



**BOCHENG**  
**MACHINERY CO.,LTD.**  
瑞安市博诚机械有限公司

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www.bochengjx.com

## ZN650 Automatic Plastic Thermoforming Machine



### Function Brief Introduction

1, Control system: Through the combination of motion control module, 3D industrial touch screen, servo motor, photoelectric, temperature control and other intelligent control system, the operation is simple and intuitive, our pursuit is any basic level worker can run the machine with instruction.

2, Traction: High power servo traction feeding device ensures the traction length of sheet (thickness 0.1mm-1.5mm) with accuracy.

3, Structure: Forming, Punching, Cutting and Stacking are driven by well known servo motor. Each station is able to operate independently, imported five-axis processing equipment ensure high efficiency and stability of production.

4, Forming: Using the ultra-long upper and lower heating box of far-infrared ceramic heating brick, intelligent temperature control, positive and negative pressure forming structure, to ensure that difficult materials, temperature resistant materials are heated evenly, so that the product thickness is uniform, beautiful appearance, so as to enhance the market competitiveness

5, Mold: Aluminum alloy (imported air permeable aluminum) forming mold made by CNC fine engraving and milling, positive and negative pressure, water circulation structure, speed up the molding, cooling speed; The die punching is made by hardware knife or laser knife (depending on the product); The die punching is made of laser cutter movable structure, which has the advantages of improving the punching accuracy (error within  $\pm 0.2\text{mm}$ ), reduces mold cost, shortens mold production time, and makes mold change easily.



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6, Whole machine: The frame is welded with steel box body combine with Welding, Molding, Punching and Cutting four station, with strong structure and no deformation. Both the bracket and box body are pressurized, with high density. The shape is designed with sliding door, beautiful appearance and easy to maintain.

## Technical Parameters&Quotation

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name</b>                  | ZN650 Multi-Stations Automatic Positive & Negative Thermoforming Machine                                                                                                                                                                                                                                                                                                                                                                 |
| <b>FOB Price</b>             | Contact me on +86 13566187377(Wechat/Whasapp)                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Mold Price</b>            | \$, depending on the molds                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Complimentary Machine</b> | Vacuum pump (60 m <sup>3</sup> /h)                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Packing</b>               | First wrapped by film, then in export wooden boxes, then in container.                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Payment Term</b>          | T/T, 30% pay in advance, the balance should pay before delivery.                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Delivery Time</b>         | 45 Working days after deposit and drawing confirmed.                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Installation</b>          | We will send technicians to your country for machine installation, debugging and training. Accordingly, the buyer shall bear all expenses required by our technicians during their stay in your country, including round-trip air tickets, accommodation, and food.<br>The technician's salary will be paid by us during one week of stay. If it exceeds one week, the technician's salary is paid by the customer. Costs \$120 per day. |
| <b>Guaranty Terms</b>        | We seller guarantee the machines are new and the guarantee period will be given 12 months which starts from the date of the machine's arrival. During this period, the seller will provide free maintenance and free spare parts that caused by the machine's quality .                                                                                                                                                                  |



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## Machine Detailed Picture

## Real Machine Overview



## Electrical box



## Technical Parameters

| Model                    | ZN-650                                                                                  |
|--------------------------|-----------------------------------------------------------------------------------------|
| Suitable Products        | Disposable Plastic lids/covers, clamshell boxes, plates, (egg) trays , containers, etc. |
| Suitable Material        | PLA, PP, PS, PET, PVC, EPS,CORN STARCH etc                                              |
| Max. Width of Material   | 690mm                                                                                   |
| Max. Forming Width       | 650mm                                                                                   |
| Max. Forming Length      | 500mm                                                                                   |
| Max. Forming Depth       | 100mm                                                                                   |
| Max. Cutting Speed       | 10-40 Cycles/min                                                                        |
| Material Thickness       | 0.1mm-1.5mm                                                                             |
| Heating Power            | 52KW                                                                                    |
| Total Power              | 75KW                                                                                    |
| Power                    | 380V / 50HZ (220V 60HZ) Three phase four wire                                           |
| Pressure of Water Supply | 0.2MPa                                                                                  |
| Water Consumption        | 0.3m <sup>3</sup> /h 3P Chiller                                                         |
| Air Pressure             | 0.6-0.8MPa                                                                              |
| Air Exhaust Volume       | ≥1.2m <sup>3</sup> /min                                                                 |
| Air Compressor           | 11KW                                                                                    |
| Machine Install Size     | 9200×2100×2450mm                                                                        |
| Machine Packing Size     | 9300×2200×2600mm                                                                        |
| Weight                   | 9000KG                                                                                  |



