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GF系列干式变压器用冷却风机
GF SERIES OF DRY COOLING FAN

温州正海机电有限公司
WENZHOU ZHENGHAI ELECTROMECHANICAL CO.,LTD.



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Leading technology, splendid future



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企业简介 Company Introduction

温州正海机电有限公司坐落于我国著名的雁荡山风景旅游区旁，中国个体私营经济的先发地区和股份合作经济的民祥地温州乐清市。

我公司前身是于1988年成立的乐清正灏稳压器厂，以后历经乐清正海电机厂、乐清正海机电有限公司逐渐发展成今天的温州正海机电有限公司。

我公司专业生产90系列、110系列、120系列、150系列干式变压器冷却风机和32系列、38系列微型永磁直流电动机。

我公司生产的GF系列干变冷却风机通过电脑优化组合设计，使其风量更大、噪音更低，进一步提高了风压、降低了能耗，GF系列干变冷却风机的外壳采用了优质铝合金型材和不锈钢板材，结构紧凑、外形美观、安装简便，使用寿命长，从而为GF系列干变冷却风机长时间在较恶劣环境下平稳运行提供了可靠的保障。

我公司生产的微型永磁直流电动机广泛应用在稳压器、机械传动与控制机构、家用电器、自动化仪表等产品上，产品远销国内外及世界各地，特别是稳压电源控制系统的市场占有率占全国销售总量的50%以上，是全国该行业的龙头企业。

"严格把关、做精做强、保证质量、顺客满意"是正海机电有限公司的质量方针。

Wenzhou Zhenghai Electrical Co., Ltd. is located at Yueqing City, Wenzhou District, where is the cradleland of Chinese individual and private economy and joint-stock cooperative economy, beside the famous scenic spot Yandang Mountain.

Predecessor of the company is Yueqing Zhenghao Voltage Stabilizer Factory that was founded in 1988, then experienced Yueqing Zhenghai Electrical Factory, Yueqing Zhenghai Electrical Co., Ltd. and finally developed into the Wenzhou Zhenghai Electrical Co., Ltd.

Our company is specialized in production of GF90 series, GF110 series, GF120 series and GF150 series cooling fans for dry type transformers as well as 32 series and 38 series miniature permanent-magnetic DC motors.

The GF series dry type transformer purposed cooling fans produced by our company adopts computer-optimum unitized design, has larger air delivery and lower noise, further improves the wind pressure and reduces the energy consumption, enclosure of the GF series adopts high quality aluminum alloy profiles and stainless steel sheets, has advantages of compact structure, elegant appearance, convenient installation and long service life, providing reliable guarantee for GF series dry type transformer purposed cooling fans to run stably in severe environment for a long time.

The miniature permanent-magnetic DC motors produced by our company are widely applied to such products as voltage stabilizer, mechanical driving and control mechanisms, household electrical apparatus, automation instrument, etc, the products are well received both in domestic and overseas markets, especially the stabilized voltage supply system, whose market share occupies over 50% of countrywide total sales volume, the company has become the national leading enterprise of this field.

"Strict control, keep improving, quality guarantee, customer satisfaction" is the quality policy of Zhenghai Electrical Co., Ltd.











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◆ 产品用途和特点 Use and characteristics

GF系列干式变压器用横流式冷却风机(以下简称：干变冷却风机)主要用于干式变压器冷却增容及电子设备、配电柜、高低压开关柜等产品的冷却降温等作用。使用该系列冷却风机可提高干式变压器的输出功率40-50%，从而可大大提高干式变压器的承载能力、并延长了干式变压器的使用寿命，是国内外厂家普遍采用的最经济有效的方式。

GF series cross-flow cooling fan for dry type transformer (hereinafter referred to as dry type transformer purposed cooling fan) is mainly used to increase cooling capacity of dry type transformer, and cool down temperature of electronic equipment, electric power distribution cabinet, HV/LV switch cabinet and so on. It is able to improve the output power of dry type transformer by 40-50% by using this series of cooling fans, sharply improves dry type transformer's carrying capacity and prolong its service life. As one of the most economical and effective modes, the products are widely used by factories at home and abroad.

