



单相变压器

Single-phase Pole mounted
Distribution Transformer

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产品概述

杭州钱江电气集团股份有限公司生产的单相变压器采用柱上悬挂安装方式，体积小，基建投资小，减小了低压供电半径，可降低低压线损60%以上。变压器采用全密封结构，过负荷能力强，连续运行可靠性高，维护简单。适用于分散性负荷供电方式，具有较好的节能效果。

该变压器采用非晶合金或硅钢片铁心、一次性成形桶式油箱，具有低损耗、低噪音、高机械强度等特点。

我公司也可生产全自保护单相柱上变压器，该变压器指在单相柱上变压器的高压侧及低压侧配置一些保护用的元器件，从而达到保护变压器及网络安全的目的。全自保护单相变压器对雷电、短路和过载能起自身保护作用，能保护输电线路不致因变压器自身故障而引起断电。

供电部门或用户可根据情况选择以下不同的保护类型。

Electricity sector or the user might select different type of protection according to the application circumstances.

序号 No.	保护型式 Type of protection	高压负荷开关 HV Load switch	高压熔断器 HV fuse	避雷器 Surge arrester	低压过流断路器 LV over-current circuit breaker
1	CSP型(CSP type)	有(with)	有(with)	有(with)	有(with)
2	SP型(SP type)	有(with)	有(with)	有(with)	无(N/A)
3	CP型(CP type)	有(with)	有(with)	无(N/A)	有(with)
4	普通型(Conventional type)	无(N/A)	无(N/A)	无(N/A)	无(N/A)

Product Overview

Single-phase pole mounted transformer has advantages of compact size, low cost on installation, little radius of low-voltage power supply, lowering low-voltage line loss by over 60%. Transformer applies hermetically sealed structure, which guaranteed high overload capability, high reliability to continuous operation and easy maintenance. It is suitable for dispersion of load applied to power supply, and has good energy-saving effect.

The transformer applies amorphous alloy or silicon steel core, barrel-type oil tank to offer low loss, low noise, high mechanical strength characteristics.

We also can fabricate CSP(complete self-protected) transformer. The transformer is equipped with Magnex interrupter made by Cooper Power Systems, Inc. and Elsp backup protection expulsion fuse, for transformer overload protection and breaking. It also equipped high-voltage surge arrester to prevent accidents caused by lightning impulse, so as to improve safety and reliability of the transformer.

CSP is a protection system for distribution transformers. The CSP protection system protects the transformer from lightning, secondary faults, severe overloads, and provides visual warning of the existence of uneconomical loading conditions by installation of protective components on HV side. the CSP design provides maximum protection against transformer failure and disruptive outages. It also protects you from the extra costs of more complicated installation, unnecessary equipment and power downtime.

产品特点

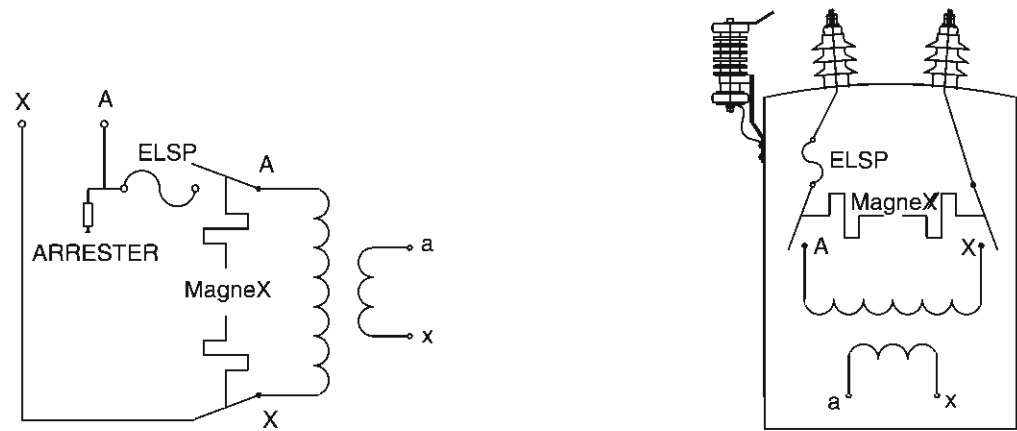
我公司生产的SP型单相变压器的高压负荷开关配置了美国COOPER电力系统有限公司的 Magnex interrupter磁保持断路器, 及配套的Elsp后备保护熔断器, 分别进行变压器的过载保护和分断, 同时还配置了高压避雷器, 防止变压器遭受雷击引起事故, 提高了变压器的安全可靠性能。

