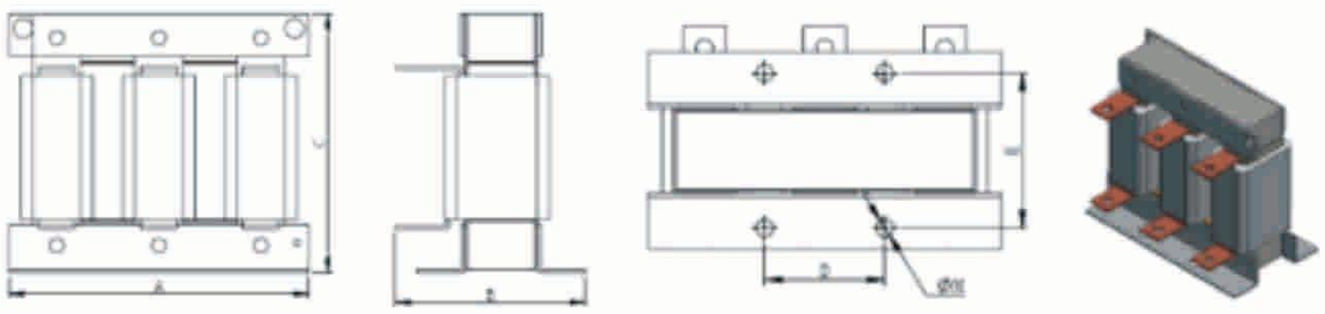
5.温升：线圈和磁芯温升小于100℃
6.冷却水中不得有机械杂质，硬度不超过10个单位
7.电抗器投入运行时，不得断水，进水温度不得超过25℃，出水温度不得超过40℃。

1.Cooling Method: The working pressure of the waterway of the water-cooled reactor is 0.15MPa-0.2MPa, and the water flow rate is 16L/min
2.Insulation Grade: F
3.Inductance Accuracy: ±5%
4.Overload Requirements: overload 5% (long-term operation), overload 10% (30min), overload 50% (10s), the reactor is not saturated during overload, that is, the inductance change is less than 10%
5.Temperature Rise: The temperature rise of the coil and magnetic core is less than 100°C
6.There should be no mechanical impurities in the cooling water, and the hardness should not exceed 10 units.
7.When the reactor is put into operation, the water must not be cut off, the inlet water temperature must not exceed 25℃, and the outlet water temperature must not exceed 40°C

■ 执行标准(Applicable Standard)

VDE0550

■ 产品尺寸图(Product Size)



■ 成品识别码(Product Identification Code)

SWL	100A	2P0MH	0.4SC
水冷电抗器 Water-cooled Reactor	额定电流 Rated Current	电感量Inductance Value M: mH H: μH	0.4: Working Voltage 0.2=220V,0.4=380V,0.7=690V,1.1 =1140V D: Single Phase S: Three Phase C: Copper A: Aluminum

水冷电抗器(SWL) Water-cooled Reactor

■ 产品概述(Product Introduction)

水冷电抗器适用在散热环境很差的场合。有两种方式的水冷电抗器，一种是水电一体的产品，即用空芯导线作水管冷却装置进行冷却；另外一种是水电分离式冷却方式，水路不通过绕组，水电分离互不影响，通过冷却板间接地将绕组和铁芯的热量吸收。水冷电抗器主要应用于风力发电项目（绿色能源），是风力发电项目设备上重要部件之一。另外，该电抗器也可应用在散热通分不良的环境下。

Water-cooled reactors are suitable for situations where the heat dissipation environment is poor. There are two types of water-cooled reactors. One is a water-electricity integrated product, which uses hollow wires as water pipe cooling devices for cooling; the other uses a water-electricity separated cooling method, in which the waterway does not pass through the winding, the water and electricity does not affect each other, and the heat of the winding and the core is indirectly absorbed through the cooling plate. Water-cooled reactors are mainly used in wind power generation projects (green energy) and are one of the important components of wind power generation project equipment. In addition, the reactor can also be used in occasions with poor heat dissipation.

■ 产品特点(Product Feature)

1.水路使用材料全部为不锈钢材质，强度高，耐腐蚀，使用寿命达20年以上
2.水管和接头连接方式采用强力锁紧结构，保证冷却介质不渗漏，最大工作压力10bar
3.水管尺寸为外8mm内6mm，流量可达19L/分钟，散热效率高
4.水路采用串联结构，四进四出，然后各接到一个总水接头，接头为不锈钢管螺纹，尺寸为G2/8、G1/2、G1/4或根据客户图纸要求制作非标螺纹

1.All materials used in the waterway are stainless steel, which has high strength, corrosion resistance and a service life of more than 20 years
2.The connection of water pipes and joints adopts a strong locking structure to ensure that the cooling medium does not leak, and the maximum working pressure is 10bar
3.The water pipe size is 8mm O.D. and 6mm I.D, the flow rate can reach 19L/min, and the heat dissipation efficiency is high
4.The waterway is a series structure, with four inlets and four outlets, and then each is connected to a main water joint. The joints are stainless steel pipe threads with sizes G3/8, G1/2, G1/4 or customized non-standard threads

■ 产品分类(Product Classification)

1.板式水冷电抗器

水冷散热板安置再板式水冷电抗器线圈中，电抗器产生的热量通过散热板导热后由水介质将热量导出，以达到降低温升的目的。电抗器水电分离，无漏电流产生。广泛使用再风力发电、PWM逆变器、变频器等电力设备中。

2.管式水冷电抗器

绕组采用空心铜管制造，铜损耗产生的热量通过铜管内的导热介质（纯净水或混合液）将热量导出，导热介质与发热导体之间热接触良好，导热系数高，绕组可承受较大电流。电流1-25kA，广泛应用在冶炼，感应加热等工业设备上。

1.Plate water-cooled reactor
The water-cooled heat sink is placed in the plate-type water-cooled reactor coil. The heat generated by the reactor is conducted through the heat sink and then exported through the water medium to achieve the purpose of reducing the temperature rise. The reactor separates water and electricity, and no leakage current is generated. It is widely used in wind power generation, PWM inverters, frequency converters and other power equipment.
2.Tubular water-cooled reactor
The winding is made of hollow copper tubes. The heat generated by copper loss is exported through the heat-conducting medium (pure water or mixed liquid) in the copper tube. The thermal contact between the heat-conducting medium and the heating conductor is good, the thermal conductivity is high, and the winding can withstand large current. The current is 1-25kA, and it is widely used in smelting, induction heating and other industrial equipment

■ 技术规格 (Technical Specification)

1.冷却方式：水冷电抗器水路部分工作压力为0.15MPa-0.2MPa，水流流量：16L/min
2.绝缘等级：F
3.电感精度：±5%
4.过载要求：过载5%（长期运行）、过载10%（30min）、过载50%（10s），过载期间电抗器不饱和，即电感量变化小于10%