◆ 工作原理 Working principle

GF 系列冷却风机用于干式变压器时，风机置于变压器线圈下部两侧，将冷风直接吹进变压器的线圈高、低压冷却风道，散热效果明显，可保障变压器的正常运行并延长其使用寿命。(风机开、停及变压器的超温报警、超温跳闸等功能由温控装置提供)。

When the GF series cooling fans are applied to dry type transformer, the fans should be set at two sides of transformer coil at the lower part, they blow the cool wind into the HV/LV cooling channels of transformer coil directly, the heat dissipation efficiency is very obvious, they guarantee normal running of transformer and prolong its service life. (Functions like ON/OFF of fan, over-temperature alarm and over-temperature tripping of transformer, etc, can be provided by temperature control device).

◆ 产品型号及含义 Model description

GF □ □ □ □/□

- 出风口对准主视方向电机装配在右端为A型、左端为B型
  The outlet aims at dominant view direction, it is type A when the motor is set on the right, is type B when is set on the left.
- 叶轮直径 Dia. of impeller (mm)
- 风机总长度 Total length of fan (mm)
- 顶吹式为D (无字母 "D" 为侧吹式风机)
  D means top-blowing type (it is side-blowing type when there is no letter "D")
- 相数 (单相为D、三相为S)
  Phase number (D means single-phase, S means three-phase)
- 产品代号 Product code

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◆ 顶(侧)吹式风机主要技术参数
Main technical parameters of top (side) blowing type fan

型号 Model	电机参数 Motor parameter						风量 Air delivery ≥M/H	噪音 Noise ≤db	配变压器容量 Transformer capacity matched KVA	每套配用台数 Number for each set
	相数 Phase no. S	电压 Voltage V	电流 Current ±0.1A	转速 Rotary speed R/MIN	频率 Frequency Hz	功率 Power W				
GFD(S)D365-90	单/三 Single three	220 380	0.16 0.09	1300	50	35	450	52		
GFD(S)D385-90	单/三 Single three	220 380	0.16 0.09	1300	50	35	500	52		
GFD(S)D440-90	单/三 Single three	220 380	0.16 0.09	1300	50	35	600	52		
GFD(S)D470-90	单/三 Single three	220 380	0.16 0.09	1300	50	35	650	52		
GFD(S)D560-90	单/三 Single three	220 380	0.18 0.11	1300	50	40	700	52	100~315	4
GFD(S)D660-90	单/三 Single three	220 380	0.23 0.13	1300	50	50	800	54	100~630	4
GFD(S)D730-90	单/三 Single three	220 380	0.23 0.13	1300	50	50	850	54	400~800	4
GFD(S)D760-90	单/三 Single three	220 380	0.27 0.16	1300	50	60	900	54	630~1000	4
GFD(S)D860-90	单/三 Single three	220 380	0.27 0.16	1300	50	60	1000	54	50~100	2
GFD(S)D920-90	单/三 Single three	220 380	0.36 0.21	1300	50	80	1100	54	50~120	2
GFD(S)D1050-90	单/三 Single three	220 380	0.36 0.21	1300	50	80	1150	54	100~200	2
GFD(S)D1200-90	单/三 Single three	220 380	0.36 0.21	1300	50	80	1300	54	100~200	2
GFD(S)D365-120	单/三 Single three	220 380	0.16 0.09	1300	50	35	600	52	315~500	6
GFD(S)D385-120	单/三 Single three	220 380	0.16 0.09	1300	50	35	650	52	400~800	6
GFD(S)D440-120	单/三 Single three	220 380	0.18 0.11	1300	50	40	750	54	400~1000	6
GFD(S)D470-120	单/三 Single three	220 380	0.18 0.11	1300	50	40	800	54	800~1200	6
GFD(S)D490-120	单/三 Single three	220 380	0.18 0.11	1300	50	40	850	54	1000~1600	6
GFD(S)D520-120	单/三 Single three	220 380	0.23 0.13	1300	50	50	900	56	1250~2000	6
GFD(S)D590-120	单/三 Single three	220 380	0.27 0.16	1300	50	60	950	56	1500~2500	6
GFD(S)D610-120	单/三 Single three	220 380	0.27 0.16	1300	50	60	1000	56	1600~3000	4
GFD(S)D1000-120	单/三 Single three	220 380	0.36 0.21	1300	50	80	1300	56	1250~2000	2
GFD(S)D1100-120	单/三 Single three	220 380	0.36 0.21	1300	50	80	1400	56	1250~2000	2
GFD(S)D1200-120	单/三 Single three	220 380	0.36 0.21	1300	50	80	1500	56	600~1000	2
GFD(S)D1300-120/2	单/三 Single three	220 380	0.27 0.16	1300	50	60	2100	56	600~1000	2
GFD(S)D365-150	单/三 Single three	220 380	0.32 0.18	1300	50	70	1050	58	630~1250	6
GFD(S)D470-150	单/三 Single three	220 380	0.36 0.21	1300	50	80	1250	58	800~1600	6
GFD(S)D490-150	单/三 Single three	220 380	0.36 0.21	1300	50	80	1300	58	1600~2000	6
GFD(S)D590-150	单/三 Single three	220 380	0.41 0.24	1300	50	90	1500	58	2000~2500	6

