

# WE EXTEND ADVANTAGE

NINGBO ZHAFIR PLASTICS MACHINERY MANUFACTURING CO., LTD.  
NO. 98, GUANHAI ROAD,  
CHUNXIAO, BEILUN, NINGBO, ZHEJIANG,  
P.R.CHINA 315830

TEL: +86 574 86182985 / 86182986  
FAX: +86 574 86182926



[www.zhafir.com](http://www.zhafir.com)

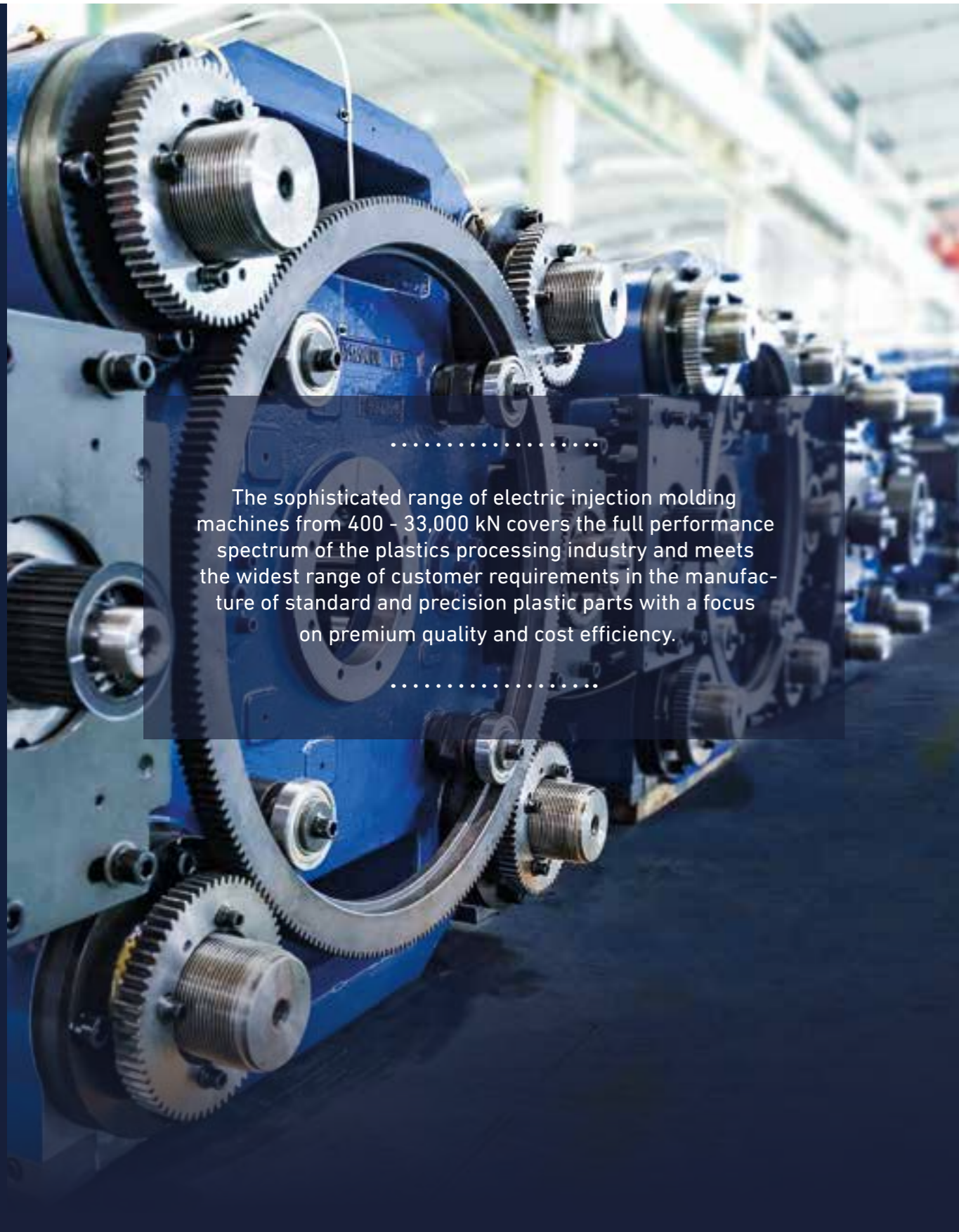


GREEN VANTAGE

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**ZHAFIR**  
PLASTICS MACHINERY



.....  
The sophisticated range of electric injection molding machines from 400 - 33,000 kN covers the full performance spectrum of the plastics processing industry and meets the widest range of customer requirements in the manufacture of standard and precision plastic parts with a focus on premium quality and cost efficiency.  
.....

HIGH PRECISION . MODULAR . PREMIUM

.....

# EXTEND THE POSSIBILITY OF ELECTRIC INJECTION MOLDING SOLUTIONS

.....



# THINKING ELECTRIC FOR MORE THAN 20 YEARS.

1998-2004

THINKING ELECTRIC SINCE 1998



1998-2004

THINKING ELECTRIC SINCE 1998

At this time, Haitian had already initiated the development of electric machine technology – acting from the deepest conviction that ultimately electric drives offer a whole range of advantages when compared with standard hydraulic solutions.

