

ZHAFIR PLASTICS MACHINERY GmbH

Jubatus-Allee 8
92263 Ebermannsdorf
Germany
contact@zhafir.com
www.zhafir.com

Ningbo Zhafir Plastics Machinery Co.,Ltd

Address: No.98, Guanhai Road, Chunxiao Town, Beilun District, Ningbo
Post code: 315800
Tel.: +86-574-86182985/86182986
Fax.: +86-574-86182977

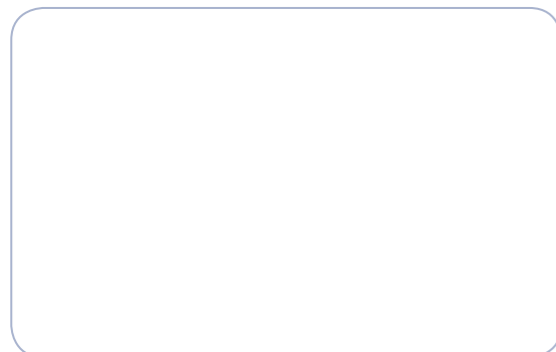
Zhafir Jenius Series



JENIUS

3,600 - 33,000 kN

Sales branches:



ZE-20190122-IV

Further extension of electric injection molding technology

ZHAFIR JENIUS SERIES

Zhafir is Haitian International's premium brand specializing in precision electric injection molding equipment, including the VE, ZE and JE series. It is one of the largest electric injection molding machine providers in the world and the market leader of the industry.

Located in Chunxiao Town, Ningbo, China, ZHAFIR's manufacturing plant in China occupies an area of 220,000 square meters, which is a modern production site with functions covering R&D, application and technology center, manufacturing, processing of parts, machine assembly and commissioning.

Zhafir's JE series is an innovative product which combines the electric drive technology and the two-platen servo hydraulic system. Using an innovative modular concept, the fully electric solution and the servo drive system can be combined in a highly efficient way, while their respective benefits are being retained. It is benefited from our profound application experience from customers and close attention to the development tendency of medium and large injection molding technologies. JE has been developed to address the specific quality requirements for industries such as large home appliances and automotive. With excellent stability, higher efficiency and faster investment return, JE is an ideal choice for the customers in the industry.



Prof.h.c.mult. Helmar Franz,
Co-founder of Zhafir and Director of Board, Haitian International



Zhafir Germany

- » Parallel movements improve production efficiency
- » High stability ensures high yields
- » Improved dimensional accuracy and visual quality of the part
- » Bigger space for large molds
- » Increased opening stroke for deep cavity mold
- » Standard interface for various new technologies and new processes, such as IMD, MCF, EIPP, etc.

Scope of Application

The JE series is applicable for production of medium and large parts for various industries, especially automotive parts and large home appliances. In the industries where quality of products plays a pivotal role, the JE is an ideal choice with its high cost effectiveness and the ability to create better economic benefits.

Combination of different technologies

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True hybrid system does not only focus on producing high efficiency, but also on long-term stable operation and low energy consumption, in order to maximize the economic benefits of the factory.

To maximize the return on investment and to recover the cost as soon as possible, is not only related to a

low price as a guarantee to the success of the product. The design according to the proven innovation strategy "Technology to the point", the production efficiency, high quality rate and low operation cost is key to guarantee the profit. Therefore, we are convinced that JE series will impress the customers even better in this sense.

Improved efficiency

The JE series has all of its moving axis completely independent to each other, which can be fully synchronized even at high speed. Benefiting from the perfect combination of the electric servo drive and servo hydraulic technology, it can produce products with high quality in shorter cycle times.

- » The parallel movements as standard, enabling shorter production cycle times
- » Improved production efficiency
- » Optimized servo hydraulic circuit and software design to shorten the dry cycle
- » High injection repeatability improves stability and precision

Lower energy consumption

JE series can save up to 60% more power in comparison to the conventional hydraulic injection molding machine

- » Less transmission during the injection molding process, with higher transmission efficiency
- » Optimized design for energy feedback system
- » Substantial reduction in water consumption

More compact, less floor space

With the compact two-platen design, JE series provides a smaller footprint.

- » Reduced investment into infrastructure
- » Reduced transportation and installation costs
- » Reduced operating costs

Process window with full coverage

With regard to linear injection molding function at different injection speed, or with injection speed requirement up to 160mm/s, the JE series can fulfill a wide variety of application requirements in different industries.