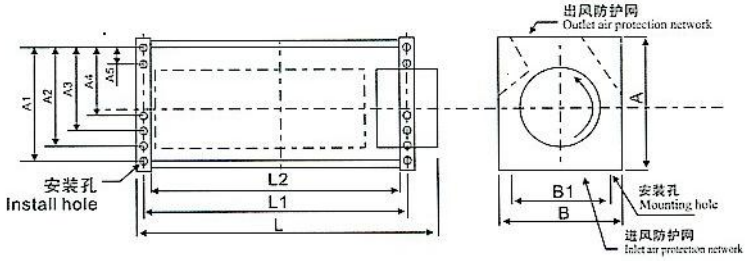
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◆ 顶吹式风机外形及安装尺寸

Outline and installation dimensions of top-blowing type fan

型号 Model	B	B1	A	A1	A2	A3	A4	A5	L	L1	安装孔 Mounting hole
GFD(S)D365-90	130	100	150	110		80			365	325	4-Φ7×10
GFD(S)D385-90	130	100	150	110		80			385	345	4-Φ7×10
GFD(S)D440-90	130	100	150	110		80			440	400	4-Φ7×10
GFD(S)D470-90	130	100	150	110		80			470	430	4-Φ7×10
GFD(S)D560-90	130	100	150	110		80			560	520	4-Φ7×10
GFD(S)D660-90	130	100	150	110		80			660	620	4-Φ7×10
GFD(S)D760-90	130	100	150	110		80			760	720	4-Φ7×10
GFD(S)D860-90	130	100	150	110		80			860	820	4-Φ7×10
GFD(S)D920-90	130	100	150	110		80			920	880	4-Φ7×10
GFD(S)D1050-90	130	100	150	110		80			1050	1010	4-Φ7×10
GFD(S)D1200-90	130	100	150	110		80			1200	1160	4-Φ7×10
GFD(S)D365-120	150	120	170	130	100	80			365	325	4-Φ7×10
GFD(S)D385-120	150	120	170	130	100	80			385	345	4-Φ7×10
GFD(S)D440-120	150	120	170	130	100	80			440	400	4-Φ7×10
GFD(S)D470-120	150	120	170	130	100	80			470	430	4-Φ7×10
GFD(S)D490-120	150	120	170	130	100	80			490	450	4-Φ7×10
GFD(S)D520-120	150	120	170	130	100	80			520	480	4-Φ7×10
GFD(S)D590-120	150	120	170	130	100	80			590	550	4-Φ7×10
GFD(S)D1000-120	150	120	170	130	100	80			1000	960	4-Φ7×10
GFD(S)D1100-120	150	120	170	130	100	80			1100	1060	4-Φ7×10
GFD(S)D1200-120	150	120	170	130	100	80			1200	1160	4-Φ7×10
GFD(S)D1300-120/2	150	120	170	130	100	80			1300	1230	4-Φ7×10
GFD(S)D365-150	190	160	200	170	140	120	100	20	365	325	4-Φ7×10
GFD(S)D470-150	190	160	200	170	140	120	100	20	470	430	4-Φ7×10
GFD(S)D490-150	190	160	200	170	140	120	100	20	490	450	4-Φ7×10
GFD(S)D590-150	190	160	200	170	140	120	100	20	590	550	4-Φ7×10

