



# GREATWALL MIXERS

NO.1 AGITATOR DESIGNER AND  
MANUFACTURER IN CHINA



ZHEJIANG GREATWALL MIXERS CO.,LTD.





**A** dvanced technology

**A** ssurable quality

**A** uthentic reputation

**Zhejiang Greatwall Mixers Co., Ltd. (GREATWALL)** was founded in 1993. But its history can be traced back to 1981. From the original manufacturer of reducers, GREATWALL has since become the leading company in China for mixing technology research, design, and manufacturing as well as the installation of agitators and mixers. GREATWALL is also well known in China by achieving many honors for "National High-tech Enterprises", "National Patents of Superior Enterprises", "Provincial Innovative Enterprises", etc.

GREATWALL invests heavily in R&D. The technical group is staffed by doctorates, professors of engineering, senior engineers and other technical specialists. Also, relying on strong collaboration with universities, such as ECUST, ZJUT, etc, GREATWALL has set up a National Enterprise Postdoctoral Research station, Provincial Mixing Research Institute, Provincial Technical Center and Provincial Academic workstation. All these initiatives support and guarantee GREATWALL's advanced technology. GREATWALL has been awarded more than one hundred patents for mixing technology. We have specified and set 16 national and industrial standards for mixing equipment, organized mixing technology committees in China, and held three National conferences on mixing.

GREATWALL has obtained ISO9001, ISO14001 and OHSAS18001 certification. The products for export have obtained CE and ATEX certification, and cover a wide range of industries which include pharmaceutical, petrochemical, fine chemical, environmental protection, mineral processing, food and beverage, water treatment, etc.



# Green ENERGY

## 1 MW distributed solar power station

Sustainability and green manufacturing is deeply rooted in GREATWALL's business strategy. We not only supply environmentally friendly products or services to our customers worldwide, but also built a 1MW solar power station to provide renewable and clean source of energy to manufacture our products.



## Drafted Standards

GREATWALL not only focused on the development of our products, but the whole development of the industry. As industry leader, we drafted the main industry standards on mixers, reducers and mechanical seals.

Vertical reducer for tank(HG/T 3139.1~12-2001)

Impellers(HG/T3796.1~12-2005)

Technical conditions for steel stirred vessels (HG/T 2268-2008)

Mechanical agitators(HG/T 20569-2013)



## Mixing Conferences

As industry leader, GREATWALL organized the Mixing Technology Committee in China. From 2008, we organized and held 5 national mixing conferences. The conferences focused on the research, design and applications of mixers and mixing technology.

we also participated the world main mixing conferences and presented our research papers.

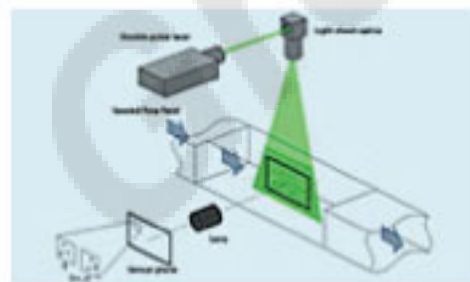


# Research & Development

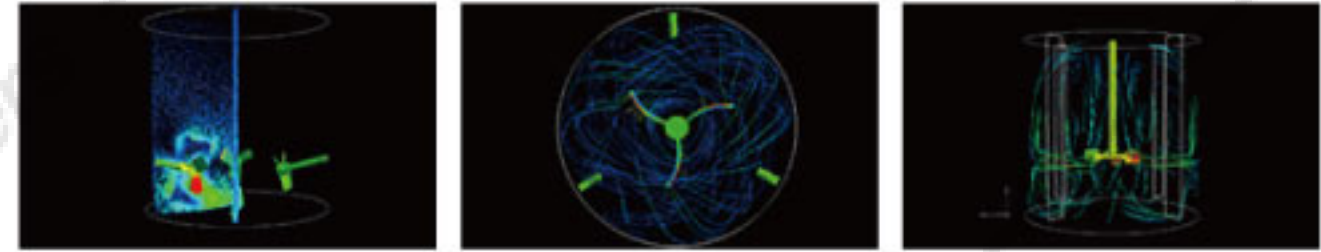


## Greatwall Mixing Laboratory

We have built one of the most advanced mixing laboratory in the world which includes high speed video imaging, Particle Image Velocimetry (PIV), Brookfield Viscometer, and the latest CFD analysis software (Fluent). In addition to laboratory sizes, testing equipments, we have full-scale testing capability for industry size agitators.



