射砂石硬塑材料结构。
- ◆ 变电站各室之间均用隔板成独立的小室，可布置成目字型和品字型。
- ◆ 顶盖为双层结构，以防止热辐射。
- ◆ 变压器顶部装有排风扇，自动控制变压器室温度，增加空气对流降低室温。
- ◆ 为了便于监视的检修，变压器室、低压室和高压室均设有照明装置，由门控制其开关。
- ◆ 变电站可转动的连接部分均采用橡胶带密封，有较好的防潮能力。



Application

DXB(W)-10 Outdoor Package Substation is an outdoor combined distribution complete set apparatus used in 3-phase, 50Hz, 6~35kV power systems. With reasonable design, the package substation combines high voltage switchgear, transformer, low voltage electric apparatus into one or several cases organically, suitably used in city's residential areas, industrial and mineral enterprises, mineral sites, oil fields, wharves, airports as well as a temporal power supply equipment for civil sites.

Structure

- ◆ The frame structure of the substation is made of channel steel and angle steel resulting in high mechanical strength. Its enclosure is made of aluminum alloy sheet and other equivalent material which is even and smooth in surface, good looking and anti-corrosion. Non-metal enclosure cubicle is made of shaped steel and special pre-assembled cement concrete with corrosion-proof treatment. Its overall dimensions depend on enclosure size and transformer capacity. Enclosure Frame and top cover are made of cement and other composite materials. The external isolated door is of color plated synthetic plate, glass fiber concrete injection and spray sand hard plastic material structure.
- ◆ The compartments in substation are separated independently with partitions in between.
- ◆ Double tier structure for the top cover avoids direct thermal radiation.
- ◆ There is drain fan mounted at top of the transformer to control temperature of transformer compartment automatically and enhance air convection to lower the room temperature.
- ◆ There are lighting lamps controlled by the door in transformer compartment, low voltage compartment and high voltage compartment for the convenience of inspection and reparation.
- ◆ Rotational linking parts are sealed with rubber bends with better wet-proof performance.

特点

- ◆ 极强的机械抗弯、抗冲击、抗拉强度。
- ◆ 极强的抗曝晒、抗辐射及隔热能力。
- ◆ 极好的防冻、防裂、防腐蚀特性。
- ◆ 极好的防潮阻燃性能、在聚冷、聚热环境温度变化下不会产生凝露。
- ◆ “全天候”使用性能、可和周围环境相协调。
- ◆ 外形结构及装饰色彩可选择性大。
- ◆ 箱体有极强的抗风化性，使用寿命可达五十年之久。
- ◆ 对周围环境无污染，属环保产品。

正常使用环境条件

- ◆ 海拔不超过1000M
- ◆ 周围空气温度上限+40℃下限-25℃
- ◆ 户外内风速不超过35m/s
- ◆ 相对湿度日平均值不大于95%（25℃时）
- ◆ 月平均值不大于95%（25℃时）
- ◆ 无经常性剧烈振动的冲撞。
- ◆ 没有水灾，爆炸危险和严重污移，化学腐蚀的场所。

主要技术数据 Main technical parameters

◆ 低压开关技术数据 For low voltage circuit breaker

主开关采用HLA、HNB、DZX10、DW15、ME、ABB-F、E系列、施耐德M系列等，分路开关选用DZX10、DZ20、CN1、ABB-S、施耐德NS系列等。

For low voltage circuit breakers such as HLA, HNB, DZX10, DW15, ME, ABB-F and Schneider Series, Will be selected for main switches, and DZX10, DZ20, CN1, ABB-S' and Schneider NS Series for branch switches.

型 号 Type	额定电流 A Rated current of frame	脱扣器额定电流 A Rated current of trip	通断能力 KA Making and breaking capacity	
			220	380
HLA-600	600	250、300、350、400、500、600	20	35
HNB-1200	1200	700、800、900、1000、1200	20	50
DZX10-100	100	25、30、40、50、63、80、100	-	30
DZX10-200	200	100、120、140、170、200	-	40
DZX10-630	630	200、250、300、350、400、500、630	-	60
DW15-200	200	100、160、200	-	20
DW15-400	400	200、315、400	-	25
DW15-630	630	315、400、630	-	30
DW15-1000	1000	630、800、1000	-	40
DW15-1600	1600	1600	-	40
DW15-2500	2500	1600、2000、2500	-	60
ME630~2500	630~2500	630、800、1000、1250、1600、2000、2500	-	105~130

◆ 高压断路器技术数据 For high voltage circuit breaker

型 号 Type	额定电压 (kV) Rated voltage	额定电流 (A) Rated current	额定短路开断电流 (kA) Rated short circuit breaking current
ZN-35C, LN-35C, SN10-35	35	1250、1600	20、25、31.5
ZN-10, LN-10, SN10-10	10	1250、1600	25、31.5、40

Feature

- ◆ Exceptionally bent-proof, impulse proof and tensile proof.
 - ◆ Excellent performance of sun exposure, radiation proof and thermal insulation.
 - ◆ Featuring very good cold proof, crack proof and corrosion proof.
 - ◆ With excellent wet-proof and flame retardant performance, the product will not cause condensation during severe temperature fluctuation.
 - ◆ Weather proof performance coordinates surrounding environment.
 - ◆ Wide scope for selection in overall structure and decorating color.
 - ◆ With very strong ageing effective preventive performance, the actual operation endurance of the substation is as long as 50 years.
 - ◆ This is an environment protective product which no pollution will be generated.
- ### Normal working conditions
- ◆ Altitude not over 1000 meters above sea level
 - ◆ Ambient temperature not higher than +40℃ nor lower than -25℃
 - ◆ Outdoor wind speed not exceeding 35m/s
 - ◆ Relative humidity daily average not greater than 95% at 25℃ and monthly average not greater than 90% at 25℃
 - ◆ Places where there is no frequent severe vibration and shock
 - ◆ Places where there is no inundation, potential explosion, nor severe pollution, chemical corrosion.