◆ 安装尺寸图 Diagram of installation dimension

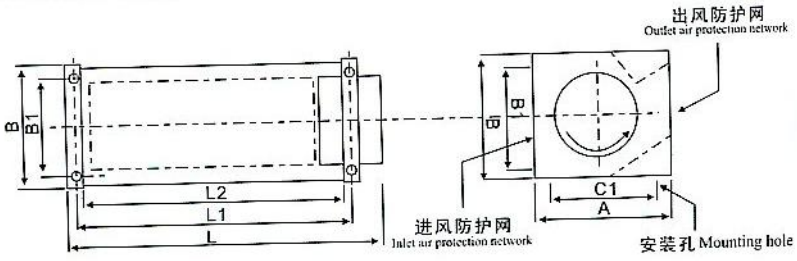


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◆ 侧吹式风机外形及安装尺寸
Outline and installation dimensions of side-blowing type fan

型号 Model	A	C1	B	B1	L	L1	L2	安装孔 Mounting hole
GFD(S)365-90	150	110	130	100	365	325	305	4-Φ7×10
GFD(S)385-90	150	110	130	100	385	345	325	4-Φ7×10
GFD(S)440-90	150	110	130	100	440	400	380	4-Φ7×10
GFD(S)470-90	150	110	130	100	470	430	410	4-Φ7×10
GFD(S)560-90	150	110	130	100	560	520	500	4-Φ7×10
GFD(S)660-90	150	110	130	100	660	620	600	4-Φ7×10
GFD(S)760-90	150	110	130	100	760	720	700	4-Φ7×10
GFD(S)860-90	150	110	130	100	860	820	800	4-Φ7×10
GFD(S)920-90	150	110	130	100	920	880	860	4-Φ7×10
GFD(S)1050-90	150	110	130	100	1050	1010	990	4-Φ7×10
GFD(S)1200-90	150	110	130	100	1200	1160	1140	4-Φ7×10
GFD(S)365-120	170	150	150	120	365	325	305	4-Φ7×10
GFD(S)385-120	170	150	150	120	385	345	325	4-Φ7×10
GFD(S)440-120	170	150	150	120	440	400	380	4-Φ7×10
GFD(S)470-120	170	150	150	120	470	430	410	4-Φ7×10
GFD(S)490-120	170	150	150	120	490	450	430	4-Φ7×10
GFD(S)520-120	170	150	150	120	520	480	460	4-Φ7×10
GFD(S)590-120	170	150	150	120	590	550	530	4-Φ7×10
GFD(S)1000-120	170	150	150	120	1000	960	940	4-Φ7×10
GFD(S)1100-120	170	150	150	120	1100	1060	1040	4-Φ7×10
GFD(S)1200-120	170	150	150	120	1200	1160	1140	4-Φ7×10
GFD(S)1300-120/2	170	150	150	120	1300	1230	1210	4-Φ7×10
GFD(S)365-150	200	170	190	160	365	325	305	4-Φ7×10
GFD(S)470-150	200	170	190	160	470	430	410	4-Φ7×10
GFD(S)490-150	200	170	190	160	490	450	430	4-Φ7×10
GFD(S)590-150	200	170	190	160	590	550	530	4-Φ7×10

