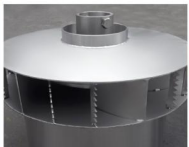




WENZHOU ZHONGWEI  
MAGNETIC DRIVING SEAL  
EQUIPMENT FACTORY



### 温州市中伟磁传密封设备厂

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## 磁力搅拌技术解决方案 MAGNETIC MIXING TECHNICAL SOLUTIONS



# 关于温州中伟

## ABOUT WENZHOU ZHONGWEI

温州市中伟磁传动密封设备厂成立于1998年，是一家集设计、开发制造、安装及售后服务于一体的磁力密封搅拌系统的厂家。

温州中伟从成立之日起就致力于以解决跑、冒、滴、漏为基础，解决磁力搅拌在各类无泄漏反应装置中应用的技术难题，是《磁力驱动反应釜》和《磁力驱动离心泵》标准主要起草单位，2013年获得浙江省科技型中小企业和温州市科技创新型企业的荣誉。

温州中伟作为国内磁力搅拌行业的领先者，具有丰富的实践经验和雄厚的技术力量，积极为各石油、化工、制药、食品、染料、热处理及大中院校和科研单位提供磁力密封、磁力搅拌、磁力反应釜、磁力风机及配套控制系统产品。

温州中伟以**诚信决定信誉、专业决定质量、创新决定发展、拼搏决定超越**为企业精神，奉行(WIN-WIN)双赢的营销理念，不仅与国内众多知名厂家长期合作，产品还远销欧美、日本、韩国、台湾、东南亚及非洲等国际市场。

温州中伟竭诚欢迎各界朋友，为大家共同事业加强友谊和合作，愿与您携手共进！

Founded in 1998, Wenzhou Zhongwei Magnetic Driving Seal Equipment Factory is a manufacturer of magnetic seal mixing systems integrating design, development, manufacturing, installation and after-sales service.

Since its establishment, Wenzhou Zhongwei has been devoted to tackling technical problems in the application of magnetic mixing in various non-leakage reaction devices on the basis of solving the problems of running, emitting, dripping and leaking. As a main unit drafting the standards of "Magnetic Driven Autoclaves" and "Magnetic Driven Centrifugal Pumps", our company has been honored as one of Technology-oriented Small and Medium-sized Enterprises in Zhejiang Province and Enterprises with Innovative Technology in Wenzhou City in 2013.

As a leader in China's magnetic mixing industry, Wenzhou Zhongwei has rich practical experience and powerful technical strength. We are actively engaged in providing magnetic seals, magnetic mixers, magnetic reaction kettles, magnetic fans and auxiliary control systems for such industries as petroleum, chemical industry, medicine, food, dye, heat treatment, as well as technical secondary schools, colleges, universities and research institutes.

By holding the enterprise spirit that sincerity determines reputation, professionalism determines quality, innovation determines development and struggling determines surpassing, and keeping to the marketing concept of WIN-WIN, Wenzhou Zhongwei has established long-term cooperation relationships with many famous enterprises in China, and our products are sold far to Europe, America, Japan, South Korea, Taiwan, Southeast Asia, Africa and other international markets.

Wenzhou Zhongwei sincerely expects people from all circles to build friendship and strengthen cooperation with us for our common career and mutual progress.



资质证书  
QUALIFICATION  
CERTIFICATE

## ZWC 磁力强耦合器 POWERFUL MAGNETIC COUPLE

ZWC磁力强耦合器搅拌系统由于密封性好、扭矩大、结构灵活、易维护等优点，目前在反应釜上搅拌设备上使用非常广，尤其适用于高压、高温、高转速、高真空、易燃、易爆、剧毒等工艺条件下的加氢催化、氯化、氧化、气液固混合等搅拌反应。ZWC系列强磁力搅拌经我厂十几年不断创新改造和更新换代，目前结构可根据不同物料性质、压力、温度、转速及腐蚀量采用不同材质(碳钢、不锈钢、钛、镍、钨及哈氏合金和玻璃钢、衬四氟、PO等非金属)和结构；如1.轴承上装式；2.轴承内置式；3.轴承不停车等压加油式；4.轴承外置机械密封平衡式等等。且**压力 $\leq 22\text{MPa}$ 、功率 $\leq 90\text{KW}$ 、温度 $\leq 450^\circ\text{C}$ 、转速 $\leq 2900\text{r/min}$** 的工况在工业化大生产上均达到很好效果。

