

Excellent

DC Motor And
Drive Solutions

Long Lifetime
Low Noise
High Efficiency
Cost Effective

Assist to drive your life!

ZGC
Mechanical & Electrical Co. Ltd

Changzhou ZGC Mechanical & Electrical Co., Ltd

📍 No. 271 West Hehai Road, Xinbei District Changzhou,
Jiangsu, China 213125

☎ +86 519 8812 3456-806 ✉ zgc@cz-zgc.com chenyu@cz-zgc.com

🌐 www.zgcmotors.com



Our products are CE and RoHS
compliant and some are UL certified.

Customer-oriented, Insist On Innovation, Focus On Quality And Sustainable Service.

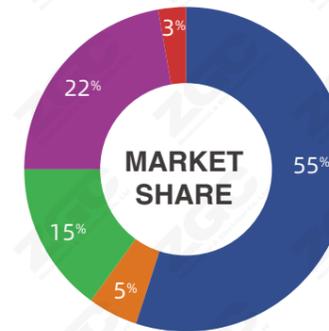
ZGC Mechanical and Electrical Co., Ltd.

is a professional company integrating R&D,
manufacturing, sales and service.

Our advantage is to provide excellent DC motor and
driver solutions.



01 About



■ Europe ■ North America
■ Asia ■ China (mainland) ■ Others

Changzhou ZGC Mechanical & Electrical Co., Ltd. is a professional company which integrates function of R&D, manufacture, sale and service, supplying worldwide DC motor / motor driver products and solution, mainly used in industrial automation, medical equipment, robot, logistics/warehouse system and other motion controlling systems.

Headquartered in the Motor city Changzhou, China. ZGC has the engineering, manufacturing and sales/support teams over 70 people help our clients design and manufacture from practical solution to specific needs. Our products are CE and RoHS compliant and some are UL certified. With over 20 years experience in DC motor field, ZGC is aiming to become your most reliable partner in DC motor field in China. Contact us, we will help you find the most cost-effective solution to completely satisfy your unique application!

CE & ROHS & UL

Our products are CE and RoHS compliant and some are UL certified

20

20 years experience

18

2020 sales exceed 18 million dollars



02 Our Values

As a motor and driver manufacturer, ZGC is eager to use the integration of digitalization and sustainability to meet the most profound challenges in the world. We help customers and cities achieve high efficiency and reduce energy consumption, thereby creating beneficial value for employees and the entire society.

All our employees clearly know what needs to be done. By practicing our four values, we set an example in developing business and innovating technology, giving full play to our capabilities and responsibilities.

- Cooperation
- Innovation
- Tomorrow



Responsibility

We have the courage to assume responsibility for the future and society.



OPENNESS

We must be frank and open, and advocate transparent two-way communication and understanding.



TRUST

We achieve mutual trust by creating mutually respectful interpersonal relationships.



INNOVATION

We must inspire ourselves to keep making progress with innovation every day.

03 Our History

1999-2009

Ten years experience in DC motor field, especially on stepping motor and BLDC motor, cooperation with several well-known companies in the world.

2010

We set up ZGC company with function of R&D, sales service and obtained ISO9001 certification approved by Intertek in year 2012.

2012

We set up motor factory SHN devoted to DC motor, mainly BLDC motor and obtained ISO9001 certification.

2013

We set up electronics factory NSP to design and manufacture motor drivers and obtained ISO9001 certification.

2016

Our annual turnover broke 10 millions US dollars.

2019

We successfully developed HVLS fans and controller, with blade max 7,3m.

2020

ZGC,SHN,NSP moved to new factory cover area 5000 square meters and start to develop servo motors and controllers.



04 Our Teams

Our professional engineering team, including motor engineer, electronics engineer and mechanical engineer provide customized design and development on motor specifications, mounting size, IP grade, gear box/brake/ encoder assembling solutions, internal/external driver and driver communication protocol based on Canopen/Modbus/Ethercat.

Our production and quality team make sure each product is qualified and tested.

Short leadtime is one of our advantage. Our sales team supply Pre-sales and after-sales consultation, any question and request will get reply within 24 hours.