如下图所示, 变压器在高压两相出线处装有美国COOPER电力系统有限公司生产的两相Megnex interrupter 磁保持断路器。该元件的主体部分装在油箱内, 操作手柄通过箱壁上的开孔伸出油箱。当需要隔离的高压侧两套管任一侧出现故障或二次侧短路和过负载时, Megnex interrupter 磁保持断路器都会分闸, 以起到保护变压器和供电系统的目的。当故障被排除后, 即可通过油箱外的操作手柄来复位。

为防止由于变压器的故障而引起供电系统的不稳定, 变压器还在A相的出线处串联有Elsp后备保护熔断器, 其功能是当单相变压器一次侧发生故障时, 能将变压器从输电线路上切下来, 以防止变压器一次侧的故障造成线路的连锁故障。

SP型单相变压器工作原理图

Operating principle of SP single phase pole mounted distribution transformer



技术规范

1. 产品型号: DH15-M或D11-M
2. 额定电压: 20kV/(0.22~0.24)或2×(0.22~0.24) kV
10kV/(0.22~0.24)或2×(0.22~0.24) kV
(也可按用户提出的电压)
3. 分接范围: ±5%; ±2×2.5%
4. 频率: 50Hz
5. 联结组标号: li0或li6
6. 使用环境: 户外

Product Characteristic

The HV load switch of SP-type single-phase transformer is equipped with "Magnex interrupter" magnetic device made by U.S. Cooper Power Systems, Inc. and Elsp backup protection fuse, in order to protect transformer against overload and breaking. The transformer is also equipped with HV surge arrester to prevent accidents caused by being struck by lightning, and to improve safety and reliability of the transformer.

As shown in the diagram, HV side is equipped with two-phase Megnex interrupter made by Cooper Power System. Main part of this interrupter is installed inside of the oil tank while the operating handle extends outside through the tank wall. Once any fault on one of the HV bushing or short-circuit and over-load on secondary side, Megnex interrupter will break to finish the protection of transformer and power supply. Once trouble shooting, Magnex interrupter can be reset by operating handle outside oil tank.

In order to prevent instability of power supply caused by transformer failure, a series Elsp protective fuse as backup is connected on A-phase. When there is primary fault, the fuse could cut down transformer from distribution line to prevent from chain fault.

Technical Norms

1. Model: DH15-M or D11-M
2. Rated voltage: 20kV/(0.22~0.24) or 2×(0.22~0.24) kV
10kV/(0.22~0.24) or 2×(0.22~0.24) kV
(Or as per client's requirement)
3. Tapping range: ±5%; ±2×2.5%
4. Power frequency: 50Hz
5. Vector group: li0 or li6
6. Installation: Outdoor