With such advantages as good sealing performance, high torque, flexible structure and easy maintenance, the ZWC powerful magnetic couple mixing system is widely applied in mixing equipment in the reaction kettles. It is especially suitable for mixing reactions such as catalytic hydrogenation, ammoniation, oxidation and gas, liquid and solid mixing in high pressure, high temperature, high rotation speed, high vacuum, flammable, explosive and toxic process conditions. After more than ten years of continuous innovation and upgrading by our factory, the ZWC series powerful magnetic couple mixing system can use different materials (carbon steel, stainless steel, titanium, nickel, zirconium and Hastelloy, FRP, PTFE lining, PO and other nonmetals) and structures according to the nature, pressure, temperature, rotation speed and corrosion of different materials, for example, 1. top mounted type bearing; 2. built-in type bearing; 3. bearing with isobaric oiling without stopping the machine; 4. external mechanical seal balanced bearing. In service conditions with pressure  $\leq 22\text{MPa}$ , power  $\leq 90\text{KW}$ , temperature  $\leq 450^\circ\text{C}$  and rotation speed  $\leq 2900\text{r/min}$ , the product can achieve good effect during industrialized production.



## ZWD 磁力底搅拌器 MAGNETIC BOTTOM MIXER



ZWD型磁力底搅拌具有性能稳定、密封可靠、结构简单、无卫生死角、又具有自清洗功能等优点，搅拌桨在旋转时产生离心力使液体通过专用流道从底部出来，由于搅拌桨作用形成漩涡循环辐射而达到清洗、混合、溶解、分散的效果，特别适用制药食品行业各类配液罐、发酵罐、贮液罐底部之用。

ZWDX型是我厂自主创新磁悬浮磁力底搅拌，采用2组垂直水平安装磁钢使轴套和搅拌器完全悬浮，避免由于磁性扭矩传递使用使轴套磨损，实现无摩擦运转，其搅拌桨是有上下搅拌叶连接，中间完全隔离，又是悬浮旋转，液体大量从中间漩涡甩出与罐壁形成对流循环，从而实现混合、溶解、分散功能。ZWDX型磁悬浮磁力底搅拌即解决了原有磁力底搅拌使用寿命短，安装更换麻烦的缺陷，且各种搅拌形式均能互换通用，比传统ZWD磁力底搅拌更实用、高效、耐用，完全取代目前国内外同类产品。

ZWD和ZWDX型磁力底搅拌隔离套与罐体可选用焊接和可拆式法兰连接二种形式，可以适用于CIP和SIP，均符合GMP标准。

The ZWD model magnetic bottom mixer has such advantages as stable performance, reliable sealing, simple structure, no dead corner of sanitation and having the self-cleaning function. The mixing impeller produces centrifugal force during its rotation to make liquids flow from the bottom of the special flow channel. Under the action of the mixing impeller, the vortex circulation is formed to achieve the effect of cleaning, mixing, dissolving and dispersing. It is especially suitable for use at the bottom of various kinds of dispensing tanks, fermenting tanks and liquid storage tanks in such industries as medicine and food.

The ZWDX model magnetic suspension magnetic bottom mixer independently innovated by our factory adopts two groups of vertically and horizontally installed magnetic steel, making the shaft sleeve and mixer totally suspend, avoiding the wearing of shaft sleeve due to magnetic torque transmission and realizing non-friction running. The mixing impeller is connected by upper and lower vanes. With hollow middle parts and suspension rotation, the liquids are thrown out from the middle vortex and form convection circulation with the tank walls, so as to realize the functions of mixing, dissolving and dispersing. The ZWDX model magnetic suspension magnetic bottom mixer has solved the defects of short service life and troublesome installation and replacement in previous magnetic bottom mixers. In addition, it can adopt various mixing forms. It is more practical, efficient and durable than traditional ZWD magnetic bottom mixers and can replace other products of its kind at home and abroad.

The isolation sleeve and tank body for ZWD and ZWDX magnetic bottom mixers can adopt two forms such as welded connection and dismountable flanged connection. The product can be subject to CIP and SIP, meeting GMP requirements.





## ZWS 磁力侧搅拌器 MAGNETIC SIDE MIXER

ZWS型磁力侧搅拌器是在ZWD型磁力底搅拌基础上改型和发展的新一代产品。特别适用于防止物料沉淀和反应无需剧烈的各种均质、溶解、分散、混合的大型贮罐、发酵罐组合使用，与传统机械密封侧搅拌相比，是一种全密封、无泄漏、无污染、易维护的新型搅拌密封方式，并且如有单个搅拌密封故障，不会导致整罐物料因单个搅拌密封维修而造成物料泄漏或停车卸料。其结构材质可选用Q345、304、316L、904L、钛、镍、钨及哈氏合金等和非金属材料。

The ZWS model magnetic side mixer is a new generation product improved and developed on the basis of ZWD model magnetic bottom mixer. It is especially suitable for use in large-sized storage tanks and fermenting tanks for various homogenizing, dissolving, dispersing and mixing that prevent material deposition and do not need severe reactions. Compared with traditional mechanical seal side mixers, it adopts a new type of mixing seal featuring complete sealing, no leakage, no pollution and easy maintenance. In addition, if one mixing seal fails, there is no material leakage in the whole tank of materials and no need of stopping the machine for discharging due to the repair of the single mixing seal. The structure can be made of Q345, 304, 316L, 904L, titanium, nickel, zirconium, Hastelloy and other nonmetal materials.