2005

FOUNDATION OF ZHAFIR, GERMANY



2007

INTRODUCTION OF OUR FULLY ELECTRIC MACHINE SERIES

**VENUS**



2008

FOUNDATION OF ZHAFIR, CHINA



2009

OPENING OF MANUFACTURING HALL IN GERMANY

2010

PRESENTATION OF PROJECT MERCURY AT K SHOW



2005

2006

2007

2008

2009

2010



**2012**  
INTRODUCTION OF 2<sup>nd</sup> GENERATION

**VENUS**

★★★  
**2015**

DELIVERY OF THE 10,000<sup>th</sup> ZHAFIR MACHINE.

**2015**

GRAND OPENING OF ZHAFIR CHUNXIAO PLANT

Lean production according to international standards guarantees very cost-efficient production, greatly shortened production times and high manufacturing quality.



**2011-2018**

WORLDWIDE EXPANSION

**2013**

CHUNXIAO:  
EXPANSION OF PRODUCTION CAPACITIES FOR FULLY ELECTRICAL MACHINES

**2014**

PRODUCTION START AT CHUNXIAO



**2016**

START OF FIELD TESTING

**JENIUS**



**2018**

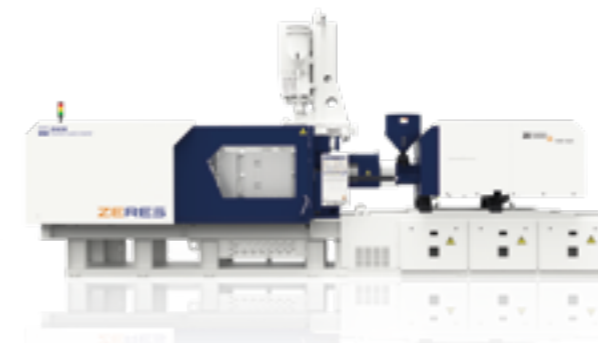
INTRODUCTION OF FIRST ZHAFIR MULTI SOLUTION, ADAPTED ON ZERES SERIES

**2014**

INTRODUCTION



**ZERES**



**ZERES**



**2018**

PRODUCTION CAPACITY EXPANSION AT CHUNXIAO, WITH FINALIZING THE 4 PLANT AREAS.

2011

2012

2013

2014

2015

2016

2017

2018

# THE NEXT GENERATION TECHNOLOGY.



2019

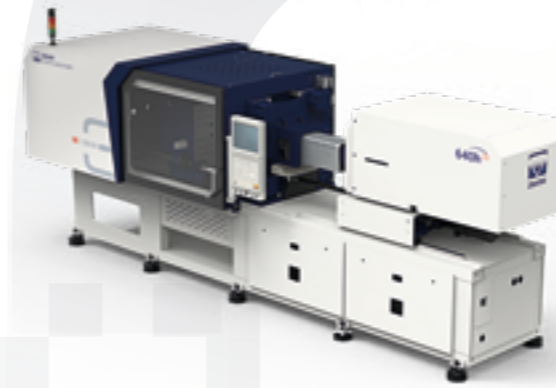
GENERATION 3 IS READY FOR MARKET

20 years of electrics - Zhafir injection molding machines have arrived on the markets all over the world. As an advantageous alternative for the processor, more economic efficiency and many other competitive advantages can be generated through an attractive price-performance ratio.

The vision of „electrics for everyone“ has become reality. By 2018, more than 15,000 Zhafir brand machines had been installed in around 50 countries worldwide. Flexibility and productivity at the best cost was an important key to success.

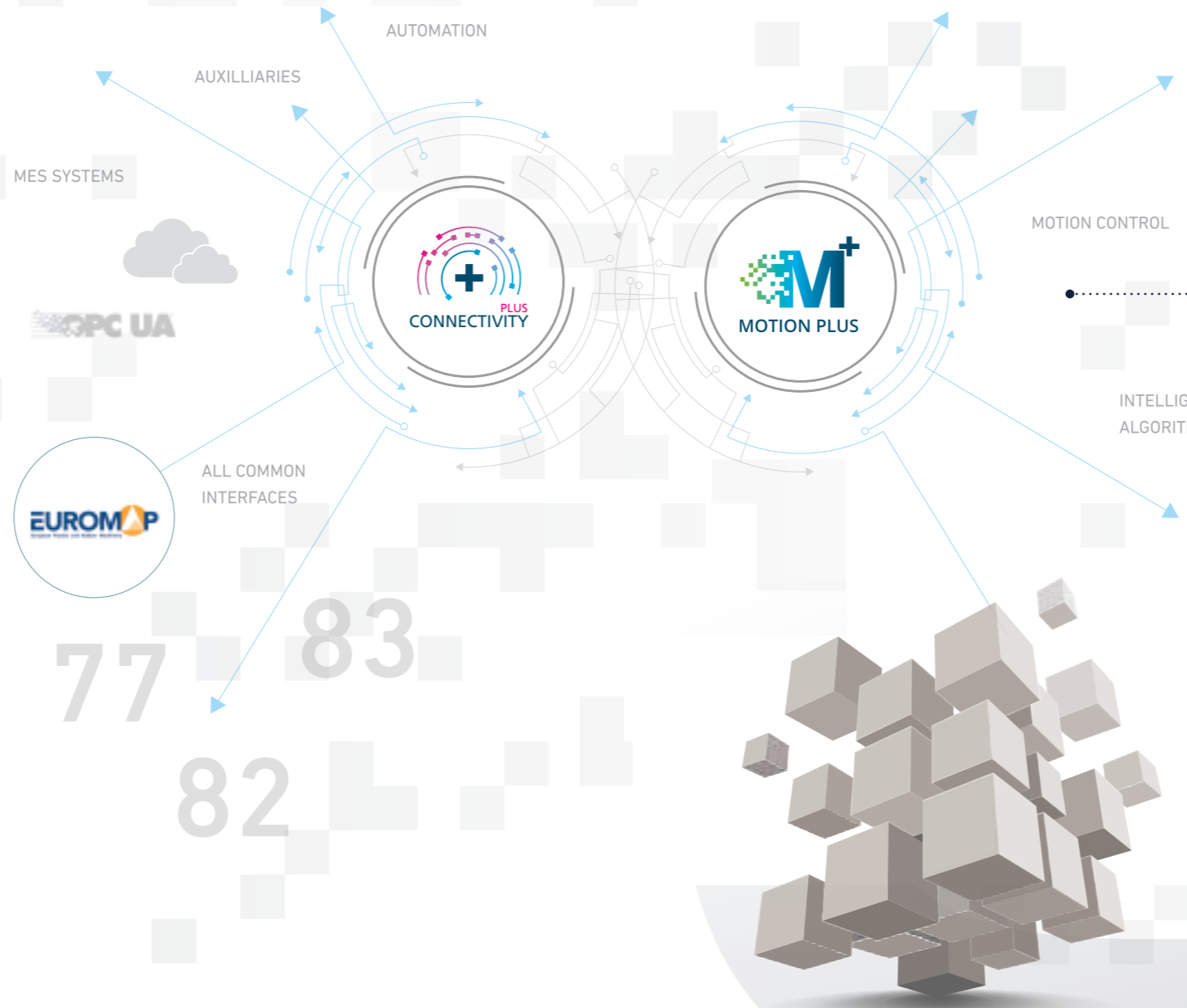
With the new technology generation 3 and the modularization of the product portfolio, our range of technological solutions is now even more varied, application-oriented and flexible.