◆ 高压负荷开关技术数据 For high voltage load switch

型 号 Type	额定电压 (kV) Rated voltage	额定电流 (A) Rated current
FN5-10	10	400、630
FN16-10	10	630

◆ 变压器技术数据 For power transformer

型 号 Type	额定电压 (kV) Rated voltage	变比 (kV/kV) Ratio	容量 (kVA) Capacity
SZ7、SC8、S7	35	35/0.4~10	200~25000
BS7、S7、SC8	10	10/0.4	50~2500

◆ 电流互感器技术数据 For current transformer

型 号 Type	额定一次电流 (A) Rated primary current	额定二次电流 (A) Rated secondary current	准确级次 Accuracy class	10%倍数不小于 10% multiple not less than	二次负荷 (VA) Secondary burden
LCZ-35	50~800	5	0.5/3	10	50
LZJC-10	200~1600	5	0.5/C		
LMZ-0.66	50~1500	5			

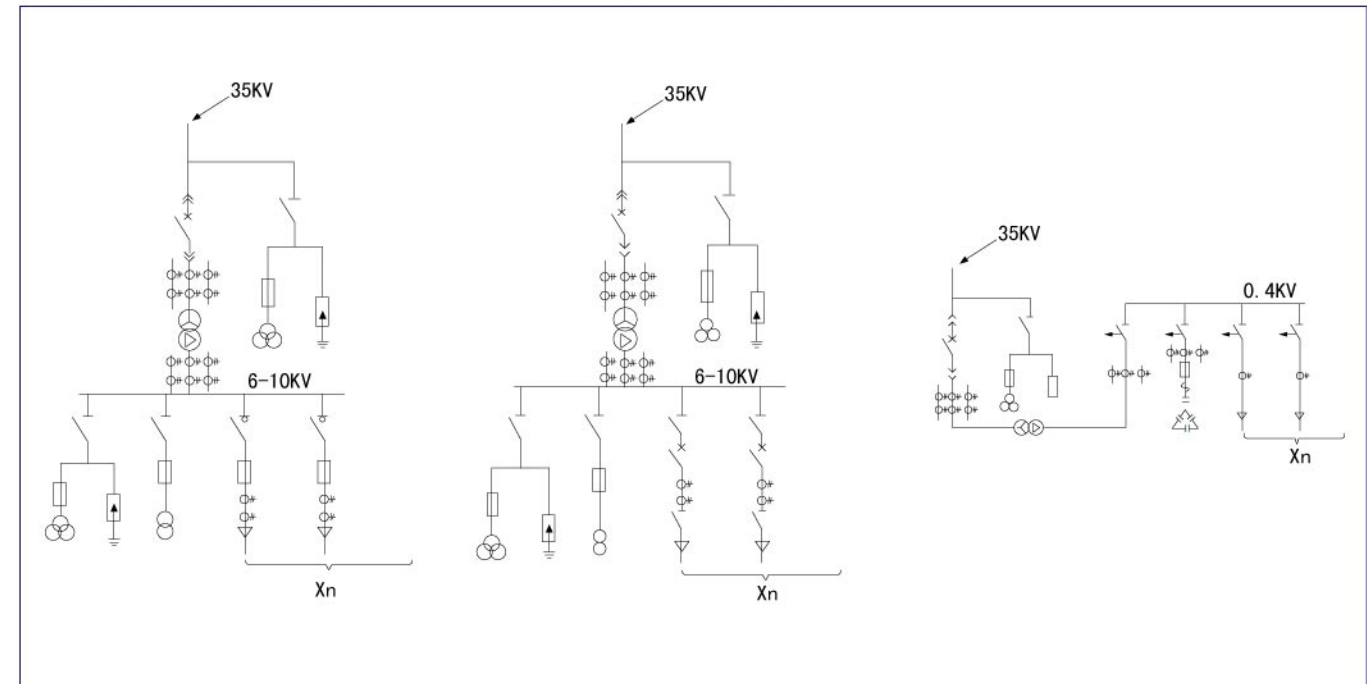
◆ 电压互感器技术数据 For potential transformer

型 号 Type	额定电压 (V) Rated voltage			额定容量 (VA) Rated capacity			最大容量 (VA) Maximum capacity
	一次 Primary	二次 Secondary	辅助二次 Aux. secondary	0.5级 Class 0.5	1级 Class 1.0	3级 Class 3.0	
JDJ2-35	35000	100	--	150	250	500	1000
JDJJ2-35	35000/√3	100/√3	100/√3	150	250	500	1000
JDZJ-10	10000/√3	100/√3	100/√3	50	80	200	400

◆ 避雷器技术数据 For surge arrester

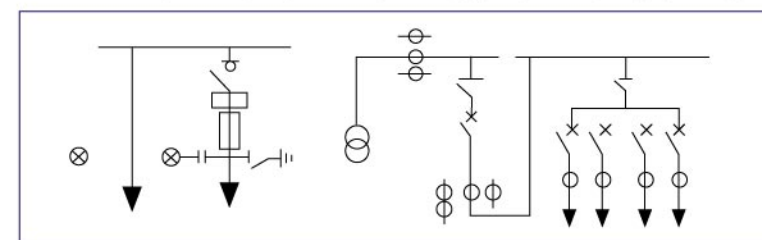
型 号 Type	额定电压 (kV) Rated voltage	残压峰值 (kV) Peak value of residual voltage
Y5W1-41/134	41	134
Y5W-12.7/50	10	50