## ZWB 磁力高压高温小流量泵 MAGNETIC HIGH PRESSURE HIGH TEMPERATURE LOW FLOW PUMP

ZWB型高压磁力泵是温州中伟对现有的齿轮泵进行重新改造设计，使其密封性能更好、运转更稳当、结构更紧凑美观、效率更高。能够用于输送高达**压力15MPa、温度 $\leq 250^{\circ}\text{C}$** 的高压高温液体。泵体采用奥氏体不锈钢制造，齿轮采用高强度聚氟材料或金属材料，特别适用于易燃、易爆、有毒、有害等高压高温液态介质的小流量循环条件。在双端面机械密封平衡冷却系统中被广泛应用。

The ZWB model high pressure magnetic pump is reformed and redesigned on the basis of the existing gear pumps by Wenzhou Zhongwei to have better sealing performance, more stable running, more compact and beautiful structure and higher efficiency. It can be used for conveying high pressure high temperature liquids with pressure 15MPa and temperature  $\leq 250^{\circ}\text{C}$ . The pump body is made of austenitic stainless steel, and the gear is made of high strength polyfluorine materials or metal materials. It is especially suitable for low flow circulation conditions of high pressure high temperature liquid media that are flammable, explosive, toxic and harmful. It has been widely applied in the double-face mechanical seal balancing and cooling system.



## ZWH 磁力风机 MAGNETIC FAN

本系列密封风机经过我厂多年实践经验及与专业设计制造，结合国内外先进技术特点，采用永磁磁力耦合原理，彻底解决原来高速风机不能完全密封的缺点(专利号：200620116231.X)。由于其全密封、无泄漏、绝真空、高效率等特点，故在冶炼熔炉、热处理炉膛、真空干燥炉等高压真空场合效果显著，能使密封腔体内高温、高压、高真空气体形成对流循环，使温度达到理想均匀度，另外可根据不同的密封腔体，不同的工艺条件，设计制造以满足不同工艺对磁力密封风机的需求。



The seal fan is designed and manufactured by our factory on the basis of many years of practical experience after absorbing nationally and internationally advanced technology. By adopting the permanent magnetic coupling principle, it has thoroughly solved the defect of incomplete sealing in previous high-speed fans (patent No.: 200620116231.X). Due to its features such as complete sealing, no leakage, absolute vacuum and high efficiency, it can achieve prominent effect in absolute vacuum applications such as smelting furnace, heat treatment furnace and vacuum drying oven. It makes the high temperature, high pressure and high vacuum gas inside the seal cavity form convection circulation, so as to make the temperature reach the desired uniformity. In addition, the product can be designed and manufactured according to different seal chambers and different process conditions to meet different process requirements for magnetic seal fans.



# ZWF

## 实验用磁力搅拌设备

### EXPERIMENTAL MAGNETIC MIXING EQUIPMENT

本系列产品主要为广大科研单位提供实验、中试用的磁力搅拌密封设备，如反应釜、真空蒸发器、真空过滤器、微型磁力泵、玻璃仪器等装置。从0.1-30L各种规格，可提供台式、落地式、框架式各种结构，反应釜材质可采用不锈钢、钛材、衬镍、锆材、哈氏合金、聚四氟衬里及玻璃等不同材质。在进料、出料、温控、加热、转速、压力等方面可选用单片机集成仪表或计算机DCS系统进行监测和控制。订货时，具体工艺要求希望厂家与我厂技术人员沟通，以便更好地为客户服务。图示所列的是按特定客户要求设计制造，仅供参考。



The series of products are magnetic mixing seal equipment used for pilot-scale experiments in research institutes, such as reaction kettle, vacuum evaporator, vacuum filter, micro magnetic pump, glass instrument, etc. With specifications varying within 0.1-30L, we can offer desk type, floor type and frame type products. The reaction kettle can adopt such materials as stainless steel, titanium, nickel lining, zirconium, Hastelloy, PTFE lining and glass. As for feeding, discharging, temperature control, heating, rotation speed and pressure, the MCU integrated instrument or computer DCS system can be selected for monitoring and control. When placing orders, please communicate your detailed process requirements with our technicians so that we can better serve customers. The products listed in the following figures are designed and manufactured according to special customer requirements and only serve as references.