This technology portfolio, which is consistently geared to demand, offers our customers new scope for action in order to exploit production capacities even more variably and to be able to react more quickly to new market requirements.



## NEW DEVELOPMENTS

- » NEW GENERATION OF SERVO DRIVE SYSTEMS – TAILOR-MADE, HIGH-PERFORMANCE
- » ELECTRIC INJECTION UNITS IN A NEW DIMENSION
- » ECONOMICAL MACHINE CONCEPTS



## OPEN INTEGRATION

- » FLEXIBLE AND FAST CONNECTIVITY
- » HIGH PERFORMANCE MOTION CONTROL

## NEW MODULARITY

- » MODULAR COMBINATION OF MATURE CORE TECHNOLOGIES
- » HYBRID SOLUTIONS FOR INCREASED FLEXIBILITY

# THE ZHAFIR FAMILY ELECTRIC SOLUTIONS.



FROM  
400-33,000 kN

## INJECTION PERFORMANCE

- h** up to 350 mm/s for thinwall parts
- hs** up to 500 mm/s for extremely thin wall parts

## APPLICATION PERFORMANCE

- F** **ZERES**  
Performance version for short cycles and high injection performance
- M** **ZERES JENIUS**  
For multi component precision parts

WE ARE FULLY  
CONVINCED  
THAT THE FUTURE  
IS ELECTRIC.  
WHAT ELSE.

TECHNOLOGY TO THE POINT - IN A NEW DIMENSION: WITH THE VENUS, ZERES AND JENIUS SERIES, OUR PORTFOLIO INCLUDES ELECTRICAL SOLUTIONS FROM 400 TO 33,000 kN.

In 2007, the all-electric Venus Series set new standards in terms of dynamics, precision and energy efficiency. With the Zeres Series developed from this, the basic features of which are identical and designed as an entry-level electric model with integrated hydraulics, the second „jewel“ is now established on the market. With the introduction of the new Jenius Series, a modular hybrid with a two-platen solution, both the clamping force spectrum of our product family and its variety of applications have been significantly increased. This enormous range is supplemented by various performance variants, for example for short cycles, as well as application-oriented packages, such as for precise multi-component tasks.

This means that we are already ideally positioned for the electrical future, because with the Zhafir series available, the advantages of electrical systems can be used effectively for all areas of application in plastics processing. Precision. Dynamics. Speed. High manufacturing quality. All this at affordable, simple cost structures.

The modular platform strategy opens up further advantages for the processor: On the one hand, proven drive components can be profitably combined with each other. On the other hand, all Zhafir machines are uniformly equipped with state-of-the-art control technology.

# INJECTION UNITS SOPHISTICATED TECHNOLOGY.

## ONE SPINDLE CONCEPT CHARGING MOTOR & BELT

A one-piece and extremely compact architecture. Spindle and screw are arranged in one line. This promises high precision and efficiency.