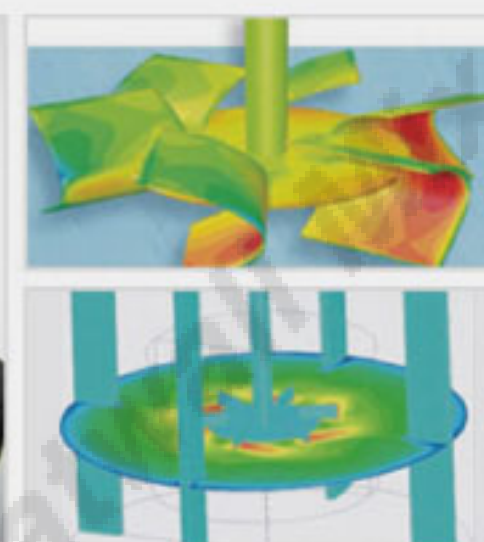
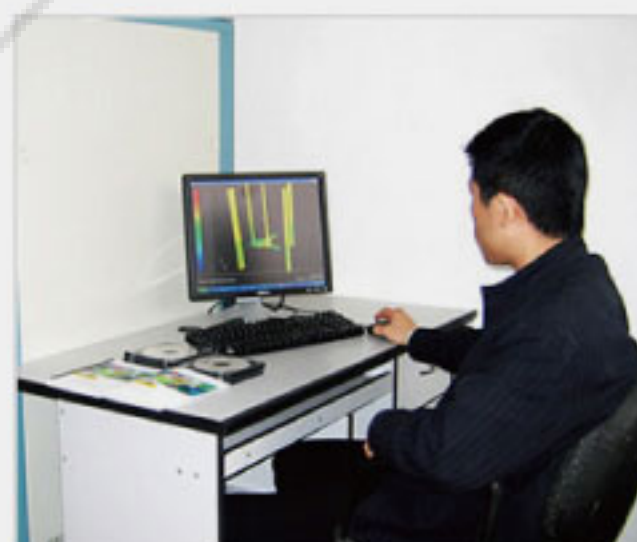
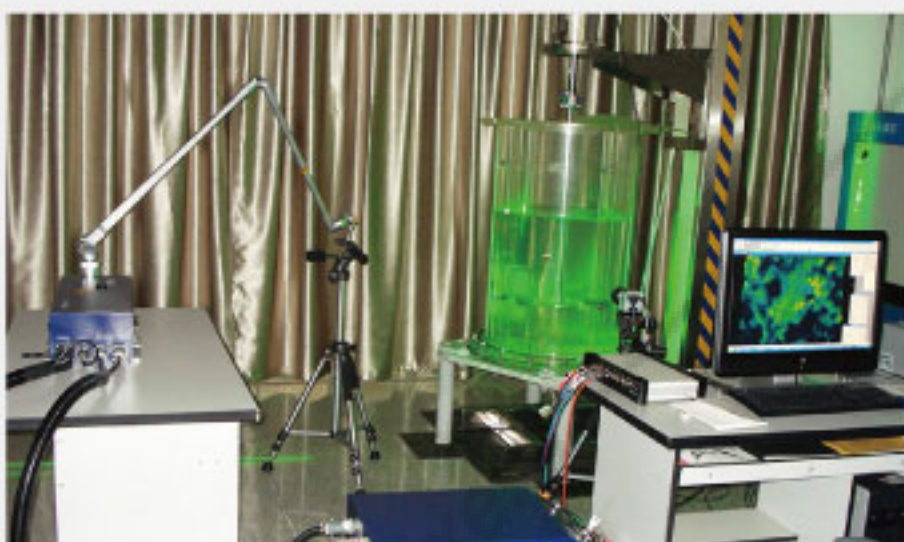
## CFD - Computational Fluid Dynamics



"Computational Fluid Dynamics" (CFD) could accurately predict mixing performance in large tanks including those with unusual geometry or process requirements. The combination of PIV with CFD gives us powerful tools to substantially reduce pilot or full scale trials.