# WZZW

## 搅拌叶轮分类

### MIXING IMPELLER TYPE



低中粘度 Low and medium viscosity	轴流推进式搅拌 Axial flow propelling type mixing					
	开启式涡轮搅拌 Opening type turbine mixing					
	圆盘式涡轮搅拌 Round disc type turbine mixing					
	特殊专用式搅拌 Special mixing					

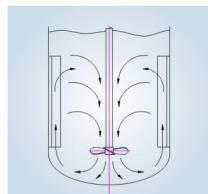
低中高粘度 Low, medium and high viscosity	锚框螺旋带式搅拌 Anchor frame and ribbon type mixing					



# WZZW

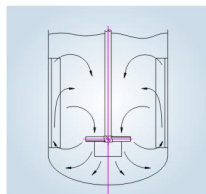
## 搅拌叶轮选型

### STIRRING IMPELLER SELECTION



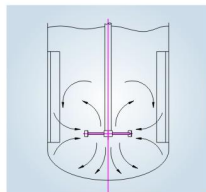
#### 三叶推进式搅拌器

高排量，低剪切。采用挡板或导流筒，排出性能更高，由于循环能力强，动力消耗低，在大容量均相、混合应用中最能体现其优势，在低粘度的液体传热、反应、悬浮、溶解中应用广泛。



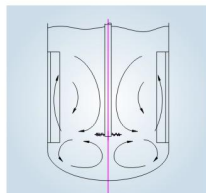
#### 六直叶圆盘涡轮搅拌器

径流型搅拌器，具有极高的剪切力，分散能力好，循环能力较好，圆盘上下形成两股循环流，固有圆盘的作用，能使气体分散更平稳、均匀。适用三相或二相物料混合、溶解、固体悬浮、传热、非均相等反应。



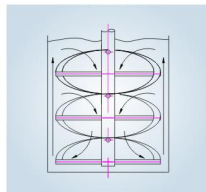
#### 六斜叶圆盘涡轮搅拌器

斜叶圆盘涡轮桨叶有一个倾角，有一定的轴向流，循环能力好，剪切力低于直叶圆盘涡轮，特别适合非均相的混合、分散，也用于传热、乳化等操作。



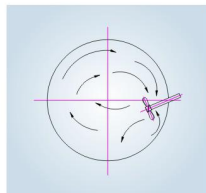
#### 三叶旋桨式搅拌器

旋桨式是应用广泛的轴流型搅拌器，排出性能好，剪切力低，可以在过度流及湍流操作中得到较高的流动场，排出量比推进式高，适用于低粘度的混合、溶解、固体悬浮、传热、反应、结晶等。



#### 自吸式搅拌器

自吸式搅拌器，通过自吸叶轮与高效轴流搅拌组合，将上部气体吸入底部完成气相、液相、固相三相多效循环反应，可用于催化、氧化、氧化、分层曝气再分散等，但不适合中高粘度反应体系。



#### 开启涡轮搅拌器

中高转速桨叶，剪切循环性能好，粘度适应范围广，其桨叶可作斜叶、直叶、弯叶及后掠式等，轴径流综合性的搅拌器，可在下面加稳定环，减少桨叶在液体中的摆动，广泛适用于混合、溶解、固体悬浮、传热、反应、结晶等。

#### 布尔马金式搅拌器

属于开启涡轮径流型，桨叶前端带有后掠角的大宽桨叶，排出性能优于直叶和弯叶开启涡轮，功耗低，剪切力小，有挡板时，可产生对循环流及湍流扩散，适用于混合、纤维物料溶解、传热、传热等操作。

#### 高速齿型折叶搅拌器

盘外缘有锯齿，在搅拌高速旋转时对周围流体形成强烈的剪切破碎作用，同时产生径流，在容器内形成循环流动，可与旋桨式组合使用，使流动和分散、剪切、剥离作用更强烈。

#### 螺带搅拌器

循环型搅拌器，物料沿螺旋面上升或下压，汇合到中轴和螺旋面成反向流，适用于高粘度、高固含量物料的混合、传热、反应、溶解等操作。

#### 侧搅拌器

适用于大容量储罐，搅拌器和槽体成一定的夹角，有助于形成循环流，如单台不能实现循环可采用多台形式，由于循环能力强，动力消耗低，在大容量均相、混合应用中最能体现其优势，在低粘度的液体传热、反应、悬浮、溶解中应用广泛。

# WZZW

## 工程现场

### ENGINEERING FIELD



15m³、55KW、500r/min连续反应装置



10m³搪玻璃磁力反应釜



10m³、90KW、300r/min磁力反应釜



80Mpa高压加氢磁力反应釜



不锈钢磁力反应釜



10m³自然冷却磁力反应釜



10m³复合板磁力反应釜



30L可移动连续聚合反应装置



搅拌系统平衡测试现场