- » Linear injection function for full interval
- » High injection speed for wider range of process adjustment
- » More convenient process



High injection repeatability

With precision closed-loop control and rigid transmission mechanism from the electric drive, the weight repeatability is within 0.1%.

- » Servo motor and synchronous transmission are applied for axial movement
- » Position accuracy 0.01mm
- » Speed accuracy 0.01mm/s
- » Pressure accuracy 0.01Mpa

Professional services and solutions

ZHAFIR Application and Services Department provides comprehensive service, including technical support and solution, such as equipment upgrading, maintenance, spare parts supply and all levels of training.

- » Low maintenance cost
- » Project consulting, application optimization
- » 400 global hot line service
- » Professional training at all levels
- » Smart manufacturing solutions

* The above data is obtained through the test, and different data may be obtained due to different conditions.

Further extension of electric injection molding technology

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Fast cycle time

Multi-synchronized to minimize the cycle time of production. To establish the clamping force within short time and high-speed operation of the servo motor is key to shorten the cycle time.

Larger mold space

Larger mold space as compared to the traditional injection molding machine. Extended mold movement stroke and ejection stroke to satisfy the needs of the relevant industries.

High stability

The combination of servo driven and mechanical precision transmission ensures high stability of the injection process.



Smaller footprint

The two-platen clamping mechanism allows for compact spatial arrangement.

Precision control

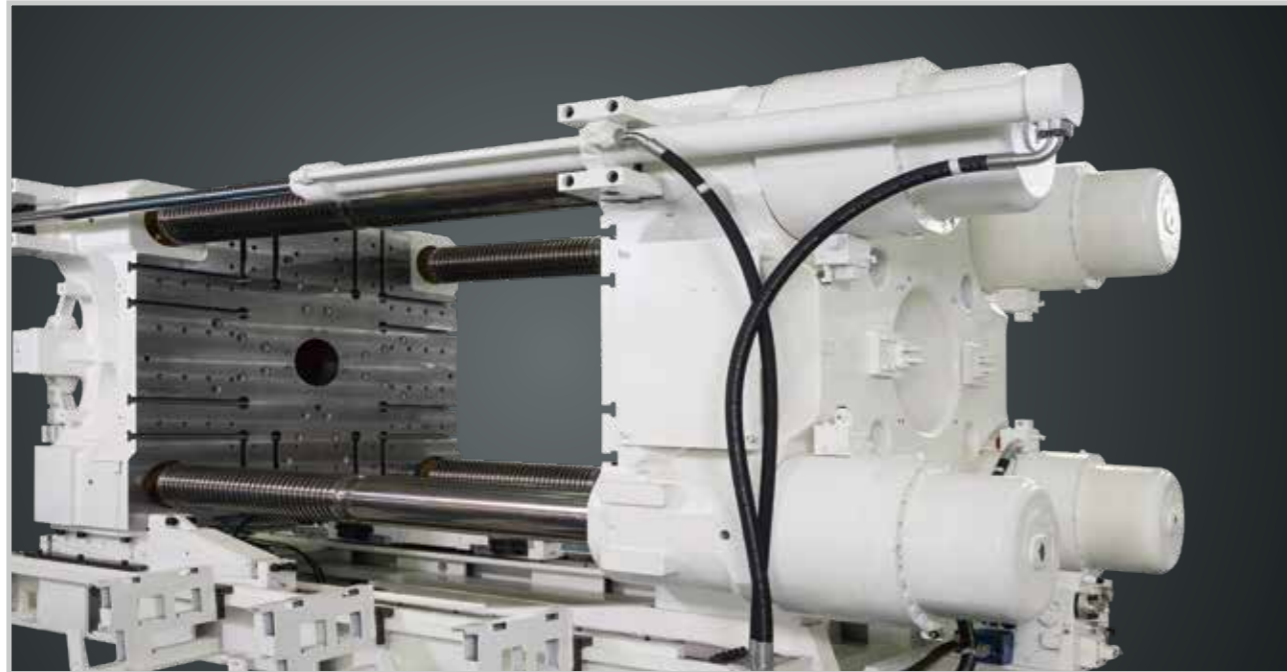
The high performance controller and the user-friendly machine interface makes it more convenient to operate the machine.