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| No. | Name                                | Brand and state                                                                                                                                                                                                                                                                                                                                                 |
|-----|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Programmable Logic Controller (PLC) | Using INOVANCE PLC programmable control and man-machine interface INOVANCE 10 inch color touch screen operating system, which can greatly improve the stability of each movement process and response speed.                                                                                                                                                    |
| 2   | Touch Screen                        | INOVANCE 10 inch color touch screen                                                                                                                                                                                                                                                                                                                             |
| 3   | Planetary Gearbox                   | Chinese brand                                                                                                                                                                                                                                                                                                                                                   |
| 4   | Vacuum pump                         | 60m3/h                                                                                                                                                                                                                                                                                                                                                          |
| 5   | Water chiller                       | Need a 5HP industrial water or air chiller                                                                                                                                                                                                                                                                                                                      |
| 6   | Relay                               | Schneider                                                                                                                                                                                                                                                                                                                                                       |
| 7   | Solid State Relay                   | Yangming (Taiwan)                                                                                                                                                                                                                                                                                                                                               |
| 8   | Solenoid valve                      | AIRTAC (Taiwan)                                                                                                                                                                                                                                                                                                                                                 |
| 9   | Transtecno                          | Chinese brand                                                                                                                                                                                                                                                                                                                                                   |
| 10  | Heating system                      | The furnace is 3 times length of the forming station, made of heat-resistant stainless steel. We use far infrared ceramic heaters (Chinese Brand) and heat-resistant wire with current overload protection to ensure that difficult materials and high-temperature resistant materials are heated evenly. The qualified rate of finished products reached 99.9% |
| 11  | Temperature control system          | INOVANCE temperature module thermostatic control with memory, one-key full control of temperature rise, one-key full control of temperature drop                                                                                                                                                                                                                |
| 12  | Sheet loading                       | Double rods automatic feeding coil device,which can reduce the frequency of changing sheet rolls and improve the efficiency. It can hold about 700kg.                                                                                                                                                                                                           |
| 13  | Surface Process                     | Using sliding doors made by tempered glass and all metal surfaces are treated with anti-rust, which can reduce the noise and is easy to clean.                                                                                                                                                                                                                  |
| 14  | Lubrication system                  | Easy to maintain by adopting intelligent lubrication system which can lubricate automatically by a certain amount of time.                                                                                                                                                                                                                                      |
| 15  | Bearing                             | GCr15 Steel, high and even hardness and high wear resistance and fatigue resistance                                                                                                                                                                                                                                                                             |
|     | Servo forming station               | 5 fulcrums station, which is more stable. It is controlled by 3 servo motors totally. 2 for upper and lower forming molds 4.5kw, one assistant stretching servo motor 3kw, to                                                                                                                                                                                   |



|    |                        |                                                                                                                                                                                                                                                                                                         |
|----|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16 |                        | <p>help forming better. Besides two 100 L(liter) air tanks for positive and negative pressure, which is more precise and the bottom will be more perfect.</p> <p>The max forming area is 650*500 mm and the max forming depth is 100 mm. We can increase the height according to your requirements.</p> |
| 17 | Servo cutting station  | <p>Five fulcrums station, more stable</p> <p>Upper and lower servo motors 5.5kw, 100T cutting force.</p> <p>Easy-operation laser knife.</p>                                                                                                                                                             |
| 18 | Servo punching station | Upper and lower 5.5kw INOVANCE Servos, Easy-operation laser knife.                                                                                                                                                                                                                                      |
| 19 | Servo feeding system   | 3kw INOVANCE servo motor                                                                                                                                                                                                                                                                                |
| 20 | Servo stacking system  | Controlled by a 1.8kw INOVANCE servo motor, Automatic counting and stacking with one 20 L air tank                                                                                                                                                                                                      |