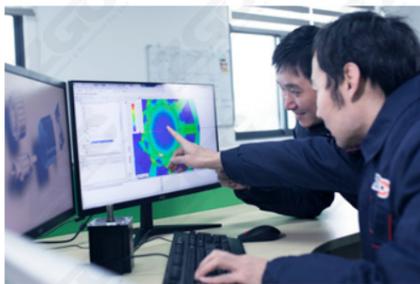
05 Technical Strength

Innovation That Never Compromises

Complete Rotary And Linear Drive Design Solutions

The R&D team of ZGC's technical department provides services for the complex and diverse development and innovation of motor drive technology.

By working closely with customers, we provide the best drive design solutions for almost all applications, such as various linear systems, electromechanical integrated drive equipment and various mechanical parts. Use ansoftmaxwell 2D and 3D electromagnetic simulation to determine the correct motor size/cogging size and select the appropriate magnet. Use SolidWorks for quality, material and tolerance design to ensure the high quality and reliability of the product in every detail.



Validation Analysis

ZGE has a set of professional scientific research and development testing system, through experiments, investigation and research, continuous innovation, to ensure the reliability of design and products.

Motor Part:

1. Using ansoftmaxwell 2D and 3D electromagnetic simulation, confirm correct motor size/cogging size and choose suitable magnet.
2. Consideration of noise level vibration and torque ripple, we optimize the structure of the motor and decrease the cogging torque. Combined with ansoftworkbench, do thermal load analysis on motor components.

Electronic Part:

Our hardware/software engineers help customer realize their demands, such as driver with function square/sine wave, open/closed loop/accurate position control/RS485, RS232 communication.

3. Mechanical structure design: Use solidworks for quality, material and tolerance design and conduct mechanical analysis on motor materials and structures by solidworks' own mechanical performance analysis
4. Sample make and test on noise /vibration /temperature rise/ and lifetime, etc.

Mechanical Part:

We design all spare parts ourselves to ensure getting specifications we need. Strong supply chain on materials, surface treatment and mould/tooling make.

06 Excellent Quality



Quality Awareness For Highest Standards

In ZGC, quality comes first. From the beginning of the product development process, we insist on designing new products as perfect as possible. We have established a comprehensive quality management system, including IQC, first item inspection, process inspection, aging test and OQC, and a leading and fully-functional testing laboratory to perform performance and reliability tests on products such as noise, vibration, efficiency, lifetime etc., to meet the requirements of various customers and operating conditions.

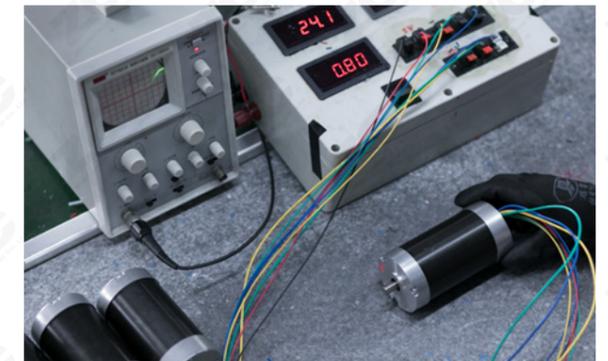
Production Process Management

All manufacturing processes require continuous inspection and improvement. Employees in each production process work hand in hand to make the process run smoothly and seamlessly, thereby shortening delivery time and improving efficiency. And before the products are delivered, they are fully inspected.



Independent Test Guarantee

In addition to the inspection of the production process, we also conduct comprehensive and in-depth inspections and random sample inspections on samples in independent laboratories to ensure consistently high component quality. According to special projects, we can also establish customized detection mechanisms and test conditions.



Intertek
Total Quality Assured.

CERTIFICATE OF REGISTRATION

This is to certify that the management system of **CHANGZHOU ZGC MECHANICAL & ELECTRICAL CO., LTD** has been registered by Intertek as conforming to the requirements of **ISO 9001:2015**. The management system is applicable to: Provision of trading services.