◆ 组合式变电站电力系统简图 Brief for electric power system of package substation

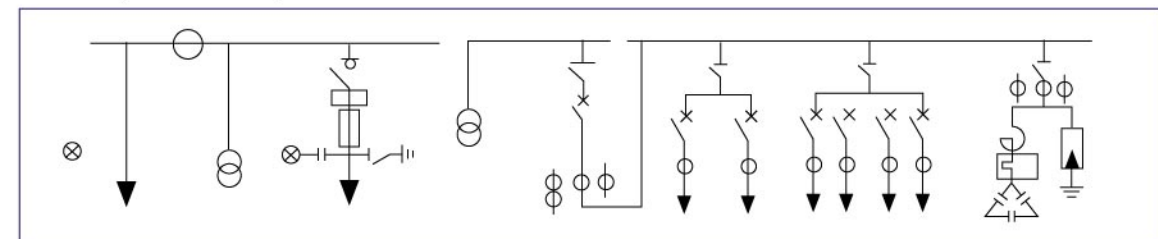


典型系统方案举例参考 Examples for typical systematic schemes

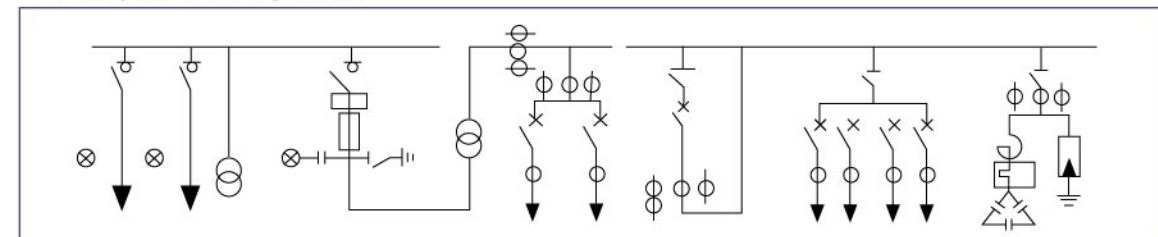
- ◆ 电缆进出，终端供电，高供高计
Cable incoming and outgoing, terminal power supply, high voltage supply and high voltage metering.



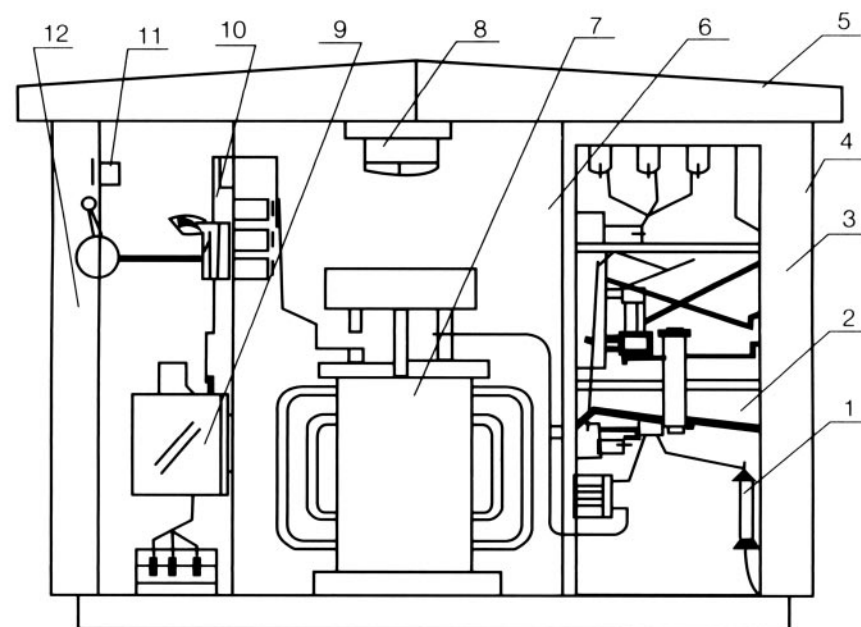
- ◆ 电缆进出，终端供电，高供高计，低压走廊式，低压电容补偿
Cable incoming and outgoing, terminal power supply, high voltage supply and high voltage metering, low voltage corridor, low voltage condenser compensation.



- ◆ 电缆进出，环网供电，高供低计，低压走廊式，低压电容补偿
Cable incoming and outgoing, ring main unit power supply, high voltage supply and low voltage metering, low voltage corridor, low voltage condenser compensation.



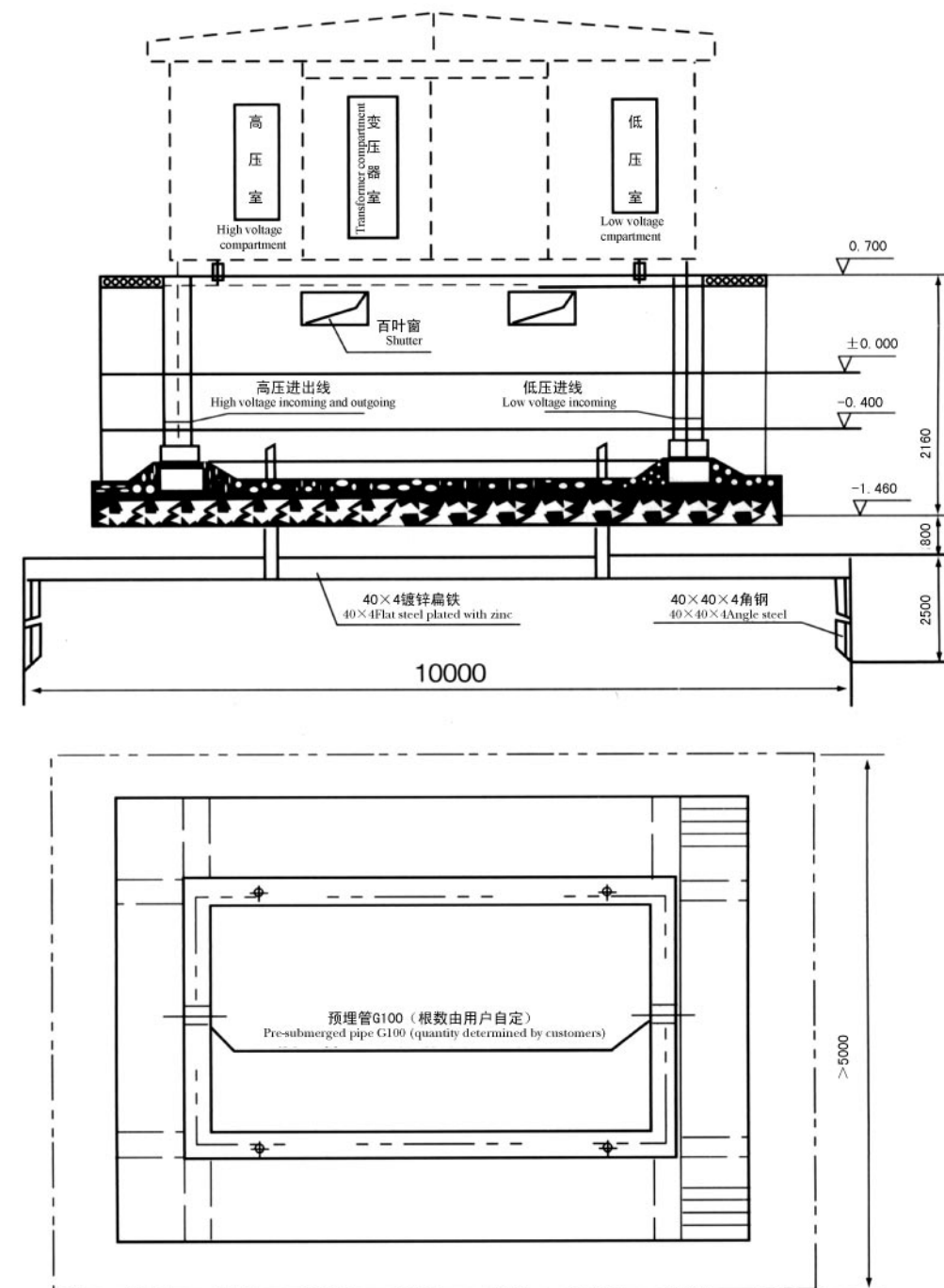
箱式变电站内部结构及元件布置图 Internal structure and component layout for package substation