## PIV - Particle Image Velocimetry



## Manufacturing Abilities



Lathe for Long Shaft



Workshop



Vertical Lathe



CNC Machine



Plasma Cutting Machine



1100kW Mixers for Fermentation Tanks



Hydrofoil impeller (6.3m) for US Ethanol Plant



Helical Ribbon impellers (3.9m) for Polymerization Tanks

## Facility



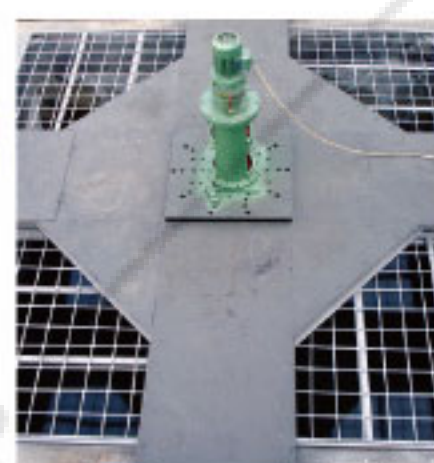
Seal Test Platform for Side-entry Mixer



Spectrometer for Metal Analysis



Three-coordinates Measuring Machine



Workshop Tests for Mixers



3.55m Belt wheel for Belt Reducer(630kW)

# Production

## Top-Entry Mixers



Large - power belt mixers



Double - output shaft mixers



Right - angle gear mixers



Co-axial gear mixers



Parallel shaft gear mixers

## Magnetic Drive Mixers

*MTC series magnetic drive mixers use permanent magnet for the transfer of torque. Different from the moving seal (such as mechanical seal or stuffing box), the static seal solves the leakage problem at last. So it is suitable for industry applications which does not allow any leakage, such as pharmaceutical, chemical, biochemical, pesticide, etc. The MTC drive mixers could be designed for both top and bottom entry type.*



Bottom-entry type



Top-entry type



Type gw204H seal



Type 202F seal



Type T286 seal



Type 2004 seal

# Production

## CKJ Swival Angel Side-Entry Mixer

- Minimum maintenance requirements
- Patent pending tank shut-off device



## CFJ Side-Entry Mixer





## Continuing Polymer Dissolving Test Platform



### Lab Series

The lab series mixers are widely used for laboratory tests. With acryl glass tank, the mixing effects could be seen clearly. By adding torque meter and other instrument, the impeller power, as well as detailed flow field could be measured.



# Production

## Special Mixers

### KJ portable mixer

The KJ portable mixer is one of the widely used mixers of Greatwall. It is specially designed for multi-purpose mixing and easy installation and movement. It possesses a broad range of features and benefits.



### Pipe mixer



## Large Mud Scraper or Thickener

The special drive unit for large mud scraper or thickener is widely used in water treatment, mineral and salt industries. It could be specially designed according to your special needs.