技术参数

Technical Parameters

以下数据仅供参考, 公司保留数据变动的权利

Technical data are subjected to change without prior notice

型号 Model	损耗(W) Loss		空载电流(%) No load current	短路阻抗(%) Short-circuit impedance	总重(kg) Total weight (kg)	普通型外形尺寸(mm) Conventional type dimension L×W×H	CSP、SP、CP型 外形尺寸 (mm) CSP、SP、CP type Outer Dimension L×W×H	图示 Fig. No.
	空载 No load	负载 Load						
DH15-M-30/10	30	560	1.6	3.5	315	520×605×1100	520×605×1355	图1 Fig. 1
DH15-M-50/10	40	855	1.2		405	560×650×1130	560×650×1380	
DH15-M-63/10	50	1020	1.0		480	680×650×1180	680×650×1430	图2 Fig. 2
DH15-M-80/10	60	1260	0.9		560	760×740×1235	760×740×1485	
DH15-M-100/10	70	1485	0.8		615	805×750×1265	805×750×1515	
D11-M-30/10	80	560	2.8		285	520×605×1050	520×605×1300	图1 Fig. 1
D11-M-50/10	120	855	2.3		365	560×650×1100	560×650×1350	
D11-M-63/10	145	1020	2.1		435	680×650×1130	680×650×1380	图2 Fig. 2
D11-M-80/10	160	1260	2.0		500	760×740×1180	760×740×1430	
D11-M-100/10	190	1485	1.9		550	805×750×1210	805×750×1460	
DH15-M-30/20	35	620	1.6		350	560×605×1200	560×605×1450	图1 Fig. 1
DH15-M-50/20	45	950	1.2		445	680×680×1260	680×680×1510	
DH15-M-63/20	60	1135	1.0		530	760×760×1300	760×760×1550	图2 Fig. 2
DH15-M-80/20	70	1400	0.9		620	805×780×1350	805×780×1600	
DH15-M-100/20	80	1650	0.8		680	855×800×1380	855×800×1630	
D11-M-30/20	80	515	1.7		325	560×605×1155	560×605×1400	图1 Fig. 1
D11-M-50/20	120	690	1.5		420	680×680×1210	680×680×1460	
D11-M-63/20	145	830	1.4		500	760×760×1240	760×760×1490	图2 Fig. 2
D11-M-80/20	160	975	1.4		580	805×780×1300	805×780×1550	
D11-M-100/20	190	1155	1.3		635	855×800×1330	855×800×1580	

图1
Fig. 1

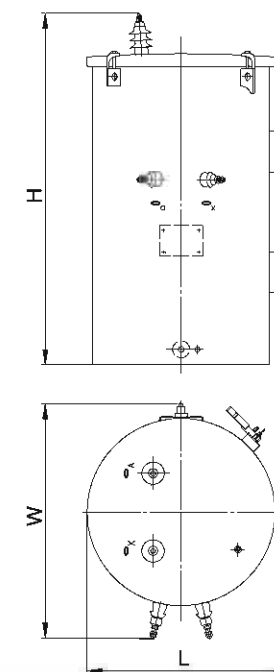
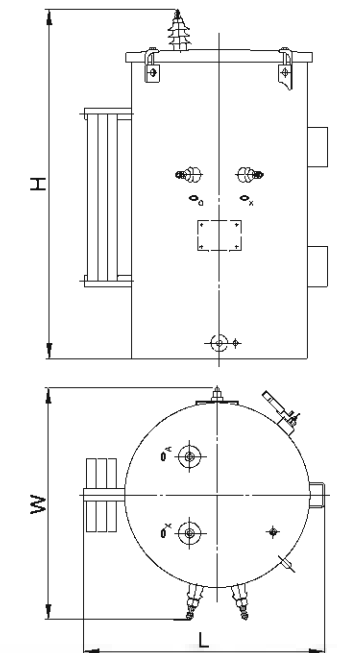


图2
Fig. 2



附件 Accessory

· MagneX interrupter型磁保持断路器

磁保持断路器是一种过流保护设备,避免配电变压器在过载和二次短路时受到的损坏,也可用于“分”和“合”变压器。

主要技术参数:

- 1、额定电压:15.5 kV
- 2、额定电流:42 A
- 3、额定开断电流:1200A
- 4、额定负荷开断电流:25 A
- 5、绝缘水平

工频耐压:50kV/1min
冲击耐压:150 kV

- 6、负荷电流开断次数:200 次
- 7、励磁电流开断次数:200次

· MagneX interrupter

It is an over-current protection device to avoid overload and damage during secondary short-circuit. It also can be used to "break" and "close" transformer.