## DUAL SPINDLE CONCEPT CHARGING MOTOR & GEAR BOX

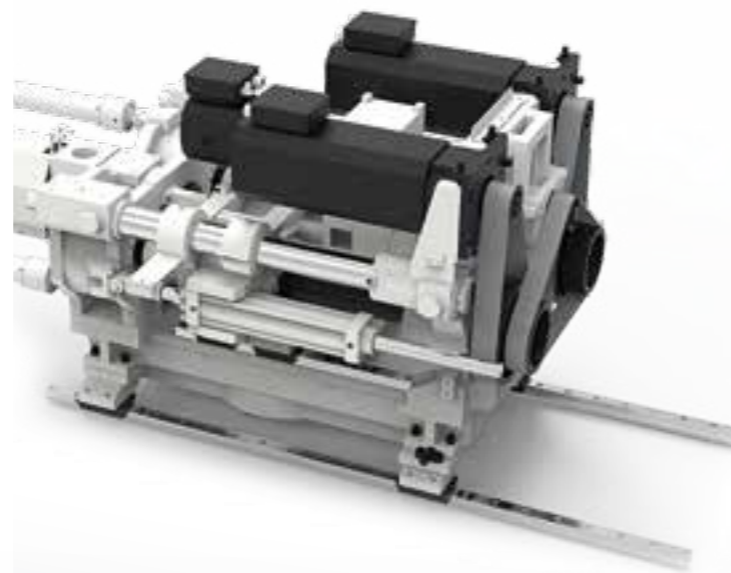
The synchronously placed servo motors are equipped, among other things, with symmetrical injection of a function for correcting deviations.

## 4-SPINDLE CONCEPT NEW DIMENSION OF INJECTION UNIT

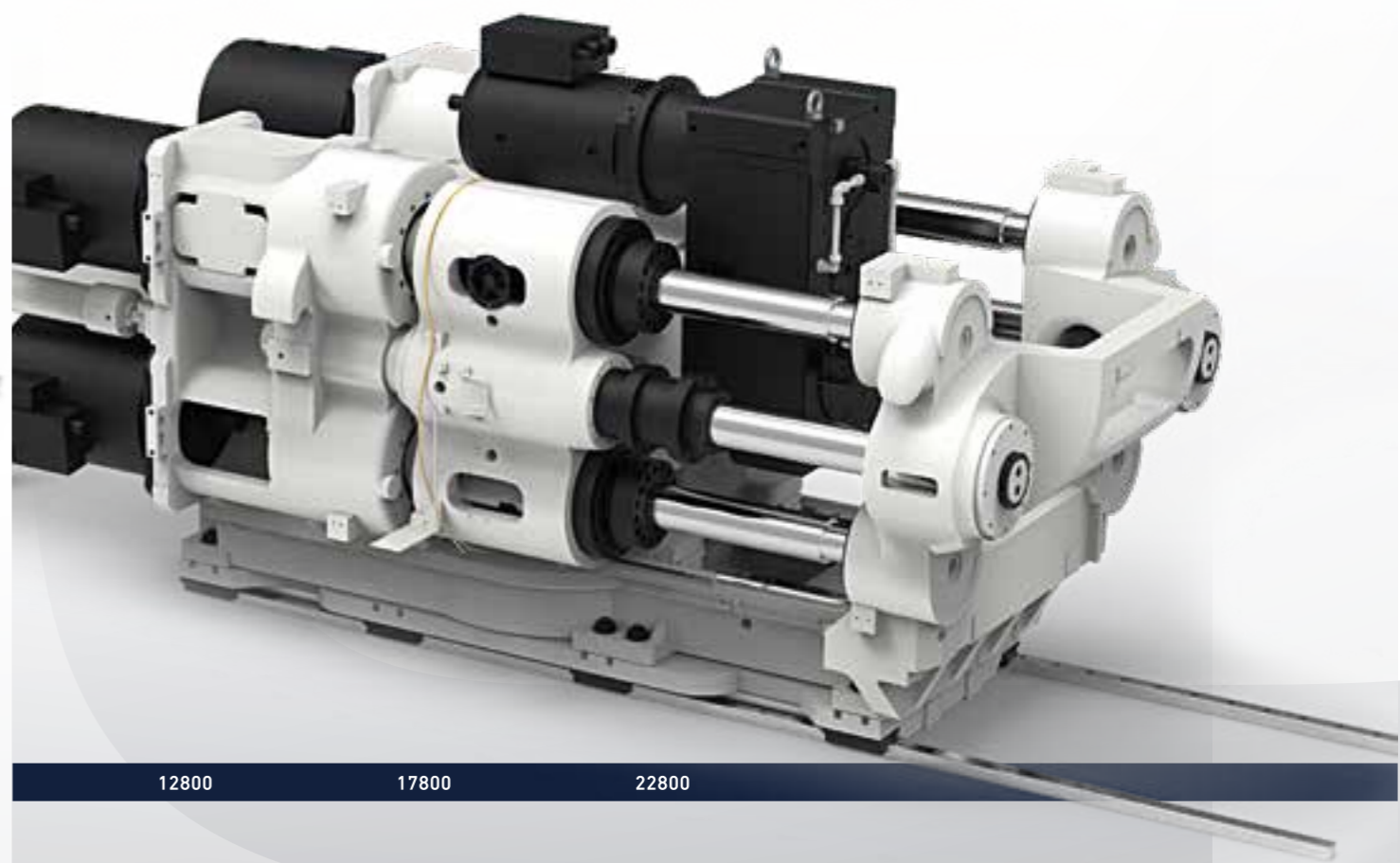
Intelligent algorithms and an innovative design enable exact synchronization of all drives. For dynamic acceleration and a fast response time.



50 80 120 160 210 300 430 640 830 1100 1400 1700



2250 3350 5200 7000 9200



12800 17800 22800

400-8,000 KN  
**VENUS III SERIES**

# FULLY ELECTRIC. PRECISE & DYNAMIC

The Venus Series influences the global market for electric injection molding machines more than ever before. With clamping forces of up to 8,000 kN and injection speeds of up to 500 mm/s, Venus produces clean, high-quality precision and extremely thin-walled parts at an attractive price/performance ratio. With exemplary energy efficiency.