- 避雷器 Surge arrester
- 环网开关柜 Ring main unit
- 高压室 High voltage compartment
- 框架 Frame
- 顶盖 Top cover
- 变压器室 Transformer compartment
- 变压器（干式，油浸） Transformer (dry type, oil-immersed)
- 温控排风扇 Temperature controlled drain fan
- 万能式断路器 Air circuit breaker
- 刀开关 Knife switch
- 计量与指示仪器 Metering and indicating instruments
- 低压室 Low voltage compartment

户外箱式变电站基础和电缆进出线施工设计图（供参考）

Civil work design for outdoor package substation foundation and cable outgoing (for reference only)



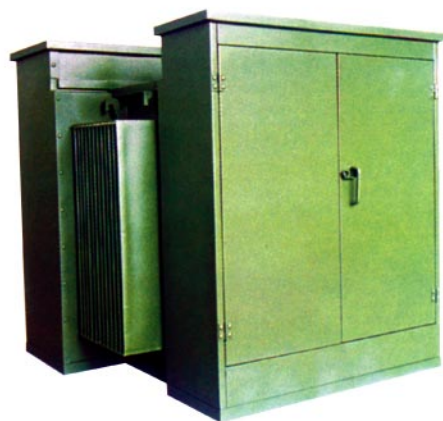
技术要求

1. 接地网如不按此图做法，也可用其它做法，但接地电阻须小于 4Ω 。
2. 接地极与接地连接处电焊，焊接处均刷沥青防腐。

Technical requirements

1. Alternative layout of earthing network other than specified in this drawing is also acceptable with earthing resistance less than 4Ω .
2. Earthing electrode and earthing link should be connected by electric welding with bitumen oil brushed at welding spots for purpose of anti-corrosion.

预装式变电站（美式） Pre-assembled Substation (American Type)



产品结构

- ◆ 目字型结构美式箱变结构分为前、中、后三部分
 - * 前后部分：高、低压柜体
 - * 中部：变压器主体
- ◆ 品字型结构美式箱变结构分为前、后两部分
 - * 前面部分：高、低压柜体
 - * 后面部分：变压器主体

高压柜体包括：高压端子、负荷开关操作柄、无励磁分接开关、插入式熔断器、油位表、油温表、油样活门、压力释放阀。

低压柜体包括：低压端子、低压开关、低压计量、低压测量、无功补偿等单元。

变压器主体包括：油箱、波纹散热片、高低压绕组、铁芯（S9型可采用多级层叠式，亦可采用卷铁芯结构，S11型仅能采用卷铁芯结构）、高压负荷开关、高压熔断器。

箱体为全密封结构，采用防盗式高强度螺栓及耐油橡胶垫圈密封箱盖。

shaped structure

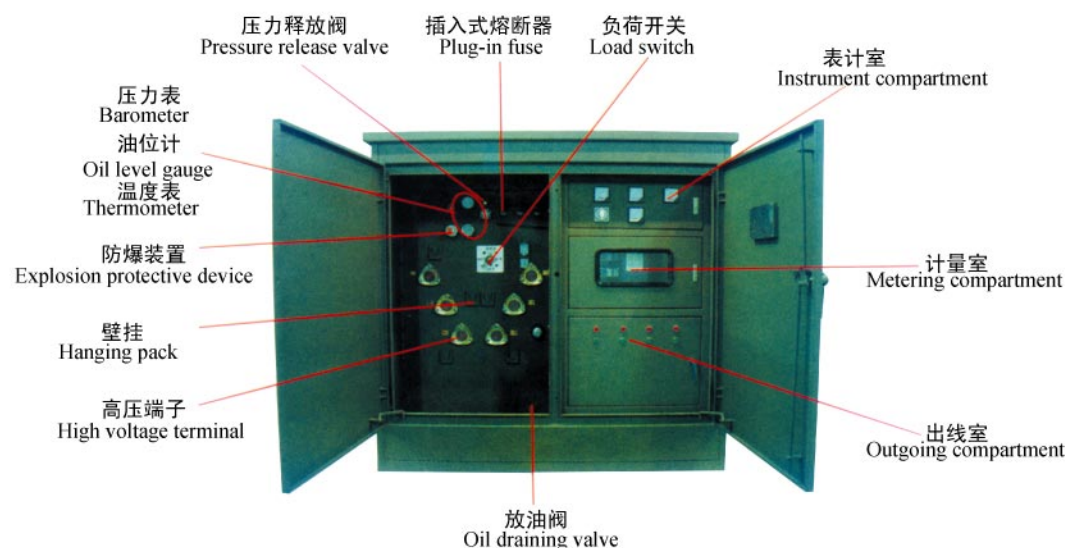
- ◆ It can be divided into three parts: front part, middle part and rear part
 - * Front and rear parts: High voltage and low voltage cubicle assembly
 - * Middle part: Transformer assembly
- ◆ It can be divided into two parts: front part and rear part
 - * Front part: High voltage and low voltage cubicle assembly
 - * Rear part: Transformer assembly

High voltage cubicle assembly includes high voltage terminals, load switch handle, non-excitation branch switch, plug-in fuse, oil position level gauge, oil temperature meter, oil sample shutter and pressure release valve.