◆ 安装尺寸图 Diagram of installation dimension



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◆ 冷却风机使用条件 Operating conditions

1. 正常使用条件：
   a. 户内使用　　b. 环境温度：-5～+40℃
   c. 空气相对湿度不大于95%，(25℃时)　　d. 海拔不超过1000m
2. 通过冷却风机的工业气体不允许有强酸、强碱及各种腐蚀性溶液。
3. 不允许有沙尘等杂物掉入风机内，以免造成风机烧毁及扇叶断裂。

1. Normal operating conditions
   a. Indoor use　　b. Ambient temperature: -5～+40℃
   c. Air relative humidity should not exceed 95% (at 25℃)　　d. Altitude should not exceed 1000m
2. The industrial gas passes through the cooling fan should not contain strong acid, strong alkali or other corrosive solutions.
3. Protect from impurities like sand or dust dropping in the fan, otherwise, the fan may be burnt, or fan blade may be broken.

◆ 冷却风机的安装与维护 Installation and maintenance

1. 安装前应首先检查是否有包装运输造成的损坏、变形，如有损坏或变形应修复后安装使用。
2. 然后再检查各零件及螺丝是否有松动，叶片与风筒之间是否相碰或移位，若相碰或移位应进行调整后方可安装。
3. 冷却风机安装后应进行试机，待风机运行正常后再进行联机使用。
4. 风机长期置放重新使用时，应对风机进行检查试运行若无异常现象，方可联机使用。
5. 风机安装完毕后应将接线盒密封，以防接线盒渗漏造成短路烧毁电机。

1. Before installation, please check whether the fan is damaged or deformed due to packing or transportation, if any damage or deformation, the fan should not be installed or used until it is repaired.
2. Check whether the parts and screws are loosened, whether there is touching or displacement between the blade and air duct; if yes, they should be well regulated prior to installation.
3. After installation, please carry out trial run to the cooling fan, wait until it runs normally, then it can be online used.
4. If the fan has been left unused for a long time, please carry out trial run to it before reusing, only when it is able to run normally that it can be online used.
5. After installation, please seal the junction box, preventing from burnt of motor caused by short-circuit due to leakage of junction box.

◆ 搬运和存放 Conveying and storage

1. 在搬运过程中，要注意轻拿轻放，按照包装的标志和要求搬运和放置，请勿倒置和立置。
2. 在搬运过程中应避免强烈冲击和剧烈震动，以防包装箱和产品破损。
3. 风机应存放于透风、干燥没有腐蚀性气体处，避免雨淋和阳光暴晒。

1. During conveying, please handle with care. Carry and place it according to the mark and requirements on the package, keep top side up, don't set in the vertical position.
2. During conveying, the fan should be protected from severe impact or serious shock, otherwise, the packing case and product may be damaged.
3. The fan should be stored in ventilated and dry place where has no corrosive gas, and should be protected from the rain or insolation.

◆ 订货须知 Notification for order

1. 订货时请根据使用要求和变压器的容量及结构形式，参照资料提供的产品型号选型，我公司也可根据您的使用要求进行定制。
2. 我公司根据订单或订货合同在三到七天内交货，定制产品在十五天内交货。

1. When placing an order, please refer to the product model specified as the document, and select suitable model according to the using requirements, transformer capacity and structure type. Besides, custom-made products also are available at request.
2. We can deliver the products according to the order form or order contract within 3-7 days, and can deliver the customized products within 15 days.

◆ 质量保证期 Quality guarantee period

本产品的质量保证期自出厂起两年。在保证期间如有质量问题，本厂负责免费维修或更换。

The products are guaranteed for two years since the date of leaving the factory. The company would be responsible for maintaining or changing the defective products for free within this



温州正海机电有限公司

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