**FLEXIBLE**  
 We supply the customer with intelligent injection molding machines which are open to all possibilities, leaving the customer free to choose his integration partners.

**HIGH PERFORMANCE**  
 Tailor-made electrical servo drive systems in combination with a new inverter generation enables a high-performance and unique price/performance ratio with high precision and dynamics.



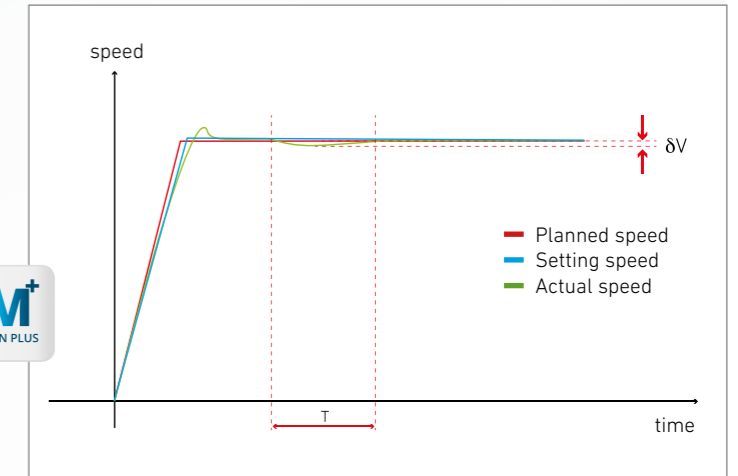


# ZHAFIR VENUS III SERIES INJECTION UNIT FEATURES

- » New design with 1, 2 and 4 spindle concept
- » Constant injection speed, precise repeatability
- » Linear guides on the injection unit
- » Tailor-made performance versions of injection units with low speed and high speed
- » High injection speed up to 500 mm/s



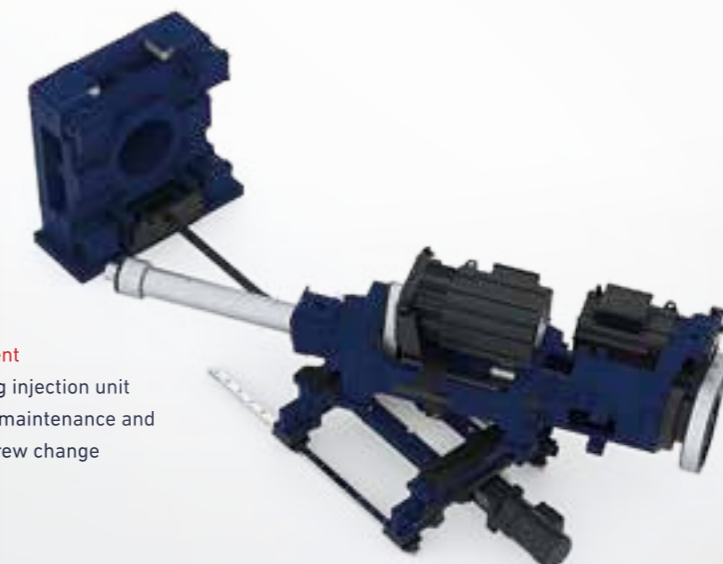
**Constant**  
High stability for injection molding; Optimal servo dynamics and injection speed control.



**Precise**  
Linear guides for low friction provide fast response, clean operation, accurate pressure control. An improvement of back pressure and repeatability