Low voltage cubicle assembly includes low voltage terminals, low voltage switch, low voltage metering, low voltage measurement and reactive power compensation units.

Transformer assembly includes oil tank, bellows heat dissipating pieces, high and low voltage windings, iron core (multiplier and roll core for S9 type; and roll core structure for S11 only), high voltage load switch and high voltage fuse.

The cubicle frame is of total seal structure, employing theft-proof high intensity bolts and oil resistant rubber washer sealed top cover.



功能特点及用途

- ◆ 全绝缘、全密封、免少维护、可靠保证人身安全；
- ◆ 结构紧凑、体积仅为同容量欧变的1/3—1/5；高度仅为1.5，不挡视线；
- ◆ 采用分箱式结构，避免变压器油箱内油的污染；
- ◆ 高压侧采用双熔线全范围保护，大大降低成本；
- ◆ 即可用环网，也可用于终端，电缆头可在200A负荷电流时紧急插拔；
- ◆ 箱体采用蜂窝式双夹层复合板，隔温又有散热的功能，该技术属本公司最新开发的专利（专利号：ZL00236211.2）；
- ◆ 低压侧可加装欠压控制器，当系统内出现不正常电压时，可快速切除低压侧负荷；
- ◆ 高压侧油浸式负荷开关或SF6负荷开关，可电动升级，为实现配网自动化打下基础。
- ◆ 广泛用于城市电网改造、住宅小区等各类公共场所以及厂矿、宾馆、机场、铁路、码头、高速公路等户内外场所。

执行标准

- ◆ 本产品符合下列标准：
- * GB/T17467—1998《高压/低压预装式变电站》
- * DL/T537—93《6—35KV箱式变电站订货技术条件》

正常使用条件

- ◆ 海拔高度不超过1000m
- ◆ 环境温度：-35℃—+40℃；
- ◆ 相对湿度：日平均值不大于95%，月平均值不大于90%；
- ◆ 安装场所：无火灾、爆炸危险、化学腐蚀性气体及通风良好的场所，场面倾角不大于3°。

Functional features and application

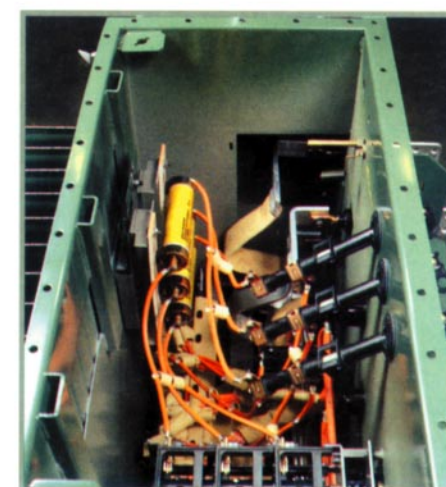
- ◆ Total insulation and thorough seal result in maintenance free and reliable safety to persons;
- ◆ Compact in structure: The volume is only 1/3 ~ 1/5 that of European type and its height is limited to 1.5 meter.
- ◆ Phase separating structure avoids oil pollution from transformer oil tank.
- ◆ Double fusing element for full protection on high voltage side reduces cost greatly.
- ◆ The product may be applied in ring main unit and in terminals as well. The cable head may be plugged in and pulled out when in emergency with a load current of 200A.
- ◆ Enclosure made of alveolate double sandwich composite plate is heat insulating and heat dissipating as well. This is the ECC's newly-developed technology which owns patent with its number of ZL00236211.2 issued by China Patent Bureau.
- ◆ Undervoltage controller may be mounted on low voltage side to disconnect low voltage side load quickly when abnormal voltage appears in system.
- ◆ Oil-immersed load switch or SF6 load switch on high voltage side may be upgraded in a motor-driven way so as to lay a good foundation for automation of distributing grid.
- ◆ Widely applied in urban electric grid reformation and public sites such as residential areas, enterprises, mines, hotels, airports, railways, wharfs, high speed roads and other indoor and outdoor places.

Applied standard

- ◆ This product is in conformity with following standards:
- * GB/T17467 - 1998 "High voltage / low voltage pre-assembled substation"
- * DL/T 537-93 "Ordering technical conditions for 6-35 kV package substation"

Normal working conditions

- ◆ Altitude not over 1000 meters above sea level;
- ◆ Ambient temperature ranging from -35°C to +40°C;
- ◆ Average daily value of relative humidity not greater than 95% and average monthly not greater than 90%.
- ◆ Well-ventilated installation places with no potential conflagration, no potential explosion, nor chemical corrosive gases. The inclination of site not over 3°.



技术参数

序号 Type	项目	单位	技术参数 (A)
1	额定电压	KV	10/0.4 (高压/低压)
2	最高工作电压	KV	12 (高压侧)
3	额定频率	HZ	50
4	额定容量	KVA	100-1600
5	1分钟工频耐压	KV	35
6	雷电冲击电压	KV	75
7	冷却方式		油浸自冷
8	高压后备熔断器开断电流	KA	50
9	插入式熔断器开断电流	KA	2.5
10	环境温度	°C	-35→+40
11	线圈允许温升	°C	65
12	无载调压		±5%或±2×2, 5%
13	噪声等级	ab	50
14	防护等级		IP43