Unified Social Credit Identifier: 91320411562928804E
 Certificate Number: 111305070
 Initial Certification Date: 30 May 2013
 Date of Certification Decision: 15 July 2020
 Issuing Date: 15 July 2020
 Valid Until: 25 June 2021

Intertek

 Intertek Certification Limited is a UKAS accredited body under schedule of accreditation no. 014

Calin Moldovan
 President, Business Assurance
 Intertek Certification Limited, 15A Victory Park, Victory Road, Derby DE24 8EJ, United Kingdom

In the absence of the certificate, Intertek assumes no liability for any party other than the client, and there shall be no agreement with this regard. This Certificate Agreement. This certificate's validity is subject to the organization maintaining their system in accordance with Intertek requirements for system certification. Validity may be confirmed on Intertek's website under the same conditions as by opening the code on the right with a smartphone. The certificate remains the property of Intertek, to whom it must be returned upon request.
 The annual validity of the certificate can also be checked through the website <http://www.iso.org> or of CNCA in China.

ISET S.r.l.
 Sede Legale e Uffici
 Via Donatori di sangue, 9 - 40024 Mirafiori (MO)
 Tel. e fax +39 (0)576 558661
 www.iset-italia.eu iset@iset-italia.com

Ced. soc. i.a.
 Cod. Fisc. e P.IVA Reg. Imprese 02 332 750 369
 REA 02 332 750 369
 Cap. soc. i.a. MN 022 1056

CERTIFICATE

Certificat - Certificado - Сертификат - Zertifikat - 證書

- APPLICANT:** (who finally puts the product on the market)
 Changzhou SHN Motor Co., Ltd.
 No.90 Jiangjiang Road, Xinbei District, Changzhou, Jiangsu Province, China
- CERTIFICATE NO.:** ISETC-002520190516
FILE REFERENCE: ISETXD190512832401ER (ISET Technology (Shenzhen) Co., Ltd.)
- ISET MARK:**
- CAUTION ABOUT CE MARKING** (Instruction for the Applicant who puts the product on the EU market):
 The label of the CE Marking on the left side should be not less than 5mm height. CE Marking and EC Declaration of Conformity are duties for the manufacturer or its applicant who puts the product on the market. This one is responsible to start the CE marking and certification procedure as required by the legislation in force. Only for the products which are compulsorily included into specific Directives or Regulations will be necessary to appoint a Notified Body.
- TYPE OF PRODUCT:** BLDC Motor
MODELS: 86ZW02A-U, 86DMW, 57DMW, 42DMW, 110DMW, 130DMW, 60DMW, 70DMW, 28DMW
- LIST OF DIRECTIVES / REGULATIONS / STANDARDS** (as declared by the manufacturer itself)
 Electromagnetic Compatibility 2014/30/EU
 EN 61000-6-2:2017, EN 61000-6-4:2007/A1:2011, EN 61000-3-2:2014, EN 61000-3-3:2013
- NOTE:** The applicant is aware about the contents and information included in the MoC00M04.06 Regulation for this type of Certificate that is considered totally accepted. The latest revision of the Regulation is available and can be downloaded from the website www.iset-italia.eu. This document is not referred to any evaluation that could be considered as included in the scope of the activities covered by the standard BS EN ISO/IEC 17065:2012 or European Regulation 765/2008.
- REMARK:** Certificate is issued on voluntary application from the Client and it gives to the applicant the right to use and affix the ISET Mark (at point 3) on their products, even if it doesn't imply any assessment on the safety and compliance of the product. ISET declares that the only scope of the assessment is to verify the existence of the declaration issued by the manufacturer or an applicant under its own responsibilities.
- DATE OF ISSUE:** 16/05/2019 **EXPIRY DATE:** 15/05/2024
- SIGNATURE:** Miriam Camplone
 (On behalf of the Legal representative)

ISET S.R.L.
 EUROPEO SERVIZI EUROPEO TECHNOLOGICI

This document is property of ISET Srl and any kind of reproduction is to be considered strictly forbidden.