Intermediate steady bearing



Bottom steady bearing

# Impellers



XJ



ZCX



XCK



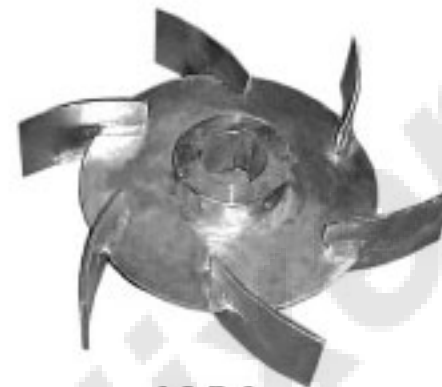
KCX



PY



HY



WY



BTD



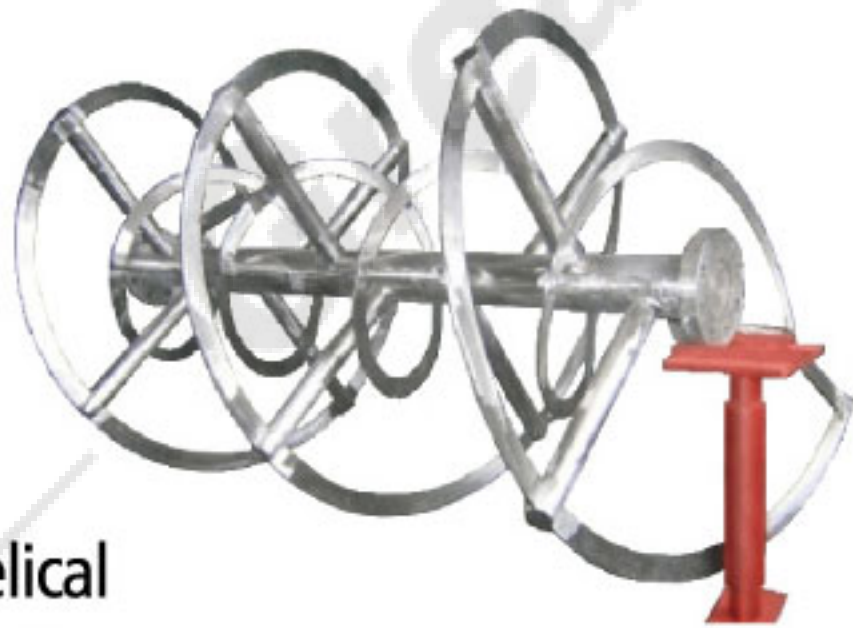
KSX



PCK



FY



LD-Double helical ribbon impeller



MKS-anchor impeller

## Impeller Selection Guide

<i>Application</i>	<i>Miscible Fluids Blending</i>	<i>Solids Suspension</i>	<i>Gas Dispersion</i>	<i>Immiscible Fluids Blending</i>	<i>High Viscosity Mixing</i>
<i>Impeller types</i>	<i>XJ, XCK, ZCX, KCX</i>	<i>XCK, ZCX, KCX</i>	<i>PY, HY, WY, BTD, KSX</i>	<i>PCK, FY</i>	<i>LD, MKS</i>

## Pharmaceutical

biological technology,  
fermentation, medicine



## Petrochemical

rubber, resin, polyester, lastics,  
chemical fiber and oil combinations



## Water Treatment

water treating, purified water  
treating, industrial water and  
sewage treating



## Fine Chemical

chemical reagents, fertilizer, spice,  
industrial drug, soap making,  
agricultural chemicals, organic and  
inorganic chemicals



# APPLICATIONS



## Food & Beverage

biochemical food, sugar,  
fermentation, cooking oil, beverage



## Mineral

nonferrous metal,  
rare metal, rare earth  
element, gypsum



## Coating & dyestuff

ink making, paint, coating,  
paper manufacture



## Special Machinery

macadam treatment, cement  
treatment, bituminous treatment,  
heat barrier material, cooling fan