## Servo Motors for ZN650 Thermoforming Machines

Brand: INOVANCE (China)

|                  |            |       |
|------------------|------------|-------|
| Forming Station  | Upper      | 5.5kw |
|                  | Lower      | 5.5kw |
|                  | Stretching | 1.8kw |
| Punching Station | Upper      | 5.5kw |
|                  | Lower      | 5.5kw |
| Cutting Station  | Upper      | 5.5kw |
|                  | Lower      | 5.5kw |
| Stacking Station | \          | 1.8kw |
| Pulling/Feeding  | \          | 3kw   |
|                  | Total      | 9 PCS |



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## Machine Configuration List

| Name                    | Brand     | Place of origin |
|-------------------------|-----------|-----------------|
| Touch Screen            | INOVANCE  | China           |
| PLC                     | INOVANCE  | China           |
| Servo Motor             | INOVANCE  | China           |
| Temperature System      | INOVANCE  | China           |
| Proximity Switch        | Omron     | Japan           |
| Power Switch            | Omron     | Japan           |
| Heating Tile            | Taiqite   | China           |
| Vacuum Pump             | Rufus     | China           |
| Relay                   | Schneider | France          |
| Circuit Breaker         | Schneider | France          |
| Button switch           | Schneider | France          |
| Emergency stop switch   | Schneider | France          |
| Solenoid valve          | AIRTAC    | Taiwan          |
| Cylinder                | AIRTAC    | Taiwan          |
| Solid State Relay       | Yangming  | Taiwan          |
| Reducer                 | Gear      | China           |
| Pressure Reducing Valve | AIRTAC    | Taiwan          |

**Remark:** Due to technical improvements, the manufacturer reserves the right to modify the above parameters and functions without prior notice.



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## ABOUT US

Ruian Bocheng Machinery Co., Ltd. is established in 2008, and is located in Binhai Industry, Ruian city, Wenzhou, Zhejiang Province, China.

Based on market orientation and technology, we have vigorously designed and developed new products since it was established.



With professional designers and production engineering technicians, we are specialized in producing full-automatic four stations plastic thermoforming machines, plastic lid forming machines, plastic vacuum forming machines, especially for making PLA & transparent PP package products. We seek for continuous innovation and development by integrating the stability and superiority of European technology, and take the customers' actual needs as the core designing concept for a long time, which improved our designs day by day and made our designs more effective and stable.



As a comprehensive company, we collect all the knowledge and resource and serve our customers with complete solutions in our area of plastic industry in order to create more economic value and offer the one-step service. We have passed several quality certificated systems and CE safety certificated system, and pay high attention to the new product innovation with rich technology and capital resource. We design and develop at least one set new machine each year. Our machines have been widely used in many countries, such as Germany, France, Albania, Poland, Macedonia, Chile, Argentina, Ecuador, Middle East, Middle Asia, Southeast Asia, Africa and etc. We think it is the only way to achieve self-worth by creating value for customers. We look forward to cooperating with you.

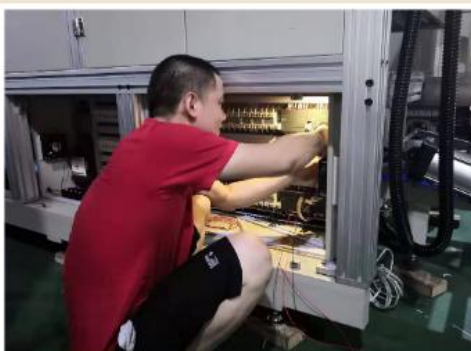


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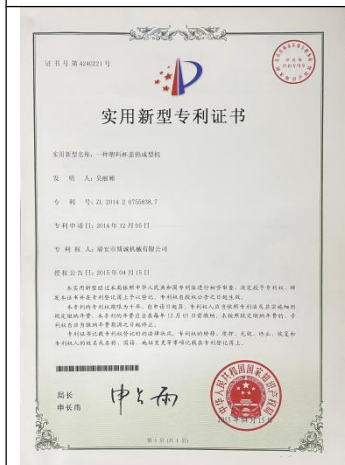
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## Technical Team