变压器

选用新型S9系列变压器身，损耗低，过载能力好，抗短路能力强，所有紧固件均经过防松处理，免吊芯；也可选用性能更优良的S10系列及S11系列环型无缝铁芯变压器。

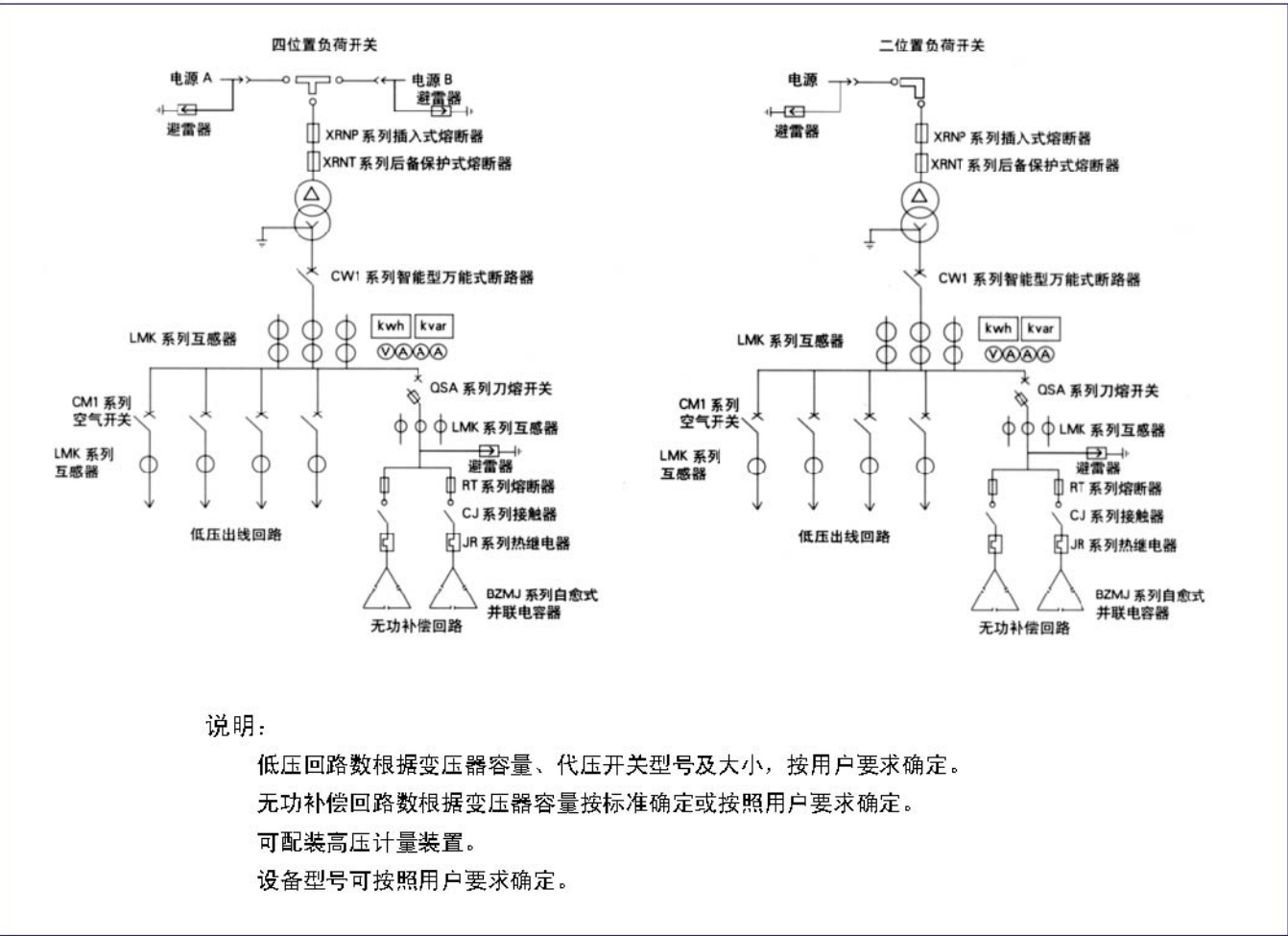
容量 KVA	电压KV		连接组 标号	空载电流%			空载损耗W			阻抗电压%	负载损耗W
	高压	低压		S9	S10	S11	S9	S10	S11		
160				1.4	1.4	0.2	400	320	255	4.0	2200
200				1.3	1.3	0.2	480	380	305		2600
250				1.2	1.2	0.2	560	450	360		3050
315	10±5% 或 ±2×2.5%	0.4	Dyn11 Yyn0	1.1	1.1	0.2	670	530	425		3650
400				1.0	1.0	0.15	800	650	505	4.5	4300
500				1.0	1.0	0.15	960	750	605		5100
630				0.9	0.9	0.15	1200	910	755		6200
800				0.8	0.8	0.15	1400	1080	980		7500
1000				0.7	0.7	-	1700	1260	-	4.5	10300
1250				0.6	0.6	-	1950	-	-		12000