Low energy consumption

The all-electric injection molding system allows for ultra-low energy consumption.

Clamping unit - the compact design of two-platen structure

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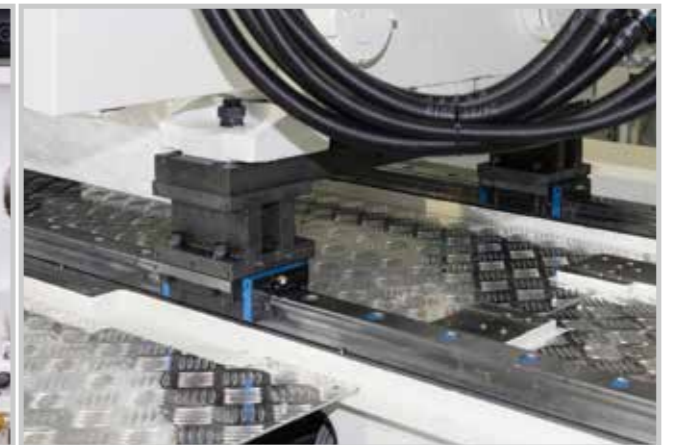
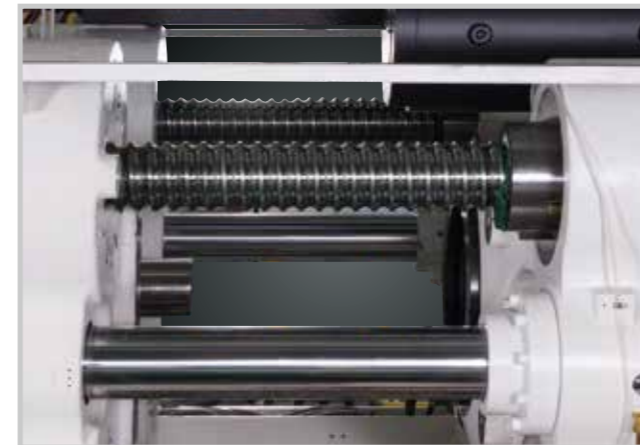
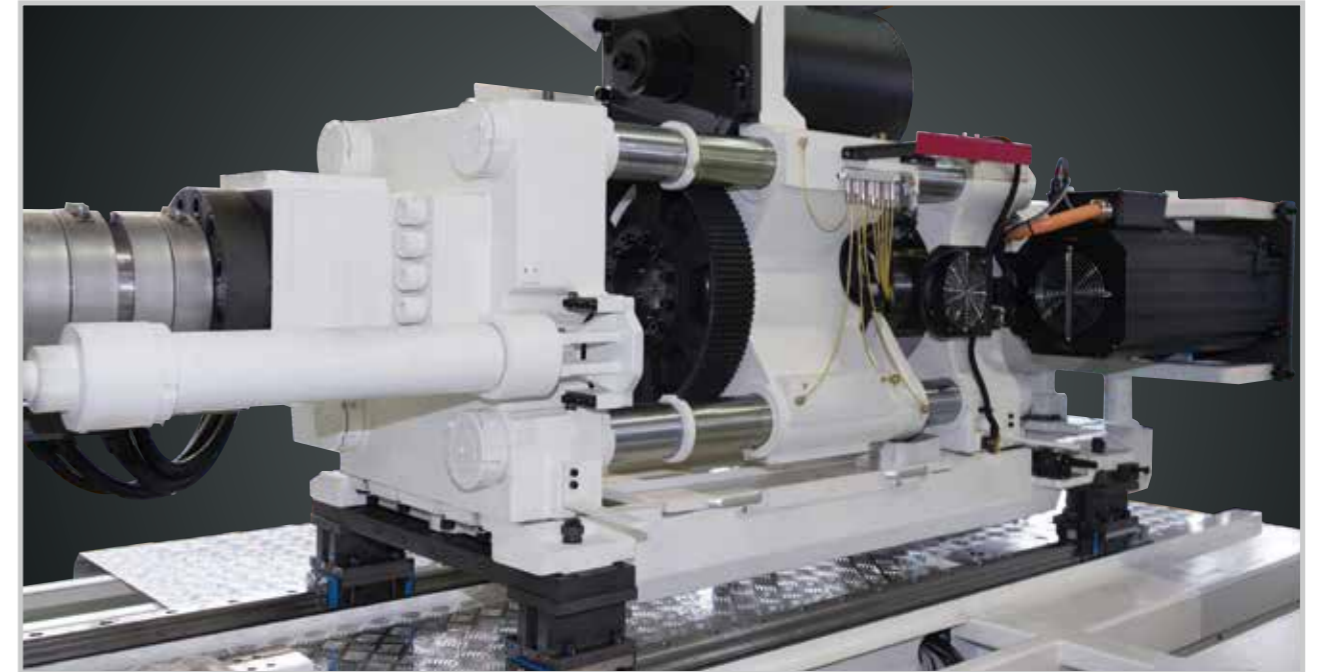