## Certification



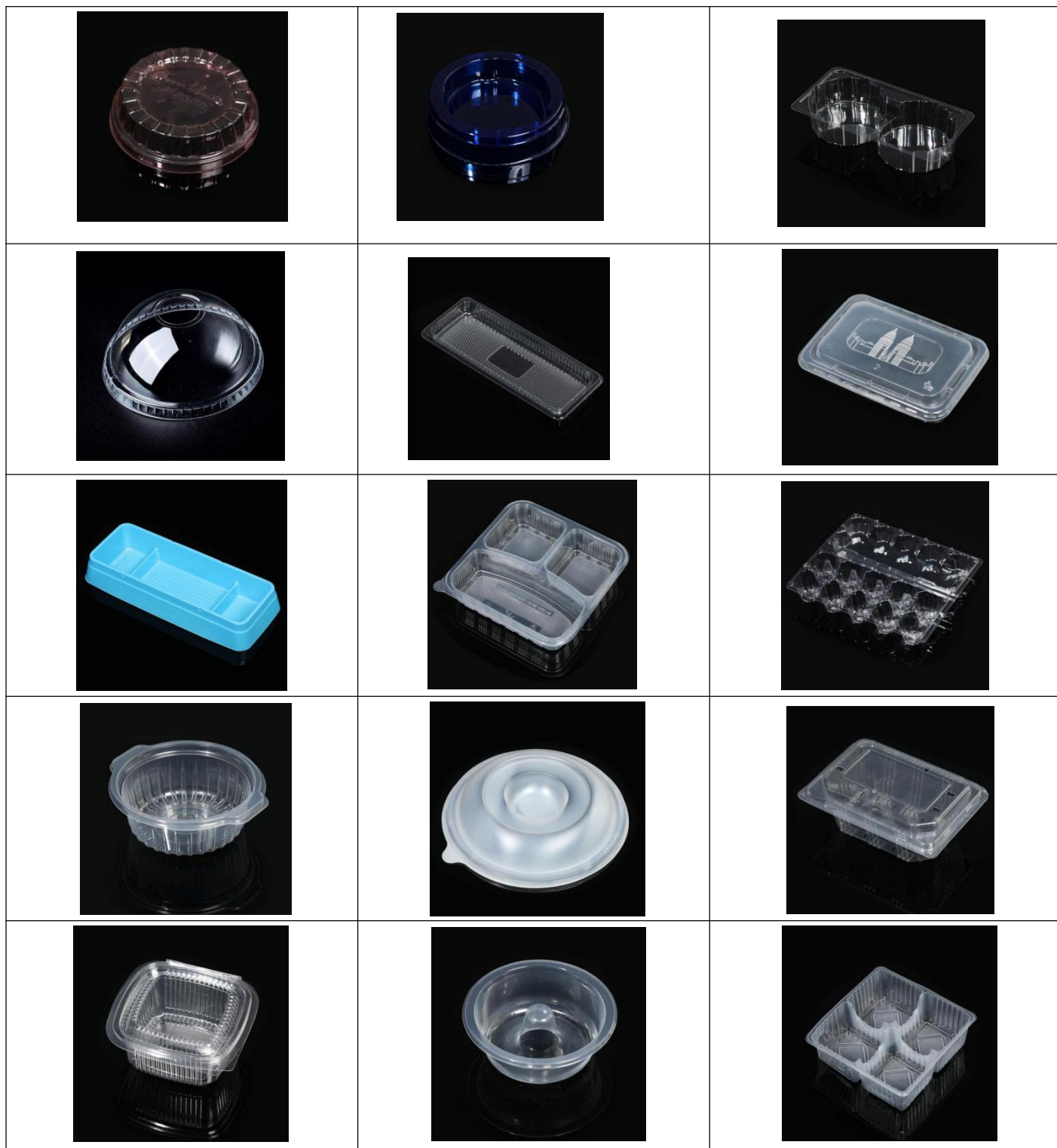


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## Applications

PLA, PVC, PET, PS,PP as raw materials, changing the mold at one machine to manufacturing lids, covers, trays, plates, boxes, food and medical trays, etc.





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## Cooperate Friend Country

Now our machines have been widely used in many countries, such as Germany, France, Albania, Poland, Macedonia, Chile, Argentina, Ecuador, Middle East, Middle Asia, Southeast Asia, Africa and etc



Germany



France



Albania



Poland



Macedonia



Chile



Argentina



Ecuador



Nigeria



Egypt



India



Australia