中国合格评定 国家认可 实验室 检测 TESTING CNAS L13107

Test Report

Report No. GTS210128034EN Job No.:29084 Date: February 03, 2021

| | |
|------------------------|---|
| Applicant | : Changzhou ZGC Mechanical and Electrical Co.,Ltd |
| Address | : No.271 West Hehai Road,Xinbei District,Changzhou ,Jiangsu,China |
| Sample Name | : Stepping Motor |
| Tested Model | : SD20H,SD28H,SD35H,SD42H,SD57H,SD60H,SD66H,SD57P,SD60P,SD66P |
| Sample Receiving date: | : 2021-01-28 |
| Test period | : 2021-01-28—2021-02-03 |
| Test Requirement | : The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, RoHS Directive 2011/65/EU and its amendment Directive (EU) 2015/863. |
| Test Method | : Please refer to next page(s). |
| Test result | : Please refer to next page(s). |
| Conclusion | : Based on the verification results of the submitted sample(s), the results of Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated biphenyls(PBBs), Polybrominated diphenyl ethers (PBDEs), Dibutyl phthalate(DBP), Butyl benzyl phthalate(BBP), Di-2-ethylhexyl phthalate(DEHP) and Di-iso-butyl phthalate(DIBP) content comply with the requirements as set by RoHS Directive 2011/65/EU and its amendment Directive (EU) 2015/863. |
| Note | : The test results are related only to the tested items. |

Authorized Signature: *Edna Yang*
 Edna Yang
 Approved Signatory - GTS/SHO

Page 1 of 12

This report is only responsible for the tested sample(s) from the client, the testing result(s) is used for scientific research, teaching or internal quality control. Without the written agreement of the company, the client is not allowed to copy the report in part or in full.

Shanghai Global Testing Services Co., Ltd.
 Floor 2nd, Building D-1, No. 128, Shenfa Road, Minhang District, Shanghai, China.
 Tel: (86-21) 3363 7866 Fax: (86-21) 3363 7858 E-mail: info@gts-lab.com Web Site: <http://www.gts-lab.com>

Verification No.: CEJS21012829085

VERIFICATION OF EMC COMPLIANCE

| | |
|-----------------------|--|
| Applicant: | Changzhou ZGC Mechanical and Electrical Co., Ltd |
| Address of applicant: | No.271 West Hehai Road, Xinbei District, Changzhou, Jiangsu, China |
| Manufacturer: | Changzhou ZGC Mechanical and Electrical Co., Ltd No.271 West Hehai Road, Xinbei District, Changzhou, Jiangsu, China |
| Product Description: | Stepping Motor |
| Model No.: | SD20H, SD28H, SD35H, SD42H, SD57H, SD60H, SD66H, SD57P, SD60P, SD66P |

Sufficient samples of the product have been tested and found to be in conformity with Test Standard:
 EN 55014-1:2017, EN 55014-2:2015, EN IEC 61000-3-2:2019, EN 61000-3-3:2013+A1:2019

As shown in the Test Report Number(s): TEJS21012829085
 Date of issue: February 05th, 2021
 Date of expiry: February 04th, 2026

Conclusion
 This Verification of EMC Compliance has been granted to the applicant based on the results of the TCF, performed by Global Testing Services Co., Ltd. on the sample of the above-mentioned product in accordance with the provisions of the relevant specific standards and the Directive 2014/53/EU. The CE mark as shown below can be used. Under the responsibility of the manufacturer, after completion of an EU Declaration of Conformity and compliance with all relevant EU Directives. The affixing of the CE marking presumes in addition that the conditions in annexes I, II and IV of the Directive are fulfilled.

Approved by: *Hermann Weber*
 For and on behalf of Global Testing Services Co., Ltd.

Global Testing Services Co., Ltd.
 E-mail: info@gts-lab.com <http://www.gts-lab.com>
 Floor 2nd, Building D-1, No. 128, Shenfa Road, Minhang District, Shanghai, China.

Copyright of this certificate is owned by Global Testing Services Co., Ltd and may not be reproduced other than in full and with the prior approval of the General Manager.

Complete Production Process



07 Production Process

In ZGC, we have built a complete motor and control production process and facilities, with advanced winding machine, gear hobbing machine, dynamic balancing machine, dynamometer, SMT chip moulder, wave soldering machine, AOI, CNC machining centers and other processing and manufacturing equipment, which can meet the needs of customers for various customized products. Ensure efficient and flexible production in a short time and create excellent products.



08 Sustainable Value-added Services

Today's market environment requires a comprehensive service concept. As a complete process manufacturer of electromechanical drives, ZGC is proud of its rich technical knowledge and unparalleled customer service. We tailor and accurately cater to customers' needs, help customers develop high-performance motors and drive systems, and provide consistently excellent and value-added solutions.