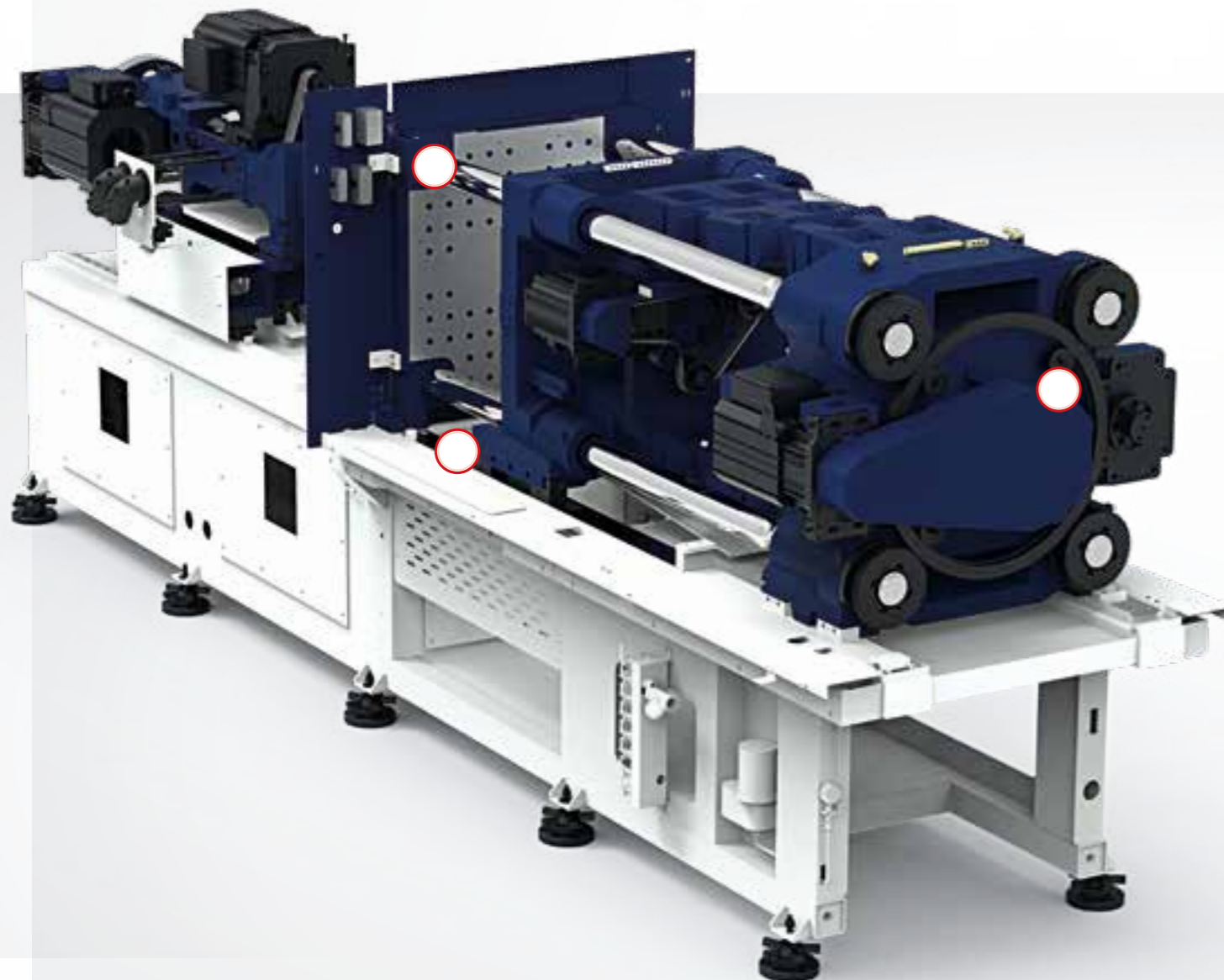


**Convenient**  
Swiveling injection unit for easy maintenance and quick screw change

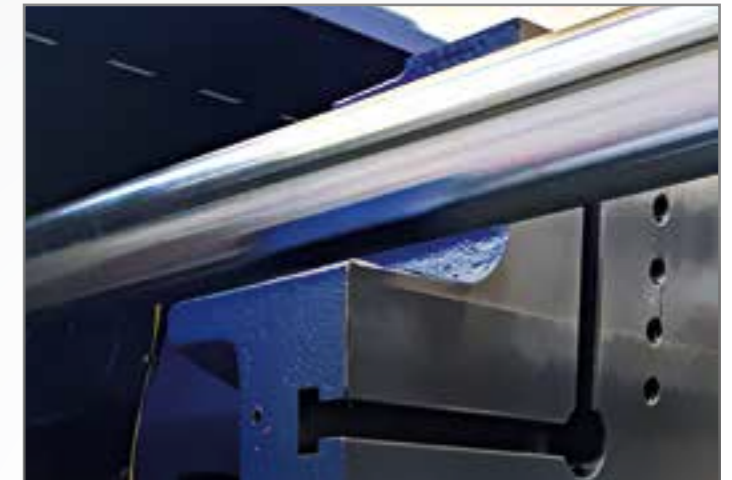


# ZHAFIR VENUS III SERIES CLAMPING UNIT FEATURES

- » Intelligent algorithms ensure highly reactive and precise mold protection
- » Redesigned, compact structure of the toggle system for high rigidity and optimum plate parallelism
- » In combination with a highly reactive drive system, the dry cycle time could be decreased by 10% compared to Generation 2
- » Fully square tie bar distance offer more space for molds with high cavities
- » Linear guides ensure a dry, clean mold area and precise mold movements (optional)



**Clean solution**  
Non-contact tie bars ensure a clean and dry mold area without grease (optional)



**Linear Guides**  
Supports heavy molds and reduces the coefficient of friction (optional)



**Intelligent**  
Closed-loop sensor achieves extremely high clamping force accuracy



400-13,800 KN  
**ZERES III SERIES**

# ELECTRIC. FLEXIBLE & EFFICIENT

The Zeres Series builds a bridge from electric injection molding technology to traditional hydraulic machine applications. Identical in construction to the Venus Series, it also has integrated servo-hydraulics. Main movements such as mold and injection are electric, auxiliary axes such as nozzle contact, core pull and ejector are servo-hydraulic. The combination of both drive concepts enables a wide range of applications.



1,500-4,500 KN  
ZERES-F SERIES

# ELECTRIC. FAST & AFFORDABLE

Based on the 3rd Technology Generation, the Zeres-F offers all advantages of the electric Zhafir family. With an injection speed of 350 mm/s the ZE-F shows its strength for most of the packaging solutions.



Probably the best price-performance ratio for fast cycling applications.



# 3,600-33,000 KN JENIUS III SERIES ELECTRICAL HYBRID. TWO-PLATEN

The Zhafir Jenius Series is an innovative hybrid machine concept which combines the electric drive technology and the two-platen servo hydraulic system. Using our new modularity, the fully electric solution and the servo drive system can be combined in a highly efficient way, while their respective benefits are being retained.