## Environmental Protection

Flue Gas Desulfurization (FGD), pollution  
nuisance treating,  
green industry

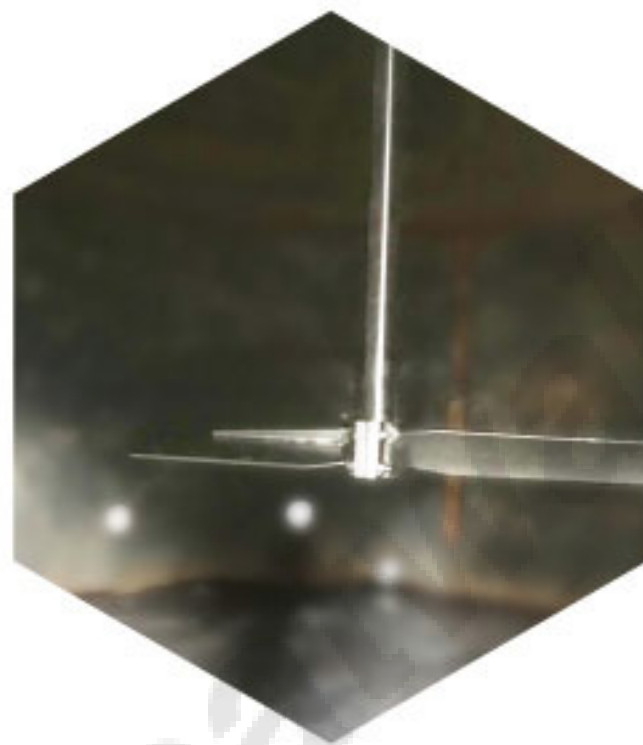
# International Sales Network



# Part of International Customers



# APPLICATIONS & SERVICES



Greatwall is devoted to the manufacture of quality equipment for fluid agitation and mixing. We warrant our products to be constructed of new material and to be free from defects in material or workmanship under normal and proper use.

For our customers, we also provides expert help on installation and maintenance. Besides the user's manuals, which provide detailed maintenance specifications, we also provide direct or indirect installation and maintenance guidance.

Our parts program includes individual recommendations and review of your spare parts stock, based on your equipment and process. Our large inventory supports your stock, and provides quick fulfillment of maintenance and repair need, including standard replacement items such as seals, bearings, and lots of internal subassemblies.





# Agitator Data Sheet

Please try to fill out the following data sheets as accurately and completely as possible. This will allow our engineers to find the most appropriate agitator for your application. The more information, the better.

### Customer Info.

Company \_\_\_\_\_ Date \_\_\_\_\_  
 Name \_\_\_\_\_ Tel \_\_\_\_\_  
 Address \_\_\_\_\_ Fax \_\_\_\_\_  
 Project Identification \_\_\_\_\_ Item \_\_\_\_\_

### Process operation:(be specified)

Blending & Motion \_\_\_\_\_  
 Solid Suspension \_\_\_\_\_  
 Gas Dispersion \_\_\_\_\_

Required process results: blend time, heat transfer rate, reaction rate, etc;  
 Dissolution rate, suspension performance; Degree of gas dispersion, O<sub>2</sub> transfer rate.

### Vessel Data

Volume agitated: \_\_\_\_\_ Total Flow \_\_\_\_\_  
 Size \_\_\_\_\_ Dia.( \_\_\_\_\_ L By \_\_\_\_\_ W); Str. Side \_\_\_\_\_.( \_\_\_\_\_ Deep)  
 Bottom: Flat  ASME  2:1 Elliptical  Cone  Dept \_\_\_\_\_  
 Top: Open  Flat  ASME  2:1 Elliptical  Cone  Dept \_\_\_\_\_  
 Baffle: Coil  Plate  \_\_\_\_\_ W x \_\_\_\_\_ L Other \_\_\_\_\_  
 Agitator Mounting: Open: Beam Height \_\_\_\_\_ Other \_\_\_\_\_  
 Closed: ANSI \_\_\_\_\_ lb.x \_\_\_\_\_ H

Size of opening available for impeller: \_\_\_\_\_ ; Manhole size: \_\_\_\_\_  
 If tank construction or mounting detail are not completely covered above, please sketch it.

### Material

Components: If batch, sequence; if continuous, %	Quantity	Sp. Gr.	Viscosity	Temperature
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____

If viscosity and specific gravity data are not available, we will give assumed data for calculation.

### Equipment Requirements

Top-Entering  Side-Entering  Bottom-Entering  Portable Mixer   
 Design Conditions: Pressure \_\_\_\_\_ Temperature \_\_\_\_\_ Wetted Parts Materials \_\_\_\_\_  
 Electrical: Phase/Current/Voltage \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
 \_\_\_\_\_ Service \_\_\_\_\_ Duty \_\_\_\_\_ Classification  
 (Std or High Eff.) (Std or Chemical) (TEEC or EXP Requirement)  
 Operation: 8 Hours/Day  , Or Continuous  ; Variable Speed   
 Other: Shaft Seal Preference: Packing  Mech Seal   
 Steady Bearing permitted: Yes  No

### Special Statements

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