We provide customers with integrated services from development to delivery, including providing customers with personalized services, stable quality, essentially novel products and one-stop solutions, as well as 24-hour online inquiries and after-sales services. Advantages to ensure customer satisfaction and establish industry reputation. So as to tap more business and market share, and obtain long-term development.

Bldc Motor

Size from 16-130mm, power up to 10KW, gear box, encoder and brake are optional, high torque, low noise and long life time



Stepping Motor

Size from 20-86mm, 0.9°, 1.2°, 1.8°, waterproof IP65 grade, gear box, encoder and brake optional, various choice and cost effective



Brushed Dc Motor

Size from Dia 22-78mm, with high quality planetary gear box and spur gear box, fast delivery



Servo Motor

Size 40, 60, 80mm, high precision, position/speed/torque closed loop, smooth operation and strong anti-overload ability



Motor Controller

uses large-scale integrated circuit to replace the original hardware design, with higher anti-interference and fast response. Modbus /Canopen/EtherCat communication, powerful connection ability and easy operation



Others

We can continuously design and produce new motors and related derivatives according to customers' unique request



09 Application Solution

ZGC provides a global range of DC motor/motor driver products and solutions, mainly used in industrial automation, medical equipment, robotics, logistics/warehouse systems and other motion control systems.



Office and Commercial Automation

With the development of technology, more and more automation equipment is used in office and commercial purpose, bringing convenience to people. 3D printers, vending machines, electric lifting desks, coffee machines, large central air conditioners, large industrial fans, etc. can be seen everywhere. Brushless motors, brushed motors, etc. are widely used in these applications. We customize the speed, torque, output shaft, mounting flange, etc. according to customer requirements to provide high-performance, long-life DC motors.



Agricultural Automation

The world's agriculture has developed in the direction of large-scale and intensive development, and the demand for agricultural automation is increasing day by day. The automation of equipment has improved the efficiency of agricultural production and promoted the growth of the agricultural economy. Especially in recent years, more and more automation equipment is used in the breeding of dairy cows and sheep. The motors developed by our company are used in dairy cow massagers, wool finishing machines, etc.



Warehouse & logistics

At present, warehousing and logistics equipment is developing in the direction of intelligence and high efficiency, and more and more brushless motors and even servo motors are used for these purposes. Such as AGV (Automated Guided Vehicle), logistics conveyor belt transportation, parcel sorting system and so on. We provide various solutions such as brushless motors, brushless motors with gearboxes, etc. according to customer request.



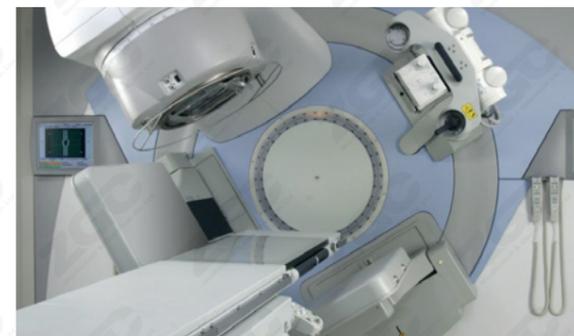
Industrial Automation

One of the most important applications of our DC motors is industrial automation, which is the advent of the Industry 4.0. Higher requirements have been placed on the accuracy and efficiency of industrial equipment, motor and its controller as the main parts to achieve automation, motors are widely used in various equipment and instruments. We provide solutions for brushless motors and servo motors below 1-10KW and related control system to improve efficiency and reduce labor cost.



Medical & Laboratory equipment

ZGC's high-precision motors are specially developed for quiet operation in sensitive environments such as medical treatment and laboratories. The equipment in these environments uses a large number of BLDC motors. The compact and miniaturized design can minimize the size of the whole machine. The advantage of our motor is high precision, high torque, high speed, integrated drivers but low noise/vibration and long lifetime



Home appliance

More and more electric smart home appliances are entering every family all over the world, such as electric curtains, sweeping robots, air purifiers, vacuum cleaners, wall breakers, blenders, coffee machines, etc. More and more brushless motors are used in these home appliances instead of the original brushed motors, achieving low noise, long life, maintenance-free, and energy-saving and high-efficiency