JE series integrates the compact space design of the two-platen clamping structure, optimizes spatial arrangement, and provides larger min-max mold thickness, deeper mold opening space and longer ejection stroke.

- » Free "hanging" tie-bars
- » Platen with high rigidity
- » Synchronized nut locking system
- » Improved weight stability of moving platen slides
- » Inverted ejection unit

Injection unit - fast and precise electric injection molding

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The servo motor and screw-driven injection unit improve the position, speed, precision and repeatability compared to the hydraulic-driven injection device. This ensures the high precision and stability of JE series.

- » Injection unit based on multi ball-screw synchronous control technology
- » Electric driven plasticizing and injection
- » Swiveling injection unit design
- » Modular injection unit

Control unit - flexible and fast
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Programmable core movement



Controllable core velocity/pressure



Programmable I/O points



Optimized production management screen



With optimized layout and cycle instruction in the control system, the signal processing speed has improved, which can be seamlessly connected with the peripheral automation equipment. More user-friendly interface, makes it more convenient for the user.

- » Latest CPU, substantial increase of operational performance
- » Optimal layout
- » Automatic equipment for convenient interconnection
- » Multitude of application software
- » interfaces for integration into cyber physical system (CPS)

Modular design

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Mold closing unit parameters

Mold closing unit		JE3600	JE4500	JE5500	JE6500	JE7500	JE9000	JE10800
Clamping force	kN	3600	4500	5500	6500	7500	9000	10800
Mold opening stroke	mm	970/520	1050/550	1300/750	1350/800	1400/900	1600/1000	1900/1200
Mold thickness range	mm	280-730	350-850	350-900	400-950	450-950	500-1100	500-1200
Spacing between tie bars HxV mm		730x730	810x800	920x830	1040x910	1110x960	1180x1000	1260x1100
Ejector stroke	mm	180	250	250	250	300	300	350
Ejector force	kN	110	110	110	110	195	195	230

Mold closing unit		JE12000	JE13000	JE14000	JE16000	JE18500	JE21000	JE24000	JE28000	JE33000
Clamping force	kN	12000	13000	14000	16000	18500	21000	24000	28000	33000
Mold opening stroke	mm	2050/1400	2250/1500	2350/1600	2550/1700	2600/1750	2700/1800	3000/2000	3300/2100	3200/2200
Mold thickness range	mm	600-1250	600-1350	700-1450	700-1550	750-1600	800-1700	800-1800	800-2000	1000-2000
Spacing between tie bars HxV mm		1300x1200	1420x1170	1460x1360	1570x1285	1870x1425	1800x1600	2020x1620	2185x1755	2270x1900
Ejector stroke	mm	350	350	400	400	450	450	500	500	550
Ejector force	kN	230	230	330	330	450	450	450	450	580

Injection unit parameters

Injection unit		1400			1700			2250			3350			5200			7000			9200			12800			17800			22800	
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B			
Injection unit model		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B			
Diameter of screw	mm	55	60	65	60	65	70	65	70	80	75	80	90	80	90	100	90	100	110	100	110	120	110	120	130	130	140	150	140	150
Injection capacity	cm ³	617	735	863	792	929	1078	1068	1239	1619	1634	1860	2354	2262	2863	3534	2990	3691	4467	4006	4847	5768	5227	6220	7300	8362	9698	11133	10468	12017
Injection speed	mm/s	160			160			160			160			160			150			150			130			130			130	
Injection rate	g/s	346	411	483	411	483	560	483	560	731	643	731	926	731	926	1143	868	1072	1297	1072	1297	1543	1123	1337	1569	1569	1820	2089	1820	2089
Injection pressure	MPa	214	180	153	210	180	155	210	180	138	205	180	142	227	180	145	234	190	157	230	190	160	230	205	175	213	184	160	218	190
	bar	2140	1800	1530	2100	1800	1550	2100	1800	1380	2050	1800	1420	2270	1800	1450	2340	1900	1570	2300	1900	1600	2300	2050	1750	2130	1840	1600	2180	1900