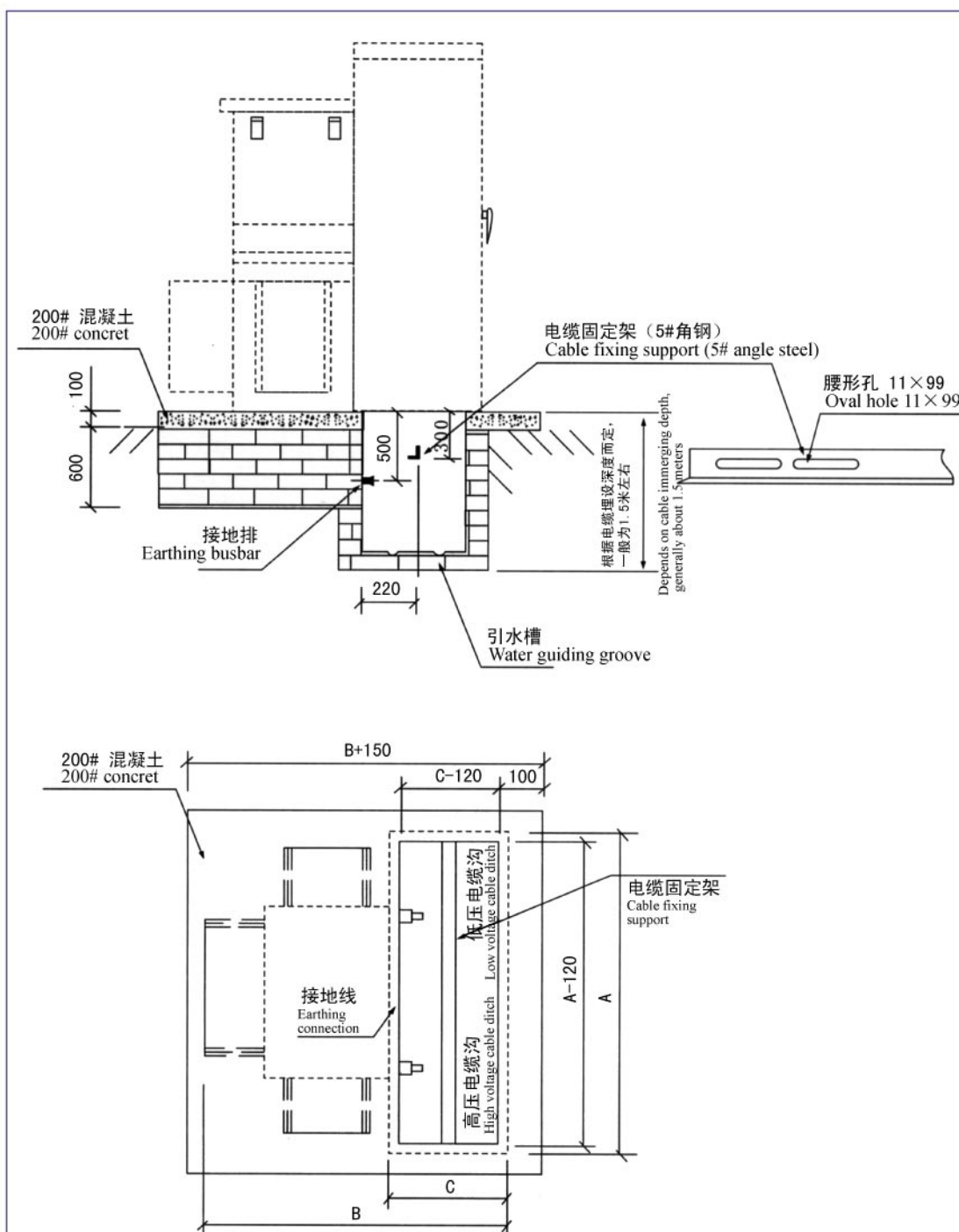
负荷开关

负荷开关为油浸式、三相联动开关、弹簧操作机构；可带负荷分合闸操作，其分合速度与操作力大小无关，型式有二工位、四工位T型、四工位V型等可供选择。

名称		单位	四工位环网负荷开关	二工位负荷开关
额定电流		A	630	200
额定短路关合电流		KA	31.5	16
额定短路耐受电流		KA	12.5	6.3
额定短路耐受时间		S	2	2
机械寿命			2000	2000
雷电冲击耐受	对地相间	KA	75	75
电压峰值全波	隔离断口		85	85
1min工频	对地相间	Ky	42	72
耐受电压	隔离断口		48	48
额定峰值耐受电流		KA	31.2	16
分合闸时断口间的无电流时间		mS	12-20	11-16

高低压一次接线方案



**技术要求:**

- ◆ 有关尺寸参见组合变尺寸;
- ◆ 混凝土台基应表面平整, 组合变电站采用压板固定的方式固定在台基上;
- ◆ 接地排和电缆固定支架的形式可根据实际情况而定;
- ◆ 电缆固定架和接地排应预埋;
- ◆ 进出线电缆孔的位置根据具体情况而定;
- ◆ 组合变安装后开关正面必须有不小于1.5m的空隙, 以利操作;
- ◆ 接地网可用12镀锌圆钢或40×4镀锌扁铜制作, 接地电阻应附合电力部门要求。

Technical requirement:

- ◆ For relative dimensions, please refer to those of the set-up transformer;
- ◆ The surface of concrete platform foundation should be flat and smooth; the set-up sub-station should be fixed on the platform foundation with pressing plates;
- ◆ The form of earthing busbar and cable fixation support may be settled down according to actual situations;
- ◆ Earthing busbar and cable fixation support should be pre-immersed on earth;
- ◆ The position of incoming and outgoing holes depends on actual conditions;
- ◆ A clearance of no less than 1.5 meters in front of circuit breaker after assembly of set-up transformer should be left for convenient operation.
- ◆ Earthing net may be made of $\phi 12$ zinc plated round steel or 40×4 zinc plated flat copper. The earthing resistance should be in compliance with requirement of electric power utilities.

预装式电缆分接箱**用途**

10KV电缆分接箱, 广泛用于交流10KV电缆系统的电缆节点, 用以分配电能。其联接方式简单、方便, 具有全绝缘、全密封、耐腐蚀、免维护、安全可靠等特点, 环境适应能力强广泛用于城市工业园区、城市住宅小区、城市商业中心、矿区和钢铁、汽车、石油、化工、水泥等大型企业以及其它场所的配电网, 特别适用城市电网改造工程, 可大大节省设备和电缆的投资, 提高供电的可靠性。

公司生产的电缆分接箱为用户提供下列选择: 带电可触摸型电缆插头或带电不可触摸型电缆插头; 带或不带负荷开关、短路提示器等。

特点

- ◆ 母排型分接箱
 - * 预制式硅橡胶接插结构、电缆连接方便
 - * 全绝缘、全密封、安全可靠
 - * 防尘、防潮、抗洪水、耐腐蚀
 - * 组合极为灵活、方便、满足多种接线要求
 - * 630A主回路采用旋入式螺栓固定连接; 200A分支回路采用拔插式连接, 且可以带负荷拔插;
 - * 连接简便, 经专业培训后即可独立进行安装操作;
 - * 将母排直接安装在箱体内部, 母排端子配接T型电缆接头、T-II型电缆接头或200A肘型电缆插头;
 - * 每路进出线均可安装故障指示器、带电显示器, 便于迅速查找故障;
 - * 每台产品独立包装, 均配有安装说明和发货清单。
- ◆ 负荷开关型电缆分接箱
 - * 负荷开关采用SF₆作为绝缘与灭弧介质, 负荷开关本体气箱采用厚度5MM的不锈钢材料制造, 具有低气压报警装置;
 - * 负荷开关为三位置式, 采用压气式结构, 灭弧时间短, 寿命长;
 - * 负荷开关可实现电动操作与手动操作, 开关本体与控制箱均为原装进口产品;
 - * 负荷开关与接地开关均为独立操作, 并有可靠的机械和电气联锁装置; 每次操作的结果都可以在操作面板上的回路模拟图得到确认;
 - * 负荷开关、母线、接地开关等电器元件全部密封在同一气箱内, 与电缆之间采用全绝缘、全密封的可带电触摸的电缆附件连接, 具有抗击恶劣环境条件, 防湿气、洪水、污秽、腐蚀性气体、尘埃及小动物等功能, 满足五防要求;
 - * 装有操作记数装置, 可显示开关操作次数; 装有带电显示装置, 可显示进线侧是否有电压;
 - * 电动控制箱预留FTU接口, 安全满足配网自动化。

Pre-assembled cable branch box Application

The 10kV cable branch box is widely used as a cable knot in AC 10kV cable systems for electric power distribution, featuring easy and convenient connection, total insulation, total seal, corrosion-proof, maintenance-free, safety, reliability, adaptability in various environments. Actually, it is widely used in urban industrial zones, municipal residential areas, municipal commercial centers, mineral areas, large scale enterprises of iron and steel, automobile, petroleum, chemical engineering, cement and other fields especially in urban electric grid reformation project resulting in great reduction of equipment and cable investment and in boosting reliability of power supply.