- **MORE COMPACT DESIGN**  
The compact design of two-platen structure offers a smaller footprint
- **BIGGER MOLD SPACE**  
Extended opening and ejection stroke for diversified application needs

- **GROSSE DIMENSIONEN**  
New solutions for injection units 12800, 17800, 22800
- **NEW GENERATION FOR HYDRAULIC SYSTEM**  
Decreased dry cycle time and a remarkable energy-saving effect

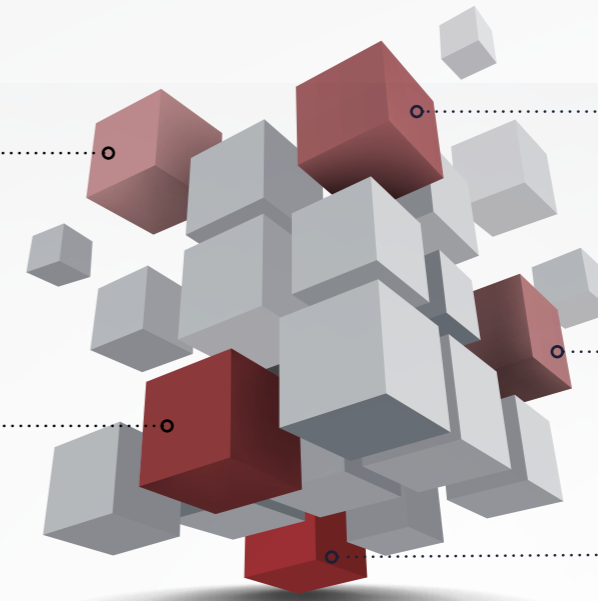
**Electrical injection**  
Process constancy, precision, energy saving during charging

**Servo-hydraulic mold open/close**  
Big daylight, large opening stroke

**Servo-hydraulic core puller**  
Meets the requirements of 80-90% of European molds

**Servo-hydraulic nozzle carriage**  
Adjustable nozzle touch pressure

**Servo-hydraulic ejection**  
Keeps ejector back pressure during all cycles



Match sophisticated technologies together

**TWO-PLATEN CLAMPING UNIT**  
Space saving, compact, cost effective, large mold space

**ELECTRICAL INJECTION UNIT**  
Precise, dynamic, energy saving, parallel movements



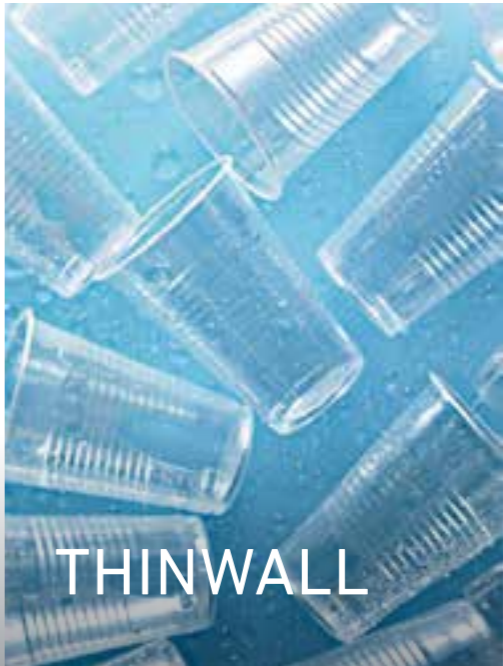
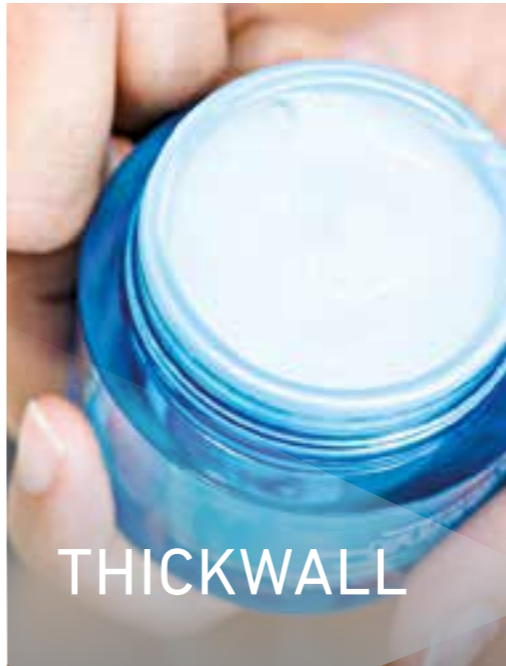
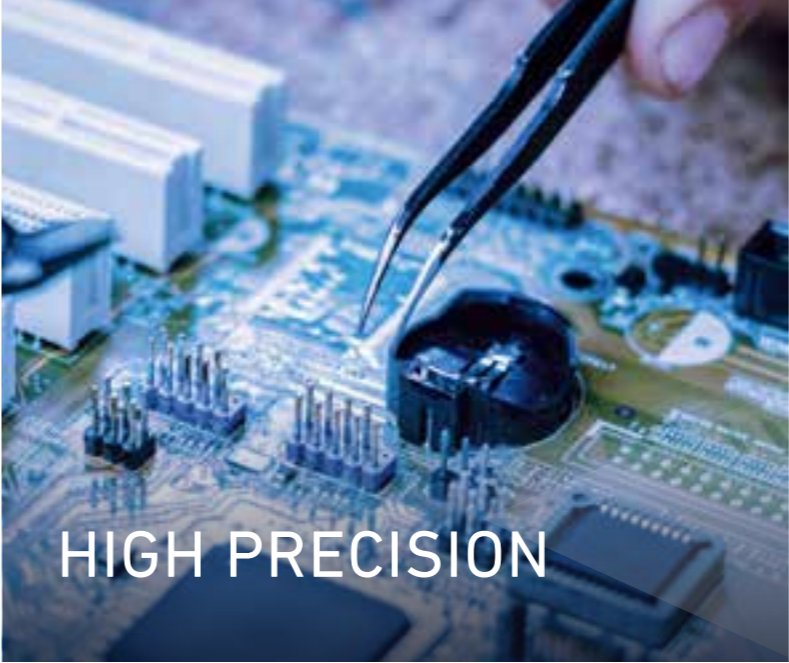
# FLEXIBILITY IS THE KEY TO THE FUTURE.