Combination Possibilities

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	CLAMPING UNIT (kN)		INJECTION UNIT							
	1400	1700	2250	3350	5200	7000	9200	12800	17800	22800
3600										
4500										
5500										
6500										
7500										
9000										
10800										
12000										
13000										
14000										
16000										
18500										
21000										
24000										
28000										
33000										

Standard equipment list

Injection Unit

- » Abrasion-resistant screw unit(open nozzle)
- » nozzle safety guard
- » 6 injection steps
- » 4 pressure hold steps
- » 3 dosing steps
- » 3 back pressures
- » Screw suck back select(after holding/after dosing)
- » Screw suck back delay function
- » Injection delay function
- » Dosing delay function
- » Intrusion/filling by rotating screw
- » V/P switch over mode (position, time, pressure, speed)
- » Injection speed response mode select
- » Injection pressure segment control
- » Speed limit during holding pressure
- » Screw position setting (unit:0.01mm)
- » Screw rotational speed setting
- » Holding pressure time setting (unit:0.01s)
- » Mold opening during dosing function availability
- » Barrel heating closed-loop control (K/J type available)
- » Barrel temperature holding function
- » Barrel temperature auto tuning function
- » Barrel pre-heating function
- » Barrel temperature synchronous control
- » Material overheating prevention function
- » Screw cold start prevention
- » Auto purge function
- » Screw rotational speed display
- » Setting for nozzle movement (switch/time)
- » Selection of nozzle retract (3 modes)

- » Nozzle contact device
- » Nozzle center adjustable
- » Feeding throat temperature closed-loop control
- » Injection unit swiveling device
- » Independent nozzle temperature control

Clamping Unit

- » Two platens clamping unit based on 4 lock cylinders
- » 5 mold clamping segments
- » Clamping safety device (mechanical and electrical)
- » Mold safety protection
- » Haitian patented platen
- » Multiple hydraulic ejection modes
- » Rigid moving platen support
- » Automated central lubrication system for clamping unit
- » Safety treadle
- » Quick mold adjustment device
- » Open/close mold & ejection position control by transducer
- » Multi hydraulic ejection velocity/pressure settings
- » Auto mold adjustment
- » Multi segment control of clamping force
- » Safety limitation of mold release pressure
- » Safety limitation of mold stroke
- » Inverted double cylinder ejection device
- » Safety limitation of clamping force
- » Ejector inverted structure
- » Ejection backward end position adjustable
- » T Slotted Platens for quick mold change
- » Clamping force sensors monitoring function
- » Random lock function

- » Symmetrical locking device
- » EUROMAP mechanical interface
- » Clamping force holding during mold installment after switch-off
- » Clamping force pre-release after switch-off

Controller & Monitor

- » 15 inch TFT color touch screen
- » Mold profile data memory(up to 200 sets)
- » Alarm history
- » Data setting record
- » 3USB R/W interface
- » Injection pressure and speed curve display & record
- » Euromap robot interface
- » Multi-language available (Chinese, German,English,Japanese etc.)
- » Metric/Imperial unit select
- » I/O monitor display
- » Printer interface(USB connector)
- » Production profile monitor
- » Production cycle monitor
- » Production data record (5000 cycles display, 100,000 cycles record)
- » Production data graphics
- » Quality parameters tolerance setting
- » Quality abnormal alarm
- » Cycle counter
- » Machine over view display
- » Quick set molding parameters
- » Machine maintenance administration

- » Clamping force curve display
- » Barrel temperature monitor
- » Display cycle time sequences in each phase
- » 3 Color alarm lamp(red/yellow/green)
- » Alarm buzzer
- » Injection overflow prevention(HPM)
- » Display of actual performance data
- » Multi-action selectable during machine alarm

Others

- » Standard Zhafir color
- » Adjustable machine pads
- » 3 Power sockets (two 16A and one 32A)
- » Accessory box
- » Spare parts

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