ECC manufactures following kinds of cable branch boxes for choice of our customers: those with live touchable cable plug and with live untouchable cable plug; with or without load switch, short circuit indicator etc..

Application

- ◆ Busbar type cable branch box
- * Pre-assembled silicon rubber plug structure for convenient connection of cables
- * Total insulation, total seal, safety and reliability
- * Dust-proof, moisture-free, anti-inundation and corrosion-proof
- * Flexible and easy combination to meet various wiring requirements
- * Threaded-in connection for 630A main circuit; plug-in connection with load for 200A branch circuits
- * Operators may have capability of independent wirings through professional training due to easy connections.
- * Busbar may be mounted directly in the box. The cable terminals may work with T type cable termination, T-II type cable termination or 200A toggle shaped cable plug.
- * Each incoming or outgoing circuit may be equipped with fault indicator and live indicator for convenience of quick trouble shooting.
- * Each set of the product is packed independently with installation manual and packing list.
- ◆ Load switch type cable branch box
- * With SF₆ gas as an insulating and arc quenching medium, the load switch's gas tank is made of 5mm thick stainless steel sheet, working with a under pressure alarming device.
- * The load switch is of three-position and puffer type structure, featuring short time arc extinguishing and long endurance.
- * The load switch may be motor-driven operated or manually operated. The switch frame and control box are all originally imported from abroad.
- * The load switch and earth switch may be operated independently and separately with reliable mechanical and electrical interlocking facilities. Each operation may be verified in mimic diagram on operating panel.
- * All electrical components such as the load switch, busbars, earth switch are enclosed in a gas enclosure. Connections between the components and cables are made with totally insulated and totally sealed live touchable cable accessories, meeting requirements of prevention against severe environment conditions, moisture, inundation, pollution, corrosive gases, dust particles, rodent animals, and meeting five prevention requirements.
- * Operating counter may display operation numbers and live indicator may indicate whether there is energized in incoming side.
- * FTU interface is reserved for motor-driven control box, adapting to distributing grid automation.

◆ 主要技术参数 Main technical parameters

额定电压 Rated voltage	12KV	连接点电阻 Connecting spot resistance	≤40 μ Ω
最高工作电压 Max. working voltage	15KV	导体工作温度 Working temperature of conductor	≤95℃
额定电流 Rated current	400A、630A	局部放电 Partial discharge	≤10PC/13KV
额定频率 Rated frequency	50Hz	潮湿试验 Moisture test	1KV/100h通过 hours
额定热稳定电流 Rated short time withstand current	20KA/3S	适用电缆类型 Type of applicable cable	XLPE
额定动稳定电流(峰值) Rated peak value withstand current	50KA	适用电缆截面 Cross sectional area of of applicable cable	20-400mm²
工频耐压 Power frequency withstand voltage	45KV/min	适用环境温度 Applicable ambient temperature	-40℃-55℃
雷电冲击耐压 Lightning impulse withstand voltage	105KV	适用海拔高度 Applicable altitude above sea level	≤3000m

◆ 美式电缆头技术参数 Technical parameters for American type cable terminals

项目 Descriptions	单位 Unit	200A分支网 200A branch grid	600A分支网 600A branch grid
额定电压 Rated voltage	KV	15	15/25
额定电流 Rated current	A	200	630
额定频率 Rated frequency	Hz	50	50
短时耐受电流 Rated short time withstand current	KA	16,1s	20,2s
耐受电流(峰值) Rated peak value withstand current	KA	40	50
1分钟工频耐压 1min Power frequency withstand voltage	KV	42	42
15分钟直流耐压 15min DC withstand voltage	KV	53	78
雷电冲击耐压 Lightning impulse withstand voltage	KV	75	75
最小电晕起始电压 Minimum corona initial voltage	KV	11	19
防护等级 Degree of protection		IP67	IP67

◆ 欧式电缆头技术参数 Technical parameters for American type cable terminals

项目 Descriptions	单位 Unit
额定电压 Rated voltage	10KV
最大相间电压 Maximum voltage between phases	12KV
1分钟工频耐压 1min power frequency withstand voltage	42KV
15分钟直流耐压 15min DC withstand voltage	53KV
雷电冲击耐压 Lightning impulse withstand voltage	105KV
局部放电 Partial discharge	≤10pC/15KV
额定电流 Rated current	630A
短时耐受电流 Short time withstand current	20KA,4S
动稳定电流 Peak value withstand current	50KA

◆ 负荷开关技术参数 Technical parameters for load switch

序号 NO	名称 Category	项目 Description	单位 Unit	参数 Value
1	额定值 Ratings	额定电压 Rated voltage	KV	12
2		额定电流 Rated current	A	630
3		额定频率 Rated frequency	Hz	50
4		额定开断电流 Rated breaking current	A	630
5		额定短时耐受电流 Rated short time withstand current	KA	20/3s
6		峰值耐受电流(峰值) Rated peak value withstand current	KA	50
7	工频绝缘水平 Power frequency insulating level	相间及相对地 Between phases, and phase to earth	KV	42
8		绝缘断口间 Between breaks	KV	48
9	冲击绝缘水平 Impulse insulating level	相间及相对地 Between phases, and phase to earth	KV	95
10		绝缘断口间 Between breaks	KV	110
11	机械性能 Mechanical performance	机械操作次数 Number of mechanical endurance	次	>5000
12		满负荷开断次数 Number of full load breaking operations	次	>200
13	SF6气体 SF6 gas	额定气体压力(+20℃时) Rated gas pressure at +20℃	psi	7
14		SF6气体年泄漏率 Annual leakage ratio of SF6 gas		<0.1%