### VARIETY OF APPLICATIONS

The Zhafir portfolio with clamping forces from 400 to 33,000 kN offers the best solution in terms of production technology and economy for every processor - through "Technology to the Point". Innovative drive technologies in different performance levels and combinations enable the right solutions in many areas of application. The selection is supplemented by numerous options, from equipment packages and flexible integration solutions to individual machine versions, e.g. for multi-component or fast cycles.

Our application and sales engineers are available worldwide to provide you with the best possible advice. For this purpose, all series in various tonnages are available in both application centres. On request, robotics and automation can also be integrated, because only the best possible result counts for you as our customer.

Innovative machine technologies, flexible integration solutions and application-oriented packages - this is what we understand by „Technology to the Point“.



# MANUFACTURING POWER IN CHINA.



**230,000+**  
SQM  
production area  
in China and Germany



**600+**  
EXPERTS  
available worldwide



**15,000+**  
MACHINES  
delivered to customers  
until 2018

## QUALITY AND AVAILABILITY THROUGH EFFICIENT PRODUCTION

The success of Zhafir Plastics Machinery is based on the careful and detailed planning of structures and processes in all areas of our plant. In addition, we can rely on our highly specialized management and over 50 years of experience of the entire Haitian Group.

At the same time, the combined use of innovative technologies, effective organisation and highly motivated employees ensures smooth processes in all assembly and production processes - including quality control from A to Z. Short reaction times, efficient automation and sophisticated logistics are the key to this high productivity. Machine components, parts and important small parts are not only stored centrally, but also in auxiliary warehouses near the production lines.



# CUSTOMIZING & SERVICE IN GERMANY.

Zhafir Plastics Machinery supports Haitian International at all levels of research and development. Teams of engineers from Chinese and German specialists are involved in a variety of group-wide R&D projects. In addition to the development of new technologies, this also includes machine-side optimizations that give plastics processors further competitive advantages and a wide range of advantages in everyday production.

The technical support of the worldwide sales and service teams with high-quality machine deliveries and tool tests plays an important role in this. In this way, we generate valuable information in order to remain competitive and to help our customers move forward. The outstanding price/performance ratio of our machines and the flexibly adaptable coordination of the most important purchase decision criteria create the best basis for the highest possible production efficiency and competitive advantages right from the start.





# INTERNATIONAL SERVICE POWER.

Our experience over the last years provides us with solid foundation to take care of what our customers really need. We have been sustainably developing our service team and service skills from learning from the past and accumulating practical experience. However, we are never satisfied and always keep on improving and continuously expanding our offer to the customers in terms of service and has therefore established an optimal and complete system for after-sale service with our subsidiaries and around 60 sales and service partners in over 130 countries.



**Our Principle**  
Sincere service;  
sustainable pursuit of perfection



**Our Promise**  
Customer oriented service  
24/7 service hotline\*



**Our Standard**  
Visit on time, finish as soon as possible;  
settlement at one time



**Our Target**  
Timely and highly efficient service  
for customer satisfaction

\*) Offered by all service center in China



## WORLDWIDE NETWORK

There are currently 60 regional sales and service centers for customers in over 130 countries.

In cooperation with the experts and service partners of the Haitian Group, we are not only able to react speedily to new market and sector requirements, but also to implement individual equipment features, certifications, and new applications for our customers on site.

# CUSTOMER SUPPORT AROUND THE GLOBE.



**1\_CHINA**  
 » Located in Chunxiao, Ningbo  
 » Headquarter of Zhaifir Plastics Machinery  
 » Manufacturing site with 230,000 sqm  
 » Application center for mold testing

**2\_GERMANY**  
 » Located in Ebermannsdorf  
 » Manufacturing site with 12,000 sqm  
 » Sales and service for German market  
 » Training and technical support for customers and distributors in 18 countries

**3\_MEXICO**  
 » Located in Mexico City  
 » Sales and service organization  
 » 2,300 sqm for service and stock control  
 » 200 sqm application center for mold testing

**4\_BRAZIL**  
 » Located in Sao Paulo  
 » Sales and Service organisation  
 » Manufacturing site with 4,600 sqm

**5\_INDIA**  
 » Located in Gujarat  
 » Sales and service organization  
 » Manufacturing site with 19,800 sqm  
 » Application center for mold testing

**6\_INDONESIA**  
 » Located in North Jakarta  
 » Sales and service organization  
 » Application center for mold testing  
 » 3,000 sqm for service and stock control

**7\_VIETNAM**  
 » Located in Binh Duong Province  
 » Sales and service organization  
 » Manufacturing site with 6,600 sqm  
 » 80 sqm application center for mold testing

**8\_TURKEY**  
 » Located in Istanbul  
 » Sales and service organization  
 » 5,000 sqm site for machine and spare parts stock  
 » Application center for mold testing

**9\_THAILAND**  
 » Located in Bangkok  
 » Sales and service organization  
 » 1,400 sqm for service and stock control  
 » 200 sqm application center for mold testing