Main technical parameters:

1. Rated voltage:15.5 kV
2. Rated Current:42 A
3. Rated breaking current:1200A
4. Rated load breaking current:25 A
5. Insulation level
Power frequency withstand voltage:50kV/1min
BIL:150 kV
6. Load current breaking times:200
7. Excitation current breaking times:200



· 后备熔断器

Eisp后备保护熔断器在变压器内部发生故障时熔断,并可以更换。

· Backup fuse

Eisp backup fuse takes action once there is any fault inside transformer and can be replaced.

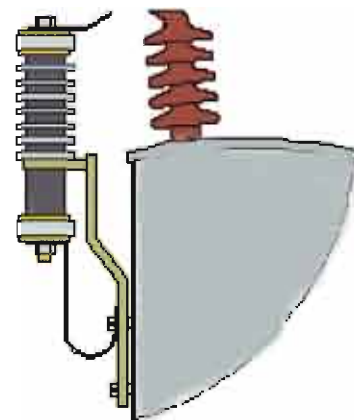


· 避雷器

变压器需安装避雷器,以保护变压器免受雷电直接冲击。避雷器越靠近变压器,对变压器的保护作用越好。因此,全自保护单相变压器可把避雷器安装在变压器油箱侧面,并靠近高压套管。

· Surge Arrester

Surge arrester is aim to protect transformer against direct lightning impulse. The closer to the transformer, the better protective effect provided. Therefore, it is better to install surge arrester on the transformer side tank, and near the HV bushing.



产品应用领域

该产品具有功能齐全、安全性好、维护简单、占地面积小成套性强,投资少,安装快捷,施工方便,造型美观等特点。

广泛地应用于建筑工地、车站、码头、矿山油田等企事业单位及其它临时供电的场所。



Applications

This product has advantages of multi-function, reliable operation, easy for maintenance, highly integrated, fast installation, elegant features. It's very popular in construction site, stations, docks, mining & oil industries, and other sites requiring temporary power supply.



服务承诺

- 1.及时向顾客提供按合同规定的全部技术资料和图纸。有义务在必要时邀请顾客参与供方的技术设计审查。
- 2.按顾客要求的时间到现场进行技术服务，指导顾客按供方的技术资料和图纸要求进行安装、调试与整套试运及试生产。
- 3.对于顾客选购的与合同设备有关的配套设备，我方主动提供满足设备接口要求的技术条件和资料。
- 4.严格执行供需双方就有关问题召开会议纪要或签订的协议。
- 5.按合同规定为顾客举办有关设备安装、调试、使用、维护技术的业务培训班。
- 6.加强售前、售中、售后服务，把“24小时服务”、“超前服务”、“全过程服务”、“终身服务”贯彻在产品制造、安装、调试、修理的全过程。
- 7.随时满足顾客对备品备件的要求。

Service Guarantee

- 1.To provide all technical information and drawings as per contract promptly. QRE is obliged to invite client, if necessary, to attend technical design review.
- 2.To carry out spot technical service as per client's schedule, offer guideness for installation and commissioning according to technical information and drawings.
- 3.For relevant auxiliary equipment procured by customers, QRE will provide related technical information to meet requirement of equipment interface.
- 4.To execute stipulations in MOU or agreement signed by seller and buyer strictly.
- 5.To train staff from client for equipment installation, commissioning, application, maintenance as stipulated in the contract.
- 6.To reinforce pre-sales, mid-sales, after-sales service, to carry out "24-hour service", "service in advance", "overall process service", "lifelong service" in our manufacturing, installation, commissioning and maintenance.
- 7.To meet spare parts' requirement by customers at any time.

■ 尊敬的用户朋友,如果您有服务需求,可以发送Email给我们,或者直接电话与我们联系:

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